SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Transmission Fluid Over Temperature	P0218	High transmission fluid temperature for long period of time	Trans Temp > 130° C.	8.0V ≤ Ignition Voltage ≤ 18.0V -39° C. ≤ Trans Temp ≤ 149° C. for 5 sec	600 sec Type C-	Freeze adapts FA	Trans Temp ≤ 129° C. for 5.0 sec	Same as fail	Key up and short a potentiometer between the TFT Signal and TFT GND on the TCM side. Adjust the temperature to 135°C and then key down. Start the engine. TFT: 35 (AP) TFT GND: 30 (AJ)	
System Voltage Low	P0562	Measured voltage at the TCM is a below an acceptable level	System Voltage ≤ 11V	Engine Speed ≥ 1200 rpm for 5 sec	10 seconds Type C-	None	System Voltage > 11V 10 sec	Same as fail		
System Voltage High	P0563	Measured voltage at the TCM is above an acceptable level	System Voltage ≥18V	None	10 seconds Type C-	None	System Voltage < 18V 10 sec	None		
Transmission Control Module Read Only Memory	P0601	EPROM/Flash memory corruption (Incorrect program/calibrations checksum)	ROM fail count ≥ 5	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Soft landing FATKO	ROM fail count < 5	None		
Transmission Control Module Not Programmed	P0602	Non-programmed TCM (calibrations)	KbCOND_NoStartCal = TRUE	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Immediate Landing FATKO	KbCOND_NoStartCal = FALSE	None		
Transmission Control Module Long-Term Memory Reset	P0603	Wrong copy of Non-volatile Memory to RAM	Non-volatile memory (static or dynamic) checksum failure	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Soft landing FATKO	Non-volatile memory (static or dynamic) checksum pass			
Transmission Control Module Random Access Memory	P0604	RAM failure	RAM read/write failure (single word) RAM fail count ≥ 5	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Soft landing FATKO	RAM read/write pass (all words) RAM fail count < 5			

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Transmission Control Module Long Term Memory Performance	P062F	NVM write error at key-down	TCM Non-Volatile Memory Incorrect flag = 1	8.0 ≤ Ignition Voltage ≤ 18.0 V Ignition ON	Immediate Type A	Freeze adapts Max line pressure Force TCC OFF TCC Sol.Inhibit Soft Landing FATKO	TCM Non–Volatile Memory Incorrect flag = 0	Same as Fail		
Transmission Range Switch Circuit	P0705	NSBU reports illegal value (A, B, C, and P)	NSBU = 14 or 15 (0001 or 0000)	500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8.0V ≤ Ignition Voltage ≤ 18.0V	60.0 sec Type B	Alt Coast Pattern FA	NSBU ≠ 14 or 15 5.0 sec	Same as fail	Open Signal A and Signal P in Park. Signal A: 29 (AH) Signal P: 39 (AU)	
Transmission Fluid Temperature Sensor Performance	P0711	The DTC detects the following failure modes of the TFT: 1) A sensor that remains at a value. (Stuck Sensor) 2) A sensor that remains at a value. (Stuck Sensor) 4) Transmission Temperature remains below 20° C for a calibrated time dependant on startup transmission temperature.	Fail Case 1 ΔTFT < 2° C. TCC Slip ≥ 120 RPM for 300 sec cumul. -39° C. ≤ TFT at startup ≤ 20° C. Fail Case 2 ΔTFT < 2° C. 129° C ≤ TFT at startup ≤ 149° C. Fail Case 4 TFT ≤ 20° C after a calibrated amount of time based on a 2D lookup table.	