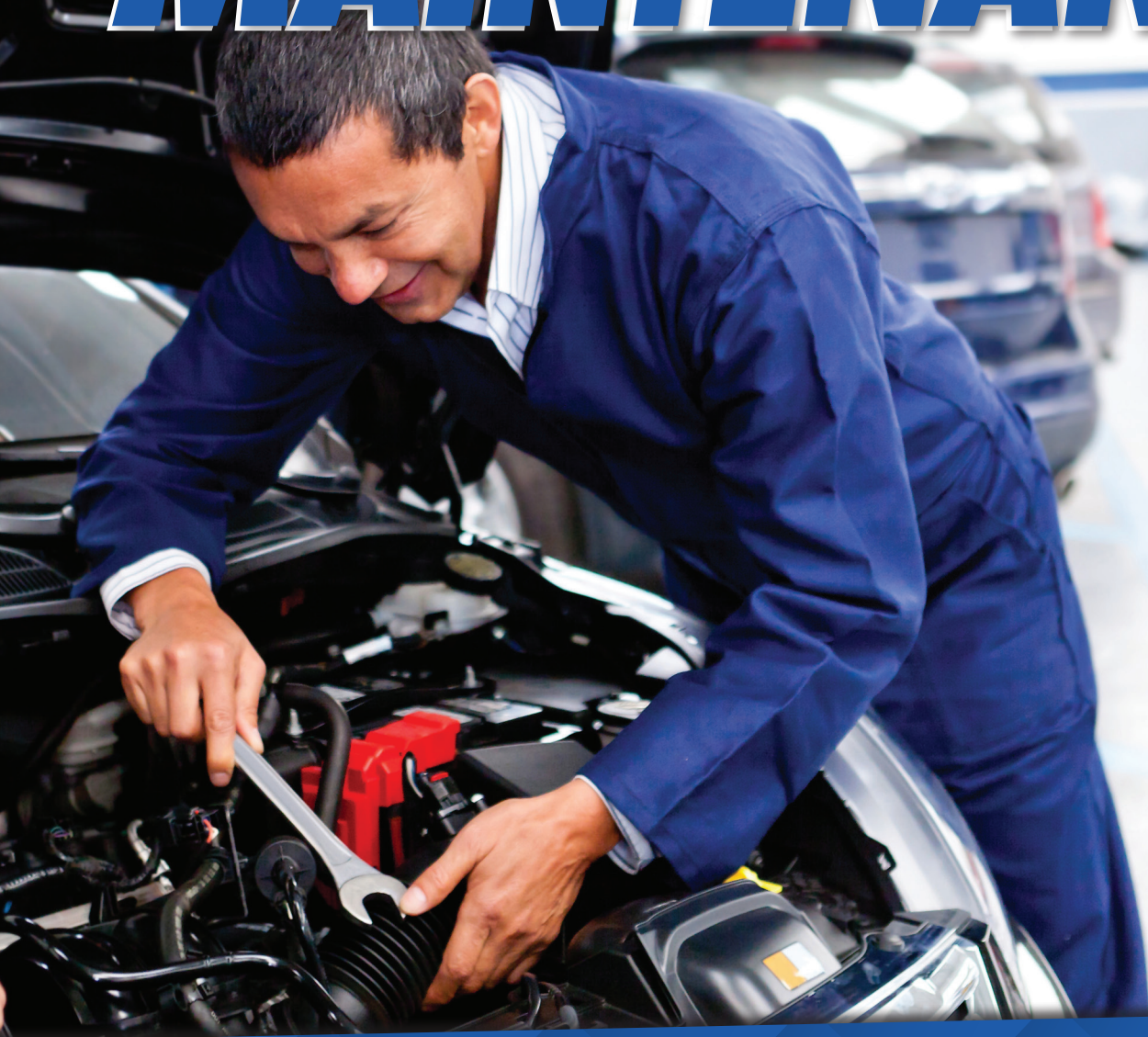


The Driver's Guide to **AUTOMOTIVE MAINTENANCE**



NORM REEVES

SUPERSTORE
CERRITOS AUTO SQUARE

18900 Studebaker Rd, Cerritos, CA 90703
888-318-5001 • NormReevesFord.com

The Driver's Guide to Automotive Maintenance

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Routine automotive maintenance is arguably the single most important thing that you can do for your car. It may seem intimidating to look under the hood of cars these days, but you really don't need any complex knowledge to take care of a few simple tasks yourself. Adding some regular checkups and taking care of issues that do arise in a timely fashion go a long way toward extending the life of your vehicle and ensuring a safe ride.

If you've had major repairs performed on your car, you know that it doesn't take long for car issues to get expensive. It may seem like you're spending a lot of money on preventive automotive maintenance, but basic tasks such as getting the oil changed and having routine checkups with a mechanic can potentially save you thousands of dollars in the long run. It's very important not to skimp on routine maintenance.

