ConsuLab
TRAINING AIDS

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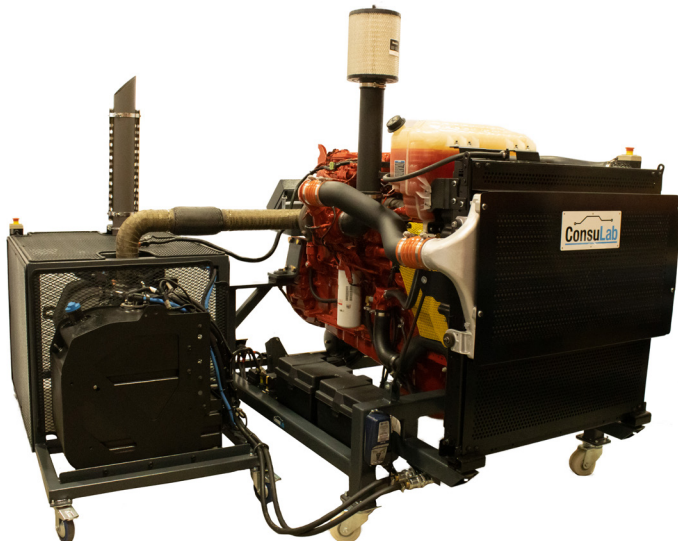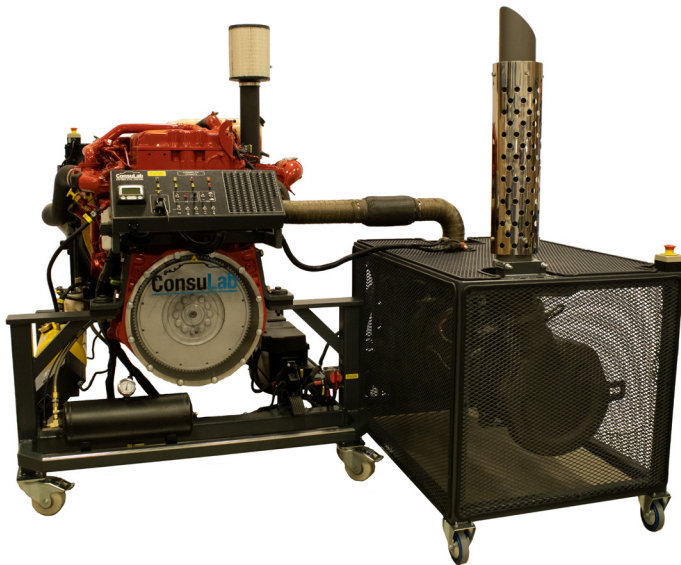**Email: info@consulab.**

CUMMINS X15 DIESEL ENGINE BENCH EPA 2017 RECYCLED

EDUCATIONAL ADVANTAGES :

- **Student assigments**
- Demonstration of major engine systems to groups of students without the access limitations of a complete vehicle
- Engine systems respond to inserted faults with real world symptoms, OEM DTCs and MIL operation
- Functional DLC using SAE J1939 communication protocol
- Provides a platform to perform the following :
  - Diagnose and troubleshoot fuel system
  - Diagnose and troubleshoot engine managment and emissions system
  - Diagnose and troubleshoot electrical/electronic systems
  - Obtain electronic fault parameters using diagnostic equipment
  - Obtain technical data and information from the trainers through teh electronic service tool connection
  - Perform testing procedures of all electrical and mechanical systems
  - Allow user to exercise test procedures as outlined in OEM service manuals

APPLICATION :

- Cummins' EPA 2017 equipped with recycle X15 diesel engine and after treatment system

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STANDARD EQUIPMENT AND FEATURES

