

# Your Amsoil Information News Source

# **About This Newsletter**

The purpose of this newsletter is to provide you with some basic knowledge of AMSOIL Synthetic Lubricants and other quality AM-SOIL products. . . but it's more than that. We hope to build your knowledge base on basic vehicle care and maintenance so you can drive your vehicle more safely and for a longer time. We hope to show you how you can save time, money, and costly repairs.

In this day, with gas prices soaring, prices of oil increasing, maintenance costing more wouldn't you like to take a little more control and have some basic knowledge of vehicle maintenance so you don't get taken advantage of when you take your car to the shop for preventive or corrective maintenance? The more understanding you have for basic automotive systems and terminology, the more prepared you are when a mechanic is quoting you the price for a repair.

By regularly reading this free newsletter you will learn how to save 10 to 40 percent on what it takes to run and maintain each of your vehicles each year. This will also include other equipment you own: Boats, lawn mowers, log splitters, chain saws, etc. Virtually any "machine" that you own.

We'll answer questions (individually via email or in the newsletter) regarding lubrication, filtration, and what lubricant would be cost effective for prolonged life of all your mechanical equipments.

If at any time you are interested in purchasing AMSOIL products, wanting specific information not covered in the newsletter, or if you just don't want to get this newsletter anymore, please contact either Don or Jon Olson (information at bottom right).

We would also like to offer our knowledge to everyone by answering common questions in a future Frequently Asked Questions (FAQ) column. Questions can also be sent to Don or Jon Olson.

Thank you for giving us the opportunity to assist you in building your AMSOIL knowledge base.

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### Friction or Non-Friction? Reading this can save you money.

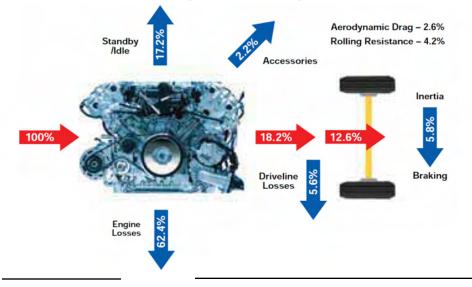
Dan Peterson, vice president of technical development for Amsoil, conducted research on fuel consumption and waste in a typical automotive engine. Most people are aware that you can improve fuel economy through properly inflated tires, removing excess weight from the vehicle and accelerating slowly but many people may not know that by reducing friction inside the engine will improve fuel economy.

According to the U.S. Department of Energy, 62.4 percent of the fuel energy from your gas tank ends up as engine loss. 18.2 percent of the original fuel energy will actually make its way to your drivetrain, but 5.6 percent of that is lost before it reaches the tires, due mostly to frictional loss.

For each gallon of gas you put into your gas tank, 0.624 gallons disappear as heat and frictional losses, an additional 0.172 gallons is lost to idling and standby, and 0.022 gallons goes to running car accessories such as air conditioning. When all is said and done, you are left with a mere 0.182 gallons to power the drivetrain of which 0.056 gallons are lost due to drivetrain friction. This leaves only 12.6 percent of the original fuel to turn the wheels. The remaining energy not consumed by aerodynamic drag on the vehicle body, rolling resistance of the tires, and brake losses goes to moving the vehicle.

It makes sense that reducing friction by improving lubrication will have a measurable impact on the overall fuel economy. As a manufacturer of synthetic lubricants, reducing friction is a core part of most everything Amsoil does.

If you cut overall engine losses by 0.50 percent, 18.7 percent of the energy would reach the drivetrain vs. 18.2 percent. If you also cut the same 0.50 percent in the drivetrain, a total of 13.6 percent of the total fuel energy would be available to move the vehicle, compared to 12.6 percent from the original example.



If you drive a 2010 Ford Fusion that gets 24 mpg consistently in the city, the mpg would increase to 25.9 using this scenario by only reducing frictional losses in the engine and drivetrain.

If you drive your 2010 Ford Fusion 15,000 miles a year you would use 625 gallons of fuel (at the original 24 mpg value). With the use of synthetic lubricants to reduce friction (as identified in the example) you would reduce your fuel consumption by almost 46 gallons of fuel. At \$4.00 per gallon it would calculate to a savings of \$184 per year. Keep in mind, this is only taking into account the reduction of friction in the engine and drivetrain through the use of synthetic lubricants. Partner this with properly inflated tires, removing excess weight and accelerating slowly and you may be surprised at the results.

Source: Amsoil Magazine, July 2011

# Word Search

Е	Т	Ν	А	С	Ι	R	В	U	L	
Ν	0	Ι	т	С	Ι	R	F	W	U	
I	R	Ι	G	Е	Ν	Е	R	G	Y	
G	Ρ	G	А	L	L	0	Ν	S	S	
Ν	L	Е	U	F	т	Ν	С	Y	R	
Е	А	М	s	0	I	L	R	G	Ρ	
Х	С	Ν	S	G	Ν	I	v	А	S	
Ν	I	А	R	т	Е	v	Ι	R	D	
				Wo	rda.					
amsoil fuel energy			Words: engine savings friction			d	gallons drivetrain lubricant			

## All About Anti-Freeze Coolant Solutions & General Information

#### What is Anti-Freeze and why do I need it?

Anti-freeze, also known as Coolant, is one of the various engine fluids that must be checked and changed periodically. Coolant flows through water-jacket, a series of holes through the main engine block. The primary purpose of coolant is to absorb the heat generated from the engine and transfer it away to be cooled. It is then sent back to the engine to absorb more heat.

Before World War II, engine coolant was usually plain water. Anti-freeze was only used to control freezing during the winter months. Unfortunately, when water meets cast iron, rust begins to form. With the development of aluminum and mixed-metal engines, corrosion also became a major problem.

