GENERAL PROCEDURES > TRANSMISSION FLUID EXCHANGE

Transmission Fluid Exchange

Special Tool(s) / General Equipment

Fluid Exchanger

Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC	MERCON® LVWSS-M2C938-A

Flushing

NOTE: Use transmission fluid specific for this transmission. Do not use any supplemental transmission fluid additives or cleaning agents. The use of these products can cause internal transmission components to fail, which will affect the operation of the transmission.

1.

With the vehicle in NEUTRAL, position it on a hoist. Refer to: Jacking and Lifting - Overview .

2.

Connect the Fluid Exchanger to the transmission fluid cooler tube after the transmission fluid cooler on the return tube. This helps remove any foreign material trapped in the transmission fluid coolers.

Use the General Equipment: Fluid Exchanger

3.

Perform the transmission fluid exchange using the Fluid Exchanger.

Follow the manufacturer's instructions included with the machine.

Use the General Equipment: Fluid Exchanger

Material

: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (MERCON® LV) (WSS-M2C938-A)

4.

Once the transmission fluid exchange is completed, disconnect the Fluid Exchanger. Reconnect any disconnected transmission fluid cooler tubes.

Use the General Equipment: Fluid Exchanger

5.

Check the transmission fluid level. Refer to: Transmission Fluid Level Check .

GENERAL PROCEDURES > TRANSMISSION FLUID DRAIN AND REFILL

Special Tool(s) / General Equipment

	307-570 Tube, Transmission Fill TKIT-2006U-F/FM TKIT-2006U-FLM/LM TKIT-2006U-ROW1 TKIT-2006U-ROW2
	307-D465 Transporter Fluid Evacuator/Injector
	416-D002 Vacuum Pump Kit

Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC	MERCON® LVWSS-M2C938-A

Draining

1.

> *NOTE: The transmission fluid pan must be removed to drain the transmission fluid. Follow the steps in the Transmission Fluid Pan, Gasket and Filter procedure to remove and install the transmission fluid pan. It is not necessary to remove the transmission fluid filter to drain the transmission fluid.*

Remove the transmission fluid pan to drain the transmission fluid. Refer to: Transmission Fluid Pan, Gasket and Filter . Refer to: Transmission Fluid Pan, Gasket and Filter - 2.7L EcoBoost

(238kW/324PS) .

Filling

> *NOTE: 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.*

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

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

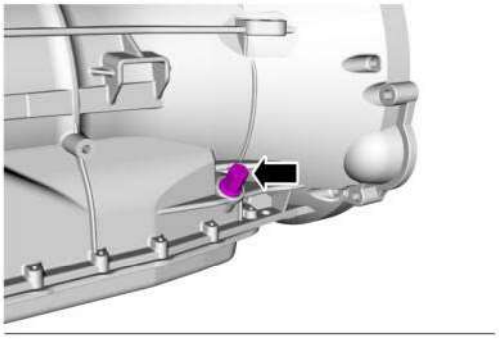
> *NOTE: Check the transmission fluid level if the transmission starts to slip, shifts slowly or shows signs of transmission fluid leaking.*

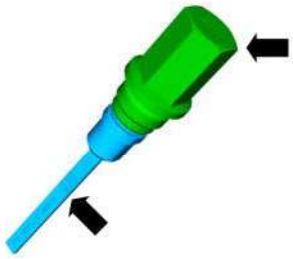
> *NOTE: Here is an overview of the Transmission Fluid Refill procedure.*

- Adding 3.3L (3.5 qt) of transmission fluid is an initial fill enabling the engine to be started.
- Filling the transmission to the transmission fluid level indicator area below the crosshatch mark allows the vehicle to be driven.
- The vehicle should be driven to allow the transmission fluid temperature to reach 96.7°C - 102°C (206°F - 215°F) 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 96.7°C - 102°C (206°F - 215°F).

1.

Remove the transmission fluid fill plug and remove the transmission fluid level indicator from the plug.





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2.

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

a new main control has been installed.

the transmission fluid pan or transmission fluid filter have been removed.

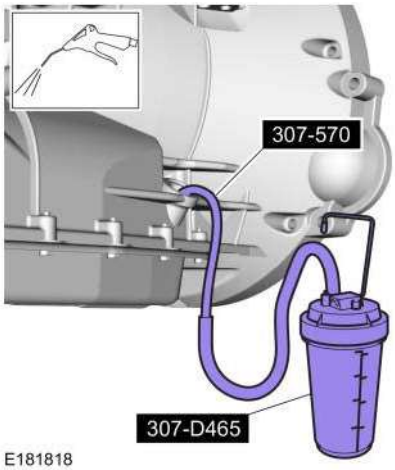
NOTE: The transmission will need 11.35L (12 qt) of transmission fluid added to the transmission as an initial fill if the transmission has been overhauled.

