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2023 Ford E-450 Super Duty Service and Repair Manual

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Port Injection Fuel Rail

303-04D Fuel Charging and Controls - 3.5L V6 PowerBoost (CN)	2022 F-150
Removal and Installation	Procedure revision date: 12/17/2021

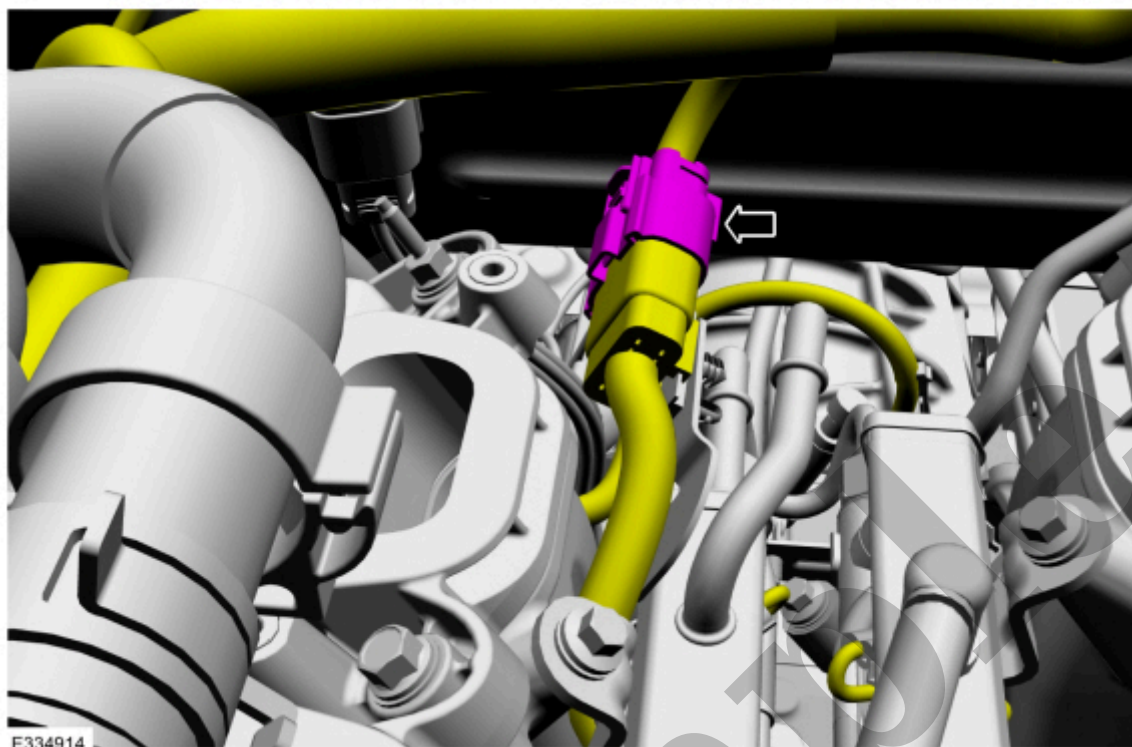
Port Injection Fuel Rail

Removal

1. Release the fuel system pressure.
Refer to: [Fuel System Pressure Release](#)(310-00C Fuel System - General Information - 3.5L EcoBoost (BM), General Procedures).
2. Disconnect the battery negative cable.
Refer to: [Battery Disconnect and Connect - Electric](#)(414-01 Battery, Mounting and Cables, General Procedures).
3. Remove the intake manifold.
Refer to: [Intake Manifold](#)(303-01C Engine - 3.5L EcoBoost (BM), Removal and Installation).
4. Disconnect the fuel rail fuel tube quick release coupling.
Refer to: [Quick Release Coupling](#)(310-00D Fuel System - General Information - 3.5L V6 PowerBoost (CN), General Procedures).

