

Central Lock with Electric Glass System Trainer

Overview

The central lock with electric glass system trainer is designed based on central control door lock and electric window to holistically demonstrate structures and operation principles of these systems. The trainer comprises real / original equipment to help trainees get familiar with components, internal parts, connections, and functions of the central lock module similar to that found in a real vehicle. It is a great educational unit which allows for student hands-on reinforcement and troubleshooting practice as it is provided with common faults of central control door lock and electric window system.



Specifications

- The educational unit demonstrates the electrical systems of the car doors, in addition to the central lock module.
- The educational unit is supplied with the car keys and its remote control.
- The educational unit consists of a vertical stand that contains two panels to demonstrate the components and make the electrical connections, in addition to two hollowed car doors.
- The car doors components and electrical circuits are demonstrated at the two panels of the vertical stand.
- The stand and the two doors are mounted to a U- base to carry the trainer, supplied with two angel stands at the U ends to act as doors housing and to prevent doors from a hit against the vertical stand.
- The doors can be rotated with 90 degrees.

- The lower panel at the stand consists of operation switches section, central Lock system section, right rear door section and left rear door section, in addition to faults switches.
- The operation switches section contains emergency switch, trainer operation ON/OFF switch, trainer operation indication LED and ignition switch.
- The Central lock module section consists of the central lock module and its terminals, battery terminals, and its operation indication LED, starter terminals and its operation indication LED, a manual button which is (actually) mounted at the dashboard of the car to activate the central lock system from inside the car and its terminals, and fuse box and its terminals.
- Additionally, siren terminals, two LEDs to indicate the operation of left and right lights and their terminals (the lights of the car are activated only after activating the central lock unit), four doors' terminals and their indication LEDs in case they are opened.
- Each of the left rear door section and right rear door section contains window switch, window motor, and a door lock actuator.
- The upper panel at the stand contains a very clear schematic diagram of the electrical circuit of the central lock module and the electrical connections of the car four doors, in addition to two sections of

the right front door and left front door components terminals.

- The terminals at each section represent window switch, window motor, door lock actuator, the mirror (right and left) and door sensor.
- A siren is mounted to the upper edge of the vertical stand.
- The terminals supplied to the educational unit are safety 4 mm terminals to perform connection, measurement and testing processes.
- The stand panels are provided with figures of the components with labeled names for each component printed by ultraviolet technology.
- A troubleshooting simulation system is provided within the system to allow inserting various types of faults that commonly occur in such systems.
- Eight faults' switches are provided on the lower panel of the trainer so trainees can practice testing the following faults: battery fault, power window main switch fault, right front door window fault, power window main switch fault, right front door lock actuator fault, central lock module fault, power window main switch fault, and left front door sensor fault.

Experiments

- Understand, learn and gain the skills required for the door central lock system.
- Understand, learn and gain the skills of maintaining of the electric windows system.
- Understand, learn and gain the skills of maintaining of the side mirrors system.
- Read the electrical circuits diagrams for central lock systems for doors, electric windows, and side mirrors.
- Inspection and Replacement of the Central Door Lock Circuit

- Disassembly and Inspection of Electric Windows Motor
- Disassembly and Inspection of the Electric Side Mirror
- Simulate 8 different faults of the central lock module.
 - » F1: Battery Fault.
 - » F2: Power Window Main Switch Fault.
 - » F3: Right Front Door Window Fault.
 - » F4: Power Window Main Switch Fault (AUTO).

Components



1	Central lock system electrical circuit diagram	2	Window & door terminals for left side
3	Window & door terminals for right side	4	Window motor for left side
5	Window motor for right side	6	Door lock actuator for left side
7	Door lock actuator for right side	8	Left window switch
9	Right window switch	10	Central lock module
11	Faults switches panel	12	Operation switches
13	left rear door section	14	Right rear door section

Scope of Delivery

- Central Lock with Electric Glass System Trainer (BES103)
- Hard copy user manual

Options

- Digital content (BI01)