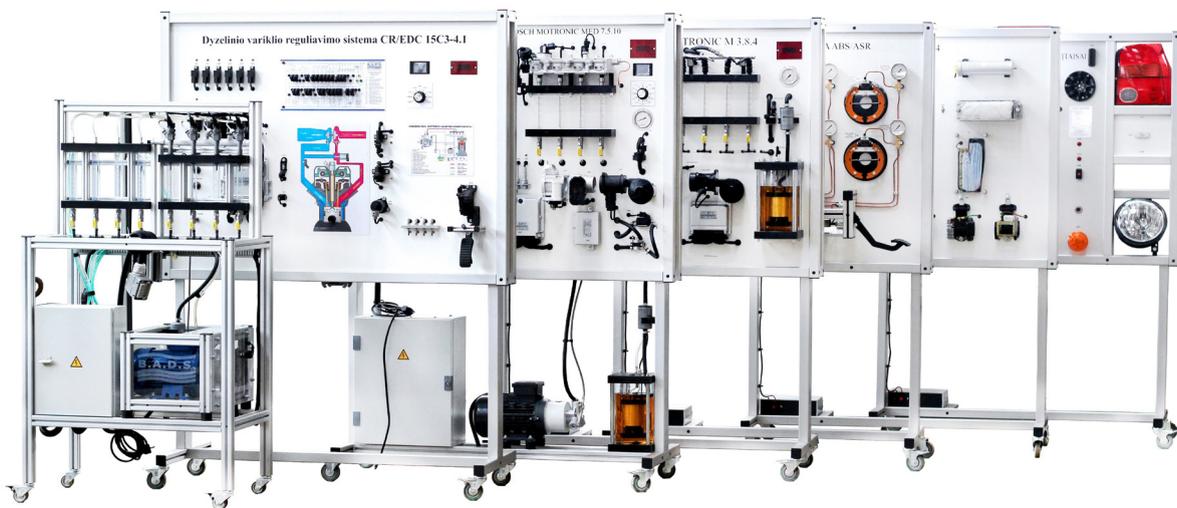


AUTOEDU

Automotive technical education equipment



AUTOEDU

Automotive technical education equipment

Baltijos Automobilių Diagnostikos Sistemų JSC (Baltic Automotive Diagnostic Systems) – B.A.D.S. was founded in year 2001. Company has started its business as a trading company selling automotive diagnostic equipment. After several years company has expanded its range of products and services and started selling automotive garage equipment for cars and commercial vehicles. In year 2005 company started manufacturing vocational automotive training equipment under the AUTOEDU brand. We design and manufacture automotive training equipment and other automotive educational products for automotive technology teaching and training.

Since year 2004 our company organizes automotive diagnostic training courses in our own training center. Over the time, especially during training, there was a need for automotive training and demonstrational equipment on which it would be possible to show and explain different automotive technologies, possibilities of measuring and diagnostic tools for fault searching and repairing. Our manufactured automotive training equipment is a great tool for students of technical subjects to understand better working processes in various automotive systems and explore different sensors, actuators, other devices and their functions. By using our manufactured equipment students are able to learn how to perform various measurements, read and understand technical documentation, schematics, wiring diagrams, error codes, signal characteristics and diagnostic procedures.

The majority of automotive teachers of Lithuanian practical and vocational training centers, agricultural schools and colleges have completed our training courses. Their observations and practical experience helped us to shape and adapt (customize) our automotive training equipment production for various automotive mechanics and diagnostic educational programs.

Long lasting cooperation between our company and different automotive/vocational schools, training centers and technical colleges helps us to provide them optimal, “up to date” high performance training products and solutions, suitable to their needs in different training programs.

Our products

Our company designs and manufactures automotive training equipment. Our product range consists of:

Cars and trucks self – contained, fully operational engines with different fuel supply systems: petrol (MPI, FSI, TFSI, TSI and etc.), diesel (TD, TDI, Common Rail, PD, PLD and etc.) and hybrid petrol electric drive system. All our manufactured operational engines are available with pin-out facilities and fault simulation to assist students in the diagnostic training and to help them understand modern vehicle systems.

Training boards-simulators are based on OEM components and specially designed to help technical students understand better structure and components of automotive systems: engine control system (petrol and diesel), ABS, SRS and etc.

Functional models are fully operational educational tools in space saving version of a complete car with all its advantages.

Cutaway models of automotive components: engines, gearboxes and etc.

Custom made products. We manufacture customized testing equipment for control and testing of automatic gearboxes for Mercedes Benz cars and DSG gearboxes of VAG group cars. According to special needs of the customer we manufacture custom equipment for demonstration of specific diagnostic equipment.

Our customers

Automotive technical schools, vocational schools, technical colleges, academies, agriculture schools, private technical training organizations, diagnostic equipment and workshop equipment manufacturers, diagnostic equipment and garage equipment suppliers and wholesalers.

Our experience

Most of the company's employees have completed courses in training centers of such companies as AUTOCOM, TEXA, SNAP-ON, BOSCH, Brainbee, Jaltest and etc. Since year 2004 our company has its own training center and we train our customers how to perform automotive repairs and diagnostics. Since year 2005 we have modernized and successfully completed equipment installations in more than 25 educational institutions. (Our biggest sales contract exceeded more than 1.100.000 Euro).

Our foreign partners and export first steps

The company has trade partners and representatives for AUTOEDU products in countries such as Germany, United Kingdom, Ireland, Brazil, Egypt, Malaysia, India, Japan, Indonesia, Czech Republic, Slovakia, Palestine, Latvia, Italy and others. During the short period of time AUTOEDU automotive training equipment attracted the attention of such companies which experience in automotive training equipment industry is more than 50 years.

The company has presented their products and participated in several international exhibitions such as: AUTOMECHANIKA MIMS Moscow (Russia), AUTO & Korjaamo Helsinki (Finland), AUTOMECHANIKA Frankfurt (Germany) and WORLD DIDAC Basel (Switzerland). The company's production was positively evaluated by their partners, potential clients and even by a few competitors.

Only in autumn of 2014 year the company has discovered export markets and already enjoys that several automotive training stands were sold and positively assessed in such countries as Germany, India and Japan.

All AUTOEDU training equipment is based on OEM components. The systems which are used in a products are original, only in exceptional cases the components can be simulated. The electrical signals or diagnostic procedures are simulated on working conditions as in a real car. As a result, automotive training equipment with all technical specifications and functions is very close to a real vehicle. By using AUTOEDU automotive training equipment in a different training programs vocational training becomes more interesting and practical for the students.

ENGINE CONTROL SYSTEM BOSCH MOTRONIC MED 7.5.10 (FSI) TRAINING BOARD-SIMULATOR

Fully functional engine control system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better direct petrol injection (FSI) system MOTRONIC MED 7.5.10. The educational training board is based on OEM components of Audi/VW. The integrated engine control system shows different operation modes of the direct fuel injection/ignition system.

The training board-simulator is a great educational tool that allows students to learn the structure of the engine control system, study its components and operation modes, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The integrated engine control system with direct petrol injection (FSI);
- Monitoring operation of fuel supply system, injected fuel quantity, spray pattern quality, low fuel pressure of the fuel pump;
- Low pressure fuel pump is built into a transparent tank which allows to see its operation;
- The adjustable air flow rate simulator demonstrates the function of the mass - air flow meter and air temperature sensor;
- Visible work process of spark plugs;
- Easy access for high voltage measurements;
- Manual adjustment of the engine crankshaft speed;
- Integrated simulators allow changes to the parameters of each system component:
 - Lambda probe signal simulation;
 - Engine operation temperature simulation;
 - NOx sensor parameter simulation;
 - Exhaust gas temperature sensor simulation;
 - Intake manifold pressure sensor simulation;
- The training board has a complete electric wiring diagram of direct petrol injection system (FSI);
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of system fault codes; Ability to monitor the changing operation mode of each system component;
- Ability to simulate more than 20 system faults by disconnecting Banana plug jumpers;
- Training board has an integrated TFT voltmeter. It displays voltage of different electronic system components:
 - G212 Exhaust gas recirculation potentiometer;
 - G70 Air-mass flow meter;
 - G185 Accelerator pedal position sender I;
 - G79 Accelerator pedal position sender II;
 - G336 Intake manifold flap potentiometer;
 - G247 Fuel pressure sensor;
 - G187 Throttle valve potentiometer I;
 - G188 Throttle valve potentiometer II;
 - G71 Intake manifold pressure sensor;
 - G62 Engine operation temperature sensor;
 - G83 Coolant temperature sensor;
 - G235 Exhaust gas temperature sensor;
- Intake manifold flap regulation (vacuum pump is required; optional);

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator);
- Ability to measure high voltage circuit of the ignition system;

Control unit diagnosis

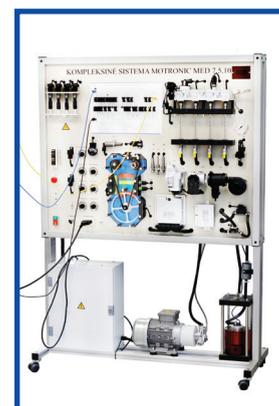
- Diagnosis through OBD 16 – pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Throttle valve adaptation;
- Control unit encoding/configuration;

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 220V
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.: 105 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Examination console for 10 hidden fault simulations
- Vacuum / pressure pump
- Automotive oscilloscope
- OBD diagnostic scan tool



Order No.:v MSFSI 1

Changes reserved!

