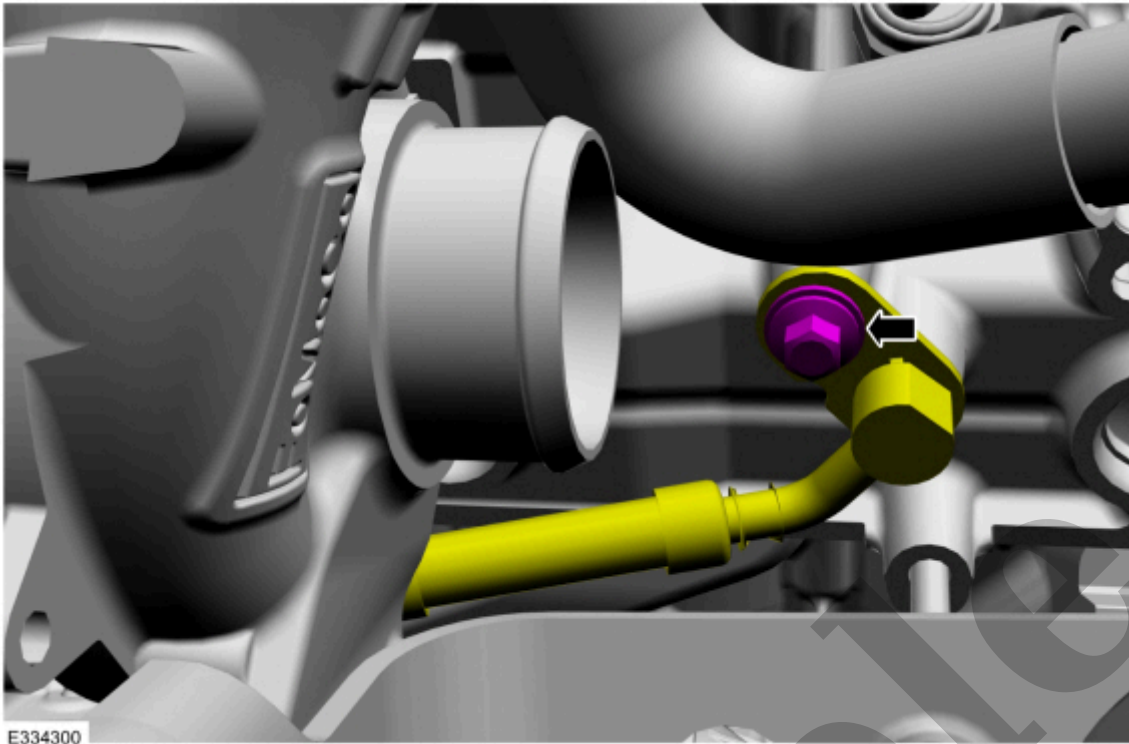


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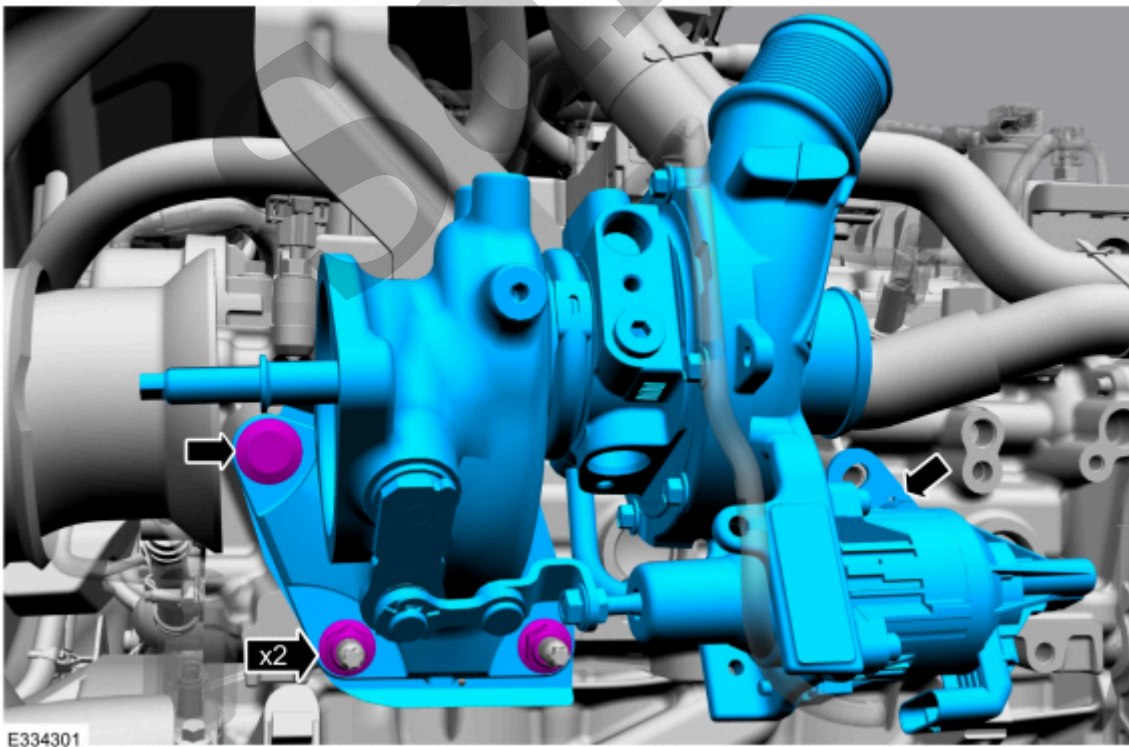
2024 Ford F-150 Service and Repair Manual

