



**DEGEM  
SYSTEMS**

**Autotronics**

# AT-5301

## Hybrid Vehicle Systems

### Advanced Autotronics Simulator

Degem's AT-5301 Hybrid Vehicle Systems course consists of a module and computer courseware. The module, which plugs into any free compartment in the AT-5000 main panel, contains multicolor graphic of the entire HYBRID VEHICLE system, several test points and LED indicators.

The interactive courseware contains essential theory enhanced with vivid simulations, guided exercises that interact with the HYBRID VEHICLE module, guided diagnostic exercises and self assessment exercises

All of these provide the ideal learning environment to provide valuable true-to-life diagnostic exercises to train competent autotronics technicians.

Multipoint injection demonstrator

Electronic injection demonstrator

ABS 4 channel system demonstrator

Engine controls & sensors simulator

Car air-conditioning & climate control simulator

Suspension simulator

Transmission simulator

Safety systems simulator

Automotive electrical accessories

Diesel Electrical Wiring Simulator

Diesel Starting & Charging Simulator

Hydraulic Brakes Demonstrator

Smart Gasoline Car Fault Insertion system

Smart Truck Fault Insertion system

Smart Tractor Fault Insertion system

Smart Motorcycle Fault Insertion system

Common Rail Injection

Main Panel

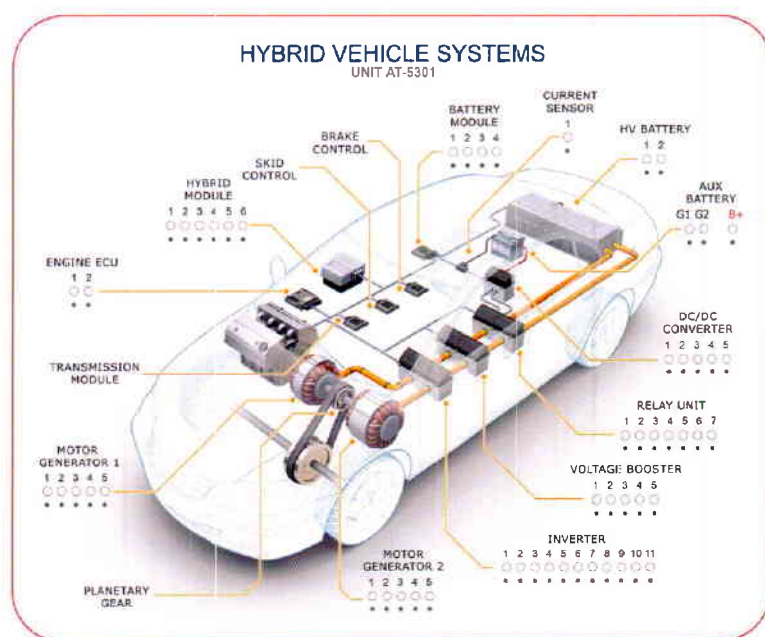
Multipoint Fuel Injection

Emission Control

Airbag Systems

Electronic Stability Program

Hybrid Vehicle Systems



# Specifications

## THEORY LESSONS COVER

- Nickel metal battery characteristics: terminal voltage, ampere-hour capacity
- Charging battery with motor-generator #1
- Starting engine with motor-generator #1
- Driving performance with motor-generator #2
- Regenerative braking with motor-generator #2
- DC-DC booster for main electric drive
- DC to 3 phase AC variable frequency inverter
- 12 VDC converter for accessory battery
- Current sensors
- Hybrid electronic control unit

## TESTING AND MEASUREMENT GUIDE

Using virtual test instruments, such as digital multimeter and oscilloscope, at designated test points, for observing normal operationg condition.

## DIAGNOSTIC PROCEDURES

Teach the student various logical diagnostic methods through detailed step-by-step diagnostic procedures.

## FAULT FINDING

- Faults are inserted in random order
- Student needs to identify fault by himself.