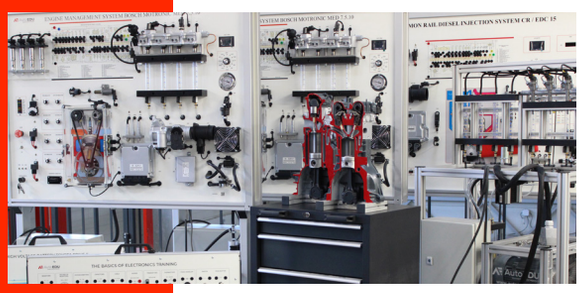
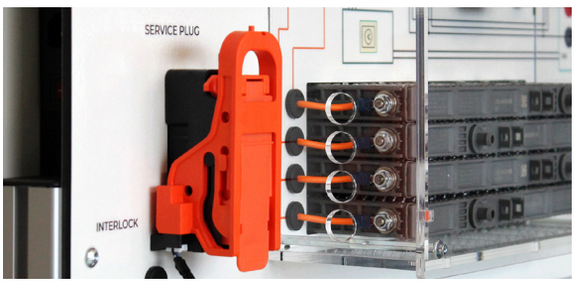
AutoEDU
MAKING PRACTICE PERFECT





AutoEDU 2025 Catalog

WWW.AUTOEDU.COM

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ABOUT US

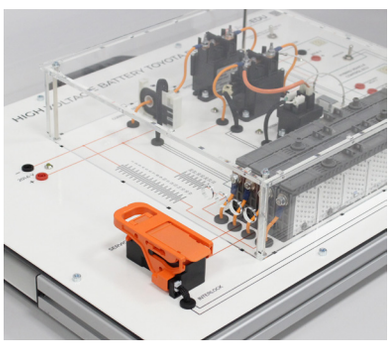
AutoEDU started as a specialized center focused on vehicle diagnostics, and over the years, we have proudly evolved into a leading producer of high-quality automotive training equipment. Since 2003, our commitment to excellence has allowed us to export our products to numerous countries worldwide, supporting automotive education on a global scale. We take pride in crafting advanced, sustainable tools that not only provide hands-on learning experiences but also contribute to an eco-friendly future by incorporating recycled vehicle components into our designs.

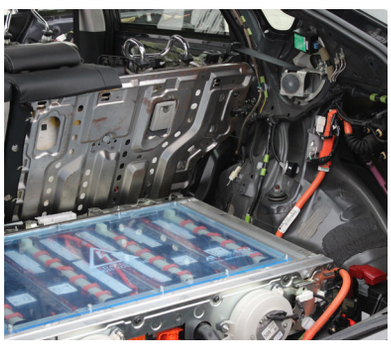
Our commitment to practical and sustainable education is evident in the design of our training equipment. AutoEDU products, including cutaway models and detailed training stands, use real automotive components to provide a genuine learning experience. These tools support both traditional and modern teaching methods by incorporating advanced diagnostic and measurement techniques. Furthermore, our use of recycled vehicle parts highlights our dedication to environmental stewardship, transforming obsolete vehicles into valuable educational resources.

This approach enhances the practical value of our training tools while aligning with our goal of promoting an eco-friendly educational environment, thereby preparing students effectively for their future careers.

Our extensive product range includes over 400 items designed to elevate automotive education. We offer a variety of training aids, such as functional models and simulators based on real OEM components, which ensure a realistic and immersive learning experience. These tools are distinguished by their practicality and safety features, as well as their integration of actual automotive components, making them essential for effective teaching and learning. The equipment's design mirrors real-world automotive systems, guaranteeing that the training is both relevant and up-to-date.

HYBRID PETROL(GASOLINE)/ ELECTRIC TRAINERS





ELECTRIC VEHICLE EDUCATIONAL TRAINING STAND

L3

Product number
MSEV02

Fully functional electric vehicle training stand is based on the Nissan Leaf electric car, offering a practical and theoretical training experience using real electric vehicle components. This educational stand includes the main systems of electric vehicles, such as the electric motor, inverter, high-voltage battery, high-voltage cables, charging port and other essential elements. All components are connected with original high-voltage “orange” cables and covered with protective plexiglass for safety.

Features

- Integrated real electric car motor.
- Genuine electric inverter for accurate system management.
- Real high-voltage battery, including a high-voltage disconnect plug/fuse for safety.
- Functional electric AC compressor to understand climate control in EVs.
- Genuine “orange” high-voltage cables with connectors and safety features to prevent electrical hazards during training.
- Diagnosis through OBD 16-pole diagnostic socket for ECU operations.
- Includes a principal electric wiring diagram of the electric car for reading and understanding electrical diagrams, component markings, and using this knowledge for troubleshooting and repairing modern electric vehicles.
- Equipped with open contacts for real-time measuring of electrical parameters.
- Allows simulation of up to 10 faults on the EV control system (not the high voltage).
- Includes prepared procedures and instructional manuals with images.
- Durable and mobile, designed for efficient classroom or lab use.

Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic electric car repair experience.
- Offers practical experience with electric car systems, including the integrated electric motor, inverter, real high-voltage battery, connections, and cables.
- Enables students to study and analyze the electrical circuits of electric car systems, learning about wiring diagrams and related components such as the battery and high-voltage source disconnection plug/fuse, before starting repair or maintenance procedures.
- Integrated principal electric diagram with a measuring box allows students to measure the voltage and electric circuits of each engine component.
- Simulates various faults for diagnostic training, enhancing troubleshooting skills.
- Includes a comprehensive wiring diagram with sensors, actuators, data transmission lines, and diagnostic connections, illustrating component connections and contact numbers.
- OBD II 16-pin diagnostic connectors for ECU identification, reading/erasing fault codes, and live data parameter monitoring.

Specifications

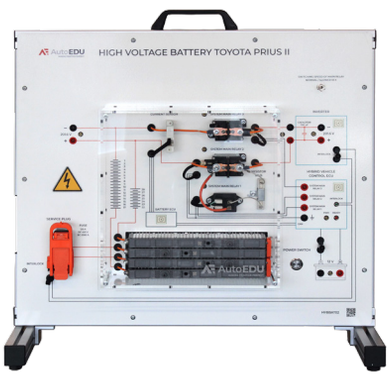
- Dimensions:
  2505 x 1055 x 1605 mm
  (98.62in x 41.53in x 63.18in)
- Weight: approx. 700 kg (1543 lb)
- Power Supply: 12V battery, High-voltage battery (~400V) 24 kWh, 230V 50 Hz household electricity network
- Power: 80 kW (109 HP), 280 Nm
- Product Number: MSEV02

HIGH VOLTAGE BATTERY SYSTEM EDUCATIONAL TRAINER

L3

Product number
HYBBAT02

The High Voltage Battery Training System is a compact, interactive training unit designed for teaching high-voltage battery management and diagnostics, using components from the Toyota Prius II OEM model. It enables students to connect and disconnect service plugs, measure battery voltage, and understand power transfer from the battery to the inverter. Equipped with a detailed wiring diagram and the ability to measure each battery cell separately, this trainer replicates real-world electric car conditions. The system includes LED indicators for monitoring relay and inverter status and offers a slowed start-up mode to facilitate step-by-step analysis of the activation sequence. All high-voltage components are safely enclosed under plexiglass for enhanced safety during hands-on training.



Features

- Real DC 201.6V with four high-voltage battery cells and individual measurement points.
- Safe voltage measurement points for battery (left) and inverter (right).
- Divided battery sections for separate 1/2 and 2/2 voltage measurements.
- Service plug with interlock, OEM removal procedure, and fuse check.
- Sequential activation of high-voltage relays, including soft-start relay.
- Power transfer analysis and relay control signal measurement.
- OEM wiring diagram with high-voltage markings and LED indicators.
- 10x slow-motion startup sequence for detailed system analysis.
- Plexiglass enclosure for safety with full component visibility.
- Lightweight, portable design for classroom use.
- Powered by 220V (110V US), 12V battery, or DC 12V.

Value for Students

- Hands-on experience with high-voltage battery operations, service plug, interlock connection, and safety protocols.
- Analyze and measure battery voltage with or without the service plug.
- Measure voltage distribution in battery sections (1/2 and 2/2) and individual cells.
- Examine power transfer steps from battery to inverter, including ignition and switch activation.
- Learn high-voltage relay activation, including 10x slow-motion analysis.
- Observe inverter cover lifting interlock operation.
- Measure relay control signals and polarity.
- Understand electrical mass disable procedures, including system shutdown and service plug removal.

Specifications

- Dimensions: 560 x 715 x 60 mm (22 in x 28.14 in x 2.36 in).
- Power supply: 230 V/110 V (US version), 12V battery, DC 12V power source.
- Product number: HYBBAT02.

HIGH VOLTAGE BATTERY EDUCATIONAL TRAINER ON A TROLLEY

L3

Product number
HYBBAT01-TR

High Voltage Battery on a trolley provides a detailed understanding of the construction and operation of hybrid and electric vehicle high-voltage batteries.

This advanced training stand incorporates OEM car parts, including battery cells, controllers, and control units, wiring making it ideal for technical and vocational automotive education.

Features

- Incorporates OEM components including battery cells, controllers, and control units.
- Clear arrangement of components for easy understanding of high-voltage battery construction and operation.
- Includes a high-voltage disconnect fuse and service plug for safe demonstration and maintenance procedures.
- OBD 16-pin diagnostic connector for comprehensive ECU diagnostics.
- Switches for simulating various faults in the battery system to enhance diagnostic training.
- Monitors and controls battery charge levels, temperature, and current leakage.

Value for Students

- Easy, safe, and comfortable training stand, build using OEM components for detailed learning of electric car high-voltage 201.6V Ni Mh battery maintenance and repair.
- Detailed study and analysis of high-voltage battery electrical circuits, wiring diagrams, and components. Learn and understand about the wiring diagrams and presented components on it. High-voltage disconnect fuse is easily accessible.
- Clearly visible device structure, arrangement of components, controllers, control units, 201.6V Ni Mh battery blocks/cells, and other elements
- Develops troubleshooting skills through simulated faults, enhancing problem-solving abilities. Includes simulation switches: F1 (cooling fan circuit), F2 (temperature sensor circuit), F3 (battery pack ground connection). OBD 16-pin diagnostic connector for ECU diagnostics.
- Learn about battery management systems, including SOC control, cooling system temperature monitoring, and current leakage detection.

Specifications

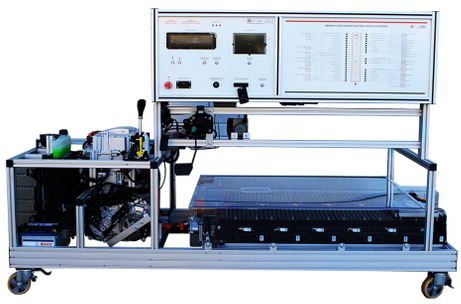
- Dimensions: 960 x 455 x 255 mm (37.80 in x 17.91 in x 10.04 in)
- Weight: 49 kg (108 lb)
- Power supply: 230 V (110 V)
- Battery type: Ni-MH battery pack with 168 cells (1.2 V each), nominal voltage 201.6 V
- Battery control features: current sensor, system main relay (SMR), battery ECU for monitoring and control
- Made in the EU
- Product number: HYBBAT01-TR

ELECTRIC VEHICLE EDUCATIONAL TRAINING STAND

L3

Product number
MSEV03

Electric vehicle training stand is based on the Renault ZOE electric car, offering a comprehensive hands-on and theoretical training experience using real electric vehicle components. Designed for automotive students, this educational stand includes the main systems of electric vehicles, such as the electric motor, inverter, high-voltage battery, and charging port. All components are connected with original high-voltage “orange” cables and covered with protective plexiglass for safety.

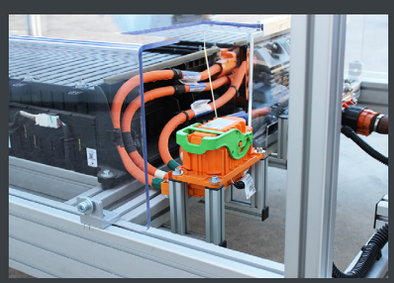


Features

- Integrated OEM EV motor enables practical operation and system training.
- Original electric inverter ensures authentic control of power electronics.
- High-voltage battery unit includes OEM service plug for safe maintenance procedures.
- Genuine orange high-voltage cables with OEM connectors, protected under safetyglass for training safety.
- 16-pin OBD socket supports ECU diagnostics and parameter access.
- Electrical wiring diagram displays ECU connections for training and troubleshooting.
- BOB interface provides open test points for live voltage, current, and signal measurement.
- Fault simulation system allows activation of up to 10 faults in low-voltage EV control circuits.
- Sturdy aluminum frame with industrial castors ensures mobility and durability for classroom use.

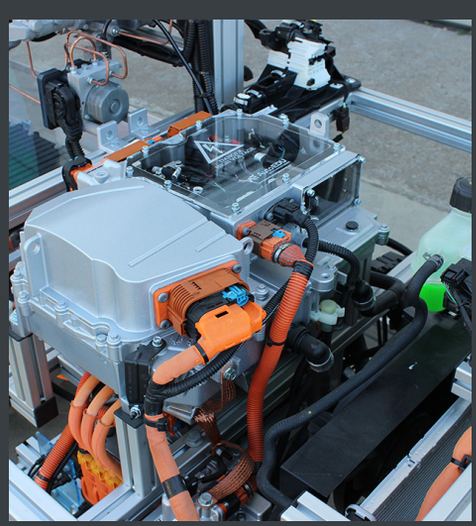
Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic electric car repair experience.
- Offers practical experience with electric car systems, including the integrated electric motor, inverter, real high-voltage battery, connections, and cables.
- Enables students to study and analyze the electrical circuits of electric car systems, learning about wiring diagrams and related components such as the battery and high-voltage source service plug, before starting repair or maintenance procedures.
- Simulates various faults for diagnostic training, enhancing troubleshooting skills.
- Includes a wiring diagram of electric car ECU.
- Utilizes OBD II 16-pin diagnostic connectors for ECU identification, reading/erasing fault codes, and live data parameter monitoring.



Specifications

- Power Supply: Autonomic
- Battery: 12V battery
- Dimensions: [dimensions not provided]
- Net Weight: [weight not provided]
- Product Number: MSEV03



EDUCATIONAL FULLY OPERATIONAL HYBRID VEHICLE BASED ON FORD C-MAX

L3

Product number
AHPLIN01

Advanced hybrid vehicle training system based on the FORD C-Max. This fully operational hybrid system, featuring a Plug-in Hybrid Electric Vehicle (PHEV) version, is designed for learning and analyzing various car systems work processes, perform various measurements of system parameters, conduct fault simulations and diagnose issues.

Features

- Simulates real FORD C-Max PHEV system for accurate and practical hybrid vehicle training.
- Supports diagnostics of engine, ABS, AC, airbag, and additional electronic control modules.
- Built-in measuring box with open contacts and wiring diagrams for two systems; expandable for more.
- Simulates faults in PCM, HVAC, and SOBDMC modules for diagnostic practice.
- Wi-Fi controlled fault simulation via PC, tablet, or smartphone enables remote operation.
- Includes Protective Tools Set EHVS01 to ensure user safety during high-voltage training.
- Wiring diagrams display sensor, actuator, communication, and diagnostic circuit schematics for in-depth analysis.

Value for Students

- Delivers safe, realistic training with OEM PHEV components, replicating real-world hybrid vehicle diagnostics and repair.
- Supports remote fault simulation via computer, tablet, or smartphone for flexible instruction.
- Functions as a visual tool for demonstrating hybrid systems, component structure, and system operation.
- Compatible with multibrand, specialized, and OEM diagnostic tools, enabling broad ECU access and safe learning.

Specifications

- Dimensions: 4409 x 2085 x 1620 mm (173.54 in x 82.09 in x 63.78 in)
- Weight: 1620 kg
- High voltage battery: 7.6 kWh
- Safety requirements: protective tools set EHVS01
- Product number: AHPLIN01

TOYOTA PRIUS III HYBRID PLUG-IN FUNCTIONAL EDUCATIONAL TRAINER

L3

Product number
AHPLIN03

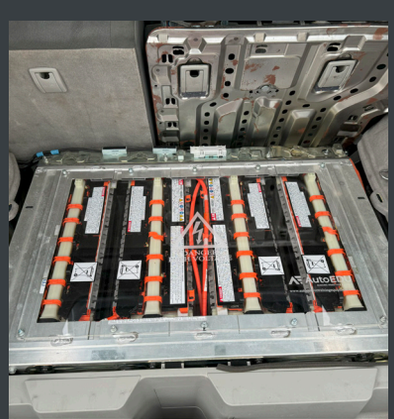
The AHPLIN03 function trainer, based on the Toyota Prius III hybrid plug-in, provides a learning experience of fully operational Plug-in Hybrid Electric Vehicle. This is an immersive training platform for diagnosing and understanding complex hybrid systems. Equipped with built-in measuring boxes, fault code simulation for multiple systems, and open contact wiring diagrams, this training equipment is designed to enhance technical and vocational automotive education and training.

Features

- Includes full Toyota Prius III hybrid system with OEM components.
- Supports PHEV training with focus on hybrid and plug-in operation.
- Measuring box with open contacts and wiring diagram for one system; expandable.
- Simulates faults in engine, ABS, SRS, HVAC, and HV circuits; one system included, others optional.
- Compatible with diagnostics for engine, ABS, AC, and airbag modules.

Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic car repair experience.
- Gain hands-on experience with a fully operational hybrid, Plug-in (PHEV) version, vehicle system, to understand the complexities of modern hybrid technology.
- Learn to diagnose and troubleshoot hybrid vehicle systems, including engine, ABS, AC, airbags and more with various diagnostic tools.
- Study and analyze the electrical circuits of hybrid systems with built-in measuring boxes and open contact wiring diagrams.
- Develop troubleshooting skills by simulating and diagnosing faults in multiple electronic systems.
- Perform various laboratory tasks and measurements, gaining in-depth knowledge of system parameters and their impact on vehicle performance.



Specifications

- Dimensions:
  4480 x 1745 x 1490 mm
  (176.38 in x 68.70 in x 58.66 in)
- Weight: 1420 kg (3130 lb)
- Power Supply: 12 V battery
- High Voltage Battery: 21.5 Ah, 207 V
- Fuel Type: Gasoline A91 or higher
- Safety Equipment: Protective Tools Set EHVS01 (optional)

ELECTRICAL VEHICLE FUNCTIONAL EDUCATIONAL TRAINER

L3

Product number
AE02

Fully operational electric vehicle based on the Nissan Leaf II shows real vehicle components and diagnostic capabilities for systems such as the electric motor, high-voltage battery, ABS, AC, airbags, brakes, suspension and more, providing knowledge of modern electric vehicle systems.

Features

- Includes two diagnostic boxes: EV system, ABS, AC or airbags. More can be added additionally.
- Open contacts and wiring diagrams for two electronic systems facilitate detailed study and analysis.
- Enables simulation of 10 faults in the Vehicle Control Module and 10 faults in the Air Conditioning Control Module.
- Remotely introduce faults using a computer, tablet, or smartphone for efficient fault diagnosis training.
- Positioned in the car cabin, it can be moved as needed, ensuring safety and convenience during training sessions.
- Displays sensors, actuators, data transmission lines, and diagnostic connections for comprehensive system understanding.
- The fault simulation equipment is automatically activated and deactivated with the car, ensuring a safe training environment.

Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic car repair experience.
- Study and simulate electrical circuits of EV systems, climate control, airbag system, braking system with built-in measuring boxes and wiring diagrams. Two boxes are included, more diagnostical boxes can be added additionally.
- Develop diagnostic skills through built-in fault code simulations system of EV systems, climate control, airbag system, braking system.
- OBD II 16 – pin diagnostic connectors for ECU identification, fault code management, real-time parameter monitoring, throttle calibration and more.
- Simulating real vehicle pneumatic components, exact number of components are in training aid.

Specifications

- Dimensions:
  4479 x 1790 x 1535 mm
  (176.26 in x 70.47 in x 60.43 in)
- Weight: approx. 1640 kg (3615 lb)
- Power supply: 12 V battery
- High voltage battery: 400 V
- Safety requirement: EHVS01 protective tools set (optional)
- Product number: AE02

EDUCATIONAL HYBRID ENGINE TRAINER

L3

Product number
MVHY01

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.

Features

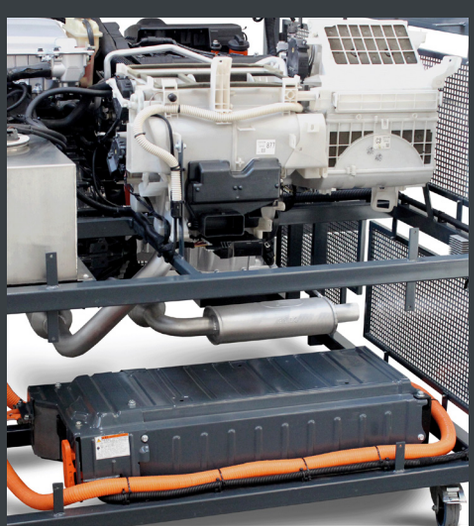
- Includes the Toyota Hybrid Control System II (THS-II) with a fully operational petrol/electric engine.
- Supports diagnostics through an OBD 16-pin diagnostic connector, including fault code reading/erasing, live data display, and ECU configuration.
- Equipped with banana plug jumpers for detailed electrical signal measurements of each system component.
- Capable of simulating over 50 faults by disconnecting banana plug jumpers, enhancing troubleshooting practice.
- Fully functional automatic climate control system with an electric AC compressor and R134a refrigerant.
- Includes removable safety panels to protect against hot and rotating parts and an integrated emergency stop button.
- Provides an electrical wiring diagram for fault simulation and measurements.

Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic car repair experience.
- Gain hands-on experience with a functional gasoline/electric hybrid engine stand, understand gasoline/electric TOYOTA HYBRID CONTROL SYSTEM – II (THS-II).
- Learn about gasoline/electric engine automatic gearbox, climate control system, instrument cluster, cooling system, electric power supply system, CAN gateway network, the exhaust system and more.
- Study and analyze electrical circuits through built-in banana plug jumpers, simulate system faults.
- Develop troubleshooting skills by simulating over 50 system faults with easy and safe electrical board.
- Measure the exhaust gas before and after catalytic converter using specific tools.
- Learn about modern climate control systems, including the electric AC compressor and refrigerant management and more.
- Practice safe engine servicing and maintenance with removable safety panels and accessible engine components.
- Use OBD II 16 – pin diagnostic connectors for ECU identification, fault code management, real-time parameter monitoring, throttle calibration and more.

Specifications

- Dimensions: 1750 x 1450 x 1200 mm
- Weight: 470 kg (1036 lb)
- Power supply: 230 V/110 V (US version)
- Made in EU
- Product number: MVHY01



TOYOTA PRIUS III PETROL (GASOLINE)/ELECTRIC/LPG HYBRID ¾ EDUCATIONAL TRAINER

L3

Product number
PMTPK05

Fully functional hybrid car training model, mounted on a mobile chassis, integrates all hybrid car systems. Presenting hybrid systems, LPG supply, body, and chassis structures, as well as passive and active safety systems.

Features

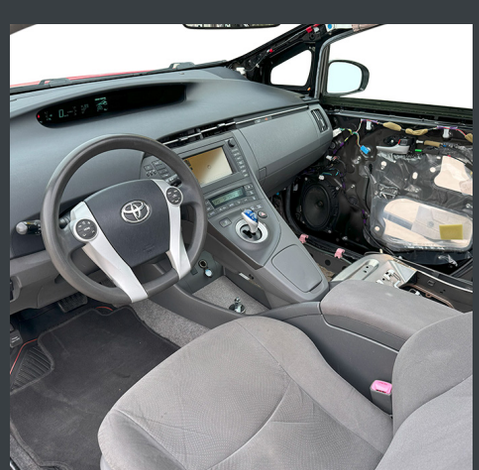
- Based on the Toyota Prius III with a hybrid system and LPG supply system.
- Open sections of roof, fender, door trim, high voltage battery, LPG system for clear visibility and safe learning.
- Integrated LPG system with gas equipment and safety elements with visible pressure gauge, gas filling and supply lines, safety valve.
- Complete climate control system.
- ABS, stability control, and SRS airbag systems with exposed components for training.
- CAN Bus Network. Facilitates understanding of data communication within the vehicle.
- Safe access to high-voltage battery, fuses, inverter, vires with plexiglass covers for safe educational purposes.
- OBD 16-pin diagnostic connector for ECU identification, fault code management, and live data display.

Value for Students

- High-voltage battery and inverter covered with safety glass for safe access. Visible high-voltage wiring, safety fuse, and diagnostic points.
- OEM hybrid system with LPG supply. Features exposed body and chassis structures, including roof, fender, and interior door trim. Passive and active safety systems visible and sectioned for study.
- Supports hybrid mode diagnostics, real-time parameter monitoring, and system measurements using OBD, oscilloscope, gas analyzer, exhaust extraction, and A/C service tools.
- LPG system includes filling valve with adapter, cylinder in spare wheel space, visible pressure gauge, supply lines, and safety valve.
- ABS, stability control, and airbag systems exposed for functional understanding. OBD 16-pin diagnostics enable fault code reading, actuator testing, and control unit configuration.

Specifications

- Dimensions:
  4460 x 1745 x 1510 mm
  (175.59 in x 68.70 in x 59.45 in)
- Weight: approx. 1805 kg
- Power supply: 12V battery, high-voltage battery pack (~200V), gasoline A91 or higher
- Safety equipment: protective tools set EHVS01
- Product number: PMTPK05



TOYOTA PRIUS III HYBRID ½ EDUCATIONAL TRAINER

L3 **Product number** PMTP03

Advanced learning platform for understanding hybrid vehicle technologies. This functional model replicates the essential components and systems of a Toyota Prius III hybrid vehicle, including the petrol (gasoline)/electric control system, automatic gearbox, and various diagnostic features. Engineered for educational settings, it combines a space-saving design with comprehensive diagnostic and measurement capabilities to enhance automotive training.

Features

- Contains Toyota THS-II hybrid control system, automatic transmission, and HVAC unit.
- High-voltage battery setup with service plug and HV wiring is clearly visible.
- OBD II 16-pin connector enables ECU ID, DTC management, live data, and actuator tests.
- Fault simulation for engine, HVAC, and SRS systems.
- Optional measuring boxes with wiring diagrams and test points for detailed circuit analysis.
- Integrated CAN Gateway for hybrid network communication training.

TOYOTA PRIUS II HYBRID ½ EDUCATIONAL TRAINER

L3 **Product number** PMTP01

The Toyota Hybrid Educational Trainer PMTP01 provides an advanced, hands-on learning platform for understanding hybrid vehicle technologies. This functional model replicates the essential components and systems of a Toyota Prius II hybrid vehicle, including the petrol(gasoline)/electric control system, automatic gearbox, and various diagnostic features. Engineered for educational settings, it combines a space-saving design with comprehensive diagnostic and measurement capabilities to enhance automotive training.

Features

- Includes Toyota's petrol(gasoline)/electric hybrid control system (THS–II), automatic gearbox, and climate control system.
- Features OBD II 16-pin diagnostic connector for ECU identification, fault code reading/erasing, live data display, and actuator testing.
- Simulates faults in the engine control system, climate control, and SRS airbag system.
- Equipped with built-in measuring boxes for engine control, climate control, and SRS airbag systems, each with wiring diagrams and open contacts for comprehensive analysis.
- Includes a CAN Gateway network for studying data communication within the hybrid vehicle system.

