

Customer states that there is an issue with throttle control on their vehicle, a 2016 C-Max. Upon receipt of the vehicle, the concern was verified as a throttle issue. Visual inspection had revealed no issue with the system. DTC's were retrieved and a code with freeze frame data was shown to be stored: P0223 Throttle/Pedal Position Sensor/Switch B Circuit High. We were advised to use PPT DV to troubleshoot. The following are the steps taken:

**DV1: CHECK FOR DTCS**

DTC P0223 was present. Proceed to DV3

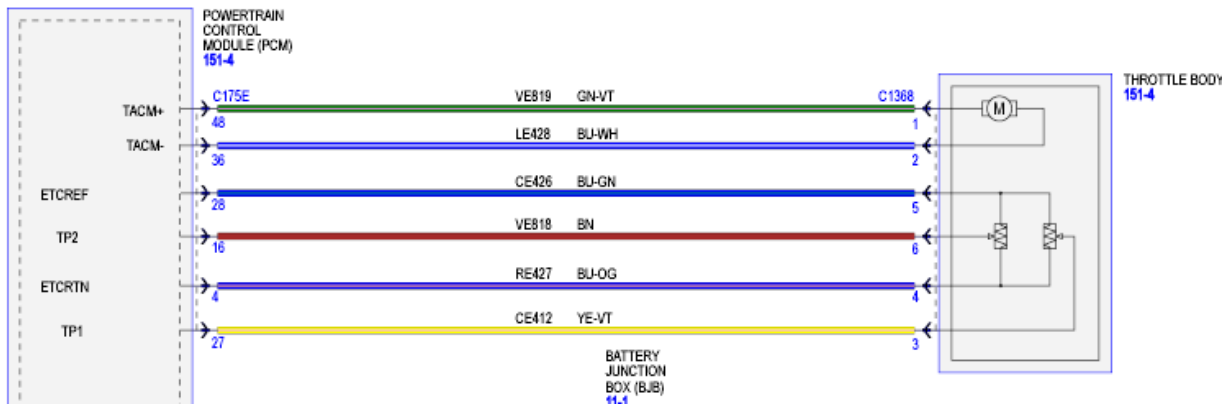
**DV3: CHECK THE THROTTLE POSITION (TP) OPEN AND CLOSED VOLTAGES**

Access the PIDs via DataLogger. During both fully depressed and fully released position of the pedal, the PIDs TP1 (VOLT) and TP2 (VOLT) showed a 4.95 V. This value is high out of spec for both positions on both PIDs. This is noted as a concern.

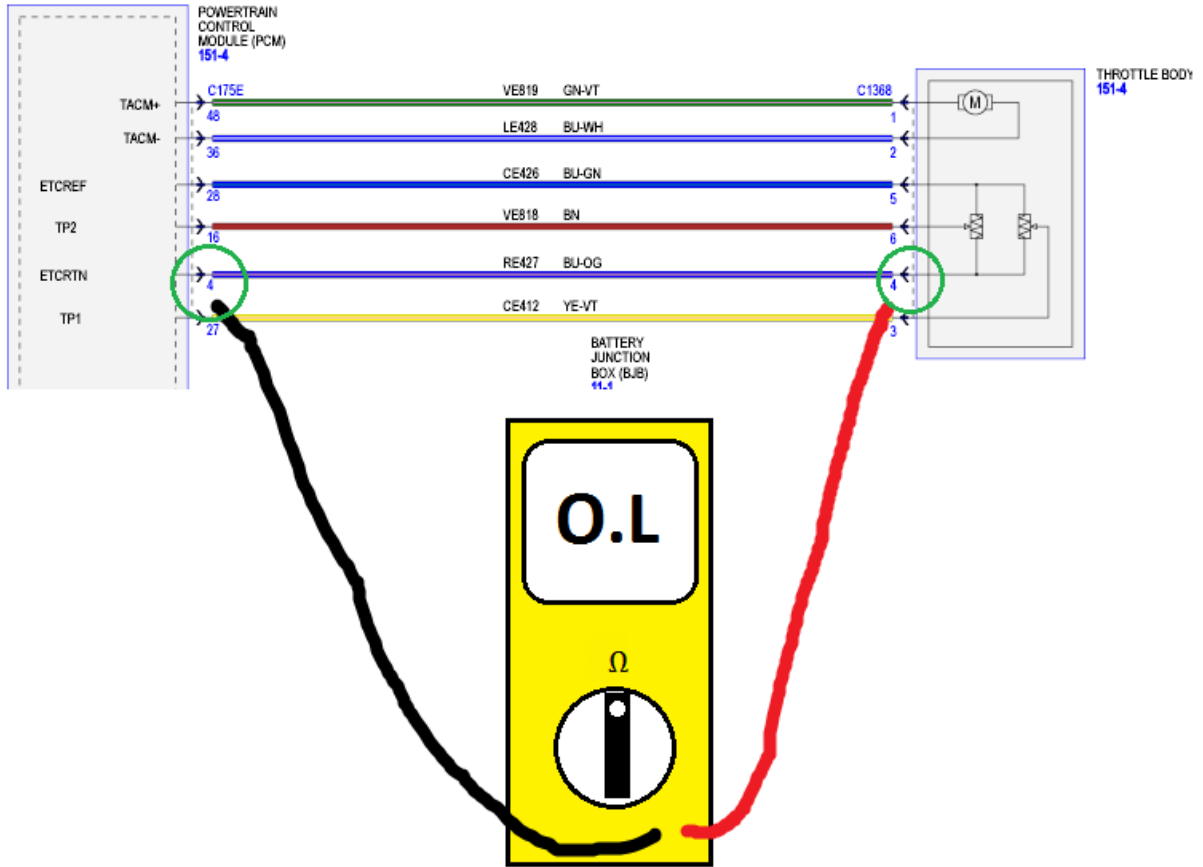
**ELECTRONIC THROTTLE CONTROL (ETC) TP SENSOR SIGNAL VOLTAGES**

Accelerator Pedal Position	TP1	TP2
Pedal fully released	3.7 - 4.7	0.3 - 1.9
Pedal fully applied	0.7 - 2.9	4.1 - 4.7

At this point in the troubleshooting, using basic electrical knowledge and skills, we advanced to the wiring diagram to take some measurements on the local circuit to evaluate the loss of voltage to the throttle body. Opening wire diagrams to the Electronic Engine Controls, found on Page 8 was the wiring for the throttle body.



Since both PIDs show high voltage on the signal wires, common components were looked at. Since both signals were showing almost 5 V, power wire was assumed in good condition at this time. Both sensors also shared a common signal return wire. This wire was tested for continuity. PCM connector C175E was removed for this testing. The following measurement was taken: C175E Pin 28 to C1368 Pin 4 resistance read OPEN.



Upon this finding, with an open signal return circuit (RE427 BU-OG), signal wires would read full voltage drop and therefore give us the PID readings from earlier. Recommend repair of Circuit RE427 BU-OG and retest.