1997 5.7L (LS1) Y-car Corvette
4L60-E TRANSMISSION DIAGNOSTIC PARAMETERS

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SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUE(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. 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	Gear Range is not Park/Neutral No TP high or low sensor DTC's set Throttle Position > 15% No Map Sensor High or Low DTC's set No PSA DTC set 0 KPA > MAP sensor < 105 KPA 30 ft-lbs <Engine Torque< 400 ft-lbs Engine Speed > 3000 RPM	2.5 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.	Output Speed drop > 1600 RPM in P/N or Output Speed drop >1300 RPM not in P/N	Time since last Gear Range Change > 6. Sec Engine Speed > 450 rpm for 8 sec and not in fuel cutoff No Output Speed rise > 600 rpm within 6 sec. No PSA DTC set	In park or neutral 3 sec Not in park or neutral 3 sec	DTC Type B
Trans Fluid Temp Sensor Circuit - Range / Performance	P0711	.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 ≥ 409 sec. 2) Failure 2 happens ≥ 14 times in 7 sec.	System Voltage between 10 and 18 volts No VSS DTC's 10 < Raw TTS counts < 250 No DTC 1870 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. Trans Temp at startup between -40 and 21 deg. C Coolant Temp ≥ 70 deg. C and has changed by ≥ 50 deg. C since startup. 1) Trans Temp has not changed ≥ 1.5 deg C (absolute value) since startup 2) Trans Temp changes ≥ 20 deg. C (absolute value) in 200 msec.	1) 409 seconds continuous. 2) 7 seconds continuous	DTC Type B

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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 between 10 and 18 volts Engine Speed > 450 rpm for 8 sec & not in fuel cutoff	Continuous	DTC Type A
TCC System Stuck ON	P0742	This DTC detects low torque converter slip when the TCC is commanded off.	2 occurrences of the TCC Slip between -20 rpm and 30 rpm for the duration of the fail timer	Engine Speed > 450 rpm for 8 sec and not in fuel cutoff 40 ft-lbs < Eng Torque < 400 ft-lbs 0 kPa < VAC < 105 kPa Commanded Gear is not 1st Gear Range is D4 Throttle Position between 13% and 35% TCC is commanded off Engine Speed between 1000 rpm and 3500 rpm Speed Ratio between0.65 and 1.3 Vehicle Speed between 20 mph and 55 mph No Range change within 6 sec. No MAP low and high DTC set No TP high or low sensor DTC's No VSS Low or Intermittent DTC's No TCC Enable Sol. DTC's No TCC Control Sol. DTC's No PSA DTC set	4 seconds Continuous	DTC Type B

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Shift Solenoid A Performance	P0751	This DTC detects 2-2-3-3 or a 1-1-4-4 shift pattern	Fail Counter >=3 . The fail counter is incremented if fail cases (1,2,3,& 4) or (1,2,3, & 5) are true	**General** Engine Speed > 450 rpm for 8 sec, not in fuel cutoff Gear range is D4 Vehicle speed >5 mph 20 C < Trans. Temp. < 130 C No TP high or low DTC's No Vss low or intermittent DTC's No Sol electrical DTC's No DTC 742 , or PSA DTC set Time since last shift is >0 sec **Fail Case 1** Commanded 1-2 shift 10% < TPS< 35% TPS constant within +/- 5% 5 mph< VSS < 25 mph In 2 seconds, engine speed in 2nd gear must be 100 rpm > last speed in 1st gear **Fail Case 2** Commanded 2-3 shift 10% < TPS < 35% TPS constant within +/- 7% 10 mph < VSS < 40 mph In 2 sec, engine speed in 3rd gear must be 50 rpm < last speed in 2nd gear **Fail Case 3** Commanded 3-4 shift 8 % < TPS < 35% TPS constant within +/- 7% 20 mph < VSS < 55 mph In 2 seconds, engine speed in 4th gear must be 20 rpm > last speed in 3rd gear Fail Case 4 Commanded 4th gear TCC on 7% < TPS < 35% 0.8 < Speed Ratio < 1.2 200 < TCC Slip < 1000 for > 4sec Fail Case 5 Commanded 4th gear and TCC on 7% < TPS < 35% 0.65 < Speed Ratio < 0.8 -20 < TCC Slip < 40 for > 4 sec	Continuous	DTC Type A
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 between 10 and 18 volts Engine Speed > 450 rpm for 8 sec & not in fuel cutoff	Continuous	DTC Type A

