

PRE-CHECK

1. USING HAND-HELD TESTER

- Hook up the hand-held tester to the DLC3.
- Monitor the ECU data by following the prompts on the tester screen.

HINT:

Hand-held tester has a "Snapshot" function which records the monitored data.

Please refer to the hand-held tester operator's manual for further details.

2. DTC CLEAR

The DTCs and frozen frame data will be erased by either action.

Operate the hand-held tester to erase the codes.

3. DATA LIST

HINT:

According to the DATA LIST displayed by the hand-held tester, you can read the value of the switch, sensor, actuator and so on without parts removal. Reading the DATA LIST as a first step of troubleshooting is one of the methods to shorten the labor time.

- Connect the hand-held tester to the DLC3.
- Turn the ignition switch ON.
- According to the display on tester, read the "DATA LIST".

Power source & ignition switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
ACC SW	ACC SW signal	ON: IG key is in ACC, ON or START position OFF: IG key is in OFF position	–
IG SW	IG SW signal	ON: IG key is in ON or START position OFF: IG key is in OFF or ACC position	–

Key unlock warning switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
KEY UNLOCK WRN SW	Key unlock warning SW signal	ON: Key is IG key cylinder OFF: Key is not in IG key cylinder	–

Door courtesy switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
LUGG COURTSY SW	Luggage compartment door's courtesy SW signal	ON: Luggage door is open OFF: Luggage door is close	–
D DOR CTY SW	Driver's door courtesy SW signal	ON: Driver's door is open OFF: Driver's door is close	–
P DOR CYT SW	Passenger's door courtesy SW signal	ON: Passenger's door is open OFF: Passenger's door is close	–
Rr DOR CTY SW	Rear door courtesy SW signal	ON: Either right or left rear door is open OFF: Both the right and left doors are closed.	–

Headlight dimmer switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
DIMMER SW	Dimmer SW signal	ON: Dimmer SW is on (High Beam) or High flasher SW is on OFF: Dimmer SW is OFF (Low Beam) and High flasher SW is off	–
HIGH FLASHER SW	High flasher SW signal	ON: High flasher SW is on OFF: High flasher SW is off	–

Light control switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
AUTO LIGHT SW	Auto light SW signal	ON: Light control SW is in Auto position OFF: Light control SW is in except Auto position	–
HEAD LIGHT SW	Head light SW signal	ON: Light control SW is in HEAD position OFF: Light control SW is in except HEAD position	–
TAIL LIGHT SW	Taillight SW signal/ON	ON: Light control SW is in TAIL or HEAD position OFF: Light control SW is in OFF or AUTO position	–
LIGHTING TIME	Taillight SW signal/ON	7.5 s/15 s/30 s	–
TAIL CANCEL SW	Tail cancel switch	ON: Tail cancel switch is ON position OFF: Tail cancel switch is OFF position	–

Door key lock and unlock switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
DOR KEY SW-LOCK	Door key switch lock side	ON: Door key switch is lock position OFF: Door key switch is unlock position	–
D DOR KEY SW-UL	Driver door key switch unlock side	ON: Driver door key switch is unlock position OFF: Driver door key switch is lock position	–

Door key lock and unlock switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
P LOCK POS SW	Passenger lock position switch	ON: Passenger lock position switch is lock position OFF: Passenger lock position switch is unlock position	–
D/L SW-LOCK	Door lock switch lock side	ON: Door lock switch is lock position OFF: Door lock switch is unlock position	–
D/L SW-UNLOCK	Door lock switch unlock side	ON: Door lock switch is unlock position OFF: Door lock switch is lock position	–

Parking brake switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
PARKING BRAKE SW	Parking brake switch	ON: Parking brake switch is ON position OFF: Parking brake switch is OFF position	–

Driver seat buckle switch :

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
D SEAT BUCKL SW	Driver seat buckle switch	ON: Driver seat buckle switch is ON position OFF: Driver seat buckle switch is OFF position	–

Seat memory switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
SEAT M1 SW	Seat memory switch 1	ON: Seat memory switch 1 is ON position OFF: Seat memory switch 1 is OFF position	–
SEAT M2 SW	Seat memory switch 2	ON: Seat memory switch 2 is ON position OFF: Seat memory switch 2 is OFF position	–
SEAT SET SW	Seat set switch	ON: Seat set switch is ON position OFF: Seat set switch is OFF position	–

Wireless door lock control:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
WIRELESS OPER	Wireless door lock control function	ON: Wireless door lock control function OFF: Wireless door lock control does not function	–
HAZARD ANS BACK	Hazard answer back of the wireless	ON: Hazard answer back of the wireless is ON position OFF: Hazard answer back of the wireless is OFF position	–

