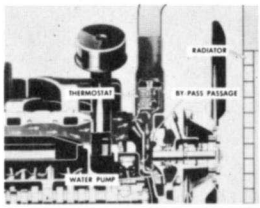
"THE V-8 PRESSURE COOLING SYSTEM"

ENGINE COOLANT BY-PASS SYSTEMS
1955 V-8 ENGINES

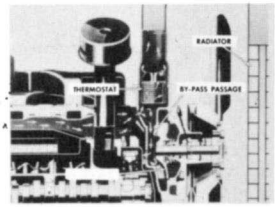
CHOKE THERMOSTAT SYSTEM (Plymouth, Dodge, Chrysler)

Thermostat Closed



Coolant recirculated in engine through internal by-pass passage in water pump housing. No circulation through radiator.

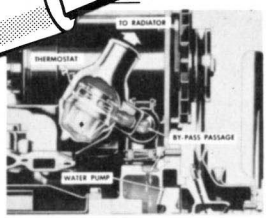
Thermostat Open



Coolant circulated through radiator. Small portion of coolant continues circulating through internal by-pass passage (always open).

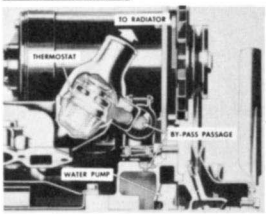
BY-PASS THERMOSTAT SYSTEM (De Soto)

Thermostat Closed

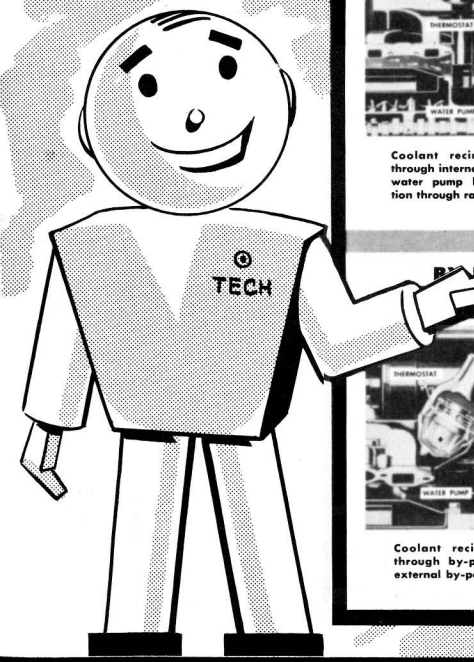


Coolant recirculated in engine through by-pass thermostat and external by-pass passage.

Thermostat Open



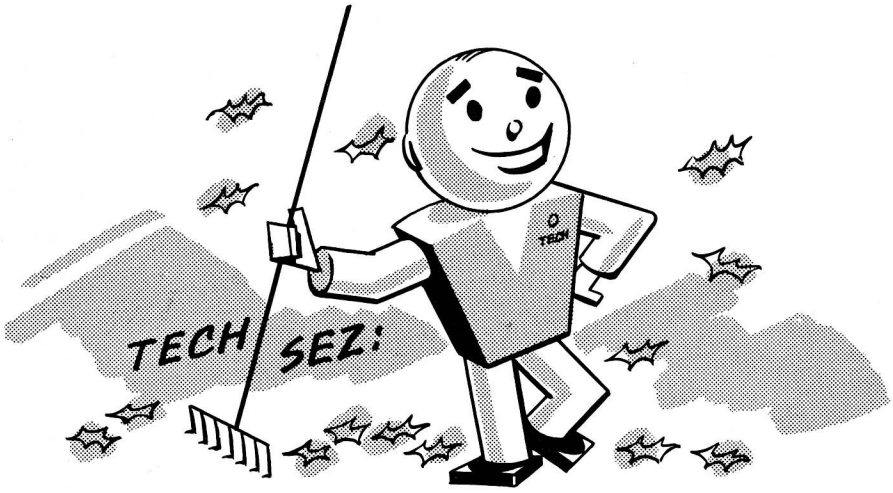
All coolant circulated through radiator. External by-pass passage closed off by thermostat.



SERVICE REFERENCE BOOK

SESSION NO. **94**

Prepared by
CHRYSLER CORPORATION
PLYMOUTH · DODGE · DE SOTO
AND CHRYSLER DIVISIONS



"COOLING SYSTEM SERVICE IS GOOD BUSINESS"

When the leaves are falling, it's high time to think of your customers' cooling system needs. *They* certainly have it in mind and will count on you to provide whatever attention might be necessary.

Getting the system ready for antifreeze, for instance, is of prime concern to many car owners. They can often use your help and advice regarding winter protection.

On the other hand, there's a growing list of owners who are already aware that it pays to clean and flush the cooling system twice each year. They have learned that it's good engine performance insurance.

You can see, therefore, that cooling system service is good business. In this reference book are timely tips on the V-8 pressure cooling system that will help you win the confidence of your customers in this area.

For your convenience, here's how this information is organized:

WHAT A COOLING SYSTEM DOES

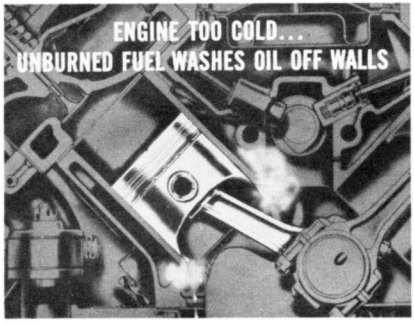
The cooling system does three main jobs. It:

–promotes quick and even engine warm-up;

–maintains correct engine operating temperatures, regardless of driving and weather conditions; and,

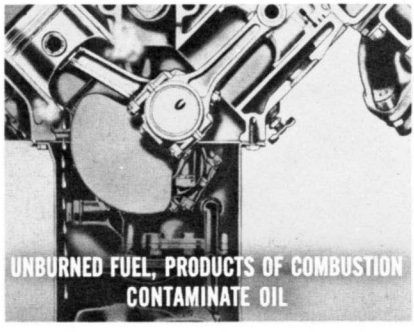
–prevents any build-up of heat at critical points.

