# Automotive Troubleshooting Trainers

Educational Training Equipment for the 21st Century

Bulletin 194-2

### Purpose

The Hampden **Model H-AUTO-FDS** Automotive Fuel Delivery System Trainer demonstrates the principles of operation and troubleshooting techniques on an automobile. The trainer panel is divided into three distinct sections.

First, the left top of the panel contains an automobile graphic with a toggle switch for controlling the fuel level in the automobile.

Second, the bottom of the panel contains a diagram of an automobile's fuel distribution system with test buttons and indicator lamps. It is divided horizontally by a dash line which separates the carburated fuel delivery components from the fuel injected delivery components.

Third, the top right of the panel contains the meter section, which contains an air/fuel meter, voltmeter, fuel pressure meter and a fuel gauge, for circuit tests and the fuel delivery system selection button.

There are many types of automobile fuel delivery systems in service, each with their own unique parts. This trainer assumes standard parts that might be encountered in the field, so the troubleshooting, diagnostics, and repair techniques are similar for all automobile fuel distribution systems.

The computer screen provides visual feedback on automotive systems with the following components: Throttle % Open (Slider), Ignition Switch - ON/OFF, CFS Fuel State, and Engine Running Test.

# **Testing Capabilities**

Hampden's **Model H-AUTO-FDS** trains the student to pinpoint the problem area and make the proper repair for two different fuel systems.

- · Fuel Tank foreign matter
- Internal Fuel Pump
- External Fuel Pump
- Restricted Fuel Filter
- Pressure Regulator Test
- · Select Faults

# H-AUTO-FDS Automotive Fuel Delivery System Trainer



Model H-AUTO-FDS Automotive Fuel Delivery System Trainer Dimensions: 25"H x 24"W x 12"D Shipping Weight: 110 lbs

- Carburated
   Fuel Filter Plugged
   Mechanical Pump Failure
   Fuel Sock Plugged
   Idle Adjustment
   Fuel Tank Empty
- Fuel Injected PCM Failure Fuel Filter Plugged Fuel Pump Failure Fuel Rail-Fuel Injector Pulsing

### **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 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. 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.

## **Standard Features**

- Schematic and Pictorial Test Points
- Specification Chart
- · Improper Equipment Use Warning
- Component Isolate Switch
- Malfunction Indication
- Windows Digital Control System
- Duplex Socket for Power
- Power Indicator Lamp

All Hampden units are available for operation at any voltage or frequency



021712