

307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80
Removal and Installation

2019 Ranger

Procedure revision date: 03/15/2018

Shift Solenoids (SS)

Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid XT-12-QULV	WSS-M2C949-A MERCON® ULV

Removal

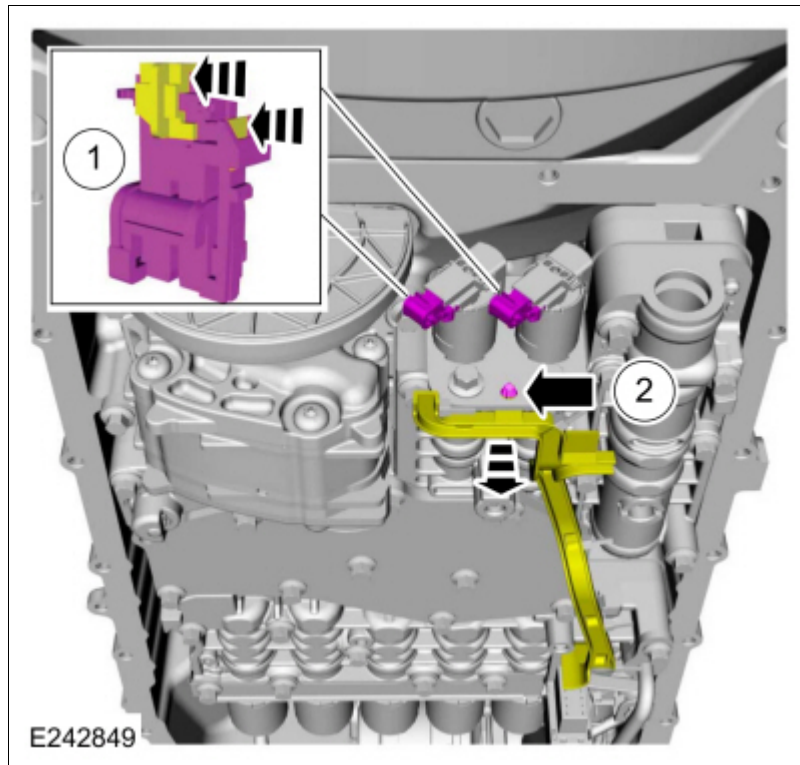
All Solenoids

- Remove the transmission fluid pan gasket and filter.
Refer to: Transmission Fluid Pan, Gasket and Filter - Raptor (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80) .
Refer to: Transmission Fluid Pan, Gasket and Filter - Raptor (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80) .
Refer to: [Transmission Fluid Pan, Gasket and Filter](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).

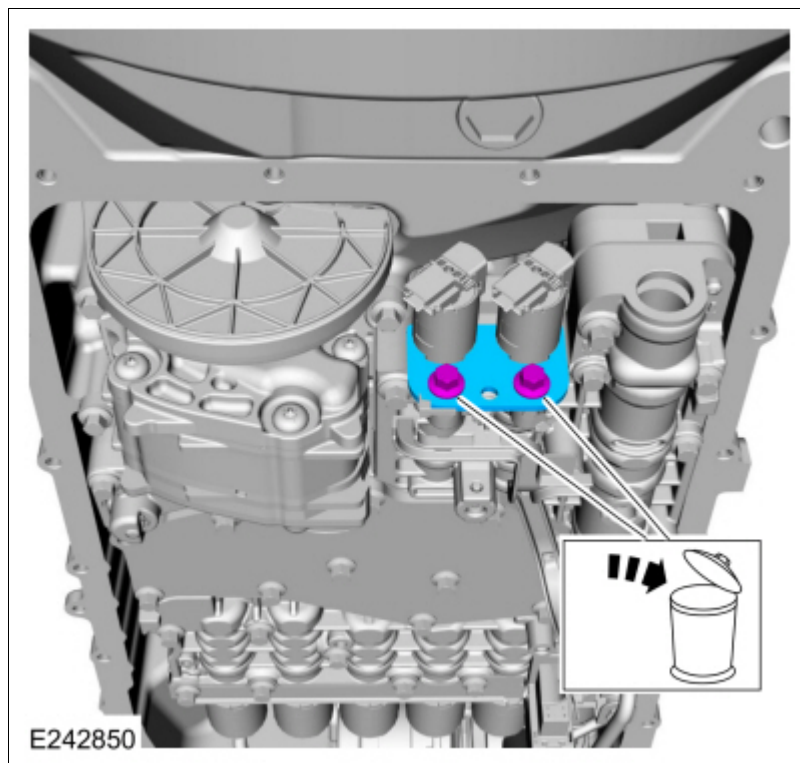
LPC (line pressure control) and TCC (torque converter clutch) Solenoids

- Slide the plastic lock to the unlock position. While pressing the plastic tab, disconnect the electrical connector.
 - Disconnect the internal wiring harness retainer.



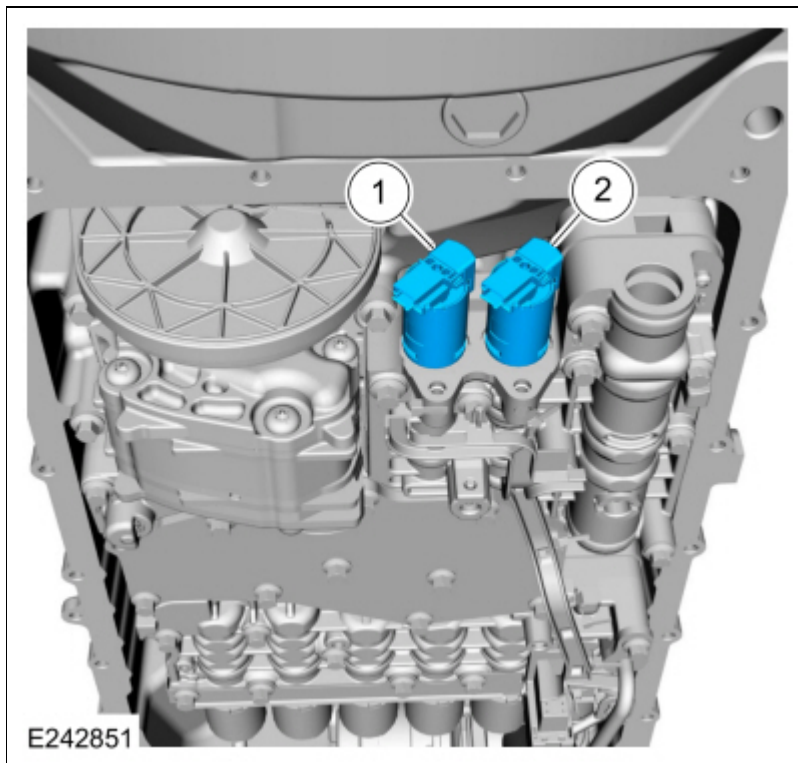


3. Remove and discard the bolts and remove the solenoid retaining plate.



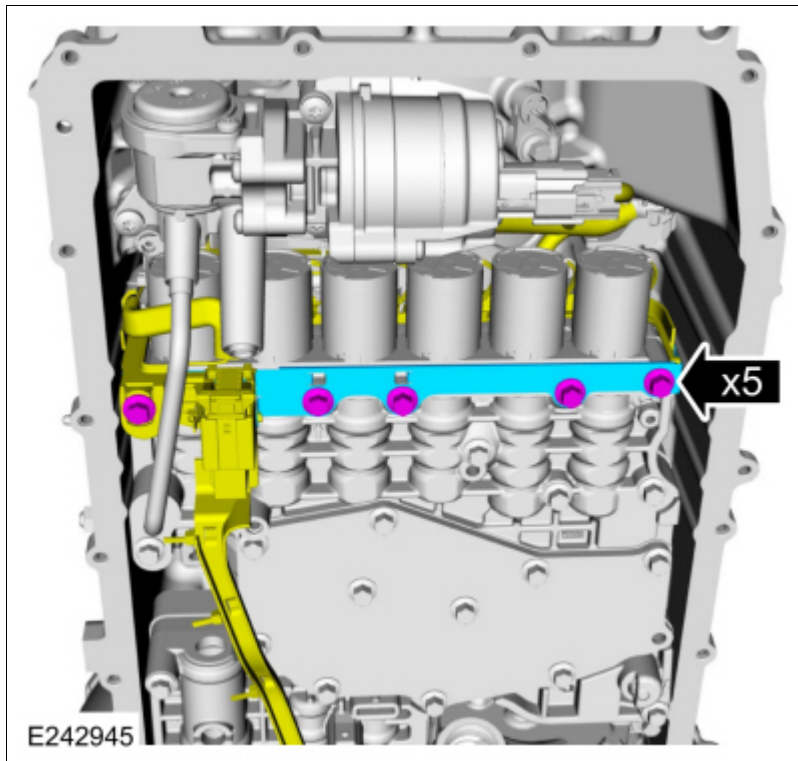
4. Remove the solenoid(s) from the main control valve body.