If the engine runs too hot, for example, moving parts will get scored due to excessive friction and heat from over-expansion. So, maintaining proper operating temperatures is mighty important.

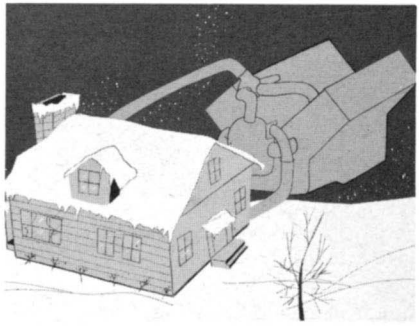


If an engine runs too cold, the air-fuel mixture *won't burn completely*. Unburned fuel that gets by the piston rings will wash oil off the cylinder walls. This will lead to greater wear.

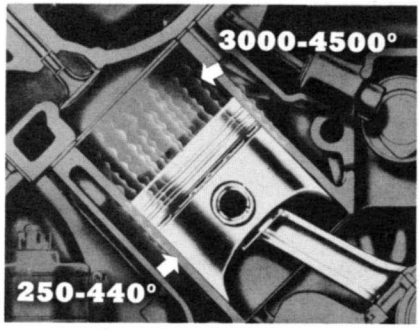
Besides greater wear, the unburned fuel—together with products of combustion—will contaminate the oil. Now, if the oil doesn't get hot enough to vaporize this contamination—plus the water formed by condensation—the crankcase ventilating system can't carry it off. As a result, sludge will form in the crankcase. This also prevents proper lubrication of the working parts.



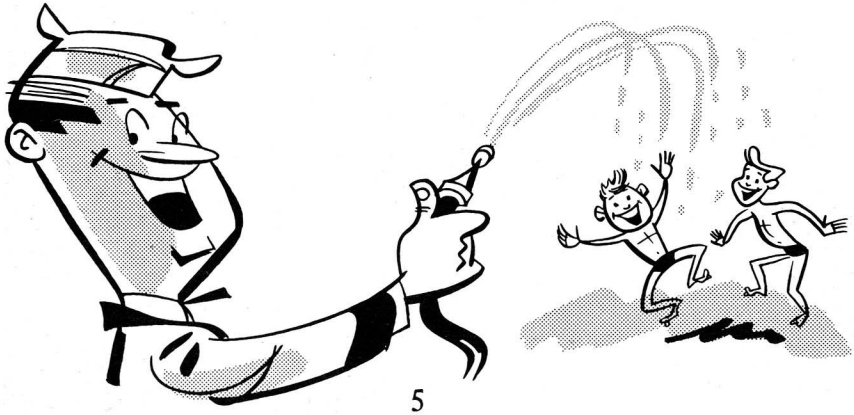
As you can see, then, when the cooling system functions properly and maintains an even operating engine temperature, it's a mighty important job. What's more, it's a big job, too. The cooling system carries away enough heat to warm an average six-room house in winter when it's 0° outside.



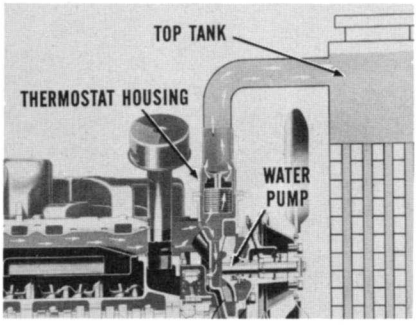
It's easy to realize where all that engine heat comes from when you get acquainted with engine temperatures. Combustion chamber temperatures alone, for instance, get as high as 3000 to 4500° F. Exhaust valves turn cherry-red from the heat, and cylinder walls get as hot as 250 to 440°F.



HOW THE COOLING SYSTEM WORKS



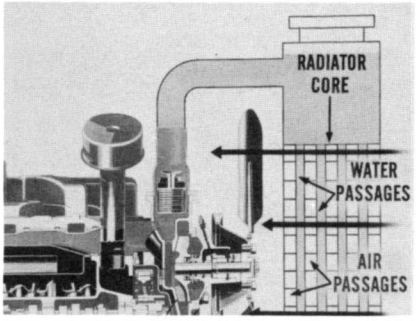
The excess engine heat is effectively absorbed by the coolant flowing through the water jacket. By water jacket we mean the water passages around cylinders, valve seats, valve ports and combustion chambers.



The water pump forces the heat-bearing coolant from the cylinder head into the upper part of the pump housing. Then the coolant goes through the thermostat housing, and into the top tank of the radiator. The water pump keeps circulating the coolant through the system and moves up to 5000 gallons in one hour.

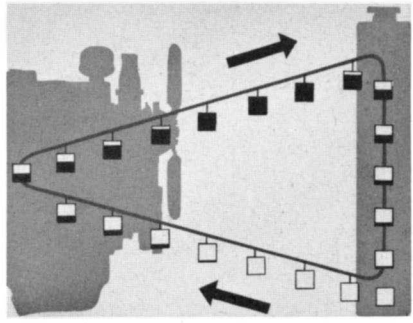
In the top tank of the radiator, the incoming coolant is distributed across the top of the radiator core. The baffle in the tank helps distribute the coolant and keeps it from being splashed out of the filler neck.

