

Olson Marketing Monthly

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in partnership with Insane Oil of Omaha

Your Amsoil Information News Source

Product Highlight:

Dominator 20W-50 Competition Diesel Oil

AMSOIL DOMINATOR® 20W-50 Competition Diesel Oil is designed for professionals and enthusiasts who want a step up in diesel protection. It is specifically designed for high-horsepower diesel engines and delivers the benefits most important to diesel competitors, including robust durability, outstanding bearing protection and the ability to withstand the extreme pressures and temperatures common to diesel competition.

Congratulations:

New Preferred Customers

Steve Covert
Lincoln, NE

Larry Lyon
Colorado Springs, CO

Chris Marquardt
Colgate, WI

Richard Wilson
Independence, MO

New Catalog Customers

Scott Bullock
Henderson, NV

Brandon Mitchell
Newark, DE

Edward Johnson
Lincoln, NE

Wendy Thomas
Paramount, CA

Whether competing in sled pulls, drag races or dyno challenges, competitors using DOMINATOR Competition Diesel Oil enjoy the confidence and security that come with providing their diesel trucks maximum protection and performance.



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Oil Analysis on Tranny Fluid?

I have talked in previous newsletters about the benefits of Oil Analysis for your motor oil and I have written extensive articles describing the understanding of oil analysis results in my vehicles. However, I have never talked about options beyond just testing your motor oil. Frankly, I was widely unaware of the variety of tests that Oil Analyzers, Inc. have available.

In July 2012 I serviced the transmission in my wife's 2008 Hyundai Elantra after feeling the transmission slip on the interstate driving back from Kansas City. At that time, there was about 30,000 miles on the vehicle and had the original fill transmission fluid from the manufacturer. It was also recommended by the manufacturer to change the fluid at the 30,000 miles mark. It was a gross, smelly job but I successfully serviced the transmission.

You can watch the video here:



Again...it was a gross, smelly job. Fast forward to March 2018 and we currently have about 86,000 miles on the vehicle. We have been running [Amsoil Signature Series Multi-Vehicle Synthetic Automatic Transmission Fluid](#) for 56,000 miles spanning almost 6 years.

A few weeks ago I was driving my wife's car on an especially cold day and I thought I could hear a slight whining coming from the transmission while accelerating. This, I thought, required additional investigating. I looked at the records of my previous transmission service and noted that it had been quite a while since the fluid was changed. I double checked with the Amsoil bottle and noted that the Service Life (identified on the bottle) was recommended at 50,000 miles for severe service and 100,000 miles for normal service. It was also noted that "severe service" and "normal service" is defined by the vehicle manufacturer. Fortunately, I keep my vehicle's owner's manual by my bedside table as it is great bedtime reading.

Of the many identifiers for severe service, two of them matched our driving application:

-Repeated short distance driving

-Driving in areas where salt or other corrosive materials are being used.

After figuring this all out I began thinking about the gross, smelly job...not to mention the time it would take and the cost of 10 quarts of [Amsoil Signature Series Multi-Vehicle Synthetic Automatic Transmission Fluid](#) plus filter, gasket maker and other required accessories.

I wasn't too excited about performing this maintenance again.

I then remembered seeing a checkbox for Transmission Fluid on my last oil analysis submission form. I did a little research and found out that you can send in a sample of your transmission fluid (just as I have previously done with oil) and have a scientist tell me if I need to change my transmission fluid.

And that is what I did.

Oil Analyzers		Lubricant Analysis Report		Overall report severity based on comments																				
North America: +1-877-458-3333				0	1	2	3	4																
<p>Comments: Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Abrasives (silicon/dirt) are at a MINOR LEVEL. Aluminum may be present in the form of aluminosilica (dirt). Gear and/or bearing metal is at a MINOR LEVEL. Copper is at a MINOR LEVEL. Possible CLUTCH PACK METAL and/or possible BUSHING/THRUST PLATE/THRUST BEARING METAL, and/or COPPER may be leaching from LUBE COOLER. Viscosity is SLIGHTLY LOW. Causes include contamination, incorrectly identified viscosity grade, or adding a different viscosity grade to the component. Flagged additive levels are different than what should be present for the lubricant identified for this component. This does not imply that the lubricant does not meet proper API, SAE, or ISO classifications. Your note was taken into consideration.</p>																								
Wear Metals (ppm)				Contaminant Metals (ppm)		Multi-Source Metals (ppm)		Additive Metals (ppm)																
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Calcium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	36	0	4	36	0	0	1	0	0	0	11	10	5	0	0	0	1	0	184	1	340	1	581	24
Sample Information				Contaminants				Fluid Properties																
Sample #	Date Sampled	Date Received	Oil	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100°C	Acid Number	Base Number	Oxidation	Neutralization								
1	19-Mar-2018	28-Mar-2018	16388	86129	No	0	No	% vol	% vol	% vol	cSt	cSt	mg KOH/g	mg KOH/g	μmol/mol	meq/L								
										< 1 - FTIR	8.4	1.72			23	4								