1. LPC solenoid (7G383)
2. TCC solenoid (7G136)

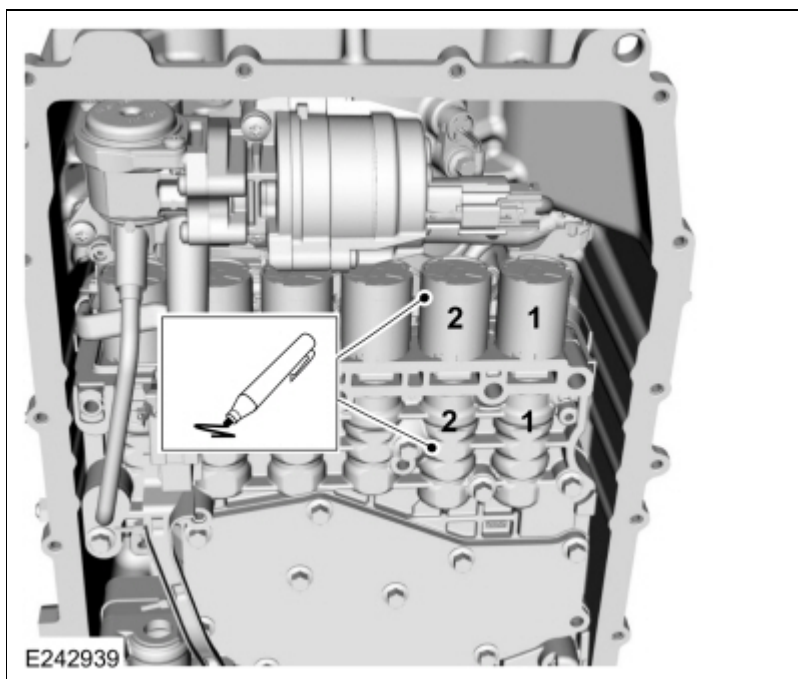


Solenoids D and E

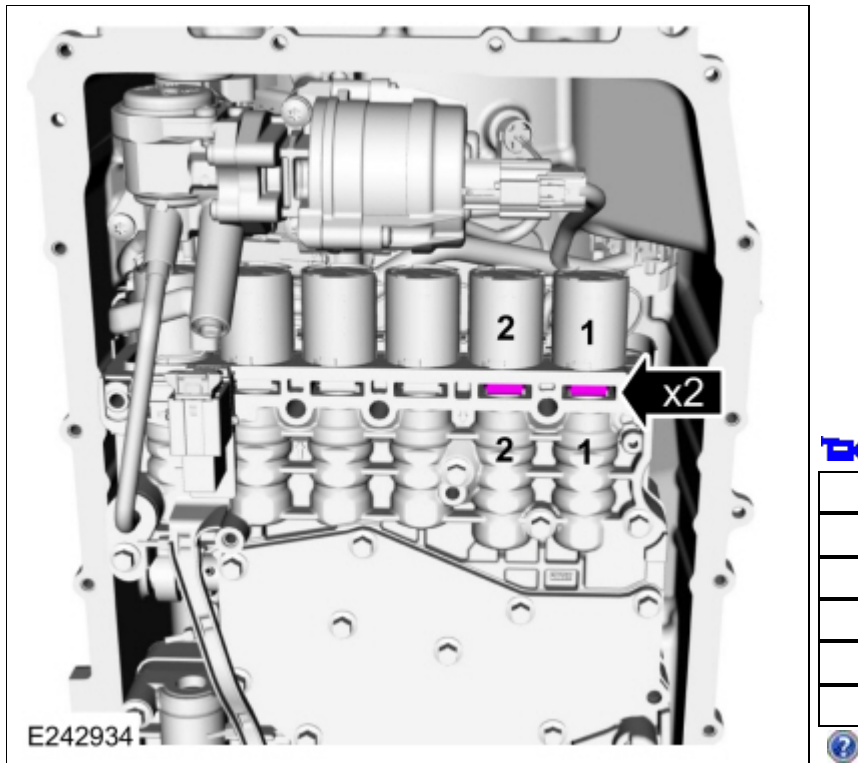
5. Remove the bolts and the shift solenoid retaining plate.



6. If replacing more than one solenoid, number the solenoids and number the main control valve body solenoid ports to correspond to the solenoid.

