

# AMSOIL<sup>®</sup>

MAGAZINE

FEBRUARY 2023



# Dirt- Bike Maintenance





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# From the Chairman

I am writing this message just after our first blizzard of the year. Temperatures were unseasonably warm at the storm's onset, turning the initial precipitation into freezing rain and leaving a sheet of ice on every surface. The rain eventually turned into wet, cement-like snow. The accumulated ice and snow was heavy enough to bend trees more than 20 feet tall so that the tree tops touched the ground.

Weather events like this are not uncommon in the Northland. Those of us who have lived here for years know the drill well; when the storm concludes, the work begins. You have to get moving immediately or face the consequences. If you don't clear the area around your mailbox, your mail won't be delivered. If you don't clear your sidewalks right away, you will pack the snow and make it more difficult to remove later or potentially fall and get hurt. While the jobs may seem daunting, it's best to get them done right away. Don't procrastinate. Putting them off just makes them more difficult later and increases the severity of the consequences.

Procrastination always carries consequences. This is true for all aspects of our lives, including AMSOIL. You have the opportunity to earn money, if you choose. If you want more income but have been procrastinating on taking steps to make it happen, it will take longer to get what you want. If you have not started prioritizing your journey with AMSOIL, the time to start is NOW. If you have begun but stalled, it's time to get back to it. Time is precious, but you can find the time if you put a priority on your future with AMSOIL.

We are charging forward at corporate headquarters, developing to help you be successful. We have developed a prioritized list of projects designed to improve your experience, and your customers' experience, when you interact with us.

Coming soon, you are going to have a new line of lubricants for one of our main target markets. These products are designed specifically to help gain new business. Very exciting stuff. We are investing in our AMSOIL business and in your future. Are you investing in your AMSOIL future? Let's meet our goals together.

**Alan Amatzio**  
Chairman & CEO

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



# New 2023 Calendars Available Now

Follow AMSOIL action throughout the year. The 2023 AMSOIL calendar features Team AMSOIL drivers and sponsored motorsports events, including Brad Lovell, Bryce Menzies, Hunter Patenaude, Scott Birdsall, AMSOIL Championship Off-Road, Sturgis and more.

Calendars personalized with your contact information are available from the AMSOIL Print Center in the Dealer Zone.

Non-personalized calendars are also available and may be personalized by adding your business card. Simply insert your card in the slotted area and your contact info is visible for a full 12 months.

## AMSOIL Pricing\*\* – Non-Personalized

Stock #	Qty.	U.S.	Can.
G1105-EA	1	1.75	2.35
G1105-CA	10	15.00	20.00

\*\*Calendars subject to shipping charges.



**Mark Nyholm** | STAFF PRODUCT DEVELOPMENT ENGINEER AND MECHANICAL R&D MANAGER

## How boosting a diesel truck affects lubrication requirements

AMSOIL synthetic diesel oils offer the ultimate protection for modern turbos.

There is no doubt in my mind that many people struggle to remember when diesel pickup trucks were slow, loud and boring to drive. We tend to forget things that aren't exciting and replace those memories with more exciting ones. The addition of common-rail fuel injection systems in the early 2000s opened the door to exciting performance in diesel truck engines and created many smiling faces driving millions of modern diesel trucks. However, happiness doesn't always come without challenges.

The lube requirements for a diesel engine from 30 years ago and one manufactured today are vastly different. Rather than focusing on all the differences, let's consider how the turbocharger has changed lubrication for the better. Modern turbos are oil lubricated, provide more boost and can vary boost depending on vehicle speed. They're much more complicated than a turbo from the 1990s with a simple waste gate. Let's break this down into digestible pieces.

Today's variable geometry turbo (VGT) provides a considerable amount of boost pressure. Compound that by adding electronic tuning devices that create even more boost, and it truly takes a toll on your engine oil. More boost pressure equals more cylinder pressure, which results in more load on your pistons, rings, rods, crank and all the bearings in between. Engine oil lubricates and keeps all those metal parts separated. The more power the engine makes, the more load the engine oil needs to absorb.

