KAYRA Mühendislik A.Ş.

AutoEDU
MAKING PRACTICE PERFECT







KAYRA MÜHENDİSLİK OTOMOTİV EĞİTİM EKİPMANLARI 2025

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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







ELECTRICAL VEHICLE TRAINING STAND

L3 | Product number MSEV02

Fully functional electric vehicle educational training stand. Includes key electric vehicle systems such as the inverter, high voltage battery, charging port, high voltage cables and other essential components. Ability to simulate, read and manage various system faults and adjustments.
All components are secured with protective plexiglass for safety. The stand's components ar e mounted on a durable aluminum frame with cas tors.



Value for students

- OEM components based training stand is safe and easy to use. Integrated all essential electric car systems, integrated electric motor, high voltage battery with cables, controller, fuse and other.
- Learn electrical circuits of electric car systems, wiring diagrams and the related components such as battery, fuse, electric motor, controller.
- Electric diagram with a measuring box for measure the voltage and electric circuits of each engine component.
- Includes 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, fault code management, real time parameter monitoring.

Value for instructors

- Analyze electric motor, battery, wiring, controller, faults and more related to OEM electric vehicle.
- Compact design with an aluminum frame for mobility and classroom efficiency. Closed panels and internal wiring protect against accidental damage.
- Real time data monitoring and fault simulation, ECU operations.
- Board is mobile and space saving in the classroom, allows use by multiple students for collaborative learning and practical training.
- Space saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use.
- Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

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 under various conditions, 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.



Features

- Hands on experience to understand and manage high voltage battery operations, including the service plug and interlock connection procedures, system launching sequence, safety procedures.
- Understand and manage service plug and interlock connecting and disconnecting procedures.
- Analyze and measure high voltage battery voltage when the service plug is disconnected, to measure the high voltage battery voltage itself.
- Ability to measure high voltage battery voltage with the service plug connected, and determine how much voltage the battery transfers to the inverter.
- Examine the steps or conditions a student should execute to transfer power from batteries to the inverter, including service plug connection, ignition, and inverter switch.
- Ability to measure each high voltage battery cell separately through dedicated measuring points.

Value for instructors

- OEM based high voltage system from a Toyota Prius II for realistic and effective training in electric vehicle battery management.
- Designed for classroom and workshop integration, making complex concepts approachable with its compact and mobile structure.
- Engaging and interactive trainer for easy understanding of high voltage battery system operation and management.
- LED indicators on relays and inverter, enabling clear visual view that assist in explaining complex processes to students.
- Allows instructors to demonstrate all steps involved in transferring power from batteries to the inverter, offering opportunities for practical observation and guided practice.
- Provides controlled scenarios with slowed down starting sequences for instructional purposes.
- Plexiglass protective panels ensure safe handling during demonstrations while allowing visibility for learning purposes.
- Compact, mobile unit allows flexibility in lesson planning, easily shifting between theory and practical demonstration without additional setup.

Specifications

- Dimensions: 560x715x60 mm (22x28.14x2.36 in)
- Power supply: 230 V/110 V
- Product number: HYBBAT02

HIGH VOLTAGE BATTERY EDUCATIONAL TRAINER ON A TROLLEY

L3 Product number HYBBAT01-TR



High Voltage Battery Educational Trainer 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.

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.
- Understand high-voltage battery electrical circuits, wiring diagrams, and components. High-voltage disconnect fuse is easily accessible.
- Clearly visible device structure, arrangement of components, controllers, control units, battery blocks/cells and other elements.
- Simulate faults using F1 (cooling fan circuit), F2 (temperature sensor circuit), and F3 (battery pack ground connection) simulation switches. Includes OBD 16-pin diagnostic connector for ECU diagnostics.

Value for instructors

- Safe training with enclosed high-voltage units and protective measures, preventing accidental injuries.
- Uses OEM automotive parts to get real experience with all parts and functions exact as in electric cars.
- Compact and durable, lightweight aluminum frame for longevity and safety. Closed panels protect students and internal wiring prevents damage to sensitive parts.
- Allows detailed demonstration of high-voltage battery operation, management, and diagnostic procedures.
- On castors version is mobile and space saving in the classroom, allows learning by multiple students at once.
- Simply design requiring only small adjustments to reset to default parameters, making it easy to prepare and start each lesson quickly.

*Trainer can be sold without a trolley (Product number HYBBAT01).

Specifications

- Dimensions: 960 x 455 x 255 mm (37.80x17.91x10.04 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







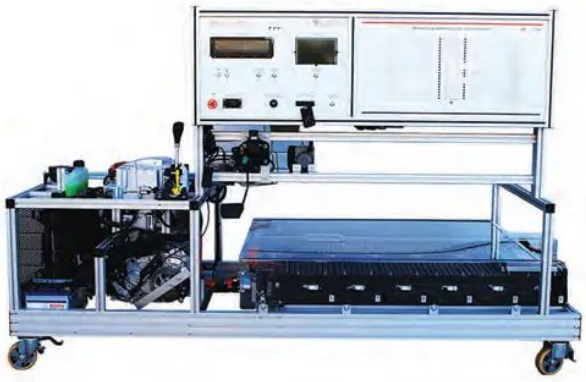
ELECTRIC VEHICLE TRAINING STAND

L3

Product number
MSEV03

Fully functional electric vehicle educational training stand. Includes key electric vehicle systems such as the electric motor, controller, and battery.

All components are interconnected with high voltage cables and secured with protective plexiglass for safety. The stand's components are mounted on a durable aluminum frame with castors.



Value for students

- Easy, safe, and comfortable training using OEM components to gain experience on real electric car. Practical experience with electric car systems, integrated electric motor, battery and controller.
- Analyze the electrical circuits of electric car systems, learn wiring diagrams and the related components such as battery, fuse, electric motor, controller.
- Electric diagram with a measuring box for measure the voltage and electric circuits of each engine component. Includes 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, fault code management, real-time parameter monitoring.

Value for instructors

- Learn and analyze electric motor, battery, wiring, controller, faults and more related to OEM electric vehicle.
- Compact design with an aluminum frame for mobility and classroom efficiency. Closed panels and internal wiring protect against accidental damage.
- Real-time data monitoring and fault simulation, ECU operations.
- Board is mobile and space saving in the classroom, allows use by multiple students for collaborative learning and practical training.
- Space-saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use.
- Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.

Specifications

- Dimensions: 2505x1055x1605mm (98.62inx 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
- High voltage battery (~ 400 V) 24 kWh
- 230 V 50 Hz household electricity network







HYBRID PLUG-IN FUNCTIONAL EDUCATIONAL TRAINER

L3

Product number
AHPLIN01

Fully operational hybrid vehicle training system based on the FORD C-Max, featuring a Plug-in Hybrid Electric Vehicle (PHEV) version. Learn and analyze various hybrid car systems work processes, perform measurements of system parameters, conduct fault simulations and diagnose issues.



Value for students

- Fully operational hybrid vehicle based on FORD C-Max. Learn hybrid vehicle systems, ABS, AC, airbags, and other diagnostic systems.
- Fault simulation, diagnostic procedures, and parameter measurements with various diagnostic tools. Troubleshooting of engine, ABS, SRS and more systems.
- Study electrical circuits through built-in measuring boxes with open contacts and wiring diagrams for two electronic systems.
- Fault code simulation for two electronic systems, for diagnostic and troubleshooting tasks in professional settings.
- OBD II 16 – pin diagnostic connectors for ECU identification, fault code management, real-time parameter monitoring, throttle calibration and more.

Value for instructors

- Provides easy, safe, and comfortable training using OEM Hybrid System (PHEV) components.
- Fault simulations using a computer, tablet, or smartphone, enhancing teaching flexibility.
- Visual aid to explain and demonstrate the structure and operation of various automotive parts, assemblies, and hybrid car systems.
- The Ford-based system allows use almost any multibrand, specialized or OEM scan tools for system diagnostics.
- Board is mobile and space saving in the classroom, allows use by multiple students for collaborative learning and practical training.
- Space-saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use. Allows use by multiple students for collaborative learning and practical training.

Specifications

- Dimensions: 4409x2085x1620 mm (173.54x82.09x63.78 in)
- Weight: 1620 kg (3571 lb)
- High voltage battery: 7.6 kWh
- Safety requirements: protective tools set EHVS01

***Optional protective tools set AEHVS01:**







TOYOTA PRIUS III HYBRID PLUG-IN FUNCTIONAL EDUCATIONAL TRAINER

L3

Product number
AHPLIN03

Fully functional Plug-in Hybrid electric vehicle training platform for diagnosing and understanding complex hybrid systems. Equipped with built-in measuring boxes, fault code simulation for multiple systems, open contact wiring diagrams and much more.



Value for students

- Includes all OEM key components of a Toyota Prius III, providing a complete and operational hybrid system for training.
- Offers training on the PHEV version, allowing students to understand both conventional hybrid and plug-in technologies.
- Diagnose and troubleshoot hybrid vehicle systems, including engine, ABS, AC, airbags and more with various diagnostic tools.
- Learn electrical circuits of hybrid systems with built-in measuring boxes and open contact wiring diagrams.
- Simulates faults in engine control, power management, and high voltage systems, offering realistic diagnostic training.

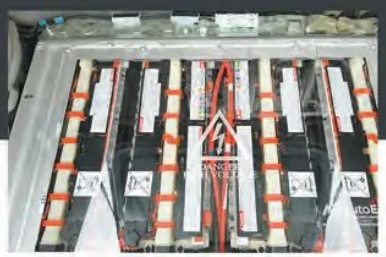
Value for instructors

- OEM automotive parts for an authentic and practical learning experience. Students gets real experience with all parts and functions based on Toyota Prius III Plug-in model.
- Real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- The Toyota based system allows students to be trained in diagnostics using almost any multibrand, specialized or OEM scan tools, ensuring a safe and high-quality learning environment.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.
- Functional model on castors version, which is mobile and space saving in the classroom, allows concurrent use by multiple students, promoting collaborative learning and practical training opportunities.

Specifications

- Dimensions: 4480x1745x1490 mm
- Weight: 1420 kg
- Power Supply: 12 V battery
- Production Year: 2012
- High Voltage Battery: 21.5 Ah, 207 V
- Fuel Type: Gasoline A91 or higher
- Safety Equipment: Protective Tools Set EHVS01
- Fault Simulation Capability: Up to 24 faults across engine, power management, and high voltage systems

***Optional protective tools set AEHVS01:**







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.



Value for students

- Easy, safe, and comfortable training vehicle that using OEM components to offer a realistic electric car repair experience.
- Simulate electrical circuits of EV systems, climate control, airbag system, braking system with built in measuring boxes and wiring diagrams.
- Diagnostics 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 and more.
- Simulating real vehicle pneumatic components, exact number of components are in training aid.

Value for instructors

- Uses OEM components for easy, safe, and realistic training that builds confidence.
- Various diagnostic and fault simulation possibilities. Simulate EV system, SRS airbag system, braking system, climate control system with easy learning diagnostic boxes.
- Use advanced, hands-on training equipment to demonstrate key automotive systems and diagnostics.
- Real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- Nissan OEM-based system allows students to be trained in diagnostics using almost any multibrand, specialized or OEM scan tools.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 4479x1790x1535 mm (176.26x70.47x60.43 in)
- Weight: approx. 1640 kg (3615 lb)
- Power supply: 12 V battery
- High voltage battery: 400 V
- Safety requirement: EHVS01 protective tools set

***Optional protective tools set AEHVS01:**







EDUCATIONAL HYBRID ENGINE TRAINER

L3/A1 Product number MVHY01



Fully operational hybrid electric system with petrol(gasoline) 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.

Value for students

- Easy, safe, and comfortable training vehicle that using OEM components to offer a realistic hybrid car repair experience.
- 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.
- Analyze electrical circuits through built-in banana plug jumpers, simulate system faults. Simulate and troubleshoot over 50 system faults with electrical board. Measure the exhaust gas before and after catalytic converter using specific tools.
- Safe engine servicing and maintenance with removable safety panels and accessible engine components.

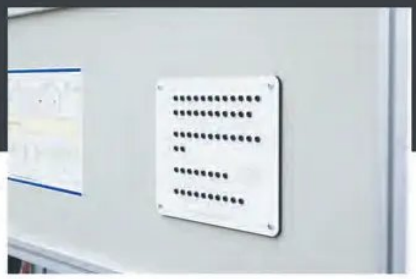
Value for instructors

- Uses OEM components for easy, safe, and realistic training that builds confidence.
- Space-saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use.
- Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- The engine external components is clearly visible under removable safety panels. Easy to access for service and maintenance.
- TOYTOA-based system allows diagnostics using almost any multibrand, specialized or OEM scan tools.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1750 x 1450 x 1200 mm (68.90x57.09x47.24 in)
- Weight: 470 kg (1036 lb)
- Power supply: 230 V/110 V (US version)
- 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.



Value for students

- 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.
- Learn the specifics of OEM hybrid systems, including operation modes and diagnostic procedures.
- High voltage wires running from the battery to the engine compartment are visible through safety glass. Safe and convenient access for maintenance high voltage fuse that disconnects battery. The inverter, with the top cover removed for structural learning and covered with safety glass.

Value for instructors

- Fully functional model to demonstrate the workings of hybrid car systems, LPG supply system, body, chassis structures, passive and active safety systems.
- Uses OEM automotive parts for an authentic and practical learning experience with real electric car.
- Mobile chassis for easy classroom integration, mobility and longevity.
- Diagnostics and troubleshooting using OBD diagnostic tool, oscilloscope, the gas analyzer, the exhaust extraction system or air conditioning service station and more.
- Mobile and space saving in the classroom, allows concurrent use by multiple students, promoting collaborative learning and practical training opportunities.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 4460 x 1745 x 1510 mm (175.59x68.70x59.45 in)
- Weight: approx. 1805 kg (3979 lb)
- Power supply: 12V battery, high-voltage battery pack (~200V), gasoline A91 or higher
- Safety equipment: protective tools set EHVS01

***Optional protective tools set AEHVS01:**







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

- 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.



