

Table Of Contents

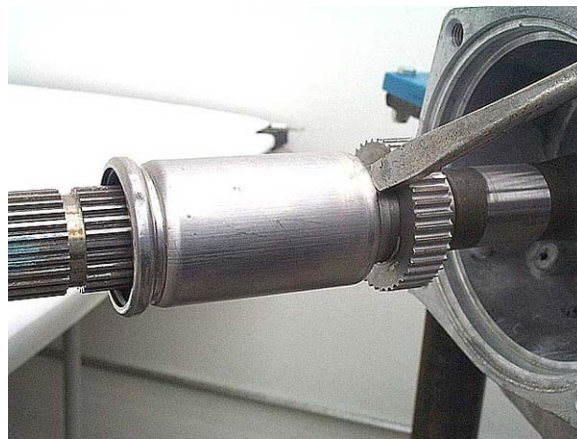
Unit Disassembly	Page 1
Pump	Page 21
Input Drum Disassembly	Page 49
Input Drum Assembly	Page 55
Reverse Drum	Page 73
Gear Train	Page 79
Case Preparation	Page 91
Valve Body/Governor-4L60	Page 109
Valve Body-4L60E	Page 128
Unit Assembly	Page 140

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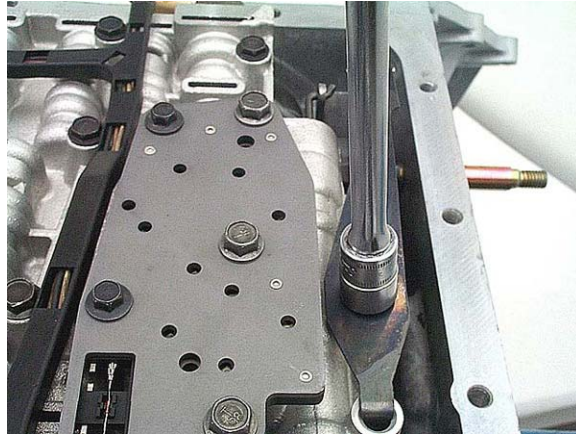
4L60E/4L60 Rebuild Procedures

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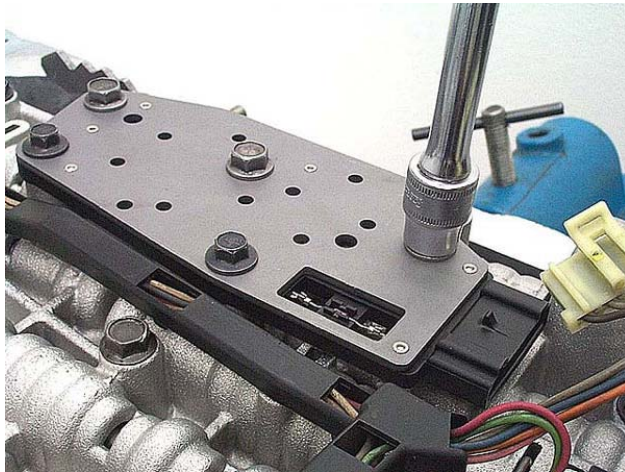
Step 4: Remove the extension housing, and housing-to-case rubber seal. Remove the yoke seal from the output shaft if equipped by tapping on it *gently* with a large screwdriver. Remove the o-ring from the yoke seal.



Step 10: Remove the manual lever detent spring.

