



# Car Care

## A GUIDE TO MAINTAINING YOUR AUTO

- Mileage
- Belts
- Hoses
- Tires
- Brakes
- Lights
- Wipers
- Paint
- Shocks
- And more!

# Fuel-saving maintenance

## STEPS YOU CAN TAKE TO LOWER YOUR BILL AT THE PUMP

**W**ith gas prices fluctuating wildly, most drivers want to do everything they can to squeeze better gas mileage out of their current car.

Fortunately, with proper maintenance, cars can get noticeable improvements in fuel economy that will help to save money down the road. Here's a look at six things you can do to boost your car's gas mileage:

**TIRE PRESSURE:** Among of the easiest but often overlooked maintenance items on your car are the tires. Experts say you can improve your gas mileage by up to 3 percent by keeping your tires properly inflated. It's also an important safety measure.

**TUNE-UP:** Giving your car a tune-up can improve gas mileage by up to 4 percent. Check your car's owner's manual to follow the proper maintenance schedule. Worn-out parts or outdated sensors can cause your car to waste fuel, so make sure everything under the hood is in good condition.

**OIL CHANGES:** Regular oil changes aren't just required for a long-lasting engine. They can also help improve gas mileage, too. By keeping the friction in your engine down to a minimum, fresh oil can create a slight improvement in fuel economy.

**SPARK PLUGS:** Old, dirty spark plugs can cause a 2-mpg drop in your car's gas mileage. Use the correct spark plugs for your car, and carefully check the plug gaps to ensure a clean spark and complete combustion in your engine, which saves on gas money.

**AIR FILTER:** Your engine needs to breathe cleanly to get the best performance and fuel economy. Dirty or clogged air filters can cause a drastic drop in mileage — up to 14 percent on older cars — so always make sure your air filter is clean to get the most out of every tank of gas.

**GAS CAP:** Finally, your gasoline can disappear into thin air if your gas cap is loose, damaged or missing. Gasoline will evaporate if there's not a tight seal at the cap, so make sure you regularly check it for proper function and condition.





# Tire care: What to know

**N**othing affects your car's performance and safety like the quality of your tires. While other parts may make your vehicle more fun or comfortable, your car ultimately depends on four small spots where the rubber touches the pavement.

Your tires may make a bigger difference than you think, too. Good, well-maintained tires will result in a better ride, improved handling, predictable handling in wet or dry conditions, and most importantly, the safety of you and your passengers.

Keeping your tires in good condition isn't difficult, but it does take some regular attention. Here are five things to look for to keep your car's tires in top shape.

**INSPECTION:** Give your tires a visual inspection at least once a month. You'll want to check the tread depth to be sure it meets your state's requirements and the proper tolerances for your vehicle. A lack of tread can be downright dangerous because it reduces traction. Also check for punctures and cracks in the sidewall.

**PRESSURE:** Also once a month, you should check your tire pressure to make sure it is set at the correct level for your vehicle. Pressure that is too low or too high can increase wear on your tires, hurt your gas mileage and be unsafe to drive. Make sure you check your spare tire's pressure, too, just in case you'll need it.

**ROTATE:** Every 6,000 miles you

should have your car's tires rotated. This will help ensure they wear more evenly, which extends their life and keeps the traction level more consistent over time. If you have to replace your tires, it is highly recommended to replace them all at the same time for safety reasons. Replacing only two tires can lead to different front-to-rear grip levels, which can make your car spin and be difficult to control in emergencies.

**ALIGNMENT:** Check your vehicle's service manuals to see how often it will need a suspension alignment. If you find your tires are wearing unevenly or too quickly, that could be a sign that you need an alignment right away. It's a good idea to have your car's alignment checked annually.

**BALANCE:** Finally, every time you have your tires rotated, you should also have them balanced. Extremely unbalanced tires can sometimes be felt through the steering wheel, and even minor balance problems can cause premature wear to your shocks and struts. Ultimately, keeping your tires balanced will make your car last longer and drive more comfortably.





# What your brakes are saying

## READ THE SIGNS TO SEE IF IT'S TIME FOR A BRAKE JOB

**W**hen it comes to safety, the ability to bring your car to a quick stop is critical. Brakes need to be kept in top condition at all times because they could be called upon to save your life at any moment.

Brakes require regular maintenance, too, and you need to make sure they're always ready to do their job.

If you suspect it might be time for a brake job, have a professional look to see what work might be needed. And, as always, follow the maintenance schedule in your owner's manual to keep the brake system maintained properly.

