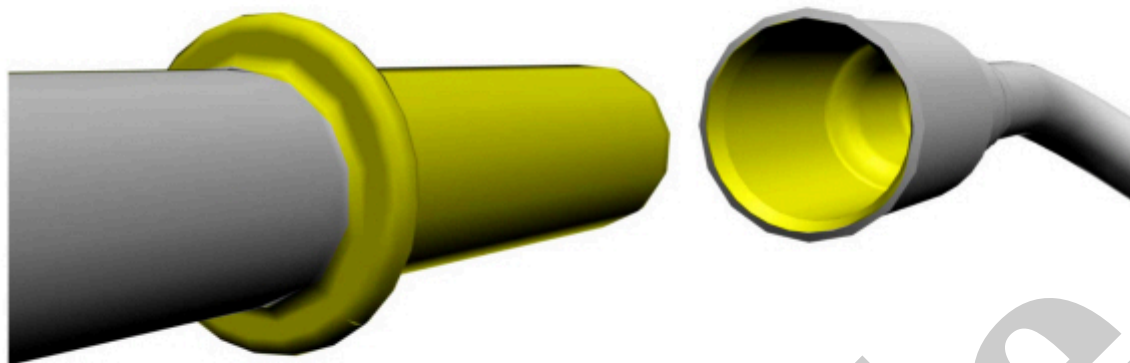
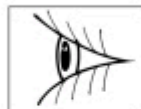


# Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

## 2024 Ford E-450 Super Duty Service and Repair Manual

[Go to manual page](#)



E337903

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

16. If needed, remove the turbocharger coolant tubes from the turbocharger.

Refer to: [Turbocharger Coolant Return Tube LH](#)(303-04H Fuel Charging and Controls - Turbocharger - 3.5L V6 PowerBoost (CN), Removal and Installation).

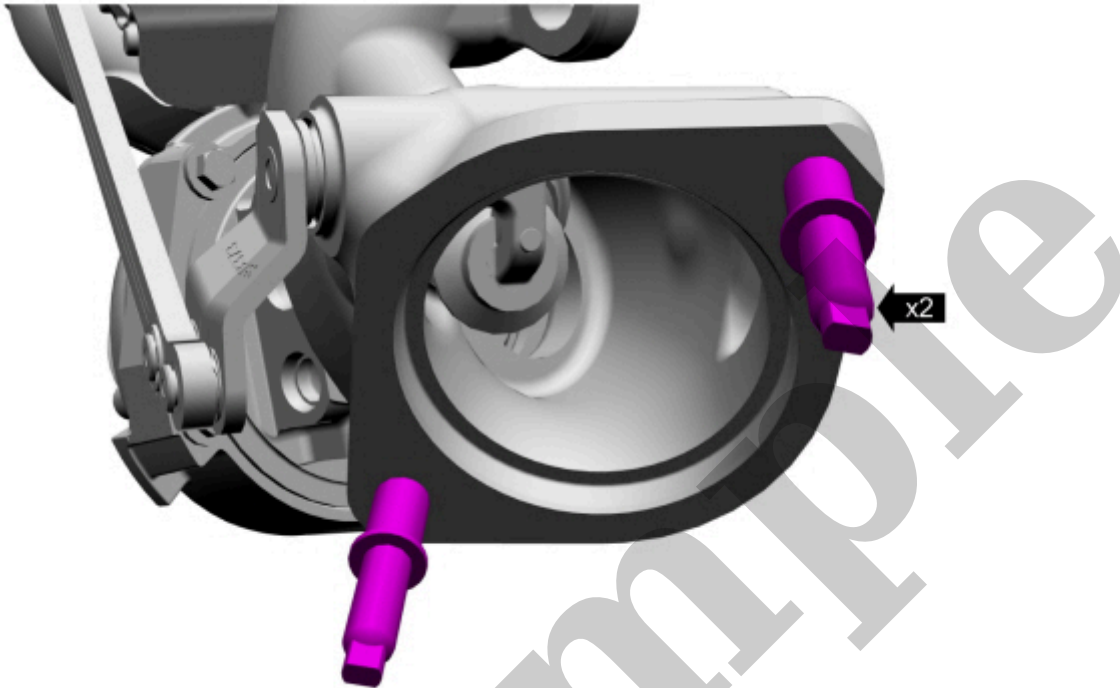
Refer to: [Turbocharger Coolant Supply Tube LH](#)(303-04H Fuel Charging and Controls - Turbocharger - 3.5L V6 PowerBoost (CN), Removal and Installation).

