

Olson Marketing

# Monthly

March 2019 - Issue #91

in partnership with Insane Oil of Omaha

## Your Amsoil Information News Source

### Product Highlight: Shock Therapy Suspension Fluid #5 & #10

[AMSOIL Shock Therapy Suspension Fluid](#) is formulated with shear-stable synthetic base stocks with high viscosity indices. Its complete additive package reduces foaming, aeration and wear, while seal conditioners are added to keep seals soft and pliable. [AMSOIL Shock Therapy Suspension Fluid](#) has been tested and proven to be a superior, balanced product recommended for a wide range of temperatures and applications.



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#### Dealer Contact

##### Lincoln - Olson Marketing

Don & Peg Olson  
ZO Referral# 4901  
402-489-3930

<http://om.shopamsoil.com>  
lubedealerdon@gmail.com

##### Omaha - Insane Oil

Dr. Jonathan D. & Stacey L. Olson  
ZO Referral# 10458  
402-990-7940 (text or call)

<http://insaneoil.com>  
info@insaneoil.com

#### Congratulations:

##### New Commercial Account

Touch Above Lawns  
Lincoln, NE

##### New Preferred Customers

Jason Wothe  
Frazee, MN

Luke Jenkins  
Lincoln, NE

Chuck Haugh  
Lincoln, NE

Joel Haugen  
Davenport, ND

Mara Phoeuk  
Jacksonville, FL

##### New Catalog Customers

Joseph Frame  
Bartlesville, OK

Danil Chernyshev  
Concord, NC



# Results: 2008 Hyundai Elantra Case Study...Part 2

All of the data has been collected and it is finally time to analyze, assess, formulate conclusions based upon the data, and ultimately develop generalizations. On the next page I have included the raw data from the oil analysis reports. Over the next couple months I will be taking a close look at various elements within the reports and sharing that information with you.

This month I wanted to focus on the Wear Metals as this topic holds some of the most revealing information about Valvoline VV1740 and [Amsoil OE](#) motor oils.

In total there were six oil samples taken. When I picked up the vehicle in Denver after the engine had just been rebuilt, I asked about the break-in cycle and if I should change the oil after 500 miles. I was specifically told that the dealership had already taken the vehicle through the break-in cycle and I need to change the oil at 3-months or 3,000 miles, whichever comes first. I followed that advice for the first 3 months and then mirrored the same procedures after having switched to [Amsoil OE](#) with a [Wix oil filter](#).

On the next two pages you will see that there are six samples in total. The first sample was taken 1,004 miles after the oil had been installed. The second sample was taken two months after the oil was installed and the third sample was taken three months after the oil was installed.

After three months and 2,446

miles I performed an oil and filter change. Directly prior to this I ran [Amsoil Engine and Transmission Flush](#) to minimize the chance that contaminants from the Valvoline oil would be mixed with the newly installed [Amsoil OE](#) motor oil.

[Amsoil OE](#) was also run for 3 months and 2,446 miles. The fourth oil sampling was taken at 1,002 miles. The fifth oil sampling was taken two months after the oil was installed and the sixth sample was taken three months after the oil was installed.

The total mileage driven was virtually identical between oils and the type of driving was mimicked as best as I was able to under the circumstances. As we looked at last month, there were no statistically significant variations with regard to the fuel or fuel economy. The fuel data validates that the vehicle's driving style between the first three months and second three months was statistically insignificant.

There are however some limitations of the data analysis. After calculating and analyzing the fuel mileage (Shop Talk...in last month's issue), I determined that the dealership drove the vehicle less than 6 miles. This does not account for the total quantity time the vehicle spent idling as this information is unknown. It is foreseeable that the dealership could have let the vehicle idle anywhere from 1 minute to 10 hours in the service garage prior to or succeeding a test drive.

Assuming the vehicle was not taken through the entire break-in cycle, it is expected a higher degree of wear during the first 500 miles. Taking this into account, I will be analyzing the oil analytic reports with two sets of numbers. The first set of numbers will compare brand new oil to the oil that has been run for 3 months, under the assumption that there are zero Wear Metals in the new oil. The second set of numbers will compare the oil at the 1000 mile point (the first & fourth oil sampling) to the oil at the 3 month point. The second set of numbers should reduce the chance of unfair results given that the Valvoline oil was running during the first 2,446 miles after an engine rebuild and the [Amsoil OE](#) motor oil is running during the succeeding 2,446 miles.

## Results

The results will be taking a look at the three most significant differences in wear metals noted in the results data; iron, aluminum, and copper.

