

303-04B Fuel Charging and Controls - Turbocharger - 2.3L EcoBoost  
(201kW/273PS)

Removal and Installation

2019 Ranger

Procedure revision date:  
12/5/2018

## Turbocharger Coolant Supply Tube

### Materials

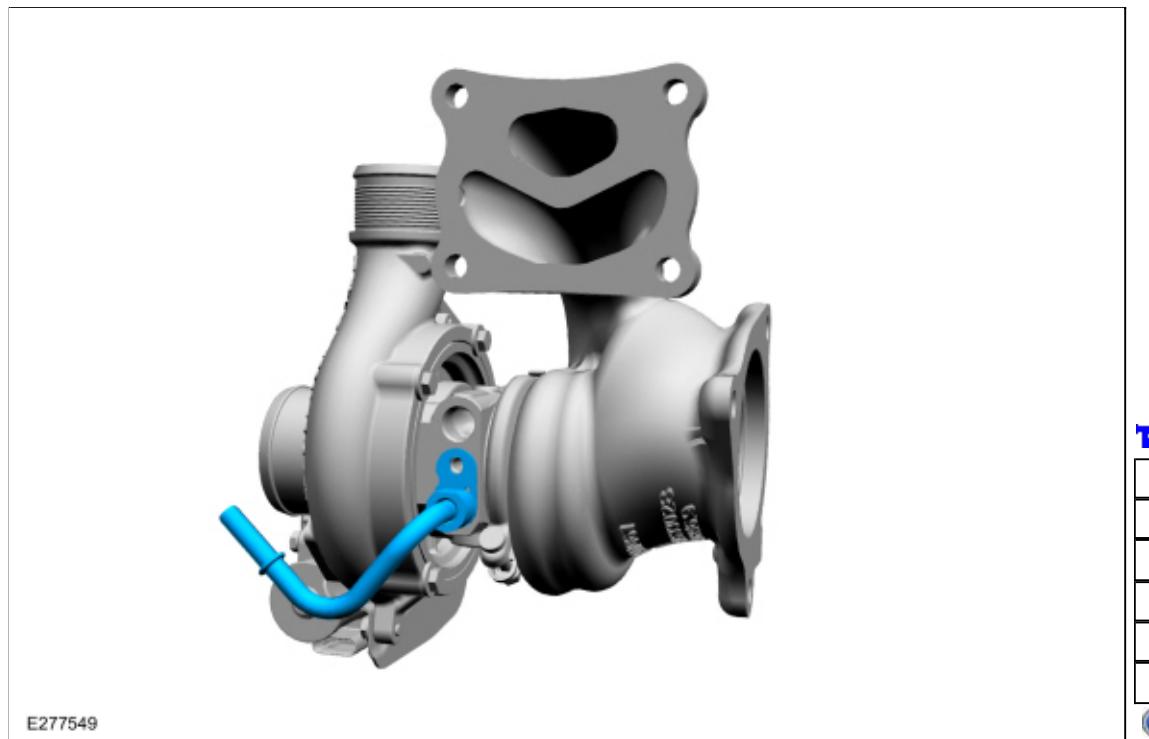
Name	Specification
Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B	-

### 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. Remove the turbocharger coolant return tube.  
Refer to: [Turbocharger Coolant Return Tube](#) (303-04B Fuel Charging and Controls - Turbocharger - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
2. Remove the turbocharger coolant supply tube.