In today's engines, quality Anti-Freeze does more than just remove heat, it also fights corrosion and rust inside the engine. Corrosion and rust can lead to premature failure of cooling system components. In addition, it can substantially reduce the coolant's resistance to freezing and boiling in your engine.

Properly mixing Anti-Freeze, 50% Anti-Freeze and 50% Water, will lower the freezing temperature from 32°F to -37°F and raise the boiling temperature from 212°F to 265°F. Without properly mixing Anti-Freeze the coolant in your engine would freeze in the winter which typically cracks the engine block. In the summer the coolant would begin to boil thus not effectively cooling your engine which leads to your vehicle overheating.

#### How do I check my coolant?

It is important to regularly check coolant levels and check the strength and condition of the coolant in the spring and fall.

It is easy to visually inspect the level of coolant through the coolant reservoir. The reservoir is typically a translucent plastic container located in the front corner of the engine compartment. Normally there are full and low marks on the outside of the container. If the coolant is low, fill up the reservoir until you reach the full mark.

Testing the strength and condition of the coolant can be accomplished by yourself or by a trusted mechanic. You can obtain an inexpensive coolant tester at most automotive part stores. (Follow the label's instructions).

If the coolant appears rusty or brown in color you probably need to have your cooling system flushed and refilled with fresh coolant.



#### What are my Coolant Options?

Coolant color is important. Coolant type and longevity is typically identified by its color. Green coolant should be changed every 2 or 3 years (or 30,000 miles). Some manufactures have recently introduced "long life" antifreeze formulations which claim to provide protection for four years or 50,000 miles. General Motors even introduced a five year, 100,000 mile Anti-Freeze. Most extended life Anti-Freeze solutions like these will be Orange.

Amsoil has formulated their Anti-Freeze solution to provide benefits far beyond those found in today's conventional antifreeze and coolant products. And unlike conventional products, Amsoil Anti-Freeze is biodegradable, requires no special disposal costs or procedures, and has a low toxicity to children, pets and wildlife. Amsoil Anti-Freeze provides service for 7 years or 250,000 miles in passenger cars, light-duty trucks, vans and recreational vehicles. In over-the-road diesel trucks it will last seven years or 750,000 miles. It is also good for motorcycles, ATVs, snowmobiles, and closed marine applications.

#### **Stay Tuned for Future Fluids**

Oil Oct 2011
Brake Fluid Nov 2011
Power Steering Fluid Dec 2011
Transmission Fluid Jan 2012
Differential Fluid Feb 2012

#### Quick Facts about Synthetic Motor Oil

Fact: Using synthetic oil gives your engine longer life.

Lower engine wear from synthetic oil results in longer engine life and fewer oil changes
The thinner synthetic oil meets the new performance demands for engines that operate at higher temperatures and have tighter clearances between engine parts.

#### Fact: Using synthetic oil decreases maintenance costs and helps the environment by reducing the used oil waste stream.

- By using synthetic oil, oil change intervals can be extended up to 25,000 miles.

- Balanced against the longer oil change interval, using synthetic oil becomes less expensive in the long term and more expensive in the short term.

> Information posted by the California Department of Resources Recycling and Recovery

### Automotive Lingo:

#### EGR Valve

EGR Valve stands for Exhaust Gas Recirculation Valve.

The EGR Valve helps your car more efficiently and completely burn fuel by recirculating a portion of your exhaust and running through the combustion process again. This results in a cooler, more complete burn of the fuel which decreases your car's noxious emissions by prohibiting the formation of some harmful gasses.

## Shop Talk

with Jon Olson

My name is Jon Olson and I teach Auto Shop at Ralston High School in Omaha, Nebraska. As we begin a new school year I always look forward to working on and teaching about a wide variety of vehicles. More so, I look forward to giving students the opportunity to learn how to save some money by performing basic maintenance routines themselves and in some cases, more extensive repairs.

Four fundamental tasks that I feel are essential for anyone who drives a vehicle are:

How to jump-start a vehicle How to change a flat tire How to perform battery replacement and basic mainteance procedures How to check/add vehicle fluids

I ensure every student is proficient at these (and other) tasks prior to the completion of my class. Like I tell my students:

"You never know when you will get a flat tire and your cell phone dies and your OnStar system breaks and you are in the desert thousands of miles away from another person."

None-the-less they are essential skills to possess.

#### **Automotive Humor**

As a senior citizen was driving down the freeway, his car phone rang. Answering, he heard his wife's voice urgently warning him, "Herman, I just heard on the news that there's a car going the wrong way on 280. Please be careful!"

"Heck," said Herman, "It's not just one car. It's hundreds of them!"

## Don's Corner

with Don Olson

Hi, I'm Jon's dad. Thought I would start this first issue of our Monthly newsletter with an introduction of myself.

I retired three years ago from Federal Service (20 years Navy and 16 ½ years with the FAA—Electronics Technician). I have been using AMSOIL products since July 1976.

I was drawn to the AMSOIL opportunity because it was "a different market" than the household items and stuff other MLM opportunities offered. I have learned much over the years regarding lubrication and decided to use this opportunity for another stream of income during my retirement years.

My wife Peggy is a "silent" partner, but enjoys the benefits of my labor. She is encouraging and helpful, but doesn't want to "sell". I don't know if I have ever "sold" an AMSOIL product. I just present the facts and let the interested person make their own decision. I have never been "pushed" to purchase anything (AMSOIL) at any time.

My oldest son has recently ordered an oil change for his vehicle, which was his decision (it took a while, though). My daughter lives in Florida and doesn't use any of the AMSOIL lubricants, but she does use some of the ALTRUM food supplements. Our youngest, Jon, who I have to thank for the majority of putting together this Newsletter, has just decided the AMSOIL business would synergistically work with his occupation.