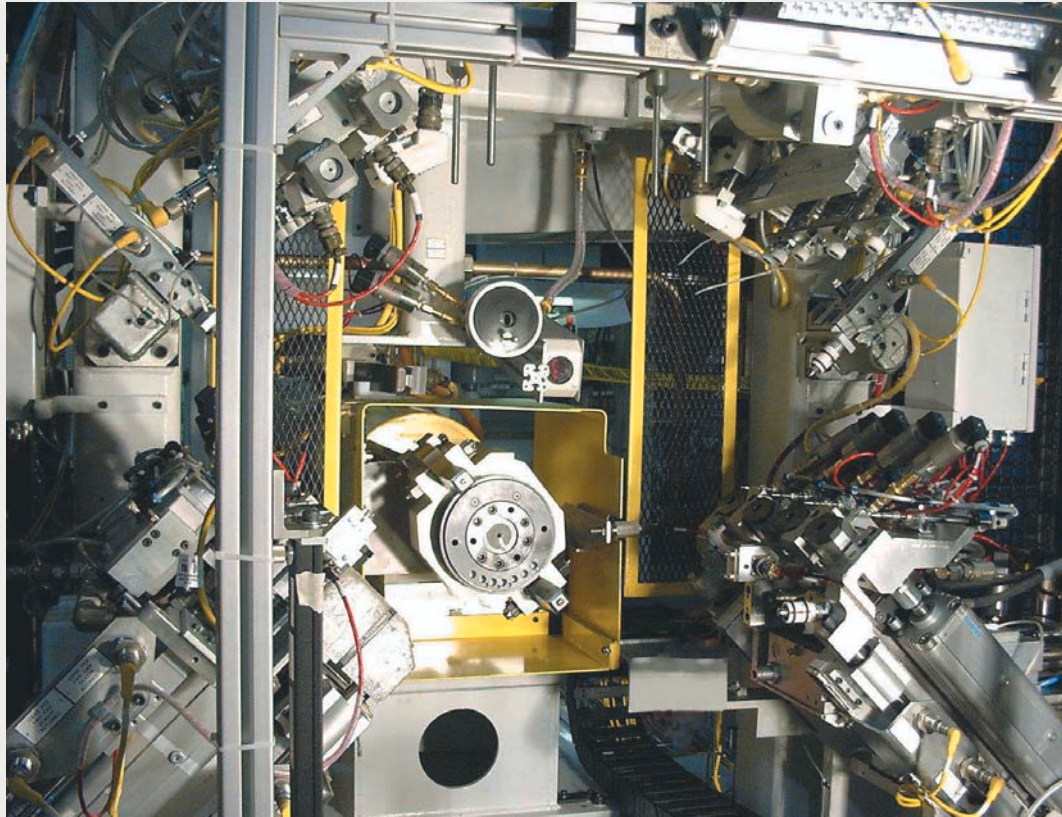


The Assembly & Test – N. America (AT-NA) Division of DT Industries is a world leader in engine Advanced Cold Test (ACT) technology.

From pioneering Automated Signature Analysis (ASA) in the late 1980s, technology and standardization has evolved into today's state-of-the-art offerings.

Over 100 ACT machines provided to customers in North America, Europe, and Asia is evidence of our worldwide presence and technology leadership. ACT machines have been provided for gasoline and diesel engines ranging from 1.5 to 18 liters in displacement.

As an ISO 9001, 14001 and QS9000 TE certified supplier, AT-NA is prepared to meet all challenges presented in this demanding field of application.



System Highlights

- Test speeds up to 3000 rpm at a noise level below 80 dB
- External triggering for data acquisition
- All data captured and displayed in reference to crankshaft angle
- Continuous NVH analysis and power FFT capabilities
- Dynamic CAM phaser analysis
- Ignition testing at 125 kHz per channel sampling rate, using AT-NA developed electronics for data acquisition and signal analysis
- High-speed communication between data acquisition computer and test stand controller
- Customer specified or AT-NA proprietary data acquisition system software
- Test parameter modification without having to re-write hard-coded information
- Automatic test sequence changeover via model information obtained from engine RF tag
- Custom designed displays for waveform viewing, cycle time, and manual mode data acquisition
- Constant monitoring of critical parameters such as drive torque to ensure safe test stand operation

