

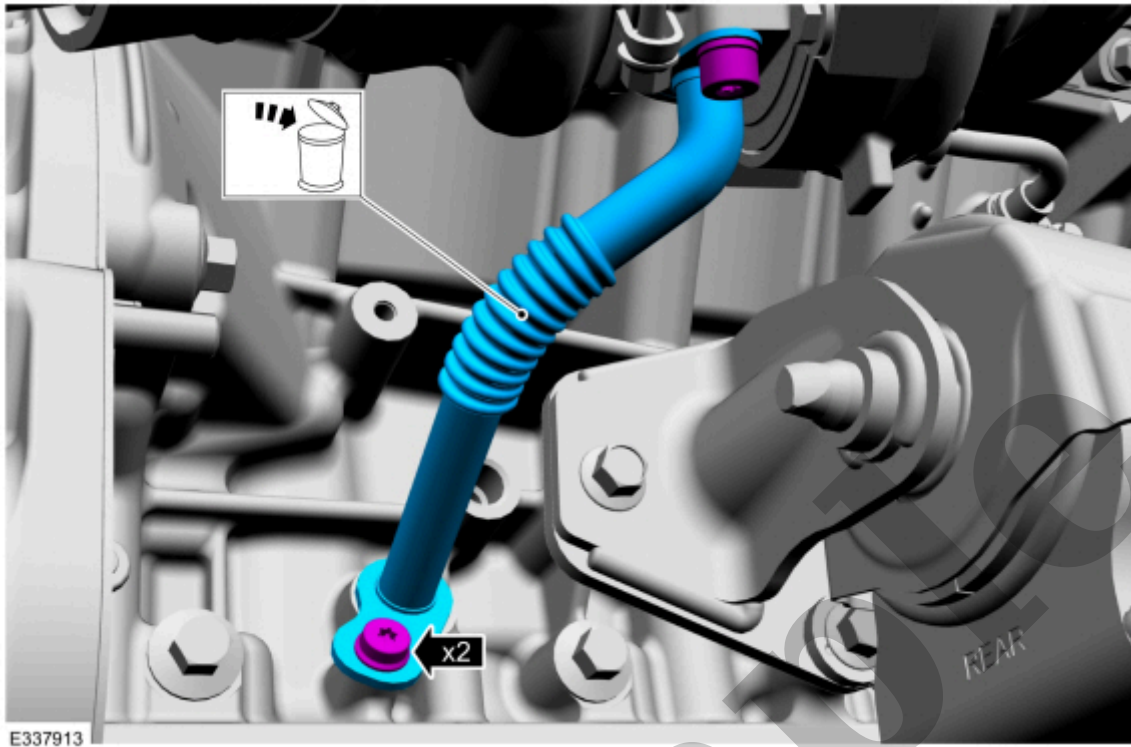
Your Ultimate Source for OEM Repair Manuals

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-350 Super Duty Service and Repair Manual

[Go to manual page](#)

