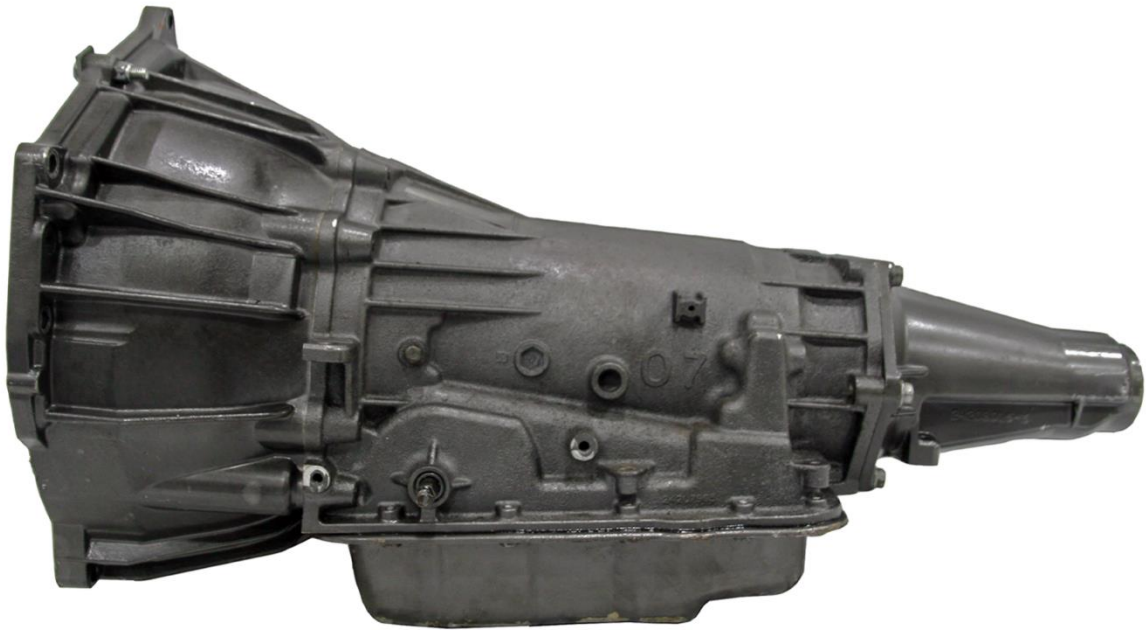


4L60E Installation Guide

Read This Entire Document Before Installing Your Transmission



**Call Moveras Technical Support for additional step by step assistance.
1-877-866-8372**

BEFORE REMOVING THE OLD TRANSMISSION

You MUST have a scanner and scan the vehicle for any codes. All codes MUST be fixed BEFORE installing the new transmission.



INSTALLATION SUGGESTIONS

1. The cooling system on this vehicle **SOULD** be replaced. The plate cooler in this vehicle cannot be properly flushed and is a non-serviceable component which must be replaced with new.

Important TSB:

Torque Converter / Pump Engagement:

It is very important to make sure the TC is engaged with the pump gear before tightening the bell housing bolts or damage to the pump gear may occur. If this happens the transmission needs to be returned for repair (Call Tech support for RMA#).

If your transmission came with a "RED RETAINING BRACKET" it is designed to be removed after installing the transmission. Don't remove it till the transmission is bolted to the engine.

We do **NOT** recommend removing the Torque Converter. Your Transmission was Dyno tested before it was shipped to you. This insures fluid in the TC and **IS NOT** dry at start up.

If you need to remove the Torque Converter (TC) for any reason or it looks like the TC has moved forward in shipping measure the set back -see photo- (usually 7/8").



If the TC needs to go in further you need to support the front of the TC with one hand (light upward pressure will lift the front of the TC), with your other hand **push in** while spinning the TC. When the TC goes into the pump gear you will hear a clunk noise. Recheck measurement.

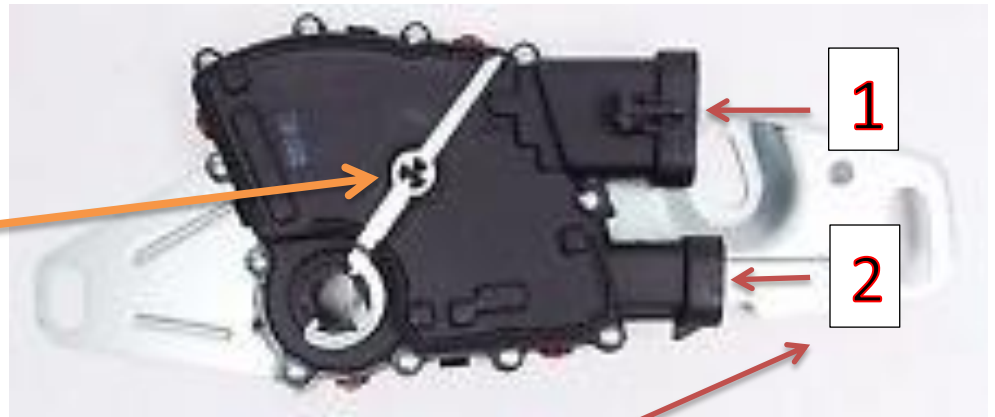
Adjusting the range sensor

**This process is done with the sensor installed on the transmission, before bolting the manual shaft linkage on. If the linkage has been bolted on, it may be necessary to remove it.*

