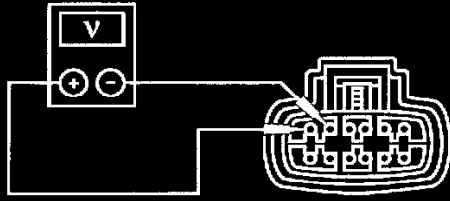


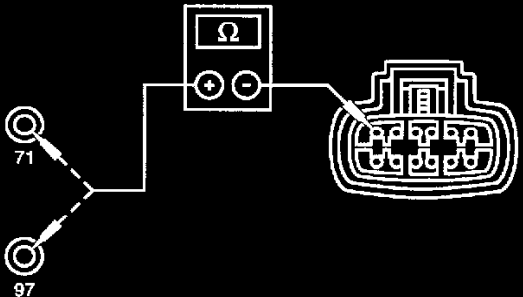
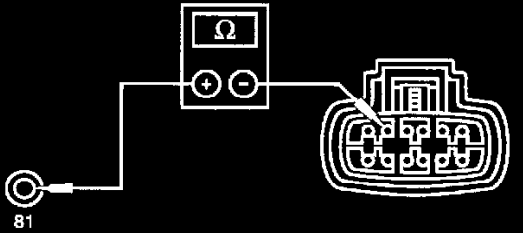
Transmission Control Systems: Testing and Inspection

Test E: Electronic Pressure Control (EPC) Solenoid

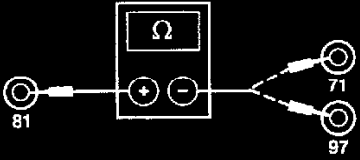
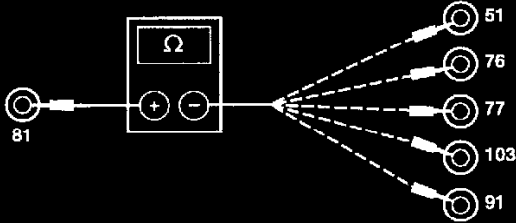
PINPOINT TEST E: ELECTRONIC PRESSURE CONTROL (EPC) SOLENOID

Test Step		Result / Action to Take
E1	ELECTRONIC DIAGNOSTICS <ul style="list-style-type: none"> Check to make sure the transmission harness connector is fully seated, terminals are engaged in the connector and in good condition before proceeding. Connect the diagnostic tool. Carry out KOEO Test until continuous DTCs have been displayed. ENTER Output Test Mode (OTM). Select the ALL ON mode. Push START to turn the outputs on. Push STOP to turn the outputs off. Does the vehicle enter OTM? 	Yes REMAIN in OTM. GO to E2. No PRESS START. If the vehicle does not enter OTM, REFER to the Powertrain management.
E2	CHECK THE ELECTRICAL SIGNAL OPERATION <ul style="list-style-type: none"> Disconnect: Transmission Connector. <p>⚠ CAUTION: Remove the heat shield, if so equipped, from the transmission before removing the connector. Remove the solenoid body connector by pushing on the center tab and pulling on the harness connector. Do not attempt to pry the tab with a screwdriver. Always reinstall the heat shield when the procedure is completed.</p> <ul style="list-style-type: none"> Use a mirror to inspect both ends of the connector for damage or pushed-out pins, corrosion, loose wires and missing or damaged seals. Measure the voltage between EPC PWR pin 12 and EPC signal circuit pin 11 at the transmission vehicle harness connector.  <p style="text-align: center;">DD0552-B</p> <ul style="list-style-type: none"> Place the VOM on the 20-volt scale. While observing the VOM, press START and STOP to cycle the solenoid output on and off. Is the solenoid output voltage changed to approximately battery voltage? 	Yes GO to E5. No GO to E3.


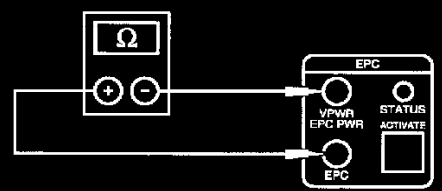
Test E1-E2

Test Step		Result / Action to Take
E3	<p>CHECK THE CONTINUITY OF THE SOLENOID SIGNAL AND VPWR CIRCUITS</p> <ul style="list-style-type: none"> Key in OFF position. Disconnect: Powertrain Control Module (PCM). Inspect for damaged or pushed-out pins, corrosion or loose wires. Install the EEC-V Control System Breakout Box. Measure the resistance between the VPWR test pins 71 and 97 at the EEC-V Control System Breakout Box and the EPC PWR circuit pin 12 at the transmission harness connector.  <p style="text-align: center;">DD0553-A</p> <ul style="list-style-type: none"> Measure the resistance between the PCM signal test pin 81 at the EEC-V Control System Breakout Box and the EPC signal pin 11 at the transmission harness connector.  <p style="text-align: center;">DD0554-A</p> <ul style="list-style-type: none"> Is each resistance less than 5 ohms? 	<p>Yes GO to E4.</p> <p>No REPAIR the open circuit(s). REMOVE the EEC-V Control System Breakout Box. RECONNECT all of the components. ERASE the codes. REPEAT the Quick Tests.</p>

