

## SpectraQuest Introduces the Wind Turbine Drivetrain Diagnostics Simulator (WTDS)

- *An Ideal Apparatus for Wind Turbine Reliability Studies*
- *Comprehensive Drivetrain Fault Diagnosis*
- *Faults can be added to the drivetrain one at a time, or simultaneously to study fault interactions*
- *Fully integrated with Sensors, Data Acquisition and Analysis Software*
- *Proprietary Advanced Signal Processing Algorithms*



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SpectraQuest introduces the World's first Wind Turbine Drivetrain Diagnostics Simulator (WTDS) to simulate wind turbine drivetrain faults and learn signatures in a controlled environment. The system is designed to minimize gearbox, bearings and blade mechanism failures thereby avoiding unexpected downtime and production loss by sharpening the skills of your analysts. The WTDS is the perfect tool for learning signatures of drivetrain component faults such as gear surface wear; gear crack, chipped, and missing tooth; bearing inner and outer race defects; bearing ball damage; gear backlash, eccentricity, and misalignment. The ability of distinguishing and recognizing drivetrain faults will result in quicker field diagnostics and repair. The complete bench-top drivetrain consists of a two-stage planetary gearbox, a two-stage parallel shaft gearbox with rolling or sleeve bearings, a bearing loader, a programmable magnetic brake, a variable yaw/pitch scaled wind turbine. All elements of the WTDS have been designed to maximize the number of drivetrain configurations to research gearbox dynamics and acoustic behavior, health monitoring, vibration based diagnostic techniques, lubricant conditioning or wear particle analysis. It is robust enough to handle heavy loads and spacious enough for easy gear placement, setup, and installation of monitoring devices.

The complete system includes sensors, data acquisition hardware and proprietary software for diagnosing gearbox and bearing faults using advanced signal processing techniques. SpectraQuest also provides several option kits with built-in faults in gears and bearings, and PC operated loading mechanisms to emulate wind turbine real world operating conditions. Please download the brochure at [http://www.spectraquest.com/downloads/WindTurbine\\_brochure.pdf](http://www.spectraquest.com/downloads/WindTurbine_brochure.pdf) for more details.

## ***About SpectraQuest***

SpectraQuest, Inc. is dedicated to providing state-of-the-art systems for enhancing product reliability and quality assurance. The company develops and manufactures training, diagnostic and prognostics systems for industrial maintenance and vibration analysis. SpectraQuest's complete product line is ideal for the study of balancing, alignment, resonance, rotor dynamics, pump, compressor, bearing, gearbox, drivetrain, and motor defects. The flagship Machinery Fault Simulator has been sold in over 40 countries to the leading universities, research and development institutions, and engineering/maintenance departments of a wide spectrum of corporations. Further information is available at [www.spectraquest.com](http://www.spectraquest.com).

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