HIGH VOLTAGE SOURCE SAFE DISCONNECTION EDUCATIONAL TRAINER

L3 **Product number** MSAE1021

The stand is designed for safety training with hybrid cars. It facilitates high voltage plug/ fuse disconnection of hybrid cars before starting repair or maintenance procedures. It is also used to explain safety procedures when working with hybrid cars. Ideal for technical and vocational automotive educational training

Features

- Designed for safe hybrid vehicle maintenance training. Includes high-voltage fuse disconnection system and service plug handling procedures.
- All components are mounted on an accessible training panel. Shows correct 12V power connection and battery status.
- Provides details on high-voltage battery configuration, activation, deactivation, and charging conditions.
- Supports safe installation/removal of fuses and plugs. Allows connection of 12V power supply or battery for equipment operation.

HIGH VOLTAGE SOURCE SAFE DISCONNECTION EDUCATIONAL TRAINER

L3 **Product number** MSAE1020

The stand is designed for safety training with hybrid cars. It facilitates high voltage plug/ fuse disconnection of hybrid cars before starting repair or maintenance procedures. It is also used to explain safety procedures when working with hybrid cars. Ideal for technical and vocational automotive educational training.

Features

- Specialized trainer for safe hybrid vehicle servicing. Includes high-voltage fuse and service plug disconnection procedures.
- All components are panel-mounted for easy access and demonstration. Indicates correct 12V DC power connection.
- Covers high-voltage battery layout, activation, deactivation, and charging control. Supports safe fuse and plug handling. Operates via external 12V power supply or battery.

BUILT IN MEASURING BOX WITH OPEN CONTACTS AND WIRING DIAGRAM FOR EV SYSTEM

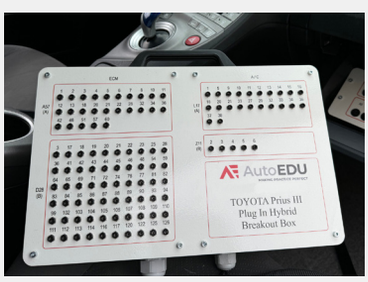
· For electric motor systems.
· With or without high-voltage.
· Should be ordered together with the car.
· Max 2 systems per car.

BUILT IN MEASURING BOX WITH OPEN CONTACTS AND WIRING DIAGRAM FOR ENGINE CONTROL SYSTEM

· For regular and hybrid engines.
· With or without high-voltage.
· Should be ordered together with the car.
· Max 2 systems per car.

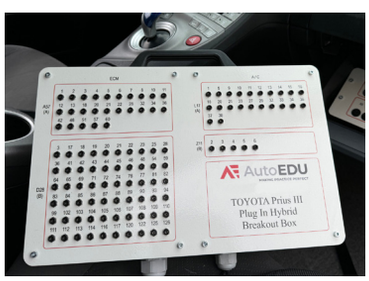
BUILT IN MEASURING BOX WITH OPEN CONTACTS AND WIRING DIAGRAM FOR CLIMATE CONTROL

· Should be ordered together with the car.
· Max 2 systems per car.



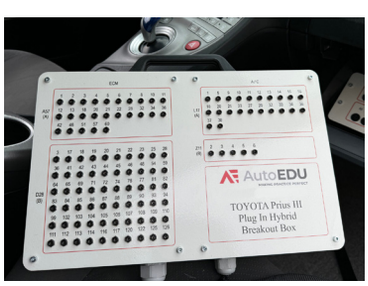
BUILT IN MEASURING BOX WITH OPEN CONTACTS AND WIRING DIAGRAM FOR SRS AIRBAG

· Should be ordered together with the car.
· Max 2 systems per car.



BUILT IN MEASURING BOX WITH OPEN CONTACTS AND WIRING DIAGRAM FOR BRAKING SYSTEM

· Should be ordered together with the car.
· Max 2 systems per car.



FAULT SIMULATION BOX

· Simulate faults of engine, hybrid, electric motor, SRS airbag, braking or climate control systems.
· Up to 10 faults simulation.
· Available Manual or WI-FI version.
· Max 2 systems per car.

EDUCATIONAL ELECTRIC VEHICLE TRAINING STAND

L3 | Product number MSEV01

High-voltage training stand with electric motor, controller, battery, and air conditioner compressor connected by high voltage cables. OBD 16-pole for diagnostic.

TOYOTA PRIUS II HYBRID 1/2 EDUCATIONAL TRAINER

L3 | Product number PMTPK01

Fully functional Toyota Hybrid Control System II with engine, ABS, AC, and SRS airbag diagnostics, mounted on a compact frame with front wheels and rear rollers. It supports OBD 16-pin diagnostics, ECU identification and fault simulation.

TOYOTA PRIUS III PLUG-IN HYBRID 1/2 EDUCATIONAL TRAINER

L3 | Product number PMTP03-PLUG

Fully operational vehicle, space-saving alternative with a complete front end, rear electrical components, and diagnostic capabilities for the engine, hybrid system, ABS, AC, and airbags.

TOYOTA PRIUS IV PLUG-IN HYBRID 1/2 EDUCATIONAL TRAINER

L3 | Product number PMTP04-PLUG

Space-saving model, based on the Toyota Prius Plug-in (2016-), fully functional front end, rear electrical components, and supports vehicle diagnostics.

TOYOTA YARIS HYBRID 3/4 EDUCATIONAL TRAINER

L3 | Product number PMTPK06

Hybrid petrol/electric system with Toyota Hybrid Control, a planetary reducer transmission, climate control, CAN bus, exhaust system, ABS, SRS airbags, and an emergency stop button for high-voltage battery disconnection.

HYBRID PLUG-IN FUNCTIONAL EDUCATIONAL TRAINER

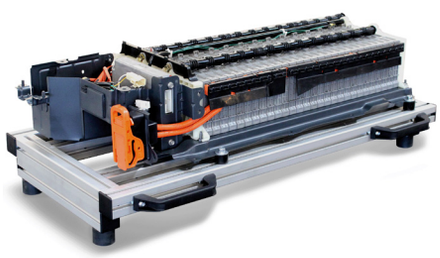
L3 | Product number AHPLIN02

Fully functional HEV trainer for diagnostics and hybrid system learning. Features measuring boxes, fault code simulation, and open wiring diagrams for advanced technical training.

HIGH VOLTAGE BATTERY DISASSEMBLY AND ASSEMBLY

L3 | Product number VIVV01-HYBBAT

This automotive training aid is an OEM high voltage battery pack from a Toyota Prius II designed specifically for safe educational use. The trainer includes 28 Ni-MH battery modules, current sensor, system main relays (including a soft launch relay), and battery ECU for realistic monitoring and control simulations. The system is completely de-energized, ensuring no live high-voltage is present, making it safe for student operation. The integrated service plug and visible internal wiring enable learners to study battery management systems in detail without risk.



ELECTRICAL VEHICLE EDUCATIONAL TRAINER

L3 | Product number AE01

Fully operational Nissan Leaf-based model includes diagnostics for the EV system, ABS, AC, and airbags, with built-in measuring boxes and fault code simulations.

TOYOTA PRIUS IV PLUG-IN HYBRID EDUCATIONAL TRAINER

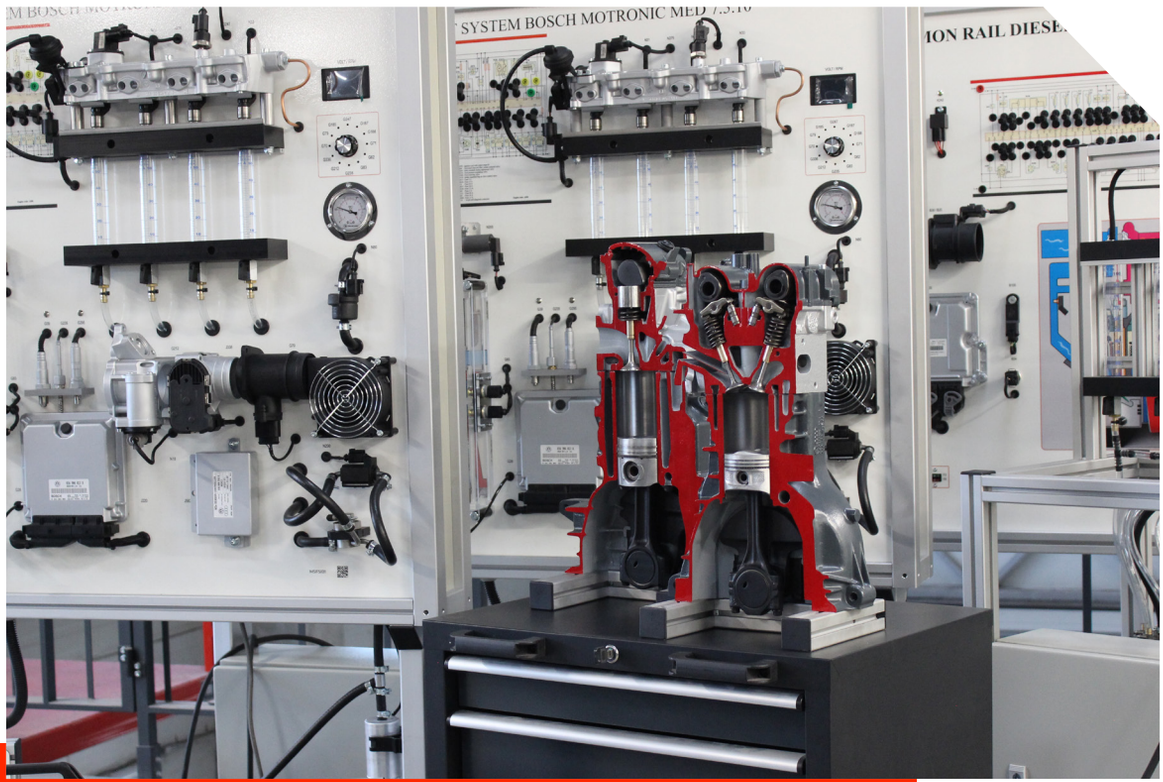
L3 | Product number AHPLIN04

Toyota Prius Plug-in (2016-) educational model offers diagnostics for the plug-in system, ABS, AC, and airbags, with built-in measuring boxes and fault code simulations, plus a factory household charger.

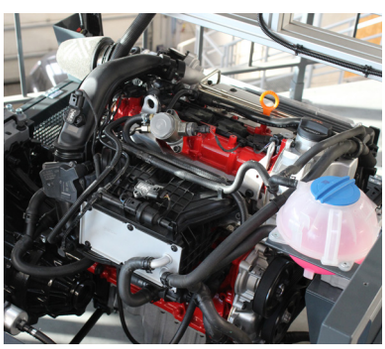
TOOLSET FOR WORKING WITH HIGH VOLTAGE VEHICLES

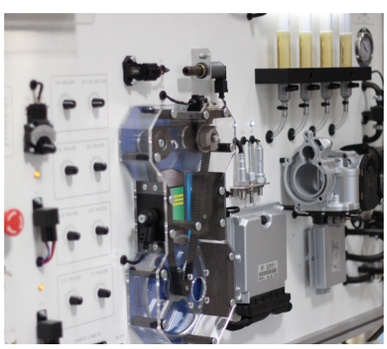
Product number AEHVS01

Protective tool set for training with high voltage vehicles includes gloves, a digital voltage tester, protective glasses, fencing tape, a 3-sided warning sign, a 2-sided warning sign, and a multimeter.



ENGINE AND TRANSMISSION

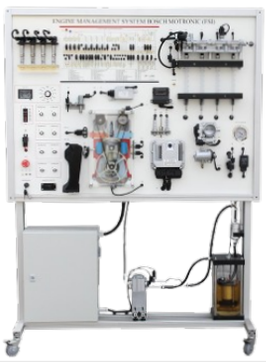




ENGINE MANAGEMENT SYSTEM BOSCH MOTRONIC (FSI)

A1

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(gasoline) 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 system
- Direct petrol (FSI) injection and ignition system
- Complete electrical wiring diagram included
- Analyzes injection and ignition circuits
- Measures injector spray pattern, fuel quantity, and pressure
- Over 20 electrical parameters via banana plug connectors
- High-voltage ignition circuit diagnostics
- Crankshaft and camshaft synchronization demonstration
- Manual adjustment of crankshaft RPM, lambda, NOx, EGT, coolant temps, intake pressure/ temp (system-dependent)
- Voltage monitoring of EGR potentiometer, throttle, fuel pressure, sensors (temp, pressure, etc.)
- Fault simulation by jumpers or parameter deviation
- OBD II 16-pin diagnostics: fault codes, live data, actuator tests, adaptation, ECU configuration
- Electric vacuum pump for manifold flaps (optional)

Value for Students

- Hands-on experience with real OEM systems for realistic diagnostics and repair
- Clear understanding of fuel, ignition, and electrical systems through visual and practical training
- Skill development in fault simulation, parameter adjustment, and sensor data interpretation
- Familiarity with professional diagnostic tools and OBD II systems used in modern vehicles

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)
- Product number: MSFSI02

ENGINE CONTROL SYSTEM MOTRONIC M 3.8.X (MPI) EDUCATIONAL TRAINER

A1

Product number
MSMPI01

Fully functional multipoint petrol injection (MPI) system integrates Audi/VW OEM components to simulate the operation modes of the fuel injection and ignition system. Showing structure of the engine control system, its components and operation modes, conduct various measurements and diagnostic procedures.

Features

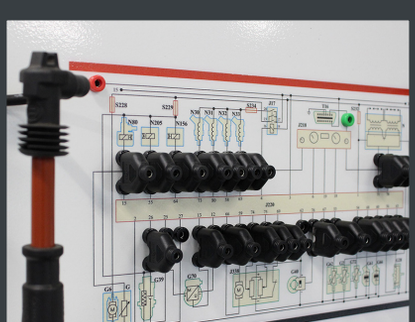
- Demonstrates multipoint petrol injection (MPI) system operations, including fuel supply, injection quantity, and spray pattern quality.
- Transparent fuel tank and visible spark plug operation allow students to observe internal processes.
- Features manual adjustment of engine crankshaft speed and air/fuel mixture via oxygen sensor signal simulator.
- Includes a detailed electric wiring diagram with built-in banana plug jumpers for accurate measurements and fault simulations.
- Simulates faults by disconnecting banana plug jumpers, with the ability to simulate over 20 different faults.
- Allows for comprehensive ECU diagnostics, including reading/erasing fault codes, live data display, and actuator activation.

Value for Students

- Realistic and safe training using OEM multipoint petrol injection components
- Practical understanding of fuel supply, injection quantity, spray pattern, and ignition systems
- Visual demonstration of fuel pump operation and crankshaft–camshaft synchronization
- Electrical circuit analysis with wiring diagrams and component identification
- Real-time parameter measurement with banana plug connectors, oscilloscope, multimeter, and scan tools
- Hands-on fault simulation, ECU diagnostics via OBD II, sensor value adjustments, and control unit configuration

Specifications

- Dimensions:
  1820 x 1360 x 500 mm
  (71.65 in x 53.54 in x 19.69 in)
- Weight: approx. 70 kg (154 lb)
- Power Supply: 12V from battery or power supply unit (battery and power supply unit not included)
- Product number: MSMPI01
- Optional Accessories: Examination console for 10 hidden fault simulations, 12V battery, 220/12V power supply unit, OBD diagnostic scan tool



DIESEL ENGINE CONTROL SYSTEM CR/ EDC 15 EDUCATIONAL TRAINER

A1

Product number
MSCR01

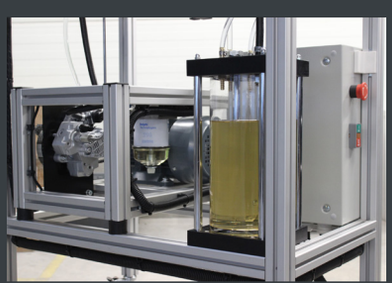
The Common Rail Trainer with Bosch EDC 15C3-4.1 Engine Control System is a high-precision educational tool designed for in-depth technical training in diesel injection systems. Installed in a mobile aluminum frame, this training board-simulator utilizes OEM components and integrates Bosch's EDC 15C3-4.1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

Features

- Based on Bosch EDC 15C3-4.1 diesel system with direct injection
- Demonstrates high-pressure fuel supply and injector operation
- Dual-part design:
  - Electronic unit: ECU, sensors, actuators, diagnostic ports, wiring diagrams
  - Mechanical unit: High-pressure fuel pump, injectors, electric motor, measuring cylinders
- Adjustable simulators for MAF, ACT, CTS, IAT, MAP, and FRP sensors
- Manual crankshaft speed adjustment with real-time system response
- Integrated TFT voltmeter displays sensor voltages (APPS1/2, ACT, FPS, MAP, EGR, CTS, FTS)
- Comprehensive wiring diagram with contact points and jumper locations for fault simulation
- OBD II 16-pin diagnostics: ECU ID, fault code management, live data, actuator testing

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.



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)
- Made in EU
- Product number: MSCR01

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (FSI) EURO4

A8

Product number
MVFSI01

Fully functional petrol(gasoline) engine EURO4 (available EURO5/EURO6) FSI (fuel-stratified injection) with integrated instrument cluster, cooling, power supply, and exhaust systems. It provides real-time diagnostics via an OBD 16-pin connector, and allows precise measurements and fault simulations through open contacts and banana plug connectors. The model includes safety removable panels for easy access and maintenance, making it ideal for teaching modern automotive technologies and diagnostic procedures.

Features

- Includes detailed systems for fuel injection, exhaust, cooling, and power supply.
- Connect to the system using banana plug connectors for precise measurements and diagnostics.
- Simulate over 30 faults by disconnecting banana plug jumpers to enhance troubleshooting skills.
- OBD 16-pin Diagnostic Connector: Perform advanced diagnostics including ECU identification, fault code management, live data monitoring, and actuator tests.
- Equipped with removable panels to protect against hot and rotating parts, and an emergency stop button for immediate shutdown.
- Includes an electric wiring diagram with built-in banana plug jumpers for easy measurement and fault simulation.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

Value for Students

- Fully functional system, gaining practical knowledge of direct petrol(gasoline) injection, exhaust, cooling, and power supply systems.
- Use OBD 16-pin diagnostic connector to perform ECU identification, read and erase fault codes, display live data, conduct actuator tests, throttle adaptation, and control unit coding.
- Connect to banana plug connectors to measure electrical signal parameters of sensors and actuators, including high voltage circuits.
- Develop troubleshooting skills by simulating over 30 faults through disconnecting banana plug jumpers.
- Measure exhaust gases before and after the catalytic converter, and use tools like oscilloscopes and multimeters for in-depth analysis.

Specifications

- Dimensions: approx. 1550 x 1000 x 1200 mm (61.02 in x 39.37 in x 47.24 in)
- Weight: approx. 310 kg (683 lb)
- Power supply: 12V battery
- Available EURO5/EURO6 configuration
- Product number: MVFSI01

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (TSI) EURO 5

A8

Product number
MVTSI01

The Educational Petrol(gasoline) Engine Trainer with Turbocharged Stratified Injection (TSI) EURO 5 features a fully operational 1.4 TSI engine, complete with a direct petrol(gasoline) injection system, turbocharger, and exhaust system. This model allows students to engage in detailed diagnostics through an OBD 16-pin connector and simulate over 30 faults using banana plug jumpers. It provides hands-on experience in measuring exhaust gases before and after the catalytic converter and understanding engine components through its open structure and safety removable panels. This trainer is ideal for mastering engine maintenance and advanced diagnostic techniques.

Features

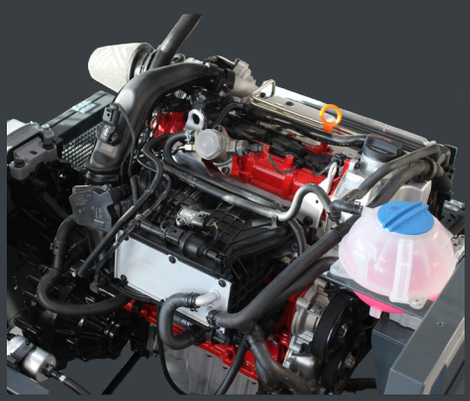
- 1.4 TSI direct petrol(gasoline) injection system with turbocharger and exhaust system.
- OBD 16-pin diagnostic connector for ECU identification, fault code management, live data display, and actuator testing.
- Over 30 faults simulated via removable banana plug jumpers.
- Electrical signal parameters and high voltage circuits measured through banana connectors.
- Measurement of exhaust gases before and after the catalytic converter.
- Removable panels for protection against hot and rotating parts.
- Instrument cluster, measurement, and fault simulation panel within a closed aluminum frame.

Value for Students

- Learn with real OEM 1.4 TSI EURO 5 engine, gaining hands-on experience with direct petrol(gasoline) injection systems, turbochargers, cooling and exhaust systems.
- Use the OBD 16-pin diagnostic connector to perform ECU identification, read and erase fault codes, display live data, and test actuators. Learn to interpret real-time data and understand system parameters.
- Simulate over 30 different faults by disconnecting banana plug jumpers, practice troubleshooting and diagnostic skills.
- Measure electrical signal parameters of system components, including high-voltage ignition circuits, using integrated banana plug connectors and diagnostic tools such as oscilloscopes and multimeters.
- Analyze exhaust gas before and after the catalytic converter to study emission control and evaluate system performance.
- Work with safety removable panels that protect against hot and rotating parts, enhancing both learning and safety. You can access its components directly through removable panels.

Specifications

- Dimensions:
  1550 x 1000 x 1200 mm
  (61.02 in x 39.37 in x 47.24 in)
- Weight: approx. 300 kg (660 lb)
- Product number: MVTSI01



EDUCATIONAL DIESEL ENGINE TRAINER WITH CR (COMMON RAIL), EURO 6

A9

Product number
MVCR05

Fully operational EURO6 diesel engine model 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 real car original (refurbished) components with functional engine control 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. It also allows to study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Features

- Includes EURO6 engine with Common Rail (CR) diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Utilizes a Bosch EDC or similar control unit for accurate representation of engine management and diagnostics.
- Provides protection against hot and rotating parts while allowing clear visibility and easy access to engine components.
- Open contacts with banana plug jumpers for fault simulations and measurements. Supports fault code simulations and diagnostic procedures.
- Features OBD II 16-pin connector for comprehensive engine control unit diagnostics, including fault code reading/erasing, live data display, actuator activation, and control unit coding.
- Includes an integrated emergency stop button for immediate shutdown in case of an emergency.

Value for Students

- Learn EURO6 diesel engine's physical components, including the power supply system, cooling system, and exhaust system. The model features removable safety panels for clear visibility and hands-on access to internal engine parts.
- Learn about the operation of the engine's power supply and cooling systems. The model includes a complete Common Rail fuel supply system and cooling mechanisms.
- Bosch EDC or similar engine control system, including its operational modes and diagnostic features. Understand how the control unit manages engine performance and functions.
- Perform various measurements and diagnostic tests. The training model includes open contacts and built-in banana plug jumpers for system fault simulations and diagnostics.
- Simulate and diagnose over 20 different faults by disconnecting banana plug jumpers, increase troubleshooting skills and problem-solving abilities.
- OBD II 16-pin diagnostic connector to read and erase fault codes, display live system parameters, activate actuators, and perform throttle adaptation and control unit coding (depends on ECU).

Specifications

- Dimensions:
  1550 x 1000 x 1200 mm
  (61.02 in x 39.37 in x 47.24 in)
- Weight: approx. 350 kg (770 lb)
- Product number: MVCR05

EDUCATIONAL MOTORCYCLE ENGINE TRAINER WITH A FUEL INJECTION SYSTEM

A8

Product number
MVMC01

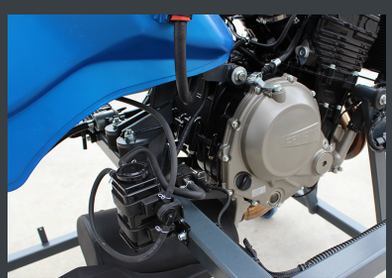
The Motorcycle Engine Training stand is an advanced instructional tool for in-depth technical and vocational training. Fully functional 2/4 cylinder motorcycle engine provides learning of ignition, fuel injection, and exhaust systems. Featuring an OBD II diagnostic connector for real-time engine monitoring and fault code management, this stand also includes open contacts for precise component measurement and fault simulation, making it essential for understanding modern motorcycle engine mechanics and diagnostics.

Features

- Based on a 2/4 cylinder engine with operational ignition, injection, and exhaust systems.
- OBD II diagnostic connector for engine parameter monitoring, fault code reading, and diagnostics.
- Open contacts for detailed measurement of system components and circuits.
- Capability to simulate faults by removing jumpers, with fault codes appearing in the engine control unit memory.
- Complete control panel with labeled wiring diagram, measuring contacts, jumpers, and a legend for easy operation.
- Sturdy metal frame with transport wheels for easy mobility and setup in various training environments.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

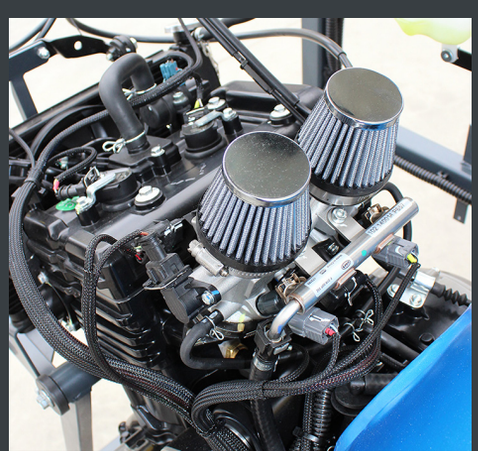
Value for Students

- Engage directly with a fully functional 2/4 cylinder motorcycle engine, gaining practical experience with ignition, injection, and exhaust systems.
- OBD II diagnostic connector to monitor engine parameters, read and delete fault codes, and live data monitoring.
- Access open contacts for measurement and monitoring of various system components and circuits.
- Troubleshoot problems simulating faults through jumper removal, allowing observation of changes in engine operation and in diagnostic processes.
- Operate and adjust the engine via a comprehensive control panel, with all controls and wiring diagrams clearly labeled for ease of use.
- Integrated throttle handle and gear lever for full engine testing experience.



Specifications

- Dimensions:
  1160 x 950 x 1520 mm
  (45.67 in x 37.40 in x 59.84 in)
- Weight: 218 kg (480 lb)
- Power supply: 12 V battery
- Fuel: Gasoline (higher than RON 92 (V))
- Product number: MVMC01



EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH LPG SYSTEM (MPI+LPG) EURO 4

A8 **Product number** MVMPI01-LPG02

Features

- Real OEM EURO4 engine with an integrated LPG system.
- Includes an OBD 16-pin diagnostic socket for comprehensive engine diagnostics and performance monitoring.
- Open contacts for detailed electrical measurements of system components and circuits.
- Simulation of engine management system faults through the removal of jumpers.
- Centralized control panel with labeled components and a wiring diagram, facilitating easy monitoring and control of the engine.

