



SNOW PERFORMANCE
COOLER, LIGHTER, FASTER™



BOOST COOLER™

The Water-Methanol Injection **Experts.**

WWW.SNOWPERFORMANCE.NET



Who Is Snow Performance?

Snow Performance was started by Matt Snow and has specialized in developing, building, and testing water-methanol injection systems since 2001. Recognizing that water-methanol injection is relatively new to most markets and currently like Nitrous Oxide was in the '60's, Snow is on a mission to educate the enthusiast as to its benefits.

The entire team at Snow Performance believes in offering a quality product and great customer service at fair price. Be sure to visit our web site at www.snowperformance.net to check out our new innovations and developments, and watch for us at shows around the country.

What is Water-Methanol Injection?

Water-methanol injection is a tried-and-true method of cooling the intake charge and getting more horsepower from an internal combustion engine, often referred to as "chemical intercooling." Water, having an extremely high latent heat of vaporization, is the best fluid to "absorb" heat out of the intake charge. This can reduce intake temperatures on the order of 60 to 300 degrees F almost instantly. Greatly cooling and condensing the intake charge is a proven way to get more air into the combustion chamber and be less prone to pre-ignition than a much hotter charge. Methanol also has a high latent heat of vaporization, about half of water's but almost 4 times that of gasoline. In the combustion chamber of a gasoline engine, water cannot be "ignited" per se so has an extremely high effective octane, along with the octane boost of the methanol (reported as somewhere between 105 and 130 depending on the source) makes 91 octane pump gas act like 116 octane race gas in the combustion chamber, suppressing detonation with a controlled, slower burn. The water also absorbs some heat from the combustion chamber, allowing the engine to run cooler overall. This additional detonation suppression allows for more cylinder pressure, more boost and more ignition timing, while being safer than poor quality pump gas alone. Because of these qualities, water-methanol injection can also be tailored to increase engine efficiency in terms of miles per gallon instead of outright power. Additionally, it effectively steam cleans the combustion chamber preventing carbon deposits on valves, pistons and heads.

Why Choose Snow Performance Boost Coolers™?

- 1. Engineering** – Each system has been designed and tested by engineers to ensure reliability and robustness. The Boost Cooler™ will do what it is designed to do for a very long time.
- 2. Digital Variable Controllers for different applications** – Not just boost actuated, we have specially designed controllers for each vehicle/application to ensure maximum power.
- 3. High Pressure/ High volume Pumps** – Our pumps are specially designed for Snow Performance to deliver higher pressures and reliability. Each pump is pre-tested and designed to work with methanol.
- 4. Unsurpassed Atomization** – Along with higher pressures, our nozzles are specially designed to spin the fluid supersonically before being forced through a venturi shaped orifice for the ultimate in atomization.

TESTIMONIALS



"...over 78hp from \$1.50 worth of methanol... Talk about horsepower per dollar."
- **Muscle Mustangs & Fast Fords Magazine, June 2004**
"the Boost Cooler® by Snow Performance showed more horsepower per dollar than anything we've ever tested".
- **Steve Estrada at SuperFlow Dyno Corp.**



"Once again, the Snow Performance methanol-injection kit has delivered the goods with big horsepower and torque increases with only a modest cash outlay."
"Honestly, the only thing that you can add to your Mustang that will reward you with this much power is a blower, nitrous or an entire engine rebuild."
- **5.0 Mustangs & Super Fords magazine, September 05**

BOOST COOLER™

Why Choose Snow Performance Boost Coolers™? (continued)

- 5. Trained technical and tuning advice** – trained, knowledgeable technicians are always available to help you.
- 6. Warranty** – Life time warranty available. Snow backs it's systems with industry leading warrantees.
- 7. Customer Service** – Expert technical advice is available anytime during business hours. We have the experience to answer installation and tuning questions.
- 8. Safety** – Our new SafeInjection™ is the ultimate in safety for even the most aggressively tuned applications. This ensures worry-free power in even the most demanding racing applications as well as full power on the street.

How Much Power can you expect?

Forced induction gasoline engines generally see a 10-20% improvement. Turbo diesels often see greater results, 20-30% being the norm. 50-70hp increases on a 300-400hp truck are typical. The more powerful and modified an engine is, the larger the horsepower improvement from using the Boost Cooler™.

