2000 5.7L (L31-HD)
C/K-truck Heavy Duy. G-van Heavy Duty
P-truck / chassis Heavy Duty, W-series tilt-cab (Isuzu NPR) Medium Duty
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 LENGTH AND FREQUENCY	MIL ILLUMINATION 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 < 25 RPM	Gear Range is not Park/Neutral No PSA DTC set No TP sensor DTC's Throttle Position > 10% No Map Sensor DTC's set No Engine Torque Malfunction 0 KPA > VAC < 106 KPA 80 ft lbs < Engine Torque < 400 Ft. Lbs. Input Speed > 1500 RPM	3.0 seconds Continuous	DTC Type B
Vehicle Speed Sensor - Intermittent	P0503	This DTC detects an unrealistic large drop in vehicle speed.	Output Speed drop >1000 RPM	Gear Range is not Park/Neutral Time since last Gear Range Change > 10 Sec Engine Speed > 475 rpm for 7 sec and not in fuel cutoff No Output Speed rise > 250 rpm within 2 sec. No 4WD Lo state change > 2.0 sec.	3.0 seconds Continuous	DTC Type B
Input Speed Sensor - Intermittent/Loss	P0716	0 RPM to 8192 RPM The DTC detects an unrealistically large change in Input Speed	Input Speed loss > 1200 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 > 10% Vehicle Speed > 25 MPH	4.9 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 and Engine Speeds	Input Speed < 50 RPM	Gear Range is not Park/Neutral No VSS DTC's No PSA DTC Engine Speed > 475 RPM > 7 seconds & not in fuel cutoff VSS > 12 MPH	5.0 seconds Continuous	DTC Type B

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TCC System Stuck Off	P0741	This DTC detects high torque converter slip when the TCC is commanded on.	TCC Slip is > 140 rpm.	Gear Ratio = 2nd, 3rd, or 4th Gear Range is D4, D3 or D2 No PSA DTC No TP sensor DTC's No VSS DTC's No ISS DTC's No TCC PWM Sol. DTC Engine Speed > 475 RPM > 7 sec & not in fuel cutoff + 20 C < TFT < +150.75 degrees C 10% < TP sensor < 100% TCC Duty Cycle > 70% TCC is commanded on > 0.5 seconds Time since last Gear Range Change > 6 Sec	3.0 seconds 4th 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 -10 rpm and +10 rpm.	Commanded Gear is not 1st PSA Range is D4 No ISS DTC's No VSS DTC's 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 140 ft. lbs. < Eng Torque < 400 ft. lbs. 10% < TP sensor <100 % 900 RPM < Engine Speed < 4500 RPM 0.95 < Speed Ratio < 1.75 7 MPH < Vehicle Speed < 75 MPH Time since last Gear Range Change > 5 Sec	3.0 seconds 7th Occurrence Continuous	DTC Type B