### SQUEAKS AND SQUEALS

The sounds your brakes make can be a sign that they need work. Slight squeaks can be normal in some cars, but it can also be a sign of serious problems.

If you recently had brake work performed, the squeaking might be a temporary problem. Changing to different grease or applying a new kind of brake pad can sometimes result in a minor noise that will go away after a few days.

If you haven't had brake work done lately, squeaks and squeals can be a sign that your brakes are wearing out and need to be replaced immediately. Brakes are designed to wear out over time — they grind down a little bit every time you stop the car — and most cars are designed to intentionally make a squealing noise when the brake pads wear down too thin to be safe.

That's your car telling you, "Please, give me a brake job!"

Even if you think your brakes feel fine, it's still wise to have a trusted service shop check them out to be sure.

### SHAKES AND VIBRATIONS

Worn-out brakes can also sometimes manifest themselves as vibrations that you feel through the seat, brake pedal or steering wheel.

When your brake system is operating as designed, it will smoothly and evenly bring your car

to a stop. But if the parts are wearing down too far — or if they're simply wearing unevenly — they can create a "shimmy" you feel every time you press the brake pedal. That might mean you decelerate unevenly or just feel a gentle vibration through the steering wheel.

If you feel any vibrations when you slow down, have your brakes checked for uneven wear. It's likely that

your brake drums or rotors will need to be machined or replaced to fix the problem.

Keeping your brake system in good shape can prolong the life of your car and, most importantly, let you stop confidently in emergencies to protect yourself, your passengers and the people around you.





# Clearly a good idea

## LIGHTS, WIPERS IMPORTANT FOR SEEING THE ROAD

**D**rivers are only as good as their eyes. If poor lighting or a smudged windshield keep you from seeing obstacles, people or other cars in front of you, it could be dangerous or even deadly.

To keep your view from the driver's seat as clear as possible, it's a good idea to regularly check and replace your car's lights and wiper blades.

### HEADLIGHTS, TURN SIGNALS

Check your car's headlights, brake lights and turn signals at least once a month to be sure they're all working properly. You'll want to check both low and high beams and note how well the headlights are aimed. Headlights that aren't aligned correctly can limit your vision and make it harder for other drivers to see.

You'll want to make sure the lenses are all clean because dirt and crud can blur them, which makes them dimmer and harder to be seen by other drivers.

It's easier to check the lights if you have someone help you. Ask a spouse, friend or relative to watch while you try out each of the lights to make sure they're working.

### WIPERS

Wiper blades should always be soft and pliable, but the best way to tell whether they need to be replaced is by using them. Your wipers are designed to clear the rain, dirt and snow from off your windshield so you can see safely.

If they're not clearing the windshield, they need to be replaced right



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away. It's as simple as that.

If you want to experiment with installing better wipers, a variety of options are available. Some are made of different, longer lasting materials, while others will have extra blades that do a better job cleaning the win-

dow with each swipe.

### FREE INSTALLATION?

Some retailers and service shops that sell wiper blades will install them for you for free or at a very low cost. Don't hesitate to ask for it.

If you can't get free wiper installation or just prefer to do it yourself, the process is very simple on most cars. Wipers typically will snap on and off with a bit of effort, and they come with instructions to explain the process.



# How to check belts, hoses

The belts and hoses on your car, which can be some of the cheapest and simplest parts on your car, can also be the most critical.

Because they keep your engine and all its accessories running, a breakdown of a belt or hose can easily leave you stranded at the worst possible time. Worse yet, they can often lead to costly damage to your car's engine or other more expensive parts.

Because they're so critical to the life of your car, it's important to regularly check the belts and hoses under your hood to make sure they're in great condition. Many of these parts cost just a few dollars and can actually prevent thousands of dollars in damage that might occur when they break.

Here are things to look for.

**OWNER'S MANUAL:** Always check your owner's manual for the recommended life of belts and hoses under the hood. Even if they appear like they're in good shape, belts and hoses often fail starting with their insides — the places you just can't see. Follow the schedule in your owner's manual, and always assume a service has not been performed unless you have the records proving it has been.

**HOSES:** Every time you have your oil changed (generally every 3,000 miles), make sure you check the condition of your hoses. They should feel moderately soft when you pinch them. If they feel hard and brittle or soft and squishy, they need to be changed before they break. You should also look for any visual signs of wear, such as blistering, cracks or any obvious damage.

