



RACING

303-03B Engine Cooling - 5.0L 32V Ti-VCT (Mustang Dark Horse R)

2025 Mustang Dark Horse R

General Procedures

Procedure revision date:
04/20/2026

Engine Cooling System Draining, Vacuum Filling and Bleeding


Special Tool(s) / General Equipment

Cooling System Vacuum Tester and Refiller

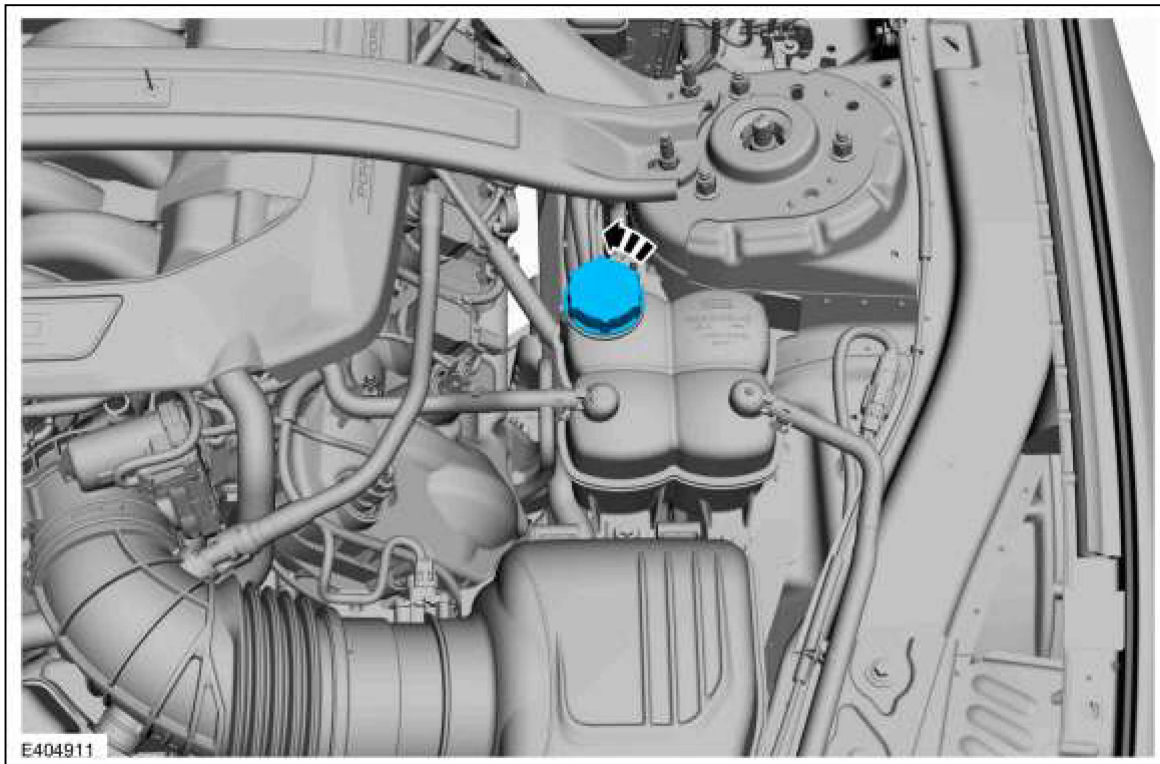
Draining

1. Follow the engine cooling system health and safety precautions.



 **WARNING:** Always allow the cooling system to cool before opening the system. Do not unscrew the coolant pressure relief cap when the cooling system is operating or 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.

Remove the pressure relief cap.



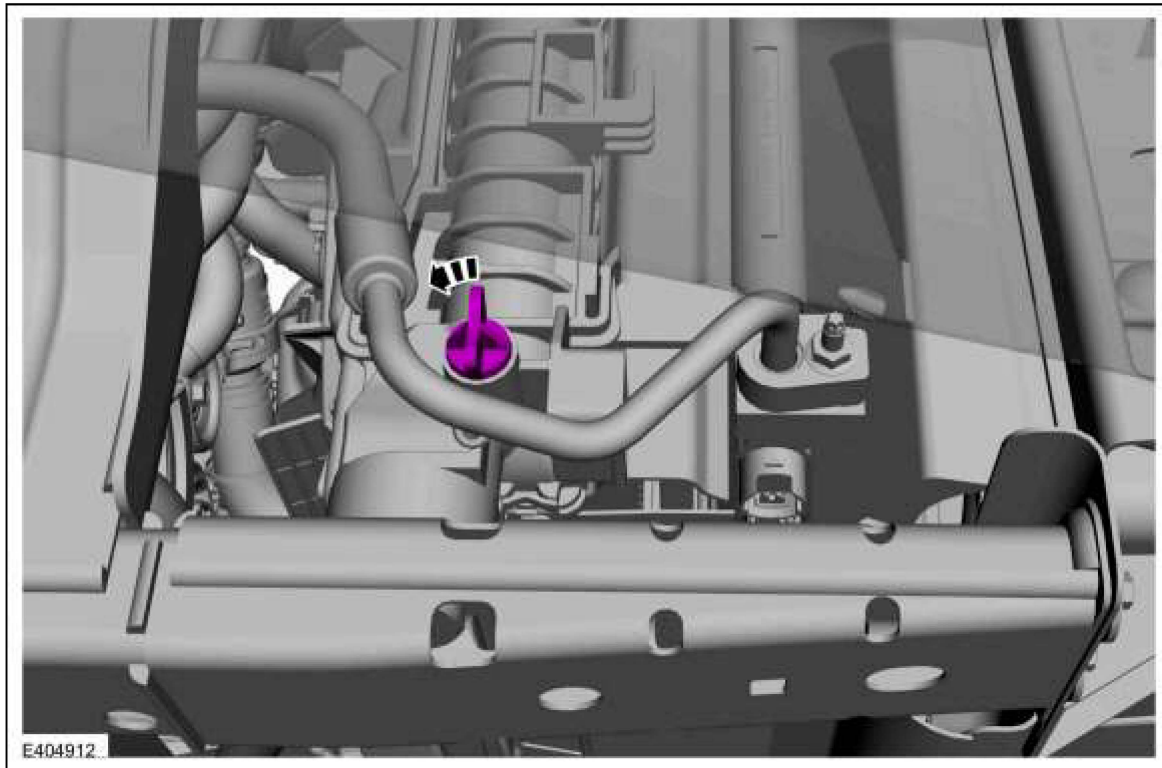
3. Remove the engine front undershield.



