

Press Release

Tips on engine oil



As important as 100 years ago: No engine runs without lubrication

- ▶ As early as 1928: DEKRA magazine explains vehicle technology
- ▶ Regularly check and change the oil for a longer service life
- ▶ When refilling, use the right kind of oil

Nothing works without engine oil – at least not in a petrol or diesel-powered car. Oil reduces friction, dissipates heat, and keeps the engine clean. But which lubricant is the right one? How often should you check it? And what happens if the oil level is too low? The “DEKRA Magazine” was answering many of these questions almost 100 years ago.

Pistons, bearings, crankshafts, valves – a combustion engine has many moving parts that all need lubricating. A pump delivers oil to all the engine's vital areas. There, it forms an ultra-thin protective film and ensures that the moving metal parts glide past each other smoothly instead of wearing each other down. Oil also dissipates heat, keeps the engine clean and protects against corrosion. In short, without oil the engine would break down in no time at all.

All of this is not new – for 100 years, DEKRA experts have been explaining vehicle technology to motorists. As early as 1928, the “DEKRA Magazine” stated:

“This oil film is extremely thin – just a few hundredths of a millimeter – because tolerances in modern manufacturing processes, which aim to achieve engines that run as quietly as possible, are just a few hundredths of a millimeter. [...] A lack of oil can cause serious damage to the engine, so properly supplying the engine with the right oil is one of the most important aspects of maintaining the entire car.”

What types of oil are there?

Today, the world of motor oils can be divided into three basic categories, which mainly differ in their manufacturing processes: **Mineral oil** is basically made from natural

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crude oil raffinates. **Synthetic oil** is usually produced from natural gas components, also in large industrial plants. **Semi-synthetic oil** is usually a mixture of both. There are different qualities in all three categories. Consumers should look for brands and consult relevant tests in specialized magazines or websites.

What do all the abbreviations mean?

Vehicle manufacturers specify exactly which oil must be used. The type depends on the engine and performance, but also on the climate of the region in which the car is driven. All this information can be found in the vehicle handbook. Basically, the oil must be thin enough to protect all parts as soon as the engine is started. But each lubricant is only designed for a certain temperature range, which can be recognized by the SAE value (e.g., 10W-50). It provides information about the viscosity of the oil. "W" stands for winter. The number preceding the letter indicates the lowest temperature at which the oil can be used. The smaller the number, the more suitable the oil is for use in cold regions. The numbers following the "W" describe the fluidity of the oil at 100°C (212°F). Every engine is set to a specific viscosity range and therefore needs the right oil. Almost all vehicle manufacturers now have their own designations and standards for oils that meet their respective specifications. These specifications and designations can be found in the vehicle handbook or on the sales packaging of the oil.

Engine oils must also meet other specifications, e.g., those of the American Petroleum Institute (API) or the European Automobile Manufacturers' Association (ACEA).

A long-life oil is generally more expensive but extends the maintenance intervals to up to 30,000 kilometers (~18,600 miles), which can save costs in the long term. However, it is also important here to follow the manufacturer's specifications exactly.

In 1928, technology was still a long way from achieving such intervals, as the DEKRA magazine describes:

"The following are given as guidelines for oil changes: for newer engines after the first 500 kilometers, then after a further 750 kilometers, then after every 1,000 to 1,500 kilometers."

Can you use car oil in a motorcycle?

Many motorcycles have a common lubrication system for the engine, transmission, and clutch. Therefore, motorcycle oils contain special additives that ensure the function of the clutch. The wrong oil can cause the clutch to slip or wear out faster.

Top up the oil – but do it right!

Always check the oil level when the engine is warm. The car should be left on a flat surface for a minute or two so that the oil collects at the bottom. The level should be between the two marks on the dipstick. If the oil level is low, you need to top it up carefully, and with the right oil. The filler hole is usually located at the top of the engine, and the screw cap is often marked with an oil can. Fill up slowly and preferably with the help of a funnel so that nothing drips. Let it settle a little, then wipe the dipstick and check it again.

Caution: Never fill in too much. Otherwise, there is a risk that the crankshaft will be immersed in the oil, which it should not be. What happens is like when you use a hand mixer to beat egg whites: The oil foams up and can therefore no longer properly fulfill its task of lubricating the engine.

Incidentally, oils from different manufacturers may be mixed, but only as long as they have the same specifications. Do not mix different viscosities and specifications!

How often should I check the oil level?

In many modern vehicles, sensors monitor the oil level and trigger a warning on the dashboard. However, you should not rely on this alone, but check the oil level manually at regular intervals (after a maximum of 1,000 kilometers or 600 miles).

What happens if the oil level is too low?

If the oil level is too low, the oil warning light will usually come on. You may also notice unusual engine noises such as rattling or clattering, or a sudden loss of power. To avoid damage, you should then park the car as soon as possible and check the oil level.

Can you change the oil yourself?

Theoretically, yes, provided you have the necessary knowledge and the right tools. However, in modern cars, the service indicator also needs to be reset. Important: Engine oil is extremely harmful to the environment and must never be disposed of in the sewage system or with household waste.

In short: little effort, big impact

Checking the oil level is easy and can be done quickly while refueling. The engine will reward you for your care by lasting longer. DEKRA was already pointing this out in 1928 – and specifically to employed drivers:

“How often are sins committed in terms lubricating the motor vehicle, out of negligence and laziness, but also in many cases out of ignorance. To the former sinners I would like to say: take stock of yourselves, consider the damage you are doing to your employer when you grossly violate your duty out of pure negligence.”

About DEKRA

For 100 years, DEKRA has been a trusted name in safety. Founded in 1925 with the original goal of improving road safety through vehicle inspections, DEKRA has grown to become the world's largest independent, non-listed expert organization in the field of testing, inspection, and certification. Today, as a global partner, the company supports its customers with comprehensive services and solutions to drive safety and sustainability forward—fully aligned with DEKRA's anniversary motto, "Securing the Future." In 2024, DEKRA is expected to generate revenue of 4.3 billion euros. Around 48,000 employees are providing qualified and independent expert services in approximately 60 countries across five continents. DEKRA holds a Platinum rating from EcoVadis, placing it among the top 1% of the world's most sustainable companies.