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2024 Ford Maverick Service and Repair Manual

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Turbocharger Coolant Return Tube LH

303-04F Fuel Charging and Controls - Turbocharger - 2.7L EcoBoost (238kW/324PS)	***2022 F-150***
Removal and Installation	***Procedure revision date: 11/12/2020***

Turbocharger Coolant Return Tube LH

Removal

NOTICE

The turbocharger compressor vanes can be damaged by even the smallest particles. When removing any turbocharger or engine air intake system component, ensure that no debris enters the system. Failure to do so may result in damage to the turbocharger.

NOTICE

Special attention needs to be given to the sealing ports for the oil feed, the oil drain, and the coolant tubes, on turbocharged engines. The sealing ports must be totally clean and free from O-ring residue, have no damage to the sealing surface and the tubes to ensure that there are no leaks or repeat repairs.

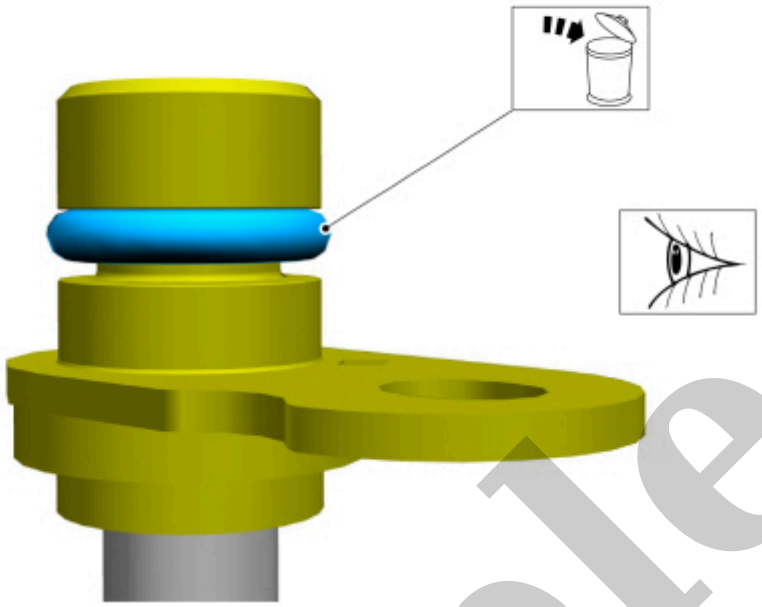
1. With the vehicle in NEUTRAL, position it on a hoist.

   Refer to: Jacking and Lifting - Overview(100-02 Jacking and Lifting, Description and Operation).

2. Drain the cooling system.

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

3. Remove the left front fender splash shield.



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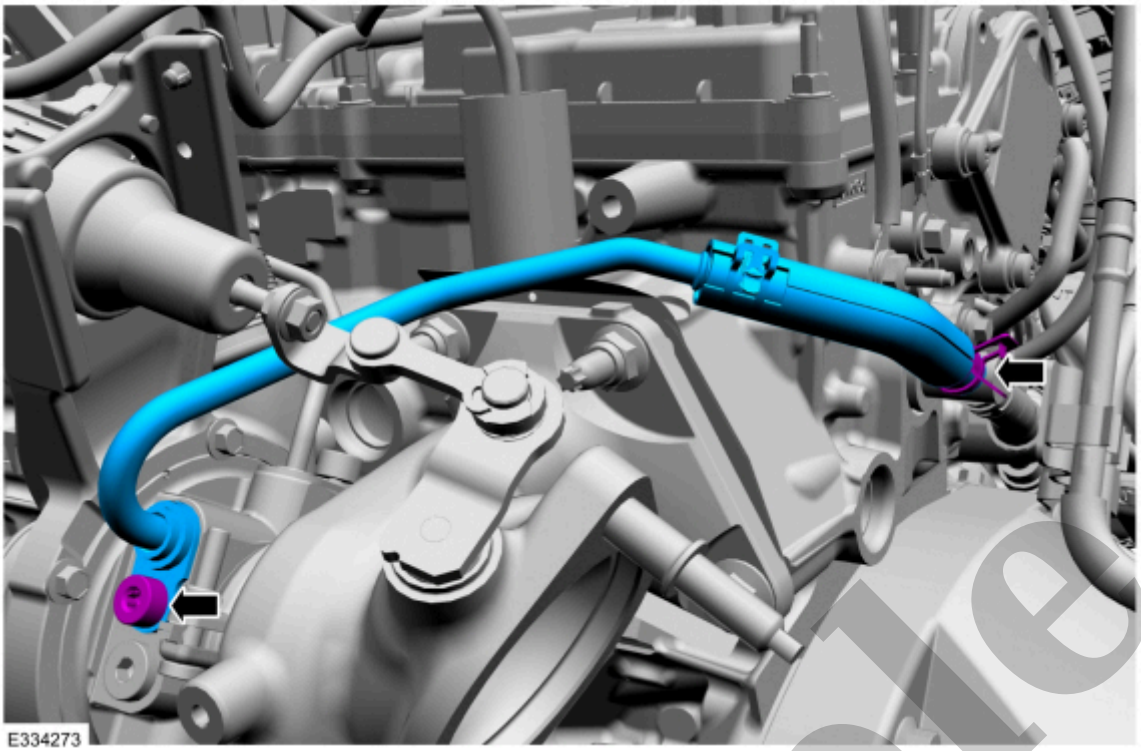
Click here to learn about symbols, color coding, and icons used in this manual.

