

**1997 3.8L (L36) C-car and G-car  
4T65-E TRANSMISSION DIAGNOSTIC PARAMETERS**

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| <b>SENSED PARAMETER</b>                               | <b>FAULT CODE</b> | <b>MONITOR STRATEGY DESCRIPTION</b>  | <b>MALFUNCTION CRITERIA AND THRESHOLD VALUE(S)</b>  | <b>SECONDARY PARAMETERS AND ENABLE CONDITIONS</b>   | <b>TIME REQUIRED AND FREQUENCY</b>                    | <b>MIL ILLUMINATION TYPE</b> |
|---|-------------------|--|---|---|---|------------------------------|
| Vehicle Speed Sensor - Low input                      | P0502             | 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<br>No TP high or low sensor DTC's set<br>Throttle Position > 12%<br>No Map Sensor High or Low DTC's set<br>0KPA > MAP sensor < 105KPA<br>40 ftlbs <Engine Torque< 150 ftlbs<br>Input Speed > 2500 RPM  | 2.5 seconds<br><br>Continuous                         | DTC Type<br>B                |
| Vehicle Speed Sensor - Intermittent                   | P0503             | This DTC detects an unrealistic large drop in vehicle speed.   | Output Speed drop >1500 RPM   | Time since last Gear Range Change > 6. Sec<br>Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>No Output Speed rise > 1000 rpm within 2 sec.<br>Transmission not in P/N   | 2 sec   | DTC Type<br>B                |
| Trans Fluid Temp Sensor Circuit - Range / Performance | P0711             | 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 $\geq 1.5$ deg C (absolute value) since startup.<br><br>2) Trans Temp changes $\geq 20$ deg. C (absolute value) in 200 msec. & this happens $\geq 14$ times in 7 sec. | System Voltage between 10 and 16 volts<br>No VSS DTC's<br>.2 volts < Raw TTS < 4.92 volts<br>Engine Running $\geq 300$ sec.<br>Vehicle Speed $\geq 5$ mph for $\geq 409$ sec. cumulative this ignition cycle.<br>Torque Converter Slip $\geq 120$ rpm for $\geq 409$ sec. cumulative this ignition cycle.<br>Trans Temp at startup between -40 and 21 deg. C<br>Coolant Temp $\geq 70$ deg. C<br>Coolant Temp. has changed by $\geq 50$ deg. C since startup. | 1) 409 seconds continuous.<br>2) 7 seconds continuous | DTC Type<br>B                |
| Input/Turbine Speed Sensor Range /Performance         | P0716             | This DTC detects an unrealistically large change in input speed in a short period of time.   | Input Speed change > 1300 RPM   | Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>No ISS DTC's set<br>P0717 has passed this ign. cycle<br>No TPS High or Low DTC's set<br>No VSS Low or Performance DTC's set<br>No SSA DTC's set<br>No SSB DTC's set<br>TPS > 14 %<br>VSS > 5 MPH   | 0.8 sec.<br><br>Continuous                            | DTC Type<br>B                |

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|-------------------------------------|-------------------|--|---|--|------------------------------------|------------------------------|
| Input/Turbine Speed Sensor No Input | P0717             | This DTC detects a low input speed when the vehicle has at least a minimum vehicle speed.                | Input Speed < 50 RPM  | Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>No VSS Low or Performance DTC's set<br>No PSA DTC's set<br>PSA indicating not in P/N<br>VSS > 5 MPH   | 5 seconds<br>Continuous            | DTC Type B                   |
| TCC System Stuck Off                | P0741             | This DTC detects high TCC Slip when the Clutch is commanded on   | TCC Slip > 250 rpm  | Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>TPS between 5% and 30%<br>20 C < Trans Temp < 130 C<br>time since last range change > 3 sec<br>TCC is commanded locked for > 0.5 sec.<br>TCC Pressure at max. allowed<br>Transmission in D4, D3 or D2<br>No ISS DTC's<br>No TPS DTC's<br>No PSA DTC<br>No VSS DTC's<br>No TCC solenoid electrical DTC<br>No TCC Stuck On DTC<br>No TCC Release Switch DTC | 8 sec<br>Continuous                | DTC Type B                   |
| TCC System Stuck On                 | P0742             | This DTC detects Torque Converter release oil pressure (Switch is Closed) when the TCC is commanded off. | The TCC Release Switch being closed (indicating TCC applied) for the length of the fail timer increments the fail counter; the diagnostic is set when this fail counter is ≥ 6. | Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>Throttle Position between 14% and 45%<br>TCC is commanded off<br>No TPS DTC's<br>No VSS Low or Intermittent DTC's<br>No TCC Control Sol. DTC's<br>No TCC Release Switch DTC's<br>time since last range change > 3 sec   | 4 seconds<br>Continuous            | DTC Type A                   |