The hot coolant is channeled into the radiator core next. This consists of thin-walled water passages made of heat-conducting brass and copper and separated by air passages. Spreading the water out over a larger surface and letting air pass through the core gets the heat transferred to the outside air quickly. It's like pouring hot coffee from a deep cup into a shallow saucer and blowing on it to cool it faster.



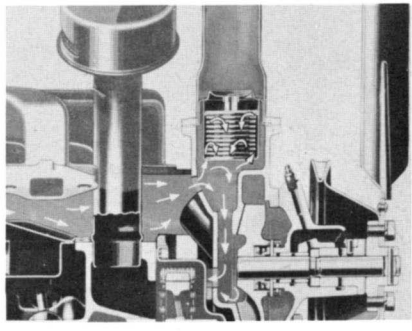
So, by the time the coolant reaches the bottom tank of the radiator, it's cooler by several degrees. From there, the water pump recirculates the cooled water through the engine passages so it can absorb more heat.

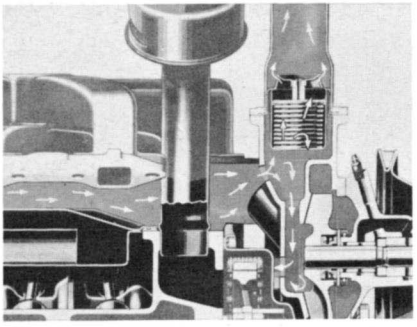
As you probably know, the coolant circulates only when the engine runs. The fan and water pump both are run by the same fan belt driven by the crankshaft pulley. In other words, the cooling system is like an endless conveyor belt. The coolant keeps on absorbing heat from the engine and carries it to the radiator where the excess heat is dumped into the outside air.



OPERATION OF THE THERMOSTAT

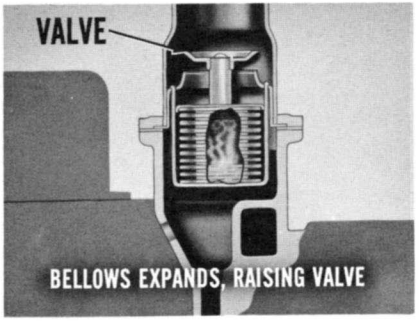
The thermostat, basically, is a heat-operated valve. It restricts circulation of the coolant when the engine is cold. That promotes a quicker warm-up, which helps to save fuel. By remaining closed when the engine is cold, the thermostat keeps coolant circulating within the engine to *provide uniform warm-up*. Those areas that tend to warm up faster are kept cool. Those areas that tend to warm up slowly are brought up to temperature quickly.



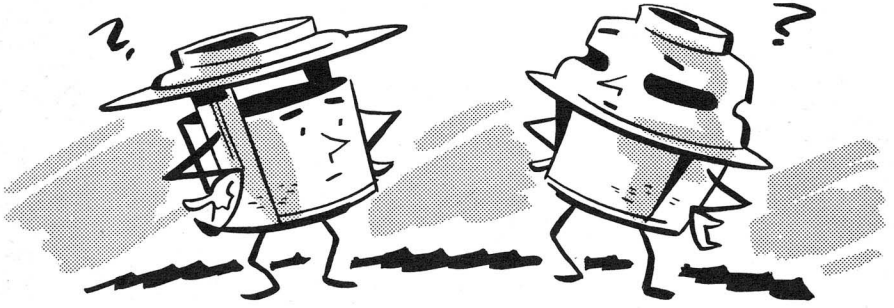


When the thermostat opens slightly, it permits some circulation through the radiator and provides the necessary cooling for the particular operation at that time.

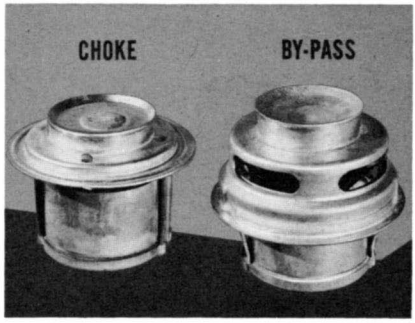
The controlling part of the thermostat is a metallic bellows partly filled with a liquid, and sealed in a partial vacuum. This vacuum holds the bellows compressed and the thermostat valve closed. As the engine warms up, rising coolant temperatures start to vaporize the liquid inside the bellows. This vaporization causes a pressure build-up inside the bellows. So, it expands and raises the valve off its seat.



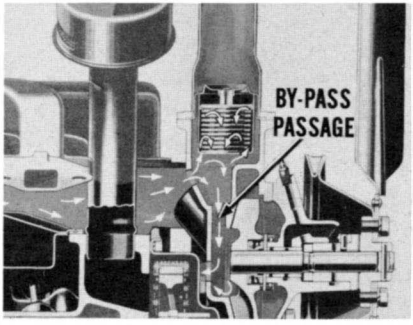
When the engine cools, then, the gas inside the bellows cools and the pressure inside is reduced. This contracts the bellows and closes the valve.



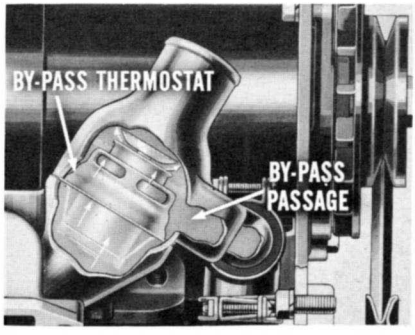
Two Types of Thermostats— Our engines, by the way, use two types of thermostats — a choke, and a by-pass. All Plymouth and Dodge engines use the choke thermostat. So does the Chrysler V-8 engine.