Results indicate that I am good to go for a while longer.

Understanding LSPI

What is LSPI?

LSPI is another version of engine knock, which has been around since engines were invented. In this case, it occurs under low-speed, high-torque conditions in turbocharged gasoline direct-injected engines and is more destructive than typical engine knock.

Under normal operation, spark-triggered ignition is timed to work in tandem with downward piston momentum. LSPI occurs when an oil/fuel droplet hiding in the piston crevice launches into the combustion chamber and ignites the fuel/air mixture too early. The resulting force clashes with the upward moving piston and can cause damage like that on the piston shown.



Example of piston damage due to an LSPI event observed during dyno testing. The red arrows indicate sections of the ring land that have broken away from the piston.



Customer Testimonials

“I changed the oil in my 2009 Dodge diesel 3500 about 3 months ago and I’ve driven it about 1500 miles. I replaced the Rotella t6 full synthetic with [AMSOIL Heavy Duty Synthetic Diesel Oil 5W-40](#) and an [AMSOIL EAO80 Oil Filter](#). After 1500 miles I checked my miles per gallon and thought there was a fault with my fuel gage as I had increased my mpg from 16 mpg empty to 19+ mpg empty driving under similar conditions. I was amazed ... I’m definitely sticking with AMSOIL in the future!” JK

* * *

“I did as you said, I cleaned my engine first using [AMSOIL Engine and Transmission Flush \(FLSHCN\)](#), then draining the oil and removing the filter (you are right the oil and filter are very hot after idling the engine for 15 minutes). I replaced the drain plug, screwed on the new [AMSOIL EA15K51 filter](#) and 4 quarts of [Signature Series 5W-30 100% Synthetic Oil](#). I then drove it to the gas station and dumped in the bottle of [Pi \(Performance Improver \(APICN\)\)](#) in the gas tank, filled it with gas. I have since driven it about 600 miles and noticed it runs smoother, idles a bit faster, and my fuel economy went from 30 mpg highway to 34.3 mpg in similar driving conditions. I’m sold! And I only have to change the oil about once a year.” TH