17. Remove and discard the turbocharger gasket.

1. Make sure that the mating faces are clean and free of foreign material.
2. If removed, apply high temperature nickel anti-seize lubricant to the studbolt threads, then install and tighten the studbolts.

**Material** : Motorcraft® High Temperature Nickel Anti-Seize Lubricant / XL-2

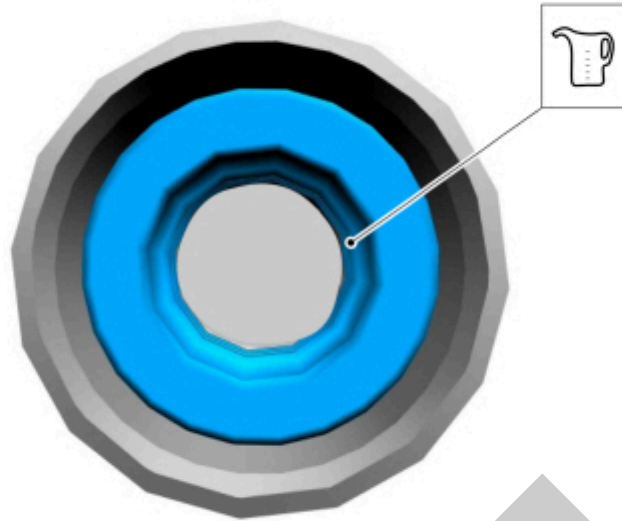
**Torque** : 30 lb.ft (40 Nm)



E337902

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

3. Install the new turbocharger gasket by pressing the gasket into the turbocharger flange groove evenly until at least 50% of the gasket is within the groove.

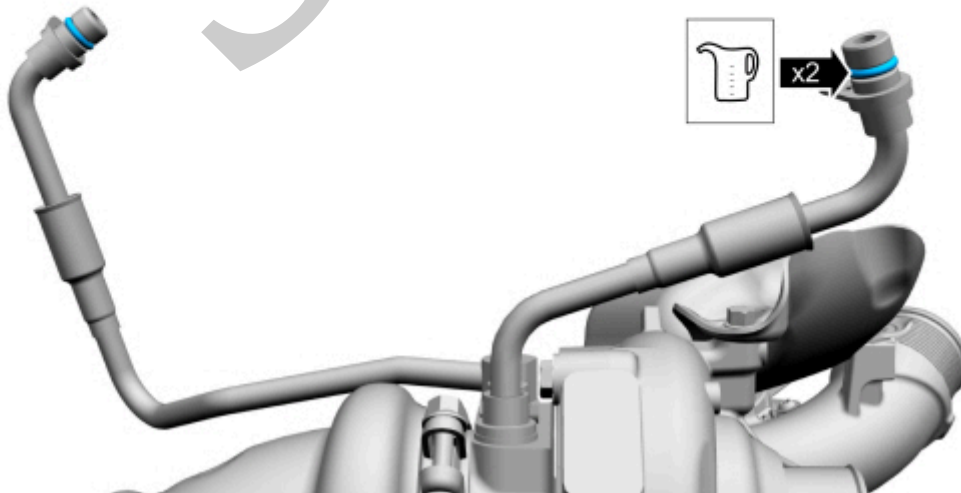


E337905

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

6. Install the new turbocharger coolant tube O-ring seals. Lubricate the new O-ring seal with clean engine coolant.

Refer to: [Specifications](#)(303-03D Engine Cooling - 3.5L V6 PowerBoost (CN), Specifications).



