

## Actuator Feed Limit Valve Kit



**Part No.**  
**34200-16K**

- Valve
- Sleeve
- Long Spring
- Short Spring
- Retaining Clip

Patent No. 6,634,377

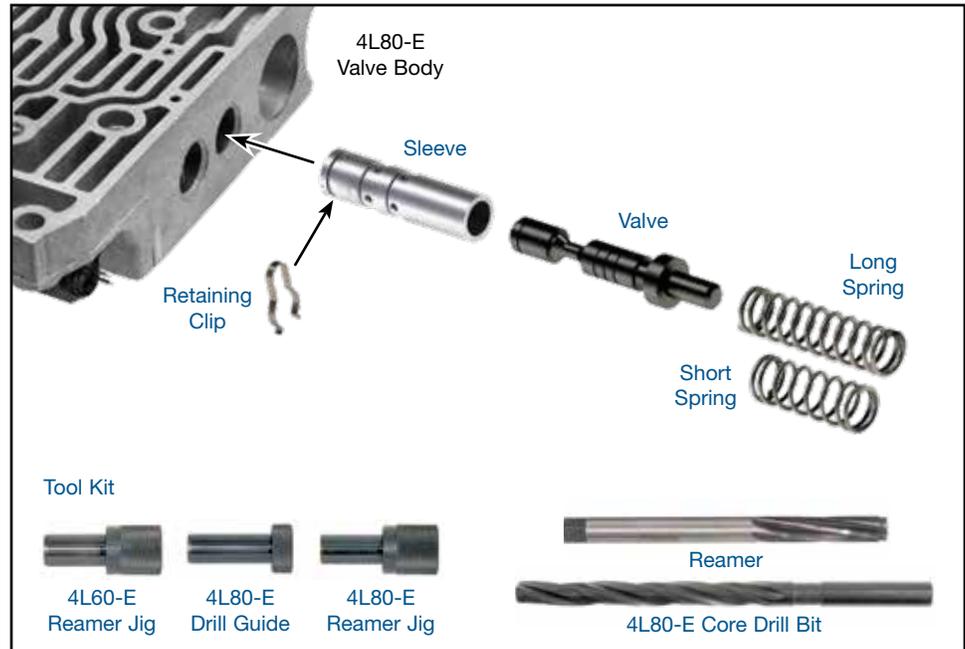
## Tool Kit

**Part No.**  
**77754-TL**

- Reamer
- Core Drill Bit                   4L80-E Only
- Reamer Jig                       4L60-E Only
- Reamer Jig                       4L80-E Only
- Drill Guide                       4L80-E Only
- Drill Bit                           .052" (not shown)

**NOTE:** This tool kit works for both 4L80-E and 4L60-E AFL valve repairs.

## GM 4L80-E, 4L85-E



### 1. Disassembly

Remove OE AFL valve lineup. Set aside valve train, to be inspected after reaming.



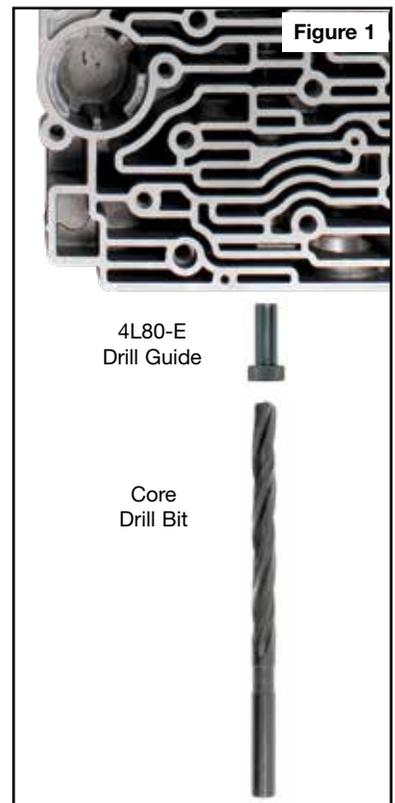
**WARNING:** Do not discard any OE parts until correct lineup is identified in step 4, "Installation & Assembly".

