

# Olson Marketing Monthly

December 2023 - Issue #148

in partnership with Insane Oil of Omaha

Your AMSOIL Information News Source

## Product Highlight:

### AMSOIL Signature Series Motor Oil

The focus of this month's newsletter is Extended Oil Change Intervals. Simply put, this concept means that you don't follow the manufacturers recommendations on how often to change your oil.

Old school rules say to change your oil every 3 months or 3,000 miles. Nowadays, manufacturers are typically saying to change your oil somewhere between 5,000 and 10,000 miles or 6-12 months. Thus, even manufacturers are promoting extended drain intervals, or at least changing the definition of "standard drain intervals."

Dating back to the late 1960s and early 1970s, AMSOIL has always promoted extended drain intervals. Moreover, they have built their entire business on the concept of engineering a higher quality motor oil that protects the engine better, and for longer periods of time.

The secret to extended drain intervals has less to do with time, driving style, climate, geographical area, type of vehicle, size of engine, type of engine, or disci-

pline in performing the preventative maintenance tasks on your vehicle than it does the oil. All of these are important pieces of the puzzle but the secret to extended drain intervals first begins with the quality of motor oil being able to withstand the harsh environment within the engine.

The motor oil must be able to meet the demands of extended drain intervals.



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**AMSOIL**  
*The First in Synthetics®*

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# Extended Drain Intervals...The Good.

Extended drain intervals in cars refer to the practice of extending the time or mileage between oil changes. There are many "good" aspects about Extended Drain Intervals.

## Cost Savings

Longer intervals mean fewer oil changes, which can result in cost savings over time. High-quality synthetic oils, which are often recommended for extended drain intervals, may be more expensive up front but can offer better protection and longer life. According to Kelley Blue Book (kbb.com), a typical oil change will run anywhere between \$35 to \$125. If I do four oil changes per year at \$35 each, I am spending upwards of \$150. An oil change with [AMSOIL Signature Series](#) and an [AMSOIL Ea Oil Filter](#) for the same vehicle is less than \$100.

## Environmental Impact

Fewer oil changes mean less waste oil, oil filters, and packaging, reducing the environmental impact associated with oil changes. Proper disposal of used oil is crucial, and reducing the frequency of oil changes can contribute to a more sustainable automotive maintenance practice. The aspect of lowering waste is often overlooked. Some are concerned heavily about the volume of overall waste that is produced every year in our country. Some seek to reduce waste by altering some of the many comforts of a wealthy society by eliminating drinking straws, plastic bags, or any number of other ways. Ex-

tended oil changes also reduces waste by eliminating the frequency we need to go to the mechanic or quick lube shop. Moreover, reducing the frequency we need to go get oil changes increases the amount of time we have because we don't need to spend that time taking our vehicle to the shop.

## Improved Oil Technology

Advances in oil formulations, particularly synthetic oils, have resulted in products that can maintain their lubricating properties over longer periods. These oils are designed to resist breakdown, oxidation, and sludge formation, providing better protection for the engine. Most oil companies have recently begun implementing these advancements in some of their oil formulations. Whereas, AMSOIL has been implementing these advancements for over 50 years.

## Better Engine Protection

High-quality synthetic oils provide superior protection against wear, deposits, and sludge formation. They have better stability

at high temperatures and are less prone to viscosity breakdown, ensuring that the engine operates efficiently over an extended period.

## Monitoring Technology

Some modern vehicles come equipped with advanced engine oil monitoring systems that analyze driving conditions, engine load, and other factors to determine the optimal time for an oil change. This allows for a more tailored approach to oil change intervals.

While there are benefits to extended drain intervals, it's important to note that not all vehicles and driving conditions are the same.

It is important that you consider the vehicle manufacturer's recommendations in addition to the oil manufacturer's recommendations. With this information you will also want to consider factors such as driving habits, environmental conditions, and the type of oil used. These things can influence the ideal oil change interval.

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# Extended Drain Intervals...The Bad.

While extended drain intervals can offer benefits, there are also potential drawbacks and risks associated with pushing the time or mileage between oil changes too far. Most of the drawbacks are centered around the quality of oil, but a few concerns fall on the vehicle owner. Here are some concerns related to extended drain intervals:

## Engine Wear

Over time, engine oil can break down and lose its effectiveness in lubricating engine components. Extended drain intervals may lead to increased wear and tear on critical engine parts, potentially shortening the lifespan of the engine.

