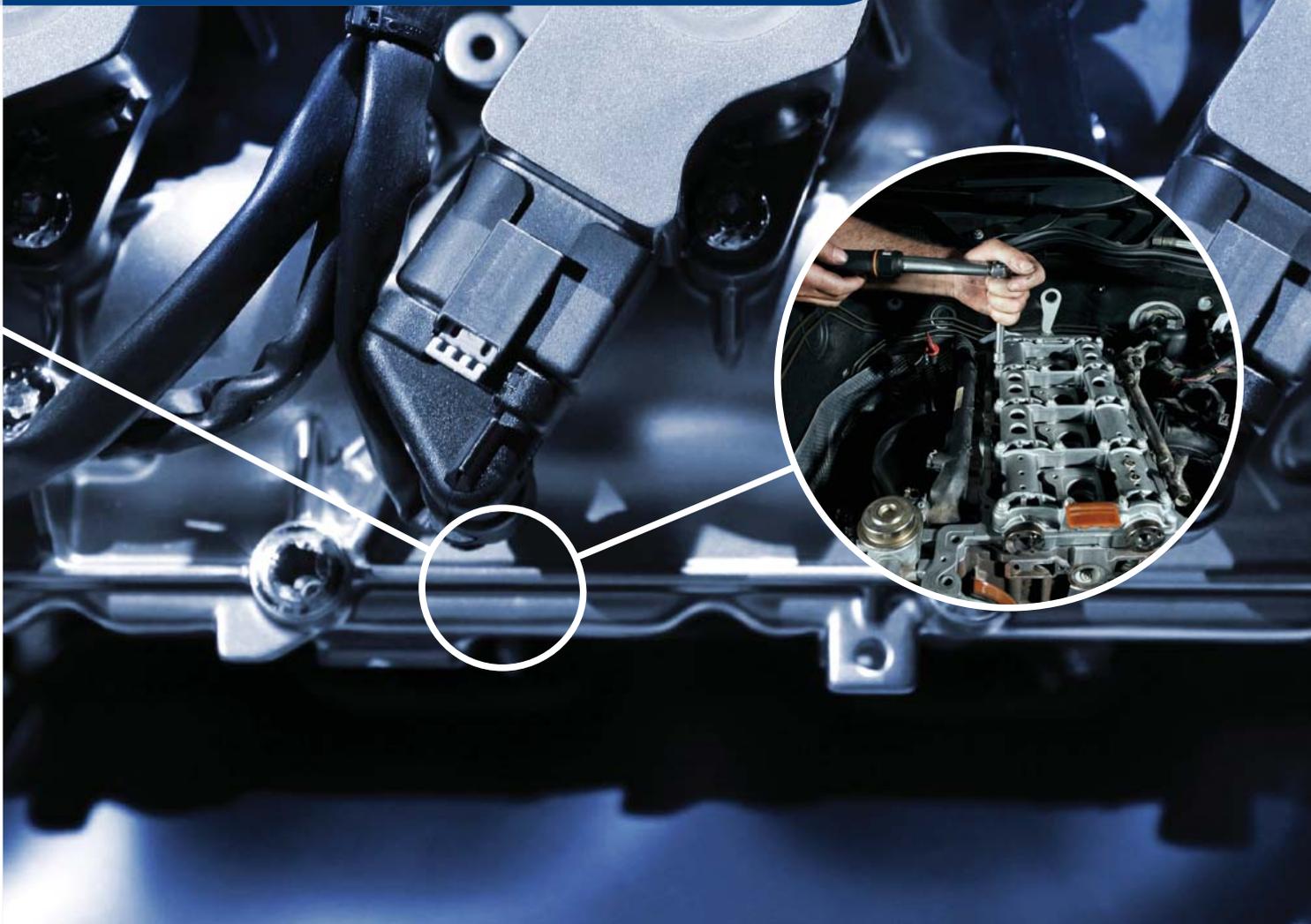


Engine and Engine Components

Testing Capabilities

Engine component development and durability testing performed at Intertek Automotive Research primarily encompasses performance and validation testing on engines and engine components. Precision data acquisition and control systems are used that provide flexible and repeatable engine control. Data acquisition rates vary depending on customer requirements. Typical rates are once/minute and once/stage. Intertek-AR also employs "flight recorder" data acquisition which gathers data at a high rate (such as 100 Hz) to aid in determining root cause due to engine or engine component failure. Gaseous emissions measurement equipment and control of intake air humidity and temperature is also available.





Intertek Automotive Research offers an off site portal presence (the ability to view testing anywhere & real time via web link). We assign a test engineer assigned to each program and offer continuous (24/7/365) operation with operators staffed on each shift.

Our Solutions

Our Customers include many of the automotive and heavy duty engine manufacturers along with their suppliers. Intertek-AR has expertise in testing a variety of engine configurations ranging from single cylinder to multi-cylinder research, prototype, and production engines. A variety of fuels are used including gasoline/gasoline blends, diesel, and alternative fuels. Engine and engine components are constantly evolving. They are becoming more sophisticated, and are being developed at a more rapid pace and at less cost than ever before. Our facilities allow our customers to meet these challenges.

Engine Test Facilities

- Engine performance and validation testing
- Engine development testing
- Individual test cells
- Eddy current dynamometers up to 1200 HP
- Engine speed control up to 8000 RPM
- Combustion air control (temp and humidity)
- Exhaust back pressure control
- Emissions
- Oil consumption measurement (manual and auto)
- Engine fluids (fuel, coolant and oil) temperature control
- Cooling water is available in each cell at a mean temperature of 27C (80F)
- Chilled water is available in each cell at 10C (50F)
- Automated data acquisition and control (various systems and speeds)
