

Olson Marketing

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in partnership with Insane Oil of Omaha

Your Amsoil Information News Source

Amsoil Monthly Highlight: Upper Cylinder Lubricant

This newsletter we continue discussing Amsoil's newest product, [Upper Cylinder Lubricant](#).

Your engine's top-end is sparsely lubricated and prone to the development of performance-robbing deposits. It's also highly susceptible to corrosion, an issue compounded by the prevalence of ethanol in today's fuel. Amsoil's powerful formulation of [Upper Cylinder Lubricant](#) helps maximize engine power and performance while increasing engine life. And unlike competing fuel additives, AMSOIL [Upper Cylinder Lubricant](#) works.

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Congratulations:

New Preferred Customer

Harvey Novak
Lincoln, NE

New Catalog Customers

David Schiff
Nederland, CO

Ruslan Suleimanov
Roseville, CA

Merry Christmas and Happy Holidays!

We want to wish you a very Merry Christmas and Happy Holidays as 2019 is swiftly coming to an end. Often times we work so hard to pay the bills and excel within our respected fields that we don't take the time we should to spend it with family and friends. Make a point this holiday season to give someone a call and see how they are doing. Perhaps schedule a time to meet and converse with them. They will appreciate it more than you know.

Don Olson
Olson Marketing

Jon Olson
Insane Oil

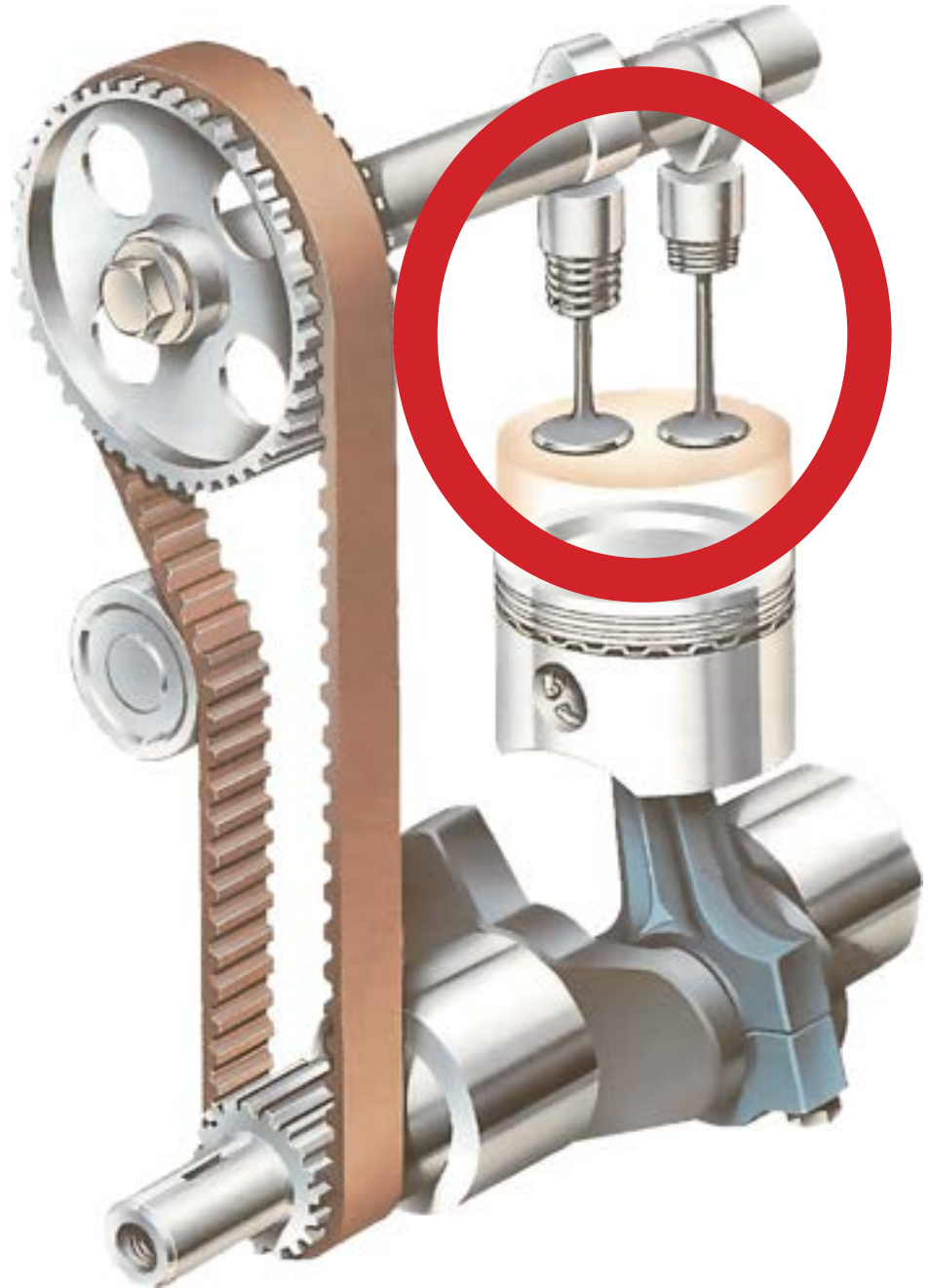
Upper Cylinder Lubricant...Part 2

In last month's newsletter I gave an introduction to Amsoil's new product, [Upper Cylinder Lubricant](#). Specifically, I was attempting to ascertain the importance of this product as I am not one to "buy in" to a new product, or application of a new product, without doing my own research first.