TOYOTA PRIUS II HYBRID ½ EDUCATIONAL TRAINER

L3 | Product number PMTP01

The Toyota Hybrid Educational Trainer PMTP01 offers an advanced, hands-on learning platform for mastering hybrid vehicle technologies. This fully functional model replicates the key components and systems of a Toyota Prius II hybrid vehicle, including the gas/electric control system, automatic transmission, and various diagnostic features. Designed for educational environments, it combines a space-efficient design with comprehensive diagnostic and measurement capabilities to enhance automotive training.



Features

- Includes Toyota's gas/electric hybrid control system (THS–II), automatic transmission, and climate control system.
- Features an 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

A6 | Product number MSAE1021

Features

- Designed specifically for safety training with hybrid cars, ensuring safe practices during repair and maintenance procedures.
- High voltage fuse disconnection: facilitates the safe disconnection of high voltage fuses in hybrid cars before servicing.
- All components mounted on a dedicated panel for ease of access and educational demonstrations.
- Indicates proper connection of the 12 V DC power supply for operational readiness.
- Features detailed information about the high-voltage battery used in electric cars, including configuration and service plug disconnection procedures.
- Explains the installation and disassembly procedures for the high voltage fuse and service plug, critical for safe maintenance operations.
- Controls the activation, deactivation, and charging conditions of the high-voltage battery, ensuring safe operations.
- Allows connection of a 12 V power supply or battery to power the training equipment effectively.



HIGH VOLTAGE SOURCE SAFE DISCONNECTION EDUCATIONAL TRAINER

A6 | Product number MSAE1020

Features

- Designed specifically for safety training with hybrid cars, ensuring safe practices during repair and maintenance procedures.
- High voltage fuse disconnection: facilitates the safe disconnection of high voltage fuses in hybrid cars before servicing.
- All components mounted on a dedicated panel for ease of access and educational demonstrations.



- Indicates proper connection of the 12 V DC power supply for operational readiness.
- Features detailed information about the high-voltage battery used in electric cars, including configuration and service plug disconnection procedures.
- Explains the installation and disassembly procedures for the high voltage fuse and service plug, critical for safe maintenance operations.
- Controls the activation, deactivation, and charging conditions of the high-voltage battery, ensuring safe operations.
- Allows connection of a 12 V power supply or battery to power the training equipment effectively.

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 ½ 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 ½ 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 ½ 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 ¾ 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 operational educational model features a hybrid petrol(gasoline)/electric system with diagnostics for engine, hybrid, ABS, AC, and airbags, along 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.



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.



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

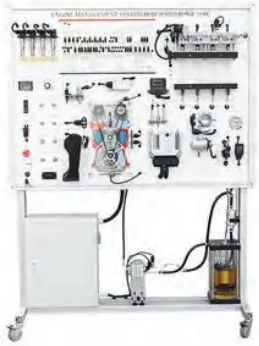






ENGINE MANAGEMENT SYSTEM BOSCH MOTRONIC (FSI)

A8 | Product number MSFSI02



Training stand of engine management system Bosch Motronic (FSI) demonstrates 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.

Value for students

- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- Understand direct petrol injection systems between fuel supply, exhaust and ignition systems.
- Study electrical circuits of electrical components for direct petrol(gasoline) injection system engines.
- Learn high and low-pressure fuel supply systems, injected fuel quantity, spray pattern quality.
- Understand the operation and troubleshooting of modern ignition systems.
- Understand the synchronization between crankshaft and camshaft in engine operation.
- Simulate and diagnosing more that 20 system circuit faults to learn troubleshooting abilities, by disconnecting banana plug connectors.

Value for instructors

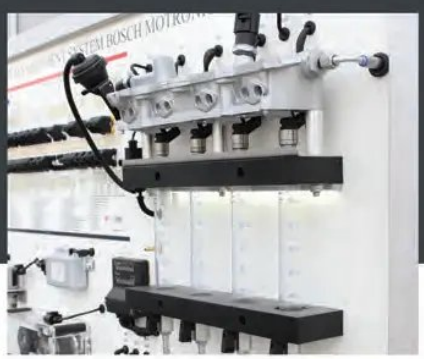
- Space-saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use.
- Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- Uses OEM components for easy, safe, and realistic training that mimics real car.
- Use advanced, hands-on training equipment to demonstrate key automotive systems and diagnostics.
- Easier real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.

Specifications

- Dimensions: 1820x1360x500 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

A8 Product number MSMPI01

Fully functional multipoint petrol(gasoline) 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, tests and diagnostic procedures.



Value for students

- Uses OEM components for easy, safe, and realistic training that builds confidence.
- Learn about multipoint petrol(gasooline) injection systems and understand the interaction between fuel supply, exhaust and ignition systems.
- Analyze the electrical circuits of electrical components for multipoint petrol(gasoline) injection system engines, understand about the wiring diagrams and presented components on it.
- Understand and analyze high and low-pressure fuel supply systems, injected fuel quantity, spray pattern quality.
- Understand the operation and troubleshooting of modern ignition systems.
- Demonstrate and understand the synchronization between crankshaft and camshaft in engine operation.
- Monitor and measure electrical parameters with a real-time data oscilloscope, multimeter, scan tool, or display parameters on the TFT voltmeter installed on the stand panel.

Value for instructors

- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- Compact and vertically oriented stand for mobility and efficient use of classroom space. Durable and light construction makes it long lasting and safe to use. Closed panels and internal wiring makes it safe to use and ensures accidental damage.
- Real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- The Audi/VW OEM-based system allows to use many multibrand, specialized or OEM scan tools for diagnostics and troubleshooting.
- Space-saving and mobile for efficient use of classroom space. Durable and light construction from solid aluminum frame to make it long lasting and safe to use.

Specifications

- Dimensions: 1820x1360x500 mm (71.65x53.54x19.69 in)
- Weight: approx. 70 kg (154 lb)
- Power supply: 12 V from battery or power supply unit (battery and power supply unit not included)







DIESEL ENGINE CONTROL SYSTEM CR/EDC 15 EDUCATIONAL TRAINER

A9 | Product number MSCR01



Fully functional diesel engine Bosch EDC 15C3-4.1 control system with common rail (CR) injection system. Uses OEM components to demonstrate direct fuel injection, includes an OBD 16-pin connector for ECU diagnostics, and simulates over 20 system faults for hands-on learning. Connect an oscilloscope or multimeter to measure key sensor signals and use a TFT voltmeter for real-time data from various sensors.

Value for students

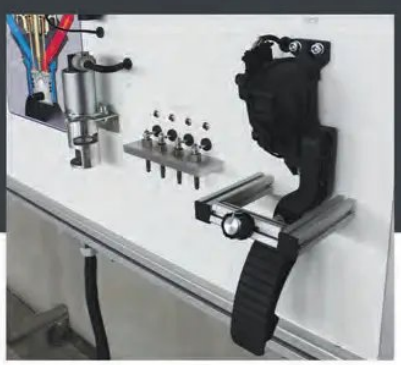
- Understand diesel engine with Common rail (CR) injection system and BOSH EDC 15C3-4.1 control system.
- OBD 16-pin connector to identify the ECU, read and erase fault codes, monitor live data, and activate actuators.
- Simulate over 20 different system faults by using banana plug jumpers, including sensor disconnections and incorrect signal inputs.
- Connect an oscilloscope or multimeter to banana connectors to measure electrical signal parameters of components like the Mass-Air Flow (MAF) sensor, Fuel Rail Pressure (FRP) sensor, and Exhaust Gas Recirculation (EGR) potentiometer.
- Track changes in high-pressure fuel supply, fuel injection quantity, back leak amount, and spray pattern quality.

Value for instructors

- Show functionality of diesel engine components, including sensors, actuators, and control units.
- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- Compact and vertically design for efficient use of classroom space. Durable and light construction makes it long lasting and safe to use. Closed panels and internal wiring for safe to use and ensures accidental damage. Allows concurrent use by multiple students.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

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)







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

A8/L1 | Product number MVFSI01

Fully functional petrol(gasoline) engine EURO4 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.



Value for students

- Fully functional petrol engine with FSI (fuel-stratified injection) fuel injection system, exhaust, cooling, and power supply systems.
- 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.
- Banana plug connectors to measure electrical signal parameters of sensors and actuators, including high voltage circuits.
- Simulate 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.

Value for instructors

- Easy, safe, and comfortable training using OEM components to offer a realistic engine repair experience.
- Compact and vertically design for efficient use of classroom space. Durable and light construction makes it long lasting and safe to use. Closed panels and internal wiring for safe to use and ensures accidental damage. Allows concurrent use by multiple students.
- The training stand is designed for simplicity, requiring only small adjustments to reset to default parameters, making it easy to prepare and start each lesson quickly and efficiently.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.
- Use advanced, hands-on training equipment to demonstrate key automotive systems and diagnostics.
- Easier real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- The Audi/VW OEM-based system allows diagnostics using almost any multibrand, specialized or OEM scan tools.

Specifications

- Dimensions: approx. 1550 x 1000 x 1200 mm (61.02 inx39.37 inx47.24 in)
- Weight: approx. 310 kg (683 lb)
- Power supply: 12V battery
- Fuel: Gasoline A95
- Product number: MVFSI01







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

A8/L1 | Product number MVTSI01



Fully operational 1.4 Turbocharged Stratified Injection (TSI) EURO5 engine with a direct petrol(gasoline) injection system, turbocharger, and exhaust system. Includes OBD 16-pin socket for diagnostics and over 30 faults simulations using banana plug jumpers. Clearly visible engine components with safety panels.

Value for students

- OEM 1.4 TSI EURO 5 engine with direct petrol(gasoline) injection systems, turbochargers, cooling and exhaust systems.
- OBD 16-pin diagnostic connector to perform ECU identification, read and erase fault codes, display live data, and test actuators.
- Simulate over 30 different faults by disconnecting banana plug jumpers.
- Measure various systems electric parameters using connectors and diagnostic tools such as oscilloscopes and multimeters.
- Analyze exhaust gas before and after the catalytic converter to evaluate system performance.
- Safe removable panels that protect against hot and rotating parts. Access components directly through removable panels.

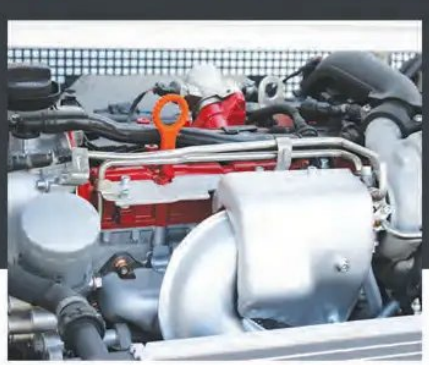
Value for instructors

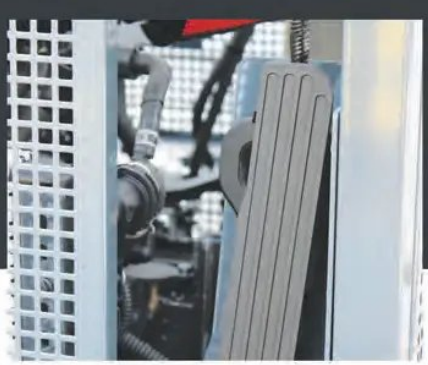
- Functional engine model for teaching modern engine technology, direct injection systems, turbocharging, exhaust management and more.
- Removable safety panels from hot and rotating parts for safe learning environment.
- OBD diagnostic connector for training in fault code management, system parameter analysis, and actuator testing.
- Closed and durable steel frame construction, removable panel for easy maintenance.
- Demonstrate and simulate a wide range of faults.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1550 x 1000 x 1200 mm (61.02x39.37x47.24 in)
- Weight: approx. 300 kg (660 lb)
- Product number: MVTSI01







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

A9/L2 | Product number MVCR05



Fully operational EURO6 diesel engine with Common Rail fuel injection system. Learn the structure of the engine and its components, power supply system, cooling system, engine control system. Study components and operation modes of the engine control system, perform various measurements, tests and other diagnostic procedures.

Value for students

- EURO6 engine with Common Rail (CR) diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Bosch EDC or similar engine control system, including its operational modes and diagnostic features.
- Perform measurements and diagnostic tests with 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.
- 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.

Value for instructors

- OEM ADblue EURO6 Renault engine with all components and a fully operational Common Rail diesel injection system.
- Removable panels that protect against hot and rotating parts, while allowing easy access to the engine for maintenance and instructional purposes.
- OBD II 16-pin diagnostic connector for ECU diagnostics, including fault code management and live data monitoring.
- The mobile frame designed for easy movement and integration into various classrooms. Allows concurrent use by multiple students, promoting collaborative learning and practical training opportunities.
- Closed steel frame with internal wiring for clean and safe learning environment while maintaining the model's durability.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1550 x 1000 x 1200 mm (61.02 inx39.37 inx47.24 in)
- Weight: approx. 350 kg (770 lb)
- Product number: MVCR05







EDUCATIONAL MOTORCYCLE ENGINE TRAINER WITH A FUEL INJECTION SYSTEM

A8/L1 | Product number MVMC01

Fully functional 2/4 cylinder motorcycle engine with ignition, fuel injection, and exhaust systems. OBD II diagnostic connector for real-time engine monitoring and fault code management. Includes open contacts for component measurement and fault simulation.



Value for students

- Fully functional 2/4 cylinder motorcycle engine with ignition, injection, and exhaust systems.
- OBD II diagnostic connector to monitor engine parameters, read and delete fault codes, and live data monitoring.
- Open contacts for measurement and monitoring of various system components and circuits.
- Troubleshoot and simulating faults through jumper removal.
- Complete control panel with labeled wiring diagram, measuring contacts, jumpers, and a legend for easy operation.
- Integrated throttle handle and gear lever for full engine testing experience.

Value for instructors

- Learn motorcycle engine operation, structure, and diagnostics using real, functional OEM components.
- OEM automotive parts for practical learning experience.
- Use advanced training equipment to demonstrate key automotive systems and diagnostics.
- Real-time monitoring and fault simulation to improve student understanding and troubleshooting skills.
- Metal frame with transport wheels, ensuring both durability and mobility within the classroom. Allows concurrent use by multiple students.
- Safe learning environment with a closed structure with internal wiring, reducing the risk of accidental damage. Removable panels that protect against hot and rotating parts, easy access to the engine for maintenance and instructional purposes.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1160x950x1520 mm (45.67 in x 37.40 in x 9.84 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/L1 | Product number MVMPI01-LPG02



Features

- Real OEM EURO4 petrol(gasoline) 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/L1 | Product number MVTSI02



Features

- Fully functional 1.2 TSI 4-cylinder, 1.2 TSI, 8 Valve, OHC engine.
- OBD 16-pin diagnostic connector for ECU identification, fault code management, live data display, and actuator testing.
- Open contacts for measuring system components and circuits, enhancing diagnostic and analytical skills.
- Allows simulation of fault codes for practical troubleshooting training.
- Uses OEM manufacturer parts for an authentic learning experience.

