



**M A G A Z I N E**

OCTOBER 2022



# **BOOST SALES** to Retail Stores

**Marti & Co. AG • Saxweg 5 • CH-9470 Buchs**  
**[www.marti-buchs.ch](http://www.marti-buchs.ch) • Tel. 081 750 51 00 • [info@marti-buchs.ch](mailto:info@marti-buchs.ch)**



DISTRIBUTOR

EDITION

OCTOBER 2022



## FEATURES

- 7 Still Climbing
- 9 AMSOIL Synthetic  
Transmission Fluid Tames  
Texas Heat
- 10 Neglected Equipment: Air  
Compressors
- 11 Defeating Foam
- 12 Help Customers Store  
Equipment with Confidence

## DEPARTMENTS

- 3 From the Chairman
- 4 Meet AMSOIL President  
Bhadresh Sutaria
- 5 Letters to the Editor
- 6 Tech Talk
- 13 Centerlines and Updates
- 14 Upgraded Performance and  
Protection for ATVs and UTVs

## STAFF

## Editor

Terry Johnsen

## Associate Editor

Joel Youngman

## Staff Writers

David Hilgendorf  
Brad Nelson  
Jamie Trembath  
Joel Youngman

## Graphic Design Manager

Jeff Spry

## Senior Graphic Designer

Luke Boynton

## Content Contribution

Mike Caruso  
Len Groom  
Jamie Prochnow  
Alex Thompson

## Editorial Contribution

Brett Granmo  
Dan Peterson

## Back Issues

Back issues of *AMSOIL Magazine* are available for \$1 each. Order G17D and specify the month and year.

## On the Web

AMSOIL.com  
AMSOIL.ca

## Chairman &amp; CEO

Alan Amatuzio

## President

Bhadresh Sutaria

© 2022, AMSOIL INC.

All rights reserved.

Printed by Arrowhead Printing  
Duluth, MN USA.

## Letters to the Editor

AMSOIL INC.

Communications Department  
The AMSOIL Building  
925 Tower Ave.  
Superior, WI 54880  
letters@AMSOIL.com





# From the Chairman

In business, if you're not changing, you're losing. Social expectations, technological advancements, economic cycles, strong competitors – these factors and more drive constant evolution in business, while they are themselves constantly evolving. Today, the rate of change can be frighteningly fast, which makes some people uncomfortable. That's understandable. AMSOIL has experienced a great deal of change over the past several years, and I know some Dealers have been uncomfortable with the changes. Again, that's understandable; however, I believe you should be *more* uncomfortable if we were not evolving. That would mean we are not keeping pace with the rest of the business world and your opportunities would be stagnant or shrinking.

To the contrary, AMSOIL is strong and growing. No single person, idea, product or program can claim credit for our growth, but some credit is certainly owed to our willingness and ability to adapt and change according to what the market requires. The stronger AMSOIL is, the stronger your opportunity is. A strong and growing AMSOIL means plenty of investment in marketing, technology and people, which results in more brand awareness, better products and services and more people working on your behalf. It also means more change is inevitable.

Some of the changes we've enacted over the past few years have delivered outstanding results. We dramatically improved our online presence with the launch

of our new e-commerce platform in 2020, our Customer Service team is bigger and stronger than ever – the list is almost endless. Last month, I announced a big internal change with the appointment of Bhadresh Sutaria as AMSOIL president. I want to reiterate that you won't notice any difference in how the company is run or our commitment to you. The president reports to me and I am not going anywhere. In addition, I am setting up an advisory board of directors to help me run the company and provide long-term corporate stability. This is another corporate governance change that is coming in the very near future and I will tell you all about it as it happens. What does all this mean? It means I am thinking about AMSOIL, its future and you. Life events happen when you least expect them, and my son's past Leukemia diagnosis (he is doing well today) made this very clear. My responsibilities beyond my family include AMSOIL and all the people who depend upon it. Therefore, I am responsible to ensure the company's effective operation in my absence should the need arise again. It is irresponsible of me to assume I will always be here or to let the company figure out its own way in my absence. Bhadresh is going to oversee the day-to-day decision making at AMSOIL so I can devote more time to areas I'm passionate about, including growth opportunities, the AMSOIL brand. I want to commit maximum effort to developing a strong future for AMSOIL, but I can't do that if I'm too heavily involved in daily operations. Rest assured that I am the driving force that sets the direction and makes the final decisions. The appointment of someone else as president and development of a board of directors is a natural progression for a growing company. You all likely know Mark Zuckerberg is the founder and CEO

