



Features Specifications

- The trainer has a diesel engine with a CRDI fuel injection system fixed on vibrations absorbers to reduce the vibrations and the noise.
- The engine is connected to all the systems necessary for its operation such as fuel injection system, battery, fuel tank, ignition system, cooling system and exhaust system.
- The engine has a Common Rail Direct fuel injection system.
- The engine water is cooled.
- The value of input and output can be manipulated arbitrarily to simulate car engine faults.
- The unit is capable of simulating 20 faults common to the gasoline engine.
- The engine rotational speed can be controlled.
- The trainer control unit is similar to an actual car control board with actual ignition/turn off key.
- The trainer has a faults selection panel which the trainee uses to select between the different faults.
- The unit has a fault diagnoses connection; the trainee can connect a diagnoses device to this connection to discover the fault.
- All the components can be viewed using protective glass panels.
- The trainer rests on wheels to facilitate moving it.
- This is a very powerful tool for automobile education and car faults trouble shooting.
- The faults are also activated using a touch screen computer and the software on that computer is capable of testing the trainee troubleshooting capabilities and grad his efforts.
- Through the interactive multimedia the system faulted components or the components that needs to be replaced can be simulated where these

- components are detected and virtually replaced.
- All printed symbols, drawings, etc. on the trainer is done etching on aluminum sheets.
- Trainer is painted treated against rust & scratches etc.
- CRDI (Common Rail Direct Engine) Simulator Equipment which has fuel, cooling, intake, exhaust panel so that allows theoretical training and experiments.
- Easy to check and diagnose all faults that can happen in an actual vehicle system so that it's able to do effective education concerning maintenance system.
- Pressure gauge is attached on each range of hydraulic line on A/T for circuit training of each shifting process.
- Check terminal box is attached for the test of electronic circuits and sensors with diagnose devise.
- Fault insertion, 3 stage angle adjustable front panel, control panel open and close feature and 3 stage PCB board mounted.
- Exhaust muffler is specially designed with heat-resisting paint to be maintained at high temperatures up to 600°C.

Technical Specifications

- Brand: Hyundai or Suzuki
- Model: E-10 or Swift
- Type / Total Displacement: CRDI type Engine / 1,000cc ~ 1250cc
- Front Control Panel Items: Instrument Panel, Ignition Switch, Fuel Gauge, Vacuum Gauge, Self-Diagnostic Connector, Accelerator.
- Product Items: Control Panel Nameplate, Fire

Note: Specifications are subject to change.

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- Extinguisher, Protection Bar, Fuel Tank, Battery.
- Additional Devices: Sensor Control Switch, Sensor Check Terminal.
- Wheels for stand: Heavy Weight Type.
- Measurement and Inspection Item: Self-Diagnosis, Engine Tune-Up, Sensors Data, Injectors Exhaust
- Gas, Intake Manifold Vacuum Gauge, Cylinder Compression Pressure, Radiator Leak, Timing Belt Tension.
- Engine Operating System: Cooling System, Lubricating System, Fuel System (Diesel VE-Type), Charging System, Starting System.
- Composition
 - 1) CRDI Diesel engine assembly, Turbo intercooler
 - 2) Automatic Transmission assembly
 - 3) All ignition related electric devices
 - 4) Injector, Fuel Filter, Fuel Tank, Fuel Pump, Fuel Equipment, DC 12V/60A Battery for Vehicles, Generator
 - 5) Cooling System such as Radiator, Overflow Tank, Relay, Electric Fan
 - 6) Exhaust System such as, Catalytic Converter, Emission, Silencer
 - 7) Ignition Switch (Key S/W) Anti-vibration dampers and a urethane wheels
 - 8) Control box, fuel tank (removable), accelerator lever
 - 9) Stainless molding type safety guard is installed
 - 10) Radiator-only stand and laser processing protection panel
 - 11) Automatic transmission oil pressure gauge for each section
 - 12) Vacuum pressure gauge 1ea
 - 13) Fuel pressure gauge 1ea
 - 14) Battery voltage gauge 1ea (30V)
 - 15) An emergency fire extinguisher
 - 16) Fault insertion, 3 stage angle adjustable front panel, control panel open and close feature and 3 stage PCB board mounted
- Size: Approx. 1,800 X 1,600 X 1,400 mm
- Weight: Approx. 550 kg

Experiments:

- Various practices by self-diagnosis.
- Measurement and inspection of Auto transmission.
- Measurement and inspection of Hydraulic measurement in accordance with A/T Range.
- Measurement of exhaust, Measurement and inspection of compression pressure of cylinder.
- Measurement of radiator cap pressure and inspection of the leakage from the radiator.
- Operation test of Fuel pump, Measurement and inspection of Oil pressure.
- Measurement and adjustment of tensions of timing chain and fan belt.

- Measurement and adjustment of voltage and current in such as a charging circuits, start circuits.
- Connector checking terminal for inspection of sensors and actuator.
- Inspection of every part of intake and exhaust system.
- Inspection of every part of each automotive electricity, fuel system, ECU, sensors and actuator.
- Inspection of belts in cooling system and pumps.
- Inspection of the rest of parts.

Requirements

- Electric Supply 230V 50Hz. With proper earthing.
- Tap Water supply & drainage.
- Water circulation at ambient temperature or cooling tower @ 100LPH
- Exhaust chimney
- Concrete foundation.

Optional

- 1) Specifications of Brake power can be provided as per customer requirements.
- 2) Computer interface & DAQ software can be offered:
 - High Speed DAC with 1 mega samples/sec
 - Fuel injection System with controls
 - Software: Engine Combustion Analysis and performance
 - Software, Fuel injection and control software.

Sensors:

- a) Engine Combustion Pressure Sensor: Piezo-electric 0-100 Bar
- b) Crank angle: Rotary 360 PPR
- c) Air Measurement: DP Sensor
- d) Fuel Measurement: Optical constant volume, fully automatic
- e) Speed: Encoder

32752: CRDI Diesel Engine Fault Simulator With DAQ

32753: CRDI Diesel Engine Fault Simulator Without DAQ

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