

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

### 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
System Voltage Low	<b>P0562</b>		Ignition voltage < 8.68 V  Count = 20 @ 1.0 sec	Engine RPM > 400 RPM Not in Emergency mode  No faults: P0727, U2104, U2105	1.0 sec  FAULT ACTIVE THIS KEY ON	Type A
System Voltage High	<b>P0563</b>		Ignition voltage > 18.0 V  Count = 20 @ 1.0 sec	Engine RPM > 400 RPM Not in Emergency mode  No faults: P0727, U2104, U2105	1.0 sec  FAULT ACTIVE THIS KEY ON	Type A
Checksum Error	<b>P0601</b>	Calculated checksum differs from correct checksum in ROM	Count = 2		2 counts  FAULT ACTIVE THIS KEY ON	Type A
TCM Not Programmed	<b>P0602</b>	TCM Not Programmed		DVT and Service TCM requirements	FAULT ACTIVE THIS KEY ON	Type C
TCM Long-Term Memory Reset	<b>P0603</b>	Incorrect copy of Non-Volatile Memory to Random Access Memory	Errors in both Main and Sub regions of EEPROM		FAULT ACTIVE THIS KEY ON	Type C
TCM Random Access Memory	<b>P0604</b>	Random Access Memory read/write failure	Write FF to RAM, then Read RAM Write 00 to RAM, then Read RAM		FAULT ACTIVE THIS KEY ON	Type A

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 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

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Brake Switch Circuit	<b>P0703</b>	Brake pedal signal failure on CAN bus	TCM receives Brake Pedal validity = FALSE  Count =1	3.0 sec. after Ignition On OR Controller reset DS_ACTIVE_CAN = TRUE Not in Emergency mode  No faults: U2105	4.0 sec continuously  FAULT ACTIVE THIS KEY ON	Type C
Gear Selector Fault	<b>P0705</b>	Failure combination of A, B, C, and PA signals (see below)	Count = 5 @ 1.0 sec	See P0705 tables, last pages	Illegal state ≥ 1.0 sec  FAULT ACTIVE THIS KEY ON	Type A
Transmission Temperature Stuck	<b>P0711</b>	Transmission Fluid Temperature remains constant when a measurable change is expected	Oil temperature = Highest temperature at initialization time ± 5° C.	Oil temperature at initialization < 20° C. 10 < A/D of Oil Temperature sensor < 1000 Range = D, I, L, R DS_Active = TRUE RANGE = Q_NORMAL Vehicle Speed ≥ 40 km/hr at least once Not in Emergency mode	900 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A

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Transmission Temperature Sensor Circuit: Low Input	<b>P0712</b>	Very low digital count	A/D < 10 Count = 30 @ 10.0 sec	Not in Emergency mode DS_Active = TRUE	10.0 sec. Continuous  FAULT ACTIVE THIS KEY ON	Type A
Transmission Temperature Sensor Circuit: High Input	<b>P0713</b>	Very high digital count	A/D > 1000 Count = 12 @ 1.0 sec	No Engine Coolant codes DS_Active = TRUE Drive time > 900 sec Engine coolant temperature > 50° C.  Not in Emergency mode	1.0 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A

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when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix,  
 Allure, LaCrosse, LeSabre, Park Avenue

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Input Speed Sensor: No Pulse	<b>P0717</b>	No Input Speed sensor pulses when there are pulses from Output Speed sensor	<p><u>FAIL CASE 1</u> No pulse from Input Speed sensor while there are 6 pulses from Output Speed sensor</p> <p>Count = 500</p> <p><u>FAIL CASE 2</u> Digital signal &lt; 45 or &gt; 545 counts from Input Speed Sensor</p> <p>Count = 300 @ 0.10 sec</p>	<p><u>FAIL CASE 1</u> Range = D, I, or L Output speed * expected gear ratio &gt; 600 RPM IF (Vehicle speed &gt; 66 km/hr OR Trans Oil Temp &gt; 20° C.) AND Range from P, R, N to Drive: &gt; 2.5 sec. ELSE IF 0° C. &lt; Trans Oil Temp &lt; 20° C. AND Range from P, R, N to Drive: &gt; 10.0 sec. ELSE IF Trans Oil Temp &lt; 0° C. AND Range from P, R, N to Drive: &gt; 180.0 sec. END IF Not shifting, not in ND control DS_Active = TRUE Not in Emergency mode Gear ≥ 2<sup>nd</sup> Not in B1 release control No faults: P0705, P0711, P0712, P0713, P0722</p> <p><u>FAIL CASE 2</u> DS_Active = TRUE Not in Emergency mode</p>	<p><u>FAIL CASE 1</u> N/A</p> <p><u>FAIL CASE 2</u> 100 msec continuously</p> <p>FAULT ACTIVE THIS KEY ON</p>	Type A

