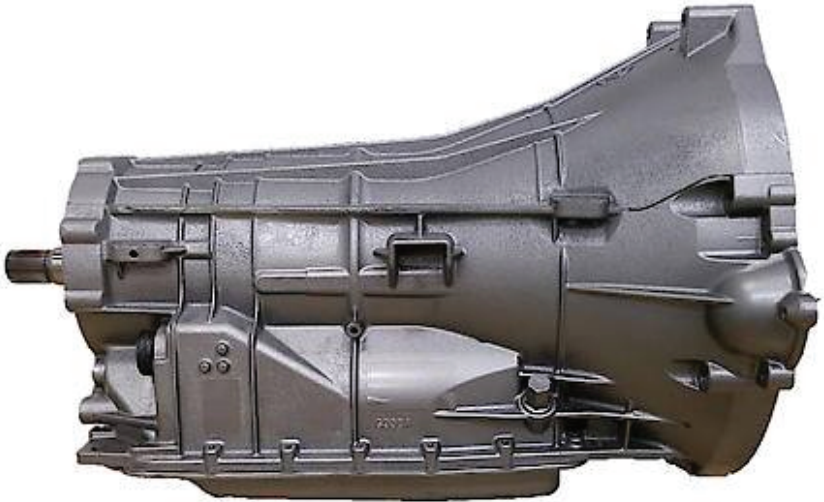




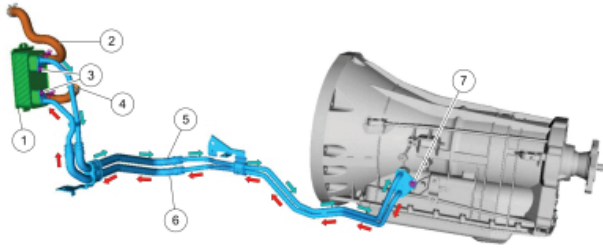
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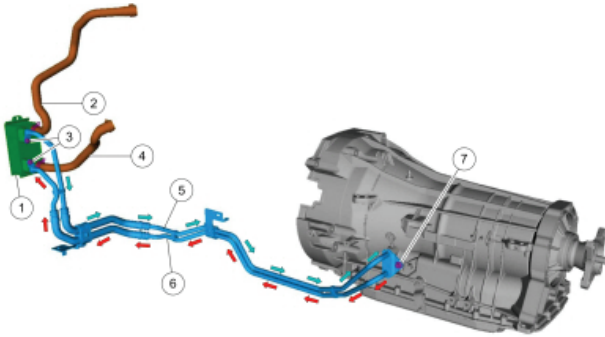
6R80 TRANSMISSION INSTALLATION GUIDE

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Transmission Cooler



Item	Part Number	Description
1	7A095	Transmission fluid cooler
2	7H255	Transmission fluid cooler coolant inlet hose
3	W712658	Transmission fluid cooler tube-to-transmission fluid cooler bolts
4	—	Transmission fluid cooler coolant outlet hose (part of 8286)
5	—	Transmission fluid cooler transmission fluid outlet tube (part of 7H420)
6	—	Transmission fluid cooler transmission fluid inlet tube (part of 7H420)
7	W715131	Transmission oil cooler tube-to-transmission bolt



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Transmission Fluid Cooler - Backflushing and Cleaning

Special Tool(s) / General Equipment
Transmission Cooling System Heated Flusher
Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission FluidXT-10-QLVC	WSS-M2C938-A MERCON® LV

Flushing

- NOTE: Use transmission fluid specified for this transmission. Do not use any supplemental transmission fluid additives or cleaning agents. The use of these products could cause internal transmission components to fail, which will affect the operation of the transmission.**
The transmission cooling system (cooler and lines) **MUST** be flushed every time the transmission is overhauled or replaced in order to minimize the likelihood of repeat repairs. It is mandatory that proper equipment and procedures be followed when flushing coolers/lines.

The flushing equipment used **MUST**: maintain fluid at 140°F or above, pulsate fluid during cleaning, have a GPM flow meter, have twin magnetic filters, and have air purge capability before and after flushing.

