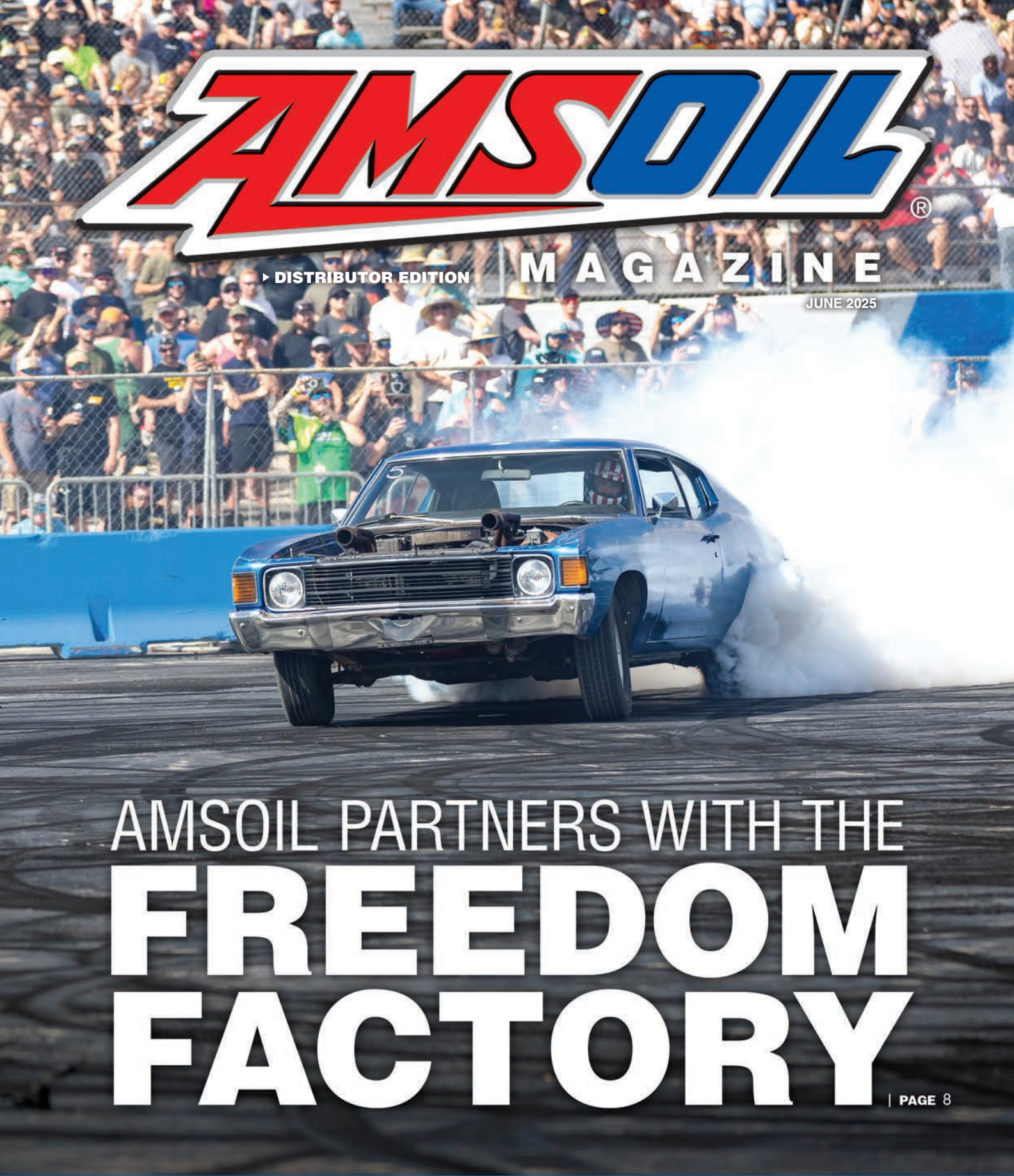

AMSOIL MAGAZINE

▸ DISTRIBUTOR EDITION

JUNE 2025

AMSOIL PARTNERS WITH THE FREEDOM FACTORY

| PAGE 8

Biodiesel's Impact on Diesel Oil | PAGE 10

More Ways to **Shine**

AMSOIL Car Care is expanding with new products to keep your vehicle looking its best.

AMSOIL WHEEL + TIRE CLEANER
pH-balanced, 2-in-1 formula safely breaks down and removes stubborn brake dust, road grime and tire blooming.

AMSOIL Quick Detailer
Simple spray-on, wipe-off application removes light dust and debris for a quick and effective detail between washes.

AMSOIL Tire + Trim Protectant
Advanced formulation conditions rubber and exterior plastic trim for a long-lasting finish that shields against UV rays.

AMSOIL Car Care Tools
Foam Cannon
Microfiber Detailing Towel
Drying Towel
Microfiber Wash Mitt

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From the Chairman

When my father, Al Amatuzio, began selling synthetic motor oil, he was performing nearly every task himself. Motor oil was sold in cans then. Al filled the cans, packed them in cases, sealed the cases, loaded them into a trailer and, in some cases, drove the semi-truck and trailer to make deliveries. He was tireless and determined. Eventually, his operation moved from a tiny garage to the facility we still maintain on Winter St. in Superior, Wis. In the '70s, production equipment was upgraded and the facility was expanded. Demand for AMSOIL products was growing, and investments were made to keep pace.

