

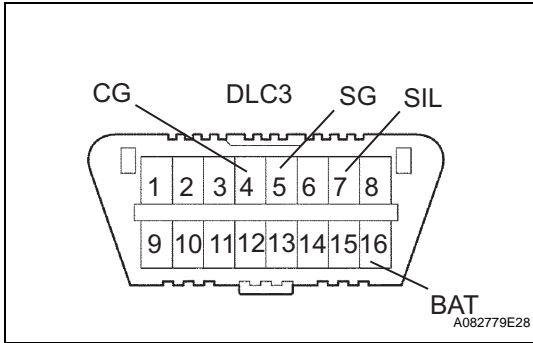
DIAGNOSIS SYSTEM

1. DESCRIPTION

- (a) Data of the system can be read from the Data Link Connector 3 (DLC3) of the vehicle. Therefore, when the system seems to be malfunctioning, use the intelligent tester to check for a malfunction and repair it.

2. CHECK DLC3

- (a) The vehicle's ECM uses ISO 9141-2 communication protocol. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 9141-2 format.



Standard

Tester Connection	Condition	Specified Condition
7 (Bus + line) - 5 (Signal ground)	During communication	Pulse generation
4 (Chassis ground) - Body ground	Constant	Below 1 Ω
5 (Signal ground) - Body ground	Constant	Below 1 Ω
16 (B+) - Body ground	Constant	9 to 14 V

HINT:

If the screen displays a communication error message after you have connected the cable of the intelligent tester to the DLC3, turned the ignition switch ON and used the intelligent tester, the problem may be on the vehicle side or tester side.

- If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.
- If communication is still impossible when the tester is connected to another vehicle, the problem is probably in the tester itself, so consult the Service Department listed in the tester's instruction manual.

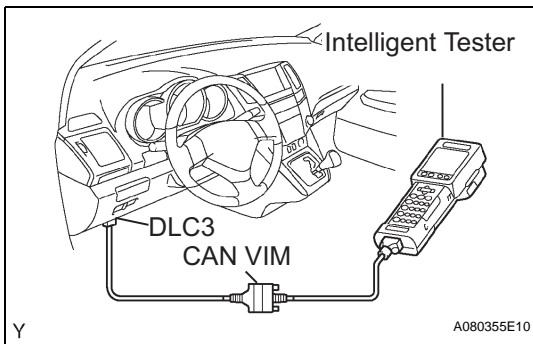
DATA LIST / ACTIVE TEST

1. USING INTELLIGENT TESTER

- (a) Connect the intelligent tester to the DLC3.
 (b) Monitor the ECU data by following the prompts on the tester screen.

HINT:

The intelligent tester has a "Snapshot" function which records the monitored data. Refer to the intelligent tester operator's manual for further details.



2. DATA LIST**HINT:**

Using the DATA LIST displayed on the intelligent tester, you can read the value of the switch, sensor, actuator, etc. without parts removal. Reading the DATA LIST as the first step of troubleshooting is one way to shorten the labor time.

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Read the DATA LIST according to the display on the tester.

MIRROR-L/MIRROR-R

Item	Test Details	Diagnostic Note
MIRR POS SEN V	Vertical mirror position/MIN: 0, MAX 5 V	Within range from 0 to 5 V
MIRR POS SEN H	Horizontal mirror position/MIN: 0, MAX 5 V	Within range from 0 to 5 V
MIRR MEM 1	Mirror position memorized in memory switch M1/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
MIRR MEM 2	Mirror position memorized in memory switch M2/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized

MASTER SW

Item	Test Details	Diagnostic Note
SEAT SET SW	Seat memory set switch signal/ON or OFF	ON: Memory set switch is pressed OFF: Memory set switch is not pressed
SEAT MEM M1	Seat memory switch M1 signal/ON or OFF	ON: Seat memory M1 switch is pressed OFF: Seat memory M1 switch is not pressed
SEAT MEM M2	Seat memory switch M2 signal/ON or OFF	ON: Seat memory M2 switch is pressed OFF: Seat memory M2 switch is not pressed

D-SEAT

Item	Test Details	Diagnostic Note
POWER VOLTAGE	Power supply for position control ECU & switch/MIN: 0 V, MAX: 19.89 V	Within range from 11 to 14 V
IG SW	Ignition switch status/ON or OFF	ON: Ignition switch is ON OFF: Ignition switch is OFF
KEY UNLOCK SW	Key unlock warning switch signal/ON or OFF	ON: Key is in ignition key cylinder OFF: Key is not in ignition key cylinder
PNP SW	Park/Neutral position switch signal/ON or OFF	ON: Shift in P position OFF: Shift in any position except neutral
M1 SW	Seat memory switch M1 signal/ON or OFF	ON: Seat memory switch M1 is ON OFF: Seat memory switch M1 is OFF
M2 SW	Seat memory switch M2 signal/ON or OFF	ON: Seat memory switch M2 is ON OFF: Seat memory switch M2 is OFF
SET SW	Seat memory set switch signal/ON or OFF	ON: Memory set switch is ON OFF: Memory set switch is OFF
MEM M1 SW	Driving position memorized in seat memory switch M1/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
MEM M2 SW	Driving position memorized in seat memory switch M2/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
D-MIRR MEM M1	Driver side mirror position memorized in seat memory switch M1/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
D-MIRR MEM M2	Driver side mirror position memorized in seat memory switch M2/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
P-MIRR MEM M1	Passenger side mirror position memorized in seat memory switch M1/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized
P-MIRR MEM M2	Passenger side mirror position memorized in seat memory switch M2/NOT MEM or MEM	MEM: Memorized NOT MEM: Not memorized