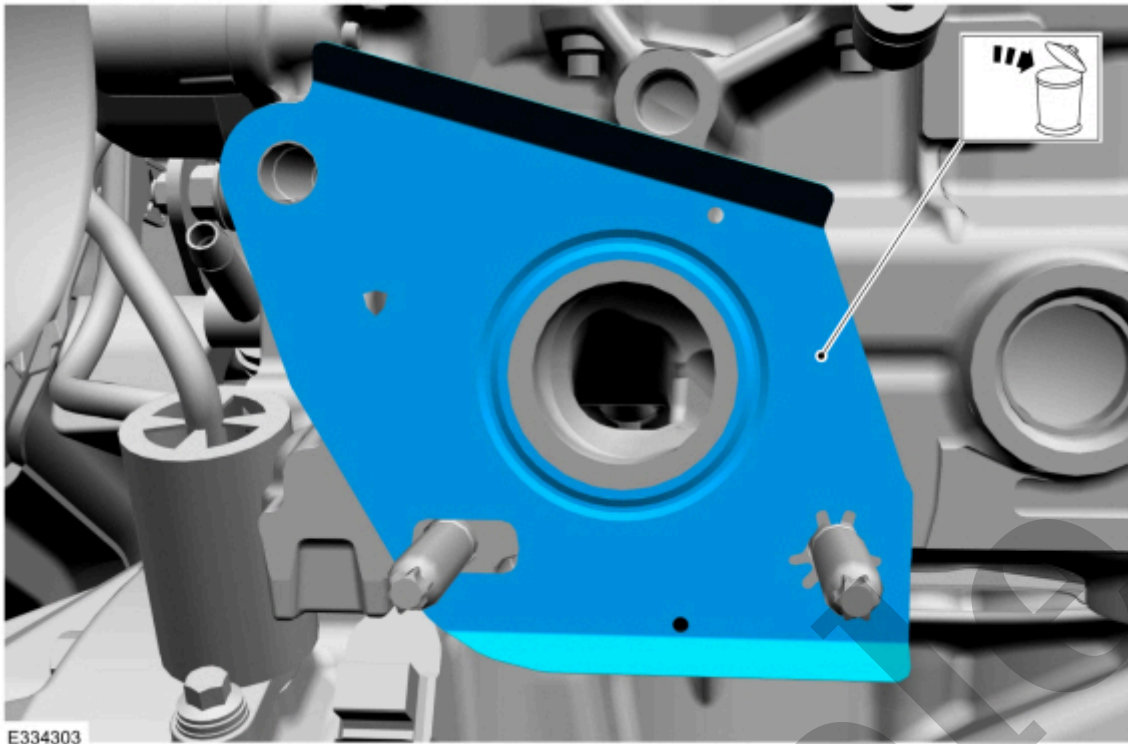
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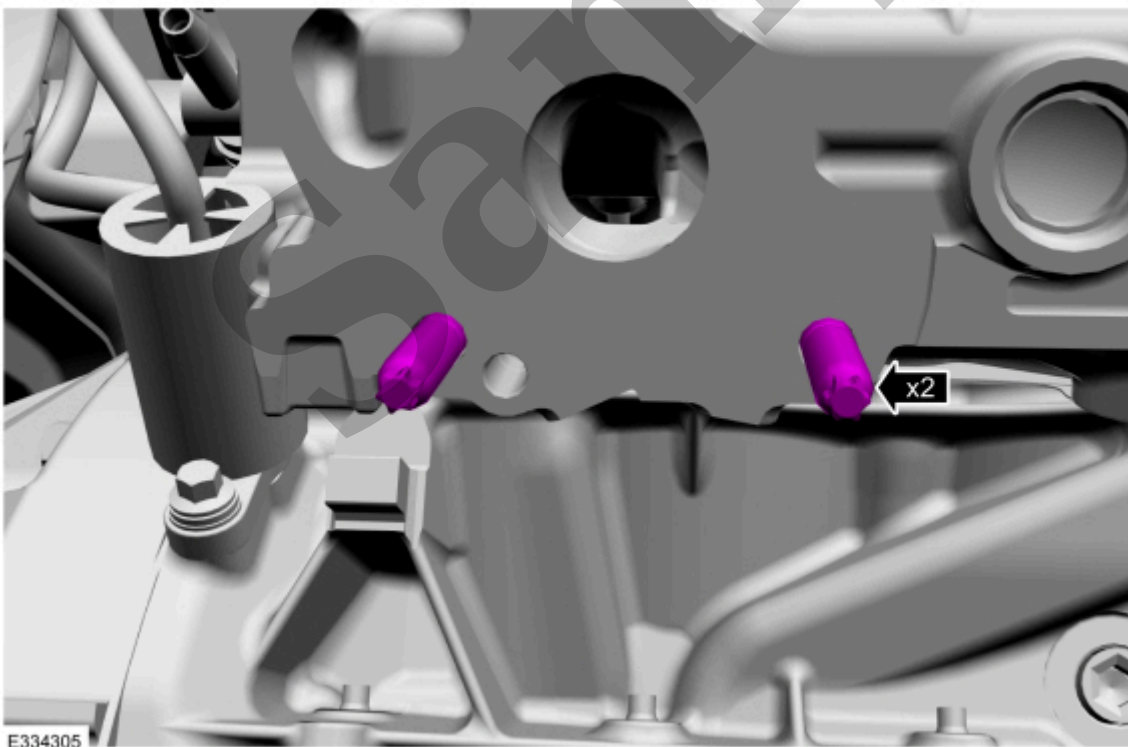
24.
 1. Remove the turbocharger coolant supply tube from the engine block while removing the turbocharger.
 2. Remove the turbocharger retainers, then remove the turbocharger.





