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NAVIGATING EUROPEAN MOTOR OIL SPECIFICATIONS

The European Automobile Manufacturers' Association (ACEA) establishes lubricant standards for Europe, similar to the American Petroleum Institute (API) in the United States.

ACEA recognizes that European engines differ from U.S. engines in both design and operating conditions. European OEMs often maintain their own motor oil performance specifications and play a larger role in their development than their U.S. counterparts. Volkswagen* drivers, for example, must use an oil that meets the requirements of VW's own performance specs. The same holds for Mercedes*, BMW*, Porsche* and other European vehicles.

Many European vehicles available in North America today feature gasoline and diesel engines with emissions systems that are highly sensitive to the SAPS content of motor oil. These advanced emissions systems require lower SAPS formulations to properly function for a long period of time. The required formulations match the exacting engine oil specifications of ACEA and European OEMs to ensure they are compatible with current emissions systems while still providing engine protection.

European Car Formula Synthetic Motor Oil

- **Engineered** to meet or exceed European manufacturers' specifications
- **Balanced** formulations that consider the needs of modern exhaust treatment devices
- Excellent protection for gasoline and diesel engines
- Fights sludge for superior engine cleanliness

FREQUENTLY ASKED QUESTIONS

Q: WHY DO EUROPEAN VEHICLES REQUIRE SPECIAL OIL?

A: The sensitive emissions-control devices featured in most modern European vehicles require unique oil properties to ensure proper operation. Plus, longer drain intervals common with European vehicles require a more robust oil and European OEM specifications tend to be more strict than industry specs. This requires more advanced (and typically expensive) motor oil technology delivered almost exclusively by synthetics.

Q: DO HIGHER LEVELS OF SAPS MEAN BETTER MOTOR OIL?

A: No. SAPS levels are not an indicator of quality. All four AMSOIL European Car Formula Synthetic Motor Oil formulations deliver the optimal performance and protection for their respective applications.

Q: HOW DO I KNOW WHICH OIL IS RIGHT FOR A VEHICLE?

A: As always, select the oil that lists the specification recommended by the vehicle manufacturer and be confident that the vehicle's engine and emissions system are protected. The Product Guides at amsoil.com are a quick and easy way to determine the right products for your customers' vehicles.



NOTES

Free Shipping for Retail Accounts

AMSOIL retail accounts receive free shipping for orders totaling \$350 (\$450 Canada) or more. If the order total is less than \$350, a flat shipping rate of \$11.99 (\$13.99 Canada) will apply. Free shipping is available for retail accounts in the contiguous U.S. and Canada. It is not available in Alaska or Hawaii at this time. Additional charges may still apply if you require lift gate, call before delivery or other special services. Interline fees will also still apply for shipping to remote areas of Canada.

Metal Protector Available in 4-oz. Spray Cans March 5 Due to manufacturing issues,

Due to manufacturing issues, the launch of the Metal Protector 4-oz. (118-ml.) spray cans has been pushed to March 5.

Metal Protector effectively lubricates moving parts, silencing squeaks without gumming up mechanisms. It displaces moisture from fresh water or salt water to help prevent corrosion, and it is the product of choice for drying and protecting electrical and ignition systems. Metal Protector penetrates deep through rust and corrosion to restore movement of rusty parts.

• Cuts through rust and frees frozen components

- Helps protect against rust and
- corrosion, even in salt water
- Displaces water
- Stops squeaks
 Cleans
- Sprays into hard-to-reach places
- Protects electrical equipment
- Lubricates moving parts

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SEVERE GEAR®: THE RIGHT TOOL FOR THE JOB



Today's vehicles produce substantially more horsepower, torque and towing capacity than their predecessors, yet the design of differential gears and bearings remains largely unchanged. Many differentials even use less gear lube and lower viscosities than before in an effort to reduce drag and increase fuel economy. In essence, less gear lube is responsible for providing more protection.

Fighting the Grind

Differential designs have inherent weaknesses. In a traditional automotive differential, the pinion gear concentrates intense pressure on the ring gear. As the gear teeth mesh, they slide against one another, separated only by a thin layer of lubricant. The repeated stress the lubricant film bears can shear gear lubes, causing permanent viscosity loss. Once sheared, the fluid film weakens, ruptures and allows metal-to-metal contact, eventually leading to gear and bearing failure. The situation is amplified by severe-service applications like towing.

Thermal Runaway

The extreme pressures and temperatures placed on gear lubricants can lead to a serious issue called thermal runaway. As temperatures in the differential climb, some gear lubes lose viscosity and loadcarrying capacity. When extreme loads break the lubricant film, metal-to-metal contact occurs, increasing friction and heat. This increased friction and heat, in turn, results in further viscosity loss, which further increases friction and heat. As heat continues to spiral upward, viscosity continues to spiral downward. Thermal runaway is a vicious cycle that leads to irreparable equipment damage from extreme wear, and ultimately catastrophic gear and bearing failure.

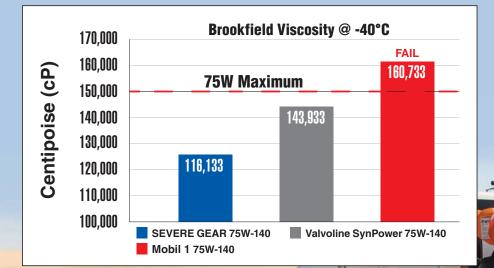
AMSOIL SEVERE GEAR Synthetic Gear Lube

SEVERE GEAR excels in protecting gears and bearings from the rigors of severeservice operation. By design, it resists breakdown from high heat, preventing acids and carbon/varnish formation. Its wax-free construction also improves coldflow properties, improving fuel economy and cold-weather performance.