3. Remove the turbocharger oil return tube bolts, then remove and discard the turbocharger oil return tube.

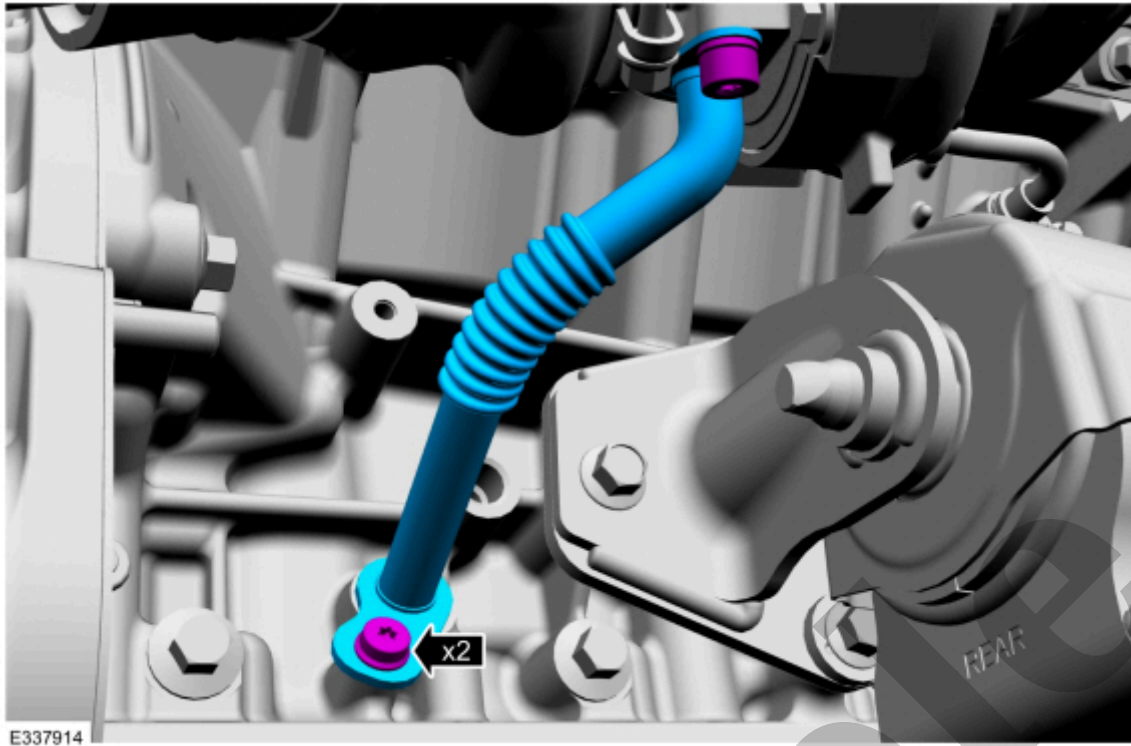


[Click here to learn about symbols, color coding, and icons used in this manual.](#)

Installation

1. Make sure that the mating faces are clean and free of foreign material.
2. 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).



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

4. Install the starter motor.

Refer to: [Starter Motor](#)(303-06D Starting System - 3.5L V6 PowerBoost (CN), Removal and Installation).

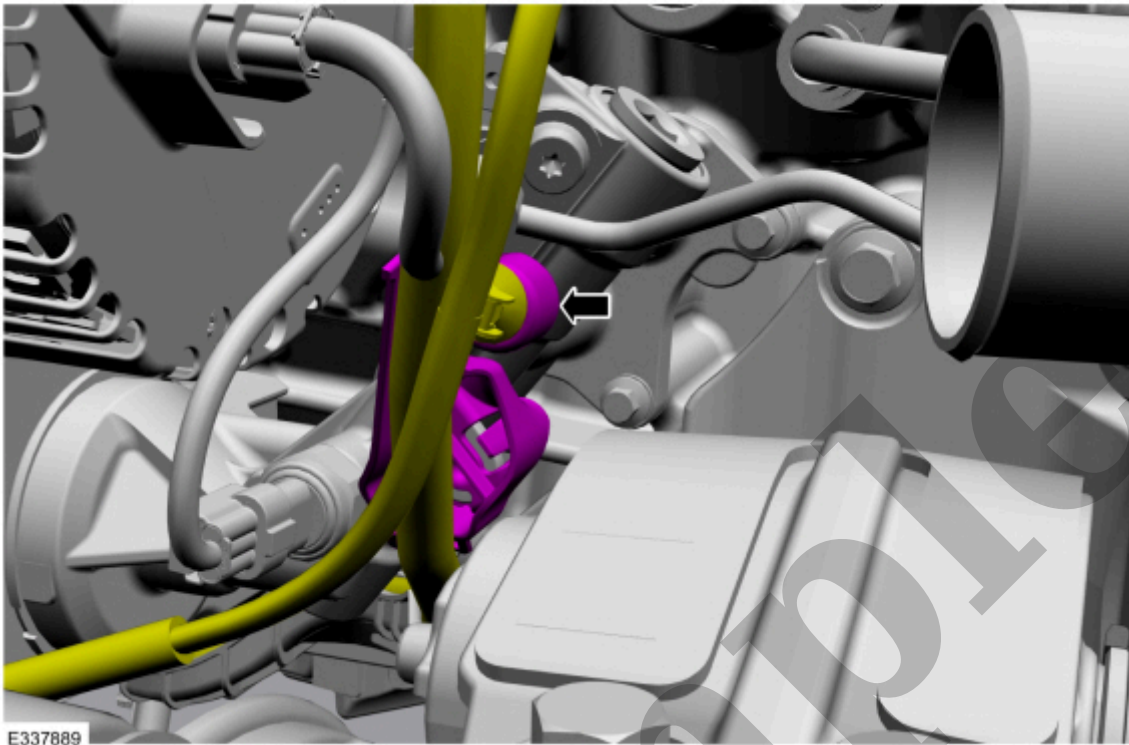
5. Install the turbocharger oil supply tube RH.

