1997 4.3L (LF6 & L35) S/T-truck, C/K-truck, M/L-van Light Duty (<8500 GVW) (includes Isuzu Hombre)

4L60E TRANSMISSION DIAGNOSTICS PARAMETERs

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SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
Vehicle Speed Sensor - Low Input	P0502	0 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 < 150 RPM	Gear Range is not Park/Neutral No PSA sensor DTC's set No TP high or low sensor DTC's set Throttle Position > 20% No Map Sensor High or Low DTC's set 0KPA > VAC < 105KPA 40ftlbs < Engine Torque < 400ftlbs Engine Speed > 3000 RPM	2.5 seconds Continuous	DTC Type B
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 ≥ 1.50 deg C (absolute value) since startup 2) Trans Temp changes ≥ 20 deg. C (absolute value) in 200 msec 14 times.	System Voltage between 10 and 19 volts No VSS DTC's 10 < Raw TTS counts < 251 No DTC 1870 Engine Running ≥ 409 sec. Vehicle Speed ≥ 5 mph for ≥ 409 sec. cumulative this ignition cycle. Torque Converter Slip ≥ 120 rpm for ≥ 409 sec. cumulative this ignition cycle. Trans Temp at startup between -40 and 21°C Coolant Temp ≥ 70 deg. C and has changed by ≥ 50 deg. C since startup.	1) 409 seconds continuous. 2) 7 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 < 10 Counts	System Voltage between 10 and 19 volts 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 > 251 Counts	System Voltage between 10 and 19 volts Ignition “on”	409 second Continuous	DTC Type B

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
Brake Switch Circuit Low	P0719	.0V to12.0V 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	System Voltage between 10 and 19 volts Engine Speed > 450 rpm for 8 sec and not in fuel cutoff	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.	TCC Slip is between -20 rpm and 20 rpm	Engine Speed > 450 rpm for 8 sec and not in fuel cutoff 0kpa < VAC < 105kpa 50ftlbs < Eng Torque < 400ftlbs 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 > 17% TCC is commanded off No VSS Low DTC's set No TCC Enable Sol. DTC's set No TCC Control Sol. DTC's set	5 seconds 2nd Occurence Continuous	DTC Type B

VAC=BARO (MAP AT START UP) - MAP

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
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 > 450 rpm for 8 sec and not in fuel cutoff 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 Previous shift time > 0sec **Fail Case 1** Commanded 1-2 shift 10% < TPS < 45% TPS constant within +/- 6% 5 mph < VSS < 35mph In 2 sec, engine speed in 2nd gear must be 100 rpm > last speed in 1st gear **Fail Case 2** Commanded 2-3 shift 10% < TPS < 45% TPS constant within +/- 7% 20 mph < VSS < 50 mph In 2 sec, engine speed in 3rd gear must be 100 rpm < last speed in 2nd gear **Fail Case 3** Commanded 3-4 shift 10 % < TPS < 45% TPS constant within +/- 7% 30 mph < VSS < 65 mph In 2 sec, engine speed in 3rd gear must be 20 rpm > last speed in 4th gear **Fail Case 4** Commanded 4th gear TCC on 8% < TPS < 35% 0 85 < Speed Ratio < 1 2 200 < TCC Slip < 1000 for > 4sec **Fail Case 5** Commanded 4th gear TCC on 8% < TPS < 35% 0 6 < Speed Ratio < 0 8 -20 rpm < TCC Slip < 40 rpm for > 4sec	Continuous	DTC Type A