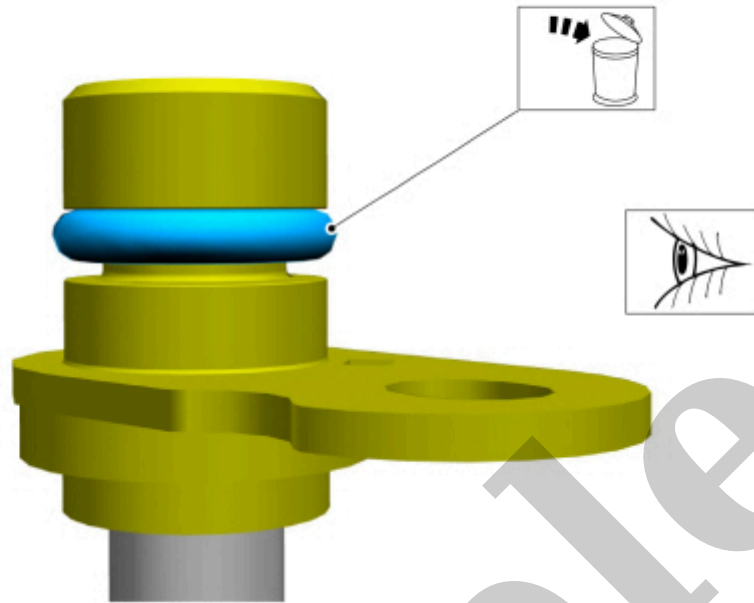
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27. Remove the turbocharger mounting studs if needed.



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28. If needed remove the bolt, then remove the turbocharger coolant supply tube.