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

Copyright © Ford Motor Company

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

4. Detach the harness retainer, then move the harness out of the way.



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

5. **NOTE**

The left turbocharger oil supply tube does not have a turbocharger oil supply filter.

Remove the turbocharger oil supply tube bolts, then remove and discard the turbocharger oil supply tube.

2. 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.

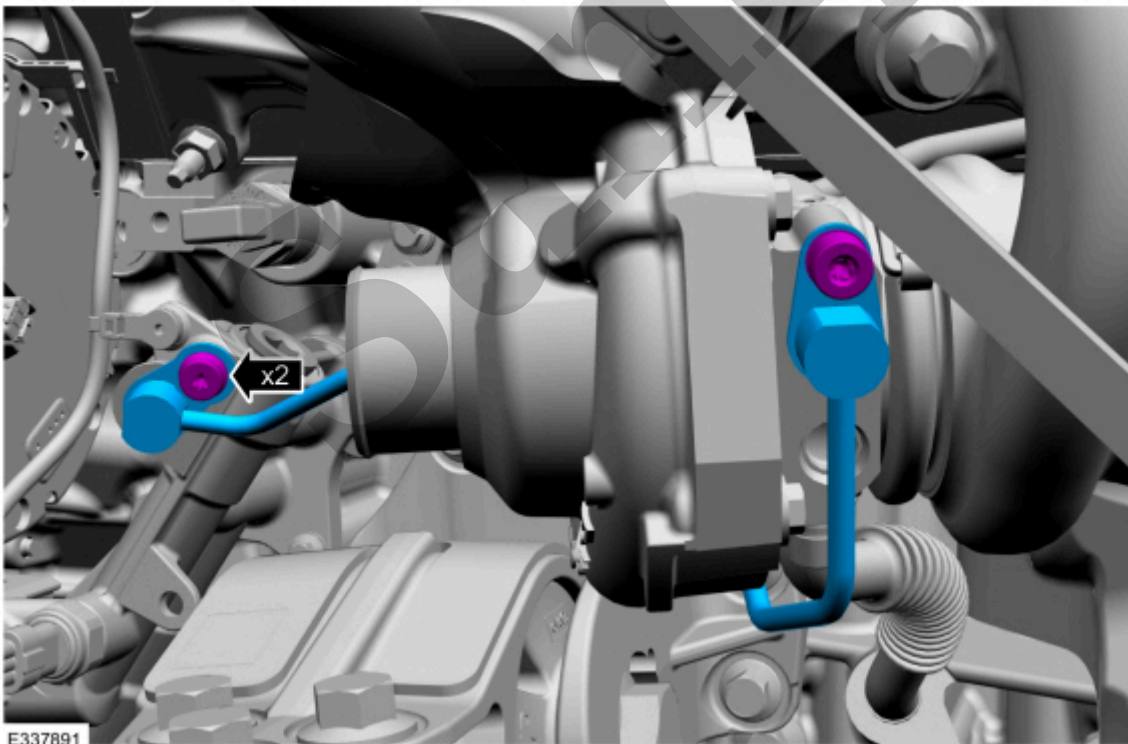
2. Install the oil supply tube and the bolts, by simultaneously fully seating the oil supply tube into the turbocharger bore hole and the engine oil filter adapter bore hole flush to 2.5 mm off the mounting surface prior to tightening the bolts, then tighten the bolts in the following 2 stages.