ENGINE CONTROL SYSTEM MOTRONIC M 3.8.X (MPI) TRAINING BOARD-SIMULATOR

Fully functional engine control system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better multipoint petrol injection (MPI) system MOTRONIC M 3.8.X. The educational training board is based on OEM components of Audi/VW. The integrated engine control system shows the different operation modes of the fuel injection/ignition system.

The training board-simulator is a great educational tool that allows students to learn the structure of engine control system, study its components and operation modes, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The integrated engine control system with multipoint petrol injection system (MPI);
- Monitoring operation of fuel supply system, injected fuel quantity, spray pattern quality, fuel pressure of the fuel pump;
- Fuel pump is built into a transparent tank which allows to see its operation;
- The adjustable air flowrate simulator demonstrates the function of the work of mass - air flow meter and air temperature sensor;
- Visible work process of spark plugs;
- Easy access for high voltage measurements;
- Manual adjustment of the engine crankshaft speed;
- Ability to change the air/fuel mixture by the oxygen sensor signal simulator;
- The training board has a complete electric wiring diagram of multipoint petrol injection system (MPI);
- Electric wiring diagram with built in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 20 faults by disconnecting Banana plug jumpers;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator);
- Ability to measure high voltage circuit of the ignition system;

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Throttle valve adaptation;
- Control unit encoding/configuration;

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 12V from the battery or power supply unit (battery and power supply unit are not included as standard accessories)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.: 70 Kg
- Made in Lithuania
- CE certificate

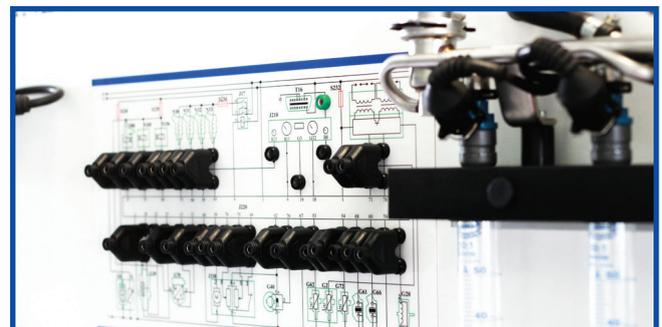
Changes reserved!

Užsakoma papildomai

- Examination console for 10 hidden fault simulations
- 12 V battery
- 220/12 V Power supply unit



Order No.: MSMPI 1



DIESEL ENGINE CONTROL SYSTEM CR/EDC 15C3-4.1 TRAINING BOARD - SIMULATOR

Fully functional engine control system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better system of diesel injection Common Rail.

The educational training board is based on OEM components of Renault. The integrated engine control system Bosch EDC 15 shows different operation modes of the direct fuel injection system.

The training board-simulator is a great educational tool that allows students to learn the structure of engine control system, study its components and operation modes, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- Integrated engine control system with diesel Common Rail direct injection;
- The stand consists of two parts: one is designed to demonstrate a work of the high pressure pump and the injectors, the other – to demonstrate the electronic engine management system; Both parts are electrically interconnected and operate as a single system;
- Monitoring operation of high pressure fuel supply system, injected fuel quantity, the amount of fuel back leak, spray pattern quality;
- The adjustable air flow rate simulator demonstrates the function of the mass - air flow meter and air temperature sensor;
- Manual adjustment of the engine crankshaft speed;
- Integrated simulators allow changes to the parameters of engine temperature sensor;
- Integrated simulators allow changes to the parameters of intake air pressure sensor;
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of system fault codes; Ability to monitor the changing operation mode of each system component;
- Ability to simulate more than 20 faults by disconnecting Banana plug jumpers;
- The training board has integrated TFT voltmeter. It displays voltage of electronic system components:
 - APPS1 Accelerator pedal position sender I;
 - APPS2 Accelerator pedal position sender II;
 - ACT Air charge temperature sensor;
 - MAF Air – mass flow meter;
 - FPS Fuel high pressure sensor;
 - MAP Intake manifold pressure sensor;
 - EGR Exhaust gas recirculation potentiometer;
 - CTS Engine coolant temperature sensor;
 - FTS Fuel temperature sensor
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit); Control unit encoding/configuration;

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 220/12 V
- Dimensions approx.: (HxLxW)
- Electronic part (board) 1820x1360x500mm
- Mechanical part (trolley) 1500 x 800 x 500 mm
- Nett weight approx.: 135 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Examination console for 10 hidden fault simulations
- Automotive oscilloscope
- OBD diagnostic scan tool



Order No.: MSCR 1

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator);

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;



Changes reserved!

SRS BOSCH AB 8.4 (AIRBAG) TRAINING BOARD-SIMULATOR

Fully functional supplemental restraint system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better the system's construction.

The educational training board is based on OEM components of Audi/VW. The stand is equipped with a functional car safety system SRS BOSCH AB 8.4 (AIRBAG).

The training board-simulator is a great educational tool that allows students to learn the structure of supplemental restraint system, study its components, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The training board is equipped with a safety SRS BOSCH AB 8.4 (Airbag) system that includes four air bags, crash sensors, mechanism of air bag steering wheel module and spiral cable, front seat belts with igniters and tensioners, rear seat belts and two control units;
- Cut away technology of the passenger's side airbag and control unit allows to see the structure of the components;
- Integrated inactive airbag igniters (after activation);
- The training board is integrated with two safety system control units. One functional – with diagnostic possibilities, second – after activation, with recorded crash data;
- Electric wiring diagram with built in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 10 system faults by disconnecting Banana plug jumpers;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component;

Control unit diagnosis

- Diagnosis through OBD 16 - pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Control unit encoding/configuration;

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 12V from the battery (not included as standard accessory)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.: 60 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V battery
- 220/12 V Power supply unit
- Automotive oscilloscope
- OBD Diagnostic tool



Order No.: MSSRS 1



Changes reserved!

ABS ANTI – LOCK BRAKING SYSTEM BOSCH ABS 5.3 TRAINING BOARD – SIMULATOR

Fully functional ABS anti-lock braking system is installed in a mobile aluminum frame. This training board-simulator is specially designed to demonstrate ABS anti-lock braking system and operational structure. Educational training board is based on OEM components of Audi/VW. The stand is equipped with a functional BOSCH 5.3 ABS anti-lock braking system and shows different operation modes. The training board-simulator is a great educational tool that allows students to learn the structure of ABS control system, study its components, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The training board is equipped with a functional BOSCH 5.3 ABS anti-lock braking system;
- With installed pressure gauges it is possible to monitor the pressure in the main brake circuit and the individual pressure of each wheel;
- The training board is equipped with original hydraulic brake system. Just the brake pads of the brake drums are used instead of the brake discs to show better, when the pressure rises up and the braking moment starts;
- The operation of the hydraulic circuit is shown on the stand in the pictures in different mode;
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of the system's fault codes;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector
- Ability to measure electrical signal parameters of each system component

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Activating the actuators (Depends on the control unit)

