

Combustion Chamber Deposit Solutions



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Run-Rite Quality Statement

CAT Products, Inc./Run-Rite provides automotive maintenance products and equipment to the professional automotive service markets.

We constantly attack our own products in the continuous quest for excellence. As automotive technology continues to evolve and change, our research and development team always looks for a better way. We understand that bringing the best products to market is a process; not an event.

Quality

By partnering with the leaders in fuel additive and lubrication technology, our formulas are second to none.

Extensive product testing — including road simulators, dynamometers, optically accessible engine, borescope, permascope, and emissions lab — ensure effective formulas.

Our products meet or exceed OE specifications and, when used as directed, won't void warranties.

Our packaging plants meet ISO 9001 or equivalent standards.

Run-Rite is a Chevron partner and an approved supplier to the leaders in the automotive industry, including Tier One for major OEMs.

Affiliations



Combustion Chamber Deposit Cleaner

Chemistry Behind the Product

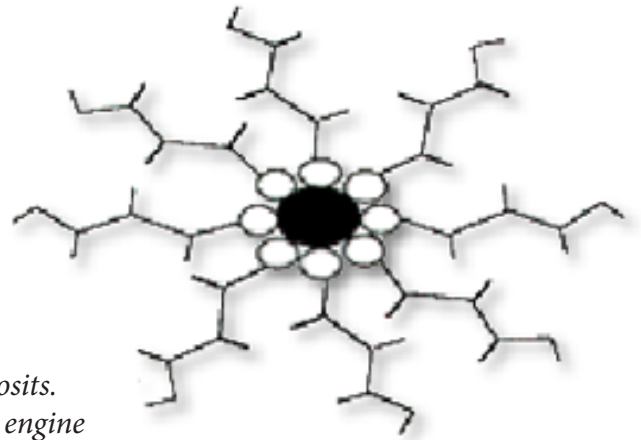
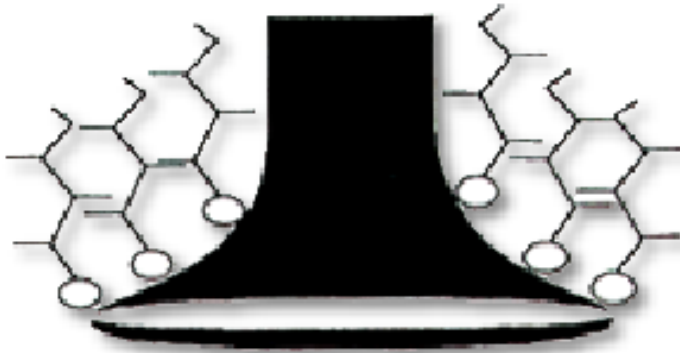
Cleaning carbon and deposits on engine and fuel system components is fairly easy: even kerosene or alcohol will soften fuel system deposits over time. So what makes Run-Rite products superior?

Temperature.

Softening carbon and fuel system deposits is easy... at temperatures between 50° and 100° F (10° and 38° C). And if you're planning on tearing an engine down to clean it, you'll probably be okay with standard shop cleaning solvent.

But, in a running engine, temperatures rise over 800° — at that temperature, alcohols and kerosene quickly burn away. In fact, most alcohol-based fuel system cleaners actually create additional deposits at these high temperatures.

That's what makes Run-Rite Sledgehammer! different: We use the most effective additive combinations available, to create a patented detergent formula consisting of **polyetheramines** and **pibamines**.



The detergents in Run-Rite products attach and soften the deposits. Then the “tails” spread and allow the natural flow through the engine to disperse them and blow them away.

How effective are these chemicals? General Motors' most recent recommendations for fuel system cleaning specifically recommend cleaners based on this chemistry. And they warn against using alcohol- or acetone-based cleaners.

The reason? Thermal stability. These chemicals retain their cleaning capability at very high temperatures. Which allows Run-Rite Sledgehammer! to remain effective, all the way through the heads and into the combustion chamber, where you need it most.