### 2. Drill AFL Bore (Must be done prior to reaming)

- Clamp valve body to bench, circuits facing upward.
- Insert drill guide from Sonnax tool kit 77754-TL into bore and fill bore with cutting fluid (**Figure 1**).
- Using core drill bit from tool kit 77754-TL, drill bore at approximately 1000 RPM, until bit bottoms out. Take care not to force drill or let it "grab" while drilling.
- After drilling, prepare for reaming by thoroughly cleaning valve bore and body of debris.

### 3. Reaming

Ream AFL bore (for reaming instructions/reamer care, please visit [www.sonnax.com](http://www.sonnax.com)). Reaming tool kit 77754-TL is required for this operation.



### 4. Installation & Assembly

- a. Ensure valve bore and body are clean and clear of debris.
- b. Install Sonnax sleeve/valve assembly. Secure with Sonnax retaining clip.



**NOTE:** Sleeve must fit bore with slight resistance. If sleeve slides easily or rotates in bore, a tubing cutter may be used to raise a slight ridge around sleeve lands (**Figure 2**). Liquid sleeve retainer (such as Loctite® 609) is an alternative, used sparingly on inboard end of sleeve. Apply a surface prep/cleaner (such as Permatex® 24163) to the sleeve and bore, which speeds cure and insures retention. This will cure within 30 seconds, so quickly install the sleeve without the valve. After cure, install valve into sleeve.

- c. Select correct Sonnax spring:



- c1. If 1st OE design AFL lineup was originally installed, use Sonnax short spring (**Figure 3**).
- c2. If 2nd OE design AFL lineup was originally installed, use Sonnax long spring (**Figure 4**).

- d. Install correct Sonnax spring.
- e. For OE 1st design lineup, reinstall OE spacer and retainer (**Figure 3**, same as c1 above).
- f. For OE 2nd design lineup, reinstall OE retainer.

### 5. Separator Plate Modification

Enlarge indicated AFL balance orifice to .052" with Sonnax drill bit included in 77754-TL tool kit (**Figure 5**).

