Olson Marketing
Monthly
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Your Amsoil Information News Source

Do you own a Diesel?

The severe environments found inside diesel engines can tear apart, or shear, the molecular structure of oil, leading to viscosity loss. Making matters worse, moderate levels of fuel dilution common in some applications contribute to further viscosity loss. Four percent fuel dilution is often enough to reduce an oil's viscosity to less than its specified viscosity grade, resulting in metal-to-metal contact and accelerated equipment wear.

The Kurt Orbahn Shear Stability Test (ASTM D-6278) is the standard scientific test for measuring a lubricant's ability to resist shear. Instead of testing our oils against the competition in a 90-cycle demonstration, we doubled that length to 180-cycles to see what would happen. Samples were then contaminated with 2 and 4 percent ultra-low-sulfur diesel fuel (ULSD). Even at 4 percent fuel dilution, AMSOIL Premium API CJ-4 Synthetic Diesel Oil stayed in grade to maintain engine protection while the other oils failed.

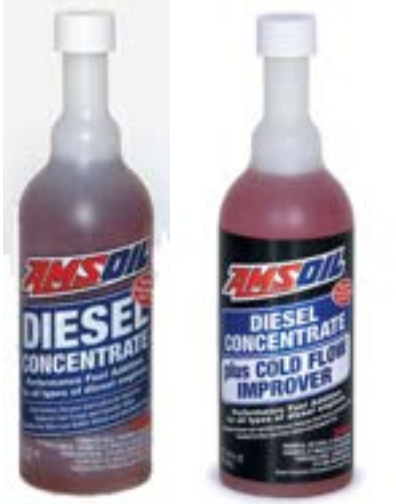
Issues like fuel dilution are typical in the real world of today's high-powered diesels. AMSOIL effectively resists the effects of fuel dilution and other problems truckers encounter on a routine basis.

AMSOIL Diesel Concentrate

AMSOIL Diesel Concentrate was formulated with ULSD in mind. It is a total system cleaner and lubricity improver designed to keep diesels operating at peak efficiency despite the hurdles posed by ULSD. AMSOIL Diesel Concentrate compensates for the variances in quality of different fuels (including biodiesel) and the deficiencies of ULSD for better engine operation. New engine technologies, tighter tolerances and emissions regulations require high-quality diesel fuel for long-term engine operability—something foremost in the minds of OTR truck owners/operators. AMSOIL Diesel Concentrate meets the low-sulfur mandate and improves diesel fuel quality to exceed today's stringent performance requirements. Diesel concentrate extends equipment life, reduces operating costs and improves diesel performance.

Key Benefits: Improves Fuel Economy, Restores Horsepower, Reduces Fuel Pump and Injector Wear.

What's inside?



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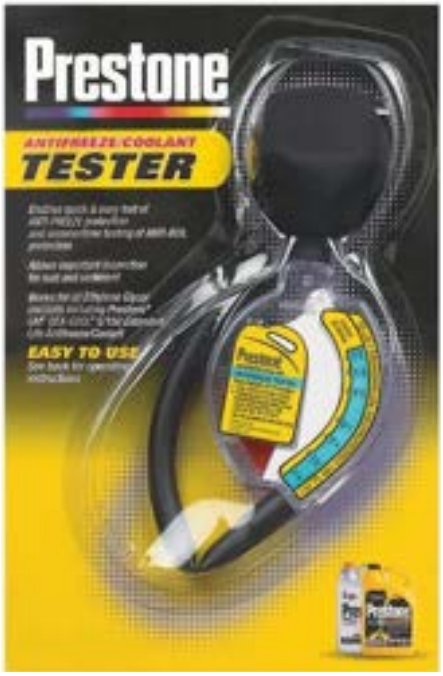
Ask the Dealer

Why does AMSOIL coolant show a bad reading when I test it with my coolant tester?

I have owned my vehicle for three years. I bought it new in 2008. After reading about coolant in the September 2011 issue of your newsletter I decided to purchase a Prestone coolant tester.

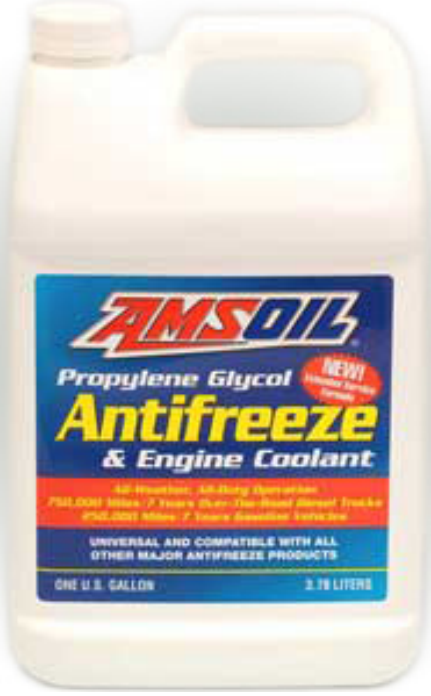


Since my vehicle is 3 years old and I have never replaced the coolant I wasn't sure what to expect. I filled the tester full of coolant and the arrow only went half way up the boil-over/freeze protection gauge. It indicated that the coolant would freeze if the temperature was below -7 degrees.

