

A photograph of a dark blue car parked on a gravel driveway. The driveway is lined with trees, and the scene is bathed in bright, warm sunlight, creating a lens flare effect in the upper right corner. The car's side mirror and front wheel are visible. The text 'Spring Car Care' is written in a large, white, serif font, with a thin white line underneath it. Below this, the word 'GUIDE' is written in a smaller, white, sans-serif font.

Spring Car Care

GUIDE

Test Your Air Conditioner

It can be easy to forget about your air conditioning system during the winter. As the weather begins to warm with spring, it is a good idea to have these components inspected by a professional.

For most regions, spring means a break between bitter cold and blazing hot temperatures. Take advantage of the moderate conditions to ensure your vehicle's air conditioning is in good working order before the summer heat makes its appearance.

BEAT THE HEAT

It is in your best interest to address A/C issues while the weather is comfortable. This type of repair is typically expensive as it requires several new components and an in-depth labor process.

Realizing you have a problem while the weather is cool, allows you to implement a savings plan to cover the cost. Don't get caught with a busted A/C system at the height of summer.

WHAT GOES WRONG

When you notice the vents in your vehicle are blowing warm air, it usually means there is an issue with the AC compressor. This component



is the heart of your air conditioning system. It's in charge of heating and pressurizing refrigerant before it makes its way through a cooling process.

These are the other components responsible for keeping you cool on hot days:

Condenser: Once the refrigerant is pressurized and heated, it makes its way through a condenser, where it loses its heat.

Filter drier: This important part of the system, cleans out impurities and contaminants the refrigerant may have picked up on its path.

Expansion valve or orifice tube: Vehicles rely on either of these components to strip refrigerant of pressure once it has been purified.

Evaporator: The final step of the process happens inside the dashboard. This vital part ensures the air from the vent

is cooled and moisture free.

There are also lines, blowers, resistors and duct work required to be in good working order to ensure your A/C system works properly.

GETTING THE REPAIR

Repairing a vehicle's air conditioning system is much more involved than replacing the air compressor. In fact, most manufacturers won't even offer a warranty unless

the parts listed above are replaced.

When your qualified service center suggests replacing the entire system, it's likely not them trying to upsell.

Even though the compressor may be the only part that isn't working, each component must be replaced to ensure it is free from debris that will ultimately ruin the heart of your air-conditioning system.

Schedule an Alignment

Have you noticed your vehicle veering to one side during your travels? This is a good indicator that an alignment is in order. An unaligned vehicle not only causes uneven wear to your tires, but also is a safety concern, as it affects your control and handling.

Alignments are typically required any time you replace the tires on your vehicle, but it also can be a part of routine maintenance. Luckily, it is a relatively quick process that isn't too hard on the wallet. Talk to your dealer or a qualified service center to get your vehicle in line and ride in comfort.

WHY IT'S IMPORTANT

Aside from taking away the amount of control you have over your vehicle, there are expensive issues that come with driving a vehicle that isn't properly aligned.

According to Consumer Reports, family-car tires can last for up to 70,000 miles. Keep in mind that is with scheduled rotations and proper care.

When a vehicle is unaligned, uneven tire wear is a common occurrence. Tires will require replacement much sooner, and you will also notice a decrease in fuel mileage.

Comfortability is another advantage of a properly aligned vehicle. The need to constantly correct a veering automobile can not only be annoying but can create dangerous distractions.

WHEN IT'S NECESSARY

You'll know your vehicle is in need of realignment if you



notice the steering wheel will no longer line up straight, or your front-end shakes after hitting a bump.

Most vehicle manufacturers don't recommend a specific mileage or timeframe for align-

ment. It should be performed when symptoms are noticed.

A vehicle can easily become unaligned by hitting potholes or curbs or after a minor accident. If you experience one of these occurrences, be sure to

ask a professional if you're in need for service.

HOW IT'S DONE

Wheel alignments require a service center that offers a special alignment rack. Once a

vehicle is placed on this innovative tool, it is analyzed by sensors to determine the actual angles of each wheel.

A technician will then adjust each component until the vehicle's specifications are met.

Diagnose Dash Lights

Christmas is over, but do you still have a light display on your dashboard? Dash warning lights could indicate that critical components of your vehicle demand attention. This spring, don't ignore the signs. Find a professional to find the problem.

The brain of modern vehicles is the engine-control computer. It relies on a series of sensors to understand how the engine is operating and whether adjustments are necessary. When the computer discovers an issue it cannot fix itself, you will be alerted with a warning light.

