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

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GENERAL PROCEDURES
Transmission Fluid Drain and Refill
Special Tool(s)

<table>
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<th>Tool</th>
<th>Description</th>
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<tr>
<td>Rubber Tip Air Nozzle</td>
<td>100-D009 (D93L-7000-A)</td>
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<td>Transmission Fluid Fill Tube</td>
<td>307-570</td>
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<tr>
<td>Transporter Fluid Evacuator/Injector</td>
<td>307-D465 or equivalent</td>
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<tr>
<td>Vacuum Pump Kit</td>
<td>416-D002 (D95L-7559-A) or equivalent</td>
</tr>
<tr>
<td>Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool</td>
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Material

<table>
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<tr>
<th>Item</th>
<th>Specification</th>
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<tr>
<td>Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLV</td>
<td>MERCON® LV</td>
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Drain

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

2. NOTE:
   Some transmission fluid leakage may occur when removing the transmission fluid fill plug.

   Remove the transmission fluid fill plug 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 will aid in allowing the transmission fluid pan to be easily removed when the bolts are removed.
3. Remove the transmission fluid pan and allow the transmission fluid to drain.

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

   Install a new transmission fluid pan gasket, if required.

5. Install the transmission fluid pan and tighten the bolts in a crisscross pattern.
   - Tighten to 12 Nm (106 lb-in).
Refill

**NOTICE:**
This procedure contains the air purge steps required to purge air from the transmission fluid cooling system. This procedure is NOT intended for use with the Transmission Fluid Level Check.

**NOTICE:**
The vehicle should not be driven if the transmission fluid level is low as internal failure could result.

**NOTICE:**
The transmission fluid fill plug is located near the exhaust system. The exhaust will be extremely hot during this procedure.

**NOTICE:**
The use of any other transmission fluid than specified can result in the transmission failing to operate in a normal manner or transmission failure.

**NOTE:**
If the transmission starts to slip, shifts slowly or shows signs of transmission fluid leaking, the transmission fluid level should be checked.

**NOTE:**
Here is an overview of the Transmission Fluid Drain and Refill procedure.

- Adding 3.3L (3.5 qt) of transmission fluid to the transmission is an initial fill enabling the engine to be started.
- The cold level range shown in the procedure allows the vehicle to be driven.
- The vehicle should be driven to allow the Transmission Fluid Temperature (TFT) to reach 85ºC-88ºC (185ºF-190ºF) in order to purge the air from the transmission fluid cooling system.
- Fill the transmission fluid to the fill range on the transmission fluid level indicator at the normal operating range 80ºC-85ºC (176ºF-185ºF).

1. **NOTE:**
The transmission will need 3.3L (3.5 qt) of transmission fluid added to the transmission as an initial fill if:

   - the transmission has been overhauled.
   - a new mechatronic assembly has been installed.
   - the transmission fluid pan or transmission fluid filter have been removed.

   Using the Transmission Fluid Fill Tube, add 3.3L (3.5 qt) of transmission fluid to the transmission through the transmission fluid fill hole. For additional information, refer to Adding Additional Transmission Fluid in this procedure.

2. Check the transmission fluid level cold.
   - The vehicle is safe to drive if the transmission fluid is in the cold level range 32ºC-43ºC (90ºF-110ºF).
   - Using the scan tool and with the engine running, place the selector lever in each gear position and hold approximately 5 seconds. Place the selector lever in PARK, with the engine at idle (600-750 rpm).

3. Separate the transmission fluid level indicator from the transmission fluid fill plug.

4. Wipe the transmission fluid level indicator clean. Reinstall the transmission fluid level indicator only back into the transmission fluid fill plug hole to check the transmission fluid level. Repeat this until a consistent reading is established.
5. Add transmission fluid to the cold level location as shown in the illustration.

6. Install the transmission fluid fill plug.
   • Tighten to 35 Nm (26 lb-ft).

7. While driving the vehicle, use the scan tool to verify that the TFT has reached a temperature of 88°C (190°F). This will circulate the transmission fluid through the torque converter and the transmission fluid cooling system, eliminating any trapped air in the transmission fluid cooling system.
   • With the engine idling (600-750 rpm) in PARK, verify that the TFT is between 80ºC-85ºC (176ºF-185ºF).

8. Remove the transmission fluid fill plug transmission fluid level indicator assembly located on the passenger side front portion of the transmission case.
9. Separate the transmission fluid level indicator from the transmission fluid fill plug.

10. Wipe the transmission fluid level indicator clean. Reinstall the transmission fluid level indicator only back into the transmission fluid fill plug hole to check the transmission fluid level. Repeat this until a consistent reading is established.

11. Using the scan tool verify that the TFT is between 80°C-85°C (176°F-185°F). The transmission fluid level must be at the upper level of the crosshatch mark.

12. **NOTE:**
   If the transmission fluid is not at the correct level, follow the steps for Adding Additional Transmission Fluid or Removing Transmission Fluid in this procedure.
Install the transmission fluid fill plug.

- Tighten to 35 Nm (26 lb-ft).

Adding Additional Transmission Fluid

NOTE:
To get an accurate transmission fluid level reading the engine should be idling (600-750 rpm) in PARK.

1. Install the Transmission Fluid Fill Tube into the transmission fluid fill hole.

2. Fill the Transporter Fluid Evacuator/Injector with approximately 0.47L (1 pt) of transmission fluid.

3. Hang the Transporter Fluid Evacuator/Injector under the vehicle, upright and close to the transmission.
   - Connect the open end of the fluid hose from the Transporter Fluid Evacuator/Injector onto the Transmission Fluid Fill Tube from the transmission case.

5. Use a Rubber Tip Air Nozzle to apply a maximum of 206.85 kPa (30 psi) to the open end of the vacuum/pressure hose from the Transporter Fluid Evacuator/Injector. Transmission fluid will immediately start flowing out of the Transporter Fluid Evacuator/Injector into the transmission.

6. **NOTE:**
   - Do not overfill the transmission. The transmission fluid level must be at the upper level of the crosshatch mark.
   - Reinstall the transmission fluid level indicator only back into the transmission fluid fill plug hole to check the transmission fluid level. Repeat this until a consistent reading is established.
7. Using the scan tool, verify that the TFT is between 80ºC-85ºC (176ºF-185ºF). The transmission fluid level must be at the upper level of the crosshatch mark.

8. **NOTE:**
   If the transmission fluid is over full, follow the steps for Removing Transmission Fluid in this procedure.

   Install the transmission fluid fill plug.

   - Tighten to 35 Nm (26 lb-ft).

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### Removing Transmission Fluid

**NOTE:**
To get an accurate transmission fluid level reading the engine should be idling (600-750 rpm) in PARK.

1. If the transmission is overfilled, transmission fluid must be removed to the correct level. Use the Transporter Fluid Evacuator/Injector and the Vacuum Pump Kit to extract any excessive transmission fluid.
2. Using the scan tool, verify that the TFT is between 80°C-85°C (176°F-185°F). The transmission fluid level must be at the upper level of the crosshatch mark. Reinstall the transmission fluid level indicator only back into the transmission fluid fill plug hole to check the transmission fluid level. Repeat this until a consistent reading is established.

3. Install the transmission fluid fill plug.
   - Tighten to 35 Nm (26 lb-ft).