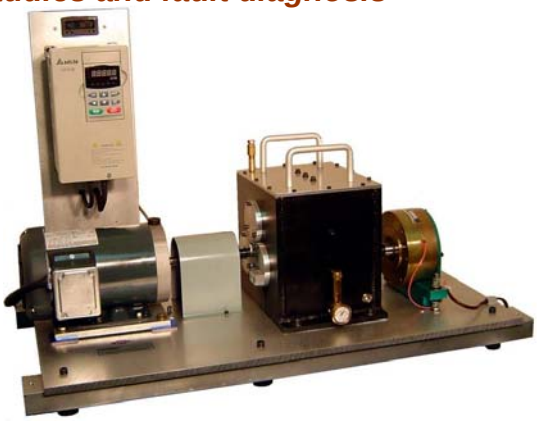
SpectraQuest introduces the Gearbox Dynamics Simulator (GDS)

- ***An ideal simulator for gearbox reliability studies and fault diagnosis***
- ***Includes 2 stage parallel shaft gearbox with rolling element bearings***
- ***Adaptable to spur or helical gears***
- ***Develop diagnosis techniques and advanced signal processing methods***
- ***Allows torsional variable speed loading and wear particle analysis***
- ***Smart design makes the simulator robust and easy to use***
- ***Bench top machine for hands-on training and skill sharpening***



- ***Application specific optional kits are available for detailed in-depth investigation of specific vibration phenomena***
- ***Available in various combination packages to fit customer requirements***

Press Release, April 8, 2005

SpectraQuest introduces Gearbox Dynamics Simulator (GDS), specifically designed to simulate the industrial gearbox for experimental and educational purposes. The GDS provides a basic setup for performing gearbox experiments and for learning vibration signatures of gearbox and bearing malfunctions. The gearbox consists of a 2 stage parallel shaft gearbox with rolling element bearings and a magnetic brake. All elements of the GDS have been designed to investigate gearbox dynamics and acoustic behavior, health monitoring, vibration based diagnostic techniques, lubricant conditioning or wear particle analysis. It is robust enough to handle heady loads and spacious enough for easy gear placement, setup, and installation of monitoring devices. The two-stage parallel shaft gearbox can be configured as to reduce or increase the gear ratio.

The common gear faults like surface wear, crack tooth, chipped tooth and missing tooth can be demonstrated on either spur gears or helical gears. Rolling element bearing faults like inner race, outer race, and ball damage can also be incorporated. GDS facilitates developing diagnosis techniques and advanced signal processing methods to identify the defects. Adjustable clearance to study backlash is also possible. Torsional loading can be applied via programmable magnetic brake, to study damage signature or propagation in gears. Any of these faults can be added to the gearbox one at a time, or simultaneously to study fault interactions. Multiple mounting locations are provided for installation of transducers. The motor, gearboxes, brake are mounted on a half inch aluminum plate with stiffeners and vibration isolators to minimize environmental vibration. A detailed investigation of particular and more advance vibration phenomena will require additional attachments and fixtures which are available through optional kits. It comes with a training book and complete operations manual & videos to assist with exercises and learning. Please download the brochure at http://www.spectraquest.com/resources/downloads/ for more details.

About SpectraQuest

SpectraQuest is a leading developer and manufacturer of turnkey systems and products for enhancing reliability of rotating and reciprocating machinery. These products are ideal platform for research and education in machine fault diagnosis/prognosis, teaching dynamics and vibration courses, and wind turbine drivetrain studies. The distinguishing feature of SpectraQuest is a wide variety of Machinery Fault Simulators and Custom Designed Test Rigs which are sold in over forty five countries around the world. Further information is available at http://www.spectraquest.com/.

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