



FREE EBOOK

Driver's Guide to Engine Oil



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Everyone has either heard the term “oil change” or walked through a store and seen rows of different oils for sale. So, why is oil so important, and why does it need changing?

What Is Engine Oil?

Oil is one of the most significant substances that you put in your vehicle. It's a lubricant and a key component of making your engine run properly and preventing your parts from breaking down.

While there are different types of engine oil, they all start with the same basic foundation. Engine oil is the result of turning crude oil into a mixture of petroleum hydrocarbons by adding chemical compounds. These additives help with its viscosity and effectiveness.

What Does Oil Do?

What oil does for a car is similar to what water does for your body. When you work out, if you aren't hydrated, you're more likely to experience injuries. When you drive your car, it's also hard at work. In both cases, there's lots of moving parts working in unison.

The thing about moving parts is that machinery creates a lot of heat, especially when it's contained under the hood. All that heat plus parts in motion can create friction.

Oil serves as the lubricant to prevent friction and cools things down, so your parts won't overheat. Without it, the parts of your engine would be overworked, overheated, and likely to suffer breakdowns.

Like every part of your car, though, it'll eventually need maintenance. In oil's case, this means scheduling a routine oil change at the recommended mileage intervals.

What's an Oil Filter?

Over time, your engine oil can become polluted by residue or tiny contaminants. This is usually a result of working through all those moving parts. For every part to keep functioning properly, it's important to keep your oil clean.



This is where an oil filter comes in. It filters out everything from tiny metal shavings to pebbles that have been kicked up from the road. It's a very important piece that helps keep your oil clean.

Usually, your oil filter will be replaced during the same maintenance visit as your regular oil changes.

Types of Oil

There are several types of oil, but they can really be broken down into two categories: conventional and synthetic. While there are a couple subsets of synthetic oil, these two are the principal families of engine oil.

- **Conventional Oil** – This is derived directly from crude oil and has an effective mixture of chemical additives and natural impurities. Most older vehicles use conventional oil. The natural impurities and consistency perform well under normal driving conditions. While it's typically used in older cars, it's not uncommon to find it used on new cars before their first oil change. Using conventional oil for the first few thousand miles can help whip the engine into shape before synthetic oil is added during the first routine oil change.
- **Synthetic Oil** – With synthetic oil, you're essentially getting a purer and more advanced version of conventional oil. It's been scientifically engineered to be cleaner, last longer, and stand up to more extreme temperatures. Its added durability comes from the fact that it's been filtered and chemically designed to have fewer impurities than the more natural conventional oil. Most modern vehicles use synthetic oil because of its ability to be effective for more miles than conventional oil and work well in both hotter and colder temperatures.
 - **Synthetic Blend Oil** – If you've been driving an older car that takes conventional oil, there's a good chance that its parts and engine have become used to the natural impurities. A synthetic blend is a mixture of conventional and synthetic oils and can serve as a good way to transition your engine towards using synthetic oil.
 - **High-Mileage Oil** – If your car has more than 75,000 miles on it, high-mileage oil may be a good choice. It's designed for older engines that have driven a lot of miles. It has extra additives in it to reduce oil burn-off, wear, and leaks.

When to Get an Oil Change

An oil change is one of the most common forms of routine maintenance. This needs to be done every so often because just like your parts, the oil is hard at work every time you turn your car on. It can only hold up to all those miles and extreme temperatures for so long.



So, when should you get an oil change? The answer can vary depending on a couple factors, such as what you drive, what kind of oil you use, and where you live.

To get the most definitive answer for your vehicle, check your owner's manual for the recommended maintenance schedule. By doing so, you'll get the exact mileage and timeframe.

If you're unable to find your owner's manual or can't remember the last time you went in for maintenance, don't worry. There's some general guidelines you can look to.

With conventional oil, you'll usually need an oil change every 3,000 to 5,000 miles, or every three months. Since synthetic was designed to last longer, drivers who use it will usually need an oil change every 6,000 to 7,500 miles, or every six months.

One of the reasons for these wide ranges is because how you drive and where you live affects your oil. If you live in an area where it's hot all year, that's going to work through your oil faster than if you live somewhere with cold winters.

Again, if you can, it's best to consult your owner's manual or ask a technician at your service center. Still, if it's been awhile since you went in for service, how can you tell when you need an oil change?

Oil Grade

After determining what kind of oil your car takes, the next thing your owner's manual or a service technician will recommend is a specific oil grade. This relates to its viscosity and what temperatures it's effective under. What you'll usually see on an oil can is a number followed by the letter "W," and then another two numbers.

The "W" stands for winter. The number in front of it represents how much the oil thickens at 0 degrees Fahrenheit. For example, 0W remains more free flowing in the cold, while 15W thickens.

The numbers after the "W" represent how well the oil holds up to thinning and dilution during extreme heat, specifically when it's 212 degrees Fahrenheit.

Much like your mileage between oil changes, the oil grade for your car can vary based on what you drive and what kind of climate you live in. It's a good idea to check both the owner's manual and consult a service technician on what grade should go into your car.



Signs You Need an Oil Change

Luckily, your car gives you several signs that it's in need of new oil. These are some common symptoms of old or overworked oil that you can look for:

- **Dashboard Light** – One of the clearest warnings is a dashboard light. Most new cars have at least one light indicating that you're low on oil. It usually looks like an old-fashioned oil can. If you're unfamiliar with this, think of a teapot shaped like a rectangle with a single drop coming out of its spout.

Many cars today actually have two dashboard warnings. One is a yellow light that shows this same icon floating on some waves. This means that your engine is low on oil. The more severe warning is if you see the same logo in red, which is an oil pressure warning light that means you're severely low on oil. In both cases, continuing to drive without adding oil can damage your engine.

- **Roaring Engine** – Since oil lubricates your engine and helps the parts move smoothly, having low oil will make the engine's job harder. If your engine consistently sounds a lot louder, like it's roaring from having to work a lot harder, then that's a sign that you need an oil change.
- **Shaking** – Along the same lines, your engine may start shaking. You may be able to feel the vibrations through your steering wheel or while you're sitting in the driver's seat.
- **Burning Smell** – If you're ever driving or idling and you smell a burning odor, that's an obvious sign that something is wrong with your car. When it comes to oil, this can mean that your oil is burning up because there's not enough of it to properly cool the engine.

For every one of these warning signs, it's strongly recommended that you get service for an oil change immediately.

There's also another way you can stay up to date on your oil that lets you get ahead of these warning signs. You can actually check the levels, color, and consistency at home.

How to Check Your Oil at Home

While it's best to get a service technician to perform your oil changes and replace your oil filter, you can check your oil in your own garage by just using a paper towel.

With the engine turned off, pop the hood and look for the dipstick, which usually looks like a plastic ring sticking up for your engine.



Once you've located the dipstick, pull it out and wipe it off with a paper towel or rag. Next, stick it back in, then remove it again. Here's where you'll be looking for a few things that will tell you the state of your oil.

The first is its level. Every dipstick has a way of showing you when the oil is low, whether it's a high line and a low line, a section with grooves on it to show the range, or abbreviations for MIN and MAX.

The second thing you should look at is how the oil looks. When oil is fresh and new, it pours easily and has a golden-brown color. After a few thousand miles of working through your engine, it becomes more like syrup or molasses and turns into a thick, black sludge.

If you notice that you're low on oil or that your engine is running on old and overworked oil, schedule maintenance right away.

Contact your local service center if you have any questions or if you're in need of a routine oil change.

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