1998 5.7L (L31) C/K-truck, P-truck, G-van, Heavy Duty (>8500GVW)
also medium-duty tilt-cab W-series (Isuzu NPR) <14001GVW
4L80-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 8192 RPM This DTC detects a low Vehicle Speed when the vehicle has a large input speed in a drive gear range.	Output Speed < 50 RPM	Gear Range is not Park/Neutral No PSA DTC set No TP sensor DTC's Throttle Position > 15% No Map Sensor DTC's set No Engine Torque Malfunction 0 KPA > VAC < 106 KPA 80 ft lbs < Engine Torque < 375 Ft. Lbs. Input Speed > 1500 RPM	4.0 seconds Continuous	DTC Type B
Trans Fluid Temp Sensor Circuit Range / Performance	P0711	.10V 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.	**Fail Case 1** Trans Temp has not changed ≥ 2.2599 deg C (absolute value) since startup. **Fail Case 2** Trans Temp changes ≥ 20 deg. C (absolute value) in 200 msec. & occurs ≥ 14 times.	System Voltage between 10.0 and 16.5 volts No VSS DTC's No ISS DTC's No DTC 1870 No Engine Coolant Temp. DTC's .2 volts < Raw TTS < 4.92 volts Engine Run > 475 RPM ≥ 30 seconds Trans Temp at startup between -40 and 21 deg. C Coolant Temp ≥ 85 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 ≥ 750 sec. cumulative this ignition cycle.	**Fail Case 1** 80.0 seconds continuous **Fail Case 2** 7.0 seconds continuous	DTC Type B
Trans Fluid Temp Sensor Circuit - Low Input	P0712	.10V to 5.0V The DTC detects a continuous short to ground in the TTS signal circuit or the TTS sensor	Raw TTS < .20 volts	Ignition “on”	10 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 signal circuit or the TTS sensor	Raw TTS > 4.94 Volts	Ignition “on”	409.5983 seconds Continuous	DTC Type B

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Input Speed Sensor - Intermittent/ Loss	P0716	0 TO 8192 RPM The DTC detects an unrealistically large change in Input Speed	Input Speed loss > 1300 RPM	Gear Range is not Park/Neutral No ISS Low DTC No TPS DTC's No VSS DTC No SSA Sol. DTC's Engine Running > 475 RPM > 7 seconds & not in fuel cut-off TP Sensor > 18% Vehicle Speed > 25 MPH	5.0 seconds Continuous	DTC Type B
Input Speed Sensor - Low Input	P0717	0 TO 8192 RPM The DTC detects a Low Input Speed when the vehicle has large Vehicle and Engine Speeds	Input Speed < 50 RPM	Gear Range is not Park/Neutral No VSS DTC No PSA DTC Engine Speed > 475 RPM > 7 seconds & not in fuel cutoff VSS > 25 MPH	7.0 seconds 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 3 seconds.	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 < 25 MPH for 3.5 sec., then Vehicle Speed > 25 MPH for 6 sec	7 test failures within 7 test samples 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.	Gear Ratio = 2nd or 3rd Gear Range is D4, D3 or D2 No PSA DTC No TP sensor DTC's No VSS DTC No ISS DTC's No TCC PWM Sol. DTC Engine Speed > 475 RPM > 7 sec & not in fuel cutoff -20 C < TTS < +150.75 degrees C 10% < TP sensor < 100% TCC is commanded off > 0.1 seconds between counts	4 seconds 2nd Occurrence Continuous	DTC Type B

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TCC System Stuck ON	P0742	This DTC detects low torque converter slip when the TCC is commanded off.	TCC Slip is between -15 rpm and +20 rpm.	Commanded Gear is not 1st PSA Range is D4 No ISS DTC's No VSS DTC No PSA DTC No TP sensor DTC's No TCC Stuck Off DTC No TCC PWM Sol. DTC No Map Sensor DTC's set No Engine Torque Malfunction 0KPA>VAC<106KPA Engine Speed > 475 RPM > 7 sec & not in fuel cutoff 75 ft. lbs. < Eng Torque < 375 ft. lbs. TP sensor > 10 %	3.25 seconds 3rd Occurrence Continuous	DTC Type B
Shift Solenoid A Performance	P0751	This DTC detects Stuck Off (2-2-3-3 shift pattern) or Stuck On (1-1-4-4 shift pattern)	**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 > 3.0 seconds.	No PSA sensor DTC No TP DTC's No VSS DTC Not in Four Wheel Drive Low No Four Wheel Drive DTC No Shift Solenoid Electrical DTC's No ISS DTC's No TCC PWM DTC No Engine Torque Malfunction No MAP DTC's set 0 KPA > VAC < 106 KPA Engine Speed > 475 RPM > 7 sec & not in fuel cutoff Vehicle Speed > 2.5 MPH TPS > 12% Trans Fluid Temp > 20.25 deg. C 80 ft. lbs. < Engine Torque < 350 ft. lbs. 1st gear = 2.55 < Ratio < 2.40 2nd gear = 1.52 < Ratio < 1.43 3rd gear = 1.03 < Ratio < 0.97 4th gear = 0.77 < Ratio < 0.72	**Stuck OFF** 2nd occurrence **Stuck ON** 5th occurrence Continuous	DTC Type B
Shift Solenoid A Electrical	P0753	0V to 12V This DTC detects a continuous open, short to ground, or short to battery voltage in the SSA circuit or the SSA sensor	Fail Counter > 43 Counts out of 50 Total Counts. (1 count = 100ms)	Engine speed > 475 RPM > 7 seconds and not in fuel cutoff.	Continuous	DTC Type A

