

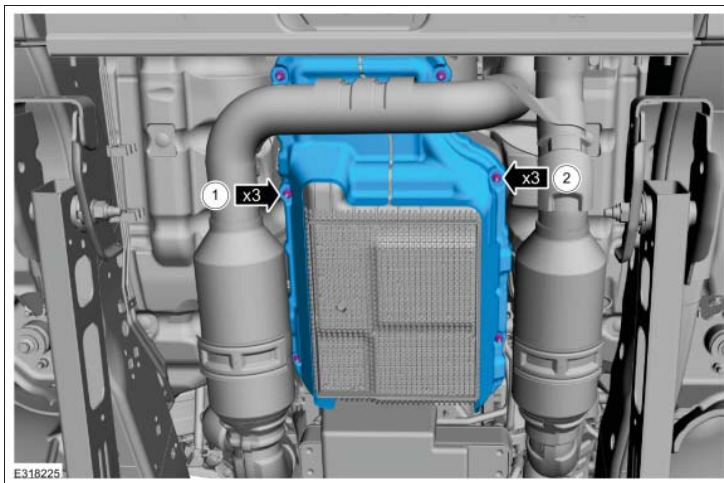
## Transmission Fluid Drain and Refill

### Materials

Name	Specification
Motorcraft <sup>®</sup> MERCON <sup>®</sup> ULV Automatic Transmission Fluid XT-12-QULV	WSS-M2C949-A, MERCON <sup>®</sup> ULV

### Draining

1. With the vehicle in NEUTRAL, position it on a hoist.  
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
2.
  1. If equipped, remove the nuts and the LH heat shield.
  2. Remove the nuts and the RH heat shield.



3. **NOTE:** It is not necessary to remove the transmission fluid filter to drain the transmission fluid.

**NOTE:** Do not install the transmission fluid pan heat shields until the transmission fluid level is set to the correct level.

Remove the transmission fluid pan to drain the transmission fluid.

Refer to: Transmission Fluid Pan, Gasket and Filter (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€“ 10R140, Removal and Installation).

### Filling

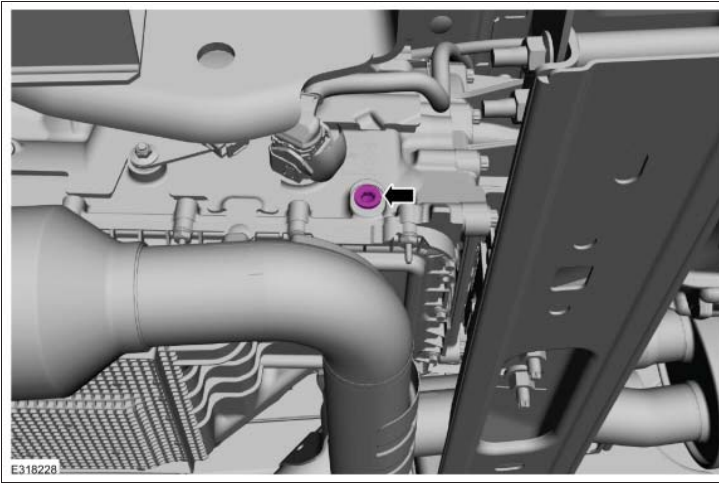
**NOTICE:** The vehicle should not be driven if the transmission fluid level is low, internal failure could result.

**NOTICE:** Using any transmission fluid other than what is specified can result in the transmission not operating normally or premature transmission failure.

**NOTE:** The correct transmission fluid level is even with the bottom of the fluid leveling hole with the transmission fluid temperature between 90<sup>Â</sup>°C - 101<sup>Â</sup>°C (195<sup>Â</sup>°F - 215<sup>Â</sup>°F).

### NOTE:

- Adding 5.6 L (6 qt) of transmission fluid is an initial fill enabling the engine to be started.
  - Filling the transmission to the bottom of the fluid leveling plug hole allows the vehicle to be driven.
  - Drive the vehicle to allow the transmission fluid temperature to reach 90<sup>Â</sup>°C - 101<sup>Â</sup>°C (195<sup>Â</sup>°F - 215<sup>Â</sup>°F) in order to purge the air from the transmission fluid cooling system.
1. Remove the transmission fluid leveling plug.



