CHALLENGE ACCEPTED

How to Improve your Mopar's Drum-Brake Stopping Power

By Bob McClurg

When Chrysler introduced its new '70 Dodge Challenger and Plymouth Barracuda, small-block versions were fitted with 10-inch four-wheel drum brakes as standard equipment. However, either V-8 car could be ordered with optional 11-inch drum brakes, which were standard equipment on E-Bodies with the 383, 440 and 426 big-blocks. Initial brake testing of the small-block cars with the optional 11-inch drums produced a 60-0-mph stopping distance of 148 feet—not exactly world class for a car weighing 3,220 pounds, but quite acceptable by '70's DOT and SAE industry standards.

OK, so stopping isn't one of the E-Body's strong suits. Luckily, there's a number of aftermarket options to improve their braking capabilities. Expensive four-wheel discs top the list, but there goes the car's originality. Fear not! As its name implies, Muscle Car Brakes (MCB) is all about increased stopping performance done the OE way.

"Our objective is to take the older cars, which couldn't stop all that well to begin with, and dramatically decrease the 60-0 stopping distance," said John Ambrose, the company's founder. "To accomplish that, we apply modern technology to the four-wheel drum-brake system." For example, although the new drums may look like cast iron, they are a composite that features technologically advanced metallurgy Ambrose calls "Martinsite Austenite." MCB also cryogenically treats—or pressure treats—these drums for 60 hours at -300 F, which gives the drum a much tighter molecular structure. This cryogenic treatment process allows the drum to run about 125 to 150 degrees cooler in normal conditions, Ambrose said. "Any time you can bring down the operating temperature of an automotive brake system, you create less fade in the friction material." The cryogenically treated drums also have a durability ratio of about 2:1 over original equipment.

The material MCB uses in its shoes is called a "Semi-Ceramic Matrix," which "in laymen's terms is a composition of metals and ceramics," Ambrose said. The coefficient of friction in this material is

Muscle Car Brakes' drum brake replacement kits for Mopar E-Bodies are available in either 10- or 11-inch configurations. The kits feature cryogenically treated composite brake drums paired with Semi-Ceramic Matrix composition brake shoes, which offer a friction coefficient that's higher than OE. Also included are high-volume wheel cylinders, a high-volume master cylinder and a Heavier Trick Spring Kit.