E337899

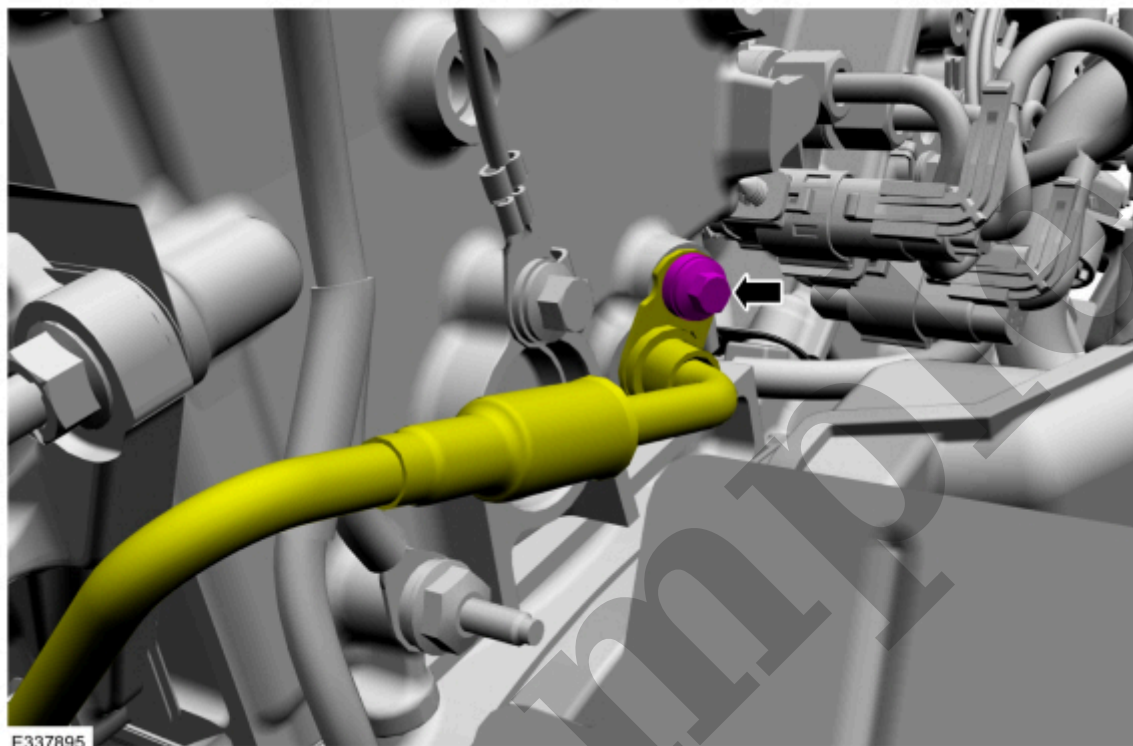
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

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

***Torque :***

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

Stage 2: Tighten an additional 30 degrees or tighten to 16 Nm, whichever comes first. : 30°



