1997 6.5L Diesel (L65, L57) C/K-truck,   G-van,   P-truck,   OEM engine   Heavy Duty (>8500 GVW)
4L80E TRANSMISSION DIAGNOSTIC PARAMETERS

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
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) Trans Temp has not changed ≥ 2.2499 deg C (absolute value) since startup. 2) Trans Temp changes ≥ 20 deg. C (absolute value) in 200 msec. & this happens ≥ 14 times in 7 seconds.	System Voltage between 10.0 and 16.5 volts No OSS DTC's No ISS DTC's No DTC 1870 No Engine Coolant Temp. DTC's .2 volts < Raw TTS < 4.92 volts Engine Run > 450 RPM ≥ 30 seconds Trans Temp at startup between -40 and 21 deg. C Coolant Temp ≥ 80 deg. C Coolant Temp. has changed by ≥ 55.0 deg. C since startup. Vehicle Speed ≥ 3.0 mph for ≥ 900 sec. cumulative this ignition cycle. Torque Converter Slip ≥ 60 rpm for ≥ 850 sec. cumulative this ignition cycle.	1) 80.0 seconds continuous 2) 7.0 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 circuit or the TTS sensor	Raw TTS < .2 volts	Ignition is on	15.0 seconds 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 circuit or the TTS sensor	Raw TTS > 4.92 Volts	Ignition is on	51.0 seconds Continuous	DTC Type B
Input Speed Sensor - Intermittent	P0716	0 RPM to 8192 RPM The DTC detects an unrealistic large change in Input Speed.	Input Speed loss > 1300 RPM	PP Sensor > 15% Vehicle Speed > 20 MPH No ISS DTC's No PPS DTC's No OSS DTC's No SSA or SSB Sol. DTC's	4.0 seconds Continuous	DTC Type B
Input Speed Sensor - Low input	P0717	0 RPM to 8192 RPM The DTC detects a Low Input Speed when the vehicle has large Vehicle speed.	Input Speed < 50 RPM	VSS > 20 MPH Engine Speed > 450 rpm > 7.0 seconds No OSS DTC's No PSA Sensor DTC's PSA indicating not in P/N	4.50 seconds Continuous	DTC Type B
Output Speed Sensor - Low input	P0722	0 RPM to 8192 RPM This DTC detects a low output speed when the vehicle has a large input speed in a drive gear range.	Output Speed < 200 RPM	Pedal Position => 12.0% Engine Speed < 3800 RPM 80 ft lbs<Engine Torque<450ftlbs Input Speed > 2000 RPM No PSA DTC No PPS DTC's No Map Sensor DTC's PSA indicated not Park or Neutral	3.0 seconds Continuous	DTC Type B

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Output Speed Sensor - Intermittent	P0723	0 RPM to 8192 RPM This DTC detects an unrealistic large change in output shaft speed.	Output Speed loss > 1000 RPM	Engine running > 450 rpm > 7.0 seconds PSA indicated not Park or Neutral No PSA change > 6.38 sec. No PSA DTC No Four Wheel Drive Low DTC Not in four wheel drive low.	4.0 seconds Continuous	DTC Type B
TCC System Stuck Off	P0741	This DTC detects high torque converter slip when the TCC is commanded on.	TCC Slip is > 65 RPM	Engine running > 450 rpm > 7.0 seconds -10 C < TFT < +150.5 deg. C 15% < PP sensor < 99.9% TCC is commanded > 0.6 sec Commanded Gear = 2nd or 3rd Gear Range is D4, D3 or D2 No PSA DTC No PP sensor DTC's No OSS DTC's No ISS DTC No TCC PWM Sol. DTC's	4.0 seconds 2nd Occurrence Continuous	DTC Type B
TCC System Stuck ON	P0742	This DTC detects low torque converter slip when the TCC is commanded off.	TCC Slip is between -15.0 rpm and +20.0 rpm	Engine running > 450 rpm > 7.0 seconds and < 3650 rpm 80 ft lbs<Eng Torque<450ftlbs PP sensor > 20 % Commanded Gear is not 1st PSA Range is D4 No ISS DTC's No OSS DTC's No PSA DTC No PP sensor DTC's No TCC Stuck Off DTC No TCC PWM Sol. DTC No Engine Speed DTC's No MAP DTC's	4.5 seconds 2nd Occurrence Continuous	DTC Type B

