gine Building and Power Techniques. W

Absolutely, The Most Motor For Your Money!

It's A Spring Thing

THE

There are many important components in a high performance engine but one commonly overlooked component is the valve spring. Choosing the wrong valve spring for the engine's application is one of the most common causes of engine failure or inability to perform up to its potential. There are many different styles and types of springs available and it can be very confusing to correctly set up so the engine will perform to its potential. Trying to build an engine to run at 7-8000 RPM that does not have the right spring to control the valve at that RPM makes no sense. The valve spring must have the right pressures at the seat, as well as, full open to keep the valve from ramping off the cam lobe and to control valve bounce. Single, double, triple, and beehive are some of the common configurations for different spring diameters and pressure applications. Many times using a larger diameter spring necessitates cutting the spring seat to accommodate the larger spring. An inner spring or a spring seat shim can keep the valve spring from moving around. The spring must fit the retainer and seat properly or the spring will dance around causing harmful harmonics and wear that shorten spring life and reduce performance.

Valve springs are advertised with certain load pressures

but can have a variance of plus or minus 10% and all valve springs will lose up to 10% in pressure after the critical break in procedure. We check every spring with our precision spring checker to confirm every spring is matched to the job assigned. The material make up of the spring is also important, the more expensive 'tool grade' steel will maintain pressures better and longer when at running temperatures than the less expensive steels used in `bargain springs'. Don't fall victim to the cheap spring syndrome, that path leads to disappointment. Your valve springs endure heat and fatigue and to ignore this fact is to invite performance loss and failure. Sometimes valve float is caused by springs that have become too weak. Quality valve springs are shipped with a rust inhibitor applied, which should not be removed, or microscopic rust spots begin to form which invite premature fatigue or catastrophic failure resulting in interference and bigger problems.

In order to provide optimum spring life we run all of our dyno tuned engines at 2500 RPM until they reach operating temperature then shut them down to cool back down to room temperature so the springs take the correct set, this is just another step to reach "The Extra Mile".

Let us help you get the "EXTRA MILE" out of your next build.

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