Can I use it with Nitrous?

Absolutely. It is common to use the Boost Cooler's™ octane-boosting properties to allow nitrous to be injected with no, or much less, ignition retard, depending on the amount of nitrous, etc.



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TESTIMONIALS



"Once again, the Snow Performance kit proves itself to be a high-quality answer to those looking for increased engine efficiency through chemical intercooling."
- **Ford Truck Performance Magazine, Spring 2006**
"Snow Performance builds the ultimate add-on..."
- **Fourwheeler Magazine, September 2005**



"The Stage 3 Diesel kit from Snow Performance features a new Digital Variable Controller with a 2-D map programmed into it's microprocessor...The result is smooth power at all engine loads with no combustion quench, resulting in a true hands-off system."
- **Diesel Power Magazine, March 2006**

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Gasoline Engine Applications

Snow Performance has kits that can work on almost any size and configuration engine: Small to large, 3 cylinder to 12 cylinder, carbureted, fuel injected, turbocharged, naturally aspirated, roots supercharged, centrifugal supercharged, etc.



STAGE 2 MAF BOOST COOLER™ #20011

This kit uses the 0 to 5 Volt output signal from the Mass Air Flow sensor on many fuel injected vehicles. This means that any vehicle with a MAF (with a 0-5V output signal) can use this kit, whether they are naturally aspirated or forced induction. If the application is forced induction, it can be used with very fast-spooling turbos, or positive displacement blowers. It is easier to set up with the positive displacement blowers with a MAF signal because it is more progressive in nature vs. the boost pressure signal on those applications. This allows for the most accurate injection possible over the widest range. The result is the most power and driveability possible.

Some Example Fitments #20011:

- Ford Mustang Cobra, F150 Lightning, Focus w/Eaton
- Nissan/Infiniti
- Porsche
- Subaru (stock WRX turbo or positive displacement blower)
- Toyota MR2 Turbo, Celica All-Trac, Supra Turbo 93-03
- VW/Audi (1.8T stock KO3 turbo or positive displacement blower)

STAGE 1 BOOST COOLER™ #20001

Kits are available for forced induction, fuel injected or carbureted applications. Operation is very simple: the system starts injecting when the boost switch reaches the user-adjustable point and it injects a fixed amount of fluid through the nozzle until the switch opens again. This makes it a good choice for low to medium boost setups (less than 9psi). Activation can also be set up through any other user-chosen switch, such as a full throttle switch, etc.

#20001 Any Forced Induction (turbocharged/supercharged) Carbureted or Fuel Injected Vehicle

STAGE 2 BOOST COOLER™ #20020 (naturally aspirated)

This kit uses a progressive controller that proportionally injects more or less according to manifold vacuum. Start and full points are adjustable for engagement and delivery curve, to match what the engine requires. High compression modified engines can gain performance through cooler intake charges and the large increase in octane and detonation suppression. It can also be geared towards fuel economy and using lower grades of gasoline. Available Fall 2006.

Example Fitments #20020:

- All Carbureted and Fuel Injected Naturally Aspirated Vehicles

STAGE 2 BOOST COOLER™ #20010 (boost referenced)

This kit uses manifold boost pressure to determine when and how much fluid to inject. Proportionally injecting according to boost pressure gives the most accurate delivery of water-methanol and allows the most cooling and performance improvement over the widest range. More power and driveability is the result. It can be used on any forced induction engine: carbureted, fuel injected, turbocharged, positive displacement or centrifugal blowers. The most suitable are the centrifugal supercharged and turbocharged engines, as they build boost is a more progressive manner concerning water-methanol injection. The positive displacement blower engines will work, but it might take more work to dial in the delivery. For higher boost applications (over 25psi), the controller can be upgraded to our VC100 unit.

#20010 Carbureted or Fuel Injected, All Forced Induction Applications.

Example fitments:

- Neon SRT-4, Procharger, Paxton, Powerdyne, Vortech supercharged engines
- STS Turbo kits
- Subaru STi
- Audi S4/6



STAGE 2 GM MAF BOOST COOLER™ #20012

This kit uses the unique GM MAF frequency Hz output signal (on most 1994+ GM vehicles) instead of 0-5 Volts. Perfect for naturally aspirated applications and forced induction applications that build boost quickly at lower rpms. This allows for the most accurate delivery of water-methanol and allows the most cooling and performance improvement over the widest range. More power and driveability is the result.

