



# HYBRID SYSTEM PETROL(GASOLINE)/ ELECTRIC SYSTEM CUTAWAY

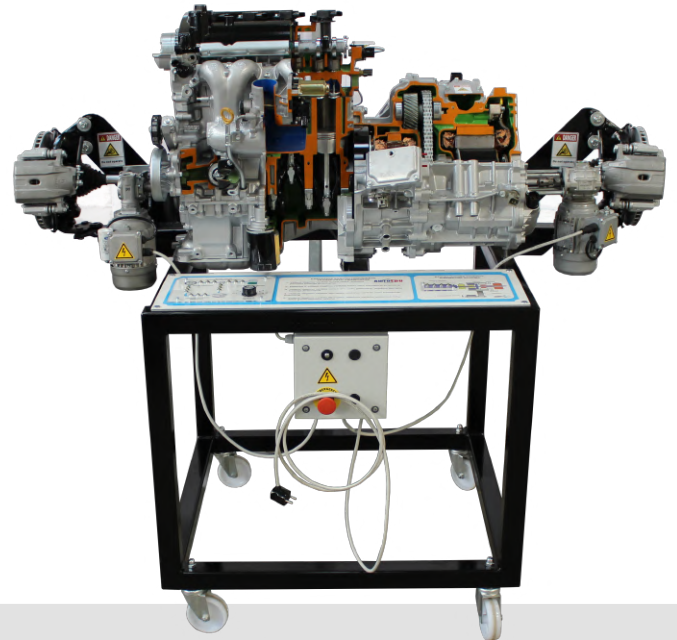
A1/L3

Product number

AE34501WM

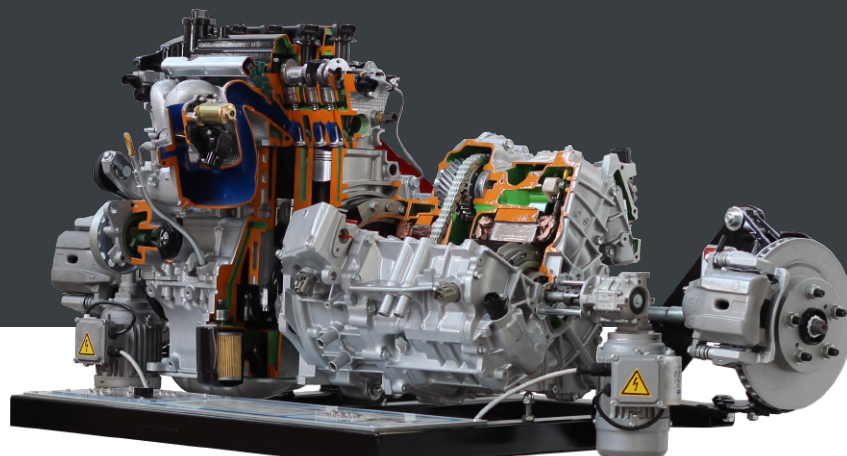


Highly detailed instructional tool featuring a 1500 cm<sup>3</sup>, 4-cylinder engine with a DOHC overhead camshaft and VVT-i (Variable Valve Timing) system. This model includes multi-point electronic injection, an epicyclic engine, and a transmission belt (CTV) integrated with Toyota's Hybrid System (THS), comprising both petrol (gasoline) and electric motors. The trainer allows electric rotation of the engine and generator, enabling hands-on learning of hybrid technology, energy recovery, brake systems, suspension integration, and efficient power transfer through its advanced transmission components and differential group. The model also includes detailed brake components, driveshaft, and suspension elements, providing a comprehensive understanding of how hybrid systems interact with driving components.