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Shift Solenoid B Performance	P0756	This DTC detects Stuck On (4-3-3-4 shift pattern) or Stuck Off (1-2-2-1 shift pattern)	**Stuck ON** Commanded Gear = First and measured Ratio = 3rd > 2 seconds. AND Commanded Gear = Second with measured Ratio = Third > 2 seconds. **Stuck OFF** Commanded Gear = Third with measured Ratio = Second > 4 seconds.	No PSA DTC No TP DTC's No VSS DTC Not in Four Wheel Drive Low No Four Wheel Drive DTC No Shift Solenoid Electrical DTC's No ISS DTC's No Engine Torque Malfunction No MAP DTC's set Engine Speed > 475 RPM > 7 sec & not in fuel cutoff 0 KPA > VAC < 106 KPA Vehicle Speed > 2.5 MPH TPS > 12% Trans Fluid Temp > 20.25 deg. C 80 ft. lbs. < Engine Torque < 350 ft. lbs. 1st gear = 2.55 < Ratio < 2.40 2nd gear = 1.52 < Ratio < 1.43 3rd gear = 1.03 < Ratio < 0.97 4th gear = 0.77 < Ratio < 0.72	**Stuck On:** 2 Occurrences **Stuck Off:** 5 Occurrences Continuous	DTC Type B
Shift Solenoid B Electrical	P0758	0V to 12V This DTC detects a continuous open, short to ground, or short to battery voltage in the SSB circuit or the SSB sensor	Fail Counter > 43 Counts out of 50 Total Counts. (1 count = 100ms)	Engine speed > 475 RPM > 7 seconds & not in fuel cutoff	Continuous	DTC Type A

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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 after engine startup **Fail Case 3** **(A)** PSA State reads P/N with drive ratio > 1.58 **OR** **(B)** PSA State reads Reverse & Ratio is not measured Reverse **OR** **(C)** PSA State reads Drive range with Ratio indicating Reverse	**Fail Case 1** Engine Running > 475 RPM > 7 sec. 10.0 < System Voltage < 19.0 **Fail Case 2** 10.0 < System Voltage < 19.0 No VSS DTC Engine Speed < 50 rpm for > .3 sec, then Engine Speed > 50 rpm and < 700 rpm for > 0.075 sec, then Engine Speed > 700 rpm Vehicle Speed < 2.0 mph **Fail Case 3** No TP DTC's No VSS DTC No ISS DTC's No PSA DTC No Shift Solenoid Electrical or Performance DTC's Engine Speed > 475 > 7 seconds & not in fuel cutoff Vehicle > 5 MPH TPS > 9% Engine Torque > 80 ft. Lbs (Reverse Ratio = between 2.02 & 2.11)	**Fail Case 1** 60 seconds **Fail Case 2** 7 seconds **Fail Case 3** 3A > 15 sec. 3B > 15 sec. 3C > 10 sec. Continuous	DTC Type B
TCC PWM Solenoid Electrical	P1860	0V to 12V This DTC detects a continuous open, short to ground, or short to battery in the TCC PWM circuit or the TCC PWM sensor	Fail Counter > 43 Counts out of 50 Total Counts (1 count = 100 ms)	Engine speed > 475 RPM > 7 seconds & not in fuel cutoff. Gear = 1st	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 > 130 rpm for 10 seconds, then increment the Trans Slip Counter by one. When the counter equals 3 or greater the diagnostic DTC is set.	No TP DTC's No PSA DTC's No VSS DTC No TCC PWM Sol. DTC No SSA Sol. DTC's No SSB Sol. DTC's Shift Solenoid Perf Counters equal zero No TCC Stuck On or Off DTC's No MAP DTC's Gear Range is D4 Commanded Gear is 4th Engine Speed > 475 rpm > 7 sec. & not in fuel cutoff 0 KPA > VAC < 106 KPA 12% < TPS < 70% -10C < TTS < +130C 80 ft. Lbs < Engine Torque < 265 ft. lbs. TCC Commanded On > 1.0 sec. AND TCC at max. duty cycle > 0.5 sec	10 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** Any one gear state. 0.95 < (Input Speed Divided by Transfer Case Output Spd) < 1.05 **Stuck Off** Two different commanded gears with 2.65 < (Input Speed Divided by Transfer Case Output Spd) < 2.75	Gear Range is D4 No TPS DTC's No PSA DTC's No VSS DTC No ISS DTC's No TCC PWM Sol. DTC No SSA Sol. DTC's No SSB Sol. DTC's No MAP DTC's Shift Solenoid Performance Counters are zero Engine Speed > 475 RPM > 7 sec & not in fuel cutoff 9% < TPS < 99.997% 20.25C < TTS < 130C Vehicle Speed > 2.5 MPH 0 KPA > VAC < 106 KPA	**Stuck On** 2.0 seconds 2nd occurrence in any one gear **Stuck Off** 2.0 seconds 2nd occurrence in 2 different gears	DTC Type B