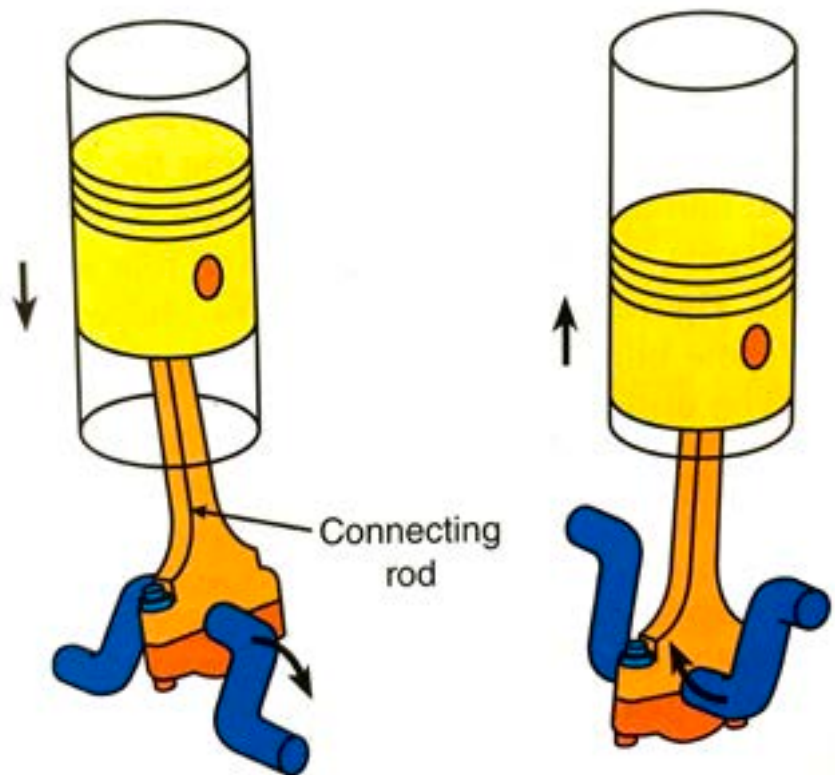
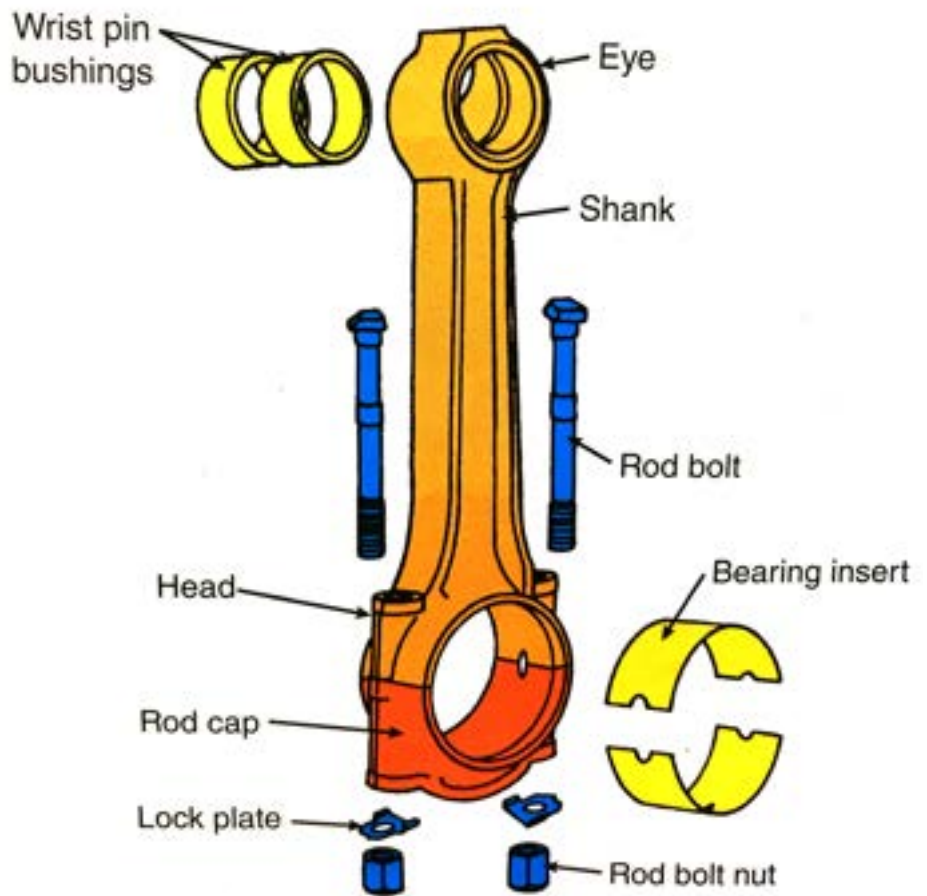


Diesel Digest - Connecting Rods

The connecting rods form a link between the pistons and the crankshaft. The connecting rod is attached to the piston with a piston pin. The opening or bore in the small end of the rod is fitted with a replaceable bushing that rides on the piston pin. The large end of the connecting rod is attached to the crankshaft with a rod cap that encircles the crankshaft's connecting rod journal.

It is important to remember that rod caps are not interchangeable between connecting rods. I have heard the connecting rods and their corresponding end caps are assembled in the manufacturing facility and then machined as one unit. This process ensures a precision fit to meet tight tolerances and specifications. However, it also means you can't take one end cap off of one connecting rod and switch it with another.

Replaceable half-circle bearings are installed between the rod assembly and the crankshaft connecting rod journal. On some connecting rods, there is an oil hole in the big end of the rod opposite the rod cap. This hole is the entrance to an oil gallery that runs up the center of the rod to lubricate the piston pin and spray [Amsoil Synthetic Diesel Oil](#) to cool the piston's underside. Incorrect installation of the rod bearing will cover this hole, blocking the flow of [Amsoil Synthetic Diesel Oil](#), and causing engine failure. Quite the dramatic, and expensive, end result for a simple error in the assembly process.



Shop Talk...