This extreme load can be managed with more robust base oils and more technologically advanced additives, as found in AMSOIL Heavy-Duty

Synthetic Diesel Oil and Signature Series Max-Duty Synthetic Diesel Oil. Modern chemistry advancements have allowed us to successfully lubricate diesel engines putting out more than 500 horsepower. That's an enormous difference from diesel engines back in the 1980s that typically managed only about 120 horsepower.

Oil consumption and oil volatility have major effects on all components downstream of the combustion chamber. For the VGT to remain effective at varying boost pressure, the turbine vanes need to remain movable. And since the first thing that partially burned oil touches is the turbine and its movable vanes, it can present deposits that render the variable function of the turbo useless. Using high-quality base oils reduces the opportunity for oil in the sump to find its way outside the engine. Reducing oil consumption is not only good for protecting your turbo and downstream exhaust aftertreatment systems, but also for protecting your wallet.

Finally, one cannot build engines making immense power without managing the incredible heat generated. It doesn't help that original equipment manufacturers (OEMs) have intentionally increased heat in the engine because they've found that it improves engine efficiency. Modern diesel engines like to run at about 200°F (93°C) and sometimes hotter, depending on load, which means oil temperatures can easily reach 250°F (121°C) inside the engine.

The bearing of the turbo is engine-oil lubricated. It's small, with tight clearances and a shaft that spins at incredible speed, so high-quality,

clean oil is imperative to its continued operation. To solve all these problems, base oils that remain stable at higher temperatures, detergents that keep surfaces clean and antioxidants that maintain viscosity over the oil's entire service life are all formulated into AMSOIL synthetic diesel oils.

Although many vehicles still use 15W-40, other viscosities have really been gaining momentum, so AMSOIL offers Signature Series Max-Duty Synthetic Diesel Oil in five different viscosities. If you want to give your turbo the best chance at a long and healthy life, make sure you only use the best-quality AMSOIL diesel oils. Your turbodiesel will thank you.





Alex Thompson | MARKET MANAGER – AUTOMOTIVE B2C

## We thoroughly test AMSOIL products, for your peace of mind.

What are all those tests on AMSOIL product data sheets, and why are they important?

It's likely you're aware that synthetic lubricants deliver better wear protection, engine cleanliness and fuel efficiency than conventional oils. It's been repeatedly proven that AMSOIL synthetic motor oils form a more durable fluid film than conventional oils due to their resilient base oils and engineered additive packages, helping vehicles run better and last longer.

We're proud that AMSOIL was the first synthetic motor oil to pass API standards testing, but what does that mean and why should anyone care? There are several organizations in different regions of the world that are responsible for ensuring the quality of lubricants meets the rigorous demands of countless different vehicles, machinery and equipment.

The **American Petroleum Institute (API)** is a standards-setting trade organization founded in 1919 that leads the development of petroleum, natural gas and petrochemical equipment to enhance operational and environmental safety, efficiency and sustainability. Similarly, the **International Lubricant Specification Advisory Committee (ILSAC)** is a committee of automobile manufacturers that develops performance standards for engine oils used in gasoline passenger-car engines. And the **European Automobile Manufacturers' Association (ACEA)** is a group of 16 vehicle manufacturers that defines specifications for engine oils in Europe.

### How is Motor Oil Tested?

Since 1905, the **Society of Automotive Engineers (SAE)** has been developing and publishing standards for every aspect of motor vehicles, while also educating engineers to create safer, cleaner and more accessible mobility solutions. The **American Society for Testing and Materials (ASTM)** is an

international standards organization that develops and publishes technical standards for a wide range of materials, products, systems and services. SAE specifies which ASTM tests are needed to verify that a particular lubricant is suitable for a specific component or technology.

As mechanical technology advances, so do lubrication requirements. Meeting the specifications of these organizations typically means that a particular motor oil also meets the original equipment manufacturer (OEM) requirements, but not always. Therefore, it's important to review the owner's manual to ensure the OEM has not placed additional requirements above industry-standard testing. Industry specifications provide the aftermarket opportunities to test their products on a level playing field and offer products that meet or exceed OEM quality and performance.