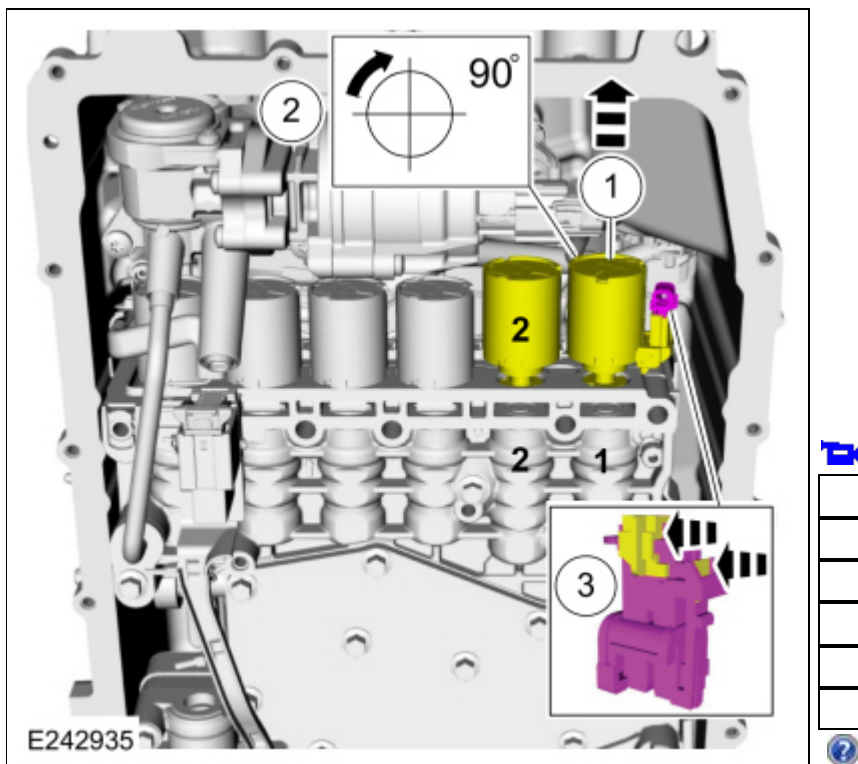


7. Remove the shift solenoid retainer(s).

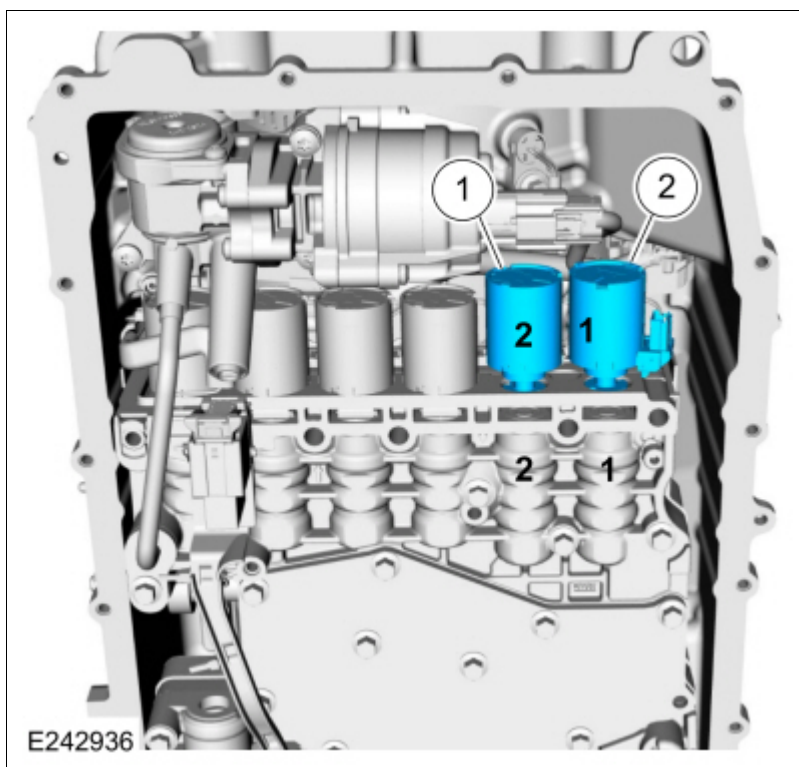


8.

1. Slide the solenoid(s) out of the main control valve body bore.
2. Rotate the solenoid(s) in a clockwise direction.
3. Slide the plastic lock to the unlock position. While pressing the plastic tab, disconnect the electrical connector.

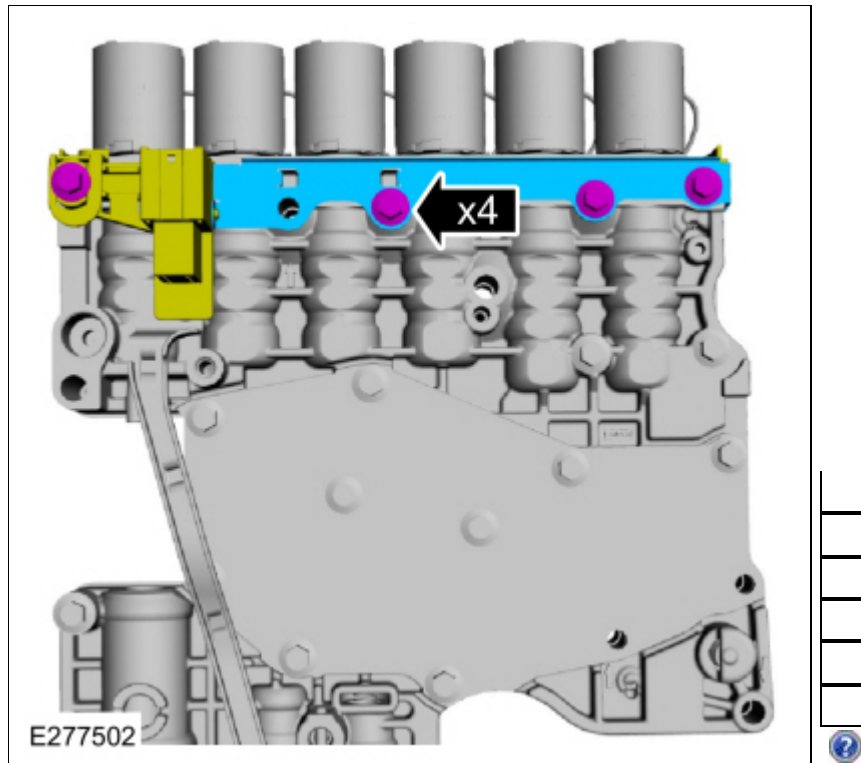


9. Remove the solenoid(s) from the main control valve body.
 1. SSE (7J136)
 2. SSD (7J136)

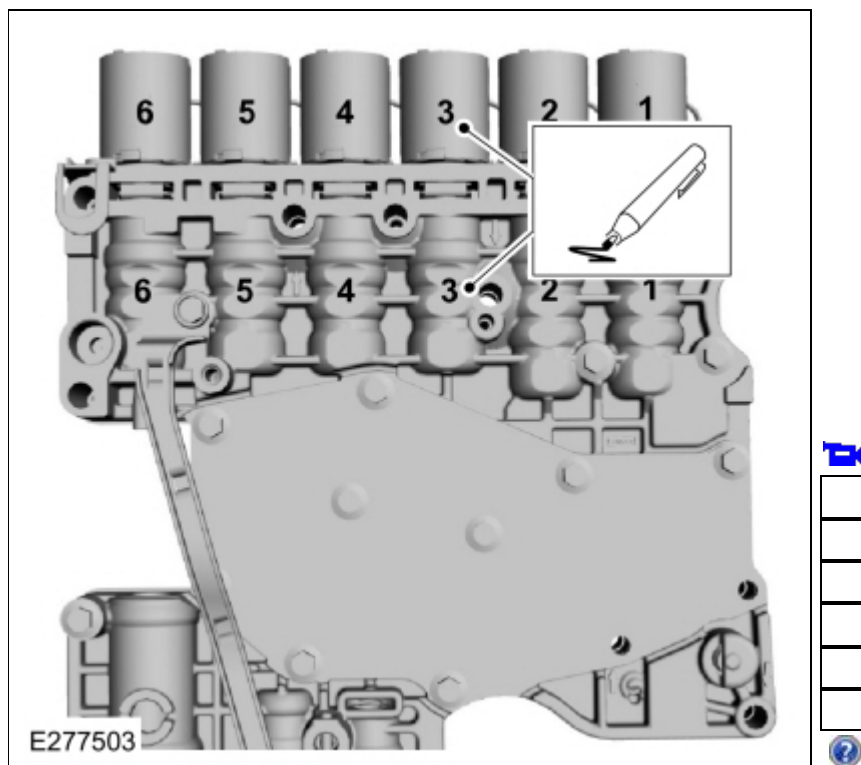


Solenoids A, B, C, and F

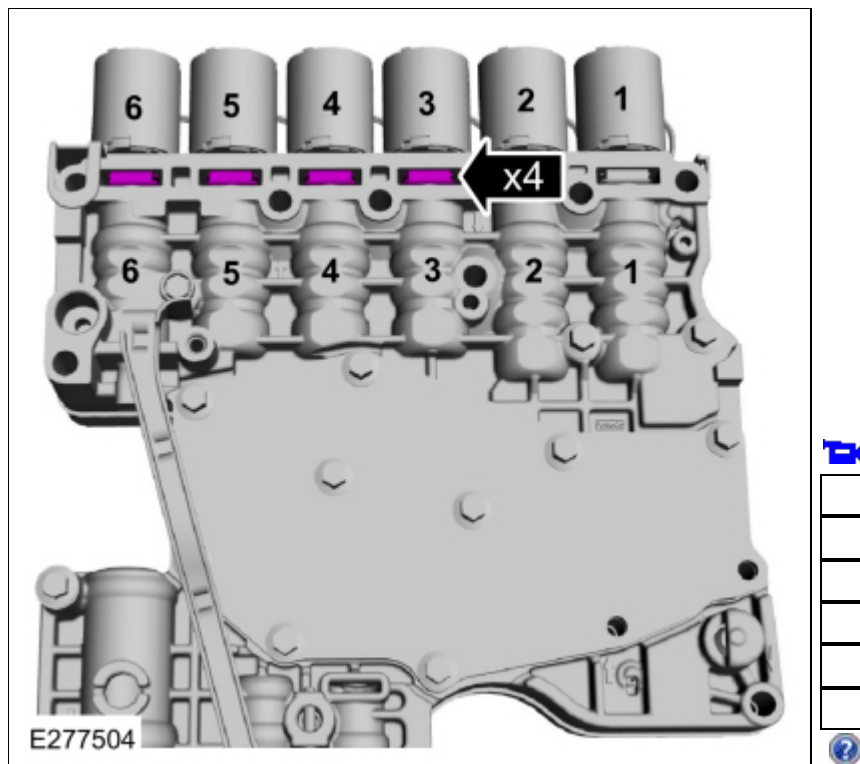
10. Remove the main control valve body.
 Refer to: [Main Control Valve Body - Vehicles With: Auto-Start-Stop](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).
 Refer to: [Main Control Valve Body](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).
11. Remove the bolts and the shift solenoid retaining plate.



