SIX TIPS FOR CHOOSING THE RIGHT CRATE ENGINE

Smeding Performance Offers Guidelines To Help You Get The Right Motor For Your Ride

Clearly, not all crate engines are created equal. Prices vary widely, and so do the components used in their assembly. That's why Smeding Performance has put together these six tips to help you get past the hype, so you spend your hard-earned money on the right crate engine for your ride.

Tip #1: Pay attention to torque, not horsepower.

"Everybody's looking at horsepower, but they're not looking at torque," says Ben Smeding, owner of Smeding Performance. "Two different motors could have the same amount of horsepower at, say, 5000 rpm, but at low rpm, one could have substantially more torque. Torque at lower rpms is what gets the vehicle moving, and it's what you need when you have taller gears or an overdrive transmission." Smeding specializes in building stroker motors because this type of engine makes tons of torque at low rpms.

When you're shopping for a crate engine, Smeding recommends checking out the engine's powerband, either via a dyno sheet or a graph that shows the engine's horsepower and torque output at various engine speeds.

Tip #2: Consider the block.

An engine is only as good as its foundation: the engine block. So, you'll want to find out if the engine builder started with a new block or a used block, as well as whether it's a 2- or a 4-bolt block. If the block is used, how much has it been overbored?

"It's getting harder and harder to find pristine blocks for rebuilds," says Ben. "So we're seeing blocks getting bored beyond .030 over. Also, if you're getting a reman motor, you never know what you might be getting as far as it being salvaged, or was it somebody else's problem?"

Smeding uses brand-new blocks for its crate engines to avoid these issues. "Because we use new blocks, there will be no rust in the water jackets," says Ben. "That's good for heat dissipation, and it increases the life of the radiator. Plus, the cylinder walls are nice and thick because the block hasn't been overbored, and that also allows for better cooling. Also, we only use late-model-style blocks with one-piece rear main seals and we use a one-piece silicon oil pan gasket, which will help eliminate oil leaks."

Tip #3: Look for signs of durability.

Unless you love tinkering, you'll want to get a crate engine that's going to live a long time—and be easy to live with. For instance, Smeding uses hydraulic camshafts in all its crate engines, so you don't have to check and set valve lash.

A relatively low compression ratio ensures that Smeding's engines can run reliably on premium pump gas, too. Ben recommends getting a crate engine with 10:1 compression or lower if you want to avoid expensive racing fuel.

Other components in the engine can provide a clue to durability, too. "With the roller valvetrain that we use, there's a lot less friction, so it produces less heat and wear," says Ben. "Also, we use hypereutectic pistons because they fit a lot better, so they don't rock and make noise and lose ring seal."

Plus, Smeding blueprints its crate engines, and the rotating assembly is spin balanced to within 1 gram to assure smooth operation and longer engine life.

Tip #4: Don't forget about vacuum.

Camshaft selection is going to have a major effect on the amount of vacuum that a crate motor produces. "You would like to have enough vacuum to power your accessories," says Ben. "All of our engines are compatible with power brakes and accessories."

Smeding recommends getting an engine that produces 10 to 12 inches of vacuum.

"Big camshafts might sound neat," adds Ben, "but in the long run, having a slightly milder camshaft is better. It's more drivable, and you'll get better fuel economy."

Tip #5: Know the engine builder.

It's important to know what components are going into a crate engine, but it's even more important to know the reputation and experience level of the company that's building the motor.

Smeding recommends buying a crate engine from a company with ample experience—and you may even want to look for a firm that specializes in a particular style of engine, rather than building all things for all people.

"You build five motors and you *think* you know what you're doing," says Ben. "You build 50 and you're getting better. You build 500 of one combination—the same engine combination—and then you really know what you're doing."

On the other hand, flexibility can be valuable, too. While automakers typically get locked into one set of components for their crate engines because of contracts and other purchasing issues, an independent engine builder like Smeding can respond quickly if there's an improvement or a better part comes along.

Tip #6: Ask about a warranty.

Some crate engines come with a warranty and some don't. Some even come with a warranty that's only good until the engine runs—which is the same as no warranty in our book.

Smeding offers a one-year warranty with all of its crate engines, and buyers can pay a little extra to extend that warranty up to three years or 36,000 miles.