2006trans11 .doc

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	**P0502**	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	No PSA codes No MAP codes No TPS codes Trans Range Not P/N MAP between 0 and 105 Eng Torque between 40 and 400 No MAF DTCs Engine Speed >= 3000 TPS >= 12%	3.0 seconds Continuous	DTC Type B
Vehicle Speed Sensor - Intermittent	**P0503**	0 RPM to 6000 RPM This DTC detects an unrealistic large drop in vehicle speed.	**Not P/N:** Output Speed drop > 1300 RPM	Engine RPM > 450 No DTC 502 code No PSA codes Not in 4WD LO Time since last Gear Range Change > 6 seconds PSA not in P/N No Output Speed rise > 600 rpm within 2 seconds No 4WD LO change for > 6 seconds	Not in park or neutral for 3 seconds.	DTC Type B
Trans Fluid Temp Sensor Circuit - Performance Test	**P0711**	.24V to 5.0V The DTC detects an unrealistically large change in transmission temperature or a value that remains constant for a period of time in which a measurable amount of change is expected.	**1)** Failure 1 is true for ≥ 409 seconds **2)** Failure 2 happens ≥ 14 times in 7 sec.	- System Voltage: 8 to18 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 ≥ 409 sec. - Vehicle Speed ≥ 5 mph for ≥ 409 sec. cumulative this ignition cycle. - Torque Converter Slip ≥ 120 rpm for ≥ 409 sec. cumulative this ignition cycle. - Coolant Temp ≥ 84.75 C and has changed by ≥ 54.75 C since startup. **1)** Trans Temp has not changed ≥ 2.25 C (absolute value) since startup **2)** Trans Temp changes ≥ 20 C (absolute value) in 200 msec.	**1)** 409 seconds **2)** 7 seconds continuous	DTC Type B
Trans Fluid Temp Sensor Circuit - Low input (high temp)	**P0712**	.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: 8 to 18 volts - Ignition "on"	10 seconds Continuous	DTC Type B
Trans Fluid Temp. Sensor Circuit - High Input (Low temp)	**P0713**	.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 > 251	- System Voltage: 8 to 18 volts - Ignition "on"	400 seconds Continuous	DTC Type B
Brake Switch Circuit Low Voltage	**P0719**	This DTC failure detects an open brake switch during accelerations (BRAKE ON is indicated)	Brake switch indicates ON for at least 900 seconds without going off for 2 seconds.	No VSS DTCs P0502 or P0503 Vehicle speed < 5 mph Then the vehicle speed is between 5 mph and 20 mph for => 4 seconds Then the vehicle speed > 20 mph for at least 6 seconds Vehicle Acceleration => 8 Acceleration COUNTS	Continuous	DTC Type B

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Brake Switch Circuit High Voltage	**P0724**	This DTC failure detects a closed brake switch during decelerations (Brake Stuck OFF)	Brake switch not indicating ON for at least 2 seconds	NO VSS DTCs P0502 or P0503 VEHICLE SPEED > 20 MPH FOR AT LEAST 6 SECONDS THEN VEHICLE SPEED BETWEEN 20 MPH TO 5 MPH FOR 4 SECONDS THEN VEHICLE SPEED LESS THAN 5 MPH Vehicle Deceleration => 8 Deceleration COUNTS	Continuous	DTC Type B
TCC Enable Solenoid Electrical	**P0740**	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: 8 to 18 volts - Engine Speed > 450 rpm for 5 seconds & not in fuel cutoff	Continuous	DTC Type B
Torque Converter Clutch (TCC) System-Stuck Off	**P0741**	This DTC failure detects high TCC Slip when the clutch is commanded on	TCC SLIP => 130 rpm for => 20 seconds If TCC is commanded off, minimum off time is 0.1 second.	Engine Speed > 450 rpm for 5 seconds No TPS DTCs No PSA DTC No VSS DTCs No TCC Solenoid Electrical DTC No TCC Stuck On DTC TPS between 20% and 99% Trans Temp between 20°C and 135°C Time since last range change > 6 seconds TCC commanded On for > 5 seconds TCC CAPACITY => 40% (same as DC) Trans range in D3 Ratio is Within 3rd Gear 0.98 to 1.02	Continuous	DTC Type B
Pressure Control (PC) Solenoid Control Circuit	**P0748**	This DTC detects a continuous open or short to ground in the PCS circuit or the PCS sensor	FAILURE CONDITIONS The Duty Cycle is outside the range of 0.5% and 95% for > 0.7 seconds	CONDITIONS FOR RUNNING Pressure Control Sol is Enabled This code is disabled if system voltage fails below 10.5 volts at low temperature (-40°C) or 11.5 volts at high temperature (151°C) for more than 0.2 seconds. The code is enabled again when system voltage recovers to more than 11 volts at low temperature or 12 volts at high temperature	Continuous	DTC Type C

