

Oversized C2 Clutch Control Valve Kit

Part No.
39741-05K



• Valve • Sleeve • Spring

NOTE: Fits Volvo (AM6), Opel (AF40), Peugeot (TF-80), Saab (AF40/6), Land Rover (TF-80), Ford (AF21) and Mazda (AW6A-EL).

Tool Kit

Part No.
F-39741-TL5

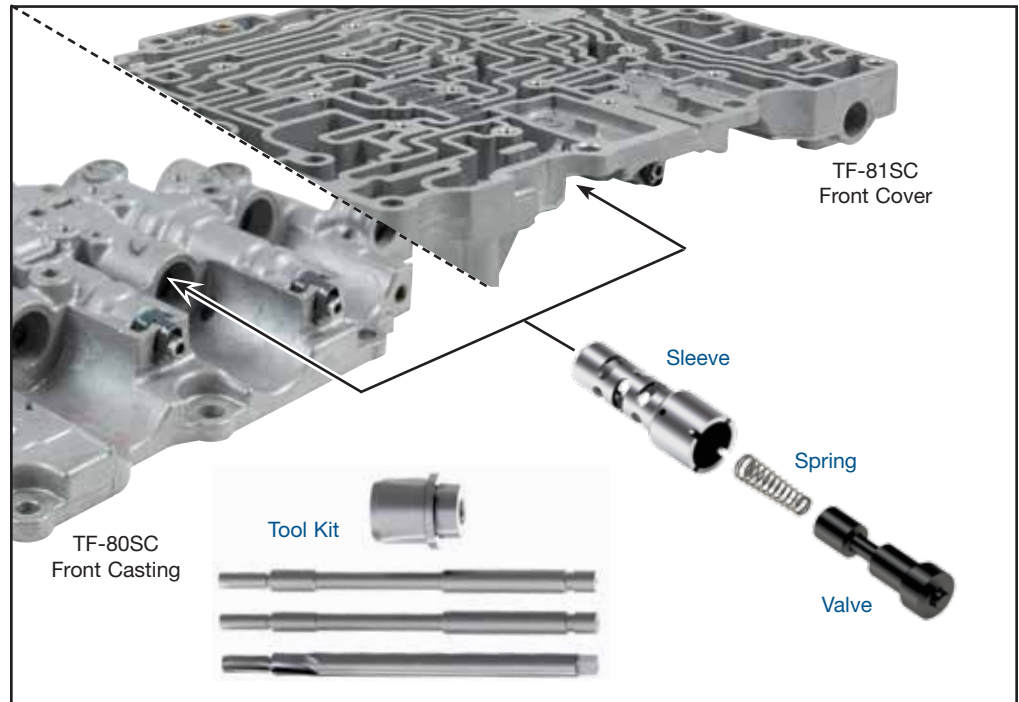


- Reamer Jig
- C2 & C3 Guide Pins
- Reamer

NOTE: This tool kit also can be used to install C3 clutch control valve kit **39741-08K**.

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.

Aisin AW TF-80/81SC



Prior to the removal of any control valve adjustment plug, measure and record the distance from the plug to the casting. This measurement must be duplicated upon assembly (**Figure 1**).

1. Disassembly

- Remove and save OE retaining clip.
 - Measure and record adjustment plug to casting distance, then remove and save OE adjuster.
 - Remove the OE retaining pin, solenoid, valve and spring, discarding valve and spring.
- Reinstall adjustment plug into empty bore, such that the inboard nub is just visible at the casting port (**Figure 2**). The approximate measurement from casting face to the end of plug is .270". Hold in place with OE clip. The end plug will serve as the stop for the guide pin and reamer.

