



DIESEL ENGINE CONTROL SYSTEM CR/EDC 15 EDUCATIONAL TRAINER

A1

Product number
MSCR01



The Common Rail Trainer with Bosch EDC 15C3-4.1 Engine Control System is a high-precision educational tool designed for in-depth technical training in diesel injection systems. Installed in a mobile aluminum frame, this training board-simulator utilizes OEM components and integrates Bosch's EDC 15C3-4.1 engine control system, illustrating the diverse operation modes of direct fuel injection systems.



Features

- Incorporates Bosch EDC 15C3-4.1 with direct injection, demonstrating high-pressure fuel supply and injector operation.
- Dual-Part Configuration:
 - Electronic Part: Includes the engine control unit (ECU), sensors (such as the MAF and FRP), actuators, diagnostic connectors, and detailed wiring diagrams.
 - Mechanical Part: Houses the high-pressure fuel pump, injectors, electric motor, and measuring cylinders, interconnected for unified operation.
- Adjustable Simulators:
 - Air Flow Rate: Simulates Mass-Air Flow (MAF) meter and Air Charge Temperature (ACT) sensor functions.
 - Temperature: Adjust engine coolant temperature (CTS) and intake air temperature (IAT) sensors.
 - Pressure: Simulate intake manifold pressure (MAP) and fuel rail pressure (FRP) sensor conditions.
- Manual Parameter Adjustment: Modify crankshaft speed and monitor resultant system changes.
- Comprehensive Electrical Diagram: Detailed wiring layout with components, contact numbers, and jumper locations for fault simulation and troubleshooting.
- Integrated TFT Voltmeter: Displays real-time voltage readings from sensors such as:
 - Accelerator Pedal Position Sensor (APPS1, APPS2)
 - Air Charge Temperature Sensor (ACT)
 - Fuel High-Pressure Sensor (FPS)
 - Intake Manifold Pressure Sensor (MAP)
 - Exhaust Gas Recirculation Potentiometer (EGR)
 - Engine Coolant Temperature Sensor (CTS)
 - Fuel Temperature Sensor (FTS)
- OBD Diagnostics: Utilize the 16-pin diagnostic connector for:
 - ECU identification and configuration
 - Reading and erasing fault codes
 - Monitoring live system data
 - Activating actuators



Value for students

- Use the OBD 16-pin connector to identify the ECU, read and erase fault codes, monitor live data, and activate actuators, providing practical experience in professional diagnostics.
- Simulate over 20 different system faults by disconnecting banana plug jumpers.
- Track changes in high-pressure fuel supply, fuel injection quantity, back leak amount, and spray pattern quality to understand the operation and efficiency of the diesel injection system.
- Uses the integrated TFT voltmeter to read voltage signals from key sensors such as the Accelerator Pedal Position (APPS1, APPS2), Air Charge Temperature (ACT), Fuel High-Pressure (FPS), Intake Manifold Pressure (MAP), and Engine Coolant Temperature (CTS) sensors, Mass-Air Flow (MAF) sensor, Fuel Rail Pressure (FRP) sensor, and Exhaust Gas Recirculation (EGR) potentiometer.
- Adjust crankshaft speed, engine temperature, intake air pressure, and mass-air flow to observe the corresponding changes in engine behavior and control unit responses.

Value for Instructors

- Effectively showcase the functionality of diesel engine components, including sensors, actuators, and control units.
- Facilitate engaging, hands-on sessions that build technical proficiency and confidence in automotive diagnostics.
- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic car repair experience.
- Professional Preparation: system allows students to be trained in diagnostics using multibrand or OEM scan tools, ensuring a safe and high-quality learning environment.
- Space-Saving, functional and durable Design: compact and vertically oriented for enhanced mobility and efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use. Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- Board on castors version, which is mobile and space saving in the classroom, allows concurrent use by multiple students, promoting collaborative learning and practical training opportunities.
- The training stand is designed for simplicity, requiring only small adjustments to reset to default parameters, making it easy to prepare and start each lesson quickly and efficiently.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

Specifications

- Dimensions:
 - Electronic Part (Board): 1820 x 1360 x 500 mm (71.65 in x 53.54 in x 19.69 in)
 - Mechanical Part (Trolley): 1500 x 800 x 500 mm (59.06 in x 31.50 in x 19.69 in)
- Weight: approx. 135 kg (297 lb)
- Power supply: 220/12 V (US 110 V)
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