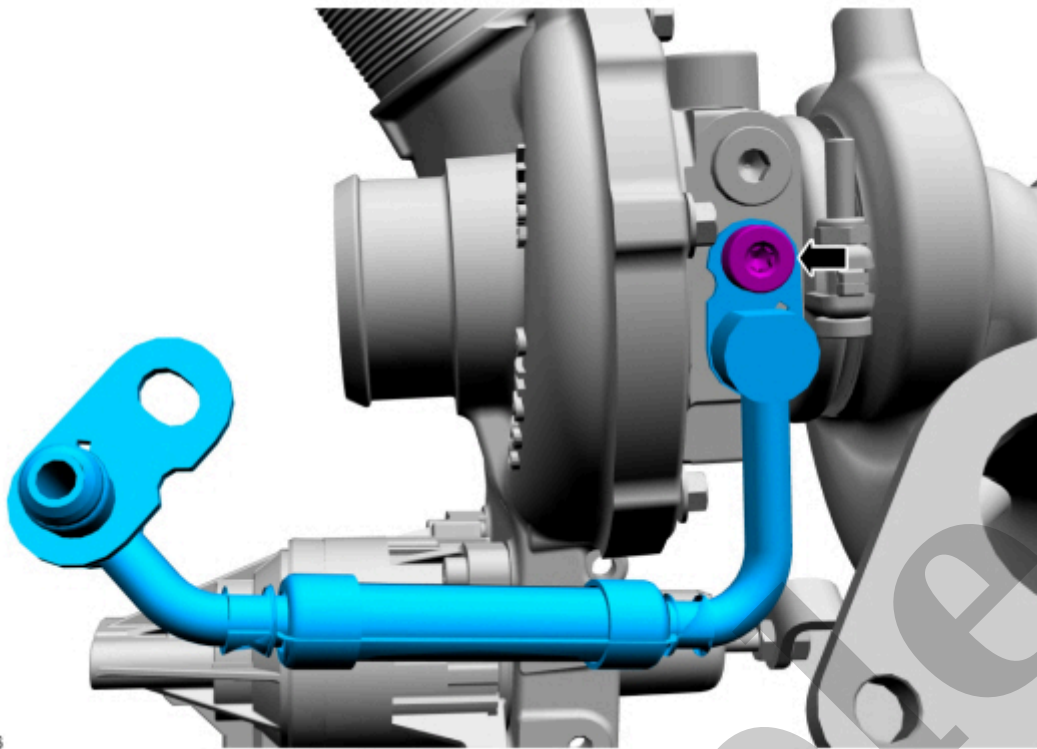
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Installation

1. Make sure that the mating faces are clean and free of foreign material.
2. If the turbocharger coolant supply tube was removed from the turbocharger, then install a new O-ring seal. Lubricate the new O-ring seal with clean engine coolant.

Refer to: [Specifications](#)(303-03A Engine Cooling - 2.7L EcoBoost (238kW/324PS), Specifications).

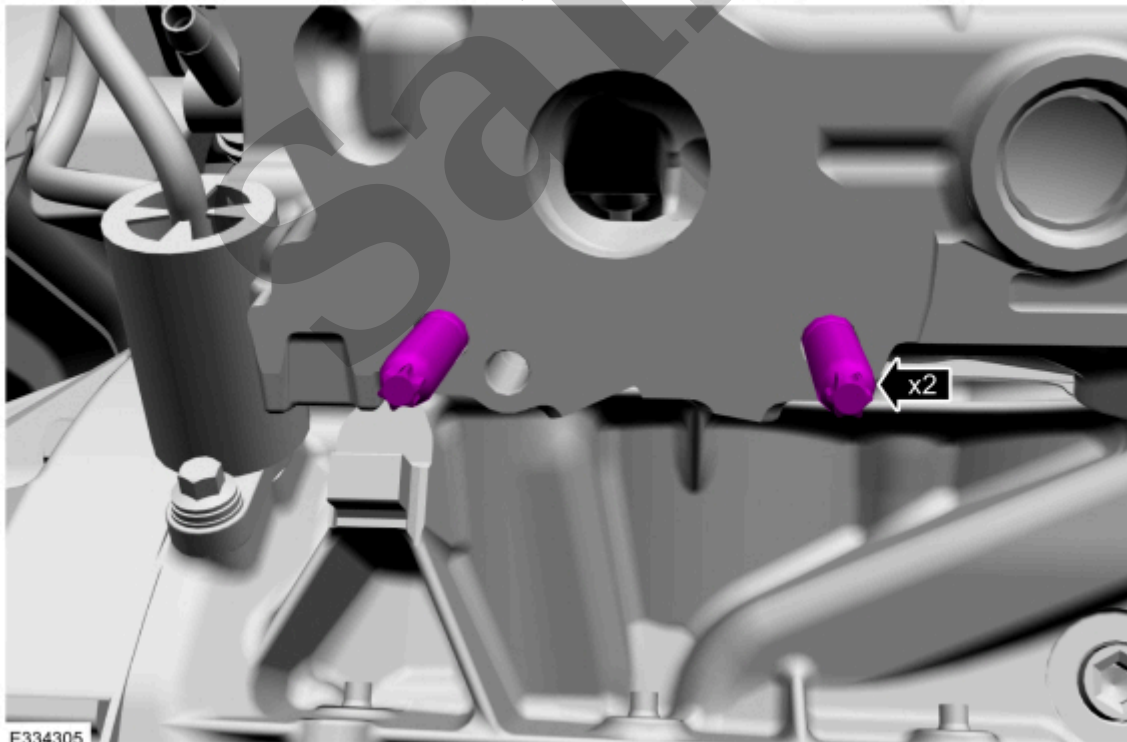


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4. If removed, install and tighten the turbocharger mounting studs.