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|------------------------------|------------|--|---|---|--|-----------------------|
| Shift Solenoid A Performance | P0751      | This DTC detects 2-2-3-3 or a 1-1-4-4 shift pattern  | Fail Counter >=2 .<br>The fail counter is incremented if fail cases (2 & 3) or (1 & 4) are true         | <u>General</u><br>No TPS DTC's<br>No VSS low or intermittent DTC's<br>No Shift or TCC Solenoid electrical DTC's<br>No PSA DTC's<br>No ISS DTC's<br>Engine Speed > 500 rpm for 5 sec and & not in fuel cutoff<br>Vehicle speed >5 mph<br>Trans. Temp. > 20 C<br>TPS< 14%<br>Transmission not in P/N<br>50 ftlbs < Eng Torque < 200 ftlbs<br><br><u>Fail Case 1</u><br>Commanded Gear is 1<br>Ratio is 2nd gear<br><br><u>Fail Case 2</u><br>Commanded gear is 2<br>Ratio is 1st gear<br><br><u>Fail Case 3</u><br>Commanded gear is 3<br>Ratio is 4th gear<br><br><u>Fail Case 4</u><br>Commanded gear is 4<br>Ratio is 3rd gear | <u>Fail Case 1</u><br>2 sec<br><br><u>Fail Case 2</u><br>3 sec<br><br><u>Fail Case 3</u><br>3 sec<br><br><u>Fail Case 4</u><br>3 sec<br><br>Continuous | DTC Type B            |
| Shift Solenoid A Electrical  | P0753      | This DTC detects a continuous open or short to ground in the SSA circuit or the SSA solenoid | Every 100msec the circuit is checked and a fail counter is incremented if an open or short is detected. | System Voltage between 10 and 16 volts<br>Ign On<br>Engine Speed > 500 rpm for 5 sec & not in fuel cutoff   | Fail Counter >43 Counts out of 50 Total Counts<br><br>100 ms/count<br>Continuous   | DTC Type A            |

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|------------------------------|------------|---|---|--|---|-----------------------|
| Shift Solenoid B Performance | P0756      | This DTC detects a 1-2-2-1 or a 4-3-3-4 shift pattern | Fail Counter >=2 .<br>The fail counter is incremented if fail cases (1 & 2) or (3 & 4) are true | <p><u>General</u><br/>No TPS DTC's<br/>No VSS low or intermittent DTC's<br/>No Shift or TCC Solenoid electrical DTC's<br/>No PSA DTC's<br/>No ISS DTC's<br/>Engine Speed &gt; 500 rpm for 5 sec and &amp; not in fuel cutoff<br/>Trans. Temp. &gt; 20 C<br/>Transmission not in P/N</p> <p><u>Fail Case 1</u><br/>50 ftlbs &lt; Eng Torque &lt; 200 ftlbs Vehicle speed &gt;7 mph<br/>TPS&lt; 14%<br/>Commanded Gear is 1<br/>Ratio is 4th gear</p> <p><u>Fail Case 2</u><br/>50 ftlbs &lt; Eng Torque &lt; 200 ftlbs Vehicle speed &gt;7 mph<br/>TPS&lt; 14%<br/>Commanded gear is 2<br/>Ratio is 3rd gear</p> <p><u>Fail Case 3</u><br/>50 ftlbs &lt; Eng Torque &lt; 200 ftlbs Vehicle speed &gt;7 mph<br/>TPS&lt; 14%<br/>Commanded gear is 3<br/>Ratio is 2nd gear</p> <p><u>Fail Case 4</u><br/>0 ftlbs &lt; Eng Torque &lt; 80 ftlbs<br/>35 mph &lt; Vehicle speed &gt; 75 mph<br/>7 % &lt; TPS&lt; 40 %<br/>Engine Speed &lt; 6700 rpm<br/>Commanded gear is 4<br/>Ratio is approximately 1st gear (1.05 - 2.97)</p> | <p><u>Fail Case 1</u><br/>3 sec</p> <p><u>Fail Case 2</u><br/>3 sec</p> <p><u>Fail Case 3</u><br/>3 sec</p> <p><u>Fail Case 4</u><br/>3 sec</p> <p>Continuous</p> | DTC Type A            |

