



Product Overview

A compact and interactive **Hybrid Petrol/Electric System Cutaway Trainer**, designed to visually and functionally demonstrate the key operating principles of hybrid vehicles. This unit showcases all major components of a parallel-series hybrid system in a clear, educational format. Ideal for **technical training institutes, vocational centers, and automotive engineering courses**.

Educational & Functional Highlights

- Hybrid Drive System Demonstrator**
Includes both **internal combustion engine (ICE)** and **electric motor/generator systems**, enabling in-depth analysis of hybrid operation.
- Interactive Hybrid Mode Demonstration**
External electric motors simulate real driving conditions by rotating internal components via connecting chains, allowing the demonstration of **8 different hybrid operation modes** (e.g., EV only, engine only, power split, regenerative braking).
- Cutaway Design for Visual Learning**
Key components like the engine, transaxle, planetary gearset, inverter, and motor/generators are **cutaway** for clear internal viewing, fostering **hands-on, experiential learning**.

Technical Specifications

Component	Specification
Engine Type	4-Cylinder, 1.5L Petrol ICE with VVT
Fuel System	Multi-Point Fuel Injection (MPFI)
Drive Configuration	Hybrid: ICE + Electric Motors (Dual Motor/Generator)
Transmission Type	Planetary Gearset with Transaxle
Hybrid Modes Demonstrated	8 Modes (EV, ICE, Combined Drive, Regenerative, etc.)

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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Component	Specification
Inverter System	High Voltage Inverter with Visible Cabling
Battery Type	High Voltage NiMH or Li-ion (non-operational cutaway)
Control Operation	Manual & External Motor Driven
Educational Aids	Chain Drive Linkages for Operation Simulation
Structure	Welded frame with castor wheels (classroom mobile)
Dimensions	Compact – Suitable for Classroom Use (<i>Approximate</i>)
Weight	Moderate – Easily relocatable within labs

Learning Objectives

- Understand hybrid synergy drive architecture
- Analyze the interaction between electric motors and combustion engine
- Visualize energy flow in hybrid driving modes
- Hands-on identification of hybrid system components
- Practice on real components without the risks of live high-voltage systems

Scope of Delivery

- Complete Hybrid Petrol/Electric Cutaway Trainer
- User Manual & Teaching Guide
- Classroom-Ready Mobile Stand
- Safety Instructions and Operational Guide

Ideal For

- Automotive Engineering Departments
- Technical Training Institutes
- Vocational Automotive Programs
- EV & Hybrid Certification Courses

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