

FALL CAR CARE | SAFETY

Check Your Lights

With fall around the corner, the days are getting shorter. Ensure your vehicle is safe to operate for nighttime driving by checking your entire lighting system.

Properly working bulbs are important to signify your intentions to other drivers and highlight the road in front of you.

It's important to understand how to change your vehicle's lights and the types of bulbs that are used for illumination.

For some newer vehicles, a simple headlight change isn't always the case and requires an expert to dismantle a front end or replace an innovative HID bulb.

Some options with LED brake lights may even require a complete replacement of the rear assemblies. Check with your local dealership to get estimates and prepare yourself for the costs you should budget for so you're not left in the dark due to an unaffordable repair.

HEADLIGHTS

If you don't often drive at night, you may not realize you have a bulb out until it's too late. You may find yourself struggling to see the oncoming road or being stopped by a law enforcement agent and



receiving a warning or expensive fine.

With someone else in the vehicle, ask them to flip on both the low- and highbeams. You should also inspect for working fog and daytime running lights. Some newer vehicles forgo a traditional halogen bulb and use an HID system. They are beneficial in terms of longevity and brightness, but rely on an expensive system of components like ballasts and an igniter.

INTERIOR

Inside your cabin are even more lights that help keep you safe. In addition to analyzing your dome bulbs, it's likely your dashboard relies on illumination to highlight essential gauges like the speedometer, fuel levels and warning systems. After you determine it's a bulb issue and not a blown fuse, replacing dash lights includes taking out the instrument cluster and may be best left to a professional. © ADOBE STOCK

STOP AND TURN

You should also take the time to ensure the rear of your vehicle is illuminated. Make sure the stoplight and turn bulbs are working properly as well as license plate lights. Your blinkers will usually warn you of a problem inside the cabin by blinking quickly when the switch is engaged.

Replace your Cabin Air Filter

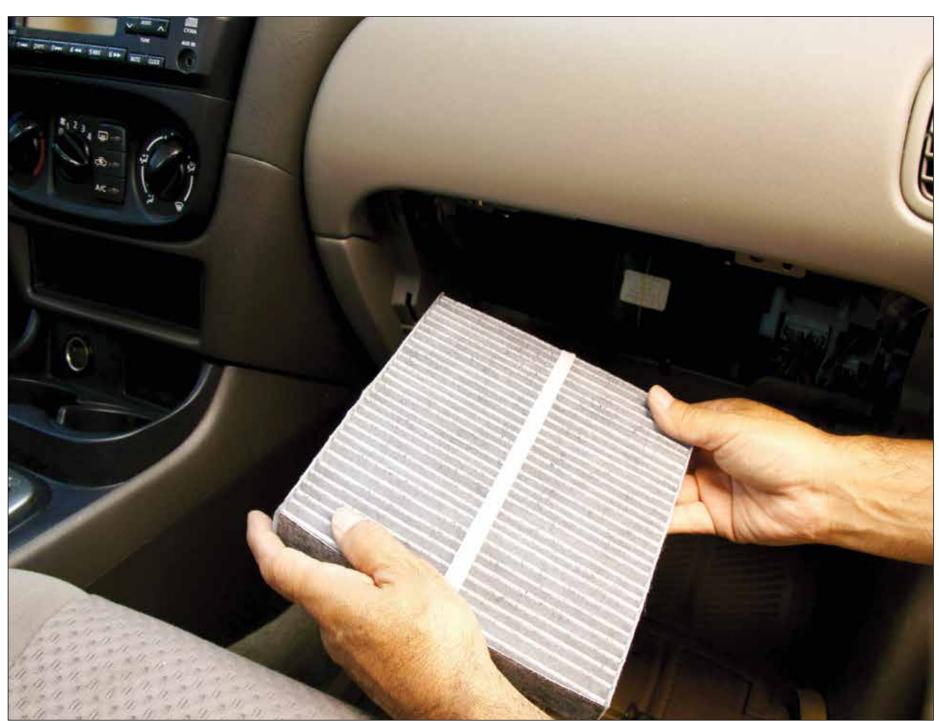
One component that often goes unnoticed in late-model vehicles is the cabin air filter. This helpful filtration device is used to trap pollutants and dust traveling through your HVAC system before it enters the interior of your car.

Recommended interval changes dramatically differ based on your climate, driving conditions and time of year, but the American Automotive Association says most manufacturers recommend replacing it every 15,000 to 30,000 miles.

The installation and part cost is relatively affordable so don't forgo a replacement at your repair facility's suggestion.

IS IT REALLY THAT IMPORTANT?

Most vehicles pre-2000 weren't equipped with cabin air filters. Instead, cabins were exposed to incoming particles caused by dust from other cars and exhaust from semi tractors. While it doesn't directly enhance or diminish your engine's performance like other filters, its presence is a huge contributor to the cleanliness of your cabin's air and integrity of the air conditioner.