Torque : 106 lb.in (12 Nm)



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7. 1. **NOTICE**

Do not use a metal brush, damage to sealing area will result in leaks.

Carefully use a nylon brush to remove the old O-ring residue and use brake cleaner to rinse the O-ring residue out of the turbocharger tube to engine O-ring bore. Inspect the area for deep scratches and gouges. Install new components as needed.

Material : Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B

2. Install the turbocharger coolant supply tube to the engine block while installing the turbocharger. Loosely install the turbocharger retainers. Tighten the turbocharger retainers in the following 3 stages, in the sequence shown.

Torque :

Tighten 1 to : 89 lb.in (10 Nm)

Tighten 2 to : 177 lb.in (20 Nm)

Tighten 3 to : 177 lb.in (20 Nm)

Tighten 1 to : 44 lb.ft (60 Nm)

Tighten 2 to : 44 lb.ft (60 Nm)

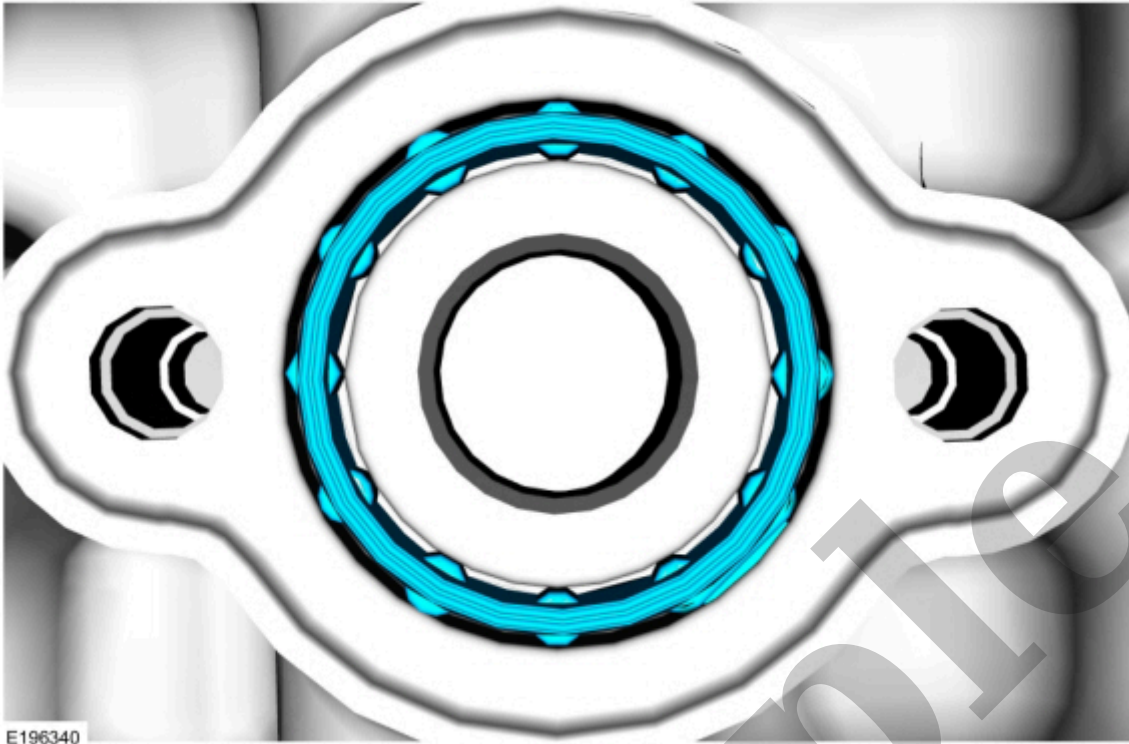
Tighten 3 to : 27 lb.ft (37 Nm)

Re-tighten 1 to : 44 lb.ft (60 Nm)

Re-tighten 2 to : 44 lb.ft (60 Nm)

Re-tighten 3 to : 27 lb.ft (37 Nm)

