

The Mystery of Marvel Mystery Oil

OIL OR SNAKE OIL?

Technically it's:

- 70% Light Aromatic Oil (Pale Oil)
- 29% Mineral Spirits
- 38 parts per million (ppm) Boron
- 900 ppm Phosphorous
- 1/2% 1, 2 Ortho-Dichlorobenzene
- 1/4% 1, 4 para-Dichlorobenzene
- Oil of wintergreen
- Red Dye

But, anyone familiar with Classic cars, Antique aircraft and many other types of engine powered equipment will tell you of its legendary qualities, then point to where it sits on the shelf in their shop.



WHY IS A PRODUCT INTRODUCED IN 1923 STILL AROUND and LEGENDARY?

To best answer that and on behalf of the many enthusiasts and neophyte or soon-to-be Classic car owners reading our blog, we need to go back to the 1920's and Marvel Mystery Oil founder, Burt Pierce. Pierce invented the Marvel Carburetor, which became standard equipment on 80% of all vehicles produced after WWI (1914-1919).

Vehicles of the post WWI era were encountering carburetor problems, the most common being clogged jets due to contaminants found in the gasoline of the time. This motivated Mr. Pierce to direct his creative ingenuity towards formulating a blend of chemicals and petroleum products to clean and maintain clogged jets. His success, called "Mystery Oil" and used as a fuel additive addressed these issues with amazing results.

A secondary issue inherent to the time was engine oil. Unlike modern lubricants, the refinement process did not adequately remove "long-chain" paraffin's and there were no chemical additives to prevent the rapid build-up of "sludge".

NO OIL BECOMES THE ISSUE

There were no documents available to verify if and when Pierce became aware of MMO's ability to act as an upper cylinder lubricant or as a "sludge cutter", but these are two additional properties which added to the "powers" of "Mystery Oil".

In the most basic of terms, available information reflected people using MMO as a gas additive to prevent clogged jets supposedly reported fewer lubrication related maintenance issues. It's easy to understand why someone would have tested MMO for these reasons, as based on this 1928 postcard, a complete overhaul of an engine and/or transmission appears to have been as common as a tune up.

Dear Sir:—

We're writing this letter to you today because we want to help you get your money out of your Model T.

It's still as good a car as it was the day the new Model A Ford was announced and there's no need to sacrifice it.

The Model T Ford is still used by more people than any other automobile. Eight million are in active service right now and many of them can be driven one, two, three and five years and even longer.

Bring your car to us and let us look it over. You'll be surprised to see how little it costs to put it in tip-top shape.

New fenders, for instance, cost from \$3.50 to \$5.00 each, with a labor charge of \$1.00 to \$2.50. Tuning up the motor and replacing commutator case, brush and vibrator points costs only \$1.00, with a small charge for material. Brake shoes can be installed and emergency brakes equalized for a labor charge of only \$1.25. A labor charge of \$4.00 to \$5.00 will cover the overhauling of the front axle, rebushing springs and spring perches, and straightening, aligning and adjusting wheels.

The labor charge for overhauling the average rear axle runs from \$5.75 to \$7.00. Grinding valves and cleaning carbon can be done for \$3.00 to \$4.00.

A set of four new pistons and rings cost only \$7.00. For a labor charge of \$20 to \$25.00 you can have your motor and transmission completely overhauled. Parts are extra.

Very truly yours,

Bottineau, N. Dak.

C. R. GLEASON CO.

HOW DOES IT SUPPOSEDLY WORK



Yes, you can expect the Impossible!

A few minutes after AMPCO is installed on your motor the improvement in power, performance and quiet operation is unbelievable! The AMPCO unit supplies a constant, metered spray of vapor lubricant into the upper cylinder area—where crankcase oil can't reach.

MORE MILES—MORE SAVINGS

Because AMPCO gives your motor an oil seal for highest compression—because vital moving parts are protected from dragging friction and scorching heat—and because the valves, stems, pistons, rings, and cylinders are constantly cleaned, lubricated and protected—you get more miles per gallon, more power per mile, and cooler, smoother running all the way.

VAPOR AMPCO LUBRICATOR

WE INSTALL AMPCO BECAUSE: Our obligation to you as a customer is to ensure maximum performance of your car. An Ampco heat-wear zone lubrication system will give your car wings!

INSURES POWERFUL PERFORMANCE!

Based on the information we could locate, as a gas additive, and after doing its carburetor "magic" it remains stable long enough to act as an upper cylinder lubricant and provide additional ring seal. During combustion, the esters (oxygenated solvents) turn to steam, "de-coking" the combustion chambers as the engine runs. When added to the crankcase (in proper proportions) it is reported to act as a "detergent" to fight and clean up the accumulation of "sludge". This second benefit was also afforded to other lubricated mechanicals, such as the transmission and rear axle. So as time progressed so did the uses for MMO.