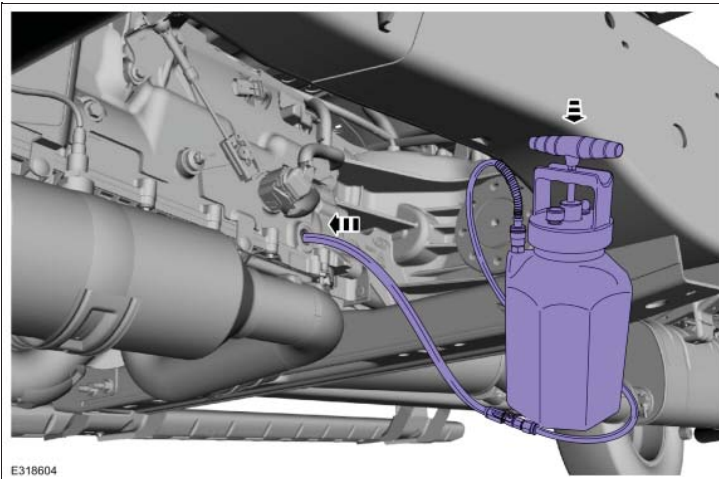
2. **NOTICE:** The following fluid amount listed below is for initial fill only. The transmission fluid level must be even with the bottom of the fluid leveling plug hole and the transmission must be at normal operating temperature 90-101°C (195-215°F) or transmission damage can occur.

**NOTE:** Add 5.6 L (6 qt) of transmission fluid to the transmission as an initial fill if:

- the transmission fluid pan and fluid filter have been removed.
- a new main control valve body has been installed.
- the transmission has been overhauled.

Using the fluid dispenser, add 5.6 L (6 qt) of transmission fluid through the transmission fluid leveling plug hole.

- General Equipment: Universal Fluid Dispenser
- Material: Motorcraft® MERCON® ULV Automatic Transmission Fluid / XT-12-QULV (WSS-M2C949-A, ) (MERCON® ULV)

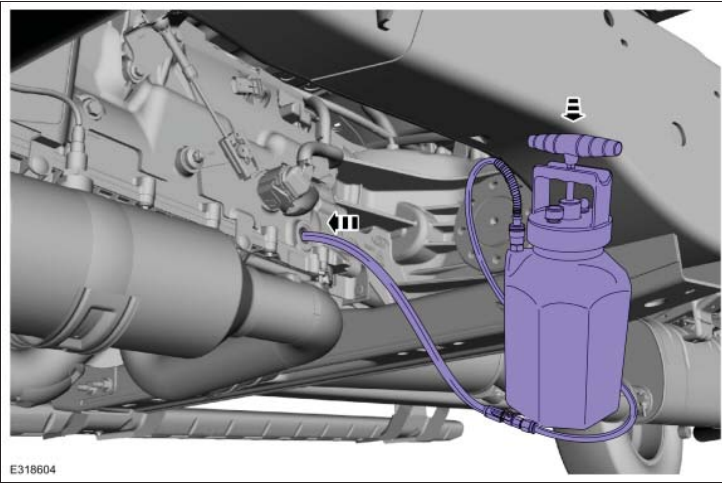


3. **NOTE:** When adding the transmission fluid for the repairs listed below, the fluid amounts will vary.

- If the transmission fluid pan and fluid filter have been removed add 1.8 L (2 qt)
- If a new main control valve body has been installed add 3.7 L (4 qt)
- If the transmission has been overhauled add 8.5-9.4 L (9-10 qt)

With the vehicle on a level hoist, start the engine in PARK, add the additional transmission fluid in increments of .25 L (0.264 qt) until the transmission fluid is even with the bottom of the fluid leveling plug hole.

- Material: Motorcraft® MERCON® ULV Automatic Transmission Fluid / XT-12-QULV (WSS-M2C949-A, ) (MERCON® ULV)

