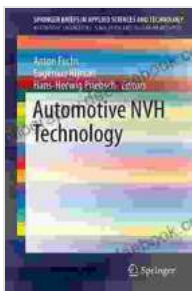


# Automotive NVH Technology: SpringerBriefs in Applied Sciences and Technology

Noise, vibration, and harshness (NVH) are major concerns for automotive manufacturers. NVH can cause discomfort for passengers, reduce driver alertness, and even lead to accidents. As a result, automotive engineers must spend a great deal of time and effort on NVH control.



## Automotive NVH Technology (SpringerBriefs in Applied Sciences and Technology) by Deb McEwan

★★★★☆ 4.6 out of 5

Language : English  
File size : 6694 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 138 pages



This book provides a comprehensive overview of automotive NVH technology. The book begins with an introduction to the basics of NVH, including the sources of noise and vibration in vehicles. The book then goes on to discuss the different methods used to control NVH, including passive control techniques (e.g., soundproofing materials) and active control techniques (e.g., active noise cancellation). The book concludes with a discussion of the future of NVH technology, including the potential for new NVH control technologies and the increasing use of computer-aided engineering tools in NVH development.

## **Sources of Noise and Vibration in Vehicles**

There are many different sources of noise and vibration in vehicles. These sources can be classified into two main categories: powertrain noise and road noise.

Powertrain noise is caused by the engine, transmission, and exhaust system. Engine noise is typically the loudest source of noise in a vehicle, and it can be caused by a variety of factors, including the engine speed, the number of cylinders, and the type of fuel used. Transmission noise is caused by the gears and bearings in the transmission. Exhaust noise is caused by the flow of exhaust gases through the exhaust system.

Road noise is caused by the tires rolling on the road surface. Road noise can be particularly loud on rough roads or when the tires are worn. Road noise can also be affected by the type of tires used and the suspension system of the vehicle.

## **Methods of NVH Control**

There are a variety of different methods that can be used to control NVH in vehicles. These methods can be divided into two main categories: passive control techniques and active control techniques.

Passive control techniques involve the use of materials and structures to reduce noise and vibration. These techniques can be used to reduce both powertrain noise and road noise. Some examples of passive control techniques include soundproofing materials, vibration isolation mounts, and tuned mass dampers.

Active control techniques involve the use of electronic devices to reduce noise and vibration. These techniques can be used to reduce both powertrain noise and road noise. Some examples of active control techniques include active noise cancellation systems and active vibration control systems.

## **The Future of NVH Technology**

The future of NVH technology is bright. There are a number of new technologies that have the potential to significantly reduce noise and vibration in vehicles. These technologies include new materials, new manufacturing techniques, and new control algorithms.

New materials are being developed that are more effective at absorbing noise and vibration. These materials can be used in a variety of applications, including soundproofing materials and vibration isolation mounts.

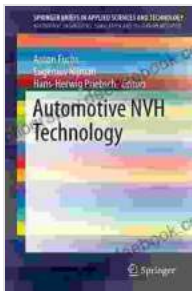
New manufacturing techniques are being developed that can produce components with less noise and vibration. These techniques can be used to reduce noise and vibration in a variety of components, including engines, transmissions, and exhaust systems.

New control algorithms are being developed that can more effectively reduce noise and vibration. These algorithms can be used to improve the performance of both passive and active NVH control systems.

The combination of new materials, new manufacturing techniques, and new control algorithms has the potential to significantly reduce noise and

vibration in vehicles. This will lead to more comfortable and safer vehicles for drivers and passengers.

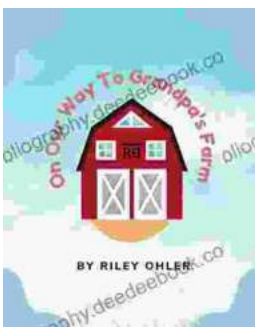
NVH technology is an important part of automotive engineering. By understanding the sources of noise and vibration in vehicles, and by using the appropriate control techniques, automotive engineers can design vehicles that are quieter, more comfortable, and safer.



## Automotive NVH Technology (SpringerBriefs in Applied Sciences and Technology) by Deb McEwan

★ ★ ★ ★ ☆ 4.6 out of 5

Language : English  
File size : 6694 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 138 pages



## Off to Grandpa's Farm: A Whimsical Adventure into the Heart of Family, Farm Life, and Nature's Embrace

Off to Grandpa's Farm is a delightful and heartwarming children's book that captures the essence of family, farm...



## Feminism's Forgotten Fight: The Ongoing Battle for Economic Equality

The feminist movement has historically fought for a wide range of issues, including the right to vote, access to education, and reproductive rights. However, one of the most...