- Recycled OEM In-line 6-cylinder, 4-stroke cycle diesel engine
- Interfaces with OEM diagnostic electronic service tools
- OEM Engine management system
- Air intake system with turbocharger and air filter
- Complete engine cooling system with fan, air-to-air, radiator and fuel system
- OEM cold start system
- OEM ECM and wiring
- Master control panel with DLC (9-pin J1939 Deutsch connector) with :
  - Keyed ignition system with two (2) keys and testing points
  - Indicator lights
  - Enable/disable switches
  - PTO controls
  - ECM breakout box with OEM pinout indentification
  - LOFA CANPlus display with J1939 parameters for installed components
- Complete intake and exhaust system with diesel particulate filter (DPF), maintenance indicators and muffer
- Engine lubrication system with filters
- Complete and operable fuse-protected electrical/electronic system (12 VDC)
- Fuel pedal
- 22L fuel tank with filters
- Heavy-duty batteries (2) with smart charger
- Battery cut-off switch
- Emergency Stop buttons (2)
- Electronic programmable fault box with 12 faults with intermittent fault capability
- Safety guards on all rotating components in compliance with CSA regulation Z432-04 and on high temperature components
- DET frame :
  - Heavy duty 3" (76.2 mm) powder enamel coated square tubular steel frame
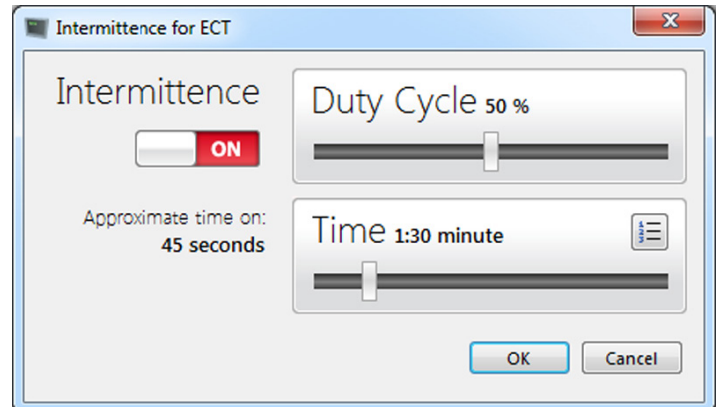 - Four (4) removable heavy-duty casters, two (2) locking swivel, two (2) fixed

FUNCTIONAL AFTER-TREATEMENT SYSTEMS :

- DOC (Diesel Oxidation Catalyst)
- EGR (exhaust Gas Recirculation)
- DPF (Diesel Particulate Filter)
- SCR (Selective Catalytic Reduction)

PHYSICAL SPECIFICATIONS :

- Dimensions : 87.5 x 56 x 72 in (222.2 x 142.2 x 182.8 cm) / 62 x 94 x 74 in (157.5 x 238.8 x 188 cm) w/packaging
- Weight : 3800 lb (1727 kg) / 4000 lb (1818.2 kg) w/packaging

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EM-250-2 ELECTRONIC PROGRAMMABLE FAULT BOX

EDUCATIONAL ADVANTAGES :

• Allows insertion of faults for the diesel engine systems with real problems, codes and other indicators.

FEATURES :

• Signals generated from most sensors that reproduce actual running conditions in the system.
• Remote control using a dedicated software interface connected to a PC running Windows™ through USB port.
• Fault selection, signal variation (if available), and set intermittence parameters either directly or by remote hook up.
• LED indicators allow indentification of inseted faults.

EXAMPLE FAULTS

ECT (Engine Coolant Temperature)

The engine coolant temperature sensor signal can be varied from minimum to maximum values. Multiple driveability symptoms can be created (hard start, no start, running rich or lean).

INJ (fuel Injector)

One fuel injector control circuit can be opened, creating an engine misfire.

Note : Faults can be changed accordingly to engine model

REMOTE CONTROL SOFTWARE

• Easy to install Windows®-based software allows you tu control the fault box remotely via a USB cable (included with software) to your Windows® computer.
• Allows you tu program intermittent faults. Engine systems respond to created conditions and inserted faults with real world symptoms, OEM DTC's and check engine light operation.
• Allows insertion of single or multiple faults in the engine.
• Major engine sensor signals can be adjusted to produce a variety of engine operating conditions.