

AFL Valve & Sleeve Kit

84596-02K

- 1 Sleeve
- 1 Valve
- 1 Regulating Spring
- 1 Sleeve Retention Spring

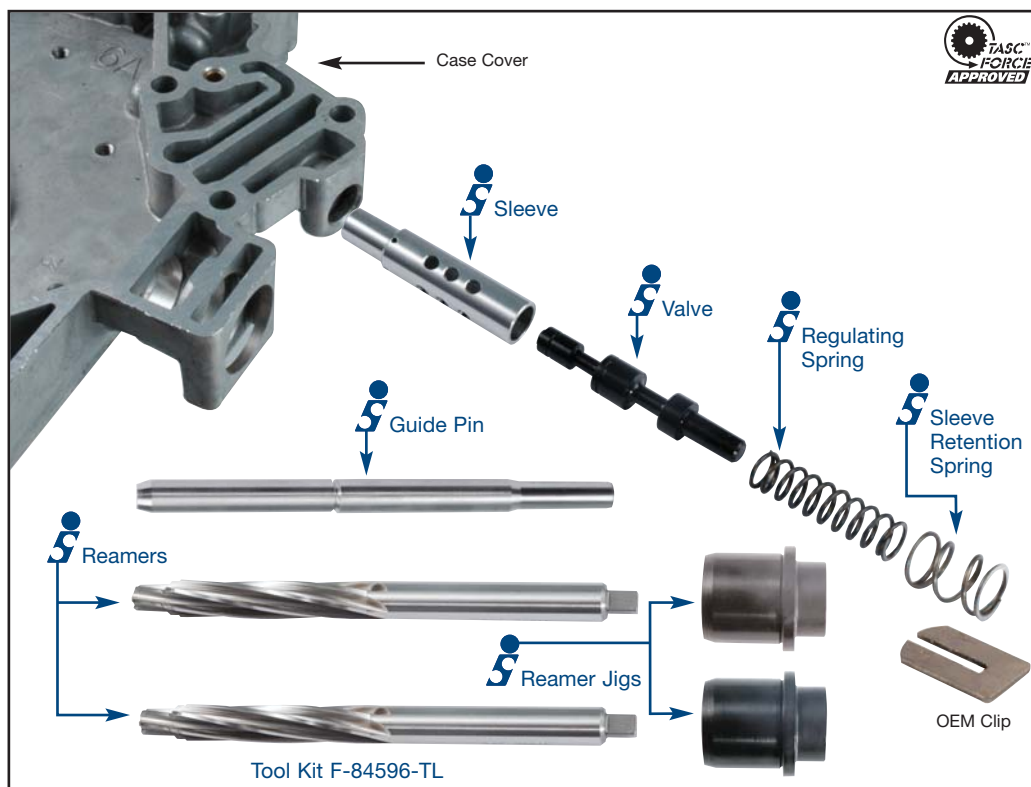


F-84596-TL

- 2 Reamers
- 2 Reamer Jigs
- 1 Guide Pin



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

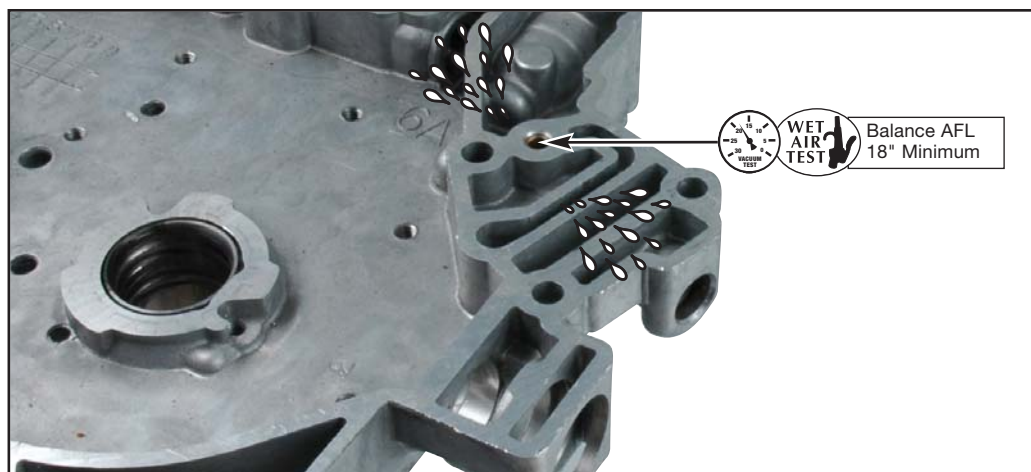


Wet Air Test

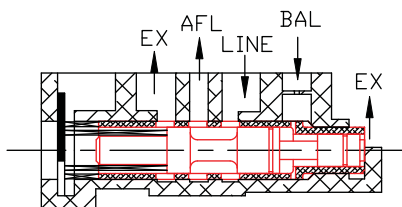
Place a small amount of oil into the balance AFL port. While preventing the valve from stroking, follow with regulated (30 - 40 psi) air pressure. There should not be excessive leakage found at either of the 2 locations shown.