- NOTE: If equipment meeting the specifications above is not available, the transmission fluid cooler(s) should be replaced and the lines cleaned by hand.**
- Check and top off fluid level of the transmission cooling system heated flusher with transmission fluid.
Use the General Equipment: Transmission Cooling System Heated Flusher
Material: Motorcraft® MERCON® LV Automatic Transmission Fluid / XT-10-QLVC (WSS-M2C938-A) (MERCON® LV,)
- Turn on the heater and allow the fluid in the cooler line flusher 15-30 minutes to heat up to 60°C (140°F) before using.
- Install the line adapters onto the transmission fluid cooler tubes.
- Attach the Transmission Cooling System Heated Flusher red line to the transmission fluid cooler inlet tube.

Refer to: Transmission Cooling (307-02 Transmission Cooling - 6-Speed Automatic Transmission – 6R80, Description and Operation).

- Attach the Transmission Cooling System Heated Flusher blue line to the transmission fluid cooler outlet tube.
- Follow the Transmission Cooling System Heated Flusher manufacturer's instructions to purge the transmission fluid cooler tubes and the transmission fluid cooler prior to starting the flushing procedure.
- Allow the Transmission Cooling System Heated Flusher to backflush for 10-15 minutes, then flush the transmission fluid cooler in a normal flow direction for an additional 10-15 minutes.
- If the transmission fluid cooling system heated flusher is equipped with an inspection micron filter:
 - Remove and clean the Oberg 28 micron filter.
 - Install the filter.
 - Backflush the system for 5 minutes.
 - Remove and inspect the filter.
 - If debris/contamination is present on the filter, repeat step 9.
- Follow the equipment instructions to purge the transmission fluid cooler tubes and transmission fluid cooler.

Transmission Fluid Level Check

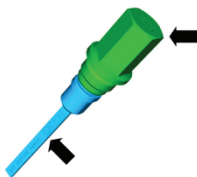
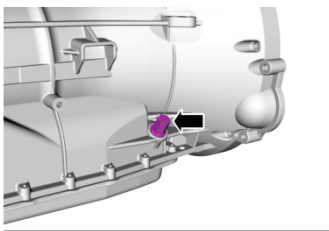
NOTICE: The vehicle should not be driven if the transmission fluid level is low. Internal failure could result.

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.

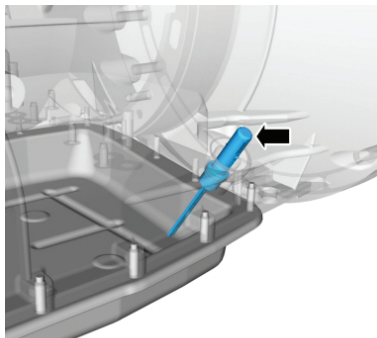
NOTE: Do not overfill the transmission. The transmission fluid level must be at the upper level of the dotted (B) area marks on the transmission fluid level indicator.

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 (100-02 Jacking and Lifting, Description and Operation).
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.
3. Remove the transmission fluid fill plug and remove the transmission fluid level indicator from the plug.



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



Transmission Fluid Level Check (Cont'd)

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.



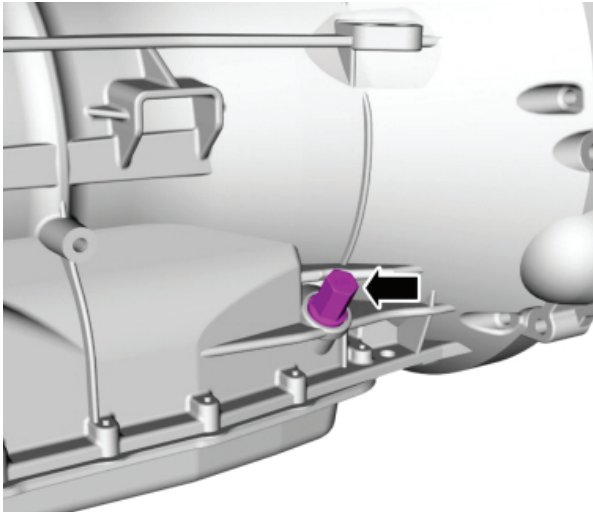
6. If the transmission fluid is not at the correct level, follow the steps for adding or removing transmission fluid. Refer to: Transmission Fluid Drain and Refill (307-01 Automatic Transmission, Transfer Case and Power Transfer Unit - 6-Speed Automatic Transmission - 6R80, General Procedures).