When closed, the choke thermostat prevents coolant flow to the radiator. But an internal by-pass passage in the engine is always open. This permits coolant circulation through the water pump and back through the block.

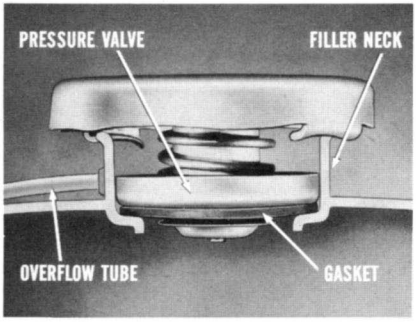


All De Soto engines use the by-pass thermostat. The main difference is that when the thermostat is fully open, the external by-pass passage is closed off and all the coolant flows through the radiator. This happens, however, only when the thermostat is *fully* open.

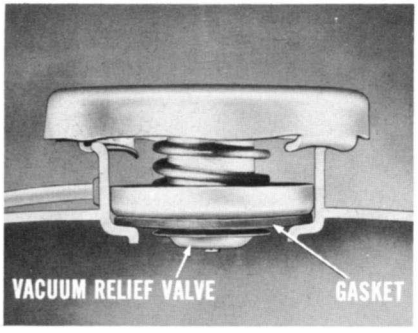


THE RADIATOR PRESSURE CAP

The radiator pressure cap is used to pressurize the cooling system. The cap has a spring which holds the pressure valve against its seat in the base of the filler neck. A rubber gasket is used to make the seal leakproof. An overflow tube in the pressurized system is connected to the filler neck so it enters *above* the pressure valve on the cap.

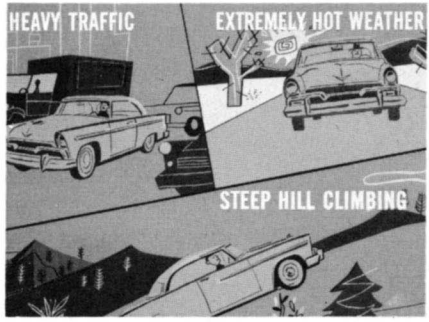


In addition to the pressure valve, there's a vacuum relief valve. This is a small, weighted valve in the center of the pressure valve in the bottom of the cap. It seats against the rubber gasket. When there's no pressure in the system, the weighted valve hangs down in the open position. This lets atmospheric pressure enter the system, especially when the ignition's turned off and the system cools off.

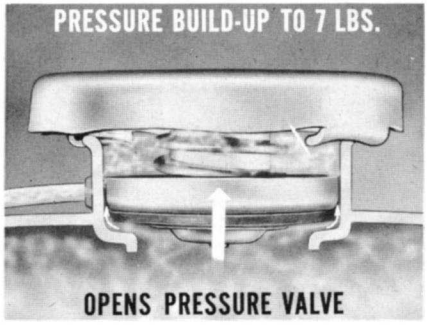


Without the vacuum relief valve, a partial vacuum would form in the cooling system when the coolant vapors condense. This could collapse the radiator hoses and the thin walls of the radiator core.

Under ordinary driving conditions, there's no pressure build-up in the cooling system. But driving in heavy traffic, extremely hot weather, or steep hill climbing is something else again. The temperature increases, the coolant expands, and some vapor will form. This forces the vacuum relief valve to close and pressurize the system.



Pressure, under severe operating conditions, will build up to about 7 pounds. At that point it begins to overcome the force of spring pressure in the cap, and opens the pressure valve. When pressure levels off to 7 pounds, the cap closes again.

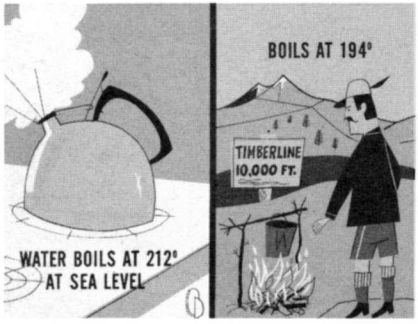


On most cars equipped with air-conditioning, a stronger spring is used in the cap so pressure can go up as high as 14 pounds per square inch.

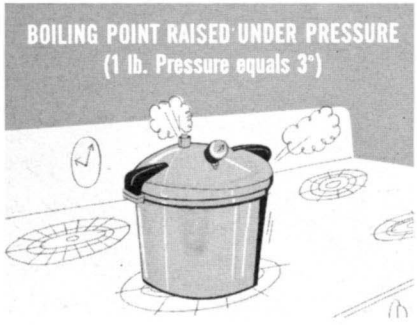
Any leaks in the cooling system, of course, will affect the efficiency of the pressure cap. So it pays to be on the alert for any signs of leakage.

But, right about now, you may be wondering why it's necessary to have a pressure cap—what the advantages are, for example.

Advantages of a Pressure Cap—A pressurized cooling system provides a wider margin of safety between the ideal engine operating temperature and the boiling point of the coolant. Here's how that works.

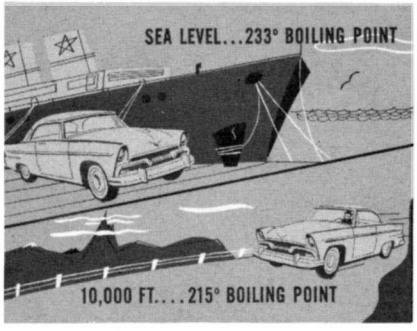


You probably know that water, around sea level, will boil at 212°F. On a 10,000-foot mountain, water will boil at only 194°F., because atmospheric pressure is lower at that altitude.