Wireless door lock buzzer:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
WIRELESS BUZZ VOL	Wireless door lock buzzer volume	OFF/MIN/MID3/MID2/MID1/MAX	–
DOWN/WIRELESS	P/W DOWN W/ transmitter	ON: P/W DOWN W/ transmitter ON position OFF: P/W DOWN W/ transmitter OFF position	–
AUTO LOCK DELAY	Auto lock time	30 s / 60 sec	–
UNLOCK/2 OPER	2 times operation wireless unlock	ON: 2 times operation wireless unlock is ON position OFF: 2 times operation wireless unlock is OFF position	–
ALARM FUNCTION	Panic function	ON: Panic function is ON position OFF: Panic function is OFF position	–
AUTO LOCK	Auto lock	ON: Auto lock is ON position OFF: Auto lock is OFF position	–
UNLK/KEY TWICE	Unlock w/ 2 times D key operation	ON: Unlock w/ 2 times D key operation is ON position OFF: Unlock w/ 2 times D key operation is OFF position	–
ALL UNLK/OPN-CL	All Unlock w/ D door open-close	ON: All Unlock w/ D door open-close is ON position OFF: All Unlock w/ D door open-close is OFF position	–
UNLOCK/PARK	Unlock w/ IG ON, shift P, speed 0	ON: Unlock w/ IG ON, shift P, speed is ON position OFF: Unlock w/ IG ON, shift P, speed is OFF position	–
AUTO LOCK/SHIFT	Auto Lock/shift not P	ON: Auto Lock/shift not P is ON position OFF: Auto Lock/shift not P is OFF position	–

Light control sensor:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
LIGHTING TIME	Lighting time	7.5 s/15 s/30 s	–

Open door warning light:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
OPEN DOOR WARN	Open door warning	ON: Open door warning is ON OFF: Open door warning is OFF	–

Illumination:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
ILLUMI SYSTEM	Operation of illumination	ON: Illumination is ON position OFF: Illumination is OFF position	–
ILLUMINATION RATE	Illumination rate information	–	–
I/L ON/ACC OFF	Light the I/L when ACC OFF	ON: Light the I/L when ACC OFF is ON position OFF: Light the I/L when ACC OFF is OFF position	–
I/L ON/UNLOCK	Interior light ON w/unlock	ON: Interior light ON w/unlock is ON position OFF: Interior light ON w/unlock is OFF position	–
RESPONSE TIME	Response time	0.1 s/1.0 s	–

Park / Neutral position switch:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
P/N POS SW	P/N position switch	ON: Shift is P position OFF: Shift is except P position	–

Alternator signal:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
ALT L SIG	Alternator L terminal	ON: Input voltage is 2.0 or 6.0 V OFF: No voltage	–

Others:

Item	Measurement Item/ Display (Range)	Normal Condition	Diagnostic Note
SENSITIVITY	Turn on luminous intensity	DARK2/DARK1/NORMAL/LIGHT1/LIGHT2	–
LIGHT OFF DELAY	Light auto OFF delay	OFF/30 s/60 s/90 s	–
DISP EX ON SEN	Display extinction luminous intensity	DARK2/DARK1/NORMAL/LIGHT1/LIGHT2	–
DISP EX OFF SEN	Display extinction release luminous intensity	DARK2/DARK1/NORMAL/LIGHT1/LIGHT2	–

4. ACTIVE TEST**HINT:**

Performing the ACTIVE TEST using the hand-held tester allows the relay, VSV, actuator and so on to operate without parts removal. Performing the ACTIVE TEST as a first step of troubleshooting is one of the method to shorten the labor time.

It is possible to display the DATA LIST during the ACTIVE TEST.

- Connect the hand-held tester to the DLC3.
- Turn the ignition switch ON.
- According to the display on tester, perform the "ACTIVE TEST".

Item	Test Details	Diagnostic Note
HAZARD	Turns Hazard light flasher relay ON/OFF	–
BUZZ CONT SOUND	Wireless buzzer ON/OFF	–
BUZZ RESP SOUND	Wireless buzzer ON/OFF	–
HEAD LIGHT	Turns Head light relay ON/OFF	–
HEAD LIGHT (HI)	Turns Head light relay ON/OFF	–
TAIL LIGHT	Turns Tail light relay ON/OFF	–
DRL RLY	(Test Details) Turns DRL relay ON/OFF (Vehicle Condition) IG SW is ON, Engine is stopped and Light control SW is in OFF position.	–
DIMMER SIG	Turns Head light dimmer relay ON/OFF	–
ILLUMI OUTPUT	(Test Details) Turns Interior light and Key illumination ON/OFF (Vehicle Condition) Interior light SW is in Door position	–
OPN DOR WRN LGT	Open door warning light ON/OFF	–
P P/W UP/DOWN	Passenger power window UP/DOWN	–
RL P/W UP/DOWN	RL power window UP/DOWN	–
RR P/W UP/DOWN	RR power window UP/DOWN	–
R ROOM LIGHT	Rear room light ON/OFF	–

DIAGNOSTICS – BODY CONTROL SYSTEM

DOOR RLY CUT	Doom light ON/OFF	–
DOOR LOCK	Drive the Door lock motor at all doors LOCK/UN-LOCK	–