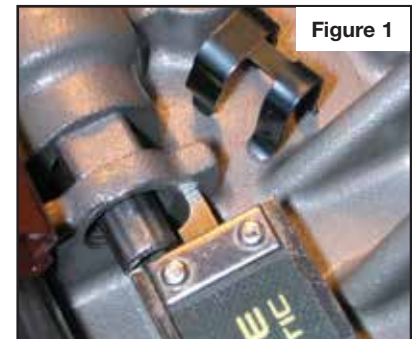


Figure 1

2. Bore Preparation

- Clean the bore thoroughly in a solvent tank.
- Generously lubricate the bore and reamer with cutting fluid (i.e. Mobilmet S-122, Lubgard® 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.
- The reamers should be turned using a low RPM, high-torque air drill regulated to a maximum of 200 RPM.
- 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.

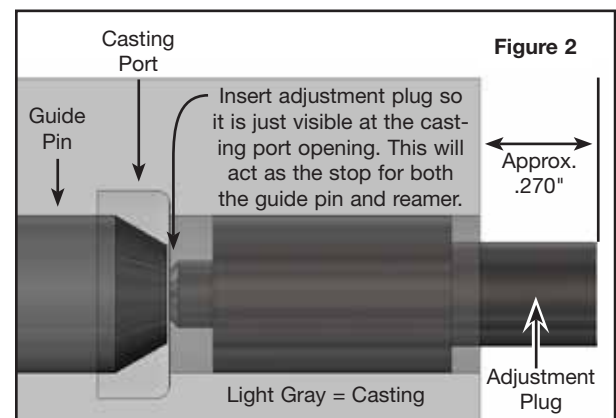
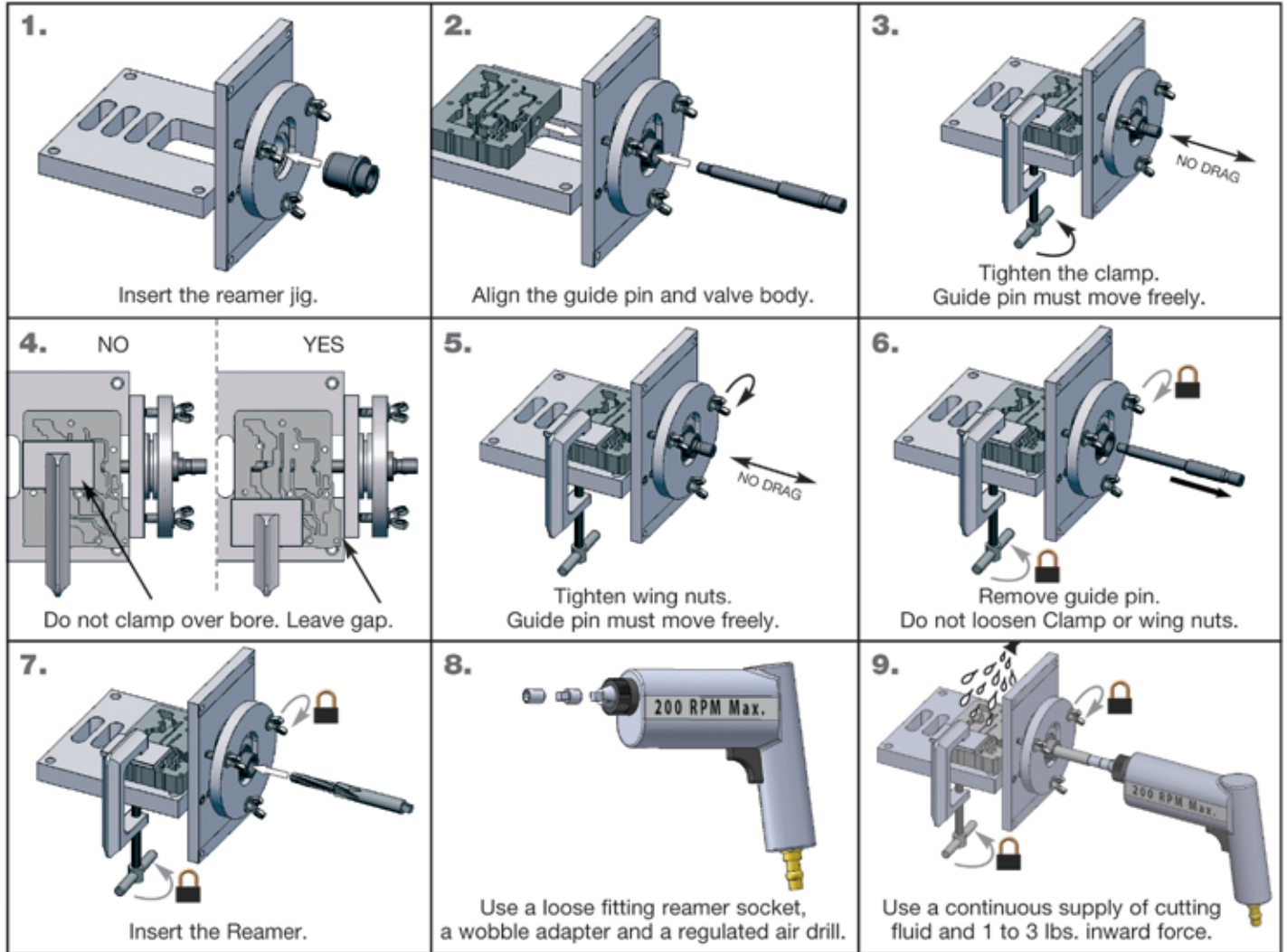