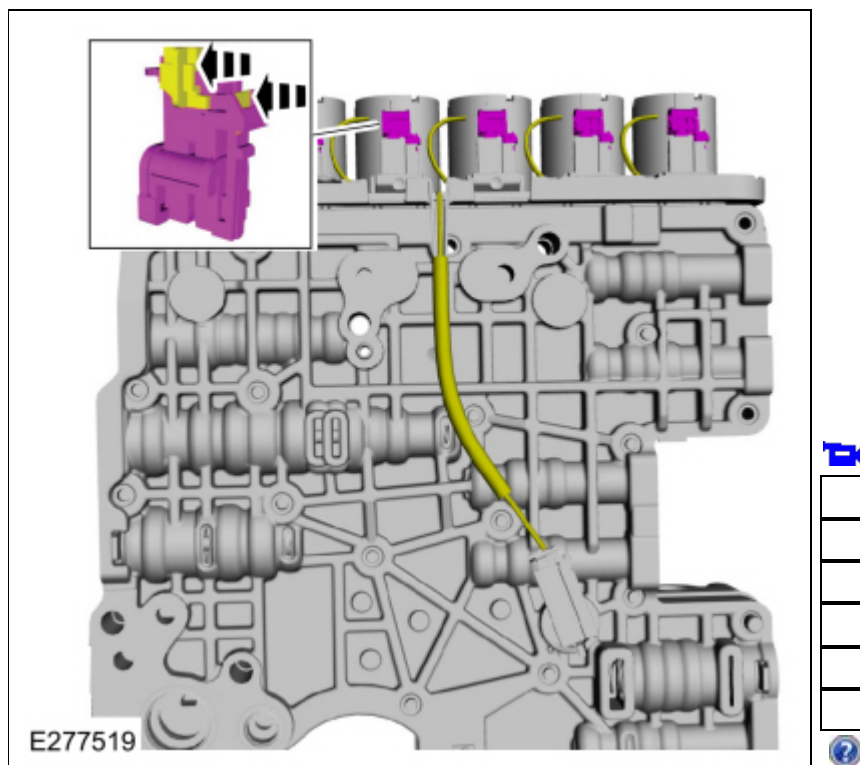
12. If replacing more than one solenoid, number the solenoids and number the main control valve body solenoid ports to correspond to the solenoid.



13. Remove the shift solenoid retainer(s).



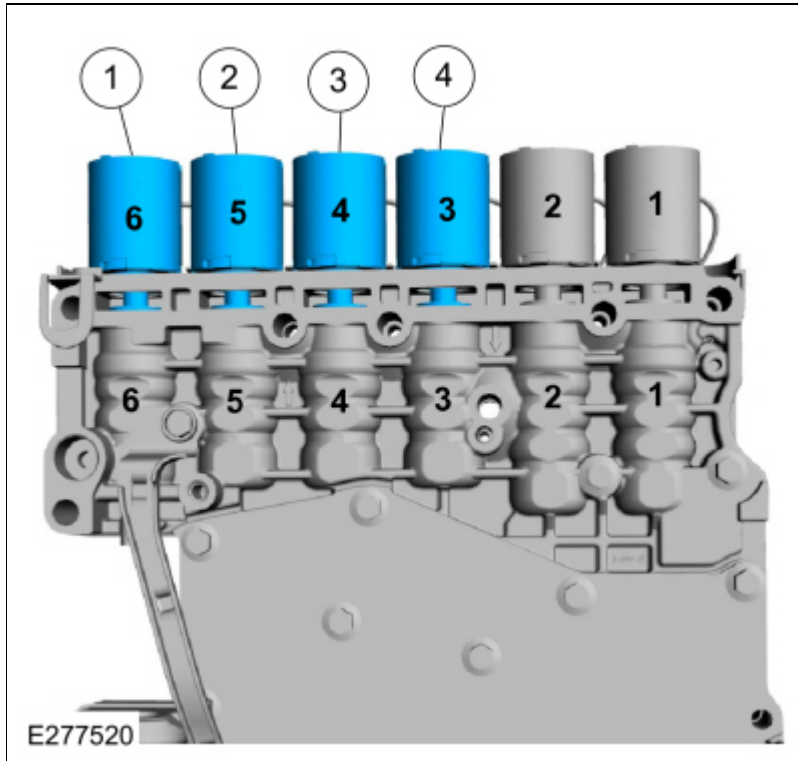
14. Slide the plastic lock to the unlock position. While pressing the plastic tab, disconnect the electrical connector(s).



- 15.

Remove the solenoid(s) from the main control valve body.

1. SSA (7J136)
2. SSF (7J136)
3. SSC (7J136)
4. SSB (7J136)

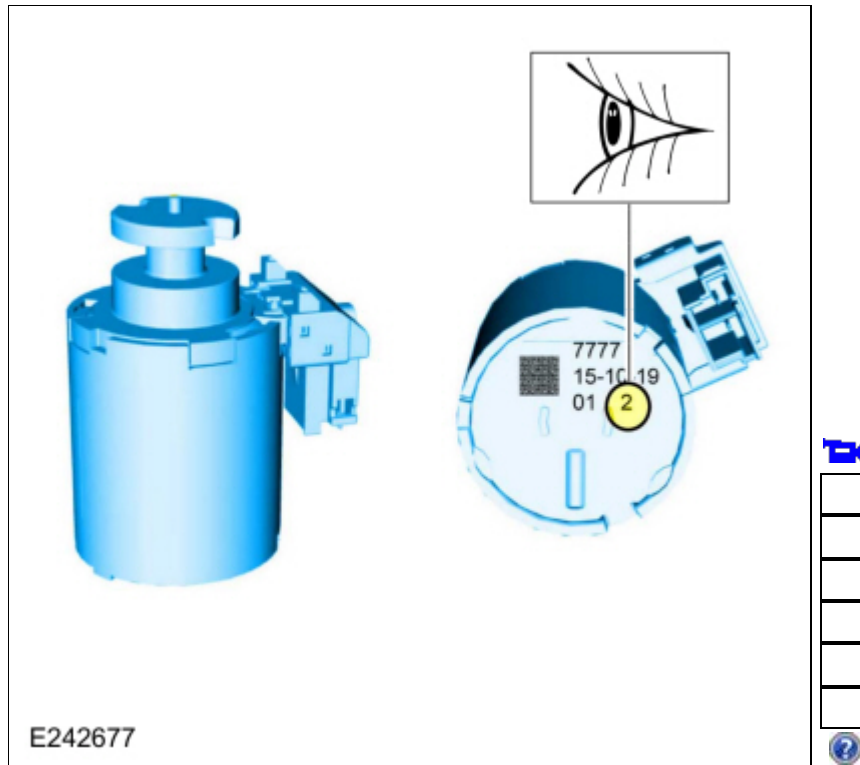


Installation

Solenoids A, B, C, and F

1. **NOTICE:** Solenoids are calibrated from the factory and are not all the same. To replace a solenoid, match the band number with the original solenoid or harsh shifts or damage to the transmission can occur.

