

TRANSPORTATION RESEARCH CENTER

East Liberty, OH

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About TRC

Transportation Research Center is an independent automotive proving ground providing research and development, and compliance and certification testing for vehicles and components, for crash testing, emissions testing, dynamic testing and durability testing.

Transportation Research Center (the Center) is an independent automotive proving ground located on approximately 4,500 acres of land in East Liberty, Ohio, approximately 40 miles northwest of Columbus.

TRC Inc. conducts programs designed to test for safety, energy, fuel economy, emissions, durability, noise, crash, crash simulation and performance. We test trucks, buses, recreational vehicles, motorcycles, electric vehicles, passenger cars and components.

Our services include research and testing programs. We can conduct all testing and furnish the customer with results or assist the customer in conducting portions of the program. We provide the physical facilities and equipment for the customer who wants to conduct the entire test program.

TRC Inc. operates 24 hours a day, 7 days a week for customer convenience. Private workrooms and garage space are available for lease on a daily, weekly, monthly, or yearly basis. We maintain control over the scheduling of all test programs for the safety of all customers and provide secure handling of customers' proprietary information and test components.

Emissions Laboratory

Transportation Research Center Inc.'s proving grounds has emissions testing capabilities including exhaust and evaporative emissions testing within our 24,000 square foot emissions laboratory.



The laboratory which is located in Building C on the grounds of Transportation Research Center's (the Center) Research Park. The Laboratory provides engine- and chassis dynamometer-based exhaust emissions and fuel economy testing, hydrocarbon speciation, and particulate measurement to any SAE, Environmental Protection Agency (EPA), California Air Resource Board (CARB), or other industry standard.

Experience:

- Gasoline, diesel, and alternative fuel engines and vehicles
- Light-duty vehicle, motorcycle and all-terrain vehicles
- Lawn and garden utility to heavy duty diesel engine stand testing
- Exhaust and evaporative emissions certification: EPA, California Air Resources Board (CARB) and Mine Safety and Health Administration
- Fuel, additive, lubricant and aftermarket parts validation
- Intake valve and port fuel injector deposit testing
- Fuel blending, storage, and dispensing
- Fuel and lubricant analysis
- Fuel system component durability and fuel compatibility testing

Emissions Laboratory, Cont.

Capabilities:

- **Analytical and fuel analysis laboratories: Fuel and Emission Hydrocarbon (HC) Speciation via Liquid Chromatograph (LC) and Gas Chromatograph (GC) Analysis Fuel Reid Vapor Pressure (RVP) - American Society for Testing Materials (ASTM) D1591 Gasoline and Diesel Distillation Curve - ASTM D86 Fuel Sulfur Concentration ASTM D5453 Fuel Gum Test - ASTM B381.**
- **Mileage Accumulation 15-minute driving, 45-minute hot soak cycles = 335 miles/day**
- **Periodic injector flow restriction measurement**
- **Intake Valve Deposit (IVD) testing**
- **CARB BMW 10,000-mile intake valve test = 900 miles a day**
- **Road load coastdowns**
- **All U.S. chassis emissions testing and most European and Japanese chassis emissions testing can be conducted at the Emissions Lab**

Fuel Additive

The development of economical, reliable, and environmentally-safe fuels and lubricants requires performance and emissions testing and evaluation. Transportation Research Center Inc.'s proving grounds have the experienced personnel, special instrumentation, vehicle testing facilities, and laboratory services required to perform multi-vehicle research and testing of fuels, additives, and lubricants.

Our professional staff is dedicated to providing you with accurate, timely, and well-planned and organized services.

Facilities

Fuel additive testing and mileage accumulation is performed on our 7.5 mile oval track, which offers accuracy, security, and repeatability when compared to testing on public roads.

Fuel Additive Testing Capabilities

- Intake valve deposit testing
- Port fuel injector deposit testing
- Fuel blending, storage, and dispensing
- Chemical and physical analysis testing Fuel analysis and engine diagnostics testing

Specialized Fuel Handling Equipment

- Gum test apparatus capable of doing washed and unwashed testing
- ISL 85 5G petroleum distillation tester
- Fisher permascope 211D
- Olympus IF8C5 eight-mm fiberscope
- RVP Grabner model CCAVPS
- Perkin Elmer 3110 AA atomic absorption spectrometer

Specialized Services

- On-site independent emissions laboratory for EPA certification and compliance, including exhaust and evaporative hydrocarbon speciation
- Vehicle and parts procurement, transportation and disposition
- Onsite, secure, and controlled fuel storage and blending

Fuel Economy

Transportation Research Center Inc.'s proving ground is the leader in the field of fuel economy testing. Whether evaluating the benefit of fuel-efficient devices, comparing vehicle components, or comparing competitive vehicles, TRC Inc. provides the vehicle testing services to assure test accuracy and repeatability.

TRC Inc. has been providing complete fuel economy test programs for our customers for over 30 years. TRC Inc. utilizes a 7.5-mile oval track to perform the driving schedules in accordance with SAE standards such as J1082 , J1321, and J1376. The closed-loop track allows for uncompromised fuel testing in a proprietary environment.

Fuel economy testing occurs year-round, weather permitting. TRC Inc.'s staff of drivers, engineers, and mechanics have participated in the development and refinement of industry fuel economy testing standards over the past quarter-century. In addition, TRC Inc. performs in-house customer consultation regarding test methodology.

TRC Inc. can complement fuel economy testing through our coastdown testing capabilities. Coastdown testing isolates aerodynamic and rolling-resistance efficiencies. Coastdown tests are conducted to US EPA OMS Advisory Circular 55C for light-duty vehicles and to SAE recommended practice J1263 for heavy vehicles.

Test Articles	Test Vehicles
Engines	Passenger cars
Tires	Motorcycles
Fuels	Tractor semi-trailers
Additives	Buses
Transmissions	Military vehicles
Aero-devices	Light trucks
Lubricants	Vans
Aftermarket devices	Sport utility vehicles