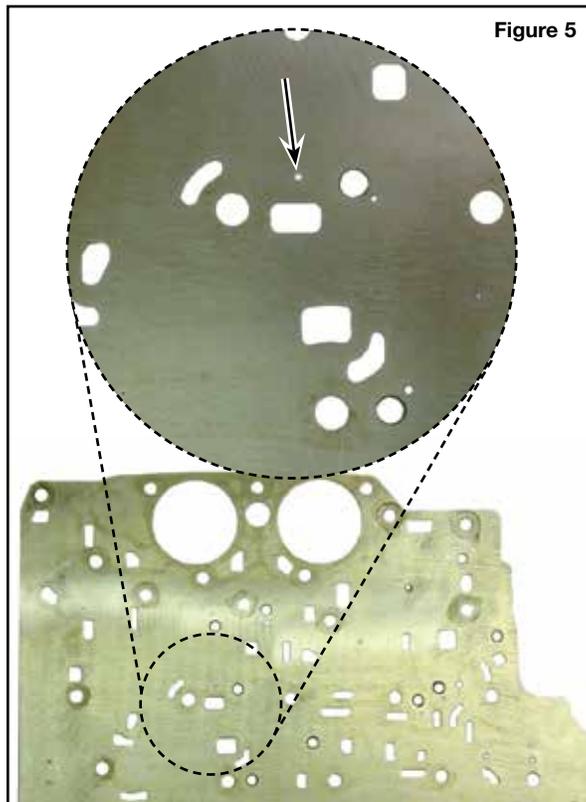


Figure 5

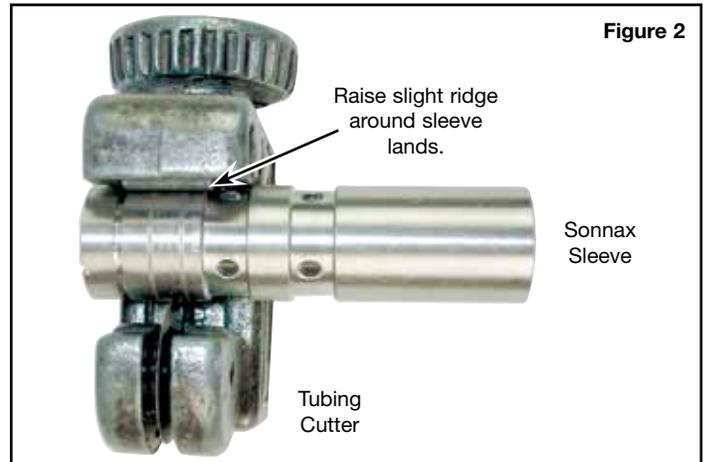


Figure 2

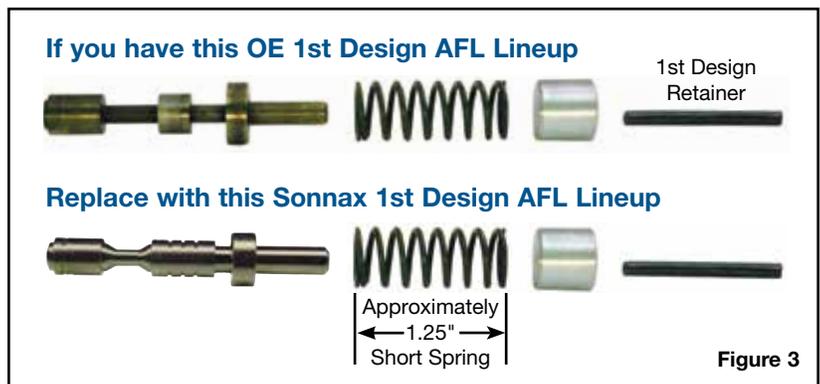


Figure 3

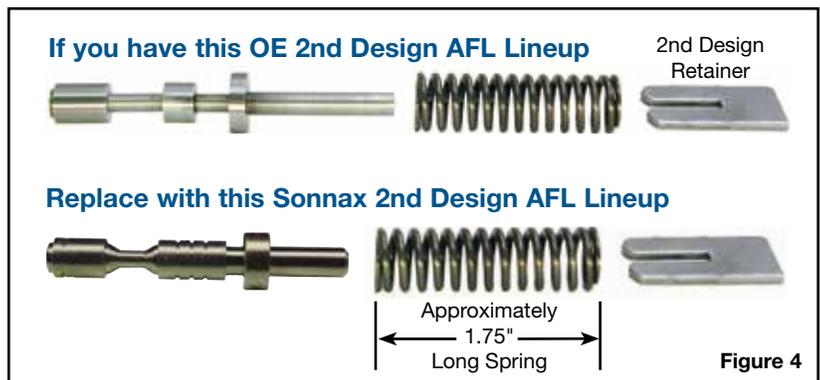


Figure 4

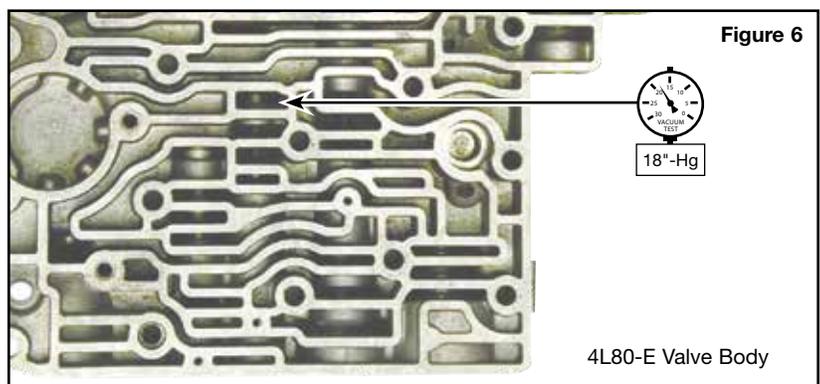


Figure 6

4L80-E Valve Body