



ENGINE MANAGEMENT SYSTEM BOSCH MOTRONIC (FSI)

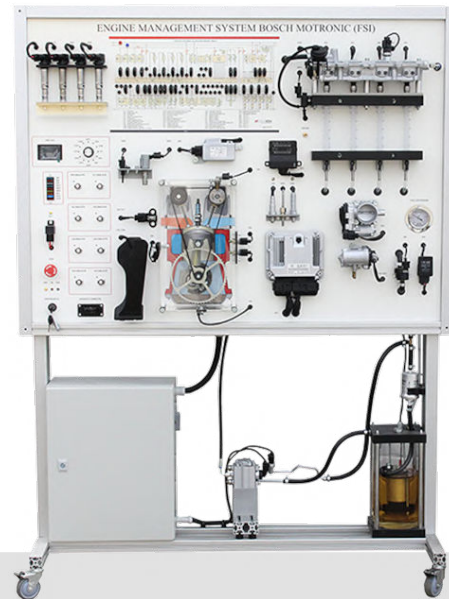
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Product number

MSFSI02



Training stand of Engine Management System Bosch Motronic (FSI) MSFSI02 offers a hands-on learning experience about modern car, demonstrating the workings of a direct petrol injection system. This specialized device includes all the engine management components as in the real car, such as fuel supply, exhaust and ignition systems, helping users understand how these parts interact.



Features

- High and low-pressure fuel supply systems and air-fuel mixture ignition system.
- Complete FSI wiring diagram for understanding and troubleshooting modern vehicles.
- Analyzes direct petrol injection circuits and the operation of ignition and fuel supply systems.
- Measures fuel injection quantity, spray pattern, fuel pump pressure, over 20 electrical parameters, ignition system high voltage, and more using multiple diagnostic tools.
- Demonstrates synchronization between the crankshaft and camshaft.
- Enables manual adjustment of crankshaft rotation, lambda sensor values, coolant temperatures, NOx sensor values (system-dependent), exhaust gas temperature (system-dependent), intake manifold pressure, and intake air temperature.
- Displays voltage readings from electronic components, such as the EGR potentiometer, accelerator pedal position sensors, intake manifold flap potentiometer, fuel pressure sensor, throttle valve potentiometers, intake manifold pressure sensor, engine operation temperature sensor, coolant temperature sensor, and exhaust gas temperature sensor.
- Simulates circuit faults by removing jumpers or adjusting the parameters to incorrect values.
- Uses an OBD II 16-pin socket to read/erase fault codes, display live data, activate actuators (depending on the control unit), perform throttle valve adaptation, control unit encoding/configuration, and monitor other parameters.





Values for students

- Understand direct petrol injection systems between fuel supply, exhaust and ignition systems using OEM components.
- Study electrical circuits of electrical components for direct petrol injection system engines.
- Learn high and low-pressure fuel supply systems, injected fuel quantity, spray pattern quality.
- Understand the operation and troubleshooting of modern ignition systems.
- Understand the synchronization between crankshaft and camshaft in engine operation.
- Uses banana plug connectors to monitor and measure electrical parameters in real-time with an oscilloscope, multimeter, scan tool, or display readings on the TFT voltmeter installed on the stand panel.
- Simulate and diagnosing more than 20 system circuit faults to learn troubleshooting abilities, by disconnecting banana plug connectors.
- Simulates signals for the lambda probe, engine operating temperature, NOx sensor parameters (depending on the system), exhaust gas temperature sensor, and intake manifold pressure sensor.
- Adjust key engine parameters like crankshaft rotation frequency, sensor values, air flow rate and temperatures using potentiometers and simulators.
- Read and interpret voltage signals from various engine sensors and measure the high-voltage circuit of the ignition system. Includes a complete wiring diagram of the direct petrol injection system (FSI).
- OBD II 16 – pin diagnostic connectors for ECU identification, fault code management, real-time parameter monitoring, throttle calibration and more.



Values for teachers

- Space-saving and mobile design with a durable, lightweight aluminum frame for efficient classroom use and long-lasting safety.
- Closed panels and internal wiring ensure safety and protect sensitive parts from accidental damage.
- Utilizes OEM components for realistic, safe, and effective training that closely resembles real cars.
- Use advanced, hands-on training equipment to demonstrate key automotive systems and diagnostics.
- Easier real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- The Audi/VW OEM-based system allows diagnostics using almost any multibrand, specialized or OEM scan tools.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1820 x 1360 x 500 mm (71.65 in x 53.54 in x 19.69 in)
- Weight: approx. 105 kg (230 lb)
- Power supply: ~230 V/110V (US version)
- Made in the EU
- Product number: MSFSI02

