CENTER FOR INFRASTRUCTURE ENGINEERING STUDIES

Dynamic Testing Equipment

By

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UTC RE71

University Transportation Center Program at

The University of Missouri-Rolla

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16. Abstract

The 858 Mini Bionix II Test System is well suited for testing biomechanical constructions, characterizing biomaterial properties, and simulating biological forces and displacements. The instrument is designed to run fatigue cycles at frequencies up to 30 Hz. Three versions are available. The standard axial system accurately measures and controls static and dynamic tests; by adding a low-force transducer, it can easily run soft-tissue tensile and fatigue tests in the milliNewton range. The axial/torsional version adds the capability of controlling torsional movements, while the axial/rotational configuration provides multiturn rotational control or rate control for continuous rotation. All three versions provide accurate testing under axial loads up to 25 kN with standard displacements of 50 mm. Each system fits conveniently on a laboratory bench and is available with a specially designed cart.

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Dynamic Testing Equipment
FINAL REPORT

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A MTS Model 858 Mini Bionix Biomechanical Test System was purchased to use for geodynamics research into earthquake performance of transportation systems**.**

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The MTS test system will be used in infrastructure and fatigue research conducted by faculty and students at the University of Missouri – Rolla.