

THE EXTRA MILE

Engine Building and Power Techniques

BY SCOTT SEHR



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

Waste Not, Want Not

Last month we discussed the process of checking and finding core shift and thin material casting points hiding within the component using our sonic testing process. If excessive core shift or thinner points are found does this deem the component unusable? In most cases it does not. These engine blocks can still be used depending on the intended use of the engine.

Although low core shift is desirable for higher horsepower engines the engine blocks with larger core shift can be used in lower horsepower and lower RPM applications. We can also take an engine block with lower core shift and strengthen it up for high horsepower use. This is done by partially filling the engine block water jacket with a special compound that adheres to the inside block coolant core and has properties that will aid in heat transfer for cooling. This block filling procedure takes proper preparation and special procedures must be followed in order for the fill to be successful. The height of the fill is determined by the need of strength and intended use of the engine. An engine block can be filled up to the water pump for maximum strength. This block fill will also increase horsepower and torque by keeping the cylinder stable and round when all the forces from combustion and piston thrust is upon them. This stability insures better ring seal and combustion control to use more of the power as the piston is forced down the cylinder and it also cuts ring flutter down as well. The block fill will also aid in top end and cylinder head cooling by forcing a higher volume of coolant to the top of the cylinder where the heat from combustion originates.

Creating higher horsepower includes cylinder head modification. Although there are many aftermarket head choices many still use a factory made performance head due to class rules or general availability. Cutting in larger valves, larger spring pockets and porting is usually the recipe for increased power. Knowing how much material there is in the casting is essential before the cutting and machining begins. Some of these heads are rare and expensive so checking them before cutting into water is a wise choice.



LT-1 Block Filled For NOS and High RPM



6.0 Liter Block Filled For Forced Induction

At Sehr Performance we always treat our customers components as our own so we always go the
“EXTRA MILE”
to ensure the usefulness of the engine.