## Oil Contamination

As engine oil circulates through the engine, it picks up contaminants such as dirt, metal particles, and combustion by-products. Over an extended period, these contaminants can accumulate and negatively affect the oil's ability to lubricate effectively. Regular oil changes help remove these contaminants and refresh the oil. It is essential that the oil chosen for extended drain intervals be engineered to combat the accumulation of contaminants over an extended length of time.

## Oil Viscosity Breakdown

Engine oil undergoes thermal and mechanical stresses during operation, which can cause it to degrade and lose its viscosity. Reduced viscosity can lead to inadequate lubrication and decreased engine performance. Extended

drain intervals increase the risk of viscosity breakdown unless the oil is engineered to fight viscosity breakdown.

## Fluid Additive Depletion

Engine oils contain additives that enhance their performance and protect the engine. Over time, these additives may deplete, reducing the oil's ability to provide adequate protection against corrosion, sludge formation, and other issues. Properly engineered motor oils designed for extended drain purposes will have a more robust additive package and elevated levels of key additives to ensure longevity in protection.

## Increased Heat Buildup

With substandard motor oils, extended drain intervals can contribute to higher operating temperatures within the engine. This additional heat can accelerate the breakdown of oil and reduce its overall effectiveness in protecting the engine.

## Warranty Compliance

Some vehicle warranties specify particular maintenance intervals,

and failure to adhere to these intervals could potentially void the warranty if you do not have proper supporting documentation, such as [Oil Analytic Reports](#). I found this out after my Hyundai Elantra had an oil pump failure, leading to a full engine rebuild. Fortunately, I had my [Oil Analysis Reports](#) showing that the extended oil change intervals did not contribute to the failure of the Oil Pump. Hyundai fully honored their warranty and rebuilt the engine at their cost.

## Unpredictable Driving Conditions

If a vehicle operates in severe driving conditions, such as towing heavy loads or driving in extreme temperatures, substandard motor oils will degrade more quickly. In such cases, adhering to extended drain intervals may not be suitable, and more frequent oil changes may be necessary.

Unfortunately, there is also some "UGLY" things associated with extended oil change intervals.

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# Extended Drain Intervals...The UGLY.

Many would consider me a "fanatic" when it comes to preventative maintenance. Not just with my vehicles, but any piece of equipment that I am responsible for. Although I would consider myself "very disciplined" when it comes to taking care of equipment, there are times where I drop the ball and either forget or willfully neglect the maintenance on a piece of equipment that I am responsible for. In fact, I think all of us have, at times, "let things go" a little too long before we finally get around to doing what we should have already been doing.

I had a customer approach me in October 2021 seeking my assistance with changing the oil in his 2015 Dodge Journey. He said that he typically takes his vehicle in to the dealer every three months to have his oil changed but liked the idea of only having to change his oil once per year with [Amsoil Signature Series 5w-20](#). Specifically, he stressed the cost savings over being able to do it himself on top of only having to do it once per year. I told him that I would be happy to help him perform the oil change and asked him if he would mind if I filmed the process for YouTube so the next time he needs it changed, he can just access the video tutorial (click on the video link at bottom right). He agreed.

About a year passed and he called me late one night to ask if I had an extra quart of oil. His wife was traveling to another state for a week and as he was doing the preventative maintenance checks, he

noticed that and the oil level was a tad low. He brought the vehicle over and I added an entire quart of oil to bring it back up to the full mark on the dipstick. I mentioned that it was common for vehicles to use small amounts of oil and I recommend checking the oil level every month.

He went about his way, I didn't hear from him for another year and I didn't think much about it either.

In late October of 2023, he texted me saying that his Dodge Journey has 73585 miles and was wondering if I kept a record of when we changed the oil and if it is due for an oil change. I said that I had put a sticker in the top corner of his windshield when we did the oil change. The date was 11/06/21 with 45984 miles. I did some quick math and realized that it had been almost exactly two years, and 28,000 miles since the last oil change.