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Shift Solenoid B Performance	P0756	This DTC detects a 1-2-2-1 or a 4-3-3-4 shift pattern	The Stuck On Fail counter has reached a value of 3 or the Stuck Off Fail counter has reached a value of 3. The Stuck On counter is incremented when both Fail Case 3 & Fail Case 4 are true. The Stuck Off counter is incremented when both Fail Case 1 & Fail Case 3 are true or when both Fail Case 2 & Fail Case 3 are true.	Engine Speed > 450 rpm for 8 sec and not in fuel cutoff Vehicle Speed > 4 MPH Gear Range is D4 20 C < Trans Temp < 130 C 0 < Engine Torque < 400 ft-lbs 0 < VAC < 105 KPa No TPS sensor High or Low DTC's No VSS Low or Intermittent DTC's No Trans solenoid electrical DTC's No TCC Stuck On DTC, or PSA DTC set **Fail Case 1** First gear commanded for > 2 sec. -2000 rpm < TCC Slip < 0 rpm 400 rpm < Output Speed < 1500 rpm 1.68 < Speed Ratio < 3 Throttle Position > 25% Fail Timer > 1.5 sec **Fail Case 2** Second gear commanded for > 409.5 sec 8191 rpm < TCC Slip < 8191 rpm 8191.75 rpm < Output Speed < 8191.75 rpm 8 < Speed Ratio < 8 Throttle Position > 99.9% Fail Timer > 409.5 sec Fail Case 3 2.05 sec < time 3rd gear commanded < 6 sec 10% < Throttle Position < 50% TPS constant within +/- 7% Speed Ratio in Third gear does not drop more than 0.2 from the last Speed Ratio in Second gear TCC Slip in Third gear remains > 600 rpm higher than the last TCC Slip in Second gear Fail Timer > 2 sec Fail Case 4 Fourth Gear commanded for > 2 sec 1500 rpm < TCC Slip < 4000 rpm 1500 < Output Speed < 3000 1.68 < Speed Ratio < 3.2 Throttle Position > 7% Fail Timer > 2 sec	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 between 10 and 18 volts Engine Speed > 450 rpm for 8 sec & 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 between 10 and 18 volts Engine Speed > 450 rpm for 8 sec & not in fuel cutoff	Continuous	DTC Type A
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 **Fail Case 2** Gear range is D2, D4, Rev **Fail Case 3** Gear range is P/N	**Fail Case 1** Engine Speed > 450 rpm for 8 sec & not in fuel cutoff System Voltage between 10 and 18 volts **Fail Case 2** System Voltage between 10 and 18 volts No VSS DTC's Engine Speed < 80 rpm for > .1 sec then Engine Speed >80 rpm and < 550 rpm for > .06875 sec then Engine Speed > 550 rpm Vehicle Speed <2 mph **Fail Case 3** Engine Speed > 450 rpm for 8 sec & not in fuel cutoff System Voltage between 10 and 18 volts 4th gear commanded 0.65<Speed Ratio<0.8 8 < TPS < 35% 40 < Engine Torque < 400 ft-lbs 0 < Vacuum < 105 KPA TCC Locked On No VSS DTC's	Fail Case 1 60 seconds Fail Case 2 5 Seconds Fail Case 3 10 seconds Continuous	DTC Type B
TCC PWM Solenoid Electrical	P1860	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 between 10 and 18 volts Engine Speed > 450 rpm for 8 sec & not in fuel cutoff Commanded Gear is 1st TCC Duty Cycle < 10% or > 90%	Continuous	DTC Type A

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Transmission Component Slipping	P1870	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	If TCC slip is between 150 rpm and 800 rpm for 7 sec, then increment the Trans Slip Counter by one. When the counter reaches 3, set the code.	Engine Speed > 450 rpm for 8 sec and not in fuel cutoff Gear is not 1st 10% < TPS < 50% 20 C < Trans. Temp. < 130C 40 ft-lbs < Eng Torque < 400 ft-lbs Gear Range is D4 TCC at Max Apply for > 5 sec TCC commanded on for > 5 sec 0.67 < Speed Ratio < .9 1200 rpm < Engine Speed < 3500 rpm 35 mph < Vehicle Speed <65 mph No TPS sensor High or Low DTC's No VSS Low or Intermittent DTC's No Trans solenoid electrical DTC’s Shift Solenoid Performance Diagnostic counters are all zero	Continuous	DTC Type B