For fail case 1, 2, and 4: Common ignition voltage enable, Common engine speed enable, No Engine Coolant DTC's, No OSS P0722, P0723 DTCs, No ISS P0716, P0717 DTCs, P0711 has not passed this ignition cycle, -39 deg C <= trans fluid temp <= 149 deg C Fail case 1: -39 deg C <= trans fluid temp <= 20 C at startup, Engine coolant => 70 deg C, Engine Coolant has changed => 55 deg C since startup, Vehicle speed => 8 KPH for > 300 seconds (cumulative timer) Fail case 2: 129 deg C <= trans fluid temp <= 149 C at startup, Engine coolant => 70 deg C, Engine Coolant has changed => 55 deg C since startup, Vehicle speed => 8 KPH for => 300 seconds (cumulative timer) Fail case 4: Valid TPS, Torque signal, and Crank Signals. 50 ≤ Engine Torque ≤ 1492 8 ≤ Throttle Position ≤ 90 8 ≤ Vehicle Speed ≤ 511 500 ≤ Engine Speed ≤ 6500 -39 ≤ Coolant Temperature ≤ 149	Fail case 1: 80.0 seconds Fail case 2: 80.0 seconds Fail case 4: Between 200 & 1900 seconds dependant on startup trans temperature. Type C-	Freeze Adapts Calculate default transmission fluid temperature as follows: If engine coolant temperature DTC is set, default transmssion fluid temperature = 140 DegC else If engine run time < 60 seconds, default transmission fluid temperature = 47.25 Deg C else If engine run time >= 60 seconds AND engine coolant temnperature < 20.25 Deg C, default transmission fluid temperature = 47.25 Deg C else If engine run time >= 60 seconds AND engine coolant temnperature >= 20.25 Deg C, default transmission fluid temperature = engine coolant temperature FA	Pass Cases 1 & 2 ΔTFT ≥2.5° C. 5.0 sec Pass Case 4 TFT > 20° C Between 200 & 1900 seconds dependant on startup trans temperature.	500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8V ≤ Ignition Voltage ≤ 18V for 5 sec -39° C. ≤ TFT ≤ 149° C.	Key up and short a potentiometer between the TFT Signal and TFT GND on the TCM side. Adjust the temperature for the appropriate fail case below and then key down. Start the engine. TFT: 35 (AP) TFT GND: 30 (AJ) Fail case 1: 15°C Fail case 2: 140°C Fail case 4: 10°C Then, after startup adjust temperature up a minimum of 2.5°C Ensure final temperature does not exceed 20°C	
Transmission Fluid Temperature Sensor Circuit Low Voltage	P0712	Continuous Short-to-Ground in Trans Fluid Temperature sensor or TFT signal circuit	Trans Temp Sensor ≤ 43.19 ohm Trans Temp > 150C	8V ≤ Ignition Voltage ≤ 18V for 5 sec 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	12.0 sec Type C-	Freeze adapts Default TFT = f(ECT, MAT, Run time) FA	Raw TTS ≥ 44.19 ohm 10.0 sec	8V ≤ Ignition Voltage ≤ 18V for 5 sec	Short a jumper wire between the TFT signal and TFT Gnd. TFT: 30 (AJ) TFT GND: 35 (AP)	

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Transmission Fluid Temperature Sensor Circuit High Voltage	P0713	Continuous Open of Short to Voltage in Transmission Fluid Temperature sensor or TFT signal circuit	Trans Temp Sensor ≥ 171862 ohm Trans Temp < -40C (-40F)	No P0716, P0717, P0722, P0723 DTCs 500 ≤ Engine RPM ≥ 6500 for 5.0 sec 8.0 ≤ Ignition Voltage ≤ 18.0 V OSS ≥ 65.6* RPM for 200 sec cumul. TCC Slip ≥ 120 RPM for 200 sec cumul.	80.0 sec Type C-	Freeze adapts Default TFT = f(ECT, MAT, Run time) FA	Raw TTS < 171860 ohm 2.0 sec	8V ≤ Ignition Voltage ≤ 18V for 5 sec	Open the TFT Sensor Signal Circuit TFT: 30 (AJ)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