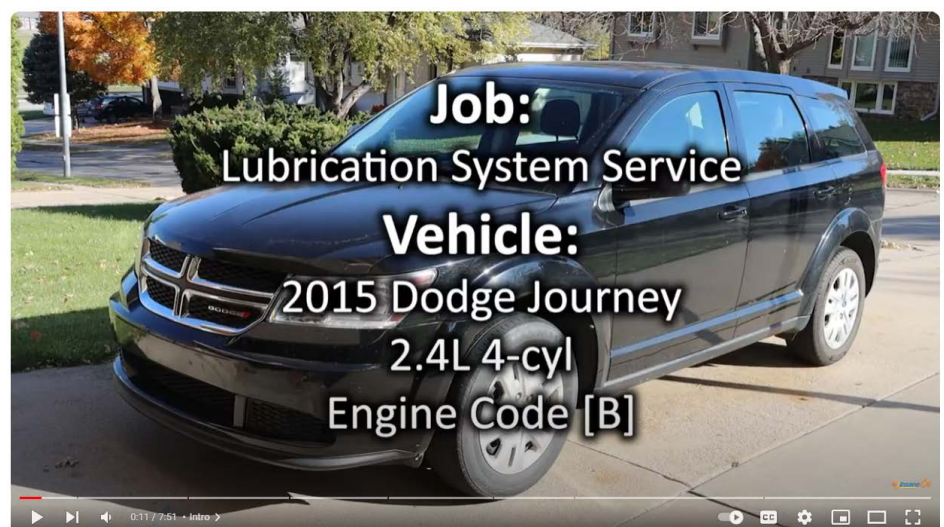
I did some additional research to figure out that when we did

the oil change, we first ran AM-SOIL Engine and Transmission Flush as we were switching the vehicle from conventional oil to AMSOIL. We then dumped the oil, replaced the filter with an [AMSOIL EA15K50](#) oil filter and installed five quarts of [AMSOIL Signature Series 5w-20](#).

The [AMSOIL EA15K50](#) oil filter is only rated at 15,000 miles. Furthermore, this is a Nebraska vehicle that sees temperatures ranging from -20 to 120 degrees and is in city traffic much of the time. This meets the requirements for a classification of Severe Service, which means the oil should also be changed at 15,000 miles.

I told my customer that I would help him do another oil change if he would allow me to pull an oil sample and send it into the lab. I was very curious what the results would show after running Amsoil Oil and an Amsoil Oil Filter for near double the time and mileage that is recommended by AM-SOIL.

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# Extended Drain Intervals...The UGLY...continued.

We know that AMSOIL's recommended drain interval is substantially longer than other oil manufacturers but the big question is:

**What happens if you double the drain interval recommended by AMSOIL?**

I pulled an oil sample and sent it into the lab. The overall results were concerning.

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

But the overall results don't tell the whole story.

I am going to begin with the "UGLY." On the chart at the bottom-left there are two rows. The Blue row is the baseline sample of new oil straight from the bottle. The second row (Sample #1) is the sample pulled from the Dodge Journey. We first see that the Iron wear is highly elevated. This level of wear is concerning because it either means the oil is no longer doing its job in preventing metal parts from rubbing on each other,

Fluid Properties					
Viscosity 40°C	Viscosity 100 °C	Acid Number  mg KOH / g	Base No. D4739  mg KOH / g	Oxidation  abs / cm	Nitration  abs / 0.1mm
	9.1		11.0	49	6
	12.7		1.02	79	26

or the engine has a physical mechanical issue and is causing increased metal on metal contact. We cannot know for sure which of these it is because we have no previous sample from the engine.

Next, we will take a look at the Fluid Properties. The viscosity at 100 degrees Celsius is marked in the critical zone as well as the Base Number and Oxidation.

In general, the Base Number is the overall health of the oil. It has also been explained as the amount of active additives remaining.

Similar to medicine a doctor might prescribe...if the active ingredients don't work anymore, the medicine isn't going to work. Based upon the sample, it began at 11 and progressively worked its way down to 1.02 (where it is currently at). When it hits zero, the lubricant has no ability to neutralize acids and corrosive wear will occur. This is at the threshold where the lubricant begins to turn from "oil" into sludge. In the sample from the Dodge Journey, we have all but depleted the oil's ability to do its job.

The next item to discuss is the Oxidation value of 79. Oxidation occurs in the presence of air (oxygen) and heat. The atmospheric oxygen reacts with the hydrocarbons in the lubricant to form carboxylic acids. Although these acids are a weak type of acid, given enough time, the concentration can become high enough to cause severe corrosion.

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	Wear Metals (ppm)									
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium
BL	0	0	0	0	0	0	0	0	0	0
1	155	3	3	12	3	1	3	0	0	1

# Extended Drain Intervals...The UGLY...continued.

In this engine, the oxidation of the motor oil is at a severe level.

