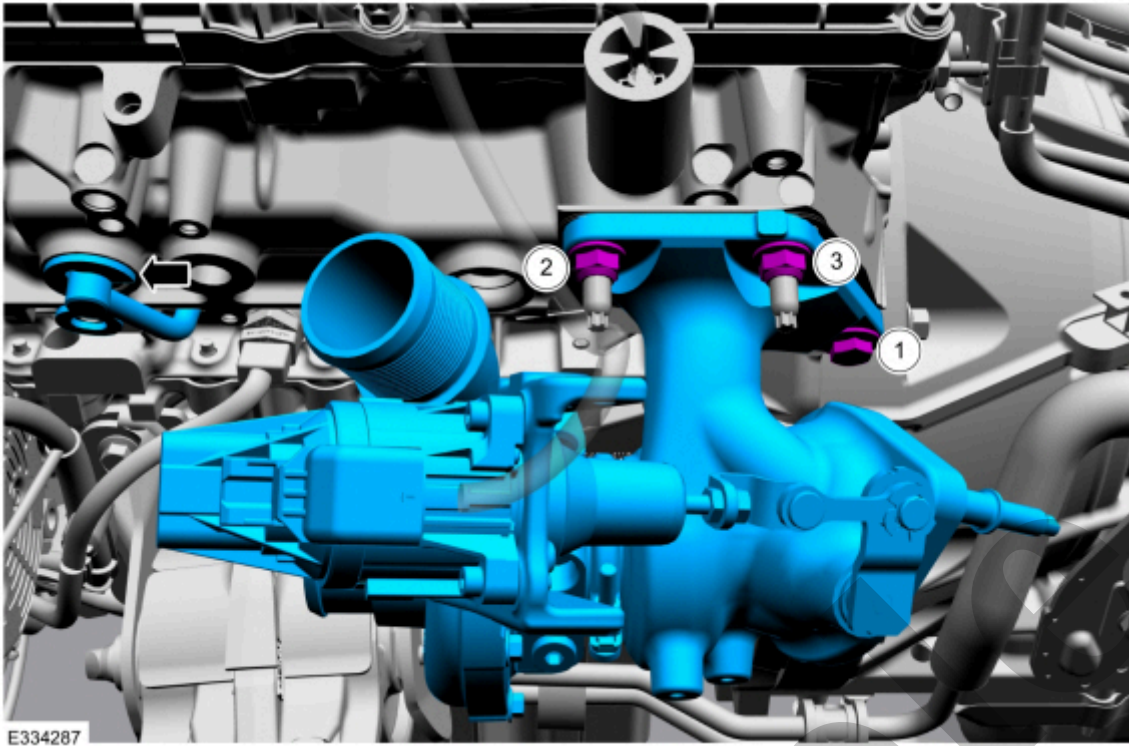


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## 2024 Ford F-350 Super Duty Service and Repair Manual