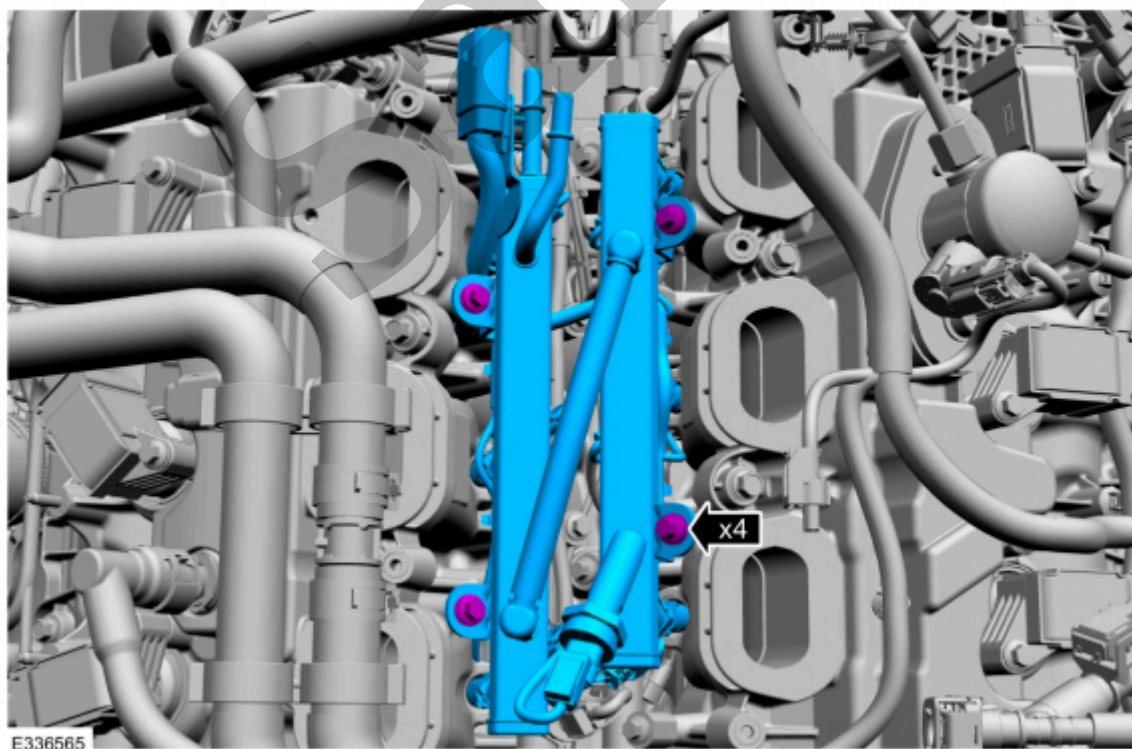
[Click here to learn about symbols, color coding, and icons used in this manual.](#)

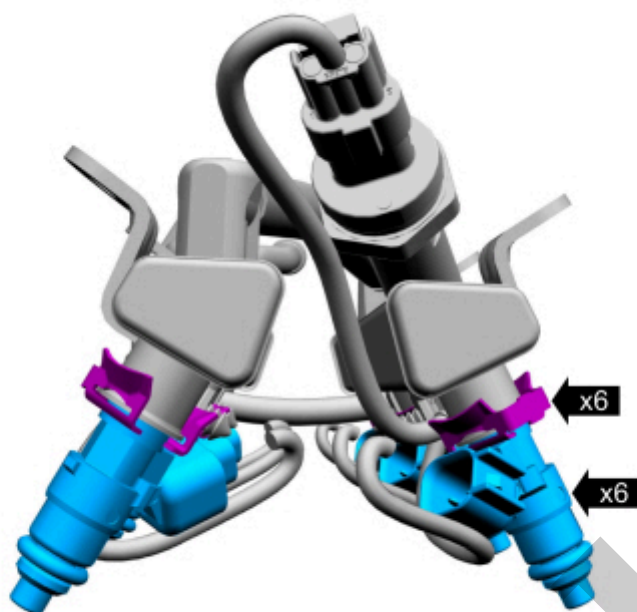
6. Disconnect the main fuel injector harness electrical connector.