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Shift Solenoid A Performance (1-2 Shift Solenoid)	P0751	This DTC detects 2-2-3-3 or a 1-1-4-4 shift pattern (Shift Solenoid stuck Off = 2-2-3-3 / Shift Solenoid Stuck On = 1-1-4-4)	**Stuck OFF** Commanded Gear = First with measured Ratio = Second >1.5 sec. **and** Commanded Gear = Fourth with TCC Locked and measured Ratio = Third > 3.0 seconds **Stuck ON** Commanded Gear = Second and measured Ratio = First > 2.5 seconds.	Vehicle Speed > 4.0 MPH PPS > 12.0% Trans Fluid Temp > +20C & < +130C 60 ft.lbs<Engine Torque<450 ft. lbs. Engine Speed > 450 rpm > 7.0 sec and < 3650 rpm No TTS Hi or Lo DTC's No PSA sensor DTC's No PPS DTC's No OSS DTC's Not in Four Wheel Drive Low No Four Wheel Drive DTC No Shift Solenoid Electrical DTC's NO ISS DTC's No Engine Speed Code No MAP DTC's 1st gear = 2.63<Ratio<2.38 2nd gear = 1.58<Ratio<1.43 3rd gear = 1.05<Ratio<0.95 4th gear = 0.80<Ratio<0.70	**Stuck OFF** 2nd occurrence **Stuck ON** 5th occurrence Continuous	DTC Type B
Shift Solenoid A Electrical (1-2 Shift Solenoid)	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.	Ignition is On	Fail Counter >43 Counts out of 50 Total Counts Continuous	DTC Type A
Shift Solenoid B Performance (2-3 Shift Solenoid)	P0756	This DTC detects 4-3-3-4 or a 1-2-2-1 shift pattern (Shift Solenoid stuck On = 4-3-3-4 / Shift Solenoid Stuck Off = 1-2-2-1)	**Stuck ON** Commanded Gear = First and measured Ratio = 3rd > 2.0 seconds. AND Commanded Gear =Second with measured Ratio = Third > 2.0 seconds. **Stuck OFF** Commanded Gear = Third with measured Ratio =Second > 3.0 seconds.	Vehicle Speed > 4.0 MPH PPS > 12.0% +20C < TTS < +130 degrees C 80 ft.lbs<Engine Torque<450 ft.lbs. Engine running > 450 rpm > 7.0 seconds and < 3650 rpm No TTS Hi or Lo DTC's No PSA DTC No PPS DTC's No OSS DTC's Not in Four Wheel Drive Low No Four Wheel Drive DTC No Shift Solenoid Electrical DTC's No ISS DTC's No Engine Speed DTC No MAP DTC's 1st gear = 2.63 < Ratio < 2.38 2nd gear = 1.58 < Ratio < 1.43 3rd gear = 1.05 < Ratio < 0.95 4th gear = 0.80 < Ratio < 0.70	**Stuck On:** 2nd Occurrence **Stuck Off:** 7th Occurrences Continuous	DTC Type B

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Shift Solenoid B Electrical (2-3 Shift Solenoid)	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.	Ignition is On	Fail Counter >43 Counts out of 50 Total Counts 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 Combination
			Fail Case 2
			  Gear range is D2 during & after engine startup
			Fail Case 3
			(A) Gear range is P/N with drive ratio < 1.15
			OR
			(B) Gear range is Reverse Ratio not between 2.02 and 2.14
			OR
			(C) Gear range is Drive with Ratio between 2.02 and 2.14
				Fail Case 1
				  Engine Running > 450 RPM > 7.0 seconds
				  10.0 < System Voltage < 16.5
				Fail Case 2
				  10.0 < System Voltage < 16.5
				  No OSS DTC's
				  Engine Speed < 50 rpm for > 0.5 sec, then Engine Speed >50 rpm and < 550 rpm for > 0.08 sec, then Engine Speed > 550 rpm
				  Vehicle Speed < 2.0 mph
				Fail Case 3
				Engine Running > 450 RPM > 7.0 seconds < 3650 rpm
				Vehicle > 5.0 MPH
				PPS > 12%
				80 ft. Lbs < Engine Torque < 450 ft. Lbs
				No PPS DTC's
				No OSS DTC's
				No ISS DTC's
				No PSA DTC
				No Shift Solenoid Electrical or Performance DTC's
				No MAP DTC's
					Fail Case 1
					 25.5 seconds
					
					Fail Case 2
					8.5 Seconds
					
					Fail Case 3
					 3A > 15.0 seconds
					 3B > 15.0 seconds
					 3C > 15.0 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 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.	Ignition is On Gear = 1st	Fail Counter >43 Counts out of 50 Total Counts 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 above 140 rpm and below 500 rpm for 6 sec, then increment the Trans Slip Counter by one. When the counter is greater than 3, the DTC is set.	Engine Speed > 450 rpm >7.0 sec Commanded Gear is 4th Gear Range is D4 15%<PPS<70% -10C<TTS<+130C 60 ft. Lbs < Engine Torque < 280 ft. Lbs Engine Speed > 1200 RPM < 3750 RPM 25< MPH < 127.5 No MAP DTC's TCC Commanded on No PPS DTC's No TTS DTC's No PSA DTC's No OSS DTC's No TCC PWM Sol. DTC No SSA Sol. DTC's No SSB Sol. DTC's Shift Solenoid Perf Counters equal zero	6.0 seconds 3rd Occurrence Continuous	DTC Type B
Four Wheel Drive Low Circuit Performance	P1875	0V to 12V This DTC detects a continuous open or short to ground in the Four Wheel Drive Circuit	**Stuck On** 4th Gear with TCC On with 0.95 < Measured Transfer Case Ratio < 1.05 **Stuck Off** Two different commanded gears with 2.65 < Measured Transfer Case Ratio < 2.75 (MTC Ratio = Input Speed Divided by Transfer Case Output Spd	Engine Speed > 450 rpm > 7.0 seconds 9% < PPS < 99.7% 0C<TTS<+130C Vehicle Speed > 4.0 MPH Gear Range is D4 Shift Solenoid Performance Counters are zero No PPS DTC's No PSA DTC's No OSS DTC's No ISS DTC's No TCC PWM Sol. DTC No SSA Sol. DTC's No SSB Sol. DTC's	**Stuck On** 3.0 seconds 1st occurrence **Stuck Off** 1.5 seconds 1st occurrence in 2 different gears	DTC Type B