If new solenoids are needed, identify the solenoid band number.

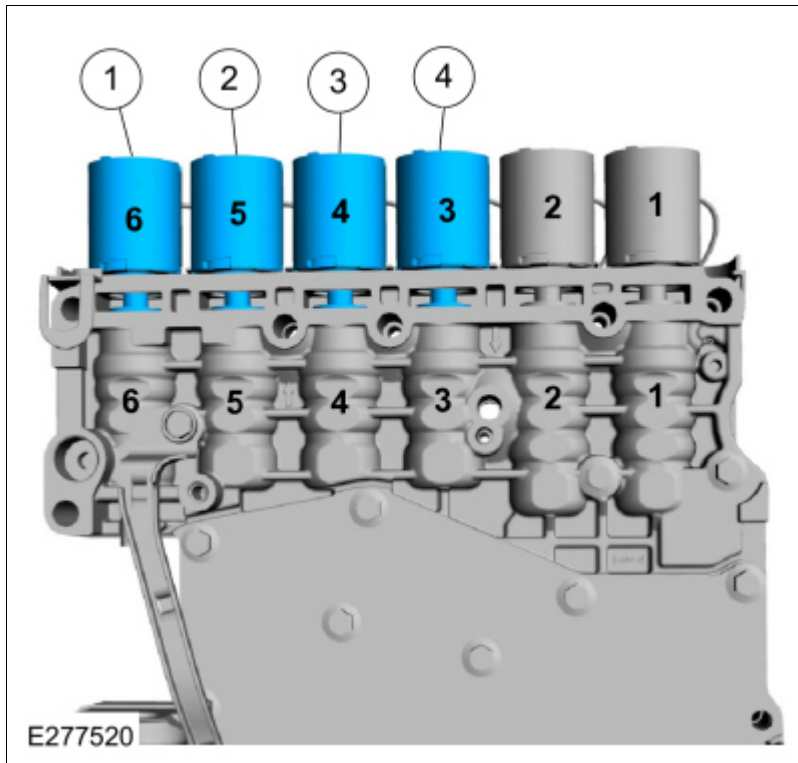


2.

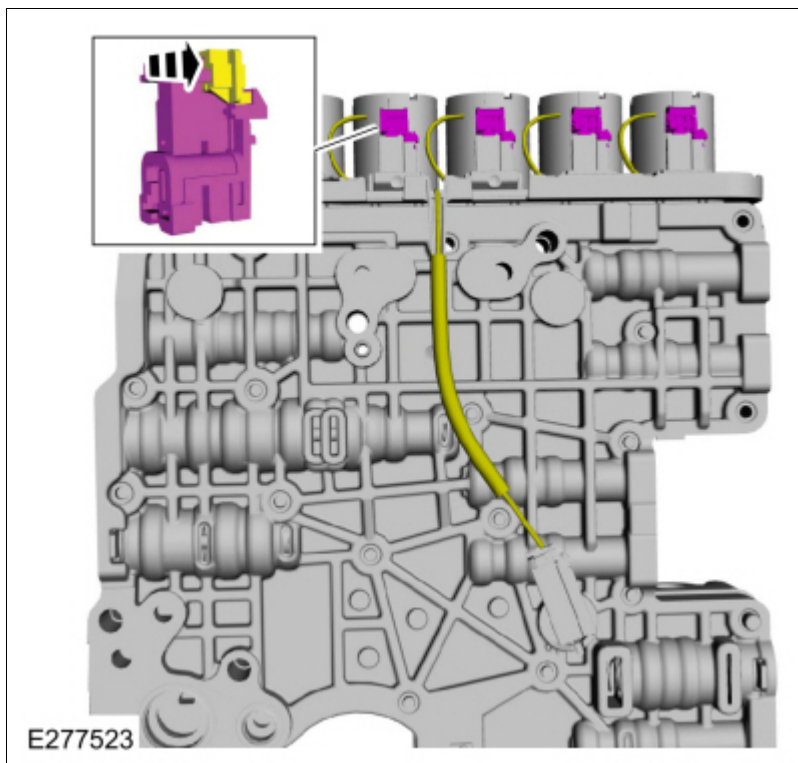
Install the solenoid(s) in the main control valve body in the correct port(s) as marked during removal.

