Hampden Engineering Corporation

AUTOMOTIVE TROUBLESHOOTING TRAINERS

Charging System
Hampden’s Model H-AUTO-ICS provides training in the principles of automotive charging systems, displaying both internal and external voltage regulators. Simplified techniques are demonstrated to pinpoint problems in automotive charging systems.

Testing Capabilities
- Battery
- Battery Cables
- Alternator Drive Belt
- Charging System – Volts
- Voltage Regulator
- Voltage Run Test
- Voltage Regulator
- Electrical Connections

Storage Battery
Hampden’s Model H-AUTO-SB provides training on testing automotive batteries utilizing hand held digital multimeters.

Testing Capabilities
- Battery Operation
- Battery Capacity
- Battery Terminals
- Battery Charging
- Battery Drain Test
- Battery Testing

Braking System
Hampden’s Model H-AUTO-BS demonstrates brake system fundamentals, featuring disc and drum brake theory and repair.

Testing Capabilities
- Master Cylinder
- Brake System Metering Valve
- Rear Drum Brakes
- Self Adjusting Drum Brakes
- Emergency Brake
- Front Disc Brake
- Spongy Brake Pedal
- Power Brake

Cooling System
Hampden’s Model H-AUTO-CS demonstrates cooling system fundamentals, troubleshooting and repair. Radiator status is presented.

Testing Capabilities
- Coolant Capacity
- Water Pump Drive Belt
- Radiator Cap
- Coolant Mixture
- Radiator Hose
- Water Pump
- Coolant Leak
- Radiator
- Thermostat Test
- Fan
- Electrical Control

Starting System
Hampden’s Model H-AUTO-SS provides training in the use of digital multimeters to pinpoint problems in automotive starting systems.

Testing Capabilities
- Battery
- Battery Cables
- Ignition Switch
- Neutral Safety Switch
- Starter Motor Solenoid
- Starter Motor
- Slow Cranking
- Fusible Link
- Power Train Module
- Flywheel
- Charging
- Engine Ignition
- Power Train
- Fuel

MODEL H-AUTO-BS
Automotive Braking System Simulator

MODEL H-AUTO-CS
Automotive Cooling System Simulator

MODEL H-AUTO-SS
Automotive Starting System Simulator

MODEL H-AUTO-ICSS
Automotive Charging System Simulator

MODEL H-AUTO-ED
Automotive Electrical Diagnosis Simulator

MODEL H-AUTO-AH
Automotive Heating System Simulator

MODEL H-AUTO-FDS
Automotive Fuel Delivery System Simulator

MODEL H-AUTO-LS
Automotive Lighting System Simulator

Standard Products...Design
Air Conditioning
Hampden’s Model H-DAACS-CSI demonstrates the principles of operation and troubleshooting of current factory installed AC systems.

Testing Capabilities
- Suction, discharge, pressure and temperature gauges
- Built-in voltage and continuity probes
- Adjustable ambient temperature control
- Three-speed fan control and LPCO control
- Adjustable RPM control

Automotive Heating
Hampden’s Model H-AUTO-AH demonstrates procedures used to repair automotive heating systems.

Testing Capabilities
- Duct Delivery
- Heater Blower
- Control
- Heater Core
- Thermostat

Lighting System
Hampden’s Model H-AUTO-LS demonstrates the application of basic electrical theory to troubleshooting automotive lighting systems.

Testing Capabilities
- Power Distribution
- Light Switch
- Head Lamps
- Turn and Hazard Light
- Rear Backup Lamps
- Front Parking Lamps
- Daytime Running Lamps
- Fog Lamps

Electrical Diagnosis
Hampden’s Model H-AUTO-ED emphasizes applying the basics of electricity to troubleshooting automotive electrical and electronic systems.

Testing Capabilities
- Battery Test
- Charging System
- Short in a Circuit
- Open
- Identify Component Cluster
- Pinpointing Shorts to Ground
- Pinpointing Open Circuits
- Select Faults
  - No Dome Light
  - No Brake Light
  - No Lights
  - No Blower
  - No Wipers
  - Slow Cranking
  - Won’t Start

Fuel Delivery System
Hampden’s Model H-AUTO-FDS trains the student to pinpoint the problem area and make the proper repair.

Testing Capabilities
- Fuel Tank problem
- Internal Fuel Pump
- External Fuel Pump
- Restricted Fuel Filter
- Pressure Regulator Test
- Fuel Pressure

Skills Assessment

Computer Aided Desktop Trainers

Individual Student Assessment Capabilities

Standard Features
- Schematic and Pictorial Test Points
- Specification Chart
- Improper Equipment Use Warning
- Component Isolate Switch
- Malfunction Indication
- Windows Digital Control System

Real-Time Performance
Hampden's line of Computer Assisted Panel Instruction Modules have been designed to provide realistic System Operation & Troubleshooting functions to virtually ANY CLASSROOM! Each module’s front panel is silkscreened with a complete schematic & pictorial layout of all system operations and combined with actual test-point pushbuttons, LEDs and meters.

All units are controlled via a PC computer using supplied Hampden software and USB I/O Interface.

Realistic Problem Solving in the Classroom
All Instruction Modules have the capability of inserting system specific Mechanical & Electrical malfunctions—singly or in multiples. This gives students the added experience of resolving realistic problem situations which would otherwise be very difficult for an instructor to create in a classroom.

To Meet Your Growing Needs!