



#### ENGINE

- Engine Testing
- Specialized Test Cells  
(altitude, sea level, simulated and dyno testing)
- Patented Technology



#### HIGH ALTITUDE

- High Altitude Testing
- Simulated Altitude Testing
- Extreme Environmental Temperature Testing



#### EMISSIONS

- Emissions Certification
- Exhaust & Evaporative Emissions
- Portable Emissions (PEMS)



#### PERFORMANCE

- Wide Range of Vehicle Sizes  
(heavy duty, vehicle, marine, aircraft, motorcycle, EV & HEV, ATV, gensets, etc.)
- In Use Verification Program

## VEHICLE TESTING SERVICES

### DEVELOP BETTER, SAFER, MORE DURABLE PRODUCTS THAT MEET REGULATORY REQUIREMENTS WITH TESTING FROM TRP

Test your vehicles under extreme environmental conditions at sea level, at altitude and even at simulated altitude. At TRP, we have cutting-edge facilities and laboratories all over the world where we are using our own patented technology. From the most basic tests for small engines to custom designed, complex tests for whole vehicles. As an independent body, we can complement your existing powertrain testing program or undertake full testing services, including vehicle development and performance testing, if required.

#### VEHICLE DEVELOPMENT

- Emissions labs – including environmental testing, catalyst efficiency determination, custom drive cycles and test procedures, as well as exhaust specification
- Vehicle instrumentation, including exhaust sample ports, thermocouples, pressure transducers and data logging
- Large cold soak room for cold start and sub-zero evaluation of products to -22°F (-30°C)
- Mileage accumulation dynamometers (MAD), 2WD and AWD
- Certification and specialty fuels in bulk tanks and drums

#### EXHAUST EMISSIONS CERTIFICATION

- Chassis and engine dynamometer emissions laboratories compliant with EPA 40CFR Part 1065/1066
- Federal and supplemental vehicle and engine emissions certification testing
- Portable Emissions Measurement System (PEMS) and emissions analytics support
- Compliance with 40 CFR 1065, EU582/2011 & pending EU6c
- EPA CAP2000 and In-Use Verification Program (IUVP)
- Vehicle, motorcycle and ATV chassis dyno emissions testing at Columbus, IN location.



ACCREDITATIONS

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# VEHICLE TESTING SERVICES

## EXTREME TESTING LABS AT SEA LEVEL, ALTITUDE AND EVERYTHING IN BETWEEN

- Patented altitude simulation capable of simulating altitude ranging from sea level to more than 12,000 ft. (3660 m), for both steady state and transient engine operating conditions
- Combustion air temperatures may be set from 14° to 130° F (-10° to 54 °C)
- Vehicle and engine testing labs available at both sea level and altitude

## EVAPORATIVE EMISSIONS

- Variable temperature SHEDs
- US Environmental Protection Agency (EPA) and CARB procedures performed
- Point source running loss and fuel tank temp profile control
- On-board refueling vapor recovery
- Canister loading and breakthrough

## VEHICLE TEST SITE SPECIFICATIONS

| DYNAMOMETER                                     | ABSORBING POWER (HP) | AIR TEMPERATURE RANGE ( °F/°C ) | EMISSION SAMPLING                          | SEA LEVEL OR ALTITUDE |
|-------------------------------------------------|----------------------|---------------------------------|--------------------------------------------|-----------------------|
| AC Electric AWD<br>Two Independent<br>48" Rolls | 400 hp<br>500 hp     | 0 to 110°F<br>(-18 to 43°C)     | 3 Streams + Bag<br>Gas & Diesel CVS        | Variable<br>Altitude* |
| AC Electric AWD<br>Two Independent<br>48" Rolls | 350 hp<br>450 hp     | 0 to 110°F<br>(-18 to 43°C)     | 5 Streams + Bag<br>Gas & Diesel CVS        | Variable<br>Altitude* |
| AC Electric Single<br>48" Roll                  | 200 hp               | 50 to 110°F<br>(10 to 43°C)     | 4 Streams + Bag<br>Gas CVS                 | Variable<br>Altitude* |
| AC Electric Single<br>48" Roll                  | 200 hp               | 50 to 110°F<br>(10 to 43°C)     | 3 Streams + Bag<br>Gas CVS Running<br>Loss | Variable<br>Altitude* |

\*TRP's patented Balancing Altitude Simulation Equipment (BASE) offers static and dynamic simulation of altitudes from sea level to 12,000 ft. (3660 m)

## WHY US?

At TRP, we provide comprehensive testing services to ensure your products meet the highest safety, reliability, and compliance standards. With decades of experience, we are a trusted partner for automotive manufacturers, OEMs, and aftermarket producers.

### UNMATCHED EXPERTISE

Backed by years of industry experience, our team of seasoned professionals excel as skilled testing specialists.

### HIGH PRECISION LABORATORIES

ISO accredited labs feature innovative technologies, specialized facilities and advanced testing equipment.

### EXTENSIVE TESTING SOLUTIONS

Diverse testing capabilities, from large commercial vehicles to small parts and their components.

### CUSTOMER FOCUSED

A customer centric approach with tailored solutions to meet your specific project needs.

### TRUST AND RELIABILITY

A proven track record of reliability, delivering quality results with quick turnaround times.

## AURORA, CO

- High Altitude Laboratory
- Vehicle & Engine Testing
- Emissions Cert Testing
- PEMS Testing Services
- Mileage Accumulation
- Sub-Zero Cold Testing
- In Use Verification Program
- EV & HEV Testing



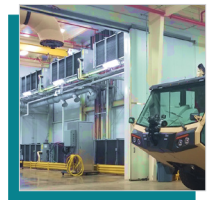
## EMPIRE, CO

- High Altitude Test Center
- Elevation 8,900 ft
- On-road Development
- Sub-Zero Cold Testing
- 700 ft Drive-away
- On-Site Refueling
- EV & HEV Charging



## COLUMBUS, IN

- Sea Level Laboratory
- Vehicle & Engine Testing
- Emissions Cert Testing
- Sub-Zero Cold Testing
- Mileage Accumulation
- Motorcycle/ATV/UTV
- In Use Verification Program
- EV & HEV Testing



## LAPEER, MI

- Fuel Storage & Systems
- Component Testing
- Environmental & Durability
- Evaporative Emission
- Fill & Refueling Testing
- Lateral Slosh Testing
- Fire Resistance Testing



## TAYLOR, MI

- Catalyst Aging
- Equipment Design & Production (NG1/NG2, Next Gen Burners)
- Fabrication & Machining
- Thermal Component Testing



## TROY, MI

- Chassis & Suspension
- Shock Absorber Testing
- Component Testing
- Fatigue & Cyclic Testing
- Vibration Testing
- Thermal Test Conditions
- Exhaust Systems Testing

