Your Amsoil Information News Source

Product Highlight: Amsoil Small Engine Oil

To better target landscapers, contractors and other professionals who rely on small engines to make a living, AMSOIL Formula 4-Stroke® Synthetic Small Engine Oil has been updated with a new name, label and packaging. Now known as AMSOIL 10W-30 Synthetic Small-Engine Oil, its formulation and pricing remain unchanged. New labels will become available as current inventory is depleted. Launched March 6, new AMSOIL 20W-50 Zero-Turn Synthetic Hydrostatic Transmission Fluid and AMSOIL 10W-40 Synthetic Small-Engine Oil round out the new family of AMSOIL commercial-grade products.

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Using a high-quality small-engine oil has a direct effect on efficiency and profitability. Over time, wear and deposits rob small engines of power, reducing productivity. High heat can cause oils not formulated for severe service to boil off, leading to increased oil consumption, forcing the work crew to continually top-off the oil. AMSOIL Synthetic Small-Engine Oil is a tough formulation designed to preserve engine power while fighting oil consumption, helping professionals work more efficiently and save money on maintenance.





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Congratulations:

New Commercial Account

Auburn Public Schools Auburn, NE

New Catalog Customer

Tony Gamer Crookston, MN

New Preferred Customer

Jonathon Snyder Lincoln, NE

> Pam West Lincoln, NE

New Amsoil Product: DOT 3 and DOT 4 Synthetic Brake Fluid

Amsoil is 'non-stop' when it comes to engineering and improving the best quality, highest performance products. Last month I shared some information about Amsoil's new Brake and Parts Cleaner which is one product I have been especially excited about since brake pad replacement is one of my favorite projects to tackle on a vehicle.

Last month, Amsoil also introduced the new <u>Dot 3 & 4 Synthetic</u> <u>Brake Fluid</u> and <u>Dominator Dot 4 Synthetic Racing Brake Fluid</u>.

Dot 3 and 4 Synthethic Brake Fluid maintains maximum ABS and traction-control performance. Brake fluid acts as a hydraulic fluid, transferring power and lubri-



cating brake system components while also preventing corrosion. It must contend with extreme heat and the inevitable moisture contamination that can lead to a brake system failure.

Fights Water Contamination

Water contaminates the brake system by seeping through microscopic pores in flexible brake lines and seals and through the reservoir fill cap. Brake fluid itself is hygroscopic (attracts moisture). Once introduced to the system, water reduces boiling points and compromises performance. It corrodes brake parts, lines and seals, leading to eventual failure. Amsoil's DOT 3 & 4 Synthetic Brake Fluid's superior wet boiling points counteract these problems. It lubricates and protects intricate brake components despite the inevitable water contamination. A nitrogen blanket is added to each bottle during manufacturing to purge moisture and ensure the maximum level of performance.

Firm Pedal Feel

The extreme pressure and high heat common to brake systems can push brake fluid beyond its boiling point, causing it to vaporize or "boil-off." Water contamination can accelerate the process. This leads to a spongy or unresponsive feeling in the brake pedal (vapor lock). In contrast, the unique chemistry behind AMSOIL synthetic brake fluids increases boiling points well beyond DOT standards, even when contaminated with 3.7 percent water.

AMSOIL Brake Fluids maintain a stable viscosity over a wide temperature range and flow easily at the high pressures generated in today's automotive brake systems to deliver solid, reliable braking. Maximum ABS and Traction-Control Performance AMSOIL DOT 3 & 4 Synthetic Brake Fluid's low-viscosity (817 cSt) provides superior cold-weather performance and excellent ABS and traction-control responsiveness. It covers a broad range of applications and exceeds DOT 3, 4 and 5.1 specifications.

Applications

Use AMSOIL DOT 3 & 4 Synthetic Brake Fluid in passenger car, light truck and powersports applications that require a DOT 3, 4 or 5.1 product. Do not mix with DOT 5 fluid. Refer to your owner's manual regarding the proper change interval for your brake fluid and to determine the correct DOT classification. Change fluid every two years for maximum performance.

Consult the AMSOIL Product Guide at www.amsoil.com for more application information.