Read the Owner's Manual

Many people drive cars without ever looking at the owner's manual. Most likely, a car is the most expensive piece of technology that you own. Would you run a new dishwasher or dryer without reading the manual first? Even if you don't have any particular interest in cars, you can learn a lot about your vehicle from the manual, including recommended guidelines for various automotive maintenance tasks.

Regular Visual Checks

Body and Bumper



The biggest reason you should keep an eye out for damage to the body and bumper of your car is for insurance purposes. If there's any kind of dent

or other damage, you want to know where and how you got it, even if it's something as simple as another driver bumping his door into your front passenger door in a parking lot.

Fluid Leaks

Check underneath your vehicle for any leaking fluids, including oil and transmission, power, or brake fluid. During the warmer months, it's also normal to see water dripping from the air-conditioning unit. While a small leak may not cause problems right away, it's best to get it checked out sooner rather than later so it doesn't turn into a big issue.

Tire Pressure and Tread

You should check your tire pressure a minimum of once per month. Maintaining optimal air pressure extends the life span of the tires and gets you better gas mileage, both of which save you money. Consult your owner's manual for the ideal tire pressure level for your vehicle.

Tire pressure gauges are inexpensive and readily available at any hardware or auto supply store. Tire gauges are also small, which means that you can keep one in your glove compartment and do pressure checks on the go as needed. Many gas stations have free air pumps, or you can buy your own pump and learn how to fill your tires.

You should also listen for any strange noises related to your tires and make sure they have adequate tread. Use a penny to measure the tread, or keep an eye out for the tire's tread wear indicators.

Smoke

Diesel emissions and start-up fumes are normal, but any other type of smoke in the vehicle exhaust may indicate an issue.

Engine or Fluid Warning Lights

Any time a warning lights up on the dashboard, talk to your mechanic as soon as possible.

Burned-Out Headlights, Taillights, Turn Signals, and Brake Lamps

For your personal safety and the safety of other drivers, all of the exterior lights on your car should be working at all times. It can be difficult to determine whether these lights are working properly while driving. Have a family member or friend inspect the lights for you when it's dark outside and the car is running. Your regular mechanic can replace burned-out bulbs or you can have this work done at a car care center such as Sears Auto Center or Firestone.

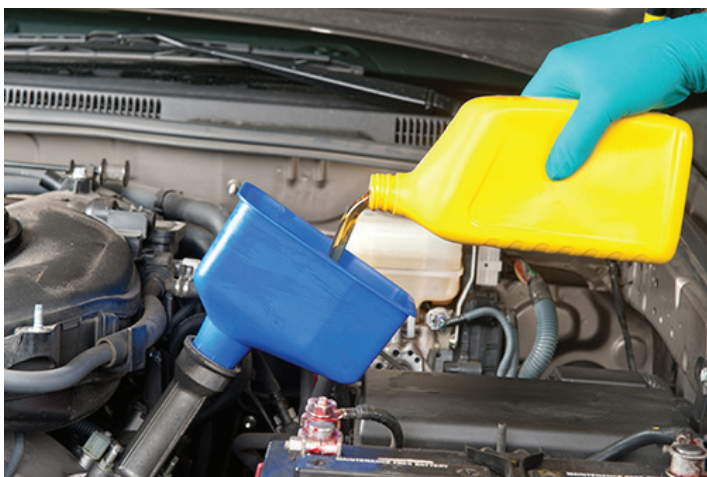


Windshield Wiper Damage

If your windshield wipers are cracked, torn, or starting to streak, it's time to replace them. There are a number of factors that affect the life span of windshield wipers, including driving frequency and car housing. For example, if you leave your car parked outside all winter, large amounts of snow and ice may damage the wipers more than they would damage a car parked inside a garage.

Any time you're having trouble seeing through your windshield, replace the wipers and clean both the inside

and outside of the windshield, as general cleanliness may also affect visibility. Wipers are cheap and readily available, so there's no reason to put off this simple replacement.



Changing the Oil

One of the most critical aspects of automotive maintenance is changing the oil and the oil filter on a regular basis. For decades, the standard guideline for oil changes was every 2,000 to 3,000 miles. However, many newer vehicles can be driven for much longer between changes without compromising safety. The best way to figure out how often you need to change your oil is to check the owner's manual. Regardless of the oil change schedule, make sure to also have your filter changed every time the oil is changed.

An engine oil level check should be part of your routine inspection under the hood. Cars have a dipstick or an electronic gauge for checking oil color and level. Your oil should be relatively clean. Once it runs through the engine, it will have a slightly darker color than it does when it's brand new. Keep motor oil on hand so you can add more as needed. There's more information about an inspection under the hood, including the engine oil level check, in the next section.

If you're changing the oil yourself, you can choose from a number of different types of motor oil. Lighter weight oil (e.g., 5W-30) is preferable for colder temperatures, while

heavier oil (e.g., 10W-40) is better for warmer climates. Does your vehicle smoke or use a large quantity of oil? Opt for a heavier weight or a synthetic blend motor oil.