Various upgrades occurred in the years that followed, but we took a major leap forward in capacity in the early 2000s. New, state-of-the-art packaging equipment was installed at Winter St., boosting our packaging speed tremendously and setting us up to meet demand for years to come. So we thought. In less than five years, we purchased what is now the AMSOIL Center just down the road from our Winter St. facility and went to work turning it into a first-class operation. Three short years after that purchase, we expanded the AMSOIL Center and added new bulk tanks, new packaging equipment and new technology, increasing our production capacity by 250% when the project was complete in 2008. Still not enough.

We have made continual investments in capital equipment since then, upgrading cappers/fillers, installing new production lines, modifying existing systems to increase efficiency, adding automation – we devote significant funds to capital improvements every year to ensure we can meet predicted demand and take advantage of technological advancements in manufacturing. Over the next two years, we are doubling our investment in capital equipment to improve safety, quality and efficiency, and significantly increase our capacity. We are also adding a second production shift. We are making similar investments at Aerospace Lubricants in Ohio. As an AMSOIL company, and the supplier of AMSOIL grease products, Aerospace must uphold our exacting standards. The investments we're making there in people, processes and equipment will ensure that happens.

The lubricants market is slightly down, but AMSOIL is experiencing strong growth. That means we are taking market share, and it means you are part of a winning team. We are building tomorrow with unwavering confidence, devoting extra care and resources to shore up our capabilities so we can maintain quality and build on our momentum. Our remarkable growth stands as a testament to the trust our customers place in AMSOIL and the tenacity of our corporate team and hard-working Distributors and Dealers driving us forward. Thank you for playing an important role in our success. The best is yet to come.

Alan Amatuzio
Chairman & CEO

June Closeout

The last day to process June orders is Monday, June 30. The ordering line (800-777-7094) is open until 7 p.m. Central Time. Online orders that don't require manual processing or validation can be submitted until 11:59 p.m. Central. All orders received after these times will be processed for the following month. Volume transfers for June business must be submitted in the Dealer Zone or DBS by 11:59 p.m. Central on Sunday, July 6.

Holiday Closings

The AMSOIL corporate headquarters and U.S. distribution centers will be closed Friday, July 4 for Independence Day. The Edmonton and Toronto distribution centers will be closed Tuesday, July 1 for Canada Day.

GM Updates Motor Oil Recommendation for Certain 6.2-Liter V8 Engines

General Motors (GM)* has issued a safety recall bulletin (N25249001) for certain vehicles equipped with the 6.2-liter V8 gas engine (RPO L87), including model year 2021-2024 Cadillac* Escalade* and Escalade ESV; Chevrolet* Silverado* 1500, Suburban* and Tahoe;* and GMC* Sierra* 1500, Yukon* and Yukon XL vehicles remaining in dealership inventory.

According to GM, the connecting rod and/or crankshaft in these vehicles may have manufacturing defects that can lead to engine damage and engine failure that may cause the vehicle to lose propulsion, increasing the risk of a crash.

GM is recommending its dealers inspect the engine of any affected vehicle in their inventory and change the engine oil in engines that have passed their inspection procedure to a 0W-40 that meets the dexos* R standard.

At this time, we have not been informed of any consumer recalls by GM related to this issue. Until you/your customers have been contacted by GM indicating your vehicle has been affected by this manufacturing defect, the best way to ensure warranty coverage remains intact is to continue using 0W-20 motor oil. Simply increasing viscosity will not repair mechanical defects; however, if your engine has passed the inspection procedure and GM has recommended you switch to 0W-40, you should expect excellent protection but may also experience slightly higher engine oil pressure. To ensure we cover vehicles that have and have not been affected by this manufacturing defect, we will now list 0W-20 and 0W-40 motor oils for this engine in the vehicle lookup along with the following message:

GM has issued a safety recall bulletin N252494001 (RCRIT-25V274-8641.pdf) for 2021-2024 6.2L gasoline engines that could affect your engine oil viscosity selection. Where appropriate, AMSOIL Signature Series 100% Synthetic Motor Oil (AZF) 0W-40 is the correct oil for these vehicles. For further assistance, please contact AMSOIL Technical Services at 715-399-8324.

As an AMSOIL Distributor you probably know that 0W-40 is not a widely recommended viscosity, and adding the dexos R performance standard further reduces the number of available products on the market. This is a great opportunity for you to access new customers as AMSOIL Signature Series 0W-40 Synthetic Motor Oil (AZF) is one of only a few products suitable for this application and is an excellent recommendation for vehicles that GM indicates now require a 0W-40. We will continue to watch this issue closely and provide further updates regarding AMSOIL product recommendations as information becomes available.

LETTERS TO THE EDITOR

TESTIMONIALS

I've been using AMSOIL products since around March 2006. I used to look forward to the monthly magazine. As I remember back, most of the monthly magazines quite often had a story about an AMSOIL customer/Dealer having a car or truck that has 400,000 or 500,000 miles using AMSOIL products since the vehicle was new or fairly new. I loved reading these stories. It seems as though there are hardly any stories like this anymore in our monthly magazines?

