



## ***Test Measurement Systems Inc.***

### ***FMVSS 207/210 Seat Belt and Seat Belt Anchorage Test System***

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#### ***Purpose***

*Federal Motor Vehicle  
Safety Standard (FMVSS)  
207 and 210 specify  
requirements for seat belt  
and seat belt anchorage  
strength to reduce the  
frequency and severity of  
injuries in vehicle*

*collisions. The equipment described will perform tests according to both the FMVSS 207 and 210 specifications, plus other Research and Developmental Testing.*

#### ***Description***

*Test equipment consists of a seat mounting test bed plate, A-frame loading stand with moveable crosshead, and eight (8) electro hydraulic actuators to apply the prescribed loads.*

*Loads are applied according to user input loading rates and hold for a prescribed dwell time. Multiple load levels may be programmed for stepped loading, in addition to the single maximum load level prescribed by the FMVSS test specification.*

*System pressure is provided by a 1500 psi Hydraulic Power Supply, which is interlocked with the computer for full automatic control and will run only when the test is under full control by the computer.*

*Computer, printer, and control electronics are housed in a vertical rack enclosure especially prepared for electronic instrumentation*

#### ***Control System***

*All electronic control and data acquisition systems provided by TMSI are integrated completely for control by a single PC with Windows® based software for intuitive operation with minimal operator training.*

## ***TMSI***

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***TMSI MicroTeStation™*** housed in 20.5 W x 72 H x 24 D inch instrument rack enclosure. Includes:

- *Intel Pentium® Based Microprocessor Industrial Computer*
- *Standard Hard Disk Drive*
- *Single 3.5 in. Floppy Disk Drive*
- *Removable Disk for Data Archival and Storage*
- *Random Access Memory*
- *SVGA Color Monitor*
- *Windows® 2000 Pro Operating System*
- *16+ Chnl A/D, DIO On-board data acquisition / reduction system*
- *6+ Chnl Anti Alias Filters*
- *Telephone Modem*



#### ***Data Acquisition/Control***

*Parallel full-time data acquisition/control processing is accomplished by MicroStar Data Acquisition Processors (DAP) which feature on-board CPU and memory as well as Analog to Digital and Digital to Analog converters. Closed-loop PID control is achieved on-board the DAP unit for full software tunability of hydraulic actuators in load feedback control.*

- *Pentium Based Data Acquisition Processor to operate in parallel with the Pentium based Microprocessor*
- *19" Rack Mount analog and digital interface for sensing and controlling digital inputs and outputs*

#### ***Software***

***SeatTEST™***; *TMSI's data acquisition/reduction program to operate the on-site MicroTeStation, control tests according to FMVSS 207 or 210, reduce and present tabular and graphical reports, and archive tests results to hard or floppy disk.*