

# DATS AUTO-HYBRID TECHNOLOGY

## CONTAINS

### 1. INTRODUCTION TO HYBRID TECHNOLOGY.

- History of the hybrid vehicles
- The global advantages of these vehicles
- Compare of fossil fuel source vehicle and (hybrid) twin source

### 2. HIGH VOLTAGE AWARENESS TRAINING.

- Qualification concept and high voltage concept
- HV vehicles and safety measures
- Safety precautions on TOYOTA Prius hybrid vehicles

### 3. BRIEF EXPLANATION FOR HYBRID DRIVE LAYOUTS.

- Parallel system
- Series system
- Power split system
- Comparison of THS & HSD

### 4. HIGH VOLTAGE COMPONENTS (MERCEDES BENZ).

- Power electronics
- High voltage battery
- Electric A/C compressor
- Electric machine or motor/generators

### 5. DRIVING SITUATIONS IN HYBRID OPERATION.

- Alternator mode
- Engine drive, while charging
- Boost mode
- Regenerative braking
- Pure electric driving

## 6. POWER FLOW CIRCUIT(HIGH VOLTAGE) AND INTERLOCK CIRCUITS.

- Electric machine operation when driving
- Electric machine when charging of battery
- Routing of the interlock wiring

## 7. HIGH VOLTAGE COMPONENTS COOLING SYSTEM.

- Purpose of the cooling system
- Circuits of coolants and refrigerant

## 8. IDENTIFYING OF THE COMPONENTS.

- Visually check the components
- Identifying the locations of the components
- Remove and install HV components

## 9. DEACTIVATING/ACTIVATING OF THE HIGH VOLTAGE SYSTEM.

- Perform HV deactivation and activation using diagnosis equipment
- Read out voltages at different times

## 10. INTRODUCTION TO PLUG IN HYBRID.

- Comparison between HYBRIDS and PLUG-IN HYBRIDS
- Components in Mercedes PLUG-IN HYBRIDS and Toyota Models

## 11. CHARGING OF ELECTRIC VEHICLES(MERCEDES & JAPANESE).

- Charge connector terminal identification
- Charging methods

## 12. CDI, POWER ELECTRONIC AND BATTERY MANAGEMENT SYSTEM COOPERATION FOR THE SYSTEM OPERATION.

- Torque coordination for a hybrid drive system, function
- Automatic engine start, function
- Energy management for hybrid drive system, function
- Deceleration mode, function
- Recuperative braking, function

## 13. FAULT DIAGNOSING IN HIGH VOLTAGE AND HYBRID SYSTEM .

- Identification faults using diagnosis equipment
- Identification of defective components