

in partnership with Insane Oil of Omaha

Your Amsoil Information News Source

Product Highlight: <u>P.i. Performance Improver</u> Gasoline Additive

A vehicle demonstrates its best efficiency and engine performance when it is new. As the engine ages, its performance suffers from gasoline fuel-generated deposits that form on the fuel injectors, intake valves and combustion chamber. Additives are required to control deposit formation.

Today's fuels, however, lack sufficient treatments of either enough additives or high quality additives. Fuel system deposits result in the following:

Lost fuel economy, lost power and poor throttle response, failed emission tests, poor drivability surging, hesitation, stalling, rough idle, engine knocking (pinging) and rap, and difficult starts.

What's inside?

Performance Improver, Part 1...p. 2

Performance Improver, Part 2...p. 3

Diesel Digest-Crankshaft/Journals.....p. 4 Shop Talkp. 5 Dealer Zone.....p. 5



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Congratulations:

New Commercial Account

James Enterprise Inc Lincoln, NE

New Preferred Customers

Sean Grooms Henderson, NV

Dustin Roth Papillion, NE

Tom Banta Lincoln, NE

Jason Carl Waverly, NE

Juan Padilla Lincoln, NE

Clarence Whitehead Syracuse, NE

New Catalog Customers

Michael Gumpert Kaukauna, WI



The Sweet Benefits of Pie

If you have been keeping up with the newsletter over the past several years you will no doubt know that I have a tendency to experiment with my vehicles to collect data and learn about the effects of various products (Amsoil and otherwise). About six months ago I received a text message from an individual asking me if I am an Amsoil dealer. I responded accordingly and he proceeded to ask me if I would be interested in purchasing a fairly sizable quantity of stock. I asked him to text me some pictures and said that I would be interested in taking a look. As the pictures came across the wire, the first thing I noticed was several vintage metal cans of oil. It immediately peaked my interest and I set up a time to look at the products.

After arriving at this individual's home and began assessing the stock, I was informed that this individual's father was an Amsoil Dealer from the late 1970's until he passed away in 2017. As he was cleaning out his father's home he had come across the stock of Amsoil products, wasn't sure what to do with them, and thus I was contacted. I was informed that this individual's father had worked the business up until he became ill.

As I continued to assess the product stock I noticed that a good portion of the stock was outdated...by about 25+ years. Yet another sizeable amount was fairly current products. The individual offered a fair price taking into account the age and quantity of the stock. I agreed and we began loading up my trailer.

When I returned home I inventoried all the products and began trying to figure out what I was going to do with it all...and more importantly where I was going to put it before my wife came home.

The products that were easily identifiable as current and fresh were integrated into my stock. All other products were assessed on a case by case basis. With much of the old product, I located several Amsoil collectors and agreed upon a fair price. I also kept a few of the old metal cans for nostalgic reasons.



And then there was some product that I wouldn't dare recommend anyone else put in their vehicles but wondered what would happen if I put it in mine.

Part 1

I had six bottles of an old formulation of Amsoil Octane Boost. I estimated the date between 15 and 20 years old. I read the back of the bottle and it looked like some great stuff to try in my wife's car... and my truck of course. Given that my wife has a 2008 Hyundai Elantra, I added one bottle of Octane Boost every two fill-ups at the gas station. For my truck, since it has a larger fuel tank, I used it every time I filled up.

I was hoping to get a High Octane racing like experience as I drove away. I thought I felt something but then realized that I had just driven over the curb as I pulled away from the gas station.

continued on next page ...



February 2018 - Page 2 of 5

The Sweet Benefits of Pie

Part 2

I wanted to track my gas mileage and collect some data on my experiment.

In the 12 months prior to this experiment I averaged 13.13 mpg in my truck. After using the Old Octane Boost the first time I noticed a dramatic change...my fuel economy dropped about .5 mpg. After the next fill up and another bottle of the Old Octane Boost, it dropped another .5 mpg. Additionally, when I would first start my truck in the morning it would shutter, have a low idle and felt like it wanted to die. This minor setback didn't phase me though. I used another bottle at the next fill up. At the 4 week marker in my experiment my "Service Engine Soon" light came on. I figured I just didn't tighten the gas cap so I procured a sticker from my daughter's sticker collection and just covered up the "Service Engine Soon" light. Problem solved.

Just kidding...I used my scan tool to help me diagnose the problem so I could use my inductive reasoning skills to troubleshoot



why this calamitous event had occurred.

My scan tool helped me determine that Cylinder #1 had a misfire. As I was conducting my research on error code P0301 I thought to myself, "Perhaps it could be faulty spark plugs or wires? Maybe it is an oxygen sensor?" I then came across a possible diagnosis...a faulty fuel injector. This perhaps explains the engine stumbling/ hesitation at startup. It was at this point I thought it prudent to discontinue my experiment and fix this misfortune I had created. I headed over to the gas station and used a bottle of Amsoil P.i. Performance Improver (I know what you are thinking ... and yes, it was a new, fresh bottle). I then proceeded to fill up my tank. Within 24 hours, driving my typical routes, my check engine light turned off and the stumbling/hesitation completely quit. I was amazed at the effectiveness of Amsoil P.i. Performance Improver in such a short period of time.