Input Speed Sensor Performance	P0716	0 – 6500 RPM Unrealistically large drop in Input Speed in a very period of time that remains	Input Speed drop ≥ 1000 RPM	No P0717, P0722, P0723, P0752, P0973, P0974 DTCs 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5 sec No TP malfunction No Engine Torque malfunction 50 ≤ Engine Torque ≤ 1492 N-m TPS ≥ 8.0% Vehicle Speed ≥ 16.0 kph ISS ≥ 1050 RPM for 2.0 sec ΔISS ≤ 500 RPM for 2.0 sec	3.25 sec Type B	Freeze adapts Max line pressure Calculate ISS FATKO	Input Speed ≥ 500 RPM Input Speed Change ≤ 500 RPM 3.0 sec	No loss of input speed signal	Open the switch Short the signal to GND Short the signal to IGN when the ISS is above cal value. HS: 3 (C) LS: 26 (AD) IGN: 31 (AK) GND: 49 (BE)	
Input Speed Sensor Circuit Low Voltage	P0717	0 – 6500 RPM Low Input Speed with large vehicle speed	Input Speed < 100.0 RPM	No P0717, P0722, P0723 DTCs No Engine Torque malfunction 500 ≤ Engine RPM ≤ 6500 for 5 sec 8V ≤ Ignition Voltage ≤ 18V Vehicle Speed ≥ 16.0 kph 50 ≤ Engine Torque ≤ 1492 N-m	4.5 sec Type B	Freeze adapts Max line pressure Calculate ISS FATKO	Input Speed > 500 RPM 3.0 sec	None	Open the switch Short the signal to GND Short the signal to IGN before starting the vehicle HS: 3 (C) LS: 26 (AD) IGN: 31 (AK) GND: 49 (BE)	
Brake Switch Circuit Low Voltage	P0719	TCM brake switch input senses low voltage while decelerating	TCM indicates the Brake State is continuously OFF/Not Applied while the vehicle decelerates several times	The code has not passed this ignition cycle. 8V ≤ Ignition Voltage ≤ 18V P0719 has not passed this key on No vehicle speed faults The vehicle decelerates in the following manner: Vehicle Speed > 32 kph for 6.0 sec Then 32 kph ≥ Vehicle Speed ≥ 8 kph for 6 sec Then Vehicle Speed < 8 kph for 2 sec	8 deceleration sequences are performed while the brake is sensed as being continuously OFF/Not Applied. Type C-	None	TCM indicates Brake State = ON/Applied 5.0 sec	8V ≤ Ignition Voltage ≤ 18V for 5 sec	OPEN THE SWITCH FIRST TO PREVENT BCM DAMAGE! Short the Brake Switch signal wire to GND before starting the vehicle BRK: 42 (AX) GND: 49 (BE)	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Output Speed Sensor Circuit Low Voltage	P0722	0 - 6500 RPM Low vehicle speed with large engine speed in Drive range	Drive 50 ≤ Engine Torque ≤ 1492 N-m Output Speed ≤ 65.6* RPM Park/Neutral 1492≤ Engine Torque ≤ 1492 N-m	No, P0716, P0717, P0723 No TPS malfunction No Engine Torque malfunction 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec Range ≠ P/N TCC Slip ≥ -20 RPM Trans Temp ≥ -40° C. 1500 RPM ≤ Input Speed ≤ 5000 RPM TPS ≥ 8.0%	4.5 sec Type B	Freeze adapts Max line pressure OSS = f(ISS, RPM, gear) FATKO	Output speed > 164* RPM 3.0 sec	None	Open the switch Short the signal to GND Short the signal to IGN before starting the vehicle HS: 41 (AW) LS: 16 (T) IGN: 31 (AK) GND: 49 (BE)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
