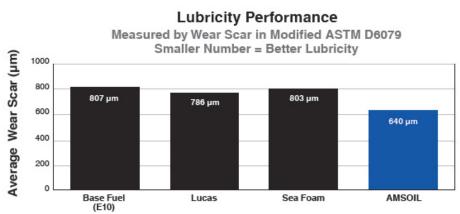


Your AMSOIL Information News Source

Product Highlight: <u>Upper Cylinder Lubricant</u>

The intense heat of combustion and limitations of the oil-control piston ring result in a lack of oil at the top of each cylinder. AM-SOIL Upper Cylinder Lubricant's unique additives provide that missing lubrication to fight piston-ring and cylinder wear, maximizing engine compression and horsepower. Its lubricity improvers also aid in protecting fuel injectors and other fuel-system components from wear, helping ensure excellent performance and long-life. AMSOIL Upper Cylinder Lubricant delivers 18 percent more lubricity than Lucas* and 20 percent more than Sea Foam* for better retention of horsepower and fuel economy (see chart below).





What's Inside This Issue?

Where Did The Fuel Come From?
p. 2-3
Congratulations
p. 4
Shop Talk with Dr. Olson
- Where Did The Fuel

.....p. 4

Come From Final Thoughts



Dealer Contact

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Omaha - Insane Oil Dr. Jonathan D. & Stacey L. Olson ZO Referral# 10458 402-990-7940 (text or call) <u>http://insaneoil.com</u> info@insaneoil.com

Where Did The Fuel Come From?

Check for source of FUEL LEAK. Fuel is at a SEVERE LEVEL. Fuel dilution may be caused by component faults related to injectors, ignition/timing, or excessive blow-by. Additional causes include heavy throttle application, engine lugging, frequent short trips and excessive idling. FUEL DILUTION reduces the viscosity of the lubricant which decreases FILM STRENGTH and LUBRICITY and may lead to increased wear. Base Number is SLIGHTLY LOW. As Base Number depletes, the ability to neutralize acids is diminished. Flagged additive levels are different than what should be present for the identified lubricant. This may have been topped off with a different lubricant, the fluid may be misidentified, or a different lubricant or formulation may have been in use prior to a recent change. Lubricant and filter change acknowledged. Resample at half interval.

If you have been reading this newsletter for any length of time, you probably know that I am a huge advocate of Fluid Analytics in vehicles and other equipment. For those that might not be familiar with Fluid Analytics, it involves taking a sample of a fluid in your engine (or equipment), sending it into a lab to get tested, and reading/interpreting the results. This is a practice that I do on a routine basis with all of my vehicles (and select other pieces of equipment).

1

In September of 2021, I submitted an oil sample for our 2008 Hyundai Elantra. For those long time readers, you might remember this vehicle as the one that had an oil pump failure and then I continued to drive 111 miles with no oil pumping through the engine which ultimately lead to the need for a complete engine rebuild (at Hyundai's expense covered under warranty). Yes, that car.

The oil report I received back noted a severe condition with regards to fuel mixed in with the oil (see note at top of page). This was

2

very concerning to me as the note indicated there was a fuel leak.

It had been 3 years since the engine was rebuilt and at first I was questioning the quality of craftsmanship of the Hyundai master mechanic or perhaps the parts they used. It sure wasn't anything that I did, I take good care of my vehicles. Who can I blame other than myself?

At the time of the oil sampling, I did an oil change and as noted by the report, it was suggested that the oil be resampled at half interval.

Since I use <u>Amsoil Signature Series 5w-20</u>, I only change my oil once per year. Thus, I was requested to wait six months and submit another sample...which I did.

Fast forward to March 2022 (six months after the first sample) I took a sample, mailed it in, and received the results. Again, the results came back (see note at bottom of page) indicating a possible fuel leak and stating that the fuel contamination is at a SEVERE LEVEL.

I could not find any indication of a fuel leak although I guess I wasn't really sure what to look for because if the fuel is leaking into the oil, it isn't really something you can visually see because it is all internal to the engine.