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°



3. Attach the harness retainer.



Turbocharger Oil Supply Tube RH

303-04G Fuel Charging and Controls - Turbocharger - 3.5L EcoBoost (BM)	2022 F-150
Removal and Installation	Procedure revision date: 07/8/2021

Turbocharger Oil Supply Tube RH

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 lines, 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 lines to ensure that there are no leaks or repeat repairs.

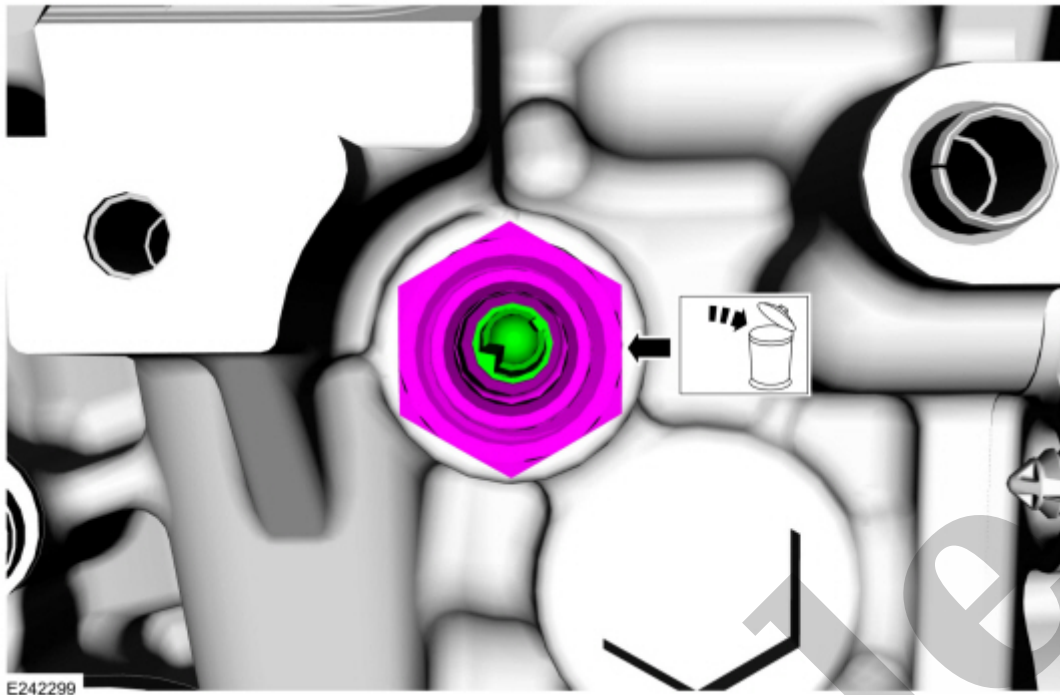
1. With the vehicle in NEUTRAL, position it on a hoist.

