

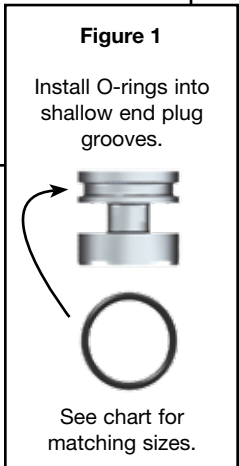
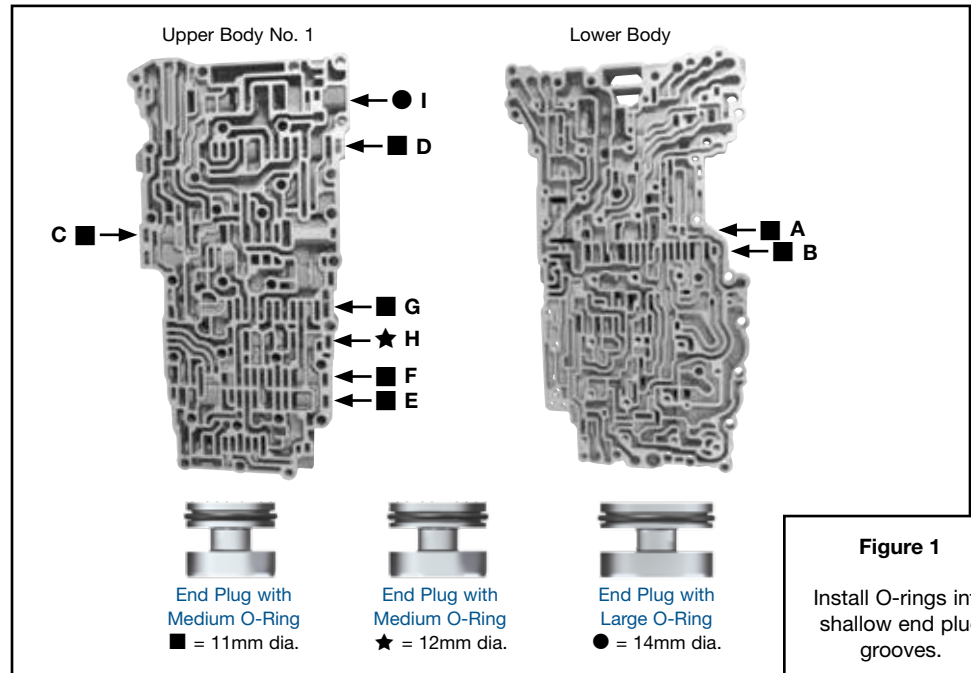
## Toyota/Lexus A750E, A750F

### O-Ringed End Plug Kit

**Part No.**

**147741-31K**

- End Plugs, 11mm (7)
- End Plug, 12mm
- O-Rings, Medium (14)      6 Extra
- End Plug, 14mm
- O-Rings, Large (2)      1 Extra
- Installation Screw



**NOTE:** Avoid damaging O-rings during assembly. Additional O-rings are included in kit to replace any damaged during assembly.

#### 1. Disassembly

Remove and discard the OE end plugs. Keep the OE plug retainers for reuse.

#### 2. Installation & Assembly

a. Install the O-rings on the end plugs into shallow groove machined into one end spool (**Figure 1**). For all end plug sizes, the appropriate O-ring must be installed, see chart (**Figure 2**).

- The medium, 8mm I.D. O-rings fit the 11mm and 12mm O.D. end plugs.
- The large, 12mm I.D. O-rings fit the 14mm O.D. end plug.

#### Part Identification

Figure 2

I.D.	Valve Name	End Plug Dia.	Installed Seal Position	O-Ring Size
<b>Lower Valve Body</b>				
A	Clutch Control	11mm	Outboard	Medium
B	Clutch Apply Control	11mm	Outboard	Medium
<b>Upper Valve Body No. 1</b>				
C	Clutch Lock	11mm	Outboard	Medium
D	Lockup Relay	11mm	Outboard	Medium
E	1-2 Shift	11mm	Outboard	Medium
F	2-3 Shift	11mm	Outboard	Medium
G	3-4 Shift	11mm	Inboard	Medium
H	Brake Control	12mm	Outboard	Medium
I	Secondary Regulator	14mm	Outboard	Large

