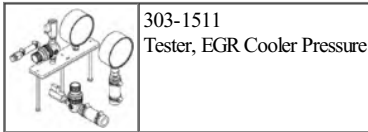
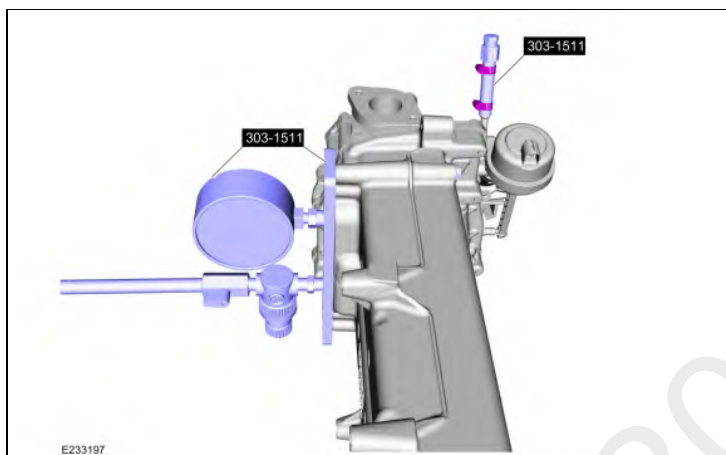


Special Tool(s) / General Equipment

1. **NOTE:** *Visually inspect for evidence of a coolant leak before performing the off-vehicle test.*

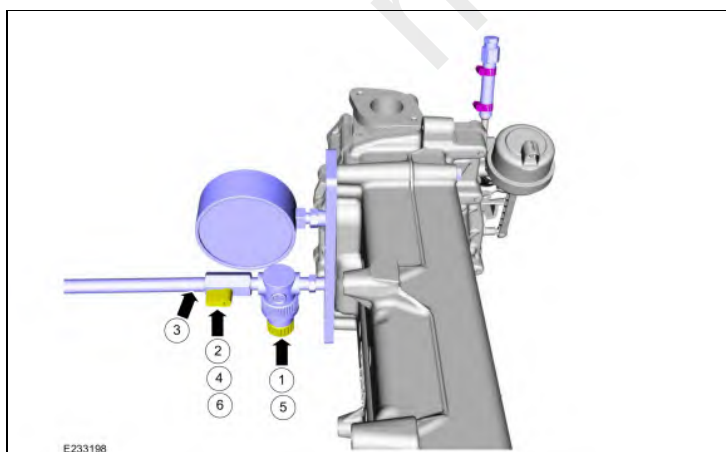
Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Removal and Installation).

2. Install the EGR Cooler Pressure Tester on the EGR cooler. Tighten the bolts. Use Special Service Tool: 303-1511 Tester, EGR Cooler Pressure.
Torque: 89 lb.in (10 Nm)



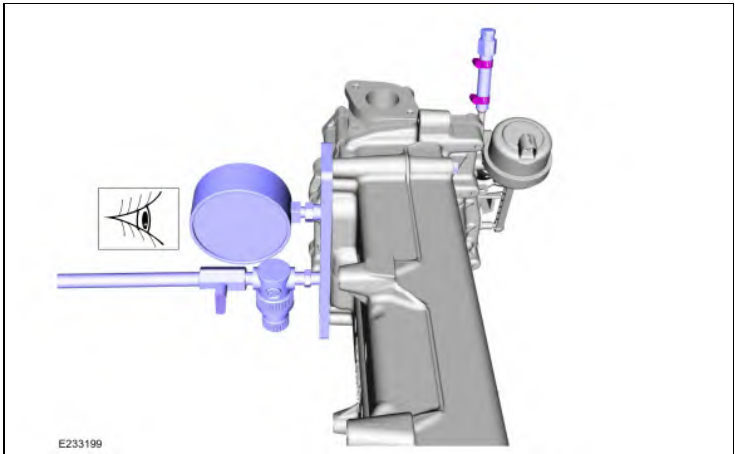
- 3. NOTICE: Do not apply an unregulated air supply to the EGR cooler or exceed 414 kPa (60 psi) at any time, excessive pressure can damage the EGR cooler assembly.**

1. Adjust the EGR Cooler Pressure Tester air pressure regulator to the lowest setting.
2. Close the EGR Cooler Pressure Tester air supply shutoff valve.
3. Connect the regulated air supply to the EGR Cooler Pressure Tester.
4. Open the EGR Cooler Pressure Tester air supply shutoff valve.
5. Slowly adjust the EGR Cooler Pressure Tester air pressure regulator until 248 kPa (36 psi) is reached.
6. Close the EGR Cooler Pressure Tester air supply shutoff valve.