1. SSA (7J136)
2. SSF (7J136)
3. SSC (7J136)
4. SSB (7J136)



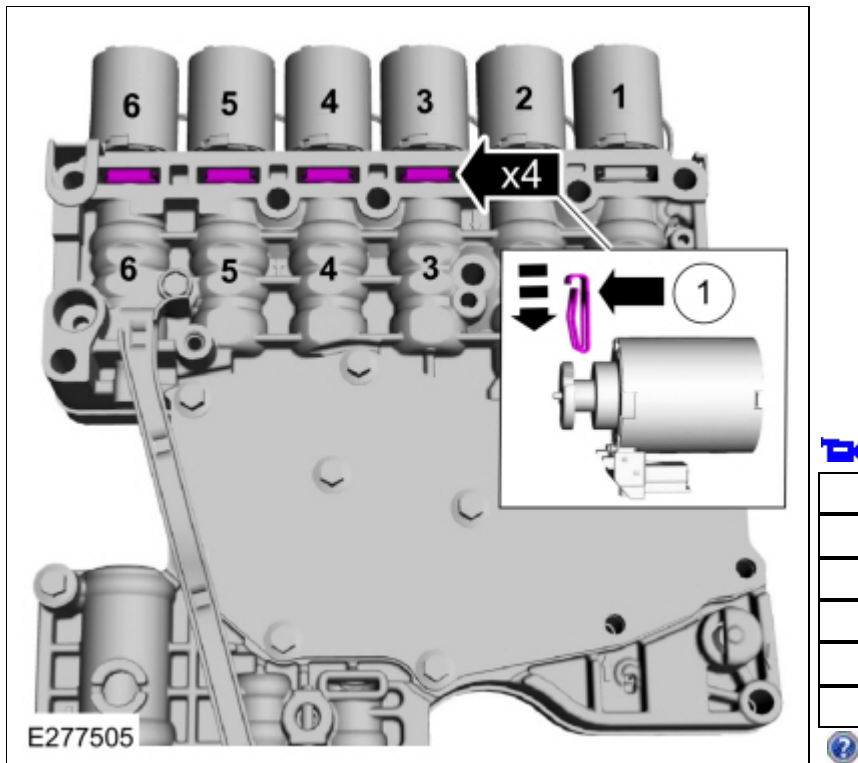


3. Connect the electrical connectors and slide the plastic lock to the locked position.

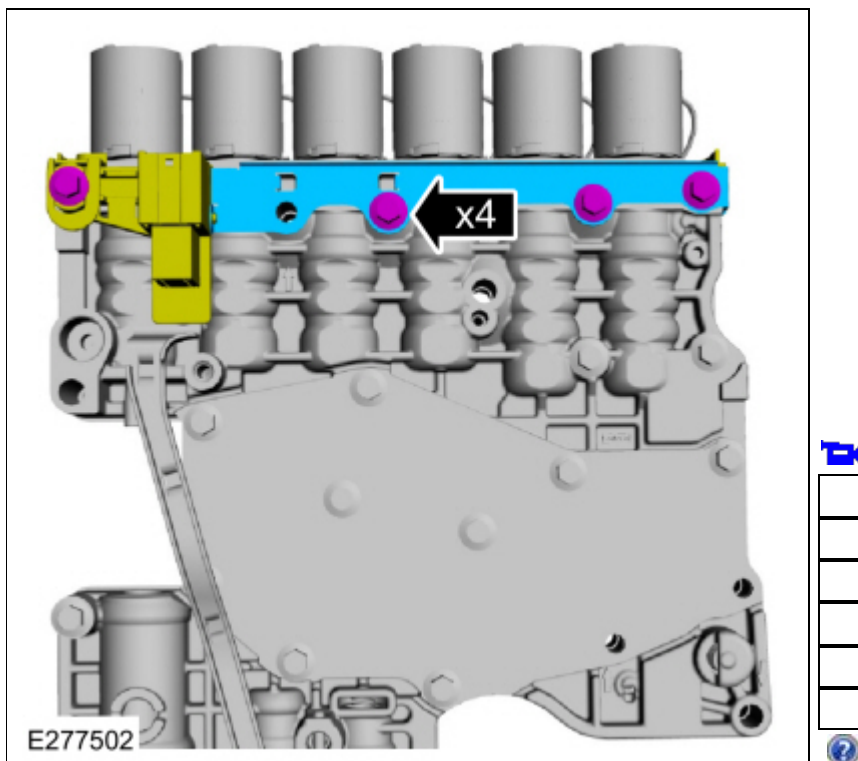


4. Install the shift solenoid retainer(s) with the flat side towards the solenoids.

1. Retainer flat side



5. Install and the shift solenoid retaining plate and the bolts.
Torque: 106 lb.in (12 Nm)



6. Install the main control valve body.

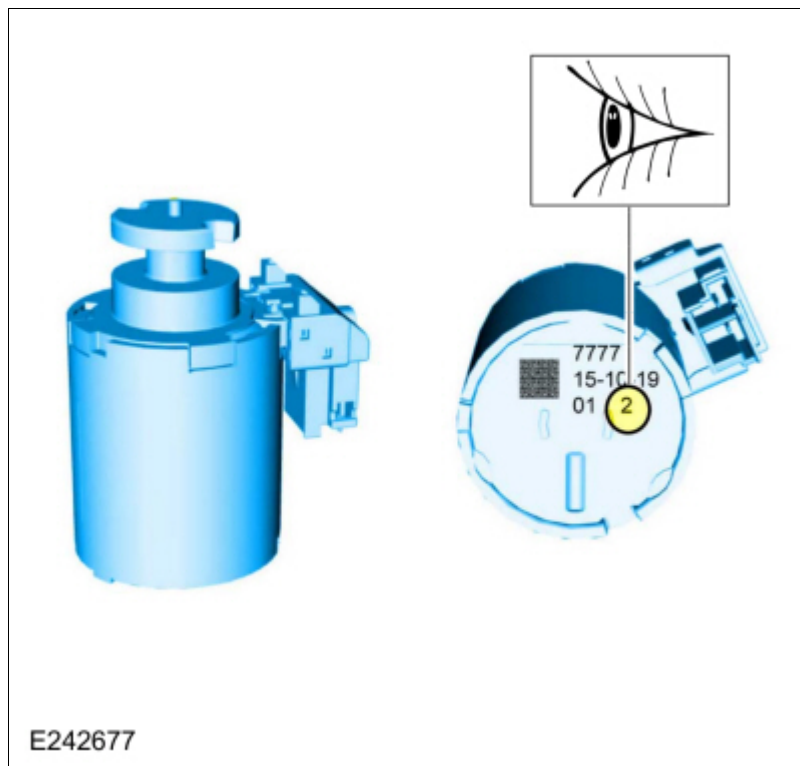
Refer to: [Main Control Valve Body - Vehicles With: Auto-Start-Stop](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).

Refer to: [Main Control Valve Body](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).

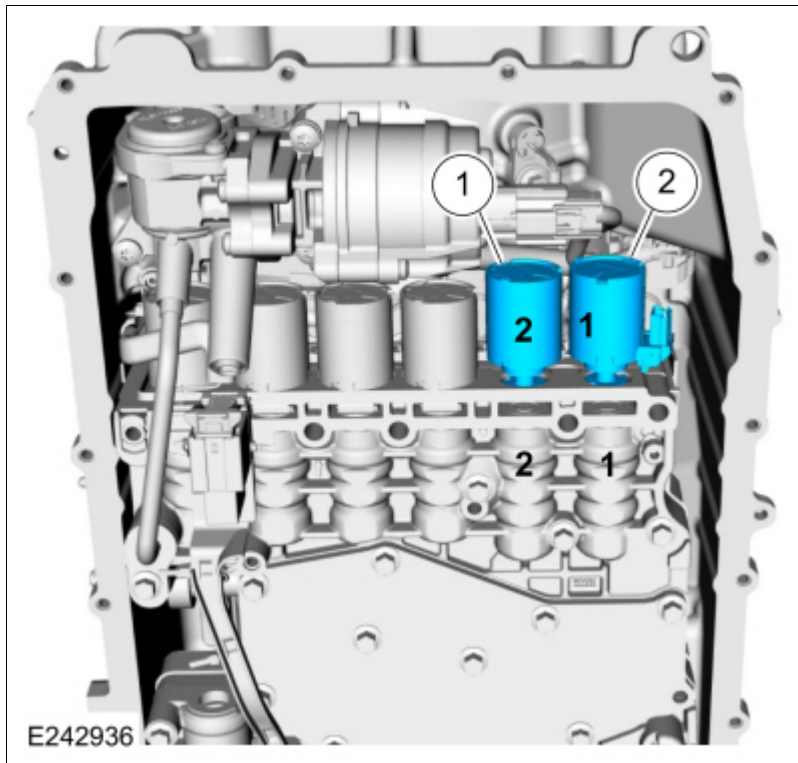
Solenoids D and E

7. **NOTICE: Solenoids are calibrated from the factory and are not all the same. To replace a solenoid, match the band number with the original solenoid or harsh shifts or damage to the transmission can occur.**

If new solenoids are needed, identify the solenoid band number.

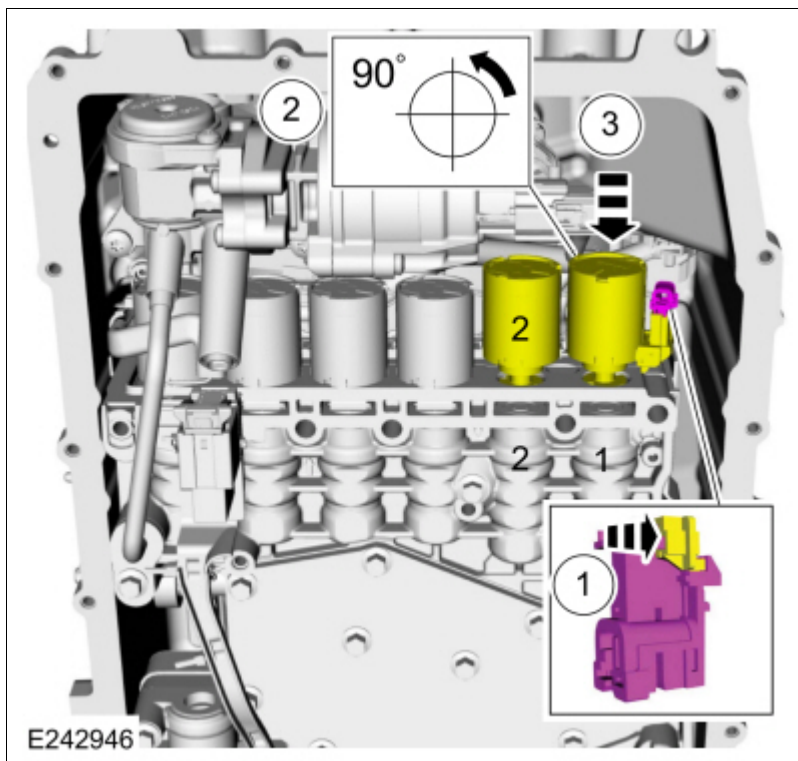


8. Install the solenoid(s) in the main control valve body in the correct port(s) as marked during removal.
1. SSE (7J136)
 2. SSD (7J136)