We publish data sheets with the results of our testing, and here are some additional details on common tests required for motor oil certification.

ASTM D2270 measures viscosity index or the variation in a motor oil's kinematic viscosity between ambient and operating temperatures (40°C and 100°C). A higher viscosity index indicates a smaller decrease in viscosity as temperature increases, meaning the oil better maintains its structure as temperatures increase. Additionally, ASTM D445 tests the actual viscosity at both 40°C ambient and 100°C operating temperatures.

Heated oil has an additional risk of shearing, or losing viscosity, under pressure. ASTM D5481 (HTHS) measures viscosity under temperatures and pressures representative of engine operating conditions. Applying stress to the oil through pressure provides insight

into viscometric properties that other viscosity testing cannot, because engine oil additives introduce characteristics that can alter flow.

As much as we want oil to maintain viscosity in extreme heat, we also want it to remain fluid in extreme cold. ASTM D97 tests the pour point, which identifies the lowest temperature at which the lubricant will continue to flow. Additionally, ASTM D5293 (CCS) simulates the viscosity of engine oil in relation to cold-engine cranking, which ensures the oil remains fluid enough to start an engine at a prescribed temperature.

Because the primary purpose of oil is to reduce wear from metal-on-metal contact, ASTM D4172 (Four-Ball Wear Test) determines the relative wear-preventing properties of lubricating oils in sliding contact under prescribed test conditions, and these results are provided where applicable. We also measure the oil's ability to neutralize acids using ASTM D2896, which provides the Total Base Number (TBN). Lubricants with a higher TBN are more effective at suspending wear-causing contaminants and reducing the corrosive effects of acids over time.

TBN is impacted by high temperatures and low-quality, high-sulfur fuel. Sulfur becomes sulfuric acid during combustion, which accelerates TBN depletion. Overheating causes oil oxidation, which increases acidity and causes TBN to drop. This presents two more reasons to use premium AMSOIL synthetic lubricants, which are highly resistant to thermal oxidation and acidity.

AMSOIL products meet or exceed industry standards, and using AMSOIL products is a great way to protect your investment.

# PRODUCT BREAKDOWN: AMSOIL SYNTHETIC CHAINCASE & GEAR OIL

## Long-Lasting Performance for ATVs and Snowmobiles

The chaincase is an integral part of a snowmobile's drive system, housing a chain and two sprockets that transfer power from the transmission to the track. Its secondary function is as a gear-reduction system, allowing the track to spin at a lower speed than the engine. The snowmobile's transmission connects to a smaller gear in the chaincase, connected by chain to a larger gear within the case that turns the track and propels the sled.

## A Chaincase's Purpose

A chaincase serves a similar function to other chain-drive systems, like those found on many motorcycles and ATVs/UTVs. However, a snowmobile chaincase contains the chain-drive components in a sealed and removable case. To protect the track's critical drive components from moisture, corrosion and wear, the chaincase is a closed lubrication system that requires regular oil changes to function correctly.

## Why Change Chaincase Oil?

Chaincase oil breaks down primarily from pressure, heat, contamination by metal shavings from the internal gears and chain, and water from the environment. Snowmobile manufacturers recommend changing chaincase oil annually or every 2,000 miles (3,219 km). It is considered best practice to change the chaincase oil after the riding season is over to prevent moisture from sitting in the chaincase all summer. The typical snowmobile chaincase requires about 8 to 11 ounces (237 to 325 ml) to refill and is full when "filled to spill" or overflowing from the fill hole.

## Unique Requirements

Modern snowmobiles and ATVs require extreme-pressure lubricants engineered to meet the high-temperature and high-load demands. Some users believe they can substitute alternate oils in their chaincase to reduce costs. However, automatic transmission fluid does not contain the extreme-pressure additives needed for enhanced wear protection, leaving gears and chains vulnerable. Likewise, automotive gear lube is too thick for proper chain and gear lubrication in powersports applications, impairing circulation and leading to increased wear and decreased efficiency. Finally, unlike thinner motor oils, snowmobile chaincase oils are typically SAE 75W.