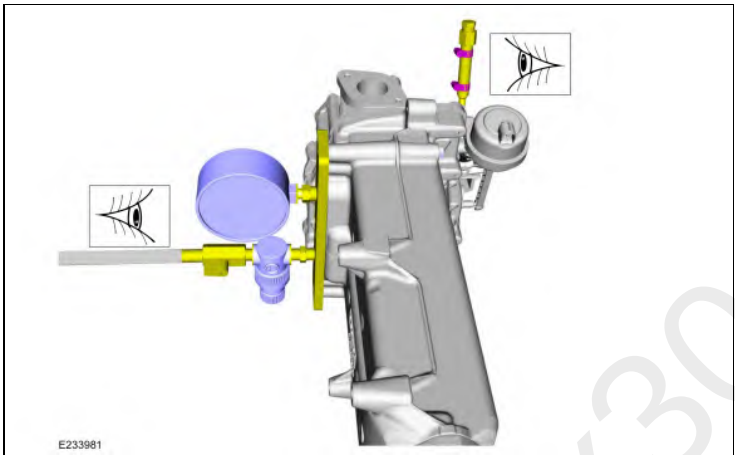
A horizontal bar chart consisting of six equally sized rectangular segments stacked vertically. From top to bottom, the colors are: blue, green, brown, yellow, purple, and light blue. Each segment has a thin black border.

- 4.
- Observe the EGR Cooler pressure gauge, there should be no more than 13.8 kPa (2 psi) drop over a 5 minute period.
 - If pressure loss is greater than 13.8 kPa (2 psi) go to step 5.
 - If pressure loss is less than 13.8 kPa (2 psi) go to step 26.



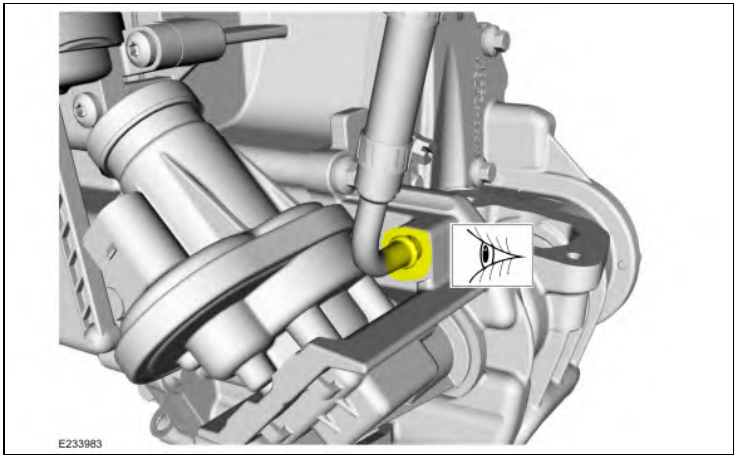
5. **NOTICE:** Do not submerge the EGR cooler assembly in water or damage to EGR valve will occur.

Using a soap/water solution, test around the EGR Cooler test equipment. Repair as needed.