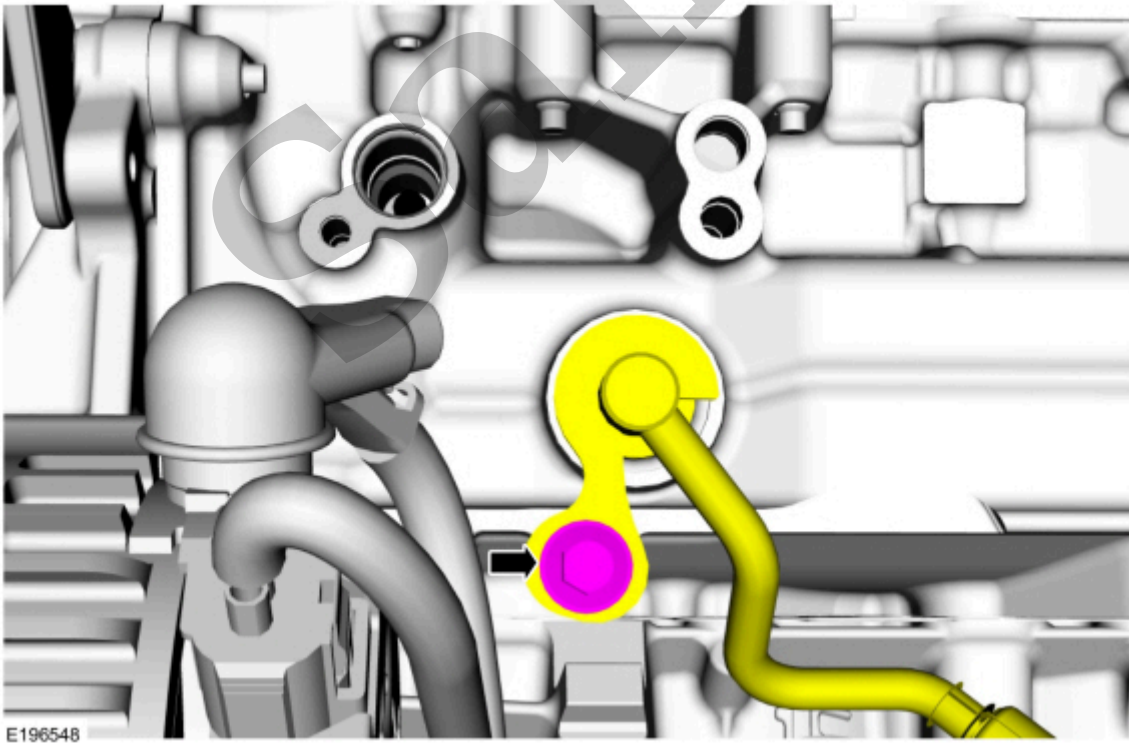
[Go to manual page](#)



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8. Install and tighten the turbocharger coolant supply tube bolt.

**Torque** : 18 lb.ft (24 Nm)



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

[Click here to learn about symbols, color coding, and icons used in this manual.](#)

11. 1. **NOTICE**

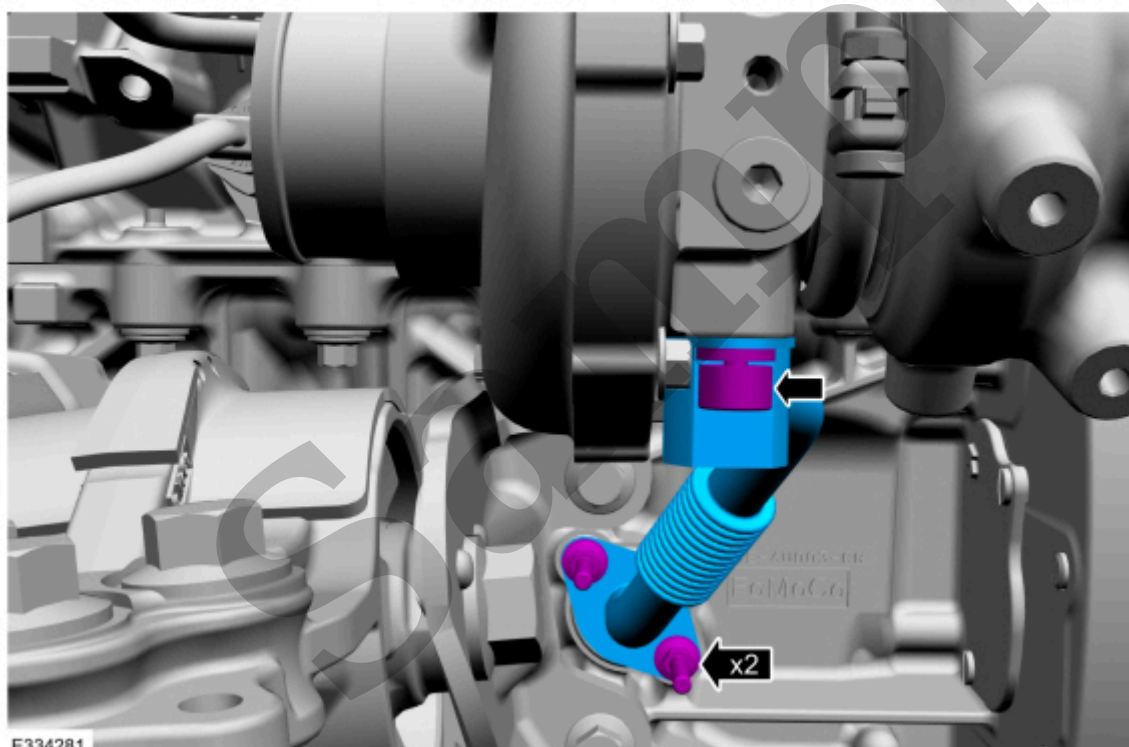
Do not use a metal brush, damage to sealing area will result in leaks.