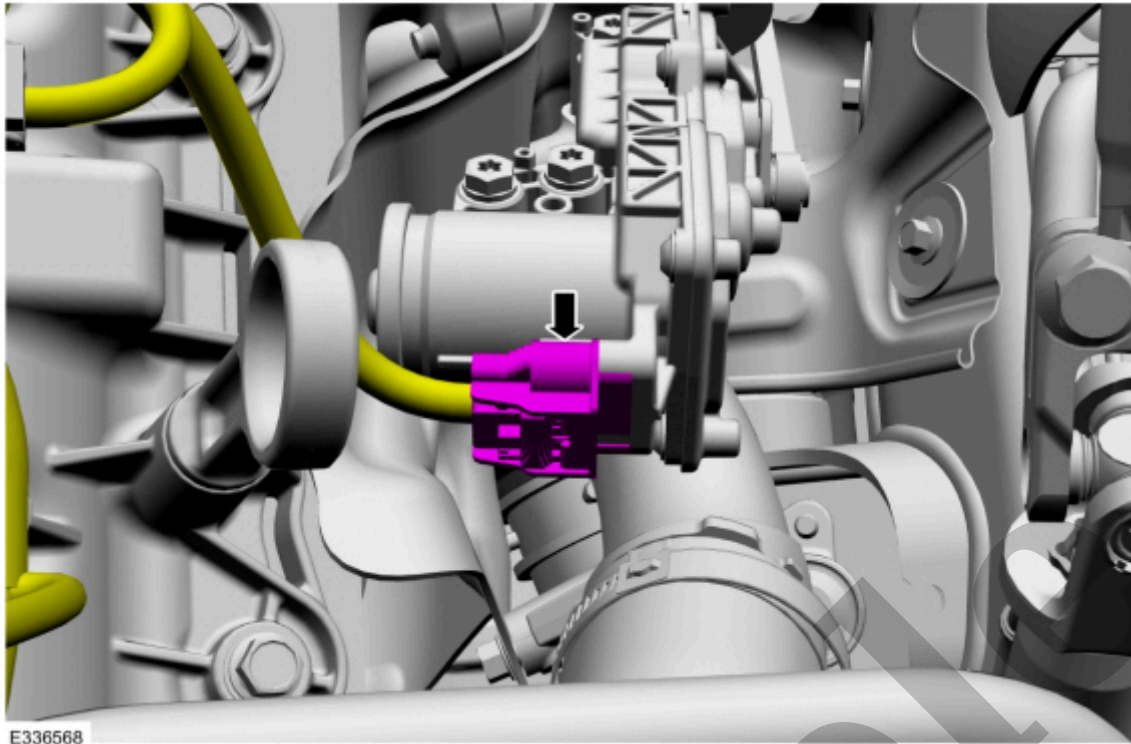
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