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (TSI) EURO 5

A8 **Product number** MVTSI02

Features

- 4-cylinder, petrol(gasoline) 1.2 TSI, 8 Valve, OHC engine for realistic training.
- OBD 16-pin diagnostic connector for ECU identification, fault code management, live data display, and actuator testing.
- Includes open contacts for measuring system components and circuits, enhancing diagnostic and analytical skills.
- Allows simulation of fault codes for practical troubleshooting training.
- Uses original equipment manufacturer parts for an authentic learning experience.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

MPI PETROL(GASOLINE) ENGINE TRAINER WITH MULTIPOINT INJECTION SYSTEM EURO 4/5

A8 **Product number** MVMPI02-TOY

Features

- Operational Toyota 4-cylinder EURO 4/5 MPI petrol engine on mobile frame
- Centralized engine control with wiring diagram and component legend
- OBD II 16-pin diagnostics: live data, fault codes, actuator tests
- Includes key sensors and components: injectors, ignition coils, fuel pump, TCCS module, lambda, MAF, IAT, knock, and others
- Measurement access points and jumper-based fault simulation
- Plug-and-play design with no setup required

EDUCATIONAL DIESEL ENGINE TRAINER WITH CR (COMMON RAIL) SYSTEM EURO 5

A9 **Product number** MVCR03

Features

- URO 5 Common Rail diesel engine with cooling, power supply, and exhaust systems
- Built on original Renault components with full engine management control
- OBD II 16-pin diagnostics: fault codes, live data, actuator tests, ECU coding
- Open contacts with banana plugs for fault simulation and measurement
- Safe design with visibility, access to components, and emergency stop button
- Plug-and-play operation, no setup or assembly required

EDUCATIONAL DIESEL ENGINE TRAINER WITH PD SYSTEM EURO 3

A9 **Product number** MVPD01

Features

- Fully functional engine with Pumpe Deuse (PD) diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Provides protection against hot and rotating parts while allowing clear visibility and easy access to engine components.
- Open contacts with banana plug jumpers for fault simulations and measurements. Supports fault code simulations and diagnostic procedures.
- Integrated OBD II 16-pin connector for comprehensive engine control unit diagnostics, including fault code reading, live data display, actuator activation, and control unit coding.
- Includes an integrated emergency stop button for immediate shutdown in case of an emergency.

EDUCATIONAL TRACTOR (FARM) DIESEL ENGINE WITH CR SYSTEM (COMMON RAIL)

A9 **Product number** MVTCR01

Features

- Based on a John Deere 4-cylinder in-line diesel engine with Common Rail (CR) fuel injection system.
- Includes diagnostic socket for detailed engine diagnostics.
- Features open contacts for measuring and monitoring system components and circuits.
- Equipped with removable jumpers for fault simulation and diagnostics.
- Includes engine controls and a detailed wiring diagram with labeled components and legend for easy reference.
- Removable panels for protection against hot and rotating parts.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

EDUCATIONAL PETROL(GASOLINE) ENGINE EURO6 WITH DIRECT MULTIPOINT INJECTION SYSTEM

A8 **Product number** MVMPI04

Features

- A complete, operational 4-cylinder multi-point injection (MPI) EURO6 petrol(gasoline) engine system with automatic transmission, mounted in a transportable metal frame.
- Centralized control for all engine operations, including a detailed electrical diagram and component legend.
- OBD II 16-pin connector for real-time parameter monitoring, fault code management, and performance element activation.
- Access points for measuring and monitoring component and circuit parameters.
- Jumper-based system for simulating various engine faults and operational changes.
- Includes fuel pump, injectors, ignition coils, throttle position sensor, camshaft position sensor, lambda sensor, knock sensor, speed sensor, air mass meter, intake air temperature sensor, coolant temperature sensor, and TCCS control module.
- Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.

PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (TSI) EURO 6

A8 **Product number** MVTSI03

Features

- Fully working OEM 4-cylinder 1.2-2.0 Turbocharged Stratified Injection (TSI) EURO 6 petrol(gasoline) engine
- OBD II diagnostic connector enables monitoring of engine parameters, error reading/deleting, and performance element activation.
- Open electrical contacts allows measurement and analysis of system components and circuits.
- Fault code simulations provides the capability to simulate and diagnose engine systems faults.
- Engine control via a detailed control panel with labeled components and wiring diagram.
- Transparent hose level indicator for accurate fuel management.

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH MULTIPOINT INJECTION SYSTEM + DYNO

A8

Product number
MVMPI01-DYNO

Training tool for automotive education with a fully functional EURO4 MPI petrol engine and integrated Dyno system. Features include OBD 16-pin diagnostics, electrical measurement points, fault simulation via jumper removal, and OEM components. Centralized control panel and built-in sensors enable real-time engine parameter monitoring.

Features

- Real OEM EURO4 MPI petrol(gasoline) engine with connected Dyno measurement system.
- Includes an OBD 16-pin diagnostic socket for comprehensive engine diagnostics and performance monitoring.
- Open contacts for detailed electrical measurements of system components and circuits.
- Simulation of engine management system faults through the removal of jumpers.
- Centralized control panel with labeled components and a wiring diagram, facilitating easy monitoring and control of the engine.

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (TSI) EURO 5 + DYNO

A8

Product number
MVTSI01-DYNO

Fully functional petrol(gasoline) turbocharged stratified injection (TSI) engine with measurement Dyno system for understanding and diagnosing modern internal combustion. This system, mounted on a robust metal frame with transport wheels with connected unit for measure engine performance.

Features

- Real OEM EURO 5 1.2 TSI 4-cylinder OHC petrol engine with Dyno measurement system
- Eddy current brake dynamometer with PC-based software for performance testing and data logging
- OBD II 16-pin diagnostics for fault codes, live data, and system monitoring
- Open contacts for electrical measurements and jumper-based fault simulation
- Centralized control panel with labeled components and wiring diagram
- Plug-and-play design with no assembly required

EDDY CURRENT BRAKE

A1 | Product number DYNO400

Features

- Measure engine performance up to 400nm torque, learn performance parameters.
- Understand engine performance measuring process and working principles.
- Use high quality dynamometer tool for precise engine measurements and gain expertise in automotive engine management and maintenance.
- Designed with a robust metal frame and four wheels for durability and space efficiency. The internal wiring is engineered for safe usage and protection against accidental damage. Equipped with an integrated computer and essential software.
- Includes an assembly flange for the engine flywheel and a driveshaft with coupling.

EDDY CURRENT BRAKE

A1 | Product number DYNO800

Features

- Measure engine performance up to 800nm torque, learn performance parameters.
- Understand engine performance measuring process and working principles.
- Use high quality dynamometer tool for precise engine measurements and gain expertise in automotive engine management and maintenance.
- Designed with a robust metal frame and four wheels for durability and space efficiency. The internal wiring is engineered for safe usage and protection against accidental damage. Equipped with an integrated computer and essential software.
- Includes an assembly flange for the engine flywheel and a driveshaft with coupling.

EDDY CURRENT BRAKE

A1 | Product number DYNO1000

Features

- Measure engine performance up to 1000nm torque, learn performance parameters.
- Understand engine performance measuring process and working principles.
- Use high quality dynamometer tool for precise engine measurements and gain expertise in automotive engine management and maintenance.
- Designed with a robust metal frame and four wheels for durability and space efficiency. The internal wiring is engineered for safe usage and protection against accidental damage. Equipped with an integrated computer and essential software.
- Includes an assembly flange for the engine flywheel and a driveshaft with coupling.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH PLD SYSTEM

A9 | Product number MVSPLD01

Fully operational 4-cylinder truck diesel engine with a PLD injection system, mounted on a mobile frame. Built with OEM components, it features a functional ECU, fuel supply, cooling, power, exhaust systems, and instrument cluster. Designed for hands-on training, it enables the study of engine control operations, measurements, diagnostics, and testing procedures.

Features

- 4-cylinder PLD diesel injection system (Renault OEM).
- Fully functional ECU with OBD II diagnostics.
- Open banana plug connectors for measurements and fault simulation.
- Safety panels, emergency stop, and protected moving parts.
- Mobile, plug-and-play frame with internal wiring.
- Supports 10+ diagnostic fault scenarios.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH PLD SYSTEM

A9 | Product number MVSPLD02

Fully operational 6-cylinder truck diesel engine with a PLD injection system, mounted on a mobile frame. Built with OEM components and a functional ECU, it provides hands-on training for studying engine structure, control systems, power supply, cooling, and performing diagnostics, measurements, and tests.

Features

- PLD 6-cylinder diesel injection system with Renault OEM components
- Includes cooling, power supply, and exhaust systems
- ECU-based engine management and diagnostic functionality
- Open contacts with banana plugs for electrical measurements and fault simulation
- OBD II 16-pin connector for fault code reading, live data, actuator tests, and ECU coding
- Clear access to components with safety protection and emergency stop button

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH VR TYPE PUMP EDC SYSTEM

A9 **Product number** MVSVR01

Features

- VR Type EDC injection, cooling, power supply, and exhaust systems with Renault OEM parts
- Engine control unit enables realistic diagnostics and management
- Safety shielding with clear visibility and easy component access
- Open contacts with banana plugs for fault simulation and measurement
- OBD II 16-pin connector supports fault codes, live data, actuators, and coding
- Emergency stop button for immediate shutdown

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER V8

A9 **Product number** MVSCR03

Features

- Fully functional V8 diesel truck engine with OEM injection, cooling, power, and exhaust systems
- Control unit for realistic engine management and diagnostics
- Safety covers with clear visibility and easy access
- Open contacts with banana plugs for fault simulation and testing
- OBD II 16-pin connector supports fault codes, live data, actuators, and coding
- Emergency stop button for quick shutdown

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH CR SYSTEM (COMMON RAIL)

A9 **Product number** MVSCR06

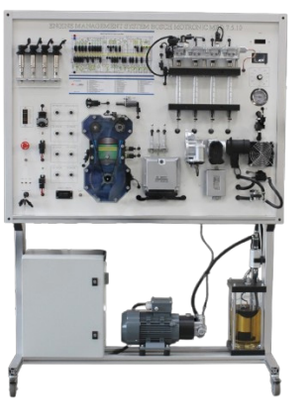
Features

- 6-cylinder common rail (CR) diesel injection system (Renault OEM).
- Fully functional ECU with OBD II diagnostics.
- Open banana plug connectors for measurements and fault simulation.
- Safety panels, emergency stop, and protected moving parts.
- Mobile, plug-and-play frame with internal wiring.
- Supports multiple diagnostic fault scenarios.

ENGINE CONTROL SYSTEM BOSCH MOTRONIC MED 7.5.10 (FSI) EDUCATIONAL TRAINER

A1 **Product number** MSFSI01

Fully functional BOSCH MOTRONIC MED 7.5.10 (FSI) training tool with direct petrol injection, visible fuel pump operation, adjustable air flow simulation, and over 20 fault simulations. Built with OEM components on an aluminum frame, it supports advanced diagnostics, parameter monitoring, and hands-on training for modern engine control systems.



LPG TRAINING BOARD EDUCATIONAL TRAINER

A1 **Product number** MSLPG01

Training board designed to demonstrate the structure and operation of automotive LPG systems. It features a durable frame, detailed wiring diagrams, diagnostic connectors, and key components like a gas reducer, ECU, injectors, and sensors, offering a complete platform for hands-on technical training.

DSG AUTOMATIC TRANSMISSION TRAINING STAND

A2 **Product number** MSATDSG01

DSG Dual-Clutch Gearbox Educational Trainer offers an advanced tool for the comprehensive study and training of direct shift gearboxes (DSG). This highly detailed and fully functional training model is designed to provide students and instructors with a hands-on experience in understanding the construction, operation, settings, and adjustments of DSG systems.

EDUCATIONAL PETROL (GASOLINE) ENGINE TRAINER WITH MULTIPOINT INJECTION SYSTEM (MPI) EURO 3

A8 **Product number** MVMPI01

EURO 3 petrol engine trainer with multipoint injection (MPI) system and OBD 16-pin diagnostics for fault code reading, live data, and ECU monitoring. Features over 20 fault simulations via banana plug jumpers, exhaust gas and high-voltage circuit measurement, and a closed aluminum frame with removable panels and emergency stop button for safe operation.

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH MULTIPOINT INJECTION SYSTEM MPI EURO 5

A8 | Product number MVMPI03

Fully functional 4-cylinder EURO 5 MPI petrol engine mounted in a durable metal frame with transport wheels. It features a control panel with electrical diagrams, component labeling, and essential devices for practical training in engine operation, diagnostics, and troubleshooting.

EDUCATIONAL PETROL (GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (GDI) EURO3

A8 | Product number MVGDI01

Mobile GDI petrol engine trainer (EURO3) with OBD II, fault simulation, and adjustable control panel. Uses OEM parts for realistic diagnostics and hands-on learning. Ideal for studying components, wiring, and control systems in a safe, classroom-ready setup.

EDUCATIONAL PETROL(GASOLINE) ENGINE TRAINER WITH LPG SYSTEM (MPI+LPG) EURO 3

A8 | Product number MVMPI01-LPG01

Combines a fully operational EURO 3 MPI petrol engine and a detailed LPG training board into one system. It provides hands-on training in both petrol and LPG technologies, featuring integrated diagnostics, measurement tools, and fault simulation capabilities for comprehensive engine education.

EDUCATIONAL PETROL (GASOLINE) ENGINE TRAINER WITH MULTIPOINT INJECTION SYSTEM MPI EURO5

A8 | Product number MVMPI03-AT

4-cylinder EURO 5 MPI petrol engine with automatic transmission. Integrated OBD II diagnostics, jumper-based fault simulation, and sensor access points. Includes ECU, injectors, ignition, and full sensor set in mobile frame.

PETROL(GASOLINE) MPI V6 ENGINE EDUCATIONAL TRAINER

A8 | Product number MVMPI03-V6

Fully functional Chrysler/Dodge V6 MPI engine trainer with OBD 16-pin, open contacts, and 30+ fault simulations. Includes full engine, cooling, power, and exhaust systems in a safe, enclosed frame. Supports multimeter and oscilloscope use for real-world diagnostics.

EDUCATIONAL DIESEL ENGINE TRAINER WITH CR (COMMON RAIL) SYSTEM EURO 3

A9 | Product number MVCR01

Fully functional Common Rail diesel engine trainer with OBD 16-pin, 12 fault switches, and banana plugs for signal measurement. Enclosed in a steel frame with removable panels and a control panel for safe, interactive training.

EDUCATIONAL DIESEL ENGINE TRAINER WITH CR (COMMON RAIL) SYSTEM EURO 4

A9

Product number
MVCR02

Fully functional EURO 4 Diesel Engine Trainer with Common Rail (CR) system, featuring integrated fuel injection, cooling, and exhaust systems. Designed for comprehensive training in diagnostics, troubleshooting.

EDUCATIONAL DIESEL ENGINE TRAINER WITH COMMON RAIL (CR) EURO 6

A9

Product number
MVCR04

Fully functional EURO 6 diesel engine trainer with Common Rail system, high-pressure pump, injectors, ECU, and OBD II connector. Includes 12V battery, electrical schematic, and supports fault simulation and diagnostics for hands-on training.

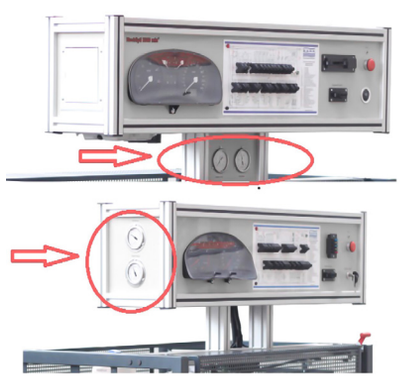
HIDDEN FAULT SIMULATION FOR ENGINE CONTROL SYSTEM

Product number
AE12F-ENG

This optional add-on is perfect for enhancing our engine training setups. It allows learners to practice diagnosing and fixing common issues in engine control systems using real parts.

VACUUM MEASURING GAUGE

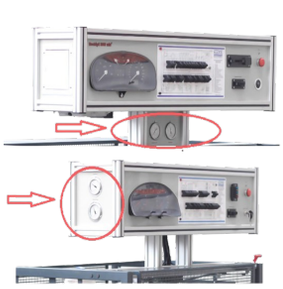
Product number
AEVAC-ENG



FUEL PRESSURE GAUGE

Product number
AEPRES-B-ENG

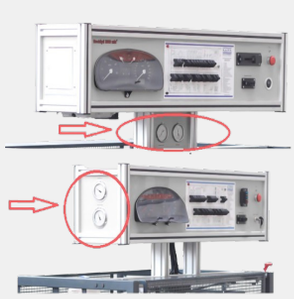
Optional fuel pressure gauge for petrol engines, mounted on the training stand panel. Provides precise fuel pressure readings for accurate system diagnostics.



FUEL PRESSURE GAUGE

Product number
AEPRES-D-ENG

Optional fuel pressure gauge for diesel engines, mounted on the training stand panel. Provides precise fuel pressure readings for accurate system diagnostics.



EDUCATIONAL DIESEL ENGINE TRAINER WITH VE PUMP (TDI) EURO 2

A9 **Product number** MVVE01

Fully functional 1.9 TDI EURO 2 engine trainer with VE pump, featuring OBD 16-pin diagnostics, fault code simulation, and open contacts for electrical measurements. Ideal for hands-on training in technical and vocational automotive education.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH COMMON RAIL SYSTEM

A9 **Product number** MVSCR01

Fully functional 4-cylinder diesel engine trainer with Common Rail EDC system and integrated MAN instrument cluster. Features OBD 16-pin diagnostics, fault simulation, electrical measurements via banana plugs, and ECU configuration. Includes protective panels and emergency stop button for safe, hands-on training.

EDUCATIONAL TRUCK DIESEL ENGINE WITH CR AD-BLUE SYSTEM

A9 **Product number** MVSCR04-ADBLUE

4-cylinder Common Rail EDC diesel engine with AdBlue (SCR) system, catalytic converter/filter, and turbocharger. Includes MAN instrument cluster, OBD 16-pin connector, fault simulation, real-time parameter monitoring, and electrical measurement via banana plug jumpers.

EDUCATIONAL TRACTOR (FARM) DIESEL ENGINE WITH CR SYSTEM (COMMON RAIL) AND ADBLUE SYSTEM

A9 **Product number** MVTCR02

4-cylinder CR diesel tractor engine with turbocharger, DOC+DPF, SCR, and 30L AdBlue (DEF) system. Includes OBD 16-pin diagnostics, jumper-based fault simulation, and open contacts for measurements.

EDUCATIONAL DIESEL ENGINE TRAINER WITH CR (COMMON RAIL) SYSTEM EURO 5

A9 **Product number** MVTCR03

Diesel Engine Trainer based on Cummins QSB 6.7 T3 with Common Rail system, turbocharger, and diagnostic tools. Supports advanced training in engine operation, fault simulation, and diagnostics.

EDUCATIONAL MARINE DIESEL ENGINE WITH P3000 IN-LINE PUMP

A9 **Product number** MVMIL03

Marine Diesel Engine Trainer based on Cummins 6CTA 8.3, fully functional with integrated systems and diagnostic tools. Designed for in-depth study of engine mechanics, fuel, intake, exhaust, ignition, and alternator systems.

DRIVETRAIN AND AXLES

WHEEL ALIGNMENT TRAINING EDUCATIONAL TRAINER

A3

Product number
MSVAZ01

Wheel alignment training educational trainer is an advanced instructional tool designed to demonstrate the intricacies of wheel alignment and suspension geometry. Featuring a McPherson-type front suspension and a multi-link rear suspension, this stand offers comprehensive training capabilities for adjusting camber, caster, toe, and steering axis inclination angles. All suspension components are visible and easily adjustable, making this an ideal resource for automotive technical education.

Features

- Modify toe, camber, and caster angles on both front and rear axles.
- McPherson-type front suspension, 8 adjustment points for precise alignment settings.
- Multi-Link rear suspension, features 3 adjustment points for detailed angle modifications.
- Compatible with 3D, CCD, and mechanical wheel aligners for comprehensive measurement and adjustment.
- Allows for easy viewing and access for measurements and adjustments without the need for a car lift.
- Easily foldable for compact storage and convenient transportation.

Value for Students

- Adjust camber, caster, toe, and steering axis inclination (SAI) on both front and rear suspensions.
- Study McPherson-type front suspension and multi-link rear suspension through direct interaction.
- Front hydraulic brake for extended suspension-brake interaction analysis.
- Use 3D, CCD, and mechanical wheel aligners (rulers, ropes, lasers) for suspension geometry adjustment.
- Measure and adjust wheelbase, axis shifts, scrub radius, caster trail, tread width, and other alignment parameters.
- Use diagnostic tools to monitor ride height, central line, traction line, thrust angle, toe difference, and turning radius.

Specifications

- Dimensions:
  - fully spread base 1100 x 3100 x 1700 mm (43.31 in x 122.05 in x 66.93 in);
  - Folded for storage 1100 x 1650 x 1700 mm (43.31 in x 64.96 in x 66.93 in) (standing on wheels);
  - Upright folded 1650 x 1100 x 1700 mm (64.96 in x 43.31 in x 66.93 in)
- Weight: approx. 195 kg (~430 lb)
- Product number: MSVAZ01

WHEEL ALIGNMENT TRAINING STAND WHEELS AND TIRES SET

Product number
MSRP01

The MSRP01 wheels and tires set is designed specifically for the MSVAZ01 wheel alignment training stand. This set ensures proper functionality and realistic training conditions. It must be ordered together with the MSVAZ01 stand for complete system compatibility.

PLATFORM FOR A QUADRACYCLE

A3
Product number
PKX02

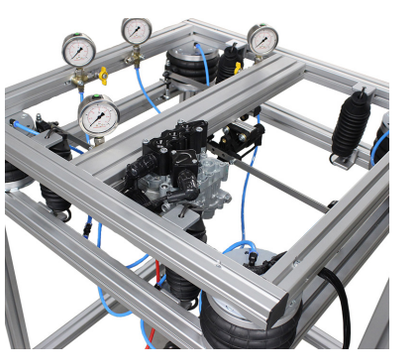
Mobile 4-wheel platform with fixing points for 2WD ATV (quadracycle), suitable for use in workshops or classrooms.

PLATFORM FOR A QUADRACYCLE

A3
Product number
PKX04

Mobile 4-wheel platform with fixing points for 2WD ATV (quadracycle), suitable for use in workshops or classrooms.

SUSPENSION AND STEERING



ELECTRONIC STEERING RIG EDUCATIONAL TRAINER

A4 | Product number MSEVS01

Fully functional training rig for electric hydraulic power steering systems. Includes rack-and-pinion steering, electro-hydraulic pump driven by electric motor, control panel with OBD 16-pin connector, RPM and speed simulation. Features tachometer, speedometer, hydraulic fluid tank, engine simulation switches. Operates on 12V battery, mobile on braked transport wheels.

HYDRAULIC STEERING RIG EDUCATIONAL TRAINER

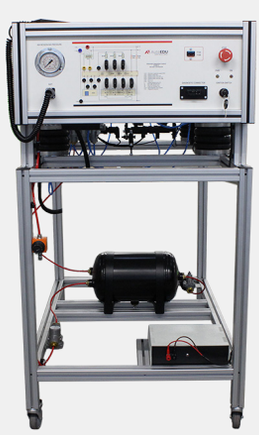
A4 | Product number MSHVS02

Fully functional hydraulic steering system ideal for automotive education and training. Integrated with a driving simulation and mobile on four casters, this trainer is perfect for technical and vocational training environments.

TRUCK AIR SUSPENSION EDUCATIONAL TRAINER

A4 | Product number MSPPS01

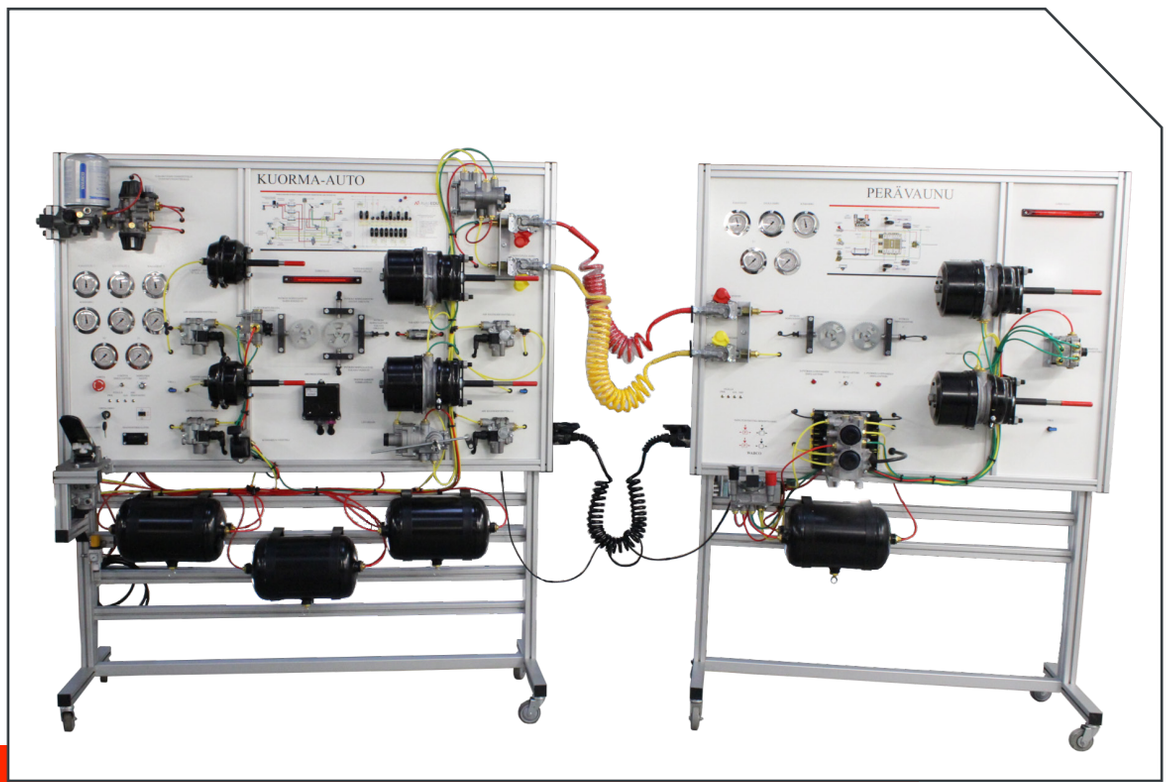
Operational ECAS training rig with full electronically controlled air suspension system. Includes air reservoir, ECAS ECU, front and rear height sensors, and remote control for height adjustment and diagnostics. Supports fault code simulation and system analysis via diagnostic socket.



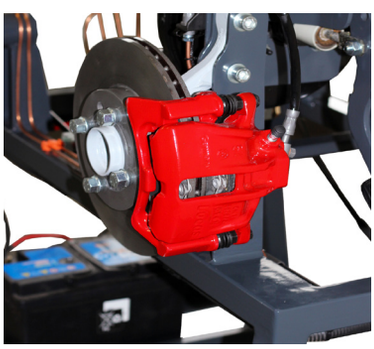
ELECTRIC STEERING RIG EDUCATIONAL TRAINER

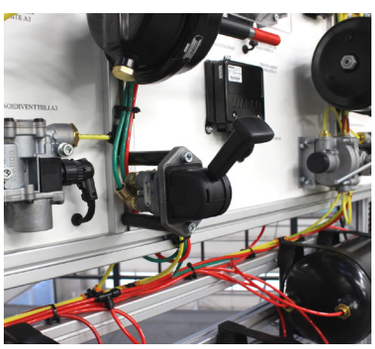
A4 | Product number MSES01

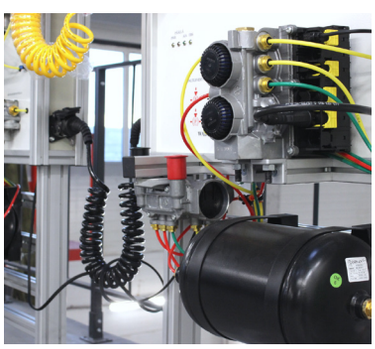
Electromechanical power steering trainer with motor, torque sensor, steering column, and control unit. Features OBD 16-pin connector, speed simulation, G85 angle sensor, and rotor speed sensor. Supports diagnostics and real-condition simulation.