Test E3

Test Step		Result / Action to Take
E4	<p>CHECK THE HARNESS FOR SHORTS TO POWER AND GROUND</p> <ul style="list-style-type: none"> Measure the resistance between the PCM signal test pin 81 and VPWR test pins 71 and 97 at the EEC-V Control System Breakout Box.  <p style="text-align: center;">D17329-A</p> <ul style="list-style-type: none"> Measure the resistance between the PCM signal test pin 81 and test pins 51, 76, 77, 103 and 91 at the EEC-V Control System Breakout Box.  <p style="text-align: center;">D17330-A</p> <ul style="list-style-type: none"> Is each resistance greater than 10,000 ohms? 	<p>Yes GO to E5.</p> <p>No REPAIR the short circuit(s). REMOVE the EEC-V Control System Breakout Box. RECONNECT all of the components. ERASE the codes. REPEAT the Quick Tests.</p>
E5	<p>TRANSMISSION FUNCTIONAL TEST</p> <ul style="list-style-type: none"> Connect: Powertrain Control Module (PCM). Install a Line Pressure Gauge at the line tap on the case. Install the Transmission Tester to transmission connector. Set the bench/drive switch to the DRIVE mode. Rotate the gear select switch to the first gear position. NOTE: The LED will turn GREEN when the EPC solenoid activates and turn off when deactivated. The LED will turn RED if an ACTIVATED solenoid is shorted to battery positive. The LED will remain off if an ACTIVATED solenoid is shorted to ground or no continuity (open circuit). Carry out the EPC Solenoid Functional Test. Observe line pressure on the gauge while pressing the EPC switch (engine must be running). Does the EPC (GREEN LED) activate and line pressure drop when the EPC switch is pressed? 	<p>Yes INSTALL a new PCM. REPEAT the Quick Tests.</p> <p>No GO to E6.</p>

Test E4-E5

Test Step		Result / Action to Take
E6	<p>CHECK THE RESISTANCE OF THE SOLENOID</p> <p>NOTE: Refer to the Transmission Tester for terminal locations.</p> <ul style="list-style-type: none"> Set the bench/drive switch to the BENCH mode. Rotate the gear select switch to the OHMS CHECK position.  CAUTION: Make sure the tester power is off or damage to the ohmmeter can result. <p>Measure the resistance between the VPWR jack and the EPC jack on the transmission tester.</p>  <p style="text-align: center;">DD0557-A</p> <ul style="list-style-type: none"> Record the resistance. (The resistance should be between 3.0 and 5.0 ohms.) Is the resistance between 3.0 and 5.0 ohms? 	<p>Yes GO to E7.</p> <p>No INSTALL a new solenoid body assembly. RECORD and ERASE all codes. REPEAT the Quick Tests.</p>
E7	<p>CHECK THE SOLENOID FOR SHORT TO GROUND</p> <ul style="list-style-type: none"> Check for continuity between the BAT(-) jack (engine ground) and the appropriate jack with a digital ohmmeter or other low current tester (less than 200 milliamps). The connection should show infinite resistance (no continuity). 	<p>Yes INSTALL a new solenoid body assembly. RECORD and ERASE codes. REPEAT the Quick Tests.</p>

Test E6-E7

Test Step		Result / Action to Take				
E7	CHECK THE SOLENOID FOR SHORT TO GROUND (Continued)					
<table border="1"> <thead> <tr> <th>Solenoid</th> <th>Tester Jack</th> </tr> </thead> <tbody> <tr> <td>EPC</td> <td>VPWR EPC PWR</td> </tr> </tbody> </table>		Solenoid	Tester Jack	EPC	VPWR EPC PWR	<p>No REFER to Diagnosis By Symptom</p>
Solenoid	Tester Jack					
EPC	VPWR EPC PWR					
<p style="text-align: center;">DD0558-A</p>		<ul style="list-style-type: none"> • Does the connection show continuity? 				

Test E7

NOTE: Refer to the Transmission Vehicle Harness Connector illustration.