It seems AMSOIL has moved away from the personal one-on-one story about the success of a customer using AMSOIL products in their car or truck, and shifted more to pushing retail business, big commercial accounts, moving the products through big businesses, etc.

I don't know; maybe nobody is submitting personal stories anymore?

Thanks,

Darrell Zimmer

AMSOIL: *We're glad you enjoy reading AMSOIL testimonials, Darrell. We no longer publish them monthly, but we do include them on occasion. We publish them more frequently on The Inside Track (blog.AMSOIL.com), and since we launched product reviews on AMSOIL.com, there are now thousands of mini-testimonials on our website. We always love hearing those success stories, and we invite anyone to submit theirs to testimonials@AMSOIL.com.*

SIGNATURE SERIES ULV SYNTHETIC ATF

I have some interest in the AMSOIL Signature Series Ultra-Low-Viscosity Synthetic Automatic Transmission Fluid (ULV) with an installer and found that, being a new product, I had to get to a computer to get pricing. They sucked wind as they just bought 3 cases of QULV from the local Ford* dealer at $7.81 per quart. I can't compete with that; I find that most customers are somewhat tone deaf when you try to explain the benefits of AMSOIL. Believe me, after 22+ years as a Dealer, I understand which is the better product. Price shopping is prevalent in my area.

Don Sass

AMSOIL: *Thank you for your 22+ years of service as an AMSOIL Dealer, Don. AMSOIL products are premium and will never be the lowest-priced option. As such, they often require a consultive selling approach. If you haven't already, check out the Sales Training videos in the Dealer Zone (Business Tools>Retail Business Tools). Transmission fluid is one of our biggest growth areas with installers. Because transmission services are expensive, time-consuming and infrequent, customers are often more willing to upgrade to AMSOIL transmission fluid for what they see as a one-time service. This means installers can charge more for premium AMSOIL transmission fluid that provides greater protection benefits. Has this installer considered charging more for AMSOIL lubricant changes? Is the business armed with the information to sell the upgraded service? While having these sales conversations can be difficult, it all starts with questions and a genuine curiosity about the customer's business and goals. We must often reframe customers' expectations about what's possible and how AMSOIL products can help them achieve their goals.*

OIL SEPARATOR

I am a long-time Dealer and user of AMSOIL products and have had great service and success with AMSOIL products. I have a technical question that I would appreciate some guidance with. I own a 2012 GMC* Yukon XL* with the 6.2 V8. This generation of engine is known for oil consumption, primarily through oil ingestion from the crankcase ventilation system into the intake manifold (OEM design). I have added an oil separator inline between the driver valve cover and intake manifold connection. This device does a good job of collecting oil and preventing the oil from reaching the intake, which we know will get burned and is detrimental. My question is what should I do with the oil that is collected? Should I dispose of the oil or would it be acceptable to return the oil to the sump? It seems to me the oil would be condensed oil vapor; correct me if I'm wrong. Typical routine collection of the oil yields approximately 8 ounces every 3,000 miles. I diligently maintain the vehicle and it currently has 123,000 miles and counting. I appreciate whatever input you can provide.

Sincerely,

Russell Day

AMSOIL: *We're glad to hear about your success using AMSOIL products, Russell, and we love your diligence when it comes to maintenance. Oil separators typically capture mixtures of oil vapor, unburned fuel and water from condensation. This fluid is best treated as waste oil and disposed of, not returned to the oil sump.*

Email letters to:
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Or, mail them to:
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Communications Department
Attn: Letters
925 Tower Avenue
Superior, WI 54880

Letters are subject to editing for length and clarity; please include your name, address and phone number. Unsigned letters will not be published.

Brake Fluid: The Most Overlooked Vehicle Maintenance

Brake fluid can and does go bad. Despite being one of the most crucial components for safety and performance, changing brake fluid is one of the most neglected maintenance tasks.

Alex Thompson | DIRECTOR, PRODUCT MARKETING – AUTOMOTIVE & COMMERCIAL PRODUCTS

In fact, people rarely change their brake fluid before it goes bad. They often wait until they hear the grinding sound from the wear indicator on the brakes, then change the brake pads and bleed the brakes in the process. But the truth is, regularly maintaining your brake fluid is essential to ensure firm, reliable braking.

Why Brake Fluid Goes Bad

Brake fluid is hygroscopic, meaning it likes water just like a sponge. Brake fluid absorbs moisture from the air over time through the seals, hoses and even the brake reservoir when it's opened. This absorbed water lowers the fluid's boiling point, which can lead to dangerous brake fade and a spongy pedal feel.

Dry vs. Wet Boiling Points

When brake fluid reaches its boiling point during operation, vapor forms in the brake lines, making it compressible. This produces a soft or spongy brake pedal that can undermine brake performance. If you frequently carve scenic mountain roads or rip through corners, the last thing you want is compromised stopping power.

Since brake fluid is hygroscopic, required industry testing simulates real-world field conditions. The wet and dry boiling points are tested to help illuminate the quality of a brake fluid.

Here is a quick description of boiling points:

Dry equilibrium reflux boiling point (ERBP): Measures the boiling point of the fresh fluid right out of the bottle before it has been contaminated by moisture.