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 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 oil return tube, then install and tighten the turbocharger oil return tube bolts.

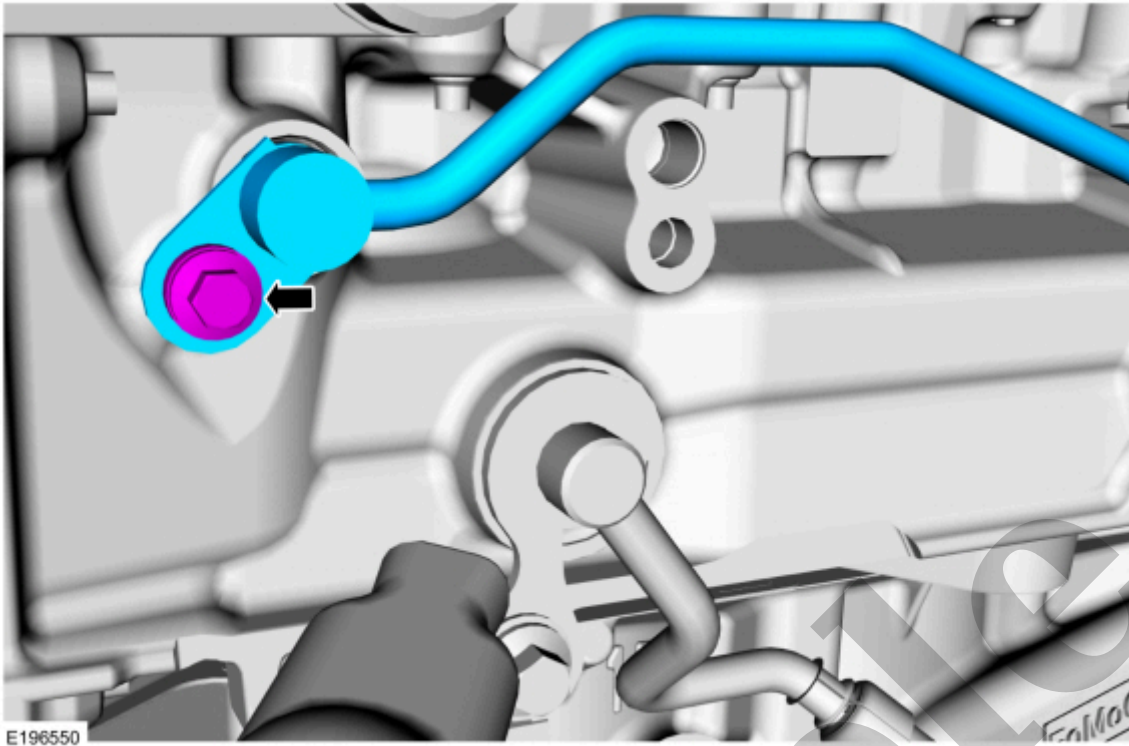
**Torque** : 89 lb.in (10 Nm)



