

This is a Drouin roots-type supercharger.

[b]Drouin Background:[/b]

Drouin appeared to have copied the Magnuson blower. Drouin advertised them nationally in magazines and sold them in the earlier 80s, when I actually purchased this unit. What Tom Drouin didn't tell the buyers is that it was a design and not manufactured at the time!

After about 14 months and many shipments of parts... usually one at a time, I had a complete supercharger. I only know of about 6 people who got the full blower kits.

Drouin was investigated for US Mail Fraud, since he took money and shipped some parts though the US MAIL. I withdrew my part in that since I finally received the product. I recall Drouin filing for bankruptcy relief over this.

GREAT product - bad business strategies.

[b]Fuel Delivery:[/b]

The unit is NOT carbureted, but instead uses a butterfly fuel injector... a giant throttle body similar to the older Hilborn Fuel Injector systems... probably a knock-off of that.

[b]Water/Alcohol Injection:[/b]

There was an upgrade to add a water/alcohol injection system to the Drouin package, and opted for that. The system was a basic container that sits below the supercharger and holds the liquid. The tank is pressurized as the manifold pressure increases, thus pushing the liquid into the throttle body with the gas and air. The purpose of this unit is to use the water and or alcohol to cool the fuel, making it more dense in the combustion chamber.

[b]Running:[/b]

Idle is tough, probably due to the drag on the unit through the clutch basket. I have got it to run as low as 2,000 at idle, below that it blips high and low. I may investigate now that I know a bit more, to see if the idle can be reduced through better fuel management.

[b]Boost:[/b]

Currently the pulleys are set to produce a max of 7 lbs of boost. I was fortunate enough to have many discussions with Tom Drouin and also received the pulleys to produce 15 lbs of boost.

I elect not to use the 15 lbs boost system, since I never welded the crank on this engine. I am under the impression that the added boost could slip the crank, although I have heard from turbo guys who push large boost without welding the crank... at least the first time:ohmy:

[b]Results:[/b]

The results of all this... A really fast KZ that screams attention from the whine of the blower spinning, to the bulk of the drive unit, to the actual performance. When I built this bike there were many street racers... shitty looking bikes, with HUGE investments in the engine. I watched people

lose their bikes in races to seemingly ratty bikes. I wanted to protect my bike and my ego... so the supercharger went on. Nobody wanted to race me for money!

In comparison to today's sportbikes... I don't really think this blown bike can outperform them, but as an Old School Ride, it sure is beautiful!

How does the Supercharger compare to a Turbo?

Yes, the premise of a supercharger, like a turbo is to force the fuel mixture into the cylinders to make more power. A supercharger is a direct drive unit, which spins as the engine spins. Most race applications are driven via belt off the crank, and you lose the alternator (stator). This application, along with Magnuson's for the KZ, used a drive off the clutch basket. This provides an instant response, as opposed to a turbo, which uses exhaust gas to turn the blower... so you need to be producing more exhaust gas for more boost - hence the turbo "lag time" for the blower to kick in.

You may know that the clutch basket has slots for the clutch plates. This blower drive unit has fingers that engage into the clutch basket and spin the blower based on the clutch basket spinning.

So, as the clutch basket spins, the drive unit spins the belt, which through a set of pulleys, regulates the ratio at which the blower spins. The faster the blower spins, the more boost (pressure) into the cylinders.

A Roots Type blower is easily explained [HERE at Wikipedia](#)

Did Drouin make superchargers for Norton's way back when?

Yes, Drouin made the supercharger for the Nortons. That was a different technology - centrifugal and not roots type. I do believe he made them prior to this model. He has been out of business, and I could not find him...