Last month, I discussed the history of lubricating the upper cylinder, as it was previously lubricated through the use of leaded gasoline. After lead was determined to be hazardous to the health of people and the environment, automobile manufacturing and oil companies began modifying their products to combat the loss of leaded gasoline. The solutions from this challenge worked somewhat okay until the integration of the trifecta...Ethanol Gasoline, Gas Direct Injection, and Turbochargers. However additional concerns were (and are) at play beyond the trifecta, specifically the ongoing process of degradation through flash corrosion.

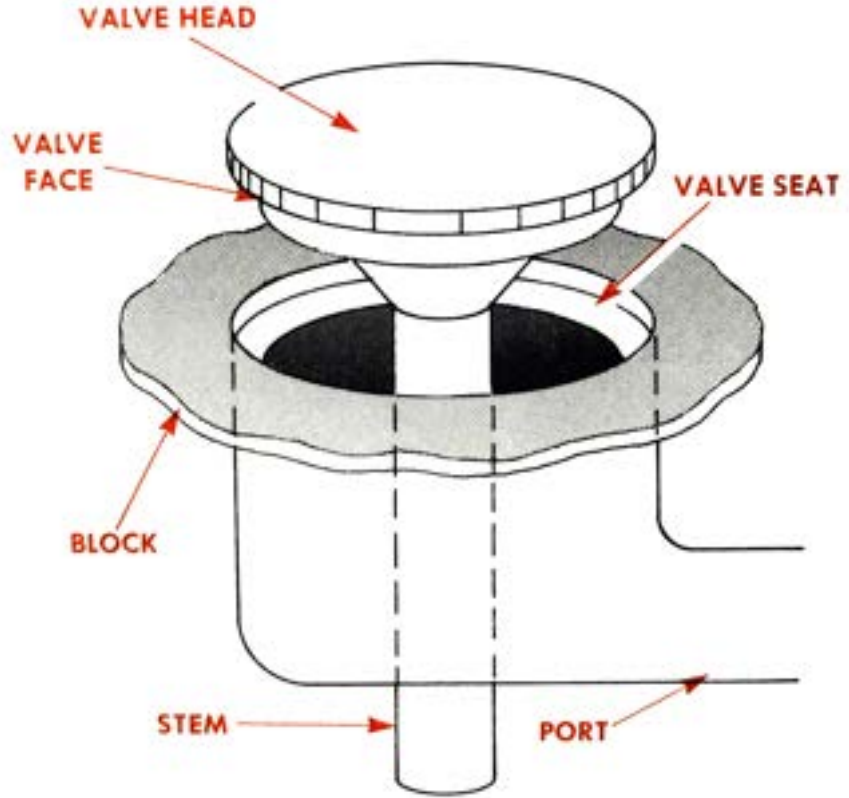
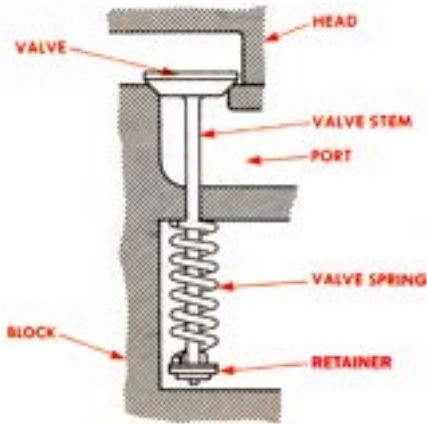
This brings us up to speed on our discussion and onward to what is called "oil cushion" on the components found within the upper cylinder; the valves and valve seats. Inside your engine there are many valves that are opening and closing continuously. It is common for a lawn mower engine to have one cylinder and two valves (one intake, one exhaust) where as a vehicle engine might have eight cylinders and 32 valves.