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7. Remove the fuel rail bolts, then remove the fuel rail.

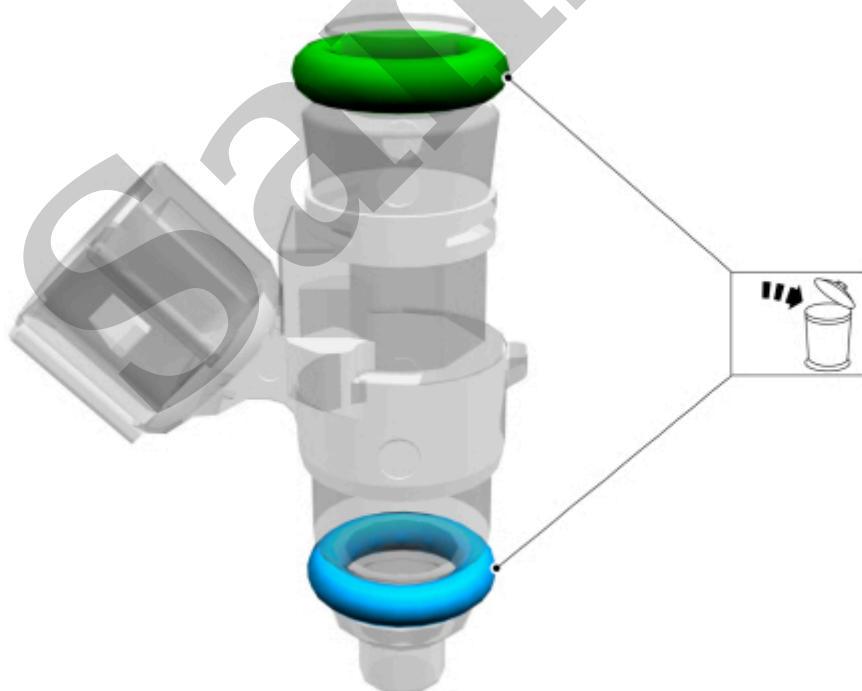




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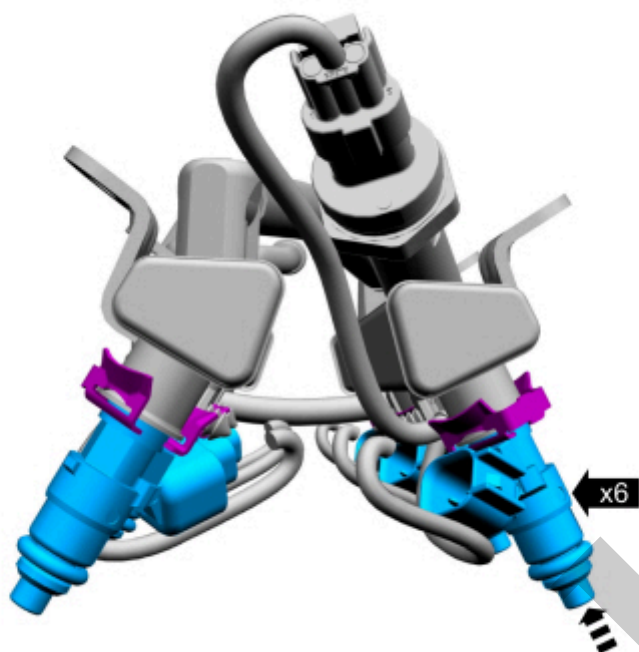
10. Remove and discard all of the fuel injector O-ring seals.



