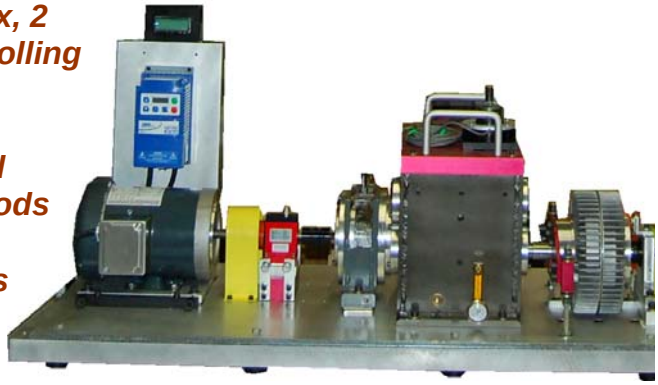
SpectraQuest introduces the Drivetrain Diagnostics Simulator (DDS)

- ***An ideal apparatus for drivetrain reliability studies***
- ***Includes 2 stage planetary gearbox, 2 stage parallel shaft gearbox with rolling element or sleeve bearings***
- ***Adaptable to spur or helical gears***
- ***Develop diagnosis techniques and advanced signal processing methods***
- ***Allows torsional variable speed loading, radial loading on bearings and wear particle analysis***
- ***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, January 4, 2008

SpectraQuest introduces Drivetrain Diagnostics Simulator (DDS), a perfect tool for gearbox and bearing diagnostics and dynamics studies. DDS is specifically designed to simulate the industrial drivetrains for experimental and educational purposes. The DDS is an innovative upgrade of GDS, which goes further to study and research a complex drivetrain by adding a planetary gearbox and heavy loading capability. The drivetrain consists of a 2 stage planetary gearbox, a 2 stage parallel shaft gearbox with rolling or sleeve bearings, a bearing loader, and a programmable magnetic brake. All elements of the DDS have been designed to maximize the number of drivetrain configurations 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 planetary gear train, sun, planet and ring gears, the carrier, and bearings are all easily accessible.

Intentionally damaged or worn gears and bearings can be fitted to study the effects on vibration signature. 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. DDS facilitates developing diagnosis techniques and advanced signal processing methods to identify the defects. Adjustable clearance to study backlash is also possible. Both torsional and radial loadings can be applied to study damage signature or propagation in gears and/or bearings: the torsional load is applied via a programmable magnetic brake to simulate rapid load fluctuations; and the radial load is applied to a shaft in the parallel gearbox. 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. 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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