Iron, aluminum, and copper are introduced into the oil as a wear element. This basically means that there was no iron, aluminum, or copper in the oil when it was manufactured and installed in the engine and through the movement of the various engine parts, iron, aluminum, and copper particles have rubbed off and fallen into

Continued on page 4...



Overall report severity based on comments.



Overall report severity based on comments.



Overall report severity based on comments.

Filter Information				Miscellaneous Information				Product Information																
Filter Type: FULLFLOW Micron Rating: 0								Product Manufacturer: VALVOLINE Product Name: PREMIUM CONVENTIONAL MOTOR OIL Viscosity Grade: SAE 5W20																
Sample #	Wear Metals (ppm)							Contaminant Metals (ppm)			Multi-Source Metals (ppm)			Additive Metals (ppm)										
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	15	0	0	4	15	0	3	0	0	0	88	7	5	1	8	0	3	0	16	755	1050	8	695	766
2	18	0	0	6	20	0	3	0	0	0	107	8	3	0	9	0	3	0	13	767	1058	10	678	772
3	20	0	0	5	23	0	3	0	0	0	98	9	6	1	9	0	4	0	10	738	1118	10	675	776
Sample #	Sample Information				Contaminants				Fluid Properties															
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base No. D4739	Oxidation	Nitration								
1	15-Aug-2018	23-Aug-2018	1004	90225	No	0	No	<1 - Estimate	<.1	<.1 - FTIR		8.3		4.92	6	6								
2	18-Sep-2018	28-Sep-2018	1720	90941	No	0	No	<1 - Estimate	<.1	<.1 - FTIR		8.2		4.16	7	6								
3	18-Oct-2018	29-Oct-2018	2446	91667	Yes	0	Yes	<1 - Estimate	<.1	<.1 - FTIR		8.2		3.58	8	7								



Overall report severity based on comments.



Overall report severity based on comments.



Overall report severity based on comments.

Filter Information				Miscellaneous Information				Product Information																
Filter Type: FULLFLOW Micron Rating: 0								Product Manufacturer: AMSOIL Product Name: OEM SYNTHETIC MOTOR OIL Viscosity Grade: SAE 5W20																
Sample #	Wear Metals (ppm)							Contaminant Metals (ppm)			Multi-Source Metals (ppm)			Additive Metals (ppm)										
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
4	5	0	0	0	5	0	0	0	0	23	2	1	0	75	0	0	0	0	178	566	1274	1	681	769
5	9	0	0	2	7	0	1	0	0	24	4	2	0	72	0	0	0	0	175	562	1330	1	684	813
6	9	0	0	2	7	1	2	0	0	25	4	3	0	76	0	0	0	0	155	569	1286	1	680	772
Sample #	Sample Information				Contaminants				Fluid Properties															
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base No. D4739	Oxidation	Nitration								
4	23-Nov-2018	13-Dec-2018	1002	92669	No	0	No	<1 - Estimate	<.1	<.1 - FTIR		8.0		5.97	7	6								
5	23-Dec-2018	22-Jan-2019	1720	93387	No	0	No	<1 - Estimate	<.1	<.1 - FTIR		7.5		4.73	7	7								
6	18-Jan-2019	30-Jan-2019	2446	94113	Yes	0	Yes	<1 - Estimate	<.1	<.1 - FTIR		7.6		4.67	8	7								

# Results: 2008 Hyundai Elantra Case Study...Part 2

Table 3

Wear Metal Sample Levels (in ppm) after 3 months & 2,446 miles of service

	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium
Valvoline	20	0	0	5	23	0	3	0	0	0
Amsoil OE	9	0	0	2	7	1	2	0	0	0
Difference	11	0	0	3	16	-1	1	0	0	0
Percentage Difference	-122%	0%	0%	-150%	-229%	1 ppm	-50%	0%	0%	0%

Note, ppm = Parts Per Million

...continued from page 2

the oil. It is then the oil's job to suspend those particles inside the oil molecule to reduce those particles from acting like sand inside the engine.

Iron can come from cylinders, piston rings, camshafts, crankshafts, gears, rocker arms, valve bridges, cam follower rollers, etc. Also cylinder heads, rust, hydraulic/compressor bearings, gears, vanes and cylinders.

Aluminum can come from bushings, housings, some plain bearings, pistons, camshaft intermediate bearings and crankshaft thrust bearings and commonly alloyed with copper, tin and or lead.