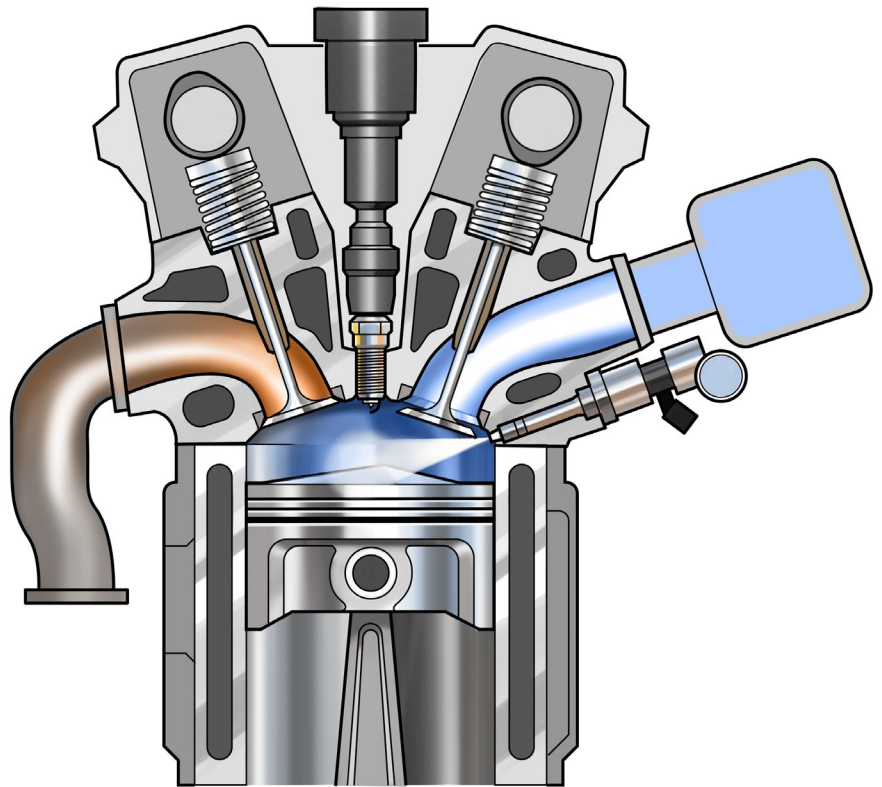
Combustion Chamber Deposit Cleaner

Combustion Chamber Deposits

Today's newest fuel injection systems spray fuel right into the combustion chamber. This allows the system to meter gas at near perfect levels... when the system is new and clean.

But moving the injector out of the intake leaves the PCV and EGR vapors to fill the intake; there's no longer any gas to mix with those contaminants and wash them away. The new engines build up deposits from the crankcase and exhaust much quicker than earlier systems

And now the injector is right in the combustion chamber: What was a heat soak of a couple hundred degrees is now pushing to five or ten times that level!



The result is that these new, precision fuel systems build up dirt and contaminants faster than ever before. It isn't long before those contaminants reduce fuel economy, increase emissions, and start setting trouble codes for a misfire or performance issue.

Combustion Chamber Deposit Cleaner

RUN-RITE



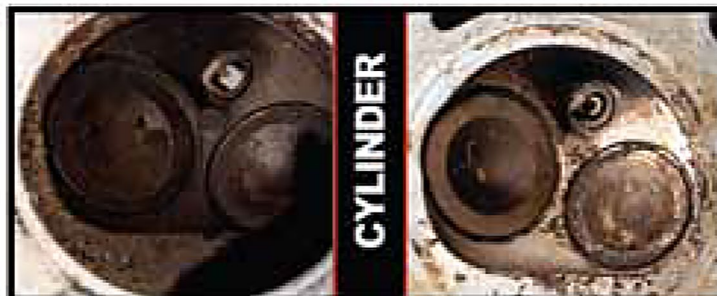
Effective Cleaning

Run-Rite Sledgehammer! is effective at cleaning buildup on the fuel and induction system, all the way down into the combustion chamber.

Adding Run-Rite Sledgehammer! to the gas tank is a terrific way to keep customers' cars running at peak performance, and provide them with great gas mileage, low emissions, and power to spare.

