MTS Series 793 Software with MultiPurpose TestWare (MPT) Test Design

4 day course

The MTS Series 793 Software* with MultiPurpose TestWare Test Design class introduces you to basic operating principles of a digitally controlled servohydraulic test system. Students are provided with a hands-on approach to learn the operation of the controller and its related system electronic, hydraulic, and mechanical components. Sessions consist of a combination of classroom and laboratory exercises. Students will set up and run monotonic and cyclic tests using the concepts they have learned.

COURSE OUTLINE

I. Introduction
II. Overview 793 application set
  A. Application functions
  B. Hierarchy
III. Project Manager
  A. Project basics
  B. Define/create/Edit Projects
  C. Default projects
  D. Project management
IV. Station Builder
  A. Hardware/closed-loop fundamentals
  B. Resource identification
  C. Configuration
  D. Channel/control mode/hydraulic design/Channel Limited Channel (CLC)
  E. Inputs - internal/external/calculated
  F. Outputs
  G. Digital I/O
  H. Calculation/options
V. Station Manager
  A. Setup/initial arrangement
  B. Windows/menus
  C. Display options
  D. Command options
  E. Detectors and actions edit and adjustment
  F. Custom detector usage and creation
  G. Input offset/zero edit and adjustment
  H. Calibration file management (not calibration procedures)
  I. Auxiliary inputs configuration
  J. Output configuration
  K. Scopes and meters creation, edit and adjustment
  L. Digital inputs/outputs usage
  M. Parameter set management
  N. Tuning principles & control mode considerations
  O. Control compensation adjustment and configuration
  P. Calculation and formula definitions
  Q. Utilities tools and options
V. MultiPurpose TestWare (MPT)
  A. Introduction/overview
  B Procedures
  C. Processes
  D. Specimens
  E. Sequencing
  F. Command processes
  G. Data acquisition processes
  H. Event processes
  I. Special processes
  J. Grouping processes
  K. Monitoring capabilities
  L. Executing tests
  M. Procedure options
  N. Create/edit/modify MPT procedures
  O. Create/edit/modify specimen folders
  P. Test design considerations

Who should attend

This 4-day course is designed for students who have a practical working knowledge of a closed loop servohydraulic testing system and have experience operating their own test system. They desire instruction on adjusting the servohydraulic system and designing tests. The class pace assumes the students have a fundamental understanding of their MTS servohydraulic testing system.

Learning outcome

The students will be able to open the proper configuration/parameter set and manually command the control channel. They will have an understanding of the interaction of specimen installation, offset inputs, and limit actions. The students will create inputs and control modes. They will be able to monitor test inputs and control in real time and understand effects of tuning and specimen characteristics. The students will create both monotonic and cyclic test procedures using MultiPurpose TestWare (MPT) procedures that will feature both advanced test flow concepts and data collection.

Prerequisites

Students should have operator experience with their system prior to attending the course. Students must have a full understanding of basic closed loop control concepts and fundamental testing knowledge. Students should also have a working knowledge of the operating system and its graphical user interface. For students new to servohydraulic test systems, we strongly recommend attending the MTS Hardware Concepts and Series 793 Software course. For assistance in determining which class would appropriate for you, please contact the MTS Training department. All prerequisites are the students' responsibility.

** Series 793 Software operates the FlexTest and TestStar controllers.*