 **WARNING: Be prepared to collect escaping fluid.**

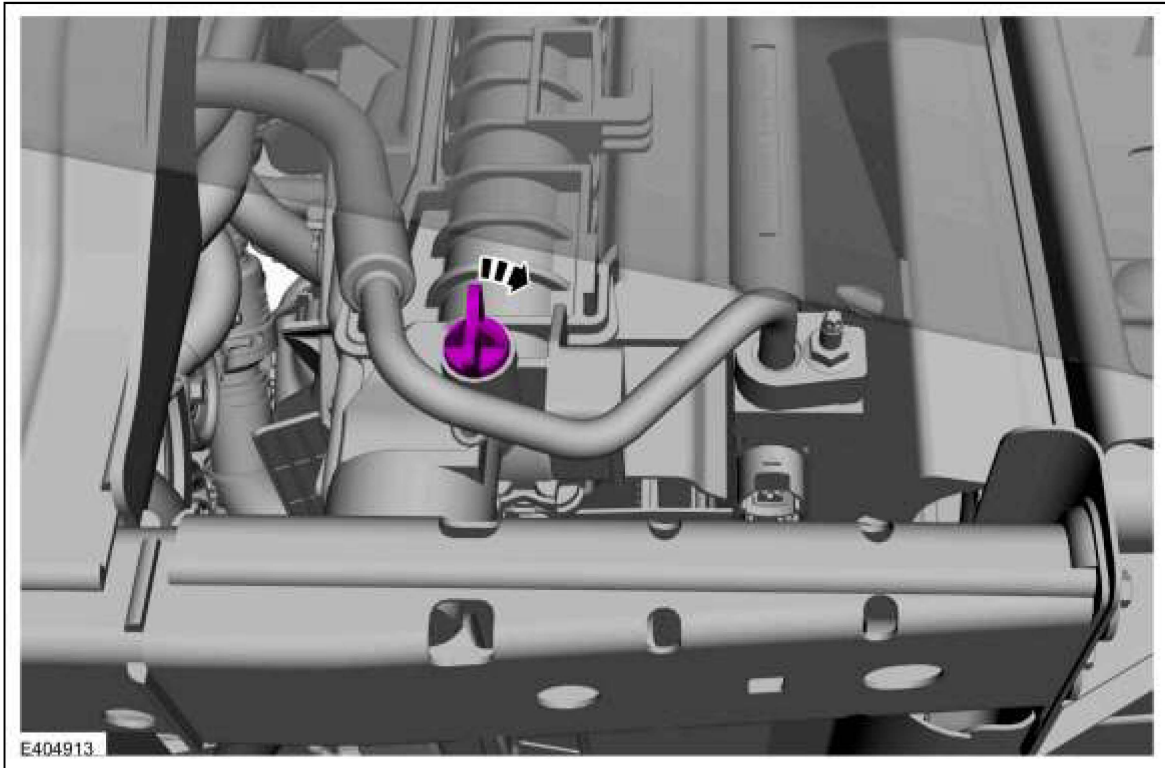
Use a hose to drain the coolant. Open the radiator drain valve and drain the engine coolant in a suitable, clean container.

Note: The image below will differ slightly from a Mustang Dark Horse R



5. Close the radiator drain valve.

Note: The image below will differ slightly from a Mustang Dark Horse R.




6. Install the engine front undershield.

Filling

1. Follow the engine cooling system health and safety precautions.
2. When adding or topping off the engine coolant:
 - **NOTICE: If your Mustang Dark Horse will be stored at ambient temperature below 32F (0C) it is recommended to fill the cooling system with 50/50 mix of antifreeze and water.**
Add, top-off or adjust the coolant to the correct concentration.
3. Install the vacuum cooling system filler and follow the manufacturer's instructions to fill and bleed the system.
4. Fill the degas bottle to the top of the MAX FILL line.
5. Install the degas bottle cap until it contacts the hard stop.


Bleeding

1. Start the engine and increase the engine speed to 3,500 rpm and hold for 30 seconds.
2. Turn the engine off for and wait for 1 minute to purge any large air pockets from the cooling system.

- 4.  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 if necessary fill to the top of the MAX FILL line on the degas bottle if the engine is warm or to the top of the MIN FILL LEVEL if the engine is cold.

5. Start the engine and let it idle until the engine reaches normal operating temperature and the thermostat is fully open. A fully open thermostat is verified by the cooling fan cycling on at least once.
6. If necessary, start the engine. Increase the engine speed to 3,500 rpm and hold for 30 seconds.
7. Allow the engine to idle for 30 seconds.
8. Turn the engine off for 1 minute.
9. Repeat steps 6 through 8 a total of 5 times to remove any remaining air trapped in the system.

- 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 if necessary fill to the top of the MAX FILL line on the degas bottle.

11. Install the pressure relief cap.