9. Install the new turbocharger oil return tube-to-engine block gasket.



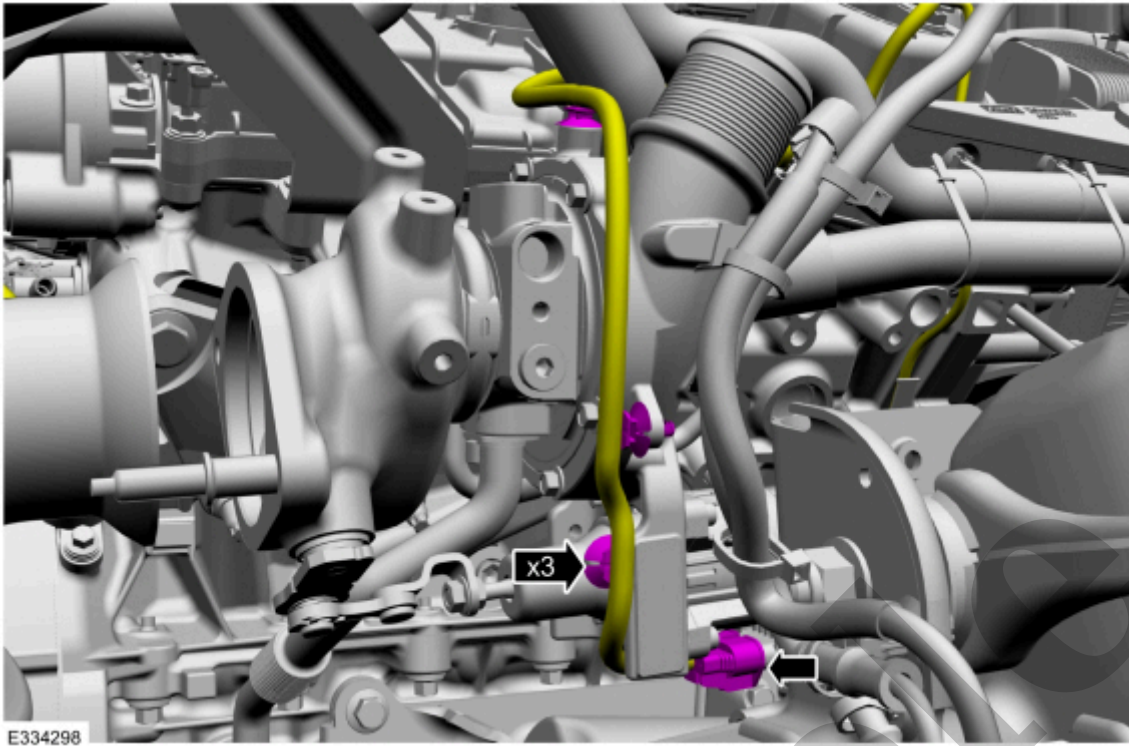
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10. Install a new O-ring seal, then lubricate with clean engine oil.

Refer to: [Specifications](#)(303-01A Engine - 2.7L EcoBoost (238kW/324PS), Specifications).



