Computers and Control Systems: Pinpoint Tests
Test QE: Electronic Throttle Control (ETC) System
PINPOINT TEST QE: ELECTRONIC THROTTLE CONTROL (ETC) SYSTEM

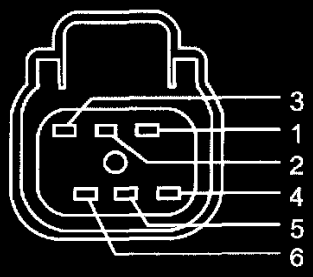
Electronic Throttle Control (ETC) System	QE

This pinpoint test is intended to diagnose the informational powertrain control module (PCM) DTCs.

The informational DTCs are the result of limited operating strategy (LOS) or 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.

EGR System Module (ESM) Connector



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Pin	Circuit
6	SIGRTN (Signal Return)
2	VREF (Reference Voltage)

EGR System Module (ESM) Connector

Electronic Throttle Control (ETC) System

QE

Test Step	Results / Action to Take
QE1 CHECK FOR DTCS	
• **Are any DTCs present other than the following: P0600, P060A, P060B, P060C, P061B, P061C, P061D, P061F, P062C, P1674, P2104, P2105, P2106, P2110, or U0300?**	**Yes** DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to DTC Charts, Diagnostic Trouble Code (DTC) Charts and Descriptions. **No** For DTC P0600, GO to **QE18**. For DTCs P060A, P060C, P061D, P1674 or U0300, GO to **QE2**. For DTC P060B, GO to **QE3**. For DTC P061B, GO to **QE13**. For DTC P061C, GO to **QE5**. For DTC P061F, GO to **QE7**. For DTC P062C, GO to **QE16**. For DTCs P2104, P2105, P2106 or P2110, GO to **QE8**.
QE2 DTCS P060A, P060C, P061D, P1674 OR U0300: CHECK THE PCM FOR THE LATEST CALIBRATION	
• Program the PCM to the latest calibration. • Key in OFF position. • Key ON, engine OFF. • Key in OFF position. • Key ON, engine running. • Use the customer information to recreate the concern. • Carry out the self-test. • **Are DTCs P060A, P060C, P061D, P1674 or U0300 present?**	**Yes** GO to **QE18**. **No** The concern is not present at this time.
QE3 DTC P060B: 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 DTCs. REPEAT the self-test. **No** GO to **QE4**.
QE4 CHECK FOR AN INTERMITTENT CONCERN	
• Clear the DTCs. • Carry out the self-test. • **Is DTC P060B present?**	**Yes** GO to **QE18**. **No** The concern is not present at this time.

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE5	**DTC P061C: CHECK THE 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 DTCs. REPEAT the self-test. **No** GO to **QE6**.
QE6	**CHECK THE 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 DTCs. REPEAT the self-test. **No** GO to **QE7**.
QE7	**DTC P061F: VERIFY THE CUSTOMER CONCERN**	
	• Clear the DTCs. • Use the customer information to recreate the concern. • Carry out the self-test. • **Are DTCs P061C or P061F present?**	**Yes** GO to **QE18**. **No** The concern is not present at this time.
QE8	**DTCS P2104, P2105, P2106 OR P2110: CHECK FOR DTCS IN OTHER VEHICLE MODULES**	
	• Check for self-test DTCs in all of the vehicle modules. • **Are any DTCs present?**	**Yes** REFER to the applicable ALLDATA System/Component to diagnose the DTC. **No** GO to **QE9**.