Set the Transmission in the Neutral position:

- Twist the manual linkage with pliers all the way in one direction
- Attempt to turn the output shaft/wheels. If the output shaft DOES NOT turn then you are in park. If the output shaft turns then try moving the linkage in the opposite direction
- Now rotate the linkage two detents(clicks) in the opposite direction of park (this verifies you are in neutral).

1. Loosen the 2 bolts which hold the range sensor to the case.
2. Install GM tool J 41364-A (pictured) to align the switch.
3. Tighten the bolts



***Important* If you have this style connector (two plug) the harness is glued into the sensor. It is best to remove the sensor from the transmission while leaving the harness plugged in. If removing the harness from the sensor is necessary you must use a heat gun on the connector (when removing and installing) to soften the glue. Damage to the harness may result if not done properly.**

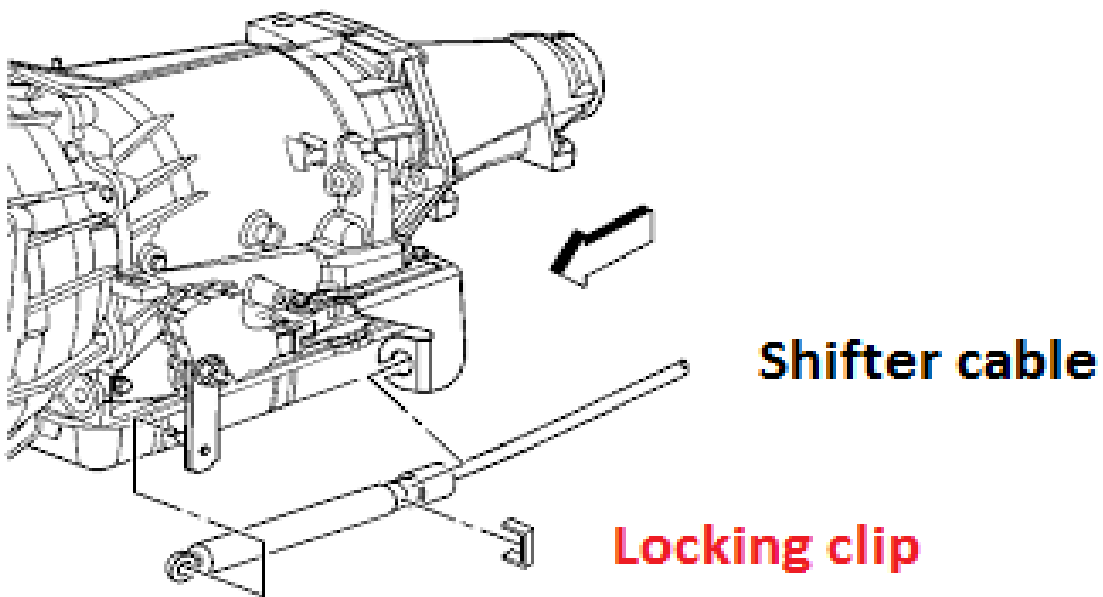
With the Transmission still in the neutral position

Adjust the shifter cable:

- Now have an assistant select neutral with the shift lever

P R N D 2 1

- Remove the locking clip from the cable.
- Now you can slide the cable back and forth in the bracket and line it up with the manual shaft pin.
- Install the locking clip and connect the cable end to the manual shaft.