## AMSOIL Advantage

AMSOIL Synthetic Chaincase & Gear Oil (TCC) is a 100% synthetic formulation that resists shear and chemical breakdown better than conventional fluids, providing superior protection and performance for enclosed chains and gears found in snowmobiles, ATVs and other similar equipment. It is formulated with extreme-pressure additives for increased wear protection that helps extend chain and gear life and it repels water to inhibit rust and oxidation. Its low pour point ensures superior low-temperature starting and reduces drag to deliver maximum power through the frigid depths of winter. It is engineered for use in all snowmobile chaincases and costs less than most original equipment manufacturer (OEM)-recommended chaincase oils.



- **Synthetic** technology reduces friction to transfer maximum power from the engine to the ground.
- **Flows** freely in cold temperatures for immediate protection and easy cold-temperature takeoffs.
- **Protects** moving parts under extreme pressures and high temperatures.
- **Helps** prevent rust, corrosion, oxidation and foam.

## APPLICATIONS:

Use AMSOIL Synthetic Chaincase & Gear Oil as a replacement for the following ATV and snowmobile OEM fluids:

- Arctic Cat\* Chain Lube #4639-363
- Bombardier\*/Ski-Doo\*/Can-Am\* XP-S Mineral Chaincase Oil #415129500
- XP-S\* Synthetic Chaincase Oil #293600138
- Polaris\* SCL Chaincase Lubricant #2872952 #2873105 #2873106
- Yamaha\* Snowmobile Chaincase Lube #ACC-CHNCS-FS-08



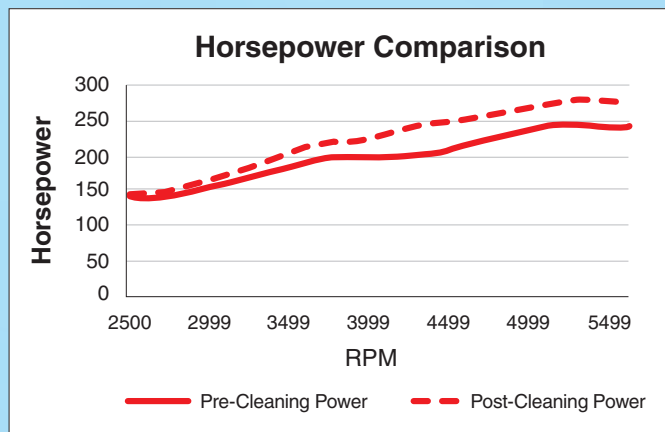
# Gasoline Fuel-Additive Breakdown

Store shelves are chock-full of gasoline additives that claim to increase fuel economy, smooth engine operation, reduce emissions, extend engine life, maximize horsepower and more. But do they really work? AMSOIL additives work, and we have the data to prove it, making them excellent add-on products for Dealers. Here's a brief breakdown of our gasoline fuel additives.

## AMSOIL P.i.®

Over time, carbonaceous deposits form on your engine's fuel injectors, valves and in the combustion chamber. Injectors are highly engineered to tight tolerances, and even minute deposits interfere with the spray pattern, reducing power and fuel economy. Fouling can also lead to increased engine wear.

The problem is especially pronounced in gasoline direct-injection (GDI) engines that locate the injectors inside the combustion chamber where they are exposed to intense heat. In fact, direct injection typically creates 30 to 40 times more soot than port-fuel injectors (PFI). Eventually, you notice a reduction in power, throttle response, fuel economy and drivability.



AMSOIL P.i.® can change the game. P.i. contains concentrated detergent that aggressively cleans stubborn deposits from injectors, valves and the combustion chamber – restoring up to 14% horsepower.<sup>1</sup> P.i. restores GDI fuel injectors to a 100% flow rate after just one tank of fuel.<sup>2</sup>

In other words, AMSOIL P.i. is a low-cost and effective option for cleaning injectors, valves and the combustion chamber.