- Multiple data acquisition channels - dependent upon program
- Flight recorder monitoring
- OEM diagnostic equipment utilized
- Various test fuels utilized (examples: gasoline/gasoline blends, diesel, and alternative fuels)
- Hybrid-electric power trains

Testing Experience

- Complete engine durability
- Component durability
- Throttle sticking
- EGR
- O2 sensors
- Turbochargers
- Power checks, curves
- Performance
- Blowby monitoring
- Engine blueprinting
- Compression/leakdown evaluations
- Engine deposit evaluations
- Fuel, lubricant evaluations
- Octane requirement increase evaluations
- Crankcase ventilation evaluations
- Oil consumption evaluations
- Emissions
- Failure analysis
- Test development
- OEM specific tests
- Industry standard tests
- Test Cycles
 - Industry specified cycles
 - Proprietary cycles
 - Custom designed cycles
- Test facility evaluations

The Intertek Advantage

Intertek Automotive Research is one of the largest independent automotive testing organizations in the world providing testing services since 1953 to the automotive and petrochemical industries. Based in San Antonio, Texas, our customer focused staff has a proven record of being very responsive to customer needs and special testing demands. Our customer base is worldwide and consists of the automotive OEM's, the heavy-duty engine OEM's, the OEM suppliers, and the fuel and lubricant companies.

Intertek is a leading provider of quality and safety solutions serving a wide range of industries around the world. From auditing and inspection, to testing, quality assurance and certification, Intertek people are dedicated to adding value to customers' products and processes, supporting their success in the global marketplace. Intertek has the expertise, resources and global reach to support its customers through its network of more than 1,000 laboratories and offices and 30,000 people in over 100 countries around the world.

Intertek Automotive Research

5404 Bandera Rd.
San Antonio, TX
78238-1993
USA

T: +1 (210) 684-2310
F: +1 (210) 684-6074

www.intertek.com

For more information please visit: www.intertek.com/automotive/ar-carnot, contact us at: autoresearch@intertek.com, or call: +1 888 400 0084.