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Shift Solenoid A Performance	**P0751**	This DTC detects abnormal shift patterns: **Stuck OFF:** **2-2-3-3 pattern** .	Fail Counter >= 2. The fail counter is incremented when the following fail cases are true: **Stuck OFF:** **1,2** Fail cases 1 & 2 must be true to set this code	**General** Engine RPM > 450 for > 5 sec Voltage between 8 & 18 No TPS DTCs No Shift Solenoid DTC No TCC Solenoid DTC No TCC Stuck Off DTC No PSA DTCs No VSS DTCs No Trans Slip DTCs No PSA DTC Range D4 TPS > 10% TFT between 20°C & 130°C OSS > 150 RPM FAIL CASE 1 2 seconds after commanded gear is 1st Eng torq 50 to 400 ft-lb Modeled ratio > 0.35 Gear Ratio 1.2 to 1.8 Fail Timer ≥ 0.5 seconds AND FAIL CASE 2 1 second after commanded gear is 4th Eng torq 50 to 400 ft-lb Modeled ratio > 0.85 Gear Ratio 0.95 to 1.15 Timer ≥ 6 seconds	Continuous	DTC Type A
1-2 Shift Solenoid (SS) Valve Performance - No Second Or Third Gear	**P0752**	This DTC failure detects a 1-1-4-4 (stuck ON) shift pattern	FAIL CASE 3 • 1 second after commanded gear is 2nd • Eng torq 25 to 400 ft-lb • Modeled ratio > 0.5 • Gear Ratio 3.0 to 3.3 • Fail Timer ≥ 2 seconds AND FAIL CASE 4 • 1 second after commanded gear is 3rd • Eng torq 50 to 400 ft-lb • Modeled ratio > 0.5 • Gear Ratio 0.65 to 0.9 • Timer ≥ 3 seconds Fail Counter ≥ 2 Fail cases 3 & 4 must **be true to set this code**	CONDITIONS FOR RUNNING • Engine RPM > 450 for > 5 sec • Voltage between 8 & 18 • No TPS DTCs • No Shift Solenoid DTC • No TCC Solenoid DTC • No TCC Stuck Off DTC • No PSA DTCs • No VSS DTCs • No Trans Slip DTCs • No PSA DTC • Range D4 • TPS > 10% • TFT between 20°C & 130°C • OSS > 150 RPM	Continuous	DTC Type B
Shift Solenoid A Electrical	**P0753**	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: 8 to 18 volts - Engine Speed > 450 rpm for 5 seconds & not in fuel cutoff	Continuous	DTC Type B

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Shift Solenoid B Performance	**P0756**	This DTC failure detects a 4-3-3-4 (stuck OFF) shift pattern.	FAILURE CONDITIONS FAIL CASE 5 2 seconds after commanded gear is 1st Eng torq 50 to 400 ft-lb Modeled ratio > 0 OSS > 200 RPM Slip 200 to -3000 Gear Ratio 0 to 1.4 Fail Timer ≥ 1 second AND FAIL CASE 6 1 second after commanded gear is 2nd Eng torq 50 to 400 ft-lb Modeled ratio > 0.5 Gear Ratio 0.9 to 1.2 Timer ≥ 2 seconds Fail Counter ≥ 1 Fail cases 5 & 6 must be true to set this code	CONDITIONS FOR RUNNING Engine RPM > 450 for > 5 sec Voltage between 8 & 18 No TPS DTCs No Shift Solenoid DTC No TCC Solenoid DTC No TCC Stuck Off DTC No PSA DTCs No VSS DTCs No Trans Slip DTCs No PSA DTC Range D4 TPS > 10% TFT between 20°C & 130°C OSS > 150 RPM	Continuous	DTC Type A

2-3 Shift Solenoid (SS) Valve Performance - No Third Or Fourth Gear	**P0757**	This DTC failure detects a 1-2-2-1 (stuck ON) shift pattern.	FAILURE CONDITIONS
			• FAIL CASE 7
			  • 1 second after commanded gear is 3rd
			  • Eng torq 50 to 400 ft-lb
			  • Modeled ratio > 0.5
			  • Gear Ratio 1.6 to 1.8
			  • Fail Timer ≥ 2 second
			
			AND
			
			• FAIL CASE 8
			  • 1 second after commanded gear is 4th
			  • Eng torq 0 to 400 ft-lb
			  • Modeled ratio > 0.5
			  • Gear Ratio 1.8 to 3.3
			  • Timer ≥ 2 seconds
			
