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Making More Power with Water?

"How compatible are nitrous oxide and water injection?" That is currently the most asked question on the Nitrous Supply tech line. Because of that, I’m dedicating this month’s entire column to nitrous and water injection.

For starters, nitrous oxide injection and water injection are very compatible because one enhances and complements the other. In fact, the addition of water injection to your nitrous setup is currently the most logical, most efficient, most economical solution to improved nitrous efficiencies, eventually leading to increased power.

Based on my more than 25 years of experience in researching, developing and perfecting nitrous oxide injection it is a proven fact that only “things” that burn can produce horsepower — "things" that don’t burn do not make horsepower. So, the obvious question here is, “How can adding a water-injection system to my nitrous setup make any additional horsepower as water does not burn?” Very true! But, a water injection unit does create improved efficiencies that, ultimately, help your nitrous system produce additional power. Basically, here is the way it works: To make more horsepower we know we have to burn more fuel, so we introduce more fuel into the engine. But, to burn the additional fuel you need to bring in more nitrous. More nitrous comes from the simple installation of bigger jets. But, by burning more fuel, cylinder pressure increases dramatically, while also creating much more heat. With more heat in the cylinder the need arises to get rid of it before it starts to cause detonation of the fuel and/or before it soaks into all of the major components, like the heads, the block and the pistons. An engine gets rid of its heat by transferring heat through the heads, block and pistons into the water jackets and, ultimately, into the radiator. However, most of the heat is dispersed through the exhaust. Consequently, it makes logical sense to introduce something into the engine that will become part of the exhaust process and dissipate heat quickly. That “something” is water injected into an engine by an efficient water-injection unit.

For more on water injection and its compatibility with nitrous oxide, I’ve enlisted the expertise of Matt Snow of Snow Performance. Snow Performance is currently recognized as the leader in water-injection technology and specializes in producing high quality, power efficient, water-methanol injection systems. According to Matt Snow, the biggest benefit of combining water-methanol injection with nitrous oxide is you can run full timing with increased amounts of nitrous and not have to worry about “hot pockets” or detonation. Water-methanol injection can also increase engine efficiencies in terms of miles per gallon, in addition to producing more power. According to Matt, water-methanol injection and nitrous oxide are the perfect 1-2 combination for producing additional, efficient horsepower. When water-methanol injection is combined with nitrous oxide more fuel can be burned, more nitrous can be used, and more power is created. While detonation is minimized, timing does not have to be retarded, combustion is slowed down (similar to the effect of using high-octane fuel) and cylinder pressure and heat are controlled. Basically, a Snow water-methanol injection system your nitrous setup will become much more efficient, while ultimately, producing much more power.

So, the answer is, yes, water injection is very compatible with nitrous oxide and should be combined with any/all nitrous setups for the ultimate in efficient power gains. DR