

Fuel Rail

Material

Item	Specification
Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP (US); Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12 (Canada); or equivalent	WSS-M2C930-A

Removal and Installation



WARNING: Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



WARNING: Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



WARNING: Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.



WARNING: Clean all fuel residue from the engine compartment. If not removed, fuel residue may ignite when the engine is returned to operation. Failure to follow this instruction may result in serious personal injury.



WARNING: Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

1. Release the fuel system pressure. For additional information, refer to [Section 310-00](#).
2. Disconnect the battery ground cable. For additional information, refer to [Section 414-01](#).
3. Disconnect the fuel jumper tube-to-fuel rail spring lock coupling. For additional information, refer to [Section 310-00](#).
4. Detach the 2 wiring harness retainers from the fuel rail stud bolts and position the harness aside.
5. Disconnect the fuel rail pressure and temperature sensor vacuum hose retainer from the fuel rail stud bolt.
6. Disconnect the fuel rail pressure and temperature sensor electrical connector and vacuum hose.
7. Disconnect the 8 fuel injector electrical connectors.
8. Remove the 4 fuel rail stud bolts.

- To install, tighten to 10 Nm (89 lb-in).

9. Remove the fuel rail and fuel injectors as an assembly from the intake manifold.
10. **NOTE:** The fuel injector clip can be reused if it is not damaged during removal. If the clip is reused, the 2 sides of the clip should be squeezed back into shape by placing it between index finger and thumb.

Remove the retaining clips and fuel injectors from the fuel rail.

11. **NOTICE:** Use O-ring seals that are made of special fuel-resistant material. Use of ordinary O-ring seals may cause the fuel system to leak. Do not reuse the O-ring seals.

Remove and discard the fuel injector O-ring seals.

12. To install, reverse the removal procedure.
 - Lubricate the new upper and lower fuel injector O-ring seals with clean engine oil prior to installation.
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