



5411 Seymour Hwy
Wichita Falls, TX 76310
Tel: 940-767-7694
Fax: 940-687-0751



Sales/Tech: Info@nitrousexpress.com

Billing Questions: Accounting@nitrousexpress.com

Snow Performance water/methanol system benefits

It's no secret that direct injection vehicles have an apparent problem with carbon build up. Carbon build up has the tendency to collect on the valve's and intake runners as the picture shows. That much carbon build up is very bad on the motor and other components. The vehicle we are working on is a 2014 F-150 with the eco boost 3.5 engine with 157,000 miles on it. The carbon build up was making it suffer pretty bad with reduced power and awful fuel mileage. With the recommend solution from ford being removing the cylinder heads. However We decided to install a Snow Performance water\methanol system and see the results.



With the Snow Performance water\methanol system on the truck we started driving it around and instantly noticed that the F-150 started picking up power and the gas mileage started going back up. After 30 days we pulled the intake off to get a closer look as the valves and they were much cleaner than they were before. The Snow Performance water\methanol system did an outstanding job on cleaning all of the carbon build up off of the valves and intake runners which made the F-150 regain all of its lost power and the fuel mileage. The water\methanol system also cools down the air intake charge while increasing the octane level by 25 points.

Our shop truck is a 2014 F-150 with the 3.5L Eco boost engine. The engine in this truck features direct injection, a design that places the fuel injector directly in the combustion chamber. When this truck was new it ran great and got pretty good fuel mileage however as the years passed and the mileage racked up, engine performance was reduced and fuel mileage decreased. The article below outlines the problem and how Snow Performance helped to make this truck better than new.

The Problem

Many manufacturers began using direct injection in the early 2000s. While there are performance and fuel mileage benefits of direct injection, there is one big downside. Since direct injection engines inject the fuel into the combustion chamber there is no fuel in the intake runner to wash contaminants off the back side of the valves. This results in carbon buildup in the intake runners and on the back side of the valves. This buildup blocks airflow resulting in reduced engine power and decreased fuel mileage. If left unchecked this buildup can also cause serious engine damage.

Recently, some manufactures have combatted this issue by adding secondary port fuel injectors into the intake runners along with combustion chamber mounted direct injectors. If you own one of the millions of vehicles that have direct injection (without port injection) you will eventually need help repairing carbon buildup.

Solutions

Each manufacturer has its own recommended way of dealing with carbon buildup in direct injected engines. Ford recommends replacing the cylinder heads while BMW offers a repair service that requires removing the intake manifold and blasting the intake runners and valves with a special blasting media (similar to sandblasting but with finer media). These solutions work but they are very expensive and must be performed multiple times over a typical vehicle's life.

Snow Performance has developed a better solution. The Snow Performance Water / Methanol Injection System injects a small amount of water/methanol into the intake tract which cleans the carbon buildup from the intake ports and the backside of the intake valves. The Snow water methanol system restores fuel mileage to new levels and results in horsepower and torque increases greater than when the vehicle was new.

The Test

Our shop truck (the 2014 F150 with the 3.5L Eco boost engine as mentioned above). The truck had 157,000 miles on it before installing the Snow Performance Water / Methanol Injection System.

Before we installed the Snow system, we removed the F-150s intake manifold to photograph the carbon buildup in the intake runners and on the valves (see before pictures). It was immediately obvious that this engine needed some serious help. The intake runners and valves were covered with carbon buildup. We reinstalled the intake manifold in preparation for the Snow system install.

We installed the Snow Performance Water / Methanol System (part # SNO-2133-BRD). This system includes a reservoir, pump, throttle body plate, nozzle and an electronic progressive controller.

Upon the initial test drive, we noticed that the truck made more power when the water methanol was injecting. We drove the truck normally for 30 days, using a minimal amount of water/methanol. During the 30-day test we noticed that the truck increasingly felt more responsive and that it needed less and less throttle to maintain the speed limit. Before the Snow install the truck would require being in boost quite often to maintain 75MPH and climbing any incline. As the test progressed, we noticed that the truck would maintain the speed limit without requiring boost as often. At each fill-up we achieved better fuel mileage. It was very obvious that the truck was running much better than before.

Once the 30-day period was up, we removed the F-150s intake manifold to photograph the condition of the intake runners and the valves. We were immediately amazed by how clean the whole intake tract was. The intake valves were nice and clean and the intake runners were free of the oily buildup that was previously evident (see after pictures).

In summary, we are very pleased with the performance and mileage increases the Snow system provided on our F-150. We are also comforted to know that our snow system will prevent harmful carbon buildup from forming in our engine for many years and miles to come. It is worth noting that Snow Performance offers water methanol systems for vehicle of all engine types from gas to diesel. Visit www.snowperformance.net to find the best system for your vehicle