

## Oversized Pressure Regulator Valve & Boost Valve Kit

### 59947-12K

- 1 Pressure Regulator Valve
- 1 Pressure Regulator Spring
- 1 Boost Sleeve
- 1 Boost Valve



### F-59947-TL12

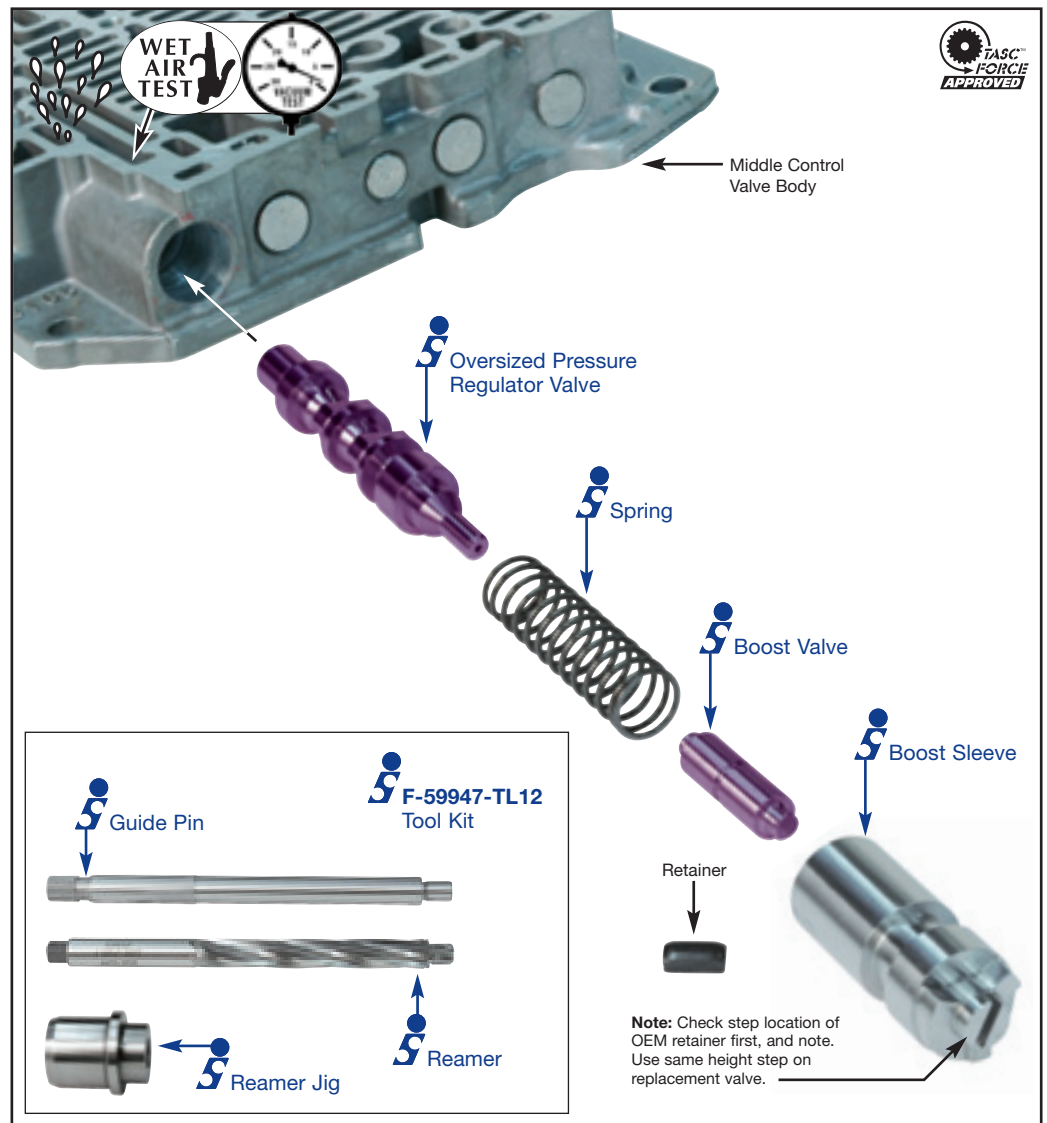
- 1 Reamer
- 1 Guide Pin
- 1 Reamer Jig



**Notes:** Also fits AW55-51SN, AF 23/33 and RE5F22A units.

Prior to installing the **59947-12K** we advise that you check for proper performance of the secondary regulator valve.

For more information on diagnosing the secondary regulator valve visit [www.sonnax.com/59947-12K](http://www.sonnax.com/59947-12K).



### Disassembly:

1. Note step location of retainer on OEM sleeve end prior to removal.
2. Remove and discard OEM sleeve and valve.
3. Remove and discard OEM pressure regulator spring and valve.

### REAMING INSTRUCTIONS

#### Prep and Set-Up

1. Clean the bore thoroughly.
2. To align the valve body on the fixture, follow the **VB-FIX** instructions. From tool kit **F-59947-TL12**, use jig **F-59947-RJ12** and guide pin **F-59947-GP12**, then ream with reamer **F-59947-RM12**.

**NOTE:** Extra attention should be paid to alignment and securing the valve body to the fixture on this bore. A very smooth action to insert and remove the guide pin after final securing is a must to provide easy, on-center reaming of this bore.

3. Soak the bore and reamer with cutting fluid (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.
4. Gently insert the reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
5. Select the correct sized socket to fit the square shank of the reamer, and attach it to a wobble/swivel socket drive.

### Reaming

**NOTE:** Once a valve body alignment has been established on the **VB-FIX**, do not disturb or loosen the valve body setting or guide setting in any way until the reaming process is complete. Be sure to use plenty of continuously supplied cutting fluid while reaming these bores.

1. The reamer should be turned by hand using a speed handle or by a low rpm, high torque air drill regulated to a maximum of 200rpm.
2. 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.
3. Continue reaming until the reamer stop is reached.

### Finish and Clean-up

1. Using low air pressure, blow the chips free before removing the reamer.
2. To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
3. Remove any remaining debris from the bore with low air pressure and clean in a solvent tank.
4. 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 Scotchbrite™ on the end of a long wire.
5. Clean the reamer after each use and store in its protective tube.

### Cautions and Suggestions

1. Turning the reamer backward will dull it prematurely.
2. Pushing on the reamer will result in poor surface finish and inadequate and sporadic material removal.
3. Never use a crescent wrench, ratchet or pliers to turn the reamer.
4. 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 reamer before resharpening or replacing averages 50-70 bores.

### Installation

1. Install the Sonnax pressure regulator valve.
2. Install the Sonnax pressure regulator spring.
3. Install the Sonnax sleeve/valve assembly.
4. Ensure retainer is set at the same step location on the replacement sleeve.

### Verification for boost valve

Wet Air Test or vacuum test the sleeve assembly while in the bore at the outboard reverse feed port indicated. If performing a WAT, there should be no leakage at the neighboring exhaust port. A vacuum test with the new kit installed should reach 20" of vacuum (*see page 1*).

### Verification for pressure regulator valve

Wet Air Test or vacuum test the pressure regulator valve at the two locations shown. A vacuum test with the new kit installed should reach 20" of vacuum.

### Pressure Regulator Valve Test Locations