Figure 2

3. Reaming Instructions

Use the associated "F-Tool" **F-39741-TL5** kit and **VB-FIX** reaming fixture as illustrated below to ream the bore.



CAUTIONS AND SUGGESTIONS:

- Turning the reamer backward will dull it prematurely.
- Pushing on the reamer will result 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 should only be done by a professional tool sharpener. Actual life of a Sonnax reamer before resharpening or replacing averages 50-70 bores.

4. Installation & Assembly

- After reaming, remove the OE retaining clip and adjustment plug from the bore for a thorough cleaning.
- Reinstall the OE spring adjuster and adjust to the reference dimension noted in disassembly procedure, then reinstall the OE retaining clip.

NOTE: Component apply pressure leakage past the adjuster threads can be reduced by using an ATF compatible thread sealant, such as Permatex® 24163 surface prep and 24206 Threadlocker, on the spring adjuster. Compound must not create a permanent set.

- Install the Sonnax spring into the bore, large end inboard, ensuring spring I.D. goes over the spring adjuster nub.
- Install the Sonnax valve/sleeve assembly. A deep well socket can be used for pressing the sleeve into place.
- Reinstall OE solenoid and retaining pin.

5. Fit Verification

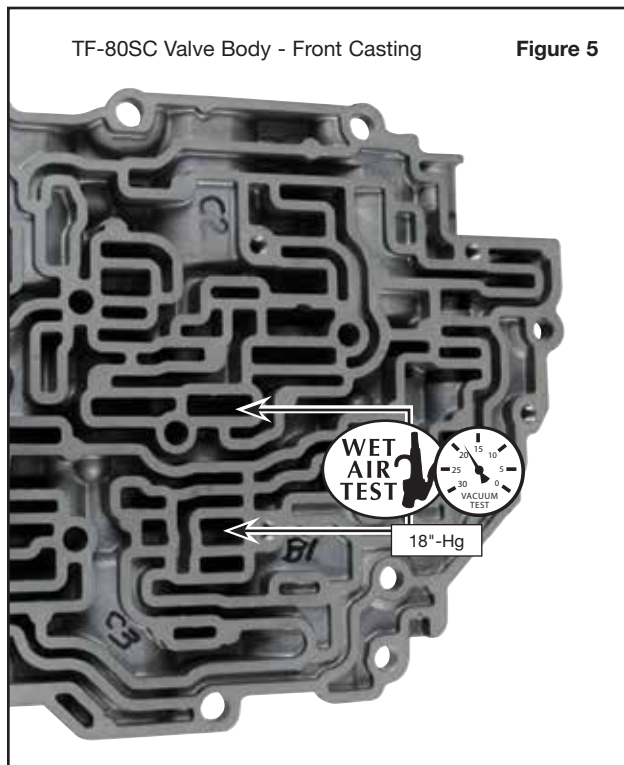
Ensure the sleeve ports align correctly with the valve body ports (Figures 3 and 4). If significant misalignment is noted ($= .015"$), shimming or sanding of components may be necessary.



