

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUE(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME LENGTH AND FREQUENCY	MIL ILLUMINATION TYPE
Vehicle Speed Sensor - Low input	<b>P0502</b>	0 RPM to 6000 RPM This DTC detects a low vehicle speed when the vehicle has a large engine speed in a drive gear range.	Output Speed < 150 rpm	- Gear Range is not Park/Neutral - No TPS high or low DTC's set - No Map Sensor DTC's set - No PSA DTC set - Vacuum: 0 to 105 KPA - No engine torque default - Engine Torque: 40 to 400 ft-lbs - Throttle Position > 12% - Engine Speed > 3000 RPM	3 seconds  Continuous	DTC Type B
Vehicle Speed Sensor - Intermittent	<b>P0503</b>	0 RPM to 6000 RPM This DTC detects an unrealistic large drop in vehicle speed.	In P/N: Output Speed drop > 8192 RPM  Not P/N: Output Speed drop >1300 RPM	- Time since last Gear Range Change > 6 Seconds - Engine Speed >450 rpm - No Output Speed rise > 600 rpm within 2 seconds - No PSA DTC set	In park or neutral 409 seconds  Not in park or neutral 3 seconds	DTC Type B
Trans Fluid Temp Sensor Circuit - Performance Test	<b>P0711</b>	0.24V to 5.0V The DTC detects an unrealistically large change in transmission temperature or a value which remains constant for a period of time in which a measurable amount of change is expected.	1) Failure 1 is true for $\geq$ 409 seconds  2) Failure 2 happens $\geq$ 14 times in 7 seconds.	- System Voltage: 10 and 18 volts - No VSS DTC's - Raw TTS counts: 10 to 251 - No DTC 1870 - Trans Temp at startup: -40 C to 21 C - Engine Running $\geq$ 409 sec. - Vehicle Speed $\geq$ 5 mph for $\geq$ 409 sec. cumulative this ignition cycle. - Torque Converter Slip $\geq$ 120 rpm for $\geq$ 409 sec. cumulative this ignition cycle. - Coolant Temp $\geq$ 70 C and has changed by $\geq$ 50 C since startup.  1) Trans Temp has not changed $\geq$ 2.25 C (absolute value) since startup  2) Trans Temp changes $\geq$ 20 C (absolute value) in 200 msec.	1) 409 seconds 2) 7 seconds  continuous	DTC Type C
Trans Fluid Temp Sensor Circuit - Low input (high temp)	<b>P0712</b>	0.24V to 5.0V The DTC detects a continuous short to ground in the TTS signal circuit or the TTS sensor	Raw TTS count < 10	- System Voltage: 10 to 18 volts - Ignition "on"	10 seconds  Continuous	DTC Type C
Trans Fluid Temp. Sensor Circuit - High Input (Low temp)	<b>P0713</b>	0.24V to 5.0V The DTC detects a continuous open or short to high in the TTS signal circuit or the TTS sensor	Raw TTS counts > 250	- System Voltage: 10 to 18 volts - Ignition "on"	400 seconds  Continuous	DTC Type C

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TCC Enable Solenoid Electrical	<b>P0740</b>	0V to 12V This DTC detects a continuous open or short to ground in the TCC circuit or the TCC solenoid	Fail Counter > 43 Counts out of 50 Total Counts	- System Voltage: 10 to 18 volts - Engine Speed > 450 rpm for 5 seconds and not in fuel cutoff	Continuous	DTC Type B
TCC System Stuck ON	<b>P0742</b>	This DTC detects low torque converter slip when the TCC is commanded off.	TCC Slip: -20 to +20 RPM  Fail Counter >= 2	- Engine Speed > 450 rpm for 6 seconds and not in fuel cutoff - No Range change within 5 sec. - No TP high or low sensor DTC's - No VSS DTC's - No TCC Enable Sol. DTC's - No TCC Control Sol. DTC's - No PSA DTC set - No Engine Torque Default - Eng Torque: 50 to 400 ft-lbs - Vacuum: 0 to 105 kPa - Commanded Gear is not 1st - Gear Range is D4 - Trans temp.; 20 C to 130 C - Throttle Position: 17% to 45% - TCC is commanded off - Engine Speed: 1000 to 3000 rpm - Speed Ratio: 0.64 to 1.35 - Vehicle Speed: 15 to 50 mph	5 seconds  Continuous	DTC Type B

