

Hybrid Vehicle Systems

Getting Started

ME1975-C

1. Introduction

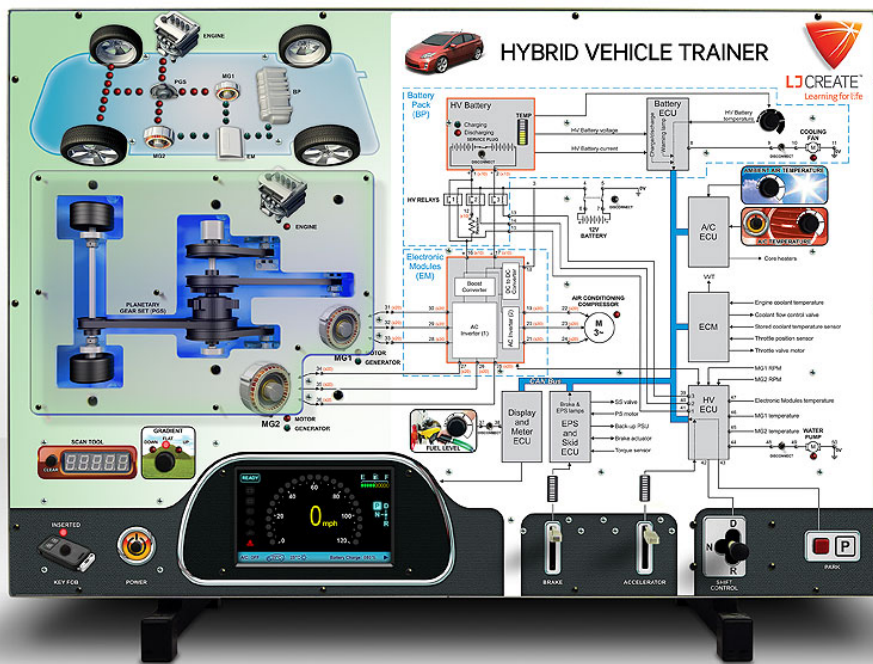
This product contains the following three items:

- Hybrid Vehicle Trainer hardware
- Virtual Hybrid Vehicle software
- Hybrid Vehicle Systems learning content

The flexibility of the system allows these items to be used individually or in any combination.

2. Overview

Hybrid Vehicle Trainer hardware



Hybrid Vehicle Trainer hardware

The hardware is designed to demonstrate the operation of a series-parallel hybrid system.

The hardware may either be operated manually using the on-board controls and displays, or computer controlled via the supplied Virtual Hybrid Vehicle software.

