

Product Name :

Hybrid Cut-Away Engine, Prius, Electrical Operation

Product Code :

TechnicalLab0408

Description :

Hybrid Cut-Away Engine, Prius, Electrical Operation

When we examine a Toyota Hybrid System (THS), we know the power is coming from the gas engine and the electric motor. The hard part for us is communicating how to visualize what's happening inside. It's easy to explain the process, but being able to show other people how the THS recovers energy lost as heat in the brakes and uses it to supplement the power of its fuel-burning engine. This is made easy with the Toyota Hybrid Cut-Away Trainer because it provides:

- Educationally functioning parallel-type hybrid system running a 1.5L gas engine and Nickel-Hydrogen motor powered by two external motors.
- MG1 (motor generator 1) generates electrical power and starts the engine. MG2 (motor generator 2) drives the vehicle. During deceleration, the wheels drive MG2, which acts as a generator for regenerative power recovery.
- Electric motors can be operated separately or simultaneously, according to teaching requirements.
- Illustration panel.
- The cut-away model engine has been carefully sectioned for training purposes and professionally painted with different colors to better differentiate the various parts.

This cut-away is the same model as N99-ND4500, but operated electrically by means of two electric motors: one on the gas engine and the other on the generator. The electric motors can be operated separately or simultaneously, according to teaching requirements.

SPECIFICATIONS:

- 2 Electric drive motors
- 4 cylinders
- Displacement: 1500 cc
- DOHC (overhead camshaft)
- 4 valves per cylinder
- Roller chain
- VVT-I system (Variable Valve Timing with intelligence) electronically controlled intake valves
- Multi-point electronic injection with throttle
- Electrical engine
- Epicyclical engine
- Generator
- Transmission belt (CTV)
- Gears
- Differential group
- Exhaust manifold with Lambda probe
- Mounted on stand with wheels
- Operated by electrical connection

HYBRID ELECTRIC VEHICLE TECHNOLOGY TEXTBOOK

Hybrid Electric Vehicle Technology provides foundational information about vehicles that use more than one propulsion technology to power a drive system. This textbook (279 pages) is filled with technical illustrations (197) and concise descriptions of the different configurations and vehicle platforms, the operation of various systems and the technology involved, and the maintenance of hybrid electric vehicles.

Content Highlights:

- Introduction to HEV Technology
- Hybrid Engines
- Power Inverter Systems
- Electric Propulsion Sensing Systems
- Nickel-Metal Hydride Technology
- Hybrid Vehicle Braking Systems
- Textbook CD-ROM Includes: Quick Quizzes, Media Clips, Illustrated Glossary, Review Questions, and Flash Cards.

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