

KA: Cylinder Identification (CID)[← KA: Introduction](#)**KA1 DIAGNOSTIC TROUBLE CODES (DTCs) P1667**

- DTC P1667 indicated that the PCM has detected a failure on the CID line.
- Possible causes:
 - Open/short in CID circuit
 - IDM
 - PCM
- Check for other codes.
- Key on, engine off.
- Perform KOEO On-Demand Self Test and retrieve Continuous DTCs.

Was only DTC P1667 present?

| Yes | No |
|---|---|
| If DTC P1667 was present, GO to KA2 . | If DTC P1663 and P1667 are set together, with or without DTC P1668, GO to FJ6 . If DTC P1298 is also present REPLACE the IDM. If DTC P1662 is also present, GO to NC1 . |

KA2 CHECK VOLTAGE ON CID CIRCUIT 817 (Y/LB)

- Install breakout box; connect PCM to breakout box.
- Key on, engine off.
- Measure voltage on Circuit 817 (Y/LB) between PCM Test Pins 96 and ground Pins 25, 51, 76, 77, 91 and 103.

Is voltage of 0.6 ± 0.1 volt present?

| Yes | No |
|-----------------------------|---|
| GO to KA3 . | Voltage of less than 0.5 volt present, GO to KA4 . Above 4.0 volts is present. GO to KA5 . |

KA3 PERFORM AN OUTPUT STATE CHECK

- Key on, engine off.
- Perform KOEO Output State Self Test, toggle outputs by pressing and releasing the accelerator pedal.
- Measure voltage between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103.

Did the output voltage toggle from 0.6 ± 0.1 volt to B+ volts?

| Yes | No |
|-----|----|
| | |

Intermittent failure. GO to [KA8](#) .

REPLACE the PCM. RESTORE vehicle. CLEAR DTCs and RETEST.

KA4 CHECK FOR OPEN ON CID CIRCUIT 817 (Y/LB)

- Key off.
- Disconnect the PCM from breakout box.
- Disconnect the IDM connector.
- Measure resistance on Circuit 817 (Y/LB) between PCM Test Pin 96 and Pin 16 on the IDM harness connector.

Is resistance less than 5 ohms?

| Yes | No |
|-----------------------------|--|
| GO to KA6 . | REPAIR open in Circuit 817 (Y/LB). RESTORE vehicle. CLEAR DTCs and RETEST. |

KA5 CHECK CID CIRCUIT 817 (Y/LB) FOR SHORT TO POWER

- PCM disconnected.
- Key on, engine off.
- Measure voltage on Circuit 817 (Y/LB) between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103.

Is voltage present?

| Yes | No |
|--|-----------------------------|
| REPAIR short to power on Circuit 817 (Y/LB). RESTORE vehicle. CLEAR DTCs and RETEST. | GO to KA7 . |

KA6 CHECK CID CIRCUIT 817 (Y/LB) FOR SHORT TO GROUND

- Key off.
- Measure resistance between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103.

Is resistance greater than 10,000 ohms?

| Yes | No |
|-----------------------------|--|
| GO to KA7 . | REPAIR ground short on Circuit 817 (Y/LB). RESTORE vehicle. CLEAR DTCs and RETEST. |

KA7 CHECK PCM OUTPUT STATE FUNCTION

- Key off.
- Connect PCM to breakout box.
- Perform KOEO Output State Test.
- Measure voltage between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103 while pressing and releasing accelerator pedal.

Did the output voltage toggle from 0.5 ± 0.1 volt to 0.0 volt?

| Yes | No |
|--|--|
| REPLACE IDM. RESTORE vehicle. CLEAR DTCs and RETEST. | REPLACE PCM. RESTORE vehicle. CLEAR DTCs and RETEST. |

KA8 INTERMITTENT

- Key off.
- Restore vehicle.
- Clear DTCs.
- Turn key off, then turn key on.
- Perform KOEO On-Demand Self Test.