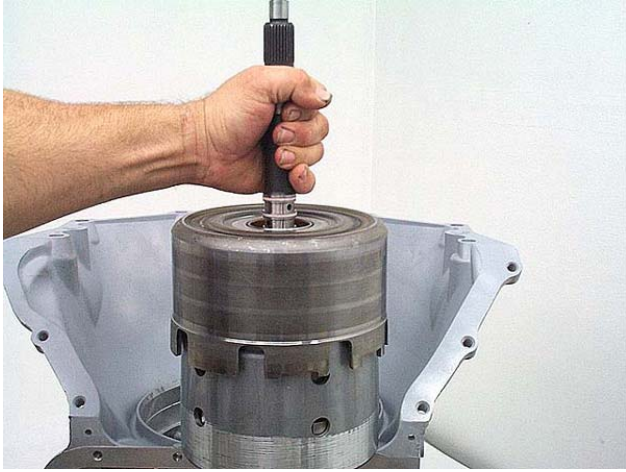


Step 11: Remove the pressure switch assembly. Inspect the underside of the switch assembly for ripped seals or particle contamination within the switch. Replace the assembly if any of these problems are found.

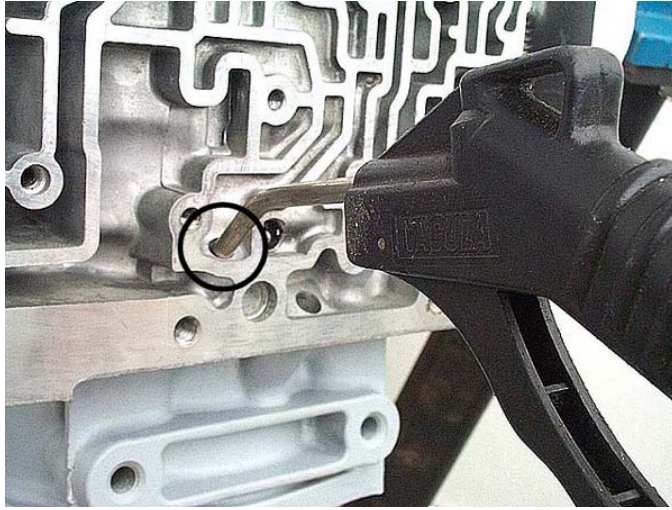


4L60E/4L60 Rebuild Procedures

Step 26: Grab the turbine shaft and pull the input drum and reverse input drum from the case. Separate the two drums and retrieve the thrust bearing and selective shim from the top of the input drum.



Step 39: Blow compressed air into the passage shown to pop the low-reverse piston out of its case bore. Remove the piston from the case. Remove the seals from the piston.



Step 40: Evaluate the condition of the major components inside the unit. If no major components need to be replaced, and **Step #21** showed that you needed to adjust endplay, now is the time to get the correct endplay shim for the input drum. If endplay was too great, you need a thicker shim. If endplay was too little, you need a thinner shim.

4L60E/4L60 Rebuild Procedures

Step 16: If there was a lot of contamination throughout the unit, use a small punch to remove the line pressure blow-off ball retaining pin. The spring and ball should then fall out of the hole.



Step 17: Gently flat sand the passage walls of the pump, as well as the stator support passages if equipped, only enough to get rid of high spots around bolt holes and edges. Inspect all pump parts for wear or damage, replacing any bad parts you may find. Thoroughly clean all pump parts.



Step 31: Once all vanes are installed, check to make sure that all vanes are below flush with the top of the pump pocket. Install the top vane ring inside of the pump vanes. Squirt ATF all over the rotor and slide assembly. The pump body is done for now, so let's move on to the stator support.



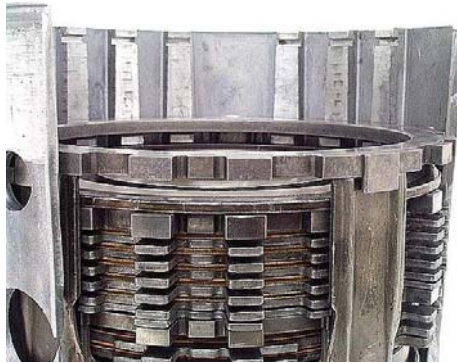
Step 32: Check the front stator bushing clearance between the bushing and the turbine shaft center journal. If it's not over 0.002", it can be re-used as long as the journal is in good shape.



