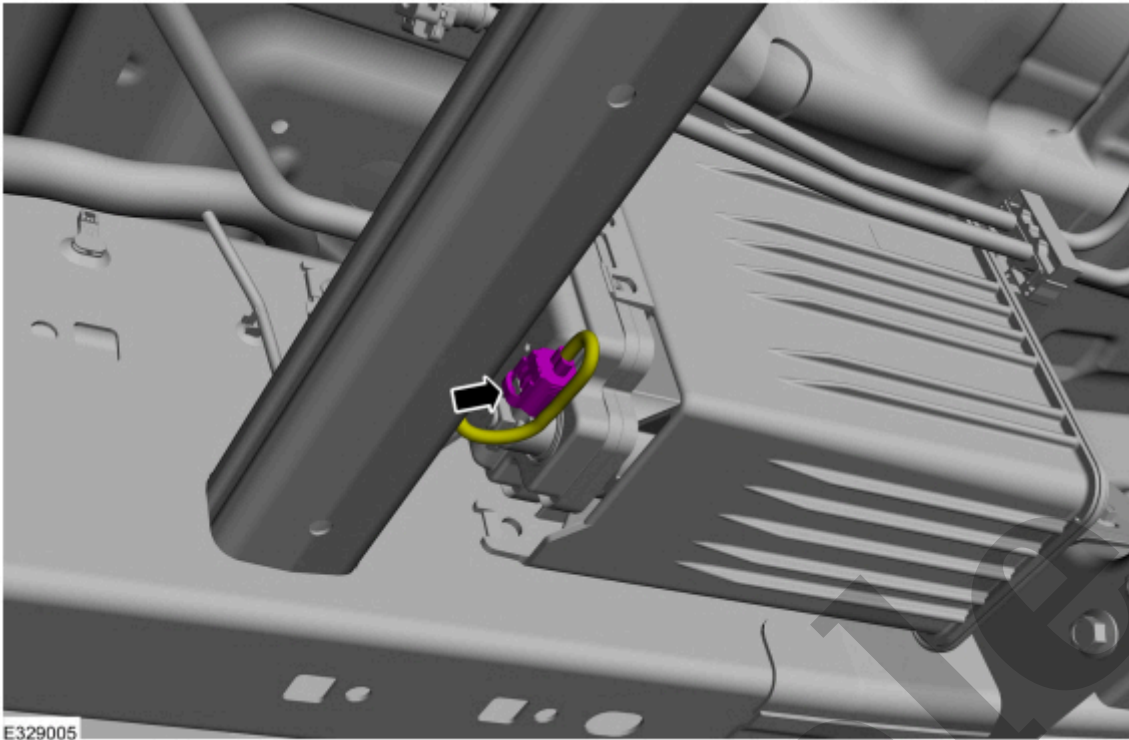


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2022 Ford Maverick Service and Repair Manual

