

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
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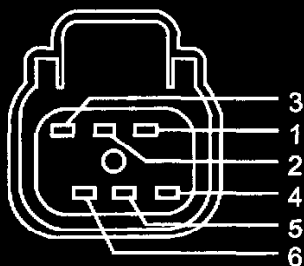
This pinpoint test is intended to diagnose the following:

- Informational 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 failure.

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



A0077577

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

Test Step	Results / Action to Take
QE1 DTCS P2104, P2105, P2106 OR P2110: CHECK FOR THE PRESENCE OF ANY DTCS OTHER THAN THE INFORMATIONAL DTCS	Yes GO to QE2 . No GO to QE4 .
<ul style="list-style-type: none"> • Are any DTCs present other than the following: P2104, P2105, P2106, or P2110? 	

Note, Connector And QE1

Electronic Throttle Control (ETC) System

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Test Step		Results / Action to Take
QE2	CHECK FOR THE PRESENCE OF PROCESSOR PERFORMANCE DTCS	
	<ul style="list-style-type: none"> Check for self-test DTCS. Are DTCS P0600, P0606, P060A, P060B, P060C, P061B, P061C, P061D, P061F, P1674, or U0300 present? 	<p>Yes For DTCS P061B and P2106, GO to QE9.</p> <p>For all others, DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No GO to QE3.</p>
QE3	CHECK FOR THE PRESENCE OF ANY ETB CONCERNS	
	<ul style="list-style-type: none"> Check for self-test DTCS. Are DTCS P2072 or P2100 present? 	<p>Yes DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No ADDRESS the remaining DTCS in the following order: KOEO, KOER, and Continuous.</p> <p>DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p>
QE4	CHECK FOR DTCS IN OTHER VEHICLE MODULES	
	<ul style="list-style-type: none"> Check for self-test DTCS in all of the vehicle modules. Are any DTCS present? 	<p>Yes REFER to the applicable ALLDATA System/Component to diagnose the DTC.</p> <p>No GO to QE5.</p>

QE2-QE4

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE5	CHECK FOR THE PRESENCE OF ANY MODULE COMMUNICATION CONCERNS	
	<ul style="list-style-type: none"> • Check for self-test DTCs in all of the vehicle modules. • Are any communication concerns or communication DTCs present? 	<p>Yes For communication concerns in the PCM: DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>For communication concerns in other modules: REFER to the applicable ALLDATA System/Component to diagnose the communication DTC.</p> <p>No For DTC P2104, GO to QE6. For DTC P2105, GO to QE7. For DTC P2106, GO to QE9. For DTC P2110, GO to QE11.</p>
QE6	DTC P2104: CHECK FOR THE PRESENCE OF PCM DTCs	
	<p>Note: P2104 will be set in combination with other DTCs.</p> <ul style="list-style-type: none"> • Clear the PCM DTCs. • Check for self-test DTCs. • Are any DTCs present other than the following: P2104? 	<p>Yes DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No INSTALL a new PCM. REFER to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM).</p>
QE7	DTC P2105: CHECK FOR THE PRESENCE OF PCM DTCs	
	<p>Note: P2105 will be set in combination with other DTCs.</p> <ul style="list-style-type: none"> • Clear the PCM DTCs. • Check for self-test DTCs. • Are any DTCs present other than the following: P2105? 	<p>Yes DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No GO to QE8.</p>

QE5-QE7

Electronic Throttle Control (ETC) System

QE

Test Step		Results / Action to Take
QE8	CARRY OUT A VISUAL INSPECTION	<p>Yes ISOLATE the fault and REPAIR as necessary.</p> <p>No INSTALL a new PCM. REFER to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM).</p>
	<ul style="list-style-type: none"> • Key in OFF position. • Visually inspect the following for obvious signs of damage: <ul style="list-style-type: none"> — ETB. — PCM. • Is a concern present? 	
QE9	DTCS P061B OR P2106: CHECK FOR THE PRESENCE OF PCM DTCS	<p>Yes DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No For Crown Victoria, Grand Marquis, Explorer, Mountaineer, E-Series 4.6L, F-150 4.2L, F-150 4.6L, Freestyle, Five Hundred, Montego, LS 3.9L, Thunderbird, Mustang 4.0L, and Town Car, GO to QE10. For Expedition, F-150 5.4L, LS 3.0L, and Mustang 4.6L Automatic, GO to QE12. For all others, CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z.</p>
	<ul style="list-style-type: none"> • Clear the PCM DTCS. • Check for self-test DTCS. • Are any DTCS present other than the following: P061B or P2106? 	

QE8-QE9

Electronic Throttle Control (ETC) System

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Test Step		Results / Action to Take				
QE10	CHECK THE MAP SENSOR FOR AN OFFSET SIGNAL					
<ul style="list-style-type: none"> • Key in OFF position. • Allow the vehicle to cool down. • ESM connector disconnected. • Measure the resistance between: <table border="1" data-bbox="310 489 867 579"> <tr> <td>(+) ESM Connector, Component Side</td> <td>(-) ESM Connector, Component Side</td> </tr> <tr> <td>VREF - Pin 2</td> <td>SIGRTN - Pin 6</td> </tr> </table> • Is the resistance greater than 2K ohms? 		(+) ESM Connector, Component Side	(-) ESM Connector, Component Side	VREF - Pin 2	SIGRTN - Pin 6	<p>Yes For Crown Victoria, Grand Marquis, Explorer, Mountaineer, F-150 4.6L, LS 3.9L, Thunderbird, and Town Car, GO to QE12. For all others, CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z.</p> <p>No INSTALL a new ESM.</p>
(+) ESM Connector, Component Side	(-) ESM Connector, Component Side					
VREF - Pin 2	SIGRTN - Pin 6					
QE11	DTC P2110: CHECK FOR THE PRESENCE OF PCM DTCS					
<p>Note: P2110 will be set in combination with other DTCs.</p> <ul style="list-style-type: none"> • Clear the PCM DTCs. • Check for self-test DTCs. • Are any DTCs present other than the following: P2110? 		<p>Yes DISREGARD the current diagnostic trouble code (DTC) at this time. ADDRESS the next DTC. GO to Diagnostic Trouble Code (DTC) Charts and Descriptions.</p> <p>No INSTALL a new PCM. REFER to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM).</p>				
QE12	CHECK FOR ABS AND WHEEL SPEED SENSOR CONCERNS					
<p>Note: Refer to Reference Values for the typical diagnostic reference values.</p> <ul style="list-style-type: none"> • 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? 		<p>Yes CHECK for an intermittent concern with an ETC related harness or sensor. GO to Pinpoint Test Z.</p> <p>No REFER to Antilock Brakes / Traction Control Systems to diagnose any ABS concerns.</p>				

QE10-QE12