4L60-E, 4L80-E (except with diesel engine) **TRANSMISSION DIAGNOSTIC PARAMETERS**

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Shift Solenoid A Performance	<b>P0751</b>	This DTC detects abnormal shift patterns:  <b>Stuck OFF:</b> <b>2-2-3-3 pattern</b>	Fail Counter >= 2. The fail counter is incremented when the following fail cases are true:  <b>Stuck OFF:</b> <b>1 and 2</b>	<b>General</b> -Engine Speed > 450rpm for 5 seconds and not in fuel cutoff -Gear range is D4 -Ignition voltage: 10 to 18 volts -Transfer case ratio in 4wd low: 0.9 to 1.2 -Transfer case ratio in 4wd high: .6 to 2.85 -Transmission output speed >= 150 rpm -No TP high or low DTC's -No VSS low or intermittent DTC's -No Solenoid electrical DTC's -No DTC 742 -No PSA DTC set  -Trans Temp.: 20 C to 130 C  <u><b>Fail Case 1</b></u> - 1st gear commanded >= 2.0 seconds - TPS >= 10% - Engine torque: 50 to 400 ft lbs - Modeled speed ratio >= 0.35 - Gear ratio: 1.2 to 1.8  <u><b>Fail Case 2</b></u> - 4th gear commanded >= 1.0 seconds - TPS >= 10% - Engine torque: 50 to 400 ft lbs - Modeled speed ratio >= 0.85 - Gear ratio: 0.95 to 1.15 gear - TCC commanded ON - TPS: 8% to 35% - Speed Ratio: 0.65 to 0.80 - TCC Slip: -20 to +50 rpm for > 4 sec	Continuous   <u><i>Fail Case 1</i></u> 0.5 seconds one time   <u><i>Fail Case 2</i></u> 6.0 seconds one time	DTC Type B

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Shift Solenoid A Performance	<b>P0752</b>	This DTC detects abnormal shift patterns:  <b>Stuck ON: 1-1-4-4 pattern</b>	Fail Counter >= 2 The fail counter is incremented when the following fail cases are true:  <b>Stuck ON: 1 and 2</b>	<b>General</b> -Engine Speed > 450rpm for 5 seconds and not in fuel cutoff -Gear range is D4 -Ignition voltage: 10 to 18 volts -Transfer case ratio in 4wd low: 0.9 to 1.2 -Transfer case ratio in 4wd high: .6 to 2.85 -Transmission output speed >= 150 rpm -No TP high or low DTC's -No VSS low or intermittent DTC's -No Solenoid electrical DTC's -No DTC 742 -No PSA DTC set -Trans Temp.: 20 C to 130 C  <b>Fail Case 1</b> - 2nd gear commanded >= 1.0 seconds - TPS >= 10% - Engine torque: 25 to 400 ft lbs - Modeled speed ratio >= 0.5 - Gear ratio: 3.0 to 3.3  <b>Fail Case 2</b> - 3rd gear commanded >= 1.0 seconds - TPS >= 10% - Engine torque: 50 to 400 ft lbs - Modeled speed ratio >= 0.5 - Gear ratio: 0.65 to 0.9	Continuous  <i>Fail Case 1</i> 2.0 seconds one time  <i>Fail Case 2</i> 3.0 seconds one time	DTC Type B
Shift Solenoid A Electrical	<b>P0753</b>	0V to 12V This DTC detects a continuous open or short to ground in the SSA circuit or the SSA solenoid	Fail Counter > 43 Counts out of 50 Total Counts	- System Voltage: 10 to 18 volts - Engine Speed > 450 rpm for 5 seconds and not in fuel cutoff	Continuous	DTC Type B

