1997 2.4L (LD9) N-car (*except* N-*Malibu or* N-*Cutlass*)
4T60-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 < 2 mph	Gear Range is not Park/Neutral No TP high or low sensor DTC's set 18% < Throttle Position < 50% No Map Sensor High or Low DTC's set 0 KPA > MAP sensor < 55 KPA Engine Speed > 3200 RPM	3 seconds Continuous	DTC Type A
Vehicle Speed Sensor - Intermittent	P0503	0 RPM to 6000 RPM This DTC detects an unrealistic large drop in vehicle speed.	Output Speed drop >1500 RPM	Time since last Gear Range Change > 6. Sec Engine Speed > 500 rpm for 5 sec and not in fuel cutoff No Output Speed rise > 1000 rpm within 2 sec. Transmission not in P/N	2 sec	DTC Type A
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	Every 100 msec the circuit is checked and a fail counter is incremented if an open or short is detected.	System Voltage between 10 and 16 volts Ign On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff	Fail Counter > 43 Counts out of 50 Total Counts 100 ms/count Continuous	DTC Type A
TCC System Stuck On	P0742	This DTC detects low torque converter slip when the TCC is commanded off.	3 occurrences of the TCC Slip between -20 rpm and 25 rpm for the duration of the fail timer	Engine Speed > 500 rpm for 5 sec and not in fuel cutoff 20 kPa < VAC < 50 kPa Commanded Gear is not 1st Gear Range is D4, D3 or D2 Throttle Position between 18% and 50% TCC is commanded off Engine Speed between 1000 rpm and 5000 rpm Vehicle Speed between 20 mph and 70 mph 0.78 < Speed Ratio < 2.4 No Range change within 3 sec. 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	7 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 > 500 rpm for 5 sec and & not in fuel cutoff
				  Gear range is D4
				  Vehicle speed >5 mph
				  40 C < Coolant < 120 C
				  No TP high or low DTC's
				  No VSS low or intermittent DTC's
				  No Sol electrical DTC's
				  No DTC 742
				  Traction Control Not Active
				  Time since last shift > 1 sec.
				
				Fail Case 1
				  Commanded 1-2 shift
				  18% < TPS < 60%
				  TPS constant within +/- 5%
				  5 mph < VSS < 45 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
				  14% < TPS < 45%
				  TPS constant within +/- 10%
				  25 mph < VSS < 55 mph
				  In 2.5 sec, engine speed in 3rd gear must be 130 rpm < last speed in 2nd gear
				Fail Case 3
				  Commanded 3-4 shift
				  14 % < TPS < 45%
				  TPS constant within +/- 7%
				  30 mph < VSS < 65 mph
				  In 1.0 seconds, engine speed in 4th gear must be 1 rpm > last speed in 3rd gear
				Fail Case 4
				  Commanded 4th gear
				  TCC on
				  4% < TPS < 30%
				  1.0 < Speed Ratio < 1.16
				  500 < TCC Slip < 1000 for > 3 sec
				Fail Case 5
				  Commanded 4th gear
				  TCC on
				  4% < TPS < 30%
				   0.76 < Speed Ratio < 0.81
				  -20 < TCC Slip < 25 for > 5 sec
					Continuous	DTC Type A

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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	Every 100 msec the circuit is checked and a fail counter is incremented if an open or short is detected.	System Voltage between 10 and 16 volts Ign On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff	Fail Counter > 43 Counts out of 50 Total Counts 100 ms/count Continuous	DTC Type A
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 2 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 > 500 rpm for 5 sec and not in fuel cutoff Vehicle Speed > 16 MPH Gear Range is D4 40 C < Coolant < 120 C 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. **Fail Case 1** First gear commanded for > 2 sec. -4064 rpm < TCC Slip < -300 rpm 900 rpm < Output Speed < 1600 rpm 0.76 < Speed Ratio < 3.0 Throttle Position > 35% Fail Timer > 1.5 sec **Fail Case 2** Second gear commanded for > 2 sec -1000 rpm < TCC Slip < -200 rpm 1000 rpm < Output Speed < 2600 rpm 1.1 < Speed Ratio < 1.6 Throttle Position > 18% Fail Timer > 2 sec **Fail Case 3** 2.5 sec < time with Third gear commanded < 7.5 sec 14% < Throttle Position < 45% TPS constant within +/- 7% Speed Ratio in Third gear does not drop more than .4 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 > 2.5 sec **Fail Case 4** Fourth Gear commanded for > 1.0 sec 1600 rpm < TCC Slip < 6000 rpm 1500 < Output Speed < 2800 2 < Speed Ratio < 4 Throttle Position > 14% Fail Timer > 1.5 sec	Continuous	DTC Type A

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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	Every 100 msec the circuit is checked and a fail counter is incremented if an open or short is detected.	System Voltage between 10 and 16 volts Ign On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff	Fail Counter > 43 Counts out of 50 Total Counts 100 ms/count Continuous	DTC Type A
Transmission Component Slipping	P1870	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	If TCC slip is between 200 rpm and 1500 rpm for the length of the fail timer, then increment the fail counter by one. When the counter reaches 3, set the code.	Engine Speed > 500 rpm for 5 sec and not in fuel cutoff Gear is not 1st 14% < TPS < 50% 40 C < Coolant < 120C 20 kPa < VAC < 64 kPa Gear Range is D4 TCC at Max. Apply for > 5 sec TCC commanded on for > 5 sec 0.78 < Speed Ratio < 1.1 1000 rpm < Engine Speed < 6000 rpm 25 mph < Vehicle Speed < 75 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.	10 seconds Continuous	DTC Type B