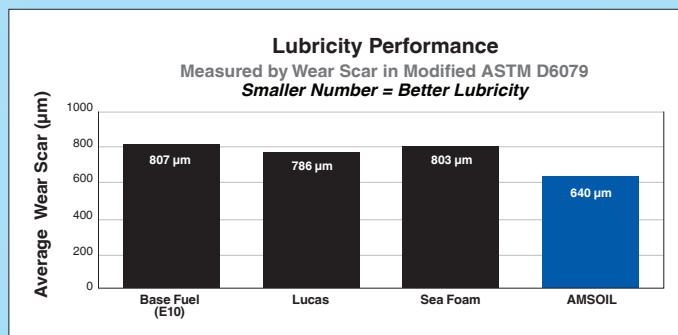
## Upper Cylinder Lubricant

Your engine's top end is sparsely lubricated and prone to the development of deposits. That's because the intense heat of combustion and limitations of the oil-control piston ring result in a lack of oil at the top of each cylinder. This can lead to ring and cylinder wear that reduces engine compression, decreasing power and performance. The top end is also highly susceptible to corrosion, an issue compounded by the prevalence of ethanol in fuel.



### AMSOIL Upper Cylinder Lubricant is designed to solve those issues.

Many additives are marketed as upper-cylinder lubricants, but again, AMSOIL stands out. In fact, AMSOIL Upper Cylinder Lubricant delivers 18% more lubricity than Lucas\* and 20% more than Sea Foam\* for better retention of horsepower and fuel economy.<sup>3</sup>



AMSOIL Upper Cylinder Lubricant also fights ethanol-related corrosion. It uses potent corrosion inhibitors to coat metal surfaces, block out moisture and stop deterioration before it starts. This is particularly important when using gasoline that contains ethanol due to its propensity to attract water.

In other words, AMSOIL Upper Cylinder Lubricant inhibits corrosion and reduces wear in the engine's top end to guard against compression loss and maintain peak horsepower.



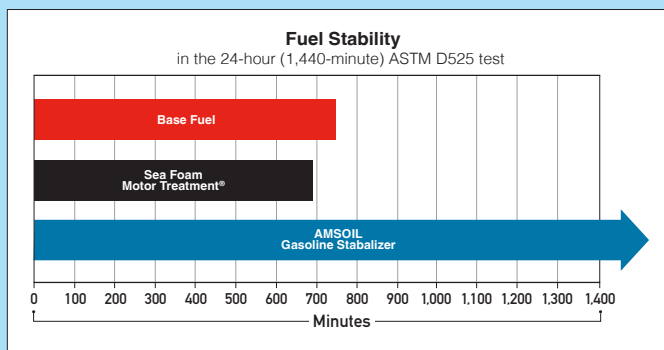
## Gasoline Stabilizer

Shockingly, gasoline can start to break down in as little as 30 days. Gums and varnish become more concentrated and less soluble as lighter hydrocarbons evaporate. In addition, gas is continually oxidizing, which adds varnish and other gunk to the mixture. As the transformation progresses, gums, varnish and other solids foul the fuel system and prevent gas from flowing into the combustion chamber.



In severe cases, gasoline can change so dramatically that it no longer ignites. Ethanol added to gasoline at the refinery can absorb water from the air, which can lead to phase separation where the ethanol and gas separate into layers. Ethanol that has absorbed enough moisture and has sat long enough can foul the fuel system and prevent the engine from starting.

For these reasons, it's vital to stabilize fuel prior to storage. Proactively adding fuel stabilizer is a simple and inexpensive way to head off more serious downtime and repairs down the road. AMSOIL provides fuel stability that Sea Foam\* Motor Treatment can't match, helping maintain startability and protect against the formation of varnish and gum.<sup>4</sup>



AMSOIL Gasoline Stabilizer improves gasoline stability for up to 12 months so your vehicles and equipment fire to life when you take them out of storage. It also protects against corrosion during storage to maintain fuel-system cleanliness.

We recommend adding AMSOIL Gasoline Stabilizer to your gas can with every fill. That way you never have to worry about fuel going bad inside your gas can, or worse, inside your powersports toys, lawnmowers, chainsaws or other equipment that's stored periodically.