My wife's vehicle demonstrated similar results. In the 12 months prior to my experiment, her vehicle averaged 28.16 mpg. Directly after adding the first bottle of the Old Octane Boost the fuel economy dropped to 27.03 mpg, then 26.66 mpg, then 25.08 mpg. As with my vehicle, her car experienced less than adequate performance. I followed suit and added a bottle of <u>Amsoil P.i. Performance Improver</u> and the issues magically resolved themselves within 24 hours. As a note to those of you that have old products I don't encourage such practices as I described and for the sake of the longevity of your vehicle, I don't recommend using antiquated products. All Amsoil products have a shelf life and storage specifications.

In general, products should be stored between 32° F and 85° F. The products I described in this article were stored in a garage that had no climate control for the duration of storage, 20+ years in some cases.

Amsoil does not directly give shelf-life timelines for products because there are many variables that affect shelf life. Some estimates indicate that most liquid lubricants can last five years and greases will store for two years. Some resources have indicated that fuel additives should be used within two years. I found a thirdparty article, online, claiming that "if stored properly, they can remain stable and retain their effectiveness for an indefinite period of time". I personally find that hard to be believe.

The Octane Boost I was using was 15-20 years old and was not stored properly. It is obviously clear that it was well beyond the acceptable shelf life and should not be run in a vehicle as I concluded from the data analysis described in this article.

Perhaps my next experiment should be with new, fresh products.

Diesel Digest - Crankshaft & Journals

The crankshaft converts the reciprocal (up and down) motion of the pistons into rotary (turning) motion. This rotary motion is transferred to the flywheel and eventually to the transmission or driveline. Since the crankshaft must transmit all of the power produced by the engine, it is the engine's strongest part.

The crankshaft protrudes through the cylinder block at the front and rear of the engine. Oil Seals are used at these points to prevent the oil inside the block from escaping. If your rear main seal or front main seal is leaking it is a major repair. It involves exposing the crankshaft to replace the oil seals. Keep in mind the crankshaft is running through the middle of your engine.

The crankshaft has a number of key parts and features, including journals, oil galleries, and timing gears.

Journals are the sections of the crankshaft that actually ride in the cylinder block saddles. These journals have been ground or polished to a very smooth finish. This allows the journals to rotate easily in their bearings.

A crankshaft has both main bearing journals and connecting rod journals. Main bearing journals support the crankshaft as it turns in the cylinder block. Main bearing journals are larger than connecting rod journals. They are also located on a centerline with the ends of the crankshaft. The distance from the crankshaft cen-



February 2018 - Page 4 of 5

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

Throughout the teaching process I often times like to provide the students an opportunity to be challenged...or at least to challenge their patience and perseverance. I gave a lesson the other day where we discussed gasoline. This being specific to lawn mower engines. I noted that there are multiple different "types" of gasoline that you can purchase and that some may not be suitable for a small engine. I then went on to note that some say your owner's manual is the least read book that you own.

I handed out an owners manual to the engines and we proceeded to look up some information. We noted that there is a section specific to fuel and the identifiers of acceptable fuel and unacceptable fuel for our engines.

First off, we determined that our engines utilize gasoline, not diesel.



After that we talked about Gasoline with 10% Ethanol, E15 and E85. In the end we determined that, according to the manufacturer, it is acceptable to use 87 Octane or higher fuel and it can have up to 10% Ethanol in it.

Next we talked about good quality gasoline, contaminates/sediment in the gasoline, old gasoline, phase separation and the effects of Ethanol on some engines, such as 2-cycle weed eaters.

We then determined that we need fresh, good quality, clean gasoline for our engines.

The next day our goal was to start 5 of the 13 engines that we will be taking a part. After checking for spark and mounting the engine to the chassis, my students added the proper amount of oil. Next it was time for gasoline.

I intentionally had a the gasoline cans sitting on a low shelf. The can that was sitting in front had bad gasoline that we dump out of old engines that are donated. The gasoline from these engines have been sitting in garages, under decks, and in corn fields for years. The gas can directly behind the "Bad Gasoline" can is our "2-cycle Engine Mixture" can, that had also been sitting for about a year.

I didn't comment as students grabbed their choice of gas can and passed it around the room. Needless to say, the students had a bit of difficulty starting their engines. I asked them why they thought it was so hard to start. They weren't sure but thought it may be because the engines were brand new and didn't have any gasoline in them when they were shipped. I told them to give it 10 pulls and then rotate with their partner and they can give it 10 pulls. It was quite the humorous activity...for myself. Each time they began to get tired I would say, "I think it is just about to start." or "It wants to go...maybe just a few more pulls." Perhaps I should have offered Physical Education credit in conjunction with this class.

By the end of the day we did get all of the engines to turn over... but rough did they run. Perhaps tomorrow I will inform them that not all gasoline cans have the same type of fluid inside of them.

Dealer's Zone By Don Olson, ZO #4901

Two brochures you can hand out to everyone are the <u>G3148 "Sig-</u> <u>nature Series Synthetic Oil"</u> and the <u>G2956 Briggs & Stratton in-</u> <u>formation sheet</u>.

For every 100 <u>G3148</u> brochures you give out, you should get from 2 to 5 orders (maybe new Preferred Customers). All you need to do is put your ZO number on the back and distribute around your neighborhood, in a parking lot (if there is no law against it) or any trade show gathering, school conferences, on the street, or any other place people gather. (wearing an AMSOIL shirt or coat may help your credibility).

The <u>G2956</u> is great because it lists 27 uses for AMSOIL 2-cycle and 4-cycle oils. Also lists 17 small engine manufacturers that you can use AMSOIL in. On the back of the sheet it lists 13 AMSOIL products for 2 and 4 cycle engines. Hand these out or mail them to friends and acquaintances. One more way to generate customers and new sales without going door to door.