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Output Speed Sensor: No Pulse	P0722	No vehicle speed when Input Speed signal is present	<p><u>FAIL CASE 1</u>            Detect no pulse from output speed sensor while detecting 12 pulses from input speed sensor</p> <p>Count = 500</p> <p><u>FAIL CASE 2</u>            Digital signal &lt; 45 or &gt; 545 counts from Output Speed Sensor</p> <p>Count = 300 @ 0.10 sec</p>	<p><u>FAIL CASE 1</u>            Range = D, I, or L            IF (Vehicle speed &gt; 66 km/hr            OR            Trans Oil Temp &gt; 20° C.)            AND            Shift from P, R, N to Drive: &gt; 2.5 sec.</p> <p>ELSE IF 0° C. &lt; Trans Oil Temp &lt; 20° C.            AND            Shift from P, R, N to Drive: &gt; 10.0 sec.</p> <p>ELSE IF Trans Oil Temp &lt; 0° C.            Shift from P, R, N to Drive: &gt; 180.0 sec.            END IF</p> <p>IF Calculated Output Speed &gt; 1000 RPM            Shifting            Throttle opening &lt; 1.5%            ELSE IF Calculated Output Speed &gt; 300 RPM            END IF            Not in Neutral control, not shifting            Not in ND control            DS_Active = TRUE            Not in Emergency mode</p> <p>No faults: P0705, P0711, P0712, P0713, P0717</p> <p><u>FAIL CASE 2</u>            DS_Active = TRUE            Not in Emergency mode</p>	<p><u>FAIL CASE 1</u>            15 sec. at 2000 RPM input speed            5 sec. at 6000 RPM input speed</p> <p><u>FAIL CASE 2</u>            100 msec continuously</p> <p>FAULT ACTIVE THIS KEY ON</p>	Type A

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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
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Engine Speed Circuit Malfunction	<b>P0727</b>	Engine speed information failure on CAN bus	TCM receives Engine Speed Validity = FALSE  Count = 1	3.0 sec. after Ignition On OR Reset of controller  DS_ACTIVE_CAN = TRUE Not in Emergency mode  No faults: U2105	4.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A
Gear 1 Manual Low fault (S5 Off, SLU Off)	<b>P0730</b>	Compares (Input speed/Output speed) to Commanded ratio for Gear 1 (manual)	Current Gear = 1 <sup>st</sup> engine braking  Absolute value(1-Current Ratio/Expected Ratio) > 20%  Count = 12 @ 1.0 sec.	500 ≤ Output RPM ≤ 1260 Throttle = 0% 8.0 sec. after changing to Range L 0.5 sec. after shifting control Oil temperature ≥ 20.0° C. (Shift position = L [defined] OR Speed > 5 kmh for > 75 sec in Range = L [undefined]) Engine speed > 400 RPM Ignition voltage ≥ 10.5 V Not shifting, not in ND control DS_Active = TRUE  No faults: P0705, P0711, P0712, P0713, P0717, P0722, P0727, P0741, P0962, P0963, P0966, P0967, P0970, P0971, P0973, P0974, P0976, P0977, P0979, P0980, P0982, P0983, P0985, P0986, P1781, P1791	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A



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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

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Gear 2 ratio fault	<b>P0732</b>	Compares (Input speed/Output speed) to Commanded ratio for Gear 2	Current gear = 2nd  Absolute value(1-Current Gear/Expected Gear) > 20%  Count = 12 @ 1.0 sec	Output RPM ≥ 500 Throttle ≥ 10% 0.5 sec. after B1 clutch apply control finished 8.0 sec. after shifting to D, I, or L 0.5 sec. after shifting control Oil temperature ≥ 20.0° C. (Shift position = D, I, L [defined] OR Speed > 5 kmh for > 75 sec in Range = D, L  [undefined]) Engine speed ≥ 400 RPM Ignition voltage ≥ 10.5 V Not shifting, not garage shifting Brake off, spinning = False DS_Active = TRUE  No faults: See P0731	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A
Gear 3 ratio fault	<b>P0733</b>	Compares (Input speed/Output speed) to Commanded ratio for Gear 3	Current gear = 3rd  Absolute value(1-Current Gear/Expected Gear) > 20% for 1.0 sec. continuously  Count = 12 @ 1.0 sec	Same as P0732	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A