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

12. **NOTICE**

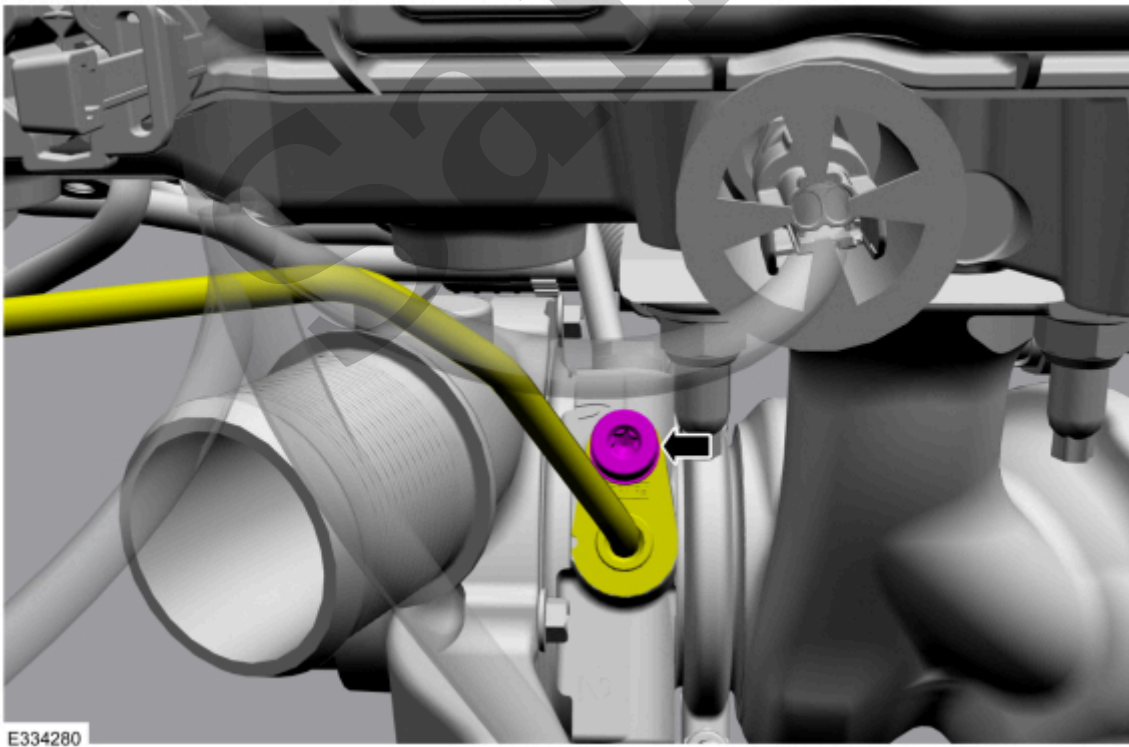
A new turbocharger oil supply tube filter must be installed. Failure to install a new filter will cause turbocharger failure.



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

14. Connect the turbocharger oil supply tube to the turbocharger, then install and tighten the bolt.

**Torque** : 89 lb.in (10 Nm)



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

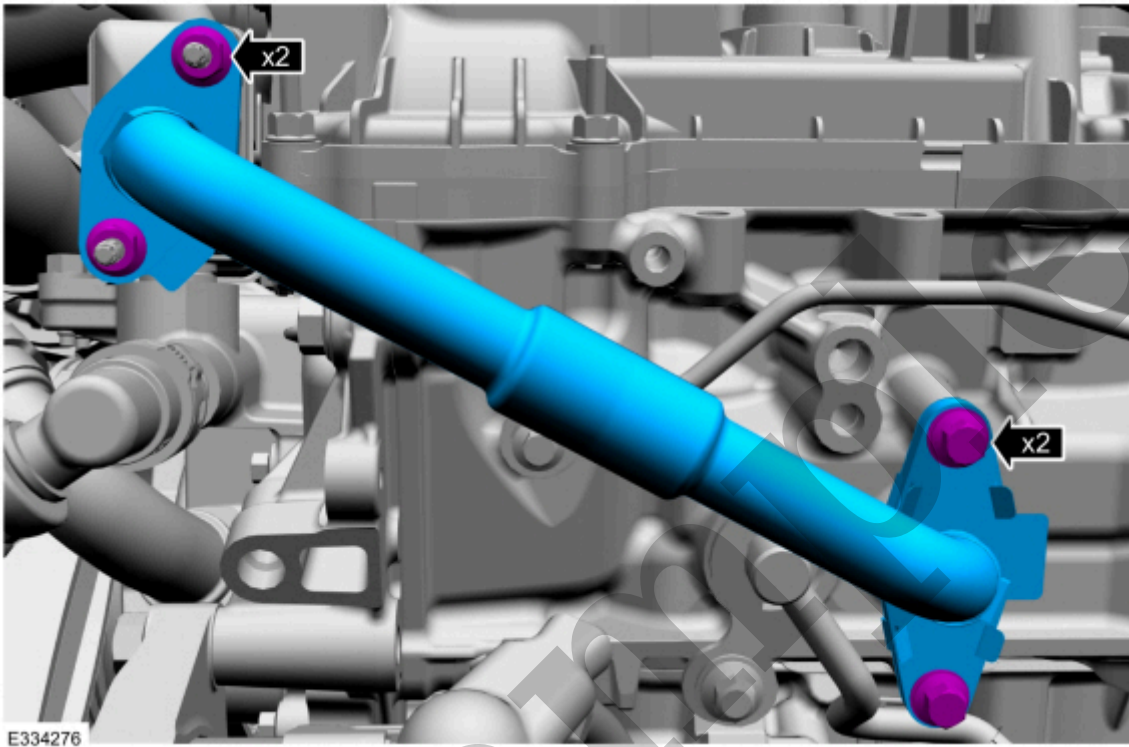
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

