



**Southwest**  
(512) 891-7800

## **Cooling System Maintenance**

Your vehicle's cooling system is designed to maintain a precise operating temperature. This is important for engine life and for the control of exhaust emissions. The cooling system also protects from the destructive effects of too much heat, which has added importance in the summer months.

### **How often should I change the coolant in my engine and radiator?**

The first and most direct answer is to follow the manufacturer's recommendation. In older cases, this is approximately every two years or 30,000 miles. Most manufacturers have gone to a long life antifreeze, the change intervals for this antifreeze is 5 years or 100,000 miles. At least for the first antifreeze change.

The less direct answer is when it needs to be changed. The antifreeze portion of radiator coolant does not really wear out and is frequently recycled. The freeze protection only declines if it is diluted by adding water to the radiator/cooling system instead of a mix of water and antifreeze.

What does wear out are the additives that help protect the cooling system and engine. As coolant loses its corrosion and rust protection capabilities:

- Rust forms on iron parts,
- Corrosion forms on aluminum, and
- Residue is deposited on horizontal surfaces and can clog the radiator.

The rust, corrosion, and residues can greatly reduce the heat transfer capability of the cooling system. In essence, they act as insulators keeping heat in, instead of letting it escape. As the cooling system continues to get hotter, the process of deterioration increases at an increasing rate.

As antifreeze gets older it turns darker, brownish and/or rust colored, and may have particles floating in it. New standard antifreeze is bright green, while the long life antifreeze is bright orange or yellow.

In addition the PH of the antifreeze changes. PH is a good indicator of rust and corrosion inhibition capability of the coolant. (This is similar to tests performed regularly on swimming pools.)

If the PH of an antifreeze is too high scaling can occur.

If the PH is too low, an acidic condition exists and encourages rust and corrosion.

Older green antifreeze should have a PH between 9 and 11, while long life antifreeze should have a PH of approximately 8.3.

### **Your coolant should be changed if:**

- You are at or beyond your manufacturer's time or mileage recommendation.
- The coolant is dark brown, rust colored and/or has residue floating in it.
- The PH level is out of balance.



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- The temperature protection has been reduced.

Source material:

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