Some Example Fitments #20012:

- Chevy Cobalt SS
- Chevy Corvette 94+
- Chevy Camaro 94+
- Pontiac Grand Prix/GTP 94-06
- Pontiac Firebird 94-02
- Saab 9000, 9-3, 9-5
- Saturn Ion Redline
- Most GM's Naturally Aspirated/Positive displacement blowers from 94+



STAGE 2 GM MAF LOW BOOST COOLER™ #20013

This kit uses the unique LOW frequency Hz output signal on many GM vehicles from 1986-1993. Perfect for naturally aspirated applications and forced induction applications that build boost quickly at lower rpms. This allows for the most accurate delivery of water-methanol and allows the most cooling and performance improvement over the widest range. More power and driveability is the result.

Some Example Fitments #20013:

- Buick Grand National (stock Turbo)
- Pontiac Firebird 3.8 Turbo 89
- Toyota Supra Turbo 86-92

STAGE 2D BOOST COOLER™ #20009

This kit is specifically for Mitsubishi, Diamond Stars and some Chrysler products. It is very unique and extremely comprehensive because it uses 2 input signals: manifold boost pressure and the MAF output signal (200-2000hz). This allows it to more accurately deliver the correct amount of water-methanol under a wide variety of conditions. The start and full dials adjust according to boost pressure, the MAF settings are built into the internal map.

Some Example Fitments #20009:

- Mitsubishi Lancer Evolution 7/8/9, Eclipse 89-00+, Mirage, Starion, 3000GT, Galant 87-02
- Chrysler Conquest TSi 83-89, Eagle Talon 89-99, Lazer 89-94
- Dodge Stealth TT

Custom kits available for ANY application.

Please call or consult your local dealer for details.





Product Selection for Diesel Vehicles

For power, fuel economy, and cooler exhaust temps, we have 3 stages of diesel kits, and they are not necessarily progressive in terms of horsepower – more in terms of features. Some of the highest horsepower trucks use a Stage 2 Boost Cooler, but the same level of power is available from the Stage 3 with more features for towing. The kits are easy to setup for anything from a small 1.6 VW Turbo Diesel to a huge Detroit Diesel.



STAGE 1 DIESEL BOOST COOLER™

This kit progressively injects more or less water-methanol, according to manifold boost pressure. The system is applicable for turbo diesels making up to 20psi of boost pressure. It has two dials to set the start and full points to tailor the delivery to your engines needs. Progressively injecting according to boost pressure allows for the most power over the widest range of rpms.

Example Fitments:

- #48001 93-96 GM 6.5
- #50001 93-98 Ford 7.3 Powerstroke
- #47001 Universal Fitment for Diesels making less than 25psi



STAGE 2 DIESEL BOOST COOLER™

These kits work on exactly the same principle as the stage 1 kits, except that the controllers are heavier duty and can read up to 100psi of turbo boost. This is the typical starting point for a mildly modified 3/4 or 1 ton truck with an aftermarket exhaust, intake and chip or programmer. It is capable enough for trucks running large or compound turbo systems as well. These kits allow for great horsepower increases and EGT reductions – expect about 70hp and 250 degree F EGT drop.

Fitments:

- #49002 91-07 Dodge Cummins
- #50002 99-03 Ford Powerstroke 7.3
- #48002 01-07 GM Duramax
- #47002 Universal Fitment for Diesels making more than 25psi
- #50012 04-07 Ford Powerstroke 6.0

STAGE 3 DIESEL BOOST COOLER™

The Stage 3 Diesel Boost Coolers™ are the most comprehensive water-methanol injection kits Snow Performance makes. This controller senses not only manifold boost pressure but also Exhaust Gas Temperature. Using two inputs allows for the smoothest injection control. More importantly, it also keeps the EGTs as low as possible – if they begin to climb, even if the boost stays constant, the Stage 3 controller will read this and inject more water-methanol to compensate. Additionally, the controller has readouts for EGT, Boost and water-methanol injection so at a glance you can see what is going on with your engine and not need to mount any additional gauges. Finally, there is an adjustment knob on the controller to allow tuning changes from the driver's seat on-the-fly. There is even a switch on the controller to allow it to operate off of just boost pressure (ignoring the EGT input). This can be advantageous if you want the quickest response if you are at the drag strip or if a sports car pulls up next to you at a stop light. There are 2 levels of Stage 3 Boost Cooler™ available, one for lower boost (up to 25psi) and one for higher boost (up to 100psi).