## Quickshot®

It happens. A piece of equipment is put into storage for several months without quality (or any) fuel stabilizer and it won't start or run well when it's pulled back out. Quickshot can help with

that. It features chemistry that cleans gummed or dirty injectors and carburetors and cleans hard-to-remove carbon deposits from piston tops, spark plugs and other combustion-chamber parts to restore engine performance. Quickshot also helps prevent water-induced ethanol separation and breakdown and protects against the formation of gum and varnish buildup in tanks and fuel systems for up to six months.



## Diesel Fuel Additives

In addition to industry-leading gasoline additives, AMSOIL also offers a complete line of diesel fuel additives. For peak performance, diesel engines need a daily dose of detergent for cleaning and lubricity to protect the injectors and fuel pump while keeping the combustion chamber clean. Here's a brief introduction to each product.



AMSOIL Diesel Injector Clean uses unique chemistry to target and eliminate specific performance issues to maximize diesel power.

It cleans dirty injectors to restore power and torque and reduce smoke and emissions. It also lubricates pumps and injectors to reduce wear, downtime and maintenance costs.

AMSOIL Diesel Cold Flow combats diesel-fuel gelling by improving diesel cold-flow ability. It is formulated with an advanced deicer to enhance fuel flow and help prevent fuel-filter plugging in cold temperatures.

AMSOIL Diesel Cetane Boost raises the cetane number of diesel fuel up to eight points for maximum horsepower, increased fuel economy and easier starts in all diesel engines.

AMSOIL Diesel Injector Clean + Cetane Boost combines the superior detergency and improved lubricity of AMSOIL Diesel Injector Clean and the increased horsepower and cetane of AMSOIL Cetane Boost.

AMSOIL Diesel All-In-One puts the benefits of AMSOIL Diesel Injector Clean, Diesel Cold Flow and Diesel Cetane Boost into one convenient package. Diesel All-In-One delivers outstanding detergency, improved lubricity and higher cetane. It also does a great job preventing fuel gelling in cold weather. How good is it? AMSOIL Diesel All-In-One provides as much as 32°F (18°C) better protection against cold-temperature gelling than Howes\* Lubricator Diesel Treat.<sup>5</sup>

As you can see, AMSOIL fuel additives work. By understanding the purpose and performance of each product, you'll be in a great place to open the door to new customers and offer add-on products for your current customers.

<sup>4</sup>Based on independent testing of AMSOIL Gasoline Stabilizer obtained Nov. 8, 2018 and Sea Foam Motor Treatment purchased Oct. 25, 2018 in the ASTM D525 using test fuel containing no oxidation-stability improving additives. <sup>5</sup>Based on third-party testing in July 2017 of AMSOIL Diesel All-In-One and Howes Lubricator Diesel Treat using diesel fuel representative of the U.S. marketplace and Howes' recommended treat ratio for above 0°F (-17.8°C).

# Spring Oil-Change Sales Tactics

Passenger-car lubricant sales tend to peak in the spring as many motorists consider the changing season as time to change their oil and perform other vehicle maintenance. Now is a great time to start talking to installers, retail stores and powersports dealers as they begin gearing up for the spring push.

## Get Out Early

The most important aspect in capturing the spring oil-change market is getting out early before the season arrives. Sales of passenger-car products peak in April. Installers, retail stores and powersports dealers are likely already reviewing their current inventory and beginning to build up for the upcoming season. Now is the time to go out and start talking to your existing and prospective accounts.

## Prepare Your Customers

Make sure your retail, installer and powersports accounts have the right amount of inventory for the spring season.

- **Start** visiting your accounts and look at their shelves to see what they currently have in stock.
- **Find out** how many vehicles they anticipate servicing in the upcoming months.
- **Determine** which motor-oil viscosities will be in highest demand.
- **Use** your Dealer reports to review your accounts' purchase histories in March, April and May and identify patterns to build a forecast for the months ahead.

## Spring Cleanup

Retail businesses will have a lot of customers coming through their doors in the next few months. Make sure your accounts' storefronts are presentable and check to see if their AMSOIL banners and signs are in need of replacement. Remind retail stores that they can use the co-op credit they earned from purchases in 2022 to obtain new marketing pieces, including flags, banners, shelving fixtures and window

decals that will help brighten the store and promote the AMSOIL brand.