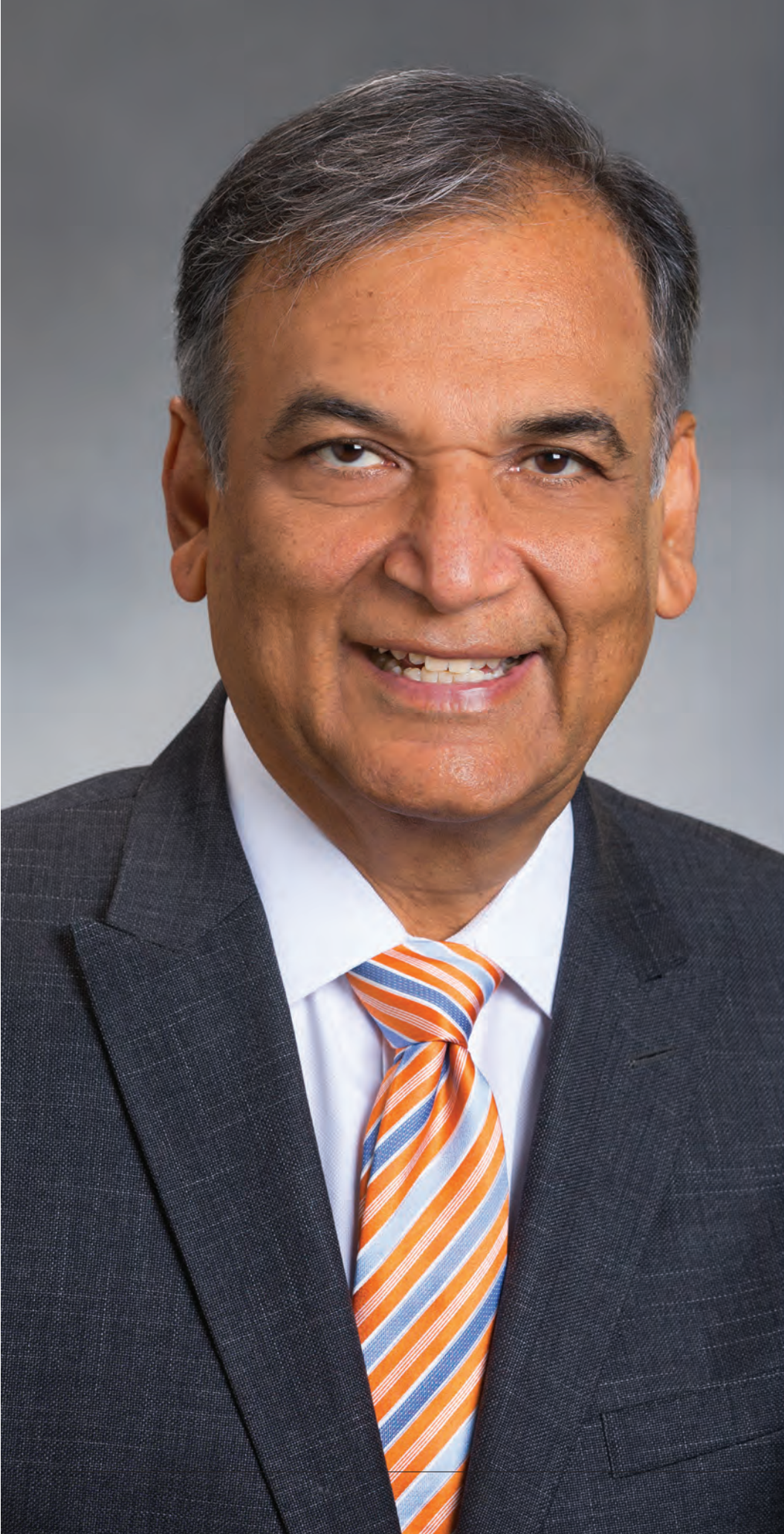
of Facebook\* (Meta\*), but do you know who the president is? Not Zuckerberg. Elon Musk is well-known as the leader of Space X\* and Tesla.\* He is the president of neither. Much like Al Amatuzio had Dean Alexander and me to help him run the company, I have Bhadresh and the strategic leadership team to help me. You will continue to find me at the helm here in Superior.

A few things at AMSOIL will never change. We will always be devoted to making the world's best lubricants. We will always be committed to doing the right thing. We will always work tirelessly to advance your position in the marketplace. And we will never be satisfied with second-best.

**Alan Amatuzio**  
Chairman & CEO

**THE NEXT50™**  
Commitment • Collaboration • Success





# Meet AMSOIL President **Bhadresh Sutaria**

Bhadresh Sutaria joined AMSOIL in 2016 as chief financial officer, bringing deep expertise in general management, strategy, financial and business analysis, accounting, treasury and more. Bhadresh holds an MBA from Kellogg School of Management of Northwestern University. He has held leadership roles in general management, finance, sales, IT and operations at multiple organizations, including Monsanto,\* Mascon,\* YRC Worldwide\* and Pearson.\* He is passionate about business performance management, business transformation and innovation.

"When I first learned about AMSOIL, I was very intrigued," said Bhadresh. "Here is a company with so many unique qualities going to battle against some of the biggest companies in the world and winning. After meeting Alan [Amatuzio] and Dean [Alexander], I couldn't wait to join the team. Having partnered with them and the rest of the strategic leadership team at AMSOIL the past 6 years, I'm thrilled to step into the president role and try to further Alan's vision. AMSOIL makes the best products and offers an amazing opportunity for people to earn money selling those products. I am going to use my expertise in partnership with other leaders at AMSOIL to drive continued growth."

