

GM 4L60, 4L60-E, 4L65-E, 4L70-E

Smart-Tech® Input Housing Kit

Part No.

77733-06K

- PTFE Impregnated Rear Stator Support Bushing
- Modified Input Housing
- Input Drum Reinforcement Sleeve
- Overrun Piston Inner Seal
- Reworked OE Overrun Piston
- 3-4 Clutch Apply Plate
- 3-4 Clutch Return Springs (10)
- Bolt-on Anchor Plate
- Overrun Piston Outer Seal
- FWD Piston Outer Seal
- FWD Piston Inner Seal
- Socket Head Cap Screws (15)

Patent Pending

NOTE: Requires '91-later 3-4 apply ring. Requires '97-later ring gear. Requires '96-earlier aluminum forward piston or Sonnax billet forward piston **77764-01**, cannot be used with stamped steel forward piston.

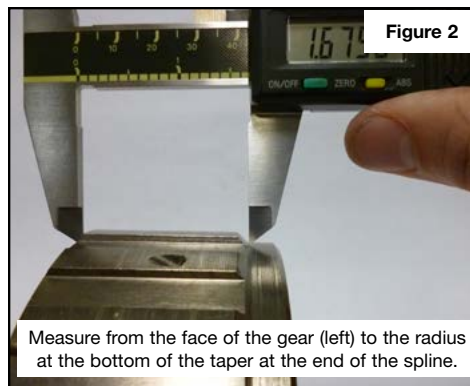


NOTES AND CAUTIONS

Make sure the correct '91-later apply ring is used – stamped “7” with dimension A of 3.671 to 3.682” (**Figure 1**).

Make sure the correct '97-later input ring gear is used; the correct spline length is 1.675” (**Figure 2**).

Requires '96-earlier aluminum forward piston or Sonnax billet forward piston **77764-01**, cannot be used with stamped steel forward piston.





1. Input Shaft Installation

NOTE: The input shaft must be installed before the reinforcement sleeve.

1. Prepare shaft by lightly sanding leading edge to remove sharpness of chamfer (**Figures 3a & 3b**).
2. Apply Loctite® sleeve retainer or similar product to the spline and bore of housing as well as to the splines and outer diameter of shaft.
3. Support housing at the location indicated (**Figure 4**).
CAUTION: Failure to support the drum as indicated can result in damage to the housing.
4. Line up the spline in the housing with spline on the shaft. Note the single double-wide spline and groove. Using a suitable press, install the shaft until seated. Do NOT hammer or pound the shaft into place.
5. Verify input shaft is installed all the way by looking through the housing at the location shown (**Figure 5**). The oil passage within the shaft should be visible through the housing.
6. Blow compressed air through all passages to remove excess Loctite®.

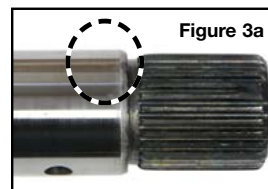


Figure 3a

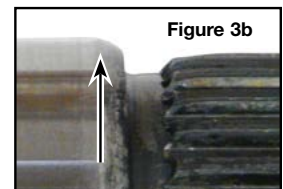


Figure 3b

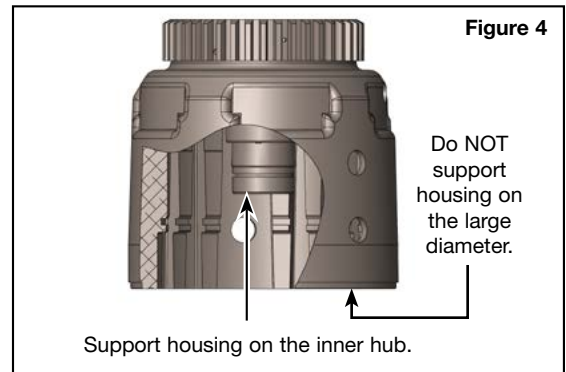


Figure 4

2. Reinforcement Sleeve Installation

NOTE: The input shaft must be installed before reinforcement sleeve.