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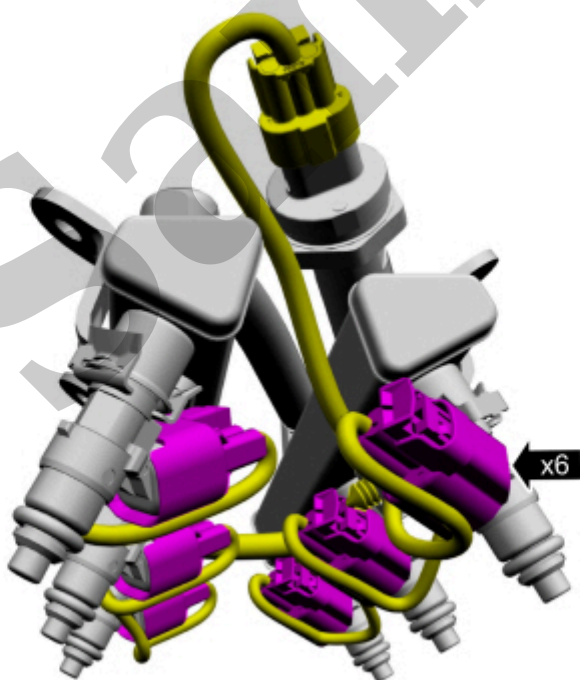
Installation



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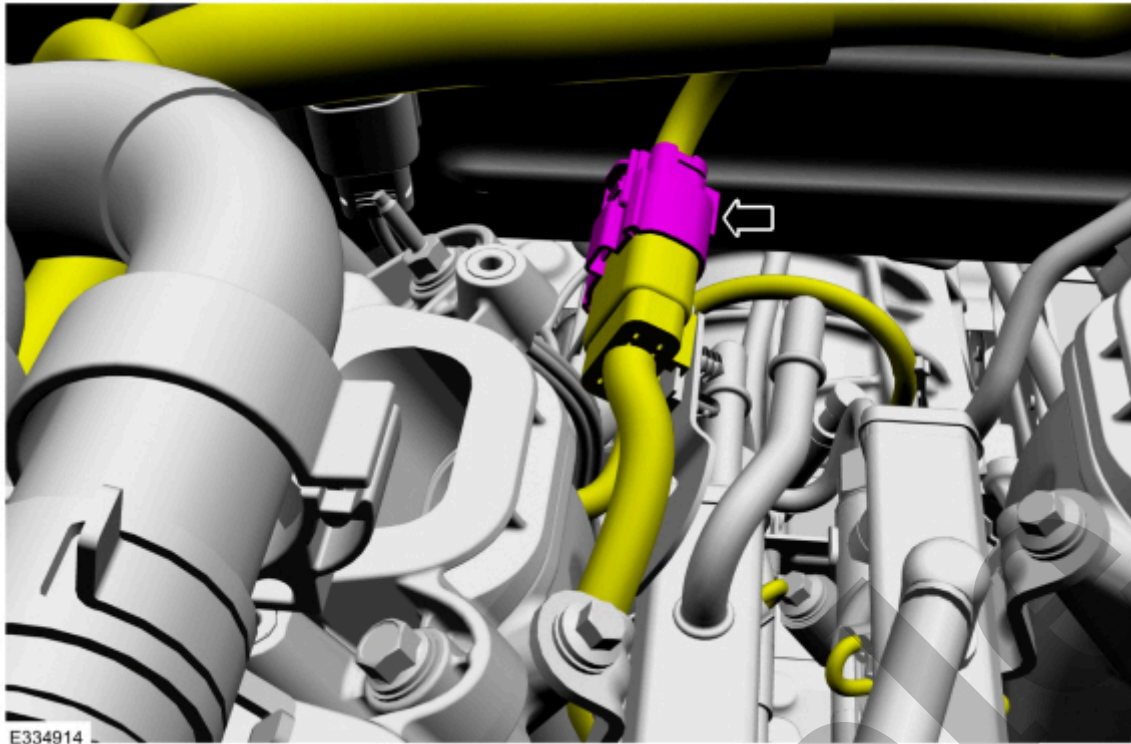
3. Connect the fuel injector electrical connectors.