NOTE: Individual bore components vary dependent upon application; tuning of sleeve slot to casting port location is what is critical.

6. Final Testing

A wet air test at the locations shown result in leakage and/or a vacuum test at the ports hold a minimum of 18 in-Hg (Figure 5).

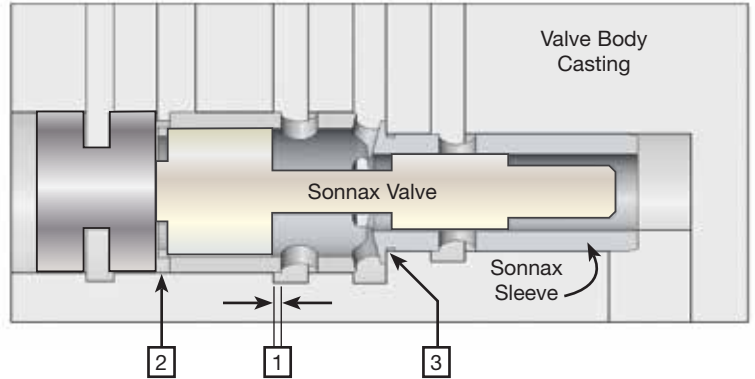


TF-80SC Valve Body - Front Casting

Figure 5

Part Misalignment - Sleeve too far Inboard

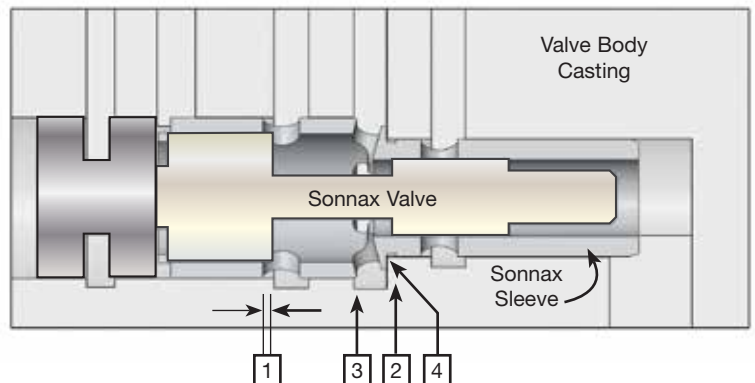
Figure 3



1. Note how the ports are positioned. A portion is under the casting, shifted right. This is incorrect; shift sleeve **left** by this distance.
2. Material will need to be removed from either this end of the sleeve or from the inboard of end plug.
3. Once material has been removed and sleeve is shifted left, the holes in sleeve should align with casting. The sleeve must be shimmed or Loctited at this location. Shim can be made from coil wire cut from spring.

Part Misalignment - Sleeve too far Outboard

Figure 4



1. This condition can occur due to reamer not traveling deep enough into the bore.
2. Casting variance and "valley-flashing" also can short stop reamer travel.
3. To correct this and move sleeve to the right, remove material from the casting face and valley. A Dremel® 194 cutter works well.
4. In some situations, remove material from edge stop on sleeve.

3. Bore Reaming

Use the associated “F-Tool” **F-39741-TL5** kit and **VB-FIX** reaming fixture as illustrated below to ream the bore.

