1996 3.4L (LA1) U-Van 4T60-E Transmission Diagnostic Parameters

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SENSED PARAMETER	FAULT CODE	SENSOR SIGNAL TYPE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALFUNCTION DETECTION PARAMETERS	SECONDARY MONITORING PARAMETERS AND CONDITIONS	FAIL 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.	Output Speed < 150 rpm	Gear Range is not Park/Neutral No TP high or low sensor DTC's set Throttle Position > 15% No Map Sensor High or Low DTC's set 0 KPA > MAP sensor < 105 KPA 40 ftlbs <Engine Torque< 150 ftlbs Engine Speed > 2900 RPM	2.5 seconds Continuous	AC Voltage generating Vehicle Speed Sensor	DTC Type A
TCC System Stuck ON	P0742	Software	This DTC detects low torque converter slip when the TCC is commanded off.	3 occurrences of the TCC Slip between -25 rpm and 30 rpm for the duration of the fail timer	Engine Speed > 500 rpm for 5 sec and not in fuel cutoff 0 kpa < VAC < 105 kpa 70 ftlbs < Engine Torque < 170 ftlbs Commanded Gear is not 1st Gear Range is D4, D3 or D2 No TP high or low sensor DTC's set Throttle Position > 18% TCC is commanded off No VSS Low or Intermittent DTC's set No TCC Enable Sol. DTC's set No TCC Control Sol. DTC's set	8 seconds Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type B

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Shift Solenoid A Performance	P0751	Analog	This DTC detects 2-2-3-3 or a 1-1-4-4 shift pattern	Fail Counter >=2 . The fail counter is incremented if fail cases (1,2,3,& 4) or (1,2,3, & 5) are true	**General** Engine Speed > 500 rpm for 5 sec and & not in fuel cutoff No TP high or low DTC's set No VSS low or intermittent DTC's set Gear range is D4 Vehicle speed >5 mph 20 C < Trans. Temp. < 130 C No Sol electrical DTC's No DTC 742 Traction Control Not Active **Fail Case 1** Commanded 1-2 shift 18% < TPS< 45% TPS constant within +/- 5% 5 mph< VSS < 40 mph In 2.5 seconds, engine speed in 2nd gear must be 100 rpm > last speed in 1st gear **Fail Case 2** Commanded 2-3 shift 18% < TPS < 45% TPS constant within +/- 5% 25 mph < VSS < 55 mph In 2.5 sec, engine speed in 3rd gear must be 150 rpm < last speed in 2nd gear **Fail Case 3** Commanded 3-4 shift 18 % < TPS < 45% TPS constant within +/- 3% 35 mph < VSS < 80 mph In 2.5 seconds, engine speed in 4th gear must be 5 rpm > last speed in 3rd gear **Fail Case 4** Commanded 4th gear TCC on 7% < TPS < 37% 42 < Speed Ratio < 45 500 < TCC Slip < 1000 for > 3 sec **Fail Case 5** Commanded 4th gear TCC on 7% < TPS < 37% 29 < Speed Ratio < 32 -25 < TCC Slip < 30 for > 3 sec	Continuous	Shift Solenoid	DTC Type B

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Shift Solenoid A Electrical	P0753	Analog	0V to 12V This DTC detects a continuous open or short to ground in the SSA circuit or the SSA solenoid	Fail Counter >43 Counts out of 50 Total Counts	No System Voltage DTC's Ignition On Engine speed > 500 rpm for > 5 sec. & not in fuel cutoff	Continuous	Shift Solenoid	DTC Type A
Shift Solenoid B Performance	P0756	Software	This DTC detects a non - 1st gear when 1st gear is commanded or 1st gear when 4th gear is commanded	Fail Case 1 Gear is 1st and Speed Ratio is < 117 or Fail Case 2 Gear is 4th and Speed Ratio is > 105	Gear Range is D4, D3, D2 or D1 Trans Fluid Temp > 20C No TTS sensor DTC's set No TPS sensor High or Low DTC's set No VSS Low or Intermittent DTC's set Engine Speed > 500 rpm for 5 sec & not in fuel cutoff Vehicle Speed > 20 mph Fail Case 1: TPS > 37% Fail Case 2: TPS > 18%	Fail Case 1 2.5 seconds Fail Case 2 2 second	Shift Solenoid	DTC Type B
Shift Solenoid B Electrical	P0758	Analog	0V to 12V This DTC detects a continuous open or short to ground in the SSB circuit or the SSB solenoid	Fail Counter >43 Counts out of 50 Total Counts	No System Voltage DTC's Ignition On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff	Continuous	Shift Solenoid	DTC Type A
TCC PWM Solenoid Electrical	P1860	Analog	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	No System Voltage DTC's Ignition On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff TCC Duty Cycle < 10% or > 90%	Continuous	TCC PWM Solenoid	DTC Type A
TCC Enable Solenoid Electrical	P1864	Analog	0V to 12V This DTC detects a continuous open or short to ground in the TCC circuit or the TCC solenoid	Fail Counter >43 Counts out of 50 Total Counts	No System Voltage DTC's Ignition On Engine Speed > 500 rpm for 5 sec & not in fuel cutoff	Continuous	TCC Solenoid	DTC Type A

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Transmission Component Slipping	P1870	Software	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	If TCC slip is above 200 rpm for 8 sec, then increment the Trans Slip Counter by one. When the counter reaches 3, set the code.	Engine Speed > 500 rpm for 5 sec and not in fuel cutoff Gear is not 1st No TPS sensor High or Low DTC's set 9.5% < TPS < 35% 20 C < Trans. Temp. < 130C No VSS Low or Intermittent 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 Shift Solenoid Performance Diagnostic counters are all zero 0 kpa < VAC < 105 kpa 50 ftlbs < Engine Torque < 170 ftlbs Gear Range is D4 TCC at Max Apply for > 5 sec TCC commanded on for > 5 sec	Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type A