Item	Test Details	Diagnostic Note
D-MIRR MEM POS 1	Driver side mirror position memorized in seat memory switch M1/MIN: 0, MAX: 65535	Within range from 0 to 65535
P-MIRR MEM POS 1	Passenger side mirror position memorized in seat memory switch M1/MIN: 0, MAX: 65535	Within range from 0 to 65535
D-MIRR MEM POS 2	Driver side mirror position memorized in seat memory switch M2/MIN: 0, MAX: 65535	Within range from 0 to 65535
P-MIRR MEM POS 2	Passenger side mirror position memorized in seat memory switch M2/MIN: 0, MAX: 65535	Within range from 0 to 65535

BODY

Item	Test Details	Diagnostic Note
MIRR SEL SW R	Mirror selection switch signal for RH mirror/ ON or OFF	ON: Switch is in Right position OFF: Switch is in neutral or Left position
MIRR SEL SW L	Mirror selection switch signal for LH mirror/ ON or OFF	ON: Switch is in Left position OFF: Switch is in neutral or Right position
MIRR POS SW R	Mirror position switch signal (Right)/ON or OFF	ON: Switch R is ON OFF: Any switch except R is ON or all switches are OFF
MIRR POS SW L	Mirror position switch signal (Left)/ON or OFF	ON: Switch L is ON OFF: Any switch except L is ON or all switches are OFF
MIRR POS SW UP	Mirror position switch signal (Up)/ON or OFF	ON: Switch UP is ON OFF: Any switch except UP is ON or all switches are OFF
MIRR POS SW DWN	Mirror position switch signal (Down)/ON or OFF	ON: Switch DOWN is ON OFF: Any switch except DOWN is ON or all switches are OFF

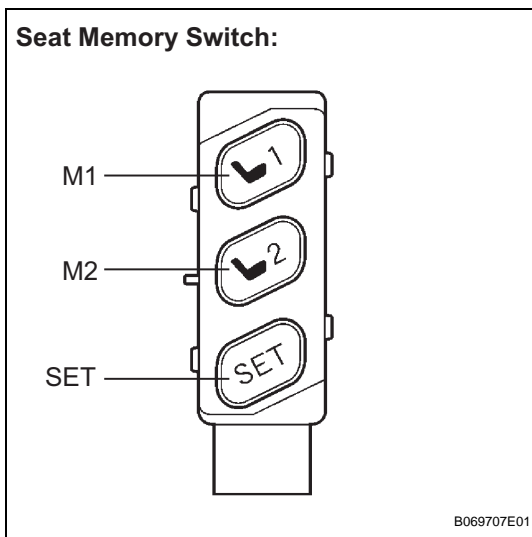
3. ACTIVE TEST**HINT:**

Performing the ACTIVE TEST using the intelligent tester allows you to operate the relay, VSV, actuator, etc. without parts removal. Performing the ACTIVE TEST as the first step of troubleshooting is one way to shorten the labor time. It is possible to display the DATA LIST during the ACTIVE TEST.

- (a) Connect the intelligent tester to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Perform the ACTIVE TEST according to the display on the tester.

MIRROR-L/MIRROR-R

Item	Test Details
MIRR UP/DOWN	Mirror vertical operation: UP/DOWN
MIRR RIGHT/LEFT	Mirror horizontal operation: RIGHT/LEFT
MIRR HEATER	Mirror heater operation: OFF/ON



ON-VEHICLE INSPECTION

1. CHECK MEMORY AND REACTIVATION FUNCTION

- (a) Turn the ignition switch ON and move the shift lever into the P position.
- (b) Move the seat into the foremost position and uppermost position using each seat switch.
- (c) Check that the buzzer sounds for 0.5 second and the seat position is recorded when the M1 switch is pressed while the SET switch is held down.
- (d) Move the seat out of the foremost position and uppermost position using each seat switch.
- (e) Check that the buzzer sounds for 0.5 second and the seat position is recorded when the M2 switch is pressed while the SET switch is held down.
- (f) Check that the buzzer sounds for 0.1 second and the seat automatically moves into the foremost position and uppermost position (set positions) when the M1 switch is pressed.
- (g) Check that the buzzer sounds for 0.1 second and the seat automatically moves out of the foremost position and uppermost position (set positions) when the M2 switch is pressed.
- (h) Check that the seat automatically moves into the set position when the M1 or M2 switch is pressed within 30 seconds after the ignition switch is turned OFF, the key is pulled out from the key cylinder and the driver side door is opened.
- (i) Move the seat into the maximum positions of the slide movement, and disconnect the negative terminal of the battery while the memory switch is in the ON position. Then leave the seat in the position for 3 minutes. The seat position memory will be erased.
- (j) Move the seat into all the maximum positions (front/rear and up/down) using each seat switch.
- (k) Check that the seat does not move (the seat position is not recorded) when the M1 switch or the M2 switch is pressed, after the M1 switch and M2 switch are pressed at one time while the SET switch is held down.