

THE EXTRA MILE

Engine Building and Power Techniques

BY SCOTT SEHR



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

Putting out the Power

Now that the engine break in period is complete, we have more work to do. After the engine is completely cooled down, we go back through and check everything again to insure that everything is as it should be.

We recheck valve lash to make sure that it is still within our specs after

all the components have settled in with each other. We take this opportunity to pull

all the plugs and confirm that what they look like matches what our exhaust gas temps and oxygen sensors say they should look like. If anything seems to be amiss we will use our bore scope to look into the cylinders and inspect the pistons, valves and general combustion chamber conditions. If any tuning changes need to be made we use our data to determine which way and how far we need to go. Here at Sehr we don't tune to get every last ounce of power out of our engine builds. We tune to get as much power as can be gotten and without sacrificing reliability or driveability. We have spent too much time and effort building your engine to hurt or abuse it for the possibility of gaining a few horsepower or a little extra torque that you wouldn't feel anyway.

Once we know that we have all the engine's needs met, it's time to do a full power pull. We fire it up on a cold start to check initial choke settings and build some heat from there. When we reach operating temperature the data acquisition is set to log data through the rpm range of our pull. A load is put on the engine using a water brake to keep the engine rpms under our start point, usually 3000, as the throttle goes to full open. When full throttle is achieved we back off on the water break to let the engine rpms rise to our start point and the 'pull' is begun. Water pressure continues to be removed in order for the engine to rise up through the rpm range until we reach the desired upper rpm limit.

While all of this is going on, we continuously monitor all the data for any signs that might indicate a problem. If we see anything that even hints at an issue, we abort the pull. When we have finished our initial pull the engine is brought quickly back to idle and shut down and once again the plugs are pulled while the data is compiled in printed form. If all data indicates a safe tune and we have reached our goal, the pull is complete. We let the engine cool off overnight and re-check choke function on a cold the next business day.

Our goal is to be the best, not the cheapest. The best is usually not the cheapest and we're OK with that. Our customers will confirm that each one gets treated like they are special and important, they are. To Sehr Performance our customer's satisfaction is our primary goal and we do 'Go the Extra Mile' to provide it. Even though each engine leaves with another customer, it's still one of ours, and that means a lot to us.

Thank you all for following along on our journey.

722 E. 8th St. | Sioux Falls, SD | 605-334-4191 | sehrpower.com

