

**NOISE & VIBRATIONS IN AUTOMOBILES:
REVIEW AND DIAGNOSITCS**

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ABSTRACT

The present work describes various automotive noise & vibration sources and their contribution. Noise and vibration reduction technique is studied through energy flow path. Various international and Indian standards for vehicles consider two types of noise measurement i.e. pass by noise and stationary noise. This paper discusses the appropriateness of SN test for in use vehicle. A methodology for interior noise source identification and its analysis is described. Two vehicles of same class but of different makes were compared and evaluated for interior noise and vibration levels. The effectiveness of the firewall, silencers and engine mounts are checked and compared. The correlation between pressure and vibration levels of different sources with acoustical and structure transfer path are studied. Basic causes, design guidelines and validation techniques using lab simulation and data acquisition are discussed. Application of damping technology using viscous materials to control noise and vibration in vehicles is described.

KEY WORDS: *Noise, Vibration, energy flow path, Stationary Noise.*

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