in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Vehicle Speed Sensor: Low Input	P0502	0 - 8000 RPM Detects low vehicle speed with large engine speed in	Output Speed < 150 RPM	Range ≠ Park/Neutral No P0716, P0717, P1810 DTCs No MAP, TPS DTCs (see below) 50 < Engine Torque < 300 ft-lb	3.0 sec Type B
		Drive range		Input Speed > 1500 RPM 0 < MAP < 104.7 kPa TPS > 12%	
Vehicle Speed Sensor: Intermittent	P0503	0 - 8000 RPM Detects loss of vehicle speed when vehicle is moving	Drop in Output Speed > 1200 RPM in any Drive range	Engine Running No P1810 DTC Time since last range change > 6.0	3.0 sec in all Drive ranges
				sec +∆VSS, loop-to-loop, < 250 RPM for > 5.0 sec	Type B

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Transmission	P0711	0.24 - 5.0 V	Fail Case 1	Engine Speed > 500 RPM > 300.0	Fail Case 1
Fluid		Detects	∆TFT < 2.25° C.	sec	80.0 sec
Temperature		unrealistically large		8 < Ignition Voltage < 18 V	
Sensor Circuit:		change in TFT or	Fail Case 2	No P0502, P0503, P0716, P0717	Fail Case 2
Range/	1	value which remains	ΔTFT > 20° C. in 200	DTCs	Fail count > 14

Performance		constant for period of time in which a	Δ1F1 > 20° C. in 200 msec	Vehicle Speed > 5 mph for 900.0 sec cumulative	within 7.0 sec
		measurable change is expected		-40° C. < Trans Temp at startup < 21° C. TCC Slip > 120 RPM > 409.0 sec cumulative ECT > 70° C. ΔECT > 50° C. since start-up	Type C
Transmission Fluid Temperature	P0712	0.24 - 5.0 V Detects continuous Short-to-Ground in	Trans Temp Sensor ≤ 10 counts (Raw TTS ≤ 0.33	No P0712 FA or FATKO No P0713 FA Ignition ON	10.0 sec
Sensor Circuit: Low Input		Transmission Fluid Temperature sensor or TFT signal circuit	Volts)	8 < Ignition Voltage < 18 V	Type C

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Transmission Fluid Temperature Sensor Circuit: High Input	P0713	0.24 - 5.0 V Detects continuous Open or Short-to- Power in TFT sensor or TFT signal circuit	Trans Temp Sensor ≥ 251 counts (Raw TTS ≥ 4.92 Volts)	No P0712 FA No P0713 FA or FATKO Ignition ON 8 < Ignition Voltage < 18 V	400.0 sec Type C
Input Speed Sensor Circuit: Range/ Performance	P0716	0 - 6000 RPM Detects unrealistically large change in Input Speed in very short time	Input Speed change > 1300 RPM	Engine Running No TPS DTCs (see below) No P0502, P0503, P0716, P0717. P0751, P0753, P0758 DTCs TPS > 15% Vehicle Speed > 5 mph	0.8 sec Type B
Input Speed Sensor Circuit: No Signal	P0717	0 - 6000 RPM Detects low Input Speed with large vehicle speed	Input Speed < 100 RPM	No P0502, P0503, P1810 DTCs PSA ≠ P/N Engine Running Vehicle Speed > 5 mph	5.0 sec Type B

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Torque Converter Clutch System Stuck OFF	P0741	Detects high TCC slip with TCC commanded on	TCC slip > 200 RPM increments Stuck OFF counter Count = 1	No TPS DTCs (see below) No P0502, P0503, P0742, P1810, P1887 DTCs 8% ≤ TPS ≤ 100% 20° C. < Trans Temp < 130° C. TCC commanded locked on > 3.0 sec Commanded Gear > 2 PRNDL = D4, D3, or D2 Time since last manual range change > 6.0 sec	6.0 sec Type B
Torque Converter Clutch System Stuck ON	P0742	Detects lack of Torque Converter Clutch release oil pressure (switch is CLOSED) when TCC commanded off	TCC Release Switch closed for 4.0 sec increments fail counter Count = 4	No P1887 DTC No TPS DTCs (see below) Range = D4 500 < Engine Speed < 6500 RPM TCC commanded OFF 20 < Engine Torque < 300 ft-lb 20° C. < Trans Temp < 130° C. 20 < Vehicle speed < 60 mph 12% ≤ TPS ≤ 100% Time since last manual range change > 6.0 sec	6.0 sec Type A