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

A8/L1 | Product number MVMPI02-TOY



Features

- A complete, operational Toyota 4-cylinder EURO 4-5 multi-point injection (MPI) petrol(gasoline) engine system 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.
- 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

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

A9/L2

Product number
MVCR03



Features

- EURO 5 engine with Common Rail (CR) diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Understand 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 for 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 (depending on ECU).
- Includes an integrated emergency stop button for immediate shutdown in case of an emergency.

EDUCATIONAL DIESEL ENGINE TRAINER WITH PD SYSTEM EURO 3

A9/L2

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/L2

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.
- Dimensions: 1580 x 1090 x 1635 mm (62.20 in x 42.91 in x 64.37 in)

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

A8/L1 | Product number MVMPI04

Features

- A complete, operational 4-cylinder multi-point injection (MPI) 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 multiple sensors: 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 and TCCS control module.



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

A8/L1 | 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 MOTORCYCLE ENGINE WITH A FUEL INJECTION SYSTEM

A8/L1 Product number MVMC02



Features

- Fully functional 2/4 cylinder motorcycle 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.
- Dimensions: 1160x950x1520 mm (45.67x37.40x59.84 in). Weight: 218 kg (480 lb)

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

A8/L1 Product number MVMPI01-DYNO



Features

- Real OEM EURO4 multi-point injection (MPI) petrol(gasoline) engine with connected Dyno measurement system.
- Included eddy current brake dynamometer to test engine performance under different conditions. The PC-based software allows detailed data logging and analysis.
- 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.

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

A8/L1 Product number MVTSI01-DYNO



Features

- Real OEM EURO 5 4 cylinders in line, 1.2 TSI, 8 Valve, OHC petrol(gasoline) engine with connected Dyno measurement system.
- Included eddy current brake dynamometer to test engine performance under different conditions. The PC-based software allows detailed data logging and analysis.
- 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.

EDDY CURRENT BRAKE

A8/A9 | 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

*** Should be ordered with the educational engine at once**

EDDY CURRENT BRAKE

A8/A9 | 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

*** Should be ordered with the educational engine at once**

EDDY CURRENT BRAKE

A8/A9 | 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

*** Should be ordered with the educational engine at once**

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH PLD SYSTEM

A9/L2 | Product number MVSPLD01

Fully operational truck diesel engine model in a mobile frame. This training engine is specially designed to demonstrate Pressure Limiting Drivers (PLD) 4-cylinder diesel injection system and operational structure. The educational training engine is based on OEM components with functional engine control system. This fully functional model includes a PLD fuel supply system, instrument cluster, cooling system, power supply, and exhaust system, providing a realistic and hands-on educational experience.



Features

- Includes Pressure Limiting Drivers (PLD) 6-cylinder diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Utilizes a 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, live data display, actuator activation, and control unit coding.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH PLD SYSTEM

A9/L2 | Product number MVSPLD02



Fully operational 6-cylinder truck diesel engine model in a mobile frame. This training engine is specially designed to demonstrate Pressure Limiting Drivers (PLD) diesel injection system and operational structure. The educational training engine is based on OEM components with functional engine control system.

Features

- Includes Pressure Limiting Drivers (PLD) 6-cylinder diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Utilizes a 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, live data display, actuator activation, and control unit coding.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH VR TYPE PUMP EDC SYSTEM

A9/L2 | Product number MVSVR01



Features

- Includes VR Type Pump Electronic Diesel Control (EDC) injection system, cooling system, power supply system, and exhaust system based on Renault original components. Utilizes a 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, live data display, actuator activation, and control unit coding.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER V8

A9/L2 | Product number MVSCR03



Features

- Includes V-shape 8-cylinder diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Utilizes a 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, live data display, actuator activation, and control unit coding.

EDUCATIONAL TRUCK DIESEL ENGINE TRAINER WITH CR SYSTEM

A9/L2 | Product number MVSCR06



Features

- Includes common rail (CR) 6-cylinder diesel injection system, cooling system, power supply system, and exhaust system based on Renault original components.
- Utilizes a 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, live data display, actuator activation, and control unit coding.
- Includes an integrated emergency stop button for immediate shutdown in case of an emergency.

ENGINE CONTROL SYSTEM BOSCH MOTRONIC MED 7.5.10

A8 | Product number MSFSI01

Fully functional engine control system BOSCH Motronic MED 7.5.10 (FSI), featuring OBD 16-pin diagnostics, open contacts for measuring system components and circuits, and fault code simulations.



LPG TRAINING BOARD EDUCATIONAL TRAINER

A8 | Product number MSLPG01

LPG training board with open contacts for measuring system components and circuits.



DSG AUTOMATIC TRANSMISSION EDUCATIONAL TRAINING STAND

A2 | Product number MSATDSG01

DSG automatic transmission training strand with fully functional dual-clutch gearbox, OBD 16-pin diagnostics, open contacts for measuring system components and circuits, and fault code simulations.



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

A8/L1 | Product number MVMPI01

Petrol engine with a EURO 3 MPI system offers OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, and includes fault code simulations.



EDUCATIONAL PETROL(GASOLINE) ENGINE WITH DIRECT MULTIPOINT INJECTION SYSTEM (MPI) EURO 4-5

A8/L1 | Product number MVMPI03

Fully functional petrol(gasoline) engine with a EURO 5 MPI system, based on a 4-cylinder inline engine, features OBD 16-pin diagnostics, open contacts for measuring components and circuits, and includes fault code simulations.



PETROL(GASOLINE) ENGINE TRAINER WITH DIRECT INJECTION SYSTEM (GDI) EURO 3

A8/L1 | Product number MVGDI01

Fully functional petrol(gasoline) engine with a EURO 3 direct injection (GDI) system, supports OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, includes fault code simulations.



PETROL(GASOLINE) ENGINE TRAINER WITH LPG SYSTEM EURO 3

A8/L1 | Product number MVMPI01-LPG01

Educational petrol(gasoline) engine with a EURO 3 and LPG system (MPI+LPG), features OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, and includes fault code simulations.



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

A8/L1 | Product number MVMPI03-AT

Fully functional petrol(gasoline) engine with a EURO 5 MPI system and automatic transmission, based on a 4-cylinder inline engine, features OBD 16-pin diagnostics, and includes fault code simulations.



PETROL(GASOLINE) MPI V6 ENGINE EDUCATIONAL TRAINER

A8/L1 | Product number MVMPI03-V6

This Chrysler/Dodge V6 engine training tool with MPI technology features an OBD 16-pin connector, open contacts for system measurements, and over 30 fault simulations. It includes a full engine system with cooling, power, and exhaust, enclosed in removable safety panels.



DIESEL ENGINE TRAINER WITH CR SYSTEM EURO 3

A9/L2 | Product number MVCR01

Diesel engine with a EURO 3 common rail (CR) system, features OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, and includes fault code simulations.



DIESEL ENGINE TRAINER WITH CR SYSTEM EURO 4

A9/L2

Product number
MVCR02

Diesel engine with a EURO 4 common rail (CR) system, features OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, and includes fault code simulations.



DIESEL ENGINE TRAINER WITH CR EURO 6

A9/L2

Product number
MVCR04

Diesel engine with a EURO 6 common rail (CR) system, features OBD 16-pin diagnostics, provides open contacts for measuring components and circuits, and includes fault code simulations.



HIDDEN FAULT SIMULATION FOR ENGINE CONTROL SYSTEM

Product number
AE12F-ENG

12 concealed faults within a closed box and must be ordered with the stand.



VACUUM MEASURING GAUGE

Product number
AEVAC-ENG



FUEL PRESSURE GAUGE

Product number
AEPRES-B-ENG

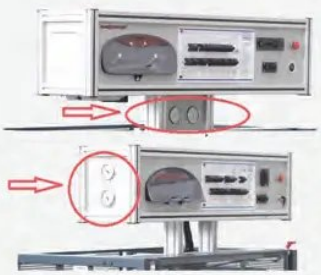
Measures pressure in the low fuel supply line for petrol engines with a tank-mounted fuel pump and must be ordered with the stand.



FUEL PRESSURE GAUGE

Product number
AEPRES-D-ENG

Measures pressure in the low fuel supply line for diesel engines with a tank-mounted fuel pump and must be ordered with the stand.



DIESEL ENGINE TRAINER WITH VE PUMP (TDI) EURO 2

A8/L1 | Product number MVVE01

Fully functional diesel engine with a VE pump (TDI) EURO 2, features OBD 16-pin diagnostics, provides open contacts for measuring system components and circuits, includes fault code simulations.



TRUCK DIESEL ENGINE TRAINER WITH CR SYSTEM

A9/L2 | Product number MVSCR01

Truck diesel engine with a common rail (CR) system, featuring a 4-cylinder inline configuration, includes OBD 16-pin diagnostics, provides open contacts for measuring components and circuits and fault code simulations.



TRUCK DIESEL ENGINE TRAINER WITH CR AD-BLUE SYSTEM

A9/L2 | Product number MVSCR04-ADBLUE

4-cylinder inline engine with a CR AdBlue system, OBD 16-pin diagnostics, open contacts for measuring components and circuits, fault code simulations, exhaust catalytic converter/filter and turbocharger.



EDUCATIONAL TRACTOR DIESEL ENGINE WITH CR SYSTEM

A9/L2 | Product number MVTCR02

Fully functional John Deere tractor diesel 4-cylinder inline engine with a CR AdBlue system, equipped with a turbocharger, DOC + DPF exhaust filters, SCR + DEF, OBD 16-pin diagnostics, fault code simulations.



EDUCATIONAL DIESEL ENGINE WITH CR (COMMON RAIL) SYSTEM

A9/L2 | Product number MVTCR03

Diesel engine with a CR system, based on the Cummins QSB 6.7 T3 engine, 6-cylinder inline design, OBD 16-pin diagnostics, and open contacts for measuring system components and circuits.



MARINE DIESEL ENGINE WITH P3000 INLINE PUMP

A9/L2 | Product number MVMIL03

Marine diesel engine, based on the Cummins 6CTA 8.3, features a fully functional 6-cylinder system with a Bosch P3000 fuel pump, turbocharger, diagnostic socket, open contacts, and fault code simulations.





DRIVETRAIN AND AXLES







WHEEL ALIGNMENT EDUCATIONAL TRAINER

A3 | Product number MSVAZ01

Wheel alignment training educational trainer shows wheel alignment and suspension geometry. McPherson-type front suspension and a multi-link rear suspension, camber, caster, toe, and steering axis inclination angles adjustment. All suspension components are visible and easily adjustable.



Value for students

- Adjust camber, caster, toe, and steering axis inclination (SAI) angles on both front and rear suspensions.
- Multi-Link rear suspension, features 3 adjustment points for detailed angle modifications.
- Front hydraulic brake for extended analysis brake interaction into suspension.
- Allows for easy viewing and access for measurements and adjustments without the need for a car lift.
- Compatible with 3D, CCD and mechanical aligners (rulers, ropes, lasers), to measure and adjust suspension geometry.
- Measure and adjust wheelbase distances, axis shifts, scrub radius, caster trail, tread width, and other essential alignment parameters.
- Use diagnostic tools to monitor ride height, central line position, traction line operation, thrust angle, toe difference angle, and turning radius.

Value for instructors

- Easy, safe, and comfortable training using OEM automotive parts for a realistic car repair experience.
- Clear, hands-on demonstrations of suspension geometry adjustments using visible and adjustable suspension components.
- Space-saving, foldable design that allows for easy storage and mobility within the classroom.
- Allows concurrent use by multiple students, promoting collaborative learning and practical training opportunities.
- The training stand is designed for simplicity, requiring only small adjustments to reset to default parameters, making it easy to prepare and start each lesson quickly and efficiently.

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)





VEHICLE SUSPENSION TRAINING STAND

A3 | Product number MSVAZ02

McPherson-type suspension with brake discs, calipers, and shafts, is designed for dismantling and assembling, based on Audi/VW front suspension.



WHEEL ALIGNMENT TRAINING STAND WHEELS AND TIRES SET

Product number MSRP01

- Refurbished Wheels R14/R15 x 4 units (4x100)
- New tires 195/55 R 14/R15 x 4 units



PLATFORM FOR A QUADRACYCLE

A3 | Product number PKX02

The platform for a quadracycle (ATV) features fixing points for a 2-wheel drive.



PLATFORM FOR A QUADRACYCLE

A3 | Product number PKX04

The platform for a quadracycle (ATV) features fixing points for a 4-wheel drive.





SUSPENSION AND STEERING







ELECTRONIC STEERING RIG EDUCATIONAL TRAINER

A4 | Product number MSEVS01

Fully functional electronic 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.



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

A3 | Product number MSPPS01

This fully operational truck air suspension educational trainer includes a complete Electronically Controlled Air Suspension (ECAS) air suspension system, an air reservoir tank, ECAS ECU, height sensors for both front and rear axles, and a remote control pad for height adjustments and diagnostics. It enables users to simulate fault codes and conduct detailed system analysis through the diagnostic socket, providing a hands-on learning experience essential for mastering modern truck air suspension technologies.



EDUCATIONAL ELECTRIC STEERING RIG TRAINER

A4 | Product number MSES01

Fully functional electric steering rig, OBD 16-pin diagnostics, driving simulation, mobile with 4 casters.





BRAKES







BRAKE RIGS EDUCATIONAL TRAINER

A5 | Product number MSSS01



Fully functional hydraulic braking educational system with ABS. Includes 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.

Value for students

- Fully operational hydraulic braking system, including the brake booster and electronic ABS.
- Pressure gauges to monitor fluid pressure in each wheel's brake circuit. Perform real-time measurements and diagnostics to learn brake force distribution and ABS functionality.
- OBD 16-pin diagnostic connector to read and erase fault codes, display system parameters (live data), and conduct air bleeding operations.
- Fully operational electronic ABS system with wheel speed sensors, hydraulic pumps, solenoid valves, and the ABS control unit.
- Simulate wheel blocking scenarios to observe ABS activation and monitor pedal response.
- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- Safe and durable design education stand, clearly visible all system components.