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 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

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Gear 4 ratio fault	<b>P0734</b>	Compares (Input speed/Output speed) to Commanded ratio for Gear 4	Current gear = 4th Absolute value(1-Current Gear/Expected Gear) > 20% Increase SLT pressure; IF Current Gear ≠ 3 <sup>rd</sup> gear ratio ± 4% Count = 12 @ 1.0 sec	Same as P0732	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A
Gear 5 ratio fault	<b>P0735</b>	Compares (Input speed/Output speed) to Commanded ratio for Gear 5	Current gear = 5th Absolute value(1-Current Gear/Expected Gear) > 20% Count = 12 @ 1.0 sec	Same as P0732	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A

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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
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Reverse Gear ratio fault	<b>P0736</b>	Compares (Input speed/Output speed) to Commanded ratio for Reverse gear	Current gear = Reverse Absolute value(1-Current Gear/Expected Gear) > 20% Count = 12 @ 0.5 sec	Output RPM ≥ 500 8.0 sec. after shifting to R Oil temperature ≥ 20.0° C. (Shift position = R [defined] OR Speed > 5 kmh for > 75 sec in Range = R)[undefined] Engine speed ≥ 400 RPM Ignition voltage ≥ 10.5 V Not in NR control, not shifting Brake off DS_Active = TRUE Not in Emergency mode  No faults: [See P0730] + U2104 + U2105	0.5 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A
Torque Converter Clutch System Performance: Slipping (SLU Off)	<b>P0741</b>	High Torque Converter slip when TCC commanded on (Lock-Up Slipping)	Engine RPM – Input speed > 100 RPM Count = 6 @ 2.0 sec	Throttle ≥ 20% 0.5 sec. after shift control Engine speed ≤ 4000 RPM (Shift position = D, I, L [defined] OR Speed > 5 kmh for > 75 sec in Range = D, L [undefined]) Not shifting Ignition voltage > 10.5 V SLU (TCC PCS) target current ≥ 1000 mA Lock-up ON DS_Active = TRUE Not in Emergency mode  No faults: [See P0730] + U2104+ U2105 – P0741	≥ 2.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A

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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

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Torque Converter Clutch System Performance: SLU Stuck On	P0742	Low Torque Converter slip when TCC commanded off	Engine RPM – Input speed < 50 RPM AND Gear = 3L-OFF OR 4L-OFF OR 5L-OFF  Count = 12 @ 1.0 sec  NOTE: Counter is incremented by FAIL condition, reset to 0 by PASS condition	8.0 sec after shift to position = D, I, L Input Speed ≤ 3000 RPM (Shift position = D, I, L [defined] OR Speed > 5 kmh for > 75 sec in Range = D, L [undefined]) 3.0 min after Ignition On or Controller reset 0.5 sec. after shifting control Transmission Oil Temperature ≥ 20° C. <u>Minimum*</u> ≤ Engine Torque ≤ 240 N-m Engine Speed ≥ 400 RPM Not shifting, not garage shifting Ignition voltage ≥ 10.5 V DS_Active = TRUE Not in Emergency mode  No faults: See P0741  *Minimum = 46 N-m @ 1000 RPM Input Spd, 56 @ 1500, 66 @ 2000, 91 @ 2500, 121 N-m @ 3000	≥ 1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A

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Gear Ratio: C Stuck On	<b>P0762</b>	Hydraulic system stuck ON	Current gear = 5 <sup>th</sup> Current gear ratio = 1.451 ± 4%  Absolute value(1-Current Gear/Expected Gear) > 20% OR Current gear = 4 <sup>th</sup>  For 1.0 sec continuously Increase SLT pressure; IF Current Ratio = 3 <sup>rd</sup> ratio ± 4%  Count = 12 @ 1.0 sec	Same as P0732	1.0 sec. continuously  FAULT ACTIVE THIS KEY ON	Type A
Line Pressure PCS (SLT) Short to Ground, Open	<b>P0962</b>	Very low current through solenoid	Input A/D < 68 (92 mA)  Count = 25 @ 0.5 sec	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Line Pressure PCS (SLT) B+ Short	<b>P0963</b>	Very high current through solenoid	Input A/D > 1000 (1356 mA)  Count = 4 @ 0.5 sec	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A

