

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.

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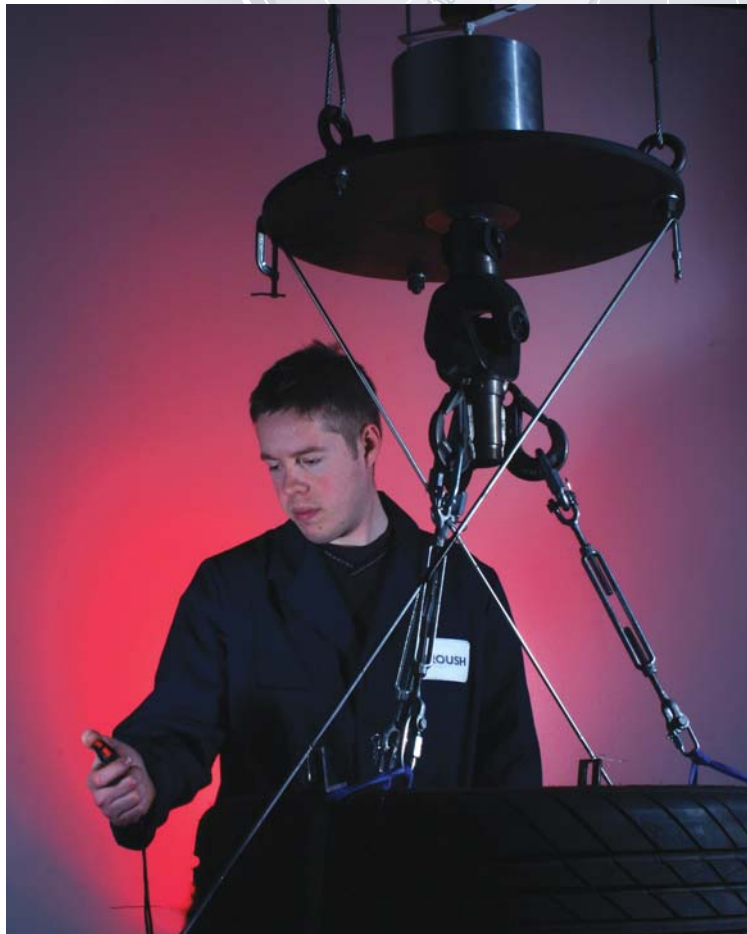
www.roushind.com

Moment of Inertia/Center of Gravity Testing

Roush is a leading supplier of Moment of Inertia/Center of Gravity (MOI/CG) testing. Test items typically include engines, transmissions, assembled powertrains, axles, differentials, and wheels; however, we can test almost anything. The results are typically used by Roush and our customers for dynamic simulations using ADAMS or LS-DYNA Software. We can calculate the MOI/CG of augmented and assembled structures using ADAMS Software.

Roush uses the torsional pendulum method to determine the moment of inertia for six different orientations. The principal axes and moments of inertia about the axes are then calculated using an inverse matrix technique. The center of gravity is measured during MOI testing using the pendulum method. The torque roll axis is also determined.

The results are reported in the form of a principal moment matrix and a direction cosine matrix. Typical accuracy is +/- 5 % for MOI and +/- 10 mm for CG.



Moment of Inertia Testing a Wheel using the Torsional Pendulum