Value for instructors

- Full operating hydraulic braking system with ABS using OEM automotive components from Audi/VW.
- Integrated pressure gauges and OBD diagnostic tools for system diagnostics, fault detection, and repair procedures.
- Safe and sturdy frame, mobile castors, and protective design features.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.
- Compact and mobile for efficient use of classroom space. Durable and light construction from solid metal frame to make it long lasting and safe to use.

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.
- Product number: MSSS01

***Possible bench version MSSS03:**







EDUCATIONAL TRAINER WITH ABS/ASR SYSTEM

A5 | Product number MSABS-ASR01

Fully functional educational tool designed to demonstrate and analyze the Anti-lock Braking System (ABS) / 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 includes all necessary components to demonstrate the operational structure and various modes of ABS/ASR systems.
- Equipped with pressure gauges to monitor the main brake circuit and individual wheel pressures. Features original hydraulic components, including brake pads and drums, to illustrate braking pressure dynamics.
- Contains detailed wiring diagram with built-in banana plug jumpers for measurement and fault simulation.
- Offers comprehensive diagnostic functions through an OBD 16-pin connector, including ECU identification, fault code management, and live data display.
- Supports connection to oscilloscopes and multimeters for detailed measurement of electrical signal parameters.
- Simulate various system faults for practical troubleshooting exercises. Closed structure with no visible internal wiring, ensuring safety and durability.

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.

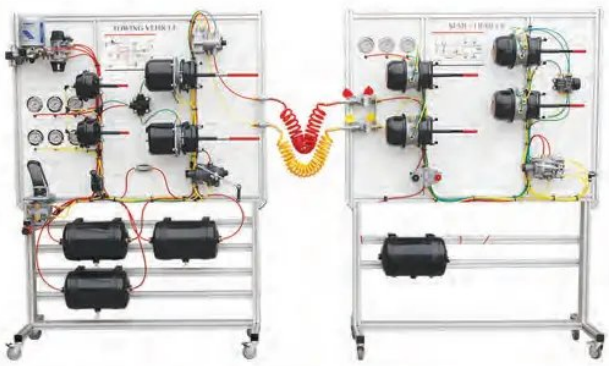
Features

- Functional BOSCH 5.3 ABS system includes all necessary components to demonstrate the operational structure and various modes of ABS systems. Equipped with pressure gauges to monitor the main brake circuit and individual wheel pressures.
- Features original hydraulic components, including brake pads and drums, to illustrate braking pressure dynamics.
- Contains detailed wiring diagram with built-in banana plug jumpers for measurement and fault simulation.
- Offers comprehensive diagnostic functions through an OBD 16-pin connector, including ECU identification, fault code management, and live data display.
- Supports connection to oscilloscopes and multimeters for detailed measurement of electrical signal parameters.

TRUCK AIRBRAKE EDUCATIONAL TRAINER

A5 | Product number MSSPPS01

Fully functional educational trainer of truck and trailer airbrake system. Using OEM automotive components for detail understanding of real life pneumatic systems and their maintenance.



Value for students

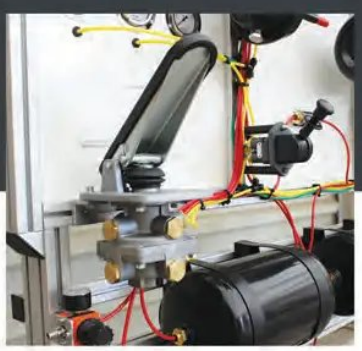
- Easy, safe, and comfortable training using OEM components to offer a realistic truck repair experience.
- Includes both truck and trailer systems. Includes 6 gauges for truck lines and 3 for trailer lines.
- Simulate different driving speeds, decrease in rotation speed of the braked wheels, change in air pressure, and mechanical and electrical system failures.
- Elements are presented in the electrical diagram: sensors, execution components, data transmission lines, diagnostic connection. See the connection circuits of elements, connection contact numbers, component numbers, and installation locations of the jumpers.
- Designed specifically for technical students to explore and grasp airbrake system intricacies, enabling hands-on tests and diagnostics.

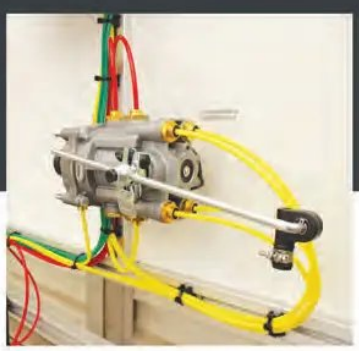
Value for instructors

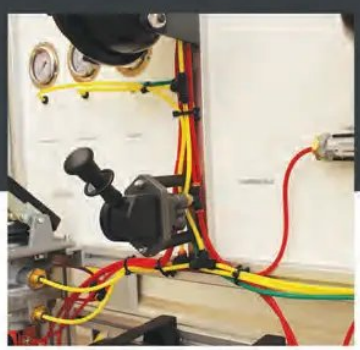
- Learn the construction and operation of the truck and semi-trailer (trailer) pneumatic brake system with ABS system.
- Uses OEM automotive parts for an authentic and practical learning experience.
- Allows dynamic manipulation and observation of system functions to deepen comprehension.
- Enables students to troubleshoot diverse airbrake system faults, fostering critical problem-solving skills.
- Compact and vertically oriented for enhanced mobility and efficient use of classroom space. Durable and light construction to make it long lasting and safe to use. Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- Mobile and space saving in the classroom, allows concurrent use by multiple students.

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 SYSTEM

A5 | Product number MSSPPS01-ABS

Fully functional educational trainer offers a comprehensive, hands-on 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 in-depth 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 both truck and trailer pneumatic braking systems with real WABCO components.
- Equipped with six measuring gauges for truck lines and three for trailer lines to facilitate detailed system analysis.
- Features functional ABS systems on both truck and trailer, including ABS sensors for realistic fault simulation and diagnostics.
- Capable of simulating various faults, allowing students to practice troubleshooting and diagnostic procedures.
- Utilizes the same pneumatic components found in real vehicles, providing an authentic learning experience.
- The training board is installed in a durable and mobile aluminum frame, ensuring ease of use and longevity.



TRUCK AIRBRAKES EDUCATIONAL TRAINER WITH EBS SYSTEM

A5 | Product number MSSPPS01-EBS

Fully functional educational trainer offers a comprehensive, hands-on learning experience of truck and trailer pneumatic braking Braking System (EBS) systems. This advanced training equipment, featuring OEM WABCO components, provides students with an in-depth understanding of airbrake systems, including the functionalities and diagnostics of 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 both truck and trailer pneumatic braking systems with real WABCO components.
- Equipped with six measuring gauges for truck lines and three for trailer lines to facilitate detailed system analysis.
- Features functional EBS systems on both truck and trailer, including EBS sensors for realistic fault simulation and diagnostics.
- Capable of simulating various faults, allowing students to practice troubleshooting and diagnostic procedures.
- Utilizes the same pneumatic components found in real vehicles, providing an authentic learning experience.
- The training board is installed in a durable and mobile aluminum frame, ensuring ease of 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 and operational multi-stage gear mechanism with electric motor and belt drive, allowing detailed observation of gear interactions.
- Includes a rear disc, caliper, and brake pads, demonstrating the hydraulic aspects of the parking brake system.
- Operates at 12V or 220V, with dedicated electrical buttons for engaging and releasing the brake.
- Provides a clear view of internal gear mechanisms for educational purposes.
- Equipped with buttons for pressing and releasing the parking brake, facilitating practical demonstrations of brake operation.



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 integrated pneumatic components and electronic EBS system.
- Six pressure gauges for monitoring brake circuit pressures at each wheel.
- Simulated wheel slipping and ABS fault scenarios to study system reactions and troubleshooting.
- ISO type diagnostic connector for ECU identification, fault code management, live data display, and system reprogramming.
- Allows for simulation of driving conditions to observe braking system performance and ABS behavior.
- Integrated safety feature for immediate shutdown in case of 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

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.







CAN BUS EDUCATIONAL TRAINER

A6 | Product number MSCAN01

CAN BUS network system based on OEM components from Mercedes-Benz, featuring the CAN GATEWAY 2.0 system. 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.



Value for students

- Structure and operation of the CAN BUS network, including the CAN Gateway system and its interactions with various components such as the dashboard, engine ECU, and central locking modules.
- Simulate over 10 system faults and diagnose them using OBD II 16-pin connectors. This includes reading and erasing fault codes, and activating or configuring control units.
- Use banana plug connectors to measure electrical parameters of system components, including window lifting motors, control modules, and the CAN gateway system.
- Diagnostic with oscilloscopes and multimeters. Analyze system parameters and electrical signals, and diagnose each control module separately.
- Control various components such as window lifting motors and central locking systems via the CAN network. Learn about the communication between modules and how faults affect system operation.

Value for instructors

- Fully functional CAN BUS network system based on OEM Mercedes-Benz components, ensuring an authentic learning experience for students.
- Fault diagnosis using modern diagnostic tools. ECU identification, fault code management, and actuator control.
- Simulate faults and measure system parameters to create dynamic, interactive lessons that enhance student engagement and understanding.
- OEM-based system allows students to be trained in diagnostics using almost any multibrand, specialized or OEM scan tools.
- Mobile and space saving in the classroom, allows concurrent use by multiple students.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

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







SENSORS AND ACTIATORS 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 practical demonstration and hands-on learning.
- Realistic battery charging/discharging processes with adjustable alternator rotation speed. Integrated negative terminal fault simulation for hands-on troubleshooting practice.
- Displays for loading, charging, RPM, and voltage to facilitate real-time monitoring and analysis.
- Open contacts and multiple meters (ammeter for battery, charging, and load currents; voltmeter; speed meter) for detailed performance measurement.
- Includes an emergency stop switch, ignition switch, and main switch for operational safety and control.

AUTOMOTIVE 12V STARTER EDUCATIONAL TRAINER

A6 | Product number AVS01



Features

- Complete starter motor with Bendix drive, ignition switch, protection plexiglass and connection cables.
- Fully functional educational trainer, starter runs without any load.
- Sturdy and durable aluminum frame with all safety components.
- Clear and visible starter motor components.
- Dimensions: 340 x 260 x 250 mm. Weight: ~8 kg (17 lb)

LIGHTING TRAINING BOARD

A6 | Product number MSAS03



Features

- Includes left and right headlamps, tail lamps, fog lamps, and various signal lights, all functioning as in real vehicles.
- Equipped with an OBD II diagnostic connector for real-time parameter monitoring and fault code management.
- Open contacts and a comprehensive wiring diagram with legends and jumpers for detailed measurement and fault simulation.
- Features rain and light sensors, headlight range control units, trailer detector control unit, and other essential components.
- Integrated control buttons and switches, such as light switches, turn signal switches, and hazard warning light switches, for hands-on operation.

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.
- Safe, durable and mobile construction with internal wiring for best learning experience and safe environment.

IGNITION SYSTEM EDUCATIONAL TRAINER

A6 | Product number MSUS01



Features

- Includes compact single spark ignition system (DI/COP), twin spark ignition system, and transistorized ignition system (TSZ-h).
- Features open contacts for easy measurement of electrical parameters in various system components.
- Switch between different ignition systems using the integrated selection switch for comprehensive training.
- High-voltage cables, ignition coils, spark plugs, and distributors are clearly visible and accessible for detailed study.
- Includes a geared rotating disc and electric motor to simulate different crankshaft rotation frequencies.

EDUCATIONAL CAN BUS TRAINING DASHBOARD

A6 | Product number MSCAN02

Fully functional system with OBD 16-pin diagnostics, open contacts for measuring CAN bus signals, and activation through commands sent via the CAN network.



EDUCATIONAL LIGHTING TRAINING BOARD

A6 | Product number MSAS01

Fully functional system with open contacts for measuring components and circuits, and dashboard diagnostics through an OBD 16-pin socket.



EDUCATIONAL LIGHTING TRAINING BOARD

A6 | Product number MSAS02

Fully functional system with CAN and LIN, OBD 16-pin diagnostics, open contacts for measuring components and circuits, and fault code simulations.



EDUCATIONAL LIGHTING TRAINING BOARD

A6 | Product number MSAS02-A

Fully functional system with CAN and LIN, OBD 16-pin diagnostics, open contacts for measuring components and circuits, fault code simulations and an auto lights sensor.



AUTOMOTIVE 12V STARTER EDUCATIONAL FUNCTIONAL MODEL

A1 | Product number AVS02

Including a bendix drive and ignition switch, an electric diagram, demonstrates the bendix drive, and allows current measurement with a separate clamp meter.



POWER SUPPLY UNIT

A6 | Product number AEPWS22A

Power supply unit for training boards provides 13.5V/22A from a 100-230V input.




POWER SUPPLY UNIT

A6 | Product number AEPWS37A

Power supply unit for training boards provides 12V/37.5A from a 100-230V input.




EDUCATIONAL TRUCK TACHOGRAPH SIMULATOR

A6 | Product number MSTACH02

Fully functional system with driving speed simulation, rest and driving time modes, includes Driver, Workshop, and Company Cards, prints driving reports, and supports multiple languages.



EDUCATIONAL TRUCK ANALOGUE TACHOGRAPH SIMULATOR

A6 | Product number MSTACH03

Fully functional system with driving speed simulation, prints driving reports, supports multiple languages, and includes analog paper tachograph charts.





SAFETY AND COMFORT







SRS BOSCH AB 8.4 (AIRBAG) EDUCATIONALTRAINER

A7 | Product number MSSRS01

Fully functional SRS Bosch AB 8.4 Airbag training board simulator, built with authentic Audi/VW OEM components. Understand the intricacies of modern supplemental restraint systems (SRS). It shows the construction and operation of car safety systems, including airbags and seatbelt tensioners.



Value for students

- SRS Bosch AB 8.4 airbag system, structure and function of four airbags, crash sensors, airbag steering wheel module, and spiral cable.
- OBD 16-pin connector enable ECU identification, fault code reading/erasing, live data monitoring, actuator activation, and control unit encoding/configuration.
- Banana plug connectors to measure electrical parameters of each system component with an oscilloscope or multimeter.
- Simulate more than 10 system faults using banana plug jumpers for troubleshooting and diagnostic abilities.
- Study 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.

