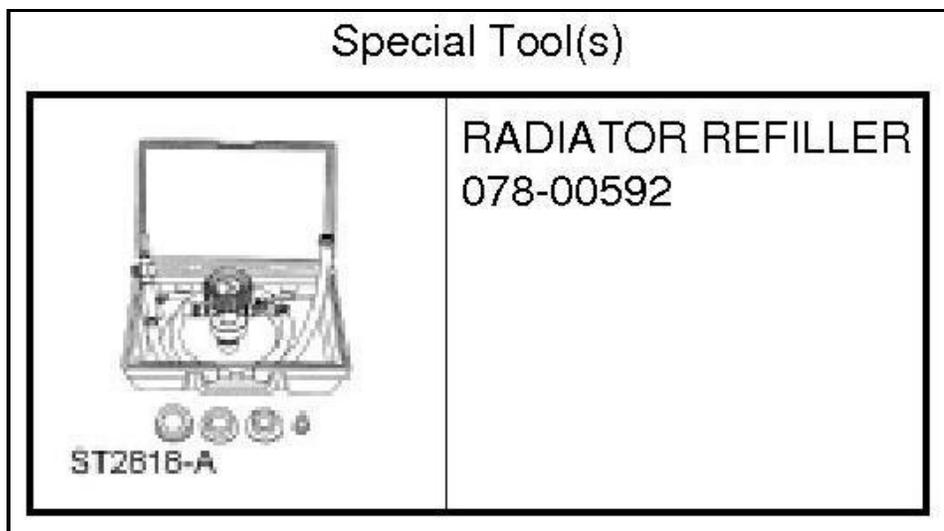


Cooling System Draining, Filling and Bleeding



Material	
Item	Specification
Motorcraft® Premium Gold Engine Coolant with Bittering Agent (bittered in US only) VC-7-B (US); CVC-7-A (Canada); or equivalent (yellow color)	WSS-M97B51-A1

Draining

WARNING: Always allow the engine to cool before opening the cooling system. Do not unscrew the 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.

NOTICE: The coolant must be recovered in a suitable, clean container for reuse. If the coolant is contaminated, it must be recycled or disposed of correctly. Using contaminated coolant may result in damage to the engine or cooling system components.

NOTICE: The engine cooling system is filled with Motorcraft Premium Gold Engine Coolant. Mixing coolant types degrades the corrosion protection of Motorcraft Premium Gold Engine Coolant.

NOTE: Stop-leak style pellets/products must not be used as an additive in this engine cooling system. The addition of stop-leak style pellets/products can clog or damage the cooling system, resulting in degraded cooling system performance and/or failure.

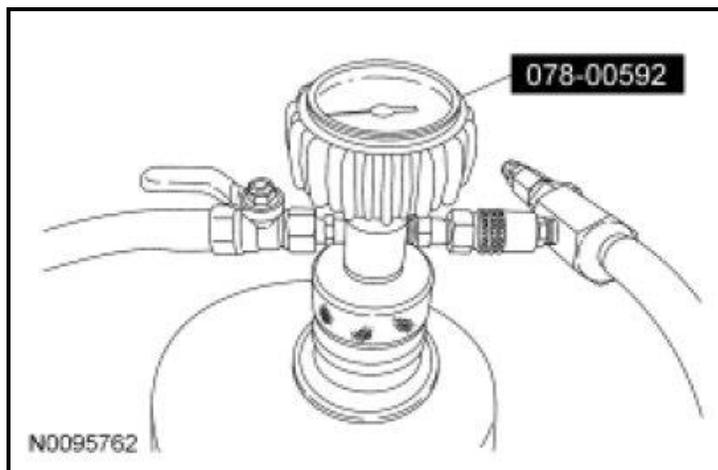
NOTE: Less than 80% of coolant capacity can be recovered with the engine in the vehicle. Dirty, rusty or contaminated coolant requires replacement.

1. With the vehicle in NEUTRAL, position it on a hoist.
2. Release the pressure in the cooling system by slowly turning the pressure relief cap one half turn counterclockwise. When the pressure is released, remove the pressure relief cap.
3. Place a suitable container below the radiator draincock.
 - Open the draincock and allow to drain.

- Close the draincock after draining.

Filling and Bleeding with RADIATOR REFILLER

1. Install the RADIATOR REFILLER and follow the manufacturer's instructions to fill and bleed the cooling system.



Filling and Bleeding without RADIATOR REFILLER

NOTICE: Engine coolant provides freeze protection, boil protection, cooling efficiency and corrosion protection to the engine and cooling components. In order to obtain these protections, the engine coolant must be maintained at the correct concentration and fluid level in the degas bottle.

When adding engine coolant, use a 50/50 mixture of engine coolant and distilled water.

