Your AMSOIL Information News Source

NEW Product Highlight Hybrid Motor Oil

The internal combustion engine (ICE) in a hybrid vehicle endures a unique set of challenges. Infrequent engine usage and increased stop/start activity place demands on lubricants not common in traditional ICE vehicles. 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 hybrid engine life, efficiency and performance.

- Formulated with a boosted dose of inhibitors to help prevent condensation-related corrosion and maintain optimal engine performance.

- Contains an elevated level of dispersants to manage water that enters through condensation.
- Engineered with robust viscosity to combat the negative effects of fuel dilution.
- Flows quickly when the engine engages to reach critical components.
- Formulated with optimal lowtemperature viscosity control to ensure rapid protection of components at startup.

And much more...find out more

HERE





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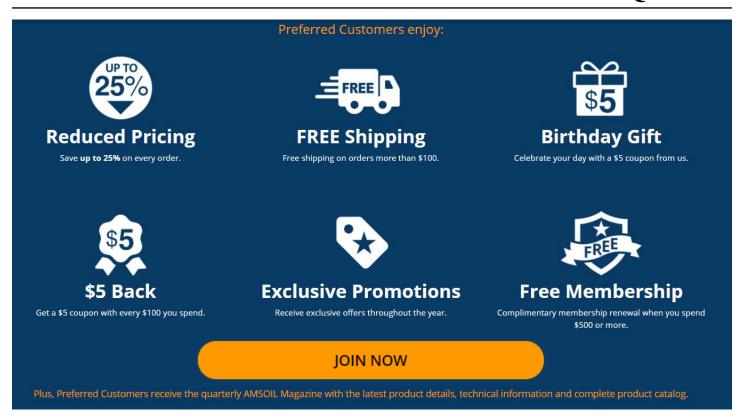
Omaha - Insane Oil

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AMSOIL Preferred Customer Benefits FAQ



How do I save on AMSOIL products?

Sign into your Preferred Customer account at AMSOIL.com whenever you place an order or order by phone. Preferred Customers save up to 25% on every order and savings are automatically applied at checkout.

How do I receive free shipping?

Sign into your Preferred Customer account at AMSOIL.com when you place an order or order by phone. Free shipping will be automatically applied to orders over \$100.

How do I earn \$5 Back rewards?

Simply order the products you need for the vehicles you love. Preferred Customers receive one \$5 Back reward per \$100 spent.

How do I get my \$5 Birthday Gift?

We will email a \$5 Birthday Gift to you before your special day. To qualify, you must become a Preferred Customer and update your birthday month at least 14 days before your birthday month. Your birthdate can be updated through your My Rewards page or by phone. You don't have to share your exact birthday with us, we'll celebrate the entire month.

I have spent \$500. When do I receive my Free Membership renewal?

You will receive a free-renewal notification by email the month after you reach the \$500 threshold. Your membership-expiration date will be automatically extended by one year.

How do I redeem my rewards online?

That's easy. Just enter the promo code at checkout. The promo code for each reward can be found in the reward-notification email or through your My Rewards page.

I deleted an email that contained a reward. Is there a way to recover the reward?

Don't worry! You can access your rewards through your My Rewards page. All rewards are listed with the unique code and expiration date so that they are easy to track and apply at purchase.

Get more answers

<u>HERE</u>

Traveling With The 2019 Jeep Compass

I recently took a road trip with my family through Colorado, Wyoming, and South Dakota. We took our 2019 Jeep Compass. I learned a few things on this trip that I wanted to take a short bit of time to talk about with you.

First off, driving at higher elevations can stress a car's engine. I noticed this as we worked our way from 1000' in Omaha to 6500' in Manitou Springs, CO. It was immensely clear that the feel of driving the vehicle had changed. Additionally, the auditory sound the engine made as we drove up inclines was noticeably different compared to what I am familiar with. It has been widely determined that as you transition to higher elevations, the falling oxygen levels mean less air for the engine to pump and vehicles generally loose about 3% of power for every 1000 feet of altitude gained.

Secondly, at higher altitudes there may not be enough oxygen to take advantage of high-octane fuels, thus it is common to see lower octane fuels available in areas of higher altitude. Furthermore, Ethanol fuels are pretty much non-existent due to issues with vapor-lock. Ethanol-blended fuel has a lower boiling point than pure gasoline. Thus, it can vaporize at lower temperatures and cause a disruption in the fuel flow. This can make it difficult to start the vehicle or could it to stall.