A handwritten signature in black ink that reads "Bhadresh Sutaria".



# LETTERS TO THE EDITOR

## DIESEL OIL

I just read another article about the Delo 600 ADF with Omnimax\* that has 0.4% sulfated ash content. AMSOIL Signature Series has 0.99 or 1.0% sulfated ash content. They are claiming this greatly reduces the amount of ash in the DPF system and prolongs its lifespan since there are fewer regeneration cycles. This oil has been around for a while now. Does AMSOIL have any comparison on how the two oils compare on this topic?

I know from personal experience how expensive it is to replace the DPF systems. I've been using the Signature Series Oil and added the bypass filtration system on a 2012 cab chassis/utility body F350\* 6.7 we bought new. At a little over 130,000 miles, the DPF system was shot and had to be replaced at approximately \$5,000.

Thank you,

**George Harrington**

**AMSOIL:** Thank you for your letter, George. AMSOIL diesel oils meet API CK-4 requirements for ash content, providing durability, longevity and optimum DPF protection. The Chevron\* product you mentioned is unique in the marketplace as its primary focus is extending the life of the DPF. We're concerned about the risk this approach presents to engine longevity. If you review Chevron's marketing brochures online, they show pictures of bearings that look a bit rough and label it "mild wear." In our opinion, it is more than mild. We formulate products to help extend equipment life, and we offer a level of engine protection well beyond what Chevron provides with its 0.4% ash product. DPF life is directly related to oil consumption. We formulate oils that minimize oil consumption, and that is our direct path to help extend the life of the DPF. What we cannot control is the design of the engine or the tolerances of its parts that directly affect the amount of oil that gets burned. No two engines are identical, and the DPF behind one may last hundreds of thousands of miles, while the DPF behind another may plug at less than 100,000 miles (160,934 km). AMSOIL diesel oils protect both the engine and the DPF, but there is no perfect solution for protecting both. AMSOIL diesel

*oils are optimized to provide greater protection to the more expensive of the two components, the engine.*

*We investigate and test thousands of alternative chemistries to ensure we are providing our customers with the very best. We just aren't comfortable with Chevron's approach. Considering it's the only diesel oil in the industry that's adopted this approach, it appears the rest of the industry isn't comfortable with it either.*

## DIESEL INJECTOR CLEAN

I just wanted to give a big thank you for making such high-quality products that actually work. Because of the quality and how effective your products are, you give us Dealers much more confidence to talk to people about AMSOIL products.

I am a proud AMSOIL Dealer who, like most, works my business part time. I want to share a quick success story: My newly registered commercial account placed a \$500+ oil and filter order for his air-conditioning company vehicles. The owner recently purchased two gas and two diesel previously owned F350 work trucks, and none had any maintenance history records available. When I asked if he had any issues, he stated his diesel F350 was an absolute dog first thing in the morning until the engine was well into full operating temp. He wouldn't dare pull out into any traffic from a stop sign because the acceleration was so poor. I told him he may have fuel-injector deposits and gave him a bottle of Diesel Injector Clean. He called me about a week later, pretty excited about the "big difference" and "night and day" way his truck is now performing, particularly the acceleration issue. Another satisfied new AMSOIL customer – so much that he ordered two cases of Diesel Injector Clean right on the spot!

Sincerely,

**Frank Anderson**

**AMSOIL:** That's outstanding to hear, Frank. Thank you for sharing.

Email letters to:  
**letters@amsoil.com**

Or, mail them to:  
**AMSOIL INC.**  
**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.



**Brett Granmo** | MARKET MANAGER AUTOMOTIVE B2B & HD ON/OFF-ROAD

## Who are excavation contractors?

Excavation contractors provide plenty of opportunity for to increase sales.

Excavation contractors use heavy machinery to dig, move and grade the earth for various construction projects. This includes site excavating, land clearing, leveling, grading, removing overburden, trenching, foundations, driveways, grave digging, sidewalks, sewer lines, pipes, drainage, demolition and landscaping.

On average, small to mid-size excavation contractors have 1-10 employees and 5-20 pieces of equipment. Equipment, materials and maintenance costs are extremely high, making up half a contractor's total revenue. Our target contractors service their own equipment and are seeking higher-quality, longer-lasting lubricants that are made in the USA to help lower their total cost of ownership, which directly affects their profits, reputation and project schedules.

### Top Equipment

#### Excavators

Excavators are considered a standard of the industry. They can range in size from mini excavators that are perfect for hard-to-reach areas and small-scale projects, to large excavators that are ideal for large-scale projects.

#### Loaders

Front-end wheel loaders are the go-to option for shoveling large volumes in a short time. They can range in size from compact wheel loaders, medium wheel loaders and large wheel loaders. Loaders are frequently used for tasks such as loading and carrying, but they can also be used for excavating.