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Shift Solenoid B Performance	<b>P0756</b>	This DTC detects abnormal shift patterns:  <b>Stuck OFF: 4-3-3-4 pattern</b>	Fail Counter >= 1 The fail counter is incremented when the following fail cases are true:  <b>Stuck OFF: 1 and 2</b>	<ul style="list-style-type: none"> <li>- Engine Speed &gt; 450 rpm for 5 seconds and not in fuel cutoff</li> <li>- Gear Range is D4</li> <li>- Ignition voltage: 10 to 18 volts</li> <li>- Transfer case ratio in 4wd low: 0.9 to 1.2</li> <li>- Transfer case ratio in 4wd high: .6 to 2.85</li> <li>- Transmission output speed &gt;= 150 rpm</li> <li>- No TPS DTC's</li> <li>- No VSS DTC's</li> <li>- No solenoid electrical DTC's</li> <li>- No TCC Stuck On DTC.</li> <li>- No PSA DTC set</li> <li>- Trans Temp: 20 C to 130 C</li> <li><b><u>Fail Case 1</u></b></li> <li>- 1st gear commanded &gt;= 2.0 seconds</li> <li>- Transmission output speed &gt;= 200 rpm</li> <li>- TPS &gt;= 10%</li> <li>- Engine torque: 50 to 400 ft lbs</li> <li>- TCC slip: -3000 to 200 rpm</li> <li>- Gear ratio: 0 to 1.4</li> <li><b><u>Fail Case 2</u></b></li> <li>- 2nd gear commanded &gt;= 1.0 seconds</li> <li>- TPS &gt;= 10%</li> <li>- Engine torque: 50 to 400 ft lbs</li> <li>- Modeled speed ratio &gt;= 0.5</li> <li>- Gear ratio: 0.9 to 1.2</li> </ul>	Continuous      <b><u>Fail Case 1</u></b> 1.0 seconds one time      <b><u>Fail Case 2</u></b> 2.0 seconds one time	DTC Type A

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Shift Solenoid B Performance	<b>P0757</b>	This DTC detects abnormal shift patterns:  <b>Stuck ON: 1-2-2-1 pattern</b>	Fail Counter >= 1 The fail counter is incremented when the following fail cases are true:  <b>Stuck ON: 1 and 2</b>	- Engine Speed > 450 rpm for 5 seconds and not in fuel cutoff - Gear Range is D4 - Ignition voltage: 10 to 18 volts - Transfer case ratio in 4wd low: 0.9 to 1.2 - Transfer case ratio in 4wd high: .6 to 2.85 - Transmission output speed >= 150 rpm - No TPS DTC's - No VSS DTC's - No solenoid electrical DTC's - No TCC Stuck On DTC. - No PSA DTC set - Trans Temp: 20 C to 130 C  <b>Fail Case 1</b> - 3rd gear commanded >= 1.0 seconds - TPS >= 10% - Engine torque: 50 to 400 ft lbs - Modeled speed ratio >= 0.5 - Gear ratio: 1.6 to 1.8  <b>Fail Case 2</b> - 4th gear commanded >= 1.0 seconds - TPS >= 10% - Engine torque: 0 to 400 ft lbs - Modeled speed ratio >= 0.5 - Gear ratio: 1.3 to 1.8	Continuous  <b>Fail Case 1</b> 2.0 seconds one time  <b>Fail Case 2</b> 2.0 seconds one time	DTC Type A
Shift Solenoid B Electrical	<b>P0758</b>	0V to 12V This DTC detects a continuous open or short to ground in the SSB circuit or the SSB solenoid	Fail Counter > 43 Counts out of 50 Total Counts	- System Voltage: 10 to 18volts - Engine Speed > 450 rpm for 5 seconds and not in fuel cutoff	Continuous	DTC Type A
3-2 Downshift Solenoid Electrical	<b>P0785</b>	0V to 12V This DTC detects a continuous open or short to ground in the SSB circuit or the SSB solenoid	Fail Counter > 43 Counts out of 50 Total Counts	- System Voltage: 10 to 18 volts - Engine Speed > 450 rpm for 5 seconds and not in fuel cutoff	Continuous	DTC Type B

