

QE: Electronic Throttle Control (ETC) System

This pinpoint test is intended to diagnose the informational PCM DTCs.

The informational DTCs are the result of the failure mode effects management (FMEM) operating strategy that maintains limited vehicle function in the event of a PCM, harness or component concern.

Circuit DTCs can be accompanied by the informational DTCs and should be diagnosed first. Informational DTCs without circuit DTCs may or may not indicate the actual concern and should be diagnosed as a symptom.

Powertrain Control Module (PCM) Connector

For PCM connector views or reference values, refer to Section 6, Reference Values.

Vehicle	Connector	Pin	Circuit
Continental 2.0L, Continental 2.7L, Continental 3.0L, EcoSport 1.0L, EcoSport 2.0L, Flex GTDI 3.5L, Ford GT, Fusion 1.5L, Fusion 2.0L, Fusion 2.7L, MKZ	198 PIN	B101, B102, B103 B58	VPWR PCMRC
Continental 3.7L, Corsair 2.5L, E-Series, EcoSport 1.5L Automatic Transmission, Escape/Kuga 2.5L, F-650 / F-750, Flex TiVCT 3.5L, Fusion 2.5L, KA 1.5L Automatic Transmission, Transit Connect 2.5L	198 PIN	B97, B99 B20	VPWR PCMRC

Vehicle	Connector	Pin	Circuit
Corsair 2.0L, Corsair 2.3L, Edge 2.0L, Escape/Kuga 1.5L, Escape/Kuga 2.0L, Explorer 2.3L, Mustang 2.3L, Ranger 2.3L, Transit Connect 1.0L, Transit Connect 2.0L	198 PIN	B100, B101, B102 B25	VPWR PCMRC
EcoSport 1.5L Manual Transmission, KA 1.2L, KA 1.5L Manual Transmission	112 PIN	B55, B56 B25	VPWR PCMRC
Expedition, F-150 3.5L High Output, Navigator	198 PIN	B101, B102, B103 B25	VPWR PCMRC
F-150 3.5L	306 PIN	B60	PCMRC
KA 1.0L	128 PIN	B36, E24 B37	VPWR PCMRC
Mustang 5.2L Supercharged	306 PIN	B1, B16, B2 B20	VPWR PCMRC
Mustang TiVCT 5.2L	198 PIN	B1, B16, B2 B20	VPWR PCMRC
Nautilus 2.0L	198 PIN	B100, B101, B102 B58	VPWR PCMRC
Ranger 2.5L	128 PIN	B11, B12 B1	VPWR PCMRC
Transit GTDI 3.5L	306 PIN	B101, B102, B103 B60	VPWR PCMRC
All other vehicles	306 PIN	B1, B16, B2 B60	VPWR PCMRC

QE1 CHECK FOR DTCS

Note: Diagnose all other DTCs first.

Note: For DTC P061A, P061B or P061D make sure the air cleaner and air inlet are correctly seated and correctly installed before continuing diagnosis.

Are any DTCs present other than the following: P0600, P060A, P060B, P060C, P061A, P061B, P061C, P061D, P061F, P062B, P062C, P162D, P1674 or U0300?

Yes	RETURN to Section 3, Symptom Charts for further direction.
No	For DTC P061D, GO to QE3 . For all others, GO to QE2 .

QE2 CHECK THE PCM VOLTAGE CIRCUITS FOR AN OPEN

- Ignition OFF.
- PCM connector disconnected.
- Connect a 5 amp fused jumper wire between the following:

Point A PCM Connector, Harness Side	Point B
PCMRC	Ground

- Ignition ON, engine OFF.
- Measure the voltage between:

(+) PCM Connector, Harness Side	(-)
VPWR	Ground

Is the voltage greater than 10.5 V?

Yes	For DTC P061C, GO to QE6 . For DTC P062C, GO to QE9 . For all others, GO to QE3 .
No	REPAIR the open circuit. Clear the PCM DTCs. REPEAT the self-test.

QE3 CHECK THE PCM FOR THE LATEST CALIBRATION

- Ignition OFF.
- Remove the jumper wires.
- PCM connector connected.
- Program the PCM to the latest calibration.
- Ignition OFF.
- Ignition ON, engine OFF.
- Ignition OFF.
- Ignition ON, engine running.
- Use the customer information to recreate the concern.
- Carry out the PCM self-test.

Are DTCs P0600, P060A, P060B, P060C, P061A, P061B, P061D, P061F, P062B, P162D, P1674 or U0300 present?

Yes	For DTC P060B, GO to QE4 . For DTCs P061A or P061B, GO to QE6 . For DTC P061D, GO to QE12 . For DTC P061F, GO to QE8 . For DTCs P0600, P062B or P1674, GO to QE5 . For DTC P162D, GO to QE13 . For all others, GO to QE15 .
No	The concern is not present at this time.

QE4 CHECK FOR REFERENCE VOLTAGE CONCERNS

- Inspect the PCM harness for damage.
- Verify the correct operation of the sensors using ETCREF, VREF and related circuits. GO to Pinpoint Test [C](#) and follow the pinpoint test direction.