Value for instructors

- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- Ensure a safe educational environment with inactive airbag igniters and closed internal wiring, preventing accidental damage.
- The mobile and compact design allows for easy setup and integration into classroom settings, promoting efficient use of space and resources.
- Mobile and space saving in the classroom, allows concurrent use by multiple students.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 1820 x 1360 x 500 mm (71.65x53.54x19.69 in)
- Weight: approx. 60 kg (132 lb)
- Power supply: 12V battery (optional accessory)
- Made in the EU
- Product Number: MSSRS01
- Optional Accessories: 12V battery, 220/12V power supply unit, automotive oscilloscope, OBD diagnostic scan tool







CAR AIRBAG SRS DEMONSTRATION EDUCATIONAL TRAINER

A4 | 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



Fully functional Air-Conditioning system trainer with an expansion valve and electronic climate control system CLIMAtronic system, equipped with R134a refrigerant. OBD 16-pole diagnostic socket and included open contacts for measuring system components and circuits. Fault code simulations enhance the educational value of this versatile training tool, installed in a mobile aluminum frame, designed specifically for technical and vocational automotive education and training.

Value for students

- Fully functional electronic OEM climate control system CLIMAtronic with R134a refrigerant.
- Demonstrates different operational modes of expansion valve system. Allows monitoring of changes in temperature, air flow, and actuator positions.
- 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.
- Detailed diagram showing all elements, sensors, actuator components, data transmission lines, and diagnostic connections.
- 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.

Value for instructors

- Visual and practical tool for explaining and demonstrating the structure and operation of automotive air conditioning systems.
- Compact and vertically oriented for enhanced mobility and efficient use of classroom space. Durable and light construction makes it long lasting and safe to use. Closed panels and internal wiring makes it safe to use and ensures accidental damage to sensitive training stand parts.
- Supports a wide range of educational activities, from basic understanding of system management and working principles to advanced diagnostics of fault simulations and live-data troubleshooting.
- OEM-based system allows diagnostics using almost any multibrand, specialized or OEM scan tools.
- Mobile and space saving in the classroom, allows concurrent use by multiple students.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.

Specifications

- Dimensions: 685 x 865 x 1680 mm (26.97x34.06x66.14 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

Fully functional Dual-Zone air conditioning and climate control trainer includes a dual-zone air conditioning system, an auxiliary diesel heating unit, and an electronic climate control system based on Audi/VW OEM components.



Value for students

- Fully functional system using R1234yf refrigerant, capable of independent temperature control for driver and passenger zones. 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.
- Pressure distribution of R1234yf refrigerant in high and low-pressure circuits, 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.

Value for instructors

- Provide thorough education on HVAC systems, enhancing students' diagnostic and troubleshooting capabilities.
- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.
- OEM-based system allows diagnostics using almost any multibrand, specialized or OEM scan tools.
- Mobile and space saving in the classroom, allows concurrent use by multiple students.
- Requires small adjustments to reset to default parameters, making it easy to prepare and start each lesson.
- Simulate faults and measure system parameters to create dynamic, interactive lessons that enhance student engagement and understanding.

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





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 REFRIGIRATION 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

Fully functional Climatronic system with an expansion valve, uses R134a refrigerant offers OBD 16-pin diagnostic open contacts for system measurements, and include fault code simulations.



DUAL ZONE AIR CONDITIONING AND CLIMATE CONTROL TRAINER WITH AUXILIARY HEATER

A7 | Product number MSC03-B

Dual-zone air conditioning and climate control trainer with auxiliary petrol heater, Climatronic system, R134a refrigerant, OBD diagnostics, and fault code simulations.



DUAL ZONE AIR CONDITIONING AND CLIMATE CONTROL TRAINER WITH AUXILIARY HEATER

A7 | Product number MSC03-D

Dual-zone air conditioning and climate control trainer with an auxiliary diesel heater, Climatronic system, R134a refrigerant, OBD diagnostics, and fault code simulations.



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

A7 | Product number MSC04-R1234YF-B

Dual-zone air conditioning and climate control trainer with an auxiliary petrol heater, electronic climate control system, R1234yf refrigerant, OBD diagnostics, and fault code simulations.



HIDDEN FAULT SIMULATION FOR AIR CONDITIONING AND CLIMATE CONTROL TRAINER

Product number MSC-F (W)

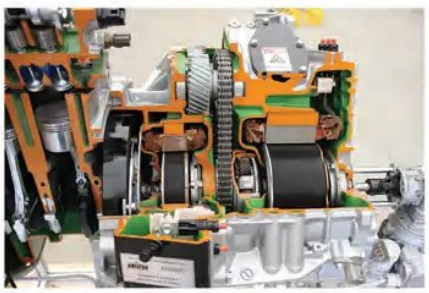
Hidden fault simulation for air conditioning and climate control trainer with 6 faults; available in wired or Wi-Fi versions. Must be ordered with the stand.





CUTAWAYS







PETROL(GASOLINE) DOHC ENGINE ½ CUTAWAY EDUCATIONAL TRAINER

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. Learn process of timing belt replacement, auxiliary drive belt replacement, operation of a DOHC twin overhead camshaft system, water cooling system and alternator function. Mounted on a

clams.

Value for students

- Fully functional OEM DOHC engine system with visible components of engine block, engine head, crankshaft, connecting rod, DOCH dual overhead camshaft, Pistons and rings, timing belt with camshaft sprocket and tensioners, alternator system.
- Operation of pistons, rings, combustion chambers, and intake and exhaust ports. Turning crankshaft to observe the dual overhead camshaft mechanism in action.
- Positions and functions of injectors and glow plugs within the combustion chamber, understand fuel injection and ignition processes.
- Timing and alternator belt replacement using the provided special tool kit, following exact torque measurement procedures for each component.
- Understand the assembly and operation of critical engine parts, including the timing belt, camshaft sprocket, tensioners, alternator belt, and crankshaft sprocket.

Value for instructors

- Fully functional cutaway model of a DOHC engine, enhancing theoretical lessons with practical, hands-on demonstrations.
- Allowing students to observe and manipulate engine components, fostering a deeper understanding through direct engagement.
- Safety first with protective covers over the cross-section of the engine. The model is equipped with bench clamps to secure it during use, preventing accidental movement.
- Integrate the model easily into any classroom setting due to its minimal space requirements and lightweight design. This eliminates the need for additional mounting stands and simplifies transportation.
- Quickly set up and conduct lessons using the included tool kit and detailed instructional materials, streamlining the teaching process and maximizing classroom time.

Specifications

- Dimensions:
  500 x 500 x 300 mm
  (19.69 x 19.69 x 11.81 in)
- Weight: approx. 40 kg
- Product number: IVDB01



PETROL(GASOLINE) DOCH MPI ENGINE ½ CUTAWAY EDUCATIONAL TRAINER

A1 Product number IVDB02

Highly detailed model to learn of internal combustion engine mechanics. Gain in-depth understanding of dual overhead camshaft (DOHC) technology, timing chain replacement, and other critical engine functions.



Value for students

- Hands-on experience with dual overhead camshaft (DOHC) technology, including 4-valve per cylinder configuration, operation of camshafts, valves, valve lifters, water pump.
- See piston movement, combustion chamber dynamics, and the role of intake and exhaust ports. Detailed study of the sectioned engine block, crankshaft, connecting rod, and pistons with rings.
- Perform timing chain and auxiliary drive belt replacement training for practical skills in engine maintenance. The model includes visible components such as the timing chain with camshaft sprocket, tensioners, and the alternator belt with tensioner.
- Rotate the crankshaft to observe the operation of the DOHC mechanism, allowing to see the synchronization of engine components.

Value for instructors

- Utilize a fully functional, OEM, sectioned engine model that represents the key elements of a DOHC petrol engine. This facilitates clear and effective teaching of complex engine mechanics and timing procedures.
- The model is designed with protective covers over the cutaway sections, ensuring student safety during demonstrations.
- The trainer's minimal weight and dimensions allow for easy transport and storage, enabling versatile use across various training environments.
- Instructors can guide students through practical exercises such as torque measurements and component replacements, using the model to simulate real-world engine maintenance tasks.

Specifications

- Dimensions: 750 x 670 x 440 mm (29.53x26.38x17.32 in)
- Weight: approx. 81 kg (178 lb)
- Product number: IVDB02







PETROL(GASOLINE) DOHC ENGINE CUTAWAY EDUCATIONAL TRAINER

A1 Product number IVDB03

Sectioned engine model showcasing the 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.



Value for students

- Visible internal components of a DOHC (Double Overhead Camshaft) petrol(gasoline) engine, including the engine block, head, crankshaft, pistons, connecting rods, and thrust bearings.
- Learn the procedures for timing chain replacement and the intricacies of the gas distribution mechanism, including the camshaft, rocker arms, valves, and tappets.
- Understand the camshaft drive mechanism, including timing gears, chains, tensioners, and sliders, offering a clear view of how these elements function together.
- Engage in realistic simulations of engine operation, enhancing diagnostic skills and

Value for instructors

- The trainer allows for a complete demonstration of petrol engine construction and operation, providing a visual and interactive learning experience.
- Teach complex concepts like the timing chain replacement and gas distribution mechanisms, ensuring students grasp the theoretical and practical aspects.
- Built for repeated use in a classroom setting, the trainer's robust construction ensures longevity and reliability, making it a valuable long-term educational asset.
- Allows students to observe and engage with the physical components, fostering a deeper understanding of automotive mechanics.
- Quickly set up and conduct lessons using the included tool kit and detailed instructional materials, streamlining the teaching process and maximizing classroom time.

Specifications

- Dimensions: 800 x 600 x 1200 mm (31.50x23.62x47.24 in)
- Weight: Approx. 150 kg (330 lb)
- Power Supply: Manual operation for component demonstration
- Visible Components: Engine block, engine head, crankshaft, pistons, connecting rods, camshaft, valves, timing chain, tensioners, alternator, AC compressor
- Included specialist tool set for timming chain replacement







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 PETROL(GASOLINE)/ELECTRIC SYSTEM CUTAWAY EDUCATIONAL TRAINER

A1 Product number AE34500M



Features

- 500 cm³ 4-cylinder engine with VVT-i technology.
- Hybrid Powertrain engine and electrical motors with the capability for separate or combined operation.
- Cutaway Design exposes internal components for detailed study, including sensors and injection systems.
- Engine and generator can be manually rotated for hands-on mechanical analysis.
- Mounted on a sturdy, wheeled stand for easy movement and secure placement.

DIESEL COMMON RAIL INJECTION+GEARBOX CUTAWAY EDUCATIONAL TRAINER

A1 Product number AEMBA170



Features

- 4-cylinder in-line diesel engine offers a detailed cutaway view for comprehensive examination of internal components.
- 5-speed gearbox with reverse showcases gear engagement and shifting mechanics.
- Clear view of the camshaft, aiding in the study of timing and valve operation.
- 220V electrical operation ensures safe, controlled demonstrations at reduced speed, simulating engine working process.
- Aluminum stand with wheels for stability and mobility, allowing easy repositioning within the classroom for flexible teaching arrangements.

6 CYLINDERS DIESEL ENGINE TRUCK CURSOR WITH ELECTRONICALLY CONTROLED PUMP INJECTORS

A1 Product number AE36083E



Features

- Iveco Cursor 6-cylinder diesel engine with a displacement of 7790/10380 cu cm and maximum power output of 310/450 hp.
- 4-stroke cycle with a turbo-compressor and water cooling system, demonstrating internal mechanics at a reduced speed for safe observation.
- Electronically controlled pump injectors, with visible color-coded sections of the lubricating circuits, fuel system, and cooling system.
- The engine operates electrically at 220 volts and run at a reduced speed to let the student easily understand and observe the operation of the various mechanical parts.
- Cutaway sections and color-coded components enhance visibility and understanding of engine parts.

SECTIONED ENGINE IVECO COMMON RAIL SYSTEM (CR) COMPLETE WITH ALL PARTS TRAINER

A1 Product number AE36082



Features

- Sectioned engine of 4-6 in-line cylinders and camshaft.
- Visible Common Rail (CR) fuel system with all fuel delivery components.
- Exposed lubricating, fuel, and cooling circuits.
- Engine runs at 220 volts for simulate the operation of various mechanical parts.
- The truck cutaway engine is mounted on the stand with the wheels.

PETROL(GASOLINE) DOHC ENGINE ¼ CUTAWAY EDUCATIONAL TRAINER

A1 Product number IVDB01-(



Features

- Provides a transparent view of internal components including camshafts, valves, and pistons.
- Demonstrates the operation of twin overhead camshafts (DOHC) and four valves per cylinder.
- Exposes the piston assembly for detailed examination of piston movement and ring placement.
- Ensures a sturdy, long-lasting platform for educational use.

IGNITION AND CHARGING SESTEM EDUCATIONAL TRAINER

A6 Product number AE410000E



Features

- Battery supplies electrical power for the ignition system.
- Spark coil generates high-voltage sparks for combustion.
- Distributor directs sparks to the appropriate cylinder.
- Spark plugs demonstrate spark generation in real-time.
- Rotating flywheel simulates engine operation, highlighting the ignition cycle.
- Sectional view provides a detailed look at internal components and their interactions.

AUTOMATIC TRANSMISSION EDUCATIONAL TRAINER

A2 | Product number AE411060M



Features

- Manual rotation handle allows hands-on manipulation and observation of internal gear mechanisms.
- Torque converter demonstrates torque transfer and operational principles.
- Oil pump shows hydraulic fluid pressure generation and distribution.
- Stationary and rotary plate clutches illustrate gear engagement and disengagement processes.
- Planetary gear train provides insight into gear reduction and torque multiplication.
- Hydraulic circuit valve displays fluid flow control within the transmission.

GEARBOX CUTAWAY MODEL EDUCATIONAL TRAINER

A2 | Product number AE410990M



Features

- 5-Speed configuration includes five forward gears and one reverse gear.
- Manual operation handwheel for selecting gears and reverse.
- Cutaway design exposes internal components such as gears, shafts, and synchronizers.
- Mobile stand equipped with wheels for easy movement and positioning.