While lights can sometimes signify minor problems, they should never be taken lightly. Especially when a "check engine" warning is triggered, it is crucial to correct the error as soon as possible. Repairing problems to your motor early, is a great way to protect your investment.

PROFESSIONAL TEST

It can be easy to become tempted by an auto-parts store that offers a free diagnostic test. While these tests may sometimes give you a hint as to where your problem is, they are not as accurate as the equipment used by a certified repair shop.

A professional diagnostic might not be free, but it can pinpoint the exact cause to a dashboard light, rather than give you a list of common codes that might have triggered it. Some shops offer a discount on a test if you agree to let them complete the repair.

When it comes to dash lights, you're in better hands with a professional.



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LIGHTS SHOULDN'T BE IGNORED

Sometimes, a light can be triggered simply because your gas cap is not on tight enough, but that is a best-case scenario.

While no light should ever be ignored, once one begins flashing, it is critical to turn the engine off and have your vehi-

cle towed to a repair facility. Flashing lights indicate serious damage to important components is occurring.

Warning lights are meant to help warn you of issues that your car is experiencing. Take advantage of the alerts to maintain the longevity of your vehicle.

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Get on Track with Maintenance

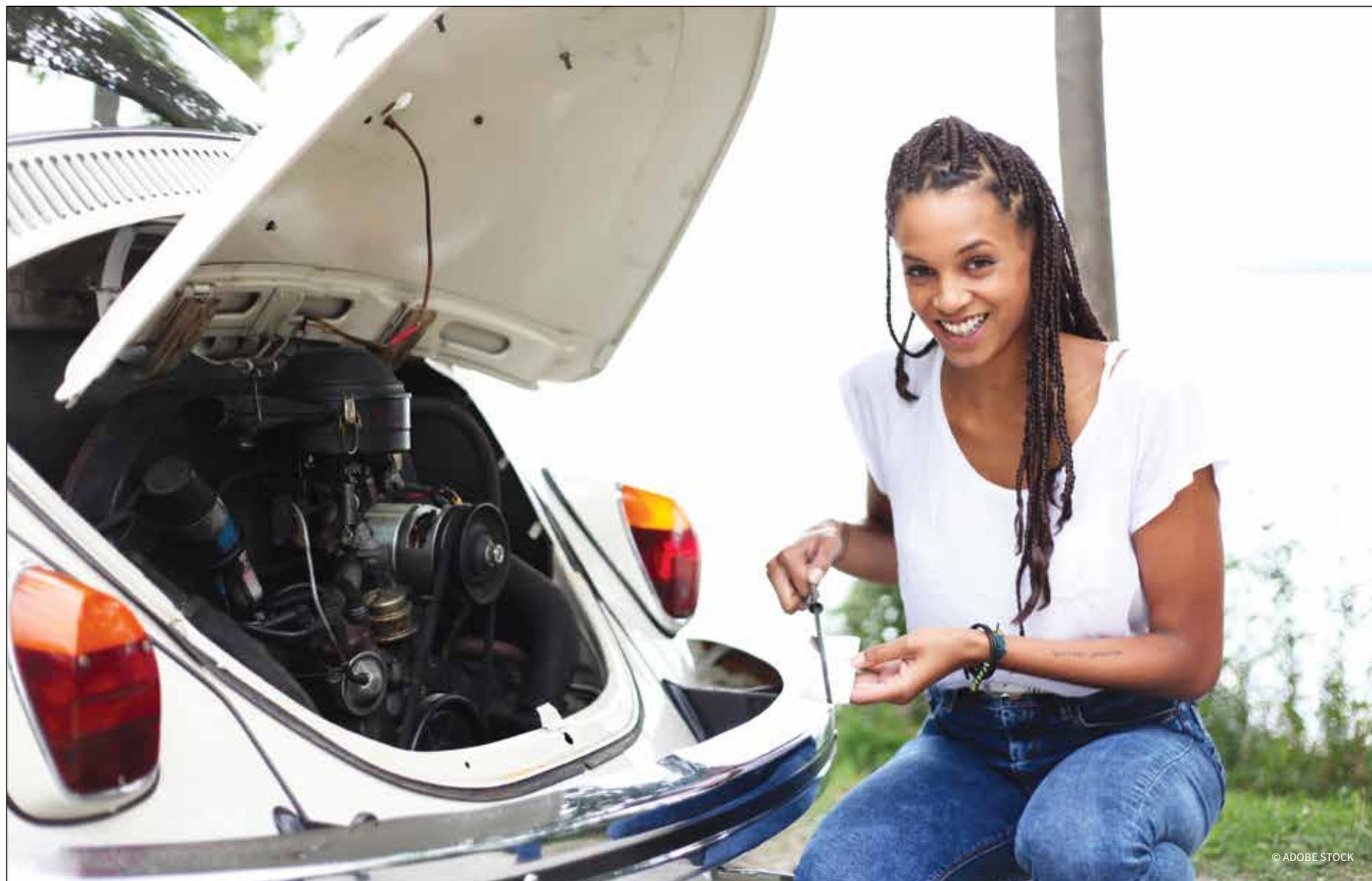
During the busy holiday season, it can be easy to forget about scheduled maintenance of your vehicle. Now that spring is arriving, it's a good time to get back in control of the health of your vehicle.

