

Oversized Pressure Modifier Valve



Part No.
74846-04

Tool Kit

Part No.
74846-TL4

- Reamer
- Reamer Jig

NOTE: This tool kit is no longer in production. Contact your distributor to see if they still have this product available.

Also Available

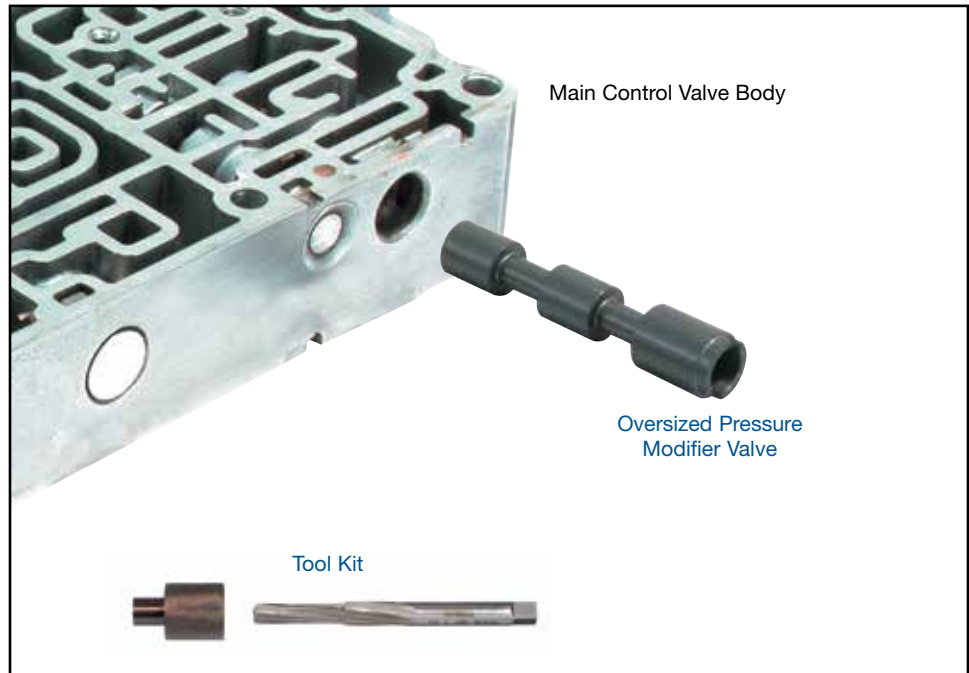
Oversized Pressure Regulator Valve
74846-05

Fits F4A-EL, GF4A-EL & F4EAT

Boost Valve Kit
74846-01K

Fits G4A-EL/HL & GF4A-EL

Mazda GF4A-EL



1. Disassembly

1. Remove all OE components from the bore.
2. Discard OE modifier valve and save all other components for reuse.

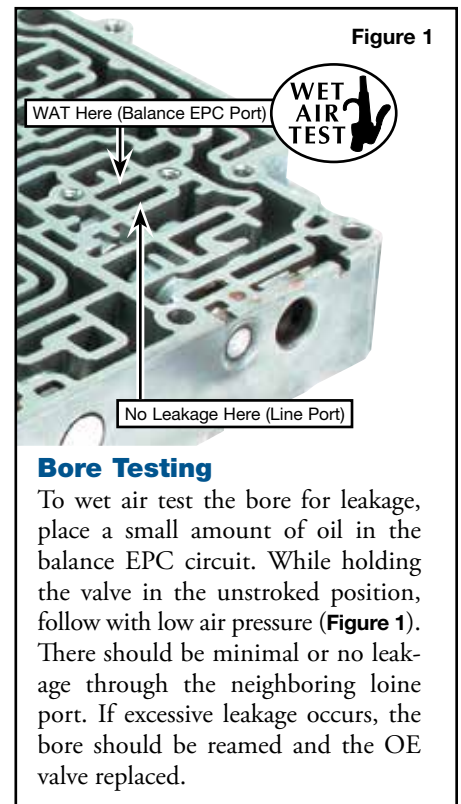
2. Bore & Reaming Preparation

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

3. Reaming

CAUTIONS AND 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.



Bore Testing

To wet air test the bore for leakage, place a small amount of oil in the balance EPC circuit. While holding the valve in the unstroked position, follow with low air pressure (Figure 1). There should be minimal or no leakage through the neighboring loine port. If excessive leakage occurs, the bore should be reamed and the OE valve replaced.

3. Reaming (continued)

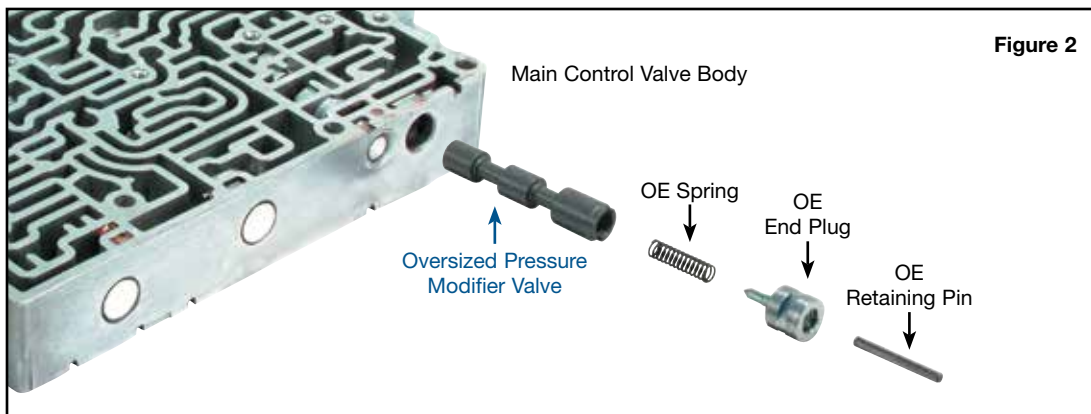
- a. Insert the reamer jig into the bore.
- b. Generously lubricate the bore and reamer with cutting fluid (i.e. Mobilmet S-122, Lubegard® Bio-Tap, Tap Magic™, etc.). For best results, provide a continuous flow of water-soluble cutting fluid (i.e. Mobilmet S-122) during the reaming process.
- c. Gently insert the reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
- d. Use a loose fitting reamer socket and a wobble adapter to ream the bore. The reamer can be turned by using a speed handle or with a low-RPM, high-torque air drill regulated to a maximum of 200 RPM. 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. Lubricate the bore and Sonnax valve prior to installation.
- b. Install Sonnax valve and OE part lineup as shown (**Figure 2**).



- c. The end plug has an adjustable Allen screw to fine-tune the spring height. This should be set to factory specifications. Turning the screw inwards raises EPC output. As a starting point, check to see that the screw is set to one of the following:
 - **Inner Measure:** Inside face of plug to tip of adjuster screw = .384" to .410".
 - **Outer Measure:** Outside face of plug down to top of Allen screw = .020" to .040".