I want you to picture this. You are on a battlefield in medieval times. You choose to have a wooden shield because it is cheap. As your wooden shield takes hits from the enemy it wears down and is no longer effective. In contrast, you decide to add a metal layer to the outside of the shield. It will cost a little more money but will strengthen that shield and make it last longer in battle.

In a car engine, some of the enemies of motor oil are air and heat. If we add antioxidants to the motor oil it will strengthen it against the enemies of air and heat. It will allow the motor oil to last longer and do its job for a longer period of time. However, eventually that added layer of protection will wear out and no longer be able to protect against heat and air.

The last number of great concern is Viscosity at 100 degrees Celsius. Viscosity is the measure of a fluid's resistance to flow. In simple terms, it describes how thick or thin a liquid is.

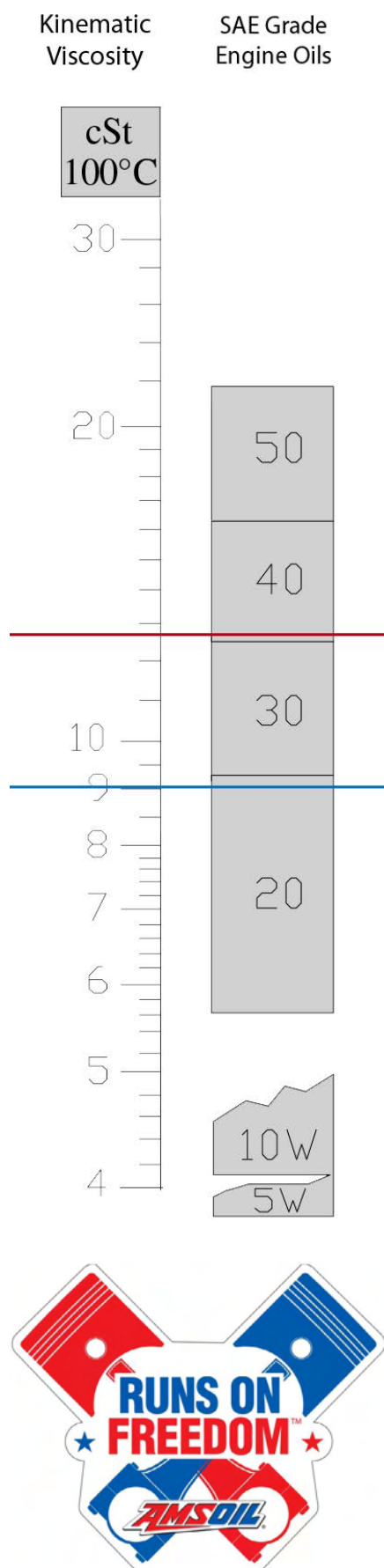
Viscosity is measured in centistokes (cSt). Centistokes provides a numerical value to express how thick a fluid is. Higher centistoke values indicate higher viscosity, meaning the liquid is thicker and flows more slowly.

I put together a fairly simple chart (at far right) correlating centistokes to what we know as the SAE motor oil scale. The blue

line indicates the Baseline sample at 9.1 cSt and the red line indicates the sample that exceeded AMSOIL's recommended oil change interval by almost double.

As you follow the blue line across, it falls within the SAE Grade classification of 20...or rather, since the oil is 5w-20, it would make sense that it would match up with the SAE Grade of 20. On the other hand, the sample sent in lines up with 40, or what would be 5w-40 (although probably not 5w anymore). This means I am running oil that is substantially thicker than the engine needs. Thick oil means it is not flowing as fast as it needs to flow to get to areas it needs to lubricate.

Sample #	Viscosity 100 °C cSt
BL	9.1
1	12.7





# Shop Talk...

with Dr. Jonathan D. Olson, EdD  
(Independent Amsoil Dealer #10458)

Surprisingly, aside from the oil sample values discussed on the previous pages, everything else checked out pretty decently with the motor oil. I don't want to diminish the severity of the values discussed, but I was actually anticipating a much worse report.

AMSOIL (as well as every manufacturer) specifies oil change interval recommendations. To determine those values, all manufacturers test the oil well beyond what any consumer could or would. The data acquired from those tests helps the manufacturer determine when it is recommended to change your oil, all the while ensuring their guarantee of protection up until that recommendation time line.