Other

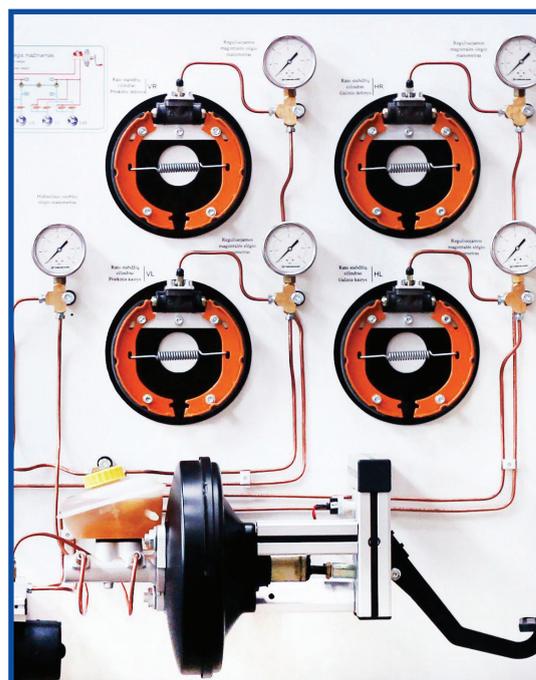
- The stand has a closed structure – internal wiring is not visible
- Power supply: 12 V from the battery (not included as standard accessory)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.:70 Kg.
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V Battery
- 220/12 V power supply unit
- Automotive oscilloscope
- OBD Diagnostic scan tool



Order No.: MSABS 1



Changes reserved!

BRAKING SYSTEM RIG

Fully functional, cross diagonal, hydraulic braking system with ABS is installed in a mobile solid frame. The training brake rig is specially designed to demonstrate hydraulic braking system with electronic ABS system and brake booster. The educational automotive training stand is based on Audi/VW components. The trainer is equipped with a functional ABS braking system and shows the different operation modes.

The training brake rig is a great educational tool that allows students to learn the structure of hydraulic braking system, study its components, perform various measurements, tests and other service and diagnostic procedures.

The training brake rig can be used as visual aid for students of mechanical subjects to demonstrate and explain the structure and components. Also, automotive training stand can be used as an educational equipment for the brake system repair and service procedures.

AUTOEDU made training brake rig is equipped with ABS modulator and brake booster. The increase of braking force after connecting a vacuum can be demonstrated using the brake booster. With installed four pressure gauges it is possible to monitor the pressure in the brake circuit of each wheel. Simulation of blocking (slipping) wheel in a drive mode allows to monitor ABS system demonstration. With installed pressure gauges can be monitored brake force distribution and foot brake pedal rejection when ABS system is activated.

The training rig has an integrated OBD 16 – pin diagnostic connector that allows to connect with the diagnostic tool and perform various measurements, tests and other diagnostic procedures such as reading fault codes, displaying the operating systems parameters and other.

Technical specifications and functions

- Clearly visible fully functional braking system and its components
- Cross diagonal hydraulic braking system with front and rear discs with calipers
- Functional parking brake
- Functional electronic ABS system
- Functional brake booster
- With installed pressure gauges can be monitored the pressure in the brake circuit of each wheel
- Driving mode simulation
- Brake rigs can be used for mechanical service and repair training
- On-board diagnostic capabilities
- On AUTOEDU made brake rigs could be performed all routine brake service like a component replacement, adjustments or hydraulic bleeding procedures



Order No.: MSSS01



Diagnostic and measurement

Control unit diagnosis

- Diagnosis of electronic ABS system through OBD diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- The air bleeding mode in a braking system

Other

- Power supply: 12 V from the battery (not included as standard accessory)
- Dimensions (height x length x width) 1250x1000x750mm
- Nett weight approx.: 99 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V Battery
- OBD Diagnostic scan tool
- Standard tool kit for mechanic
- Special tools for brake system repairs
- Vacuum pump

Changes reserved!



CAN BUS TRAINING STAND TRAINING BOARD – SIMULATOR

Fully functional CAN – BUS network system is installed in a mobile aluminum frame. This training board-simulator is specially designed to help technical students understand better the system's construction.

The educational training board is based on Mercedes – Benz components. The stand is equipped with a functional CAN GATEWAY 2.0 system.

Training board-simulator is a great educational tool that allows students to learn the structure of CAN gateway system, study its components, and perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- Training board is equipped with a CAN gateway 2.0 network system that includes
 - Dashboard ;
 - Engine ECU;
 - Smart Key, ignition module, lock module;
 - SRS Airbag ECU ;
 - Central CAN Gateway module (ECU)
 - Front and rear doors control modules;
 - Front and rear windows lifting motors
 - Front and rear windows lifting switches
- All the components are connected to the internal network. The network is shown as a diagram for better understanding;
- The modules communication can be connected or disconnected by banana plug jumpers. There can be connected or disconnected Low and High speed CAN lines on the stand;
- CAN gateway diagram with built in banana plug jumpers for measurements and simulation of system malfunctions;
- Ability to simulate more than 10 system faults;
- The window lifting motors are active and controlled by switches and doors control modules
- through CAN gateway network of the car;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector
- Ability to measure electrical signal parameters of system component

Control unit diagnosis

- Diagnosis through OBD 16 - pin diagnostic connector;
- Diagnose all presented control units in the CAN bus network by using an automatic search (depending on the diagnostic tool possibilities);
- Diagnose of each control module separately;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Control unit encoding/configuration (Depends on the control unit);

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 12V from the battery (not included as standard accessory)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.: 60 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V battery
- 220/12 V Power supply unit
- Automotive oscilloscope
- CAN Network analyzer
- OBD diagnostic scan tool



Order No.: MSCAN 1



Changes reserved!

AIR CONDITIONER SYSTEM CLIMATRONIC TRAINING BOARD

Fully functional air conditioning and climate control system trainer is installed in a mobile aluminium frame. This training board – simulator is specially designed to help technical students understand better electronic air conditioning and climate control system CLIMAtronic. The educational training board is based on Audi/VW OEM components. The integrated air conditioning and climate control system shows the different operation modes. The training board-simulator is a great educational tool that allows students to learn the structure of air conditioning and climate control system, study its components, and perform various measurements, tests and other diagnostic procedures to use diagnostic scan tools or other special tools and equipment.

Technical specifications and functions

- Integrated electronic air conditioning system with climate control (Climatronic)
- Monitoring operation modes of air conditioning and climate control system
- Visible HVAC compressor, electromagnetic compressor clutch and its operation modes
- With installed pressure gauges it is possible to monitor the pressure distribution of R134a refrigerant in the high and low pressure sides (circuits)
- Visible HVAC (heating, ventilating and air conditioning) mixing unit with its operation modes;
- Visible the operation of air flow flaps
- Ability to monitor and control changes to the parameters of each system component:
 - The air flow fan speed
 - The air flow flap positions
 - The interior (inside) temperature
 - The Refrigerant R134a pressure changes depending on the speed of the cooling radiator fan
 - The rate of the temperature change depending on the speed of the air flow radiator fan
 - The air flow flap position according to operation modes: defrost, air recirculation (fresh air) or footwell
- The training board has a diagram with LED's which shows the operation modes of the outlets and flaps
- The training board has a complete electric wiring diagram with built - in banana plug jumpers for measurements and simulation of the system fault codes
- Ability to simulate more than 15 system faults by disconnecting banana plug jumpers. Ability to monitor the changing operation mode of each system component;
- The training board has integrated voltmeter. It displays voltage of electronic system components:
 - G92 Control motor potentiometer for temperature flap
 - G114 Control motor potentiometer, footwell/defroster flap
 - G112 Control motor potentiometer, central flap
 - G113 Control motor potentiometer, air flow flap
 - G89 Fresh air intake duct temperature sensor
 - G191 Vent. temperature sender, center
 - G192 Vent. temperature sender, footwell
 - G17 Ambient temperature sensor
- The integrated thermometer displays the temperature change depending on the pressure of the refrigerant R134a

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;

Changes reserved!