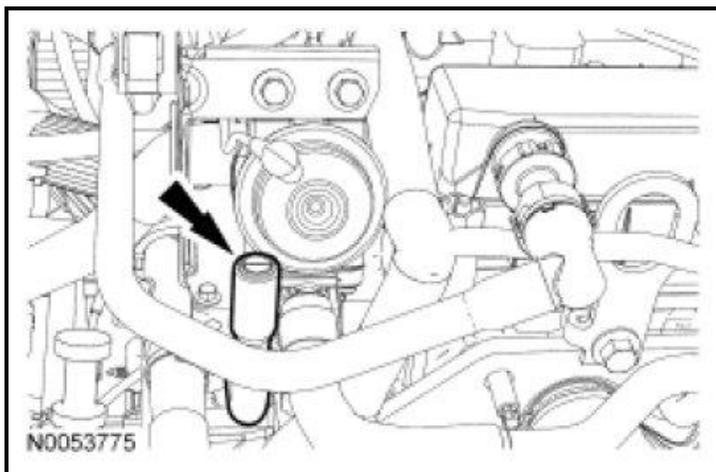
To maintain the integrity of the coolant and the cooling system:

- Vehicle cooling systems are filled with Motorcraft Premium Gold Engine Coolant. Always fill the cooling system with the same coolant that is present in the system. Do not mix coolant types.
- Do not add/mix orange-colored Motorcraft Specialty Orange Engine Coolant or equivalent meeting Ford specification WSS-M97B44-D or green-colored Premium Engine Coolant. Mixing coolants may degrade the coolant's corrosion protection.
- Do not add alcohol, methanol or brine, or any engine coolants mixed with alcohol or methanol antifreeze. These can cause engine damage from overheating or freezing.
- Ford Motor Company does NOT recommend the use of recycled engine coolant in vehicles originally equipped with Motorcraft Premium Gold Engine Coolant since a Ford-approved recycling process is not yet available.
- Used engine coolant should be disposed of in an appropriate manner. Follow the community's regulations and standards for recycling and disposing of automotive fluids.

NOTE: Stop-leak style pellets/products must not be used as an additive in this engine cooling system. The addition of stop-leak style pellets/products can clog or damage the cooling system, resulting in degraded cooling system performance and/or failure.

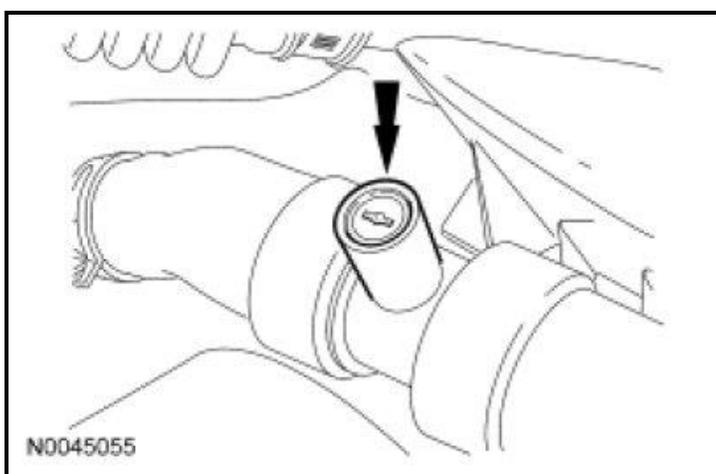
2.3L engine

1. Open the degas bottle cap and the bleed valve on the back of the engine water outlet.



3.0L engine

2. Open the degas bottle cap and the bleed valve on the upper radiator hose.



2.3L and 3.0L engines

3. **NOTE:** Make sure the coolant flows from the radiator through the upper radiator hose and fills the engine. When full, coolant should flow from the bleed hole.

Fill the degas bottle to the MAX fill line.

4. Close the degas bottle cap and the bleed valve.

5. **NOTICE:** If the engine overheats or the fluid level drops below the minimum fill line, shut off the engine and add fluid to the degas bottle maximum fill line once the engine cools. Failure to follow these instructions may result in damage to the engine.

Start the engine and let it idle for 10 minutes (3.0L), 30 minutes (2.3L) or until the engine reaches normal operating temperature.

6. Allow the engine to cool and repeat Step 3 if necessary.

7. Start the engine and turn the heater to the MAX position.

8. **NOTICE:** If the engine overheats or the fluid level drops below the minimum fill line, shut off the engine and add fluid to the degas bottle maximum fill line once the engine cools. Failure to follow these instructions may result in damage to the engine.

Run the engine at 2,500 rpm for 10 minutes.

9. Repeat Step 8 if necessary.

10. WARNING: Always allow the engine to cool before opening the cooling system. Do not unscrew the 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.

Check the engine coolant level in degas bottle and fill as necessary.

3.5L engine

11. Open the degas bottle cap and fill the degas bottle to the MAX fill line.

12. Close the degas bottle cap.

13. NOTICE: If the engine overheats or the fluid level drops below the minimum fill line, shut off the engine and add fluid to the degas bottle maximum fill line once the engine cools. Failure to follow these instructions may result in damage to the engine.

Start the engine and let idle for 10 minutes or until the engine reaches normal operating temperature.

14. Repeat Step 13 if necessary.

15. Start the engine and turn the heater to the MAX position.

16. NOTICE: If the engine overheats or the fluid level drops below the minimum fill line, shut off the engine and add fluid to the degas bottle maximum fill line once the engine cools. Failure to follow these instructions may result in damage to the engine.

Idle engine until the fan turns on, indicating the thermostat is fully open.

1. Increase engine speed to 2,500 rpm for 30 seconds.

2. Idle engine for 2 minutes.

3. Repeat Steps 1 and 2 five times.

17. Repeat Step 16 if necessary.

18. WARNING: Always allow the engine to cool before opening the cooling system. Do not unscrew the 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.

Check the engine coolant level in the degas bottle and fill as necessary.

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