

SYSTEM DESCRIPTION

1. BRIEF DESCRIPTION

- (a) The CAN (Controller Area Network) is a serial data communication system for real time application. It is a multiplex communication system equipped for a vehicle and has a high communication speed (500 kbps) and the function to detect malfunctions.
- (b) By pairing the CANH and CANL bus lines, the CAN performs communication based on differential voltage.
- (c) The many ECUs (sensors) installed on the vehicle operate by sharing information and communicating with each other.
- (d) The CAN has two resistors of 120 Ω which are necessary to communicate with the main bus line.

2. DEFINITION OF TERMS

- (a) Main bus line
 - (1) The main bus line is the wire harness between the two terminus circuits on the bus (communication line). This is the main bus in the CAN communication system.
- (b) Sub bus line
 - (1) The sub bus line is the wire harness which diverges from the main bus line to the ECU or sensor.
- (c) Terminus circuit
 - (1) The terminus circuit is a circuit which is placed to convert communication current of the CAN communication into bus voltage. It consists of a resistor and condenser. Two terminus circuits are necessary on a bus.

3. ECUs OR SENSORS WHICH COMMUNICATE THROUGH CAN COMMUNICATION SYSTEM

- (a) Hybrid Vehicle Control ECU
- (b) Battery ECU
- (c) ECM
- (d) Skid Control ECU
- (e) Steering Sensor
- (f) Yaw Rate Sensor
- (g) Power Steering ECU
- (h) Gateway ECU

4. DIAGNOSTIC CODE FOR CAN COMMUNICATION SYSTEM

- (a) DTCs for the CAN communication system are as follows:
U0123, U0124, U0126, U0293, U0100, U0073, U0111, U0129, U0131, U0146, P3108-594

NOTICE:

If U0146 or P3108-594 is output, the multiplex communication system may be malfunctioning.

5. REMARK FOR TROUBLESHOOTING

- (a) Trouble in the CAN bus (communication line) can be checked from the DLC3 (except when there is a wire break other than in the sub bus line of the DLC3).

NOTICE:

Do not insert the tester directly into the DLC3 connector. Be sure to use a service wire.

- (b) DTCs regarding the CAN communication system can be checked using the hand-held tester via the CAN VIM.
- (c) The CAN communication system cannot detect trouble in the sub bus line of the DLC3 even though the DLC3 is also connected to the CAN communication system.