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Torque Converter Clutch (TCC) PCS (SLU) Short to Ground, Open	<b>P0966</b>	Very low current through solenoid	Input A/D < 68 (92 mA) Count = 25 @ 0.5 sec	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Torque Converter Clutch (TCC) PCS (SLU) B+ Short	<b>P0967</b>	Very high current through solenoid	Input A/D > 1000 (1356 mA) Count = 4 @ 0.5 sec	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Pressure PCS (SLS) Short to Ground, Open	<b>P0970</b>	Very low current through solenoid	Input A/D < 68 (92 mA) Count = 25 @ 0.5 sec	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Pressure PCS (SLS) B+ Short	<b>P0971</b>	Very high current through solenoid	Input A/D > 1000 (1356 mA) Count = 4 @ 0.5 sec.	Not in Emergency mode DS_Active = TRUE	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A

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when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

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when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

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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
Shift Solenoid A Short to Ground	<b>P0973</b>	Short to Ground	S1 monitor = OFF when S1 driver outputs ON signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S1 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid A B+ Short, Open	<b>P0974</b>	Short to Power or Open	S1 monitor = ON when S1 driver outputs OFF signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S1 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid B Short to Ground	<b>P0976</b>	Short to Ground	S2 monitor = OFF when S2 driver outputs ON signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S2 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid B B+ Short, Open	<b>P0977</b>	Short to Power or Open	S2 monitor = ON when S2 driver outputs OFF signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S2 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

### 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
Shift Solenoid C Short to Ground	<b>P0979</b>	Short to Ground	S3 monitor = OFF when S3 driver outputs ON signal Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S3 output changes	0.5 sec Continuous FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid C B+ Short, Open	<b>P0980</b>	Short to Power or Open	S3 monitor = ON when S3 driver outputs OFF signal Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S3 output changes	0.5 sec Continuous FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid D Short to Ground	<b>P0982</b>	Short to ground	S4 monitor = OFF when S4 driver outputs ON signal Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid output changes	0.5 sec Continuous FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid D B+ Short, Open	<b>P0983</b>	Short to Power or Open	S4 monitor = ON when S4 driver outputs OFF signal Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S4 output changes	0.5 sec Continuous FAULT ACTIVE THIS KEY ON	Type A

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

### 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
Shift Solenoid E Short to Ground	<b>P0985</b>	Short to Ground	S5 monitor = OFF when S5 driver outputs ON signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S5 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Shift Solenoid E B+ Short, Open	<b>P0986</b>	Short to Power or Open	S5 monitor = ON when S5 driver outputs OFF signal  Count = 1	Not in Emergency mode DS_Active = TRUE 25 msec after solenoid S5 output changes	0.5 sec Continuous  FAULT ACTIVE THIS KEY ON	Type A
Unusual Shifting	<b>P1719</b>	Linear Solenoid mechanical malfunctions	Shift position = D, I, L Oil temperature ≥ 60° C. No multiplex shifting Condition A (tie-up) OR Condition B (engine flare) OR Condition C (long shift time) OR Condition D (rapid shifting)	No multiplex shifting DS_Active = TRUE Not in Emergency mode  No faults: P0711, P0712, P0713, P0722, P0727, P1781	Count = 5  FAULT ACTIVE THIS KEY ON	Type A
Driver- Requested Torque	<b>P1779</b>	Driver-requested torque circuit malfunction	TCM receives Driver- Requested Torque validity = FALSE  Count = 1 @ 4.0 sec	3.0 sec. after Ignition On OR Controller reset DS_ACTIVE = TRUE Not in Emergency mode  No faults: U2105	4.0 sec continuously  FAULT ACTIVE THIS KEY ON	Type C



**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

**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
CAN Torque Control	<b>P1780</b>	ECM fails to deliver torque control	<p><u>Condition 1</u>            TCM receives "Engine Torque Reduction Failed" OR "Engine Torque Transmission Request Failed" as unreliable for (Start Detection) 80 msec            AND            Requested Torque Reduction &gt; 30 N-m (Start Detection)            Count = 1</p> <p><u>Condition 2</u>            TCM receives "Engine Torque Reduction Failed" OR "Engine Torque Transmission Request Failed" as unreliable for (Decision) 80 msec            AND            Requested Torque Reduction &gt; 30 N-m (Decision)            Count = 2</p> <p><u>Condition 3</u>            TCM receives "Engine Torque Reduction Failed" OR "Engine Torque Transmission Request Failed" are always OK when requested reduction &gt; 30 N-m (Pass)</p>	<p>3.0 sec. after Ignition On OR Controller reset            DS_ACTIVE_CAN = TRUE            Not in Emergency mode</p> <p>No faults: U2105</p>	<p>80 msec continuously            FULT ACTIVE THIS KEY ON</p>	<p>Type D</p>

