

DTC	U0293	LOST COMMUNICATION WITH HV ECU
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CIRCUIT DESCRIPTION

The Controller Area Network (CAN) is a serial data communication system for real-time application. It is a multiplex communication system designed for on-vehicle use that provides a superior communication speed of 500 kbps and a capability to detect malfunction. Through the combination of the CANH and CANL bus lines, the CAN is able to maintain communication based on differential voltage.

HINT:

- Malfunction in the CAN bus (communication line) can be checked through the DLC3 connector, except in case of an open circuit in the DLC3 sub bus line.
- DTCs pertaining to CAN communication can be accessed through the use of the intelligent tester II (with CAN extension module).
- Malfunction in the DLC3 sub bus line cannot be detected through CAN communication, even though the DLC3 connector is connected to CAN communication.

DTC No.	DTC Detecting Condition	Trouble Area
U0293	When communication with HV ECU is interrupted	<ul style="list-style-type: none"> • Wire harness • HV ECU • ECM

MONITOR DESCRIPTION

The ECM and the HV control ECU are connected through a set of communication lines on the CAN, in order to maintain mutual communication. The ECM uses the communication lines to transmit the engine speed or other pieces of information to the HV control ECU. The HV control ECU transmits signals such as a engine torque request signal to the ECM.

A few seconds after the power switch is turned ON, the ECM starts checking for any malfunction in the communication with the HV ECU. If the ECM detects a malfunction in the communication, the ECM sets a DTC and illuminates the MIL.

MONITOR STRATEGY

Related DTCs	U0293: Lost communication with HV ECU
Required sensors/ components	ECM
Frequency of operation	Continuous
Duration	0.68 second
MIL operation	Immediately
Sequence operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not present	See page 05-20
Power switch	ON

TYPICAL MALFUNCTION THRESHOLDS

Communication signal	No signal from HV ECU
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WIRING DIAGRAM

Refer to CAN Communication System on page [05-2599](#).

INSPECTION PROCEDURE

Refer to CAN Communication System on page [05-2602](#).

HINT:

Read freeze frame data using the hand-held tester or the OBD II scan tool. Freeze frame data records the engine condition when malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, if the air-fuel ratio was lean or rich, and other data from the time the malfunction occurred.