

# THE EXTRA MILE

## Engine Building and Power Techniques

BY SCOTT SEHR



Absolutely, The Most Motor For Your Money! *Guaranteed*

## Here Comes the Boom

When building a high performance engine compression ratios are usually increased as a matter of course. Everybody knows that higher the compression makes horsepower and torque but there is a barrier that must be considered, fuel octane. We discussed several aspects that need to be kept in mind when engineering a hot rod engine for a particular fuel octane level and we want to go just a little deeper into what it means to have the correct octane fuel for the application. Failure to meet the octane rating can change a controlled burn in your cylinders into an explosion if you come up short. The resulting detonation leads to damage and failure of the pistons, rings bearings and gaskets. Too much octane will actually kill horsepower because of slower flame travel and incomplete combustion of all the fuel that is present in the fuel air mixture.

It is usually assumed that the octane rating advertised on the pump or sign is what the fuel coming out of the hose measures, this is not always the case. If the station that you stop at doesn't sell a lot of the fuel type that you use in you hot rod the octane rating can be down because the fuel is old

or contaminants that entered the fuel while in storage. Most everyone reaches for a bottle of octane booster when they think the fuel may be suspect. Most of these boosters are nothing more than a mix of chemicals to prevent detonation and will at best raise the fuel octane rating by .1 (one tenth) of a point. If your engine needs 93 octane and 87 is all you can find raising it to 87.1 is not going to save your engine.

Fortunately, we now have available a fuel additive that really raises the fuel octane rating and fuel capabilities of your pump gas. Race Gas additive has been tested and proven capable of changing pump gas into race fuel. With Race Gas fuel additive you blend it with the fuel you have available in a ratio that gives you the fuel octane that meets your engines needs without having to carry a 5-gallon can with you. Here at Sehr Performance we are always looking for ways to increase power, performance and reliability for our customers. Whether you drive a high performance street rod, a racecar or performance boat on weekends or a Harley all week long, come see us at Sehr Performance; we'll help you get The Extra Mile.

Let us help you get the **"EXTRA MILE"** out of your next build.



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