Regular maintenance is required for your vehicle to operate efficiently and safely. Just like we require scheduled visits to the doctor, a mechanic can discover and resolve problems your car might be experiencing before they become serious.

COMMONLY IGNORED MAINTENANCE

When forgetting or ignoring the general service your vehicle requires, you could be greatly reducing its longevity. A survey conducted by the Car Care Council showed statistics of common problems cars experience when service goes ignored. They include:

- 25 percent of cars had low or dirty engine oil.
- 17 percent had inadequate cooling protection or low coolant levels.
- 16 percent required new wiper blades, while 27 percent had low or dirty washer fluid.
- Overall, 89 percent of vehicles needed at least one repair or service.



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Operating your vehicle without proper maintenance can put great stress on the important components that make it run efficiently. Schedule an appointment with a professional to create a dedicated service schedule based on your vehicle's specifications.

IMPORTANCE OF FLUID LEVELS

Your vehicle requires several fluids to keep different parts running as they were intend-

ed. You're probably most familiar with engine oil, as it is part of routine maintenance.

During an oil change, it is common practice for a mechanic to top off other fluids that assist power steering, braking and cooling.

Another hard-working part of a vehicle requires proper fluid levels: the transmission.

An automatic transmission depends on fluid to lubricate and serve as coolant for the intricate components that

make a transmission operate.

Since general service dates can differ from manufacturers, it's important to check your owner's manual and find their recommendations.

To check your fluid for capacity and signs of deterioration (dark in color, burned smell) you can follow these steps for most automatic transmissions.

1. Park vehicle on a level surface with the engine running.

2. Locate the transmission dipstick and remove it from the tube. Wipe it clean and reinsert.

3. Now remove it again and observe the indicator markings on the end of the tube.

4. If low, you can fill it in the same tube that holds the dipstick.

If your capacities are at low levels, be sure to have a qualified mechanic find out why. There may be a leaking seal that needs replaced.

Replace Wiper Blades

Wiper blades are one of the most affordable replacement parts for your vehicle.

They also play a major role in keeping you safe by promoting visibility. Now that winter is over, it's time to begin the rainy season with new blades.

While replacing wiper blades can often be performed at home, without much automotive knowledge, today's "water knockers" can be a bit tricky. Some manufacturers are designing their wiper arms differently than the standard J-hook of the past.

Check with your auto parts professional to determine which blades are a good replacement, and don't be afraid to ask about an install.

Ensuring your windshield will be kept clean during inclement weather will give you peace of mind. An improper installation can have dangerous results to everyone on the highway.



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ERASE WINTER WEAR

The frigid temperatures of winter cause stress to nearly every component that makes up a vehicle. Your windshield is no different. Take the time this spring to erase the wear left behind from the ice and snow.

Before replacing your wiper blades, make sure to thoroughly clean the windshield. A

good way to perform this is with a towel and washer fluid. Gently scrub the exterior glass to eliminate any grime that may lessen the blade's impact.

You also should examine your wiper blades before you replace them. Checking for cracks, uneven edges and missing pieces can give you a good perspective on how long

they will last in your climate.

Don't wait until they begin leaving streaks. Lackluster performance is not safe when driving in rainy conditions.

DIFFERENT TYPES

In addition to different attachment styles, you also have a couple options when it comes to performance. After

making sure the installation mechanism and lengths are correct for your specific vehicle, you can choose from these different types, according to Consumer Reports:

Conventional wipers:

Typically the most inexpensive option, these blades feature a metal frame that easily installs on a vehicle's wiper arm. When

a replacement is due, you can use rubber refills, rather than buying the entire assembly.

