



We have one goal — improving the noise and vibration quality of our customers' products. Roush delivers innovative, effective noise and vibration control solutions. By combining advanced analysis capabilities, comprehensive engineering services, and state-of-the-art facilities, Roush has become a proven partner in identifying and resolving challenging noise and vibration issues. Backed by the diverse capabilities of the Roush family of companies, we are uniquely equipped to provide turnkey noise and vibration solutions.

Roush... your silent partner in developing smoother, quieter products.

Overview

Roush's Noise and Vibration Engineering group began operations in 1977 as Anatrol Corporation, providing consulting and testing services to a wide range of industries. Our acquisition by Roush in 1992 gave us the unique ability to enhance our services by providing our customers seamless access to Roush's turnkey product engineering, development and component manufacturing activities.

We use advanced analysis and simulation methods including structural, acoustic and kinematic/dynamic modeling for design validation and virtual product testing. These predictive tools ensure that our solutions — and your products — are quieter, smoother, and more appealing to your customers.

From automotive and aerospace technologies to consumer products, we continue to provide our customers innovative, effective noise and vibration control products, services and solutions.

Our services include:

Engineering and Test Services

- Solution Development
- Design
- Analysis
- Material Testing
- Product Testing
- Manufacturing Support and Quality Control

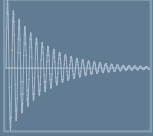
Noise and Vibration Control Products

- Damping Products
- Dynalam/Laminated Metal
- Acoustic Materials
- Prototyping
- Manufacturing Capabilities

Noise and Vibration Solutions

- Automotive
- Aircraft/Aerospace
- Heavy Truck/Commercial Vehicle
- Computer/Disk Drive
- Consumer Products
- Government/Defense





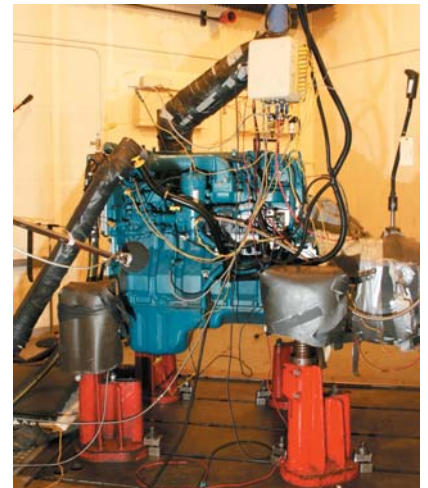
NOISE AND VIBRATION ENGINEERING

NVH Solution Development Specialties:

- Driveline issues resolution — 2 and 4WD; cars, trucks, RV's, off road, train, submarines
- Sound Package — analytical and test based design and development
- Engines — gas, diesel, electric, hybrid
- Transmissions/Transfer cases/Gear boxes
- Powertrain transient analysis — clunks/shudders etc.
- Acoustic absorption and barriers — design, testing and BEA & SEA analyses
- Viscoelastic damping treatments — any temperature range
- Tuned mass dampers and particle dampers, Tuned mass dampers
- System identification - Modal testing, operating deflection, transfer path analyses
- Sound quality and psychoacoustics
- Structural Analysis — strength, durability — FEA analysis
- Acoustic Analysis
- Kinematic/Dynamic analysis — suspensions, valve-trains — ADAMS Analysis
- Brake issues — squeal, chatter, moans, judder



NVH Brake Testing



Powertrain Analysis



Impedance Tube/Transmission Loss Analysis

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