

1996 2.2L (LN2) J, L-Car 3T40 Transmission Diagnostic Parameters

96c22N_LJ_aT.doc

SENSED PARAMETER	FAULT CODE	SENSOR SIGNAL TYPE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETER	SECONDARY MONITORING PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH AND FREQUENCY OF CHECK	MONITORING METHOD	FAULT CODE STORAGE AND MIL ILLUMINATION
Vehicle Speed Sensor - Low input	P0502	Analog	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.	Vehicle Speed \leq 2 MPH	Gear Range is not Park/Neutral No TP high or low sensor DTC's set 18% \leq Throttle Position \leq 50% No Map Sensor High or Low DTC's set 0 KPA \leq MAP Sensor \leq 30 KPA 2950 \leq Engine Speed \leq 4800 RPM	2.0 seconds Continuous	AC Voltage generating Vehicle Speed Sensor	DTC Type B
TCC System Stuck ON	P0742	Software	This DTC detects low torque converter slip when the TCC is commanded off.	TCC stuck on counter \geq 3 This is incremented if enable conditions are met.	20.3 kpa \leq VAC* \leq 36.56 kpa 35 mph \leq Vehicle speed \leq 65 mph 1500 rpm \leq Engine speed \leq 3300 rpm 0.98 \leq Speed Ratio \leq 1.406 No TP sensor high or low DTC's set 18 % \leq Throttle Position \leq 60 % TCC is commanded off No VSS Low DTC's set -20rpm \leq TCC Slip \leq 20rpm for \geq 5sec	5 sec Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type B
Transmission Component Slipping	P1870	Software	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	Trans Slip Counter \geq 3 This count is incremented once each time the enabling conditions are met.	No TPS sensor High or Low DTC's set 13.7 % \leq TPS \leq 35 % No VSS Low DTC's set TCC on for \geq 5 sec 20.3 kpa \leq VAC \leq 61.56 kpa 2000 rpm \leq Engine speed \leq 3300 rpm 0.98 \leq Speed Ratio \leq 1.34 40 mph \leq Vehicle speed \leq 65 mph 150 rpm \leq TCC slip \leq 1000 rpm for \geq 10 sec	Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type A

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Vehicle Speed Sensor - Low Input	P0502	ANALOG	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 < 2 mph	Gear Range is not Park/Neutral No PSA sensor DTC's set No TP high or low sensor DTC's set 15% < Throttle Position and < 99% No Map Sensor High or Low DTC's set MAP > 60 KPA Input Speed > 3000 RPM 3000 < Engine Speed < 4775 rpm	5 seconds CONTINUOUS CHECK	AC VOLTAGE GENERATING VEHICLE SPEED SENSOR	DTC TYPE A
Vehicle Speed Sensor - Intermittent	P0503	ANALOG	0 RPM to 6000 RPM This DTC detects an unrealistic large change in vehicle speed in a very short period of time	20 mph delta in vehicle speed.	Engine Running	0.30 seconds CONTINUOUS CHECK	AC VOLTAGE GENERATING VEHICLE SPEED SENSOR	DTC TYPE A
Input Speed Sensor Circuit-Range/Perf	P0716	ANALOG	0 RPM TO 6000 RPM The DTC detects an unrealistically large change in Input Speed in a very short period of time	Input Speed change > 1300 RPM	No ISS DTC's set No TPS High or Low DTC's set No VSS Low or Intermittent DTC's set No SSA DTC's set No SSB DTC's set	0.3 seconds CONTINUOUS CHECK	AC VOLTAGE GENERATING INPUT SPEED SENSOR	DTC TYPE A
Input Speed Sensor Circuit-No Signal	P0717	ANALOG	0 RPM TO 6000 RPM The DTC detects a Low Input Speed when the vehicle has large vehicle speed.	Input Speed < 50 RPM	No VSS Low or Intermittent DTC's set No PSA Sensor DTC's set PSA indicating not in P/N Engine Running VSS > 300 RPM	5 seconds CONTINUOUS CHECK	AC VOLTAGE GENERATING INPUT SPEED SENSOR	DTC TYPE A
TCC System Stuck OFF	P0741	SOFTWARE CHECK	This DTC detects high TCC Slip Speed when TCC is commanded on.	Slip Speed > 300 rpm	Throttle > 15% 30 C < Trans Temp < 110 C TCCMODE = LOCKED Commanded Gear > 1 PRNDL = D4 or D3 or D2 No Input Speed Sensor Codes No TPS codes No PSM codes No Vehicle Speed Sensor Codes No TCC Electrical Codes No TCC Stuck ON Codes	5 seconds CONTINUOUS CHECK	SOFTWARE	DTC TYPE A