Beam blades: A style that is growing in popularity thanks to their ability to curve with the shape of modern vehicles' windshields. Beam blades are generally more expensive but provide premium performance.

Inspect Belts and Hoses

The impact belts and hoses can have on your vehicle's performance might surprise you. Belts play a key role in operating every part under the hood with a pulley, and hoses keep the cooling system running.

With spring's arrival, be sure the rubber in your engine compartment is in good working order to avoid becoming stranded. Warmer temperatures create under-the-hood conditions that can aggressively deteriorate older belts and hoses.

ROLE OF COOLING-SYSTEM HOSES

If you have ever looked in your engine compartment, you likely have seen a maze of hoses, but do you know what they do?

Some are there to transport fuel, air-conditioning refrigerant and even air to vacuum-controlled components, such as a cruise-control actuator. Your vehicle's cooling system also relies on hoses to carry important coolant to regulate engine temperatures. When an engine overheats, it causes immense damage to its internal parts.

Early detection of a failing



cooling-system hose can save you big bucks in repairs as well as keep the wheels turning during a spring vacation.

Here are some signs you'll notice when your hoses start

wearing down, as reported by the American Automobile Association:

- Visible fluid leakage under your car. It's a good idea to know what kind of coolant

your vehicle operates with, so you'll know which colors to look for.

- A sweet burning smell can often indicate a coolant leak is present.

- Visible steam or smoke from beneath the hood.

Hoses take a lot of abuse, often being exposed to drastic temperature changes that may cause swelling, cracking or bulging. Regular inspections can give you the advantage in catching a problem before it requires an expensive repair.

UNDERSTANDING BELTS

Most of today's passenger vehicles rely on a single belt to power important components, such as the alternator, AC compressor and even power steering. They are called serpentine belts, and they feature ribs that ride on the pulleys to operate each part.

The AAA suggests signs of a failing belt can include:

- A squealing noise as the engine accelerates;
- A whirring or grinding noise from a pulley while engine is on; and
- A slow, rhythmic slapping sound at idle.

Noticing cracks or noises coming from your belt usually means a replacement is necessary. Most vehicles feature a diagram for the correct routing position.

Changing a belt can be accomplished without the need for special tools, but may be better left to professionals unless you feel comfortable doing the repair.

Don't find yourself stranded this spring. Make sure the rubber in your engine compartment is ready for the warm weather.

Protecting the Environment

From the building process, operating and the eventual disposal of a vehicle, it all takes a toll on our environment. However, by making responsible decisions when buying and driving, you can lessen the impact of your environmental footprint.

While you likely know the importance of regular maintenance for the longevity of your vehicle, do you know how it positively impacts the environment?

Keeping up with your scheduled oil changes allows an engine to operate with clean lubrication, meaning vehicle emissions will be lessened. You also should change important air and fuel filters based on the manufacturer's requirements.

WHEN BUYING NEW

If you are celebrating spring with the purchase of a new car, you can take advantage of strict federal guidelines that will save you money and benefit the environment.

According to the Department of Energy & Environmental Protection, gas mileage and low emissions should be the two most important consider-



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ations you make before a purchase.

Lessening your need for fuel, saves important resources, and low emissions mean your vehicle will operate while causing limited harm to the environment.

MAINTENANCE TIPS FOR ENVIRONMENTAL HEALTH

If your lifestyle requires driving, you are responsible for proper maintenance that not

only protects your vehicle but boosts positive benefits to the Earth.

When scheduling maintenance this spring, be sure to keep these suggestions from the Environmental Protection Agency in mind to lessen your environmental footprint.

- **Inspect tires for proper inflation.** Determining how much air is in your tires can be easily performed using an inexpensive pressure gauge. Check your manual for the recom-

mended PSI for each tire. Improperly filled tires not only enhance the wear-and-tear they experience but also will negatively impact fuel demands.

- **Are you due for a tune-up?** A change of spark plugs, boots or wires, or even a coil can help your vehicle's fuel efficiency. Ask a professional to test your ignition system to check for problems.

- **Don't overfill the tank.** When you hear the pump click,

stop. Many people have the tendency to continue filling their fuel tanks until they reach a round number. This doesn't only open the chance for a spill but also can damage the vapor-recovery equipment a vehicle depends on.

By making a commitment to service your vehicle as suggested by the manufacturer and professionals in your area, you will increase the life of your vehicle and lessen the damage to the environment.