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

***Torque :***

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

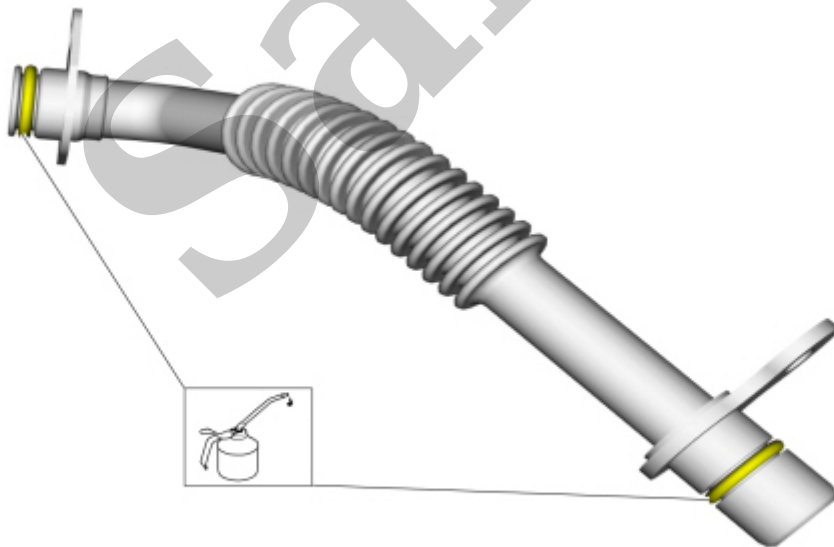
Stage 2: Tighten an additional : 30°



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

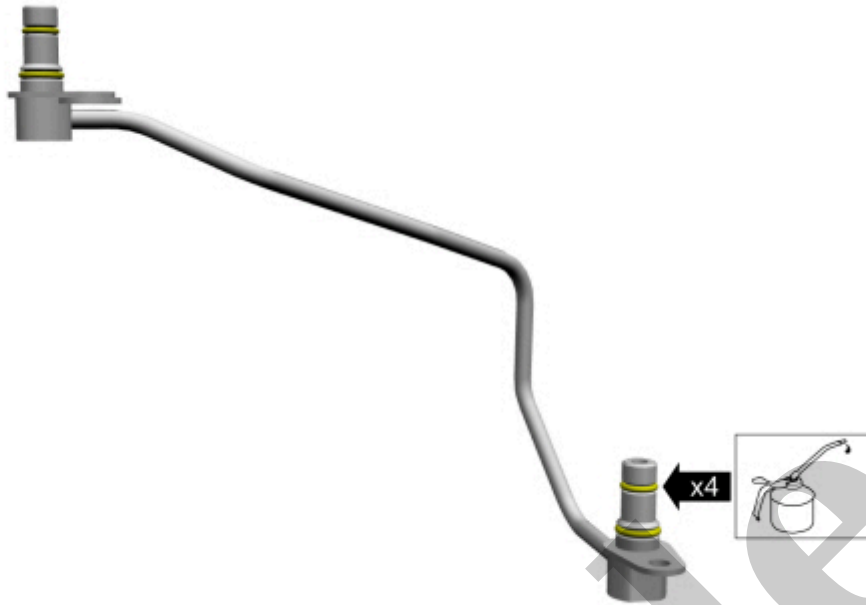
12. Lubricate the new turbocharger oil return tube O-ring seals with clean engine oil.

Refer to: [Specifications](#)(303-01D Engine - 3.5L V6 PowerBoost (CN), Specifications).



E242266

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



E337892

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

15. 1. **NOTICE**

Do not use any brushes, damage to sealing area will result in leaks and possible internal turbo bearing damage.

Use brake cleaner on a lint free rag to remove the O-ring residue out of the turbocharger and the engine oil filter adapter O-ring bores. Inspect the area for deep scratches and gouges. Install new components if necessary.

2. Install the oil supply tube and the bolts, by simultaneously fully seating the oil supply tube into the turbocharger bore hole and the engine oil filter adapter bore hole flush to 2.5 mm off the mounting surface prior to tightening the bolts, then tighten the bolts in the following 2 stages.

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

**Torque** :

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

Stage 2: Tighten an additional : 30°

Refer to: [Charge Air Cooler \(CAC\) Intake Pipe](#)(303-12D Intake Air Distribution and Filtering - 3.5L V6 PowerBoost (CN), Removal and Installation).

18. Install the left front fender splash shield.

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

19. Install the engine rear undershield.

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

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

Refer to: [Specifications](#)(303-01D Engine - 3.5L V6 PowerBoost (CN), Specifications).