Installation

1. 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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3. Install the left front fender splash shield.

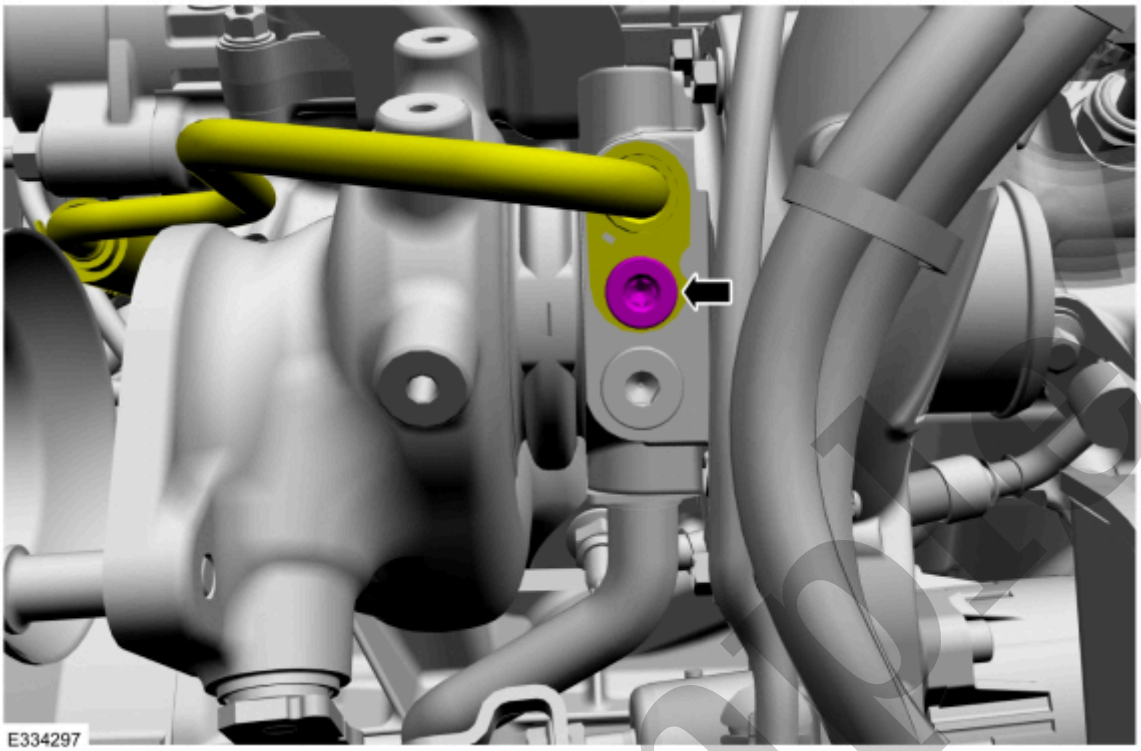
   Refer to: Fender Splash Shield(501-02 Front End Body Panels, Removal and Installation).

4. 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).