Using the special tools, add transmission fluid to the transmission through the transmission fluid fill hole.

Use Special Service Tool: 307-570 Tube, Transmission Fill, 307-D465 Transporter Fluid Evacuator/Injector.

Material

: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (MERCON® LV) (WSS-M2C938-A)



3.

1.

Connect the diagnostic scan tool and monitor the transmission fluid temperature.

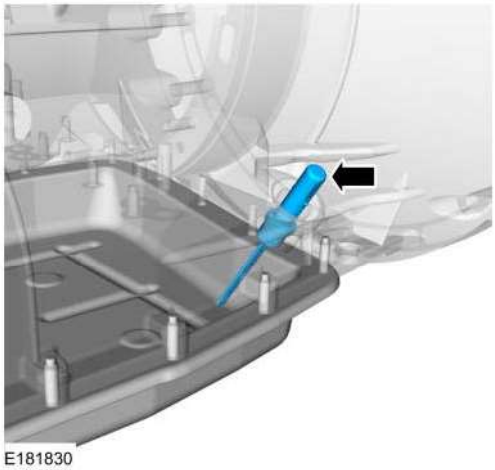
2.

Start the engine.

3.

Place the selector lever in each gear position, holding approximately 5 seconds in each position. Place the selector lever in PARK, with the engine at idle (600-750 rpm).

Check the transmission fluid level using the transmission fluid level indicator.



4.

NOTE: The vehicle is safe to drive with a cold transmission fluid temperature if the

transmission fluid level is in the transmission fluid level indicator area below the crosshatch mark as shown in illustration. Failure to add transmission fluid to this level can result in damage to the transmission.

Add transmission fluid to the area on the transmission fluid level indicator below the crosshatch mark.

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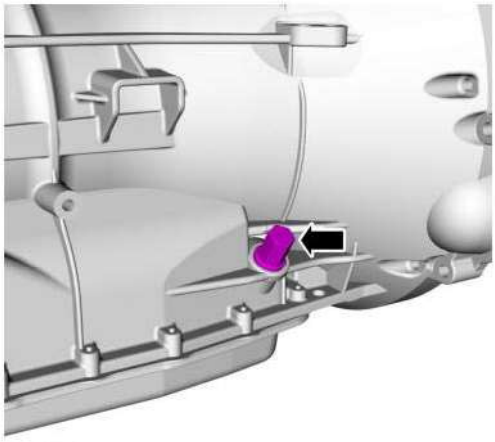
5.

Install the transmission fluid fill plug.

Torque

: 26 lb.ft (35 Nm)



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6.

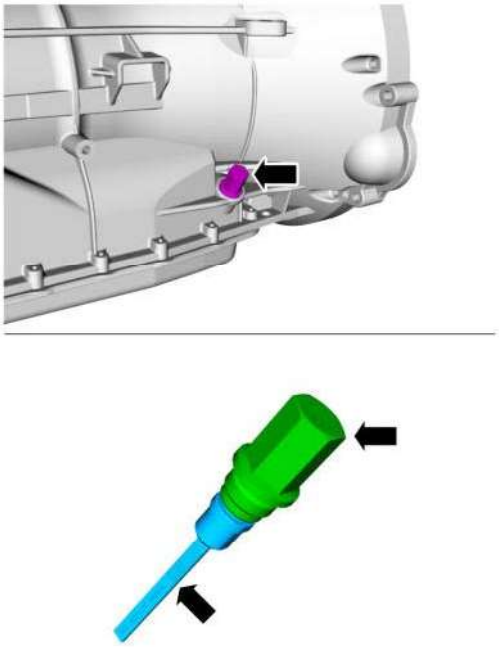
NOTE: Always drive the vehicle in a safe manner according to driving conditions and obey all traffic laws.

Drive the vehicle. While driving the vehicle, use the scan tool to verify the transmission fluid has reached a temperature of 96.7°C - 102°C (206°F - 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. With the engine idling (600-750 rpm) in PARK, verify the

transmission fluid temperature is between 96.7°C - 102°C (206°F - 215°F) and lift the vehicle on a hoist. Refer to: Jacking and Lifting - Overview .

7.

Remove the transmission fluid fill plug and remove the transmission fluid level indicator from the plug.



