

Actuator Feed Limit Valve Kit

77754-09K

- 1 Valve Sleeve Assembly
- 1 Spring
- 1 Retaining Clip

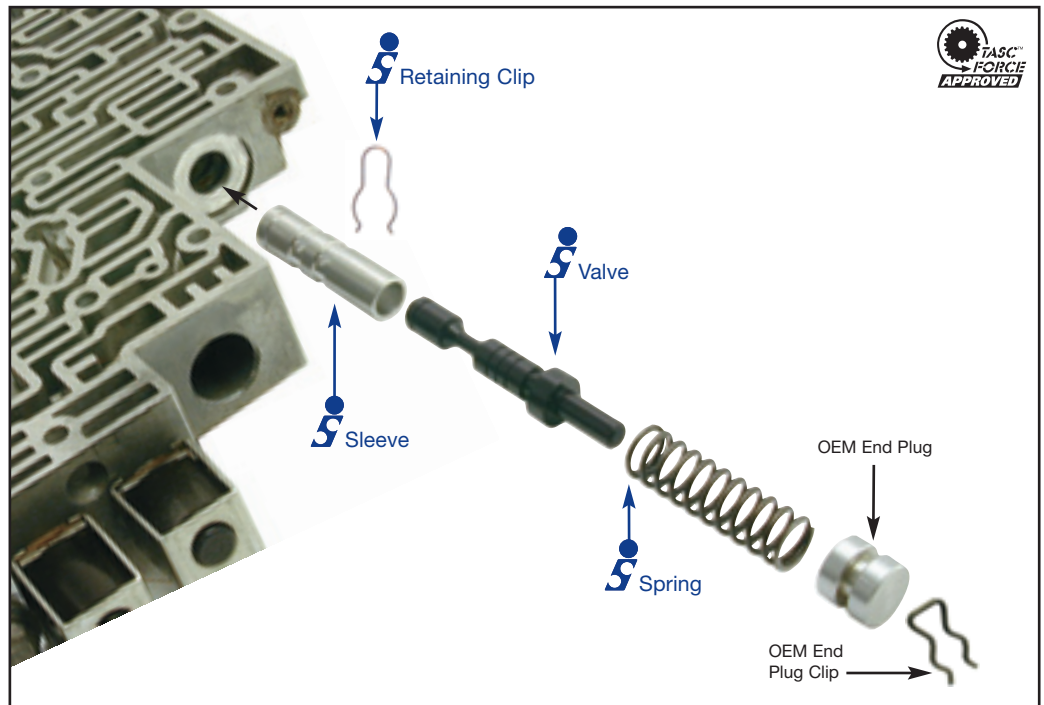


Note: U.S. Patent 6,634,377

77754-TL

- 1 Core Drill (4L80-E only)
- 1 Reamer
- 3 Guides (1 for 4L60-E / 2 for 4L80-E)
- 1 Drill Bit (.051")

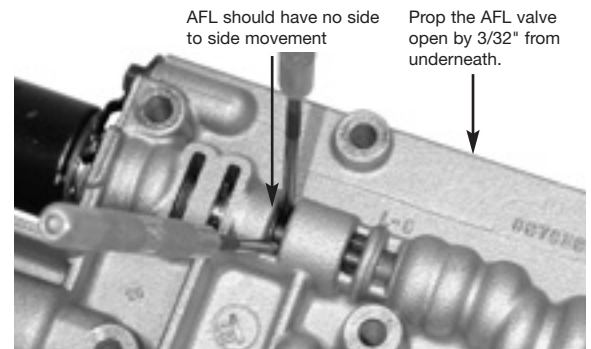
Note: This tool kit works for 4L60-E and 4L80-E AFL valve repairs.



Wear Test

Note: This is a difficult valve to inspect for wear.

1. Prop the valve open by 3/32" (to the operating position).
2. Pry the valve side to side as pictured. Seeing valve movement or any oil being squeezed out indicates excessive clearance.
3. Remove the valve and visually inspect the bore for wear, as pictured below.



Reaming Instructions

1. Remove valves from the bore to be reamed.
2. Clean valve body. A mixture of mineral spirits & degreaser is recommended.
3. Clamp the valve body to bench with open circuits up.
4. Fill bore with cutting fluid (kerosene, Tap Magic®, etc.).
5. Insert the correct reamer jig for the application into the bore. The reamer jigs are clearly marked as to which fits the 4L60-E or 4L80-E valve body.
6. Soak fluted end of reamer with cutting fluid.
7. Insert reamer into reamer jig until reamer tip contacts the first bore to be cut. Securely position the jig against the bore to remove any reamer wobble. The jig will help stabilize and center the reamer.
8. With the reamer carefully and securely positioned, use a speed handle to ream the bore. The reaming action should be clockwise in a smooth and continuous motion, at approximately 1 to 1-1/2 revolutions per second.



9. The reamer should pull itself through the bore, so little or no forward pressure should be applied to the reamer or speed handle.
10. Continue reaming until the tip of the reamer bottoms in the bore. Spin the reamer 5-10 more times after bore bottoming to allow for excess material removal and better surface finish.
11. Using low air pressure, blow the chips free before removing the reamer.
12. To remove the reamer, turn clockwise while slowly pulling outward on the reamer.
13. Remove any remaining debris from the bore with low air pressure and mineral spirits/degreaser.

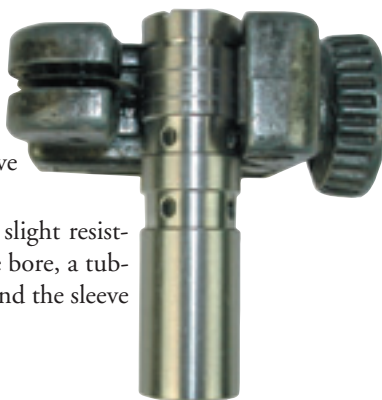
Cautions

- Never turn the reamer backward.
- Pushing on the reamer will result in poor surface finish, inadequate and sporadic material removal, and material being left unremoved as the reamer exits a bore.
- Blow free any chips from the reamer after each use.
- Never use a crescent wrench, T-handle or ratchet to turn the reamer.

Installation Instructions

1. Discard the original valve and spring. Keep the end plug and spring clip for reuse.
2. Remove the Sonnax valve from the sleeve and install the sleeve with the retaining clip groove inward.

Important: The sleeve must fit the bore with a slight resistance! If the sleeve slides in easily or rotates in the bore, a tubing cutter may be used to raise a slight ridge around the sleeve lands (as pictured).



3. Lightly tap the sleeve into position (the old valve inserted backward may be used to drive the sleeve). Install the retaining clip around the sleeve.
4. Install the Sonnax valve and spring with the OEM end plug and spring clip.

Separator Plate Modification

The indicated AFL balance orifice must be enlarged to .052" with the drill bit included in the tool kit.

