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Why Do European Cars Require Special Oil?



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For all the luxurious benefits of owning a European car – finely tuned performance, sophisticated styling, prestige – they can be a pain when it comes to maintenance. Some estimates indicate four of the top five most expensive vehicles to maintain hail from across the pond.

Not only that, they also require specialized oil that differs in many ways from the good old American motor oil you use in your Ford* or Chevy.* Here are several reasons why.



Cleaner air

The European Union maintains stricter standards for carbon dioxide (CO₂) and carbon monoxide (CO) emissions than the United States. The EU has even agreed to entirely ban the sale of new CO₂-emitting cars after 2035. Because modern diesels emit lower CO₂ than gasoline engines, the European market also pivoted toward increased use of diesel-powered vehicles in the 1990s. Diesel engines also offer better fuel economy, thereby burning less fuel.

One drawback of diesel engines is the higher levels of Nitrous oxide (NO_x) and particulate matter (PM) that they produce. To counteract this, modern diesel-powered vehicles use diesel particulate filters (DPF) and catalysts designed to reduce pollutants from the exhaust before it exits the tailpipe.

Oil formulation can have a negative effect on these sensitive emissions-control devices. Certain components in the motor oil formulation, such as sulfated ash, phosphorus and sulfur (known collectively as SAPS), can reduce the effectiveness and life of DPFs and other emissions devices.

Therefore, motor oils formulated for European vehicles often contain lower SAPS levels to protect emissions-control systems.



Longer drain intervals

Europeans have also been accustomed to longer oil change intervals of 16,000 km (10,000 miles) for some time. Meanwhile, motorists in the U.S. blindly practiced 3,000-mile oil changes for a century. Excepting the educated AMSOIL customers who have been practicing extended drain intervals since 1972.

One reason is the higher cost of oil in Europe, another is the differences between manufacturer recommendations. For example, most modern BMWs require oil changes only every 15,000 miles (24,140 km). Most American manufacturers still recommend changing the oil every 5,000 miles (8,000 km), or slightly longer if the vehicle is equipped with an [electronic oil-life monitoring system](#).

The longer drain interval recommendations common for European vehicles require a more robust oil capable of protecting against wear, deposits and sludge for that extended duration.



Seasonal use

The owner's manual of many European vehicles will often suggest different viscosities for different operating temperature ranges. They may recommend 5W-30 in freezing weather, and a switch to 5W-40 in warm weather. Some recommend a single expanded viscosity range of 0W-40 or 5W-40 to offer both improved cold-flow when starting and resistance to heat once operating temperatures are reached.

There aren't as many domestic vehicles that recommend those viscosities, making it tougher to find a matching viscosity oil for European cars in America.



Automaker approvals

Manufacturers also recommend using an oil that meets a specific performance standard. The European Automobile Manufacturers' Association (ACEA) recognizes that European engines differ from U.S. engines in both design and operating conditions and establishes the lubricant standards for Europe. Similarly, the American Petroleum Institute (API) establishes industry-wide motor oil specifications in the United States.

European vehicle manufacturers often maintain their own additional motor oil performance specifications. Volkswagen* drivers, for example, need to use an oil that meets the requirements of VW's own performance specs. The same holds for Mercedes-Benz,* BMW,* Porsche* and other European cars. European manufacturer specifications tend to be even more strict, requiring increased motor oil performance over the ACEA specs. This, in turn, requires more advanced motor oil technology, which is best delivered by synthetics.

Complicating matters, each OEM motor oil specification is slightly different. One OEM may require oils that offer better performance against oxidation, while another requires better resistance to viscosity loss.

For example, VW requires some of its engines to use a 0W-20 oil that meets its 508.00/509.00 spec, but other manufacturers require a 0W-20 oil that meets different specs. The specificity can easily confuse

motorists.

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General Motors* has taken a page out of the playbook of its European counterparts by maintaining its own GM* dexos* performance specification. As American-made cars continue to add advanced emissions, fuel-economy and performance technology like those used in Europe, AMSOIL motor oils will continue to evolve to meet these globally changing needs.

Even with these subtle oil formulation differences, it is imperative to use the correct oil in your vehicles, as prescribed in your owner's manual. Fortunately, AMSOIL makes it easy by formulating a full line of synthetic motor oil for European cars.

And if you don't know which oil your car requires, we've made that easy too, with handy Product

