

insider info.

Brake Noise...What Is Normal?

One of the most common concerns that any vehicle owner perceives as a problem is brake noise when stopping the vehicle. Industry-wide, the question pops up: "What is considered to be an 'acceptable' level of brake noise?"

The disc brake systems used on vehicles today are designed and developed to meet many different, but very strict requirements. This must be accomplished while providing an optimum level of performance under a wide range of vehicle and environmental operating conditions.

The brake pads selected must be a balanced choice. There is a fine line between a quiet brake pad and one that will provide optimum performance under extreme braking conditions. Consequently, when a change is made in the pad formulation (whether it is meant to provide longer pad life, shorter stopping distances, noise reduction or a change in pedal effort), a trade-off must be made in one area or another. An example of pad formulation change would be the industry's switch from asbestos to semi-metallic brake linings.

Brake friction materials generate noise and heat in order to dissipate energy, a necessary physical reaction. When this occurs, brake dust and vibration of the brake pad within the caliper is generated. These factors can be changed by other environmental and road conditions such as ambient temperature, moisture, road salt, mud, etc.

It is important to remember that all brakes make noise. The frequency at which the noise becomes audible to us will vary. Any effort to eliminate an intermittent brake noise, which is considered normal, is usually temporary at best. This is not to say, however, that all brake noises should arbitrarily be considered normal. Brake noise should be diagnosed as outlined in the appropriate model year service manual.