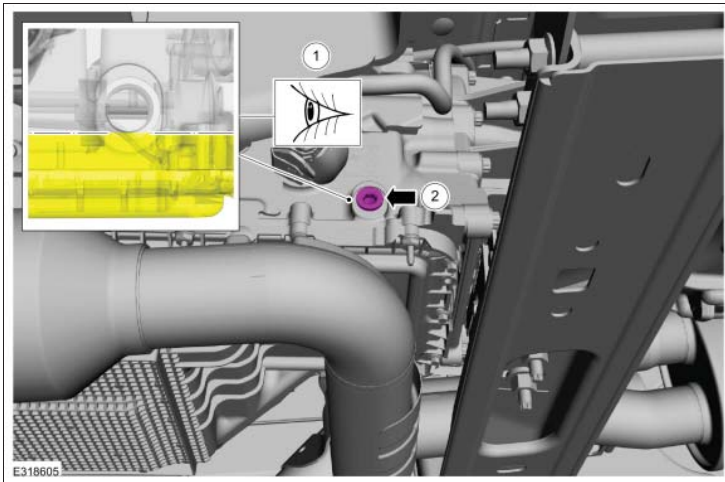


4.
  1. Connect the diagnostic scan tool and monitor the transmission fluid temperature.
  2. Start the engine.
  3. Place the selector lever in each gear position, holding approximately 3 seconds in each position. Place the selector lever in PARK and allow the engine to idle at 600-750 rpm.

5.



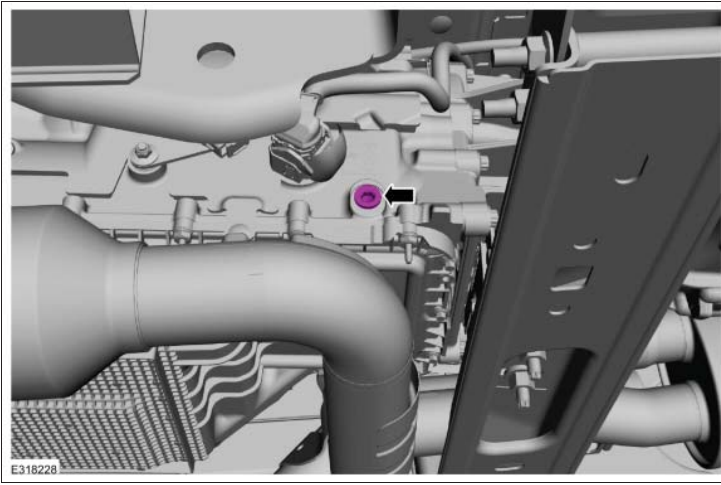
1. With the vehicle on a level hoist and the engine running in PARK, verify that the transmission fluid level is even with the bottom of the fluid leveling plug hole. Add transmission fluid in increments of .25 L (0.264 qt) until the transmission fluid is even with the bottom of the fluid leveling plug hole.
2. Install the fluid leveling plug.  
*Torque: 30 lb.ft (40 Nm)*



6. Test drive the vehicle. While driving the vehicle, use the scan tool to verify the transmission fluid has reached an operating temperature of 90-101°C (195-215°F). This circulates the transmission fluid through the torque converter and the transmission fluid cooling system, eliminating any trapped air in the transmission fluid cooling system. Place the vehicle in PARK and allow the engine to idle at 600-750 rpm. Verify the transmission fluid temperature is between 90-101°C (195-215°F) and lift the vehicle on a hoist.  
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).



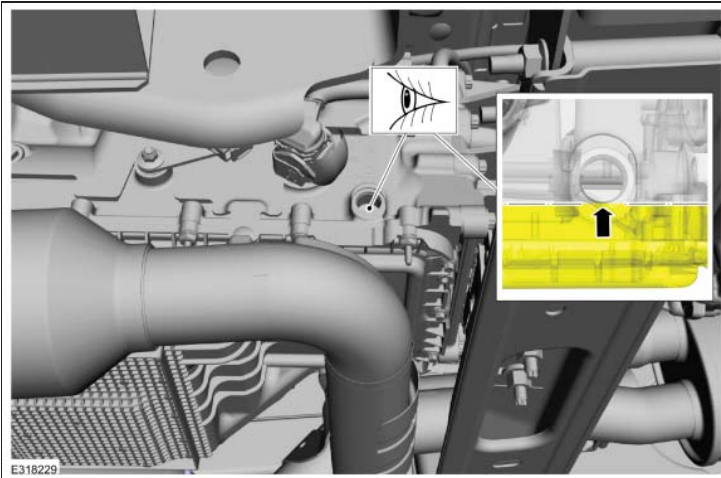
7. Remove the transmission fluid leveling plug.



8.

**NOTE:** The correct transmission fluid level is even with the bottom of the fluid leveling hole with the transmission fluid temperature between 90-101°C (195-215°F).

With the vehicle on a level hoist, the engine running in PARK, allow the transmission fluid to drain until its even with the fluid leveling plug hole. If the transmission fluid does not drain from the fluid leveling plug hole add transmission fluid in increments of .25 L (0.264 qt) until the transmission fluid is even with the bottom of the fluid leveling plug hole.