Fitments:

- #49003 91-07 Dodge Cummins
- #50003 99-03 Ford Powerstroke 7.3
- #48003 01-07 GM Duramax
- #47003 L Universal Fitment for Diesels making less than 25psi
- #50013 04-07 Ford Powerstroke 6.0
- #47003 Universal Fitment for Diesels making more than 25psi



Accessories for Boost Cooler™

SafelInjection™

The ultimate safeguard for your engine. SafelInjection™ is a watchdog that always monitors the flow in the Boost Cooler™ system. If it detects a drop in flow below a safe level, it will turn on a red light and its output signal can be used to retard ignition timing, bleed off boost pressure or even switch engine management maps. This allows for extremely aggressive tuning maps to be used on the street every day with complete safety.

- #30005 Safe Injection for nozzle sizes from 175ml/min to 375ml/min
- #30010 Safe Injection for nozzle sizes from 375ml/min to 625ml/min+



Boost Juice™ #40008

Snow Performance's proprietary standardized mix of 49% methanol with 51% water to ensure your system offers the greatest power increase consistently. Lifetime warranty on kits available with exclusive use of Boost Juice™.



Solenoid Upgrade #40060

Shut off solenoid is used when mounting the injection nozzle lower than the reservoir or the reservoir is rear-mounted to prevent gravity flowing. It is also used to prevent siphoning when the injection nozzle is mounted after the throttle body and is exposed to vacuum.

Additional Nozzle Upgrade #40004



This allows an additional nozzle to be mounted in any of our Boost Cooler™ kits. It includes a Tee, or splitter, junction piece with our quick-connect fittings, a nozzle holder and a section of hose. Note – injector nozzle is not included. Mounting additional nozzles are required when you need a quantity greater than one nozzle can provide, or if you have a dual plenum/throttle body/carburetor setup to get even distribution.



Carburetor Adapter Plate #40050

This 1" adapter plate allows a very clean and easy installation of our injector nozzles on carbureted applications using Holley, Edelbrock or Carter 4 barrel carburetors. (Mounting the nozzle below the carburetor requires a solenoid upgrade #40060)



Bulkhead Fitting #40080

This is a metal bulkhead fitting that allows a safe pass through on a firewall or in a reservoir (like a factory washer fluid tank) with quick connects on both sides.

SafelInjection™
is highly suggested for your Boost Cooler™ Applications.



Reservoirs

The 7 quart reservoir gives much more range than the included 2 qt tanks, and is fairly small in size – 10"l x 12"h x 7"w (similar to a very small car battery) and includes an additional 10 feet of hose. The 8 gallon reservoir is used mainly for diesel trucks and gives a range of 5-600 miles when towing around 12,000 lbs. It comes with a mounting bracket, an extra 10 ft of hose and a shut-off solenoid to prevent gravity feeding if you ever park on a steep incline. Measurements: 16"l x 17"h x 13"w. This size allows it to mount inside of most bed-mount tool boxes.

- #40020 7 Quart Reservoir
- #40010 8 Gallon reservoir



Nitro Booster™ #40007

Nitro Booster™ can be described as a chemical supercharger and is a great power adder designed for use with gasoline engines using Boost Cooler™. A proprietary blend of nitro methane and a specially developed emulsifier that keeps Nitro Booster™ suspended in the water-methanol mixture. 30 to 50hp increases are common at the 400+ hp level.

Low Level Indicator #40035

This is a float switch and indicator light that lets you know when your reservoir is running low on fluid. Simple to install and wire in any reservoir.

Low Level Indicator #40030 - Our float switch mounted in any of our reservoirs (not included) for a small additional cost.



