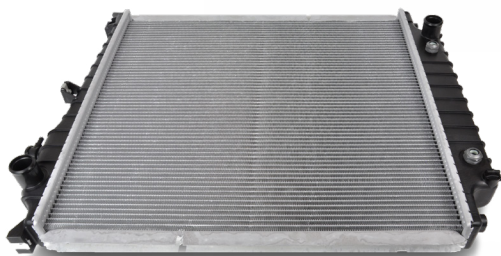




# Cooling System Maintenance

Diesel fuel combustion creates substantially more heat than gasoline combustion. That makes it critical to properly maintain your cooling system, to help prevent overheating of vital engine components and help protect internal engine passages from rust, corrosion and electrolysis damage.

**Your Power Stroke® Diesel's cooling system tackles three big cooling jobs – Engine, Exhaust and Oil**



## Engine Cooling

Engine coolant absorbs excess heat from the engine to help prevent overheating. Heat is released as the coolant is circulated through the radiator at flow rates exceeding 100 gallons per minute in certain engine applications.

## Exhaust Cooling

The Exhaust Gas Recirculation (EGR) Cooler is designed to use engine coolant to reduce exhaust gas temperature. Cooled gas then recirculates into the engine to control emissions.

## Oil Cooling

The oil cooler helps prevent engine oil overheating and breakdown by transferring oil heat into the coolant, which returns to the radiator for cooling.



Visit [PowerStrokeDiesel.com](http://PowerStrokeDiesel.com) for additional information.



### Motorcraft® Premium Antifreeze/Coolant

Recommended by Ford Motor Company meeting warranty requirements.

Fluorescent green-colored, conventional, ethylene glycol-based antifreeze/coolant for use in gasoline and diesel engines, and electric motors.

Provides year-round antifreeze, anti-boil and corrosion protection.

A 50/50 mixture of this Concentrated antifreeze/coolant and distilled water (or just the ready-to-use, Prediluted version of this antifreeze/coolant) provides freeze protection down to -34 °F (-36.7 °C) and boiling protection up to 265 °F (129 °C).

Use only when specified.

Approved to Ford Specification ESE-M97B44-A. Use when Ford Specification ESE-M97B44-A is specified.

Meets or exceeds the requirements of ESE-M97B44-A, ASTM D 3306, Chrysler MS-7170, and ASTM D 4985.

Contains a bittering agent.

### Motorcraft® Gold Antifreeze/Coolant

Recommended by Ford Motor Company meeting warranty requirements.

Yellow-colored, longer-life, ethylene glycol-based antifreeze/coolant for use in gasoline and diesel engines, and electric motors.

Provides year-round antifreeze, anti-boil and corrosion protection.

A 50/50 mixture of this Concentrated antifreeze/coolant and distilled water (or just the ready-to-use, Prediluted version of this antifreeze/coolant) provides freeze protection down to -34 °F (-36.7 °C) and boiling protection up to 265 °F (129 °C).

Use only when specified.

Approved to Ford Specification WSS-M97B51-A1. Use when Ford Specification WSS-M97B51-A1 is specified.

Meets or exceeds the requirements of WSS-M97B51-A1, ASTM D 3306, Chrysler MS-9769, Cummins 14603, and ASTM D 6210.

Contains a bittering agent.

### Motorcraft® Yellow Antifreeze/Coolant

Recommended by Ford Motor Company meeting warranty requirements.

Yellow-colored, ethylene glycol-based antifreeze/coolant for use in gasoline and diesel engines, and electric motors.

Has an extended coolant life: Initial change-out at 10 years or 200,000 miles and every 5 years or 100,000 miles thereafter.

Provides immediate corrosion protection and improved resistance to deposits created by certain chemical reactions.

A 50/50 mixture of this Concentrated antifreeze/coolant and distilled water (or just the ready-to-use, Prediluted version of this antifreeze/coolant) provides year-round freeze protection down to -34 °F (-36.7 °C) and boiling protection up to 265 °F (129 °C).

Use only when specified.

Approved to Ford Specification WSS-M97B57-A1 (Concentrated) and WSS-M97B57-A2 (Prediluted). Use when Ford Specification WSS-M97B51-A1 (Concentrated) and/or WSS-M97B57-A2 (Prediluted) is specified.

Meets or exceeds the requirements of WSS-M97B57-A1 (Concentrated), WSS-M97B57-A2 (Prediluted) and ASTM D 3306.

Contains a bittering agent.

Motorcraft® Engine Coolant Name	Motorcraft® Premium Prediluted Antifreeze/Coolant	Motorcraft® Premium Gold Antifreeze/Coolant	Motorcraft® Premium Yellow Antifreeze/Coolant
	Motorcraft® Concentrated Antifreeze/Coolant	Motorcraft® Concentrated Gold Antifreeze/Coolant	Motorcraft® Concentrated Yellow Antifreeze/Coolant
Concentrated Part Number	VC-5 (USA) CVC-5 (Canada)	VC-7-B and VC-7-D (USA) CVC-7-B2 (Canada)	VC-13-G and VC-13-D (USA) CVC-13-G and CVC-13-P (Canada)
Prediluted Part Number	VC-5DIL (USA)	VC-7DIL-B and VC-7DIL-D (USA) CVC-7DIL-B2 (Canada)	VC-13DL-G and VC-13DL-D (USA) CVC-13DL-G and CVC-13DL-P (Canada)

# When should I flush my Power Stroke® Diesel engine's cooling system?

A coolant flush should be performed when contaminants are found inside the engine's cooling system. If a flush is needed, use Motorcraft® VC-9 Diesel Cooling System Iron Cleaner. Motorcraft VC-9 is designed to remove rust and other cooling system contaminants that restrict flow inside the cooling system.