If you're changing the oil and filter yourself, you should also make sure to dispose of the used oil properly. You can put the used filter out with the regular garbage, but you must take the oil to an approved disposal center. Many auto stores and auto care centers take used oil for free, such as AutoZone and the Walmart Auto Care Center. Purchase a dedicated, leak-proof container that you don't use for anything else to house the oil. For example, you should never temporarily store oil in a container that was once used for other chemicals or food. Make sure the container is clean, properly labeled, and out of reach of children and pets.

Under the Hood

You don't have to be a mechanic to learn how to check basic components under your hood. At a minimum, you should check the belts, the engine oil level and cleanliness, the transmission and transaxle fluids, the windshield washer, antifreeze/coolant, brake, and power steering fluid levels. With the exception of wiper fluid, you don't have to feel comfortable changing these fluids to become competent in checking them.



In some instances, you can view the tank level directly. However, most fluid containers have dipsticks

or gauges that allow you to check the current level against a notch that indicates the ideal level. The fluids should be above the minimum but below the maximum lines. Your owner's manual will have any additional guidelines for all of these fluids. If you're checking the antifreeze, take care not to remove the radiator cap while the engine is still warm or hot.

While you're inspecting components under the hood, watch out for leaks and worn or loose parts, such as loose electrical or tube connections in and around the engine. Worn or exposed wires and tubes and loose or warped belts should be replaced right away. You don't want to drive with a belt that is cracked or has missing parts.

The general guideline for belt replacement is every 60,000 miles for the timing belt and every 40,000 miles for the serpentine belt. Check your owner's manual for the recommended numbers for your particular vehicle. As long as your belts are in good shape, you can leave them alone. If they're worn out or damaged in any way, have them replaced before they fail, as damaged belts can harm other components of the car, resulting in even more expensive repairs. Belt replacement is a complex task for someone without advanced automotive skills, but it's a routine job for a mechanic. Don't be afraid to take your car into the shop for this replacement job.

Finally, keep an eye on the battery. You should always know the age of the current battery. If your battery has been in use for five years or more or isn't getting an adequate charge to start your car with ease, it's time to have it checked out. You should also make sure that the battery isn't leaking and that it doesn't have any sort of buildup on the contacts.

If there is buildup, purchase a battery cleaning brush for a few dollars at an auto parts store. Once you have a cleaning brush, you can keep it in your trunk. While you're buying a brush, you may also want to think about getting an inexpensive battery tester or jump starter to avoid having to call AAA or a friend to give you a jump if the battery dies. Most battery replacement stations perform complimentary battery charge and water level checks. You may also have a comprehensive warranty for your battery that covers these types of issues.



Regular Replacements and Maintenance

There are a few internal components of a car that you aren't likely to examine during your routine visual checks that you should still examine periodically. These checks include the cabin and engine air filters, spark plugs and cables, and the engine timing belt. With regular maintenance, you won't have to replace these items very often.

Your air filter should be clean without any clogs or damage. Most places that change oil also change air filters and are happy to do both at the same time. A mechanic will inspect the spark plugs, cables, and engine timing belt during an engine or electrical tune-up. If your spark plugs are worn out or covered in buildup, your engine can't work efficiently, which can lead to engine breakdown. If any filters, plugs, cables, or belts need to be replaced, your mechanic will let you know after he has inspected the vehicle.

Finally, you should have your tires rotated and balanced and your alignment checked on a regular basis. These tasks ensure that your tires wear evenly and that your car drives smoothly. They also extend the life span of the tires. If you have trouble keeping your car straight while driving, it's likely that the alignment is off. The good news is that it's a simple fix that any mechanic can perform. Consult your owner's manual for the optimal tire schedule for your vehicle.

Technology Options for Tracking Maintenance

It can be tough to keep track of routine checks and other car maintenance. Most people keep their mechanic receipts but don't have a real filing system. A smartphone app is a great way to note fuel efficiency, cost, and mileage; record maintenance and repairs; and get reminders and notifications for upcoming work. Among the best free Android apps are Car Maintenance Reminder and aCar. There are also a handful of popular and inexpensive apps with more robust features, such as tracking multiple cars and adding presets for specific tasks, such as oil changes and belt inspections. If you're interested in a paid app, check out Road Trip, Car Minder Plus, or AutoCare.

When in Doubt, Consult a Professional

While you can perform most regular automotive maintenance yourself, there are times when it's best practice to make an appointment with a mechanic. If you're not sure how to fix an issue or if your car presents a brand-new problem that you can't diagnose, set up a consultation. You don't want to let a minor problem turn into a major problem. You also don't want to make an issue worse by ignoring it, thus increasing the repair costs. A reputable mechanic whom you trust can give you an honest assessment of your car and suggest a best course of action.



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