- Ability to measure electrical signal parameters of each system component (such as sensor or actuator):

Control unit diagnosis (with the scan tool)

- Diagnosis through OBD 16 – pin Diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Control unit encoding/configuration (Depends on the control unit);

Control unit diagnosis (manual procedures without the scan tool)

- Manual diagnostics of Climatronic ECU;
- Error reading - manual procedures;
- Displaying the operating system parameters (live data) - manual procedure;

Other

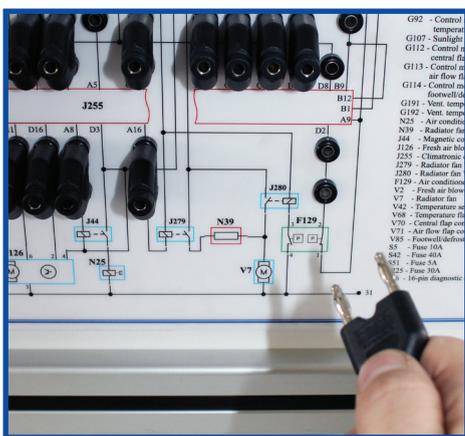
- The stand has a closed structure – internal wiring is not visible;
- Power supply: 220V;
- Dimensions approx.: (HxLxW): 1680x800x500mm;
- Nett weight approx.: 100 Kg;
- Made in Lithuania
- CE certificate

Optional accessories

- Automotive oscilloscope
- OBD Diagnostic scan tool
- Air conditioning recharge station



Order No.: MSFSI 1



TRAINING BOX DIGITAL TACHOGRAPH

Description:

The educational training box is based on OEM components. Fully functional system is specially designed to train truck drivers and students to learn about different truck tachograph usage and operation modes.

General characteristics of EFAS Training Box:

Training Box Digital Tachograph:

- Fully functional system
- Driving speed simulation
- Rest and driving time modes
- Printouts of driving reports
- Delivered ready to use
- Illuminated screens
- Suitable for transportation and storage
- Light case with carrier handle

The Training Box comes with:

- EFAS User guide (English/German/Russian/Lithuanian)
- EFAS Quickstart guide (ENG)
- Driver card
- Workshop card
- Company card
- Thermal printer paper rolls
- Power supply pack
- EFAS training unit
- Impulse transmitter
- Made in EU
- Dimensions approx. (HxLxW): 38x37x24 Cm
- Nett weight approx.: 6 Kg



Order No.: MSTACH02

Changes reserved!

LIGHTING TRAINING STAND

Fully functional lighting training system is installed in a mobile aluminum frame.

The educational training board is based on VW/AUDI components. The training board-simulator is a great educational tool that allows students to learn the structure of lighting system, study its components, and perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- Electric wiring diagram with built – in banana plug jumpers for measurements and connecting or disconnecting the components;
- Open contacts for measuring of system's components and circuits;
- Diagnosis through OBD (J1962) 16 – pin diagnostic connector (Dashboard only);
- Adjustable beam levels with the motors of front headlights;
- Possible adjustments training with the headlight tester (optional);

Diagnostic and measurement

Oscilloscope/multimeter

- Ability to measure electrical signal parameters of system component

Control unit diagnosis

- Diagnosis through OBD (J1962) 16–pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Activating the actuators (Depends on the control unit)

Other

- The stand has a closed structure– internal wiring is not visible
- Power supply: 12V from the battery (optional)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Nett weight approx.: 60 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V battery
- 220/12 V Power supply unit
- Automotive oscilloscope
- OBD diagnostic scan tool



Order No.: MSAS1

Changes reserved!



SENSORS AND ACTUATORS TRAINING BOARD

Educational training board is based on OEM components of different vehicles.

The training board-simulator is a great educational tool that allows students to study its components, and perform various measurements, tests and other diagnostic procedures.

Diagnostic and measurement

Oscilloscope/multimeter

- Ability to measure electrical signal parameters of system component

Other

- The stand has a closed structure – internal wiring is not visible
- Power supply: 12V from the battery (optional)
- Dimensions approx.: (HxLxW) 1820x1360x500mm
- Weight (netto) approx.: 60 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- 12 V battery
- 220/12 V Power supply unit
- Automotive oscilloscope
- OBD diagnostic scan tool



Order No.: MSD 1

EDUCATIONAL DIESEL ENGINE MODEL WITH CR EDC – 15 FUEL SUPPLY SYSTEM

Self-contained, fully operational diesel engine model is installed in a mobile frame. This training engine is specially designed to demonstrate Common Rail diesel injection system and operational structure. The educational training engine is based on Renault original (refurbished) components with functional engine control system Bosch EDC 15. The training engine is a great educational tool that allows students to learn the structure of the engine and its components, power supply system, cooling system, engine control system. It also allows to study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The educational functional engine model with CR fuel supply system, instrument cluster, cooling system, power supply system and the exhaust system;
- Completed with safety removable panels to protect against hot and rotating parts;
- Electric wiring diagram with built-in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 20 faults by disconnecting Banana plug jumpers;
- Engine with external components is clearly visible after removing safety panels. Easy access to the engine and its components for service and maintenance;
- Integrated engine emergency stop button;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator);

Control unit diagnosis

- Diagnosis through OBD 16-pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Activating the actuators (Depends on the control unit)
- Throttle adaptation
- Control unit coding/configuration

Other

- The stand has a closed structure – internal wiring is not visible; Instrument cluster, measurement and fault simulation panel is integrated in a closed aluminum frame construction;
- Dimensions approx.: (HxLxW) 1550x1000x1200mm
- Nett weight approx.: 350 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Vacuum gauge
- Low pressure gauge in the fuel supply line
- Automotive oscilloscope
- OBD diagnostic scan tool
- Diesel smoke meter
- The exhaust extraction system



Order No.: MVCR 1



Changes reserved!

EDUCATIONAL WORKING ENGINE MODEL WITH (TSI) DIRECT PETROL INJECTION

Self – contained, fully operational engine is installed in a mobile frame. This training engine with direct petrol injection (TSI) system is specially designed to demonstrate the engine management system and operational structure. The educational training engine is based on Audi/VW original (refurbished) components with MOTRONIC MED 17.5.5 engine management system.

The training engine is a great educational tool that allows students to learn the structure of the engine and its components, power supply system, cooling system, engine control system, turbocharger. It also allows to study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The educational functional engine model with direct petrol injection (TSI) system, instrument cluster, cooling system, power supply system, turbocharger and the exhaust system;
- Ability to measure the exhaust gas before and after the catalytic converter;
- Completed with safety removable panels to protect against hot and rotating parts;
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 30 faults by disconnecting Banana plug jumpers;
- The engine with external components is clearly visible after removing safety panels. Easy access to the engine and its components for service and maintenance;
- Integrated engine emergency stop button;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator)
- Ability to measure high voltage circuit of the ignition system

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Actuator test (Depends on the control unit)
- Throttle adaptation
- Control unit coding/configuration

Other

- The stand has a closed structure – internal wiring is not visible; Instrument cluster, measurement and fault simulation panel is integrated in a closed aluminum frame construction;
- Dimensions approx.: (HxLxW) 1550x1000x1200 mm
- Nett weight approx.: 300 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Examination console for 10 hidden fault simulations
- Vacuum gauge
- The pressure gauge in the fuel supply line
- Automotive oscilloscope
- OBD diagnostic scan tool
- The gas analyzer
- The exhaust extraction system

Changes reserved!



Order No.: MVTSI 1



According to customer's request there is a possibility to manufacture car or truck (petrol or diesel) working engine model!

EDUCATIONAL ENGINE MODEL WITH PETROL INJECTION SYSTEM MOTRONIC

Self-contained, fully operational engine is installed in a mobile frame. This training engine with multipoint petrol injection (MPI) system MOTRONIC is specially designed to demonstrate the engine management system and operational structure. The educational training engine is based on Audi/VW original (refurbished) components. The training engine is a great educational tool that allows students to learn the structure of the engine and its components, power supply system, cooling system, engine control system. It also allows to study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The educational functional engine model with fuel supply system, instrument cluster, cooling system, power supply system and the exhaust system;
- Ability to measure the exhaust gas before and after the catalytic converter;
- Completed with safety removable panels to protect against hot and rotating parts;
- Electric wiring diagram with built in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 20 faults by disconnecting Banana plug jumpers;
- Engine with external components is clearly visible after removing safety panels. Easy access to the engine and its components for service and maintenance;
- Integrated engine emergency stop button;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator)
- Ability to measure high voltage circuit of the ignition system

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Actuator test (Depends on the control unit)
- Throttle adaptation
- Control unit coding/configuration

Other

- The stand has a closed structure – internal wiring is not visible; Instrument cluster, measurement and fault simulation panel is integrated in a closed aluminum frame construction
- Dimensions approx.: (HxLxW) 1550x1000x1200mm
- Nett weight approx.: 310 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Vacuum gauge
- The fuel pressure gauge in the fuel supply line
- Automotive oscilloscope
- OBD diagnostic scan tool
- The gas analyzer
- The exhaust extraction system



Order No.: MVMPI 1



Changes reserved!