SIGNS IT'S TIME FOR NEW

The most common signs that it's time for a new cabin air filter is a musty odor coming from the vents. This occurs when contaminants and pollutants cause the filter to become clogged or overcome with debris. The Car Care Council also suggests that a restriction of air flow from your HVAC system is a key indicator that there is trouble. Luckily, replacing the filtration unit is much more inexpensive than resolving issues with heating and air conditioning. If your filter looks new upon inspection, have your system inspected by a professional.

WHERE IT'S LOCATED

While the location of a cabin filter may differ between automotive manufacturers, most are placed behind the glove compartment, under the hood or dashboard in most modern vehicles. If you plan to change the unit yourself, it can be a timesaver to refer to your owner's manual to quickly discover it. If you are without a guide, a professional repair facility can find it and determine if you are due for a replacement.

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FALL CAR CARE | TECHNOLOGY

View your Vehicle's Computer

With cooler temperatures on the horizon, solving engine problems now can keep you from an uncomfortable situation on the side of the road.

You already understand that a check engine light should be immediately addressed, but you may have been tempted to receive a free scan to see what the problem may be. Remember that these tools can only give you an idea of a persistent problem while sometimes leaving the real issue to become worse.

The best way to find out what your vehicle is trying to tell you is by visiting a repair shop with high-quality diagnostic tests. While they may charge a fee, some will cover the expense if you hire them to complete the repair. Building a relationship with a familiar facility is an efficient way to maintain your vehicle, affordably.

HISTORY OF ON-BOARD DIAGNOSTICS II

According to the International Council on Clean Transportation, the Air Resources Board adopted an OBD II Regulation in 1989. It replaced the previous OBD I system which required adapters to fit different vehicles



and was limited to what it would reveal.

OBD II was standard beginning in 1994, but not fully implemented until 1996 for passenger cars and light-duty trucks. The software identifies issues through codes given from a vehicle's computer which is tuned in to nearly every emission-related component.

WHAT IT REVEALS

When a check engine light

is illuminated, it could be signifying an issue as simple as a loose gas cap or a serious problem being transmitted from an important sensor. Of course, this warning light should always be addressed but it can provide clues to its urgency.

For instance, during emergencies, the light will typically flash or beam red rather than amber. If this occurs, don't hesitate to park the vehicle and have it towed for a thorough inspection at your preferred repair facility. When the light is constant, the issue is less urgent but should still be addressed at your earliest convenience.

HOW CONSUMERS BENEFIT

The innovative system has changed the way technicians are able to diagnose and resolve complex problems. While software won't pinpoint a problem and explain in detail the repair, it provides knowledgeable mechanics a great perspective on where the issue lies, then, their expertise can take over.

This alleviates unnecessary repairs as techs aren't faced with guessing and making erroneous diagnoses. Consumers are also given foresight into issues that are on the verge of arising, allowing them to budget and prepare themselves for potential disaster.

Is your Exhaust System Exhausted?

Out of sight, out of mind. Underneath your vehicle is a crucial system of pipes that allow your vehicle to operate optimally. Without them, the roadways and environment would be completely different than how we view them today.

Make an exhaust inspection a part of your regular maintenance. Once your vehicle is on the rack for an oil change, a technician has a clear view of any defects or foreseeable problems. Cracks, leaks or loose joints can cause a world of problems and may even deem your vehicle inoperable in certain areas.

THE ROLE OF AN **EXHAUST SYSTEM**

A key role of your exhaust is to keep the people inside the cabin safe. It reroutes dangerous gases created in the engine to dispel outside.

Understanding how your exhaust system works can encourage you to take its maintenance serious. Here is a breakdown of the important components, from the Car Care Council.

Muffler: Deadens the noises and explosions made by a properly functioning engine.

Catalytic converters:



Typically contains two catalysts - one to subdue nitrogen-oxide pollution and the other to oxidize it to turn carbon monoxide into carbon dioxide.

Oxygen sensors: Mounted in the exhaust system, they monitor oxygen levels to ensure the engine and converters operate properly.

Fortunately, most exhaust system problems will be

revealed by a check engine light.

SYMPTOMS OF **DEGRADING EXHAUST**

Besides a warning light, many exhaust symptoms can be realized by listening for unusual sounds. A muffler is loaded with baffles, or metallic chambers to cancel out the sound of the engine.

When they begin to be compromised, it often means the linkage inside is degrading, which may lead to a rattling noise. Catalytic converters also show physical signs of wear by the inside materials becoming loose. Rubber mounts are another key component to an efficient exhaust system. If they become loose, it's not uncommon for your pipes to

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cause a thumping sound as you travel over railroads or potholes.

More serious issues include an exhaust smell inside the cabin. This commonly means there is a leak and should be addressed immediately. You may also notice differences in performance like reduced gas mileage or if a vehicle runs hotter than normal.

Types of Tire Wear

Many view the wear and tear on tires as a necessary part of driving. While it's true the tread won't last forever, the way they wear can provide great clues into other problems and prolong their use once issues are resolved.

