



The ConsuLab EM-140 engine performance trainer with HVAC is a fully operational engine mounted on a mobile stand. Trainer is based on 2010-2009 GM ECOTEC 2.2L global engine platform. The trainer is easy to work on and all major components, wiring and connectors match OEM configuration. Trainer is mounted on a mobile stand constructed of 2" tubular steel equipped with four 5" phenol casters (2-fixed and 2-swivel w/locks). Students can perform many ASE Education Foundation related Engine Performance and Electrical/Electronic tasks using this trainer. Trainer is equipped with safety guards covering all rotating components.

#### EDUCATIONAL ADVANTAGES

- Demonstration of systems to groups of students without the access limitations of a complete vehicle
- Engine and A/C systems respond to inserted faults with real world symptoms, OEM DTC's and check engine light operation
- Visually demonstrates refrigerant change of state
- Hands on demonstration of electric assist power steering

### SPECIFICATIONS

#### APPLICATION

- 2010-2009 Chevrolet Cobalt or Pontiac G5 with vehicle identification number (VIN) provided
- 2.2L ECOTEC global engine platform

#### FEATURES

- Sequential fuel injection w/ electronic ignition
- OEM HVAC system with service ports
- Adaptive charging system
- CAN (controller area network) system
- ETC (electronic throttle control)
- OEM EVAP system w/ test port

#### STANDARD EQUIPMENT

- 2.2L GM ECOTEC 4-cylinder engine
- Automatic transaxle (4T45E)
- OEM HVAC system with air duct assembly
- OEM EVAP system w/test port
- OBDII data link connector
- Integrated ECM breakout box w/ test points and ECM terminals identified with OEM terminology
- Manual fault boxes for engine performance (12 faults)
- Automatic regulated battery charger
- 12 V Battery
- Fuel tank
- Exhaust system w/ catalytic converter
- Safety covers for all rotating components
- HD 2" square tubing mobile stand with 5" phenol casters (2-fixed and 2- swivel w/locks)
- One OEM key provided
- Emergency stop button

#### OPTIONAL EQUIPMENT

- Electronic programmable fault box (52931) with 16 faults capable of programming intermittent fault insertion
- Electric assist power steering system w/hand grips to demonstrate system function
- Coolant flow sight glass (52910)
- TXV H-Block A/C system with sight glasses
- Refrigerant high and low-side pressure gauges
- Manual fault boxes for A/C (6 faults)
- Protective instrument panel cover (52905-2)
- Vinyl dust cover (24499)
- Fork lift bars (52827-2)
- Instrumentation display (53144)
- Transport handle (53092)
- Optional electric assist power steering
- Scanner shelf for handheld scan tools (53147)
- Secondary key for engine bench with programming (53150)

#### TECHNICAL INFORMATION

**Dimensions:** 45 x 60 x 51 inch (114.3 x 152.4 x 129.5 cm) / 48 x 66 x 54 inch (121.9 x 167.6 x 137.2 cm) w/packaging

**Weight:** 915 lbs (415 kg) / 1025 lbs (464.9 kg) w/packaging

**Refrigerant:** R134a (0.54 kg / 1.2 lb)

**Fuel requirements:** 87octane gasoline