Next, let's talk about buffaloes. There are no buffaloes in North America, rather there are Bison. To be very specific, in Custer State Park (located in South Dakota), there are 1400 bison and all 1400 of them like to stand in the middle of the road at the same time without moving. However, they will only do this if you are trying to get to a pre-scheduled

activity and trying to make it on time. Furthermore, it is not uncommon for Bison to reach 2000 pounds and be larger than a 2019 Jeep Compass. Additionally, Bison can jump up to 6 feet vertically and over 7 feet horizontally. One more fact...they have terrible vision. So, the lesson learned, is that if you are in a herd of 1400 bison, the bison actually think that your car is another bison. To move through the herd, you want to move your vehicle at about 1-2 miles per hour without stopping because if you stop, the bison thinks you are another bison that has stopped, and if it wants to walk where you are stopped, it will push your 4000 pound car across two lanes of traffic with ease.

Fortunately, after 2 hours we made it through the herd without any damage to our vehicle.





Altitude and Oil

On the last page, of this newsletter, I touched base on driving in high altitudes and some of the challenges (from a vehicle perspective). There are some things you, as a vehicle owner, can do to prevent premature degradation of your vehicle's engine due to higher altitude driving.

First off, and probably most importantly, higher quality lubricants in an engine perform better in high-altitude conditions as compared to lower-quality lubricants. These oils can help your engine cope with the increased demands of thin air and challenging terrain. In the case of my trip this month, we dealt with both higher altitudes and colder temperatures. As I write this in the middle of July, the current temperature at Pikes Peak, Colorado is 46 degrees F.

In spring time, each year, I perform my annual AMSOIL oil change in this vehicle. I schedule this for spring as I know I will probably be traveling at some point during the summer and I want to ensure I have fresh, high-quality oil for my travels. I choose to use AMSOIL 0w-20 Signature Series, 100% Synthetic Motor Oil. I choose this as it far exceeds the manufacturer's specifications and outperforms other oils on the market. I also know that whether I am traveling to an altitude of 14,000 feet or driving by the salty, sandy beach it will protect my engine beyond the capabilities of other oils on the market. On top of this, because I live in Nebraska, my vehicle frequently sees temperatures from well below zero to well above 100 degrees F throughout the year.

Another thought, along the lines of altitude and oil, has to do with oil consumption. If you frequent some of the message boards for various vehicle types, many people have noticed greater oil consumption at higher elevations. Some of this depends on how your engine "consumes" oil but much of it goes back to the added stress put on your engine.

When I discuss with students the importance of putting in the correct amount of oil, the questions I typically pose are as follows:

Have you ever tried to run in a swimming pool? How did that go?



I then go on to explain that too much oil will cause your engine to work harder

I think this same example could be applied to altitude.

Have you ever tried to run in a high altitude environment?

Unless you are a long distance runner and have trained in (or live in) high altitude, you probably felt the effects of the reduced oxygen and it took more "work" to run the same distance that you normally would have at lower altitudes. It wouldn't be that big of a stress to then say that extra-ordinary stress on an engine could very well lead to an increase in oil consumption.

Prior to my trip, I made sure to bring an extra quart of oil just in case I noticed the oil level getting lower than I preferred. A couple times throughout the trip I would check the oil level and I found that this vehicle did not use any oil. Discovering this was fairly impressive as the engine in this vehicle (2.4L 4 Cylinder, Multi-Air engine) has known issues with oil consumption.

All in all, I highly encourage you to select a lubricant that is of better quality and better engineered, not only in high altitudes, but throughout the duration of the ownership of your vehicle.



Altitude and Fuel

The term "high altitude" generally refers to altitudes between 8,000 and 12,000 feet. However, some have suggested that "high altitude" when talking about vehicle engines is over 5,000 feet.

Definition of Atmospheric Pressure: The weight of the air pushing down on you.

Definition of Air Density: the "thickness" or "thinness" of the air.

The primary issue at high altitudes (regarding cars) is the reduction in atmospheric pressure which leads to lower air density.

The reduction in air density affects the combustion process in internal combustion engines. This combustion process relies on a precise air-to-fuel mixture to operate efficiently. When altitude increases, the amount of oxygen in the air decreases which causes the engine to receive less oxygen per unit of air. This can lead to incomplete combustion, reduced power, and increased fuel consumption.