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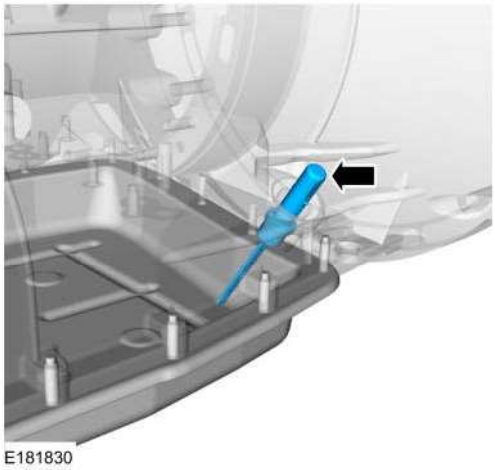
8.

Check the transmission fluid level using the transmission fluid level indicator.



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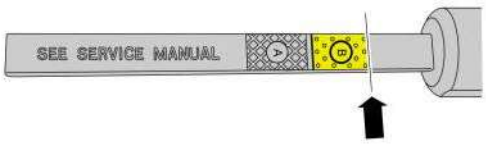
9.

NOTE: The transmission fluid level indicator has 2 areas for the fluid level, a

crosshatched (A) area and a dotted (B) area. Use the dotted (B) area when checking the transmission fluid level. The correct transmission fluid level is at the upper level of the dotted (B) area marks on the transmission fluid level indicator.

Using the scan tool verify the transmission fluid temperature is between 96.7°C - 102°C (206°F - 215°F). The transmission fluid level must be at the upper level of the dotted (B) area.



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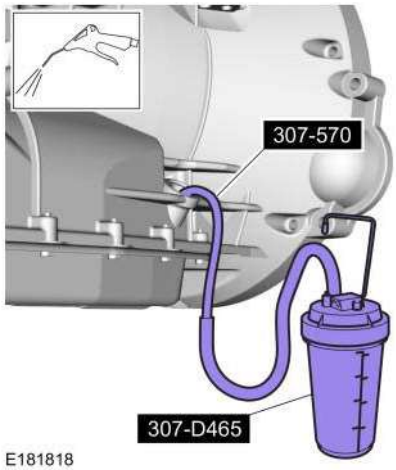
10.

If the transmission fluid level is low, add transmission fluid using the special tools.

Use Special Service Tool: 307-570 Tube, Transmission Fill, 307-D465 Transporter Fluid Evacuator/Injector.

Material

: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (MERCON® LV) (WSS-M2C938-A)



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11.

If the transmission fluid is overfilled, remove transmission fluid using the special tools.

Use Special Service Tool: 307-570 Tube, Transmission Fill, 307-D465 Transporter Fluid Evacuator/Injector, 416-D002 Vacuum Pump Kit.

Material

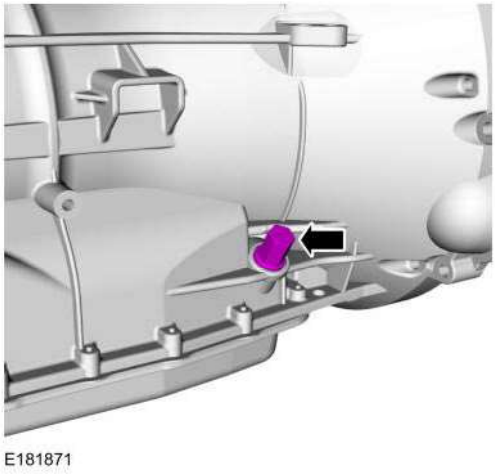
: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (MERCON® LV) (WSS-M2C938-A)

12.

Install the transmission fluid fill plug.

Torque

: 26 lb.ft (35 Nm)



GENERAL PROCEDURES > TRANSMISSION FLUID LEVEL CHECK

Inspection

NOTE: The vehicle should not be driven if the transmission fluid level is low. Internal failure could result.

NOTE: If the vehicle has been operated for an extended period at high highway speeds,

in city traffic, during hot weather or while pulling a trailer, the transmission fluid must cool down to obtain an accurate reading.

NOTE: Do not overfill the transmission. The transmission fluid level must be at the upper level of the dotted (B) area marks on the transmission fluid level indicator.

NOTE: If a new transmission fluid cooler or new fluid cooler tubes have been installed, drive the vehicle to warm the transmission fluid to 96.7°C-102°C (206°F-215°F) in order to purge the air from the transmission fluid cooling system.

1.

Connect the diagnostic scan tool and position the vehicle on a hoist. Refer to: Jacking and Lifting - Overview .