Is a concern present?

Yes	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.
No	GO to QE5 .

QE5 CHECK FOR AN INTERMITTENT CONCERN

- Clear the PCM DTCs.
- Carry out the PCM KOER self-test.

Are DTCs P0600, P060B, P062B or P1674 present?

Yes	For DTCs P0600 or P1674, GO to QE6 . For all others, GO to QE15 .
No	The concern is not present at this time.

QE6 CHECK THE CRANKSHAFT POSITION (CKP) SENSOR FOR CORRECT OPERATION

- Verify correct operation of the CKP sensor and related circuits. GO to Pinpoint Test [JD](#) and follow the pinpoint test direction.

Is a concern present?

Yes	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.
No	For DTC P061C, GO to QE7 . For DTCs P0600 or P1674, GO to QE15 . For all others, GO to QE11 .

QE7 CHECK THE CAMSHAFT POSITION (CMP) SENSOR FOR CORRECT OPERATION

- Verify correct operation of the CMP sensor and related circuits. GO to Pinpoint Test [DR](#) and follow the pinpoint test direction.

Is a concern present?

Yes	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.
No	GO to QE15 .

QE8 VERIFY THE CUSTOMER CONCERN

- Clear the PCM DTCs.
- Use the customer information to recreate the concern.
- Carry out the PCM self-test.

Is DTC P061F present?

Yes	GO to QE13 .
No	The concern is not present at this time.

QE9 CHECK FOR DTCS IN OTHER VEHICLE MODULES

Note: If DTC P062C is retrieved after a PCM reprogramming, turn the ignition OFF and allow the PCM to complete a normal power down sequence. Carry out the self-test before continuing with this pinpoint test.

- Check for self-test DTCs in all of the vehicle modules.

Are any DTCs present?

Yes	REFER to the applicable Workshop Manual Section to DIAGNOSE the DTC.
No	GO to QE10 .

QE10 CHECK FOR THE PRESENCE OF ANY MODULE COMMUNICATION CONCERNS

- Check for self-test DTCs in all of the vehicle modules.

Are any communication concerns or communication DTCs present?

Yes	For communication concerns in the PCM, DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to Section 4, Diagnostic Trouble Code (DTC) Charts and Descriptions . For communication concerns in other modules, REFER to the applicable Workshop Manual Section to DIAGNOSE the communication DTC.
No	GO to QE14 .

QE11 CHECK FOR THE PRESENCE OF PCM DTCS

Note: An intermittent CKP sensor or harness concern may cause DTC P061A or P061B to set. Check for intermittent CKP sensor and harness concerns.

- Clear the PCM DTCs.
- Check for self-test DTCs.

Are any DTCs present other than P061A or P061B?

Yes	RETURN to Section 3, Symptom Charts for further direction.
No	GO to QE12 .

QE12 CHECK FOR LEAKS

- Inspect the entire intake air system from the air cleaner housing to the intake manifold for leaks such as:
 - loose connections on the intake air tube at the air cleaner housing or throttle body
 - cracked or punctured intake air tube
 - hoses connecting to the intake air tube
 - hoses connecting to the throttle body
 - obstructions, restrictions, or damage
- Inspect the entire length of all the vacuum hoses for:
 - correct connections
 - damage or cracks
 - damaged or cracked vacuum tees
- Inspect the intake manifold or gasket for leaks.
- Verify the integrity of the positive crankcase ventilation (PCV) system.
- Listen for air noise around the mass airflow (MAF) sensor (if equipped) and throttle body assembly.

Is a concern present?

Yes	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.
No	For DTC P061D, GO to QE15 . For all others, GO to QE13 .

QE13 CHECK FOR CORRECT AXLE RATIO AND TIRE SIZE

Note: Incorrect axle ratio and tire size may set DTCs P061A, P061B, P061F or P162D.

- Verify the vehicle is equipped with the correct tire size.
- Verify the correct axle ratio and tire size data in the PCM and BCM.
- Compare the current vehicle installation and module programmable parameter settings in the PCM and the BCM to the vehicle OASIS data.

Is the vehicle equipped with the correct axle ratio and tire size?

Yes	GO to QE14 .
No	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.

QE14 CHECK FOR ANTILOCK BRAKING SYSTEM (ABS) AND WHEEL SPEED SENSOR CONCERNS

- Ignition ON, engine running.
- Access the PCM and monitor the VSS (SPD) PID.
- Access the ABS and monitor the LF_WSPD (SPD), LR_WSPD (SPD), RF_WSPD (SPD) and RR_WSPD (SPD) PIDs.
- Road test the vehicle under various load conditions while comparing the PIDs. Check for signals that are intermittent or do not correspond.

Do the PID values correspond with the vehicle operating conditions?

Yes	CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z .
No	REFER to the Workshop Manual Section 206-09, Vehicle Dynamic Systems, to DIAGNOSE any ABS concerns.

QE15 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.
- Verify the concern is still present.

Is the concern still present?

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

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