

## Your Amsoil Information News Source

#### Amsoil Tidbits with Don Olson

• Engines today have tighter tolerances. The oil sumps are smaller; therefore less oil is available for cooling the engine. As with any mechanical device, cleanliness and proper cooling is essential for better performance and longer life.

• Crude oil has irregular shaped molecules when refined, which can eventually compromise the integrity of the engine. Full synthetic oil (Amsoil) molecules are like tiny ball bearings in your engine. Amsoil is designed from the ground up not pumped up from the ground.

• Amsoil does not have to purchase base stocks and additives from any specific manufacturer so they can use competitive pricing to acquire the best base stocks and additives at the best price. Many other makers of synthetics have to purchase from a single source which could cause problems in price, manufacturing and quality.

• Any engine that does not use the Best filtration system and the Best oils available will eventually build up sludge.

#### **Coolant Boost** Protection for the Winter

AMSOIL Dominator Coolant provides Boost racers and motorists with significantly lower engine operating temperatures, quicker engine times warm-up and advanced corrosion protection.



Dominator Coolant Boost is formulated with proprietary tiered surfactant technology, providing quick and effective heat transfer inside radiators and cylinder heads, which results in reduced operating temperatures, more efficient operation, increased horsepower and significantly reduced engine warm-up times in cold weather. Coolant Boost also contains a robust mixture of corrosion inhibitors that protect the radiator, heater core, water pump, cylinder heads, engine block and intake manifold from the damaging effects of corrosion.

Order yours today to ensure maximum performance from your cooling system this winter.

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### Amsoil is for <u>European</u> Cars also.

Volkswagen Audi Mercedes-Benz BMW Porsche and more



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#### Improve Performance Improve Engine Life

A vehicle demonstrates its best efficiency and engine performance when it is new. As the engine ages, its performance suffers from gasoline fuel-generated deposits that form on the fuel injectors, intake valves and combustion chamber. Additives are required to control deposit formation.

Today's fuels, however, lack sufficient treatments of either enough additives or high quality additives. Fuel system deposits result in the following:

- Lost fuel economy
- Lost power and poor throttle response
- Failed emission tests

• Poor drivability - surging, hesitation, stalling, rough idle

• Engine knocking (pinging) and rap

• Difficult starts

AMSOIL P.i. is the most potent gasoline additive available today. As a concentrated detergent, it is unsurpassed in cleaning combustion chamber deposits, intake valve deposits and port fuel injector deposits. AMSOIL P.i. helps maintain peak engine efficiency, fuel economy, power and drivability in newer low mileage engines. In engines with accumulated deposits, testing showed AMSOIL P.i. provided the following clean-up benefits after only one tank of gasoline:

- Improves fuel mileage an average of 2.3% and up to 5.7%
- Reduced emissions
- hydrocarbons (HC) up to 15%

carbon monoxide (CO) up to 26%

— nitrous oxides (NOx) up to 17%

• Restored power and performance

• Reduced need for costly higher octane fuel

- Reduced noise from carbon rap and pre-ignition
- Better drivability
- Smoother operation

AMSOIL P.i. works as an "emissions passer." It is ideal for use prior to emissions inspections.

### Recommendations

Treat one full tank of gas up to 20 gallons with one bottle of P.i. Treat gas every 4,000 miles of service (or 100 hours for marine, stationary and off-road gasoline-powered engines). Safe for use with catalytic converters, oxygen sensors, oxygenated gas and 10 percent ethanol blended

gas.



#### 600 79% 53% 98% 36% 91% 76% 70% intake Valve Deposits (mg/valve) Cleanup Cleanup Cleanup Cleanup Cleanup Cleanup Cleanup 400 Pre Cles Post Ci 200

#### Test Method: Motored Dyno D5500 Type Road Simulation Cycle

### All About Brake Fluid Brake Fluid Solutions & General Information

Your car's brake system is its most critical safety system and you should check it regularly. A properly operating brake system helps ensure safe vehicle control and operation under a wide variety of conditions.

Many mechanics recommend to change brake fluid every year while others say every two years, so long as you bleed the brakes annually.

Brake fluid is hygroscopic, which means that it will absorb moisture from the air. This moisture lowers the "boiling point" of the brake fluid. Brake fluid is subjected to very high temperatures, especially in the wheel cylinders of drum brakes and disk brake calipers. It must have a high boiling point to avoid vaporizing in the lines. This vaporization is a problem because vapor is compressible which can cause brakes to become spongy or fail all together.

Since the braking system is a "closed system" the brake fluid does not circulate; it is static. When you apply pressure to the brake pedal it puts pressure on the brake system reservoir which activates the brake system to slow the turning of the wheels; this creates heat at the surfaces of the system which is transmitted back through the closed system to dissipate the heat. This is where you can get some moisture (or condensation) within the system which, over time, will cause corrosion within the system.