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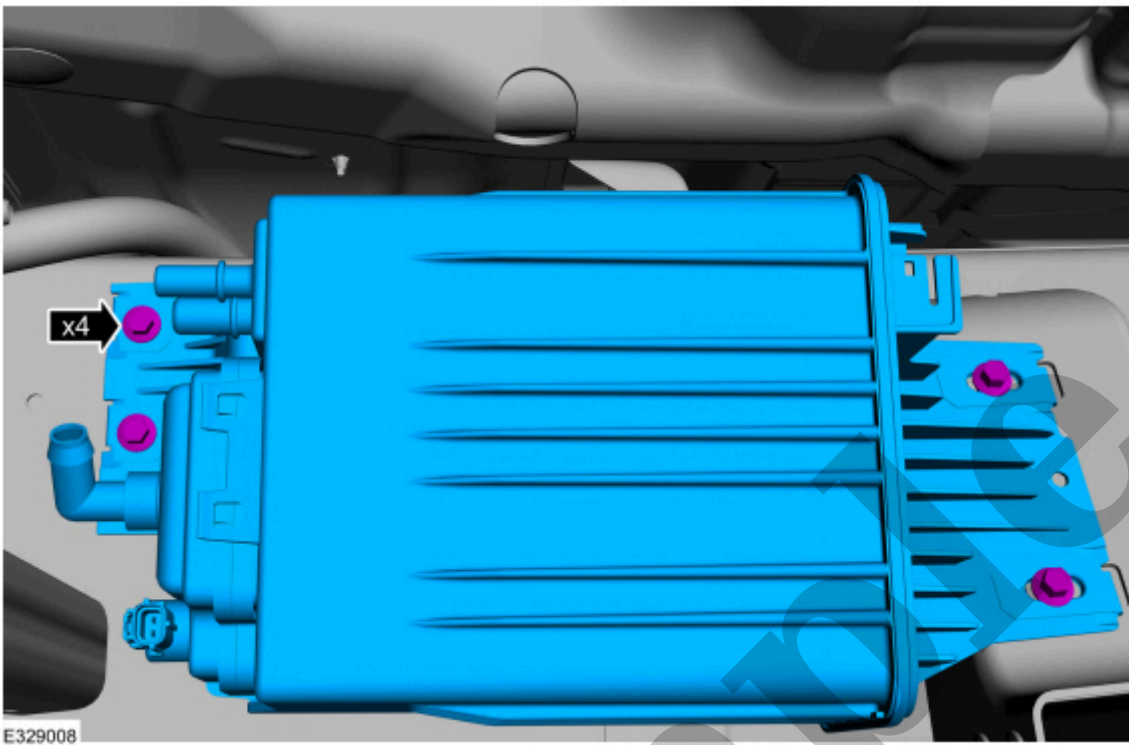
7.
 - Disconnect the quick release couplings.

Refer to: [Quick Release Coupling](#) (310-00C Fuel System - General Information - 3.5L EcoBoost (BM), General Procedures).

- Disconnect the fresh air hose.

9. Remove the bolts and the EVAP (evaporative emission) canister.

Torque : 124 lb.in (14 Nm)



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Type - 3

10. Disconnect the quick release couplings.

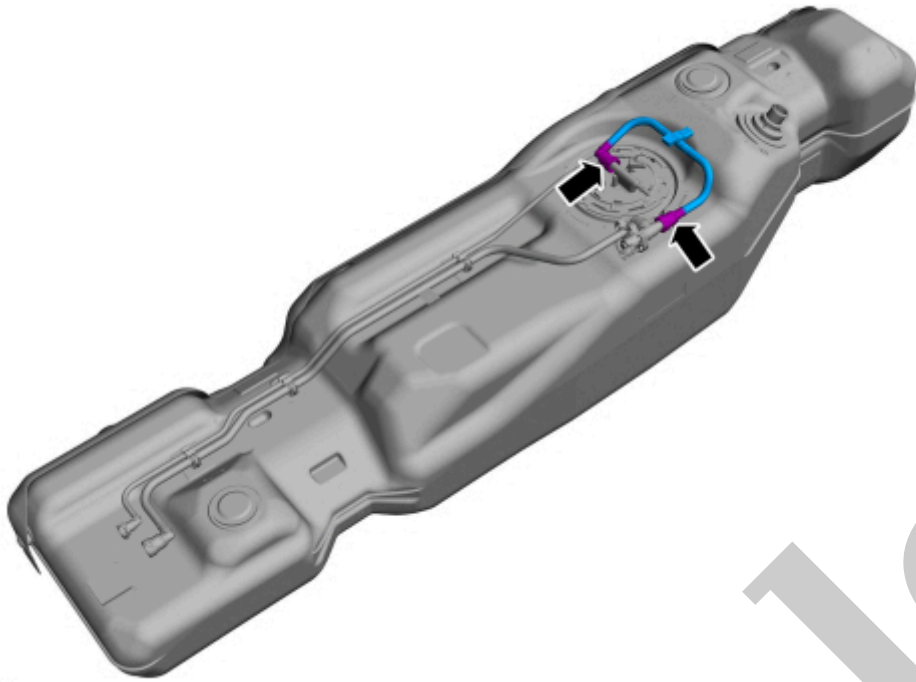
Refer to: [Quick Release Coupling](#)(310-00C Fuel System - General Information - 3.5L EcoBoost (BM), General Procedures).