BRAKES







BRAKE RIGS EDUCATIONAL TRAINER

A5

Product number
MSSS01

Fully functional hydraulic braking educational system with ABS. This advanced training rig incorporates a cross diagonal hydraulic circuit, brake booster, and both front and rear disc brakes with calipers. It is mounted on a mobile frame with 4 casters for ease of use and integration into various learning environments.

Features

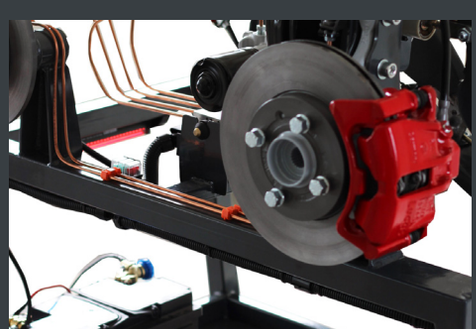
- Includes front and rear discs with calipers, and a functional parking brake.
- Fully operational electronic ABS system with wheel speed sensors and solenoid valves.
- Demonstrates the increase in braking force with vacuum assistance.
- Four installed pressure gauges to monitor brake circuit pressures in real-time.
- Integrated OBD 16-pin connector for system diagnostics, fault code management, and live data display.
- Simulate driving conditions and wheel lock scenarios to study ABS behavior.
- Mounted on a solid frame with four castors for easy mobility and space-saving storage.

Value for Students

- Fully operational hydraulic brake system with brake booster and ABS
- Real-time fluid pressure monitoring via gauges on each brake circuit
- OBD 16-pin connector for diagnostics, fault code reading, live data, and air bleeding
- Includes wheel speed sensors, hydraulic pump, solenoid valves, and ABS control unit
- Simulates driving modes and wheel blocking to demonstrate ABS activation
- Built with OEM components on a safe, durable stand with all parts clearly visible

Specifications

- Dimensions:
  1250 x 1000 x 750 mm
  (49.21 in x 39.37 in x 29.53 in)
- Weight: approx. 99 kg (218 lb)
- Power supply: 12 V from the battery (not included as standard accessory)
- Components: Includes brake pedals, master cylinder, brake fluid reservoirs, hydraulic lines, brake light, control panel, and transport wheels.
- Diagnostic Equipment Compatibility: Supports standard diagnostic tools for fault code reading, air bleeding, and parameter monitoring.
- Product number: MSSS01



ABS/ASR SYSTEM EDUCATIONAL TRAINER

A5 **Product number** MSABS-ASR01

Fully functional educational tool designed to demonstrate and analyze the Anti-lock Braking System (ABS) and Anti-Slip Regulation (ASR) braking systems structure and operation. Housed in a mobile aluminum frame, this trainer incorporates Audi/VW OEM components and a BOSCH 5.3 ABS/ASR system, offering an in-depth educational experience for students and teachers in technical and vocational automotive education.

Features

- Functional BOSCH 5.3 ABS/ASR system with full set of operational components
- Pressure gauges for main and individual wheel brake circuits
- Original hydraulic components: brake pads, drums, lines
- Built-in wiring diagram with banana plug jumpers for measurements and fault simulation
- OBD 16-pin connector for ECU ID, fault codes, and live data
- Compatible with oscilloscope and multimeter for signal analysis
- Supports fault simulation for hands-on diagnostics
- Closed, safe, and durable structure with concealed wiring

ANTI-LOCK BRAKING SYSTEM BOSCH ABS 5.3 EDUCATIONAL TRAINER

A5 **Product number** MSABS01

Fully functional educational tool designed to demonstrate and analyze the Anti-lock Braking System (ABS) braking systems structure and operation. Housed in a mobile aluminum frame, this trainer incorporates Audi/VW OEM components and a BOSCH 5.3 ABS system, offering an in-depth educational experience for students and teachers in technical and vocational automotive education.

Features

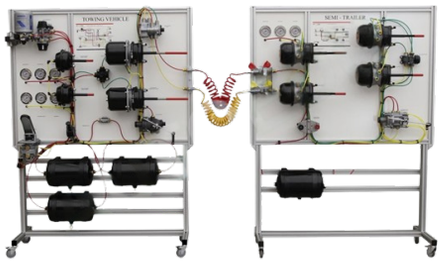
- Functional BOSCH 5.3 ABS system with complete operational components
- Pressure gauges for main circuit and individual wheel monitoring
- Original hydraulic parts: brake pads, drums, lines
- Integrated wiring diagram with banana plug jumpers for testing and fault simulation
- OBD 16-pin connector for ECU ID, fault codes, and live data
- Supports oscilloscope and multimeter connections for signal analysis
- Enables fault simulation for hands-on troubleshooting
- Enclosed, durable, and safe design with hidden wiring

TRUCK AIRBRAKE EDUCATIONAL TRAINER

A5

Product number
MSSPPS01

The Truck Airbrake Educational Trainer is designed to provide automotive students with a detailed understanding of truck and trailer pneumatic systems. This training device is crafted using genuine components to replicate real-world configurations, ensuring students are well-prepared for the complexities of the industry.



Features

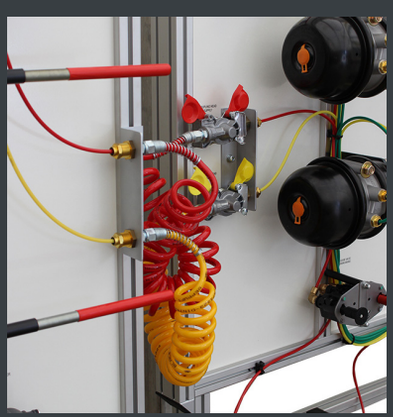
- Built with original components for industry-standard training
- Covers complete truck and trailer air brake systems
- Six gauges for truck lines, three for trailer lines for detailed diagnostics
- Realistic vehicle configuration for authentic hands-on experience
- Lightweight, durable aluminum frame for easy transport
- Designed for technical education with full testing and diagnostic capabilities

Value for Students

- Provides safe, realistic training with OEM components for truck repair
- Covers both truck and trailer systems for comprehensive study
- 6 gauges for truck lines, 3 for trailer lines for accurate diagnostics
- Simulates driving speeds, wheel rotation changes, air pressure variations, and system failures
- Includes electrical diagram with sensors, components, data lines, and diagnostic connections
- Designed for technical students to explore and test air brake system details

Specifications

- Truck stand dimensions: 1610 x 1820 x 500 mm (63.39 in x 71.65 in x 19.69 in)
- Truck stand weight: approx. 137 kg (302 lb)
- Truck stand power supply: ~230 V/110V (US version)
- Trailer stand dimensions: 1360 x 1820 x 500 mm (53.54 in x 71.65 in x 19.69 in)
- Trailer stand weight: approx. 83 kg (182 lb)
- Trailer stand power supply: ~230 V/110V (US version)
- Order number: MSSPPS01



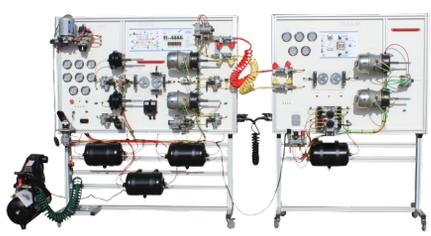
TRUCK AIRBRAKES EDUCATIONAL TRAINER WITH ABS

A5 **Product number** MSSPPS01-ABS

Fully functional educational trainer offers a detail and practical learning experience of truck and trailer pneumatic braking Anti-lock Braking System (ABS) systems. This advanced training equipment, featuring OEM WABCO components, provides students with an understanding of airbrake systems, including the functionalities and diagnostics of ABS. Housed in a mobile aluminum frame, this educational tool ensures a realistic and safe learning environment for technical and vocational automotive education.

Features

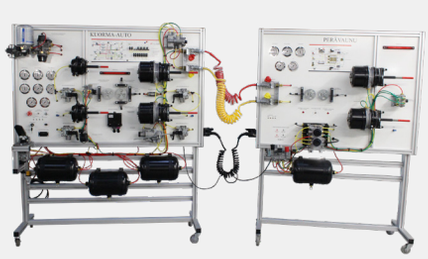
- Includes truck and trailer pneumatic braking systems with real WABCO components
- 8 gauges for truck lines, 5 for trailer lines for detailed analysis
- Functional ABS systems with sensors for fault simulation and diagnostics
- Simulates various faults for troubleshooting practice
- Uses authentic pneumatic components for realistic learning experience
- Durable, mobile aluminum frame for ease of use and longevity



TRUCK AIRBRAKES EDUCATIONAL TRAINER WITH ABS/EBS SYSTEM

A5 **Product number** MSSPPS01-EBS

Fully functional educational trainer offers a detail and practical learning experience of truck ABS and trailer pneumatic electronic Braking System (EBS) systems. This advanced training equipment, featuring OEM WABCO components, provides students with an understanding of airbrake systems, including the functionalities and diagnostics of ABS and EBS. Housed in a mobile aluminum frame, this educational tool ensures a realistic and safe learning environment for technical and vocational automotive education.



Features

- Includes truck and trailer pneumatic braking systems with real WABCO components
- 8 gauges for truck lines, 5 for trailer lines for detailed analysis
- Functional EBS systems with sensors for fault simulation and diagnostics
- Simulates various faults for troubleshooting practice
- Uses authentic pneumatic components for realistic learning
- Durable, mobile aluminum frame for easy use and longevity

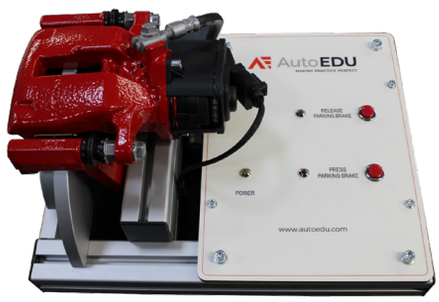
ELECTROMECHANICAL PARKING BRAKE EPB STAND EDUCATIONAL TRAINER

A5 **Product number** MSEPS01

Fully functional electromechanical parking brake with multi-stage gear mechanism, electric motor, and hydraulic braking system, this trainer demonstrates the operation and components of a modern parking brake system. With visible cutaways and functional elements, it offers clear, practical insights into the workings of electromechanical parking brakes.

Features

- Visible, operational multi-stage gear mechanism with electric motor and belt drive for detailed gear interaction.
- Includes rear disc, caliper, and brake pads to demonstrate hydraulic parking brake system.
- Operates on 220V with dedicated buttons for engaging and releasing the brake.
- Clear view of internal gear mechanisms for educational use.
- Equipped with buttons for pressing and releasing the parking brake for practical demonstrations.



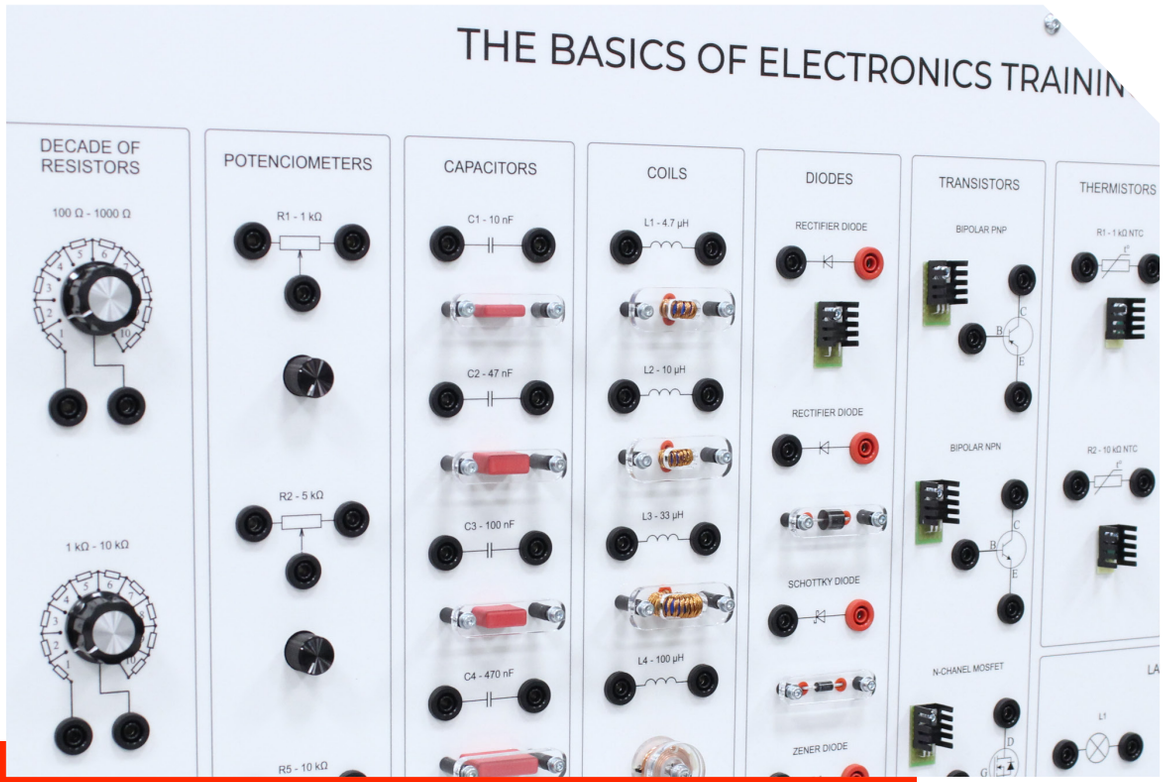
TRUCK TRAILER WABCO EBS D 2S/2M BRAKING SYSTEM EDUCATIONAL TRAINER

A5 **Product number** MSPPS-EBS-D

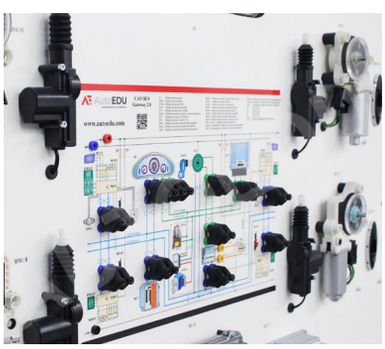
Truck trailer WABCO EBS D 2S/2M braking system educational trainer is an advanced tool designed to facilitate the comprehensive learning of pneumatic and electronic braking systems in truck trailers. Built with original WABCO components, this trainer provides a realistic and detailed examination of the EBS (Electronic Braking System) and pneumatic braking technologies, ideal for vocational and technical education settings.

Features

- Fully functional WABCO EBS D 2S/2M braking system with pneumatic and electronic components.
- 6 pressure gauges for monitoring brake circuit pressures at each wheel.
- Simulates wheel slipping and ABS fault scenarios for system analysis.
- ISO diagnostic connector for ECU ID, fault codes, live data, and reprogramming.
- Simulates driving conditions to observe braking and ABS performance.
- Integrated safety feature for immediate shutdown in emergencies.



ELECTRICAL SYSTEMS



BASICS OF ELECTRONICS TRAINING STAND

A6

Product number
MSEMP01

This training stand is designed to teach the fundamentals of electronics through practical measurement and testing. It features integrated components such as resistors, capacitors, coils, diodes, transistors, DC motor, and switches, providing students with hands-on opportunities to learn core principles. Equipped with a dedicated multimeter, it supports accurate measurements of various electrical values. The stand is mobile, lightweight, and offers versatile mounting options, making it suitable for diverse classroom setups.

Specifications

- Resistors: Measures 1 Ω to 1 kΩ; adjustable decades from 100 Ω to 1 MΩ.
- Potentiometers: Measures 1 kΩ to 100 kΩ.
- Capacitors: Measures 10 nF to 10 µF.
- Coils: Measures 4.7 µH to 10 mH.
- Diodes: Tests rectifier, Schottky, Zener, LED, and photodiodes.
- Transistors: Tests PNP, NPN, N-Channel, and P-Channel MOSFETs.
- Switches: Includes manual and push-button switches.
- Relays: Supports relay testing.
- Lamps: Integrated for testing lighting circuits.
- Phototransistors: Open measurement points for hands-on testing.
- PWM: Includes high-power manual PWM driver.
- Voltage regulator: Manual voltage control testing.
- DC motor: Simulates motor operation with visual spinning.
- Multimeter: Built-in for precise measurements.
- Measuring wires: Includes 12 wires with a stand.
- PJEZO signaler: Supports signal generation connections.

Features

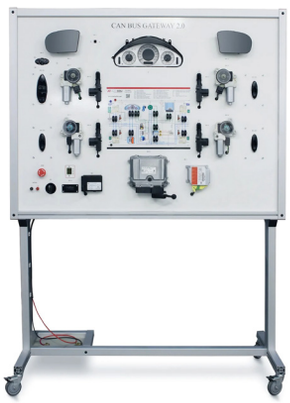
- Integrated resistors, capacitors, potentiometers, coils, and diodes for diverse measurement scenarios.
- Built-in transistor testing for PNP, NPN, N-Channel, and P-Channel MOSFETs.
- Manual switch, push button, and PJEZO signaler connection points for interactive circuit exploration.
- DC motor simulation for learning correct wiring sequences and operational principles.
- High-power PWM driver and manual voltage regulator for hands-on learning of advanced electrical techniques.
- Removable multimeter provided with each stand for accurate and reliable measurements.
- Lightweight, mobile design with both vertical and horizontal mounting options.

CAN BUS EDUCATIONAL TRAINER

A6

Product number
MSCAN01

Educational trainer designed to provide an understanding of the CAN BUS network system through hands-on experience. Based on OEM components from Mercedes-Benz, featuring the CAN GATEWAY 2.0 system. The trainer includes components such as the dashboard, engine ECU, smart key module, SRS Airbag ECU, and various control modules, all connected through a detailed internal network. It offers a realistic and practical approach for students to learn about CAN BUS networks, including the diagnosis of system faults and component interactions.



Features

- Includes dashboard, engine ECU, smart key, ignition module, lock module, SRS Airbag ECU, central CAN Gateway module, door control modules, and window lifting motors.
- Capable of simulating over 10 system faults, including open/short circuits and incorrect signal levels.
- Equipped with banana plug connectors for measuring electrical parameters, supports OBD II 16-pin diagnostics.
- Allows diagnosis of individual control modules, with fault code reading/erasure, live data display, and actuator tests.
- Features integrated wiring diagram with open contacts for detailed measurement and analysis.

Value for Students

- Study CAN BUS network structure, including CAN Gateway and its interaction with components like dashboard, engine ECU, and central locking.
- Simulate 10+ system faults and diagnose via OBD II 16-pin connector, including fault code reading/erasure and control unit activation.
- Use banana plug connectors to measure electrical parameters of components such as window motors and control modules.
- Perform diagnostics with oscilloscopes and multimeters to analyze system parameters and signals.
- Control components like window motors and central locking via the CAN network, studying module communication and fault impact.
- Realistic training with OEM components for hands-on car repair experience.

Specifications

- Dimensions:
  1820 x 1360 x 500 mm
  (71.65 in x 53.54 in x 19.69 in)
- Weight: approx. 60 kg (132 lb)
- Power supply: 12V from battery (battery not included as standard accessory)
- Optional accessories: 12V battery, 220 (110V)/12V power supply unit, automotive oscilloscope, CAN network analyzer, OBD diagnostic scan tool
- Product number: MSCAN01

SENSORS AND ACTUATORS EDUCATIONAL TRAINER

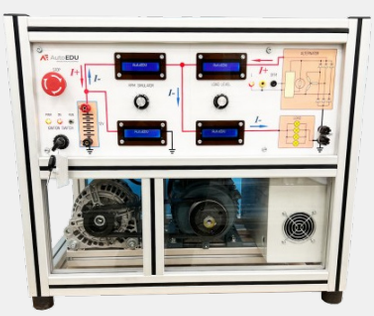
A6 | Product number MSD01

Features

- Includes OEM sensors: ACT, CTS1, CTS2, MAF, TPS, Knock, and MAP sensors.
- Features voltmeter and temperature displays for real-time monitoring of sensor outputs and performance.
- PWM control allows for control and analysis of actuators such as the IAC valve, DC motor, and solenoid valve via PWM signals.
- Equipped with LED indicators for relay status, heater operation, and sensor feedback to facilitate troubleshooting and understanding of system functions.
- Safe, durable and mobile construction with internal wiring for best learning experience and safe environment.

AUTOMOTIVE CHARGING SYSTEM EDUCATIONAL TRAINER

A6 | Product number MSMSG01



Features

- 12V alternator mounted in a light aluminum frame for hands-on learning.
- Realistic battery charging/discharging with adjustable alternator rotation speed.
- Negative terminal fault simulation for troubleshooting practice.
- Displays for loading, charging, RPM, and voltage for real-time monitoring.
- Open contacts and meters (ammeter, voltmeter, speed meter) for detailed performance measurement.
- Emergency stop switch, ignition switch, and main switch for operational safety.

AUTOMOTIVE 12V STARTER EDUCATIONAL TRAINER

A1 | Product number AVS01

Features

- Real automotive starter motor mounted on a durable aluminum base.
- Bendix drive for accurate demonstration of starter engagement mechanics.
- Ignition switch for manual operation and system control.
- Protection plexiglass ensuring operational safety during hands-on training.
- Connection cables for a complete electrical circuit setup.
- Designed for technical and vocational training in automotive systems.

LIGHTING TRAINING BOARD

A8 | Product number MSAS03

Features

- Includes left/right headlamps, tail lamps, fog lamps, and signal lights, all functioning like real vehicles.
- OBD II diagnostic connector for real-time parameter monitoring and fault code management.
- Open contacts, wiring diagram with legends, and jumpers for detailed measurement and fault simulation.
- Features rain/light sensors, headlight range control, trailer detector control, and other components.
- Integrated control buttons and switches for light, turn signal, and hazard operations.
- Safe, durable, mobile construction with internal wiring for optimal learning and safety.

HEADLIGHT EDUCATIONAL TRAINER

A6 | Product number MSAPZ01

Features

- Includes a detailed diagram for understanding and practicing electrical connections and measurements.
- Study and operate of both high and low beam headlights.
- Learn about the functions and diagnostics of turn signals and standing lights.
- Manual connection of separate electrical circuits for advanced learning.
- Adjustable mechanism for studying light height adjustment.
- Use with a 12V battery (not included) to simulate real automotive power conditions.

IGNITION SYSTEM EDUCATIONAL TRAINER

A6 | Product number MSUS01

Features

- Includes DI/COP, twin spark, and TSZ-h ignition systems.
- Open contacts for easy measurement of electrical parameters.
- Integrated selection switch to switch between different ignition systems.
- High-voltage cables, ignition coils, spark plugs, and distributors visible for detailed study.
- Geared rotating disc and motor to simulate crankshaft rotation f requencies.
- Observe system operation and measure parameters using 12V contacts for diagnostics.

CAN BUS MOBILE TRAINER

A6 | Product number MSCAN02

Fully functional dashboard with OBD 16-pin diagnostics. Open contacts for CAN bus signal measurement. Supports high/low-speed CAN (500/100 kbps) and command activation. Enables CAN fault simulation and diagnostics.

LIGHTING EDUCATIONAL TRAINER

A6 | Product number MSAS01

VW/AUDI OEM lighting system with OBD (J1962) diagnostics, banana plug jumpers, open contacts, and adjustable headlight motors. Includes stereo radio. Closed wiring in mobile aluminum plug-and-play frame.

LIGHTING EDUCATIONAL TRAINER

A6 | Product number MSAS02

VW/AUDI OEM lighting system with OBD 16-pin diagnostics, headlight beam motors, jumper-based fault simulation, and open contacts. Supports multimeter, oscilloscope, and headlight tester use. Mobile aluminum frame.

LIGHTING EDUCATIONAL TRAINER

A6 | Product number MSAS02-A

VW/AUDI OEM lighting system with OBD 16-pin diagnostics, auto light sensor, motorized headlight adjustment, fault simulation via jumpers, and open contacts. Supports multimeter, oscilloscope, and headlight tester. Mobile aluminum frame.

AUTOMOTIVE 12V STARTER FUNCTIONAL MODEL

A1 | Product number AVS02

Starter motor trainer with OEM components, bendix drive, and ignition switch. Dual modes: standard operation (A) and solenoid/coil testing (B). Includes mode diagrams, current measurement loops, and visible safe design.

POWER SUPPLY UNIT

Product number
AEPWS22A

The Power Supply Unit is an efficient alternative to a traditional 12V battery for powering our training equipment. Designed for ease of use, it connects to standard household sockets (110V or 220V) to provide stable 12V power output for various training tools.


POWER SUPPLY UNIT

Product number
AEPWS37A

The Power Supply Unit is an efficient alternative to a traditional 12V battery for powering our training equipment. Designed for ease of use, it connects to standard household sockets (110V or 220V) to provide stable 12V 37,5A power output for various training tools.


DIGITAL TRUCK TACHOGRAPH SIMULATOR

A6

Product number
MSTACH02

Digital Truck Tachograph Simulator designed to provide an in-depth understanding of digital tachograph systems. This fully functional simulator includes three types of cards: Driver, Workshop, and Company. Features advanced driving speed simulation, rest and driving time modes, and print capabilities for driving reports. It operates with a light, portable case, includes illuminated screens for clear visibility, and comes with comprehensive documentation in multiple languages. Equipped with an impulse transmitter and thermal printer paper rolls.

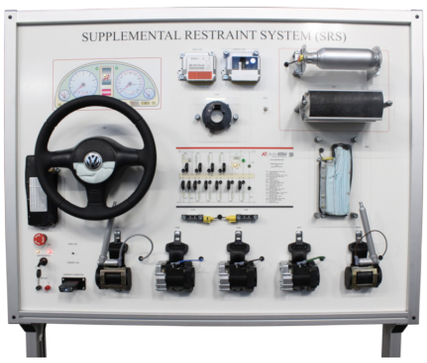
SAFETY AND COMFORT

SRS BOSCH AB 8.4 (AIRBAG) EDUCATIONAL TRAINER

A7

Product number
MSSRS01

Fully functional SRS Bosch AB 8.4 Airbag training board simulator, housed in a mobile aluminum frame, is built with authentic Audi/VW OEM components, allowing students to explore and understand the intricacies of modern supplemental restraint systems (SRS). It offers practical insights into the construction and operation of car safety systems, including airbags and seatbelt tensioners.



Features

- Includes four airbags, crash sensors, airbag steering wheel module, spiral cable, and front and rear seat belts with igniters and tensioners.
- Exposes the structure of the passenger airbag and control unit.
- Functional control unit for diagnostics and a second unit with recorded crash data for study.
- Built-in banana plug jumpers for measuring and simulating system faults, with a detailed wiring diagram showing sensors, actuators, and connections.
- Enables connection to an oscilloscope/multimeter for measuring system parameters and performing comprehensive diagnostics through the OBD 16-pin connector.
- Capable of simulating over 10 system faults by disconnecting banana plug jumpers, enhancing troubleshooting training.

Value for Students

- Practical knowledge of the SRS Bosch AB 8.4 airbag system, including the structure and function of four airbags, crash sensors, airbag steering wheel module, and spiral cable.
- Diagnostics through the OBD 16-pin connector, enabling ECU identification, fault code reading/erasing, live data monitoring, actuator activation, and control unit encoding/configuration.
- Use banana plug connectors to measure electrical parameters of each system component with an oscilloscope or multimeter.
- Develop troubleshooting skills by simulating more than 10 system faults using banana plug jumpers, enhancing practical diagnostic abilities.
- Study the cutaway technology of the passenger side airbag and control unit to visualize internal structures and comprehend the integration of various safety components.
- Safe, durable and mobile construction with internal wiring for best learning experience and safe environment.

