

Oversized Solenoid Regulator Valve

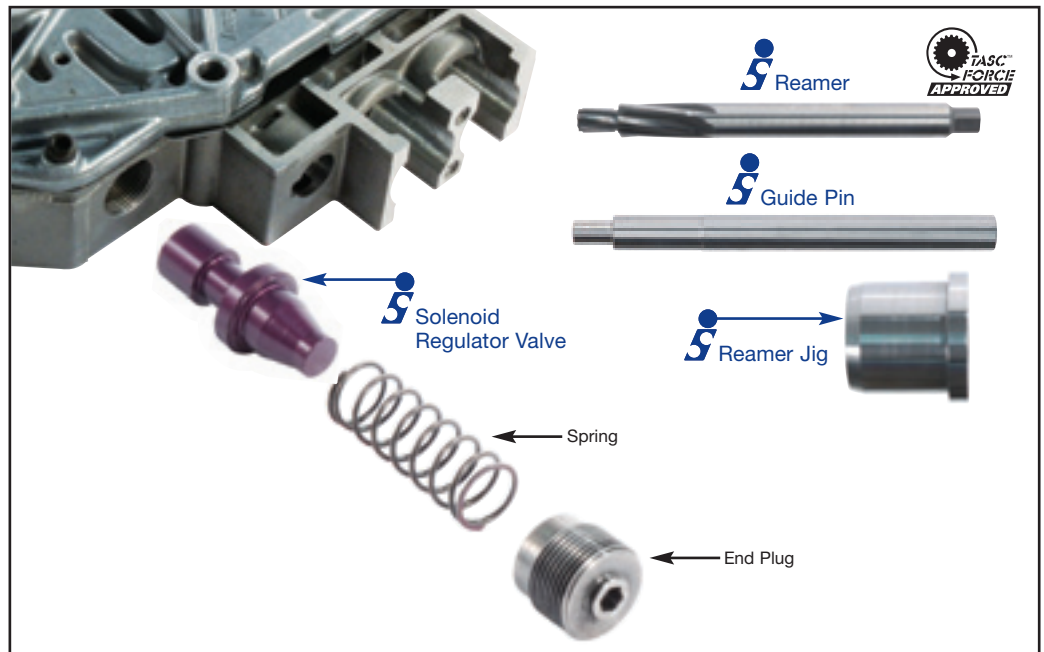
Solenoid Regulator Valve Kit
119940-06K
1 Valve



Tool Kit for 119940-06K
F-119940-TL6
1 Reamer
1 Reamer Jig
1 Guide Pin



VALVE BODY
FIXTURE REQUIRED
Due to the nature of the valve body design, the Sonnax Valve Body Reaming Fixture **VB-FIX** is required for use with this tool kit.



Reaming Instructions:

Prep and Set-up

1. Remove all components from the bore. Save the OEM spring and end plug.
2. Clean the bore thoroughly
3. To align the solenoid regulator valve bore in the fixture, follow the the **VB-FIX** instructions. From the tool kit **F-119940-TL6**:
Use Jig **F-119940-RJ7** and guide pin **F-119940-GP3**, then ream with reamer **F-119940-RM3**.

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.

4. 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.
5. Gently insert the reamer through the jig and into the bore until the cutting tip contacts the first bore to be reamed.
6. 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 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. The large amount of material being removed is more likely to cause reamer stalling than most operations.

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 200 rpm.
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. The approximate reaming time is 5 minutes.

Note: The reamer jig has been counterbored to accept the socket drive to allow the reamer to fully bottom in the casting bore. Needle-nose pliers may be required to remove the reamer from the jig once the reaming process is completed.

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.

