

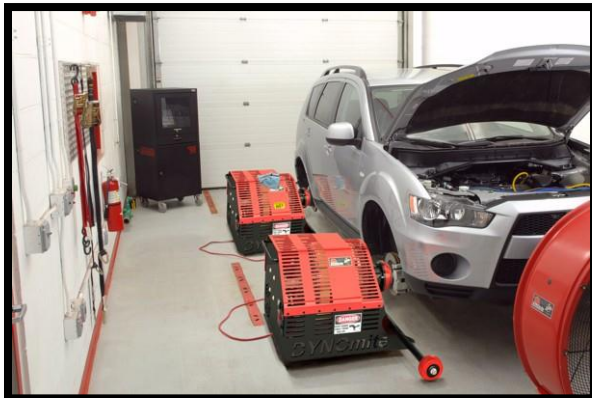
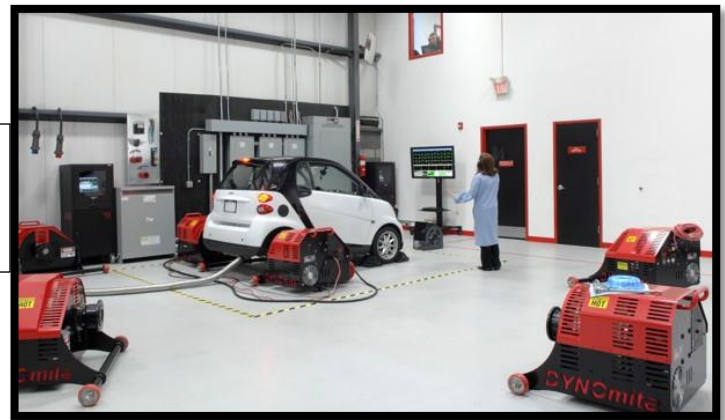
# DYNO mite™ Axle-Hub Dynamometer



DYNOmite Axle-Hub Dynamometers are available with eddy-current and/or AC (motoring) absorber options. Motoring allows for coasting and down-hill road-load simulations – important for off-throttle tuning and emissions work.

WD/RWD 1,000+ Hp\*\* axle-hub kits include a pair of heavy-duty rolling modules with eddy-current controller and high-speed (low inertia) air-cooled absorbers, automatic camber compensation, thermostatically controlled fans, dual torque transducers, swivel casters, alloy quick-change axle-flange adapters, DYNOmite-Lite data-acquisition computer, axle and engine (ignition) RPM pickups, Auto-Load Control, 3-channel data harness, DYNO-MAX software, atmospheric correction, banner, accessories package, and manual (less PC). (Upgradeable to AWD, with four eddy-current absorbers and ActiveSync™ axle synchronization, at any time.)

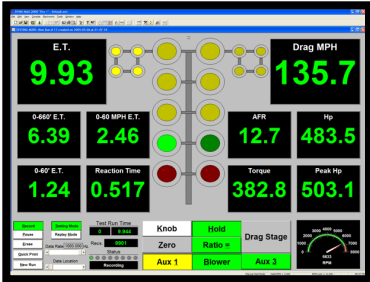
Smart-Car axle-hub dynamometer testing – with ActiveSync™ motoring option. AC motoring allows realistically simulating coasting and long down-hill grades.



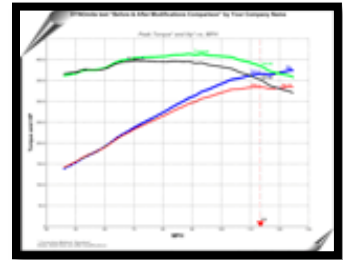
Axle-hub dynos (AWD or 2WD) are available with eddy-current or AC (motoring) absorbers. Our smaller motoring unit pairs are available for traction-control vehicle testing on any type dynos.

2,000+ or 3,000+ Hp\*\* Pro AWD axle-hub systems include four heavy-duty rolling modules with eddy-current controllers and high-speed (low inertia) air-cooled absorbers, automatic camber compensation, thermostatically controlled fans, electronic AWD-axle synchronization, four dual torque transducers, swivel casters, alloy quick-change axle-flange adapters, DYNOmite-Pro data-acquisition computers, axle and engine (inductive clamp) RPM pickups, Auto-Load Control, 28-channel data harnesses, 0-255 degree Fahrenheit temperature thermistor, DYNO-MAX “Pro” software, Windows 7-equipped Dell laptop, rolling computer stand, Air/Fuel Ratio Module (with vacuum pump), Weather-Station Kit, 42" cooling fan, color printer, DYNOmite banner, accessories package, and manual. Also available with AC drive and motor powered ActiveSync™ upgrade (axle synchronization and motoring option).

