

**1997 5.7L (LT1) F-car
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 < 250 RPM	Gear Range is not Park/Neutral No PSA sensor DTC's set No TP high or low sensor DTC's set Throttle Position > 17% No Map Sensor High or Low DTC's set 50 KPA < VAC < 80 KPA 0 ftlbs < Engine Torque < 65535 ftlbs 3000 rpm < Engine Speed < 5500 RPM	3 seconds Continuous	DTC Type B
Trans Fluid Temp Sensor Circuit - Low Input	P0712	.24V to 5.0V The DTC detects a continuous short to ground in the TTS signal circuit or the TTS sensor	Raw TTS < 0.196 volts	10V < Sys Volt < 17V Ignition "on"	10 sec Continuous	DTC Type B
Trans Fluid Temp. Sensor Circuit - High Input	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 > 4.94 Volts	10V < Sys Volt < 17V Ignition "on"	50 second Continuous	DTC Type B
Brake Switch Circuit Low	P0719	.0V to 12.0V This DTC detects an open brake switch during accelerations.	Accel counts > 7 and brake is on for 900 sec without going off for 2 sec	No VSS DTC's Brake Switch Off is not passed Increment Accel counter when Brake Switch is On and Vehicle Speed < 5 MPH then 5 MPH < Vehicle Speed < 20 MPH for 4 sec then Vehicle Speed > 20 MPH for 6 sec	7 test failures within 7 test samples Continuous	DTC Type B
TCC Solenoid Electrical	P0740	0V to 12V This DTC detects a continuous open or short to ground in the TCC circuit or the TCC sensor	Fail Counter > 43 Counts out of 50 Total Counts	10V < Sys Volt < 17V Ign On	100 ms/count Continuous	DTC Type A

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TCC System Stuck ON	P0742	This DTC detects low torque converter slip when the TCC is commanded off.	TCC stuck on counter is greater than or equal to 3. This is incremented if enable conditons are met, only once per TCC cycle	40 kpa < VAC < 80.6 kpa 0 ftlbs < Eng Torque < 65535 ftlbs Commanded Gear is not 1st Gear Range is D4, D3 or D2 No PSA sensor DTC's set No TP high or low sensor DTC's set Throttle Position > 13% Engine Running > 450 rpm for > 2 sec Engine Speed < 5500 rpm TCC is commanded off No VSS Low DTC's set -20 rpm < TCC Slip < 20 rpm for > 5.6 sec No TCC Enable Sol. DTC's set No TCC Control Sol. DTC's set	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 Running > 450 rpm for > 2 sec No TP high or low DTC's set No Vss low DTC's set No PSA DTC's set Gear range is D4 Vehicle speed > 5 mph 20C < TTS < 130C No Sol electrical DTC's No DTC 742 Traction Control Not Active Previous shift time > 0 sec Fail Case 1 Comanded 1-2 shift 9.76% < TPS < 42% TPS constant within +/- 4% 5 mph < VSS < 30 mph In 2 sec, engine speed in 2nd gear must be 100 rpm > last speed in 1st gear Fail Case 2 Comanded 2-3 shift 9.76% < TPS < 32% TPS constant within +/- 6% 20 mph < VSS < 45 mph In 1.7 sec, engine speed in 3rd gear must be 75 rpm < last speed in 2nd gear Fail Case 3 Comanded 3-4 shift 9.76% < TPS < 30% TPS constant within +/- 6% 25 mph < VSS < 65 mph In 2.2 sec, engine speed in 4th gear must be 1 rpm > last speed in 3rd gear Fail Case 4 Comanded 4th gear TCC on 7.8% < TPS < 26% 0.85 < Speed Ratio < 1.2 300 < TCC Slip < 2000 for > 4sec Fail Case 5 Comanded 4th gear TCC on 7.8% < TPS < 26% 0.5 < Speed Ratio < 0.788 -20 rpm < TCC Slip < 20 rpm for > 4 sec	The counter is kept in non-volatile memory, so doesn't get reset over the ignition cycles	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 sensor	Fail Counter > 43 Counts out of 50 Total Counts	10V < Sys Volt < 17V Ign On	100 ms/count Continuous	DTC Type A