#### Dump Trucks

A standard dump truck has a chassis or base frame with a mounted bed. The front of the body contains a hydraulic ram that raises the bed. The back of the bed is hinged to the back of the truck so the front can be raised to dump material.

#### Graders

Motor graders, or road graders, have long, narrow blades to help flatten surfaces. A moldboard, or blade, for rough and fine grading is rotatable, with a cutting edge on the bottom to help cut and move terrain. Many professionals value their graders above other equipment due to their ability to perform fine grades and remove snow, while also working well for larger projects.

#### Skid Steers

A wheeled skid steer is a compact machine containing four wheels and two arms to a bucket used for scraping, scooping and some leveling. They are essential assets to any worksite due to their ability to easily replace the bucket with a variety of different attachments for completing nearly any type of project, including forks, augers and more. The skid steer received its name from its steering feature. One side of the machine is under power, while the other side skids to help turn.

#### Compact Track Loaders

Compact track loaders are similar to skid-steer loaders, but operate on rubber tracks instead of wheels. The added traction enables the machine to travel on soft ground without the threat of getting stuck. Track loaders come in multiple sizes

and can perform a variety of tasks, including earthmoving, excavating and demolition.

#### Dozers

Crawler dozers are high-powered, heavy-duty, tracked machines with a moldboard or front blade used for excavating or pushing rocks, debris and other materials.

#### Backhoes

A backhoe loader is similar to a wheeled front loader, but with a bucket in the back for excavation. Backhoe loaders are the most versatile pieces of machinery found on any site, and they're truly the workhorses of the construction industry. They're popular with excavation contractors because they provide two tools for the price of one. The wheels provide maneuverability, while allowing quicker travel compared to tracks.

The superior protection provided by AMSOIL products helps excavation contractors minimize downtime, extend equipment life and maximize fuel efficiency. Equipment spends less time in the shop and more time in the field, helping contractors lower cost-of-ownership and increase their bottom line. Relying on a wide range of equipment to get their jobs done, excavation contractors present an excellent opportunity for to increase sales of diesel oil, motor oil, filters, transmission fluid, coolant, grease, gear oils, hydraulic oils and fuel additives.

# STILL CLIMBING

Brad Lovell entered his first rock-crawling competition in 2004. Now, almost two decades later, Lovell has proven himself to be one of the most successful and versatile off-road racers in history. The championship-winning rock crawler adapted to win championships in Ultra 4, short-course and off-road desert racing. In all, Lovell has amassed nine season championships and more than 35 race victories, which earned him the honor of *Dirt Sports Driver of the Year* in 2012. He's taken that versatility into trophy trucks, taking to the desert to compete in events like the Mint 400 and Baja 500. In 2020, Lovell claimed the Every Man Challenge title at King of the Hammers, solidifying his status as one of the best in the sport. This month, Lovell is officially assuming legend status as an inductee into the Off-Road Motorsports Hall of Fame. But don't expect the new title to put Lovell into retirement mode. Experience brings certain advantages – and Lovell hasn't lost his drive to win races.

## Road to the Off-Road Life

Lovell got to where he is through a mix of luck and determination. His passion for off-road exploration was sparked in childhood while bouncing around with his brother, Roger, in the back of his dad's Bronco\* in the Colorado Rockies. But as he grew up, that passion turned into a career fueled by skill, creativity and work ethic.

"I remember when I was a kid watching

the Baja 1000 and thinking, 'That's the coolest thing. But how do you do that?'" said Lovell. "I got into off-roading by going to the Colorado Rockies camping. My dad had a Bronco that he'd tow with. My brother and I always wanted to go further and take tougher trails. He was smarter about it and wouldn't always do it, but that planted a seed."

When the brothers reached high school, Roger purchased his own Bronco and it was "game on." They started to explore further, testing their own limits for the sheer joy of it. "I think we got really good at it," said Lovell, "but we were just in a microcosm and had no idea."

After college, Lovell took a job as an engineer that allowed him to purchase a Ford\* Ranger\* and turn it into a competition vehicle. The brothers took it to their first rock-crawling competition, the U-Rock St. George, in 2004 and won.

"From that event we won the rest of the events that season, four events," said Lovell. "We went to U-Rock Super Crawl. We ended up coming in second. It was like, 'Wow, what a year!'"

Lovell would go on to win six rock-crawling championships, and aside from being exceptional at it, he loved it.

"It has that sense of achievement and it all stems back to just being competitive and going out recreationally on trails and seeing what you and your vehicle can do," said Lovell. "And that surged and overflowed in competitive rock crawling for a number of years."

## Short Course

But Lovell's drive and energy couldn't be contained by rock crawling forever, and he started to eye other avenues for competition. In 2010, the team turned their focus on the then-premier short-course off-road series, TORC, and joined the Pro-Light field. But Lovell only stood on the podium once that first season.

"It was drastically different, drastically different skill set," said Lovell. "It took time to adjust."