Output Speed Sensor Circuit Intermittent	P0723	0 - 6500 RPM Loss of vehicle speed when vehicle is moving	Drop in Output Speed > 393.5* RPM in any Drive range	No P0716, P0717, P0974 DTC 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≥ 6500 for 5 sec Range ≠ P/N 50 Nm ≤ Engine Torque ≤ 1492 Nm Time since last range change ≥ 6.0 sec +ΔVSS, loop-to-loop, ≤ 164* RPM for 2.0 sec ΔISS ≤ 500 RPM for 2.0 sec Output Speed ≥ 327.9* RPM for 2.0 sec	3.25 sec Type B	Freeze adapts Max line pressure OSS = f(ISS, RPM, gear) FATKO	ΔOSS ≤ 164* RPM in Drive ranges 3.0 sec OSS ≥ 164* RPM	None	Open the switch Short the signal to GND Short the signal to IGN when the OSS signal is above cal value. HS: 41 (AW) LS: 16 (T) IGN: 31 (AK) GND: 49 (BE)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
Brake Switch Circuit High Voltage	P0724	TCM brake switch input senses high voltage since start-up while accelerating	TCM indicates the Brake State is continuously ON/Applied since start-up while the vehicle accelerates several times	The code has not passed this ignition cycle. 8V ≤ Ignition Voltage ≤ 18V for 5 sec DTC has not ran this key ON. No vehicle speed faults The vehicle accelerates in the following manner: Vehicle Speed < 8 kph for 1.0 sec Then 8 kph ≤ Vehicle Speed ≤ 32 kph for 6 sec Then Vehicle Speed > 32 kph for 6 sec	The Brake is continuously on for 900 seconds 8 acceleration sequences are performed while the brake is sensed as being continuously ON/Applied. Type C-	None	TCM indicates Brake State = OFF/Not Applied	8V ≤ Ignition Voltage ≤ 18V for 5 sec	Open the Brake Switch signal circuit before starting the vehicle. BRK: 42 (AX)	
Torque Converter Clutch System - Stuck Off	P0741	High TCC slip with TCC commanded on	TCC slip ≥ 150 RPM Count = 2	No P0716, P0717, P0722, P0723, P0742, P0842, P0843 No TPS malfunction No Engine Torque and Speed malfunctions 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec 50 ≤ Engine Torque ≤ 1492 N-m 8.0% ≤ TPS ≤ 90% 20° C. ≤ Trans Temp ≤ 130° C. TCC Capacity ≥ 65% for 5.0 sec Commanded Gear > 1 TCC Mode = On or Locked On	8 sec Type B	Force TCC off Inhibit TCC Solenoid Freeze adapts Inhibit Max Gear if in Hot Mode FATKO	-20 ≤ TCC Slip ≤ 55 RPM 4 sec	Same as Fail Except no TCC capacity check	Open the switch and connect a solenoid from the TCM side of the TCC PWM to IGN TCC: 1 (A) Bat: 32 (AL) IGN: 31 (AK)	

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Torque Converter Clutch System - Stuck On	P0742	Low TCC slip with TCC commanded off	-20 rpm ≤ TCC Slip Speed ≤ 40 rpm Count = 3	No P0716, P0717, P0722, P0723, P0741 No TPS malfunction No Engine Torque and Speed malfunctions 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec TCC commanded OFF 50 ≤ Engine Torque ≤ 1492 N-m 20° C. ≤ Trans Temp ≤ 130° C. 8% ≤ TPS ≤ 90% 16 kph ≤ VSS ≤ 511 kph 1.739 ≤ Ratio ≤ .6333	6 sec Type B	Max Line Pressure Freeze adapts TCC Cmd On 1-2-3-4 (not hydraulically possible in 1st) FATKO	150 rpm ≤ TCC Slip Speed ≤ 1500 rpm 5 sec	Same as Fail	TCM Side: Solenoid from TCC Sol to IGN Trans Side: Jumper from TCC Sol to GND TCC: 1 (A) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
