

303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS)
General Procedures

2019 Ranger
Procedure revision date: 01/7/2019

Cooling System Flushing

Materials

Name	Specification
Motorcraft® Premium Cooling System Flush VC-1	ESR-M14P7-A

Flushing

 **WARNING:** Always allow the engine to cool before opening the cooling system. Do not unscrew coolant pressure relief cap when the engine is operating or the cooling system is hot. The cooling system is under pressure; steam and hot liquid can come out forcefully when the cap is loosened slightly. Failure to follow these instructions may result in serious personal injury.

NOTE: To remove rust, sludge and other foreign material from the cooling system, use cooling system flush that is safe for use with aluminum radiators. This cleaning restores cooling system efficiency and helps prevent overheating. A pulsating or reversed direction of flushing water will loosen sediment more quickly than a steady flow in the normal coolant flow direction. In severe cases where cleaning solvents will not clean the cooling system efficiently, it will be necessary to use the pressure flushing method using cooling system flusher. Dispose of old coolant and flushing water contaminated with antifreeze and cleaning chemicals in accordance with local, state or federal laws.

NOTE: Do not exceed the pressure mentioned in the table.

1. Add Motorcraft® Premium Cooling System Flush to the cooling system and follow the directions on the package.
Material: Motorcraft® Premium Cooling System Flush / VC-1 (ESR-M14P7-A)
2. Drain the cooling system.
Refer to: [Cooling System Draining, Vacuum Filling and Bleeding](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), General Procedures).
3. Remove the radiator.
Refer to: [Radiator](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
4. **NOTICE: Radiator internal pressure must not exceed 138 kPa (20 psi). Damage to the radiator can result.**

Backflush the radiator with radiator turned so the upper radiator hose is at the top and with a high-pressure hose in the upper hose location.

5. **NOTE: The thermostat and housing are serviced as an assembly.**

Remove the thermostat.
Refer to: [Thermostat](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), Removal and Installation).

6. Backflush the engine. Position the high-pressure water hose into the engine through the lower radiator hose and backflush the engine.
7. Install the thermostat.
Refer to: [Thermostat](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
8. Install the radiator.
Refer to: [Radiator](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
9. Fill and bleed the cooling system.
Refer to: [Cooling System Draining, Vacuum Filling and Bleeding](#) (303-03 Engine Cooling - 2.3L EcoBoost (201kW/273PS), General Procedures).

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