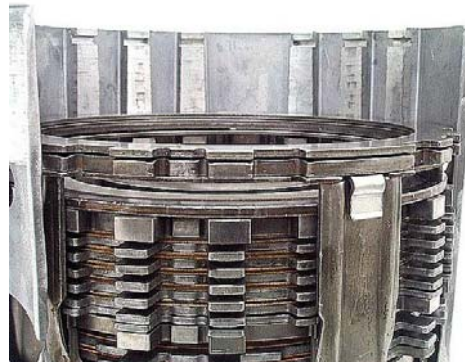
Step 33: Always replace the rear stator bushing. This bushing is responsible for maintaining centerline throughout the transmission more than any other bushing, and is subject to rather high loads.



Step 20: Install the 3-4 clutch apply plate next. There are two possible types of apply plate setup, and the clutch stack-up is different for each. You will find either a thick one-piece apply plate with built-in feet for the apply ring fingers, or a thin stamped steel plate with feet for the apply ring fingers, with a stamped steel stepped plate on top of it, followed by an early 4L60-style 3-4 clutch steel plate with wide teeth to engage the drum slots.



or a thin stamped steel plate with feet for the apply ring fingers, with a stamped steel stepped plate on top of it, followed by an early 4L60-style 3-4 clutch steel plate with wide teeth to engage the drum slots.



Step 21: When installing the 3-4 clutch pack, pay attention to the type of plates needed:

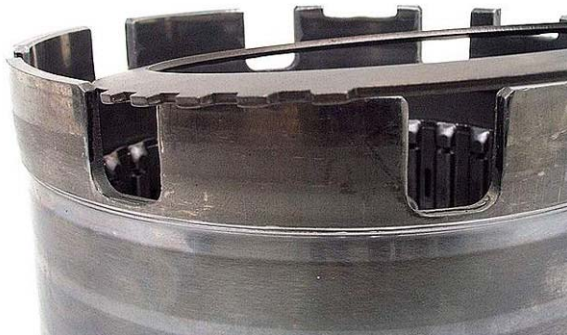


4L60E/4L60 Rebuild Procedures

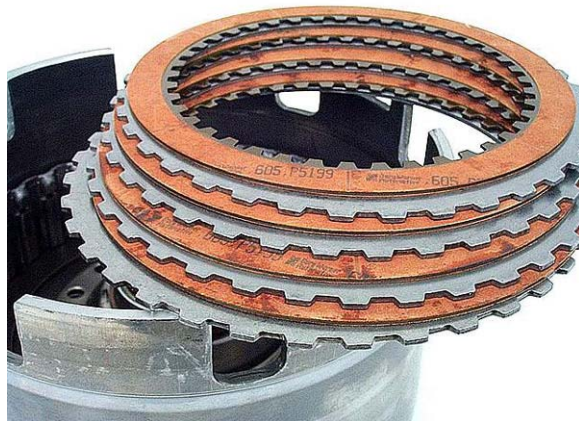
Step 8: Install the return spring assembly into the drum, then place the drum into a suitable press to compress the return spring assembly. Compress the return springs, then install the snap ring. Remove the drum from the press fixture.



Step 9: Place the cushion plate onto the piston, dished side down.



Step 10: Load the clutch plates into the drum, starting with a steel plate, ending with a friction plate.