Wet equilibrium reflux boiling point (WERBP): Measures the boiling point of fluid after it has had time to absorb moisture from its surroundings, including conditions under which the average vehicle operates (3.7% water contamination, to be exact).

Effects of Moisture Contamination

While brake fade caused by boiling fluid is an immediate concern, moisture contamination also has long-term consequences. Water in the brake system accelerates the corrosion of metal components like calipers, master cylinders and ABS control valves. Over time, this can lead to rust, leaks and expensive repairs.

AMSOIL DOT 3 & 4 Synthetic Brake Fluid

The unique chemistry behind AMSOIL synthetic brake fluids increases boiling points well beyond DOT standards, even when contaminated with 3.7% water. AMSOIL brake fluids maintain a stable viscosity over a wide temperature range and flow easily at the high pressures generated in today's automotive brake systems to deliver solid, reliable braking. A nitrogen blanket is added to each bottle during manufacturing to purge moisture and ensure the maximum level of performance.

AMSOIL DOT 3 & 4 Synthetic Brake Fluid is overbuilt for extra safety and performance. With a wet boiling point of 368°F (187°C), it far exceeds the minimum requirements of 284°F (140°C) for DOT 3 fluid and 311°F (155°C) for DOT 4 fluid.

In addition, its low-viscosity formula ensures excellent responsiveness in modern ABS and traction-control systems. AMSOIL DOT 3 & 4 Synthetic Brake Fluid maintains low compressibility under severe heat, delivering a steady and firm pedal feel. It protects calipers, lines and seals, helping extend the life of key brake-system components.

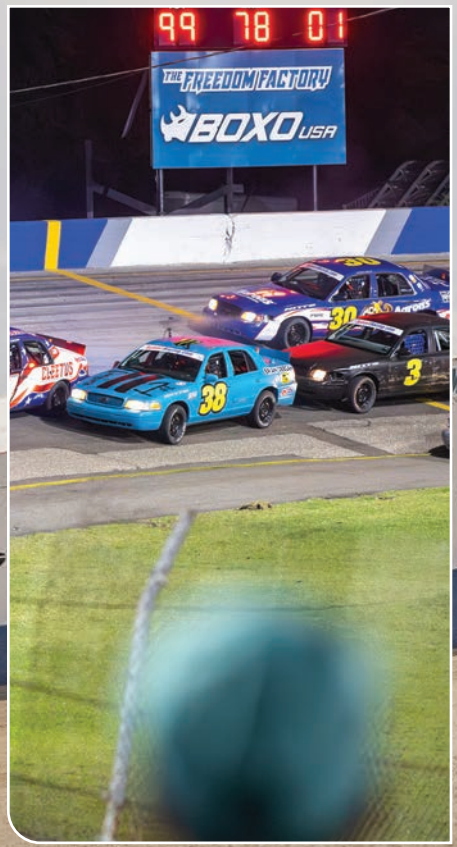
AMSOIL DOMINATOR® DOT 4 Synthetic Racing Brake Fluid

AMSOIL DOMINATOR DOT 4 Synthetic Racing Brake Fluid provides racers with a brake fluid that delivers superior high-temperature performance, preventing brake fade and vapor lock. High boiling points of 580°F/304°C (dry) and 399°F/204°C (wet) minimize vapor formation. A nitrogen-blanketed design avoids moisture absorption during manufacturing and storage.

Operating conditions – and, thus, fluid life – vary depending on the environment, equipment type and application. As a rule of thumb, change your brake fluid every two years for maximum performance. However, if you're driving involves spirited sessions or long descents, replacing your brake fluid annually is recommended to maintain peak performance. For racing applications, change AMSOIL DOMINATOR DOT 4 Synthetic Racing Brake Fluid once a year for maximum performance.

Don't Push it Off

While changing brake fluid can feel like a chore you can delay, ignoring it invites moisture buildup, corrosion of key components and inconsistent braking performance. Brake fluid is more than just another maintenance item; it's your front line of defense for vehicle safety and performance. But with the right fluid and regular maintenance, your vehicle's brake performance can remain as sharp as ever.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AMSOIL PARTNERS WITH THE FREEDOM FACTORY

AMSOIL has partnered with the Freedom Factory, a 3/8-mile asphalt oval racetrack in Bradenton, Fla. owned by multi-discipline motorsports enthusiast and YouTube sensation Cleetus McFarland. Freedom Factory events frequently feature influencers competing against professional racers, including a recent Freedom 500 win by racing legend Travis Pastrana in an AMSOIL-sponsored car.

The Freedom Factory hosts more than 20 diverse enthusiast events each year, including burnout, drift, circle track and spectator drag-racing and car shows. As the official oil of the Freedom Factory, AMSOIL logos will be prominently displayed on track signage, social-media content and all Crown Victoria* race cars used in the Freedom 500, 2.4hrs of LeMullets and Cleetus McFarland Driving Experience. AMSOIL products will also be installed in the race cars and other vehicles and equipment at the track.

The AMSOIL-sponsored cars will also be raced in Cleetus McFarland events at other tracks, including the Indy 800 at Indianapolis Raceway Park, Ind. and the New England 900 at Stafford Motor Speedway, Conn., extending AMSOIL brand reach and exposure to additional audiences.