EDUCATIONAL PETROL/ELECTRIC HYBRID TECHNOLOGY WORKING ENGINE MODEL

Fully operational hybrid electric system with petrol internal combustion engine mounted in a mobile frame. The hybrid system is designed to demonstrate the internal combustion engine, electric motor, gearbox and structure of the rechargeable energy storage system. The educational training engine is based on Toyota original (refurbished) engine.

The training engine model with functional petrol/electric hybrid powertrain is a great educational tool that allows students to learn the components of the hybrid system, power supply system, rechargeable energy storage system and cooling system. It also allows to study components and operation modes of the engine, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The educational functional engine with petrol/electric TOYOTA HYBRID CONTROL SYSTEM – II (THS-II), automatic gearbox, climate control system, instrument cluster, cooling system, electric power supply system, CAN gateway network, the exhaust system and etc.;
- Electrical wiring diagram with built - in banana plug jumpers for measurements and simulation of the system fault codes;
- Ability to simulate more than 50 faults by disconnecting Banana plug jumpers;
- Ability to measure the exhaust gas before and after the catalytic converter;
- Completed with safety removable panels to protect against hot and rotating parts;
- The engine with external components is clearly visible after removing safety panels. Easy access to the engine and its components for service and maintenance;
- Fully functioning automatic climate control system with all most important components like electric AC compressor, R134a refrigerant, service couplers and etc.
- Integrated emergency stop button;
- The stand has a closed structure – internal wiring is not visible; Instrument cluster, measurement and fault simulation panel is integrated in a closed aluminum frame construction;
- Dimensions approx.: (HxLxW) 1750x1450x1200mm
- Nett weight approx.: 470 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Vacuum gauge
- The pressure gauge in the fuel supply line
- Automotive oscilloscope
- OBD Diagnostic scan tool
- The gas analyzer
- The exhaust extraction system
- Air Conditioning service station

According to customer's request there is a possibility to manufacture car or truck (petrol or diesel) working engine model!

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana plug jumpers
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator)

Control unit diagnosis

- Diagnosis through OBD (J1962) 16 – pin diagnostic connector
- Electronic control unit (ECU) identification
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Actuator test (Depends on the control unit)
- Control unit coding/configuration

The working engine model contains these ECU's which could be found and readout with the scan tool:

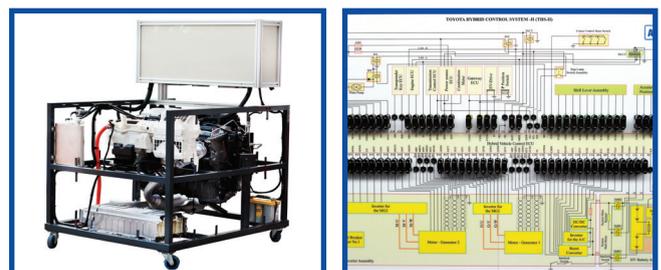
- Hybrid Control System ECU
- Power Source ECU
- Engine ECU
- Transmission Control ECU
- Hybrid Vehicle Battery ECU
- AC Climate Control ECU
- Gateway ECU
- Transponder Key ECU
- Combination Meter ECU

Other

Changes reserved!



Order No.: MVHY1



EDUCATIONAL TRUCK ENGINE MODEL WITH THE PUMP - LINE - NOZZLE (PLD) FUEL SUPPLY SYSTEM

Self – contained, fully operational truck diesel engine is installed in a mobile frame. This training truck engine is specially designed to demonstrate the pump-line-nozzle diesel injection system and operational structure. The educational training truck engine is based on Mercedes ATEGO original (refurbished) components with functional engine control system Bosch EDC.

The training truck engine is a great educational tool that allows students to learn the structure of engine and its components, power supply system, cooling system, engine control system. It also allows to study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Technical specifications and functions

- The educational functional engine model with PLD fuel supply system, instrument cluster, cooling system, power supply system and the exhaust system;
- Completed with safety removable panels to protect against hot and rotating parts;
- Electric wiring diagram with built – in banana plug jumpers for measurements and simulation of system fault codes;
- Ability to simulate more than 10 faults by disconnecting Banana plug jumpers;
- Engine with external components is clearly visible after removing safety panels. Easy access to the engine and its components for service and maintenance;
- Integrated engine emergency stop button;

Diagnostic and measurement

Oscilloscope/multimeter

- System's parameters are measured by connecting to the banana connector;
- Ability to measure electrical signal parameters of each system component (such as sensor or actuator);

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes;
- Displaying the operating system parameters (live data);
- Activating the actuators (Depends on the control unit);
- Control unit coding/configuration;

Other

- The stand has a closed structure – internal wiring is not visible; Instrument cluster, measurement and fault simulation panel is integrated in a closed aluminum frame construction;
- Dimensions approx.: (HxLxW) 1900x2600x1100mm
- Nett weight approx.: 950 Kg
- Gross weight approx.: 1200 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Examination console for 10 hidden fault simulations
- Automotive oscilloscope
- OBD diagnostic scan tool
- Diesel smoke meter
- The exhaust extraction system

According to customer's request there is a possibility to manufacture car or truck (petrol or diesel) working engine model!



Order No.: MVSPDL 1



Changes reserved!

PETROL/ELECTRIC HYBRID TECHNOLOGY FUNCTIONAL MODEL

The educational fully operational functional model with hybrid petrol / electric system. This functional model is as an alternative for a complete vehicle, just in space saving version, and it has the same advantages of a complete car. The functional model made from Toyota Prius II, by separation of body just after the B-pillars. In the front end all the components like engine air conditioning system and other components remain fully functional. The functional model remains mobile with the help of additional swivel casters.

This functional model is a great educational tool that allows students to learn the components of the hybrid system, air conditioning system, ABS / ESP system, SRS AIRBAG system and other systems and its components, operation modes, various measurements, tests and other diagnostic procedures.

Technical specifications and functions

The educational functional model with:

- Petrol/electric TOYOTA HYBRID CONTROL SYSTEM – II (THS-II)
- Automatic gearbox
- Climate control
- CAN Gateway network
- Exhaust system
- ABS/ESP system
- SRS Airbag system (Integrated inactive airbag igniters (after activation))

Diagnostic and measurement

Control unit diagnosis

- Diagnosis through OBD 16 – pin diagnostic connector;
- Electronic control unit (ECU) identification;
- Reading/erasing fault codes
- Displaying the operating system parameters (live data)
- Actuator test (Depends on the control unit)
- Control unit coding/configuration(Depends on the control unit)
- Automatic search of ECU's (depends on scan tools possibility)

Optional accessories

- Built in measuring box with open contacts and wiring diagram for engine control system;
- Fault simulation for engine control system ;
- Built in measuring box with open contacts and wiring diagram for climate control;
- Fault simulation for climate control;
- Built in measuring box with open contacts and wiring diagram for ABS/ESP
- Fault simulation for ABS/ESP;
- Built in measuring box with open contacts and wiring diagram for SRS AIRBAG;
- Fault simulation for SRS AIRBAG;

Optional tools and equipment for measurement and services:

- Automotive oscilloscope
- OBD Diagnostic scan tool;
- The gas analyzer;
- The exhaust extraction system;
- Air Conditioning service station

Other

- Dimensions approx.: (HxLxW) 1700x2900x1700mm (Standard version PMTP – 01);
- Dimensions approx.: (HxLxW) 1300x2900x1700mm (Without roof version PMTPK – 01);
- Nett weight approx.: 900 Kg;

Changes reserved!



Order No.: PMTP-01



Order No.: PMTPK-01

AUTOMOTIVE TRAINING EQUIPMENT | WHEEL ALIGNMENT TRAINER

Wheel alignment training stand is specially designed to demonstrate the vehicle chassis structure and wheel alignment procedures. McPherson-type front suspension and multi-link rear suspension is integrated in a training stand. Wheel alignment training stand is a great educational tool that allows students to introduce the different types of automobile chassis, study suspension components and angles modification, perform various measurements and other diagnostic procedures. Using this training stand it is very easy to teach several students at once, because all suspension components are visible from all sides. Suspension geometry adjustments are performed like in a real automobile – using screws and tools.