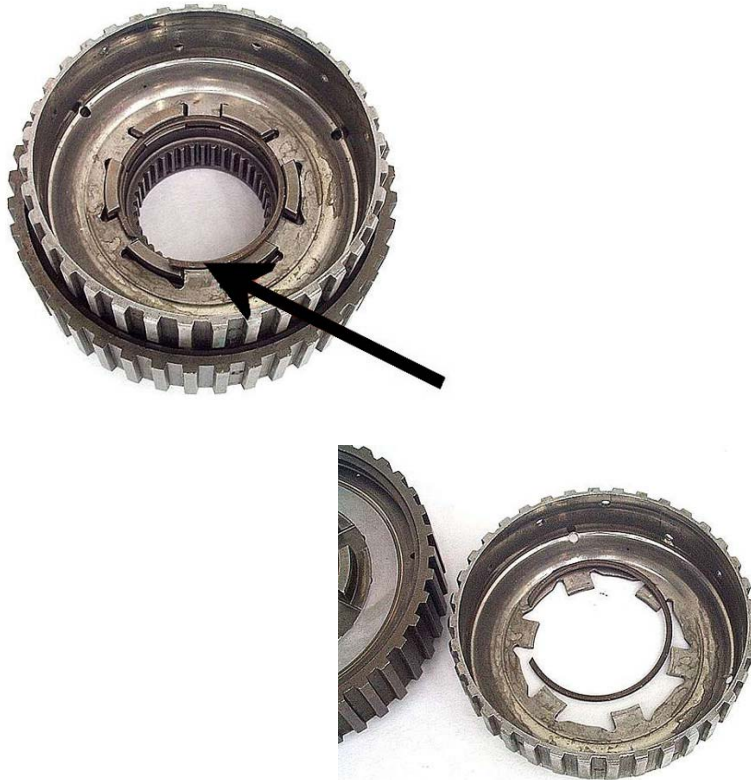


Step 15: Place the overrun clutch hub into position on the sprag assembly as shown and lock it into place with the snap ring. Make sure the snap ring ends are on either side of a gap in the race lugs as shown.

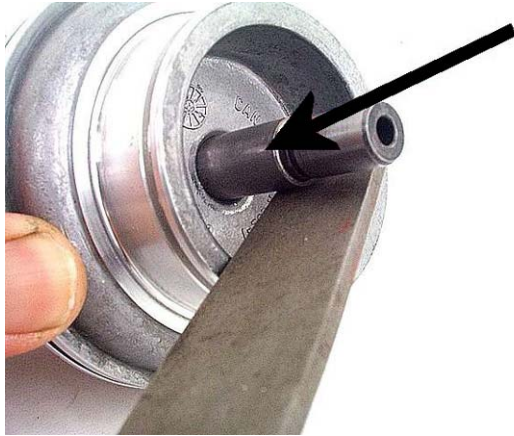


Input Sprag-Double Cage Element

Step 16: Disassemble the input sprag assembly by removing the snap ring from inside the overrun clutch hub. Lift the hub from the assembly.



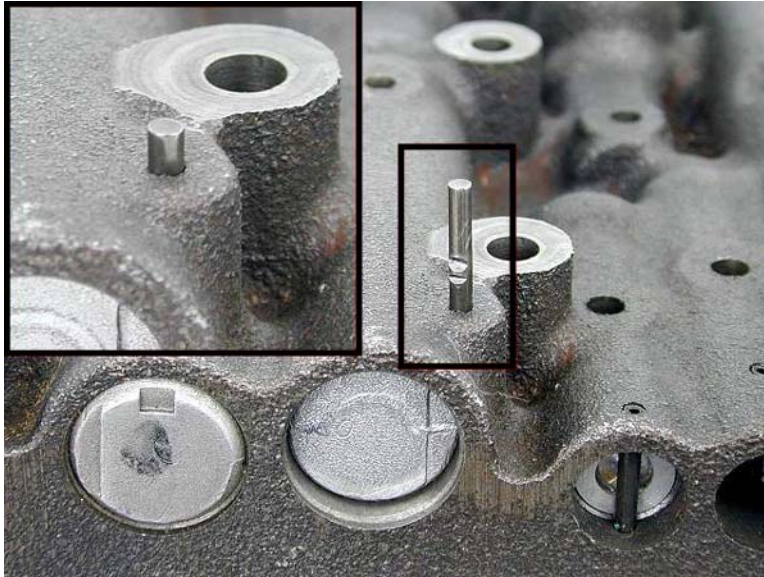
Step 17: Use a file to remove any ridge from the servo pin area shown. This will keep from scratching up the inside of the piston pin bore, causing apply circuit leaks. Slide the servo pin out of the piston.



