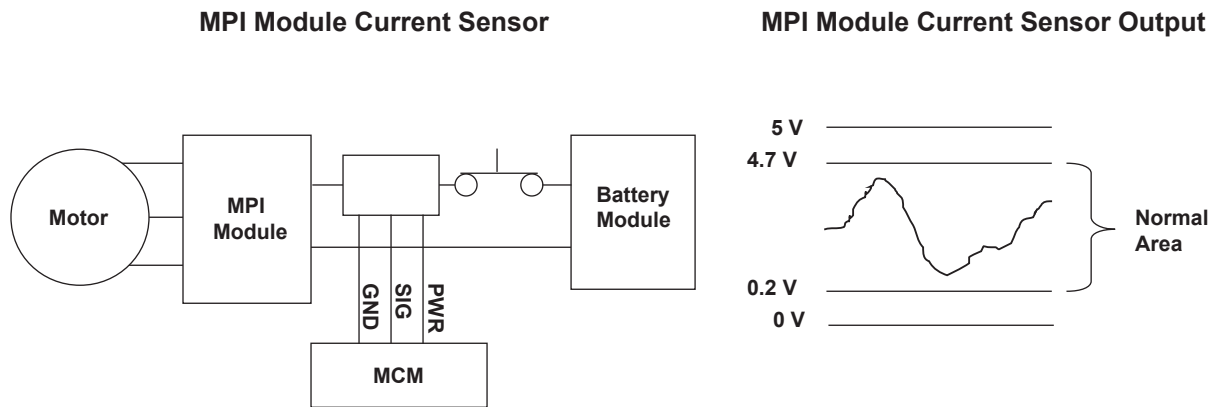


# Advanced Diagnostics

## DTC P1581 (20): Motor Power Inverter (MPI) Module Current Signal Circuit High Input



P1581-0071

### General Description

The motor control module (MCM) controls the integrated motor assist (IMA) motor output based on the motor power inverter (MPI) module current sensor signal. Under ordinary conditions, the MPI module current sensor shows certain characteristics: If its input current is -200 A or less, the output voltage is between 4.5 - 4.7 V, or if its input current is 200 A or more, the output voltage is between 0.2 - 0.5 V. When an open in the signal wire, a short to ground, a faulty sensor power supply cable or a faulty ground wiring harness occurs, the output voltage stays out of the aforementioned range. If the input signal voltage to the MCM is excessively higher than the normal range, a malfunction in the sensor ground wiring harness is detected and a DTC is stored.

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

Execution	Continuous
Sequence	None
Duration	2 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	—
Ignition switch	ON	
No active DTCs	MCM, MPI	

### Malfunction Threshold

The MCM input voltage is more than 4.85 V for at least 2 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.