**Reads TRUE axle-hub Hp** using precision full-bridge temperature-compensated torque transducers – and includes compensation for driveline inertia during transient testing. Only axle-hub or engine dynamometers isolate Hp from the inconsistencies of tire-to-roll traction. They provide the repeatable data that serious tuners and engineers need to compare against baseline tests. However, unlike engine dynamometers, axle-hub testing requires no engine removal from the vehicle.



**DYNO-MAX™ “Pro” Software** creates a full vehicle dashboard on your PC. Features include: real-time trace graph display, adjustable limit warnings, pushbutton controls, user-configurable analog and digital gauge ranges, color graphing, test report database, instant playback, inertia compensation, “Smart Record™” trigger points, adjustable data dampening, full data import/export, semi-automatic zeroing, voice alarms, wireless Pocket DYNO-MAX™ interface, drag-strip Christmas tree console, etc.



**DYNOmite Data-Acquisition Computer** displays and records true unlimited Hp, torque, RPM, elapsed time, etc. at up to 1,000 readings per second (per channel). It automatically applies correction factors for air temperature, barometric pressure and relative humidity.

**More than acceleration Hp** can be measured with the DYNOmite axle-hub modules; they have the continuous absorption capacity that serious tuners need. Measuring power under temperature stabilized (longer term) controlled steady-state RPM loading is vital for the proper mapping of engine management systems and guess-free emissions work.



**1,600+ Hp\*\* 2WD capacity** with our unique planetary-driven axle-hub absorbers (shown below). These compact high-speed units are based on our fast response 13" toroidal-flow water-brake absorbers. They bring engine dyno cell load capacities and testing capabilities right to the race car! They mount directly onto most 2WD model vehicles – with the included (or other optional) axle-flange adapters.

**Sustained Hp and top end** require an absorption dynamometer (i.e. a DYNOmite system). Unlike “acceleration spurt” inertial testing, it can load a vehicle indefinitely.\*\* The absorber allows running controlled RPM step or sweep Hp tests. Everything is under computer control.

**Simulate driving conditions** on your axle-hub dyno by letting DYNO-MAX and your PC take control. DYNO-MAX features a “Road Load Simulation” mode that simulates vehicle momentum, air drag, rolling friction, etc. Enter the vehicle’s weight and drag data and then allow the software to monitor MPH vs. applied Hp, as it adjusts the dyno’s road load accordingly. To the vehicle driveline and operator, the feel is like actually driving.

**Verify emissions under load** using your existing, or our optional (digitally integrated) DYNOmite 5-gas, exhaust analyzer. Proper emission testing procedures require repeatable absorber load control, impossible on simple inertia dynos. No more trying to use unloaded idle data to verify that repaired vehicles are in full emissions compliance. Send customers for state inspections with confidence.



DYNOmite AWD axle-hub dynamometers, on EVO 9, at Bertolina's dyno facility.

**Traction-Controlled Front, Rear, or All Wheel Drive** cars and trucks can be tested with the appropriate model DYNOmite AWD axle-hub dyno or a 2WD model using our ACTIVEsync™ axle-synchronization modules. AWD models allow front/rear torque bias monitoring, and our high-end AC versions even allow sophisticated traction control testing. We can also update many other manufacturer's single-axle chassis dynos, with our ACTIVEsync™ axle-synchronization modules, to allow testing of traction-controlled vehicles. These modules feature 20-Hp motoring drive units and micro-second response AC controllers that provide precision matching of the unpowered axles (on traction-controlled ABS-equipped vehicles) during 2WD dynamometer testing.



**Quick-change axle-flange adapters** and caster-equipped modules are easy to set up for a test, making it practical to skip those old time-consuming road trips. Just remove the tires, couple the adapters, hook up the tach (or use "Smart Ratio™") and test – a full report prints out automatically. When you are done, the same wheels allow you to just roll the modules into a corner of your shop. No dedicated test bay, car lift, or digging on your floors (to construct a large pit) is required.

**Dynamically balanced flywheels**, concentric-mounted axle-flange drive interface, and innovative automatic camber compensation dramatically limit vibration! Test most production vehicles up to 200 MPH.

**Fix driveline problems** that might never show up in the garage, like shifting issues, driveshaft vibration, brake squeal, bearing noises, brake shudder, exhaust rattles, etc. – without costly field testing. Lack of tire noise or belt drives allows you to more easily hear what is going on, even at high speeds.



DYNOmite rear-wheel brake on 1988 Callaway Turbo Corvette. Only Land & Sea, Inc. has a long history of offering AC, eddy-current, hydraulic, and even hybrid-absorber axle-hub dynamometer solutions.



DYNOmite eddy-current track (or clutch only) driven dynos. Custom designed for snowmobile OEM's load simulation and Hp.

**Specialty axle-hub (PTO) dynos** are also available, as custom systems, for testing ATVs, karts, snowmobiles, tractors, and other recreational or industrial vehicles. As these pages show, we manufacture more types of dynos than any other company in the world. For your unique dynamometer system needs, please call us for help!