

ROUSH®

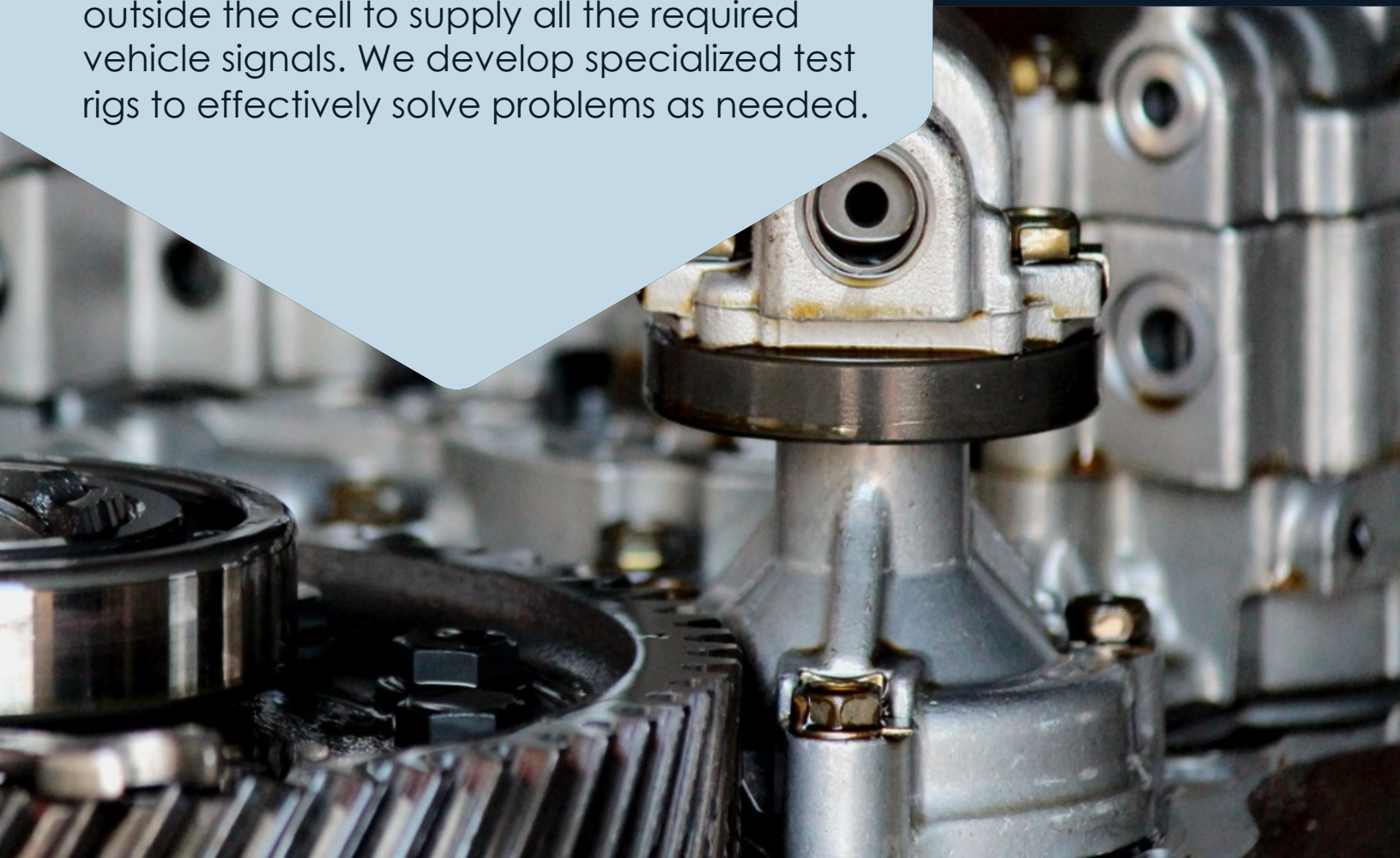
POWERTRAIN NVH ENGINEERING

The acoustic environment of Roush's four hemi-anechoic dynamometer test cells is ideally suited for noise and vibration development and problem solving. The cells are equipped with state-of-the-art instrumentation and controls and offer unparalleled flexibility, including dual dynamometer operation. We can test gas and diesel engines, front and rear wheel drive powerplants, hybrids, electric powerplants, and transmissions. For competitive benchmarking, we can test a powertrain in the test cell with an umbilical to the vehicle outside the cell to supply all the required vehicle signals. We develop specialized test rigs to effectively solve problems as needed.

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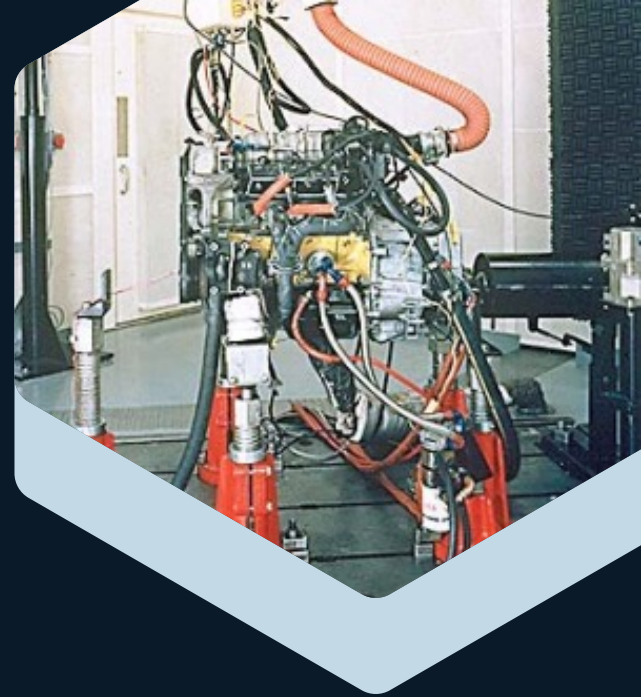
We're focused, we're efficient, and we're at our best when we're challenged to think outside the box — critical traits when our customers' success depends on how quickly we can take their visions from the sketchpad to the marketplace.

For more information, please [click here](#).



EXPERIENCE

Roush has over 30 years of experience in reducing powertrain noise and vibration and is a proven performer when it comes to optimizing NVH in full powerplant development and in solving targeted problems.



TESTING SERVICES

- Sound pressure noise characterization
- Acoustic intensity measurement
- Modal analysis
- Operating deflection shape analysis
- Real time animation
- Frequency response testing
- Noise path analysis
- Order tracking
- Crankshaft bending and torsion testing
- Combustion NVH
- NVH benchmarking

Roush can validate analytical results using state-of-the-art correlation techniques. Combining experimental data with the latest CAE analysis tools allows our engineers to solve NVH problems in very complex mechanisms.

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Based on the results, design modifications can be implemented using constrained layer damping, tuned dampers, isolation, structural modifications or a wide variety of acoustic treatments.

POWERTRAIN PROJECTS INVOLVING

- Automotive
- Heavy truck
- Off-highway equipment
- Lawn and garden equipment
- Recreational vehicles
- Military vehicles

IN COOPERATION WITH OTHER DIVISIONS WITHIN ROUSH, WE OFFER:

- Engine development
- Durability testing
- Engine build services
- Engine calibration services
- Fabrication of prototype components
- Composite prototype and production parts
- Rapid prototyping and stereolithography
- Environmental chamber testing
- Technical writing and publication
- Vehicle emission certification

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