Step 18: Use a small screwdriver to pry one end of the snap ring out of the 2nd gear servo piston. Press down on the spring retainer plate and remove the snap ring. Remove the cushion spring retainer and spring.



TIP: When experimenting around with valve body springs, you can change valve springs much easier the *second time* by using a solid THM350 valve body pin pushed in from the bottom side of the valve body, rather than the standard roll pin. Just bang on the pin with a chisel a few times to make a wide spot on the pin so it will stay in the valve body. Now all you need to do to change the spring is remove the pan and pull the pin out of the valve body.



V8 Gas Engine: You may want to raise the minimum TCC engagement speed, since the original engagement speed seems a bit early. The original TCC part throttle release (PTR) calibration *may or may not* be too sensitive, depending on your road test results. Use the description of your TCC shift valve assembly style to determine how to perform the modifications you need.

- Complete shift valve assembly, typically 1982-1984: To raise the minimum TCC engagement speed only, install a slightly stiffer TCC shift TV valve spring. Do not replace or modify anything else in the TCC shift valve assembly. To raise the minimum TCC engagement speed *and* make TCC PTR *less sensitive*, replace the TCC shift TV valve, spring and sleeve with GM repair kit #8642970*.
- TCC shift valve bore plugs, typically 1985-1988: To raise the minimum TCC engagement speed only, replace both bore plugs with a complete TCC shift valve assembly from a 1982-1984 V8 Gas valve body, replacing the spring that came with the replacement shift valve assembly with a slightly stiffer one. To raise the minimum TCC engagement speed *and* make TCC PTR *less sensitive*, replace the bore plugs with *just the TCC shift valve* (the valve in the bottom of the TCC shift valve bore) from any 1982-1984 valve body, then install GM repair kit #8642970*.

Step 21: Place the governor valve back into the shaft, shorter end first. Make sure that the valve moves freely inside the shaft.



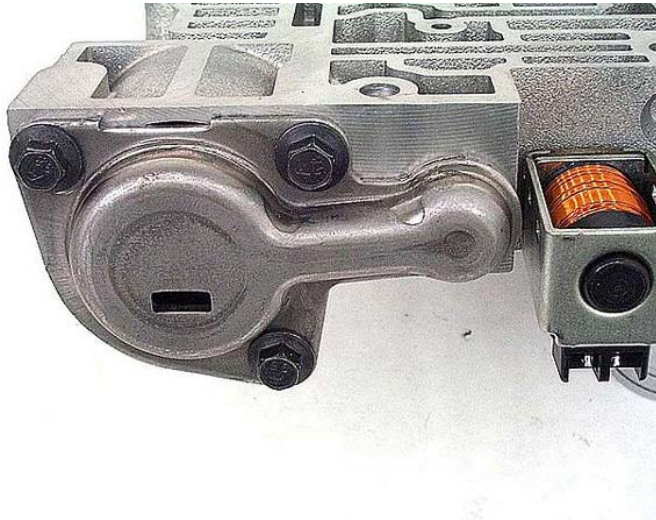
Step 22: Tap a new governor gear all the way into the shaft, making sure not to crack the new gear. Do not place the weight end of the governor against the bench while hammering on the gear. One suggestion is to hold the governor against your belt while tapping on the gear to absorb the shock.



Step 23: Using a 1/8" drill, drill *only halfway* through the governor gear. Once this is done, insert the drill into the other side of the governor and drill through the gear. This way the hole in the gear is properly aligned with the hole in the shaft.



Step 12: Install the accumulator cover, hand-tightening the bolts.



Step 13: Remove the 1-2 accumulator piston and spring from the accumulator housing, taking notice of which order they came out of the housing in. Remove the seal from the piston. Clean all accumulator parts.



- Push the input shaft toward the top of the case again, and lift the servo pin end of the band over the case edge, pushing the band end into position between the case and the reverse drum. It's okay to bend the tabs on the end of the band outward a little bit to gain enough clearance to do this.