Vacuum Test

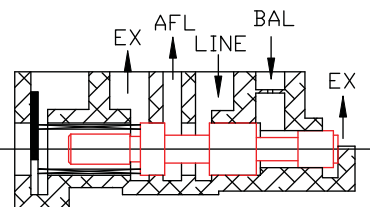
Test at the balance AFL port. Reading should not indicate less than 18" of vacuum.



4T65-E
Sonnax Line-Up



4T65-E
OEM Line-Up

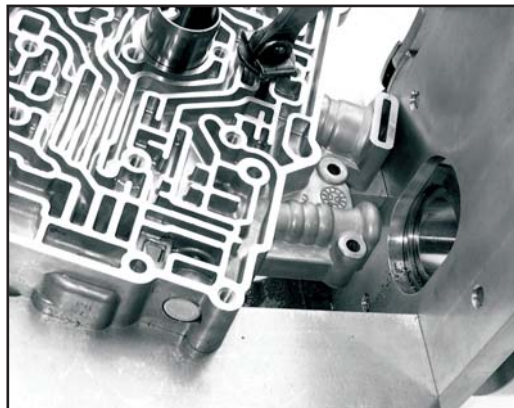


Reaming Instructions

Note: In certain applications there is no way of piloting a reamer to repair a worn casting bore. The self-aligning fixture **VB-FIX** with specially designed tool kits allows these bores to be repaired. The fixture provides an external rigid pilot bore for a reamer or drill guide. The self-aligning feature allows the fixture to be used on multiple castings and bores.

Refer to VB-FIX instructions.

Tool Kit F-84596-TL



Step A



Guide Pin
F-84596-GP



Reamer Jig
F-84596-RJ

Step B



Reamer
F-84596-RM



Reamer Jig
F-84596-RJ

Step C



Reamer
F-84596-RM2



Reamer Jig
F-84596-RJ2

Reaming Instructions: Prep, Set-up and Reaming

Refer to **VB-FIX** instructions for general fixture procedures.

1. Remove all components from AFL bore and thoroughly clean channel plate in solvent tank.

Step A

2. Place guide pin in AFL bore. Make sure pin slides in and out freely. If pin does not slide smoothly, clean guide pin and casting bore, lubricate pin with cutting fluid and recheck the fit.
3. Put channel plate on base of **VB-FIX** reaming fixture. Do not clamp in place at this time.
4. Install first reamer jig (**F-84596-RJ**) into inner race of reaming fixture.
5. Install guide pin into reamer jig.
6. Align casting so guide pin fits into the bore, leaving wing nuts on fixture loose. Place casting bore opening close to the reamer jig.
8. Check fit of guide pin. The pin should slide smoothly in the bore, with no binding.
9. Lightly tighten all three wing-nuts, recheck guide pin fit, then tighten wing-nuts securely by hand. Do not use pliers or tools to tighten wing-nuts. Do not overtighten one wing-nut, as this will pull the fixture out of alignment.
10. Recheck to see if guide pin slides smoothly in bore. If guide pin does not slide smoothly, loosen the wing-nuts and realign.

Step B

11. Remove guide pin and install first reamer (**F-84596-RM**).
12. The pilot (middle diameter) should fit into the first bore to be cut.
13. Ream casting using standard procedure.
14. Remove first reamer and reamer jig, but do not alter position of fixture or casting.

Step C

15. Install the second reamer jig (**F-84596-RJ2**) into inner race of reaming fixture.
16. Install the second reamer into the jig. The pilot (middle diameter) should fit into the first bore to be cut.
17. Ream casting using standard procedure. Due to chip build-up, it may be necessary to remove the reamer and clear chips prior to completing the reaming procedure.

Installation / Assembly Steps:

1. After reaming and cleaning the casting, lubricate the sleeve/valve assembly with ATF. Push the sleeve/valve assembly into the bore, smaller diameter end of the sleeve inboard, until the sleeve bottoms in the bore.
2. Install the smaller diameter regulating spring over the stem of the valve.
3. Install the larger diameter spring into the bore, seating the end against the face of the sleeve.
4. Compress the springs with a screwdriver, and return the OEM clip to the outboard exhaust port.
5. Push on the valve at the inboard exhaust port to ensure that it strokes freely and the springs do not coil bind.

Important Note: To eliminate codes 1811 and 741 and TCC-related issues, be sure to also inspect the boost valve assembly, TCC regulated apply valve and TCC apply valve. The PCM must be reset/relearned after any valve body repairs. Aftermarket scanner relearn procedure or battery disconnect for 12 hours may not restore drivability and line pressure control. Performing a dealer reflash or a web reflash is frequently the only method to properly restore control.