I purchased AMSOIL Coolant and had my mechanic replace the old coolant with AMSOIL. When I got my car back I tested the coolant again and it registered that it had no boil-over or freeze protection. I am now concerned that my coolant will freeze.

Answer:

Antifreeze is formulated with either ethylene glycol or propylene glycol. Standard coolant brands are almost always ethylene glycol based and car manufacturers almost always fill their vehicles with coolant that is ethylene glycol based also. Since the vast majority of coolant out there is ethylene glycol based, pretty much any coolant tester you find in the store will work great for those. However, AMSOIL coolant is propylene glycol based. Due to the different formulation, the standard coolant tester won't give you the correct reading. Some companies do sell propylene glycol coolant tester but they usually will need to be ordered or purchased online. AMSOIL recommends AMSOIL Coolant Test Strips, stock number G1165. The test strips will give an accurate reading for either ethylene glycol or propylene glycol coolants. The cost $3.95 for a pack of 6.



Reasons for Motor Oil Consumption

Information for Backyard Mechanics

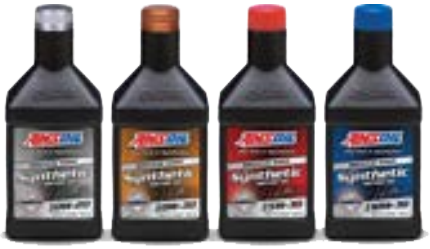
External Oil Leaks

Some of the many points where external oil leaks may occur include: oil lines, crankcase drain plug, oil pan gasket, valve cover gaskets, oil pump gasket, fuel pump gasket, timing case cover and camshaft bearing seal. No possible source of leakage should be neglected because even a very small leak will cause extremely high oil consumption. For example, it has been estimated that a leak of one drop of oil every twenty feet is approximately equal to a loss of one quart of oil every 100 miles. The best way to check for external leaks is to road test the vehicle with a large piece of light-colored cloth tied under the engine. Oil on the cloth will indicate a leak which should be traced to its source.

Front or Rear Main Bearing Seals

Worn front or rear main bearing seals almost always result in oil leakage. This can only be determined when the engine is operated under load conditions. Bearing seals should be renewed when worn because a slight leak will result in extremely high oil consumption just as it would with an external oil leak.

More Next Month



All About Power Steering Fluid

Power Steering Fluid Solutions & General Information

Synthetic Universal Power Steering Fluid

Why Change Power Steering Fluid?

Power steering fluid is one of the most neglected fluids under the hood because most people don't think about it unless there is a problem. Consumers realize that power steering systems require additional fluid occasionally, but do not realize that power steering fluid should be changed at regular intervals. Many original equipment manufacturers (OEMs) recommend changing power steering fluid due to the accumulation of wear material and other debris within the power steering system. For example, Dodge recommends changing the power steering fluid in its 2005-2008 Magnum and Charger models every 60,000 miles. In addition power steering fluid has a service life, just like any other lubricating fluid. It is subject to temperature extremes and must combat contaminants while simultaneously fulfilling its role as a hydraulic fluid.

Power Steering Systems

Most power steering systems use a belt-driven pump to provide hydraulic pressure to the system. The pump, usually a rotary vane pump, is driven by the vehicle's engine. As the speed of the engine increases, the pressure in the hydraulic fluid also increases, necessitating the incorporation of a relief valve to allow excess pressure to be bled away.

