THE EXTRA MILE

Engine Building and Power Techniques

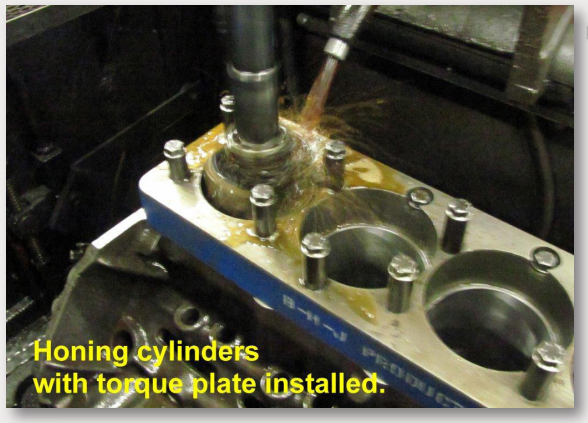
BY SCOTT SEHR

Sehr PERFORMANCE MACHINE

Absolutely, The Most Motor For Your Money! Guaranteed

Rings Seal The Deal

There are many ways to get extra horsepower and torque out of an engine. Proper and accurate machine work are a must. Choosing all the right parts to make it all work together is essential. Most of my customers that come in are looking for some extra power and are thinking about a bigger camshaft, more carburetion or better heads to name but a few plans. However; if the rings aren't up to doing their job of sealing and holding in the compression none of the above are going to produce much improvement. An improper ring package will not only sacrifice power, it can also cause premature engine failure.



Honing cylinders with torque plate installed.

To help get things in order, the first requirement for a good ring seal is a round cylinder. Makes sense right? I have had customers that just wanted to bead hone their cylinders and re-ring the pistons and expected it to hold together. Here at Sehr Performance we finish hone our cylinders with a torque plate to assure that the bores are absolutely round and straight. The torque plate simulates the stress applied to the cylinder block when the head is installed and proper torque applied. This guarantees that if there is any squirming around caused by bolting the cylinder head on it is not going to pull the cylinders out of round. Depending on the block's make up, thickness and core shift can cause the block to change as much as two thousands of an inch which is a mile in my world. Cylinder finish is also critical in getting the proper ring seal. The cylinder finish must match the requirements of the ring package being used and the particular application. If this requirement is not met poor ring seal results in oil consumption and detonation and premature engine failure. Here at Sehr Performance I use a profilometer to precisely measure cylinder finish RA in every cylinder to insure that every surface has the optimum degree of roughness to seal properly. This is the most accurate way of determining the machined surface is correct. If your machine shop can't provide you with an RA finish number I would strongly suggest you fine a shop that can.

Some of the common variables in ring packages are ring thickness, material and face contact material inlay, Today's ring packages also include choices of surface shape, radial thickness, coatings, reverse twist and radial tension to name just a few. Choosing the correct ring package and mating that with right cylinder finish will provide free horsepower, I have been working on my cylinder finishes and ring packages for years and the requirements have changed so much that yesteryears finish and ring package may no longer be the right choice. With all the changes in ring packages and finish requirements getting it right will provide extra power and prolonged engine life, getting it wrong will cause disappointment.

I always go

"THE EXTRA MILES"

FOR MY CUSTOMERS TO GIVE THEM THE MOST AND MOST RELIABLE POWER.

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