Did DTC P1667 reset?

| Yes | No |
|--|--|
| REPLACE the PCM. RESTORE vehicle. CLEAR DTCs and RETEST. | Unable to duplicate failure. RESTORE vehicle. CLEAR DTCs and RETEST. |

KA9 DIAGNOSTIC TROUBLE CODE (DTC) P1218

- Key on, engine off.
- Perform KOEO On-Demand Self Test.

Was DTC P1218 present?

| Yes | No |
|--|---|
| If DTC P1218 present without P1667, GO to KA10 . | <p>If DTCs P1663, P1667 and P1668 are also present with DTC P1218, GO to FJ6 .</p> <p>If DTC P1667 is only set with P1218, GO to KA2 .</p> <p>If DTC P1298 is also present, REPLACE the IDM.</p> <p>If DTC P1662 is also present, GO to NC1 .</p> |

KA10 CHECK FOR INTERMITTENT OPEN ON THE CID CIRCUIT 817 (Y/LB)

- Key off.
- Install breakout box, leave PCM disconnected.
- Disconnect IDM.
- Check for intermittent open on CID circuit.
- Measure resistance on (CID) Circuit 817 (Y/LB) between IDM connector Pin 16 and PCM Test Pin 96.
- Grasp the harness close to the IDM connector. Wiggle, shake the harness while working your way back to the PCM connector, while looking for a spike on the DVOM.

Did readings remain below 5 ohms throughout procedure?

| Yes | No |
|------------------------------|--|
| GO to KA11 . | REPAIR open in the (CID) Circuit 817 (Y/LB). RESTORE vehicle. CLEAR DTCs and RETEST. |

KA11 CHECK FOR INTERMITTENT SHORT TO POWER ON THE CID CIRCUIT 817 (Y/LB)

- Key on, engine off.
- Check for intermittent short to power on CID circuit.
- Measure voltage on (CID) Circuit 817 (Y/LB) between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103.
- Grasp the harness close to the IDM connector. Wiggle, shake the harness while working your way back to the PCM connector, while looking for a spike on the DVOM.

Did voltage ever appear throughout procedure?

| Yes | No |
|--|---|
| REPAIR short to power on the (CID) Circuit 817 (Y/LB). RESTORE vehicle. CLEAR DTCs and RETEST. | RESTORE vehicle. TEST-DRIVE. If DTC reappears, REPLACE the IDM. |

KA12 DIAGNOSTIC TROUBLE CODE (DTC) P1219

- Key on, engine off.
- Perform KOEO On-Demand Self Test.

Was DTC P1219 Present?

| Yes | No |
|--|--|
| If DTC P1219 was present without P1667, GO to KA13 . | <p>If DTCs P1663, P1667 and P1668 are also present with DTC P1218, GO to FJ6.</p> <p>If DTC P1667 is only set with P1219, GO to KA2.</p> <p>If DTC P1298 is also present, REPLACE the IDM. RESTORE vehicle. CLEAR DTCs and RETEST.</p> <p>If DTC P1662 is also present, GO to NC1.</p> |

KA13 CHECK FOR INTERMITTENT SHORT TO GROUND ON THE CID CIRCUIT 817 (Y/LB)

- Key off.
- Install breakout box, leave PCM disconnected.
- Disconnect IDM.
- Check for intermittent short to ground on CID circuit.
- Measure resistance on (CID) Circuit 817 (Y/LB) between PCM Test Pin 96 and ground Pins 25, 51, 76, 77, 91 and 103.
- Grasp the harness close to the IDM connector. Wiggle, shake the harness while working your way back to the PCM connector, while looking for a spike on the DVOM.

Did readings ever drop below 10,000 ohms throughout procedure?

| Yes | No |
|---|---|
| REPAIR short to ground on the (CID) Circuit 817 (Y/LB). | RESTORE vehicle, TEST-DRIVE. If DTC reappears, REPLACE the IDM. RESTORE vehicle. CLEAR DTCs and RETEST. |