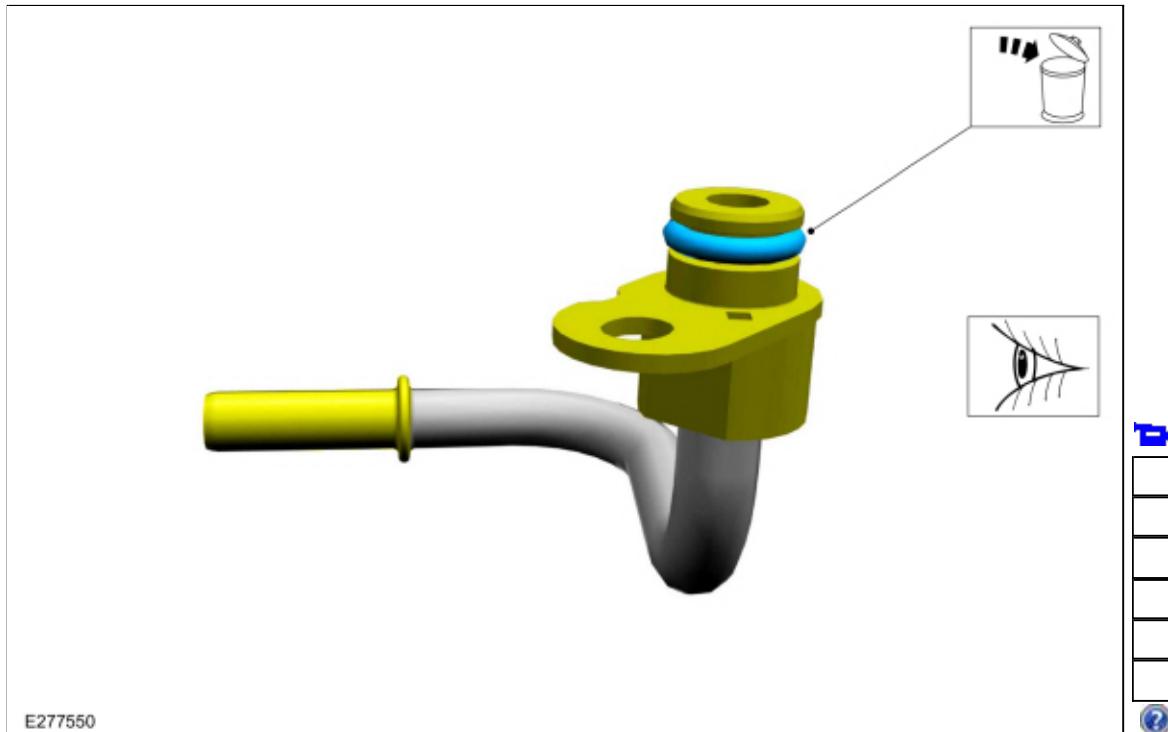


3.

1. Remove and discard the turbocharger coolant tube O-ring seal.
2. **NOTICE: Do not use a metal brush, damage to sealing area will result in leaks.**

Use brake cleaner and a nylon brush to clean. Clean the turbocharger coolant tube sealing surfaces. Inspect the sealing surfaces for debris or damage, make sure the retaining bracket is not bent, check for squareness of the O-ring area. Install new components if needed.

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

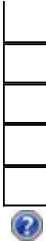
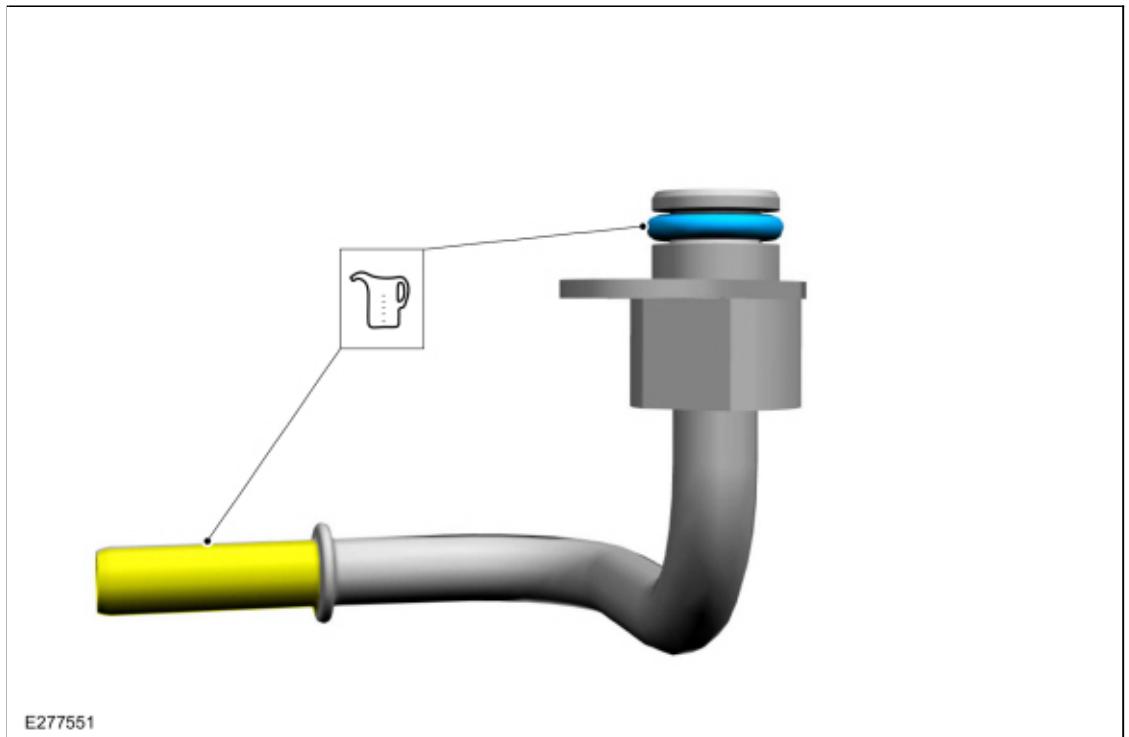