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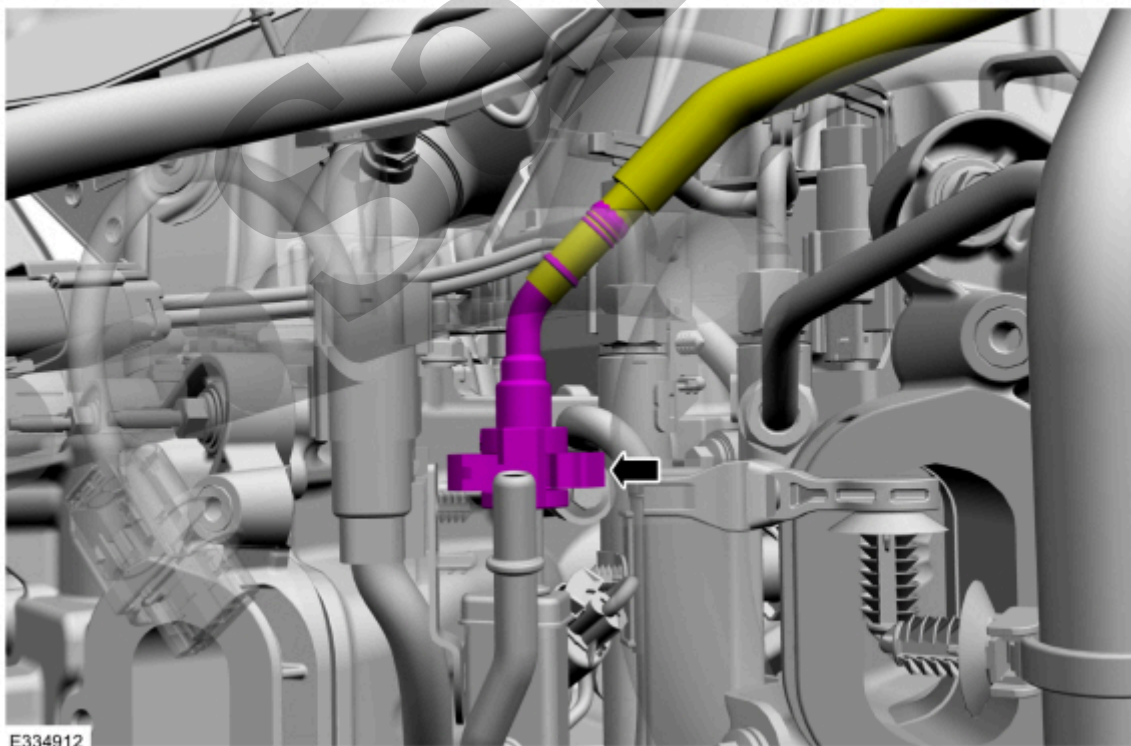
4. Install the fuel rail, then install and tighten the fuel rail bolts in the following 2 stages.



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

6. Connect the fuel rail fuel tube quick release coupling.

Refer to: [Quick Release Coupling](#)(310-00D Fuel System - General Information - 3.5L V6 PowerBoost (CN), General Procedures).





Throttle Body

303-04D Fuel Charging and Controls - 3.5L V6 PowerBoost (CN)	2022 F-150
Removal and Installation	Procedure revision date: 09/8/2022

