

## Oversized Lockup Relay Valve Kit



Part No.

**37740-11K**

- Plunger Valve
- Spring
- Relay Valve
- End Plug

**WARNING:** There are two reaming processes. The plunger (inner) valve bore must be reamed first, as the bench reamer jig needs to install into the OE relay valve bore. If the outboard relay valve bore is reamed first the bench tooling will not work.

## Tool Kit

Part No.

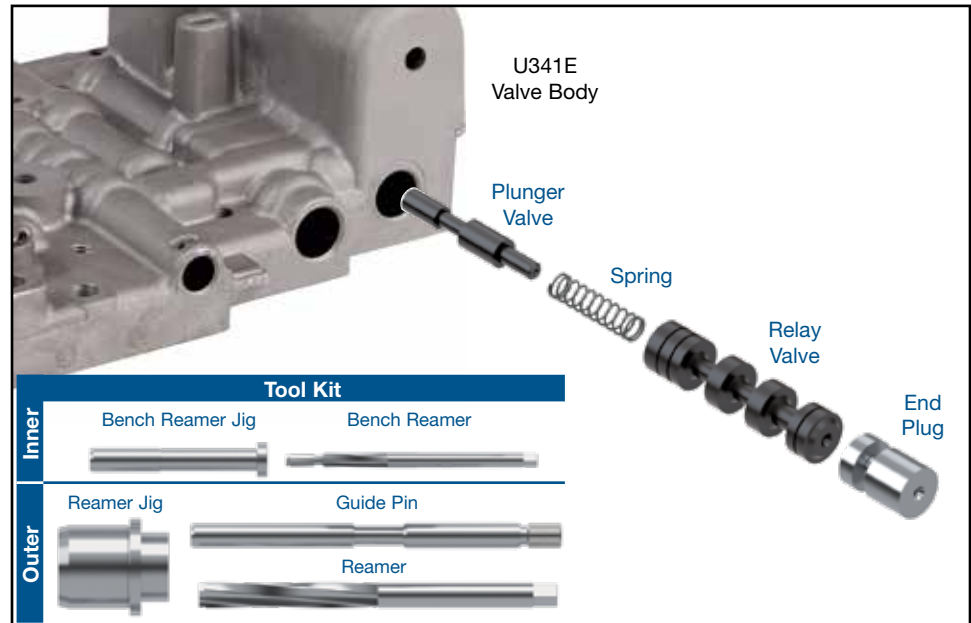
**F-37740-TL11**

- Bench Reamer
- Bench Reamer Jig
- Reamer
- Reamer Jig
- Guide 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).



## Toyota/Lexus U341E, U341F



### 1. Disassembly

- Remove OE retaining clip and save for reuse.
- Remove and discard OE end plug, lockup relay valve, spring and lockup relay plunger valve.

### 2. Bore Reaming Process #1: Plunger (Inner) Valve Bore

#### Prep & Set Up

- Clean the bore thoroughly in a solvent tank.
- Securely clamp the housing to the bench, making sure not to clamp directly over the bore to be reamed.
- Insert bench reamer jig into the bore.
- Soak 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 water-soluble cutting fluid (i.e. Mobilmet S-122) during the reaming process.
- Gently insert bench reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
- Select the correct sized socket to fit the square shank of the reamer, and attach it to a wobble/swivel socket drive.

#### Reaming

- The reamer should be turned either by hand using a speed handle or by a low RPM, high torque air drill regulated to a maximum of 200 RPM.
- The reaming action should be clockwise in a smooth and continuous motion, at 60–200 RPM. The reamer should actually pull itself through the bore, so little or no forward force should be applied.
- Continue reaming until reamer stop is reached (approximate reaming time is less than 1 minute).

### Finish & Clean Up

- Using low air pressure, blow the chips free before removing the reamer.
- To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
- Remove any remaining debris from the bore with low air pressure and clean in a solvent tank.
- Examine the bore after cleaning for surface finish, debris, and burrs. Flashing and burrs on the exit side of casting bores can be carefully removed with a small piece of Scotch-Brite® on the end of a long wire.
- Clean the reamer after each use and store in its protective tube.

### 3. Bore Reaming Process #2: Lockup Relay (Outer) Valve Bore

- Prep and set up to ream the lockup relay valve bore with the **VB-FIX** (for reaming instructions/reamer care, please visit [www.sonnax.com](http://www.sonnax.com)).
- Ream lockup relay valve bore with reamer jig, reamer, guide pin (all non-bench version) from tool kit **F-37740-TL11**. **VB-FIX** is required for this operation.

### 4. Installation & Assembly

- Ensure all debris has been removed from valve bore and valve body.
- Install Sonnax lockup relay plunger valve.
- Install Sonnax spring, ensuring spring seats over plunger valve spring stem.
- Install Sonnax lockup relay valve, ensuring spring pocket seats over spring.
- Install Sonnax end plug with the short spool inboard.
- Reinstall OE retaining clip.

### 5. Final Testing

Vacuum testing at the port(s) indicated holds the recommended minimum 16 in-Hg.

