

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.

[Check out our full line of diesel additives.](#)

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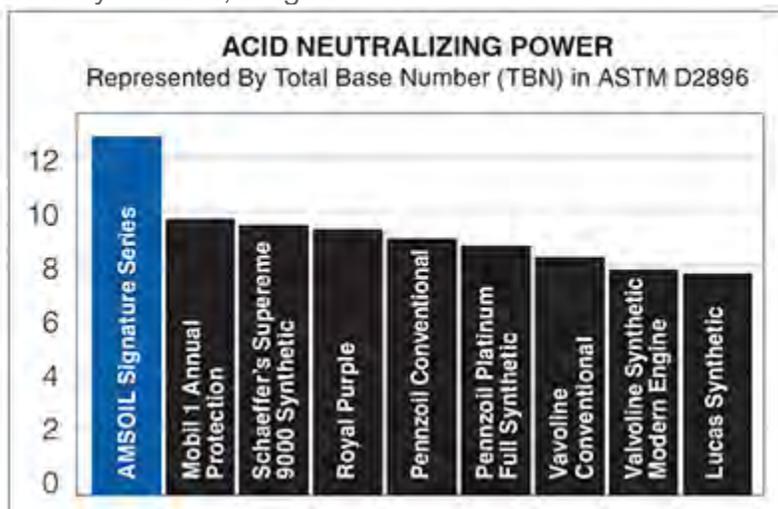
Signature Series Cleans Up the Competition

In general, the higher an oil's TBN, the better its ability to neutralize contaminants such as combustion by-products and acidic materials. Higher TBN oils neutralize a greater amount of acidic material, which results in longer oil life and cleaner engines. TBN levels decrease as the oil remains in service. When the level reaches a point where it can no longer protect against corrosion, the oil must be changed.

The TBN Test

The Total Base Number Test (ASTM D2896) uses a series of chemical reactions to measure the alkaline additives in a motor oil. We recognize the value of formulating motor oils with high TBN, and AMSOIL Signature Series Synthetic Motor Oil features the highest TBN of the oils tested.

AMSOIL Signature Series is fortified with a heavy treatment of detergent additive and it delivers **30% more** acid neutralizing power¹ than Mobil 1*, and **36% more** than Royal Purple*, helping engines stay cleaner, longer.



The AMSOIL Advantage

AMSOIL synthetic lubricants feature a large dose of quality additives that consistently deliver high TBN for the life of the oil. They neutralize acidic contaminants and keep them in suspension to maximize engine protection. AMSOIL lubricants use detergent and dispersant additives to significantly reduce sludge and carbon deposit formation. In the Total Base Number Test (ASTM D2896), [AMSOIL Signature Series 5W-30 Synthetic Motor Oil](#) demonstrated the highest TBN of the oils featured in the test, helping it deliver reliable protection for extended drain intervals.

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¹ Based upon independent testing of Mobil 1 Annual Protection Full Synthetic 5W-30, Royal Purple High Performance 5W-30 and AMSOIL Signature Series 5W-30 in ASTM D2896. Oils purchased 05/03/18.

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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



S	A	P	S
SULFATED	ASH	PHOSPHORUS	SULFUR
PROS: Helps reduce wear, neutralizes acids and maintains engine cleanliness	PROS: Helps reduce wear, neutralizes acids and maintains engine cleanliness	PROS: Anti-wear agent and oxidation inhibitor	PROS: Anti-wear and extreme-pressure protection – can also be a component of corrosion inhibitors, friction modifiers and antioxidants
CONS: Ash can build up in the DPF (diesel particulate filter) and block the flow of exhaust through the filter	CONS: Ash can build up in the DPF (diesel particulate filter) and block the flow of exhaust through the filter	CONS: Can reduce catalytic converter life	CONS: Heightens possibility of catalyst poisoning because sulfur is preferentially absorbed by the catalyst sites

SAPS are common oil additives that provide desirable performance properties, including **detergency** and **protection against wear and oxidation**. Different engines require different SAPS levels – it's not one-size-fits-all.

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 to use in my 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 vehicle.

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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 load-carrying 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 severe-service operation. By design, it resists breakdown from high heat, preventing acids and carbon/varnish formation. Its wax-free construction also improves cold-flow 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

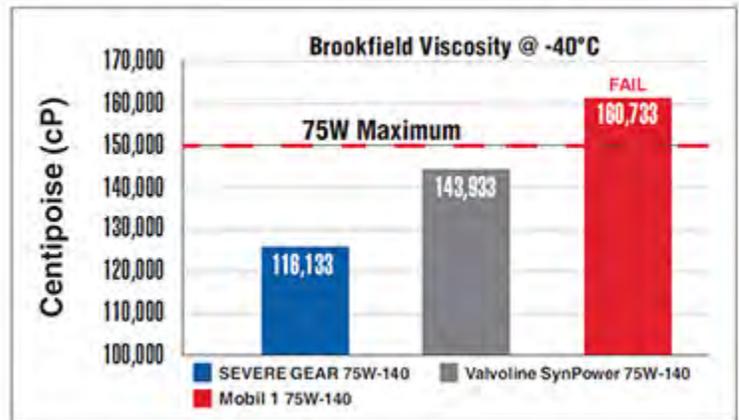


- **Long** oil, seal and equipment life
- **Flexible** easy-pack for clean, fast installation

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*.

[**Buy Now**](#)



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.

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