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
					_
Shift Solenoid A Performance Stuck OFF	P0751	Detects 2-2-3-3 shift pattern	Fail Case 1 Commanded 1st 1.54 < Ratio < 1.71 Fail Case 2 Commanded 4th 0.91 < Ratio < 1.07 Count = 2	No TPS DTCs (see below) No P0502, P0503, P0716, P0717, P0753, P0758, P1810 DTCs PRNDL ≠ Park, Reverse, or Neutral TPS > 8% VSS > 150 RPM 20° C. < Trans Temp < 130° C. Engine running 0.30 sec. after gear change 8 < Ignition Voltage < 18 V 150 < Input Speed < 6000 RPM	Fail Case 1 3.25 sec Fail Case 2 4.0 sec Type B
Shift Solenoid A	P0752	Detects 1-1-4-4 shift	Fail Case 3	20 < Engine Torque < 300 ft-lb No TPS DTCs (see below)	Fail Case 3
Performance Stuck ON		pattern	0 < Engine Torque < 300 ft-lbs Commanded 2nd 2.87 < Ratio < 3.13 Fail Case 4 20 < Engine Torque < 300 ft-lbs Commanded 3rd 0.61 < Ratio < 0.72	No P0502, P0503, P0716, P0717, P0753, P0758, P1810 DTCs PRNDL ≠ Park, Reverse, or Neutral TPS > 8% VSS > 150 RPM 20° C. < Trans Temp < 130° C. Engine running 0.30 sec. after gear change 8 < Ignition Voltage < 18 V 150 < Input speed < 6000 RPM	4.0 sec Fail Case 4 4.0 sec Type B

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

Count = 2

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

Saturn L-series, Cavalier, Sunfire, GrandAm, Alero in these cars:

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Shift Solenoid A Electrical	P0753	0 – 12 V Detects continuous Open, Short-to- Ground, or Short-to- Power in Shift Solenoid A or SSA circuit (ODM)	SSA ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8 < Ignition Voltage < 18 V for 0.5 sec	Fail count = 43 in sample of 50 (Total time approx 4.0 sec)
Shift Solenoid B Performance	P0756	Detects 4-3-3-4 shift pattern	Fail Case 5 200 < TCC Slip < 1850 RPM	No TPS DTCs (see below) No P0502, P0503, P0716, P0717, P0753, P0758, P1810 DTCs	Fail Case 5 4.0 sec
Stuck ON			VSS > 160 RPM Commanded 1st 0.61 < Ratio < 0.72 Fail Case 6	No Engine Torque Codes Engine Running Vehicle Speed > 150 RPM 150 < Input Speed < 6000 RPM TPS > 8%	Fail Case 6 4.0 sec
			Commanded Gear = 2 0.91 < Ratio < 1.07 Count = 1	Range = D4, D3, D2 or D1 0.30 sec. after gear change 8 < Ignition Voltage < 18 V 20° C. < Trans Temp < 130° C. 20 < Engine Torque < 300 ft-lbs	Type A