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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 > 2.5 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 MAF DTC's No MAP DTC's 0 KPA > VAC < 106 KPA Engine Speed > 475 RPM > 7 sec & not in fuel cutoff Vehicle Speed > 2.0 MPH TPS > 10% Trans Fluid Temp > 20.25 deg. C 80 ft. lbs. < Engine Torque < 400 ft. lbs. 1st gear = 2.52 < Ratio < 2.43 2nd gear = 1.50 < Ratio < 1.45 3rd gear = 1.02 < Ratio < 0.98 4th gear = 0.77 < Ratio < 0.73	**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 > 2.5 seconds. AND Commanded Gear = Second with measured Ratio = Third > 2.5 seconds. **Stuck OFF** Commanded Gear = Third with measured Ratio = Second > 3.0 seconds.	No PSA DTC No TP DTC's No VSS DTC's Not in Four Wheel Drive Low No Four Wheel Drive DTC No Shift Solenoid Electrical DTC's No ISS DTC's No MAF DTC's No MAP DTC's set Engine Speed > 475 RPM > 7 sec & not in fuel cutoff 0 KPA > VAC < 106 KPA Vehicle Speed > 2.0 MPH TPS > 8% Trans Fluid Temp > 20.25 deg. C 80 ft. lbs. < Engine Torque < 400 ft. lbs. 1st gear = 2.52 < Ratio < 2.43 2nd gear = 1.50 < Ratio < 1.45 3rd gear = 1.02 < Ratio < 0.98 4th gear = 0.77 < Ratio < 0.73	**Stuck On:** 2 Occurrences **Stuck Off:** 7 Occurrences Continuous	DTC Type A
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 > 1.05 **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** No VSS DTC's Engine Speed < 50 rpm for > 0.3 sec, then Engine Speed > 50 rpm and < 550 rpm for > 0.025 sec, then Engine Speed > 550 rpm Vehicle Speed < 2.5 mph **Fail Case 3** No TP DTC's No VSS DTC's 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 > 5.0 MPH TPS > 7.5 % 80 ft. lbs. < Engine Torque < 400 ft. lbs. 0 KPA > VAC < 106 KPA (Reverse Ratio = between 2.05 & 2.11)	**Fail Case 1** 60 seconds **Fail Case 2** 7 seconds **Fail Case 3** 3A > 15 sec. 3B > 5 sec. 3C > 7 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 > 120 rpm and < 550 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's 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 Engine Speed > 475 rpm > 7 sec. & not in fuel cutoff 0 KPA > VAC < 106 KPA 7% < TPS < 80% +20C < TFT < +130C 80 ft. Lbs < Engine Torque < 400 ft. lbs. TCC at max. duty cycle > 5.0 sec 1250 RPM < Engine Speed < 5500 RPM 0.70 < Speed Ratio < 1.69 35 MPH < Vehicle Speed < 110 MPH	10 seconds 3rd Occurrence Continuous	DTC Type B

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Transmission Fluid Overtemperature	P0218	This DTC detects a high transmission temperature for a long period of time	TFT > 130 C	No Trans Temp Sensor DTC's set	> 600.00 seconds Continuous	DTC Type Federal D California D
Trans Fluid Temp Sensor Circuit Range/ Performance (Contains 2 tests)	P0711	The DTC detects two failure modes of the TFT: 1) A sensor that remains at a value. (Stuck Sensor) 2) an unrealistically large change in Transmission Temperature.	1) Stuck sensor: TFT has not changed > 2.25 deg C 2) Unrealistic change: TFT changes > 20 deg C	System voltage > 10.0 and < 16.0 Volts No Engine Coolant DTC No VSS DTC's No Input Speed DTC's No Transmission Component Slipping DTC Engine run > 475 RPM for > 35.0 sec. TFT => 10 AD counts and <= 251 AD counts TFT between -40 deg C and +21 C at startup Engine Coolant => +84.75 deg C Engine Coolant has changed => +54.75 deg C since startup Vehicle Speed since startup => 5.0 MPH => 900 seconds (cumulitive timer) TCC Slip => 60 RPM => 800 sec. (cumulitive timer)	1) Stuck sensor: > 80 seconds **OR** 2) Unrealistic change: 14 times in 7 seconds Continuous	DTC Type Federal C California C
Trans Fluid Temp Sensor Circuit - Low Input (High Temperature indicated)	P0712	.0V to 5.0V The DTC detects a continuous short to ground in the TFT signal circuit or the TFT sensor	Raw TFT < .13671875 Volts (< 7 A/D counts)	None	15.0seconds Continuous	DTC Type Federal C California C
Trans Fluid Temp. Sensor Circuit - High Input (Low Temperature)	P0713	.0V to 5.0V The DTC detects a continuous open or short to voltage in the TFT signal circuit or the TFT sensor	Raw TFT > 4.94140625 Volts (> 253 A/D counts)	None	**400seconds** Continuous	DTC Type Federal C California C