Technical specifications and functions

Main functions:

Wheel alignment training stand consists of McPherson-type front suspension and multi-link rear suspension.

McPherson-type front suspension has 8 adjustment points that allows:

1. To adjust camber, steering axis inclination (SAI) and caster angles by sliding shock absorber upper mount.
2. To adjust camber at 2 points.
3. To adjust camber, caster and SAI angles by turning front eccentric bolt on the front lever.
4. To adjust caster angle by turning rear eccentric bolt on the front lever. By turning the front and rear eccentric bolts it is possible to adjust camber.
5. To adjust Toe by the steering tie rod.
6. To adjust camber angle by sliding the wheel with unscrewed lower link on the front lever. Steering axis inclination is also changing.
7. Caster angle and automobile base can be adjusted by loosening the subframe and sliding it along the length. Camber angle and steering axis (SAI) of the vehicle can be adjusted by sliding subframe sideways.
8. Steering wheel lock bolt allows to capture the steering wheel and the steering column in order to keep the steering wheel in a stable position.

The rear multi-link suspension has 3 adjustment points, that allows to:

1. To adjust Toe angles (alignment) by adjusting lower rod;
2. To adjust camber angles (alignment) by adjusting the eccentric bolts on the upper lever;
3. To adjust the longitudinal position (Wheel base) of the wheel by adjusting the front rod of the rear suspension;

Diagnostic and measurement

** With the wheel aligner for the suspension geometry adjustment it is possible to demonstrate for students these measurements and settings:*

- Wheelbase distances and diagonals
- Axis shift in relation to one another
- Scrub radius
- Caster trail
- Steering axis inclination (SAI)
- Tread width
- Wheel base length
- Front and rear axle wheel set back
- Ride height (zero ride height)
- Central line position
- Traction line operation, thrust angle
- Toe difference angle
- Turning radius (Rolling radius)
- Other

** Depending on wheel aligner software possibilities*

Wheel alignment training stand is designed for making a demonstrations of the suspension angles by using all types and technology of wheel aligners:

- 3D Technology Wheel Aligner
- CCD Technology Wheel Aligner
- Mechanical Wheel Aligner (Rulers, ropes, lasers, and etc.)

The best and most suitable wheel aligner is with 3D technology. The car lift is not necessary for training and demonstration because an open construction of the training stand construction allows to see and perform various measurements from all sides.

Other

- Wheel alignment training stand can be easily folded and placed so that it take up minimal space for storage and transportation
- The front axle has a hydraulic brakes
- The rear axle wheels could be blocked by locking bolts
- Dimensions approx. (HxLxW): Fully spread base 110 x 310 x 170 / Folded for storage 110x 165 x 170 (Standing stand on the wheels) / Folded for storage 165 x 110 x 170 (Upright stand)
- Nett weight approx.: 195 Kg
- Made in Lithuania
- CE certificate

Optional accessories

- Wheel aligner
- 4 post lift for wheel alignment
- Scissor lift for wheel alignment



Order No.: MSVAZ 1



Changes reserved!

PETROL ENGINE ENGINE CUTAWAY MODEL DOHC FSI TIMING BELT REPLACEMENT

The educational training engine model is based on original components of the vehicle. This cutaway model painted with different colors to better differentiate the various parts and cross-sections.

Educational purpose of the engine model:

- Demonstration of the different components of the engine;
- Demonstration of the DOHC timing belt replacement using special tools;
- Demonstration of the alternator belt replacement;
- Demonstration and explanation of the technical literature/schemes and procedures;
- Demonstration of the DOHC engine with direct fuel injection (FSI) combustion chamber;

The training engine cut away model is a great educational tool that allows students to learn the structure of the engine and its components, operation modes and maintenance, technical specifications, special tools and their use.

Technical specifications and functions

Visible components of the sectioned engine model:

- Engine block;
- Engine head;
- Crankshaft;
- Connecting rod;
- DOHC dual overhead camshaft (camshafts, valves, valve lifters, water pump and etc.)
- Pistons with rings;
- Timing belt with camshaft sprocket and tensioners;
- Alternator belt with tensioner;

Cut away engine model is designed to demonstrate:

- Piston, rings, combustion chamber, intake and exhaust ports, DOHC components, injector and glow plug positions in a combustion chamber;
- Operation of the DOHC mechanism by turning the crankshaft*;

**Training cut away engine model is not suitable for intensive rotation. All rotating parts must be lubricated before the rotation.*

Timing and alternator belt replacement

The educational engine model contains all elements of the original car: timing belt, tensioners, alternator belt, crankshaft sprocket and etc. Using instructions and recommendations it is possible to demonstrate belt replacement procedures. Torque measurements of the components can be performed by using special tools.

Other

- Minimal space for training and storage;
- Minimal weight in order to avoid additional transportation or mounting stands. Demonstrations can be performed using workbench or tool trolley
- Cross-section of the training engine is protected with safety plastic protection
- The training engine model is equipped with bench clamps
- The training engine model is equipped with

special tool kit for timing belt replacement

- Dimensions (height x length x width) 500x500x300mm
- Nett weight approx.: 40 Kg
- Made in Lithuania

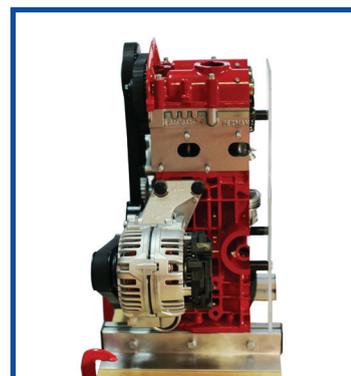
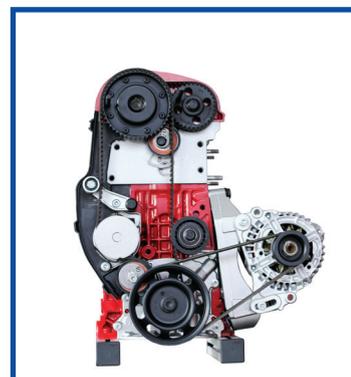
Optional accessories

- Standard tool kit
- Workbench
- Technical car database

According to customer's request there is a possibility to manufacture car or truck (petrol or diesel) working engine model!



Order No.: IVDB01



PETROL ENGINE CUTAWAY MODEL IVDB02

The educational cutaway engine model is based on original components of the vehicle. This cutaway model painted with different colors to better differentiate the various parts and cross-sections.

Educational purpose of this cutaway model (engine stand):

- Demonstration of the different components of the engine;
- Demonstration of the DOHC timing chain replacement;
- Demonstration of the alternator belt replacement;
- Demonstration using special tools for timing chain replacement;
- Demonstration and explanation of the technical literature/schemes and procedures;
- Demonstration of the DOHC engine with multipoint fuel injection (MPI) combustion chamber;

The training engine cutaway model is a great educational tool that allows students to learn the structure of the engine and its components, operation principles and maintenance techniques, technical specifications, special tools and their use.

Technical specifications and functions

Visible components of the sectioned engine model:

- Engine block
- Engine head
- Crankshaft
- Connecting rod
- DOHC dual overhead camshaft (camshafts, valves, valve lifters, water pump and etc.)
- Pistons with rings;
- Timing chain with camshaft sprocket and tensioners, oil pump;
- Alternator belt with tensioner;

Cutaway engine model is designed to demonstrate:

- Piston, rings, combustion chamber, intake and exhaust ports, DOHC components, injector and glow plug positions in a combustion chamber;
- Operation of the DOHC mechanism by turning the crankshaft*;

*NOTE: *Training cut away engine model is not suitable for intensive rotation. All rotating parts must be lubricated before the rotation.*

Timing chain and alternator belt replacement

The educational cutaway engine model contains all elements of the original car: timing chain, tensioners, alternator belt, crankshaft sprocket and etc. Using instructions and recommendations it is possible to demonstrate chain replacement procedures. Torque measurements of the components can be performed by using special tools.