I know that everyone doesn't adhere exactly to every recommendation by every manufacturer for every piece of equipment. At times, I myself get lazy and intentionally disregard some of the more mundane tasks like lubricating your door hinges and refilling the windshield washer fluid.

My best advice is to discipline yourself to keep a monthly log of preventative maintenance tasks for each of your vehicles. This will help you keep on top of potential issues that may arise. I have included a link to the right for the form that I use. Print it out front-to-back and keep it in a binder. Use one sheet per month to help track any issues.

## Congratulations to NEW Amsoil Opportunists and Enthusiasts!

### Congratulations: New Catalog Customers

Hughes Hovington  
Sacré-Coeur, QC

Robert Yahner  
Clarkston, MI

Shawn Earle  
Dansville, NY

Gerad Williams  
Bentonville, AR

### Congratulations: New Preferred Customers

Erik Huskey  
Omaha, NE

A.J. Lincoln  
Omaha, NE

Jay Barnes  
Papillion, NE

David Keller  
Charles Town, WV

Tony Hewitt  
Lincoln, NE

Brandon Paulhus  
Moose Jaw, SK

Dennis Ryder  
Lincoln, NE

### Congratulations: New Commercial Account

Nielson Underground  
Lincoln, NE

### Monthly Auto Maintenance Inspection Report

ADDITIONAL NOTES ON BACK OF THIS PAGE

INTERVAL MONTH 1 2 3 4 5 6 7 8 9 10 11 12

VEHICLE: \_\_\_\_\_ MILEAGE: \_\_\_\_\_ DATE: \_\_\_\_\_

OK	ADDED	FLUID LEVELS	NOTICE
<input type="checkbox"/>	<input type="checkbox"/>	Engine Oil	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Transmission Fluid	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Coolant	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Brake Fluid	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Power Steering Fluid	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Window Washer Fluid	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Clutch Fluid	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Battery Electrolyte	<input type="checkbox"/>

**HOT OIL LEVEL**

LOW \_\_\_\_\_ FULL \_\_\_\_\_

**TIRE TREAD & PRESSURE**

Front Left	Front Right	Rear Left	Rear Right
Tread = ____/32	Tread = ____/32	Tread = ____/32	Tread = ____/32
Pressure = ____	Pressure = ____	Pressure = ____	Pressure = ____
MPG ____	MPG ____	MPG ____	MPG ____
<input type="checkbox"/> PRESSURE ADJUSTED	<input type="checkbox"/> PRESSURE ADJUSTED	<input type="checkbox"/> PRESSURE ADJUSTED	<input type="checkbox"/> PRESSURE ADJUSTED

**SPARE TIRE**

Tread = \_\_\_\_/32 Pressure = \_\_\_\_ MPG \_\_\_\_

☐ Jump Box ☐ Not Charged

**ELECTRICAL**

WORKING	PROBLEM
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Headlamps (High/Low)
<input type="checkbox"/>	Fog Lights
<input type="checkbox"/>	Brake Lights (All 3)
<input type="checkbox"/>	Turn Signals
<input type="checkbox"/>	Parking Lights
<input type="checkbox"/>	License Plate Light
<input type="checkbox"/>	Reverse Lights
<input type="checkbox"/>	Hazard Lights
<input type="checkbox"/>	Side Marker Lights
<input type="checkbox"/>	Interior Lights
<input type="checkbox"/>	Trunk/Cargo Light

**CLEANING**

SERVICES	PROBLEM
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Wash Exterior
<input type="checkbox"/>	Spray Undercarriage
<input type="checkbox"/>	Vacuum Interior
<input type="checkbox"/>	Door Jambes
<input type="checkbox"/>	Rocker Panels
<input type="checkbox"/>	Windows
<input type="checkbox"/>	Mirrors

**GENERAL / MECHANICAL**

GOOD	PROBLEM
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Suspension
<input type="checkbox"/>	Drive Belts
<input type="checkbox"/>	Wiper Blades
<input type="checkbox"/>	Quirks
<input type="checkbox"/>	Coolant/Heater Hoses
<input type="checkbox"/>	Exhaust
<input type="checkbox"/>	Engine Air Filter
<input type="checkbox"/>	Battery Terminals
<input type="checkbox"/>	Trailer Wiring Harness
<input type="checkbox"/>	Cabin Air Filter



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