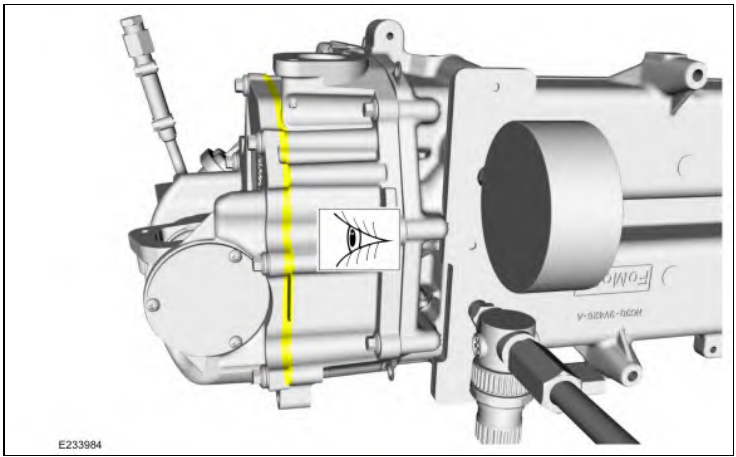


6. **NOTE:** Ensure the air pressure is still 248 kPa (36 psi), leaving the air supply valve open.

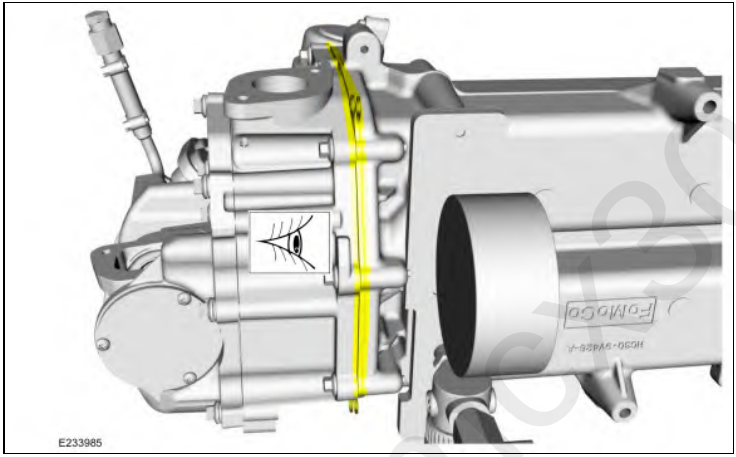
Using a soap/water solution, test around the degas tube.



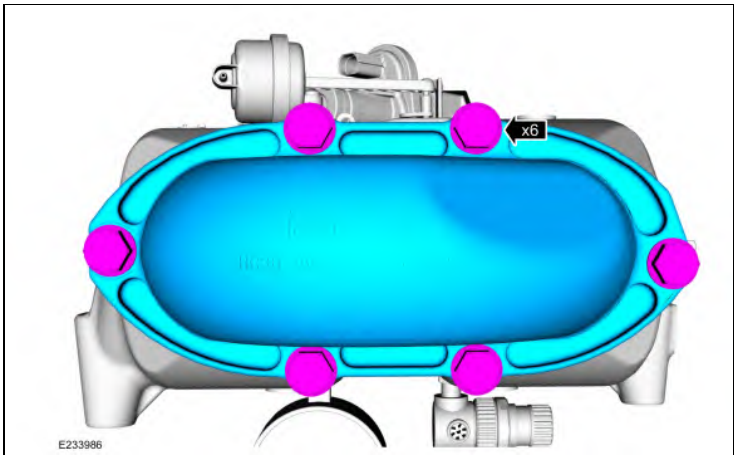
7. Using a soap/water solution, test the EGR valve-to-bypass gasket, all the way around the EGR valve.



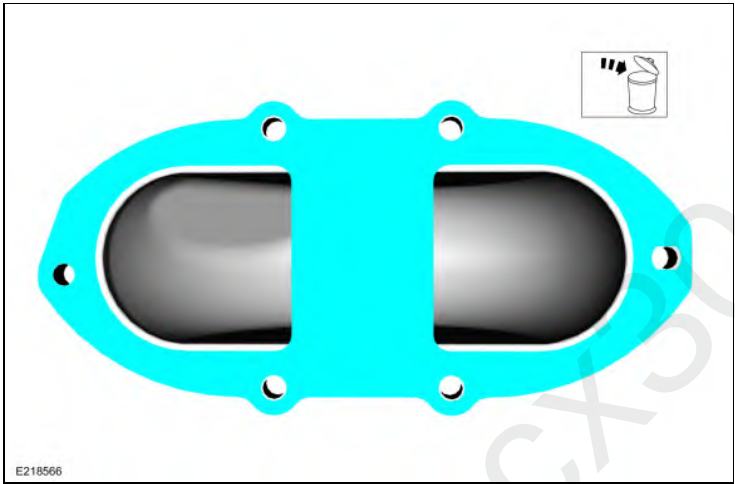
8. Using a soap/water solution, test the gasket joints on both sides of the bypass-to-cooler core gasket, all the way around the bypass.