1. Set the input drum into a suitable press. Support the aluminum housing as indicated (**Figure 6**) using an appropriate sized tube or a spare (not to be reused) 4L60 stator shaft and selective spacer (with bearing left out).
CAUTION: Failure to support the drum as indicated can result in damage to the housing.
2. Coat the inside of the sleeve with a sleeve retaining compound. With the tabs located toward the inside of the drum, line up the overrun clutch oil feed hole between the sleeve tabs. Set the sleeve into position on the input drum (**Figure 7**). A 4L60-E rear sun gear works well as a press tool.
3. Using the press, install the sleeve until just barely seated. Do not seat the sleeve with the full force of the press, as excessive force will ruin the housing or sleeve. Do NOT hammer or pound the sleeve into place.

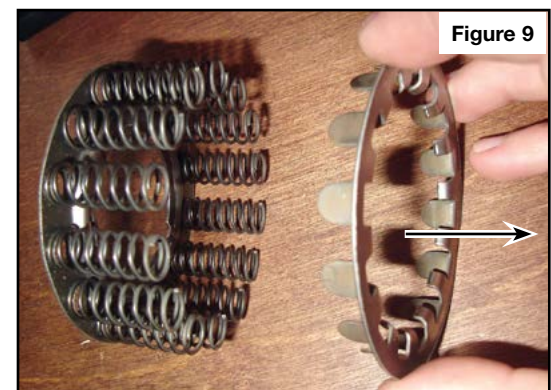
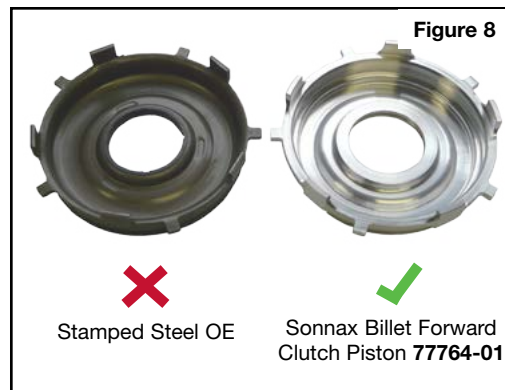
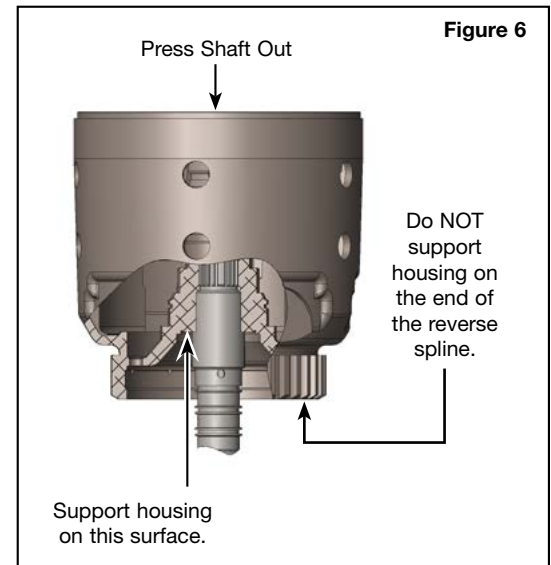
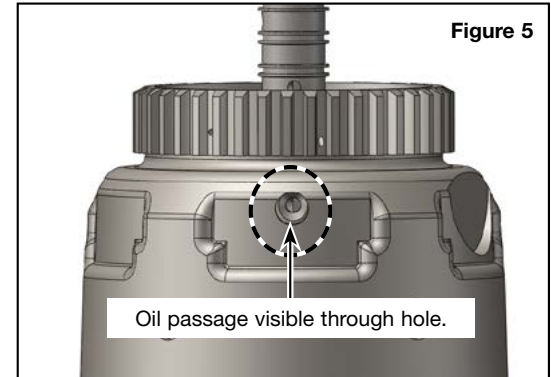
NOTES AND CAUTIONS

- Lightly seat the checkball in the overrun piston with a small punch before installing the piston.
- Requires '96-earlier aluminum forward piston or Sonnax billet forward piston **77764-01**, cannot be used with stamped steel forward piston (**Figure 8**).
- If using a late-model return spring assembly (identified by stamped retainer on both ends of the springs) remove and discard the lower spring retainer (**Figure 9**). Although not required, the early-style return spring used with OE aluminum pistons is about 10% stronger and is preferred for high RPM applications.

