



16 VALVE 4 CYLINDERS MPI PETROL(GASOLINE) ENGINE CUTAWAY

A1

Product number

AE34801M

Cutaway 4-cylinder, 16-valve petrol engine with DOHC, 1600–2000 cm³ displacement, multipoint injection, integrated ignition control, and balancing shafts. Fully sectioned for manual operation, with visible lubrication, cooling, intake, exhaust, and ignition systems. Mounted on mobile, color-coded, corrosion-resistant stand for training use.



Features

- Sectioned 4-cylinder, 16-valve petrol engine with DOHC valve train
- Multipoint fuel injection system with ECU-integrated ignition control
- Manual crankshaft rotation with synchronized piston, valve, and camshaft movement
- Visible intake and exhaust manifolds, oil pump, water pump, and cooling passages
- Exposed lubrication channels, cylinder head, combustion chambers, and timing system
- Includes alternator, starter motor, belt drive, flywheel, and membrane clutch
- Clearly displayed spark plugs, injectors, valves, connecting rods, and timing belt
- Color-coded, chrome-plated, and galvanized parts for durability and system clarity
- Mounted on robust, castor-equipped frame for mobility and classroom integration
- Safe, non-powered operation with no electrical connection required



Value for Students

- Offers full visibility of mechanical engine parts including pistons, crankshaft, camshaft, valves, and balancing shafts, enabling detailed study of internal structure and mechanical motion.
- Demonstrates operation of multipoint injection system, allowing students to understand how fuel is individually delivered and electronically timed for each cylinder.
- Provides clear view of DOHC system and valve actuation, helping students learn valve timing, overlap, and airflow control.
- Displays integrated ignition and fuel injection coordination, essential for understanding engine control units and ignition timing.
- Shows oil flow paths within the lubrication system, important for understanding engine part protection, friction reduction, and thermal management.
- Highlights coolant flow and engine thermal regulation, helping explain how overheating is prevented in real engines.
- Introduces engine peripheral components such as the alternator, starter motor, drive belt system, intake manifold, exhaust manifold, flywheel with membrane clutch, and sensors commonly found in gasoline-powered engines.

Value for Instructors

- Provides a fully sectioned, non-powered model ideal for classroom use and safe mechanical demonstrations.
- Manual operation allows real-time demonstration of component movement without electrical risk.
- Helps illustrate fundamental engine working principles including four-stroke cycle, injection timing, valve timing, and combustion preparation.
- Simplifies instruction with clear visual separation of systems using color-coded parts and treated surfaces.
- Supports teaching of mechanical diagnostics, component identification, and internal engine structure.
- Allows group instruction with high visibility from all sides due to open and color-differentiated construction.
- Mounted on a durable stand with castors, the unit is space-saving, flexible, and easy to integrate into any classroom or workshop layout.

Specifications

- Engine type: 4-cylinder, 16-valve petrol engine
- Displacement: 1600–2000 cm³
- Fuel system: Multipoint electronic injection
- Valve gear: DOHC – twin overhead camshaft
- Additional systems: Vibration-damping balancing shafts, ignition-integrated ECU
- Operation: Manual rotation
- Display: Sectioned view of mechanical and auxiliary systems
- Dimensions: 900x1200x1250mm (35.43 x 47.24 x 49.21 inches)
- Weight: 160 kg (352.74 lbs)
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