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

2. Remove the engine rear undershield.

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

3. Remove the right front fender splash shield.

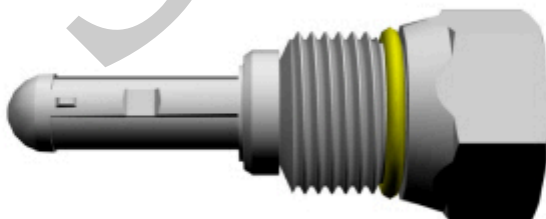


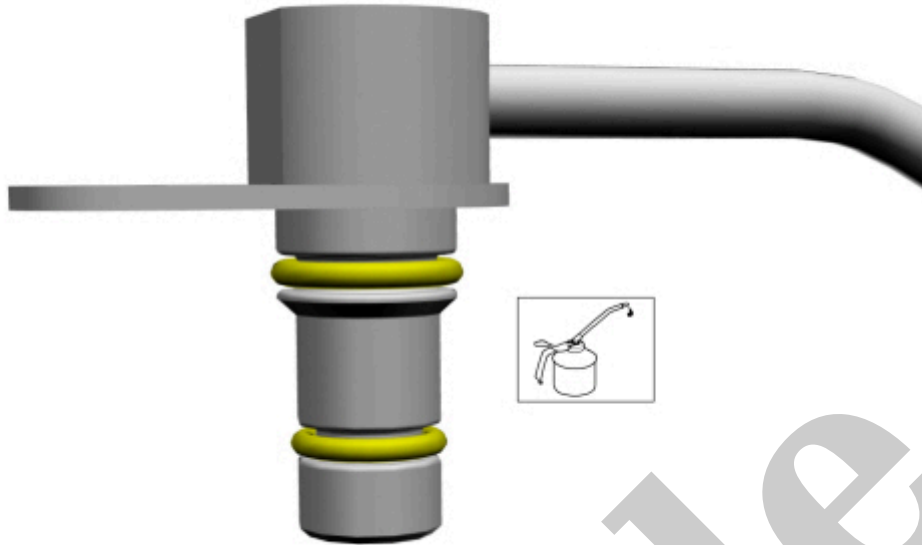
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

Installation

1. Lubricate the new turbocharger fitting and oil filter assembly O-ring seal with clean engine oil.

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





E337912

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

4. 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°



Turbocharger RH

303-04G Fuel Charging and Controls - Turbocharger - 3.5L EcoBoost (BM)	2022 F-150
Removal and Installation	Procedure revision date: 09/8/2022

Turbocharger RH

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.

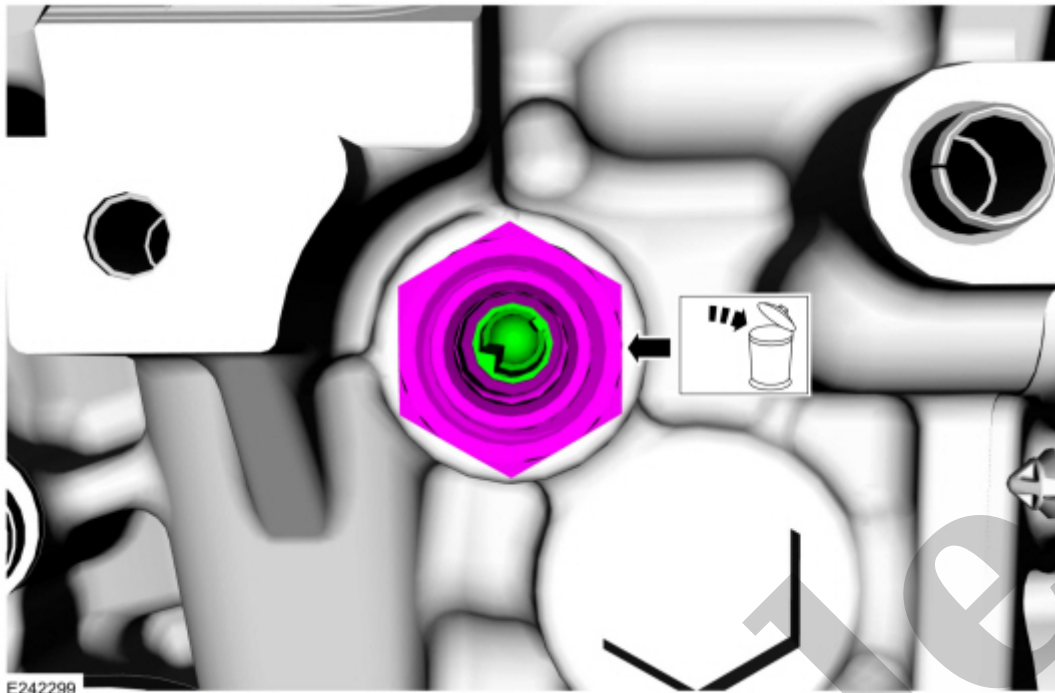
1. Drain the cooling system.