At the time, my initial thought was twofold:

1. To ensure the oil can do its job to protect my engine, I will switch to Amsoil OE which is the oil that you change according to the manufacturer interval (3,000 miles or 3 months). The purpose would be to continually dump the fuel saturated oil and keep a fresh supply of oil in the engine.

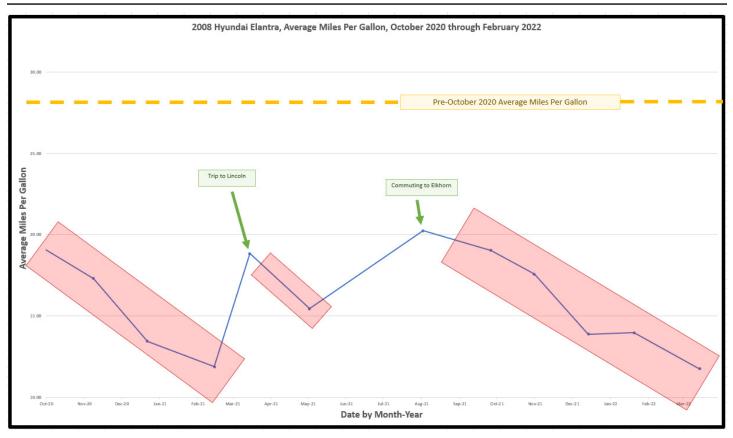
2. Do more research into what could be leaking and keep monitoring the situation to hopefully find a solution.

continued on next page ...

Check for source of FUEL LEAK. Fuel is at a SEVERE LEVEL. Fuel dilution may be caused by component faults related to injectors, ignition/timing, or excessive blow-by. Additional causes include heavy throttle application, engine lugging, frequent short trips and excessive idling. Is this a Direct Injection Engine? If so, please notify the Data Analysis department to update this component information. LUBRICANT and FILTER CHANGE is suggested if not done at sampling time. Bushing/Thrust metal is at a MODERATE LEVEL; Flagged additive levels are lower than expected for the identified lubricant. This may have been topped off with a different lubricant, the fluid may be misidentifed, or a different lubricant or formulation may have been in use prior to a recent change. Please

lubricant, the fluid may be misidentifed, or a different lubricant or formulation may have been in use prior to a recent change. Please provide this units sump capacity with next sample. Resample at half interval. Sample information has been added or tests have been rerun or additional testing was added and the report has been regenerated.

Where Did The Fuel Come From?



Furthermore, when I analyzed my fuel data (shown above) from October 2020 through February 2022, which is the date ranges that encompass the oil analytic report timeline, I noticed an alarming trend.

1. My average miles per gallon between October 2020 and February 2022 was 15.76 miles per gallon.

2. When I drove long distances, my fuel economy raised a little.

3. The average fuel economy for the life of this vehicle up until this time frame was 27.51 miles per gallon (shown by the yellow line above).

What was very concerning was that the oil analysis report indi-

cated that I quite possibly have a fuel leak due to the extremely high levels of fuel in the oil AND when I ran my fuel data, it showed that I was getting terrible fuel economy, which could mean that a portion of the fuel was leaking somewhere...presumably into the oil.

On top of that, even when I drove

longer distances than usual, I was still no where near the miles per gallon that this vehicle should get. Another concern that I had was correlated to a vehicle collision involving this car in October 2020 (see picture below). Could this have been a contributing factor?

continued on next page ...



Shop Talk...

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

It seemed that the accident of 2020 may have been the contributing factor to these high fuel dilution levels in the oil sample. My son and I did the repair work ourselves. Perhaps we missed something in the repair process. Or, perhaps I did not take into account all of the variables when analyzing my oil report. Next month I will share with you some additional variables that I took into consideration and ultimately the cause of the fuel leak, the solution for this vehicle and what you can learn from what I learned.

Dealer Contact

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Omaha - Insane Oil Dr. Jonathan D. & Stacey L. Olson ZO Referral# 10458 402-990-7940 (text or call) http://insaneoil.com info@insaneoil.com

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Steven Krueger Poynette, WI

Congratulations:

<u>New Dealer</u>

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