Be sure to follow AMSOIL and the Freedom Factory on social platforms to find out where you can catch all the racing action online or in person.

BIODIESEL'S IMPACT ON DIESEL OIL

Providing a renewable option for diesel engines, biodiesel is formulated from vegetable oils and animal fats, with blends up to 20% (B20) approved for use by many major engine manufacturers. Biodiesel presents some benefits over conventional ultra-low-sulfur diesel (ULSD) fuel, but it also presents some challenges to diesel oil.

BENEFITS

Environmental Benefits

Biodiesel offers a cleaner alternative to ULSD, reducing dependence on petroleum oil and significantly lowering greenhouse gas emissions and harmful air pollutants. Its biodegradability further reduces the risk of environmental contamination.

Increased Lubricity

One of the most significant benefits of biodiesel is its increased lubricity properties. Lubricity is critical for controlling wear in fuel pumps and injectors. While diesel fuel has traditionally had high lubrication properties, the process used to strip the diesel fuel of its sulfur content to meet ULSD requirements also strips the fuel of some of the organic compounds responsible for lubrication. Biodiesel does not go through this process and has different compounds responsible for lubrication.

Higher Cetane

Diesel engines operate best on fuel with cetane values of 50 or higher, allowing for a more complete burn and preventing ignition delays. Most diesel fuel sold in North America, however, has a cetane value between 40-45. Biodiesel offers higher cetane values. Biodiesel derived from vegetable oil typically has a cetane value between 46-52, while biodiesel derived from animal fat typically has a cetane value between 56-60.

DIESEL-OIL CHALLENGES

Oxidative Stability

Oxidative stability refers to a fuel's ability to resist degradation when exposed to oxygen, heat and other environmental elements. While ULSD is formulated to resist oxidation over extended periods, biodiesel's chemical structure provides lower oxidative stability. Over time, oxidation produces harmful byproducts such as acids, alcohols and polymers that can contaminate the diesel oil.

Increased Soot Generation

Biodiesel combustion generates more soot compared to ULSD, causing higher loading on the diesel particulate filter (DPF) and exhaust gas recirculation (EGR) system and increasing regeneration cycles. This introduces more contaminants and oxidative byproducts into the diesel oil, degrading the oil's protective properties and performance.

COMBINED EFFECTS ON DIESEL OIL

Biodiesel's lower oxidative stability and higher soot generation create a number of challenges for diesel oil:

Oil Degradation

Oxidative byproducts and soot reduce the lifespan of diesel oil, requiring more frequent oil changes.

Elevated Viscosity

The soot particles generated from biodiesel combustion are finer and tend to agglomerate into larger clumps. When mixed with diesel oil, viscosity increases while protection and performance decrease. Over time, the accumulation of soot can form sludge and deposits within the engine, clogging oil filters, impairing oil circulation and increasing friction and wear.

Corrosion

Oxidation byproducts contaminate diesel oil, dropping Total Base Number (TBN) and leading to corrosion of engine components like bearings and cylinder walls.

Deposits

Soot and polymerized compounds can form hard deposits on pistons, valves and other areas, reducing performance and leading to expensive repairs.

MITIGATING THE IMPACT

While biodiesel's inherent challenges cannot be entirely eliminated, high-quality diesel oil and oil analysis can help mitigate their impact.

Use High-Quality Diesel Oil

AMSOIL synthetic diesel oils are formulated with advanced detergents, dispersants and antioxidants that effectively combat the increased levels of soot, sludge and oxidation associated with biodiesel.

Oil Analysis

Drivers regularly running biodiesel should practice oil analysis, especially if interested in extending drain intervals. Regular oil analysis helps identify changes in oil viscosity, TBN and soot levels.

AMSOIL Heavy-Duty Synthetic Diesel Oil

AMSOIL Heavy-Duty Synthetic Diesel Oil gives you the edge to keep trucks and equipment operating at peak performance. It offers outstanding value and provides excellent protection for customers seeking an upgrade over conventional, synthetic-blend or competing synthetic diesel oils.

- **4X more** engine protection.[1]
- **Excellent** engine cleanliness and efficiency.
- **Outstanding** acid neutralization for long-term engine protection.
- **Exceptional** protection for OEM-recommended drain intervals.
- **Available** in 10W-30, 5W-40 and 15W-40 viscosities.

AMSOIL Signature Series Max-Duty Synthetic Diesel Oil

Protect your investment in diesel power with AMSOIL Signature Series Max-Duty Synthetic Diesel Oil. Advanced synthetic technology provides excellent viscosity control and outstanding extreme-temperature performance, while minimizing oil consumption.