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

2. Remove the engine rear undershield.

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

3. Remove the right front fender splash shield.



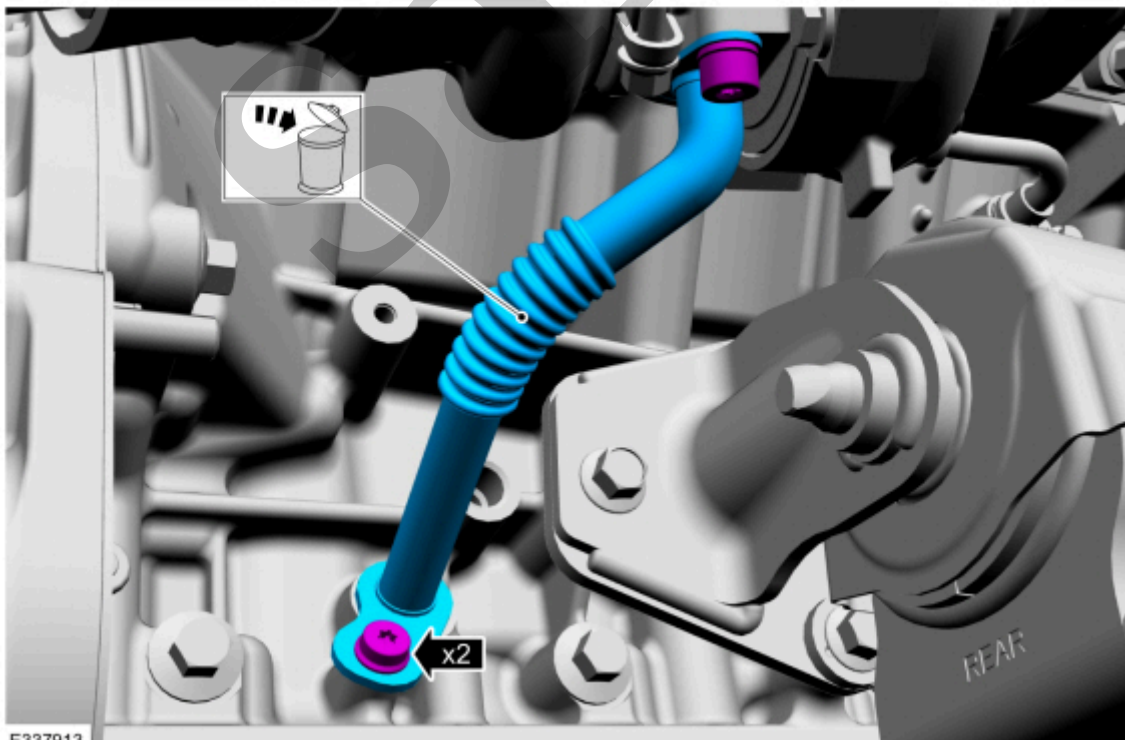
E242299

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

7. Remove the starter motor.

Refer to: [Starter Motor](#)(303-06D Starting System - 3.5L V6 PowerBoost (CN), Removal and Installation).

8. Remove the turbocharger oil return tube bolts, then remove and discard the turbocharger oil return tube.



E337913