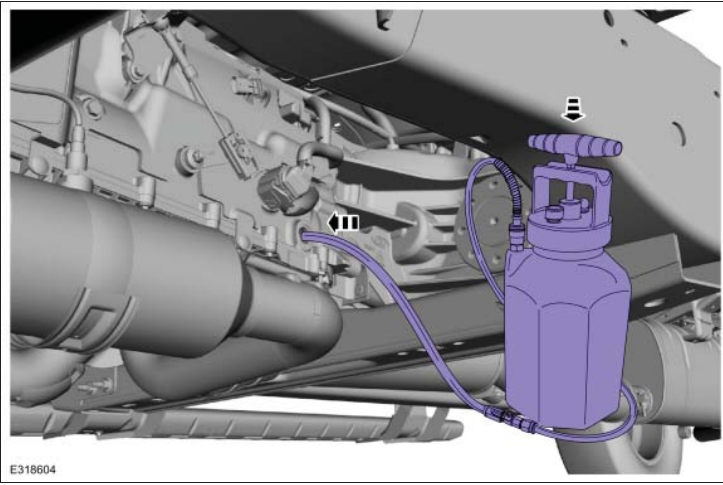



9.

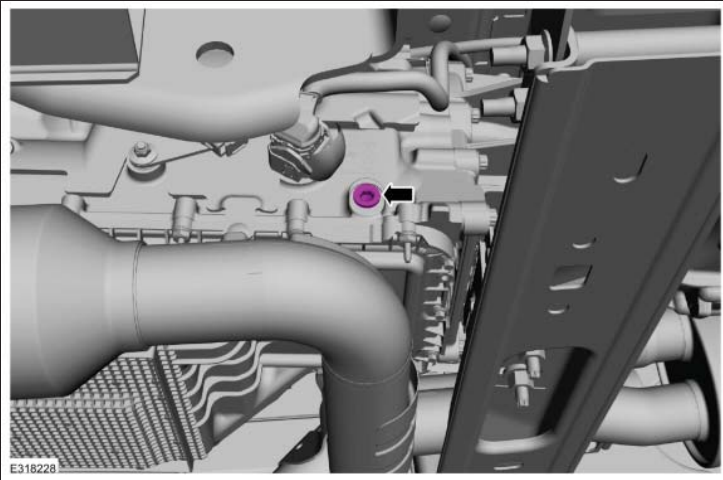
**NOTE:** The use of a pressurized fluid dispenser with 8-12 qt capacity, such as the Mityvac MITMV6412, is recommended for this procedure.


If the transmission fluid level is low, add transmission fluid using the fluid dispenser.

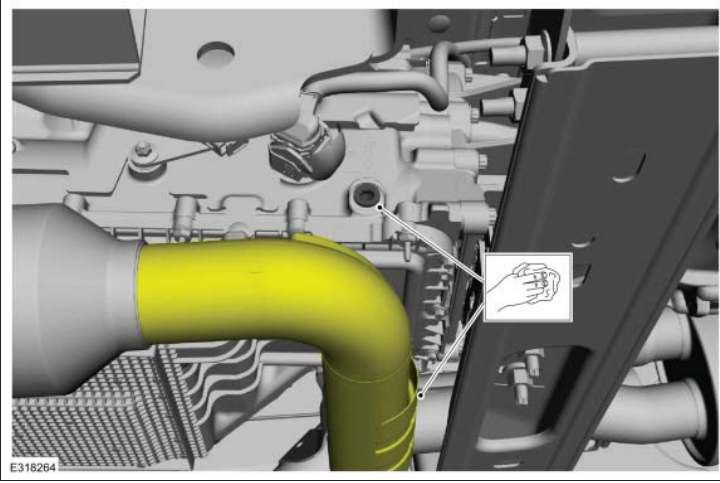
- General Equipment: Universal Fluid Dispenser
- Material: Motorcraft® MERCON® ULV Automatic Transmission Fluid / XT-12-QULV (WSS-M2C949-A, ) (MERCON® ULV)



10.   
Install the transmission fluid leveling plug.  
*Torque: 30 lb.ft (40 Nm)*



11.   
Clean the transmission fluid from the exhaust system.



- 12.
1. If equipped, install the LH heat shield and the nuts.  
*Torque: 80 lb.in (9 Nm)*
  2. Install the RH heat shield and the nuts.  
*Torque: 80 lb.in (9 Nm)*