1-2 Shift Solenoid Valve Performance - No First or Fourth Gear	P0751	2-2-3-3 shift pattern	Fail Case 1 Commanded 1st 1.5446 < Ratio < 1.7072 1.0 sec. after gear change Fail Case 2 Commanded 4th 0.95 < Ratio < 1.05 1.0 sec. after gear change Count = 2	No P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, or TPS DTCs (see below) No Engine Torque malfunction 500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8V ≤ Ignition Voltage ≤ 18V TPS ≥ 8.0% 150 RPM ≥ ISS ≥ 6000 RPM 20° C. < Trans Temp < 130° C. 0.30 sec. after gear change 150 ≤ Input Speed ≤ 6000 RPM 50 ≤ Engine Torque ≤ 1492 N-m Output Speed ≥ 65.6* RPM	Fail Case 1 2.0 sec Fail Case 2 4.0 sec Type B	Freeze adapts Max line pressure FATKO	Pass Case 1 1st gear commanded 2.7528 < ratio < 3.1672 0.9 sec . Pass Case 4 4th gear commanded 0.6333 < ratio < 0.7287 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	Open the Switch and short a solenoid from the TCM side of the switch to IGN SSA: 2 (B) Bat: 32 (AL) IGN: 31 (AK)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
1-2 Shift Solenoid Valve Performance - No Second or Third Gear	P0752	1-1-4-4 shift pattern	Fail Case 3 Commanded 2nd 2.8120 < Ratio < 3.1080 1.0 sec. after gear change Fail Case 4 Commanded 3rd 0.6469 < Ratio < 0.7150 1.0 sec. after gear change Count = 2	See P0751	Fail Case 3 2.0 sec Fail Case 4 3.0 sec Type B	Freeze adapts Max line pressure 3-2 downshift not allowed > 52 kph FATKO	Pass Case 2 2nd gear commanded 1.5122 < ratio < 1.7398 0.9 sec . Pass Case 3 3rd gear commanded 0.93 < ratio < 1.07 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	TCM Side: Solenoid from Shift Sol A to IGN Trans Side: Jumper from Shift Sol A to GND SSA: 2 (B) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
2-3 Shift Solenoid Valve Performance - No First or Second Gear	P0756	4-3-3-4 shift pattern	Fail Case 5 -20 ≤ TCC Slip ≤ 8191 RPM VSS ≥ 65.6* RPM Commanded 1st 0.65 ≤ Ratio ≤ 1.87 1.0 sec. after gear change Fail Case 6 Commanded 2nd 0.95 ≤ Ratio ≤ 1.05 1.0 sec. after gear change Count = 2	See P0751	Fail Case 5 2.0 sec Fail Case 6 3.0 sec Type A	Freeze adapts Inhibit 1st Gear Max line pressure FATKO	Pass Case 1 1st gear commd 2.7528 < Ratio < 3.1672 0.9 sec Pass Case 2 2nd gear commd 1.5122 < Ratio < 1.7397 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	TCM Side: Solenoid from Shift Sol B to IGN Trans Side: Jumper from Shift Sol B to GND SSB: 20 (X) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
2-3 Shift Solenoid Valve Performance - No Third or Fourth Gear	P0757	1-2-2-1 shift pattern	Fail Case 7 40 ≤ Engine Torque ≤ 1492 N-m Commanded 3rd 1.5446 < Ratio < 1.7073 1.0 sec. after gear change Fail Case 8 0 ≤ Engine Torque ≤ 1492 N-m Commanded 4th 1.5446 < Ratio < 3.1080 1.0 sec. after gear change 1.2 sec after range change Range ≠ Neutral Count = 2	See P0751	Fail Case 7 2.0 sec Fail Case 8 2.0 sec Type A	Freeze adapts Max line pressure Inhibit 4th Gear FATKO	Pass Case 3 3rd gear commd 0.93 < Ratio < 1.07 0.9 sec Pass Case 4 4th gear commd 0.6333 < Ratio < 0.7286 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	Open the Switch and short a solenoid from the TCM side of the switch to IGN SSB: 20 (X) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