Specific to vehicles, this scenario leads to a loss of engine power. Most vehicles are calibrated to operate to their peak performance at sea level. Vehicles without turbochargers or super chargers are especially prone to the negative effects found in higher altitudes.

In general, vehicle engines of today are able to adjust the air/fuel ratio automatically to compensate variations in the altitude/atmosphere. Unfortunately, there are limits to the degree of adjustment and many times these adjustments end up being at the demise of engine performance and fuel economy. Even with turbochargers/superchargers, there are limits to how much power and fuel economy can be recovered at high altitudes.

Because the air is less dense, less air flows to your car's engine. This translates to a slightly richer air-fuel ratio, and deters engine knock. For that reason, in higher altitudes you'll often find that regular gas has an 85 octane rating. This is common in Colorado, Wyoming, Utah and Montana. In most states, regular unleaded is rated slightly higher at 87.

In most cases, you won't experience any problems running 85 octane in an ordinary car when a few thousand feet above sea level. However, if traveling to lower altitudes, with lower octane fuels, you may begin to experience knocking or pinging from your engine.

As briefly touched on previously, fuel vaporization is also a concern. Lower atmospheric pressure can cause fuel to vaporize more easily, leading to vapor lock.

Imagine you are drinking water through a straw and the flow of water is consistent. Now imagine the container that you are drinking out of has a bunch of pockets of air. As you suck water through the straw, you will pick up these pockets of air which diminishes the continuous flow of water.

This is precisely what is occurring in a vapor lock situation. Fuel can vaporize and turn into bubbles (air pockets) in the fuel line thus diminishing the continuous flow of fuel to the engine. This will cause the engine to sputter or stop.

Now, although AMSOIL Upper Cylinder Lubricant doesn't solve fuel related problems due to higher altitudes, it will help protect your fuel system and keep the various components lubricated and prevent premature failure. I install one bottle of AMSOIL Upper Cylinder Lubricant every time I fill up (if the tank is near empty). I also install one bottle of AMSOIL Performance Improver about every 4,000 miles to keep the fuel system clean.



Shop Talk...

with Dr. Jonathan D. Olson, EdD (Independent Amsoil Dealer #10458)

I often find it difficult to strike up a conversation with a stranger. It seems unnatural and I don't want to come off like a door-to-door salesman. However, at the same time, great benefits come with knowing how to take care of a vehicle and reducing the amount of breakdowns by doing the preventative maintenance and running better quality lubricants.

I honestly think that the average person (median age in the USA is 38.5) knows very little about taking care of their vehicle beyond an oil change "every once in a while." I routinely work with students age 15-30 and often ask them when the last time they had their oil changed and roughly how many miles has it been. Rarely can they provide me with an answer. Even if I give them a day or so to look it up (in their maintenance records), they still are unsure. Oftentimes, they won't even know that most shops put a little sticker in the corner of the windshield telling them this information. This, to the point that it is almost commonplace to be under the guise that "you just drive it until it breaks down and then the mechanic will fix it."

So getting back to talking to strangers. There also many who welcome those conversations because they genuinely want to learn how to take care of their vehicle and get more life out of their vehicle. My focus has always been to educate others and help them grow as a vehicle owner.

Congratulations to NEW Amsoil Opportunists and Enthusiasts!

Congratulations:

New Catalog Customers

Merrick Boyton Boulder, CO

Tanner Soroka Saskatoon, SK

Clyde Cofer Kingston, TN

Miczyslaw Bzdyk Darien, IL

Congratulations:

New Commercial Account

North Central Emergency Vehicles Lester Prairie, MN



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Omaha - Insane Oil

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Congratulations:

New Preferred Customers

Robert Fleisher Mount Vernon, OH

Neal Needham Omaha, NE

Keith Crawford Olathe, KS

Keith Blazer Hooper, UT

Max Corder Cozad, NE

Adam Gullion Lincoln, NE

Isaak Harms Lincoln, NE

Sam Johnson Lincoln, NE

Jeff Palmer Mount Airy, NC

Keith Smith Coldstream, BC

Sterling Silver Billings, MT

Rick Bundfuss Lincoln, NE

Robert Jump Coxsackie, NY

Clinton James Lincoln, NE

Zee Jango Lincoln, NE