## Add-On Products

Many motorists view their spring oil changes as the once-a-year opportunity to cover all their vehicle-maintenance needs, which means transmission fluid, CVT fluid and gear lube will also be in demand. AMSOIL P.i.® is another excellent add-on product for installers to use for yearly maintenance.

For retail stores, add-on products aren't limited to extra sales for one vehicle. They can also be products for the additional vehicles and equipment their customers own. Offering products that cover a variety of vehicles and engines helps position your retail accounts as one-stop shops for customers to get everything they need for all their toys. As the weather gets warmer, motorcycles and other summer recreational equipment will start coming out of the garage. If customers are coming out to buy oil for their vehicle's oil change, they might consider changing oil in their bikes too. Demand for small-engine oil will also pick up as yard work begins in the spring.

## Match Products

Look for opportunities to pair your product offering with what your current and prospective retail accounts are gearing up for this season. Check in with powersports dealerships and see what new vehicles are coming in this year, then determine which AMSOIL products you could offer that pair well with those vehicles. Find out what kind of lawn equipment hardware stores have coming in and explain the benefits and add-on sales opportunity presented

by AMSOIL SABER® Professional. By asking your accounts how and what they're preparing for this season, you can help match AMSOIL products to fit those vehicle and equipment needs and provide additional sales.

## Additional Tools for the Season

- **AMSOIL Locator** - An influx of customers will be visiting AMSOIL.com/AMSOIL.ca looking for service centers to get their spring oil changes done. Make sure your qualified accounts are on the AMSOIL Locator so customers looking for service centers can easily find them.
- **Retail Promos** - Make sure you're aware of all current retail promos and get your accounts involved.

## Bottom Line

Your success in retail and installer spaces comes down to the service you provide as their Dealer. It's important to get out and work with your existing and prospective customers. Being present in these shops before everybody else will help you get a headstart and be prepared for spring oil-change season.







# Dirt-Bike Maintenance

Most people would rather ride than wrench on their bikes, but there are some maintenance tasks that should never be skipped. A dirty and poorly maintained bike will inevitably fail, leaving you stranded in the best-case scenario. Routine maintenance ensures your dirt bike works correctly, which helps you stay safe and retain the value of your investment.

Maintenance tasks may differ depending on the model and whether it is a four-stroke or two-stroke engine. For instance, some four-strokes use the same oil to lubricate both the gearbox and engine, while others use separate oils. On the other hand, two-stroke dirt-bike gear oil is always separate because the engine oil is mixed with the gas.

## Read the manual

The first step of any maintenance project should be a review of the owner's manual. Not only will it tell you the precise year, make and model, which ensures you order the correct parts, but it also lets you know how often to perform each maintenance task and the recommended products to use, including the required lubricant volumes. Let's walk through some basic dirt-bike maintenance items that should be performed regularly.

## Cleanliness

Washing your dirt bike after every ride prevents dirt and grime buildup. A simple garden hose, a bucket of hot water with dish soap, a sponge and a bristle brush will work wonders. Put a plastic bag over the exhaust to keep water out. If using a pressure washer, never point it at bearings, linkages, hoses, seals or

fluid compartments, including the chain, airbox, spark plugs and oil reservoir. Your engine will thank you for not introducing water to the combustion process. Wash the bike top down, using a sponge or microfiber cloth on plastic parts and the brush for greasy, grimy, hard-to-reach spots. Dry the bike thoroughly, then inspect it for anything leaking, loose or out of place. And, of course, apply a coat of Mudslinger® to make the cleaning process easier next time.

## Loose bolts

Bolts and screws can work loose due to vibration while riding. Carefully inspect and tighten bolts using a torque wrench to ensure they are at spec and not under- or over-tightened.

## Fluid leaks

Fuel, oil, brake and clutch fluid, coolant and fork-seal leaks may occur when your dirt bike is subjected to rough terrain. Check around fill and drain plug seals and around the engine and tanks after every ride, and don't forget to look for telltale signs on the ground. Replacing seals and plugs and repairing punctures is a lot easier and more cost effective than waiting for the component to fail outright.