Throttle Body

Removal

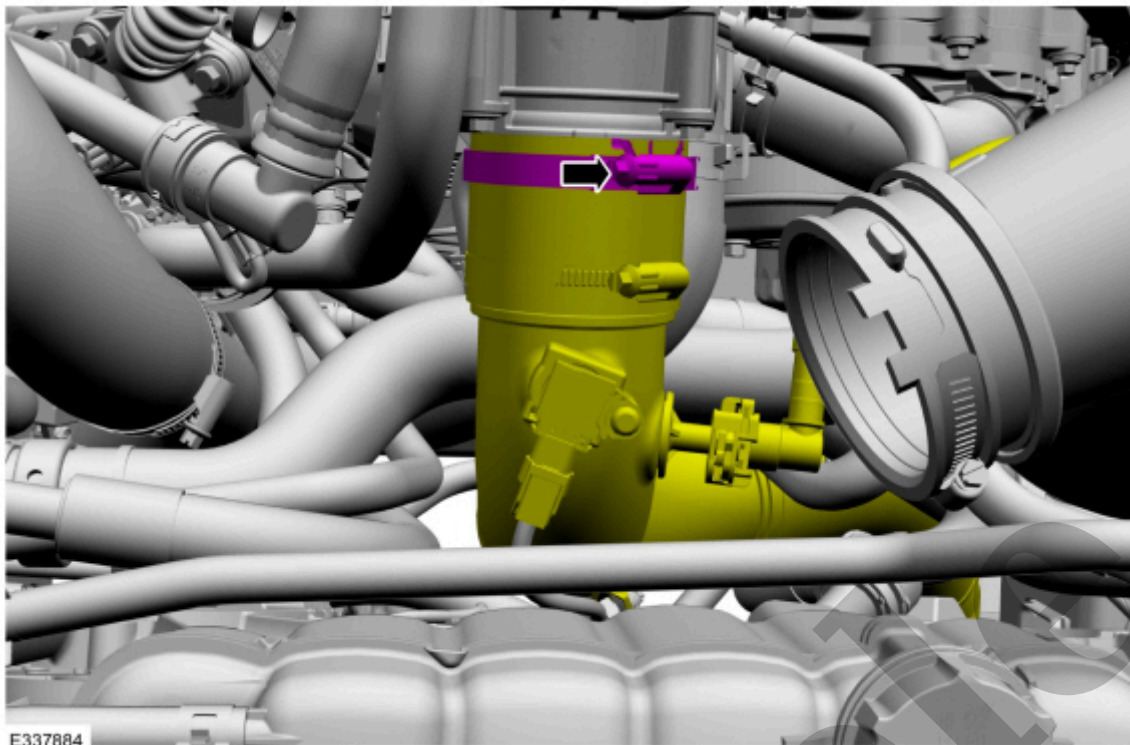
NOTICE

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.

1. NOTE

PowerBoost shown, EcoBoost is similar.

Remove the engine appearance cover retainers, release the engine appearance cover from the rear retaining tabs on the intake manifold, then remove the engine appearance cover.