Virtual Hybrid Vehicle software



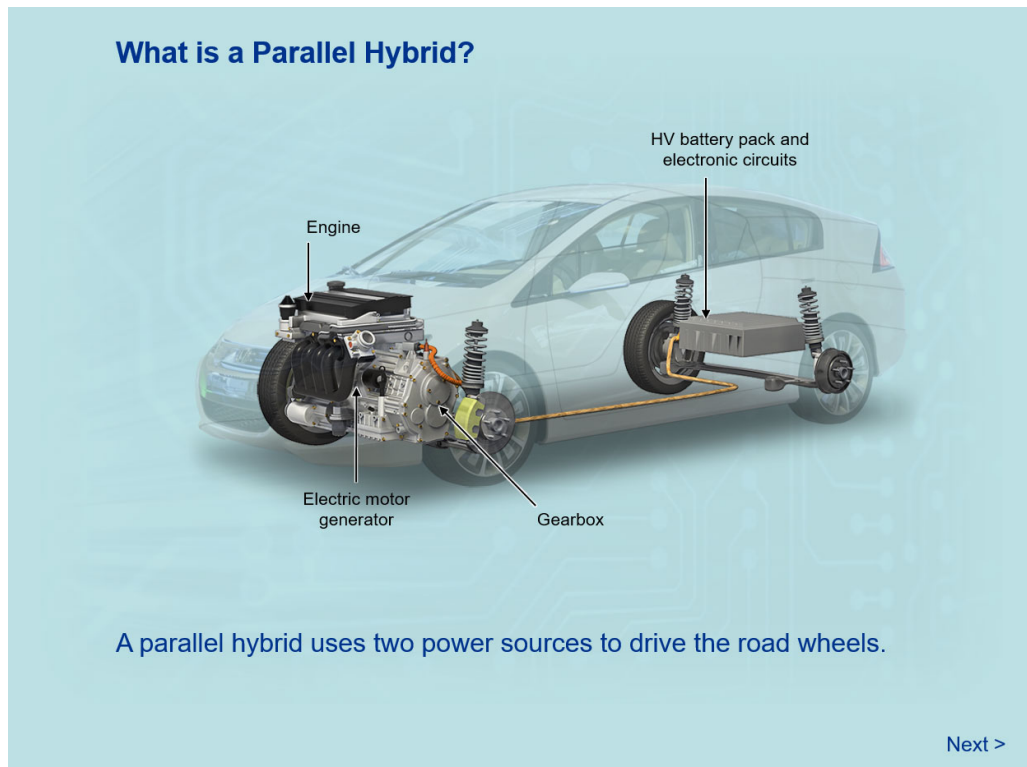
Virtual Hybrid Vehicle software

This software allows the operation of a series-parallel hybrid system to be demonstrated through a virtual learning environment. It can be used in two ways:

- As a software-only simulator;
- As a control interface for the Hybrid Vehicle Trainer hardware (by connecting the PC to the hardware via the supplied USB cable).

The software is supplied as a site license, allowing it to be used by all students simultaneously.

Hybrid Vehicle Systems learning content



Hybrid Vehicle Systems learning content – example theory presentation

This learning content provides background theory, investigations and practical tasks on electric and hybrid vehicles.

The practical tasks are based around the Virtual Hybrid Vehicle software (used either as a simulator or a hardware control interface) and suggested automotive workshop activities.

3. Installation

Virtual Hybrid Vehicle software disk

Follow the instructions on the disk sleeve to install the Virtual Hybrid Vehicle software. The user license allows the software to be installed on multiple PCs at the same site address.

Hybrid Vehicle Systems learning content disk

Follow the instructions on the disk sleeve to install the Hybrid Vehicle Systems learning content. The user license allows the software to be installed on multiple PCs at the same site address.

Hybrid Vehicle Trainer hardware

Follow these instructions only if you wish to change the gallons measurement from US to GB.

When the vehicle speed is displayed in mph, fuel economy will be displayed in mpg. The Hybrid Vehicle Trainer can be set to display mpg using either US gallons (3.785 liters) or GB gallons (4.546 litres).

The unit is factory set to US gallons. To change to GB gallons, follow these steps:

- Connect the power lead



- **Immediately** press and hold down the A/C button



- After about two seconds, the Scan Tool display will show the current setting for gallons:



- Press the **CLEAR** button on the Scan Tool to toggle the setting between US and GB gallons



- Press the **POWER** button (below the Scan Tool) to store the desired setting and return to normal operation



4. Operation

Virtual Hybrid Vehicle software

The Virtual Hybrid Vehicle software is run from the *Start/Programs/LJ Create* folder.

In addition to the normal application shortcut, the folder also includes shortcuts that allow the software to be run with a specified fault inserted.

A list of the available faults and their effects is provided in the file *Fault Insertion Guide.pdf* on the root of the Virtual Hybrid Vehicle software disk.

By default, the software runs as a simulator. To use the software to control the Hybrid Vehicle Trainer hardware, follow these additional steps:

- Connect the hardware to your PC via the supplied USB cable
- Power up the hardware (the blue background lighting will illuminate)
- Go to the *Hardware* menu and click *Connect*.

For further information on the use of the Virtual Hybrid Vehicle software, refer to the User Guide provided in the Help section of the software.

Hybrid Vehicle Trainer hardware

In addition to being controlled from the Virtual Hybrid Vehicle software, the hardware can also be operated manually, using the controls and displays on the hardware itself.

For guidance on manually operating the hardware, refer to the User Guide provided in the Help section of the Virtual Hybrid Vehicle software.

Switched faults can be manually inserted into the hardware via a panel on the side of the unit. Further information is provided in the file *Fault Insertion Guide.pdf* on the root of the Virtual Hybrid Vehicle software disk.

Hybrid Vehicle Systems learning content

The Hybrid Vehicle Systems learning content is run from the *Start/Programs/LJ Create* folder.

Note: The learning content includes links to run an embedded, simulator only, version of the Virtual Hybrid Vehicle software. This version cannot be used to control the hardware.