

Pressure Regulator Sleeve Kit



Part No.
37947-05K

- Sleeve
- Retaining Clip
- Spring (for solenoid regulator valve)

Tool Kit



Part No.
37947-TL5

- Core Drill
- Drill Jig
- Reamer
- Reamer Jig

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.

NOTE: Tool Kit 37947-TL5 can be used with both 37947-05K & 37947-07K kits.

Also Available

TCC Modulator Valve Sleeve Kit 37947-07K

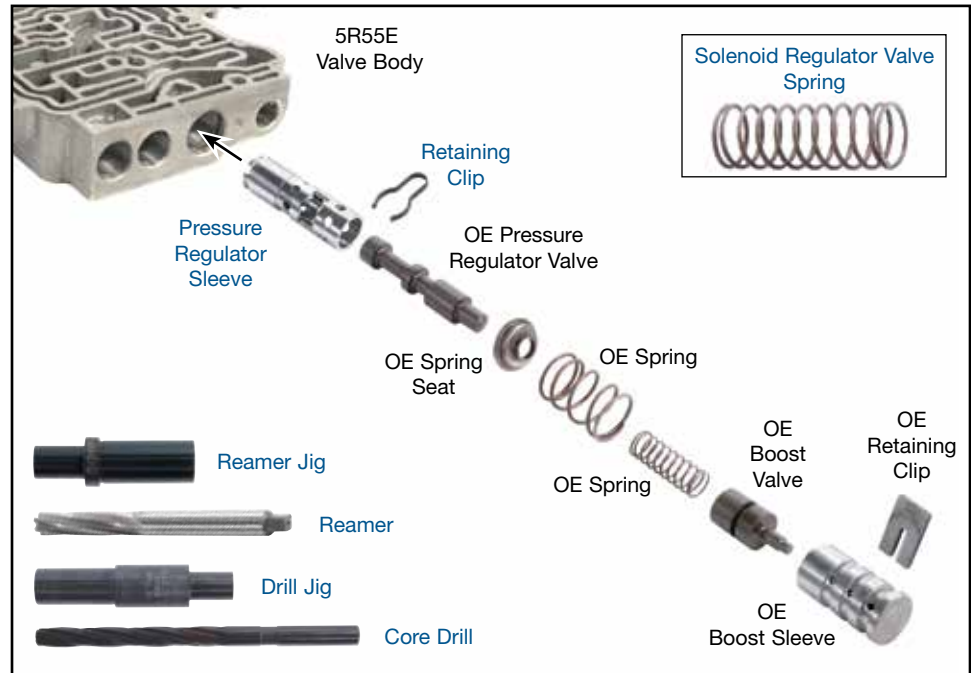
Kit includes: • Sleeve • Spacer • Spring

Boost Valve Kits

37947-01K OE Ratio
37947-03K Increased Ratio

Each kit includes: • Valve • Sleeve

Ford 4R44E, 4R55E, 5R44E, 5R55E



1. Disassembly

- Remove retainer and valve line-up from pressure regulator bore.
- Keep OE parts for reuse.

2. Bore & Reaming Preparation

- Clean the bore thoroughly in a solvent tank.
- Securely clamp the housing to a bench or vise, making sure not to clamp directly over the bore to be reamed.

3. Reaming



CAUTIONS & SUGGESTIONS:

- The reaming action must be clockwise in a smooth and continuous motion.
- Turning the reamer backward will dull it prematurely.
- Pushing on the reamer results 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 this should only be done by a professional tool sharpener. Actual life of a Sonnax reamer before resharpening or replacing averages 50-70 bores.

- Insert drill jig into mating bore diameter.
- 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 water-soluble cutting fluid (i.e. Mobilmet S-122) during the reaming process.

3. Reaming (continued)

- c. Insert core drill and drill slowly until it bottoms in blind hole. The core drill will stop cutting once it bottoms out on either bore. You do not need to worry about overdrilling.
- d. Clean the bores after drilling.
- e. Gently insert the reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
- f. Ream with plenty of cutting fluid. Use a loose fitting reamer socket and a wobble adapter to ream the bore. We suggest a 200 RPM 1/2 drill with wobble socket. Ream very slowly for a good finish. The reaming actions must be clockwise in smooth and continuous motion at 60-200 RPM. Continue reaming until the reamer stop is reached.