ZF 16S ECOSPLIT GEARBOX FOR HEAVY TRUCKS 16F+2R CUTAWAY EDUCATIONAL TRAINER

A2 | Product number AE411069M



Features

- Central gearbox displays 4 forward and 2 reverse gears.
- Epicyclic unit demonstrates the speed gear selection mechanism.
- Over-Gear mechanism allows gear ratio adjustments, providing 16 forward gears.
- Manual operation engaged via a hand wheel for practical gear selection experience.
- Cutaway Design: Provides detailed view of internal components.
- Mobile Stand: Equipped with wheels for easy maneuverability.

CONTINUOUSLY VARIABLE TRANSMISSION (CVT) CUTAWAY EDUCATIONAL TRAINER

A2 Product number AE411068M



Features

- Provides clear visibility of internal components, including V-belt pulleys,
  belt, and hydraulic controls.
- Handwheel allows for real-time adjustment and observation of gear ratios.
- Equipped with a stand and wheel for easy mobility and stability during use.
- Enables practical engagement with CVT components and their

DUAL MASS FLYWHEEL WITH THE CLUTCH CUTAWAY EDUCATIONAL TRAINER

A2 Product number AEDMF01



Features

- Cutaway dual mass flywheel exposes the internal structure and operation of dual-mass flywheel systems.
- Interactive clutch mechanism demonstrates the engagement and disengagement processes of the clutch system.
- Spring damping system showcases the function of damper springs in reducing rotational oscillations.
- Clearly labeled components for enhanced understanding and instructional efficiency.

DIRECT SHIFT GEARBOX CUTAWAY EDUCATIONAL TRAINER

A2 Product number AE1064



Features

- Cutaway design provides a clear view of internal DSG gearbox components including clutches, gear sets, and mechatronics.
- Dual-Clutch system demonstrates the operation and interaction of two separate clutches for seamless gear transitions.
- Manual rotation allows simulation of gear shifts and real-time observation of gearbox operation.
- Aluminum base ensures stability and durability of the model during educational use.

STARTER MOTOR FOR CARS CUTAWAY EDUCATIONAL TRAINER

A6 | Product number AE410070ME

Detailed and functional model of an automotive starter motor. It includes a cutaway view of the electric motor, start-up relay, and Bendix drive, mounted on a stable base for educational purposes. This trainer is designed to simulate the operation of a 12V battery-powered starter motor, offering clear visibility into the internal mechanisms and components involved in engine starting systems.



TRUCK TURBOCHARGER CUTAWAY EDUCATIONAL TRTAINER

A1 | Product number AETTC

The Truck Turbocharger Cutaway Educational Trainer features a high-precision cutaway model, showcasing critical turbocharger components. The trainer reveals the turbine wheel, compressor wheel, bearing assembly, wastegate, actuator, and variable geometry turbine, all mounted on a robust base.



TRUCK REAR AXLE WITH LOCKING DIFFERENTIAL CUTAWAY

A2 | 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.



16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + FRONT DRIVE GEARBOX 5 SPEEDS

A1/A2 | Product number AE34807E

Fully functional cutaway model featuring a 16-valve 4-cylinder engine with multipoint electronic injection and rear-drive 5-speed gearbox plus reverse. The model includes a differential integrated with the engine and transmission system, offering a comprehensive educational tool designed for hands-on learning.



16 VALVE 4 CYLINDERS FIAT ENGINE WITH MULTI-POINT ELECTRONIC INJECTION + FRONT DRIVE GEARBOX 5 SPEEDS

A1/A2 | Product number AE34808E

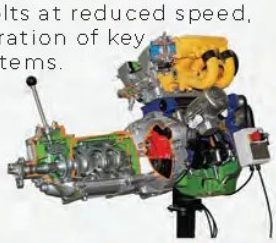
Fully functional cutaway model featuring a 16-valve 4-cylinder engine with a turbocharger, multipoint electronic injection, and a rear-drive 5-speed gearbox plus reverse. The model includes a differential integrated with the engine and transmission system, offering a comprehensive educational tool designed for hands-on learning.



ENGINE WITH MULTI-POINT ELECTRONIC INJECTION

A1/A2 | Product number AE34806E

Fully functional cutaway model featuring a 16-valve 4-cylinder engine with multipoint electronic injection, turbocharger, and rear-drive 5-speed gearbox plus reverse. Designed for hands-on educational purposes, this trainer operates electrically at 220 volts at reduced speed, ensuring safe and visible operation of key mechanical and electrical systems.



HYBRID PETROL(GASOLINE)/ELECTRIC SYSTEM EDUCATIONAL TRAINER

L3 | Product number AE34500M

Hybrid system cutaway model with a 1500 cm³ Toyota THS engine, VVT-i, multi-point injection, and electrical motors. Features manual rotation of engine and generator, operates together or separately.



16 VALVE 4 CYLINDERS FIAT ENGINE WITH MPI INJECTION

A1 | Product number AE34800E

16-valve, 4-cylinder Fiat engine cutaway model with DOHC, 2000 cc displacement, multipoint electronic injection, and integrated ignition control unit.



16 VALVE 4 CYLINDERS FIAT ENGINE WITH MPI INJECTION + GEARBOX

A1 | Product number AE34805E

16-valve, 4-cylinder Fiat engine cutaway model with 2000 cm³ DOHC, multipoint electronic injection, and vibration-damping balancing shafts, plus a 5-speed forward gearbox and reverse. Operates electrically at 220V for slow-speed observation.



16 VALVE CHRYSLER TURBO DIESEL ENGINE WITH COMMONRAIL INTERCOOLER

A1 | Product number AE36010M

16-valve Chrysler turbo diesel engine cutaway with a 2500/2800 cc displacement, DOHC, CR injection, turbocharger with air-to-air intercooler, and vibration-damping balancing shafts.



8 VALVE ENGINE WITH TURBO DIESEL COMMON-RAIL

A1 | Product number AE36015E

8-valve turbo diesel engine cutaway model with 4 in-line cylinders, common-rail injection, turbo-charger, and essential components.



PETROL(GASOLINE) MPI engine with CHASSIS Trainer

Product number AE35350E

Petrol MPI engine chassis trainer with a 1200 cm³ Fiat engine, 5-speed gearbox, differential, and a double circuit brake system. Features front disc and rear drum brakes.



DOHC ENGINE WITH MPI INJECTION and LIGHT SYSTEM

Product number
AE35340E

FIAT DOHC engine chassis trainer with a 2000 cm³, 4-cylinder petrol engine, 5-speed gearbox, differential, and dual braking system. Features McPherson front suspension, rack steering, rear leaf springs, and a working light system controlled by a dashboard.



DIESEL ENGINE ¼ EDUCATIONAL TRAINER

A1

Product number
IVOD01-Q

Diesel engine ¼ cutaway model with 2 valves per cylinder, piston with rings, and 1 cylinder, mounted on an aluminum base.



2 CYLINDERS PETROL(GASOLINE) ENGINE TRAINER

A1

Product number
AE35230

2-cylinder petrol(gasoline) engine cutaway model with air cooling, 500 cm³ displacement, camshaft in the crankcase, single carburettor, and overhead valves.



2 STROKE PETROL(GASOLINE) ENGINE TRAINER

A1

Product number
AE37450M

2-stroke petrol(gasoline) engine cutaway model with 46 cm³ piston displacement, air cooling, electronic ignition, and box carburettor.



SINGLE-CYLINDER 4 STROKE PETROL(GASOLINE) ENGINE AIR COOLED

A1

Product number
AE35245M

Single-cylinder 4-stroke petrol(gasoline) engine cut-away model, air-cooled, 160 cc, 6 hp, with camshaft in the crankcase, overhead valves, RPM regulator, oil pump, carburettor, air filter, silencer, and tank.



2 STROKE MOTORCYCLE PETROL(GASOLINE) ENGINE TRAINER

A1

Product number
AE37400

2-stroke motorcycle petrol(gasoline) engine cutaway model, 48 cc piston displacement, air-cooled, with plug point and magnet fly-wheel ignition, and box carburettor.



WANKEL ENGINE EDUCATIONAL TRAINER

A1 | Product number AE37500M

Wankel engine model with rotating triangular piston, cutaway carburettor, and light to simulate ignition.



OPPOSED-PISTON ENGINE EDUCATIONAL TRAINER

A1 | Product number AE39260E

Opposed-piston engine model with air cooling, camshaft in the crankcase, magneto ignition, and single-body carburettor.



MAZDA RX TWIN-ROTOR WANKEL ENGINE TRAINER

A1 | Product number AE34400M

Featuring a drive shaft, twin rotors, suction and exhaust channels, chain-driven oil pump, water pump with thermostatic valve, electronic injection, and twin-spark ignition.



MERCEDES ATEGO ENGINE, PLD SYSTEM TRAINER

A1 | Product number AE36081

Sectioned Mercedes Atego engine with PLD injection pump, featuring 4 in-line cylinders, camshaft, and detailed mechanical parts. Excludes gearbox.



8V CYLINDERS TURBO DIESEL ENGINE TRAINER

A1 | Product number AE36084E

Iveco Turbostar 190-38 8V Turbo Diesel cutaway engine, 17,200 cc, 380 hp, with direct injection, dual turbochargers, and geared distribution.



MARINE OUTBOARD ENGINE 2 STROKES TRAINER

A1 | Product number AE37900M

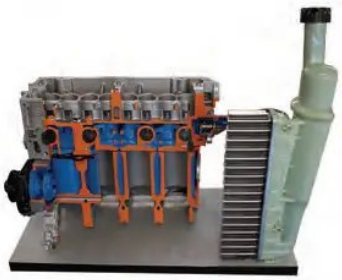
Marine Outboard 2-Stroke Engine cutaway model, 2/3 cylinders, water-cooled with centrifugal pump, and mechanical converter.



ENGINE COOLING SYSTEM TRAINER

A1 | Product number AE410401S

Engine Cooling System cutaway model on base, featuring block-head canalization, water pump, thermostatic valve, temperature bulb, expansion tank, radiator, and connecting pipes.



TURBOSUPERCHARGER WITH WASTE-GATE VALVE TRAINER

A1 | Product number AE410430M

Turbocharger with waste-gate valve on base, sectioned and painted for clear training on its components.



CENTRIFUGAL CLUTCH EDUCATIONAL TRAINER

A2 | Product number AE411141M

Centrifugal clutch cutaway model on base, sectioned and color-coded for clear educational use.



HYDRAULIC CONTROL CLUTCH EDUCATIONAL TRAINER

A2 | Product number AE411100S

Hydraulic control clutch cutaway model with fully sectioned pump, cylinder, and diaphragm clutch units for clear demonstration of the hydraulic circuit.



MEMBRANE SPRING CLUTCH CUTAWAY

A2 | Product number IDSS01

Membrane spring clutch cutaway model with flywheel, clutch disc, pressure plate, throw-out bearing, release fork, and pressing handle.



TORQUE CONVERTER

A2 | Product number AE411140S

Torque converter on a stand, sectioned for training with parts painted in distinct colors for clarity.



4WD TRACTOR „KUBOTA“ EDUCATIONAL TRAINER

Product number
AE38000E

4-wheel drive Kubota farm tractor cutaway model with a 20hp diesel engine with water cooling system, 6-speed gearbox, power take-off, and hydraulic lifter.



TRACTOR WITH DIESEL ENGINE FIAT “La Piccola” HYDRAULIC HOIST

Product number
AE38110E

Fiat "La Piccola" 4-stroke farm tractor with a 2-cylinder diesel engine, indirect injection, water cooling, overhead valves, in-line pump, globe-shaped steering box, and a 6-speed gearbox with 2 reverse.



FARM TRACTOR WITH DIESEL ENGINE - FIAT 25R

Product number
AE38200E

Fiat 25R 4-stroke, 4-cylinder tractor engine cutaway model with 2000 cu.cm displacement, indirect injection, water cooling, overhead valves, in-line pump, globe-shaped steering box, and 4-speed gearbox with reverse.



MASSEY-FERGUSON”/”LANDINI” TRACTOR TRAINER

Product number
AE38300E

Massey-Ferguson/Landini farm tractor cutaway model with a 4-cylinder Perkins diesel engine, direct injection, CAV rotary pump, single-disc clutch, reduction gearbox, rear hydraulic lifter, differential locking, and front drive engagement.



TRACKED TRACTOR TRANSMISSION TRAINER

A2
Product number
AE38360M

Tracked tractor transmission cutaway model including clutch unit, gearbox, pinion gear, ring gear, steering clutch, and final reducer.



RADIAL ENGINE, AIR COOLING WITH DOUBLE IGNITION

A1
Product number
AE39280E

Air cooling, double ignition (2 spark plugs and 2 magnetos), and a driving shaft with integral master rod and moving connection rods.



HYBRID TRANSMISSION MG (MOTOR/GENERATOR)

A2 | Product number AE411082M

Manually operated, showcases power splitting, HV battery recharging, and engine starting function.



5 SPEED GEARBOX TRAINER

A2 | Product number AE411005M

5-speed gearbox cutaway model with differential, manually operated via hand wheel.



5 GEARS GEARBOX WITH CLUTCH TRAINER

A2 | v AE411030M

Sectioned and color-coded for training, features a dry single-plate clutch with mechanical foot pedal operation and a manually operated gearbox



AUTOMATIC TRANSMISSION TRAINER

A2 | Product number AE411040M

Automatic transmission cutaway model, manually operated via hand wheel.



4X4 VEHICLE TRANSMISSION ASSEMBLY WITH 5 SPEED GEARBOX

A2 | Product number AE411300M

4x4 vehicle transmission assembly with 5-speed gearbox, 2-speed reduction gear, manual front-wheel drive control, universal drive shafts, and self-locking hypoid differentials.



HEAVY TRUCK GEARBOX ZF 5HP TRAINER

A2 | Product number AE411071M

Heavy truck ZF 5HP gearbox cutaway model with torque converter, hydrodynamic retarder, multi-disc clutches and brakes, oil cooler, and electro-valves.



FULLER 13 SPEED GEARBOX EDUCATIONAL TRAINER

A2 | Product number AE411070M

Fuller 13-speed gearbox cutaway model for 300/400HP heavy vehicles with mechanical and pneumatic controls, featuring selectable speeds and two auxiliary shafts.



GEARBOX WITH TRIPLE REDUCTION GEAR TRAINER

A2 | Product number AE411080M

Gearbox with triple reduction gear cutaway model for heavy vehicles, featuring selectable speeds, manually operated with a hand wheel.



