



PETROL DOHC ENGINE CUTAWAY EDUCATIONAL TRAINER

A1

Product number
IVDB03



DOHC petrol engine sectioned cutaway.

Visible crankshaft, pistons, connecting rods, camshafts, valves, rocker arms, timing chain, lubrication, cooling system.

Manual crank rotation to observe synchronized movement.

Auxiliary drive system with belt, tensioner, pulleys, alternator, cooling pump, AC compressor.

Supports 30+ practical tasks: belt removal, auxiliary component replacement, timing service, TDC setting, camshaft alignment.



Features

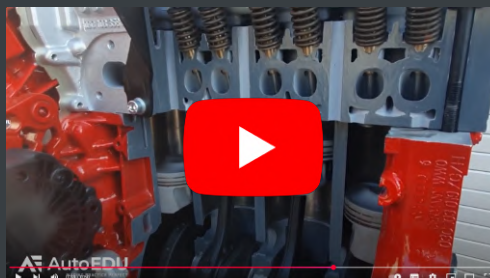
- Engine **chain replacement** procedures.
- Practice **loosening tensioner, removing and replacing auxiliary belt**, inspecting auxiliary components.
- Auxiliary belt system with tensioner, alternator, cooling pump, and AC compressor.
- Set and check **Top Dead Center (TDC)**.
- Perform **camshaft alignment and adjustment** with tools.
- Learn **auxiliary pulleys, cooling pump, alternator, AC compressor removing and changing** techniques.
- Cross-section view of **engine block, cylinder head, crankshaft, pistons, camshaft, valves, and rocker arms**.
- Manual crank rotation to **observe piston, valve, and camshaft movement**.
- Visible **lubrication and cooling system** channels.

Visible components

- Engine block
- Engine head
- Crankshaft mechanism
- Crankshaft
- Pistons
- Connecting rods
- Rings
- Thrust bearings (inserts)
- Alternator
- AC compressor

Product Overview Video

A short video demonstrating the trainer's design, components, and key functions.





Value for Students

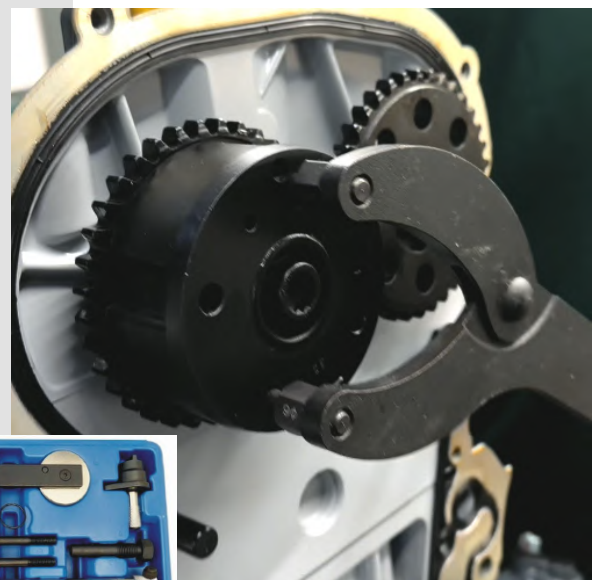
- Understand DOHC engine architecture, component function, lubrication, cooling, and gas exchange systems.
- Learn timing chain layout, tensioner setup, guide installation, and chain replacement.
- Practice auxiliary belt removal, tensioner release, pulley, alternator, cooling pump, and AC compressor service.
- Develop Top Dead Center (TDC) setting, piston-to-valve clearance check, and timing mark alignment.
- Perform camshaft alignment, valve clearance check, rocker arm inspection, and adjust to factory specs.
- Complete over 30 practical tasks, including system inspection, fault simulation, and basic measurements.

Value for Instructors

- Demonstrate engine kinematics, crank-piston-valve synchronization, and auxiliary system operation.
- Teach auxiliary drive service, chain replacement, TDC setup, camshaft timing, and valve adjustment.
- Provide over 30 practical tasks covering inspection, replacement, alignment, torque procedures, and functional checks.
- Use included tools, technical data, guides for efficient and repeatable classroom sessions.

Specifications

- Dimensions: 800 x 600 x 1200 mm (31.50 in x 23.62 in x 47.24 in)
- Weight: approx. 150 kg (330 lb)
- Visible Components: Engine block, engine head, crankshaft, pistons, connecting rods, camshaft, valves, timing chain, tensioners, alternator, AC compressor
- **Included specialist tool set for timing chain replacement**
- Bolt torque should be 3 times lower than OEM manual specs.
- Product number: IVDB03

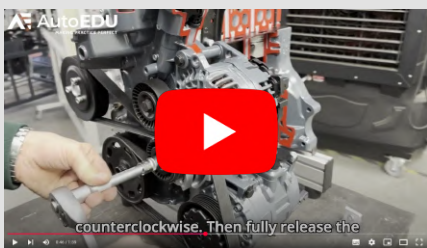




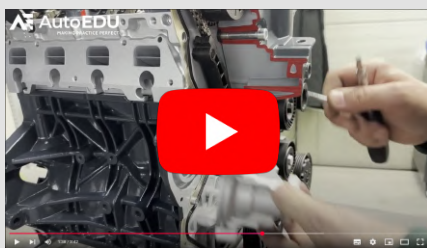
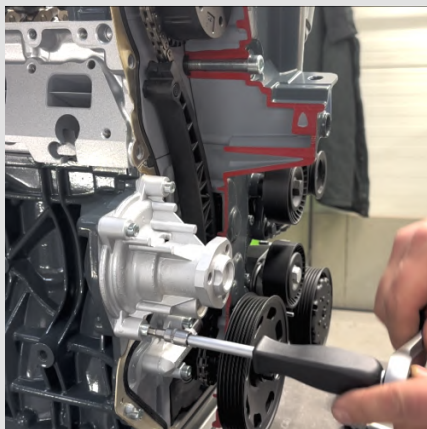
Practical Task Examples (Video-Supported)

The trainer supports over 30 practical tasks for technical training.
Example tasks with available video instructions:

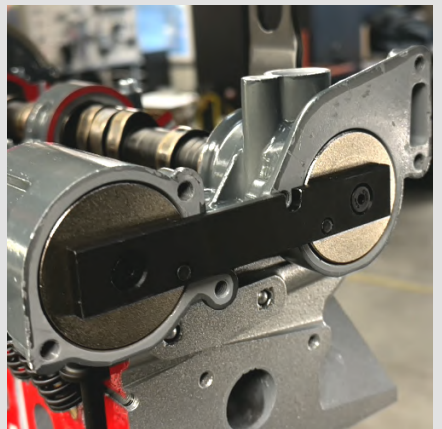
**Auxiliary belt replacement —
tensioner release, belt removal,
installation.**



**Water pump replacement —
removal, inspection, installation.**



**Timing chain replacement —
disassembly, chain installation,
camshaft alignment.**



Proven in SkillsUSA Events

This trainer was showcased at SkillsUSA 2025 events, where it was used in live demonstrations and practical challenges.
Proven performance in real training environments, supported by positive feedback from instructors, students, and event organizers.