Transmission Fluid Fill Procedure

NOTE: The transmission will need 8 qt of transmission fluid added to the transmission as an initial fill if the transmission has been overhauled.

The use of a pressurized fluid dispenser with 8-12 gal capacity such as the Mityvac MITMV6412 is recommended for this procedure.

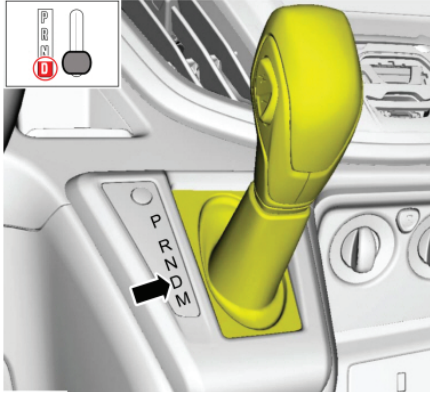
7. Install the transmission fluid fill plug. Torque: 26 lb.ft (35 Nm)



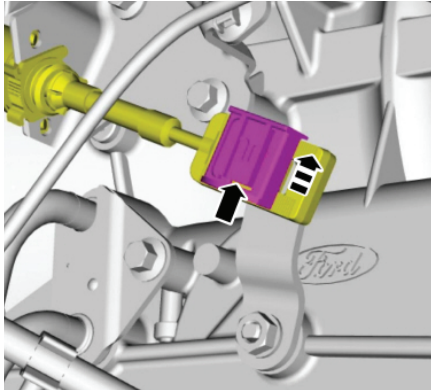
Selector Lever Cable Adjustment - 3.5L EcoBoost (235kW/320PS)

Adjustment

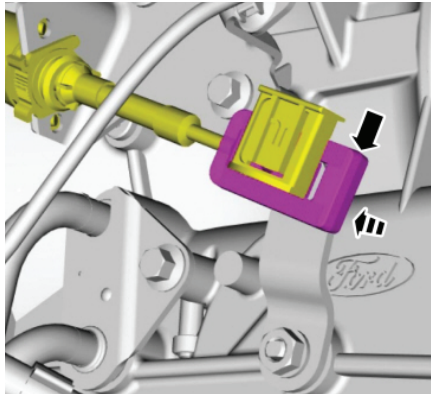
1. With the vehicle in Neutral, position it on a hoist.
2. Set the selector lever to the Drive (D) position.



3. Gently pry the latch up and slide the lock tab up.



4. Disconnect the selector lever cable from the manual control lever.

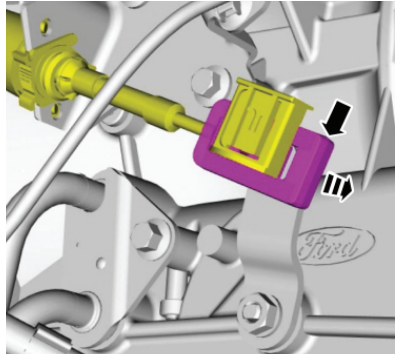


Selector Lever Cable Adjustment - 3.5L EcoBoost (235kW/320PS) (Cont'd)

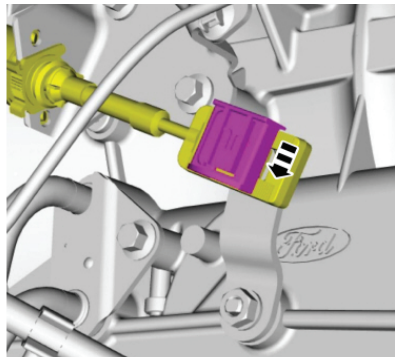
5. Rotate the manual control lever clockwise until it stops.
Rotate the manual control lever counterclockwise 3 detents.