AMSOIL PRODUCT WARRANTY

AMSOIL products are backed by a Limited Liability Warranty. For complete information visit www. amsoil.com/warranty.aspx.

The Altrum Minute

How Much Protein Do You Really Need?

It's important to get adequate amounts of protein in our diets, particularly as we age: Protein contains the amino acids that help synthesize muscle and maintain bones. It also may reduce high blood pressure.

A simple way to calculate your protein requirement is to divide your weight in half: If you weigh 175 pounds, you should consume 87.5 grams of protein a day.

Older adults need more protein than younger adults to maintain their muscle mass — about 1 to 1.2 grams per kilogram of body weight.

Just as their protein requirements are increasing, they're getting less. They may not be as hungry, they may have trouble chewing meats and other sources of protein, or they may not want to cook. Frail older adults need even more protein than healthy older adults: 1.2 to 1.5 grams per kilogram of body weight, according to some researchers.

Tips to Help Get the Best Protein Mix

Consume high-quality protein at every meal. That typically means whole foods, such as 3 ounces of salmon, shrimp, beef, pork, or chicken; 1/2 cup cooked lentils; or 2 tablespoons of peanut butter—not protein-fortified processed products.

Evenly dividing your protein consumption not only ensures that

you get enough protein per day, but also makes it more likely that you will build muscle, research suggests. If you're an older adult (age 60 and above), include at least 20 grams of high-quality protein at every meal, if not 25 to 30 grams.

Lift weights or do resistance training to complement your protein intake — the combination is the best way to stay strong throughout your older years.

With the exception of soy and quinoa, plant-based proteins may be incomplete, containing fewer amino acids than animal-based proteins. Still, by combining different protein types — beans, nuts, seeds, and grains — vegetarians can get the mix of amino acids they need to stay healthy.



Grow with AgGrand

-News From Amsoil-

AGGRAND products have been a part of AMSOIL business since 1990. However, the fertilizer market has become extremely competitive and price-sensitive, and the AGGRAND division has lost money for years. Unfortunately, our decreasing sales numbers do not justify continuation of the product line. Therefore, following considerable deliberation, we are ceasing operation of the AGGRAND division according to the following timeline:

- --AGGRAND production will cease on June 30, 2017.
- --AGGRAND production will manufacture enough product to meet historic demand through August 31, 2017. However, if orders exceed historic sales, we cannot guarantee availability and the servicing Dealer will be notified through Sales Order Processing or their local DC.
- --Therefore, place your orders by June 1, 2017 to increase your chances of product availability through the end of August.
- --Product support via the AG-GRAND phone line will be available through Sept. 30, 2017.
- --Phone, paper and online ordering will be open to existing AG-GRAND Dealers only through August 15, 2017.

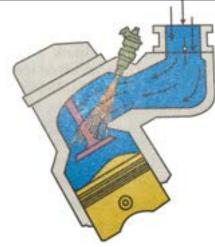
For more information, visit the AGGRAND Discontinuation FAQ in the Dealer Zone.

Diesel Digest - Air/Fuel Supply

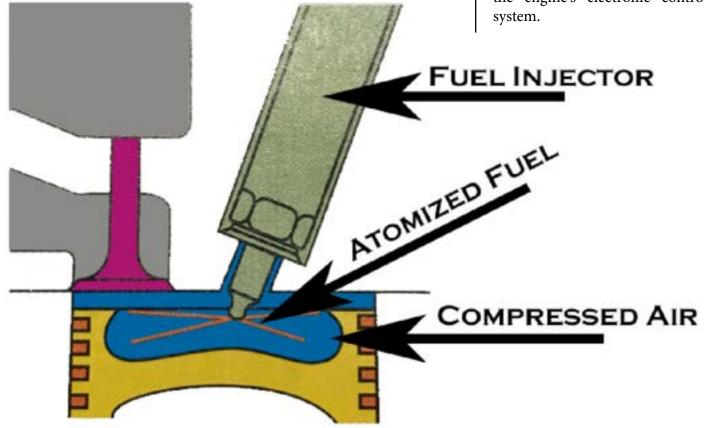
Diesel engines are always fuel injected. In a traditional gasoline engine the liquid fuel is mixed with air prior to entering the combustion chamber (see picture at top right). In a diesel engine the air in brought into the diesel engine cylinder through the intake manifold and compressed by the piston prior to any fuel entering the combustion chamber. As the air is compressed, its temperature increases drastically. An atomized mist of liquid fuel is then sprayed into the cylinder at the top of the piston's compression stroke (see picture at bottom). The fuel instantly ignites and burns with the high temperature air in the cylinder, forcing the piston down on its power stroke.