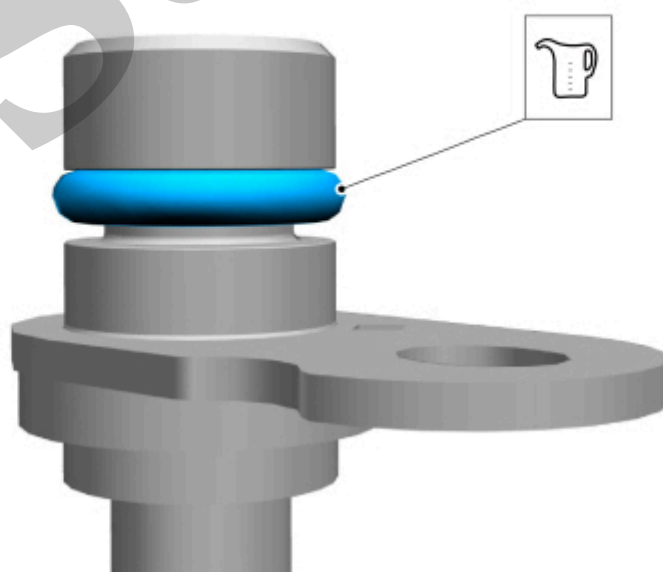
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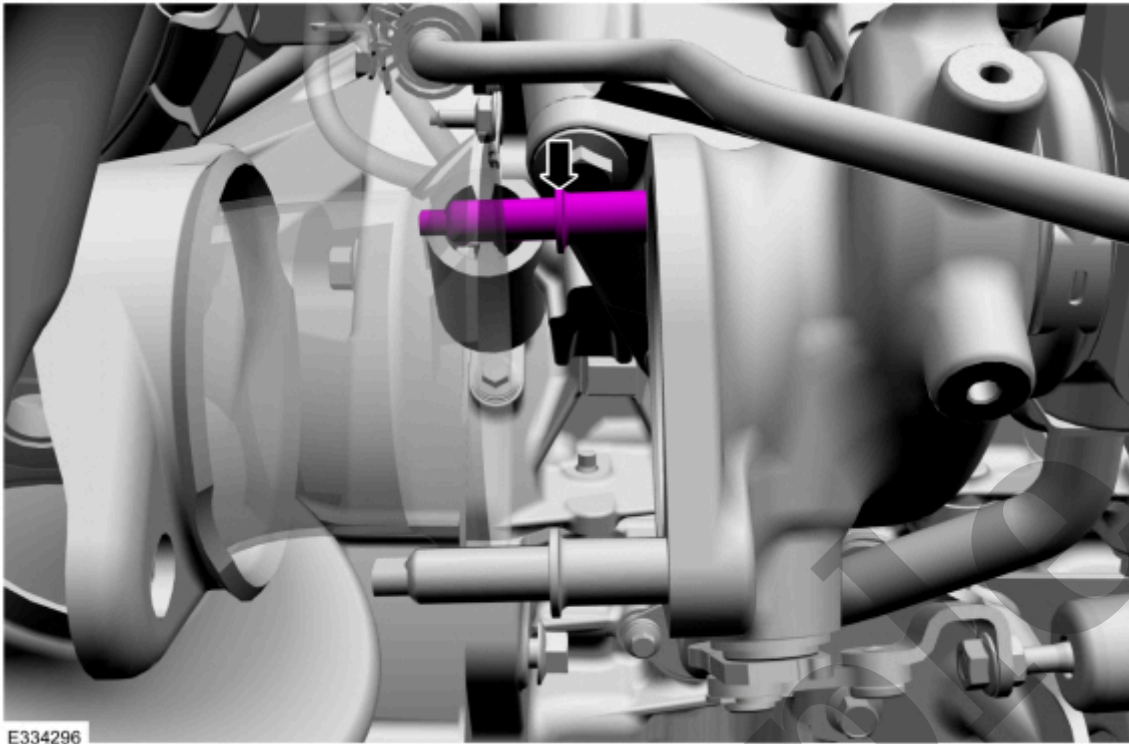
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13. Install a new turbocharger coolant return tube O-ring seal. Lubricate the new O-ring seal with clean engine coolant.

Refer to: [Specifications](#)(303-03A Engine Cooling - 2.7L EcoBoost (238kW/324PS), Specifications).