AMPCO MARVEL MYSTERY OIL INJECTOR

By the 1940's, gasoline refinement eliminated most of the earlier carburetor related issues, but either because of the design of the Flathead engine or sludge related oil problems, upper cylinder lubrication became the dominant focus.

That's when the AMPCO Company developed an automatic MMO injector system. Here's a video produced by a Classic car owner, Carrol Lane, reviewing the injector system and his experiences with MMO. The conditions and reported benefits of using MMO, didn't disappear with the introduction of OHV engines. Neither did MMO. It's longevity as a highly regarded product for almost any kind of vehicle can be found online. Cars, boats, ships, tanks and even aircraft. Information reflected it was ordered and used in bulk by the Military during WWII, although we were unable to find any documented reports to substantiate the claims.

DOES IT WORK?

We've personally used MMO as directed with no disastrous results, know dozens of people with comparable experiences and after searching the web, there are thousands of similar reports. We also located a number of items debating, sometimes condemning the use of MMO. One which caught our attention was this supposed exposé, which included MMO within the section headed "Detergents and Solvents". After reviewing the MSDS sheets of the other products against MMO's, the other products were vastly different. So as they say on that TV show, the condemnation within the article is "BUSTED".

We also contacted David Burroughs of **Prove It®** (Garagistry advisor, noted automotive historian, and expert in the restoration of Classic cars and antique aircraft) to ask about the use of MMO in aircraft. Here's what he had to say:

"Marvel Mystery oil is credited to prevent stuck valves and reduce wear inside radial engines. Many radial engine pilots, owners, and mechanics claim that this is true. However, I'm not aware of any data or official studies conducted by the FAA, universities, or independent laboratories that conclusively prove it. The evidence is anecdotal as far as I know. On the other hand, since there is no data to prove that it does any harm, I believe the FAA accepts its usage.

In other words, although the FAA doesn't specifically "approve" water for use in cleaning an airplane, the FAA accepts the use of water for that purpose because it does no harm. Same principle for Marvel."



David Burroughs sits in his historically correct 1942 Boeing-Stearman Navy N2S3.

IN CONCLUSION Can we "officially" recommend or endorse the use of MMO? No, because we are not experts in the field of lubricants or chemistry, but based on the fact it has been used for over 90 years, our own positive experiences along with those of others, we can't really condemn it either.

In this case, results of using MMO is "PLAUSIBLE". Additionally and regardless of the "scientific powers" of MMO, it's as much a part of automotive history as the carburetor itself. But this article has received considerable condemnation from various Forums. As we've noted in another post, everyone's entitled to their own opinion, an expert.

i.e.-"Lmao, what a site. At least they correctly conclude there's no evidence it does anything.

Originally Posted By: jk_636

If you are wondering about Mr. Pierce, General Motors bought the patent for the Marvel carburetor and hired him for a role within GM. The Marvel Mystery Oil Company, originally located in Port Chester, NY (about 40 miles NE of Gasoline Alley) was purchased by Turtle Wax and moved to Chicago in 1999.

Finally and FWIW, here's the Formula of MMO, based on the MSDS analysis along with the known qualities of the mixture by item and volume.

70% Light Aromatic Oil (Pale Oil), a Naphthenic Oil, so while it oxidizes faster than a Paraffinic oil, it does clean and dissolve sludge and carbon well and cleans up after itself from any oxidation serves as base oil as well. [Naphthenic oils have more solvency and are more polar (they are attracted to metal more), but oxidize faster.

29% Mineral Spirits- Cleans Varnish very well. General cleaner. Also acts as an antioxidant.

38 parts per million (ppm) Boron- AW/EP agent, friction reducer, antioxidant

900 ppm Phosphorous- AW/EP agent

1/2% 1, 2 Ortho-Dichlorobenzene- EP agent as it interacts with Iron to form an Iron chloride barrier under any ZDDP or other AW additives. Also very good cleaner/solvent, and friction reducer

1/4% 1, 4 para-Dichlorobenzene- EP agent as it interacts with Iron to form an Iron chloride barrier under any ZDDP or other AW additives. Also very good cleaner/solvent, and friction reducer

Oil of wintergreen - for the scent and is also a cleaner. May aid lubricity.

Red Dye - for the color- well this one just colors the stuff

Also, if you'd like to add a bit of nostalgia to your classic, the AMPCO injector system is still being made today. You can order it direct from the manufacturer.