			Fail Counter ≥ 1
			
			Fail cases 7 & 8 must be true to set this code
				CONDITIONS FOR RUNNING
				• Engine RPM > 450 for > 5 sec
				• Voltage between 8 & 18
				• No TPS DTCs
				• No Shift Solenoid DTC
				• No TCC Solenoid DTC
				• No TCC Stuck Off DTC
				• No PSA DTCs
				• No VSS DTCs
				• No Trans Slip DTCs
				• No PSA DTC
				• Range D4
				• TPS > 10%
				• TFT between 20°C & 130°C
				• OSS > 150 RPM
					Continuous	DTC Type A

Shift Solenoid B Electrical	**P0758**	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: 8 to 18 volts - Engine Speed > 450 rpm for 5 seconds & not in fuel cutoff	Continuous	DTC Type A

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3-2 Downshift Solenoid Electrical	**P0785**	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: 8 to 18 volts - Engine Speed > 450 rpm for 5 seconds & not in fuel cutoff	Continuous	DTC Type A
Transmission Component Slipping	**P0894**	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	FAIL CASE 1 TCC Commanded On > 5 sec TCC DC => 40% > 5 sec SLIP Between 130 and 800 RPM => 7 Seconds Fail Counter => 3 Counts (TCC must be turned off between fail counts) OR FAIL CASE 2 TCC Commanded On SLIP Between 130 and 800 RPM => 7 Second Pressure is commanded to MAX Freeze adapts TCC Commanded On SLIP Between 130 and 800 RPM => 7 Second TCC commanded off for 1.5 sec TCC Commanded On SLIP Between 130 and 800 RPM => 7 Second	CONDITIONS FOR RUNNING Engine RPM > 450 > 5 sec No TPS DTCs No VSS DTCs No Shift Solenoid DTC NoTCC/Shift Sol Elect DTCs No PSA DTC No TCC Stk On or Off DTCs No torque default Vacuum 0 to 105 Vehicle Speed between 30 & 70 mph Engine RPM 1500 to 3000 Trans Temp between 20°C & 129°C Speed Ratio between 0.69 to 0.88 (4^{th} gear) E Torque between 50 & 400 Ft Lbs Not 1^{st} gear Trans range D4 TPS 20% to 99%	Continuous	DTC Type B

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PSA Circuit Malfunction	**P1810**	0V to 12V This DTC detects an invalid state of the PSA sensor or the PSA circuit by deciphering the PSA inputs.	**Fail Case 1** Illegal Trans Pressure Switch State (111) or (101) **Fail Case 2** Gear range is D2, D4, or Reverse during engine startup. **Fail Case 3** Gear range is Park or Neutral when operating in D4.	**Fail Case 1** Engine RPM > 450 for > 5 sec Voltage between 8 & 18 No PSA DTC **Fail Case 2** Voltage between 8 & 18 No VSS DTCs Key On state LESS THAN 2 seconds Vehicle Speed < 50 MPH (VSS noise) Engine speed < 80 RPM for time > 0.1 sec then engine speed 80 to 550 RPM for time > 0.07 sec then engine speed > 550 RPM **Fail Case 3** Engine RPM > 450 for > 5 sec Voltage between 8 & 18 No TPS DTCs No VSS DTCs No PSA DTC No Shift Solenoid DTC No Sol/TCC Electrical DTC TPS between 10& 50% E Torque between 40 & 400 Ft Lbs Speed ratio 0.6 to 0.75 4th gear commanded TCC locked	**Fail Case 1** 60 seconds **Fail Case 2** 5 Seconds **Fail Case 3** 10 seconds Continuous	DTC Type B
TCC PWM Solenoid Electrical	**P2761**	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	- System Voltage: 8 to 18 volts - Engine Speed > 450 rpm for 5 seconds & not in fuel cutoff - Commanded Gear is 1st - TCC Duty Cycle < 10% or > 90%	Continuous	DTC Type B
Four Wheel Drive (4WD) Low Switch Circuit	**P2771**	This DTC failure detects a Stuck On and Stuck Off 4WD Lo Switch.	FAILURE CONDITIONS STUCK ON • TCC slip –3000 to –50 • Eng Spd divided by transfer case output speed ratio 0.8 to 1.2 for 5 seconds. OR STUCK OFF • TCC slip 100 to 3000 • TCC ON • Eng Spd divided by transfer case output speed ratio 2.5 to 2.9 for 10 seconds.	CONDITIONS FOR RUNNING Engine RPM > 450 for > 5 sec No TPS DTCs No VSS DTCs No Shift Solenoid DTC No TCC Solenoid DTC No PSA DTC No Trans Slip DTC Vacuum 0 to 105 kPa Vehicle Speed > 7 mph Trans Temp between 20°C and 130°C Range D4 E Torque between 40 & 400 Ft Lbs TPS 17% to 50%	Continuous	DTC Type B