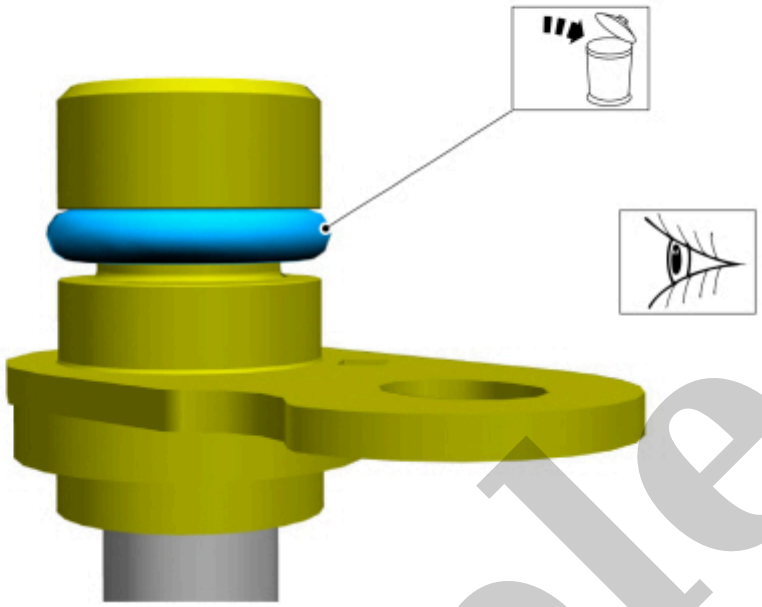
Refer to: Fender Splash Shield(501-02 Front End Body Panels, Removal and Installation).

4. Remove the turbocharger coolant return tube bolt, then disconnect the turbocharger coolant return tube.



5. Disconnect and remove the turbocharger coolant return tube.

   Use the General Equipment: Hose Clamp Remover/Installer



E348165

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Installation

1. 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).

3. 1. **NOTICE**

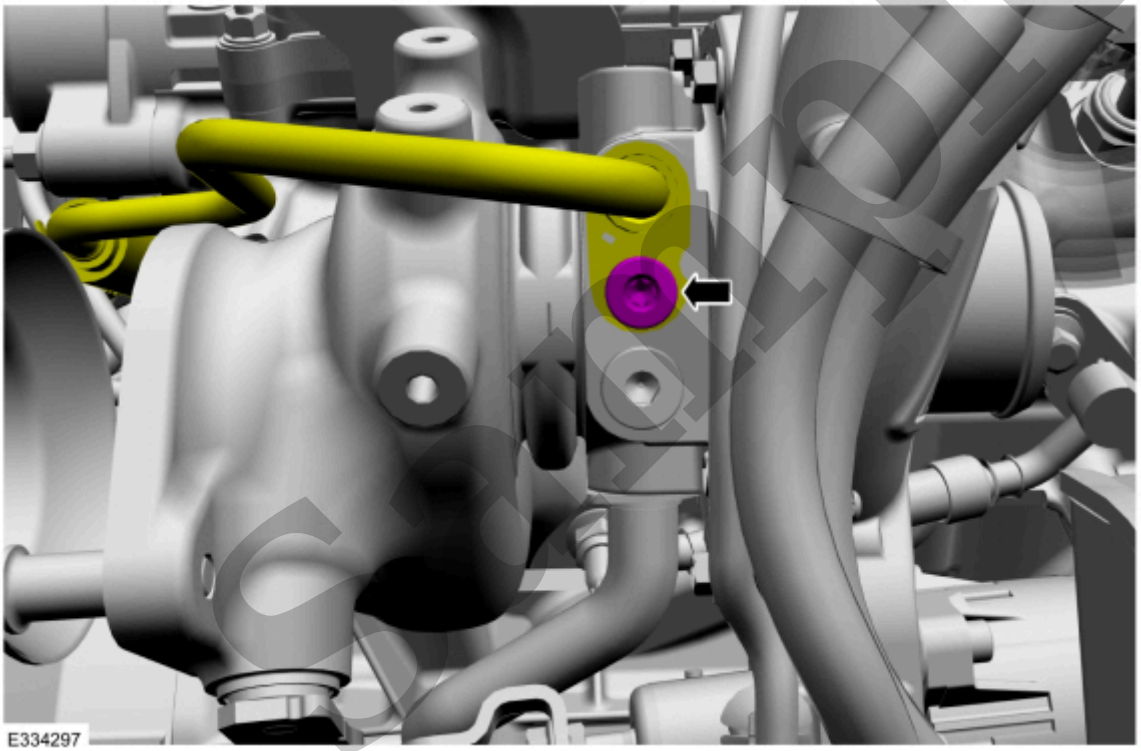
   Do not use a metal brush, damage to sealing area will result in leaks.