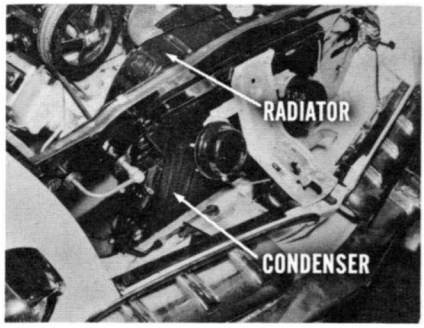


Now, the boiling point can be raised by putting water under a greater than atmospheric pressure. In fact, each pound of pressure raises the boiling point about 3°.

At sea level, then, 7 lbs. pressure in the system would raise the boiling point to 233°F. Atop the 10,000-foot mountain, 7 lbs. pressure would raise the boiling point of the water to 215°F. That's why the radiator on your car won't boil over when you drive up a mountain as high as Pike's Peak (14,128 ft. altitude). The pressure cap makes it possible by raising the boiling point.

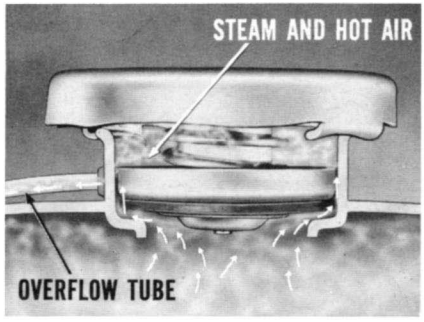


You can begin to see the reason for having a cap that will provide up to 14 pounds pressure on air-conditioned cars. As you well know, the condenser of the air-conditioning system sits up in front of the radiator. And, that condenser's continually giving up heat units which it absorbed from the air inside the car. Therefore, the temperature of the air being pulled through the radiator core by the engine fan is higher than it would ordinarily be.



It just stands to reason that the radiator can't do as good a cooling job when the air drawn through it has been heated by radiation from the condenser. So, we maintain the margin of safety by raising the boiling point of the coolant even higher through the use of a stronger spring in the pressure cap.

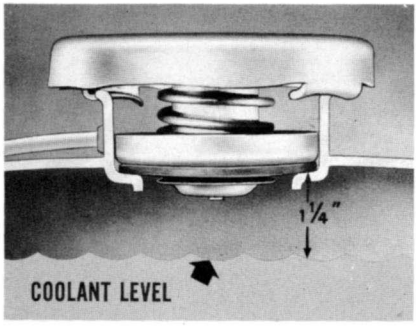
CAUTION: Always remove a pressure cap carefully. Just turn the cap part way—to the safety stop. That lets steam and hot air escape through the overflow tube. Then you can remove the cap safely and without danger of getting burned. Be especially cautious when removing that cap right *after* the engine stops running. That's because when the engine stops, circulation of coolant, as well as air, also stops.



But, residual heat in the engine continues to be conducted to the coolant. That causes a rapid rise in coolant temperature which is often enough to boil the noncirculating coolant. So, again, remove a pressure cap cautiously and be safe.

COOLING SYSTEM SERVICE

Filling the system. The best way to make sure the cooling system keeps doing its important job is by frequent checking. In short, keep a sharp eye out for leaks, and keep the system filled to its proper level. Whatever you do, don't fill the radiator till it runs over.

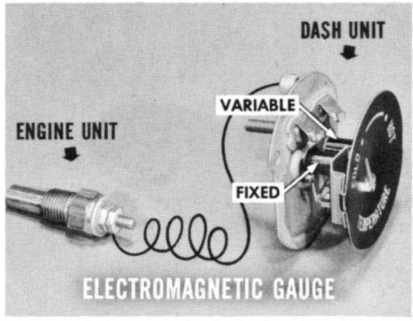


When the engine is cold, the coolant level should be at least 1¼" *below* the base of the filler neck. This leaves room for expansion when the coolant warms up. If the coolant level is right up to the bottom of the filler neck, a good part of it goes right out the overflow pipe as it expands.

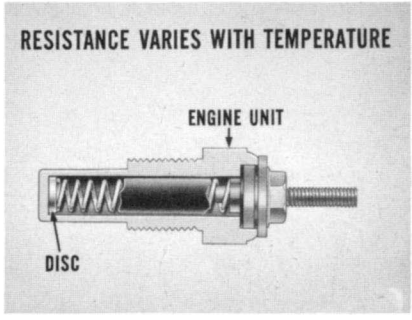
Overfilling, incidentally, leads a lot of owners to think the system is leaking. They fail to realize that it's possible to lose up to 1½ pints of coolant when the radiator is overfilled.

Temperature Gauge—Another thing that might give an owner the wrong impression about his cooling system is an incorrect reading on the temperature gauge. Our cars use an electromagnetic water temperature gauge, consisting of a dash unit and an engine unit. The

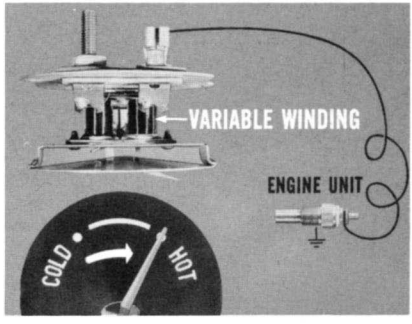
dash unit has two windings. One has a fixed magnetic field, the other has a variable magnetic field. The fixed magnetic winding is connected to the ignition switch and to ground. It exerts a steady pull on the pointer to hold it to the "cold" position when the ignition switch is turned *on*.