The only sure way of preventing such brake system problems is through regular maintenance of the brake system which includes bleeding the brakes and replacing the brake fluid in the system.

AMSOIL Series 500 DOT 3 High-Performance Synthetic Brake Fluid and AMSOIL Series 600 DOT 4 Synthetic Racing Brake Fluid use pure base stocks and robust additives to combat boil-off and the effects of water contamination more effectively than conventional brake fluids. AMSOIL Synthetic Brake Fluids deliver superior high-temperature performance in auto/light truck, high-performance, racing and power sports applications.



### Statistic:

Driving between 10,000 and 15,000 miles a year will cause you to use your brakes about 75,000 times.

### Brake System Contamination

Water contaminates the brake system by seeping through microscopic pores in flexible brake lines and seals and through the reservoir fill cap when opened. Once inside, it quickly works to corrode brake parts, lines and seals, leading to eventual system failure. AMSOIL Synthetic Brake Fluids keep water in suspension, slowing its corroding effects. Their superior formulation lubricates and protects intricate braking components despite the inevitable water absorption associated with braking systems, delivering longerlasting performance compared to conventional fluids.

### What to Check

Brake fluid levels are checked at the master cylinder reservoir, which is typically located under the hood, towards the back of the engine near where the driver sits. In most vehicles the cap will say DOT3 on it. There are also markings on the side of the master cylinder reservior which indicate full or low levels.

If fluid is dark in color, it may need to be replaced. If the level is low, your brake pads may need to be checked or replaced. If you have to add more fluid regularly, you may have a leak in your brake system. A leak would require immediate service.

<u>Stay Tuned for Future Fluids</u>
Power Steering Dec 2011
Transmission Jan 2012
Differential Feb 2012

### Automotive Lingo:

#### PCV Valve

PCV stands for Positive Crankcase Ventilation. The crankcase ventilation system is a way for pressure and gases to escape in a controlled manner from the inside of the engine. Prior to the use of controlled ventilation methods the pressures and gases inside the engine were simply vented into the atmosphere. The PCV Valve is the component which allows ventilation to now be controlled.

# Common symptoms of a faulty PCV valve are:

Drivability Issues (such as surging) Poor Idling Loss of Gas Mileage Slow Acceleration Loss of Power

PCV Valves should be replaced every two years or 30,000 miles, which ever comes first.

A typical PCV Valve will cost about \$5 and is usually accessible on top of the engine. Standard PCV Valves will pull out relatively easily. Instructional videos can be found on <u>youtube.com</u>. If you choose to have a mechanic perform the replacement, they will usually charge \$30-45.



### **Don's Corner**

with Don Olson

As fall and winter approaches and the weather changes from hot to cool I wonder if I will get a cold this year. It's been several years since I've been "down and out".

When cold season approaches I always get a couple of bottles of <u>Zinc Lozenges</u>, <u>vitamin C</u> and <u>Chewable multi-vitamins</u> from the ALTRUM line up.

First I ensure that I take at least two or three <u>Vitamin C-600</u> each day along with my regular vitamin/mineral regimen.

At the first sign of a cold or thick throat I get out the <u>Zinc Lozenges</u> and let them melt in my mouth throughout the day.

I like the <u>Chewable Multi-vita-</u> <u>min/mineral tablets</u> to ensure I am getting all of my needed nutrients.

This year I am going to have the Orange Juice Chewable C on hand to take along with me when I'm out and about.

Do I believe in <u>ALTRUM</u> supplements? You bet I do! I don't do well with colds and other illnesses and I feel "an ounce of prevention is worth more than a pound of cure". I believe in studying what it takes to keep my body healthy in a holistic manner.

Questions? Ask me, I'll answer them.



## Shop Talk

with Jon Olson

The check engine light may be one of the most frequently misunderstood system components in your vehicle.

When the check engine light illuminates, it is first nature to open the hood and take a look at the engine. Of course, you won't find anything because the vast majority of problems involve component failure which are not visible from the exterior of the engine.

If your check engine light is on, you can go to your local auto parts dealer and they will hook up a scan tool which will retrieve the error code from your vehicle's computer for free. The most common error code that I retrieve off of vehicles is P0442 - Evaporative Emissions Control System Leak Detected. The code in itself will tell you nothing other than "You have a P0442 error".

To get more information about specific errors, I have students use the website:

http://www.obd-codes.com

By searching for P0442 on this website, I can gain an understanding for what the code means, what symptoms my car may have, common causes of the problem, and possible solutions to resolve the issue.

If you are curious as to what the error code "P0442 - Evaporative Emissions Control System Leak Detected" usually means...it means that you didn't tighten the gas cap.