But he did adjust and went on to win championships. Lovell raced short-course for eight years, but the team never stopped competing in rock crawling, King of the Hammers and hill climbs.

"We never specialized," said Lovell, "and I guess we logistically learned how to handle a race like the Baja 1000. It's very difficult to do those things together. There was more in the desert that we wanted to take on."

## Desert Racing

Given his thirst for adventure, it's no surprise that the desert eventually pulled Lovell in. It encompasses every kind of off-road challenge in remote, harsh landscapes miles from anywhere. In 2006, Lovell decided to tackle the Baja 1000. He would go on to win the Baja Wide Open class six times.

"With Baja, it's the Wild West," said Lovell. "The chaos and the dust; you can't see. And there's people trying to get you to go the wrong way just to cause more chaos. It blew my mind. It's the pinnacle of off-road racing. It's real adventure."





Brad Lovell of Team AMSOIL is being inducted into the Off-Road Motorsports Hall of Fame –  
**but he's not done yet.**

Lovell said there's a wealth of knowledge, history and equipment that comes into play to succeed at Baja. "The winner needs a pretty clean race," he said. "But everyone behind them – they're using resources on the peninsula. It's pre-running – how to get hotels before they're sold out. All those things. It's a different science."

### King of the Hammers

King of the Hammers is recognized as America's toughest off-road event – and winning it is one of the most prestigious accomplishments in racing. The 200-plus-mile course is a brutal test that wreaks havoc on drivers and machines. It traverses some of the gnarliest terrain in the sport, combining off-road racing and rock crawling throughout Means Dry Lake in Johnson Valley, Calif. But Lovell savors the challenge.

"I love the texture of it all with King of Hammers. There are times in the truck, at least for me, where it's frickin' scary or you're bouncing around a lot," said Lovell. "But I think what drives me at the end of the day is the idea that we've built this ourselves and we have something to prove, and we want to show the world that we have the capability to run with all these other teams that have become dynasties."

### 1968 Bronco

Make no mistake; Lovell is a Ford Bronco man.

"We've always been a Bronco family," Lovell says. "My dad had Broncos and we built a Bronco with him when I was

in high school. We've always had that Bronco."

In 2014, Lovell raced in his first NORRA 1000 with Boyd Jaynes in his 1968 Bronco. Fellow racer Chris Sullivan ended up in a bind after cresting a blind rise and rolled the Bronco while swerving to avoid a massive boulder. After locals helped get it back upright, it was clear the Bronco was totaled. But the experience planted a seed in Lovell. A few months later, he found a 1968 Bronco for sale online for \$8,500 and jumped at it.

"I found it while camping and I texted Roger and said, 'We have to go get this!'" said Lovell. "The idea was to take all our old race stuff, put it in this Bronco and go have fun. It's just like any project; it didn't end up that way."

The duo ended up putting in more time and money than planned, but when they were finished it was a full-on modern race Bronco.

"We barely got it done in time for the NORRA 1000," recalled Lovell. "Roger was starting and tuning his shocks along the race course."

But the brothers got the truck dialed in and it performed, winning its class three straight years on the Baja Peninsula.

"The Bronco has definitely generated some notoriety," said Lovell. "Ford asked to put it in the studio for the development of the new Bronco. It sat side-by-side with clay models in the design area there. That courtyard is where the original Bronco underwent the same design process. That makes that Bronco worth something."

### Focused on the Future

It's hard to imagine a more storied off-road career than Lovell's, and induction into the Off-Road Motorsports Hall of Fame makes that official. But Lovell is clear on one thing: He's not done yet. He acknowledges and appreciates the honor, but he's also looking past it to his next set of goals, determined to stay at the top of his game. If anything, the honor seems to be focusing Lovell on his current strengths – skill, strategy and endurance.

When Lovell won the *Dirt Sports Driver* of the Year 10 years ago, he says he felt a little lost without another goal behind it. "It's kind of like, 'Hey, I made it,'" he explained, "and it takes away that ferocity that you need to make you push harder than you would otherwise push."

So, Lovell is treating this honor differently.

"This is another wild and crazy dream of mine to get into the Hall of Fame. It's an honor. It's not a trophy; it's not a juicy motorsports sponsorship. It's dignity and transcends all those things. I'm very proud of it," said Lovell. "But I still want to race."

Lovell says he intends to use his Hall-of-Famer status as a platform to race the events he enjoys most and promote the message he cares the most about, responsible off-road enjoyment.

"I think it will help over the coming years to focus on what I want to do," he said. "Because we've proven it."



# AMSOIL Synthetic Transmission Fluid Tames Texas Heat

Bryan Bayles, of Katy, Texas saw a need while working as a groundwater sampler and turned it into a successful business. “We used to go to these sites that were really hard to get to because they weren’t being maintained,” he said. Neglect and disuse often turned groundwater sampling sites into jungles of overgrown weeds and brush, sometimes teeming with rats.



Today, Bayles’ company, BTB Services, does what’s called “post-closure care.” His crew maintains groundwater-testing sites around refineries and other sites so they remain accessible. “One site was 25 acres and in the middle of a town,” said Bayles. “People started complaining about rats running out of it.”