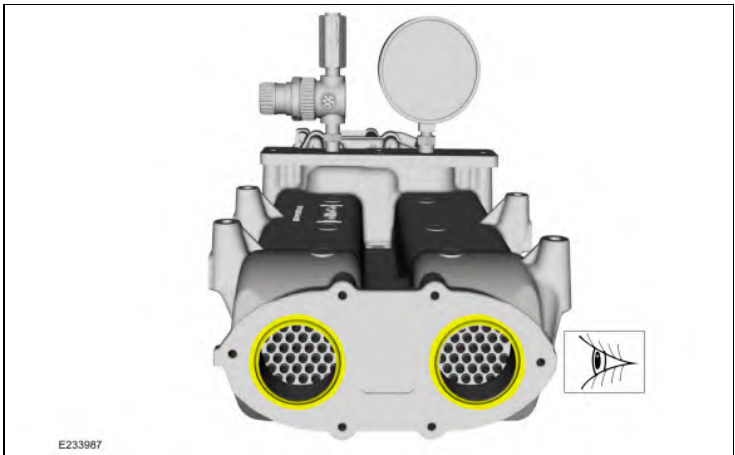
9. Remove the EGR cooler end tank retainers, then remove the EGR cooler end tank.



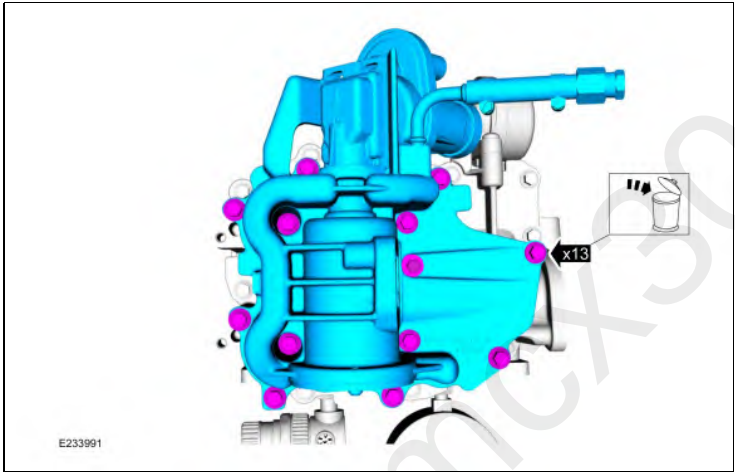
10. Remove and discard the EGR cooler end tank gasket.



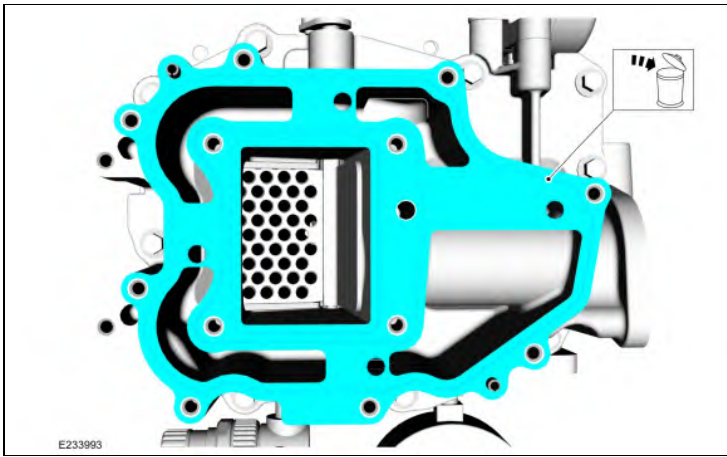
11. Using a soap/water solution, test around the EGR cooler O-ring seals.