Torque Converter Clutch Release Switch Circuit Low Voltage	P0842	Closed Release Switch, indicating TCC is applied when TCM is commanding TCC off and TCC slip shows TCC is OFF.	Release switch closed (grounded). Count = 2	No P0716, P0717, P0741, P0742 P2764, P2763 DTCs No Engine Speed or Torque Malfunctions 500 ≤ Engine RPM ≤ 6500 for 5.0 sec TCC commanded OFF 100 RPM < Slip Speed 50 < Engine Torque < 1492 N-m 20° C. < Trans Temp < 130° C. 16 kph < VSS < 512 kph	8.0 sec Type B	Max Line Pressure Freeze adapts TCC Cmd On 1-2-3-4 (not hydraulically possible in 1st) Inhibit Max Gear in Hot Mode FATKO	Release switch is open 5.0 sec	500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Short the TCC Release Switch circuit to GND. TCC Release Switch: 9 K GND: 49 (BE)	

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Torque Converter Clutch Release Switch Circuit High Voltage	P0843	Open Release Switch, indicating TCC not applied when TCM is commanding TCC ON and TCC slip shows TCC is locked	Release switch open for 6.0 sec Count = 2	No P0716, P0717, P0741, P0742 P2764, P2763 DTCs No Engine Speed Malfunction 500 ≤ Engine RPM ≤ 6500 for 5.0 sec TCC commanded ON, or LockON -20 < Slip < 60 RPM 50 < Engine Torque < 1492 N-m 20° C. < Trans Temp < 130° C. 90 < TCC Pressure < 830 kPa	6.0 sec Type B	Force TCC off Inhibit TCC Solenoid Freeze adapts Inhibit Max Gear in Hot Mode FATKO	Release switch is closed 5.0 sec	Same as Fail	Open the TCC Release Switch: 9 (K)	
Line Pressure Control Solenoid System Performance	P0961	0V to 12 V Continuous Open, Short-to-Voltage, or Short-to-Ground in PCS or PCS circuit	Pressure Control Solenoid Short Bit = 1	System Voltage Low timer = 0 (No Calibrations for DTC P0961)	Type C-	Freeze adapts Max line pressure FATKO	Pressure Control Solenoid Short bit = 0	System Voltage Low timer > 0 System Voltage Malf is clear	Open PCS Hi or Lo Short PCS Hi or Lo to GND Short PCS Hi or Lo to IGN PCS Hi: 40 (AV) PCS Lo: 17 (U) GND: 49 (BE) IGN: 31 (AK)	
1-2 Shift Solenoid Control Circuit Low Voltage	P0973	0 – 12 V Continuous Short-to-Ground OR Open in Shift Solenoid A or SSA circuit (ODM)	SSA ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8.0 ≤ Ignition Voltage ≤ 18.0 V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type B	Freeze adapts Max line pressure No 3-2 shift > 52 kph FATKO	ODM = PCM commd state Pass count = 43 out of 50	None	Open the SSA Switch Short to GND SSA Circuit SSA: 2 (B) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
1-2 Shift Solenoid Control Circuit High Voltage	P0974	0 – 12 V Continuous Short-to-Power in Shift Solenoid A or SSA circuit (ODM)	SSA ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8.0 ≤ Ignition Voltage ≤ 18.0 V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type B	Freeze adapts Max line pressure FATKO	ODM = PCM commd state Pass count = 43 out of 50	None	Short Shift Sol A to IGN SSA: 2 (B) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