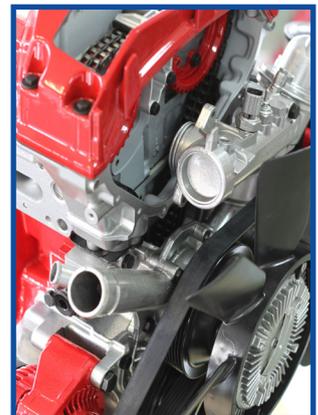
Other

- Minimal space for training and storage
- Minimal weight in order to avoid additional transportation or mounting stands. Demonstrations can be performed on any workbench or tool trolley.
- Cross-section of the training engine is protected with safety plastic protection
- The training engine model is equipped with fasteners
- Dimensions (height x length x width) 750x670x440mm
- Nett weight approx.: 81 Kg
- Made in Lithuania

Optional accessories

- Standard tool kit;
- Workbench
- Technical car database

According to customer needs there is a possibility to manufacture a truck or car, the petrol or diesel cutaway engine model!



Order No.: IVDB02



Changes reserved!

DIESEL OHC COMMON RAIL ENGINE CUTAWAY MODEL TIMING BELT REPLACEMENT

The educational training engine model is based on original components of the vehicle. This cutaway model painted with different colors to better differentiate the various parts and cross-sections.

The educational purpose of the engine model:

- Demonstration of the different components of the engine;
- Demonstration of the OHC timing belt replacement using special tools;
- Demonstration of the alternator belt replacement;
- Demonstration and explanation of the technical literature/diagrams and procedures;
- Demonstration of the OHC engine with Diesel Common Rail injection (CR) combustion chamber;

The training engine cut away model is a great educational tool that allows students to learn the structure of the engine and its components, operation modes and maintenance, technical specifications, special tools and their use.

Technical specifications and functions

Visible components of the sectioned engine model:

- Engine block
- Engine head
- Crankshaft
- OHC camshaft with valves
- Pistons with rings
- Timing belt with camshaft sprocket and tensioners
- Alternator belt with tensioner
- High pressure CR pump
- Power steering pump
- Air conditioner compressor

Cut away engine model is designed to demonstrate:

- Piston, rings, combustion chamber, intake and exhaust ports, OHC components, injector and glow plug positions in a combustion chamber;
- Operation of the OHC mechanism by turning the crankshaft*;

**Training cut away engine model is not suitable for intensive rotation. All rotating parts must be lubricated before the rotation.*

Timing and alternator belt replacement

The educational engine model contains all elements of the original car: timing belt, tensioners, alternator belt, crankshaft sprocket and etc. Using instructions and recommendations it is possible to demonstrate belt replacement procedures. Torque measurements of the components can be performed by using special tools.

Other

- Minimal space for training and storage;
- Minimal weight in order to avoid additional transportation or mounting stands. Demonstrations can be performed using workbench or tool trolley;
- Cross-section of the training engine is protected with safety plastic protection;
- The training engine model is equipped with bench clamps;
- The training engine model is equipped with special tool kit for timing belt replacement;
- Dimensions (height x length x width) 650x600x320mm;
- Nett weight approx.: 75 Kg;
- Made in Lithuania

Optional accessories

- Standard tool kit
- Workbench
- Technical car database

According to customer's request there is a possibility to manufacture car or truck (petrol or diesel) working engine model!



Order No.:
IVOD – CR01



OTHER CUTAWAY MODELS



Changes reserved!

ELECTUDE – GAME-BASED LEARNING

Game – based learning

- Provides a groundbreaking, cutting edge automotive e-learning curriculum.
- Utilises gaming technology to engage, motivate, excite and retain learners.
- Introduces and develops critical thinking and decision making, stem principles, as well as automotive diagnostic skills and training.
- Gives instructors everything needed to create, teach, track & test students.
- Has a proven track record with thousand of customers in over 50 countries.
- May be used from any location, any time and on almost any online device.

What is Electude?

Electude is the creator of the world's leading automotive e-learning solution that is used by thousands of schools, companies and governmental organisations in over 50 countries.

Founded in 1990 by two automotive instructors who pioneered a new and unprecedented approach to automotive education. The Electude team's vision led to the creation of solutions which provide a unique and effective tool to teach all automotive learners by making it interactive, engaging, highly efficient and fun through the use of gaming technology.

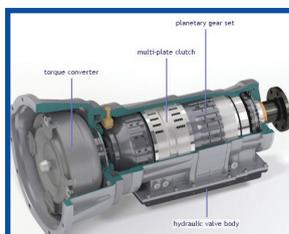


Virtual engine control system simulator

What Electude can offer?

Electude specialty is simulation-based, e-learning lessons. Today's students are instantly drawn and captivated by Electude's unique 3D gamification learning environment. This discovery-based method is about „learning by doing“.

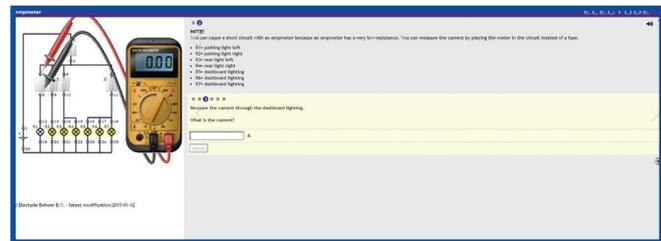
Electude is a cloud based automotive e-learning solution that allows instructors to assign, create, manage and grade lessons, exercises, tests and tasks. Students can complete their assignments from any location and from almost any online device.



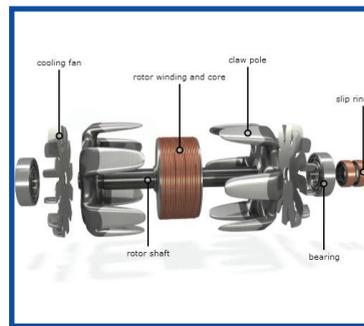
Automatic transmission

Why Electude?

- Created specifically for automotive learners.
- Makes learning dynamic, effective, fast and much more fun.
- Completely aligned to NATEF, Lernfelder, IMI, City & Guilds, Europe areas and requirements.
- As technology changes, „Electude“ adapts real time.
- More cost effective than textbooks.
- The Electude Simulator allows for virtual fault-finding exercises.
- Online courses for instructors that count for Continued Professional Development hours.



Tasks with a multimeter



The structure of the alternator

Learning designed for automotive students & trainees

The Electude online curriculum consists of hundreds of interactive lessons that are designed specifically for instructing today's generation of automotive learners. Electude is replacing traditional textbooks with its innovative and effective approach to learning:

- Over 1,000 state-of-the-art interactive lessons, tests and simulations, 2-3 new module lessons added or updated weekly at no extra charge.
- Learning management system that allows results tracking, testing and customising classes & courses.
- The brand new Electude Simulator – Engine Management.
- IMI and City & Guilds compliant.
- Pre- and post-tests per subject.
- Loved by students because it is based on gaming principles.
- Budget friendly, with a range of affordable pricing options.

Changes reserved!

Discovery-based learning

In order to improve learning retention and understanding, the lessons have been developed by Electude's authors and game designers based on the educational principle of Guided Seld Discovery. With small interactive tasks, students are guided step-by-step through a discovery-based learning process.

ASE CASE accredited training

All Electude trainers can undergo the ASE CASE (the leading automotive training quality standard used in the United States) accredited Electude Skills Training at no additional charge. This training will allow the participants to master the Electude automotive e-learning solutions.

Main facts and numbers

- Customers in over 50 countries.
- Over 200,000 users.
- Over 20,000 instructors & teachers.
- Over 2,000 customers.
- Available in over 30 languages

How Electude associated with AutoEDU?

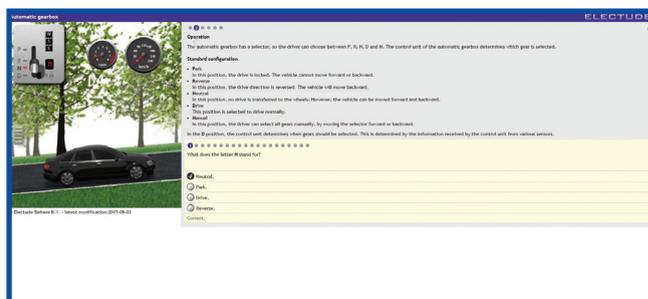
- AutoEDU and Electude are complementary products for automotive students.
- Students with AutoEDU training equipment can perform the practical tasks and use gained skills in a virtual Electude environment.
- AutoEDU training stands allow students to study the real automobile components and processes in the automotive electrical circuits and electronic systems, also, help them to check the learned lectures.
- AutoEDU electronic system simulators allow to use both training systems – game-based Electude and the real component-based automotive training equipment for measurement, diagnosis and practical work.



