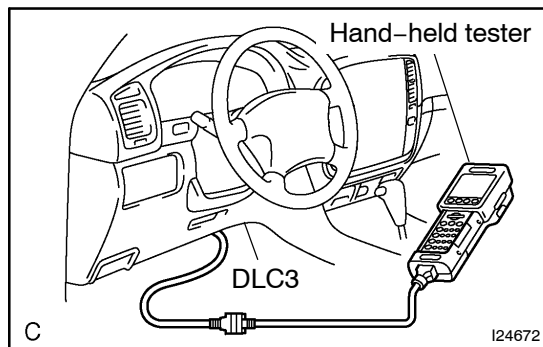




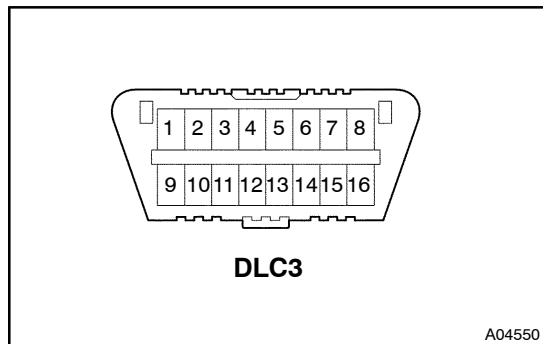
PRE-CHECK

1. DIAGNOSIS SYSTEM

(a) Description

ECU data of this system can be read from DLC3 of the vehicle.

Therefore, when there seems to be a trouble on this system, use hand-held tester to check and troubleshoot it.



(b) Check the DLC3.

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

Terminal No.	Connection/Specified Condition	Condition
4	Chassis Ground ↔ Body Ground/1 or less	Always
13	TC ↔ Body Ground/9 – 14 V	Always

HINT:

If your display shows "UNABLE TO CONNECT TO VEHICLE" when the cable of the hand-held tester is connected to DLC3, the ignition switch is turned ON and the hand-held tester is operated, there is a problem either on the vehicle side or tool side.

- If communication is normal when the tool is connected to another vehicle, inspect DLC3 on the original vehicle.
- If communication does not function when the tool is connected to another vehicle, the problem is probably in the tool itself, so consult the Service Department listed in the tool's instruction manual.

2. DATA LIST

HINT:

By the DATA LIST displayed on the Hand-held tester, you can read the value of the switch, sensor, actuator and so on without removing parts. Reading the DATA LIST as a first step of troubleshooting is one of the method to shorten the labor time.

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

Rain Sensor

Item	Condition	Specified Condition	Diagnostic Note
SEN COND INF	IG switch ON and front wiper switch AUTO	OK	This item diagnoses the conditions inside the rain sensor. If NG is displayed, replace the rain sensor because it has an internal problem.
SEN REACT CONDE	IG switch ON and front wiper switch AUTO	OK	This item diagnoses the rain sensor detection conditions. If NG is displayed, clean the outside of the windshield where the rain sensor is installed. Also confirm the following: • The sensor is correctly installed. • No air bubbles are trapped between the windshield and the sensor tape. • The sensor tape is properly placed between the windshield and the sensor. • The sensing portion of the sensor (contact surface with the windshield) is clean. If no defects are found, replace the rain sensor because it may have an internal problem.
SEN HI TEMP INF	IG switch ON and front wiper switch AUTO	OK	This item diagnoses the detection conditions of the temperature sensor in the rain sensor. If NG is displayed, check if the temperature around the rain sensor is more than 90°C (194°F). If the temperature is 90°C (194°F) or less, replace the rain sensor because it may have an internal problem.
SEN LO TEMP INF	IG switch ON and front wiper switch AUTO	OK	This item diagnoses the detection conditions of the temperature sensor in the rain sensor. If NG is displayed, check if the temperature around the rain sensor is less than -30°C (-22°F). If the temperature is -30°C (-22°F) or more, replace the rain sensor because it may have an internal problem.
WIP SW LO SIG	IG switch ON and front wiper switch except LO → LO	OFF/ON	–
WIP SW HI SIG	IG switch ON and front wiper switch except HI → HI	OFF/ON	–
WIP SW AUTO SIG	IG switch ON and front wiper switch except AUTO → AUTO	OFF/ON	–
WASH SW SIG	IG switch ON and front washer switch OFF → ON	OFF/ON	–
KEY SW SIG	IG switch ON → Without key	OFF/ON	–

Wiper Control ECU

Item	Condition	Specified Condition
F WIPER SW	IG switch ON and front wiper switch OFF → LO, HI, AUTO	OFF/ON
WIPER LO SW	IG switch ON and front wiper switch except LO → LO	OFF/ON
WIPER HI SW	IG switch ON and front wiper switch except HI → HI	OFF/ON
WIPER AUTO SW	IG switch ON and front wiper switch except AUTO → AUTO	OFF/ON

WASHER SW	IG switch ON and front washer switch OFF → ON	OFF/ON
BRAKE PEDAL SW	IG switch ON and brake pedal released → depressed	OFF/ON
NSW SW	IG switch ON and PNP switch except N → N	OFF/ON
TIME CTL SW	IG switch ON and front wiper INT switch fully clockwise → fully counterclockwise	deg
AUTO WIPER	–	NOT AVL/AVIL
SPEED MODE	–	NOT AVL/AVIL
REWIPE CONTROL	–	OFF/3 s/ SPD MOD

3. ACTIVE TEST

HINT:

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

DATA LIST can be displayed during the ACTIVE TEST.

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

Wiper Control ECU

Item	Check Item	Operation
WIPER MOT (HI)	Front wiper motor HI operation	OFF/ON
WIPER MOT (LO)	Front wiper motor LO operation	OFF/ON