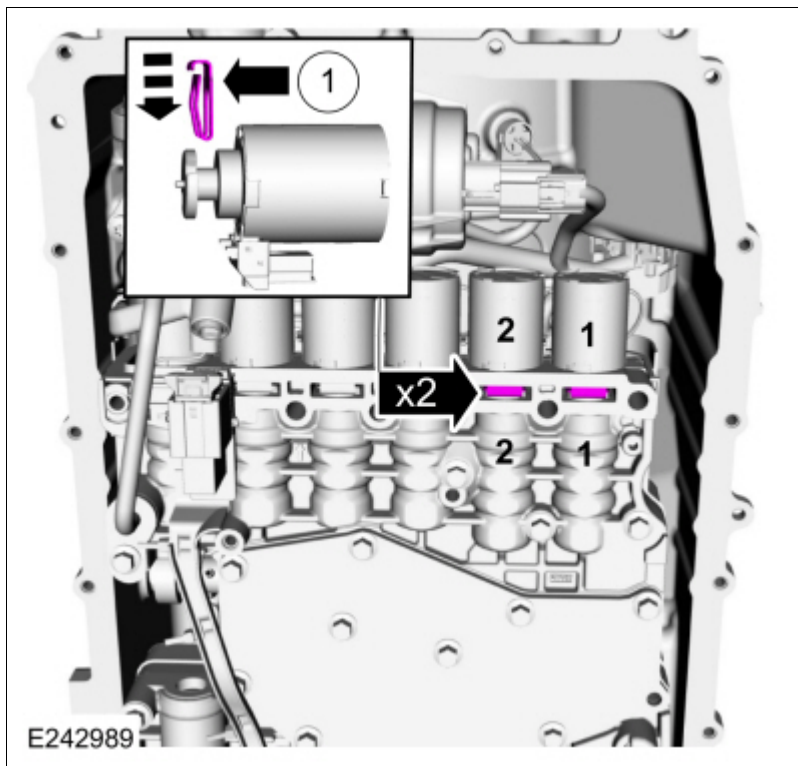


9.

1. Connect the electrical connectors and slide the plastic lock to the locked position.
2. Rotate the solenoid(s) in a counter-clockwise direction.
3. Slide the solenoid(s) into the main control valve body bore.

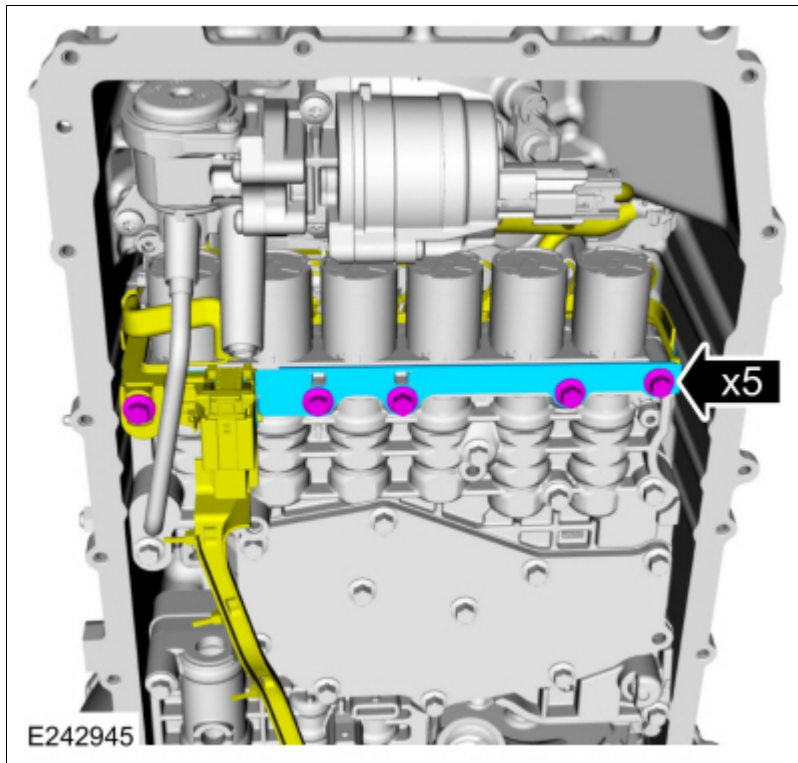


10. Install the shift solenoid retainer(s) with the flat side towards the solenoids.
1. Retainer flat side



11. Install and the shift solenoid retaining plate and the bolts.
Torque: 106 lb.in (12 Nm)

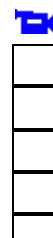


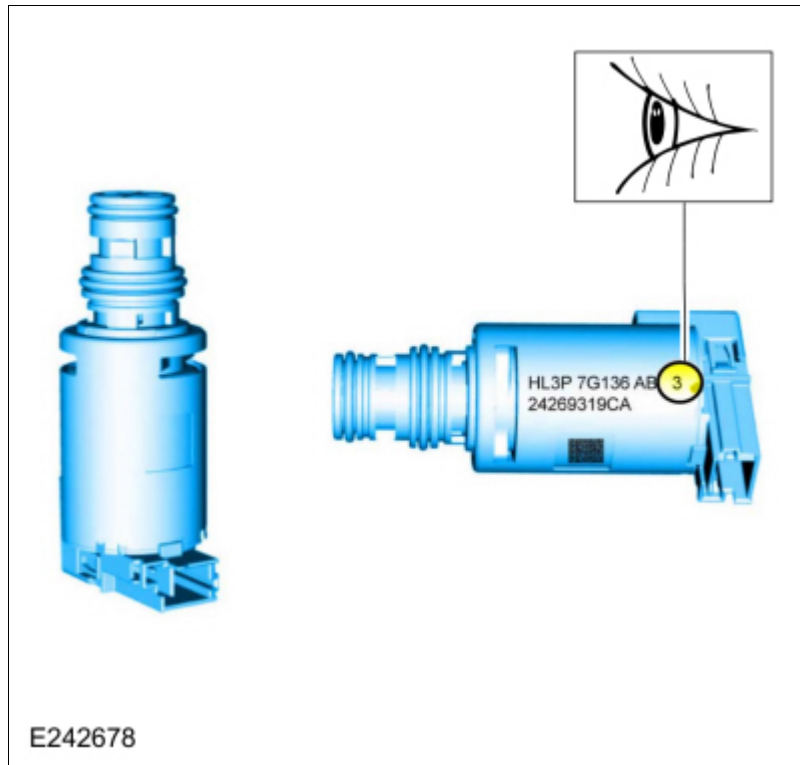


LPC (line pressure control) and TCC (torque converter clutch) Solenoids

12. **NOTICE:** Solenoids are calibrated from the factory and are not all the same. To replace a solenoid, match the replacement solenoid type (normally high/normally low) and the band number with the original solenoid or harsh shifts or damage to the transmission can occur.

If new solenoids are needed, identify which type (normally high/normally low) of solenoid it is and the solenoid band number.



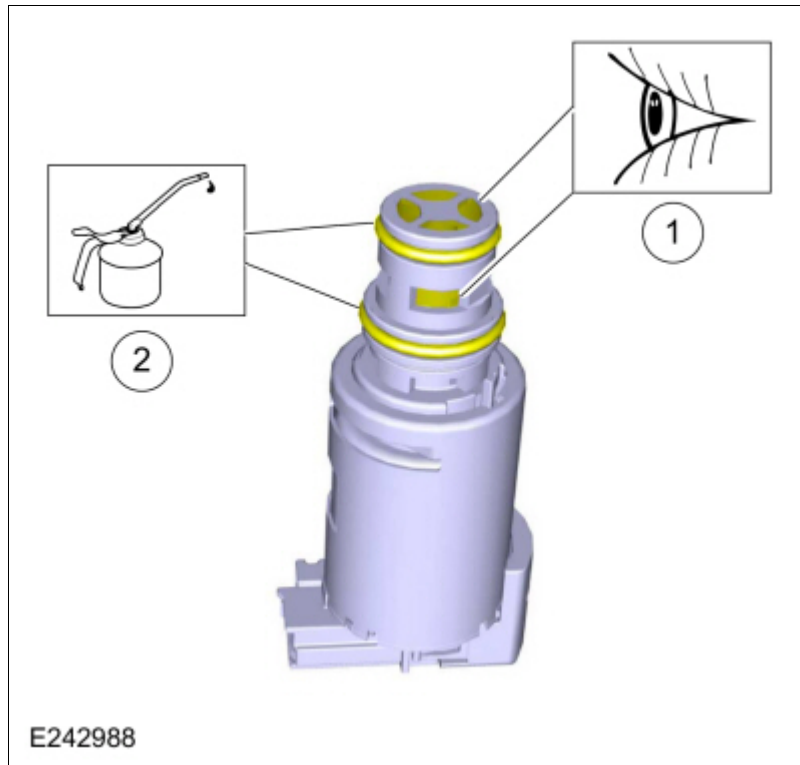


13.