Much of the work involves using tractors, zero-turn mowers and handheld equipment to cut large areas of grass and brush. “We take tractors out and weed eaters to get the paths clear so we can get out there,” Bayles said. BTB Services operates three large mowing tractors, two zero-turn mowers, a skid steer and a brush mower. Being a stickler for maintenance, Bayles uses AMSOIL products in his vehicles and equipment.

## Vehicles Must Face Brutal Texas Heat

His vehicles include a small fleet of half-ton and larger pickups that transport equipment to sites using gooseneck trailers. Working in the scorching Texas heat means BTB Services’ trucks are exposed to temperatures that frequently exceed 100°F (38°C) for a good part of the season. Combined with towing up to 30,000 pounds (13,607 kg), the company’s vehicles are the epitome of “severe-service” work trucks.

One such truck is a 2015 Chevrolet\* 2500 that Bayles bought in 2015. Bayles does as much maintenance as he can himself, including changing transmission fluid and filters. When the truck had about 50,000 miles (80,000 km) on it, Bayles switched the transmission to AMSOIL Signature Series Synthetic Fuel-Efficient Automatic Transmission Fluid (ATL).

## Internal Transmission Filter Never Changed

Given the severe conditions, Bayles changes transmission fluid every 30,000 miles (48,000 km). “I know that’s extreme, but we’re pulling about 30,000 pounds of weight behind the trucks,” he said. The maintenance strategy plus AMSOIL product performance have helped the truck eclipse 300,000 miles (483,000 km) with no issues. Bayles changes the external, spin-on transmission filter on the Chevy 2500 every 60,000 miles (96,500 km). However, since the transmission includes a drain plug and doesn’t require dropping the pan, he didn’t realize the transmission also has an internal filter, meaning it was never changed. “I felt horrible that I had 300,000 miles on the truck and I never had the pan off,” said Bayles.

## ‘Spotless! I can’t believe it.’

After 257,000 miles (413,600 km) using AMSOIL Synthetic Transmission Fluid, Bayles dropped the pan to change the internal filter, unsure what he would find. The cleanliness of the pan and fluid amazed him; there wasn’t even a hint of sludge or deposits. He texted his AMSOIL Dealer, Erroll Ivery, an image of the clean pan and pristine fluid with the words, “Spotless! I can’t believe it.”

“I usually get a film on the magnets,” said Bayles. “There was not even a spot (of sludge) in the pan. It was amazingly clean. Of all the transmission pans I’ve had off, I’ve never seen one not have a film in it,” he said. Bayles said there wasn’t even a film of deposits or sludge on the transmission filter.

The Chevy 2500 has about 315,000 miles (507,000 km) on it now and still



The transmission pan and filter contained no sludge or deposits; the fluid still appeared in like-new condition.

runs great. “Right now, I have it pulling a 32-foot trailer,” said Bayles. Including the payload, that adds up to about 22,500 pounds (10,200 kg). “I gave it a little bit of a break,” he said.

## AMSOIL Synthetic Motor Oil Also Delivers Premium Protection

BTB Services has four trucks, two diesel and two gas, all of which use AMSOIL products in the engines, transmissions, differentials and cooling systems. All the company’s diesel tractors use AMSOIL products, too. “We started using AMSOIL in our zero-turn this year,” said Bayles.

Bayles performed oil analysis on the engine oil in his trucks, and the results showed the oil in his gas trucks still had 20% oil life following 20,000 severe-service miles (32,000 km), while the diesel oil still had 50% oil life after 10,000 miles (16,000 km).

AMSOIL products help Bayles keep his trucks and equipment up and running, making money, which is vital for any business. “It definitely has helped keep the equipment well-maintained. I have never had any problems with the vehicles I maintain,” he said.

Bayles isn’t shy about telling others about his AMSOIL success story. “It’s a product I definitely highly recommend,” he said. “I believe in putting the best in all my equipment.”

# Neglected Equipment: Air Compressors



Many people and businesses own small air compressors that are used for tasks such as inflating tires and balls, spraying paints and varnishes and running air tools like nailers, impact wrenches and air ratchets.

Oil-lubricated home compressors are typically powered by an electric motor that is connected to the pump unit either directly or by a belt. When the electric motor turns the pump unit a piston creates a vacuum as it travels down the cylinder and pulls air through the inlet port. As the inlet valve closes and the piston travels up the cylinder, air is compressed and pushed through the discharge port and into the tank.

The tank is filled with compressed air until it reaches a preset pressure, at which time the motor and pump shut off until the pressure in the tank drops to a predetermined point and needs to be filled again.

Although driven by an electric motor, oil-lubricated piston-type small air compressor pump units contain a crankshaft, valves, pistons, piston rings and bearings that require lubrication. Like the engines found on push mowers, compressors of this type often rely on a splash lubrication method to protect parts against wear.