## Installation

1. Install a new turbocharger coolant tube O-ring seal. Lubricate the new O-ring seal and the tube sealing surface with clean engine coolant.

Refer to: [Specifications](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), Specifications).





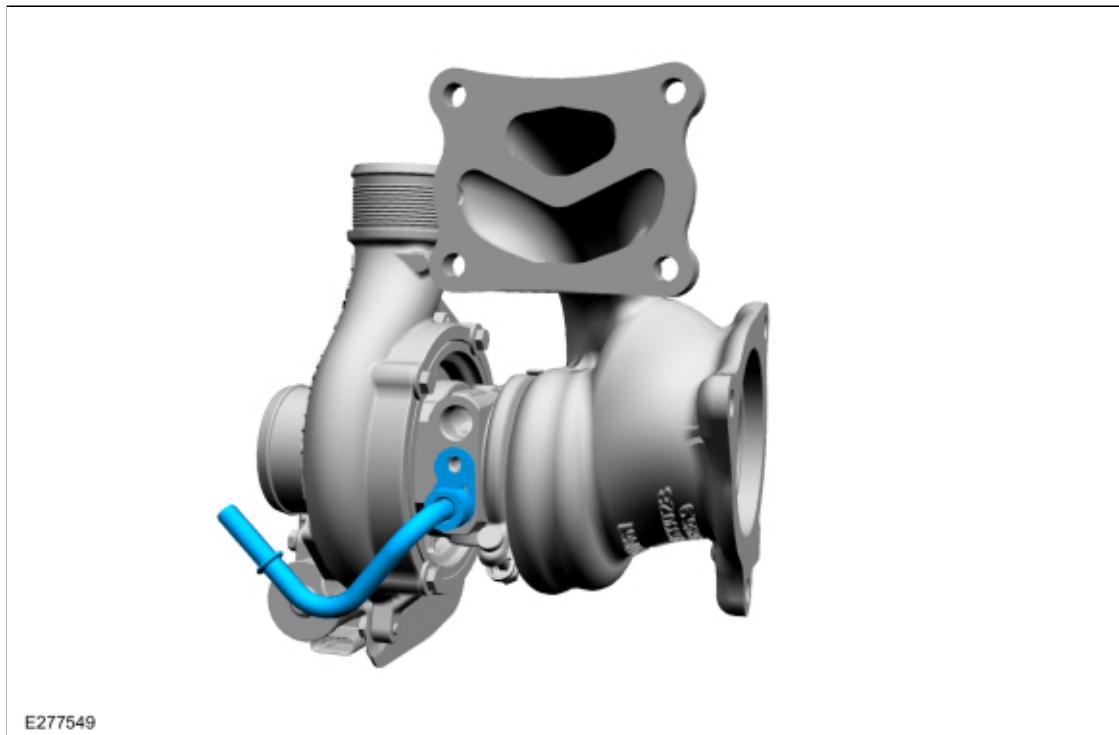
**2. NOTICE: Do not use a metal brush, damage to sealing area will result in leaks.**

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

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

1. Fit the lower turbocharger coolant supply tube to the turbocharger. The lower coolant supply tube goes into the turbocharger first.





3. Install the turbocharger coolant return tube.

Refer to: [Turbocharger Coolant Return Tube](#) (303-04B Fuel Charging and Controls - Turbocharger - 2.3L EcoBoost (201kW/273PS), Removal and Installation).

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