QB: Keep Alive Power (KAPWR)

QB: Introduction

QB1 DIAGNOSTIC TROUBLE CODES (DTCS) P0603, P1633 AND P2610: PRELIMINARY DIAGNOSIS

Note: The DTC P2610 will not reset after the DTCs are cleared. If the DTC P2610 is retrieved before the DTCs are cleared, GO to QB6 .

- Carry out a visual inspection.
- Retrieve and record all DTCs.
- Record the freeze frame data.
- Clear all the DTCs.
- Carry out the self-test.

Are DTCs P0603, P1633 or P2610 present?

Yes	No
For DTCs P0603 and P1633, GO to QB2 . For DTC P2610, GO to QB6 .	Unable to duplicate the condition. CHECK for a loose connection, and damaged or corroded terminals. WIGGLE the harness attempting to recreate the concern. REPAIR as necessary. REFER to Section 3, GO to Pinpoint Test QT , if a driveability concern exists.

QB2 DTCS P0603 AND P1633: CHECK THE 12-VOLT BATTERY TERMINALS

Note: If the KAPWR is interrupted to the PCM when a breakout box is installed or the battery is disconnected, DTC P0603/P1633 can be generated on the first power-up.

Note: If DTC P0603 occurred right after or during an unsuccessful reprogramming of the PCM, clear the DTCs and repeat the PCM self-test. If DTC P0603 is retrieved again, continue with this pinpoint test.

- Inspect the 12 volt battery cables for loose connections and for corrosion.

Are the 12 volt battery terminal connections in good condition?

Yes	No
GO to QB3 .	REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test.

QB3 INSPECT THE ENGINE COMPARTMENT FOR CORRECT WIRE ROUTING

- Inspect the electronic engine control (EEC) system wiring for correct wire routing.
- Check the wiring routing to establish if any of the electrical connectors are being stressed due to poorly routed wiring. If necessary re-route and secure the wiring.
- Visually inspect the wiring and connectors.

Is a concern present?

Yes	No
REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test.	GO to QB4 .

QB4 CHECK KAPWR TO THE PCM

- Ignition OFF.
- PCM connector disconnected.
- Measure the voltage between:

(+) PCM Connector, Harness Side	(-) 12 Volt Vehicle Battery
KAPWR	Negative terminal

- While observing the multimeter, grasp the EEC harness and wiggle, shake or bend a small section while working from the battery to the PCM.

Is the voltage greater than 10 V?

Yes	No
GO to QB5 .	ISOLATE the concern and REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test.

QB5 CHECK FOR A REOCCURRENCE OF THE DTC

- PCM connector connected.
- Clear all DTCs that may have been caused by the PCM disconnect.
- Test drive the vehicle and allow the engine to reach normal operating temperature.
- Carry out the PCM self-test.

Is DTC P0603 or P1633 present?

Yes	No
GO to QB7 .	Unable to duplicate or identify the concern at this time. GO to Pinpoint Test Z .

QB6 KOER DTC P2610: ELECTRONIC CONTROL MODULE (ECM)/POWERTRAIN CONTROL MODULE (PCM) INTERNAL ENGINE OFF TIMER PERFORMANCE

- Clear the DTCs.
- Ignition ON, engine running.
- Get vehicle to stabilized coolant temperature.
- Ignition OFF.
- Allow the engine to cold soak long enough for the coolant temp to drop at least 16.7℃ (30℉), (turnin g the ignition on then off without an engine start for the purpose of checking the coolant temperature does not affect the test results).

Is DTC P2610 present?

Yes	No
GO to QB7 .	Unable to duplicate the condition. REFER to Section 3, GO to Pinpoint Test QT , to continue diagnosis.

QB7 CHECK FOR CORRECT PCM OPERATION

- Disconnect all the PCM connectors.
- Visually inspect for:
  - pushed out pins
  - corrosion
- Connect all the PCM connectors and make sure they seat correctly.
- Carry out the PCM self-test and verify the concern is still present.

Is the concern still present?

Yes	No
INSTALL a new PCM. REFER to Section 2, Flash Electrically Erasable Programmable Read Only Memory (EEPROM) , Programming the VID Block for a Replacement PCM.	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.