# SYSTEM DESCRIPTION

05JDP–01

## 1. WIRELESS DOOR CONTROL SYSTEM DESCRIPTION

(a) This system is convenient system for locking and unlocking all the doors at a distance. The wireless control system has the following features:

    (1) In this system, the door lock control receiver performs the code identification process and the theft warning ECU (theft deterrent ECU) operates the door lock control. A serial data link is provided for communication between the door control receiver and the theft warning ECU assy.

    (2) A key–integrated type transmitter is used and it contains the following 3 switches: the door lock switch, door unlock switch and luggage open switch.

## 2. FUNCTION OF MAIN COMPONENT

| Component | Outline |
|---|---|
| Door control transmitter | • Has LOCK, UNLOCK and LUGGAGE OPEN switches.<br>• Sends faint electric waves (ID codes, function codes) to door control receiver.<br>• When sending codes, indicator lamp illuminates. |
| Luggage compartment door closer assy | If luggage compartment door closer motor is rotating normally, luggage compartment door will open. |
| Door control receiver | Receives faint electric waves (ID codes, function codes) from door control transmitter, changes waves to code data, and outputs data to theft warning ECU. |
| Unlock warning switch | Detects if key is in ignition key cylinder. |
| Front door courtesy lamp switch assy<br>Rear door courtesy lamp switch assy<br>Luggage compartment door courtesy lamp switch assy | Turns on when door is open, turns off when door is closed. Outputs door status to each door ECU. |
| Wireless door lock buzzer | Emits beep (answer–back) when doors are locked or unlocked. |
| Wireless door lock buzzer controller | Changing wireless door lock buzzer's sound volume, or turning buzzer off. |

## 3. SYSTEM FUNCTION

(a) Door lock/unlock operation

    (1) With no key in the ignition key cylinder (KSW OFF) and all door courtesy lamp switches OFF, press the door control transmitter LOCK or UNLOCK switch. The door control transmitter will send a faint electrical wave to the door control receiver. The high frequency circuit built into the door control receiver changes the wave into code data, which is then output to the theft warning ECU.

    The theft warning ECU receives door control transmitter door LOCK/UNLOCK switch signals through the serial communication line. It sends door LOCK/UNLOCK control signals to each seat's door ECU through the multiplex communication line.

    When each seat's door ECU receives a door LOCK/UNLOCK control signal, the door's lock position switch will change to ON or OFF.

(b) Luggage compartment door open operation

    (1) With the unlock warning switch OFF, press the door control transmitter's LUGGAGE OPEN switch. Similar to door LOCK/UNLOCK operation, the following occurs: 1) the theft warning ECU receives the LUGGAGE OPEN switch signals through the serial communication line. It sends luggage compartment door open control signals to the luggage room J/B ECU through the multiplex communication line. Then the luggage compartment door closer will open the luggage compartment door. Also, the luggage compartment door courtesy lamp turns ON.

(c) Answer–back operation

    (1) The door unlock detection switch changes from ON to OFF based on operational control signals. The theft warning ECU receives the ON and OFF status of the door unlock detection switch. Once the theft warning ECU receives confirmation that an operation has finished, the ECU: 1) sounds the wireless door lock buzzer, or 2) through the multiplex communication line, sends a hazard warning lamp output control signal to the driver side J/B ECU and starts blinking the hazard warning lamps.

(d) Panic alarm operation (Australia only)

(1) With no key in the ignition key cylinder (KSW OFF) and all door courtesy switches OFF, press and hold the door control transmitter LOCK (PANIC) switch for over 3 seconds. Similar to door LOCK/UNLOCK operation, the following occurs: 1) the theft warning ECU activates and interior relay and the security horn sounds, and 2) the alarm control signals of the hazard warning lamps, vehicle horn, headlamps and taillamps are sent to each control ECU, starting the theft deterrent alarm.

(e) The wireless door lock control system has the following functions:

| Function | Outline |
|---|---|
| All door lock operation | Pressing LOCK switch locks all doors. |
| All door unlock operation (2–step unlock operation) | Pressing UNLOCK switch twice within 3 seconds unlocks all doors after designated door is unlocked. |
| Luggage door open operation | Holding down LUGGAGE OPEN switch for longer than about 0.8 seconds opens, the luggage compartment door. |
| Power window and sliding roof open operation | Holding down UNLOCK switch for longer than 3 seconds opens all power windows and sliding roof. |
| Power window and sliding roof close operation* | Holding down LOCK switch for longer than 3 seconds closes all power windows and sliding roof. |
| Answer–back operation | Hazard lamps flash once when doors are locked and flash twice when doors are unlocked to inform that operation has been completed. |
| | Wireless door lock buzzer sounds once when doors are locked and sounds twice when doors are unlocked to inform that operation has been completed. |
| | When transmitter is used for opening luggage compartment door or for power windows and sliding roof, this function causes the buzzer to sound to inform that operation has been completed. |
| Panic alarm operation (Australia) | Holding down the LOCK (PANIC) switch for longer than 3 seconds sets off theft deterrent alarm (the horn sounds, headlamps, taillamps and hazard lamps flash). |
| Automatic lock function | If none of doors are opened within 30 seconds after they are unlocked by wireless door lock remote control, all doors will lock again automatically. |
| Repeat function | If a door is not locked in response to locking operation of transmitter, theft warning ECU will output a lock signal after 1 second. |
| Illuminated entry function | With all door locked, pressing door unlock switch causes these things to happen simultaneously: 1) interior light illuminates, 2) the door mirror's foot lamps illuminate (duration is 15 seconds), and 3) door unlocks. |
| Security function | Sends operation signal as rolling code. |
| Door ajar warning function | If any door is open or ajar, pressing LOCK switch will cause wireless door buzzer to sound for about 10 seconds. |
| Transmitter recognition code registration function | Enables registering (writing and storing) of 4 types of transmitter recognition codes in EERPOM that is built into theft warning ECU. |
| Self–diagnosis | If there is malfunction in system, theft warning ECU sets DTC in its memory. |

HINT:

*: Depending on the country, this function may not be available.