220 psi Pump #220

Higher pressure/volume pump. Only necessary in the highest horsepower installations running 3 large nozzles, or if more quantity is needed with a smaller number of nozzles. Adjustable pressure just like our 150psi pumps.



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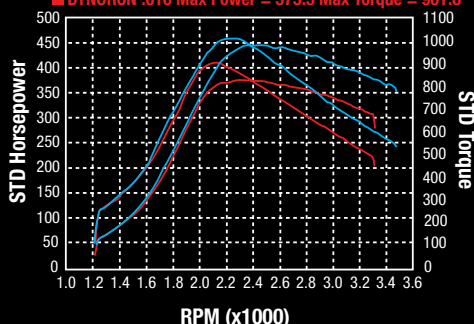
- #30005 Safe Injection for nozzle sizes from 175ml/min to 375ml/min
- #30010 Safe Injection for nozzle sizes from 375ml/min to 625ml/min+

BOOST COOLER DYNO RESULTS

'97 Dodge Cummins

5 Speed, 185,000 Miles, Fuel Plate, Governor Spring, Timing, Exhaust Housing

■ DYNORUN .017 Max Power = 446.3 Max Torque = 1008.1
■ DYNORUN .016 Max Power = 375.3 Max Torque = 901.8



RESULTS

- +70HP
- +108 lb/ft torque
- -200°f egt's

"Great kit! Does everything you said it would. Torque increased over 100 lb-ft. Better yet, my egt's went down 250° for the best of both- power and cooler egt's."

- Jim Fulmer, Dodge Cummins

'93 Mustang Cobra 5.0L- 17psig Procharger

w/Boost Cooler® 560 RWHP
Before 458 RWHP



RESULTS

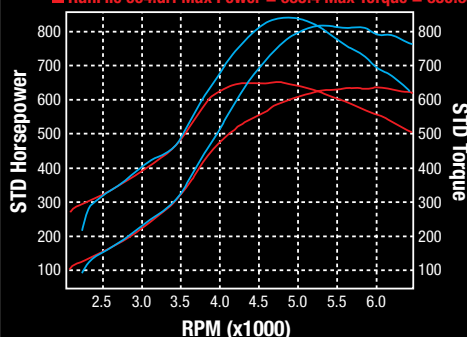
- +102 RWHP

"I can run 10° more timing on pump gas! Now I get more power than I ever could even with 116 octane."

- Chris at Speed Innovators, Denver, CO

Pontiac Firebird LS2

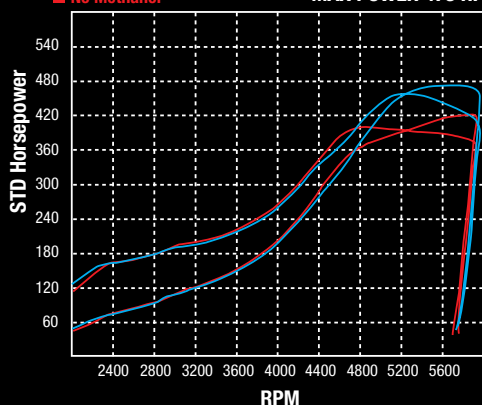
■ RunFile 023.drf Max Power = 815.6 Max Torque = 839.15
■ RunFile 004.drf Max Power = 635.4 Max Torque = 650.65



'05 Dodge SRT4

■ Snow Performance Stage 2 Kit
■ No Methanol

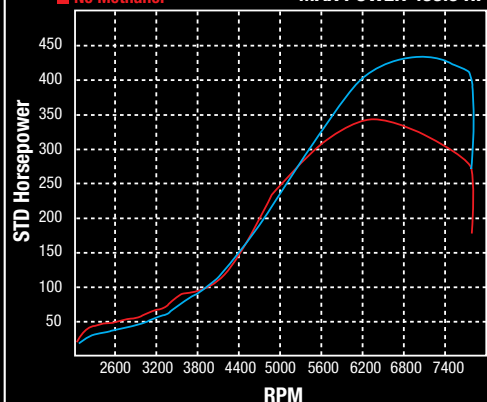
MAX POWER 473 HP



'03 Mitsubishi Evo 8

■ Snow Performance Stage 2 Kit
■ No Methanol

MAX POWER 433.6 HP



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