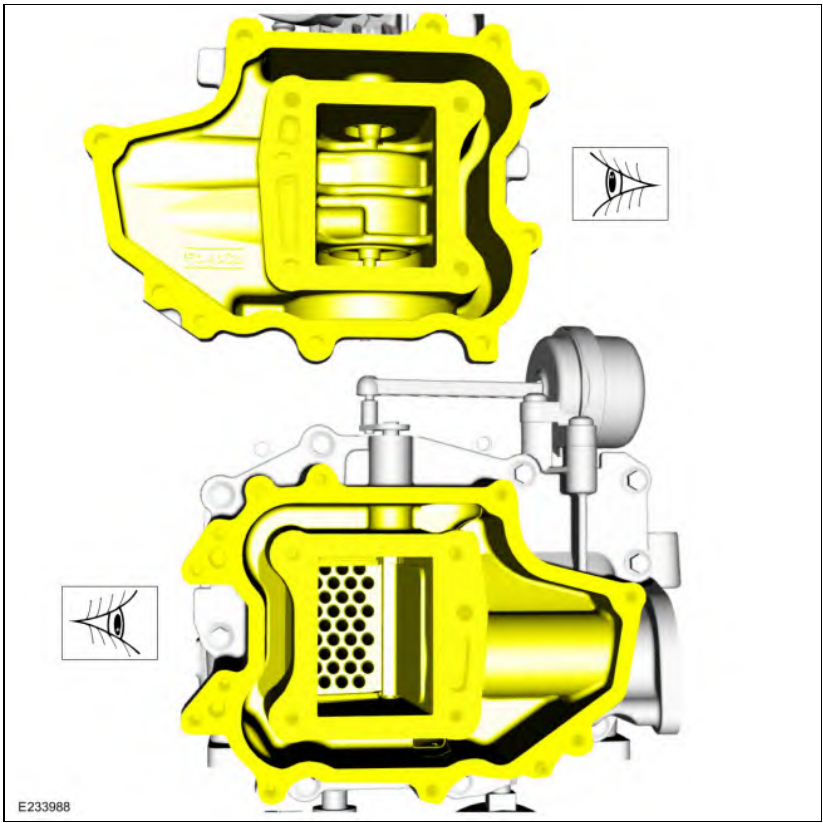
12. If the EGR cooler is still losing pressure and no bubbles have been found in steps 6 through 11, then remove the EGR valve bolts and the EGR valve from the EGR bypass, keeping the EGR bypass on the EGR cooler. Discard the EGR valve bolts.



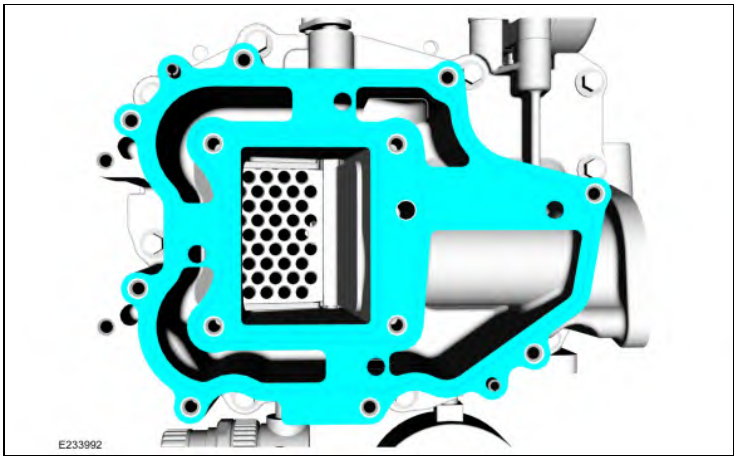
13. Remove and discard the EGR valve gasket.



14. Inspect for coolant staining in the gas passages of the EGR valve and bypass. If visible signs of leaks are present, inspect sealing surfaces for imperfections.
- If the sealing surface is acceptable, reinstall the EGR valve with a new gasket, bolts and retest. Go to steps 15 through 20.
 - If the sealing surface is unacceptable, replace the parts as needed.
- Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Disassembly and Assembly).
- If no visible signs of leakage are found go to step 21.