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

During 2017 my wife and I drove 11,176 miles on her vehicle. Typically we put 8,000-9,000 miles on the vehicle but we vacationed at the beach this year which was about a 2,000 mile round trip. At the end of 2017 her vehicle had about 85,000 miles on it.

The Elantra averaged 252.8 miles between fill-ups and throughout the entire year it averaged 27.97 miles per gallon. This is actually a slight decrease from the previous years (see chart below). Looking at the past 4 years I am a little concerned that I see a downward trend over the last three years with regards to fuel efficiency. Especially when I consider that we had extra travel time on the interstate. However, this information does lead me to think about using [Amsoil's Power Foam](#) as this vehicle has 85,000 miles on it and there is a good chance there is a bunch of junk in the engine. When I [Power Foamed](#) my truck I noticed an immediate increase in my Miles Per Gallon.

In total, we purchased 408 Gallons of Gasoline, totaling \$890.95. For every mile she drove it cost about 8 cents. This has increased one cent per mile from the previous year. This primarily due to the fuel cost fluctuations. Throughout all of 2017, on average, we paid \$2.18 per gallon compared to 2016 where the average we paid per gallon was \$1.94.

This year I have a few maintenance related tasks that I will be completing on the 2008 Elantra.

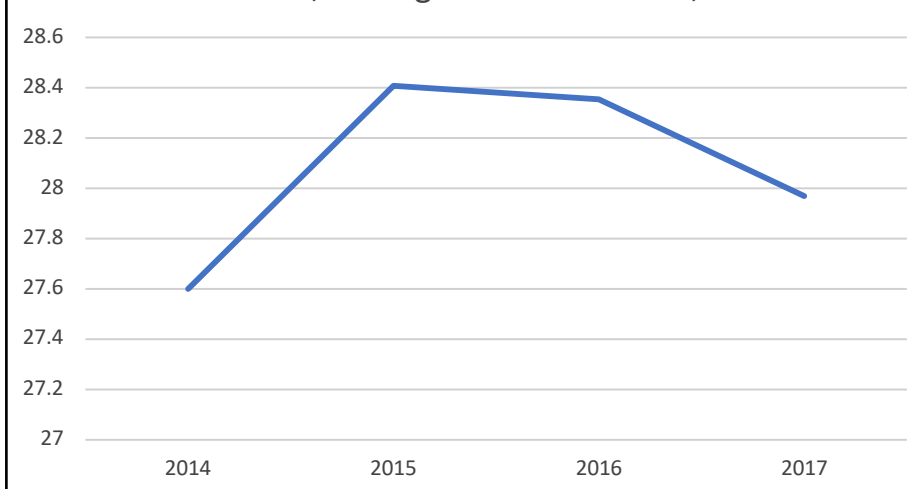
#1. Oil/Filter Change with the installation of an EZ Oil Drain plug (video to come this summer).

#2. [Brake Fluid](#) Flush (video to come this summer for this vehicle and my F150).

#3. Head Lamp Replacement (video to come this summer).

#4. Induction System Cleaning (video to come this summer).

2008 Elantra, Average Miles Per Gallon, 4 Years



Dealer's Zone

By Don Olson
ZO #4901

I have been asked multiple times by people changing to AMSOIL. "Can I just change to AMSOIL with my next oil change?"

Answer: YES. However, there are several things to keep in mind:

1. Have you been using a conventional oil?
2. Does the vehicle have over 30,000 miles on it?
3. Have you been pulling or pushing?
4. Is 80 – 90% of your driving mostly in-town?
5. Has the engine gotten hot (above normal temperatures)?
6. Do you want the best performance right away?
7. Do you want to enjoy the extended oil drain criteria immediately?

If you answered "yes" to three or more of these questions, here is my recommendation:

A. Use a bottle of "[AMSOIL Engine and Transmission Flush](#)" (FLSHCN) according to the directions on the container.

B. Install new [AMSOIL Oil](#) and [AMSOIL nano-fiber oil filter](#).

C. You are good to go for 25,000 miles or one year (normal service) or 15,000 miles (severe service).

ALTERNATE: for one-year (or longer) use [AMSOIL OE 100% Synthetic Oil and filter](#), changing it every 3 months (or 5,000) miles whichever occurs first. AMSOIL cleans your engine as you drive, however, any deposits removed during driving will be filtered through your oil filter. The more 'gunk' that is in your engine now, the longer it will take to remove it using the 3-month oil change method.