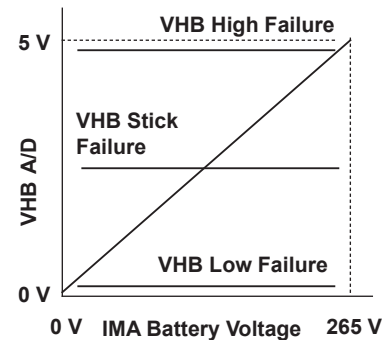
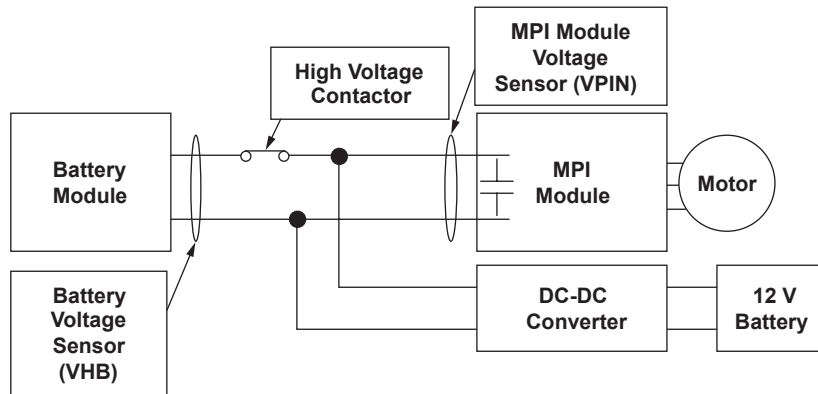


# Advanced Diagnostics

## DTC P1577 (8): High Voltage Detection Signal Circuit Problem



P1577-0071

### General Description

The BCM (battery condition monitor) module voltage (VHB) is used for turning the high voltage contactor in the IMA (integrated motor assist) system on or off. The IMA system is not operable when the high voltage contactor cannot be turned on due to a problem in the VHB. Also, the problem may cause failure in the detection of a short to ground. Comparing both the MPI (motor power inverter) module voltage (VPIN) and the VHB sensor values, various types of detection are possible because the VPIN and the VHB are measured at the same point while applying voltage to the high voltage contactor in the IMA system. If the difference between the VHB and the VPIN is a set value or more for at least a specified time period, a malfunction in the VHB is detected, and a DTC is stored.

### Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	5 seconds or more
DTC Type	One drive cycle, MIL ON, IMA system indicator ON

### Enable Conditions

Condition	Minimum	Maximum
MCM power-supply voltage	10.5 V	—
No active DTCs	MDM, MPI, U/V/W phase signal circuit, MCM, IMA system, BCM, BC	

### Malfunction Threshold

The BCM module voltage (VHB) minus the MPI module voltage (VPIN) equals 20 V or more for at least 5 seconds.

## **Driving Pattern**

1. Start the engine, and let it idle.
2. Accelerate the vehicle for at least 10 seconds with IMA assist.
3. Apply the brakes, and decelerate the vehicle for at least 10 seconds.

## **Diagnosis Details**

### **Conditions for illuminating the MIL**

When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored in the ECM memory.

### **Conditions for clearing the MIL**

The MIL will be cleared if the malfunction does not recur during three consecutive trips in which the diagnostic runs.

The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.