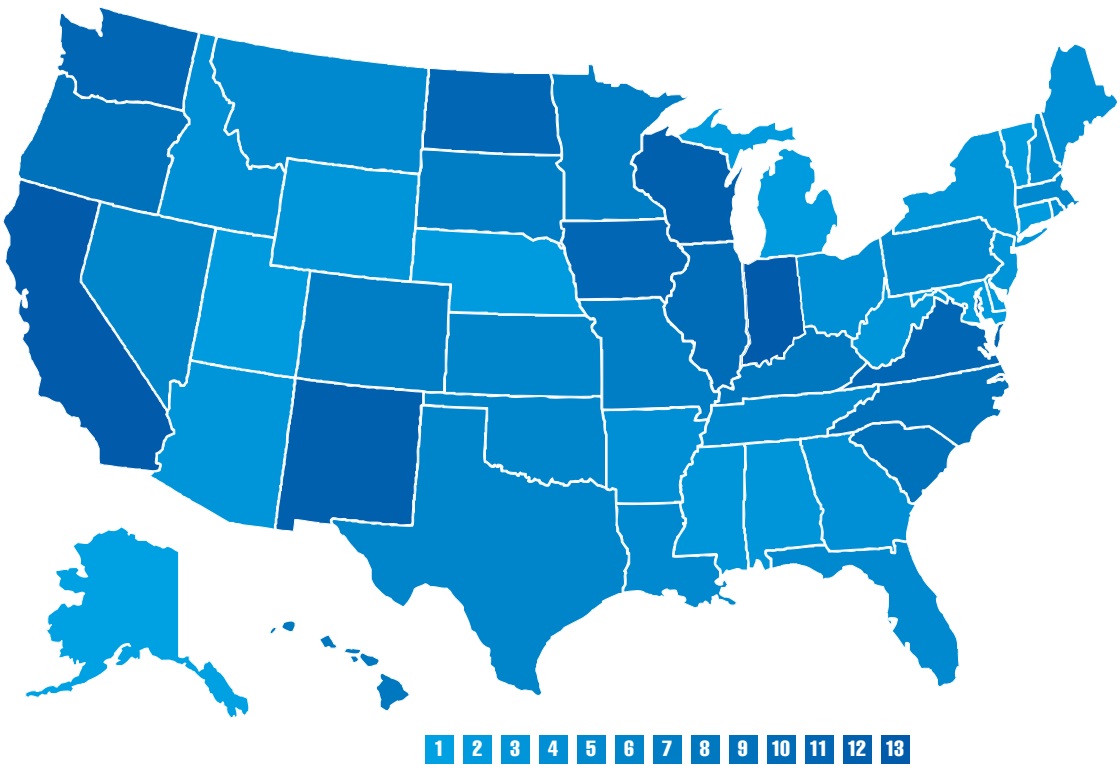
- **6X more** engine protection.[2]
- **Ultimate** engine cleanliness and efficiency.
- **Outstanding** acid neutralization for long-term engine protection.
- **Top-grade** protection for extended drain intervals.
- **Available** in 5W-30, 10W-30, 0W-40, 5W-40 and 15W-40 viscosities.

Extended drain intervals are not recommended when using biofuels containing more than 15 percent biodiesel (B15). Extend drain intervals beyond original equipment manufacturer (OEM) recommendations only with oil analysis.

Regional Variations

Different regions of the country have different biodiesel mandates and incentives. Minnesota, for example, requires at least 20% biodiesel in diesel fuel from April through September, and at least 5% the rest of the year. New York's previously mandated 5% biodiesel minimum increased to 10% in 2025 and will increase to 20% in 2030.

Check out the U.S. Department of Energy Alternative Fuels Data Center (afdc.energy.gov) and Natural Resources Canada (natural-resources.canada.ca) for more information on biodiesel mandates and fueling locations in specific regions.



Biodiesel Laws and Incentives by State (Quantity)

Source: afdc.energy.gov

[1]than required by the Detroit Diesel DD13 Scuffing Test for Specification DFS 93K222 using 10W-30 as worst-case representation.
[2]than required by the Detroit Diesel DD13 Scuffing Test for Specification DFS 93K222 using 5W-30 as worst-case representation.

DISTRIBUTOR SPOTLIGHT

Proactive Power SA has been distributing AMSOIL products in Panama since 2021. After researching premium synthetic lubricant options, the company chose to partner with AMSOIL due to matching core values and business ethics and a common focus on building strong customer relationships.

Innovation and Growth

Proactive caters to a diverse range of customers with an efficient distribution network that ensures products are readily available throughout Panama. The biggest challenge has been a lack of brand awareness, so the team focuses on developing product knowledge and training at the retail level, which is often the first point of contact with customers. This strategic approach has been instrumental in rapid growth of the brand throughout Panama.

Customer Focused

The team at Proactive places a strong emphasis on understanding the needs of its customers and providing solutions that exceed their expectations. This customer-centric approach with dedication to premium support has earned the company an extremely loyal customer base and high levels of customer satisfaction. Customers gravitate toward the OE line for everyday drivers, but Signature Series has become the preferred product for both diesel and gas customers seeking maximum protection and performance.

"AMSOIL products always exceed our customers' expectations."

Innovation and Growth

The company invests heavily in marketing through social media and events and was one of the top sponsors of the Ocean 2 Ocean Enduro Rally in 2025. Proactive is also committed to supporting the community through various initiatives and partnerships, connecting directly with customers and continuously seeking feedback to improve reach. It strives for authenticity by inviting everyone to experience the benefits of AMSOIL products and participate in the enthusiast community. This grass-roots strategy continues to pay dividends as customers continue to ask larger retailers to carry AMSOIL products.