**DRIVE BELTS:** Have the tightness and condition of all the belts under your hood checked. Many cars use a single serpentine belt to turn all kinds of devices, from the power steering to the alternator, air conditioning compres-

or and water pump. A serpentine belt failure will bring your car to a total halt, so don't let it get too worn out. It's far too risky.

**TIMING BELTS:** If your car has a timing belt, follow the replacement schedule precisely, even if it feels like it's in good shape. Timing belt failure can cause serious, expensive engine damage on most cars. You can avoid thou-

sands of dollars in repairs by having the timing belt changed on schedule, which is typically every 60,000 to 90,000 miles depending on the vehicle.

**CRITICAL PARTS:** If your car has a timing belt, it's important to have it checked and replaced precisely according to your vehicle's maintenance schedule. On many cars, a broken timing belt can cause severe engine damage that is very expensive to repair.





# Paint protection

## HOW TO SAFEGUARD, IMPROVE YOUR CAR'S FINISH

**A**shiny, highly reflective finish is what most people think of when they imagine a nice car.

New cars come with paint that can retain its sheen for many years if properly cared for, which is one way to improve both the appearance and value of your car. People will simply pay more money for a car that has a great looking paint job.

Thankfully, keeping your car's paint looking good is a relatively simple job.

### KEEP IT CLEAN

The most important step in protecting your car's paint is to clean it frequently.

Dirt, road grime and bugs can be very abrasive if left to sit on the paint surface. Your car is always vibrating and moving when you drive, which makes the particles dig in and dull the paint finish rather quickly if left in place.

Washing your car on a regular basis will keep it protected and looking good at the same time.

### USE MILD SOAPS

Some car owners are tempted to save money by using the harsh dish soaps that they already have sitting in the kitchen cupboard, but this can be a huge mistake. Dish soaps are formulated to cut through heavy food



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grease, and this harsh action can also cut through the clear surface of your car.

To protect your paint, always use soaps designed specifically for car finishes. Carefully read and follow all the directions of products you buy, and be gentle with the finish of your car. Hard scrubbing can wear it down prematurely, so gentle but frequent washes are a much better choice.

### KEEP IT WAXED

While very new cars will generally not need to be waxed — and some waxing processes could actually damage the clear-coat surface if you're not careful — most cars will benefit from regular waxing as they age.

A high-quality carnuba wax is a great choice to keep your paint shiny and protected. It can be a labor-inten-

sive process to apply, but it will also leave an invisible protective coat that should last eight to 12 weeks and make your finish shine like new.

For a longer lasting finish, paint sealants are another option. These chemical coatings have the same protective and shining capabilities as natural waxes, but they're designed to be more durable so they do not need to be applied as often.



# When do shocks need replacing?

**Y**our car's suspension takes a beating every day. You might not think about your shocks and struts very often because they're hidden underneath the car where most drivers don't look.

Those shocks and struts, though, actually have a major impact on your overall driving experience. At best, worn-out shocks will make your car's ride less comfortable. At worst, they can pose a serious safety problem.

That's why it's important to replace your shocks or struts on a regular basis. It will keep your car driving comfortably and safely, all while keeping the car's handling as close to original as possible.

## BOUNCE TEST?

Some drivers use a "bounce test" to see when it's time to replace the shocks. They will push down on the front or back bumpers and see how many times the car bounces before settling down.

This is an old-fashioned way of testing your suspension, though, and it can be very misleading because it tells you nothing about how the car is supposed to handle in real-world conditions. And some cars simply come with suspension designs that are set up to bounce more than others.

By the time a worn-out suspension shows up as an overly bouncy car, it's usually far past time to change the shocks or struts.

## MAINTENANCE PLANS

A much better way to decide

when to replace suspension components is by following the maintenance plan in your owner's manual.

The owner's manual contains recommended intervals for replacing certain parts, including the shocks and struts. While this can vary some based on how you drive it — jackrabbit starts and lots of potholes may wear out your suspension faster, for example — the owner's manual will give a good idea of when the parts ought to be replaced under normal use.

It's good information, and it could also void your car's warranty if you don't follow it.

If you don't have an owner's manual, consider buying one from an online auction, looking up your car's maintenance needs online, or checking with a certified repair center that can tell you exactly what the factory recommends for your car's age and mileage.

## DO AN INSPECTION

Even before the planned maintenance, it's a good idea to check the conditions of your shocks and struts regularly. You can peek under your car to look for any obvious signs of leaks or damage, such as oil that has dripped out of the shock or bent parts that could have been caused by debris in the roadway.