Copper can come from slipper (wrist pin) bushings, connecting rod and crankshaft bearings, cam follower roller bushings, rocker

arm clevis bushings, thrust washers or leachate from gaskets/sealant, oil coolers and radiators. Also hydraulics/compressor valves and bushings. It can however be an oil anti-oxidant additive and is commonly found alloyed with lead, tin and/or aluminum. Given that there is no baseline data for Valvoline's oil when it was brand new, data values identified after 1000 miles may be more accurate for copper.

After three months, Valvoline motor oil tested at 20 parts per million of Iron whereas Amsoil OE tested at 9 parts per million. [Amsoil OE](#) demonstrated 122% better wear protection when compared to Hyundai's Dealership OEM Valvoline.

If we do not include the first 1000 miles, Valvoline's Iron Wear Metal increased from 15 to 20 ppm

compared to [Amsoil OE](#), which increased from 5 to 9 ppm. This calculates to 25% better wear protection during the time [Amsoil OE](#) was run in the engine.

Aluminum levels of Valvoline measured 5 ppm after 3 months of use and 2 ppm with [Amsoil OE](#); 150% better wear protection with [Amsoil OE](#). If the first 1000 miles are eliminated from the calculation Valvoline rose from 4 ppm to 5 ppm and [Amsoil OE](#) rose from 0 ppm to 2 ppm; 50% less wear protection with [Amsoil OE](#).

Copper results indicated that [Amsoil OE](#) provided 229% better wear protection over 3 months and 2,446 miles of service over Valvoline. When eliminating the first 1000 miles of wear from the calculation, the data shown that [Amsoil OE](#) had 300% better wear protection than Valvoline.

Table 4

Wear Metal Sample Level Increase (in ppm) Between 1,000 Miles and 2,446 Miles

	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium
Valvoline	5	0	0	1	8	0	0	0	0	0
Amsoil OE	4	0	0	2	2	1	2	0	0	0
Difference	1	0	0	-1	6	-1	-2	0	0	0
Percentage Difference	-25%	0%	0%	50%	-300%	1 ppm	2 ppm	0%	0%	0%

Note, ppm = Parts Per Million

# Shop Talk...

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

## Additional Thoughts

Given the wide range difference from 25% to 122% better wear protection when taking a look at the wear element of Iron, I would conclude that although the wear protection difference with Amsoil is statistically significant, I would like to run a similar study in an engine that has been worn-in to pinpoint a more accurate level of wear protection and eliminate the possible issue of the break-in cycle.

Aluminum levels for both oils were well within the normal range and I would deem the level differences to be statistically insignificant.

Copper contaminates shown a range of 229% to 300% better wear protection with [Amsoil OE](#). Even considering the notion that copper could have been an additive in the Valvoline oil and eliminating the first 1000 miles, Amsoil proved to outperform Valvoline oil with regards to copper wear metal contamination.

It is worth nothing that although some data from both motor oils appeared to be significantly high, wear metals for both oil samples did not yield abnormal levels. However, the greater the wear, the faster a breakdown could occur. Thus if you have twice as much wear, regardless how small on a parts per million basis, it is still wearing twice as fast leading to accelerated degradation.

# Dealer's Zone

By Don Olson  
ZO #4901

This year, 2019, I am looking to help at least three Dealers make Direct Dealer and two interested dealers to make Direct Jobber.

There is plenty of time for even a new Dealer to make Direct Dealer (Earn at least \$500.00 in the first month as a Direct Dealer.) As a Direct Jobber you should earn in excess of \$700.00 every month. I am here to help those willing to put in a few extra hours a month to build a successful AMSOIL business.

I will help. Do you have a nice sized E-mail list? Do you know small businesses in your neighborhood? Do you have any friends and family that are at least a tiny bit open minded? Do you like helping people improve their lives?

I will be happy to tell you how I

have built my business ... both what worked and some of the things that I have learned just didn't work for me.

When you set your mind to doing something ... and you really want it, there is nothing that will stand in your way.

This year will bring a big change in the [ALTRUM food supplements](#). Another great way to improve, increase your Commission Credits. Easier to make Direct Dealer or Direct Jobber.

This is a great business to work a little along the way to build another stream of income for your future (or retirement). What other job do you get paid for past performance? What you build today you will take into next month, next year, even 10 years or more from now.

## Commission Schedule

Commission Credits	your Commission
5,000	25%
4,000	24%
3,000	23%
2,500	20%
2,000	17%
1,500	14%
1,000	11%
500	8%
300	5%
100	2%