### 2. Installation & Assembly (continued)

- b. Inspect the bottom of the “cast-in” chamfer at each bore that will receive an O-ringed end plug. Most valve bodies will have a small ridge at the entry of the valve bore. The ridge is difficult to see with the naked eye, but can be located by carefully dragging a sharp pick down the chamfer (**Figure 3**).
- c. Remove the ridges identified in step b. The recommended method is to use an 3/8" dia. flap wheel chucked in a miniature die grinder.  
Any method that removes the ridge without damaging the bore is acceptable. Remove the ridge and smooth the transition from the chamfer into the bore. If the ridge is not eliminated, it will destroy the O-ring.
- d. Thoroughly clean the valve body prior to assembly.
- e. Install the appropriate valve train into the valve body bore.
- f. Use a small amount of TransJel™, new ATF or Sonnax Slippery Stick **O-LUBE** to lubricate the O-ring, the end plug and the valve body chamfer. **O-LUBE** is the recommended lubricant.
- g. Insert the O-ringed end plug into the bore with the O-ring seal oriented **inboard** or **outboard** depending on specific bore need. See chart (**Figure 2**).
  - Orient the O-ring spool first into the bore when the end plug is designated an **inboard** seal. The O-ring will seal in the first interior wall (or land) of the valve body in this case.
  - Orient the O-ring spool last into the bore when the end plug is designated an **outboard** seal. The O-ring will seal in the exterior wall of the valve body in this case.
- h. Use a small, flat-bladed screwdriver inserted through the retainer post cavity to control the movement of the end plug as the O-ring compresses into the bore.



**NOTE:** For installation of end plugs "E" and "B"; the enclosed installation screw can be threaded into the end plug for aid in installation (**Figure 4**). See retainer location for end plug "B" as the bore plug needs to be installed mid-way down the bore (**Figure 5**).

- i. Use a brass or wood drift to press the end plug into the bore. Use a hammer on the back of the drift. Use repeated soft taps to ease the O-ring into the bore. Allow the O-ring to squirm slowly into place by easing off the force without allowing the end plug to back out of the bore. Then resume the force. Do not seat the end plug with one mighty whack or the O-ring will be damaged.
- j. Install the OE end plug retaining pin.

### 3. Final Verification

Vacuum test to ensure an effective installation; this should be at least 14 in-Hg at the retainer pin cavity.



Figure 3

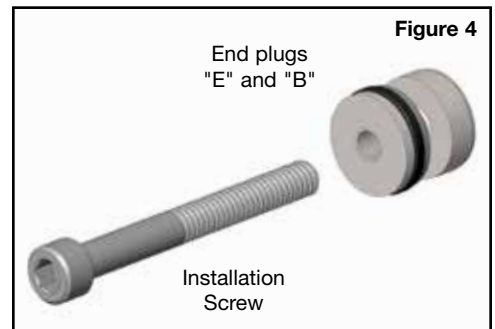


Figure 4

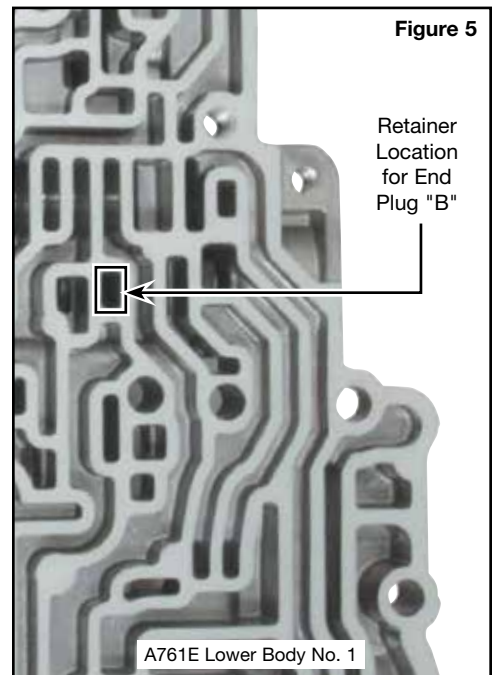


Figure 5