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

TRANSMISSION DIAGNOSTIC MATRIX

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Shift Solenoid B Performance Stuck OFF	P0757	Detects 1-2-2-1 shift pattern	Fail Case 7 20 < Engine Torque < 300 ft-lb Commanded 3rd 1.54 < Ratio < 1.71 Fail Case 8 0 < Engine Torque < 300 ft-lb Commanded 4th 2.87 < Ratio < 3.13 Count = 1	No TPS DTCs (see below) No P0502, P0503, P0716, P0717, P0753, P0758, P1810 DTCs No Engine Torque Codes Engine Speed < 6500 rpm 150 < Input Speed < 6000 RPM Vehicle Speed > 150 RPM TPS > 8% Gear Range = D4, D3, D2, or D1 0.20 sec. after gear change 8 < Ignition Voltage < 18 V 20° C. < Trans Temp < 130° C.	Fail Case 7 3.0 sec Fail Case 8 2.0 sec Type A
Shift Solenoid B Electrical	P0758	0 – 12 V Detects continuous Open, Short-to- Ground, or Short-to- Power in Shift Solenoid B or SSB circuit (ODM)	SSB ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8 < Ignition Voltage < 18 V for 0.5 sec	Fail count = 43 in sample of 50 (Total time approx 4 sec) Type A
Pressure Switch Assembly Circuit Malfunction (Fail Case 1)	P1810	0 – 12 V Detects invalid state of Pressure Switch Assembly or PSA	Illegal PSA range	Engine running	60.0 sec Type B

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

circuit

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.

in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Pressure Switch Assembly Circuit Malfunction (Fail Case 2) Engine Speed Transition	P1810	0 – 12 V Detects invalid state of Pressure Switch Assembly or PSA circuit	PSA = D2, D4, or Reverse after Start-up	Run once per ignition cycle 8 < Ignition Voltage < 18 V for 0.5 sec No Vehicle Speed Codes Vehicle Speed < 2 mph Engine Speed < 200 RPM for 0.1 sec, THEN 200 < Engine Speed < 600 RPM for 0.025 sec; after Engine Speed > 600 RPM, PSA state is reported	2.0 sec Only at Engine Start-up Type B
Pressure Switch Assembly Circuit Malfunction (Fail Case 3)	P1810	0 – 12 V Detects invalid state of Pressure Switch Assembly or PSA circuit	Fail Case A PSA = P/N Ratio < 0.71 Fail Case B PSA = Reverse Ratio = Drive Fail Case C PSA = D4, D3, D2, or D1 Ratio = Reverse	Engine Running No TPS DTCs (see below) No P0502, P0503, P0716, P0717, P0751, P0753, P0756, P0758 DTCs Vehicle Speed ≥ 5mph 10% < TPS < 25% 10 < Engine Torque < 300 ft-lbs	Fail Case A 5.0 sec Fail Case B 5.0 sec Fail Case C 5.0 sec Continuous

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

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in these cars: Saturn L-series, Cavalier, Sunfire, GrandAm, Alero

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SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH & DTC TYPE
Torque Converter Clutch Pulse Width Modulated Solenoid Electrical	P1860	Detects continuous Open or Short-to- Ground in TCC PWM circuit or TCC PWM solenoid	Every 100 msec, circuit is checked, FAIL counter incremented if open or short detected	8 < Ignition Voltage < 18 V > 0.5 sec Ignition On Engine Speed > 500 RPM for 5.0 sec, not at fuel cutoff TCC Duty Cycle < 10% or > 90% 10% < TPS < 90%	Fail Count = 43 in sample of 50 (Total time approx 4.0 sec) Continuous
					Type A
Torque Converter Clutch Release Switch Circuit Malf	P1887	Detects open Release Switch, indicating TCC not applied when PCM and TCC slip show TCC is locked	Release switch open for 6 sec Count = 2	No P0716, P0717, P0741, P0742 DTCs Engine running TCC commanded ON -20 < Slip < 60 RPM PSA = D4 30 < Engine Torque < 300 ft-lb 15 < TCC Pressure < 120 psi	6.0 sec Type B

MAF DTCs P0101-P0102-P0103 MAP DTCs P0105-P0106-P0107-P0108

MAP Intermittent P1106-P1107

ECT DTCs P0115-P0116-P0117-P0118-P0125-P0126-P0128

TP DTCs P0120-P0121-P0122-P0123-P0220-P0221-P0222-P0223-P0225-P0226-P0227-P0228-P1120-P1121-P1122-P1125

P1280-P1281-P1282-P1283-P1285-P1286-P1287-P1288

System Voltage DTCs P0560-P0562-P0563

Type A and Type B codes illuminate the "Service Engine Soon" lamp. Type C codes illuminate the "Service Vehicle Soon" or "Wrench" lamp.