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4. **NOTE**

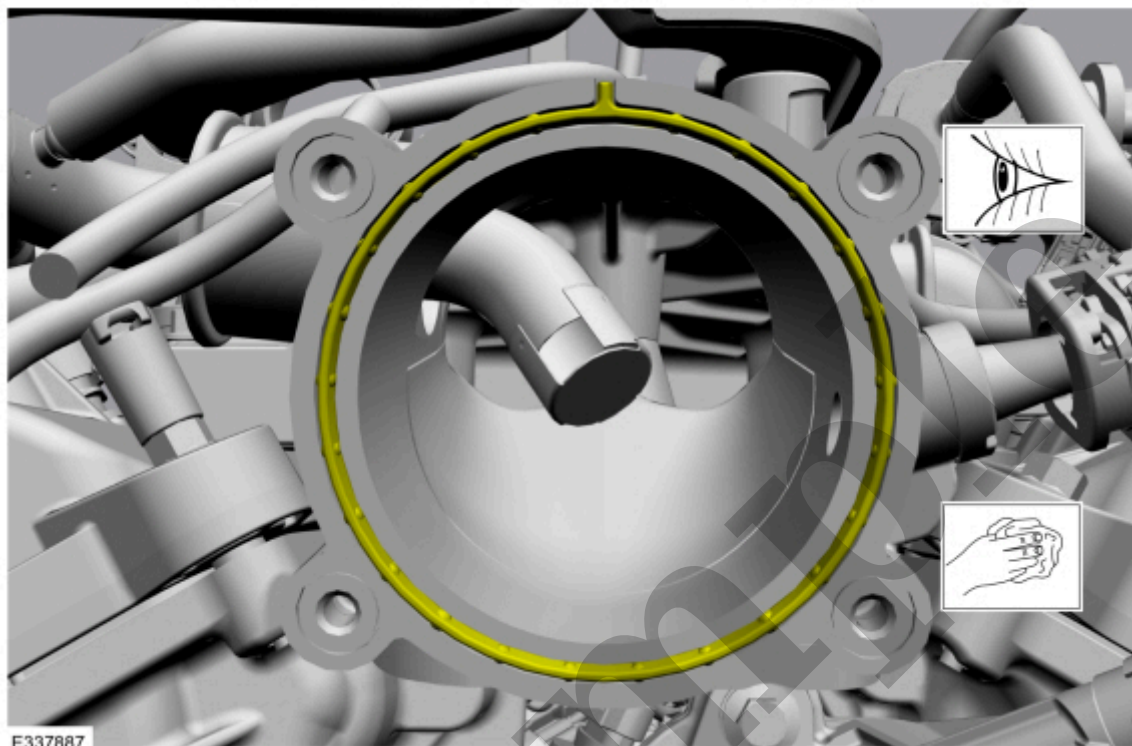
When disconnecting the throttle body electrical connector disengage the red locking tab on the throttle body electrical connector by sliding it to the rear of the throttle body electrical connector, away from the throttle body. Squeeze the throttle body electrical connector while removing.

Disconnect the throttle body electrical connector.

1. NOTICE

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

2. Inspect the throttle body gasket, clean and replace the throttle body gasket as needed.



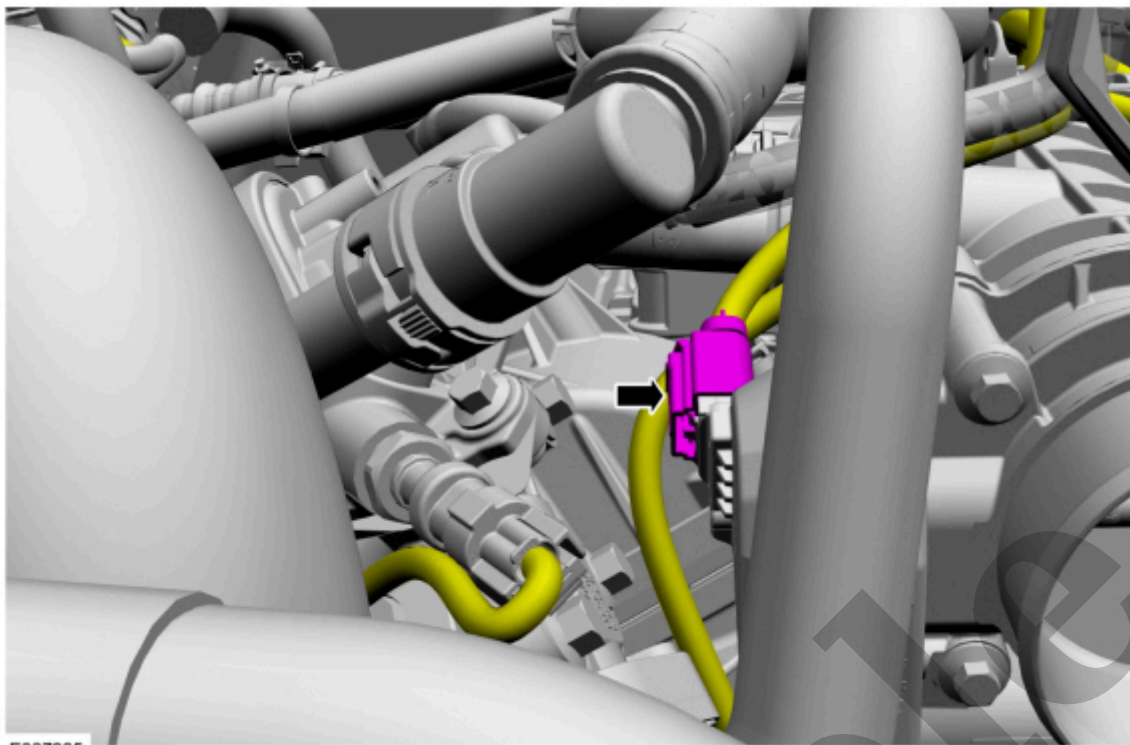
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3. Install the throttle body, then install and tighten the throttle body bolts in the following 2 stages.

