

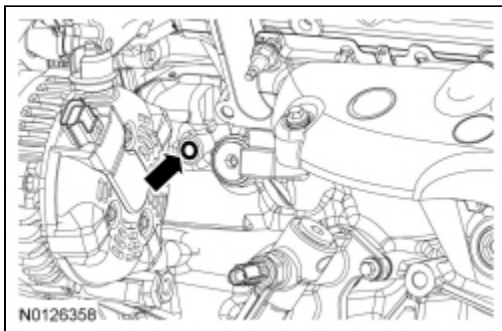
Engine Cooling

NOTICE: The engine cooling system is filled with Motorcraft® Orange Antifreeze/Coolant. Always fill the cooling system with the manufacturer's specified coolant. Chemically flush the cooling system if a non-specified coolant has been used. Refer to [Cooling System Flushing](#) in this section. Failure to follow these instructions may damage the engine or cooling system.

NOTE: During normal vehicle operation, Motorcraft® Orange Antifreeze/Coolant may change color from orange to pink or light red. As long as the engine coolant is clear and uncontaminated, this color change does not indicate the engine coolant has degraded nor does it require the engine coolant to be drained, the system to be flushed, or the engine coolant to be replaced.

The cooling system components include the:

- block heater (if equipped)
- CHT sensor
- fan motor and shroud assembly
- radiator
- radiator cap
- radiator draincock
- coolant pump
- coolant thermostat
- oil filter adapter (5.8L engine)
- oil cooler (5.8L engines)
- radiator overflow hose
- degas bottle
- upper radiator hose
- lower radiator hose
- ECT sensor (5.8L engine)



The 3.7L engine has a channel cover plate located under the engine front cover mounted to the block and has 2 press-in-place gaskets. A weep hole is provided on the front left side of the engine behind the generator. If oil or coolant leaks from this weep hole, the channel cover plate gaskets are leaking and new gaskets must be installed. Refer to [Section 303-01A](#).

The 3.7L and 5.0L engines use a cold side thermostat. This means the thermostat controls the flow of cooled radiator coolant into the warmer engine cooling circuit. The thermostat is located at the lower radiator hose connection to the engine. During initial warm-up, the engine coolant increases in temperature, causing the thermostat to open. The cooler coolant from the radiator mixes with the warm engine coolant, causing the thermostat to close. The thermostat opens and closes several times before the engine coolant is warm enough to allow the thermostat to remain open. The engine must run much longer than a vehicle with a hot side thermostat before the thermostat remains fully opened.

The 5.8L engine uses a typical hot side thermostat.

The fan motor:

- operates only when the ignition switch is in the RUN position.
- will not operate with the switch in the OFF position.

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

When adding engine coolant, use a 48/52 to 50/50 (freeze protection -34°C (-30°F) and -37°C (-34°F)) mixture of engine coolant and distilled water. A coolant concentration of 50% will provide freeze point protection down to -37°C (-34°F).

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

- add Motorcraft® Orange Antifreeze/Coolant or equivalent. Do not mix coolant types.
- do not add or mix with any other engine coolant. Mixing coolants may degrade the coolant 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® Orange Antifreeze/Coolant since a Ford-approved recycling process is not yet available.

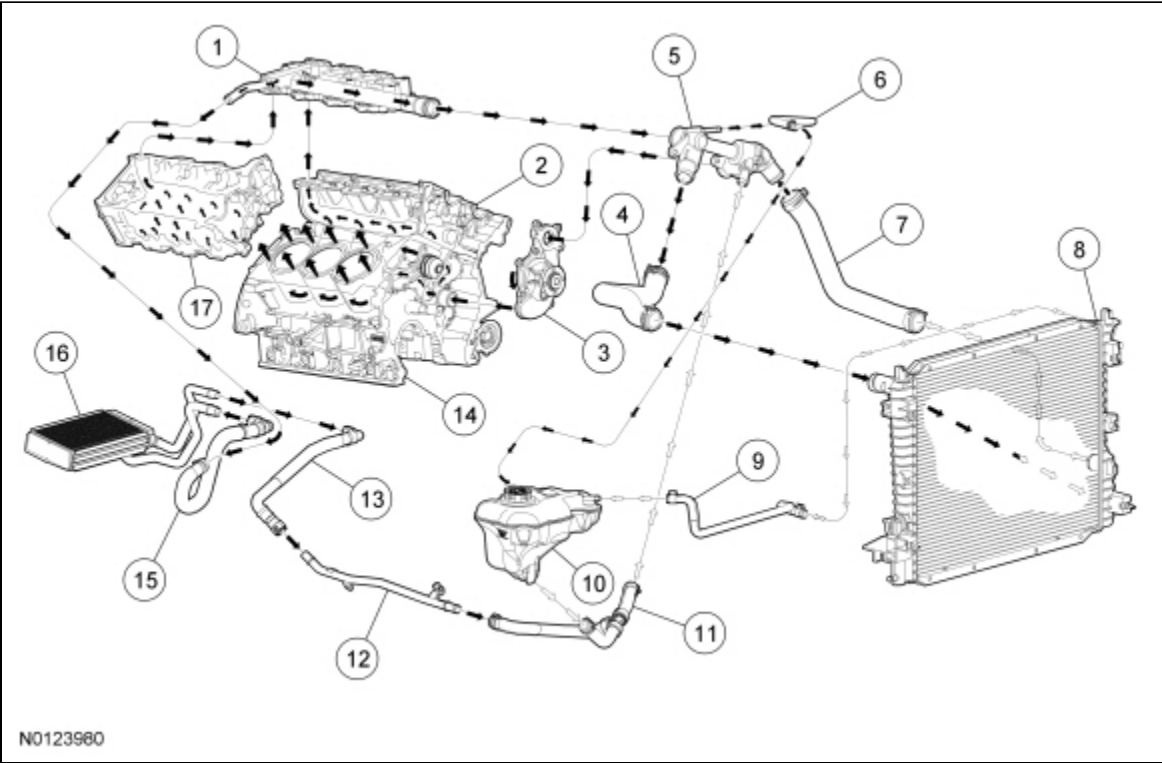
The optional block heater:

- electrical heating element is installed in the core plug opening.
- uses a standard 110V electrical supply.
- keeps the engine coolant warm during cold weather.

Coolant Flow Diagram

3.7L

NOTE: Black arrows indicate hot, white arrows indicate cold.

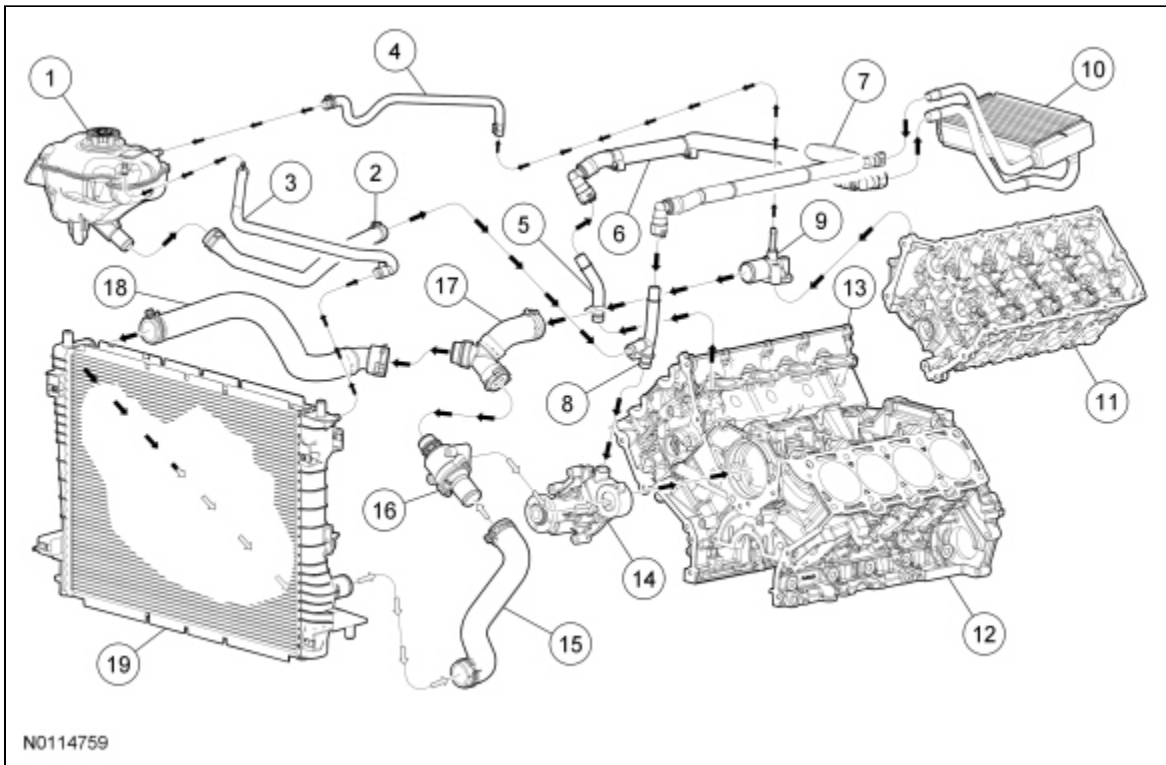


Item	Part Number	Description
1	9J447	Intake manifold
2	8050	LH cylinder head
3	8501	Coolant pump
4	8B274	Upper radiator hose
5	8A586	Thermostat housing
6	8075A	Thermostat housing-to-degas bottle hose
7	8B273	Lower radiator hose
8	8005	Radiator
9	8075B	Radiator-to-degas bottle hose
10	8A080	Degas bottle
11	8K289	Coolant return hose

12	18B402	Heater outlet tube
13	18472B	Heater outlet hose
14	6010	Cylinder block
15	18K579	Heater inlet hose
16	18B539	Heater core
17	6049	RH cylinder head

5.0L without Engine Oil Cooler

NOTE: Black arrows indicate hot, white arrows indicate cold.



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Item	Part Number	Description
1	8A080	Degas bottle
2	8K276	Degas bottle-to-engine hose
3	8276	Radiator-to-degas bottle hose
4	8276	Coolant outlet connector-to-degas bottle hose
5	18696	Heater inlet tube
6	18K579	Heater inlet hose
7	18K580	Heater outlet hose
8	18663	Heater outlet tube
9	8594	Coolant outlet connector
10	18B539	Heater core
11	6050	LH cylinder head
12	6010	Cylinder block
13	6049	RH cylinder head
14	8501	Coolant pump
15	8B273	Lower radiator hose