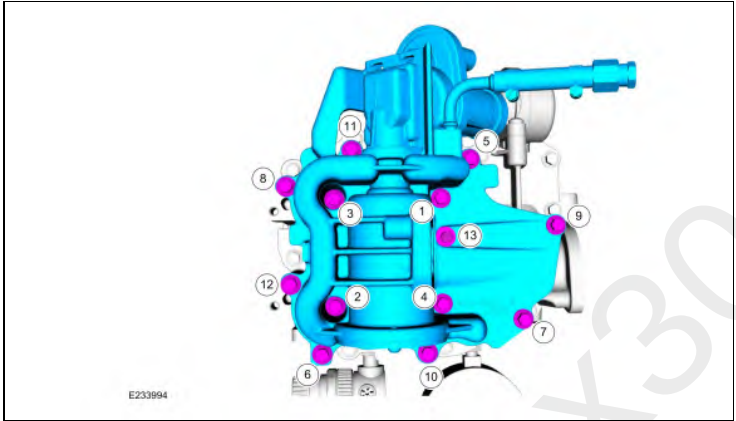


15. Install a new EGR valve gasket.

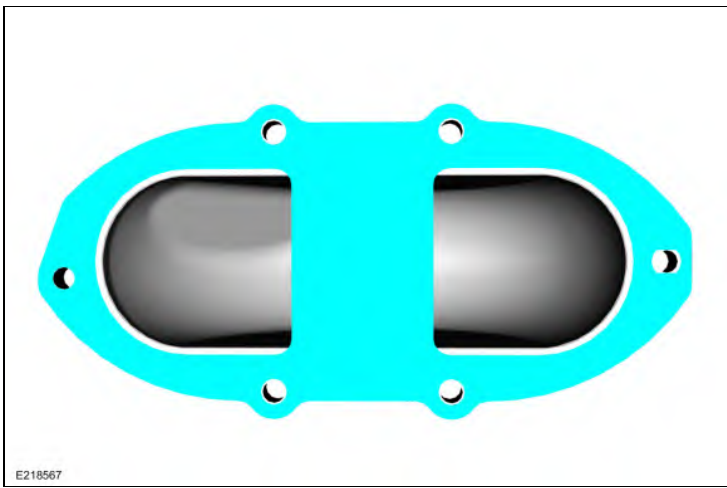


16. Install the EGR valve, then install and tighten the new EGR valve bolts in the sequence shown.

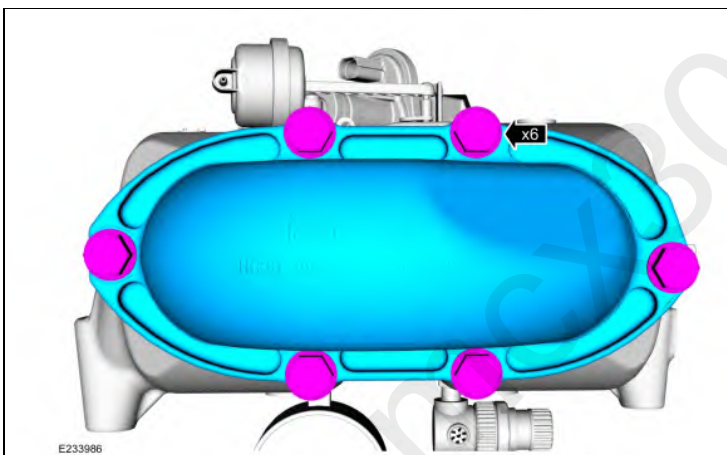
- Torque:*
Bolts 1-12:
Stage 1: 106 lb.in (12 Nm)
Stage 2: 142 lb.in (16 Nm)
Bolts 1-4: 142 lb.in (16 Nm)
Bolt 13:
Stage 3: 106 lb.in (12 Nm)
Stage 4: 90°