17. Install the EGR tube, then install and tighten the EGR tube retainers.

**Torque :**

Tighten the nuts to : 89 lb.in (10 Nm)

Tighten the bolts to : 89 lb.in (10 Nm)



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

18. Install the air tube bracket, then install and the air tube bracket retainers.

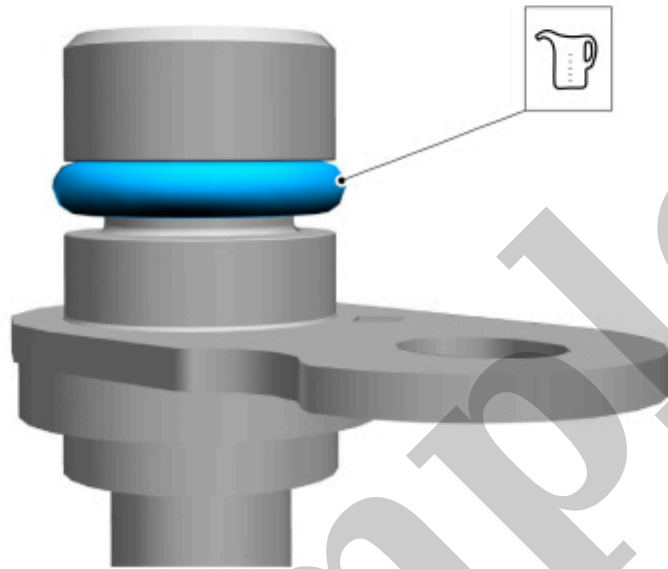
**Torque :**

Nut : 53 lb.in (6 Nm)

Bolt : 53 lb.in (6 Nm)

20. 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).



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[Click here to learn about symbols, color coding, and icons used in this manual.](#)

21. 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 O-ring bore. Inspect the area for deep scratches and gouges. Install new components as needed.