2-3 Shift Solenoid Control Circuit Low Voltage	P0976	0 – 12 V Continuous Short-to-Ground OR Open in Shift Solenoid B or SSB circuit (ODM)	SSB ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8.0 ≤ Ignition Voltage ≤ 18.0 V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type A	Freeze adapts Max line pressure Inhibit 1st Gear Inhibit 4th Gear Soft landing FATKO	ODM state = PCM commanded state Pass count = 43 out of 50	None	Open the SSB Switch Short to GND SSB Circuit SSB: 20 (X) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	
2-3 Shift Solenoid Control Circuit High Voltage	P0977	0 – 12 V Continuous Short-to-Power in Shift Solenoid B or SSB circuit (ODM)	SSB ODM feedback circuit state ≠ PCM commanded state	Ignition ON 8.0 ≤ Ignition Voltage ≤ 18.0 V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type A	Freeze adapts Inhibit 4th Gear Max line pressure FATKO	ODM state = PCM commanded state Pass count = 43 out of 50	None	Short Shift Sol B to IGN SSB: 20 (X) Bat: 32 (AL) IGN: 31 (AK) GND: 49 (BE)	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Transmission Fluid Pressure Position Switch Circuit	P1810	0 – 12 V Invalid state of Pressure Switch Assembly circuit	Illegal PSA range	500 ≤ Engine RPM ≤ 6500 for 5.0 sec	60.0 sec Type B	Freeze adapts Max line pressure FATKO	PSA not illegal 5.0 sec	Same as Fail	TFP: Invalid Range in Park Short Switch B & C to GND Switch B: 44 (AZ) Switch C: 33 (AM) Ground: 49 (BE)	
Maximum Adapt and Long Shift	P1811	Long shifts with upshift adapts at maximum	Shift time > 0.65 sec	Shift is adaptable Adapts at maximum value	2 counts Type C-	Freeze adapts Max line pressure FATKO	Considered passed every ignition cycle	None	Increased Slew Pressure to negatively until –200 kPa Modified was reached.	
Transmission Fluid Pressure Valve Position Switch Indicates Park/Neutral with Drive Ratio	P1816	0 – 12 V Drive Ratio with P/N Range	PSA = P/N 2.7528 ≤ Ratio ≤ 3.1672 1.5122 ≤ Ratio ≤ 1.7397 0.93 ≤ Ratio ≤ 1.07 0.6333 ≤ Ratio ≤ 0.7296	No P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757 P0973, P0974, P0976, P0977, or TPS DTCs (see below) 500 ≤ Engine RPM ≤ 6500 for 5.0 sec Output Speed ≥ 82* RPM 8% ≤ TPS ≤ 90.0% 50 ≤ Engine Torque ≤ 1492 N-m	6.0 sec Continuous Type B	Freeze adapts Max Line Pressure FATKO	PSA = Drive 2.7528 ≤ Ratio ≤ 3.1672 1.5122 ≤ Ratio ≤ 1.7397 0.93 ≤ Ratio ≤ 1.07 0.6333 ≤ Ratio ≤ 0.7296 4.0 sec	Same as Fail	TFP: P/N with Drive Ratio Switch B Open Switch C Normal Switch B: 44 (AZ) Switch C: 33 (AM)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
Transmission Fluid Pressure Valve Position Switch Indicates Drive without Drive Ratio	P1818	0 – 12 V Reverse Ratio with Park/Neutral OR Drive Range	PSA = P/N, or Drive And 1.9930 ≤ Ratio ≤ 2.2928	No P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0973, P0974, P0976, P0977 No TPS Malfunction No Engine Torque Malfunction 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec Output Speed ≥ 50* RPM TPS ≥ 3% 20 ≤ Engine Torque ≤ 1492 N-m Trans Temp > 0° C	3.0 sec Continuous Type B	Freeze adapts Max Line Pressure FATKO	PSA = Reverse **And** 1.993 ≤ Ratio ≤ 2.2928 1.5 sec	Same as Fail	TFP: Drive with Reverse Ratio Switch B Short to GND Switch C Open Switch B: 44 (AZ) Switch C: 33 (AM) Ground: 49 (BE)	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.