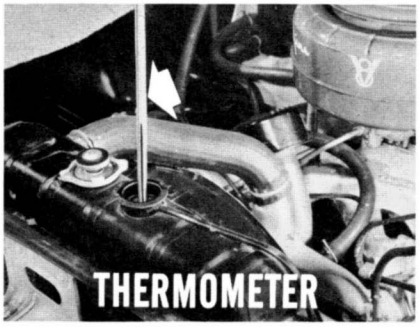
The variable magnetic winding is connected to ground through the engine unit. This exerts a pull on the gauge pointer toward the "hot" side, depending on the current it gets from the resistor in the engine unit. Inside the engine unit is a flat disc which varies its electrical resistance with changes in temperature. Resistance is high when the coolant is cold, and low when the coolant gets warm.



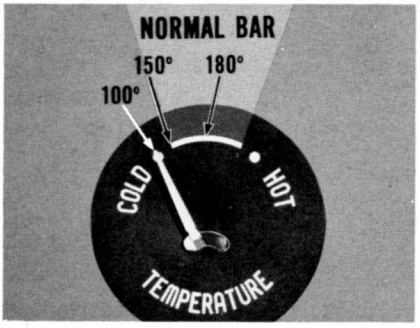
When engine temperature rises, then, the engine unit's resistance drops. That lets more current flow through the variable field in the dash unit. This pulls the gauge pointer toward the hot side. When coolant temperature drops, resistance increases, and the fixed magnetic winding pulls the pointer the other way.

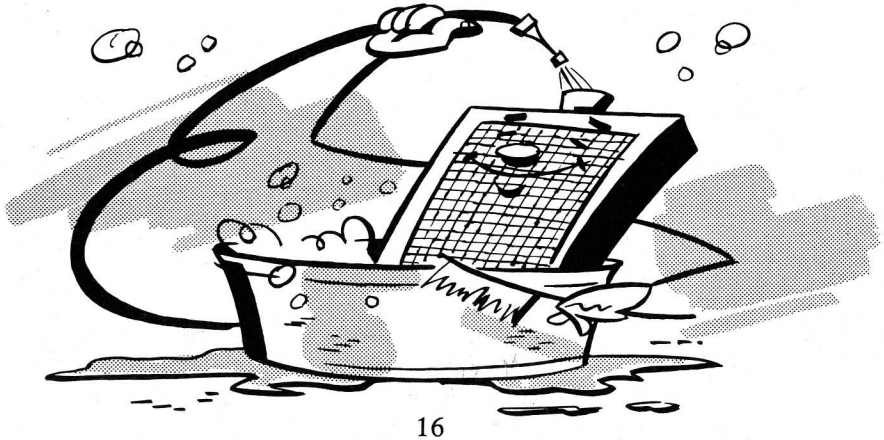


Servicing the Temperature Gauge—To check operation of the gauge, you'd first inspect the wires to see if they're worn, frayed, or broken. Then you'd clean the terminals at the dash and the engine units. Also, check battery voltage. If these points check out okay, put a reliable thermometer in the top tank of the radiator. Then you can check the gauge readings against the thermometer.



The cold mark on the gauge stands for temperatures from 100 to 110°F. The start of the normal bar indicates temperatures of 145 to 155°F. At the center of the normal bar, the temperature is about 180°. At the end of the normal bar, temperature is 215 to 225°, and at the hot mark, temperature of the coolant is about 230 to 240°F.





DRAINING, CLEANING, REVERSE FLUSHING AND REFILLING THE SYSTEM

Dirt and rust are great enemies of the cooling system. They not only cut down its efficiency, but they can clog the radiator and restrict circulation.

So check the color and feel of the coolant. If it looks rusty and you can feel heavy particles in suspension, chances are the system should be cleaned. But even this check isn't always reliable. It's far better to clean and flush the system twice a year – every spring and fall – and then you'll be sure the system is clean.

Keep in mind that antifreeze solutions are good for only one year. That's because the inhibitors used in the solution lose their effectiveness. So, even though a hydrometer shows the solution will protect against freeze-up, there's no way to check the strength of the rust and corrosion protection. It pays, therefore, to drain the antifreeze in the Spring, clean the system and add rust and corrosion inhibitors to the new solution.

Draining and Cleaning—If the system's coolant is rusty or contaminated, drain it before adding fresh coolant. You drain it by opening

the drain cocks. On 6-cylinder engines, there's one drain cock at the bottom of the radiator and one on the left side toward the rear of the block. On 8-cylinder engines, there's a drain cock at the bottom of the radiator and one at the lower front side of each cylinder bank.

Next, refill the cooling system with fresh water and add the contents of one can of cleaner such as MoPar Cooling System Cleaner, or the equivalent.

> **CAUTION:** Handle this cleaner with care as it can burn your skin, clothing, or damage the car finish. Wash off any stray splash promptly with water.

Install the radiator cap and run the engine at a fast-idle speed for 30 to 45 minutes. *Partially cover the radiator* to raise the temperature to 180-190°F. Idling the engine with no load won't heat the coolant enough to do a good cleaning job. The thermostat must be open and the solution hot enough for best results.

After this, stop the engine, open all drain cocks and completely drain the system. Then close the drain cocks and refill with clean, soft water. Hard water will form lime deposits and scale. Add the neutralizer, or conditioner. This is contained in the #2 bottom section of the MoPar Cooling System Cleaner can. It's used to neutralize any acids still present from the cleaner.