   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 coolant return tube to the turbocharger, then install and tighten the turbocharger coolant return tube bolt.

   Torque : 89 lb.in (10 Nm)



4. Install the right front fender splash shield.

   Refer to: Fender Splash Shield(501-02 Front End Body Panels, Removal and Installation).

5. 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).

Turbocharger Coolant Supply Tube LH

303-04F Fuel Charging and Controls - Turbocharger - 2.7L EcoBoost (238kW/324PS)	***2022 F-150***
Removal and Installation	***Procedure revision date: 11/12/2020***

Turbocharger Coolant Supply Tube LH

Removal

NOTICE

The turbocharger compressor vanes can be damaged by even the smallest particles. When removing any turbocharger or engine air intake system component, ensure that no debris enters the system. Failure to do so may result in damage to the turbocharger.

NOTICE

Special attention needs to be given to the sealing ports for the oil feed, the oil drain, and the coolant tubes, on turbocharged engines. The sealing ports must be totally clean and free from O-ring residue, have no damage to the sealing surface and the tubes to ensure that there are no leaks or repeat repairs.

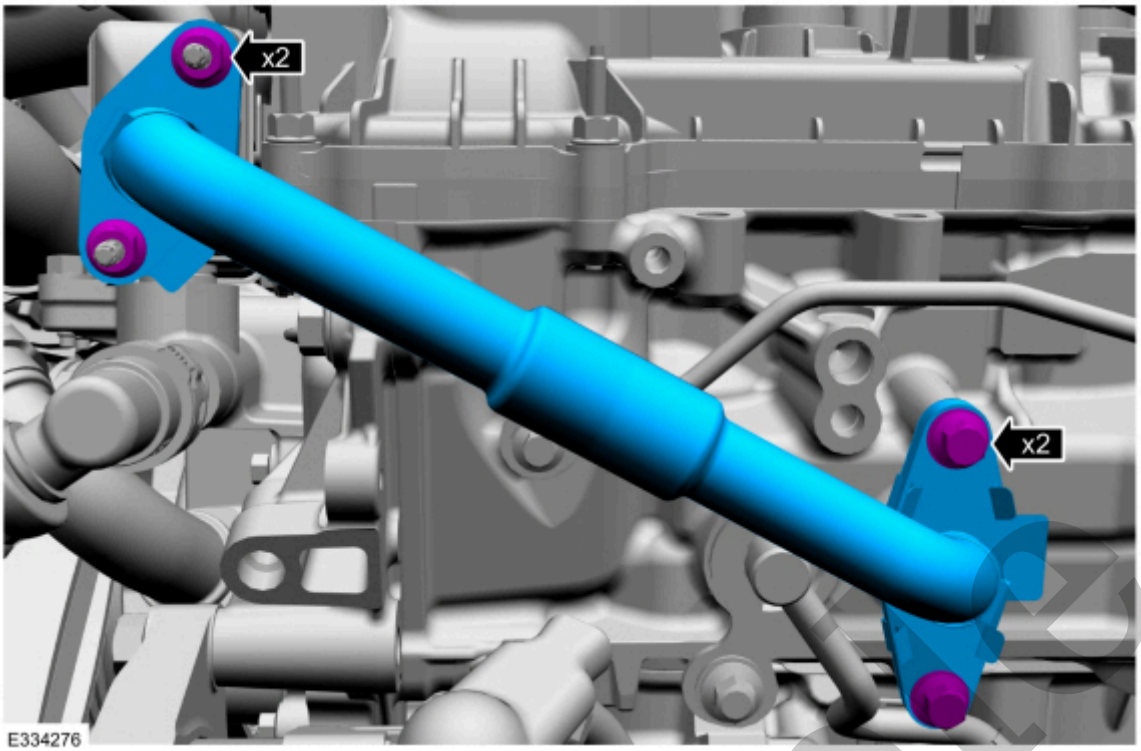
1. With the vehicle in NEUTRAL, position it on a hoist.

   Refer to: Jacking and Lifting - Overview(100-02 Jacking and Lifting, Description and Operation).