Specifications

- Dimensions:
  1820 x 1360 x 500 mm
  (71.65 in x 53.54 in x 19.69 in)
- Weight: approx. 60 kg (132 lb)
- Power supply: 12V battery (optional accessory)
- Product Number: MSSRS01
- Optional Accessories: 12V battery, 220/12V power supply unit, automotive oscilloscope, OBD diagnostic scan tool

CAR AIRBAG SRS DEMONSTRATION EDUCATIONAL TRAINER

A7 | Product number MSAIRB01

CAR AIRBAG SRS demonstration educational trainer shows the structure and operation of the car airbag SRS (Supplemental Restraint System). Trainer uses compressed air to simulate the expansion of the airbag, offering a safe and controlled environment for learning. Equipped with essential components like the driver's airbag, passenger airbag, and pyrotechnic elements.

Features

- Demonstrates airbag expansion using a compressed air system, offering a safe and repeatable method to study airbag deployment.
- Includes a steering wheel with an integrated driver's airbag, a passenger airbag, and other critical elements like a pyrotechnic inflator device.
- All components are clearly visible, providing an unobstructed view of the airbag system's operation and structure.
- Equipped with a pneumatic valve and compressed air receiver, allowing students to engage directly with the airbag deployment process.
- Designed with safety in mind, using compressed air instead of pyrotechnic charges for demonstration purposes.

SRS SIEMENS III (AIRBAG) EDUCATIONAL TRAINER

A7 | Product number MSSRS02

Fully functional SRS SIEMENS III Airbag training board simulator, housed in a mobile aluminum frame, is built with authentic Audi/VW OEM components, allowing students to explore and understand the intricacies of modern supplemental restraint systems (SRS). It offers practical insights into the construction and operation of car safety systems, including airbags and seatbelt tensioners.

Features

- Includes four airbags, crash sensors, airbag steering wheel module, spiral cable, and front and rear seat belts with igniters and tensioners.
- Exposes the structure of the passenger airbag and control unit.
- Functional control unit for diagnostics and a second unit with recorded crash data for study.
- Built-in banana plug jumpers for measuring and simulating system faults, with a detailed wiring diagram showing sensors, actuators, and connections.
- Enables connection to an oscilloscope/multimeter for measuring system parameters and performing comprehensive diagnostics through the OBD 16-pin connector.
- Capable of simulating over 10 system faults by disconnecting banana plug jumpers, enhancing troubleshooting training.

AIR CONDITIONING AND CLIMATE CONTROL EDUCATIONAL TRAINER

A7

Product number
MSC05

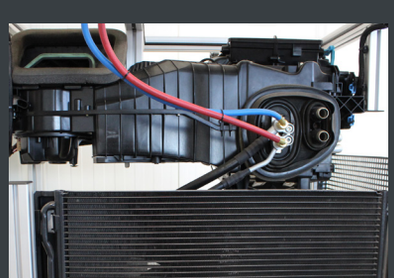
Air-conditioning trainer with CLIMAtronic system, R134a refrigerant, expansion valve, and OBD 16-pin diagnostics. Includes open contacts, fault simulation, and mobile aluminum frame.

Features

- Fully functional electronic climate control system CLIMAtronic with R134a refrigerant.
- Demonstrates different operational modes of expansion valve system.
- Includes an OBD 16-pole diagnostic socket for system diagnostics.
- Open contacts for measuring system components and circuits.
- Enables the simulation of fault codes for diagnostic training.
- Installed on a durable aluminum frame with castors for easy mobility and space saving.
- Detailed diagram showing all elements, sensors, actuator components, data transmission lines, and diagnostic connections.
- Allows monitoring of changes in temperature, air flow, and actuator positions.

Value for Students

- Provides easy, safe, and comfortable training that builds confidence, using OEM components to offer a realistic car repair experience.
- Study and analyze the electrical circuits of electrical components for Air Conditioning And Climate Control systems, learn and understand about the wiring diagrams and presented components on it.
- Enables students to learn about the structure and operation of electronic air conditioning and climate control systems.
- Facilitates the performance of various measurements, tests, and diagnostic procedures using diagnostic scan tools and other equipment. Use banana plug connectors to monitor and measure electrical parameters, check parameters with a real-time data oscilloscope, multimeter, scan tools.
- Enhances troubleshooting abilities through fault code simulations.
- Allows detailed study and analysis of system components and their interactions.



Specifications

- Dimensions: 685 x 865 x 1680 mm (26.97 in x 34.06 in x 66.14 in)
- Weight: 108 kg (238 lb)
- Power supply: ~230 V, 50 Hz household electricity network
- Order number: MSC05

DUAL-ZONE AIR CONDITIONING AND CLIMATE CONTROL EDUCATIONAL TRAINER

A7

Product number
MSC04-R1234YF-D

2C Climatronic HVAC trainer with R1234yf refrigerant, dual-zone control, auxiliary heater, and OBD 16-pin diagnostics. Features exposed components, pressure gauges, fault simulation (15+ faults), and banana plug jumpers.

Features

- Fully functional system using R1234yf refrigerant, capable of independent temperature control for driver and passenger zones.
- Integrated auxiliary heater to demonstrate heating functions and the interaction with the climate control system.
- Advanced 2C Climatronic system for precise control of HVAC functions.
- Exposed HVAC compressor, electromagnetic compressor valve, mixing unit, airflow flaps, and refrigerant pressure gauges for educational purposes.
- OBD 16-pin diagnostic connector for ECU identification, fault code management, and live data monitoring.
- Ability to monitor operational parameters of all system components, including airflow fan speed, flap positions, and refrigerant pressures.
- Integrated fault code simulator with the ability to induce over 15 different system faults.
- Complete electrical wiring diagram with built-in banana plug jumpers for measurements and fault simulation.
- Uses OEM components for easy, safe, and realistic training that mimics real car.

Value for Students

- Fully functional dual-zone air conditioning system, including an auxiliary heating unit and electronic climate control.
- Complete electrical wiring diagram, perform measurements using banana plug connectors, and simulate system faults.
- Monitor and control HVAC (heating-ventilation-air conditioning) components, such as the airflow fan speed, flap positions, and interior temperature.
- Understand and measure the pressure distribution of R1234yf refrigerant in high and low-pressure circuits, and observe temperature changes in response to cooling radiator fan speeds.
- Use oscilloscopes, multimeters to measure system parameters and OBD diagnostic tools to read/erase fault codes, display live system data, and activate actuators.
- Simulate more than 15 system faults by disconnecting banana plug jumpers, enhancing troubleshooting skills.
- Learn the operation of the auxiliary heating unit, including starting, heating modes, and fault lock-out procedures.
- Adjust parameters such as refrigerant pressure, airflow flap positions, and fan speeds to observe their effects on system performance.
- Safe, durable and mobile construction with internal wiring for best learning experience and safe environment.

Specifications

- Dimensions:
  1240 x 1420 x 700 mm
  (48.82 in x 55.91 in x 27.56 in)
- Power supply: 220V (US 110V)
- Weight: 130 kg (286 lb)
- Product number:
  MSC04-R1234YF-D
- Auxiliary heater fuel: diesel

EDUCATIONAL TRAINER FOR THE WIPER MECHANISM

A7 | Product number MSLV01

Educational trainer for the wiper mechanism demonstrate the essential operations and components of an automotive wiper system. This educational tool is crucial for understanding the mechanics and electrical functionalities of wiper mechanisms, providing valuable insights into their design and operation.

Features

- Includes real automotive wiper motor, linkage, and control switches for a realistic training experience.
- Provides a complete wiring diagram for the wiper system, aiding in the study of electrical connections and component interactions.
- Allows manual operation of the wiper system, enabling students to observe and understand the mechanical movement and electrical control.
- All visible components for clear understanding of mechanism.

TRUCK TRAILER REFRIGERATION SYSTEM TRAINING STAND

A7 | Product number MSTRREF01

Fully functional truck trailer refrigeration system replicates the standard refrigeration unit found on truck trailers, featuring an internal combustion engine, a 400V electrical motor, and both cooling and heating capabilities. Mounted on a durable frame with casters for mobility, this training stand includes a comprehensive control panel and diagnostic socket for real-time system analysis and adjustments.

Features

- Fully functional refrigeration system with cooling and heating capabilities, powered by a diesel engine and a 400V electrical motor.
- Allows for precise adjustments of system settings and temperature modes via remote control.
- Equipped with a diagnostic connector for advanced system analysis and troubleshooting.
- Mounted on a sturdy frame with four casters for easy movement and positioning in the classroom.
- Ensure safe operation with accessible components protected by removable covers.
- Features sensors for temperature monitoring, fuel level indication, and system diagnostics.

AIR CONDITIONING AND CLIMATE CONTROL EDUCATIONAL TRAINER

A7

Product number
MSC02

CLIMATRONIC A/C trainer with R134a, expansion valve, OBD 16-pin diagnostics, fault simulation, and LED mode diagram. Includes visible HVAC components and enclosed wiring in a durable aluminum frame.

DUAL ZONE AIR CONDITIONING AND CLIMATE CONTROL EDUCATIONAL TRAINER WITH AUXILIARY HEATER

A7

Product number
MSC03-B

Dual-zone A/C trainer with R134a, 2C Climatronic, OBD 16-pin diagnostics, and optional auxiliary heater. Features exposed HVAC components, pressure gauges, 15+ fault simulations, and oscilloscope/multimeter ports.

DUAL ZONE AIR CONDITIONING AND CLIMATE CONTROL EDUCATIONAL TRAINER WITH AUXILIARY HEATER

A7

Product number
MSC03-D

Dual-zone A/C trainer with R134a, 2C Climatronic, OBD 16-pin diagnostics, and optional diesel heater. Includes exposed HVAC components, pressure gauges.

DUAL-ZONE AIR CONDITIONING AND CLIMATE CONTROL WITH R 1234YF GAS

A7

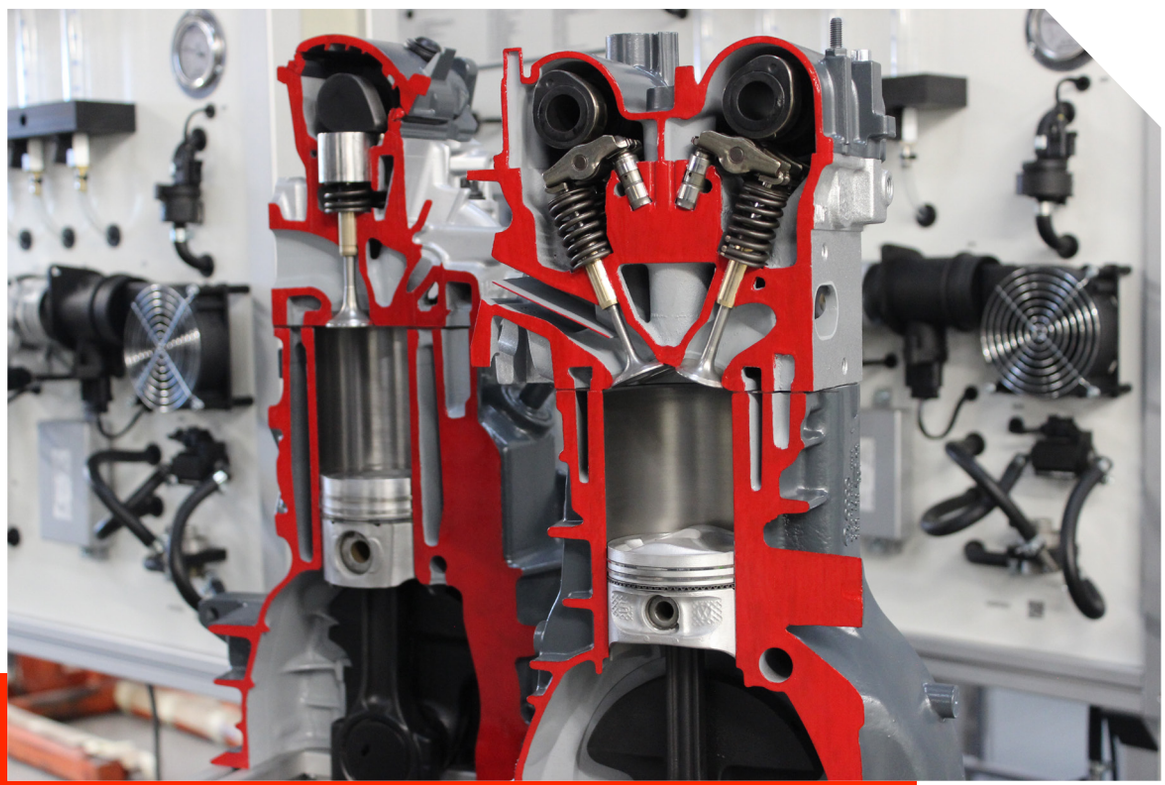
Product number
MSC04-R1234YF-B

2C Climatronic HVAC trainer with R1234yf, dual-zone control, OBD 16-pin diagnostics, and 15+ fault simulations. Features exposed components, pressure gauges, and jumper ports for oscilloscope/multimeter use.

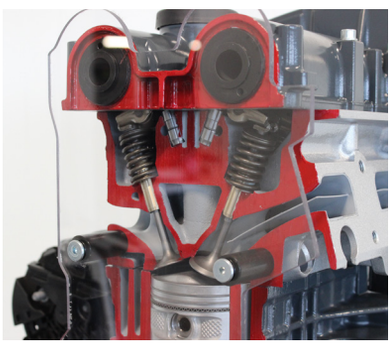
HIDDEN FAULT SIMULATION FOR AIR CONDITIONING AND CLIMATE CONTROL TRAINER

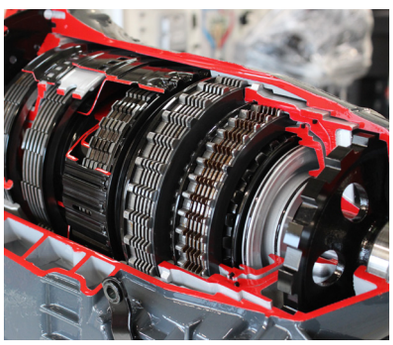
Product number
MSC-F

Optional hidden fault box enabling activation of up to 6 instructor-controlled faults. Simulates real-world issues in pressure, sensors, airflow, and compressor.



CUTAWAYS



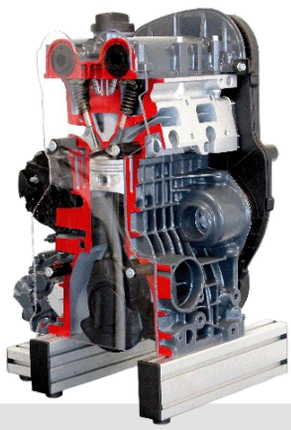


PETROL(GASOLINE) DOHC ENGINE ½ CUTAWAY MODEL

A1

Product number
IVDB01

Petrol(gasoline) DOHC Engine ½ Cutaway Educational Trainer is tool specifically designed for the detailed study and demonstration of modern engine systems. This cutaway model offer training in timing belt replacement, auxiliary drive belt replacement, operation of a DOHC twin overhead camshaft system, water cooling system and alternator function. Mounted on a compact, easily transportable frame, this trainer is essential for technical and vocational automotive education and training.



Features

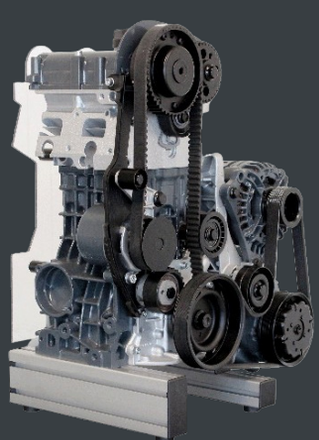
- Sectioned engine components: block, head, crankshaft, connecting rod, camshafts, pistons, rings, timing belt, sprockets, alternator belt, and tensioners.
- Manual crankshaft rotation to show movement of camshafts, pistons, and valves.
- Visible timing and alternator belt system with tensioners, camshaft sprockets, and water pump.
- Transparent safety covers over exposed parts.
- Bench clamps for secure mounting.
- Tool kit included for timing and alternator belt replacement with torque measurement.

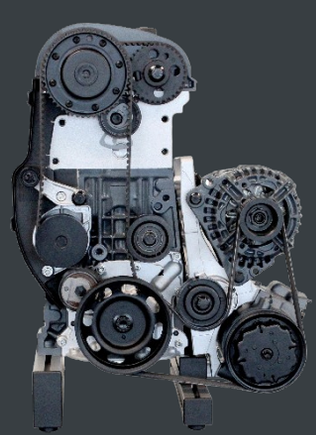
Value for Students

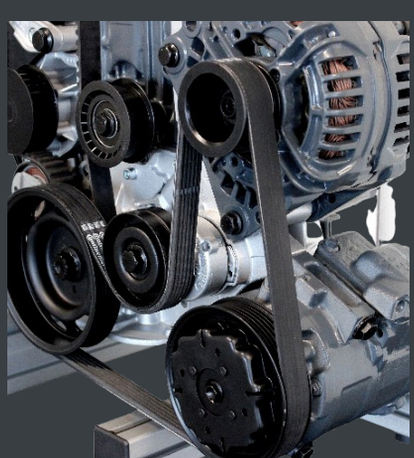
- OEM engine model with visible DOHC components: pistons, valves, crankshaft, camshaft, timing and alternator belts.
- Rotate crankshaft manually to observe camshaft and valve operation.
- Perform belt removal, installation, and tensioning using provided tools and torque procedures.
- Learn structure and function of key engine systems in a safe environment.

Specifications

- Dimensions: 500 × 500 × 300 mm (19.69 × 19.69 × 11.81 in).
- Weight: Approx. 40 kg.
- Product number: IVDB01.
- Visible Components: Engine block, head, pistons with rings, crankshaft, connecting rod, DOHC camshafts, valves, valve lifters, water pump, timing belt with sprockets and tensioners, alternator belt with tensioner.



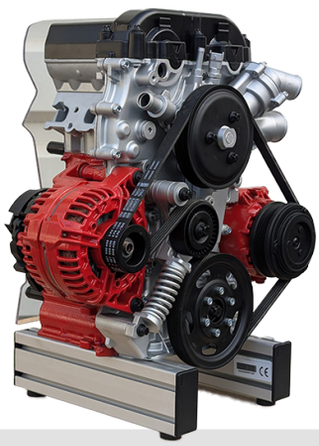




PETROL(GASOLINE) DOHC MPI ENGINE ½ CUTAWAY MODEL

A1

Product number
IVDB02



Petrol(gasoline) DOHC MPI Engine ½ Cutaway Educational Trainer is a highly detailed and precise training model designed to facilitate comprehensive learning of internal combustion engine mechanics. It is an essential tool for technical education, allowing students to gain in-depth understanding of dual overhead camshaft (DOHC) technology, timing chain replacement, and other critical engine functions. This model replicates the key components of a petrol(gasoline) engine with precision, making it an invaluable resource for automotive training environments.

Features

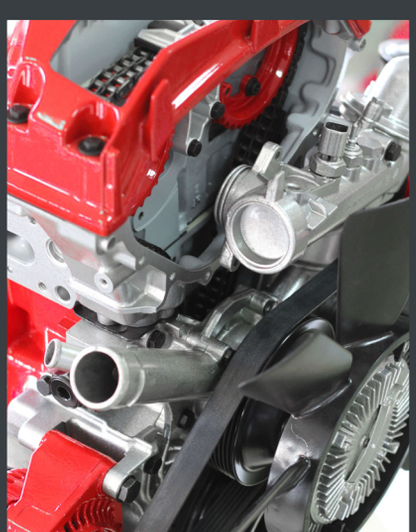
- Visible camshafts, valves, lifters, timing chain, and tensioners for DOHC system study.
- Exposed engine block, pistons, crankshaft, rods, and combustion chamber for component analysis.
- Alternator and timing chain systems with sprockets and tensioners for replacement training.
- Crankshaft can be rotated to demonstrate valve timing; lubrication required before use.

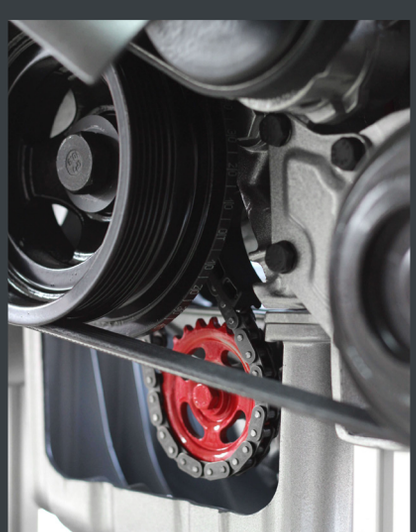
Value for Students

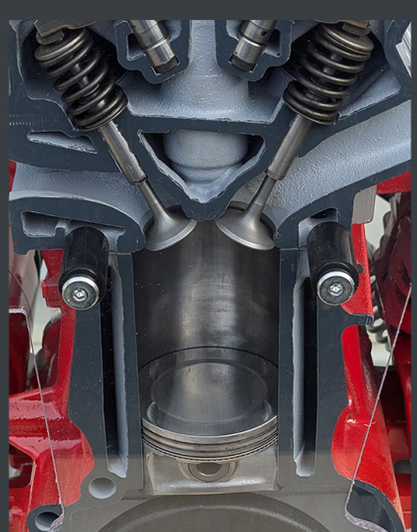
- Practice with DOHC system including 4-valve per cylinder layout, camshafts, valves, and lifters.
- Analyze piston motion, combustion chamber, intake/exhaust ports, and sectioned engine internals.
- Train in timing chain and auxiliary belt replacement using visible sprockets, tensioners, and belts.
- Rotate crankshaft to observe synchronized valve timing; use lubrication before rotation.

Specifications

- Dimensions:
  750 x 670 x 440 mm
  (29.53 in x 26.38 in x 17.32 in)
- Weight: approx. 81 kg (178 lb)
- Safety Features: Protected by plastic covers on sectioned areas
- Product number: IVDB02





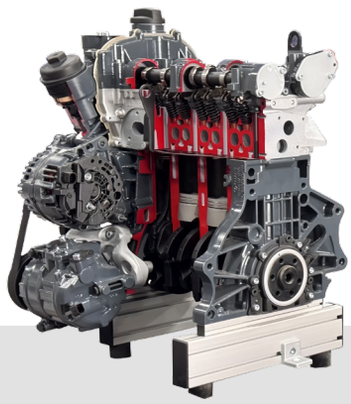


PETROL(GASOLINE) DOHC ENGINE CUTAWAY EDUCATIONAL TRAINER

A1

Product number
IVDB03

Sectioned engine with visible engine block, head, crankshaft, pistons, connecting rods, camshaft, and timing chain. Designed for technical training, it provides clear visibility of key engine components and mechanisms for detailed educational demonstrations.

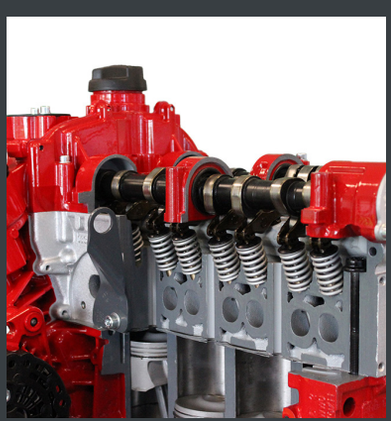


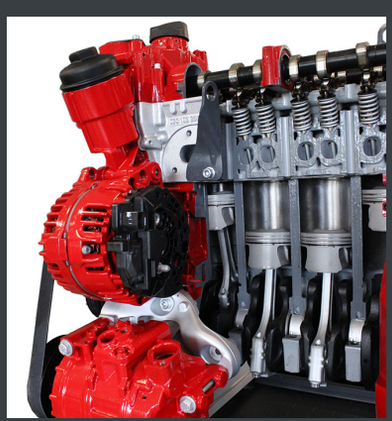
Features

- Engine chain replacement procedures.
- Practice loosening tensioner, removing and replacing auxiliary belt, inspecting auxiliary components.
- Auxiliary belt system with tensioner, alternator, cooling pump, and AC compressor.
- Set and check Top Dead Center (TDC).
- Perform camshaft alignment and adjustment with tools.
- Learn auxiliary pulleys, cooling pump, alternator, AC compressor removing and changing techniques.
- Cross-section view of engine block, cylinder head, crankshaft, pistons, camshaft, valves, and rocker arms.
- Manual crank rotation to observe piston, valve, and camshaft movement.
- Visible lubrication and cooling system channels.

Value for Students

- Understand DOHC engine architecture, component function, lubrication, cooling, and gas exchange systems.
- Learn timing chain layout, tensioner setup, guide installation, and chain replacement.
- Practice auxiliary belt removal, tensioner release, pulley, alternator, cooling pump, and AC compressor service.
- Develop Top Dead Center (TDC) setting, piston-to-valve clearance check, and timing mark alignment.
- Perform camshaft alignment, valve clearance check, rocker arm inspection, and adjust to factory specs.
- Complete over 30 practical tasks, including system inspection, fault simulation, and basic measurements.





Specifications

- Understand DOHC engine architecture, component function, lubrication, cooling, and gas exchange systems.
- Learn timing chain layout, tensioner setup, guide installation, and chain replacement.
- Practice auxiliary belt removal, tensioner release, pulley, alternator, cooling pump, and AC compressor service.
- Develop Top Dead Center (TDC) setting, piston-to-valve clearance check, and timing mark alignment.
- Perform camshaft alignment, valve clearance check, rocker arm inspection, and adjust to factory specs.
- Complete over 30 practical tasks, including system inspection, fault simulation, and basic measurements.

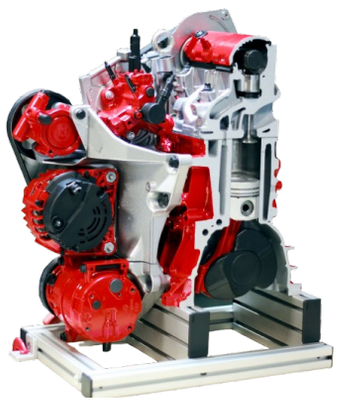
DIESEL ENGINE ½ CUTAWAY MODEL

A1 Product number IVOD01-CR01

Diesel OHC Common Rail engine, featuring a sectioned view of engine block, crankshaft, OHC camshaft with valves, pistons with rings, and a high-pressure CR pump. The model allows hands-on training in timing belt and alternator belt replacement, using specialized tools for torque measurement. The trainer's cutaway design enables the examination of piston operation, combustion chamber dynamics, and the OHC mechanism, all while ensuring safety with protective plastic covers. Compact and portable, it is ideal for use in technical and vocational automotive education.

Features

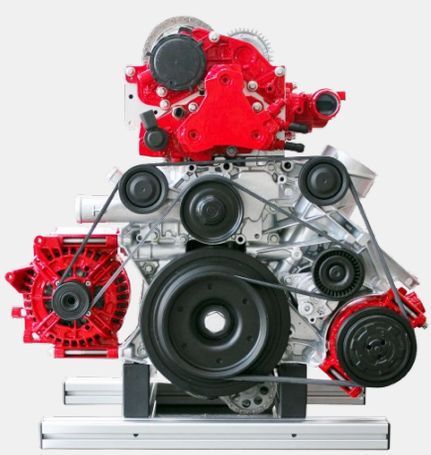
- Provides a detailed view of key engine components, including the engine block, crankshaft, OHC camshaft, pistons, and combustion chamber.
- Facilitates practical training in timing belt and alternator belt replacement with visible tensioners and camshaft sprocket.
- Allows for the manual operation of the crankshaft to demonstrate OHC mechanics and component movements.
- Equipped with safety protection to ensure a safe training environment.
- Lightweight design with bench clamps for easy placement on workbenches or tool trolleys.