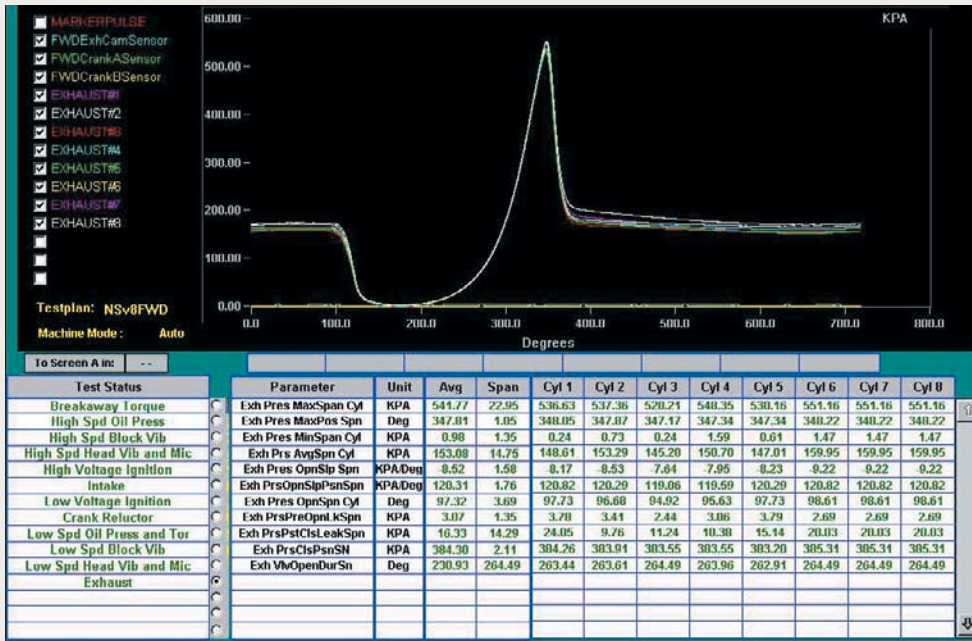


▲ 16 Liter, In-Line 6 Diesel Engine ACT

Engine Advanced Cold Test (ACT)

Talented People → Right Solutions

Waveform analysis with numerical data displayed for each individual step in the test sequence. ▼



▲ Green color indicates parameters within test limits. Red color indicates parameters outside of test limits.

Data acquisition systems are configured with 16 - 64 RSE or 8 - 32 DIFF analog input channels, sampling at variable rates up to 1.25 MHz. Channels are selectable for individual user requirements.

Identifiable Defects

- Missing, broken, or mis-ground crank reductor teeth
- Soft or collapsed valve-lifters
- Tight lifter valve bore
- Valve face seat leaks
- Valve lash/valve timing
- Loose/missing rockers
- Warped cylinder heads
- Intake vacuum and exhaust leaks
- Broken or missing piston compression rings
- Missing connecting rod shells and main bearing caps
- Loose connecting rods
- Closed, broken or open spark plug gaps
- Crossed ignition wires
- Defective ignition coils
- Unbalanced engines
- Sluggish or incomplete travel of CAM phasers
- Oil defects

Assembly & Test – North America
A Division of DT Industries
www.dtindustries.com

- Lean assembly and test solutions
- Automated assembly and test solutions
- Powertrain test solutions
- Material handling solutions
- CAPAC and OSCAR software

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Saginaw Facility

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Saginaw, MI 48602-1298
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System Capabilities

AT-NA provides solid engine ACT technology and machines with minimal lead times. Our 3-D modeling, FEA, and use of standard components allow us to respond quickly to customers' requirement with easy ACT configuration for their product(s).

Current offerings of AT-NA data acquisition and instrumentation include our brand sensors, unique data triggering hardware, serial (networked) "smart transducers," and space-saving torque disks.

Configurations offering off-line, on-line, or discrete setup are available. AT-NA provides integration services to main line suppliers with stand-alone data analysis and statistical analysis or with field integration to a system host or plantwide networks.

Take the Next Step.

Please contact us today to discuss your application and explore profitable possibilities.

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