PLANETARY-GEAR EDUCATIONAL TRAINER

A2 | Product number AE410790M

Planetary gear model on stand, showcasing the operating system and gearshift options.



ANGLE REDUCER EDUCATIONAL TRAINER

A3 | Product number AE413092M

Angle reducer cutaway model on stand, with sections painted in different colors for clear, instructional purposes.



WORM GEAR REDUCER

A3 | Product number AE413094M

Worm gear reducer cutaway model on stand, sectioned and color-coded for clear educational use.



SINGLE-STAGE REDUCER

A3 | Product number AE413096M

Single-stage reducer cutaway model on stand, sectioned and color-coded for educational purposes.



SINGLE CYLINDER INJECTION PUMP TRAINER

A1 | Product number AE410230M

Single-cylinder injection pump cutaway model on base, sectioned and color-coded for training purposes.



DIRECT INJECTION 2 STROKE DIESEL ENGINE TRAINER

A1 | Product number AE37100M

Direct injection 2-stroke diesel engine cut-away model with injection pump, injector, pre-chamber, glow plug, and cooling system, manually operated with a crank handle and simulated expansion phase using a light bulb.



INJECTION PUMP WITH 6 IN-LINE CYLINDERS TRAINER

A1 | Product number AE410200M

Injection pump with 6 inline cylinders cutaway model featuring small piston, cylinder, sector gear, camshaft, check valve, centrifugal governor, 2 injectors, fuel filter, and pump.



BOSCH INJECTION PUMP WITH 4 IN-LINE CYLINDERS + PNEUMATIC SPEED GOVERNOR

A1 | Product number AE410220M

Bosch injection pump with 4 inline cylinders and pneumatic speed governor, featuring a feeding pump.



DIESEL COMMON-RAIL INJECTION SYSTEM TRAINER

A1 | Product number AE410300M

Featuring a radial piston pump, delivery manifold, and electro-injector, all connected by high-pressure hoses



DIESEL COMMON RAIL INJECTION WITH SOLENOID VALVE

A1 | Product number AE410305S

Diesel Common Rail injector cutaway model with solenoid valve, showcasing key components for educational purposes.



ELECTRICAL FUEL PUMP TRAINER

A1 | Product number AE410380S

Electrical fuel pump cutaway model on base.



CP1 BOSCH HIGH PRESSURE PUMP TRAINER

A1 | Product number AE410104M

Cutaway model for common rail engines, with pressure up to 1350 bar and three fuel-lubricated plungers.



CP3 BOSCH HIGH PRESSURE PUMP TRAINER

A1 | Product number AE410106M

Radial-piston pump cutaway model for common rail engines, with pressure up to 1600 bar, fuel-lubricated, and three plungers.



CP4 BOSCH HIGH PREASSURE PUMP TRAINER

A1 | Product number AE410108M

Radial-piston pump cutaway model for common rail engines, with up to 2000 bar pressure, fuel-lubricated, two plungers.



BOSCH VE ROTARY INJECTION PUMP TRAINER

A1 | Product number AE410240M

Cutaway model with distributor plunger, injection phase, indirect injector.



CAV DPA-DPS ROTARY INJECTION PUMP TRAINER

A1 | Product number AE410250M

Cutaway model, featuring transfer pump, speed governor, automatic advance regulator, hydraulic sensor, fuel circuit, pumping piston, with indirect injector.



DIESEL INJECTION PUMP TRAINER

A1 | Product number AE410180M

6 in-line cylinders, featuring small piston, cylinder, sector gear, rock, camshaft, check valve, and centrifugal governor.



EDUCATIONAL INJECTOR PUMP TRAINER

A1 | Product number AE410110S

Cutaway model for commercial vehicles, shows the electromagnetic valve HD, pumping element, duster, and other components



CAV DPC INJECTION PUMP TRAINER

A1 | Product number AE410260M

Cutaway model, cross-sectioned to display main parts, with an indirect injector, manual operation.



DIESEL INJECTION VP 44 BOSCH PUMP TRAINER

A1 | Product number AE410270M

Cutaway model with distributor plunger, injection phase, electronic control unit.



EDUCATIONAL DIESEL INJECTION TRAINER

A1 | Product number AE410280S

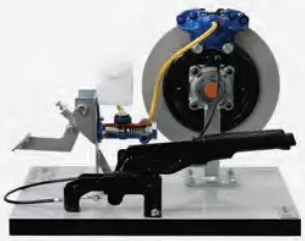
Cutaway model displaying the internal components and operation of both direct and indirect injection types.



DISC AND DRUM BRAKE TRAINER

A5 | Product number AE412030M

Cutaway model showing hydraulic components, including the master cylinder, brake tank, brake lever, caliper, and disc with drum brake inside.



EDUCATIONAL REAR SUSPENSION TRAINER

A4 | Product number AE411204M

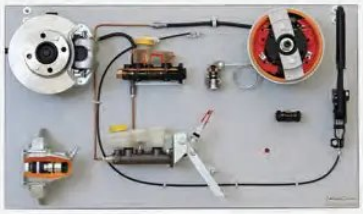
Sectioned shock absorbers, springs and brake drums.



HYDRAULIC DUAL CIRCUIT BRAKE WITH SERVO BRAKE

A5 | Product number AE412050M

Cutaway model demonstrating the servo double circuit mechanism, brake pressure, and brake light activation.



REAR AXLE WITH DIFFERENTIAL

A3 | Product number AE411200M

Rigid axle with differential unit, axle shafts, and rear drum brakes, sectioned to display planetary gears, ring gear, pinion, and brake components.



SECTIONED FRONT SUSPENSION UNIT

A4 | Product number AE411210M

McPherson strut front suspension unit with shock absorber, spring, rack and pinion steering box, disc brake, and steering wheel.



HYDRAULIC BRAKE CHASSIS TRAINER

A4 | Product number AE411220M

McPherson suspension, shock absorber, spring, rack and pinion steering box, disc and drum brakes, hydraulic pump, brake lever and steering wheel.



EDUCATIONAL DRUM BRAKE TRAINER

A5 | Product number AE412010M

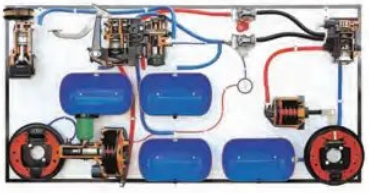
Cutaway model showing the cylinder and shoes.



PNEUMATIC AIR BRAKE SYSTEM

A5 | Product number AE412065S

Hydro-pneumatic braking system with air compressor, triplex distributor, pressure brake booster, tractor-trailer coupling, hydraulic and air control elements, servo-distributor valve and four air reservoirs.



TRUCK DISC BRAKE WITH PNEUMATIC CONTROL

A5 | Product number AE411197M

Besed on Iveco truck, sectioned for training with detailed, color-coded parts.



EV ELECTRIC VEHICLE JUNCTION BOX AND ELECTRIC MOTOREDUCER

L3 | Product number AERZ65

Cutaway model featuring detailed internal components covered in plexiglass and color-coded for training.



STARTER MOTOR WITH REDUCTION GEARS

A6 | Product number AE410071M

Cutaway model for passenger cars starter motor with reduction gears.



ALTERNATOR SINGLE-FLOW COOLING

A6 | Product number AE410080M

Cutaway model of alternator single-flow cooling.



12V AGM BATTERY

A6 | Product number AE410041

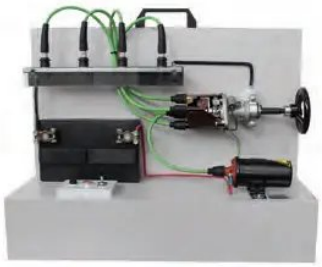
Cutaway showing the Absorbed Glass Mat type battery used mainly for Start/Stop systems.



ELECTRONIC IGNITION SYSTEM

A1 | Product number AE410010E

Cutaway model for a four-cylinder, four-stroke engine with spark plugs, distributor, ignition coil and wiring.



IGNITION SYSTEM

A1 | Product number AE410030

Cutaway model of mechanically timed ignition system for a four-cylinder, four-stroke engine, featuring spark plugs, distributor, ignition coil and wiring.



STARTER MOTOR FOR TRUCKS

A6 | Product number AETS01

Starter motor cutaway model for trucks.



TRUCKS ENGINE ALTERNATOR

A6 | Product number AESALT01

Truck engine alternator cutaway model.



TORSEN DIFFERENTIAL

A3 | Product number AE411270M

Cutaway model, showcasing a bevel gear pair differential assembly that operates on the worm screw principle, used in high-end 4x4 vehicles.



HYPOID DIFFERENTIAL

A3 | Product number AE411280M

Cutaway model of hypoid differential.



BEVEL HELICAL REDUCER

A3 | Product number AE413110M

Bevel helical reducer cutaway model on base, manually operated.



HYDRAULIC SHOCK ABSORBER

A4 | Product number AE410636

McPherson-type hydraulic shock absorber cutaway model with damper spring.



GAS SHOCK ABSORBER

A4 | Product number AE410638

Gas shock absorber cutaway model



TRUCK SHOCK ABSORBER

A4 | Product number AETSA01

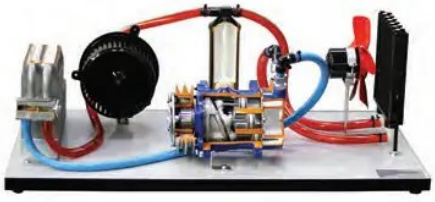
Truck shock absorber cutaway model.



AIR CONDITIONING SYSTEM

A7 | Product number AE410650M

Cutaway model, featuring radial piston compressor, condenser, filter, expansion valve, evaporator, electric fans, and high/low pressure hoses for manual operation.



RACK AND PINION STEERING BOX

A4 | Product number AE410730M

Rack and pinion steering box cutaway model.



ELECTRICAL RACK AND PINION STEERING

A4 | Product number AE410782M

Electrical rack and pinion steering cutaway model.



POWER STEERING WITH RE-CIRCULATING BALL SYSTEM

A4 | Product number AE410750

Cutaway model showing the mechanical steering system with rotating handle, ball type steering box, hydraulic vane pump, oil filter, and connecting pipes.



ELECTRIC POWER ASSISTED STEERING (EPS)

A4 | Product number AE410778E

Adjustable steering effort, vehicle speed simulation (0 to 120 km/h), normal/city modes, alternator simulation, indicator lamp, voltage/current display, diagnostic socket.



PRESSURE SERVOBRAKE CUTAWAY EDUCATIONAL TRAINER

A5 | Product number AE412070

This trainer features a detailed section of a piston servo brake, specifically designed for trucks, and includes a complete brake pump. The model is precision-sectioned for instructional clarity, with each component professionally painted in different colors for easy identification. Key parts are chromium-plated and galvanized, ensuring durability and extended use in educational environments.



PETROL(GASOLINE) MULTI-POINT ENGINE CHASSIS

Product number AE35274E

Trainer built on a Fiat chassis, featuring a 1200 cm^3, 4-cylinder petrol engine with an electronic Multi-Point Injection (MPI) system, a 5-speed gearbox with differential, and a double circuit brake system. The model includes front-disc and rear-drum brakes, a fully functional front and rear light system, engine, lubrication, fuel, and cooling systems.



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

A1 | Product number AE44300M

The electronic injection multipoint engine with petrol/LPG feeding system trainer is an advanced educational tool designed for comprehensive training in engine technology. The engine can be manually turned to observe the movement of internal elements like the cylinder pistons, valves, and crankshaft in action, providing a dynamic understanding of engine operation.



PETROL(GASOLINE) ENGINE WITH DIRECT INJECTION 16 VALVES MPI

A1 | Product number AE44600F

The petrol (gasoline) engine with direct injection 4-cylinder and 16-valve configuration. Including multi-point electronic injection system. Model based on Audi/VW engine systems. Available in electric or manual operation.



PETROL(GASOLINE) ENGINE WITH DIRECT INJECTION 16 VALVES GDI

A1 | Product number AE44600G

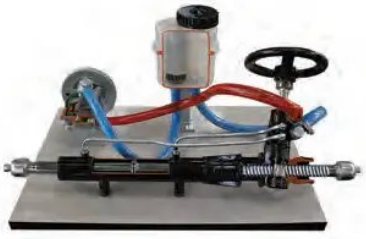
The petrol (gasoline) engine with direct injection 4-cylinder and 16-valve configuration. Including Mitsubishi GDI injection system. Model based on Mitsubishi engine systems. Available in electric or manual operation.



RACK AND PINION STEERING TRAINER

A4 | Product number AE410760M

Educational model designed for in-depth analysis of steering systems. Featuring sectioned components, this trainer highlights the rack and pinion gear-set, color-coded to differentiate key parts like the steering rack, pinion gear, axial rods, and tie rods.



ENGINE WITH OVERHEAD VALVE AND TIMING CHAIN

A1 | Product number AE45450M

Educational cutaway training tool is a 4-stroke, 4-cylinder, overhead camshaft (OHC) petrol (gasoline) engine, designed to provide practical learning experiences in automotive technology. The engine is sectioned to expose internal components, allowing for a clear understanding of engine operation and maintenance procedures.



ENGINE WITH TURBO DIESEL COMMON-RAIL

A1/A2 | Product number AE46017E

8 valve engine with turbo diesel common rail and with front drive gearbox 5 speeds + reverse + differential cutaway model.



HYBRID SYSTEM PETROL(GASOLINE)/ ELECTRIC SYSTEM CUTAWAY

A1 | Product number AE34501WM

The trainer allows electric rotation of the engine and generator, enabling hands-on learning of hybrid technology, energy recovery, brake systems, suspension integration, and efficient power transfer through its advanced transmission components and differential group.



PETROL(GASOLINE) ENGINE WITH GEARBOX CUTAWAY

A1 | Product number AE45152E

Fiat 4-cylinder petrol (gasoline) engine trainer, L-Jetronic electronic injection, 5-speed gearbox, front-wheel drive, electrically operated at 220 volts.



PETROL(GASOLINE) ENGINE WITH MPI INJECTION CUTAWAY

A1 | Product number AE45166E

VW 4-cylinder petrol(gasoline) engine trainer with MPI injection system, overhead camshaft, toothed belt distribution, operates on 220 volts at reduced speed, and includes a gearbox with 5 forward speeds plus reverse.