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

### 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
Actual Engine Torque	<b>P1781</b>	Engine Torque circuit malfunction	TCM receives Engine Torque validity = FALSE  Count = 20	3.0 sec. after Ignition On OR Controller reset DS_ACTIVE = TRUE Not in Emergency mode  No faults: U2105	FAULT ACTIVE THIS KEY ON Type A	Type A
Accelerator Pedal Position	<b>P1791</b>	Accelerator Pedal Position circuit malfunction	TCM receives Accelerator Pedal Position validity = FALSE  Count = 20	3.0 sec. after Ignition On OR Controller reset DS_ACTIVE_CAN = TRUE Not in Emergency mode  No faults U2105	0.2 sec continuously  FAULT ACTIVE THIS KEY ON	Type A
CAN Engine Coolant Temperature	<b>P1792</b>	Engine Coolant Temperature invalid	TCM receives Engine Coolant Temperature validity = FALSE  Count = 1	3.0 sec. after Ignition On OR Controller reset DS_ACTIVE_CAN = TRUE Not in Emergency mode  No faults: U2105	4.0 sec continuously  FAULT ACTIVE THIS KEY ON	Type C
ATF Degradation	<b>P1868</b>	Transmission Fluid life	OT_FACTOR > 2,764, 800,000	OT_IN ≥ 10	Count = 1  Fault Active	Type C

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

### 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
Accessory Circuit Low Voltage	<b>P2536</b>	ACC Circuit is Open	ACC voltage < 8.68 V Count = 20	Not in Emergency Mode DS_Active = TRUE Engine Speed ≥ 400 RPM Ignition ON Power Mode Accessory Terminal Status = ACTIVE  No: P0727, U2104, U2105	1.0 sec  Fault Active	Type C
CAN Error: CAN Bus Off Counter Overrun	<b>U2104</b>	CAN Bus Off Counter Overrun	TCM receives "BUS OFF" state from CAN  Count = 7	3.0 sec after Ignition On OR Controller reset DS_Active_CAN = TRUE	Count = 7  FAULT ACTIVE THIS KEY ON	Type A
CAN Error: ECM	<b>U2105</b>	Lost Communication with Engine Control Module	TCM cannot detect frame of GENERAL STATUS ECM  Count = 20	3.0 sec after Ignition On OR Controller reset DS_Active_CAN = TRUE Not in Emergency Mode	0.2 sec continuously  FAULT ACTIVE THIS KEY ON	Type A

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

**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
CAN Error: BCM	<b>U2107</b>	Lost Communication with Body Control Module	TCM cannot detect frame of GENERAL STATUS BCM Count = 20	3.0 sec after Ignition On OR Controller reset DS_Active_CAN = TRUE Not in Emergency Mode	0.2 sec continuously FAULT ACTIVE THIS KEY ON	Type A

**2005 4T45E** when used with: 3.4L (LA1) in these vehicles: Impala, Monte Carlo, Grand AM  
 when used with: 3.5L (LX9) in these vehicles: Malibu, G6

**4T65E** when used with: 3.1L (LG8) in this vehicle: Century

when used with: 3.4L (LA1) in these vehicles: Astek, Rendezvous, Venture, Montana, Impala, Monte Carlo, Grand AM

when used with: 3.5L (LX9) in these vehicles: Terrazza, Uplander, Montana, Relay

when used with: 3.8L (L26 with no A.I.R.), L32, L36, L67) in these vehicles: Impala, Monte Carlo, Bonneville, Grand Prix, Allure, LaCrosse, LeSabre, Park Avenue

**AF33-5** when used with: 3.4L (LNJ) in this vehicle: Equinox

**TRANSMISSION DIAGNOSTIC PARAMETERS**

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**P0705** Failure Modes for Selector Position Switch

A	B	C	PA
OFF	OFF	OFF	OFF
OFF	OFF	OFF	ON
ON	OFF	OFF	OFF
OFF	OFF	ON	OFF
ON	ON	ON	OFF
OFF	ON	OFF	OFF

**P0731** Table of Input and Output Speeds

Torque	-50	0	35	90	140	190	230	270	300	330	450
Input RPM	400	400	400	400	400	400	600	800	800	800	800
Output RPM	200	200	200	200	200	200	300	400	400	400	400