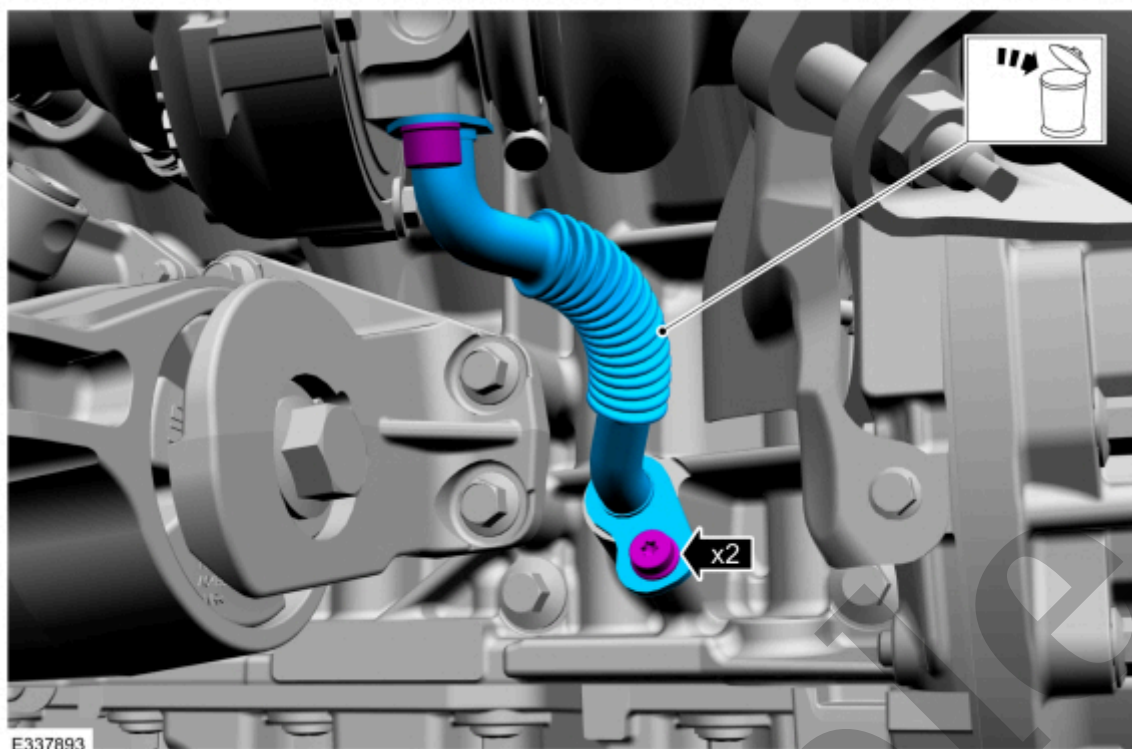
21. Fill the cooling system.

Refer to: [Engine Cooling System Draining, Vacuum Filling and Bleeding](#)(303-03D Engine Cooling - 3.5L V6 PowerBoost (CN), General Procedures).

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

Copyright © Ford Motor Company



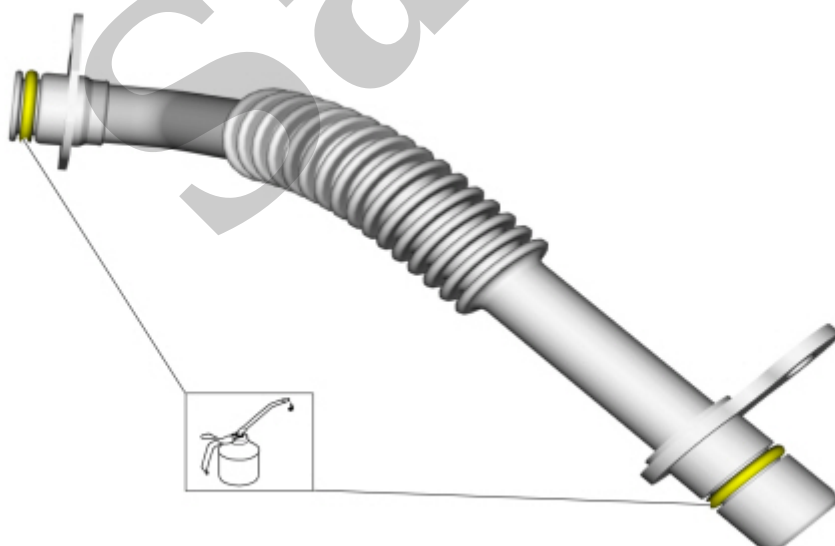


[Click here to learn about symbols, color coding, and icons used in this manual.](#)

## Installation

1. Lubricate the new turbocharger oil return tube O-ring seals with clean engine oil.

Refer to: [Specifications](#)(303-01D Engine - 3.5L V6 PowerBoost (CN), Specifications).



E242266

Refer to: [Turbocharger Oil Supply Tube LH](#)(303-04H Fuel Charging and Controls - Turbocharger - 3.5L V6 PowerBoost (CN), Removal and Installation).

Copyright © Ford Motor Company

Sample