17. Install the new EGR cooler end tank gasket.



18. Install the EGR cooler end tank, then install the EGR cooler end tank retainers.

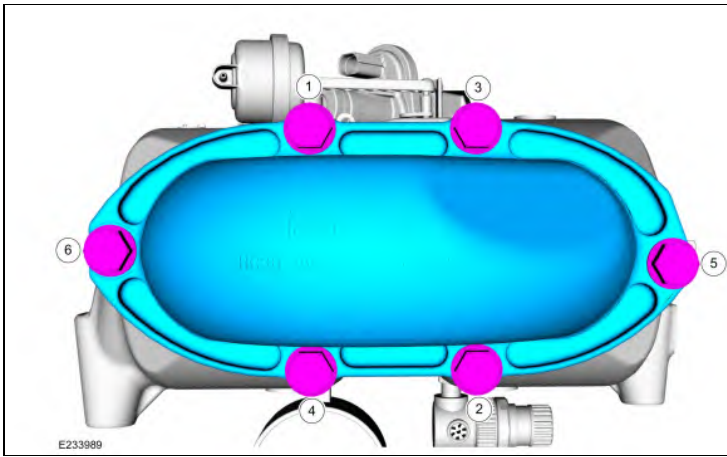


19. Tighten EGR cooler end tank retainers in the sequence shown:

Torque:

Stage 1: 133 lb.in (15 Nm)

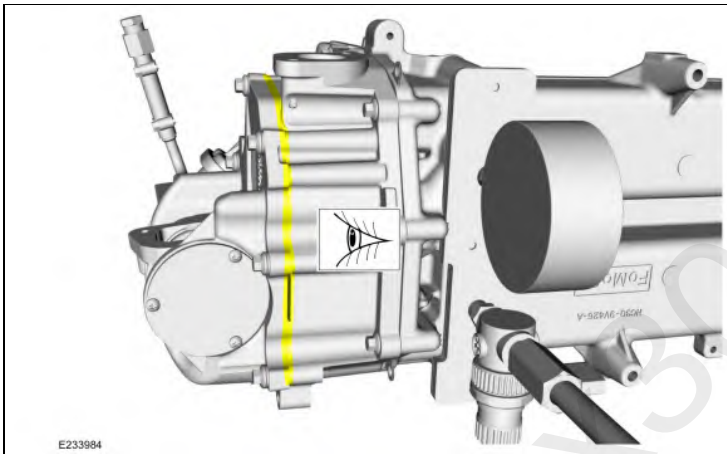
Stage 2: 133 lb.in (15 Nm)



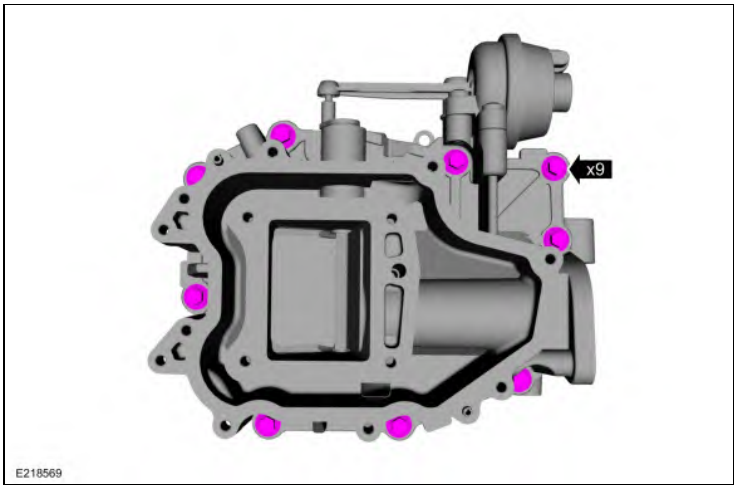
20.

Adjust the air pressure on the EGR Cooler Pressure Tester until 248 kPa (36 psi) is reached, using soap/water solution, test the EGR valve-to-bypass gasket, all the way around the EGR valve. Observe the EGR Cooler pressure gauge, there should be no more than 13.8 kPa (2 psi) drop over a 5 minute period.