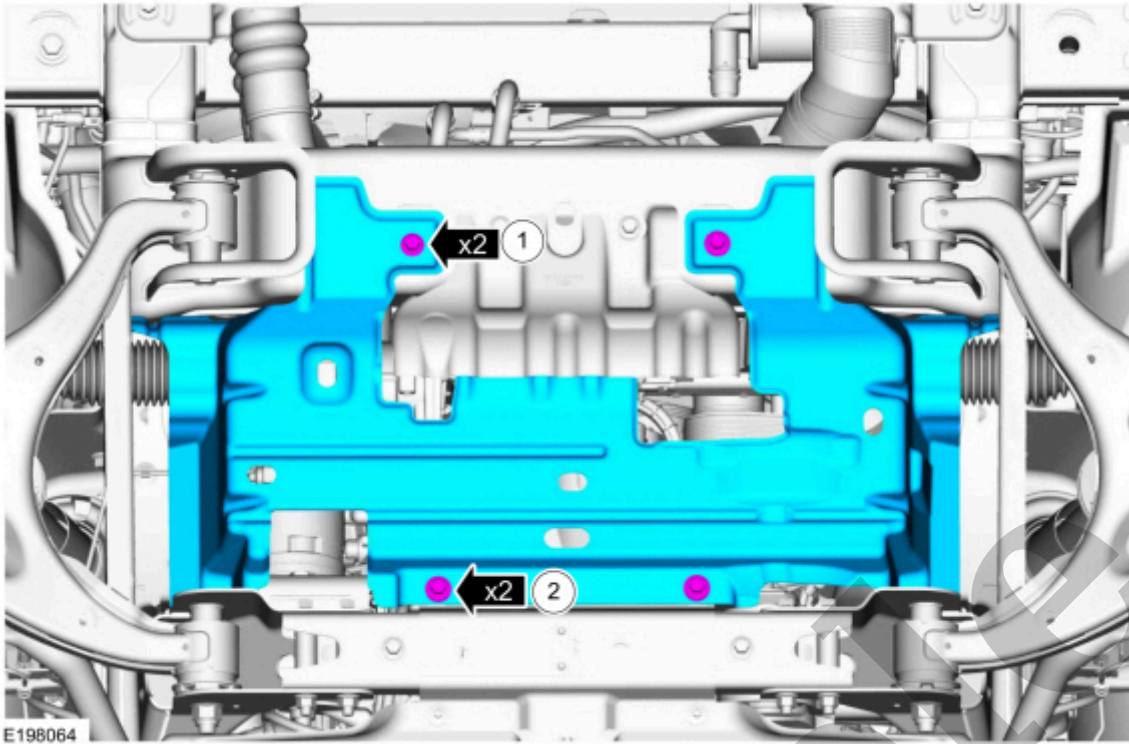
**Material** : Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B

2. Install and connect the turbocharger coolant return tube and clamp, then install and tighten the turbocharger coolant return tube bolt.

Use the General Equipment: Hose Clamp Remover/Installer

**Torque** : 89 lb.in (10 Nm)





[Click here to learn about symbols, color coding, and icons used in this manual.](#)

27. If equipped, install the engine rear undershield.

Refer to: [Engine Rear Undershield](#)(501-02 Front End Body Panels, Removal and Installation).

28. Fill the cooling system.

Refer to: [Engine Cooling System Draining, Vacuum Filling and Bleeding](#)(303-03A Engine Cooling - 2.7L EcoBoost (238kW/324PS), General Procedures).

29. Check and top off the engine oil level as needed.

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

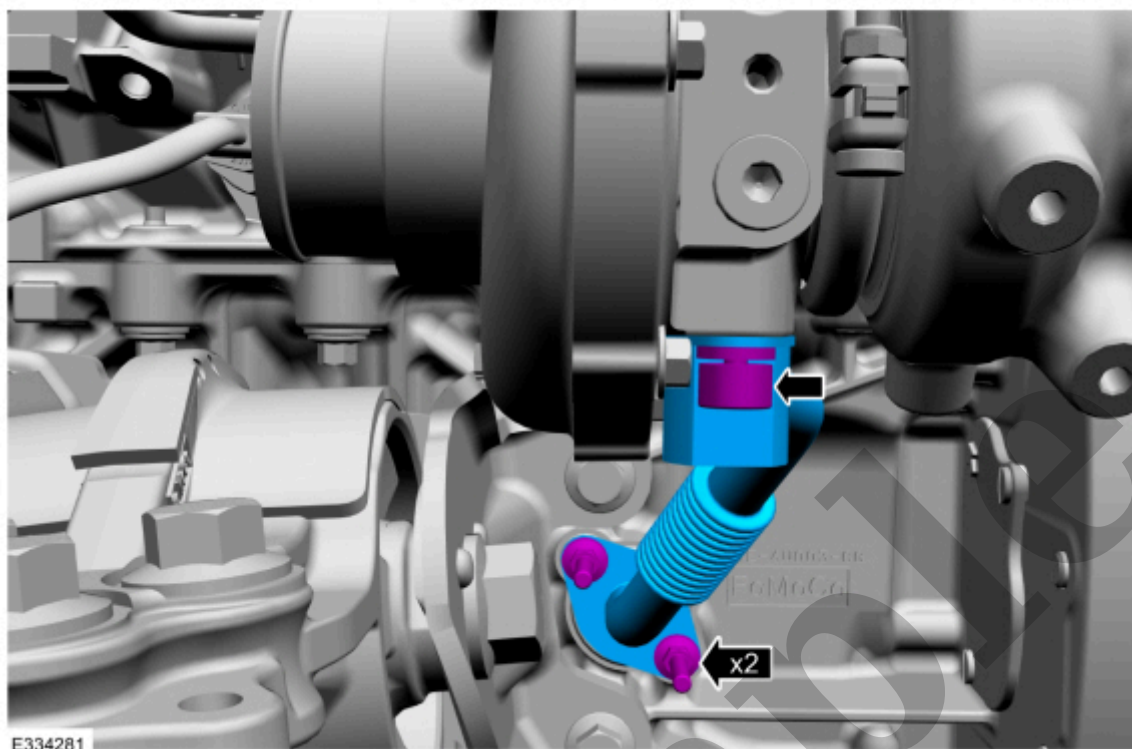
30. Start and check for leaks.