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Shift Solenoid B Performance	P0756	This DTC detects a non-2-3 upshift and a non - 1st gear when 1st gear is commanded or 1st gear when 4th gear is commanded	Fail Case 1 Stuck on Counter ≥ 3 : it is incremented if fail cases 3&4 are true or Fail Case 2 Gear Stuck off Counter ≥ 3 : it is incremented if fail cases 1&3 are true	General Vehicle Speed > 5 MPH Gear Range is D4 20C > Trans Fluid Temp > 130C TCC not On 20 kPa < VAC < 99 kPa 0 flbs < Engine Torque < 65535 flbs No TTS sensor DTC's set No PSA sensor DTC's set No TPS sensor High or Low DTC's set No VSS Low DTC's set Engine Speed < 5500 rpm Engine Running > 450 rpm for > 2 sec No Solenoid electrical DTC's No 742 DTC's Fail Case 1 TPS > 25% 1st commanded for 2.5 Sec 0.5 < Speed Ratio < 3.0 400 rpm < Output Speed < 1500 rpm -93 rpm < TCC slip < -2000 rpm for 1.6 sec Fail Case 2 TPS > 100% 2nd commanded for 25.5 Sec 8 < Speed Ratio < 8 8191 rpm < Output Speed < 8191 rpm 0 rpm < TCC slip < 0 rpm for 25.5 sec Fail Case 3 13% > TPS > 55% TPS remains +/- 5% 3rd commanded for 1 Sec 3rd commanded Spd Ratio > Last 2nd Commanded Spd Ratio - 0.2 3rd commanded TCC Slip \geq Last 2nd commanded TCC Slip + 200 rpm for 1.3 seconds; discontinue test if time since shift commanded > 5 seconds Fail Case 4 TPS > 18% 4th commanded for 1 Sec 2.05 < Speed Ratio < 8 0 rpm < Output Speed < 8191 rpm 1000 rpm < TCC slip < 4000 rpm for 3. sec	The counter is kept in non-volatile memory, so doesn't get reset over the ignition cycles	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 sensor	Fail Counter > 43 Counts out of 50 Total Counts	10V < Sys Volt < 17V Ign On	100 ms/count Continuous	DTC Type A

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3-2 Control Solenoid Electrical	P0785	0V to 12V This DTC detects a continuous open or short to ground in the 3-2 control sol. circuit or the 3-2 control sol. sensor	Fail Counter > 43 Counts out of 50 Total Counts	10V < Sys Volt < 17V Ign On	100 ms/count Continuous	DTC Type A
Traction Control Ckt Active Too Long in P/N	P1572	0v to 12V This DTC detects when the Traction Control Circuit is Active in P/N	Traction Control active	No PSA DTC's In P/N	6.4 Sec	DTC Type B
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.	This DTC will fail if any of the following fail cases are true: 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 Enging Running 10V < Sys Volt < 17V Fail Case 2 10V < Sys Volt < 17V No VSS DTC's Engine Speed < 100rpm for > 0.3 sec then 100 rpm < Eng Spd < 600 rpm for > 0.3 sec then Eng Spd > 600 rpm for > 3 sec Vehicle Speed < 4 mph Fail Case 3 4th gear 0.39 < Speed Ratio < 0.8 35 kpa < VAC < 70 kpa 0 ftlbs < Eng Torque < 65535 ftlbs TCC Locked On No VSS DTC's Eng Speed < 2000 rpm	Fail Case 1 25.4 seconds Fail Case 2 3 Seconds Fail Case 3 5 seconds Continuous	DTC Type B

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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	10V < Sys Volt < 17V Ign On gear = 1st No SSA DTC's No SSB DTC's Runs only during intrusive test: TCC = 100% for > 0.1 sec TCC = 0% for > 5 sec 1 time per key cycle	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.	Trans Slip Counter > 3	Engine Running > 450 rpm > 2 sec Engine Speed < 5500 rpm Gear is not 1st No TPS sensor High or Low DTC's set 13.3% < TPS < 36% No TTS sensor DTC's set 20C < TTS < 130C No PSA DTC's set No VSS Low DTC's set No TCC Enable Sol. DTC's set No TCC Control Sol. DTC's set No SSA Sol. DTC's set No SSB Sol. DTC's set 35 kpa < Eng Vac < 70.6 kpa 0 ftlbs < Eng Torque < 65535 ftlbs Gear Range is D4 TCC at Max Apply for > 0.1 sec TCC on for > 0.1 sec Shift Solenoid Perf Counters equal zero TCC Slip > 130 rpm for > 8 sec	Continuous	DTC Type B