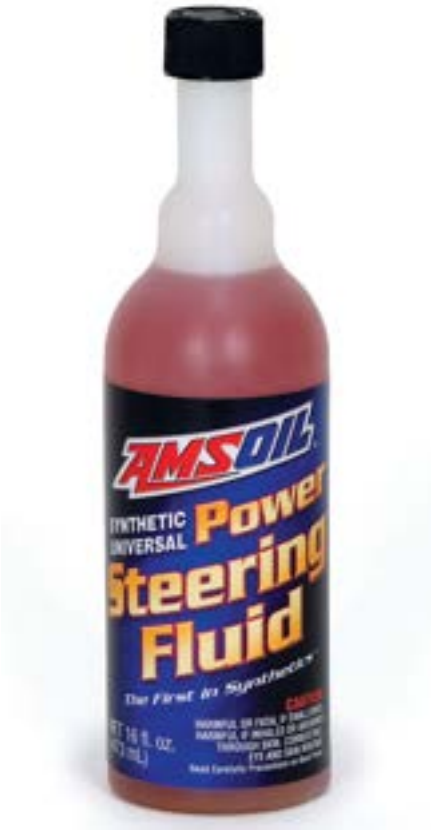
While the power steering is not being used (driving in a straight line), twin hydraulic lines provide equal pressure to both sides of the steering wheel gear. When torque is applied to the steering wheel, the hydraulic lines provide unequal pressures, providing assistance in turning the wheels in the intended direction. Other modern hydraulic power steering systems include an electronic pressure valve which can reduce the hydraulic pressure of the power steering lines as the vehicle's speed increases. This is known as variable assist power steering.

Generic Power Steering Fluid Age: 100,000 miles

Generic Power Steering Fluid Age: 0 miles

Why is AMSOIL Power Steering Fluid better than any other?

AMSOIL Synthetic Universal Power Steering Fluid provides excellent wear protection. Its synthetic formulation delivers better lubricity and reduced friction, resulting in cooler operating temperatures, longer component life and quieter operation. AMSOIL Power Steering Fluid is formulated with a high viscosity index. Its low pour point ensures immediate lubrication at startup and in cold temperatures, yet it resists thermal breakdown and maintains maximum protection in high temperatures.



Stay Tuned for Future Fluids

Transmission ..... Jan 2012

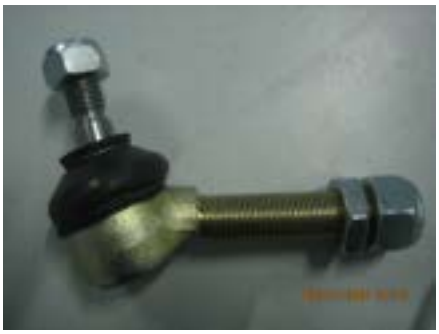
Differential ..... Feb 2012

Automotive Lingo:

Ball Joint

A ball joint is similar to the hip joint in your body. A round ball is positioned within a hollow socket. The ball can rotate and swivel to provide three-dimensional movement. The ball joint at the base of the MacPherson strut (located in the wheel well) acts as a pivot point for the steering knuckle arm to turn the front wheels.

Preventative maintenance for ball joints includes inspecting the dust boot (the rubber covering) for cracks or tears and filling with grease regularly (if equipped with a grease zerk; typically found on older vehicles).



New Ball Joint ↗

↙ **Old Ball Joint**

Don's Corner

with Don Olson

One of my good customers told me this month that he just received his oil analysis report on his 2003 Dodge Ram Pick-up. The recommendation was to change his oil filter and top off his diesel's engine oil.

The report looked good. He was very pleased because he had just turned 62,000 miles on this oil which is a real savings over changing oil for the third time (based upon 25,000 miles or one year). The test yields graphical analyses and recommendations based upon the results.

He said he could change his oil more frequently, but just changing the oil doesn't tell the whole story of what's happening inside of the vehicle's engine. There is a whole list of items that the oil analyzers check and report to you. If everything is OK, you're good to go for probably another 15,000 or 20,000 miles on the same oil. If the next report is good, hey, you've really saved on AMSOIL.

Oil analysis is becoming more popular. A single sampling analysis is useful in providing information when critical failure conditions exist. However, trend analysis is a better tool for estimating the useful life or overall condition of your engine or equipment. Based upon the trend analysis, you are almost able to "tell the future" of your engine. For more information contact Don or Jon Olson (Information on Page 1).

Have a great December and a very Merry Christmas!

Shop Talk

with Jon Olson

Quite often, after a delicious Thanksgiving dinner with your family, you may notice the following dash light has turned on in your vehicle.

At first you may be alarmed...or possibly even offended, but before you jump to conclusions, your vehicle is not saying that you ate too much. And if it came on prior to the Thanksgiving feast, it was not warning you to watch your weight.

In the vast majority of cases the indicator light above is telling you that your tire pressure is low for one or more of your tires. When the weather gets cold (as it does around Thanksgiving) the air in your tires will compress resulting in a lower PSI (pounds per square inch) rating. If your tire's PSI rating is 4 PSI higher or lower than the manufacturer's specification, then the TPMS (Tire Pressure Monitoring System) sensor will send a signal to the computer to light up that light on your dash.

However, sometimes a TPMS sensor will fail. This scenario will also lead to the light being illuminated on your dash and requires replacement of the sensor.