31. If a new turbocharger was installed, road test the vehicle

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Refer to: [Engine Front Undershield](#)(501-02 Front End Body Panels, Removal and Installation).

4. Remove the turbocharger oil return tube bolts, then remove the tube.



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

5. 1. **NOTICE**

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

Inspect for blockage in the turbocharger tube. Check the tube, the sealing surfaces and the flange for flatness and damage. Use brake cleaner and a nylon brush to clean. Install new components as needed.

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

2. **NOTICE**

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

Ensure that the retaining bracket is not bent, check for square-ness of the retaining bracket to the O-ring area. Use brake cleaner and a nylon brush to clean. Install new components as needed.

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

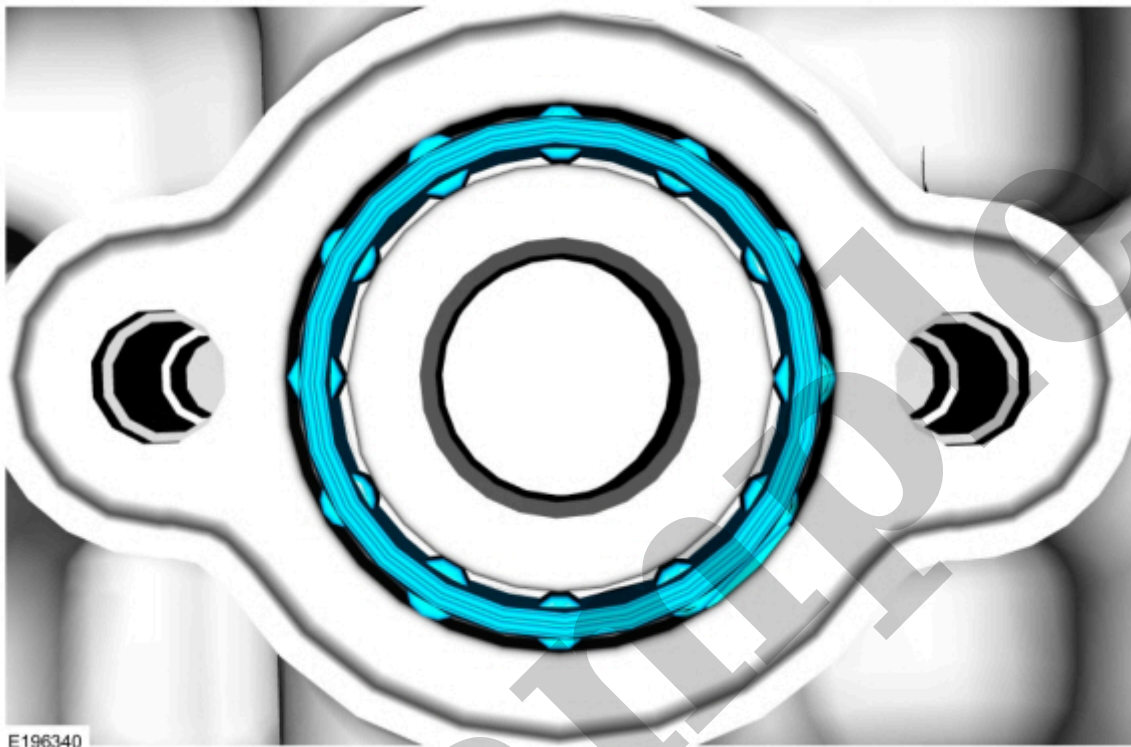


## Installation

### NOTICE

Make sure that the mating faces are clean and free of foreign material.

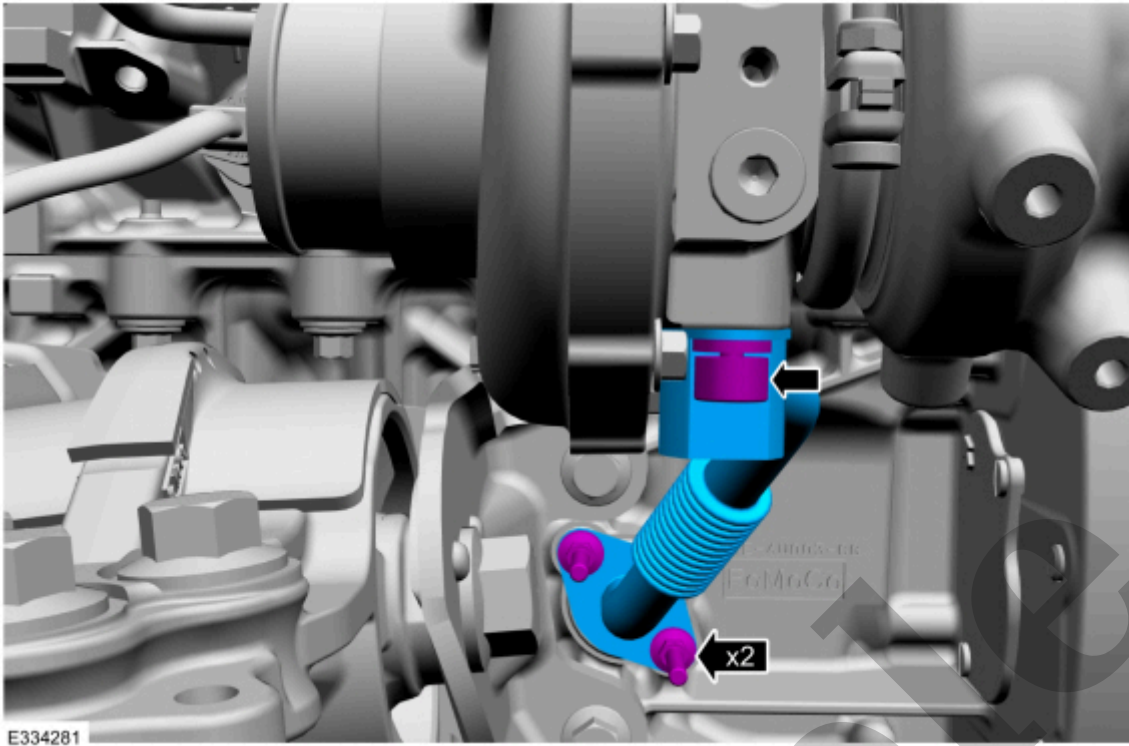
1. Install the new turbocharger oil return tube-to-engine block gasket.



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

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

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



[Click here to learn about symbols, color coding, and icons used in this manual.](#)

4. If equipped, install the engine front undershield.

Refer to: [Engine Front Undershield](#)(501-02 Front End Body Panels, Removal and Installation).

5. If equipped, install the engine rear undershield.

Refer to: [Engine Rear Undershield](#)(501-02 Front End Body Panels, Removal and Installation).

6. Check and top off the engine oil level as needed.

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

7. Start and check for leaks.

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