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE9	**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 DTC Charts, Diagnostic Trouble Code (DTC) Charts and Descriptions. For communication concerns in other modules, REFER to the applicable ALLDATA System/ Component to diagnose the communication DTC. **No** For DTC P2104, GO to **QE10**. For DTC P2105, GO to **QE11**. For DTC P2106, GO to **QE13**. For DTC P2110, GO to **QE15**.
QE10	**DTC P2104: CHECK FOR THE PRESENCE OF PCM DTCS**	
	• Clear the PCM DTCs. • Check for self-test DTCs. • **Are any DTCs present other than P2104?**	**Yes** DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to DTC Charts,Diagnostic Trouble Code (DTC) Charts and Descriptions. **No** GO to Pinpoint Test DK.
QE11	**DTC P2105: CHECK FOR THE PRESENCE OF PCM DTCS**	
	Note: P2105 sets in combination with other DTCs. • Clear the PCM DTCs. • Check for self-test DTCs. • **Are any DTCs present other than P2105?**	**Yes** DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to DTC Charts,Diagnostic Trouble Code (DTC) Charts and Descriptions. **No** GO to **QE12**.
QE12	**CARRY OUT A VISUAL INSPECTION**	
	• Key in OFF position. • Visually inspect the following for obvious signs of damage: — ETB — PCM • **Is a concern present?**	**Yes** ISOLATE the concern and REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test. **No** GO to **QE18**.

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE13	**DTC P061B: CHECK FOR THE PRESENCE OF PCM DTCS**	
	• Clear the PCM DTCs. • Check for self-test DTCs. • **Are any DTCs present other than P061B or P2106?**	**Yes** DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to DTC Charts,Diagnostic Trouble Code (DTC) Charts and Descriptions. **No** For Crown Victoria, Grand Marquis, Explorer 4.0L, Mountaineer 4.0L, E-Series 4.6L, F-150 4.2L, F-150 4.6L, Freestyle, Five Hundred, Montego, LS, Mustang 4.0L, and Town Car, GO to **QE14**. For Expedition, F-150 5.4L, Mark LT, and Mustang 4.6L Automatic, GO to **QE16.** For all others, CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z.

Electronic Throttle Control (ETC) System

QE

Test Step	Results / Action to Take
QE14 CHECK THE MAP SENSOR FOR AN OFFSET SIGNAL • Key in OFF position. • Allow the vehicle to cool down. • ESM connector disconnected. • Measure the resistance between: (+) ESM Connector, Component Side: VREF - Pin 2 (-) ESM Connector, Component Side: SIGRTN - Pin 6 • **Is the resistance greater than 2K ohms?**	**Yes** For Crown Victoria, Grand Marquis, Explorer 4.0L, Mountaineer 4.0L, LS, and Town Car, GO to **QE16**. For all others, CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z. **No** INSTALL a new ESM. CLEAR the DTCs. REPEAT the self-test.
QE15 DTC P2110: CHECK FOR THE PRESENCE OF PCM DTCS **Note:** P2110 sets in combination with other DTCs. • Clear the PCM DTCs. • Check for self-test DTCs. • **Are any DTCs present other than P2110?**	**Yes** DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to DTC Charts,Diagnostic Trouble Code (DTC) Charts and Descriptions. **No** GO to **QE18**.
QE16 DTC P062C: CHECK FOR ABS AND WHEEL SPEED SENSOR CONCERNS **Note:** Refer to Reference Values for the typical diagnostic reference values. • ESM connector connected. • Key ON, engine running. • Access the PCM and monitor the OSS, TSS/ISS and VSS PIDs. • Access the ABS and monitor the LF_WSPD, LR_WSPD, RF_WSPD and RR_WSPD 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** For Expedition, Explorer 4.0L, F-150 5.4L, Mark LT, and Mountaineer 4.0L, GO to **QE17**. For all others, CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z. **No** REFER to Antilock Brakes / Traction Control Systems to diagnose any ABS concerns.

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE17	**CHECK FOR A TRANSFER CASE MECHANICAL CONCERN**	
	• Stop the vehicle. • Select 4WD Low. • **Does the vehicle shift into 4WD Low?**	**Yes** CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z. **No** REFER to Transfer Case to diagnose any transfer case concerns.
QE18	**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** INSTALL a new PCM. REFER to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM). **No** The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.