1. Inspect the solenoid screens for debris that may restrict fluid flow.
2. Lubricate the solenoid O-ring seals.

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

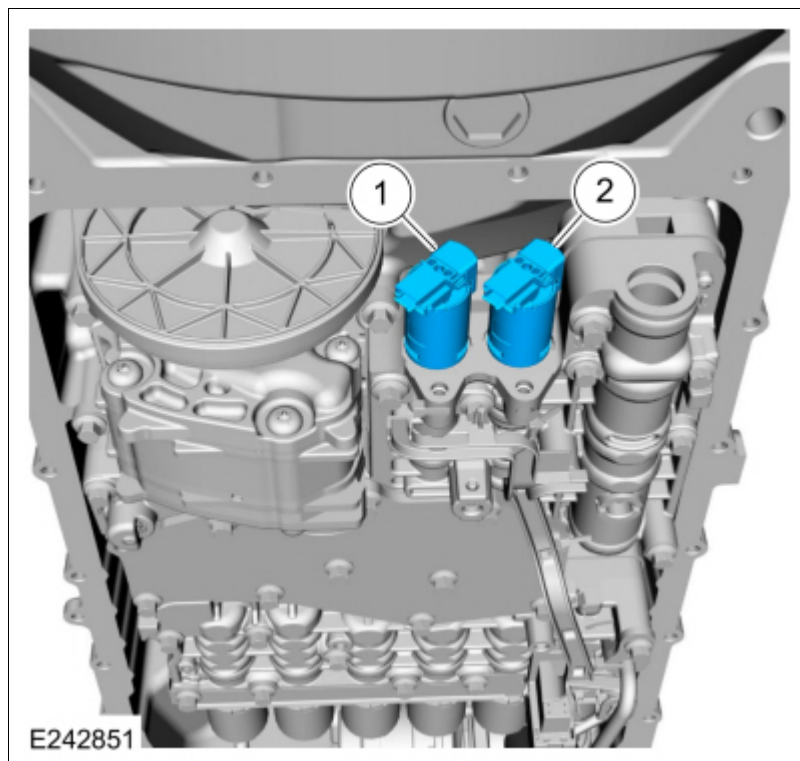




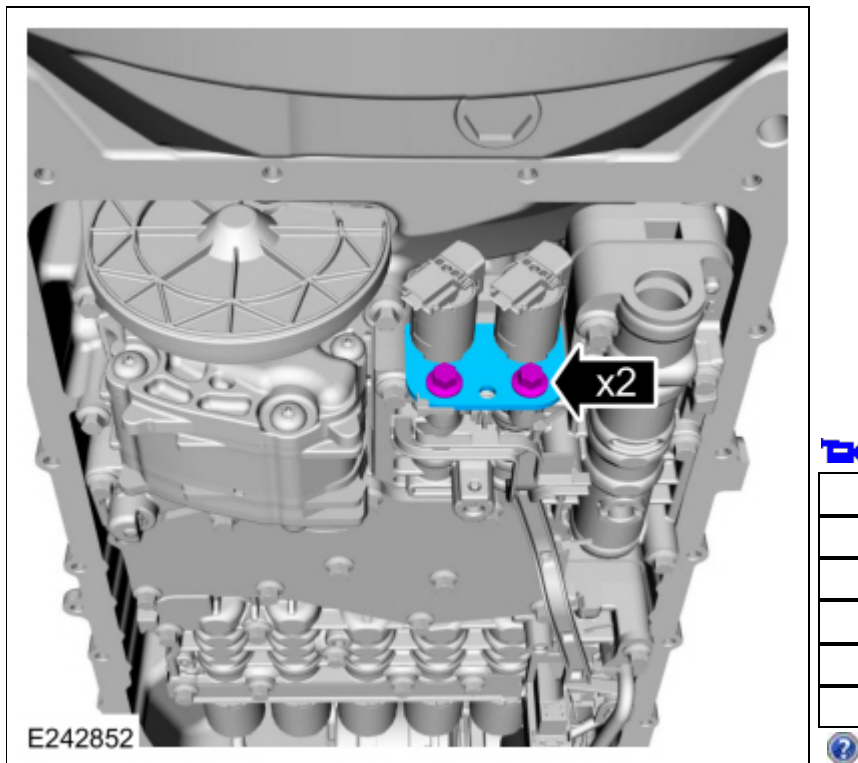
14.

Install the solenoid(s) in the main control valve body.

1. LPC solenoid (7G383)
2. TCC solenoid (7G136)

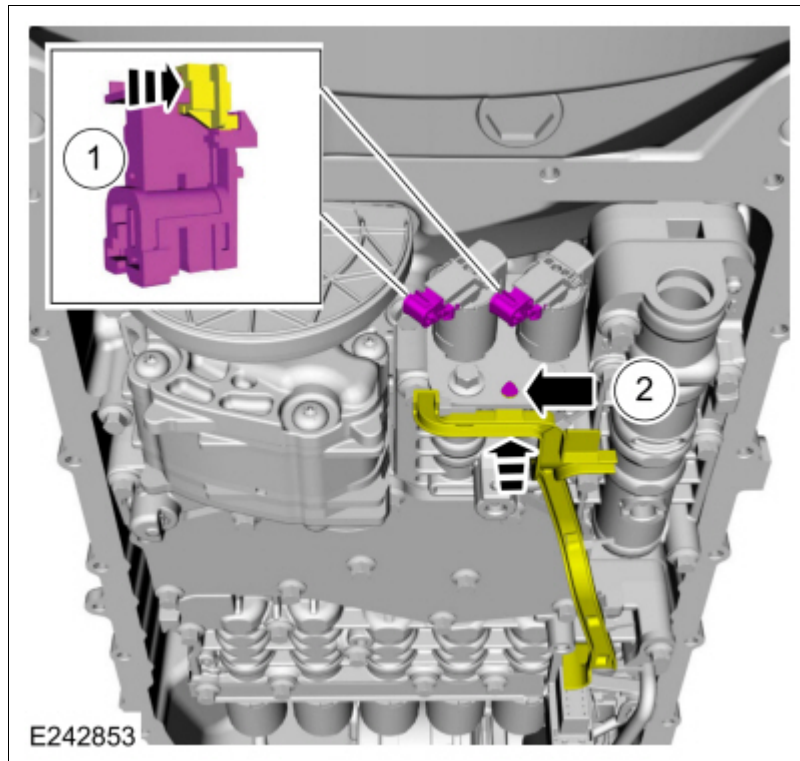


15. Install the solenoid retaining plate and the new bolts.
Torque: 80 lb.in (9 Nm)



- 16.
1. Connect the electrical connectors and slide the plastic lock to the locked position.
 2. Connect the internal wiring harness retainer.





All Solenoids

17. Install the transmission fluid pan gasket and filter.
 Refer to: Transmission Fluid Pan, Gasket and Filter - Raptor (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80) .
 Refer to: Transmission Fluid Pan, Gasket and Filter - Raptor (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80) .
 Refer to: [Transmission Fluid Pan, Gasket and Filter](#) (307-01 Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Removal and Installation).

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