## Hard Water Alert

- Using water that has not been deionized may contribute to deposit formation, corrosion and plugging of small cooling system passageways
- Options for maintaining your cooling system:
  - Use approved prediluted antifreeze/coolant
  - Use distilled water to dilute concentrated antifreeze/coolant to a 50/50 mixture

## Use with the following products:

	Premium	Gold	Yellow
<b>VC-1 - Motorcraft® Premium Cooling System Flush</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>VC-8 - Motorcraft® Diesel Cooling System Additive</b>	<b>Yes</b> , but use only in diesel engine-equipped vehicles. Use only as recommended	<b>Yes</b> , but use only in diesel engine-equipped vehicles. Use only as recommended	<b>No</b>
<b>VC-9 - Motorcraft® Engine Cooling System Iron Cleaner (for industrial use only)</b>	<b>Yes</b> , but use only when directed per the vehicle's Workshop Manual or a Technical Service Bulletin (TSB)	<b>Yes</b> , but use only when directed per the vehicle's Workshop Manual or a Technical Service Bulletin (TSB)	<b>Yes</b> , but use only when directed per the vehicle's Workshop Manual or a Technical Service Bulletin (TSB)
<b>VC-12 - Motorcraft® Specialty Orange Engine Coolant Revitalizer</b>	<b>No</b>	<b>No</b>	<b>Yes</b> , but only when mixed with Motorcraft® Orange Antifreeze/Coolant with the following vehicles: <ul style="list-style-type: none"> <li>2011 - 2019 (built prior to 7/9/18) diesel engine-equipped F-Series Super Duty®</li> <li>2016 - 2019 (built prior to 7/16/18) diesel engine-equipped F-650 and F-75</li> <li>Use only as recommended</li> </ul>
<b>Acustrip® 3-Way HD Antifreeze Coolant Test Kit, Rotunda part numbers 328-2050-62291 and 328-20503R</b>	<b>Yes</b> , but for use only with diesel engine-equipped vehicles	<b>Yes</b> , but for use only with diesel engine-equipped vehicles	<b>Yes</b> , but use only as recommended to check coolant for nitrite contamination
<b>Corrosion Protection (Test Kits) for Extended Life Coolant (ELC), Rotunda part number 328-R071-ELC</b>	<b>No</b>	<b>No</b>	<b>Yes</b> , but only when mixed with Motorcraft® Orange Antifreeze/Coolant with the following vehicles: <ul style="list-style-type: none"> <li>2011 - 2019 (built prior to 7/9/18) diesel engine-equipped F-Series Super Duty</li> <li>2016 - 2019 (built prior to 7/16/18) diesel engine-equipped F-650 and F-75</li> <li>Use only as recommended</li> </ul>





## Keep Tabs On Your Power Stroke® Diesel's Cooling System

- Use OE replacement parts to ensure the reliability you expect from your Power Stroke Diesel
- Use the proper Motorcraft® Antifreeze/Coolant type for your specific engine model
- Use the correct Rotunda Coolant Test Strips to test for coolant quality
- Follow Diesel cooling system check and change intervals for your specific engine model, using only service parts recommended by Ford Motor Company
- Do not mix different colors or types of antifreeze/coolant in your vehicle unless directed by the vehicle manufacturer to do so. It is important to use the correct antifreeze/coolant
- Mixing of antifreeze/coolants or using an incorrect antifreeze/coolant may harm the engine or cooling system components and may not be covered by the vehicle Warranty

## Keep It All Original

**Genuine Ford and Motorcraft replacement parts are the only parts Ford Motor Company recommends for your Power Stroke Diesel.**

### Motorcraft® Antifreeze/Coolants

Motorcraft Coolants offer the proper additive levels to help protect your Power Stroke Diesel engine from cooling passage corrosion, oil cooler or EGR cooler clogging and cylinder wall cavitation.

### Genuine Ford Oil Cooler

The Genuine Ford Oil Cooler helps to ensure proper cooling and flow rates.

## 2-Years/Unlimited Nationwide Warranty

### Risks of Using Aftermarket Components

#### Aftermarket Antifreeze/Coolant

- The wrong coolant or mixing coolant types can result in sludging, corrosion, and overheating and cavitation
- An aftermarket coolant may not have the correct additives to protect your Power Stroke Diesel engine
- Protect your engine – and your warranty – with fresh Motorcraft Antifreeze/Coolant

#### Aftermarket EGR Coolers & Delete Kits

- An EGR Cooler that does not meet Ford Motor Company specifications may be less efficient at removing heat, resulting in excess heat through the intake system
- Installing a Delete Kit in your Power Stroke Diesel may increase emissions, degrade head gaskets, overheat valves and violate Emissions and Anti-Tampering Laws, which may void your warranty and result in fines



Visit [PowerStrokeDiesel.com](http://PowerStrokeDiesel.com) for additional information.