Installation

1. To install, reverse the removal procedure.

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Sample



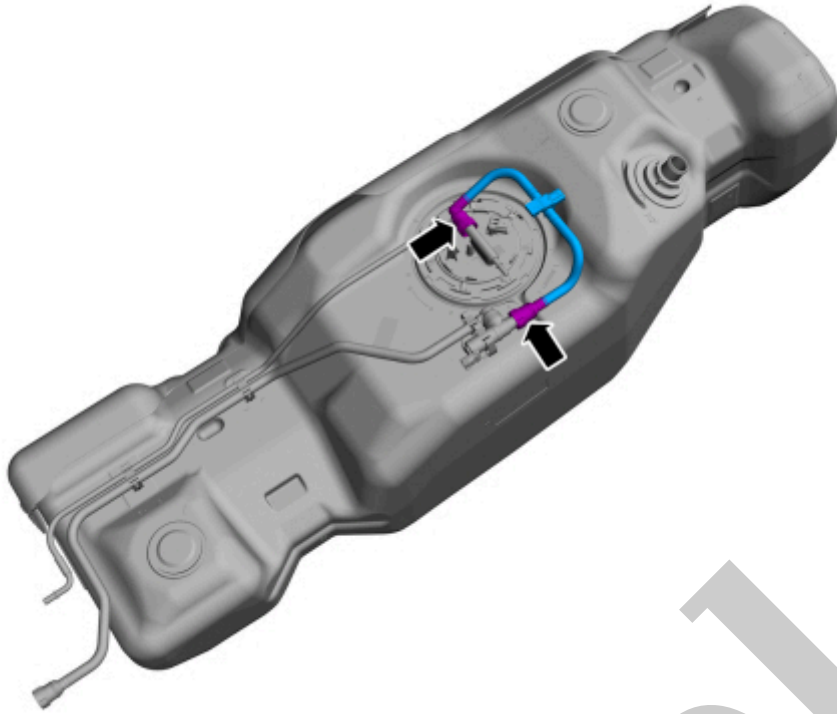
E332165

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Installation

1. To install, reverse the removal procedure.

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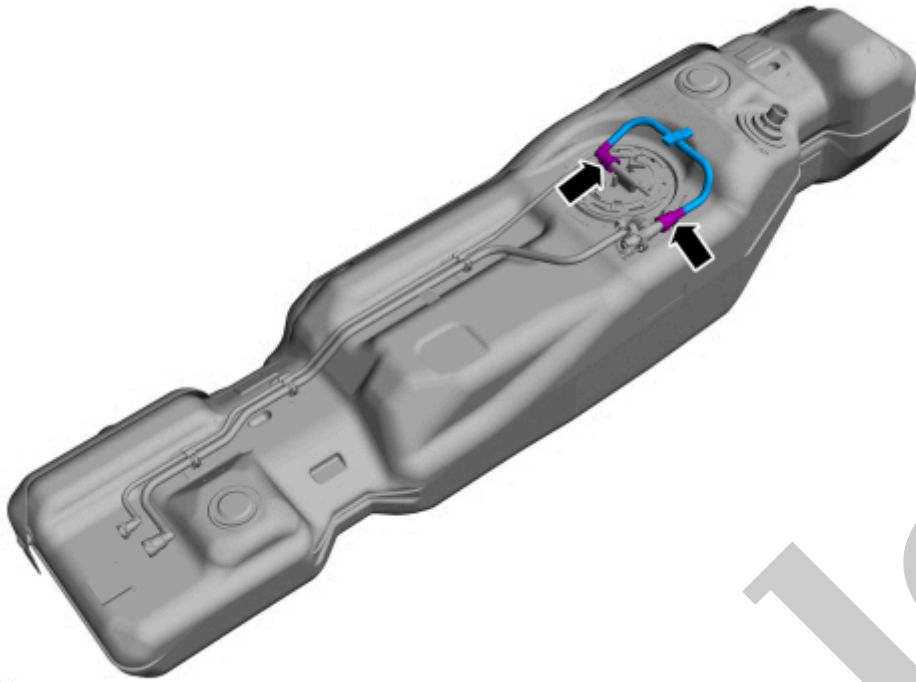
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Type - 2

3. Disconnect the quick release couplings and remove the fuel tank pressure sensor and tube.

Refer to: [Quick Release Coupling](#)(310-00C Fuel System - General Information - 3.5L EcoBoost (BM), General Procedures).