3. Clutch Selection

This kit has approximately 5mm more room to allow for additional clutch combinations. The recommended combinations are:

- Eight .067" frictions with seven .095" steels
- Nine .062" frictions with eight .077" steels



4. 3-4 Clutch Pack Installation & Assembly

Use normal assembly procedures for pistons, overrun clutches, forward clutches and input sprag.

NOTE: Three lip seals are included for use with aftermarket gasket and seal kits that do not include these seals.

1. Install the Sonnax apply plate, ensuring the five tabs securely fit over the OE 3-4 clutch apply ring.
2. Install a friction plate against the face of the Sonnax apply plate.
3. Install a steel plate against the friction plate. Continue alternating plates, ending with a friction plate on top.
4. With the clutch pack installed, measure the clearance from the top friction to the end face of the housing. Measure in multiple locations to ensure an accurate reading. Clearance should be between .050" and .060" (**Figure 10**). Adjust clearance by substituting different thickness steel plates.
5. Install the 10 Sonnax 3-4 clutch return springs into the five OE spring retainers. These are required to keep the apply plate released and minimize drag from the clutches.
6. Slide the spring retainers into the housing, with springs and retainers oriented as shown (**Figure 11**).
7. Install the Sonnax bolt-on anchor plate onto input housing, aligning the bolt holes with the threaded holes in the input housing.
8. To ensure the correct torque spec and thread locking, all threads should be clean and dry prior to assembly. Apply a drop of Loctite® Threadlocker 262 or similar product to the threads of each socket head cap screw. Install all screws through the backing plate into the threaded housing and lightly tighten each screw.
9. Torque each fastener to 51 in-lb. Work around the housing in a crisscross (star) pattern to ensure even pressure on the backing plate.

5. Final Verification Steps

Air test assembled housing (**Figure 12**).

6. PTFE Bushing Installation

1. Remove rear stator bushing, taking care not to damage bushing bore.
2. Install Sonnax PTFE-coated bushing using appropriate driver tool.

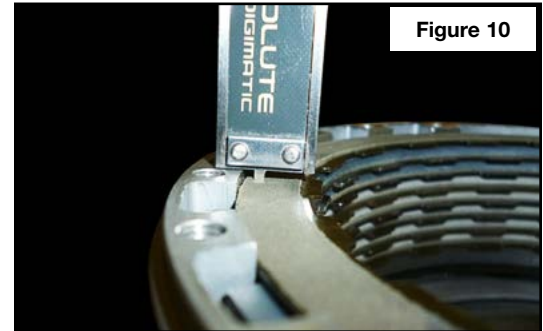


Figure 10

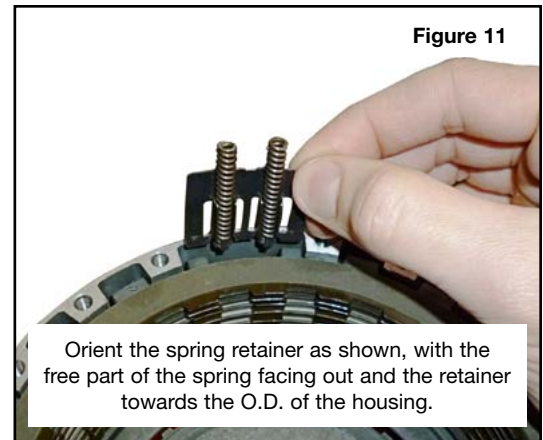


Figure 11

Orient the spring retainer as shown, with the free part of the spring facing out and the retainer towards the O.D. of the housing.

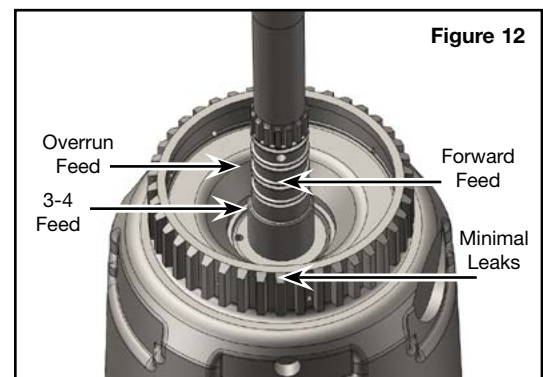


Figure 12