Traveling on degrading tires can leave you stranded with a flat or cause a dangerous blowout while driving. You can perform a quick check on your treads integrity by using an affordable depth gauge. This simple tool is pressed between tire grooves and reveals how much tread is left; the typical replacement level is when 2/32 of an inch is left but certain tire manufacturers may suggest it sooner.

If you don't have a gauge, the Car Care Council says to place an upside down penny between your tread. If any portion of President Lincoln's head is visible, the replacement threshold has been met. Here are a few ways your tires may prematurely wear and what it tells you about the condition of your vehicle.

CENTER WEAR

When you notice wear down the center but not on a tire's side, it usually indicates your rubber is overinflated. This instance causes them to bulge and leave the middle of a tire as the only section traveling down the road. To avoid this type of wear, inspect your pressure periodically and ensure it maintains levels which are recommended by the manufacturer.

SIDE WEAR

Alternatively, uneven wear featured on your tire's side often means they are underinflated. When you are adamant about filling them up to the correct levels but still notice the sides fading faster, it's a good indication that your car is out of alignment or a steering component is defective.

FLAT SPOTS

Another instance that affects the middle of a tire is caused by aggressive braking or emergency stops. If you notice this wear but don't remember making sudden stops, you should have an expert check the integrity of your braking system.

CUPPING

When you notice visual scoops missing in your tire tread, it's commonly due to faulty shock absorbers or other suspension components.

Fortunately, you can usually feel the vehicle bouncing as you drive so you can identify a problem that must be resolved quickly.

Winterize your Summer Ride

It's not uncommon for Americans to store their classic or hobby cars away from the cold weather. Fall is the perfect time to get it ready for hibernation before the frigid temperatures return. However, it's not as simple as leaving it behind in a garage if you expect it to perform next year.

FINDING STORAGE SPACE

Before performing necessary maintenance, you should know exactly where you will store your car over the winter. Try and find a place with limited access and infrequent guests. An extra spot in your personal garage can be a great space so you can keep an eye on it and have easy access to it when it's time to rev it up in the spring.

If you do decide to go offsite and rent a storage space, make sure to explain your plans of the location and duration it will be there to your insurance provider. They may not require this information but it's a good idea to give your agent a heads up that it will be in storage.



CHANGE OIL AND FILTER

Changing the oil and filter provides excellent protection against engine corrosion. After filling it with the lubricant suggested by the manufacturer and installing a quality oil filter, make sure to start the vehicle for a few minutes so it can circulate throughout the system.

STABILIZE FUEL

Top off your fuel tank with premium gasoline and purchase a stabilizer meant for storage to add to it. The purpose of this additive is to prevent gum, varnish and corrosion and eliminates the need to drain the vehicle of gas, which can be devastating to an expensive fuel pump. The car will need to be driven so the protectants can be distributed throughout the fuel system.

PERFORM MAINTENANCE

If you discover your vehicle is facing some performance issues, get them resolved before storing it away.

It's a good practice to

ensure it's ready to go when the warmer temperatures arrive and won't delay you by making repairs that you may have forgotten. Whether you're a DIY gearhead or feel more confident visiting a repair facility, even your favorite summer driver needs attention to operate at its peak performance.

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FALL CAR CARE | CLEAN UP

Declutter Your Car

Over time, it's common for certain compartments to become the junk drawers of our vehicles. Glove compartments and trunks are placed that are often overlooked for cleanliness.

However, removing the junk and replacing it with important documentation and safety gear in these areas can ensure you're prepared while traveling.

When committing to declutter your car, give the cabin it's own attention by hiring a professional detail service. They will expertly vacuum your carpet, shine the interior and use eco-friendly chemicals to protect it from the sun.

Start your fall with a clean car to welcome the crisp temperatures and exciting holiday season.

GLOVE COMPARTMENT

You may find yourself using your vehicle's glove box as temporary storage box for napkins, wrappers or quick snacks. While its handy location makes it enticing to use it for your own convenience, the experts at Nationwide encourage us to take advantage of the space to secure



important documents and items.

Medical information: Write down information regarding certain medications you require and allergies for people who frequent the vehicle. This can be a lifesaver in an accident that leaves you unable to respond.

Proof of insurance: If you are in an accident or questioned by a law enforcement agent about insurance documents, knowing exactly where they are located is calming during a sometimes nerve-shattering experience.

Owner's manual: If you discover lights illuminated on your dashboard, the manual can tell you what they mean and how they should be resolved. You can also keep track of your maintenance schedule in this guide.

TRUNK STORAGE

Manufacturers of most modern cars have foregone including a spare tire and the tools to complete the repair. If you're buying a new car or even used, it's crucial to buy your own to keep on hand.

A benefit of this is you will have a full-sized tire to use if you ever if you ever find yourself with a flat, they don't carry speed restrictions like a smaller donut. You can also gain peace of mind by keeping extra fluids like oil, premixed antifreeze and brake fluid in case you find your vehicle in need while you're away from town. A first-aid kit packed with bandages, gauzes, emergency light and extra clothes and blankets should also be readily available for you and your passengers.

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