2. If equipped, remove the engine rear undershield.

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

3. If equipped, remove the engine front undershield.



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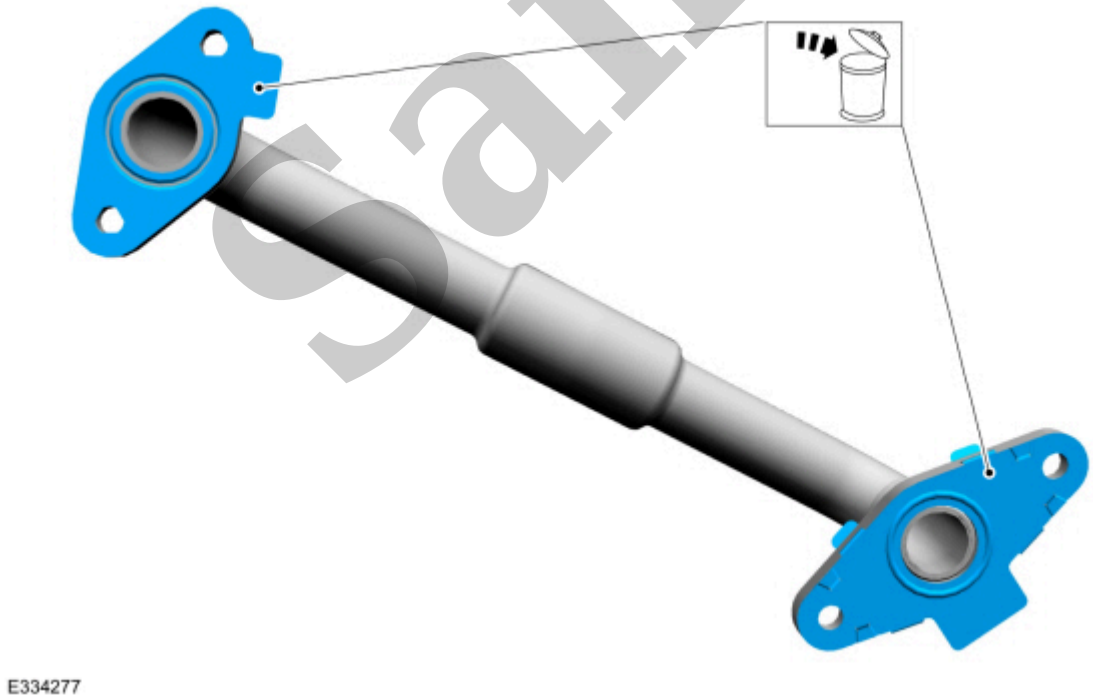
10. Remove and discard the EGR tube gaskets.



Click here to learn about symbols, color coding, and icons used in this manual.

11. Remove the turbocharger coolant supply tube bolt.

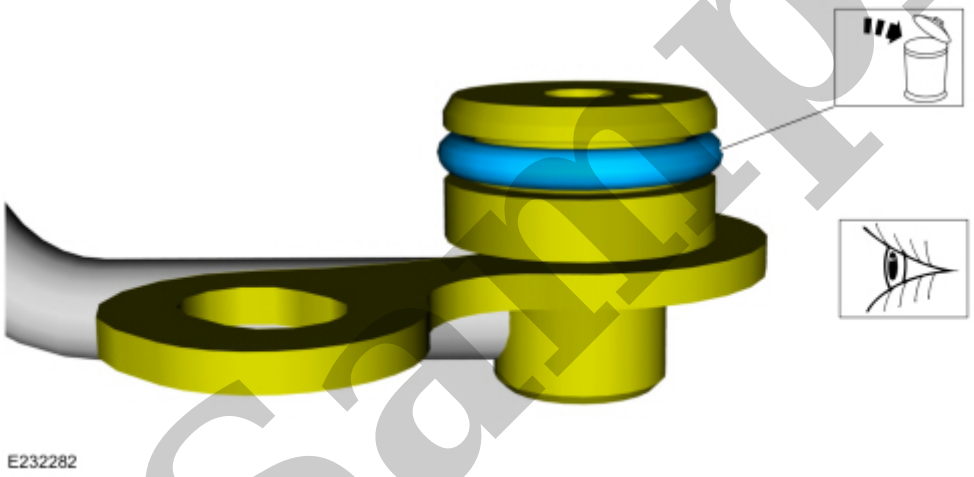
13. 1. **NOTICE**

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

Inspect the turbocharger tube and the sealing surfaces. 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

2. Remove and discard the O-ring seal.



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14. 1. **NOTICE**

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

Inspect the turbocharger tube and the sealing surfaces. 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

2. Remove and discard the O-ring seal.