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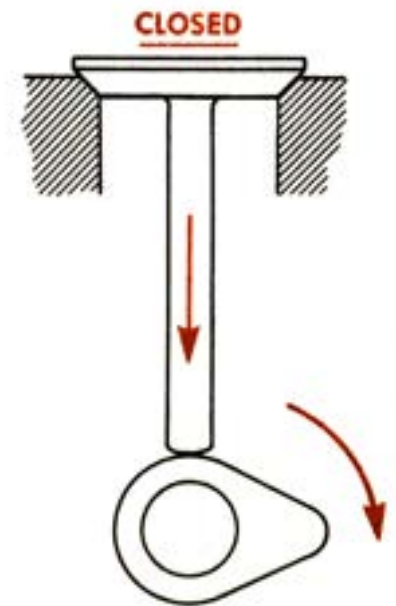
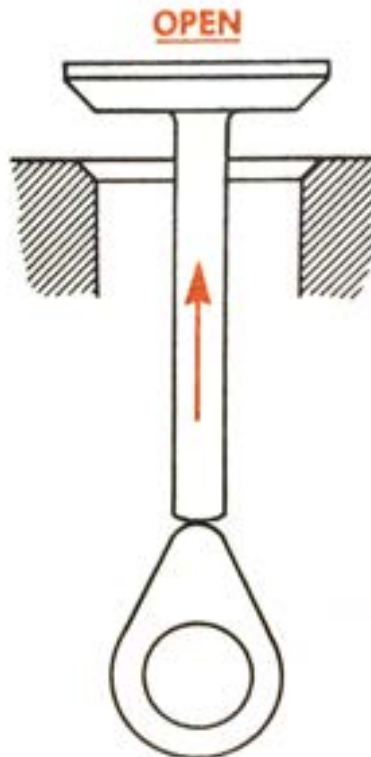
continued...Upper Cylinder Lubricant

The valves have a precision ground surface ("face") that meets with a precision machined surface called a "seat". In your engine, the valves are constantly opening and closing, whether air (or air/fuel) is entering the engine or exhaust is exiting the engine. The valve is pulled closed by springs as the camshaft rotates and are continually hitting on the valve seat.



When the use of leaded fuel was prevalent, the lead would form an "oil cushion", a tiny slippery film, that would coat the valve face and valve seat reducing the force at which the valve face would encounter the valve seat. Essentially, it prevented one extremely hard metal to encounter another extremely hard metal "dry". Think of it like the tires and suspension system on your car. If we had solid metal tires with no shocks or springs, driving on a hard solid road, it would tear our car apart...in addition to ourselves. Rather we put a cushion between our vehicle and the hard road; tires, shocks, and springs. This gives us a smoother ride, reducing the wear and tear on vehicles and extending vehicle life.

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AMSOIL
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continued...Upper Cylinder Lubricant

The slippery film, called "oil cushion" also helps guide the valve into it's proper seat and will help seal the valve face on the valve seat. This further reduces wear and tear on your valve train considerably. This will extend the periods before valve jobs are required. If you ever hear a light ticking coming from the top of your engine, chances are one or more of your valves are not functioning at peak performance and you are hearing the effects of that...metal hitting metal over and over.

Further complications can occur with heat dissipation on the valves in conjunction with the valve's shock load. Temperatures inside the combustion chamber of the engine can reach 4,500 degrees Fahrenheit. The force at which the valve hits on the valve seat is known as the "shock load". As metal heats up it becomes more malleable and wants to change shape. Think about hitting a hot piece of metal with a hammer, like on the tv show Forged in Fire. The metal changes shape. In an engine this is called "tuliped valves".



Most engine valves feature valve heads with a concave area that faces into the engine's combustion chamber. If a valve is overheated, this area may become distorted, increasing the depth of the concave area and making its appearance similar to the head of a tulip. This also increases the valve's overall length and reduces valve clearance.

Although valves are designed to withstand the forces of heat and shock load under normal circumstances, the testing process is conducted in a lab setting with a controlled environment, it is not tested on vehicles that have been on the road, in severe service for 20 years.



Minimizing the degree of "shock load" through the utilization of an oil cushion created by the application of an [upper cylinder lubricant](#) will reduce the chance of "tuliped valves" and increase the longevity of your engine.



Recap Thus Far

So far, we have discussed multiple reasons that give merit to the use of [Upper Cylinder Lubricant](#). They include:

1. The harsh environment within the trifecta engine (Ethanol Gasoline, Gas Direct Injection, Turbochargers) are 30-40 times worse than older port fuel injector technology and require additional lubrication.
2. Prevention of "Flash Corrosion", and corrosion in general, within the upper cylinder area, especially if using Ethanol fuels which absorb water.
3. Increase lubricity of valve stems and guides to decrease friction and ensure proper seating and sealing.
4. Reduction of valve shock load (and ultimately valve tuliping) by creating an Oil Cushion on valve faces and valve seats.

As I noted in last month's newsletter, the use of [Upper Cylinder Lubricant](#) does not entail a quick and easy answer. Next newsletter, I will hopefully be able to finish up my answer to the question "Why should I use [Upper Cylinder Lubricant](#)?" Specifically, I will be discussion the injectors/carburetors, fuel pumps and additional minor benefits associated with the use of [Upper Cylinder Lubricant](#) in your engine.

Until next time