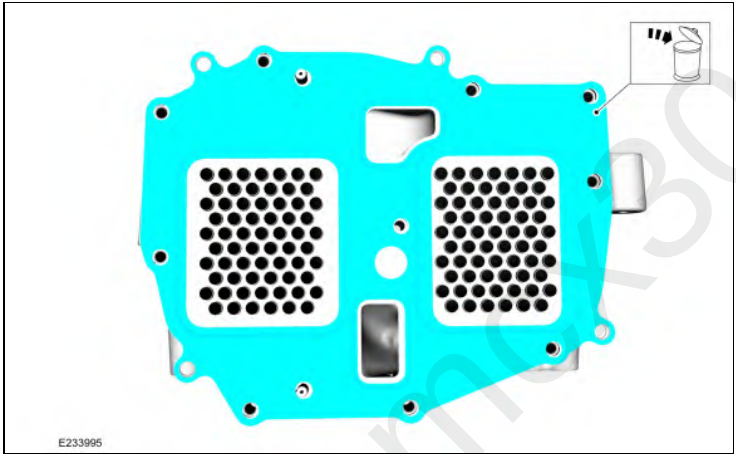
- If the EGR cooler assembly passes, then return to the EGR cooler to service.
- If the EGR cooler assembly fails, go to step 21.



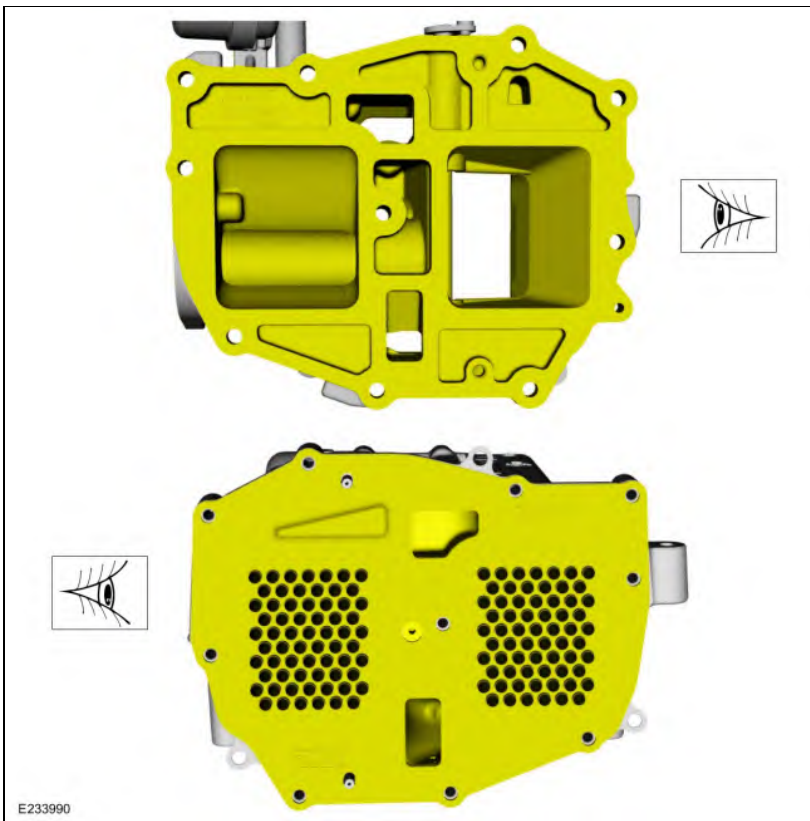
21. If no visible signs of leakage are found, remove the EGR bypass bolts and then remove the EGR bypass from the cooler.



22. Remove and discard the EGR bypass gasket.



23. Inspect for coolant staining in the bypass and cooler core. Inspect the sealing surfaces for imperfections, porosity or scratches.
- If visible signs of leakage are present replace all gaskets, O-ring seals and the bypass as needed.
Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Disassembly and Assembly).
 - If no visible signs of leakage are found go to step 24.



24. If no staining is found, then replace the EGR cooler core, and all of the gaskets and the O-rings seals.
Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Disassembly and Assembly).
25. If no external leaks are found but leak test still fails, replace EGR cooler core, and all of the gaskets and O-ring seals.
Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Disassembly and Assembly).
26. If no leaks are detected from the test, then return the EGR cooler assembly to service.
Refer to: Exhaust Gas Recirculation (EGR) Cooler (303-08B Engine Emission Control - 6.7L Power Stroke Diesel, Removal and Installation).