4. Finish & Clean Up

- a. Using low air pressure, blow the chips free before removing the reamer.
- b. To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
- c. Examine the bore after cleaning for surface finish, debris and burrs. Flashing and burrs on the exit side of land and in bores must be carefully removed. A small piece of Scotch-Brite® material attached to a wire and powered with a drill motor is ideal for the task. Scotch-Brite® is a very abrasive material and all residual debris must be cleaned to ensure particles do not migrate or remain imbedded into the surface. Post cleaning involves several progressive steps with solvent on a lint-free rag.
- d. Clean the reamer after each use and store in its protective tube.

5. Installation & Assembly

- a. Be certain all debris has been removed from the valve bore and valve body.
- b. Rotate Sonnax sleeve so that the 2 large slots are facing sideways (**Figure 2**) and insert into bore.
- c. Insert Sonnax retainer clip into the groove.

NOTE: The clip must wrap around, lock into the groove and hold the sleeve. If it does not grasp the sleeve equally at both ends of the clip legs, remove the sleeve and remove approximately .015" from that end of the sleeve. This will allow the sleeve to travel further into the bore.

- d. Remove Sonnax sleeve and clean it and the bore with Loctite® primer or comparable product. Install the sleeve until it is about .080" from bottoming in the bore. Place a small drop of Loctite® or equivalent sleeve retaining compound onto the sleeve where it is exposed under an open slot. Place the Loctite® on the sleeve in the location shown (**Figure 1**). Slide the sleeve the rest of the way in while twisting. Allow for complete cure time to make sure no Loctite™ gets on the valve during installation. (See Loctite® or product instructions for curing time.)

- e. Once fully cured, install OE valve and stroke to ensure free movement.

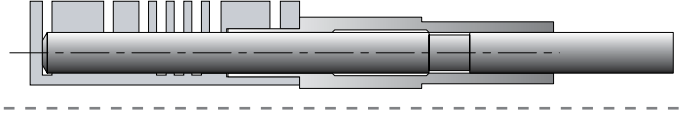
NOTE: Sonnax 37947-01K OE ratio boost valve or 37947-03K increased ratio boost valve are also available.

- f. Reinstall OE line-up (**main photo**),
- f. Place OE spring seat over OE regulator valve end nub, with the largest diameter towards the sleeve.
- g. Push this assembly into the valve body bore, with the spring seat end facing outboard.
- h. Retain sleeve in the bore at balance port by installing Sonnax retaining clip into the sleeve groove.

Turn jig end over end for correct fit in either pressure regulator bore or TCC modulator valve bore.

Figure 1

Step 1: 1/2" Core Drill 10000-94, Drill Jig 37947-DB7-TCC MOD



Step 2: Reamer Jig 37947-RB7-TCC MOD, Reamer 37947-RM3-PR & TCC MOD Valve

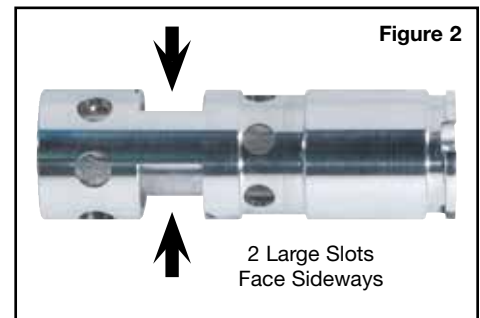


Figure 2

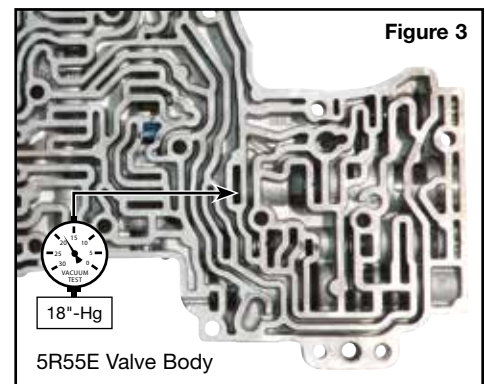


Figure 3

- i. Re-install 2 OE springs, ensuring the small spring is nestle over the valve end nub.

NOTE: The spring included in this kit is NOT for the pressure regulator valve. It is a replacement solenoid regulator valve spring in case of damage during valve body disassembly.

7. Install OE boost valve assembly and secure in bore with OE retaining clip.

6. Final Testing

Vacuum testing at the port(s) indicated holds the recommended minimum 18 in-Hg (**Figure 3**).