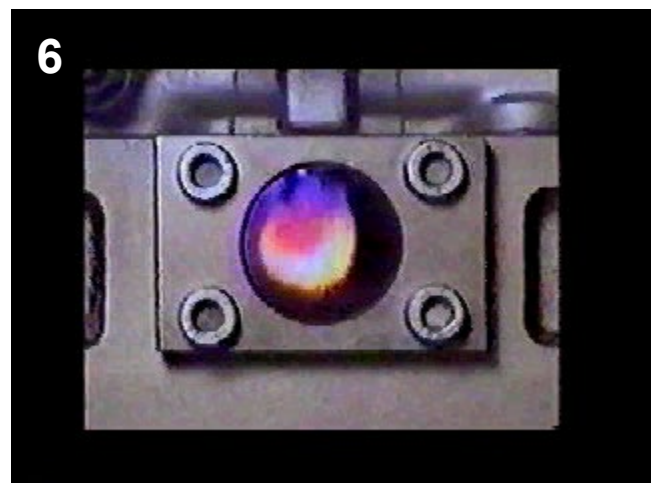
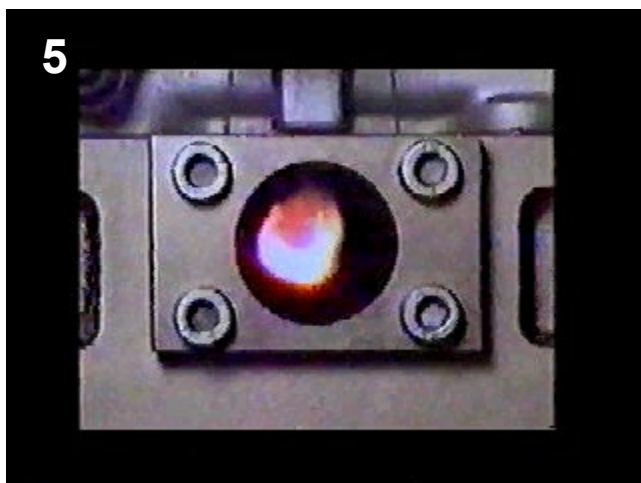
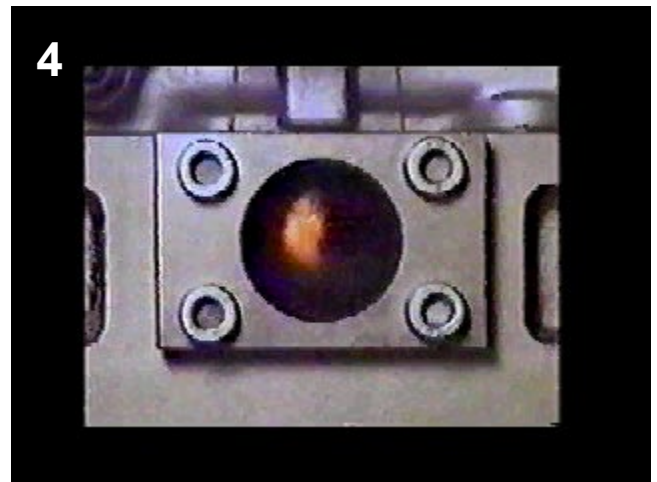
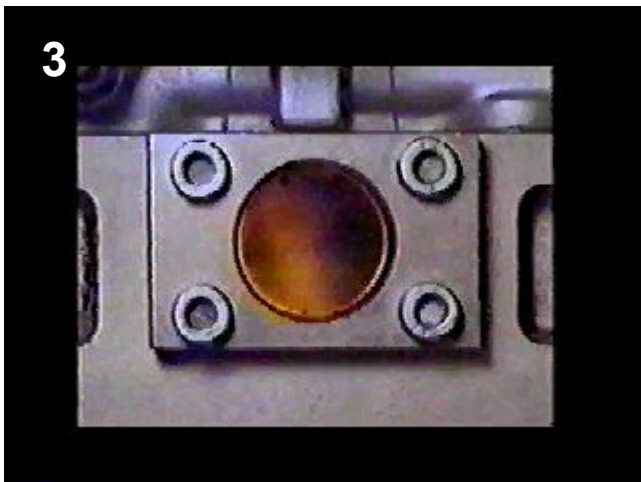
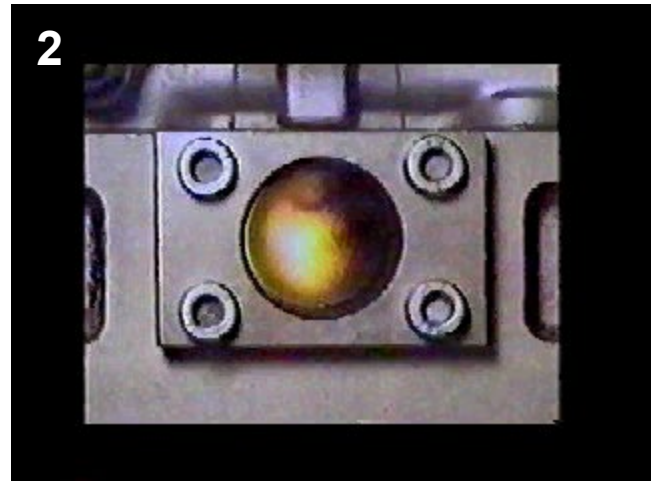
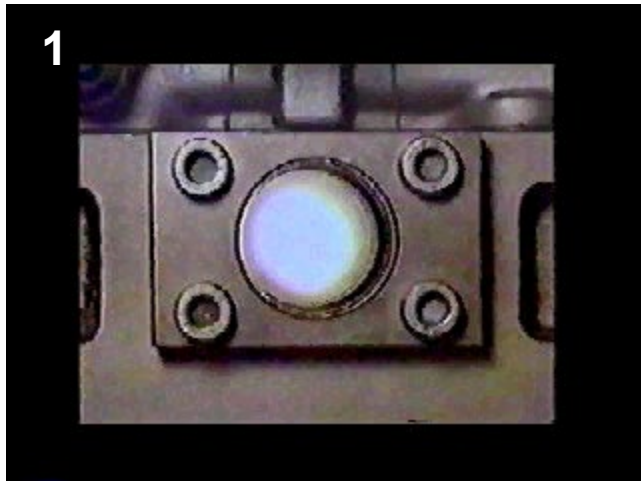
Before

After



Product Performance Testing

Video Screen Grabs of a Cylinder Being Cleaned



Combustion Chamber Deposit Cleaner

Run-Rite Sledgehammer: The Total Solution!

Run-Rite Sledgehammer! is a complete engine cleaning solution. It washes away dirt and deposits from the fuel system, the intake, the valves, and the combustion chamber.

Just add a bottle of Sledgehammer! to the gas tank and let it begin to soften and wash away deposits and carbon from the fuel injectors and the combustion chamber.

The entire service is inexpensive and easy to perform. It takes only a few minutes and it's effective at removing carbon and deposits from every part of the fuel and induction system and the combustion chamber.

No other product provides an easier, safer, and more effective service; it's the "Rite" choice for you and your customers.