Future Outlook

Proactive Power plans to continue growing and expanding the AMSOIL brand presence throughout Panama by adding additional AMSOIL product lines and establishing additional retail and service outlets. With a strong foundation and a clear vision for the future, the company is well positioned for continued success.

Distributor Spotlight

COUNTRY: PANAMA
COMPANY NAME:PROACTIVE POWER SA

"AMSOIL means quality and performance without compromise."

The Crucial Role of Motor Oil in VVT Systems

Variable Valve Timing (VVT) systems represent a big step in engine technology. VVT adjusts the valve timing of an engine based on driving conditions such as speed, load and acceleration. This dynamic adjustment enhances engine efficiency, power delivery and fuel economy while reducing harmful emissions.

However, automotive technicians frequently encounter vehicles with VVT issues caused by poor maintenance and low-quality motor oil. Problems commonly appear with a check-engine light accompanied by sluggish acceleration and reduced power. In many cases, the issue stems from clogged VVT actuators due to degraded oil.

High-quality engine oil is crucial for protecting and optimizing VVT systems. The effectiveness of VVT depends heavily on this often-overlooked factor and underscores the importance of installing premium motor oil.

Understanding VVT

Traditional valvetrains operate with fixed valve timing, meaning the opening and closing of engine valves occur at preset points during the engine cycle regardless of the engine's speed or load. While reliable, the system doesn't allow for adjustments to optimize performance under varying conditions, such as during acceleration or at higher rpm. This is where VVT systems step in.

VVT adjusts the timing of the intake and exhaust valves based on real-time engine demands. By altering when the valves open and close, VVT maximizes airflow and combustion efficiency, improving both power output and fuel economy while reducing emissions.

As motor oil degrades, sludge and varnish can cause VVT solenoids to stick or malfunction, leading to poor engine performance or even damage.

The core of the system are hydraulic actuators, which are responsible for controlling the camshaft phasers that adjust the valve timing. These actuators constantly respond to inputs like engine speed, load and throttle position to refine valve timing for optimal performance.

Motor oil plays a dual role in VVT systems, acting as both a hydraulic fluid and lubricant. The hydraulic actuators rely entirely on pressurized oil to function, using it as a medium to engage and move the cam phasers that alter valve timing.

The motor oil must deliver consistent hydraulic performance. Without sufficient pressure from the oil, the VVT system will falter, leading to performance drops that even advanced diagnostics might struggle to pinpoint.

Quality is Critical

Motor oil that's of high quality and the proper grade is key for the performance and longevity of VVT systems. If the oil is contaminated or the wrong viscosity, it can inhibit the hydraulic system's ability to maintain precise control over valve timing.

Even worse, as motor oil degrades, sludge and varnish can cause components to stick or malfunction, leading to poor engine performance or even damage. Contaminated or degraded oil can clog the small passageways in VVT actuators, leading to sluggish valve responses or outright failure.

For those reasons, your VVT system is only as good as the oil running through it. Here are some possible consequences of using low-quality oil with VVT systems:

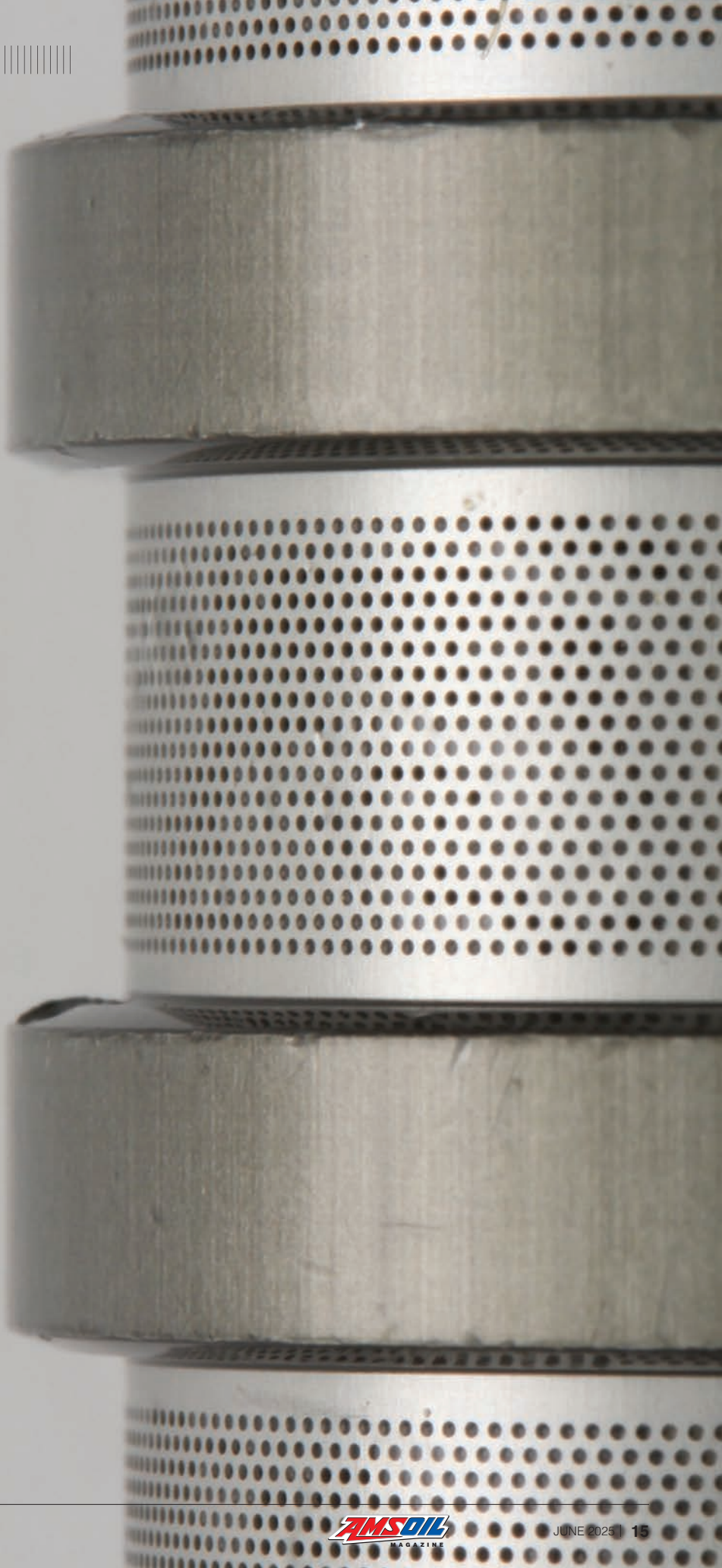
Sluggish performance:
VVT relies on precise oil pressure to function. Low-viscosity or contaminated motor oil can cause delayed responses, leading to reduced engine efficiency and power.