Compressor maintenance is not a high priority for many people. Compressor units tend to be used only on an intermittent basis, and the oil is rarely, if ever, checked or changed. However, like any other engine, it is important to check the oil level occasionally and top it off if necessary to ensure optimum equipment protection and performance.

## Compressor Oil Challenges

The challenges faced by compressor oils include the following:

- **Reduce** friction and dissipate heat. The more the pump unit runs, the hotter it becomes.
- **Resist** sludge and varnish to keep valves from sticking or leaking.

- **Minimize** foaming. Foam is a common byproduct of splash lubrication systems, leading to overheating and oxidation problems.
- **Corrosion** and rust control. Water is a natural byproduct of compressed air, often working its way into the compressor oil and leading to rust and corrosion problems in the pump.
- **Good** cold-temperature performance for units used in cold climates.

### Who are Good Prospective Compressor-Oil Customers?

- Auto body shops • Quick lubes
- Auto repair shops
- Contractor fleet shops
- Contractor service trucks

## PC Series Synthetic Compressor Oil

Engineered to meet the tough demands of industrial compressor applications, AMSOIL PC Series Synthetic

Compressor Oil provides outstanding protection and performance for small compressor applications. PC Series Compressor Oil incorporates the highest quality, thermally stable synthetic base stocks and premium non-detergent, ashless additives for maximum protection at high temperatures and pressures, lasting up to eight times longer than petroleum oils.

- **Helps** improve operating efficiency
- **Resists** viscosity increase from oxidation
- **Contains** anti-foam additives to resist foam and reduce heat, oxidation and wear
- **Anti-rust** fortified to help prevent rust and corrosion
- **Resists** varnish, carbon and acid formation





# Defeating Foam

Whenever a rotating assembly is submerged in an oil bath, air bubbles, otherwise known as foam, form on the fluid surface. For example, the crankshaft in engines can create foam in motor oil, while differentials can create foam in gear oil. In motorcycles, shared-sump transmissions, where the transmission and engine use the same oil, are good at creating foam. Foam in hydraulic lifters can create valvetrain noise because the foam is made of air that compresses and creates lash in the valvetrain. Foam can lead to poor component protection and ultimately mechanical damage. That's why controlling foam is a critical part of lubricant formulation.

## A Host of Issues

How does foam cause problems? There are several ways.

### **First, foam heats up under pressure to extreme temperatures and generates steam within the fluid.**

Then, foam compounds the issue by creating an insulating layer that prevents the heat from dissipating. The heat and water contamination greatly limit the lubricant's effectiveness.

### **Second, foam promotes wear.**

Because air is trapped inside the fluid, the fluid barrier is no longer impenetrable – and wear-causing metal-to-metal contact can occur.

### **Third, the trapped air in foam promotes oxidation and shortens the service life of the fluid.**

Hydraulic and other industrial applications face another issue. When hydraulic fluids foam, they become compressible and can make machinery inoperable or extremely inefficient. These lubricants commonly require special formulations to control foaming.

## Friend or Foam

So, foam is bad. But controlling foam is not an easy task. Oil viscosity, contaminants, changes in surface tension and additives can all act as catalysts to the formation of foam. Detergents and dispersants promote foaming and minimize the effectiveness of anti-foaming additives. Anti-foam agents can stop foaming, but require effective formulation to avoid trapping tiny bubbles within the lubricant.

Silicone additives are an example of how critical it is to get the formulation just right. Silicone compounds are widely used for their ability to reduce the surface tension of air bubbles. Reducing the surface tension causes the bubbles to break apart quickly and easily. Silicone compounds of only a few parts per million can be extremely effective in lubricant formulations, but excess amounts can actually promote foaming.

Organic compounds can also decrease the number of small bubbles, but require much higher concentrations than silicone.

## Foaming Characteristics Test (ASTM D892)

A lubricant's ability to resist foaming is measured with the Foaming Characteristics Test (ASTM D892). It measures the amount of initial foaming (in millimeters) contained within an agitated fluid and compares that value to the amount remaining after 10 minutes of settling time. Generally, the less foam remaining after a short amount of time, the better.

## Built-In Resistance

The advanced formulations of AMSOIL synthetic oils resist oxidation and acid formation that contribute to foam development. They are precisely formulated with anti-foam additives to suppress foam development for reliable protection and performance.



# Help Customers Store Equipment With Confidence

AMSOIL products provide outstanding protection through the offseason.

Fall is in full swing and your customers are thinking about getting summer equipment put away before winter hits, but many may be unaware of the problems that can occur during extended storage periods. Preventive maintenance is critical before storing equipment for any extended period. Properly storing equipment through the cold winter months protects the engine, prevents rust and prepares it for action when spring rolls back around. With the right lubrication and fuel additives, you're on the right track to helping your customers protect their equipment, while presenting great door-openers for gaining new customers.

