# SECTION 307-01  Automatic Transaxle/Transmission — 6R80

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2011 Mustang, 2/2011
IN-VEHICLE REPAIR
Main Control
Special Tool(s)

Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

Removal

NOTE:
The Solenoid Body Strategy Data Download procedure must be performed if a new main control assembly is installed.

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. NOTICE:
   Do not pull on the wire harness to disconnect the connector or damage to the connector will occur.
   Disconnect the transmission vehicle harness connector by twisting the outer shell and pulling back on the connector.

3. Remove the transmission fluid fill plug transmission fluid level indicator assembly located on the passenger side front portion of the transmission case. Removal of the transmission fluid fill plug will relieve any vacuum that might have built up in the transmission. This aids in allowing the transmission fluid pan to be easily removed when the bolts are removed.

4. Remove the transmission fluid pan and allow the transmission fluid to drain.
5. Remove the transmission fluid pan gasket.

6. **NOTE:**
   The transmission fluid filter may be reused if no excessive contamination is indicated.

   Remove and discard the transmission fluid filter.

7. Pull the release tab and pull down on the main control electrical connector retainer.

8. With the release tab down, pull the outer shell of the main control electrical connector out of the main control assembly.
9. Pull the main control electrical connector out of the transmission case.

10. **NOTICE:**
    During removal of the main control assembly, the thermal bypass valve may fall out of the transmission case. Damage to the valve may occur if the valve falls out.
    
    Remove the 11 bolts from the main control assembly and remove the main control assembly and the bypass valve.

11. Remove the 6 long bolts from the molded leadframe.
12. Carefully separate the molded leadframe from the main control assembly.
   1 Molded leadframe
   2 Main control assembly

13. If the solenoids are to be removed, refer to Main Control in this section.

**Installation**

1. **NOTE:**
   The Transmission Range (TR) switch pin must be aligned with the manual control valve during installation.

   Position the molded leadframe on the main control assembly.
   1 Molded leadframe
   2 Main control assembly
   3 TR switch pin aligned to manual valve

2. Install the 6 long bolts into the molded leadframe. Tighten the bolts in the sequence shown.
   * Tighten to 6 Nm (53 lb-in).
3. **NOTE:**
Before installing the main control assembly into the transmission case, verify the presence and orientation of the thermal bypass valve, pump adapter seal and center support seals. Also note that one or more of the center support seals may have remained in the main control assembly during removal and should be installed into the transmission case at this time.

Verify the 4 rubber feed tubes for the center support are in place.

1. Black feed tubes
2. Green feed tube
3. Blue feed tube

4. Verify the rubber adapter is in place.
5. Coat the thermal bypass valve with petroleum jelly to hold it in place and install the thermal bypass valve into the transmission case.

6. Position the main control assembly in place and loosely install the 11 bolts.
   
   1. Align the manual valve and control lever linkage.

7. Tighten the main control bolts in the sequence shown.
   
   • Tighten to 8 Nm (71 lb-in).

8. With the release tab down and unlocked, push the outer shell of the main control electrical connector into the transmission. Make sure that the main control electrical connector is fully seated into the main control assembly.
9. Press up on the tab and lock the outer shell of the main control electrical connector in place. Make sure that the locking tab is securely locked.

10. **NOTE:**
    The transmission fluid filter may be reused if no excessive contamination is indicated.

    If required, install a new transmission fluid filter.

11. **NOTE:**
    The transmission fluid pan gasket can be reused if not damaged.

    Install a new transmission fluid pan gasket, if required.
12. Install the transmission fluid pan and tighten the transmission fluid pan bolts in a crisscross pattern.
   - Tighten to 12 Nm (106 lb-in).

13. Connect the transmission vehicle harness connector by pushing it in and twisting the outer shell to lock it in place.

14. Make sure the transmission fluid is at the correct level. For additional information, refer to Transmission Fluid Drain and Refill in this section.

15. **NOTE:**
    - If the main control assembly was replaced, perform the Solenoid Body Strategy Data Download. Refer to Solenoid Body Strategy in this section.
    - Perform a Road Test — Adaptive Drive Cycle after the Solenoid Body Strategy Data Download. For additional information, refer to Shift Point Road Test in this section.