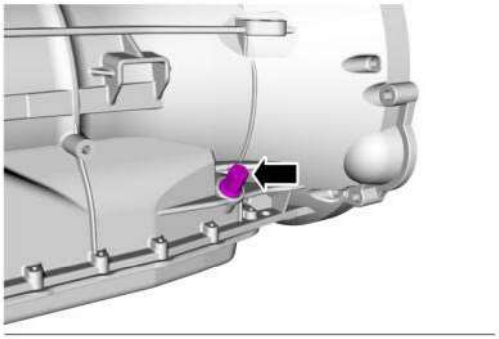
2.

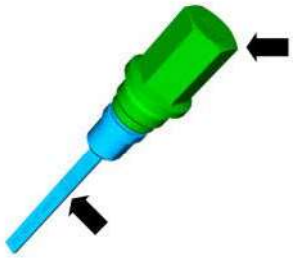
With the engine running, place the transmission selector lever in each gear position, holding approximately 5 seconds in each position. Place the transmission selector lever in PARK.

Refer to: Engine Rear Undershield .

3.

Remove the transmission fluid fill plug and remove the transmission fluid level indicator from the plug.





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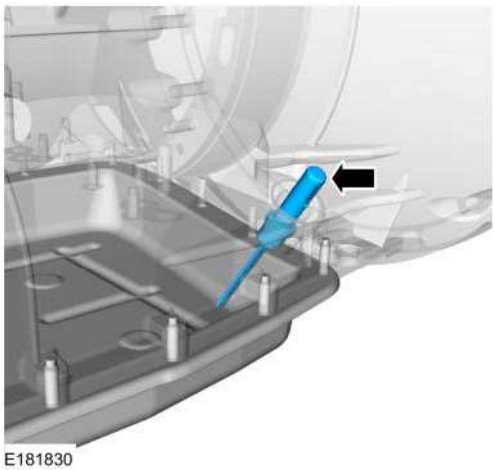
4.

Check the transmission fluid level using the transmission fluid level indicator.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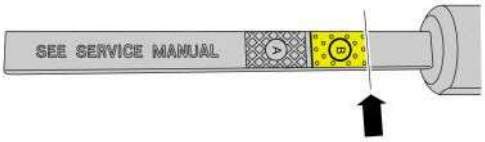
5.

NOTE: The transmission fluid level indicator has 2 areas for the fluid level, a crosshatched (A) area and a dotted (B) area. Use the dotted (B) area when checking the transmission fluid level. The correct transmission fluid level is at the upper level of the dotted (B) area marks on the transmission fluid level indicator.

Using the scan tool verify the transmission fluid temperature is between 96.7°C - 102°C (206°F - 215°F). The transmission fluid level must be at the upper level of the dotted (B) area.



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6.

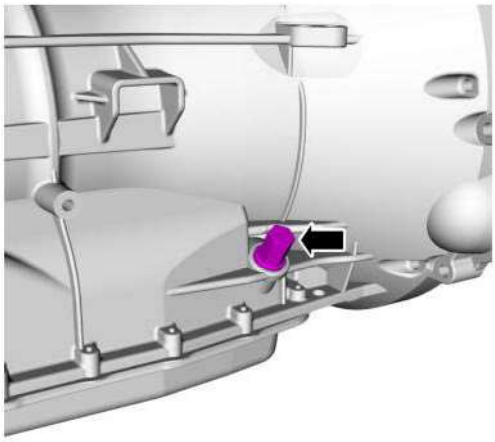
If the transmission fluid is not at the correct level, follow the steps for adding or removing transmission fluid. Refer to: Transmission Fluid Drain and Refill .

7.

Install the transmission fluid fill plug.

Torque

: 26 lb.ft (35 Nm)



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Refer to: Engine Rear Undershield .

GENERAL PROCEDURES > TRANSMISSION IDENTIFICATION

Check

1.

Using the scan tool, select Powertrain, Transmission and Transmission Characterization / Solenoid IDN from the toolbox icon and follow the instructions displayed on the scan tool. The Transmission Characterization / Solenoid IDN screen displays solenoid body identification information:

Solenoid body identification is a 12-digit number

Solenoid body strategy is a 13-digit number. If the solenoid body strategy field is blank, the module contains a partial transmission solenoid body strategy. This is due to a corrupt or missing file at the time the programmable parameters were completed.

2.

NOTE: The 13-digit solenoid body strategy number consists of only numbers. Letters are not used.

Compare the solenoid body identification and strategy to the solenoid body identification tag located on the left side of the transmission case.

- **Original Solenoid Body Service Tag**

3.

1.

13 - digit solenoid body strategy