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TCC System Stuck ON	P0742	DIGITAL	This DTC detects Torque Converter release oil pressure (Switch is closed) when the TCC is commanded off.	TCC Release Switch is closed.	Engine Running TCC is commanded off No TCC Release Switch Codes No TCC Solenoid Codes Throttle > 20%	8 seconds CONTINUOUS CHECK	PRESSURE SWITCH ASSEMBLY	DTC TYPE A
Shift Solenoid A Performance	P0751	SOFTWARE CHECK	This DTC detects shift patterns of 1-1-4-4 or 2-2-3-3 i.e., 1st in 2nd, 4th in 3rd. or 2nd in 1st, 3rd in 4th.	Command Gear = 1 Ratio = 2nd Command Gear = 2 Ratio = 1st Command Gear = 3 Ratio = 4th Command Gear = 4 Ratio = 3rd	PRNDL not in park, reverse, or neutral. TPS > 15%. VSS > 7 mph. The engine is running. No ISS codes are present. No PSA codes are present. No TPS codes are present. No VSS codes are present. No Shift Solenoid Electrical codes present.	6 Seconds CONTINUOUS CHECK	SHIFT SOLENOID	DTC TYPE A
Shift Solenoid A Electrical	P0753	ANALOG	0 to 12V This DTC detects a continuous open, short to ground, or short to voltage in SSA circuit (ODM) or solenoid.	SSA ODM feedback circuit state does not equal PCM commanded state	Ignition ON	5 seconds CONTINUOUS CHECK	SHIFT SOLENOID	DTC TYPE A
Shift Solenoid B Performance	P0756	SOFTWARE CHECK	This DTC detects 4th gear ratio when 1st gear is commanded or 1st gear ratio when 4th gear is commanded.	Gear is 1st and Ratio is <0.72 or Gear is 4th and Ratio is > 2.87	Vehicle Speed > 7 MPH TPS > 15% Gear Range is D4, D3, D2 or D1 Trans Fluid Temp > 30C No TTS sensor DTC's set No PSA sensor DTC's set No TPS sensor High or Low DTC's set No VSS Low or Intermittent DTC's set Engine Running	7 seconds CONTINUOUS CHECK	SHIFT SOLENOID	DTC TYPE A
Shift Solenoid B Electrical	P0758	ANALOG	0 to 12V This DTC detects a continuous open, short to ground, or short to voltage in SSB circuit (ODM) or solenoid.	SSB ODM feedback circuit state does not equal PCM commanded state	Ignition ON	5 seconds CONTINUOUS CHECK	SHIFT SOLENOID	DTC TYPE A

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PSA Circuit Malfunction (Fail Case 1)	P1810	SOFTWARE CHECK	0V to 12V This DTC detects an invalid state of the PSA sensor or the PSA circuit by deciphering the PSA inputs.	Illegal Range is true	Engine Run	5 seconds CONTINUOUS CHECK	PRESSURE SWITCH ASSEMBLY	DTC TYPE A
PSA Circuit Malfunction (Fail Case 2)	P1810	SOFTWARE CHECK	0V to 12V This DTC detects an invalid state of the PSA sensor or the PSA circuit by deciphering the PSA inputs.	PSA indicates D2, D4 & Rev after Start-up	Engine Speed Transition From 0 RPM to > 500 RPM No Vehicle Speed Codes VEHSPEED < 7 mph	2 seconds only at Engine Start-up CONTINUOUS CHECK	PRESSURE SWITCH ASSEMBLY	DTC TYPE A
PSA Circuit Malfunction (Fail Case 3)	P1810	SOFTWARE CHECK	0V to 12V This DTC detects an invalid state of the PSA sensor or the PSA circuit by deciphering the PSA inputs.	A). PSA indicates P/N when Ratio indicates 4th Gear > 0.72 B). PSA indicates Reverse when Ratio indicates Drive C). PSA indicates D4, D3, D2, or D1 when Ratio indicates Reverse	STATUS(ENGRUN) is SET No Throttle Codes No Vehicle Speed Codes No Input Speed Codes No PSA Code VEHSPEED ≥ 10 mph THROTMOD ≥ 15 %	10 seconds CONTINUOUS CHECK	PRESSURE SWITCH ASSEMBLY	DTC TYPE A
TCC Release Switch Circuit Malf	P1887	DIGITAL	This DTC detects release switch is open indicating TCC is not applied when PCM and slip speed indicate TCC is locked.	The release switch status is on.	The engine is running. The TCC is commanded ON. Slip is between -20 rpm and 20 rpm PRNDLFLG = D4 No TCC solenoid electrical failure codes are present. No input speed codes are present.	10 seconds CONTINUOUS CHECK	PRESSURE SWITCH ASSEMBLY	DTC TYPE A