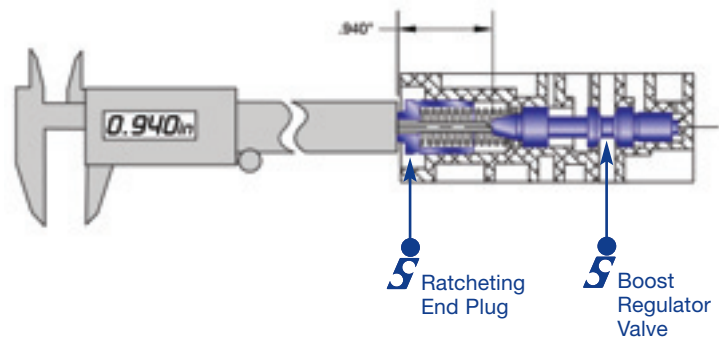
Reassembly:

Install the Sonnax valve with the OEM spring and end plug as shown on Page 1.

Important Note: Multiple valves work in combinations to maintain and establish pressure control and proper line rise in these units. Be sure to inspect and repair the main pressure regulator and boost regulator valves, in addition to repairing the solenoid regulator valve. Removing and inspecting the boost regulator valve, or adjusting the ratcheting end plug on the boost regulator valve may be needed after servicing any of these three valves, and requires following correct procedure as outlined below.

Boost Regulator Valve Bore Ratcheting End Plug Removal

Note: Prior to removing the ratcheting end plug from the bore, measure and note how deeply it is installed. The replacement plug should be installed to this same depth to ensure proper line pressure control. The most accurate method is to insert a slide caliper rod through the hole in the plastic plug until it bottoms against the control valve. Bring the caliper end toward the plug until flush. This gives you the spring height adjustment from the plug to the valve. Record this measurement before removing the plug and duplicate this distance during reassembly to most accurately duplicate the spring compression setting. If your caliper will not pass through the hole, measure from the valve body casting surface to the outer face of the OEM plug and duplicate later.



The adjustment tool may be used during removal of either the OEM or Sonnax ratcheting end plug at the boost regulator valve bore. Using the tool prevents breakage of the 2 anti-rotational tabs. The adjustment tool **119940-TL9** is sold separately and is also provided in **F-119940-TL5** and **F-119940-TL7** tool kits.

1. To remove the ratcheting end plug from the bore, gently insert the cam end of the tool into the valve body bore, and over the end of the end plug.
2. Carefully rotate the tool counterclockwise until the tool seats fully against the plug and the anti-rotational tabs are enclosed fully in the cam.
3. Continue rotating tool to the left, until the end plug is removed from the bore. A 3/4" wrench or socket may be used.

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Note: This bore should be inspected for wear on every rebuild. The worn bore can be salvaged using Sonnax Oversized Boost Regulator Valve **119940-05K** for 01M, 01N and 01P units or **119940-07K** for 096, 097 and 098 units.

Ratcheting End Plug Installation and Adjustment

1. To install the end plug, thread into the bore until the pre-measured height is again achieved.
2. Adjustments to the base setting may be required due to variations in the plug, valve body or improvements from either regulator bore. Initial setting on average OEM parts is .940", measured from the end of the valve to the outer face of the plastic adjuster. Turning the adjuster clockwise will increase boost pressure, line pressure and create firmer engagements as well as upshifts and downshifts. Turning counter clockwise reduces line pressure at idle and results in softer shifts. Each turn is approximately 8 psi alteration. One turn is drastic and we suggest you go by 1/2 to 1/4 turns. The outcome of this adjustment is monitored at line pressure tap.
3. A 5/16" socket may be used while threading the plug into the bore. However, the tool will be needed to turn the plug back out while adjusting to the correct setting.
4. It is very important to verify line pressure when installation is complete. OEM line in Drive is generally 50-56 psi. Reverse is 95-110 at idle. To obtain firm engagements or reduce flare, increase to line in Drive 60 (1/2-turn clockwise). Readjust if not within this range.

Note: OE line pressure port is a straight 10 x 1.0mm thread with a flanged plug. A line pressure adapter can be made from a common 1/8th NPT 45-degree adapter. Chase male thread on the adapter with 10 x 1.0 thread die. Gently screw adapter into the case and then screw pressure gauge into adapter.