Ignition 1 Switch Circuit Low Voltage	P2534	Continuous Open/Short-to-Ground in TCM Ignition 1 Switch circuit	Every 25 msec, the FAIL counter is incremented if an open or a short to ground is detected	Engine running	Fail Count ≥ 200 out of 220 (Time ≈ 5 sec) Continuous Type A	Freeze adapts Max line pressure Immediate landing FATKO Force TCC off Inhibit TCC Solenoid	Fail Counts < 200 out of 220 Samples	None	Open the ignition input circuit. IGN: 31 (AK)	
Torque Converter Clutch Pressure Control Solenoid Control Circuit High Voltage	P2763	Continuous Short-to-Voltage in TCC PWM circuit	Every 100 msec, the FAIL counter is incremented if a short to voltage is detected	Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec TCC Commanded ON	Fail Count = 44 out of 50 (Time ≈ 4.4 sec) Continuous Type B	Force TCC off Max Line Pressure Freeze adapts Inhibit TCC solenoid Inhibit 4th in Hot Mode FATKO	Pass Count = 43 out of 50	Same as Fail	Short the TCC PWM solenoid circuit to voltage TCC: 1 (A) BAT: 32 (AL) IGN: 31 (AK)	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Torque Converter Clutch Pressure Control Solenoid Control Circuit Low Voltage	P2764	Continuous Open/Short-to-Ground in TCC PWM circuit or TCC PWM solenoid	Every 100 msec, the FAIL counter is incremented if an open or a short to ground is detected	Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec	Fail Count = 44 out of 50 (Time ≈ 4.4 sec) Continuous Type B	Force TCC off Inhibit TCC solenoid Inhibit 4th in Hot Mode Max Line Pressure Freeze adapts FATKO	Pass Count = 43 out of 50	Same as Fail	TCC PWM Solenoid Open TCC PWM Sol. To GND TCC: 1 (A) GND: 49 (BE)	
Controller Area Network Bus Communication Error	***U0073***	TCM cannot communicate on the CAN Bus	GetCNDD_b_BusOffSt() = TRUE	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	Fail Count = 5 out of 5 (Time ≈ 5 sec) Type B	Eng Spd Fault Action TCC Cmd On 1-2-3-4 (not hydraulically possible in 1st) Freeze adapts Max line pressure Throttle Position Fault Action FATKO Eng Coolant Fault Action Intake Air Fault Action Torque Management Inhibit	GetCNDD_b_BusOffSt() = FALSE Sample Count = 5 (Time ≈ 5 sec)	Same as Fail	STP MAY DAMAGE TCM! STG CAN HI(1): 7 (H) GND: 49 (BE)	
Lost Communications with Engine Control System	***U0100***	Communication between TCM & Engine Control System Lost	CAN Bus ECM Error flag = 1	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	Fail Count = 12 out of 12 (Time ≈ 12 sec) Type B	Eng Spd Fault Action TCC Cmd On 1-2-3-4 (not possible in 1st) Freeze adapts Max line pressure Throttle Position Fault Action FATKO Eng Coolant Fault Action Intake Air Fault Action Torque Management Inhibit	CAN Bus ECM Error flag = 0 Sample Count = 12 (Time ≈ 12 sec)	Same as Fail	Open the CAN LO signal switch. OPEN CAN LO(2): 37 (AS)	
Lost Communication with Traction Control System / Anti-Lock BrakeSystem (GMX001 ONLY GMT001 ONLY)	***U0121***	Communication between TCM & TCS/ABS System Lost	CAN Bus ABS Error Flag = 1	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	Fail Count = 12 out of 12 (Time ≈ 12 sec) Type C	None	CAN Bus ABS Error flag = 0 Sample Count = 12 (Time ≈ 12 sec)	Same as Fail	Open the CAN HI(1) and CAN LO(1) signal switches at exactly the same time. CAN HI(1): 7 (H) CAN LO(1): 6 (F)	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS	TEST SETUP PROCEDURE	COMMENTS
Lost Communication with BodyControl System (GMX001 ONLY GMT001 ONLY)	***U0140***	Communication between TCM & Body Control System Lost	CAN Bus BCM Error Flag = 1	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	Fail Count = 12 out of 12 (Time ≈ 12 sec) Type C	None	CAN Bus BCM Error flag = 0 Sample Count = 12 (Time ≈ 12 sec)	Same as Fail	Open the CAN HI(1) and CAN LO(1) signal switches at exactly the same time. CAN HI(1): 7 (H) CAN LO(1): 6 (F)	