6. Connect the selector lever cable to the manual control lever.



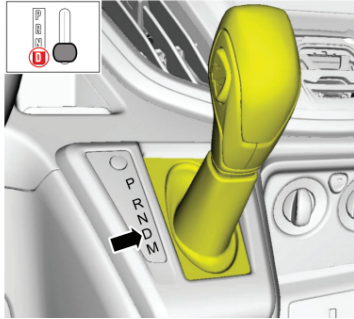
7. **NOTE: After locking the adjuster, pull back on the adjuster to make sure it is securely installed.** Slide the lock tab down into place.



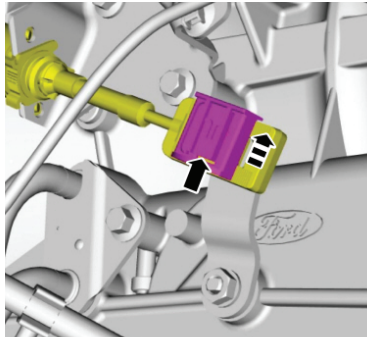
8. Verify that the vehicle starts in **PARK** and **NEUTRAL** only and that the reverse lamps illuminate in **REVERSE** only.

Selector Lever Cable Adjustment - 3.7L Duratec (199kW/270PS)

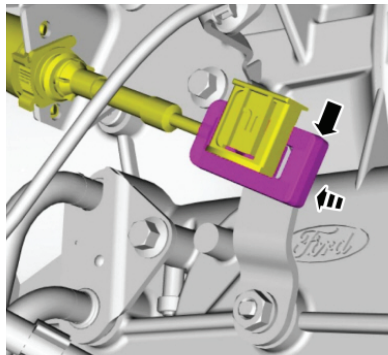
1. With the vehicle in Neutral, position it on a hoist.
Refer to: Jacking and Lifting - Overview
(100-02 Jacking and Lifting, Description and Operation).
2. Set the selector lever to the Drive (D) position.



3. Gently pry the latch up and slide the lock tab up.

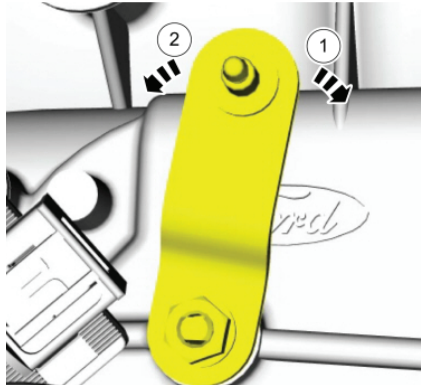


4. Disconnect the selector lever cable from the manual control lever.

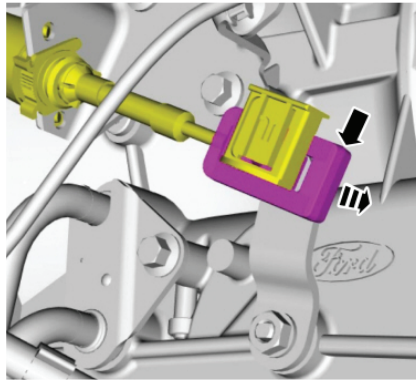


Selector Lever Cable Adjustment - 3.7L Duratec (199kW/270PS) (Cont'd)

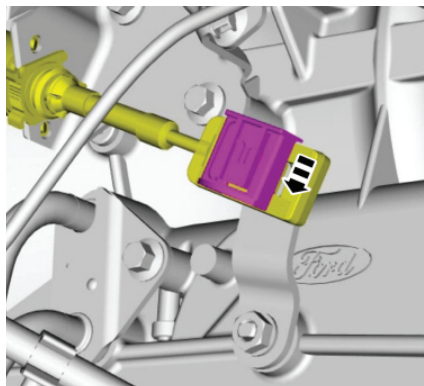
- 5. Rotate the manual control lever clockwise until it stops.
Rotate the manual control lever counterclockwise 3 detents.



- 6. Connect the selector lever cable to the manual control lever.



- 7. **NOTE:** After locking the adjuster, pull back on the adjuster to make sure it is securely installed. Slide the lock tab down into place.