Torque :

Stage 1: 89 lb.in (10 Nm)

Stage 2: 90°

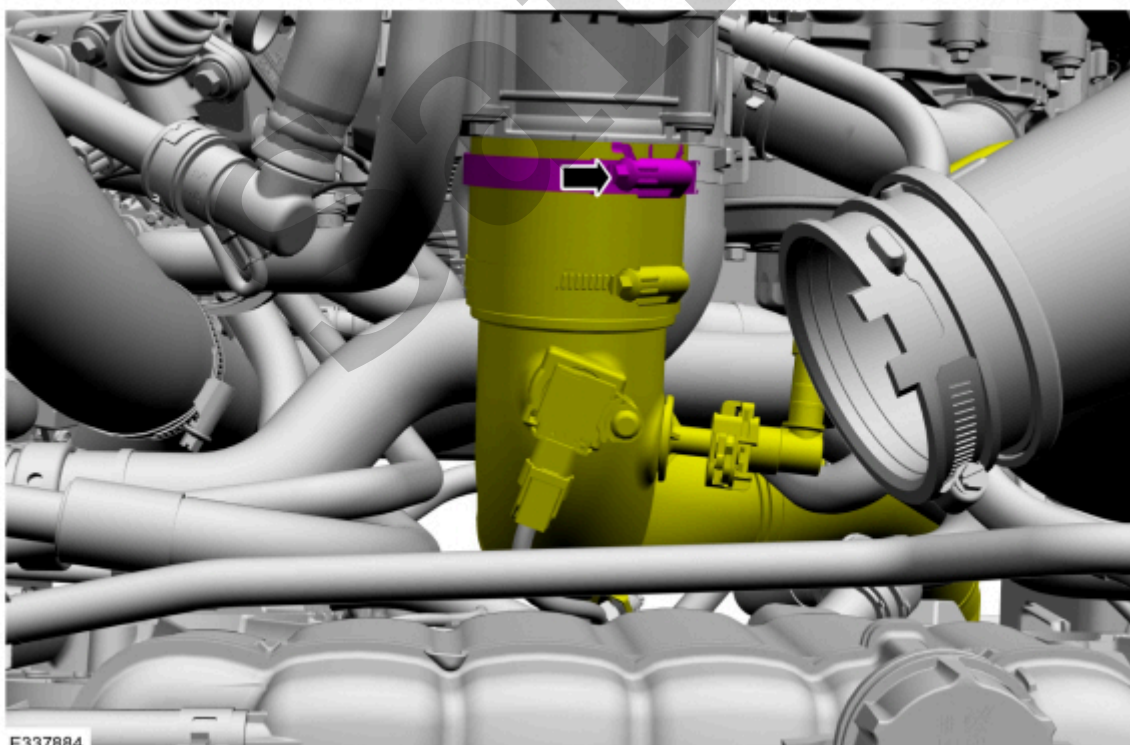


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5. Install the charge air cooler outlet pipe, then tighten the charge air cooler outlet pipe clamp.

Torque : 44 lb.in (5.0 Nm)



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