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- c. Install the Sonnax spring, large end inboard, ensuring spring I.D. goes over spring adjuster nub.
- d. Install the Sonnax valve/sleeve assembly. A deep well socket can be used for pressing the sleeve into place.
- e. Install OE solenoid and retaining pin.

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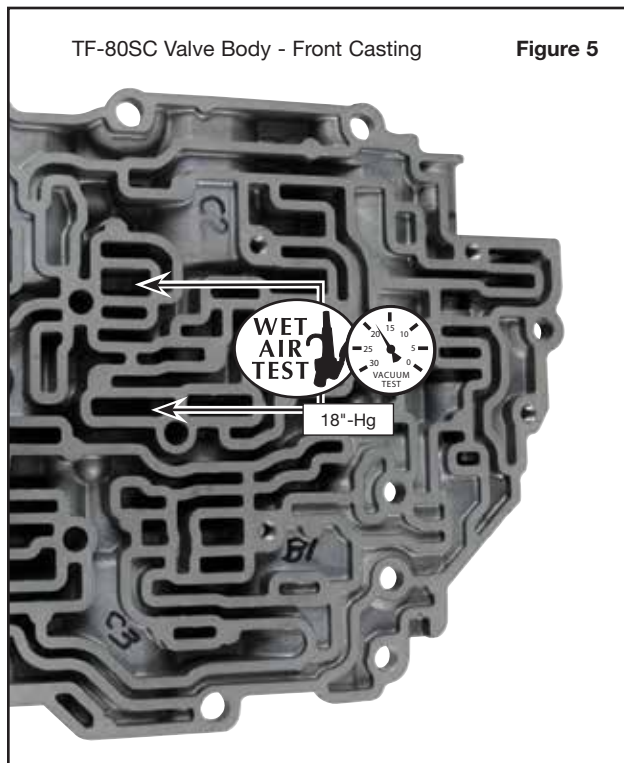
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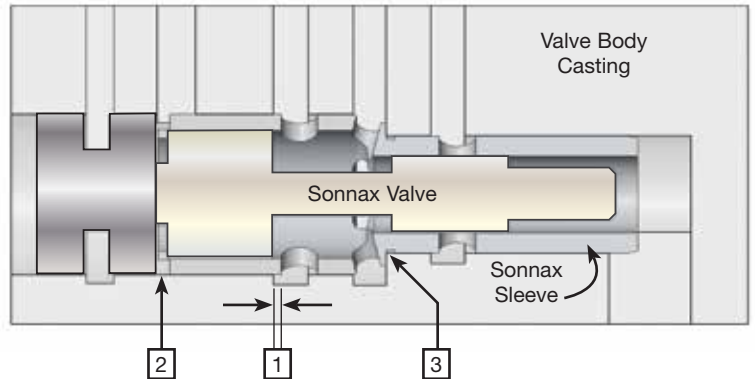


TF-80SC Valve Body - Front Casting

Figure 5

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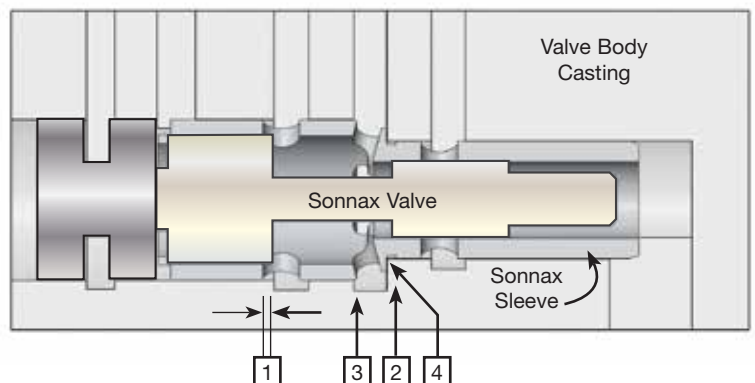
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