- Superior film strength
- Controls thermal runaway
- Protects against rust and corrosion
- Helps reduce operating temperatures
- Maximum efficiency
- Long oil, seal and equipment life
- Flexible easy-pack for clean, fast installation

Ultimate Cold-Weather Protection

Some gear lubes fail to meet basic low-temperature requirements. Mobil 1* 75W-140 Gear Oil, for example, failed to meet the requirements of the industry standard¹. AMSOIL SEVERE GEAR, on the other hand, **delivers 20% more cold-temperature protection** than the standard requires. It delivers better cold-temperature protection than Mobil 1 and Valvoline* SynPower*.



¹Based upon results of samples of Mobil 1 75W-140 and Valvoline SynPower 75W-140 purchased in 2018 and tested in ASTM D2983 by an independent testing facility in May 2018. Samples sent blind to eliminate bias. ¹All trademarked names and images are the property of their respective owners and may be registered marks in some countries. No affiliation or endorsement claim, express or implied, is made by their use. All products advertised here are developed by AMSOIL for use in the applications shown.

AMSOIL EA® OIL FILTERS: YOUR EFFICIENT CHOICE

To provide your customers with more high-efficiency filter options, we have expanded our Ea Oil Filter line to include seven new cartridge-style filters.

Ea Oil Filters (EAO, EA15K) provide a perfect pairing for the superior protection and performance provided by AMSOIL synthetic motor oils.

Absolute Efficiency

The exclusive technology used in Ea Oil Filters provides filtering efficiency of 98.7 percent at 20 microns. Ea Oil Filters are among the most efficient filters available for auto/light-truck applications.

Maximum Capacity

Ea Oil Filters have greater capacity than competing filter brands, providing confidence the oil filter will provide filtered oil to the engine over the course of the drain interval.

Improved Flow

The synthetic media in Ea Oil Filters allows maximum efficiency without restricting flow. This provides exceptional cold-start performance and ensures consistent oil flow to the engine.

Extended Service Intervals

When used in conjunction with AMSOIL synthetic motor oils, Ea Oil Filters are guaranteed for extended service life:

- Ea Filters designated with product code EA15K are recommended for 15,000 miles/one year, whichever comes first, in normal or severe service.
- Ea Filters designated with product code EAO are recommended for 25,000 miles/one year, whichever comes first, in normal service or 15,000 miles/one year, whichever comes first, in severe service.



Expanded Ea Oil Filter Line

Stock # General Applications

EA15K16 Volkswagen* (98-06) w/1.9L, 2.0L diesel
EA15K19 Chrysler*, Dodge*, Jeep*, Ram* (14-19)
EA15K35 Various GM*, Saturn* (09-19)
EA15K37 Various Dodge, Chrysler, Jeep w/3.6L Pentastar* engine (11-13), VW* Routan* (11-12)
EA15K39 Chrysler Crossfire* SRT-6* (05-07), Various Mercedes* (05-15), Sprinter* vans (07-09)
EA15K43 Ford* Edge*, Fusion*, F150*, Lincoln* (15-19)
EA15K54 Various BMW* models (05-19)



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NEW DIESEL INJECTOR CLEAN + CETANE BOOST: CONVENIENT WARM-WEATHER PROTECTION

Available Jan. 22, Diesel Injector Clean + Cetane Boost (ADS) combines the superior detergency and improved lubricity of AMSOIL Diesel Injector Clean with the increased horsepower and cetane of AMSOIL Cetane Boost in one convenient package, providing the full potency and benefits of both products at an affordable price.

Diesel Injector Clean + Cetane Boost is purpose-built for serious enthusiasts and professionals who depend on diesel power to make a living. It provides the total package of injector cleaner, lubrication booster and performance improver in one easy-to-use treatment that aids in retaining power and fuel economy while preventing wear that leads to expensive repairs.

- Cleans dirty injectors
- Lubricates pumps and injectors to reduce wear
- Increases cetane up to 8 points best cetane improvement on the market
- Extends fuel-filter life
- Improves fuel economy up to 8%
- Combats fuel-system corrosion
- Delivers maximum horsepower
- Safe for use in all diesel fuels, including biodiesel
- Alcohol-free

Convenience and Cost Savings

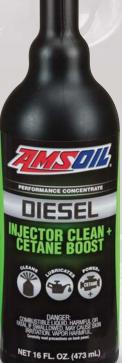
Diesel Injector Clean + Cetane Boost is the ideal combination diesel fuel additive for climates that don't require the cold-flow benefits of AMSOIL Diesel Cold Flow.

Recommendations

Diesel Injector Clean + Cetane Boost is recommended for use with all types of heavy- and light-duty, on- or off-road and marine diesel engines.

To prevent cold-weather fuel issues, add Diesel Cold Flow or switch to Diesel All-In-One.

Note: The 16-oz. (473-ml) bottle treats up to 80 gallons (303 L). The 8-oz. (237-ml) bottle is specially formulated to treat up to 20 gallons (76 L) in one convenient dose.



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