DIESEL DOHC COMMON RAIL ENGINE ½ CUTAWAY EDUCATIONAL TRAINER

A1 Product number IVDD01-CR02

Cutaway diesel engine with DOHC system and Common Rail injection system, visible and accessible components such as the engine block, crankshaft, DOHC dual overhead camshaft, timing chain, and alternator belt. It allows for practical demonstrations of timing chain and auxiliary drive belt replacement, with emphasis on the technical specifications and functionality of each component.



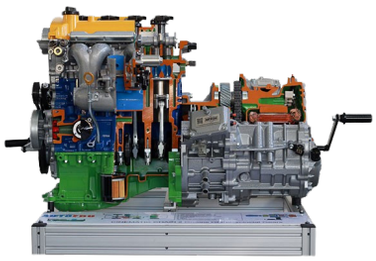
Features

- Includes engine block, engine head, crankshaft, connecting rod, DOHC dual overhead camshaft, pistons with rings, timing chain with camshaft sprocket, alternator belt with tensioner, air conditioning compressor, and high-pressure CR pump.
- Demonstrates piston, rings, combustion chamber, intake and exhaust ports, DOHC components, injector, and glow plug holes. Allows operation of the DOHC mechanism by turning the crankshaft, with a focus on safe, controlled interaction.
- Features all original timing chain, tensioners, and alternator belt components for demonstrating replacement procedures, including torque moments using specialized tools.
- Equipped with safety plastic protection to shield students from moving parts during demonstrations.

HYBRID SYSTEM PETROL/ELECTRIC SYSTEM CUTAWAY EDUCATIONAL TRAINER

A1

Product number
AE34500M



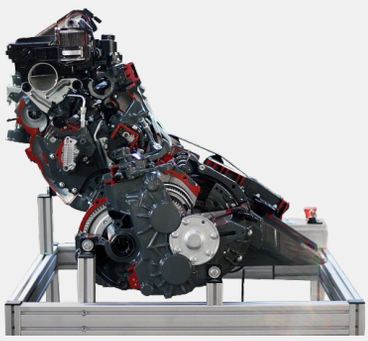
Features

- Toyota Hybrid System (THS) 1500 cm³ 4-cylinder engine with VVT-i technology, multi-point fuel injection, and dual-mode operation (engine and generator).
- The engine and generator can be rotated for detailed study of mechanical operations.
- Exposes internal components for easy observation and analysis of crankshaft, connecting rod, camshaft, pistons and rings, timing belt with camshaft sprocket and tensioners, alternator system, sensors, fuel injection system, transmission elements and more.
- The trainer is mounted on a sturdy stand with wheels, allowing for easy movement and secure positioning in various educational settings.

TURBO DIESEL ENGINE WITH GEARBOX CUTAWAY EDUCATIONAL TRAINER

A1

Product number
AEMBA170



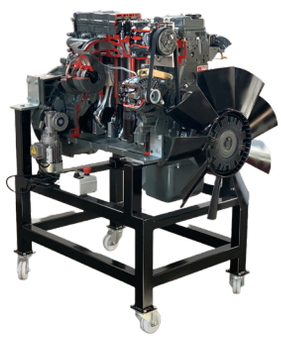
Features

- Fully sectioned Mercedes A-Class 1700 cc, 4-cylinder turbo Sectioned Mercedes A-Class 1.7L, 4-cylinder turbo diesel engine with 16 valves and DOHC.
- Common rail direct injection system for fuel delivery.
- Includes air mass sensor, intake manifold, alternator, oil pump, and timing chain.
- Functional 5-speed gearbox with reverse and differential.
- 220V powered, reduced speed for safe demonstration.

6 CYLINDERS DIESEL TRUCK ENGINE “IVECO” CUTAWAY

A1

Product number
AE36083E



Features

- Based on the Iveco Cursor 6-cylinder diesel engine with electronically controlled pump injectors.
- Cutaway design with color-coded sections to highlight and differentiate various engine components and systems.
- 4-stroke engine operation with 4 valves per cylinder, turbo-compression, and water cooling systems.
- Electrically operated at 220 volts (110V US), running at a reduced speed for safe and clear observation of mechanical parts in motion.
- Mounted on a mobile stand with wheels for ease of use in educational environments.

TRUCK DIESEL ENGINE WITH COMMON RAIL SYSTEM (CR) CUTAWAY EDUCATIONAL TRAINER

A1 **Product number** AE36082

Features

- Sectioned Iveco engine with a Common Rail (CR) fuel system.
- Includes 4-6 in-line cylinders, camshaft, and various mechanical parts.
- Visible lubricating circuits, fuel system, and cooling system.
- Operates at 220 volts (110V US), running at reduced speed for detailed observation.
- Engine parts and systems are professionally painted in distinct colors for enhanced differentiation and learning.

PETROL(GASOLINE) DOHC ENGINE ¼ CUTAWAY EDUCATIONAL TRAINER

A1 **Product number** IVDB01-Q

Features

- Cutaway design offers a detailed, transparent view of engine internals, including twin overhead camshafts, pistons, and valves.
- DOHC configuration demonstrates the operation of dual overhead camshafts and four valves per cylinder.
- Aluminum base Provides a stable and durable platform for the model, ensuring reliable performance in educational settings.
- Designed specifically for technical and vocational automotive education, allowing in-depth study of engine components and functions.

IGNITION & CHARGING SYSTEM EDUCATIONAL TRAINER

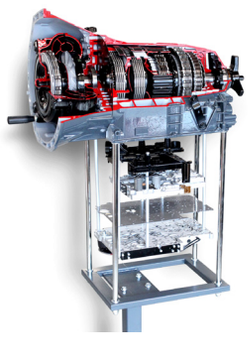
A6 **Product number** AE410000E

Features

- Functional components includes battery, spark coil, coil, distributor, and spark plugs, all mounted on a durable, plastic-plated wooden base.
- Sectional view allows for a detailed view of internal components, including the action of platinum points and the distributor, to better understand their interaction and function.
- Rotating flywheel simulates engine operation, demonstrating the mechanical processes involved in the ignition system.
- Real-time spark display shows spark generation at the spark plugs, providing a clear illustration of ignition timing and performance.

AUTOMATIC TRANSMISSION EDUCATIONAL TRAINER

A2 **Product number** AE411060M



Features

- Manual rotation handle allows students to manually rotate the transmission and observe internal mechanisms.
- Torque converter demonstrates how torque is transmitted from the engine to the transmission.
- Oil pump shows the role of oil pressure in transmission operation.
- Stationary and rotary plate clutches illustrate the engagement and disengagement of gears.
- Planetary gear train provides insight into gear reduction and torque multiplication.
- Hydraulic circuit valve and centrifugal regulator explain fluid control and pressure regulation within the transmission.

GEARBOX CUTAWAY MODEL EDUCATIONAL TRAINER

A2 **Product number** AE410990M

Features

- OEM based 5-speed gearbox Includes five forward gears and one reverse gear, representing common configurations in manual transmissions.
- Gear changes are simulated using a handwheel, providing an interactive learning experience.
- Exposes internal components such as gears, shafts, and synchronizers for detailed study.
- Mounted on a wheeled stand for ease of movement and positioning in different learning environments.

ZF 16S ECOSPLIT GEARBOX FOR HEAVY TRUCKS CUTAWAY EDUCATIONAL TRAINER

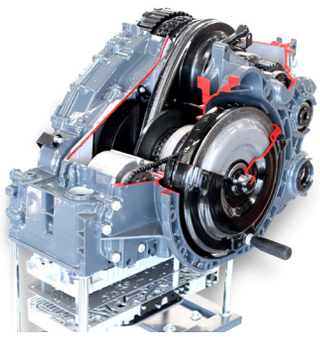
A2 **Product number** AE411069M

Features

- Central gearbox with 4 forward and 2 reverse gears, detailed internal cutaway view of the gearbox, showcasing the central box's gear arrangements.
- Epicyclic unit and over-gear mechanism allows for detailed examination of the speed-gears and their operation, with the over-gear enabling gear ratio adjustments for 16 forward gears.
- Hand wheel for manual gear selection and engagement, providing hands-on experience with gearbox operation.
- Mounted on a stand with wheels for easy movement and positioning within the classroom.
- Designed to handle the rigors of educational environments with durable materials and construction.

CONTINUOUSLY VARIABLE TRANSMISSION (CVT) CUTAWAY EDUCATIONAL TRAINER

A2 **Product number** AE411068M



Features

- Exposes internal components of the CVT, including V-belt pulleys and the transmission mechanism, for enhanced visibility and understanding.
- Features a handwheel for adjusting gear ratios, allowing students to observe the impact of changes in real-time.
- Includes a stable stand with a wheel for easy placement and movement in educational settings.
- Enables practical engagement with the transmission system, facilitating a deeper grasp of CVT principles and mechanics.

DUAL MASS FLYWHEEL WITH CLUTCH CUTAWAY EDUCATIONAL TRAINER

A2 **Product number** AEDMF01

Features

- Cutaway dual mass flywheel shows the internal workings of the dual-mass flywheel, including primary and secondary masses, damper springs, and clutch cover.
- Interactive clutch mechanism demonstrates how the clutch system engages and disengages, highlighting friction surfaces and pressure components.
- Spring damping system illustrates the function of damper springs in mitigating rotational oscillations and enhancing smooth operation.
- Educational markings clearly labeled components for easy identification and understanding of their functions.

DIRECT SHIFT GEARBOX CUTAWAY EDUCATIONAL TRAINER

A2 **Product number** AE1064

Features

- Cutaway design exposes internal gearbox components, providing clear visibility of the DSG system's intricate mechanisms.
- Dual-Clutch system demonstrates the operation of two separate clutches and their role in providing seamless gear shifts.
- Manual rotation allows for the simulation of gear changes and examination of gearbox operation under different conditions.
- Aluminum base provides a stable and durable foundation for the gearbox model, ensuring secure and consistent placement during use.

STARTER MOTOR FOR CARS CUTAWAY EDUCATIONAL TRAINER

A6 | Product number AE410070ME

Cutaway model of a 12V starter motor showing the electric motor, start-up relay, and Bendix drive. Designed for training, it simulates starter operation with clear visibility of internal components and is mounted on a stable base for demonstration purposes.

TRUCK TURBOCHARGER CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AETTC

The Truck Turbocharger Cutaway Trainer displays a precision-cut model with visible turbine wheel, compressor wheel, bearing assembly, wastegate, actuator, and variable geometry turbine. A clear view of turbocharger function and internal components for advanced automotive training.

REAR AXLE HEAVY TRUCK WITH LOCKING DIFFERENTIAL CUTAWAY

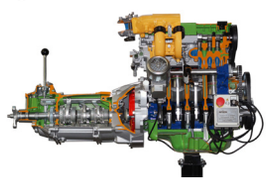
A3 | Product number AE411198M

Cutaway model provides view of a heavy truck's rear axle system. It features a complete section including bevel gears, locking differential, axle shafts, reducer, planetary hub, drum brakes and a double air brake element. This model is mounted on a stable stand with wheels for ease of use and visibility.

ENGINE WITH MPI INJECTION, GEARBOX AND DIFFERENTIAL

A1 | Product number AE34807E

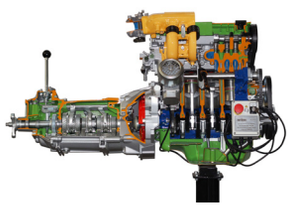
Fully functional cutaway model of a 16-valve, 4-cylinder engine with multipoint electronic injection, front-drive 5-speed gearbox with reverse, and integrated differential. Electrically operated at reduced speed for safe observation. Features DOHC system, balancing shafts, and water cooling. Cutaway design exposes internal components for hands-on training in engine and transmission operation.



ENGINE WITH MPI INJECTION, TURBOCHARGED, GEARBOX AND DIFFERENTIAL

A1 | Product number AE34808E

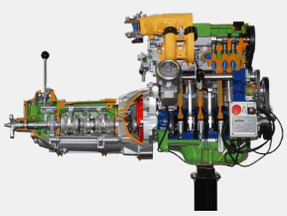
Cutaway model of a 16-valve, 4-cylinder turbocharged engine with multipoint injection, 5-speed gearbox, and integrated differential. Operates at 220V (110V US) at reduced speed. Features DOHC, balancing shafts, turbocharger, and water cooling. Exposes internal components for hands-on training.



ENGINE WITH MULTI-POINT ELECTRONIC INJECTION, TURBOCHARGED AND GEARBOX

A1 | Product number AE34806E

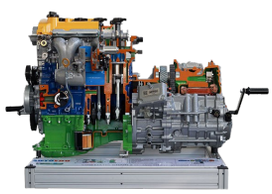
Cutaway 4-cylinder turbo engine with DOHC, turbocharger, balancing shafts, water cooling, and 5-speed gearbox. Exposes internal components for structural and functional analysis.



HYBRID SYSTEM PETROL/ELECTRIC SYSTEM CUTAWAY EDUCATIONAL TRAINER

L3 | Product number AE34500M

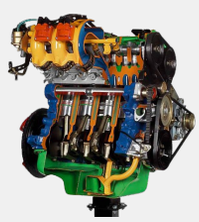
The Toyota Hybrid System (THS) 4-Cylinder Cutaway Engine Trainer features a 1500 cm³ in-line 4-cylinder engine with VVT-i, designed for hybrid system training. Mounted on a mobile stand, the cutaway model provides clear visibility of internal components, making it ideal for hands-on learning in hybrid vehicle technology.



16 VALVE 4 CYLINDERS ENGINE WITH MPI INJECTION CUTAWAY

A1 | Product number AE34800E

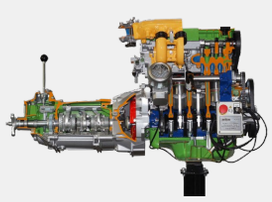
Cutaway engine model with 4-cylinder inline configuration, 1995 cm³ displacement, and DOHC system. Features multipoint injection, balancing shafts, and operates at 220V reduced speed for safe training. Includes gear pump-controlled lubrication, water cooling with electric fan, and color-coded sectioning for clear component visibility.



ENGINE WITH MULTI-POINT ELECTRONIC INJECTION AND GEARBOX

A1 | Product number AE34805E

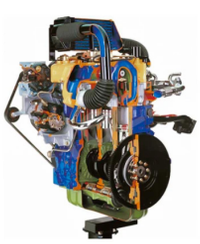
Cutaway model of a 16-valve, 4-cylinder engine with multipoint injection and rear-drive 5-speed gearbox with reverse. Operates reduced speed for safe training. Features DOHC, balancing shafts, and water cooling. Exposes internal components for clear observation of engine and transmission function.



16 VALVE CHRYSLER TURBO DIESEL CR ENGINE WITH INTERCOOLER CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE36010M

16-valve, 4-cylinder turbo diesel engine with 4-stroke cycle, producing 150–170 hp at 4000 RPM. Features Common Rail injection with ECU-controlled electro-injectors and turbocharger with air-air intercooler. Includes DOHC with timing belt, balancing shafts, alternator, oil filter, and oil pump.



FIAT / ALFA ROMEO 8 VALVE ENGINE WITH TURBO DIESEL COMMON-RAIL CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE36015E

8-valve turbo diesel engine with 1900 cm³ displacement, 115 hp at 4000 RPM, and 4-cylinder inline, 4-stroke configuration. Features turbocharger, Common Rail injection with electro-injectors, and 1350 bar high-pressure pump. Includes gear pump lubrication system, water/oil heat exchanger, and color-coded cutaway design for technical training.

STANDARD PETROL MULTI-POINT ENGINE CHASSIS EDUCATIONAL TRAINER

Product number AE35350E

4-stroke, 4-cylinder petrol engine with 2000 cm³ displacement and DOHC driven by toothed belt. Includes 5-speed gearbox with reverse, differential with hypoid gear, and dual braking system (front disc, rear drum).

DOCH ENGINE AND MPI INJECTION WITH LIGHT SYSTEM CHASSIS EDUCATIONAL TRAINER

Product number
AE35340E

4-stroke, 4-cylinder petrol engine with 2000 cm³ displacement and DOHC driven by toothed belt. Features 5-speed gearbox with reverse, hypoid differential, and dual braking system with front disc and rear drum brakes. Includes electronic ignition and functional lighting system.

DIESEL ENGINE ¼ CUTAWAY EDUCATIONAL TRAINER

A1

Product number
IVOD01-Q

Single-cylinder diesel engine cutaway trainer for educational use, showing internal components and operation. Features two valves per cylinder, piston with rings, and sectioned engine head. Mounted on a durable aluminum base, it supports practical learning in diesel engine mechanics, thermodynamics, and combustion principles.

ROBOTISED TIP-TRONIC GEARBOX CUTAWAY

A2

Product number
AE411066M

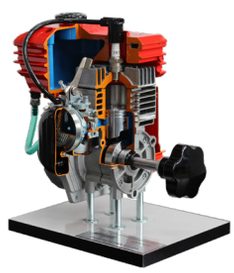
Tip-Tronic gearbox trainer with manual gear shifting via crank handle.

2 STROKE PETROL(GASOLINE) ENGINE CUTAWAY EDUCATIONAL TRAINER

A1

Product number
AE37450M

Cutaway 2-stroke engine trainer with 46 cm³ displacement, air cooling, and electronic ignition. Includes box carburetor, steel drive shaft, and die-cast aluminum cylinder with cast-iron jacket.

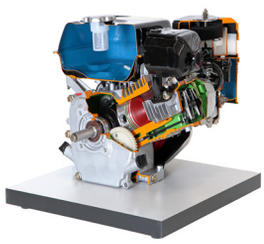


SINGLE-CYLINDER 4 STROKE PETROL(GASOLINE) ENGINE EDUCATIONAL TRAINER

A1

Product number
AE35245M

Single-cylinder 4-stroke petrol engine cutaway with 160 cc displacement and 6 hp output. Air-cooled and manually operated, it includes camshaft in crankcase, overhead valves, RPM regulator, oil pump, carburetor, air filter, silencer, and fuel tank.

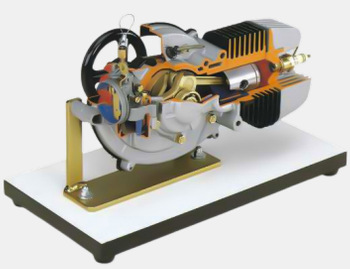


2 STROKE MOTORCYCLE ENGINE CUTAWAY EDUCATIONAL TRAINER

A1

Product number
AE37400

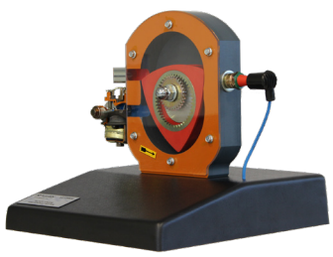
2-stroke motorcycle engine cutaway trainer with 48 cc single-cylinder, forced air cooling, and magnet flywheel ignition. Equipped with Dell'orto SHA 12/10 carburetor.



WANKEL ENGINE EDUCATIONAL TRAINER

A1 | Product number AE37500M

Manually operated Wankel engine trainer. Rotor turns once per three shaft rotations. Cutaway carburetor for internal view. Ignition bulb lights during compression phase. Shows rotor seals and epitrochoid stator.



OPPOSED-PISTON ENGINE EDUCATIONAL TRAINER

A1 | Product number AE39260E

4/6-cylinder opposed-piston engine trainer. Air-cooled with gear-driven camshaft in crankcase. Magneto ignition and single-body carburetor. Displays lubrication, fuel, and cooling systems.

MAZDA RX TWIN-ROTOR WANKEL ENGINE CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE34400M

Twin-rotor Mazda RX Wankel engine cutaway trainer.Includes flywheel, chain-driven oil pump, water pump with thermostat.Features electronic fuel injection and twin-spark ignition.Highlights unique rotary engine mechanics for technical training.

TURBO JET ENGINE MODEL EDUCATIONAL TRAINER

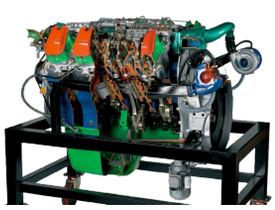
A1 | Product number AE39200E

Sectioned two-wave turbine engine trainer with visible low/high-pressure compressors, combustion chamber, and turbines; includes electro-motor for turbine rotation, showing air intake, fuel pump, burner, igniter, and thrust generation process.

8V CYLINDERS TURBO DIESEL ENGINE FOR TRUCK CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE36084E

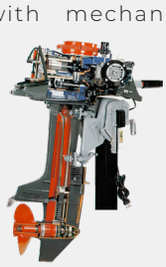
8-cylinder, 4-stroke turbo diesel engine cutaway. 17,200 cm^3 displacement, 380 hp output. Bosch in-line injection pump with mechanical governor.Dual turbochargers, direct injection, and intercooler system.



MARINE OUTBOARD ENGINE 2 STROKES CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE37900M

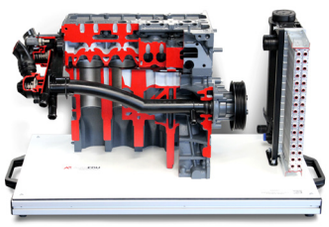
2-stroke marine engine cutaway trainer with 2 or 3 cylinders. Includes water cooling system with centrifugal pump. Equipped with mechanical type converter. Cutaway design for clear view of internal components.



ENGINE COOLING SYSTEM CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410401S

Cooling system cutaway trainer for internal combustion engines. Shows block-head canals, water pump, thermostat, temp bulb, expansion tank, and radiator. Visualizes fluid flow and heat exchange. Demonstrates conductive and convective heat transfer.



TURBOSUPERCHARGER WITH WASTE-GATE VALVE (ON BASE) EDUCATIONAL TRAINER

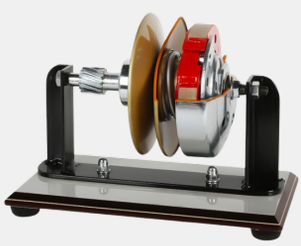
A1 | Product number AE410430M

Turbocharger trainer with functional waste-gate valve. Includes compressor manifold, diffuser, impellers, bearings, distributor, volute, and oil filter. Demonstrates exhaust flow control and boost pressure regulation.

CENTRIFUGAL CLUTCH CUTAWAY EDUCATIONAL TRAINER

A2 | Product number AE411141M

Cutaway centrifugal clutch trainer for mopeds. Shows friction shoes, return springs, and clutch drum. Demonstrates automatic engagement via centrifugal force. Visualizes speed-dependent operation and power transmission.



HYDRAULIC CONTROL CLUTCH CUTAWAY EDUCATIONAL TRAINER

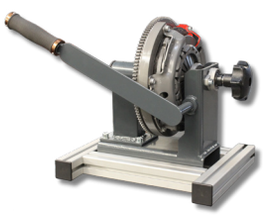
A2 | Product number AE411100S

Hydraulic clutch system trainer with sectioned components. Includes hydraulic pump, actuating cylinder, and single-plate dry clutch. Features master cylinder, gravity tank, and adjustable pedal stroke. Shows fluid pathways and disengagement control.

MEMBRANE SPRING CLUTCH CUTAWAY FUNCTIONAL EDUCATIONAL TRAINER

A2 | Product number IDSS01

Cutaway membrane spring clutch trainer with manual operation. Includes flywheel, clutch disc, pressure plate, throwout bearing, release fork, and handle. Allows observation of clutch engagement and release.



TORQUE CONVERTER CUTAWAY EDUCATIONAL TRAINER

A2 | Product number AE411140S

Sectioned torque converter trainer for automotive education. Exposes stator, turbine, and impeller. Demonstrates fluid coupling and torque multiplication.

4 WHEEL DRIVE FARM TRACTOR CUTAWAY EDUCATIONAL TRAINER

Product number
AE38000E

4-stroke diesel engine trainer with 20 hp (16 kW) output. Features water cooling and trochoid pump lubrication. Includes 6-speed gearbox, 2 reverse speeds, and gear reducer. Sector steering gearbox, rear drum brakes, and 2-speed PTO. Shows dry single-disc clutch, rear differential with lock, and disengageable front drive.

FARM TRACTOR WITH DIESEL ENGINE EDUCATIONAL TRAINER

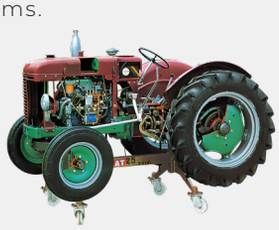
Product number
AE38110E

Tire-wheeled farm tractor trainer with 4-stroke, 2-cylinder diesel engine. Features indirect injection, overhead valves, and water cooling. Includes 6-speed gearbox with 2 reverse speeds and dry single-disc clutch. 12V electrical system with Fiat R90-90/12 dynamo, 60Ah battery, and lighting.

FARM TRACTOR WITH DIESEL ENGINE CUTAWAY EDUCATIONAL TRAINER

Product number
AE38200E

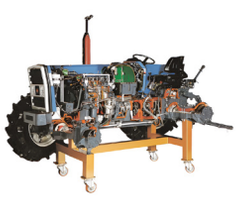
Cutaway tractor trainer with 4-stroke, 4-cylinder diesel engine, 2000 cm³ displacement. Features indirect injection, water cooling, and overhead valves. Includes in-line injection pump and globe-shaped steering box. Gearbox with 4 forward speeds plus reverse. Shows detailed lubrication, cooling, and injection systems.



"MASSEY-FERGUSON"/"LANDINI" FARM TRACTOR CUTAWAY EDUCATIONAL TRAINER

Product number
AE38300E

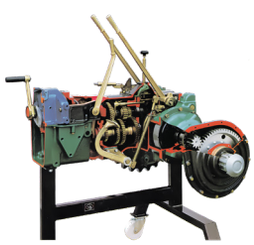
Perkins 4-cylinder diesel engine with 49 kW at 2200 rpm and 254 Nm at 1400 rpm. 24F/12R synchromesh transmission with underdrive and reverse shuttle. Independent PTO at 540 and 750 rpm. Rear hydraulic lifter with 2600 kg capacity. 8-disc mechanical brakes, oil bath air cleaner. Hydraulic flow rate: 42.3 L/min.



TRACKED TRACTOR TRANSMISSION EDUCATIONAL TRAINER

A2 **Product number**
AE38360M

Tracked tractor transmission cutaway trainer with manual crank handle. Displays clutch unit, gearbox, pinion gear, ring gear, steering clutch, and final reducer.



RADIAL ENGINE CUTAWAY EDUCATIONAL TRAINER

A1 **Product number**
AE39280E

Cutaway trainer of 9-cylinder, single-row air-cooled radial engine. Bore: 155.6 mm, Stroke: 174 mm, Displacement: 29.88 L. Features master rod with moving connections and air cooling. Double ignition: 2 spark plugs and 2 magnetos per cylinder. Output: 746 kW (1,000 hp) at 2,200 rpm, Compression ratio: 6.45:1.

HYBRID TRANSMISSION MG (MOTOR/GENERATOR) TOYOTA PRIUS EDUCATIONAL TRAINER

A2

Product number
AE411082M

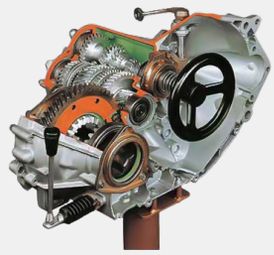
Operational cutaway trainer of Toyota Prius MG1 unit. Demonstrates hybrid power management and regenerative charging. Shows hybrid power distribution and control systems.

GEARBOX CUTAWAY EDUCATIONAL TRAINER

A2

Product number
AE411005M

5-speed gearbox with reverse and visible differential. Demonstrates gear synchronization, reverse shaft, and planetary gears. Shows main shaft, synchronizing rings, and bearings in operation.