Manual transmission



FSI petrol direct injection system



Automatic transmission operating principles



Accredited Training Provider

ELECTUDE

Changes reserved!

OTHER EQUIPMENT

All our manufactured automotive training equipment: working engine models, training boards - simulators of cars and trucks are compatible and could be supplied together with different diagnostic equipment for reading fault codes, live data parameters, activation tests through 16 pole OBD diagnostic connectors or for measurements with multimeter or oscilloscope via pin-out facilities. Wheel alignment training stand can be delivered together with the wheel alignment system and different type of car lift. Cutaway engine models can be supplied with different timing or special tools.

AutoEDU manufactures automotive training equipment according to the customer needs, technology or training program. Also, AutoEDU offers a virtual „e-learning“ programs, ability to equip a training class with an educational equipment , teaching material – theoretical and practical for the teachers and examinational tasks and tests for the students. All manufactured equipment can be offered with different diagnostic and measurement equipment, garage equipment and hand tools. If later there is a need, AutoEDU personnel consults, trains, updates, services and repairs supplied educational equipment.

Our company can offer a broad range of hand tools, various garage, diagnostic and measurement equipment.

Diagnostics, oscilloscopes, gas analyzers

Our company can offer partners produced a professional garage, workshop, welding and metal processing equipment and tools.

Diagnostic and other measuring equipment is compatible with AutoEDU educational equipment and complement each other. Automotive diagnostic equipment can be used to scan the ECU information of the educational equipment. Depending on the ECU with a scanner or a device for self-diagnosis there is ability to read and erase fault codes, display the operating system parameters, activating the actuators and perform coding or configuration functions, if they are supported by the ECU.

Oscilloscope is a very important measurement equipment in a learning process. AutoEDU training boards are made so that would be easy to perform measurements of each component at any time without damaging connections. Almost all AutoEDU training boards are available with open contacts so that would be easy connect and perform measurements with two or four channel oscilloscope.

All AutoEDU working petrol engine models have ability to measure the exhaust gas before and after catalytic converter. Using the gas analyzer there is a great opportunity to demonstrate the processes occurring in the vehicle exhaust system.

The gas analysis equipment can also be used with AutoEDU educational working diesel engine models.

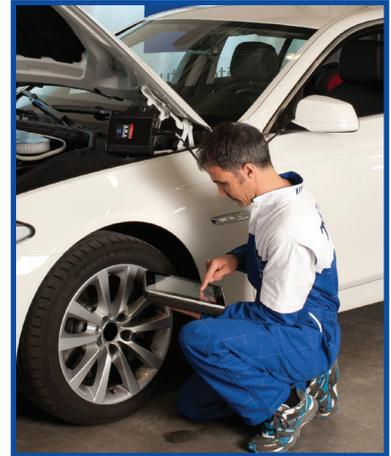
Air conditioning recharge equipment

Air conditioning recharge and servicing equipment helps to perform demonstrations with air conditioning and climate control system training board or with Toyota Petrol/Electric Hybrid technology functional models where is an integral part of the air-conditioning system with an electric compressor.

Air conditioning recharge station provides an ability to demonstrate the recharging procedures in a training classroom or service center in real terms.

Wheel alignment equipment

Wheel alignment equipment is a great educational tool using it together with AutoEDU wheel alignment training stand. AutoEDU wheel alignment training stand is specially designed to demonstrate the vehicle chassis structure and maximum of the wheel alignment procedures which are difficult to show on a real car. Both the „3D“ and „Prism“ wheel aligners combine two different types of the wheel alignment technology and are perfect for student training.



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Tyre changer and wheel balancer equipment

Tyre changer is an automatic or semi-automatic tyre mounting machine designed for automobiles, light and heavy commercial and agriculture vehicles. Safe and reliable equipment can be delivered together with the additional accessories and other supplies. The wheel balancer machines with modern measuring equipment help to fully complete wheel repair bar for light and heavy commercials vehicles.

Also, we are able to offer another garage equipment that may be used in a training service center. In 2001 our company started its business from diagnostic and garage equipment trade, installation, repair and service. This gained experience allows to offer equipment that would be functional and perfectly compatible with the training process and the mechanic speciality.



Brake testing stand

Brake testing stand is one of the most important equipment in a training service center for car and commercial vehicle brake maintenance and repair. Although the brakes in modern cars are controlled by electronics, it is necessary to mechanically measure and align brake force for each wheel using brake testing stand.

Lifts

Training car repair workshops are not imaginable without car lifts that can be different depending on purpose use: 2 post electro-hydraulic or electro-mechanical lifts, scissor or cylindrical, with different lifting capacities from 2,5T to 25T for commercial vehicles.

We are able to offer lifts for different kind of works you would like to perform in a service center. For example, large scissor lifts are commonly used for wheel alignment procedures.

Small scissor lifts provide space saving solution for wheel repair and diagnostic procedures. Two post lifts are the most popular and commonly used for chassis repair procedures.

Many years of experience in installing professional repair service centers allows to complete and submit different types of car lifts and plan them in accordance with their purpose.



Workbenches, tool boxes and tools

We offer a large range of different, well-known in the world manufacturers tools. The tools can be assembled in an ergonomic tool boxes or in a drawers of the workbenches. We can offer hand, electric or special tools. We are able to complete tools by car manufacturers' recommendations, engine or chassis types.

The workbenches can be offered with different surfaces: wood, metal, rubberized or stainless steel and with lockable walls, drawer units or without them.



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Exhaust extraction system

Exhaust extraction system is a very important element in a training service center if you are planning to teach students car engine diagnostic and repair, or have an intent to purchase an engine test stand or in any case, when you expect that the ignition of the car will be switched on and active in a training service area. Again, as with other equipment, there are many different solutions – it is possible to supply mobile exhaust extraction system and there is no need to mount it. If there is an intent for further construction and modernization of the workshop area perhaps you should think about the floor-mounted exhaust extraction system. Also, there are other solutions, such as on the ceiling hanging coils, mounted systems on the wall or hanging rail exhaust systems that allow car to move in a workshop area with an exhaust extraction system connected to the cars' exhaust system.



Compressors and compressed air equipment

Compressed air is very important in a training repair service center. Well-planned and properly equipped with high-quality materials and safe piping system, properly calculated air compressor output and productivity will allow the proper use of the equipment and tools. Improperly designed and equipped system does not allow proper and effective use of the equipment. As a result, our company often consults, selects the necessary equipment that would function perfectly.

Our company is able to offer different efficiency rotary screw and reciprocating air compressors, plastic or aluminum piping systems, filters, condensate separation and lubrication systems.



Other equipment

Other small workshop equipment may be offered depending on what kind of the working processes will be performed in a training repair center. This equipment is not main, but very important: presses, jacks, workshop engine cranes (rotating engine stands) and other hydraulic or pneumatic equipment and tools.



An educational institution often inquires about welding and metalworking equipment. We are able to offer a wide range of welding equipment, from simple semi-automatic to aluminum welding or plasma cutting equipment, spot welding and etc.



Metalworking equipment – metal lathes from school to professional with a digital display. A wide range of milling, drilling, cutting, bending and grinding equipment allows to offer a complete solution for the workshop or small metal processing bar.

Our company has successfully completed equipment installation projects in a number of educational institutions, workshops or car repair service centers where not only already mentioned equipment was used, but also such equipment as car painting cameras, body repair equipment with electronic measurement systems, engine test stands, that could be used for teaching in the repair service center or workshop.



All the above mentioned equipment and tools have been successfully used in other training institutions and in the training process, so you are welcome to contact our company and our well-qualified personnel will help you to choose, design and install equipment according to your choices or needs. Our company offers consultations and trainings for lecturers or teachers if they only need our help. During more than 10 years with many of them we have become partners and mutual beneficial cooperation has grown into a highly appreciated friendship.

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AUTOEDU

Automotive technical education equipment

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