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|--------------------------------------|-------------------|--|---|---|---|------------------------------|
| Shift Solenoid B Electrical          | P0758             | This DTC detects a continuous open or short to ground in the SSB circuit or the SSB solenoid | Every 100msec the circuit is checked and a fail counter is incremented if an open or short is detected.   | System Voltage between 10 and 16 volts<br>Ign On<br>Engine Speed > 500 rpm for 5 sec & not in fuel cutoff   | Fail Counter >43 Counts out of 50 Total Counts<br><br>100 ms/count<br>Continuous  | DTC Type A                   |
| Pressure Switch Assembly Malfunction | P1810             | This DTC detects an invalid state of the PSA circuit by deciphering the PSA inputs           | <p><u>Fail Case 1</u><br/>The PSA inputs indicate an illegal combination</p> <p><u>Fail Case 2</u><br/>PSA indicates D2, D4 or Reverse continuously through start up without indicating P/N</p> <p><u>Fail Case 3</u><br/>A) PSA indicates P/N<br/><br/>B) PSA indicates Reverse<br/><br/>C) PSA indicates D4, D3, D2 or D1</p> | <p><u>Fail Case 1</u><br/>Engine Speed &gt; 500 rpm for 5 sec and not in fuel cutoff<br/>System Voltage between 10 and 16 volts</p> <p><u>Fail Case 2</u><br/>System Voltage between 10 and 16 volts<br/>No VSS DTC's<br/>Vehicle Speed &lt; 3 mph<br/>Engine Speed Transitions from &lt; 50 to &gt; 800 rpm (start up)</p> <p><u>Fail Case 3</u><br/>Engine Speed &gt; 500 rpm for 5 sec and not in fuel cutoff<br/>No Shift solenoid electrical or performance DTC's<br/>No ISS DTC's<br/>No VSS DTC's<br/>Vehicle Speed &gt; 5 mph<br/>No TPS DTC's<br/>TPS &gt; 9 %<br/>50 ftlbs &lt; Eng Torque &lt; 170 ftlbs</p> <p>A) Ratio indicates gear 1,2,3,4 or Reverse<br/><br/>B) Ratio indicates gear 1,2,3 or 4<br/><br/>C) Ratio indicates Reverse</p> | <p><u>Fail Case 1</u><br/>60 sec</p> <p><u>Fail Case 2</u><br/>7 sec<br/>only at Engine start up</p> <p><u>Fail Case 3</u><br/>A) 5 sec<br/>B) 7 sec<br/>C) 5 sec</p> <p>Continuous</p> | DTC Type B                   |

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|----------------------------------|-------------------|--|---|--|--|------------------------------|
| TCC PWM Solenoid Electrical      | P1860             | This DTC detects a continuous open or short to ground in the TCC PWM circuit or the TCC PWM sensor                                     | Every 100msec the circuit is checked and a fail counter is incremented if an open or short is detected. | System Voltage between 10 and 16 volts<br>Ign On<br>Engine Speed > 500 rpm for 5 sec & not in fuel cutoff<br>TCC Duty Cycle < 10% or > 90%   | Fail Counter >43 Counts out of 50 Total Counts<br><br>100 ms/count<br>Continuous | DTC Type A                   |
| TCC Release Switch Circuit Fault | P1887             | This DTC detects the Release switch being open (indicating TCC is not applied) when the PCM and slip speed indicate the TCC is locked. | TCC Release Switch Status indicates released (switch open)  | Engine Speed > 500 rpm for 5 sec and not in fuel cutoff<br>TCC commanded on<br>TCC Slip between -20 and 40 rpm<br>Transmission is in D4<br>No TCC solenoid DTC<br>No ISS DTC's<br>No PSA DTC | 30 sec<br><br>Continuous   | DTC Type B                   |