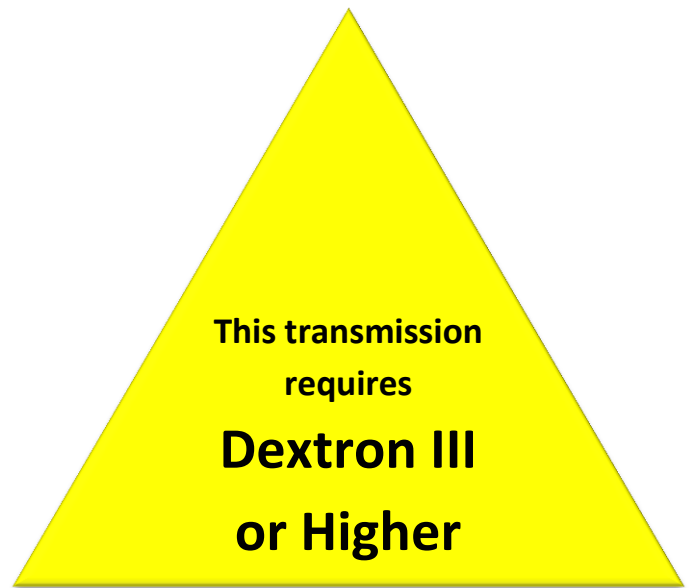


***NOTE:** Units that have a rod type linkage are adjusted on the steering column at the firewall.

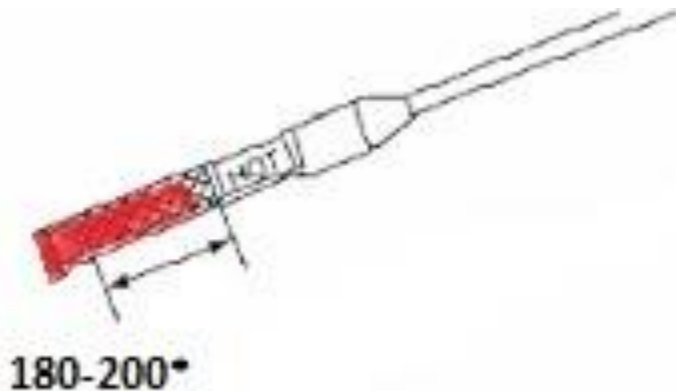
Filling the 4L60:

Pro Tip: Clean the dip stick with brake clean to get a more accurate reading.

- **BEFORE YOU START THE VEHICLE** fluid must be touching the bottom of the cross hatch.
- **Make sure the Vehicle is on level ground**
- **Start the vehicle and move the shift through all ranges pausing for 3 secs in each range. Add fluid till it reaches the cold mark on the dipstick.**
- **Final level check should be done with**
 - engine idling
 - transmission in park
 - temperature must be 180-200*



Fluid should read at the top of the cross hatches. DO NOT OVERFILL



****If temp is too low select manual 2 and stall test for a max of 15 seconds at a time till temperature is reached.***

Road testing:

Find a road with little to no traffic. Now perform a series of accelerations from a stop with light to medium throttle application. Refer to the Road test checklist on the back of this sheet.

Always rescan the vehicle after road test is complete before returning to customer

Pro Tip: This transmission is very sensitive to MAP (Manifold Absolute Pressure) / MAF (Mass Air Flow) signals it is strongly recommended you verify its functioning properly and/or replace with new during install.

Line pressure boost on GM vehicles is regulated by engine load. Engine load is determined by several load inputs and a software program known as “torque modeling”. This process started in the mid 1990’s. On these applications, it is common to have a slip complaint or transmission damage that can be caused by a lower than required line pressure boost. **In most cases no DTC’s are set.**

MAF is the main input the PCM/TCM/ECM uses to determine engine load. MAF sensor problems not only effect the engine operation but also affect the transmission operation. A skewed or shifted MAF value will affect Shift quality. You should make sure engine health issues are not the root cause of the concern prior to condemning the MAF sensor.

This concern may also be caused by overly oiled aftermarket air filters. With normal use the MAF element can get dirty leading to a lower than actual air flow calculations. In some instances the MAF can simply be cleaned with MAF cleaner Other times the MAF will need to be replaced.

INSTALLATION CHECKLIST

- Scan vehicle and fix all codes
- Replace the cooling system (Radiator) and replace or clean cooling lines
- Inspect flex plate for cracks or breakage. Damaged flex plates are common
- Compare bolt pattern on flex plate to bolt pattern on new torque converter
- Inspect crankshaft pilot bore for wear and apply grease to aid with installation
- Compare replacement transmission and torque converter to original before installation
- Verify all dowel pins are present, clean, and in good condition – these are critical for proper alignment
- Do not tighten bell housing bolts with force; may damage torque converter if shifted in transit
- Inspect wiring harness and connector for damage and /or corrosion
- Inspect entire electrical system including ground, battery, alternator, mass air flow sensor and throttle position sensor.
- Inspect axle shaft splines and check transmission/engine mounts
- Install supplied tail shaft housing gaskets and seals
- If 4WD application, replace transfer case input shaft seal
- Inspect transmission mounts, carrier bearing, driveshaft, yoke and U-joints. Excessive vibration due to defective mounts and other faulty driveline parts is the main cause of broken cases.

Road Test Check list

- Does vehicle hold in park
- Engagement into reverse
- Acceleration in reverse
- Does engine free spin in neutral
- Engagement into Over Drive
- Acceleration in Over Drive
- 1-2 shift in Over Drive
- 2-3 shift in Over Drive
- 3-4 shift in Over Drive
- 4-5 shift in Over Drive
- 5-4 downshift in Over Drive
- 4-3 downshift in Over Drive
- 3-2 downshift in Over Drive
- 2-1 downshift in Over Drive
- Engine braking in manual 1
- Engine braking in manual 2
- Torque Converter lock up and release