

Your Heating System

For many locations around the country, fall means crisp temperatures and cool drives to work. Make sure your heating system is working before enduring a teeth-chattering commute. Schedule a visit to your local auto repair shop to test the integrity of your car's heater before the temperatures drop.

Heater Core

What it does: This crucial part of your heater resembles a compact radiator. Instead of acting to cool the engine, it is responsible for the defrost and heating capabilities of your vehicle. It directs hot coolant through brass or aluminum tubing, allowing the air you feel inside to be maintained at comfortable levels.

When it fails: If your coolant levels are adequate but the air is still cool, it's likely the heater core is clogged or failing. Some signs you may notice include fog inside your car, an overheating engine or an unusually sweet smell.

Blower Motor

What it does: This electric motor is responsible for pushing air through the vents in your cabin. For air conditioning, it pulls cool air from the vehicle's evaporator. Heated air is taken from the heater core.

You may think you are controlling the motors speed when you change the dial. However, the interior climate control is actually operating a resistor. This part distributes different voltage levels to the motor when you adjust the knob or auto-climate control changes temperatures. A popular style of resistor uses coils to produce resistance and fluctuate speeds to accommodate your comfort.

When it fails: A breakdown of this part can lead to an uncomfortable drive home. A professional can test the motor, resistor and relay, which all play a role in a properly functioning blower motor.



It's easy to take your vehicle's washer fluid system for granted. You probably don't think of it with the same importance as engine oil or transmission fluid.

While it isn't crucial for your car to run properly, using the correct type of washer fluid during the cold season can help keep you safe.

Different Types

Like many other automotive fluids, you have several options when it comes to choosing the washer fluid which works best for you. Here are a few different types and when they are most beneficial.

- **Cold weather:** If you experience frigid temperatures during the autumn, consider switching to a mixture that is resistant to freezing. Most bottles will advertise their freeze threshold clearly on the bottle.

- **De-icing:** Another popular colder weather type of fluid is mixed with de-icing properties. Not only is it resistant to freezing, it will help clear icy windshields while you sit comfortably in the warm car.

- **Bug cleaning:** More popular in warmer climates, this solution applies a chemical to clear bug residue collected on your windshield.

How the System Works

Understanding how a washer fluid system works is easy. Once you know its process, you will know how to diagnose problems when they occur. The windshield washer is activated by a switch

in your car, near the steering column in most vehicles. Once it is engaged, a pump goes to work to push washer fluid from your reservoir into a series of tubes that are connected to nozzles located on the front or back of your window.

What Goes Wrong

If nothing happens when you activate your switch, there are a few things that can be blamed. The first thing you should do is ensure your reservoir has enough fluid. If that's the case, it's likely that pump has failed, or a hose has collapsed.

Safety

Washer fluid is largely made up of methanol; without it, regular water would freeze in the reservoir. It's important to keep your extra bottles away from children as its bright color can easily be mistaken for a sweet drink. When maintaining your vehicle's system, be careful to avoid contact and clean any spill, because it's harmful to pets, too. According to the National Capital Poison Control, the methanol in washer fluid can cause kidney failure, blindness and even death if swallowed.

Is Your Smart Car Secure?

Cybersecurity has been long associated with computers and other internet-connected devices. Today, there is a new threat and the results can come with serious consequences. This autumn, take the advice from the National Highway Traffic Safety Administration and protect your vehicle from cyber threats.

In 2015, the first-ever recall due to automotive cybersecurity was made. Fiat Chrysler recalled 1.4 million vehicles in the United States to include software which prevented hackers from controlling the engine, steering and other settings. The flaw was discovered when researchers hacked into a Jeep Cherokee, shutting down its engine as it drove. The issue led the NHTSA to act and encourage the automotive industry to take cues from the National Institute of Standards and Technology Cybersecurity Framework.

Keeping to the Rules

Innovations in driver assist functions such as collision warning, emergency braking and safety communications are incredible features. While the advantages are beneficial to drivers, they all require a vehicle to be connected to a network, meaning there is a level of vulnerability.

The efforts to make smart cars secure is not only the responsibility of the manufacturers. While OEM providers are doing their due diligence in protecting the software included, there are many other agencies like regulatory bodies, insurance companies, technology giants and telecommunication providers are working to keep you safe.

As new risks are becoming prevalent, important bills like the Spy Car Act, Security and Privacy in Your Car Study Act and SELF DRIVE Act have been instilled by national governments to ensure the safety of the passengers inside connected vehicles.

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