In a typical gasoline engine, speed is controlled by regulating the amount of air-fuel mixture that is delivered to the cylinders. However, a diesel has no throttling valve in its intake manifold. Air pressure in a diesel engine's intake manifold remains constant at all loads. This results in high efficiency at light loads and idle speeds because there is always an excess of combustion air delivered to the cylinders.

Because Diesel engines do not have a throttling valve, another method must be used to control engine speed. Diesel engine speed is controlled by varying the amount of fuel injected into each cylinder. Common ways of controlling the amount of fuel include varying the time solenoid controlled injection valves stay open, changing the fuel injection pump stroke length, or varying the fuel pressure to the injectors.



A governor is a device that senses engine speed and load and changes fuel delivery accordingly. Prior to electronic engine controls, all diesel engines used governors that were mechanically, servo-mechanically, hydraulically, or pneumatically controlled. While these designs are still in use in many applications, all on-highway engine manufacturers now incorporate the fuel governing function into the engine's electronic control system.



Shop Talk...

with Dr. Jonathan D. Olson, EdD ZO #10458

They say that April showers bring May flowers. I would agree with this statement, especially if you are talking about those little yellow flowers that grow all over your neighbor's yard and blow those little fuzzy seeds into your yard.

May also marks the end of the school year. This means a couple things for me. First off, it means my stress level will begin to rise as it seems I am much more concerned with students getting their projects completed than they are. It also means I need to be thinking about shutting down the shop and getting all the equipment ready to be idle for the summer. We utilize many pieces of equipment that have exposed cast iron and unfinished metal components and often times the school likes to turn up the thermostat to save on air conditioning. This means warmer temperatures and higher humidity levels attacking the equipment.

To combat this attack I spray a generous amount of <u>Amsoil's Metal Protector</u> on all metal surfaces that are prone to rust. This ensures there is a protective barrier on all the equipment.

I also use Amsoil's Metal Protector to lubricate all moving parts. Specifically, the table vises have a large rotating screw which allows the vise to open and close. Over time the vise components get clogged with saw dust and debris. Additionally there is a substantial amount of metal on metal contact. By applying a light coat

of <u>Amsoil's Metal Protector</u>, they begin to operate like new. I will also use, and prefer to use, <u>Amsoil's Metal Protector</u> throughout the year on all the equipment because it doesn't collect dust like other products do.

Lastly, I will ensure that all machines are greased and oiled up. I use <u>High-Viscosity Lithium Complex Synthetic Grease</u> for several of our industrial machines that have grease zerks and I will use <u>Synthetic Air Tool Oil</u> in all of our pneumatic tools and accessories. This will ensure they are protected until this fall.



Dealer's Zone

By Don Olson ZO#4901

Today we put our old grill out by the curb with a FREE (Still works) sign on it. Within a couple of hours, a lady was taking it apart and loading it into her Ford Explorer. Tight fit I might add. I told her about the new parts I had put in it last year and why we were getting rid of it; she was elated.

I asked her if she changed oil in her vehicle once a year or was still spending time and money four times a year changing oil. She queried, "Only once a year?" I said, "Yes, and you get better protection and better performance from your vehicle for about the same cost as you are now spending." That led to me giving her three business cards and a catalog. She said that her husband worked at "Speedway Motors" and would be interested in hearing more about that. She asked if AMSOIL made racing oil. I said, "Yes, AM-SOIL technology is built on racing oil." Then she was on her way.

My point: Anyone that stops long enough for me to put in a plug for AMSOIL I take advantage of. In this case, the least that can happen is that she will think about changing oil only once a year instead of four times a year. At least she now has heard of AMSOIL. We'll wait and see.

It is unbelievable how many people I meet that haven't even heard of AMSOIL. We've got to do better about that don't you think?

Have a great day! And remember, AMSOIL is a better way!