



Test Devices Inc. New Generation of Spin Rigs Creates Realistic Engine Operating Conditions

Hudson, MA, December 15, 2008 – Dr. Boris Milatovic of Test Devices Inc., a dynamic materials testing company, recently presented his paper “Dynamic Spin Rigs – The Next Generation in Component Test Capability,” at the 2nd Joint EVI-GTI / PIWG International Gas Turbine Instrumentation Conference. The paper highlighted the unique testing capabilities and advantages of Test Devices Inc.’s exclusive Dynamic Spin Rigs.

While standard spin rigs are designed to test the static (centrifugal) stress capability of turbine components, Dynamic Spin Rigs can test both static (centrifugal) and dynamic (vibrational) stresses, creating a more realistic environment outside of a real life engine test.

As the Director of Advanced Technology Programs at Test Devices Inc., Dr. Milatovic was one of several leading engineers responsible for the development and building of the Dynamic Spin Rig. “The key feature of the Dynamic Spin Rig is the excitation of the blades while spinning,” said Dr. Milatovic. “In the test, jets of oil strike the blades, which produce an impact force on the blades. As a result, the blades vibrate at certain controlled frequencies, allowing us to fully replicate engine operating conditions.”



Figure 1
Test Devices Inc.'s strain gauge and non-intrusive stress measurement instrumentation stations are part of the aero-pulse high cycle fatigue spin test system at its facility in Hudson, MA.



The Dynamic Spin Rigs have the capability of performing all of the conventional standard rig tests, as well as advanced capabilities such as Thermal Gradient testing, Rotor Thermo-Mechanical Fatigue spin testing, Dynamic Blade Response testing, Elastic and Plastic Component Growth Measurement, Real-Time Crack Detection and Validation of Goodman Diagrams. These advanced tests can speed project completion, reduce total testing costs, lower the risk of in-service component failures, and reduce the amount of engineering redesigns.

Test Devices Inc. is the only testing service that manufactures and offers test services using the Dynamic Spin Rig. Each Dynamic Spin Rig can be modified to the specifications of the components that are being tested. Recently, Test Devices Inc. installed its first Dynamic Spin Rig outside of its facilities, at a major turbine original equipment manufacturer. The rig is currently in full operation and is being used for various engine development programs.

—END