- 8. Verify that the vehicle starts in PARK and NEUTRAL only and that the reverse lamps illuminate in REVERSE only.

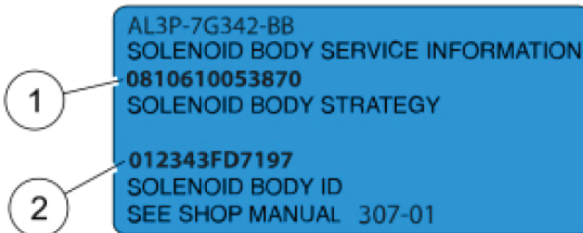
Transmission Strategy Download

Transmission Strategy Download

Programming

1. If a new main control was installed, record the 12-digit solenoid body identification and 13-digit solenoid body strategy from the replacement solenoid body tag provided with the main control service kit. Place the replacement tag over the existing identification tag.

13 - digit solenoid body strategy
12 - digit solenoid body identification



2. Using the scan tool, select module Programming and Programmable Parameters under the toolbox icon and select transmission. Follow the instructions displayed on the scan tool. There are fields to enter the solenoid body 12-digit identification and 13-digit strategy recorded from the solenoid body.
3. Compare the transmission strategy label to the codes displayed on the scan tool. The codes displayed on the scan tool should match the label. If not, select the update option on the tool. Once the update option is selected the tool will ask the user what best describes the repair operation that was performed on the transmission. The scan tool will only allow the user to select 1 of the five options. Once the selection is made, the user can enter the transmission code from the label into the entry box.
4. **NOTICE: If the solenoid body information is not correct, transmission damage or driveability concerns can occur.**
NOTICE: It is critical that only 13-digit strategy be entered into the scan tool.
Entering the 12-digit solenoid body identification will result in partial file download to the module. The 12-digit solenoid body identification options should only be used when directed by engineering in a case where a full 13-digit strategy cannot be obtained. Enter the solenoid body 13-digit strategy. The scan tool verifies the numbers entered are valid and displays a message if the information is not valid. The scan tool will check to verify the file is present on the scan tool. If the file is present, the technician may proceed with downloading the file to the module. If the file is NOT present, the scan tool will prompt the user for permission to retrieve the file from the Professional Technician Society (PTS) server. Internet access will be required to download the file from the server to the scan tool.
5. Follow the instructions on the network to download the strategy file to the scan tool.
6. Follow the instructions displayed on the scan tool.
7. The scan tool automatically downloads the strategy file. The scan tool displays a message when it is finished downloading the data that states that the file was downloaded successfully.
8. **NOTICE: If a drive cycle is not completed, erratic shifts and driveability concerns may occur.**

Road test the vehicle following the Adaptive Learning Drive Cycle.

Refer to:

Adaptive Learning Drive Cycle

(307-01 Automatic Transmission, Transfer Case and Power Transfer Unit -
6-Speed Automatic Transmission - 6R80, General Procedures).

If you do not have access to the appropriate scan tool,
Camerota Truck Parts can supply a RAP kit for programming assistance.

Price available upon request.

Adaptive Learning Drive Cycle

Configuration

NOTE: Perform the adaptive learning drive cycle on a level road surface.

NOTE: The engine and transmission must be at normal operating temperature with the transmission fluid at the correct level.

NOTE: It is imperative to not have any active check engine lights in any modules as this will stop the learn cycle.

1. Record then clear the DTCs (Diagnostic Trouble Codes).
2. Warm the engine and transmission to normal operating temperature.
3. With the selector lever in (D), moderately accelerate from stop to 80 km/h (50 mph) allowing the transmission to shift into 6th gear. Keep vehicle speed and throttle steady for a minimum of 15 seconds.
4. With the transmission in 6th gear and maintaining steady speed and throttle, lightly apply and release the brake to operate stoplamps. Maintain the speed and throttle for a minimum of 5 seconds.
5. Brake to a stop and remain stopped for a minimum of 20 seconds.
6. Repeat Steps 3 through 5 five times.

If a trouble light or code appears during the road test, the problem MUST be corrected before operating the vehicle further.