## Lubrication

Because dirt bikes are exposed to extreme environmental conditions, the engine oil needs to be changed more frequently than on a street bike. Change engine oil, gear oil and clutch and brake fluid per the manufacturer's recommendations to ensure smooth operation and to extend engine and component life.

Use grease around the air filter, seals, bearings and sprockets to reduce resistance and to help protect them from water, dirt and sand intrusion. Due to heavier use, brake and clutch fluids also require more frequent changes on a dirt bike, and at the very least every two years. Coolant levels should also be routinely checked and topped off as needed.

## Chain

Check your chain for proper tension, which should be loose enough to compensate for wheel travel, but not so loose that it comes off the rear sprocket. Don't forget to lubricate the chain so it moves freely and doesn't rust.





## Air Filter

A clean air filter protects your engine from harmful particles and debris and improves your dirt bike's performance. A simple bath in water is often enough, but you can also use some household detergent or an aerosol air-filter cleaner. After it dries, add a coat of air-filter oil to further protect the air filter. If the air filter is beyond cleaning, go ahead and replace it.

## Tires

Tire pressure is an integral part of motorcycle safety, and the correct pressure varies with different terrain and styles of riding, generally requiring lower pressure for softer terrain and higher pressure for single-track and other hard-pack trails. Also check for wear and damage to tires before every ride.

## Cables

Throttle, clutch and brake-cable condition is paramount to the safe control of your dirt bike. Check all the cables for smooth operation, adjust as necessary and promptly replace worn or damaged cables.

## How Often?

While fluid-change intervals are usually based on the number of hours ridden and the conditions the bike is ridden in, it is a good practice to change the fluids at the end of every riding season to remove any contaminants before putting your dirt bike into storage. However, you should wash your dirt bike and lubricate the chain after every ride.

The best products for your dirt bike include application-specific oil formulated with the right additives for the harsh off-road environments to which your dirt bike is subjected. The owner's manual will provide specifications for engine, gearbox and fork oils. Manufacturers often recommend their own brand of parts and lubricants, but they cannot require you to use their products, so you are free to use any brand that meets their specifications.

Performing routine cleaning and maintenance according to the owner's manual will help your dirt bike run better, last longer and maintain its value. For maximum performance and protection, make AMSOIL products part of your regular maintenance routine.





## February Closeout

The last day to process February orders is Tuesday, Feb. 28. 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 February business must be submitted by 11:59 p.m. Central on Monday, March 6.

Volume transfers must now be submitted in the Dealer Zone (Business Tools>General Business Tools>Volume Transfer) or DBS. Transfers can no longer be submitted on the Dealer-to-Dealer Order Form (G01) or other forms through email or fax.

## Holiday Closings

The Edmonton and Toronto distribution centers will be closed Monday, Feb. 20 for Family Day.

## Kathy Berry

It is with great sadness that we announce the passing of longtime AMSOIL employee, Kathy Berry. She died after a brief battle with cancer on Jan. 3, 2023.



Kathy was well-known to many Dealers. For the past 26 years, she worked with Oil Analyzers customers, answered the phone at the front desk of the AMSOIL Center and greeted all who entered.

When it came to greetings, no one did it better than Kathy. Her neat, orderly area was always smartly decorated in honor of the current season. She never failed to smile, extend a warm greeting and deliver a witty remark to make people smile in return. Kathy asked about people's personal lives, not because she was nosy, but because she cared. Whatever detail she learned about the people who passed by soon became thoughtful tokens of friendship, like favorite candies appearing on coworkers' desks, or small bags of treats prepared for coworkers' children. She taught Sunday school at her church and often spoke of "her kids" (her Sunday-school students). Kathy's charming presence was memorable enough to elicit inquiries from visitors from around the country – even around the world – who only met her once (*Hey, how's Kathy at the front desk?*). Kathy loved working at AMSOIL and interacting with Dealers and customers. She was one of a kind, and we will miss her dearly.

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Source Info: Zinc - Mayo Clinic*

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