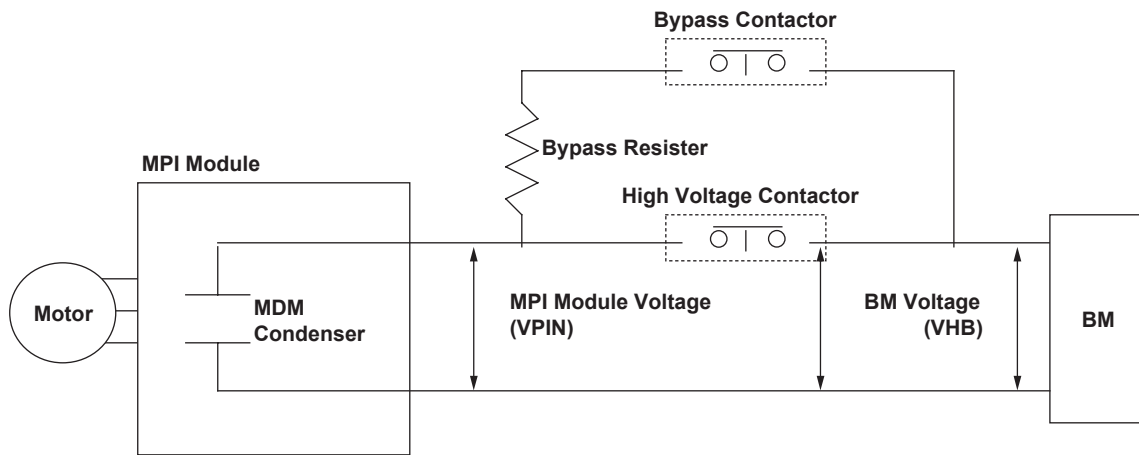
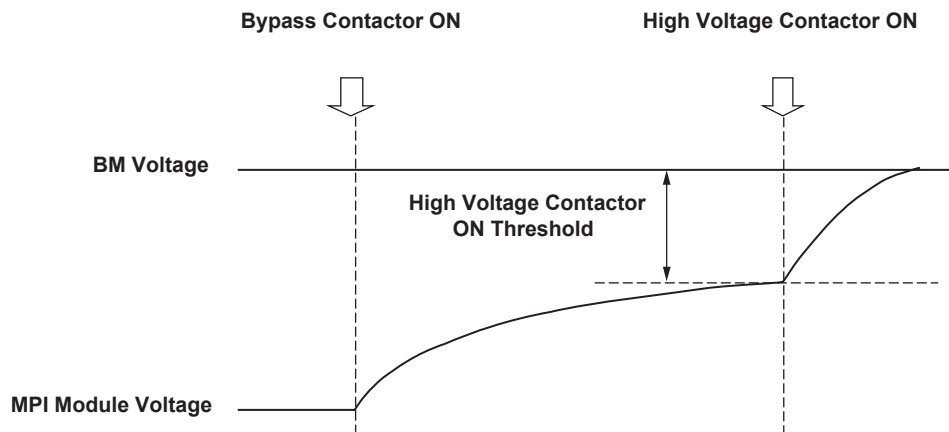


# Advanced Diagnostics

## DTC P1445 (62): Bypass Contactor Problem



### Timing Chart



P1445-0071

### General Description

The high voltage contactor between the battery module (BM) and the motor power inverter (MPI) module is turned on to activate the integrated motor assist (IMA) system after turning the ignition switch on. Before turning the high voltage contactor on, the bypass contactor is turned on and the motor drive module (MDM) condenser is charged gradually by limited current that is determined by the bypass resistor. When the difference between the voltage on the MPI module side and the BM side is within a set range, the high voltage contactor is turned on, then the bypass contactor is turned off.

If the difference between the voltage on the MPI module side and the BM side is out of a set range for a specified time period or more after the bypass contactor is turned on, a malfunction is detected and a DTC is stored.

## Monitor Execution, Sequence, Duration, DTC Type

|           |  |
|-----------|--|
| Execution | Once per driving cycle                           |
| 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       | —         |
| MPI module voltage<br>(ignition switch ON) | —            | 240 V     |
| Motor speed<br>(ignition switch ON)        | —            | 1,000 rpm |
| Ignition switch                            | ON           |           |
| No active DTCs                             | MPI, MDM, BC |           |

## Malfunction Threshold

The difference between the voltage on the MPI module side and the BM side is 37 V or more for at least 2 seconds after the bypass contactor is turned on.

## 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.