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PSA Circuit Malfunction	<b>P1810</b>	0V to 12V This DTC detects an invalid state of the PSA sensor or the PSA circuit by deciphering the PSA inputs.	<p><b>Fail Case 1</b> Illegal Trans Pressure Switch State (111) or (101)</p> <p><b>Fail Case 2</b> Gear range is D2, D4, or Reverse during engine startup.</p> <p><b>Fail Case 3</b> Gear range is Park or Neutral when operating in D4.</p>	<p><b>Fail Case 1</b> - Engine Speed &gt; 450 rpm for 5 seconds and not in fuel cutoff - System Voltage: 10 to 18 volts</p> <p><b>Fail Case 2</b> - System Voltage: 10 to 18 volts - No VSS DTC's - Vehicle Speed &lt;2 mph</p> <p>1. Engine Speed &lt; 80 rpm for &gt; 0.1 seconds, then, 2. Engine Speed: 80 to 550 rpm for &gt; 0.07 seconds, then, 3. Engine Speed &gt; 550 rpm</p> <p><b>Fail Case 3</b> - Engine Speed &gt; 450 rpm for 5 seconds and not in fuel cutoff - System Voltage: 10 to 18 volts - 4th gear commanded - No Engine Torque Default - Engine Torque: 40 to 400 ft-lbs - Vacuum: 0 to 105 kPa - TCC Locked On - No VSS DTC's - Speed Ratio: 0.60 to 0.75 - TPS: 10% to 50%</p>	<p><b>Fail Case 1</b> 60 seconds</p> <p><b>Fail Case 2</b> 5 Seconds</p> <p><b>Fail Case 3</b> 10 seconds</p> <p>Continuous</p>	DTC Type B
TCC PWM Solenoid Electrical	<b>P1860</b>	0V to 12V This DTC detects a continuous open or short to ground in the TCC PWM circuit or the TCC PWM sensor	Fail Counter > 43 Counts out of 50 Total Counts	<p>- System Voltage: 10 to 18 volts - Engine Speed &gt; 450 rpm for 5 seconds and not in fuel cutoff - Commanded Gear is 1st - TCC Duty Cycle &lt;= 10% or &gt;= 90%</p>	Continuous	DTC Type B

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Transmission Component Slipping	P1870	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	<p>If TCC slip is: 130 to 800 rpm for 7 seconds, then increment the Trans Slip Counter by one.</p> <p>When the counter reaches 3, set the code</p> <p><b>OR</b></p> <p>When fail case 2 is true.</p>	<ul style="list-style-type: none"> <li>- Engine Speed &gt; 450 rpm for 5 seconds and not in fuel cutoff</li> <li>- Gear is not 1st</li> <li>- Gear Range is D4</li> <li>- No PSA DTC's set</li> <li>- No TPS High or Low DTC's</li> <li>- No VSS DTC's</li> <li>- No solenoid electrical DTC's</li> <li>- Shift Solenoid Performance Diagnostic counters are all zero</li> <li>- TPS: 20% to 99%</li> <li>- Trans temp.: 20 C to 150C</li> <li>- No Engine Torque Default</li> <li>- Engine Torque: 50 to 400 ft-lbs</li> <li>- Vac: 0 to 105 kPa</li> <li>- Speed ratio: 0.69 to 88</li> <li>- Engine Speed: 1500 to 3000 rpm</li> <li>- Vehicle Speed: 30 to 82 mph</li> </ul> <p><b>Fail Case 1</b></p> <ul style="list-style-type: none"> <li>- TCC commanded on for &gt; 5 sec</li> <li>- TCC duty cycle &gt;=40% for &gt; 5 seconds</li> </ul> <p><b>Fail Case 2</b></p> <ul style="list-style-type: none"> <li>- Run fail case 2 immediately after fail case 1 increments the trans slip counter to either 1 or 2. Discontinue fail case 2 if the TCC is commanded OFF at any time.</li> <li>- TPS: 20% to 99%</li> </ul> <p><b>Criteria A</b></p> <p>If : 130 rpm &lt; TCC slip &lt; 800 rpm for 7 seconds, <b>then:</b> Go to max pressure freeze adapts go to criteria B</p> <p><b>Criteria B</b></p> <p>If : 130 rpm &lt; TCC slip &lt; 800 rpm for 7 seconds, <b>then:</b> Command TCC OFF for 1.5 seconds go to criteria C</p> <p><b>Criteria C</b></p> <p>If : 130 rpm &lt; TCC slip &lt; 800 rpm for 7 seconds, <b>then:</b> Set code p1870</p>	Continuous	DTC Type B