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Installation

1. To install, reverse the removal procedure.

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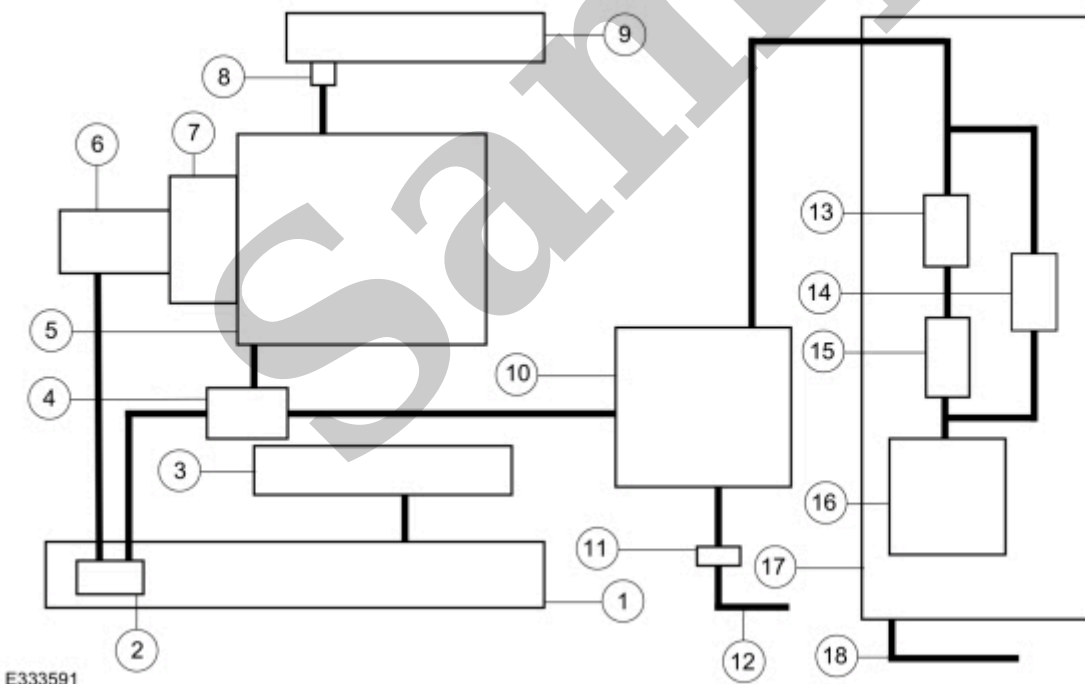
Evaporative Emissions - System Operation and Component Description

303-13D Evaporative Emissions - 3.5L V6 PowerBoost (CN)	2022 F-150
Description and Operation	Procedure revision date: 03/16/2022

Evaporative Emissions - System Operation and Component Description

System Operation

System Diagram



Item	Description
1	LH (left-hand) air cleaner outlet pipe

The fuel tank side is normally sealed by the closed FTIV and the FVV which block the flow of vapors from the fuel tank to the EVAP (evaporative emission) canister. This system only allows fuel vapors into the EVAP (evaporative emission) canister during refueling or an excessive fuel tank pressure condition.

During the EVAP (evaporative emission) leak check monitor, the PCM (powertrain control module) controls the EVAP (evaporative emission) leak detection control module to seal the EVAP (evaporative emission) canister from the atmospheric pressure by closing the switching valve and applying the target vacuum in the EVAP (evaporative emission) system by turning ON the vacuum pump. Operation of the system is as follows:

- The FTP sensor monitors the fuel tank pressure and continuously transmits an input signal to the PCM (powertrain control module) .
- The normally closed FVV is a PCM (powertrain control module) controlled valve that blocks the flow of vapors from the fuel tank to the EVAP (evaporative emission) canister. The PCM (powertrain control module) opens the FVV to allow fuel vapors to the EVAP (evaporative emission) canister during refueling.
- The normally closed FTIV is a PCM (powertrain control module) controlled valve that blocks the flow of vapors from the fuel tank to the EVAP (evaporative emission) canister. The FTIV will automatically open to relieve excess pressure or vacuum if the fuel tank pressure or vacuum reaches a maximum calibrated value.
- The EVAP (evaporative emission) leak detection control module is used to seal the EVAP (evaporative emission) system from the atmosphere and apply a vacuum on the EVAP (evaporative emission) system for EVAP (evaporative emission) leak check monitoring. A vacuum pump inside the EVAP (evaporative emission) leak detection control module applies a vacuum on the EVAP (evaporative emission) system as needed during the EVAP (evaporative emission) leak check monitor. The pressure sensor internal to the EVAP (evaporative emission) leak detection control module monitors the system during the EVAP (evaporative emission) leak check monitor.
- The EVAP (evaporative emission) purge valve is used to control the purge flow from the EVAP (evaporative emission) canister during engine running conditions.
- The EVAP (evaporative emission) canister is used on the sealed EVAP (evaporative emission) system to collect fuel vapors during refueling only.
- A valve inside the fuel tank mounted fuel vapor tube assembly prevents liquid fuel from entering the EVAP (evaporative emission) canister and the EVAP (evaporative emission) purge valve under any vehicle altitude, handling, or rollover condition.

Evaporative Emission (EVAP) Leak Check Monitor

The EVAP (evaporative emission) system is a sealed system by the use of the normally closed fuel tank isolation valve (FTIV) and the normally closed fuel vapor vent valve (FVV). If the natural vapor pressure or vacuum generation in the sealed fuel tank is sufficient the PCM (powertrain control module) will command

- The EVAP (evaporative emission) purge valve is used to control the purge flow from the EVAP (evaporative emission) canister during engine running conditions.
- The EVAP (evaporative emission) canister is used on the sealed EVAP system to collect fuel vapors during refueling only.
- A valve inside the fuel vapor tube assembly prevents liquid fuel from entering the EVAP (evaporative emission) canister and the EVAP (evaporative emission) purge valve under any vehicle altitude, handling, or rollover condition.

Component Description

Evaporative Emission (EVAP) Check Valve

The EVAP (evaporative emission) check valve is used on turbocharged engines to prevent boost pressure from forcing open the EVAP (evaporative emission) purge valve and entering the EVAP (evaporative emission) system. The valve is open under normal engine vacuum. The valve closes during boost conditions to prevent the fuel tank from being pressurized and hydrocarbons forced out of the EVAP (evaporative emission) system into the atmosphere through the EVAP (evaporative emission) canister vent valve. When the engine is OFF, or at atmospheric pressure, the EVAP (evaporative emission) check valve is in an indeterminate state. The EVAP (evaporative emission) check valve is an integral part of the EVAP (evaporative emission) purge valve assembly.

The EVAP (evaporative emission) dual check valve allows purge flow during boost conditions. Fuel vapors flow through the EVAP (evaporative emission) dual check valve to the intake air system upstream of the turbocharger before entering the intake manifold. When the engine is OFF, or at atmospheric pressure, the EVAP (evaporative emission) dual check valve is in an indeterminate state.

Evaporative Emission (EVAP) Ejector

The EVAP (evaporative emission) ejector is used on turbocharged engines to create a vacuum in the EVAP (evaporative emission) purge line from the EVAP (evaporative emission) purge valve to the intake air system. During boost conditions, boost pressure flows through a venturi inside the EVAP (evaporative emission) ejector creating a vacuum in the EVAP (evaporative emission) purge line to the intake air inlet to the turbocharger. When the second EVAP (evaporative emission) check valve is open, the purge vapor is drawn through the EVAP (evaporative emission) ejector into the intake air tube, through the turbocharger and charge air cooler, to the intake manifold.

Evaporative Emission (EVAP) Leak Detection Control Module

The EVAP (evaporative emission) leak detection control module consists of a vacuum pump, a pressure sensor, a 0.02" reference orifice and a switching valve. The vacuum pump is used to apply a vacuum across the reference orifice and to apply a vacuum on the EVAP (evaporative emission) system for the EVAP (evaporative emission) leak check monitor. The 0.02" reference orifice is used to obtain a reference check for leak detection every time the EVAP (evaporative emission) monitor runs. The pressure sensor is used to determine the vacuum level across the reference orifice and for the EVAP (evaporative emission) leak