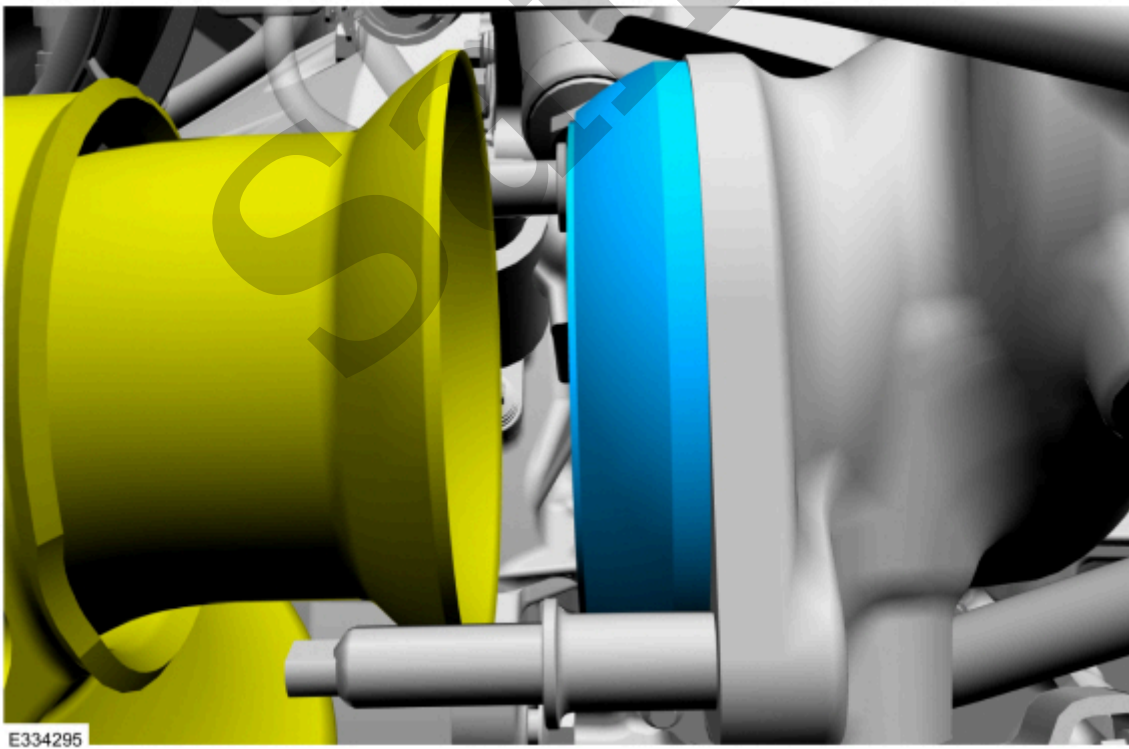


Torque : 30 lb.ft (40 Nm)

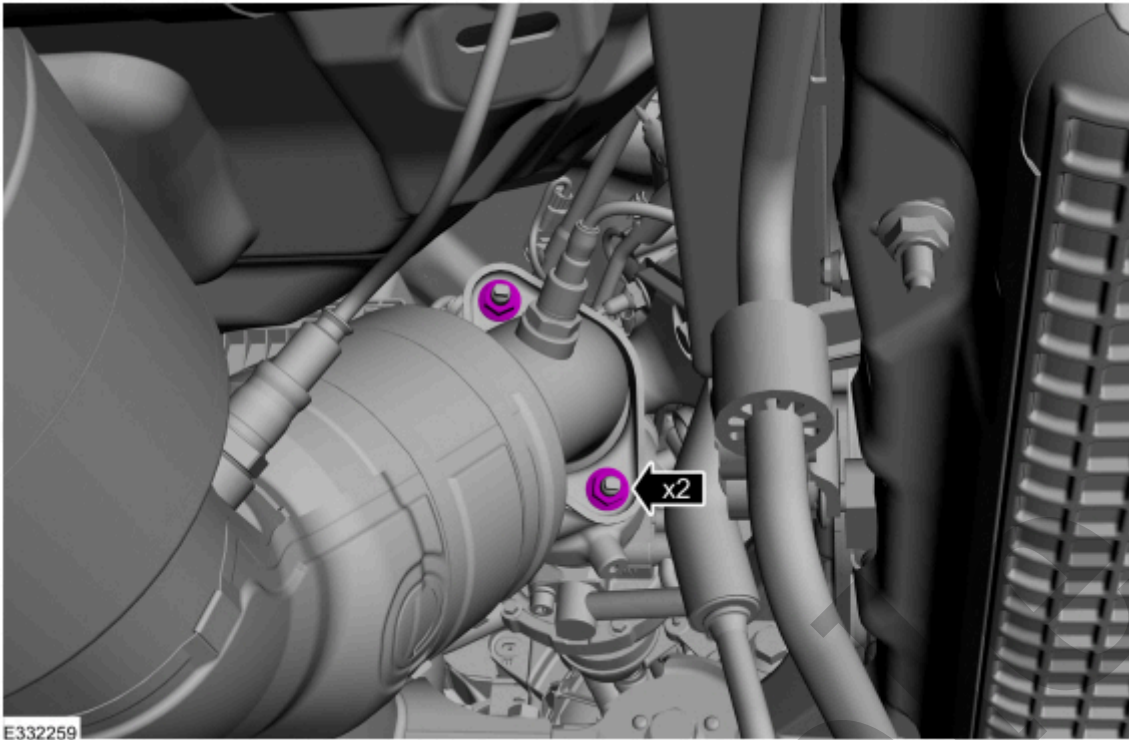


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16. Install the new RH turbocharger exhaust flange gasket.



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19. Install the right charge air cooler (CAC) intake pipe.

Refer to: [Charge Air Cooler \(CAC\) Intake Pipe](#)(303-12A Intake Air Distribution and Filtering - 2.7L EcoBoost (238kW/324PS), Removal and Installation).

20. NOTICE

A new turbocharger oil supply tube filter must be installed. Failure to install a new filter will cause turbocharger failure.

Install the new O-ring seals and the new turbocharger oil supply tube oil filter. Lubricate the new O-ring seals with clean engine oil.

Refer to: [Specifications](#)(303-01A Engine - 2.7L EcoBoost (238kW/324PS), Specifications).