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

A1 | Product number AE45170E

BMW 6-cylinder petrol(gasoline) engine trainer with L-JETRONIC injection system, overhead camshaft, operates on 220 volts at reduced speed, and includes a gearbox with 5 forward speeds plus reverse.



PETROL(GASOLINE) ENGINE WITH VVT.I INJECTION CUTAWAY

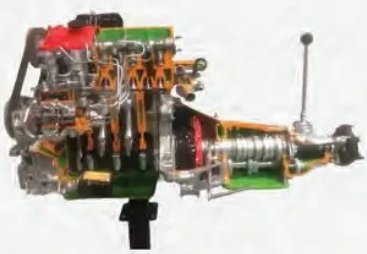
A1 | Product number AE45181M/E

4 cylinders, 1000-1300 cc displacement, DOHC with VVT.I electronically controlled intake valves, multi-point electronic injection. Operates on 220 volts or manual by handle.



4 CYLINDER RWD DIESEL ENGINE WITH CLUTCH AND GEARBOX CUTAWAY

A1/A2 | Product number AE46071E



PETROL (GASOLINE) ENGINE WITH MPI FUEL INJECTION

A1 | Product number AE45212IE

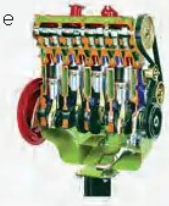
4-cylinder, 1245 cc petrol (gasoline) engine with electronic multi-point fuel injection and electronic ignition. Visible key components of the cylinder block, crankshaft, camshaft, valves, pistons, connecting rods, timing belt, fuel injectors, ignition coils, and spark plugs. Available in electric or manual operation.



ENGINE WITH OVERHEAD CAMSHAFT AND TOOTHED TIMING BELT

A1 | Product number AE45440M

4-stroke petrol (gasoline) engine cutaway educational trainer features four in-line cylinders and an overhead camshaft (OHC) system. The engine is sectioned to display all essential components including valves, camshaft, pistons, crankshaft, lubricating circuits, fuel system, and cooling system. Manual crank handle allows users to clearly analyze engine



PETROL(GASOLINE) MPI ENGINE CHASSIS WITH ABS

Product number AE45273

Training tool for learning variuous automotive systems ant once. Cutaway view of engine, transmission, steering, suspension, brakes, driveshaft and electric system. Possible in various configurations.



ENGINE WITH DOUBLE OVERHEAD CAMSHAFT CUTAWAY

A1 | Product number AE45445M

The model includes full suspension, steering, gearbox, front-disc and rear-drum brakes and is mounted on a mobile stand with exposed sections for detailed examination of engine, lubrication, fuel, and cooling systems.



4 CYLINDER DIESEL ENGINE CUTAWAY MODEL

A1 | Product number AE46065M



4 CYLINDER FWD DIESEL ENGINE WITH CLUTCH AND GEARBOX CUTAWAY

A1/A2 | Product number AE46068E





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



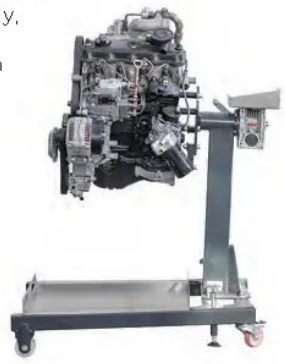




PETROL(GASOLINE) FSI ENGINE

A1 | Product number VIVV01-FSI

Petrol(gasoline) FSI engine for disassembly and assembly, mounted on a manually rotating stand with worm and wheel gearboxes.



TURBO DIESEL ENGINE WITH VE/ER PUMP

A1 | Product number VIVV01-VETDI

Diesel engine with VE/VR pump and turbo, complete with timing and auxiliary belt, on a mobile, manually rotating stand with 4 castors.



TURBO DIESEL DOHC SLIT ENGINE

A1 | Product number IVD-SPLIT

Turbo Diesel DOHC engine, 6 cylinders inline, split version on a manually rotating stand. Features a cutaway of 3 cylinders, Common Rail pump, and injector.



GEARBOXES EDUCATIONAL TRAINER

A2 | Product number GDIVV01

Gearboxes for disassembly and assembly, including various configurations (4, 5, 6-speed, automatic, DSG, multitronic, variable, and others upon request), mounted on a manually rotating stand with worm and wheel gearboxes.



DSG GEARBOX EDUCATIONAL TRAINER

A2 | Product number GDIVV01-DSG

DSG transmission with two-disc dry clutch for disassembly and assembly, torque range of 240 to 280 Nm, front-wheel drive, mounted on a manually rotating stand with worm and wheel gearboxes.



GEARBOXES EDUCATIONAL TRAINER

A2 | Product number GDVV01-CVT

Automatic CVT Multitronic gearbox for disassembly and assembly, mounted on a manually rotating stand with worm and wheel gearboxes.



TURBO DIESEL ENGINE WITH VE/ER PUMP TRAINER

A1 | Product number VIVI01-VETDI

Turbo diesel engine with VE/ER pump for disassembly and assembly, featuring a complete timing and auxiliary belt, mounted on a manually rotating stand with worm and wheel gearboxes.



DIESEL CR TURBO ENGINE EDUCATIONAL TRAINER

A1 | Product number VIVV01-RHX

Diesel CR turbo engine for disassembly and assembly, featuring a CR fuel supply system and turbo, complete with timing and auxiliary belts, mounted on a manually rotating stand with worm and wheel gearboxes.



PETROL(GASOLINE) MPI ENGINE

A1 | Product number VIVV01-ADR

Petrol(gasoline) MPI engine for disassembly and assembly, featuring an MPI fuel supply system and complete timing and auxiliary belts, mounted on a manually rotating stand with worm and wheel gearboxes



ENGINE

A1 | Product number VIVV01

Diesel or petrol(gasoline) engines with various fuel supply systems (MPI, FSI, GDI, CR, VE, etc.), mounted on a manually rotating stand with worm and wheel gearboxes, and mobile with 4 castors.



PETROL(GASOLINE) MPI TURBO ENGINE

A1 | Product number VIVV01-ADRT

Petrol MPI Turbo Engine for disassembly and assembly, featuring an MPI fuel system and turbo, with complete timing and auxiliary belt, mounted on a manually rotating stand with worm and wheel gearboxes.

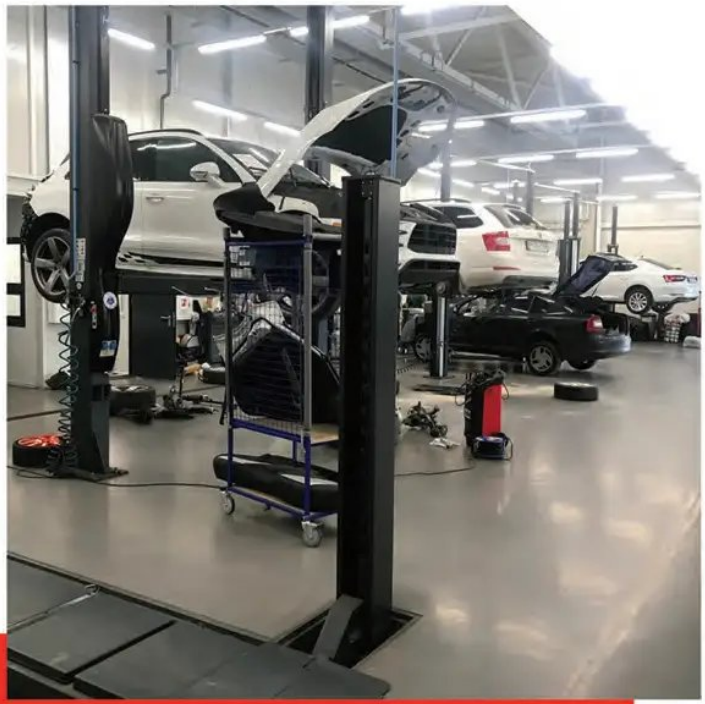


PETROL(GASOLINE) GDI ENGINE

A1 | Product number VIVV01-GDI

Engine with GDI direct petrol(gasoline) injection for disassembly and assembly, featuring complete timing and auxiliary belts, mounted on a manually rotating stand with worm and wheel gearboxes.





SERVICE EQUIPMENT







DIAGNOSTIC SCAN TOOL FOXWELL

Product number
NT680

- Diagnostics for over 69 vehicle brands with real time data.
- Features oil service reset, EPB support, and MIL code decoding.
- Durable, user-friendly with a 4.3'' screen and free updates.



DIAGNOSTIC SCAN TOOL FOXWELL

Product number
NT680PRO

- Reads and decodes error codes, disables MIL, and offers advanced servicing like DPF and gearbox updates.
- Displays real-time sensor data, with dual-graph view and multilingual support.
- Durable, easy-to-use with a 4.3'' screen



DIAGNOSTIC SCAN TOOL ICON VCI AUTOCOM

Product number
W072063300

- Diagnostics for cars, trucks, electric, and hybrid models with AutoVIN and Quick Connect Bluetooth.
- CAN-FD, DoIP with 35,000 system selections for cars and 18,000 for trucks.
- Durable, dust and moisture-resistant design.



DIAGNOSTIC SCAN TOOL TEXA NAVIGATOR TXT MULTIHUB

Product number
D155A0

- Diagnostics for traditional, hybrid, and electric vehicles using CAN, DoIP, and Pass-Thru protocols.
- Wireless connectivity with Wi-Fi, Bluetooth, and Ethernet, integrated with TEXA's diagnostic software.
- IP53, MIL-STD 810G certified with OLED display.



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



TWO POST LIFT 4.0T

Product number
AAQ41M

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

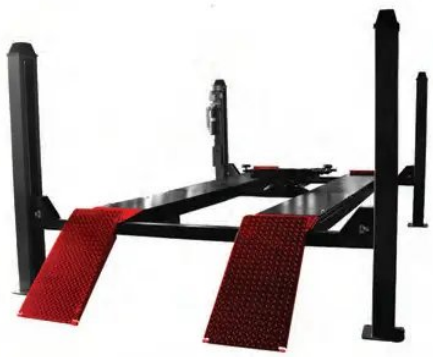
FOUR POST LIFT FOR WHEEL ALIGNER 5.0T

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

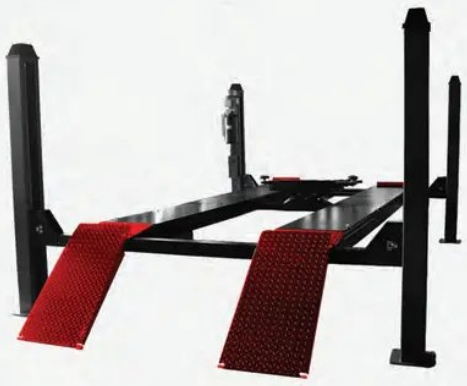
- Lifting capacity (kg) Max 5000
- Lifting time range (S) 40 - 50
- Power supply (V) 380
- Power rate (KW) 2.2
- Lifting height (mm) Max-1800 Min-245
- Runway (mm) Width-550 Length-5000
- Distance between runway 880-1200mm



FOUR POST LIFT FOR WHEEL ALIGNER 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
- 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-5500
- Distance between runway 880-1200mm

DOUBLE SCISSOR INGROUND LIFT 3.5T

Product number
AQL3500C

- 3500 kg capacity and 2150 mm lifting height.
- Adjustable platform length and quick 55-60s lifting time.
- Powered by a 2.2 kW motor.



DOUBLE SCISSOR INGROUND LIFT 3.0T

Product number
AQL3500

- 3000 kg capacity and 1800 mm lifting height.
- Adjustable platform length (1520-2020 mm) with a quick 50s lifting time.
- Powered by 380V.



LOW-RISE SCISSOR LIFT

Product number
AQ3000ESA

- 3000 kg capacity, 1000 mm lifting height.
- Electrical release safety latches.
- 50s lifting time with a 2.2 kW motor.



PROPULSION SYSTEM LIFT

Product number
AQVL1.2

- 1200 kg propulsion lift, height (660-1915 mm), 0.75 kW motor.
- Adjustable pads.



AUTOMATIC TILT-BACK CAR TYRE CHANGER

Product number
AQ808B+B350

- Automatic tilt-back, 11"-23" outside and 13"-25" inside clamping range.
- Up to 1040 mm diameter, operating at 8-10 bar pressure.
- Powered by a 0.75 kW motor.



AUTOMATIC TILT-BACK CAR TYRE CHANGER

Product number
AQ908B+B350+L

- Automatic tilt-back, 12"-26" clamping range, up to 1180 mm in diameter.
- Operates at 8-10 bar pressure with a 0.75 kW motor.
- Accommodates wheels up to 450 mm in width.



SEMI-AUTOMATIC CAR WHEEL BALANCER

Product number
AQ60A

- 10""-28"" rim diameter range and up to 1000 mm tire diameter.
- Balances tires up to 70 kg with ±1g accuracy at 200 rpm.
- Powered by a 250W motor.



LCD SCREEN CAR WHEEL BALANCER

Product number
AQ80C

- LCD screen, 8""- 30"" rim diameters and 1000 mm tire diameter.
- Balances up to 70 kg tires with ±1g accuracy at 200 rpm.
- Powered by a 250W motor.



FILLED TOOL TROLLEY 7 DRAWER WITH 134PSC TOOLS

Product number
AQT7134

·134pcs Tool Cabinet

·7-Drawer Ball-Bearing



GARAGE STORAGE SYSTEMS 4 PARTS, WITH TOOL TROLLEY

Product number
AQ02BK



GARAGE STORAGE SYSTEM 3 PARTS

Product number
AQ01BK



AIR COMPRESSOR

Product number
AQC0.6

·Belt-type, 4.0 kW motor, 600 L/min capacity, 300-liter tank.

·0.8 MPa with a max pressure of 1.0 MPa.



OIL CHANGER

Product number
AQOD90

·90-liter tank, corrosion-resistant tubing, adjustable collection bowls.

·Suction speed of 1.5-2 lpm, for oil temperatures of 70-80°C.



ANTI-IMPACT WORK LIGHT LED

Product number
AQ3001

·130-lumen SMD LED flashlight and 260/620-lumen COB LED floodlight.

·3.7V 2600mAh Li-ion battery, up to 10h 30mins.

·IP54 weatherproof and IK07 impact-resistant.



2025

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