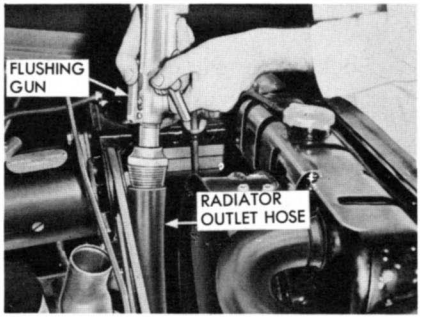
Run the engine another 10 minutes and then drain the system. Leave the drain cocks open and flush with clean water.

Close the drain cocks next. Refill with clean, soft water and add rust inhibitor such as MoPar Radiator Rust Resistor, or its equivalent, for protection from rust and corrosion.

Reverse-Flushing the System—Reverse-flushing will loosen and remove rust, scale, and sediment more thoroughly than ordinary flushing. It is accomplished by forcing air and water through the system in a direction opposite that of the normal flow of coolant. Here's how it's done.

Reverse-Flushing the Radiator. Disconnect the hose from the radiator inlet. Connect a long section of drain hose to the radiator inlet fitting. This hose should be long enough to extend outside the engine compartment so water can drain free of the car.

Disconnect the radiator outlet hose from the water pump housing and insert the flushing gun in the hose. Make sure the water will flow through the radiator before you apply normal water pressure. With water flowing through the core, apply short bursts of air pressure into the stream to remove any sediment.



CAUTION: Excessive water or air pressure may damage the core when the flushing gun is used. So be sure water will flow through the core *before* applying air pressure.

Reverse-Flushing the Cylinder Block—On a 6-cylinder engine, if the block is badly clogged with rust and scale, remove the water distribution tube before reverse-flushing the block. If you don't, sediment in the block can plug the tube and its slots.

To remove the distribution tube, remove the radiator and water pump first. Use the special puller (Tool C-836) to draw the tube from the block. When you reinstall the tube, be sure the slots are up, and the tube is far enough in to permit the water pump to seat properly against the block.

Remove the thermostat. Connect a piece of hose to the water pump inlet, long enough to extend beyond the engine compartment. Connect the radiator inlet hose to the thermostat housing and insert the flushing gun. Force the water and air pressure through the block until the water runs clean.

EXTERNAL CHECK OF THE SYSTEM

Remind owners to watch the temperature gauge for signs of overheating. In addition, suggest that they have the coolant level checked each time they add fuel to the gas tank. Be sure to caution them against overfilling.

Every time you raise the hood of an automobile, look for external signs of coolant leakage. It's easy to spot because it leaves a trace of rust or lime at the point of leakage.

Quite often, tightening hose clamps will stop leaks at hose connections. Replace wire clamps that may be loose, as they cannot be tightened. If hoses are cracked, or feel soft to the touch, play it safe and replace them.

Leaks around head gaskets can be corrected by tightening the cylinder head cap screws. On all V-8 engines, the proper torque to use is 85 foot-pounds.

ANTIFREEZE PROTECTION

Since water freezes at about 32°F. and ice that's formed will expand almost 9% in volume, the engine cooling system requires antifreeze protection. Otherwise, the expansion that comes with freezing might crack the engine water jacket or cause serious damage to the radiator.

On the last two pages of this reference book you'll find antifreeze protection tables giving figures for methyl alcohol (methanol) and ethylene glycol types of antifreeze solution.

Keep in mind that cleaning and flushing the system twice each year—every spring and fall—is a sound preventative practice. That, and constant attention to the cooling system will insure that our customers continue to enjoy the trouble-free performance designed into our product.

ETHYLENE GLYCOL ANTIFREEZE PROTECTION CHART

Car Model	Year	Engine	Cooling System Capacity (W/Heater)	No. of Qts. of Ethylene Glycol Antifreeze Required for Protection to Temperatures Shown Below										
				3	4	5	6	7	8	9	10	11	12	13
PLYMOUTH	1952-55	6-Cyl.	14 Qts.	15°	6°	–5°	–18°	–34°	–54°					
	1955	V-8	20 Qts.		16°	10°	4°	–3°	–12°	–22°	–34°	–48°	–62°	
DODGE	1952-55	6-Cyl.	15 Qts.	16°	8°	0°	–12°	–26°	–43°	–62°				
	1953-55	V-8	20 Qts.		16°	10°	4°	–3°	–12°	–22°	–34°	–48°	–62°	
DE SOTO	1952-54	6-Cyl.	16 Qts.	17°	10°	2°	–8°	–19°	–34°	–52°				
	1952-54	V-8	23 Qts.		19°	14°	9°	4°	–3°	–10°	–19°	–29°	–40°	–52°
	1955	V-8	24 Qts.		19°	15°	10°	5°	0°	–8°	–15°	–24°	–34°	–46°
CHRYSLER	1952-54	6-Cyl.	16 Qts.	17°	10°	2°	–8°	–19°	–34°	–52°				
	1952-55	V-8	26 Qts.		21°	17°	13°	8°	3°	–3°	–9°	–16°	–25°	–34°
	1955	V-8 Windsor	25 Qts.		20°	16°	12°	7°	1°	–5°	–12°	–20°	–29°	–40°

(All Temperatures Given in Degrees-Fahrenheit)

