

180 Mph From An Ordinary Production Sedan

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If you would like a car that looks almost ordinary, but that is as fast as many supercars, buy the BMW M5. Yes, on the outside, this is an ordinary European sedan – but under the hood is a 500 bhp V-10 engine that you might imagine came from a sports-racing car! Will it do 180 mph? No, it could, but it won't because BMW uses a limiter to prevent you going faster than 155 mph on all its hot cars. Actually, BMW says it will do over 190 mph without the limiter in operation.

The BMW M5 is powered by a very advanced 5.0 liter V-10 engine, and fits neatly into the standard engine compartment. This is a very special engine, being built in small numbers and at high cost by BMW's M Center. It's a 90-degree V-10, which means that it won't be quite as smooth as some – in theory, at any rate.

ADVANCED 500 BHP V10 ENGINE

Maximum power is 500 bhp at 7,700 rpm – a real screamer this – while the maximum torque of 380 lb ft is produced at 6,100 rpm. Boy, you're really going to keep this revving if you want to use all that power. Still, when it's just mooching along at 4,000 rpm, this amazing unit produces quite a chunk of power.

Needless to say, it has all the features you'd expect in a supercar engine, such as a stiff aluminum block, twin overhead camshafts per bank of cylinders and narrow 4-valve heads. BMW uses its variable valve timing system, and drives the inlet camshafts on each bank by chain, with a gear drive to the exhaust camshaft, a system pioneered by Toyota to save space.

SEVEN-SPEED SEQUENTIAL GEARBOX

Coupled to this marvel of a power plant, which would seem more at home in a slinky coupe, is a seven-speed sequential gearbox. This is the latest development of the BMW sporty semi-automatic. BMW claims it's the first seven-speed box of its type. Mercedes-Benz has a seven-speed automatic, and Audi has a CVT with seven stages, but these are not quite the same.

Why all these seven-speed boxes? Well, for maximum acceleration, and so that you have the right gear coming out of any corner, the more gears the better. When you've got that many gears, the shift pattern gets pretty complicated with a manual box, so they're going for either automatics or semi-automatics.

To go with the powerful power train are bigger brakes than standard, wider wheels and tires, and stiffer suspension. The handling is surprisingly good for such an ordinary-looking car.

HOT PERFORMER, QUIET LOOKS

The result of putting this engine in the BMW 5 Series is very hot acceleration for such a big car: 0-60 in 4.7 seconds, and 0-125 mph in 15.6 seconds.

Will people pay over \$100,000 or so for a 500 bhp sedan? You bet they will. There are a lot of people out there that want supercar performance, but don't want to have to struggle to get in and out of the car. They also want to travel with plenty of luggage, and have room in the trunk for two sets of golf clubs – and more.

And they'll get a real kick from burning off cheeky guys in sports cars who get in the way. Cars that are much faster than they look, which we used to call Q cars, have quite a market. What's it like to drive? Well, at normal speeds, the car is very quiet, and you would not know how powerful you had. In fact, there is a switch on the steering wheel which limits power to 400 bhp. To get the full 500 bhp, you need to press that.

So, most of the time you'll drive with 400 bhp, and the problem is that the engine does not have a lot of power until you get to 5,000 rpm, and the power keeps coming in until you get to 8,000 rpm. You need deserted roads to use that power, but the car works pretty well in traffic and normal commuting. Not quite so good in everyday use is the gearbox. It does not have a torque converter, so it can be quite jerky when you shift up. John Hartley is editor of Fast-Autos, an online magazine devoted to fast cars and supercars. He has written for many of the world's top auto magazines, and has written about 10 books about cars and the auto industry, including 'Suspension and Steering Q&A' and 'The Electronics Revolution in the Motor Industry'.