Excessive wear:
Lack of proper lubrication causes increased metal-to-metal contact, accelerating wear on VVT components.

Costly repairs:
Left unchecked, poor oil quality can lead to catastrophic VVT actuator failure, resulting in expensive engine repairs.

Peak VVT Performance

Your engine's VVT system requires high-quality motor oil to maximize its performance. AMSOIL motor oils deliver premium protection and performance, ensuring that your engine, including its VVT system, remains in peak operating condition for the road ahead.



AMSOIL Protection

AMSOIL motor oils provide exceptional protection for engine components, including VVT systems. Our 100% synthetic motor oils are designed with premium base oils, advanced additives and a passion for engineering industry-leading motor oil.

AMSOIL Signature Series 100% Synthetic Motor Oil is engineered for enthusiasts seeking maximum protection and performance. It provides 75% more engine protection against horsepower loss and wear[1] and is fortified with a heavy treatment of detergent additives, delivering 28% more acid-neutralizing power than Mobil 1* and helping engines stay cleaner, longer.[2] Robust anti-wear additives form a strong fluid film that separates metal surfaces, significantly reducing wear in metal-to-metal contact regions. Keeping components clean helps VVT components last longer and maintain optimum performance.

AMSOIL Extended-Life 100% Synthetic Motor Oil is overbuilt for road warriors so they can confidently drive up to 20,000 miles (32,000 km) or one year[3] between oil changes. A proprietary combination of advanced synthetic base oils and a boosted additive package promotes cleanliness and prolonged engine life.

AMSOIL 100% Synthetic High-Mileage Motor Oil is designed specifically for the unique demands of high-mileage engines, helping extend the life of vehicles. It delivers purpose-built protection at a time in a vehicle's life where it could benefit from more-robust maintenance.

AMSOIL 100% Synthetic Hybrid Motor Oil is a premium upgrade over vehicle-manufacturer-branded motor oils, delivering purpose-built protection for the hybrid-drive cycle to maximize engine life, efficiency and performance. Infrequent engine usage and increased start/stop activity place demands on lubricants not common in traditional internal-combustion vehicles. AMSOIL provides up to 16% better low-temperature viscosity than Mobil 1,* delivering better protection at startup.[4]

AMSOIL OE 100% Synthetic Motor Oil delivers 100% synthetic engine protection for advanced automotive technology, including VVT, turbos and direct injection. It is specifically formulated for the longer drain intervals recommended by original equipment (OE) manufacturers.

[1]Based on independent testing of AMSOIL Signature Series 0W-20 using the ASTM D6891 standard test. [2]Based on independent testing of AMSOIL Signature Series 5W-30 in the GM turbo coking test. [3]Normal Service – Up to 20,000 miles (32,000 km) or one year, whichever comes first, in personal vehicles not operating under severe service. [4]Based on independent, third-party testing of AMSOIL 0W-20 100% Synthetic Hybrid Motor Oil and Mobil 1 0W-20 Hybrid Full Synthetic Motor Oil (batch code 10222M14A RN6613 326900 D340BUDE015 purchased April 17, 2023) in the industry-standard ASTM D5293 Cold Crank Simulator test as required by SAE J300.

PROTECTION *you demand.* | **PERFORMANCE** *you deserve.™*

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SPECIALIZED LUBRICANTS ENGINEERED FOR WHAT YOU DRIVE AND HOW YOU DRIVE®

V-twins, hybrids, lawn mowers, race cars – whatever you drive, no two engines function exactly the same way. Getting the best performance and longest life out of your vehicles and equipment requires specialized lubricants.

AMSOIL products are engineered to deliver targeted, application-specific benefits so you can extract maximum performance and life from your equipment.