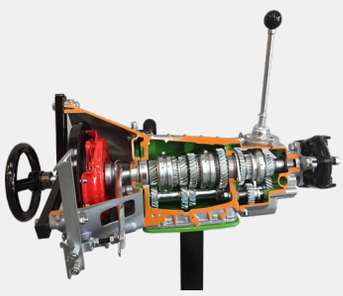


GEARBOX WITH CLUTCH CUTAWAY EDUCATIONAL TRAINER

A2

Product number
AE411030M

5-speed gearbox with reverse and dry single-plate clutch. Free-ring straight cone synchronizers for smooth shifting. Shows main shaft, gears, sleeves, and roller bearings.



AUTOMATIC TRANSMISSION CUTAWAY EDUCATIONAL TRAINER

A2

Product number
AE411040M

Automatic transmission cutaway trainer with hydraulic torque converter. Epicyclic gear system: 3 forward speeds plus reverse. Includes planetary gears, control valves, and multiple-plate clutches. Features hydraulic oil pump; lubrication required for operation.

4X4 VEHICLE TRANSMISSION WITH MECHANICAL GEARBOX EDUCATIONAL TRAINER

A3

Product number
AE411300M

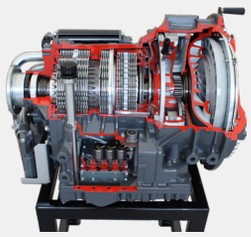
5-speed gearbox with reverse and 2-speed reduction gear for 4×4 systems. Includes self-locking hypoid differentials and drive shafts with universal joints. Manual front-wheel drive engagement. Sectioned design for full visibility of transmission components.

HEAVY TRUCK GEARBOX ZF 5HP CUTAWAY EDUCATIONAL TRAINER

A2

Product number
AE411071M

Heavy-duty automatic transmission cutaway trainer. Torque converter with lock-up clutch and hydrodynamic retarder. Rotating multi-disc clutches, fixed-position brakes, and oil cooler with oil-water exchanger.



FULLER 13 SPEED GEARBOX CUTAWAY EDUCATIONAL TRAINER

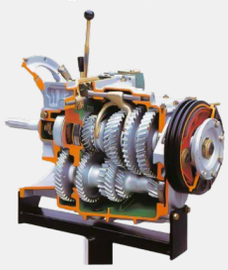
A2 | Product number AE411070M

Non-synchronized gearbox trainer for 300/400HP heavy vehicles. Dual-section design with mechanical control for low gears and pneumatic control for speed gears.

GEARBOX WITH TRIPLE REDUCTION GEAR CUTAWAY EDUCATIONAL TRAINER

A2 | Product number AE411080M

4-speed gearbox with reverse and integrated transfer case. Dual levers for gear selection and reduction. Constant mesh gear pairs for precise torque control. Cutaway shows clutch, main/transmission shafts, reducers, and control forks.



PLANETARY-GEAR EDUCATIONAL TRAINER

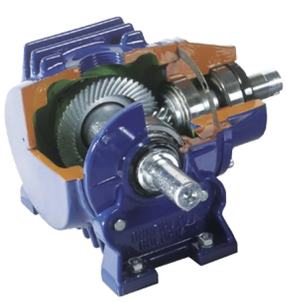
A2 | Product number AE410790M

Includes spur and bevel gears on movable axes. Demonstrates interaction of planetary, crown, and planet gears. Shows rotational and revolution motion principles.

ANGLE REDUCER CUTAWAY MODEL

A3 | Product number AE413092M

Cutaway mechanical angle reducer with visible bevel gears. Demonstrates 90° rotational motion transfer.



WORM GEAR REDUCER CUTAWAY

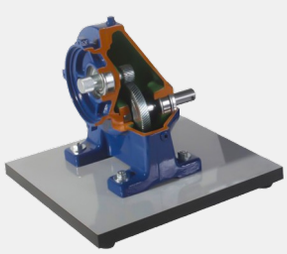
A3 | Product number AE413094M

Displays worm shaft, worm wheel, bearings, and housing.

SINGLE-STAGE REDUCER CUTAWAY EDUCATIONAL TRAINER

A3 | Product number AE413096M

Single-stage gear reducer trainer with exposed components. Demonstrates torque increase and speed reduction. Visible gears, shafts, and bearings for inspection.



SINGLE-CYLINDER INJECTION PUMP CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410230M

Displays worm shaft, worm wheel, bearings, and housing.

DIRECT INJECTION 2 STROKE DIESEL ENGINE CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE37100M

Includes injector, injection pump, pre-chamber, glow plug, and cooling system. Crank handle simulates engine cycle; bulb lights during expansion phase.

INJECTION PUMP WITH 6 IN-LINE CYLINDERS CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410200M

Features piston, sector gear, camshaft, and centrifugal governor. Includes two injector types, fuel filter, fuel pump, and check valve. Displays fuel feed pipe and pressure release.

BOSCH INJECTION PUMP + PNEUMATIC SPEED GOVERNOR CUTAWAY EDUCATIONAL TRAINER

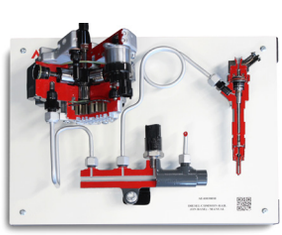
A1 | Product number AE410220M

Shows pump body, timing shaft, and pumping pistons. Includes pneumatic speed governor with diaphragm, spring, and internal lever.

DIESEL COMMON-RAIL EDUCATIONAL TRAINER

A1 | Product number AE410300M

Includes CP3 radial piston pump (up to 1,800 bar). High-pressure rail with sensor and pressure-control valve. Equipped with solenoid and piezo-inline injectors. Gear-type pump supplies fuel to injection modules.



DIESEL CR INJECTOR WITH SOLENOID VALVE CUTAWAY

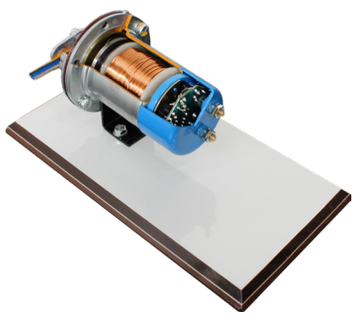
A1 | Product number AE410305S

Displays nozzle, hydraulic servo, and solenoid mechanism. Shows injector states: closed, opening, open, and closing.

ELECTRICAL FUEL PUMP CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410380S

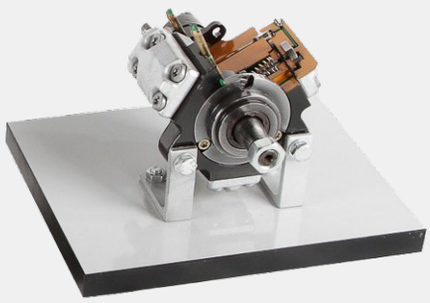
Electromagnetic piston, coil, and spring system. Includes suction and give-off chambers with valve system.



CP1 BOSCH HIGH-PRESSURE PUMP CUTAWAY

A1 | Product number AE410104M

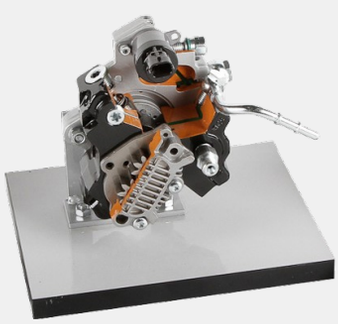
Features three fuel-lubricated plungers. Generates up to 1350 bar pressure.



CP3 BOSCH HIGH PRESSURE PUMP CUTAWAY

A1 | Product number AE410106M

Includes three fuel-lubricated plungers. Generates fuel pressure up to 1600 bar.



CP4 BOSCH HIGH-PRESSURE PUMP CUTAWAY

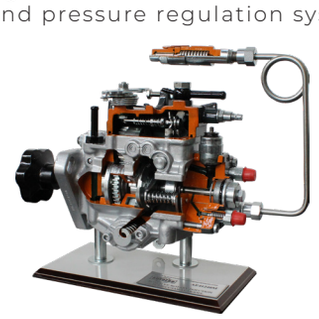
A1 | Product number AE410108M

Features two fuel-lubricated plungers. Reaches pressure up to 2000 bar.

BOSCH VE ROTARY INJECTION PUMP CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410240M

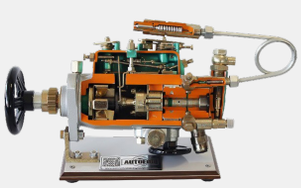
Includes distributor plunger, vane transfer pump, and centrifugal governor. Features automatic advance variator and pressure regulation system.



CAV DPA-DPS ROTARY INJECTION PUMP CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410250M

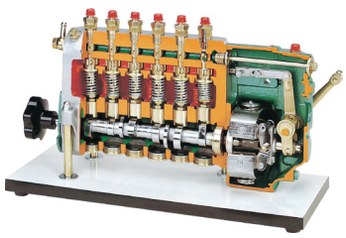
Shows transfer pump, speed governor, advance regulator, and hydraulic sensor. Includes fuel circuit, small piston, and indirect injector. Demonstrates fuel flow, pressure regulation, and injection timing.



DIESEL INJECTION PUMP WITH 6 IN-LINE CYLINDERS CUTAWAY

A1 | Product number AE410180M

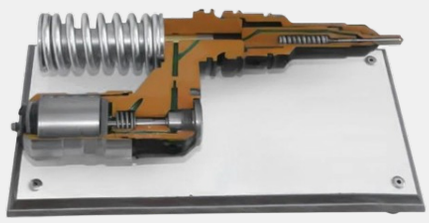
Includes centrifugal governor and automatic advance variator. Features toothed axle, sleeve, plunger, delivery valve, and fuel feed pipe. Shows excess pressure release and fuel return systems. Contains adjusting springs, counterweights, and control levers.



INJECTOR PUMP CUTAWAY

A1 | Product number AE410110S

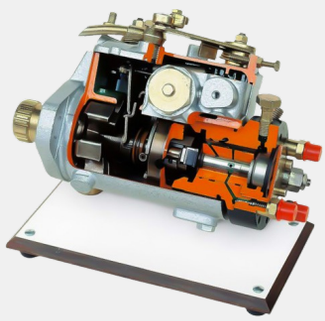
Electromagnetic valve, pumping element, and dust seal.



CAV DPC INJECTION PUMP CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE410260M

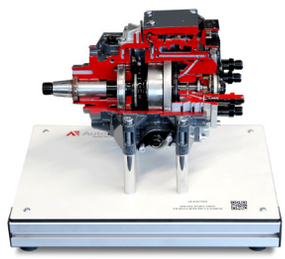
Displays hub drive, speed control lever, metering valve, and solenoid off valve.



DIESEL INJECTION VP44 BOSCH PUMP CUTAWAY

A1 | Product number AE410270M

Designed for high-pressure direct injection diesel systems (over 1500 bar). Includes integrated micro-hybrid ECU for electronic control. Shows magnetic valve-controlled fuel injection and fuel metering.



DIESEL INJECTOR CUTAWAY

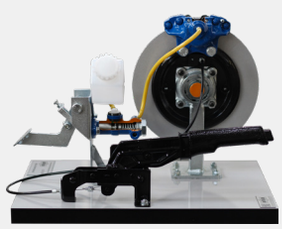
A1 | Product number AE410280S

Displays internal parts: nozzle, needle, spring, and fuel channels.

DISC AND DRUM BRAKE CUTAWAY EDUCATIONAL TRAINER

A5 | Product number AE412030M

Includes brake master cylinder, tank, and control lever. Cutaway caliper, disc, and drum assemblies for clear visualization. Demonstrates hydraulic force transmission and component interaction.



REAR SUSPENSION EDUCATIONAL TRAINER

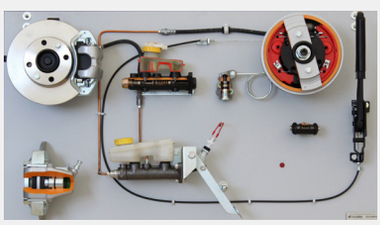
A4 | Product number AE411204M

Shows axle, hub, bump stop, and full brake assembly with pistons and gaskets.

HYDRAULIC DUAL CIRCUIT BRAKE WITH SERVO BRAKE EDUCATIONAL TRAINER

A4 | Product number AE412050M

Operational hydraulic brake system trainer with disc (225 mm) and drum (220 mm) brakes. Includes split brake pump, transparent oil tank, and vacuum servo brake unit. Features rear brake pressure relief valve.



REAR-AXLE WITH DIFFERENTIAL TRAINER

A3 | Product number AE411200M

Shows planetary gears, ring gear, pinion, brake drum, and cylinder.

SECTIONED FRONT SUSPENSION UNIT EDUCATIONAL TRAINER

A4 | Product number AE411210M

McPherson strut suspension trainer with rack and pinion steering. Includes shock absorber, coil spring, and disc brake assembly.

HYDRAULIC BRAKE CHASSIS EDUCATIONAL TRAINER

A4 | Product number AE411220M

Trainer with McPherson suspension, shock absorber, spring, and strut. Includes rack-and-pinion steering with hydraulic pump for power steering simulation. Features both disc and drum brakes for complete braking system study.

DRUM BRAKE CUTAWAY EDUCATIONAL TRAINER

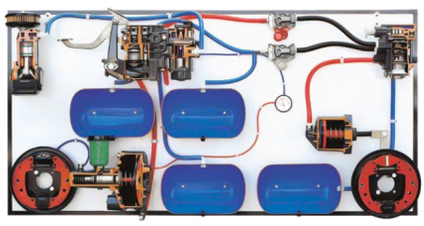
A5 | Product number AE412010M

Cutaway drum brake trainer showing back plate, drum, wheel cylinder, and brake shoes. Demonstrates hydraulic pressure, self-adjusting mechanism, and emergency brake function.

PNEUMATIC AIR BRAKE EDUCATIONAL TRAINER

A5 | Product number AE412065S

Includes air compressor, triplex distributor, pressure brake booster, and trailer servo-distributor valve. Simulates real tractor-trailer braking scenarios. Covers hydraulic, mechanical braking, parking brake control, and maintenance training.



TRUCK DISC BRAKE WITH PNEUMATIC CONTROL CUTAWAY

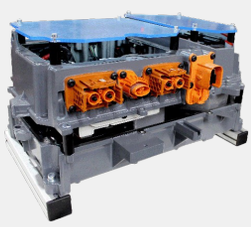
A5 | Product number AE411197M

Displays air chamber, push rod, brake lever, caliper, and disc. Designed for static demonstration of heavy-duty braking systems..

EV ELECTRIC VEHICLE JUNCTION BOX AND ELECTRIC MOTOREDUCER CUTAWAY MODEL

L3 | Product number AERZ65

Electric motoreducer with manual rotation. Cutaway sections of junction box show high-voltage connectors, fuses, and wiring architecture. Exposes internal gearing and shaft system in reducer.



STARTER MOTOR WITH REDUCTION GEARS CUTAWAY

A6 | Product number AE410071M

Six-pole magnet field, four carbon brushes, solenoid switch. Includes commutator, pull-in/hold-in windings. Reinforced polyamide or sintered steel internal gear.

ALTERNATOR SINGLE-FLOW COOLING CUTAWAY EDUCATIONAL TRAINER

A6 | Product number AE410080M

Alternator trainer with exposed stator, rotor, diodes, and voltage regulator. Demonstrates AC generation for battery charging and electrical supply. Includes slip rings, brushes, and pulley system for simulation.

CVT ENGINE 4-STROKE SINGLE-CYLINDER WITH ELECTRONIC INJECTION CUTAWAY

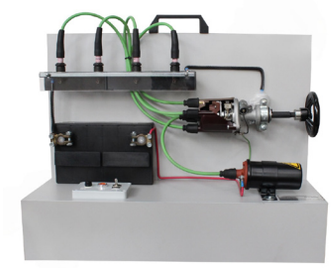
A1 | Product number AE47815M

Single-cylinder 4-stroke engine with CVT, electronic injection, ignition, water cooling, disc brake, and silencer.

ELECTRONIC IGNITION SYSTEM EDUCATIONAL TRAINER

A1 | Product number AE410010

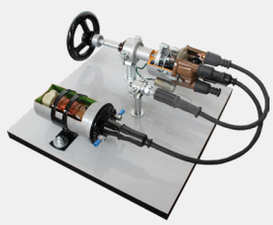
Breakerless ignition system trainer for 4-cylinder, 4-stroke engines. Includes spark plugs, ignition coil, and distributor with magnetic pulser. Specs: 45 µs spark risetime, 2 ms duration, 28 kV secondary voltage.



IGNITION SYSTEM CUTAWAY EDUCATIONAL TRAINER

A6 | Product number AE410030

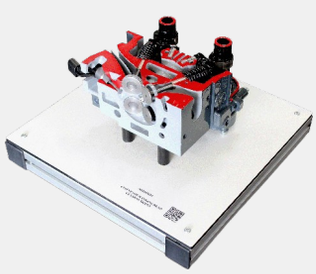
Mechanically timed ignition system trainer for 4-cylinder, 4-stroke engines. Includes spark plug, distributor, ignition coil, and wiring. Handwheel-operated distributor shows breaker points and centrifugal advance. Demonstrates 12V to high-voltage spark conversion and timing functions.



4 VALVE DOHC ENGINE HEAD CUTAWAY EDUCATIONAL TRAINER

A1 | Product number AE310369S

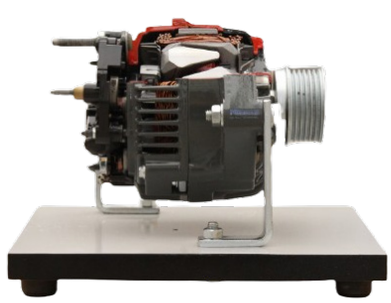
DOHC engine head with 4 valves per cylinder, showing intake/exhaust ports, valve springs, injector, hydraulic tappets, rocker arms, camshaft, and oil/cooling channels.



TRUCK ALTERNATOR CUTAWAY MODEL

A6 | Product number AESALT01

Displays rotor, stator, rectifier, voltage regulator, slip rings, brushes, and cooling fan.



TORSEN DIFFERENTIAL CUTAWAY MODEL

A3 | Product number AE411270M

Shows internal gear arrangement for torque distribution. Includes Torsen types T-1, T-2, and T-3 applications.

HYPOID DIFFERENTIAL CUTAWAY EDUCATIONAL TRAINER

A3 | Product number AE411280M

Shows crown wheel, pinion gear, side pinions, and differential shaft. Demonstrates torque transfer and differential wheel rotation.

BEVEL HELICAL REDUCER CUTAWAY

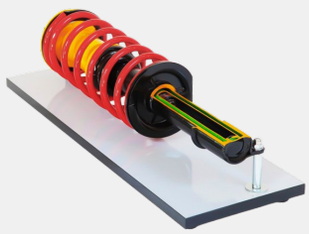
A2 | Product number AE413110M

Cutaway helical gear reducer trainer with parallel shaft layout. Includes real helical gears, shafts, bearings, seals, and casing. Demonstrates torque reduction and speed adjustment principles.

HYDRAULIC SHOCK ABSORBER CUTAWAY EDUCATIONAL TRAINER

A4 | Product number AE410636

McPherson shock absorber cutaway trainer with damper spring. Shows pistons, fluid paths, and gas chambers. Demonstrates twin-tube and mono-tube damping systems. Includes basic and gas-charged designs.



GAS SHOCK ABSORBER CUTAWAY EDUCATIONAL TRAINER

A4 | Product number AE410638

Gas-filled shock absorber cutaway trainer for automotive education. Displays piston rod, cylinder, oil/gas chambers, and valve system.

TRUCK SHOCK ABSORBER CUTAWAY EDUCATIONAL TRAINER

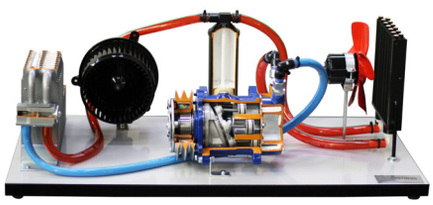
A4 | Product number AETSA01

Shows piston rod, cylinder, compression/rebound valves, hydraulic chamber, and oil passages. Demonstrates hydraulic damping for vibration control and suspension stability.

AIR CONDITIONING SYSTEM EDUCATIONAL TRAINER

A7 | Product number AE410650M

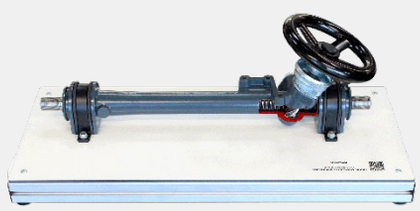
Includes radial piston compressor, condenser, expansion valve, evaporator, and electric fans. Shows refrigeration cycle and airflow mechanics. Equipped with high and low-pressure hoses for cooling process visualization.



RACK AND PINION, STEERING BOX CUTAWAY EDUCATIONAL TRAINER

A4 | Product number AE410730M

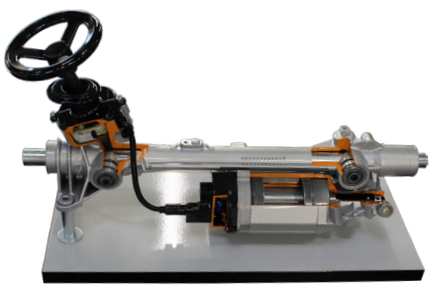
Shows toothed rod, steering column, pinion, and bushings. Demonstrates steering operation, gear ratios, and backlash control.



ELECTRICAL RACK AND PINION STEERING TRAINER

A4 | Product number AE410782M

Includes electric motor, pinion, toothed sector, and steering sensors. Control ECU adjusts power based on vehicle speed.



POWER STEERING WITH RE-CIRCULATING BALL SYSTEM

A4 | Product number AE410750

Re-circulating ball power steering trainer with vane pump, manual drive, and visible hydraulic components.

ELECTRIC POWER-ASSISTED STEERING (EPS)

A4 | Product number AE410778E

Operational EPS trainer with McPherson suspension, speed simulation (0–120 km/h), rack-mounted effort control, alternator simulation, and CAN diagnostics.

PISTON SERVO BRAKE CUTAWAY TRAINER

A5 | Product number AE412070S

Truck piston servo brake with integrated pump, showing vacuum chamber, piston, return spring, and hydraulic channels; color-coded and base-mounted for display.

ENGINE WITH CHASSIS AND WORKING LIGHT SYSTEM

Product number AE35274E

Trainer with 1200 cm^3 4-cylinder petrol engine, MPI system, 5-speed gearbox, differential, dual-circuit brakes, and front/rear lighting; shows engine, fuel, lubrication, and cooling systems.

FRONT DRIVE GEARBOX CUTAWAY TRAINER WITH DIFFERENTIAL AND CLUTCH

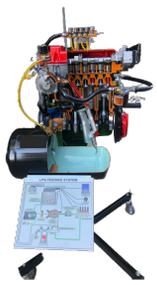
A2 | Product number AE410789M

Manual front-drive gearbox cutaway trainer with integrated differential.

ELECTRONIC INJECTION MPI ENGINE WITH PETROL(GASOLINE)/ LPG SYSTEM CUTAWAY MODEL

A1 | Product number AE44300M

Petrol/LPG multipoint injection engine cutaway with visible injectors, sensors, ignition, LPG tank, and reducer.



PETROL(GASOLINE) ENGINE WITH DIRECT INJECTION 16 VALVES MPI INJECTION CUTAWAY

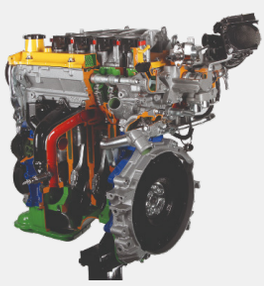
A1 | Product number AE44600M/F

Cutaway 4-cylinder, 16-valve petrol(gasoline) engine with direct injection, DOHC, and water cooling; shows internal components.

PETROL(GASOLINE) ENGINE WITH DIRECT INJECTION 16 VALVES GDI INJECTION CUTAWAY

A1 | Product number AE44600E/G

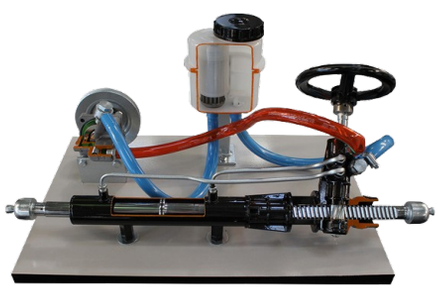
4-cylinder, 16-valve petrol (gasoline) engine with Mitsubishi GDI system, DOHC, water cooling.



RACK AND PINION STEERING TRAINER

A4 | Product number AE410760M

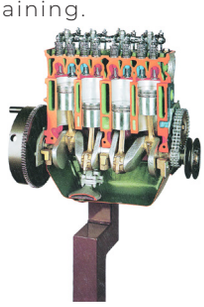
manual/power steering, hydraulic piston, variable ratio gear, and end/center take-off configurations.



ENGINE WITH OVERHEAD VALVE (OHV) AND TIMING CHAIN CUTAWAY

A1 | Product number AE45450M

4-stroke, 4-cylinder OHC petrol (gasoline) engine trainer showing internal components for engine operation and maintenance training.



8 VALVE ENGINE WITH TURBO DIESEL CR WITH GEARBOX AND DIFFERENTIAL CUTAWAY

A1 | Product number AE36017E

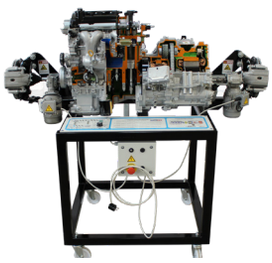
Sectioned 8-valve, 1900 cm^3 turbo diesel engine with 5-speed gearbox and differential, featuring common rail injection (1350 bar), turbocharger, lubrication and cooling systems.

HYBRID SYSTEM PETROL (GASOLINE)/ ELECTRIC SYSTEM CUTAWAY EDUCATIONAL TRAINER

A1

Product number
AE34501WM

1500 cm³ 4-cylinder DOHC engine with VVT-i, multi-point injection, epicyclic CVT, and Toyota Hybrid System (THS); includes petrol/electric motors, electric rotation, differential, brake, and suspension components for hybrid system training.

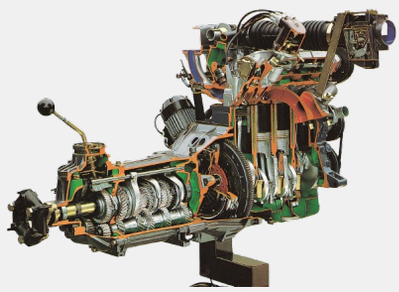


PETROL (GASOLINE) ENGINE WITH GEARBOX CUTAWAY

A1

Product number
AE45152E

Sectioned 4-cylinder, 2000 cc petrol (gasoline) engine with multipoint injection, 5-speed gearbox with reverse, and front-wheel drive.



PETROL(GASOLINE) ENGINE WITH MPI INJECTION CUTAWAY

A1

Product number
AE45166E

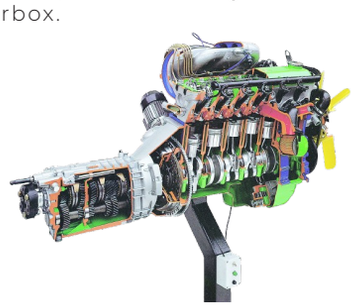
Volkswagen 4-cylinder petrol engine with OHC, multipoint injection, toothed belt, and 5-speed gearbox.

6 CYLINDER PETROL (GASOLINE) ENGINE WITH L-JETRONIC INJECTION CUTAWAY

A1

Product number
AE45170E

BMW 6-cylinder petrol (gasoline) engine with OHC, L-Jetronic injection, and V-arranged valves; includes 5-speed gearbox.