ETHYLENE GLYCOL ANTIFREEZE PROTECTION CHART

Car Model	Year	Engine	Cooling System Capacity (W/Heater)	No. of Qts. of Ethylene Glycol Antifreeze Required for Protection to Temperatures Shown Below										
				3	4	5	6	7	8	9	10	11	12	13
PLYMOUTH	1952-55	6-Cyl.	14 Qts.	15°	6°	–5°	–18°	–34°	–54°					
	1955	V-8	20 Qts.		16°	10°	4°	–3°	–12°	–22°	–34°	–48°	–62°	
DODGE	1952-55	6-Cyl.	15 Qts.	16°	8°	0°	–12°	–26°	–43°	–62°				
	1953-55	V-8	20 Qts.		16°	10°	4°	–3°	–12°	–22°	–34°	–48°	–62°	
DE SOTO	1952-54	6-Cyl.	16 Qts.	17°	10°	2°	–8°	–19°	–34°	–52°				
	1952-54	V-8	23 Qts.		19°	14°	9°	4°	–3°	–10°	–19°	–29°	–40°	–52°
	1955	V-8	24 Qts.		19°	15°	10°	5°	0°	–8°	–15°	–24°	–34°	–46°
CHRYSLER	1952-54	6-Cyl.	16 Qts.	17°	10°	2°	–8°	–19°	–34°	–52°				
	1952-55	V-8	26 Qts.		21°	17°	13°	8°	3°	–3°	–9°	–16°	–25°	–34°
	1955	V-8 Windsor	25 Qts.		20°	16°	12°	7°	1°	–5°	–12°	–20°	–29°	–40°

(All Temperatures Given in Degrees-Fahrenheit)

METHYL ALCOHOL (METHANOL) ANTIFREEZE PROTECTION CHART

Car Model	Year	Engine	Cooling System Capacity (W/Heater)	No. of Qts. of Methyl Alcohol Antifreeze Required for Protection to Temperatures Shown Below											
				2	3	4	5	6	7	8	9	10	11	12	13
PLYMOUTH	1952-55	6-Cyl.	14 Qts.	17°	8°	–4°	–17°	–33°	–51°						
	1955	V-8	20 Qts.	22°	16°	10°	2°	–6°	–16°	–26°	–38°	–51°			
DODGE	1952-55	6-Cyl.	15 Qts.	18°	10°	0°	–12°	–26°	–42°	–60°					
	1953-55	V-8	20 Qts.	22°	16°	10°	2°	–6°	–16°	–26°	–38°	–51°			
DE SOTO	1952-54	6-Cyl.	16 Qts.	20°	11°	2°	–9°	–21°	–34°	–50°					
	1952-54	V-8	23 Qts.	24°	19°	13°	7°	0°	–7°	–15°	–24°	–33°	–44°	–56°	
	1955	V-8	24 Qts.	24°	20°	14°	8°	2°	–6°	–13°	–21°	–30°	–40°	–51°	
CHRYSLER	1952-54	6-Cyl.	16 Qts.	20°	11°	2°	–9°	–21°	–34°	–50°					
	1952-55	V-8	26 Qts.	25°	21°	16°	11°	5°	–1°	–8°	–15°	–23°	–31°	–40°	–50°
	1955	V-8 Windsor	25 Qts.	25°	20°	15°	10°	4°	–2°	–10°	–18°	–26°	–35°	–45°	

(All Temperatures Given in Degrees-Fahrenheit)

METHYL ALCOHOL (METHANOL) ANTIFREEZE PROTECTION CHART

Car Model	Year	Engine	Cooling System Capacity (W/Heater)	No. of Qts. of Methyl Alcohol Antifreeze Required for Protection to Temperatures Shown Below											
				2	3	4	5	6	7	8	9	10	11	12	13
PLYMOUTH	1952-55	6-Cyl.	14 Qts.	17°	8°	–4°	–17°	–33°	–51°						
	1955	V-8	20 Qts.	22°	16°	10°	2°	–6°	–16°	–26°	–38°	–51°			
DODGE	1952-55	6-Cyl.	15 Qts.	18°	10°	0°	–12°	–26°	–42°	–60°					
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	1955	V-8	24 Qts.	24°	20°	14°	8°	2°	–6°	–13°	–21°	–30°	–40°	–51°	
CHRYSLER	1952-54	6-Cyl.	16 Qts.	20°	11°	2°	–9°	–21°	–34°	–50°					
	1952-55	V-8	26 Qts.	25°	21°	16°	11°	5°	–1°	–8°	–15°	–23°	–31°	–40°	–50°
	1955	V-8 Windsor	25 Qts.	25°	20°	15°	10°	4°	–2°	–10°	–18°	–26°	–35°	–45°	

(All Temperatures Given in Degrees-Fahrenheit)

RECORD YOUR ANSWERS TO THESE QUESTIONS ON QUESTIONNAIRE NO. 94

When engine oil doesn't get hot enough to vaporize contamination and condensation, sludge forms in the crankcase. RIGHT 1 WRONG

When closed, the thermostat keeps coolant circulating within the engine to provide uniform warm-up. RIGHT 2 WRONG

When the engine warms up, the liquid inside the thermostat bellows expands, forcing the valve off its seat. RIGHT 3 WRONG

The radiator pressure cap is used to pressurize the cooling system, which provides a wider margin of safety between the ideal engine operating temperature and the boiling point of the coolant. RIGHT 4 WRONG

Under ordinary driving, there's no pressure build-up in the system. RIGHT 5 WRONG

Cars equipped with air conditioning use the standard pressure cap so pressure can build up to about 7 psi. RIGHT 6 WRONG

Each pound of pressure raises the boiling point of water about three degrees. RIGHT 7 WRONG

When the engine is cold, the coolant level should be at least 1¼" below the base of the filler neck. RIGHT 8 WRONG

To check accuracy of the temperature gauge, put a reliable thermometer in the top tank of the radiator and compare its readings against the gauge. RIGHT 9 WRONG

One filling of an antifreeze solution containing rust and corrosion inhibitors will last indefinitely. RIGHT 10 WRONG

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