VAC=BARO (MAP AT START UP) - MAP

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
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	System Voltage between 10 and 19 volts Engine Speed > 450 rpm for 8 sec and not in fuel cutoff	100 ms/count Continuous	DTC Type A
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 > 10 MPH Gear Range is D4 20C > Trans Fluid Temp > 130C TCC not On 0 < VAC < 105 kPa 0 < Engine Torque < 1500 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 Running > 450 rpm for > 8sec and not at fuel cut off No Solenoid electrical DTC's No 742 DTC's **Fail Case 1** Tps > 15% 1st commanded for 2 Sec 0 5 rpm < Speed Ratio < 3 0 400 rpm < Output Speed < 1500 rpm -3000 rpm < TCC slip < -100 rpm for 1 5 sec **Fail Case 2** Tps > 100% 2nd commanded for 410 Sec 8 < Speed Ratio < 8 8191 rpm < Output Speed < 8191 rpm 0 rpm < TCC slip < 0 rpm for 410 sec **Fail Case 3** 13% < Tps < 50% TPS remains +/-7% 3rd commanded for 2 1 Sec 3rd commanded Spd Ratio > Last 2nd Commanded Spd Ratio - 25 3rd commanded TCC Slip >= Last 2nd commanded TCC Slip + 300 rpm for 1 5 seconds; discontinue test if time since shift commanded > 6 0seconds **Fail Case 4** Tps > 13% 4th commanded for 1 Sec 2 05 rpm < Speed Ratio < 8 1400 rpm < Output Speed < 2500 rpm 1000 rpm < TCC slip < 4000 rpm for 1 0 sec	Continuous	DTC Type A

VAC=BARO (MAP AT START UP) - MAP

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
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	System Voltage between 10 and 19 volts Engine Speed > 450 rpm for 8 sec and not in fuel cutoff	100 ms/count Continuous	DTC Type A
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	System Voltage between 10 and 19 volts Engine Speed > 450 rpm for 8 sec and not in fuel cutoff	100 ms/count 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 **Fail Case 2** Gear range is D2, D4, Rev **Fail Case 3** Gear range is P/N	**Fail Case 1** Enging Running > 450 rpm for > 8 sec and not at fuel cut off System Voltage between 10 and 19 volts **Fail Case 2** System Voltage between 10 and 19 volts No VSS DTC's Engine Speed < 80 rpm for > 0.1 sec then Engine Speed > 80 rpm and < 600 rpm for > 0.1 sec then Engine Speed > 550 rpm Vehicle Speed < 2 mph **Fail Case 3** 4th gear Engine Running > 450 sec for > 8 sec and not at fuel cut off System Voltage between 10 and 19 volts 0.6 < Speed Ratio < 0.75 TCC Locked On No VSS DTC's	**Fail Case 1** 60 seconds **Fail Case 2** 5 Seconds **Fail Case 3** 24 seconds Continuous	DTC Type B

VAC=BARO (MAP AT START UP) - MAP

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
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	System Voltage between 10 and 19 volts Engine Speed > 450 rpm for 8 sec and not in fuel cutoff gear = 1st 10% < TCC Duty Cycle < 90 %	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 above 130 rpm for 7 sec, then increment the Trans Slip Counter by one. When the counter is greater than 3, set the code.	Engine Speed > 450 rpm for 8 sec and not in fuel cutoff Gear is not 1st No TPS sensor High or Low DTC's set 9% < TPS < 35% 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 0 kpa < Eng Vac < 105 kpa 50 ftlbs < Eng Torque < 450 ftlbs Gear Range is D4 TCC at Max Apply for > 5 sec TCC on for > 5 sec Shift Solenoid Perf Counters equal zero	7 seconds 3rd Occurrence Continuous	DTC Type B

VAC=BARO (MAP AT START UP) - MAP

1997 4.3L (LF6 & L35) S/T, C/K, M/L (< 8500 GVW) (VCM) 4L60-E TRANSMISSION DIAGNOSTICS MATRIX

SENSED PARAMETER	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA AND THRESHOLD VALUES(S)	SECONDARY PARAMETERS AND ENABLE CONDITIONS	TIME REQUIRED AND FREQUENCY	MIL ILLUM. TYPE
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** 0.8 < (Engine Spd Divided by Transfer Case Output Spd) < 1.2 **Stuck Off** 2.5 < (Engine Spd Divided by Transfer Case Output Spd) < 2.9	Engine Speed > 450 rpm for 8 sec and not at fuel cut off No TPS DTC's set No PSA DTC's set Gear Range is D4 Shift Solenoid Performance Counters are zero 17% < TPS < 50% 50 ftlbs < Eng Torque < 400 ftlbs 0kpa < VAC < 105kpa 20C < TTS < 120C Vehicle Speed > 7 MPH 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 No TCC DTC's set **Stuck on** -3000 rpm < TCC Slip < -50 rpm In 4wd Low **Stuck off** TCC on 100 rpm < TCC slip < 3000 rpm Not in 4wd Low	5 Seconds 10 Seconds 1 Occurence Continuous	DTC Type A

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