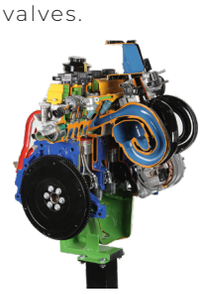


TOYOTA PETROL (GASOLINE) ENGINE WITH VVT.I INJECTION CUTAWAY MODEL

A1

Product number
AE45181M

Toyota 4-cylinder petrol engine with DOHC and VVT-i system, featuring multi-point injection and electronically controlled intake valves.

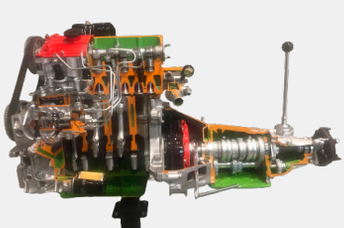


4 CYLINDER RWD DIESEL ENGINE WITH CLUTCH AND GEARBOX CUTAWAY

A1

Product number
AE36071E

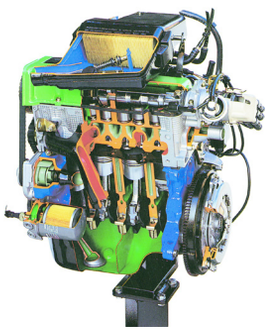
Tektas: 4-stroke, 4-cylinder 1400–1700 cm³ inline diesel engine with indirect injection, Bosch VE pump, OHC, toothed belt, and single-plate clutch.



PETROL (GASOLINE) ENGINE WITH MPI FUEL INJECTION

A1 | Product number AE45212IEE

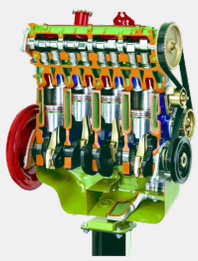
4-cylinder, 1245 cc petrol (gasoline) engine with electronic multi-point injection and ignition.



ENGINE WITH OVERHEAD CAMSHAFT (OHC) AND TOOTHED TIMING BELT

A1 | Product number AE45440M

4-stroke, 4-cylinder petrol (gasoline) engine cutaway with OHC system. Display valves, camshaft, pistons, crankshaft, lubrication, fuel, and cooling systems.



PETROL (GASOLINE) MPI ENGINE CHASSIS WITH ABS AND HYDRAULIC POWER STEERING

Product number AE45273E

Front-drive chassis with 1200 cc transverse 4-cylinder petrol engine, MPI, electronic ignition, ECU, hydraulic power steering, catalytic converter with oxygen sensor, 5-speed gearbox with reverse, ABS with four sensors, and McPherson suspension.

ENGINE WITH DOUBLE OVERHEAD CAMSHAFT (DOHC) CUTAWAY

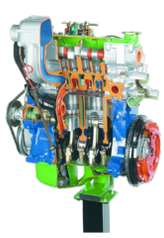
A1 | Product number AE45445M

4-stroke, 4-cylinder DOHC petrol (gasoline) engine cutaway showing valve train, camshaft, pistons, and crankshaft.

4 CYLINDER DIESEL ENGINE CUTAWAY

A1 | Product number AE36065M

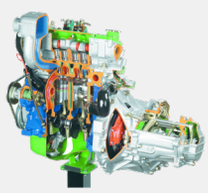
4-stroke diesel engine trainer with 4 in-line cylinders (1400–1700 cm^3), Bosch VE rotary pump, indirect injection, OHC with toothed belt, and visible alternator, thermostat, and water cooling.

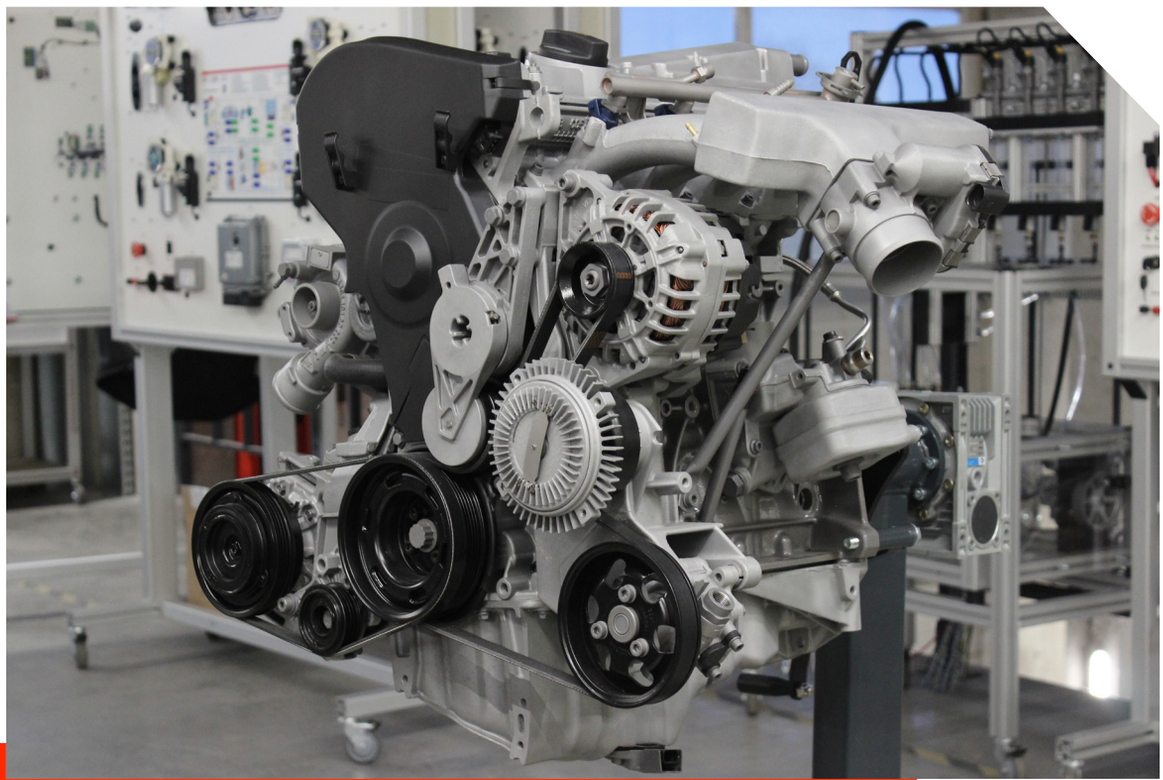


4 CYLINDER FWD DIESEL ENGINE WITH CLUTCH AND GEARBOX CUTAWAY

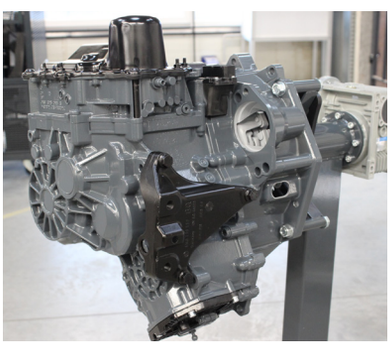
A1 | Product number AE36068E

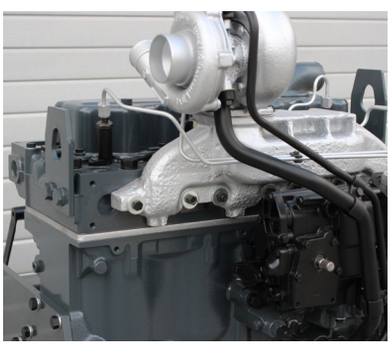
4-stroke, 4-cylinder inline diesel engine cutaway with indirect injection, Bosch VE pump, OHC, toothed belt, single-plate clutch, 5-speed gearbox with reverse, differential, alternator, and thermostat.





DISASSEMBLING AND ASSEMBLING MODELS



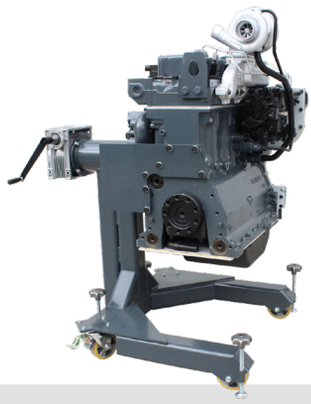


CATERPILLAR 3304 DIESEL ENGINE FOR DISASSEMBLY AND ASSEMBLY

A1

Product number
VIVV02-CAT

Caterpillar 3304 diesel industrial engine with displacement of 425 cu in (7.0 L) designed for practical experience in disassembly and assembly of engine. This in-line, 4-stroke-cycle diesel engine includes a turbocharger, direct injection system, and robust construction for long-lasting training applications. It is mounted on a stable, rotating stand, enabling 360-degree access for practical vocational training.



Features

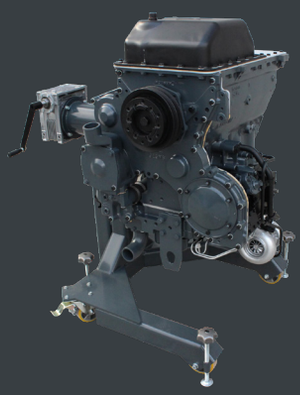
- Full Caterpillar 3304 7.0l 4-cylinder 4-stroke diesel industrial engine for disassembly and assembly.
- Turbocharged with direct injection for real-world industrial application training.
- Mounted on a 360-degree rotating stand for ease of access.

Value for Students

- Practical skills in engine disassembly, assembly, and maintenance procedures essential for industrial diesel engines.
- Experience with components such as the turbocharger, direct injection system, and lubrication system.
- Understand key parameters like bore, stroke, displacement, and combustion process in direct injection engines.
- Analyze equipment such as alternators, tachometers, and hydraulic pumps, broadening technical expertise.
- Learn liquid capacity systems, including cooling and lubrication, critical for industrial engine operation.

Specifications

- Dimensions:
  1275 x 1011 x 754 mm
  (50.2 x 39.8 x 29.7 inch)
- Weight: approx. 750 kg (1,655 lb)
- Product number: VIVV02-CAT



PETROL FSI ENGINE FOR DISASSEMBLING AND ASSEMBLING

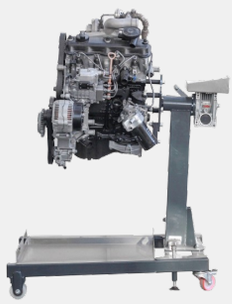
A1 | Product number VIVV01-FSI

Petrol engine training model features an FSI (fuel-stratified injection) engine mounted on a 360° manually rotating stand with worm and wheel gearboxes. Designed for disassembly and reassembly, it offers hands-on access to all engine components, focusing on mechanical systems for advanced automotive training.

TURBO DIESEL ENGINE WITH VE/ER PUMP EDUCATIONAL TRAINER

A1 | Product number VIVI01-VETDI

Turbo diesel engine for assembly/disassembly with VE/ER fuel pump, full timing and auxiliary belt system.



TURBO DIESEL DOHC ENGINE IN THE SPLIT VERSION

A1 | Product number IVD-SPLIT

6-cylinder in-line turbo diesel engine with DOHC and chain drive; all cylinders and engine components are fully exposed for detailed analysis.

GEARBOXES FOR DISASSEMBLING AND ASSEMBLING

A2 | Product number GDIVV01

Gearboxes for disassembly and assembly, featuring any chosen type of gearbox (manual, automatic, DSG, Multitronic, etc.).

DSG GEARBOX EDUCATIONAL TRAINER FOR DISASSEMBLING AND ASSEMBLING

A2 | Product number GDIVV1-DSG

DSG transmission trainer for disassembly and assembly, featuring dry double clutch, 7 forward gears, and 1 reverse gear.

GEARBOXE CVT FOR DISASSEMBLING AND ASSEMBLING

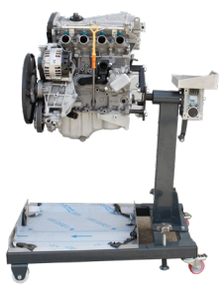
A2 | Product number GDVV01-CVT

CVT Multitronic gearbox trainer for disassembly and assembly.

PETROL (GASOLINE) MPI ENGINE FOR DISASSEMBLING AND ASSEMBLING

A1 **Product number** VIVV01-ADR

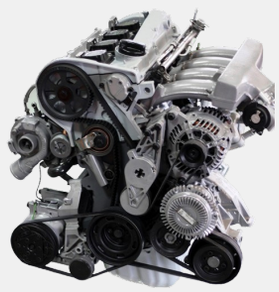
Engine with MPI system for disassembly and assembly; includes intake manifold, throttle body, alternator, and full timing and auxiliary belts.



ENGINES FOR DISASSEMBLING AND ASSEMBLING

A1 **Product number** VIVV01

Engine trainer for disassembly and assembly with customer-selected petrol (gasoline) or diesel engine (MPI, FSI, GDI, CR, or VE systems).



PETROL (GASOLINE) MPI TURBO ENGINE FOR DISASSEMBLING AND ASSEMBLING

A1 **Product number** VIVV01-ADRT

MPI turbocharged petrol (gasoline) engine trainer for disassembly and assembly.

PETROL (GASOLINE) GDI ENGINE FOR DISASSEMBLING AND ASSEMBLING

A1 **Product number** VIVV01-GDI

GDI petrol (gasoline) engine trainer for disassembly and assembly.

DIESEL CR TURBO ENGINE EDUCATIONAL TRAINER

A1 **Product number** VIVV01-RHX

CR-type turbo diesel engine trainer for disassembly and assembly, with complete timing and auxiliary belt system.

SERVICE EQUIPMENT

DIAGNOSTIC SCAN TOOL FOXWELL

Product number
NT680

Diagnostic scanner for all systems of all car brands with special functions.
The scan tool is designed for professionals and enthusiasts alike to diagnose all system errors for major American, Asian and European car brands. This device will allow auto mechanics to perform diagnostics accurately and easily.

DIAGNOSTIC SCAN TOOL FOXWELL

Product number
NT680PRO

Diagnostic scanner for all systems of all car brands with special functions.

DIAGNOSTIC SCAN TOOL ICON VCI AUTOCOM

Product number
W072063300

The ICON diagnostic tool is a powerful and reliable solution for comprehensive vehicle diagnostics, designed for both cars and trucks, including electric and hybrid models. It features AutoVIN for automatic vehicle identification, Quick Connect Bluetooth for seamless connectivity, and integrated CAN-FD and DoIP for advanced communication with modern vehicles. With extensive software coverage, including 35,000 system selections for cars and 18,000 for trucks, it allows precise diagnostics and system updates.

*License should be bought separately.

DIAGNOSTIC SCAN TOOL TEXA NAVIGATOR TXT MULTIHUB

Product number
D155A0

Advanced multi-brand diagnostic tool designed for comprehensive vehicle diagnostics, covering traditional, hybrid, and electric vehicles. It supports multiple communication protocols, including CAN, DoIP, and Pass-Thru, making it versatile for workshops handling various vehicle types. The robust design ensures reliability in professional environments, while its wireless functionality allows seamless integration with TEXA's diagnostic software. Ideal for automotive professionals, it delivers fast, precise diagnostics, streamlining maintenance and repair processes across a wide range of vehicle systems.

* License should be bought separately.

TWO POST LIFT 4.0T

Product number
AQ42E

High-capacity, electro-hydraulic lift with a 4000 kg lifting capability. It features electric lock release, electromagnetic fixators, and a two-cylinder system for smooth, stable operation. Adjustable three-position arms accommodate various vehicle types, making it suitable for automotive training and workshop environments.

Specifications

- Lifting capacity: 4000 kg
- Electric lock release
- Three-position arms: short 684-1025 mm, long 700-1400 mm
- Lifting height: 105-1800 mm
- Overall height: 2826 mm
- Width between columns: 2820 mm
- Passage width: 2576 mm
- Overall width: 3420 mm
- Motor power: 2.2 kW
- Two-column electro-hydraulic system
- Two-cylinder lifting mechanism
- CE declaration of conformity
- Suitable for passenger cars, commercial vehicles, 4x4, and “all-road” vehicles

TWO POST LIFT, 4.0T

Product number
AQ41M

The 4.0T AQ41M is a two post lift with a 4000 kg capacity, featuring a mechanical safety locking mechanism and a two-cylinder system for stable, smooth lifting and lowering. Equipped with adjustable three-position arms, it accommodates a wide range of vehicle types. The design includes strong cables to ensure level lifting and a spacious layout for comfortable vehicle access, making it ideal for automotive maintenance and training environments.

Specifications

- Lifting capacity: 4000 kg
- Mechanical safety locking mechanism
- Arm lengths: 700-1400 mm (short and long, three positions)
- Lifting height: 105-1900 mm
- Overall height: 2826 mm
- Width between columns: 2820 mm
- Overall width: 3420 mm
- Motor power: 2.2 kW
- Power supply: 380 V
- Two-cylinder lifting system
- CE Declaration of Conformity
- Suitable for passenger cars, commercial vehicles, 4x4, and all-road vehicles

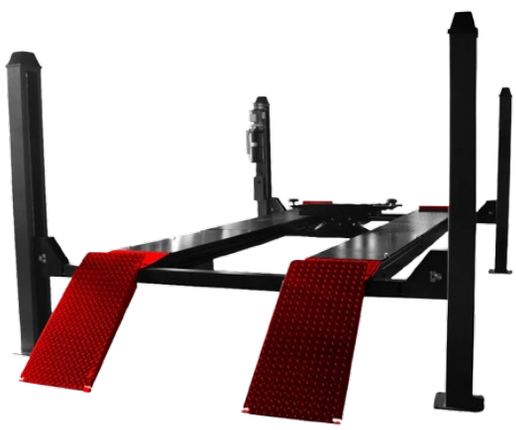
FOUR POST LIFT 5.0M. 5.0T

Product number
AQ5050M

The AQ5050M is a four post lift with a 5000 kg capacity, designed for precise wheel alignment. It features adjustable runways, a jacking beam, and a 2.2 kW motor, providing reliable lifting up to 1800 mm. Suitable for various vehicle types, it ensures stable and efficient alignment operations.

Specifications

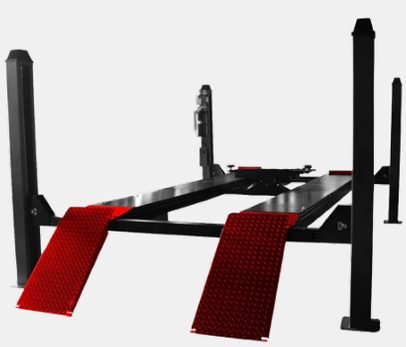
- Lifting capacity (kg) Max 5000
- Lifting time range (S) 40 - 50
- Power supply (V) 380
- Power rate (KW) 2.2
- Lifting height (mm) Max-1800 Min-245
- Runway (mm) Width-550 Length-5000
- Distance between runway 880-1200mm



FOUR POST LIFT 5.5M. 5.0T

Product number
AQ5550M

Four post lift with a 5500 kg capacity, tailored for wheel alignment tasks. It features a 2.2 kW motor, adjustable runways, and a jacking beam, allowing for efficient lifting up to 1800 mm. Ideal for diverse vehicle alignment and maintenance applications.



Specifications

- Lifting capacity (kg) Max 5500 (12125 lbs)
- Lifting time range (S) 40 - 50
- Power supply (V) 380
- Power rate (KW) 2.2
- Lifting height (mm) Max-1800 (70.87 in) Min-245 (9.65 in)
- Runway (mm) Width-550 (21.65 in) Length-5500 (216.54 in)
- Distance between runway 880-1200 mm (34.65-47.24 in)

DOUBLE SCISSOR INGROUND LIFT 3.5T

Product number
AQL3500C

The AQL3500C is an inground double scissor lift with a 3500 kg lifting capacity, designed for compact and efficient vehicle lifting. It features a maximum lifting height of 2150 mm, adjustable platform length, and stable operation with a 2.2 kW motor, making it ideal for space-saving automotive service and training applications.

DOUBLE SCISSOR LIFT 3.0T

Product number
AQL3500

On-ground double scissor lift with a 3000 kg capacity, featuring a maximum lifting height of 1800 mm. It has adjustable platform lengths, quick lifting time, and stable operation, making it ideal for automotive service and maintenance tasks.

LOW-RISE SCISSOR LIFT WITH AUTOMATIC RELEASE SAFETY LOCK

Product number
AQ3000ESA

Low-rise scissor lift with a 3000 kg capacity, offering a lifting height of 1000 mm. It features an electrical release of safety latches, eliminating the need for air supply, making it efficient for quick maintenance and repair tasks.

PROPULSION SYSTEM LIFT

Product number
AQVL1.2

Propulsion system lift with a 1200 kg capacity, featuring adjustable pads and a lifting height range from 660 mm to 1915 mm. It is equipped with a 0.75 kW motor, designed for efficient handling of propulsion systems in maintenance and training settings.

AUTOMATIC TILT-BACK CAR TYRE CHANGER

Product number
AQ808B+B350

Automatic tilt-back tyre changer with outside clamping range of 11”-23” and inside clamping range of 13”-25”. It handles wheels up to 1040 mm in diameter, operates at 8-10 bar pressure, and features a 0.75 kW motor, making it ideal for efficient tyre changing in automotive workshops.

AUTOMATIC TILT-BACK CAR TYRE CHANGER

Product number
AQ908B+B350+L

Automatic tilt-back tyre changer without a turntable, featuring an outside clamping range of 12”-26”, accommodating wheels up to 1180 mm in diameter and 450 mm in width. It operates at 8-10 bar pressure with a 0.75 kW motor, designed for efficient tyre servicing in professional workshops.

SEMI-AUTOMATIC CAR WHEEL BALANCER

Product number
AQ60A

Semi-automatic wheel balancer with a rim diameter range of 10” - 28” and a maximum tire diameter of 1000 mm. It balances tires up to 70 kg with high accuracy of ±1g, operating at 200 rpm, making it ideal for precise wheel balancing in automotive service environments.

LCD SCREEN CAR WHEEL BALANCER

Product number
AQ80C

Car wheel balancer with an LCD screen, supporting rim diameters of 8” - 30” and a maximum tire diameter of 1000 mm. It handles tires up to 70 kg with a balance accuracy of ±1g, operating at 200 rpm, providing precise and efficient wheel balancing for professional use.

FILLED TOOL TROLLEY

Product number
AQT7134

7-drawer tool trolley equipped with 134 pieces of tools. It features ball-bearing slides for smooth, full-extension drawers, an automatic locking system, and a sturdy plastic worktop. The trolley includes 4 casters, with one brake-equipped, ensuring stability and mobility. Ideal for organized, secure tool storage and easy access in professional workshops.

GARAGE STORAGE SYSTEM 4 PARTS

Product number
AQ02BK

Garage storage system includes a high cabinet, base cabinet, 4-drawer cabinet, roller cabinet, wall cabinets, wooden worktop, panelboards, and hooks. Made from solid steel with powder coating, it features ergonomic handles, secure cylinder locks, and durable drawers on bearing rails. It offers a freestanding, organized workspace ideal for any garage setup.

GARAGE STORAGE SYSTEMS 3 PARTS

Product number
AQ01BK

Garage storage system includes a high cabinet, 2-door base cabinet, 4-drawer cabinet, 2-door wall cabinets, wooden worktop, panel boards, and hooks. Made of solid steel with a powder-coated finish, it features ergonomic handles, secure cylinder locks, and strong drawers on bearing rails, providing a durable and organized workspace without needing wall attachment.

AIR COMPRESSOR

Product number
AQC0.6

Belt-type air compressor with a 4.0 kW motor, 600 L/min capacity, and 300-liter tank. It operates at 0.8 MPa with a max pressure of 1.0 MPa, featuring excellent heat dissipation, high resistance, and a safety valve at 0.9 MPa, ideal for demanding workshop environments.

OIL CHANGER

Product number
AQOD90

Waste oil drainer and changer with a 90-liter tank, featuring corrosion-resistant galvanized tubing, oil absorption control, and a safety valve. It offers a suction speed of 1.5-2 lpm, suitable for oil temperatures of 70-80°C, and includes adjustable collection bowls for efficient oil removal.

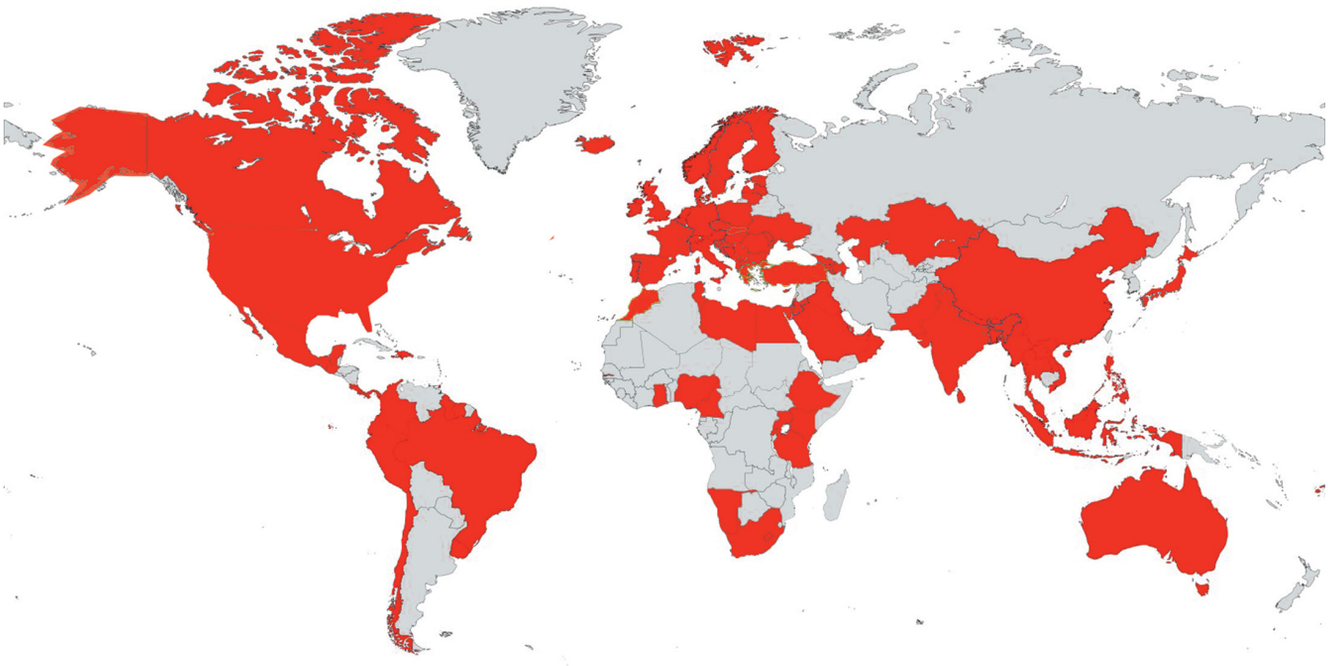
ANTI-IMPACT WORK LIGHT LED

Product number
AQ3001

Anti-impact LED work light featuring a super bright SMD LED flashlight (130 lumens) and COB LED floodlight (260/620 lumens). It has a high-quality 3.7V 2600mAh Li-ion battery with up to 10h 30mins of flashlight runtime and IP54 weatherproof rating, making it ideal for tough working conditions.

INFORMATION OF THE COMPANY

AutoEDU JSC
Ateities str. 30G, Kaunas, LT-52163, Lithuania
+370-67000541; info@autoedu.com; office@autoedu.com; export@autoedu.com
www.autoedu.com



AUTOEDU EXPORT MAP

AutoEDU
MAKING PRACTICE PERFECT

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AutoEDU JSC
Ateities str. 30G, Kaunas,
LT-52163, Lithuania
Tel.: +370-67000541
E-mail: office@autoedu.com
export@autoedu.com
Web: www.autoedu.com

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