## Features

- Toyota Hybrid System (THS): Integrated petrol (gasoline) engine and electric motors with energy recovery and multiple operation modes.
- 4-Cylinder Engine: 1500 cm<sup>3</sup> displacement, DOHC overhead camshaft, 4 valves per cylinder, with VVT-i and multi-point electronic injection.
- Electric Operable Components: Engine and generator can be rotated electrically, allowing for detailed study and analysis.
- Epicyclic Engine and Transmission: Features a transmission belt (CTV), gears, and a differential group for comprehensive transmission training.
- Exhaust System: Includes an exhaust manifold with a Lambda probe for studying emissions and exhaust control.
- Brake System Components: Product includes attached disc brakes and calipers to observe brake system components and functionality.
- Working Driveshaft: Connected to the engine and gearbox, allowing learners to understand how engine performance interacts with the suspension system and contributes to vehicle movement.
- Suspension System Integration: Attached part of the suspension system demonstrates how key elements like the engine, gearbox, generator, brakes, suspension, and wheels work cohesively, giving students a holistic view of vehicle operation.





## Value for Students

- Gain detailed knowledge of the Toyota Hybrid System (THS), which integrates a petrol(gasoline) engine and electric motors. Learn about the energy recovery process during braking and the various modes of operation that optimize efficiency.
- Study the 4-cylinder, 1500 cm<sup>3</sup> engine with DOHC overhead camshaft, variable valve timing (VVT-i), and multi-point electronic injection. Students can see rotation of the engine and generator.
- Develop skills in diagnosing and troubleshooting hybrid systems by exploring the integration of the internal combustion engine with the electrical engine, generator, transmission components, brake system, and suspension.
- Understand the working principles of the epicyclic engine, transmission belt (CTV), differential group, and how these components interact with other systems like brakes, suspension and power transfer to wheels.
- Learn how engine performance interacts with the driveshaft and suspension system to facilitate vehicle movement.



## Value for Instructors

- Fully functional cutaway model to demonstrate the intricate workings of hybrid technology, from energy recovery and storage to the interaction between petrol(gasoline) and electric power sources.
- Easy, safe, and comfortable training using OEM components to offer a realistic car repair experience.

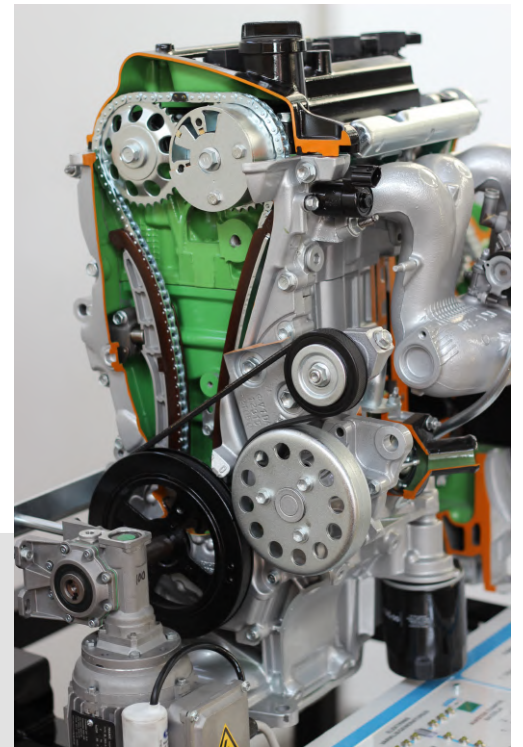
The ability to operate the engine and generator provides a tangible, interactive learning experience, fostering deeper student engagement and understanding.

- The inclusion of brake and suspension components, as well as a driveshaft, provides a complete view of how hybrid systems integrate with other vehicle elements.

The trainer is equipped with a nomenclature panel, allowing for easy identification of each component, which streamlines the teaching process.

Mounted on a robust stand with wheels, this trainer is easily movable within the classroom, making it accessible for demonstrations and group learning sessions.

Plug and play design, requiring no additional mountings, assembly, or special preparation for operation.



## Specifications

- Dimensions: 1300 x 900 x 1550 mm (51.18 in x 35.43 in x 61.02 in)
- Weight: approx.. 190 kg (418 lb)
- Product number: AE34501WM