## Fight Corrosion and Dry Starts

During long periods of storage, inconsistent ambient temperatures can cause condensation to form within the engines of two- and four-stroke recreational vehicles, handheld power equipment, construction and farm equipment and other equipment used seasonally or infrequently. When the condensate comes in contact with steel and iron components, surface corrosion can form, leaving cylinder liners, piston rings, anti-friction bearings and other contact surfaces laden with

rust. Internal corrosion and rust can flake, leading to increased engine deposits, wear and friction, and cause the engine to run hotter and less efficiently, effectively reducing equipment life and increasing maintenance time and costs. Long periods of storage can also dry out cylinders. Dry-starting an engine often results in permanent damage and can dramatically shorten the life of the equipment.

While most two- and four-stroke motor oils are formulated to protect against internal corrosion and dry starts, their effectiveness fades over time. AMSOIL Engine Fogging Oil (FOG) is an excellent solution for long-term protection against corrosion and damage from dry starts. Engine Fogging Oil's aerosol spray formulation thoroughly and evenly coats internal components to protect against corrosion and help prolong engine life.

## Fight Deposits, Gum and Varnish

Ethanol and other harmful contaminants commonly found in fuel can wreak havoc on a stored engine. Most fuels are pre-treated with the lowest additive concentration (LAC) level of additives, which allows them to be stored for a



short period of time before degrading. During storage, however, degraded fuel can interact with air and moisture to form gums, varnish and deposits throughout the fuel system. These impurities can gum floats; clog injectors, fuel lines and carburetors; and cause poor engine performance and starting problems. Adding AMSOIL Gasoline Stabilizer (AST) to fuel before long-term storage can help prevent harmful deposits from forming in the tank and fuel system, eliminating the need to clean or replace carburetors after long-term storage. For short-term storage, AMSOIL Quickshot® (QS) should be used.

## Applications

AMSOIL Gasoline Stabilizer and Engine Fogging Oil applications include, but are not limited to, motorcycles, snowmobiles, ATVs, outboard motors, stern-drive and inboard marine engines, personal watercraft, lawn equipment, chainsaws, snowblowers, portable generators, handheld power equipment, motor scooters, powered farm equipment, powered construction equipment, cars and trucks.



## October Closeout

The last day to process October orders is Monday, Oct. 31. 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 October business will be accepted until 3 p.m. Central on Friday, Nov. 4. All transfers received after this time will be returned.

## Aerosol Product Packaging

The following AMSOIL aerosol product packaging will transition from cans with sticker labels to litho-printed cans (design printed directly on the can). While the aerosol-can shapes and caps will also change, product sizes and formulas will remain the same. Product with new litho-printed labels will be introduced as existing inventory is depleted, but customers can expect to start noticing the new litho-printed labels in October.

Heavy-Duty Degreaser, Engine Degreaser, Silicone Spray, Miracle Wash,<sup>®</sup> Chain Lube, Glass Cleaner, Heavy-Duty Metal Protector, Metal Protector, Mudslinger,<sup>®</sup> Brake & Parts Cleaner, Power Foam<sup>®</sup>

## Fair Handouts and Data Sheets to be Available On-Demand Only

AMSOIL fair handouts will be converted to a one-page, flyer format. The flyers and all AMSOIL data sheets will be available on-demand only through the AMSOIL Print Center effective Oct. 1, 2022. Digital printing technology allows us to make this transition and continue to quickly provide high-quality sales tools. The existing inventory of data sheets and fair handouts will be available while supplies last. PDF versions will remain available for download in the Zone.



CHANGE SERVICE REQUESTED

Published 12 times annually

PRSRT STD  
US POSTAGE  
PAID  
AMSOIL

ISO 9001/ISO 14001 REGISTERED

ALTRUM

Donaldson.  
Filtration Solutions

WIX  
FILTERS

MANN  
FILTER

WE HONOR



(Discover in U.S. only)

The wait is over, and The Next 50 compensation plan is now live. Be sure you're up to speed by reviewing the videos in the Dealer Zone that help explain why we made this change and how the plan works. [my.AMSOIL.com](http://my.AMSOIL.com)



Minimum 10%  
Post-Consumer Fiber

AMSOIL INC., 925 Tower Ave., Superior, WI 54880 • 715-392-7101 • Printed in the USA  
© 2022, AMSOIL INC. All rights reserved. The AMSOIL logo is a registered trademark of AMSOIL INC.

| [AMSOIL.com](http://AMSOIL.com) |

October 2022

# Upgraded Performance and Protection For ATVs and UTVs

New AMSOIL 10W-30 Synthetic ATV/UTV Motor Oil and 5W-40 Synthetic ATV/UTV Motor Oil provide expanded coverage for hard-working and performance ATVs and UTVs. Whether tackling tough chores or riding aggressively on the trail, AMSOIL Synthetic ATV/UTV Motor Oil's outstanding severe-service formulation **allows riders to confidently and safely push their machines to the limit.**

- **High-performance** alternatives to OEM-branded fluids
- **Protection** when performing demanding chores and tackling tough terrain
- **Delivers** consistent clutch feel
- **Superior** all-weather performance
- **Wet-clutch** compatible

