SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Transmission Fluid Over Temperature	**P0218**	High transmission fluid temperature for long period of time	Trans Temp > 140° C.	8.0V ≤ Ignition Voltage ≤ 18.0V -39° C. ≤ Trans Temp ≤ 149° C. for 5 sec	60 sec Type C-	Freeze adapts FA Fault Active	Trans Temp ≤ 135° C. for 5.0 sec	Same as fail
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	System Voltage≤ 11V for 10 counts out of 12 counts Type C-	None	System Voltage > 11V For less then 10 counts out of 12 counts	Same as fail
System Voltage High	**P0563**	Measured voltage at the TCM is above an acceptable level	System Voltage ≥18V	None	System Voltage ≥18V for 10 counts out of 12 counts Type C-	None	System Voltage < 18V For less then 10 counts out of 12 counts	None
Analog Brake Switch - Brake Not Applied	**P0572**	500 – 6500 RPM Mismatch between serial data and TCM	TCM indicates Brake State = OFF Serial Data indicates Brake State = ON	No BAS Faults for ≥ 4 sec THEN Must see a serial data Brake State = OFF to ON transition	2.0 sec **THEN** Fail Count ≥ 170 out of 230 counts Type C-	None FATKO Fault Active This Key On	PCM indicates Brake State = ON	Sample Counter < 170 counts out of 230 counts
Analog Brake Switch – Brake Applied	**P0573**	500 – 6500 RPM Mismatch between serial data and TCM	TCM indicates Brake State = ON Serial Data indicates Brake State = OFF	No BAS Faults for ≥ 4 sec THEN Must see a serial data Brake State = ON to OFF transition	2.0 sec **THEN** Fail Count Count ≥ 170 out of 230 counts Type C-	None	PCM indicates Brake State = OFF	Sample Counter < 170 counts out of 230 counts

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Transmission Control Module Read Only Memory	**P0601**	EPROM/Flash memory corruption (Incorrect program/calibrations checksum)	ROM fail count $\geq$ 5	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Soft landing FATKO Fault Active This Key On	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 Fault Active This Key On	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 Fault Active This Key On	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 $\geq$ 5	None	Immediate Type A	Freeze adapts Max line pressure TCC forced off Inhibit TCC solenoid Soft landing FATKO Fault Active This Key On	RAM read/write pass (all words) RAM fail count < 5	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 Fault Active This Key On	TCM Non–Volatile Memory Incorrect flag = 0	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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	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 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 Fault Active	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.

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 Calculate default transmission Default TFT = f(ECT, MAT, Run time) FA Fault Active	Raw TTS ≥ 44.19 ohm 10.0 sec	8V ≤ Ignition Voltage ≤ 18V for 5 sec
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 ≥ 70 RPM for 200 sec cumul. TCC Slip ≥ 120 RPM for 200 sec cumul.	80.0 sec Type C-	Freeze adapts Calculate default transmission Default TFT = f(ECT, MAT, Run time) FA Fault Active	Raw TTS < 171860 ohm 2.0 sec	8V ≤ Ignition Voltage ≤ 18V for 5 sec	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 Fault Active This Key On	Input Speed ≥ 500 RPM Input Speed Change ≤ 500 RPM 3.0 sec	No loss of input speed signal
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 Fault Active This Key On	Input Speed > 500 RPM 3.0 sec	None

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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
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 ≤ 70 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 Calculate VSS OSS = f(ISS, RPM, gear) FATKO Fault Active This Key On	Output speed > 175 RPM 3.0 sec	None	* This is multiplied by the final drive (3.05) when this parameter is displayed on a scan tool.

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Output Speed Sensor Circuit Intermittent	**P0723**	0 - 6500 RPM Loss of vehicle speed when vehicle is moving	Drop in Output Speed > 420 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, ≤ 175 RPM for 2.0 sec ΔISS ≤ 500 RPM for 2.0 sec Output Speed ≥ 350 RPM for 2.0 sec	3.25 sec Type B	Freeze adapts Max line pressure Calculate VSS OSS = f(ISS, RPM, gear) FATKO Fault Active This Key On	ΔOSS ≤ 175 RPM in Drive ranges 3.0 sec OSS ≥ 164* RPM	None	* 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

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Torque Converter Clutch System - Stuck Off	**P0741**	High TCC slip with TCC commanded on	TCC slip $\geq$ 175 RPM Count = 6	No P0716, P0717, P0722, P0723, P0742, P0842, P0843 No TPS malfunction No Engine Torque and Speed malfunctions 8V $\leq$ Ignition Voltage $\leq$ 18V 500 $\leq$ Engine RPM $\leq$ 6500 for 5.0 sec 50 $\leq$ Engine Torque $\leq$ 1492 N-m 8.0% $\leq$ TPS $\leq$ 90% 20° C. $\leq$ Trans Temp $\leq$ 130° C. TCC Capacity $\geq$ 65% for 5.0 sec Commanded Gear > 1 TCC Mode = On or Locked On	5 sec Type B	Force TCC off Inhibit TCC Solenoid Freeze adapts Inhibit Max Gear if in Hot Mode FATKO Fault Active This Key On	-20 $\leq$ TCC Slip $\leq$ 55 RPM 4 sec	Same as Fail Except no TCC capacity check

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 1.6780 ≤ Ratio ≤ .6650	6 sec Type B	Alt Coast Shift Pattern Max Line Pressure Freeze adapts Force TCC On 1-2-3-4 (not hydraulically possible in 1st) TUTD InhAction FATKO Fault Active This Key On	150 rpm ≤ TCC Slip Speed ≤ 1500 rpm 5 sec	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
1-2 Shift Solenoid Valve Performance - No First or Fourth Gear	**P0751**	2-2-3-3 shift pattern	Fail Case 1 Commanded 1st 1.480 < Ratio < 1.650 1.5sec. after gear change Fail Case 2 Commanded 4th 0.95 < Ratio < 1.05 1.5 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. 150 ≤ Input Speed ≤ 6500 RPM 50 ≤ Engine Torque ≤ 1492 N-m Output Speed ≥ 53 RPM	Fail Case 1 2.0 sec Fail Case 2 3.0 sec Type B	Alt Coast Shift Pattern Freeze adapts Max line pressure TUTD InhAction FATKO Fault Active This Key On	Pass Case 1 1st gear commanded 2.717 < ratio < 3.125 0.9 sec . Pass Case 4 4th gear commanded 0.6560 < ratio < 0.7540 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	* 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 2.7750 < Ratio < 3.0870 1.5 sec. after gear change Fail Case 4 Commanded 3rd 0.670 < Ratio < 0.740 1.5 sec. after gear change Count = 2	See P0751	Fail Case 3 2.0 sec Fail Case 4 2.0 sec Type B	Alt Coast Shift Pattern Freeze adapts Max line pressure 3-2 downshift not allowed > 52 kph TUTD InhAction FATKO Fault Active This Key On	Pass Case 2 2nd gear commanded 1.4600 < ratio < 1.6801 0.9 sec . Pass Case 3 3rd gear commanded 0.93 < ratio < 1.07 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m	

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 ≥ 53* RPM Commanded 1st 0.65 ≤ Ratio ≤ 1.87 1.5 sec. after gear change Fail Case 6 Commanded 2nd 0.95 ≤ Ratio ≤ 1.05 1.5 sec. after gear change Count = 2	See P0751	Fail Case 5 3.0 sec Fail Case 6 3.0 sec Type A	Alt Coast Shift Pattern Freeze adapts Inhibit 1st Gear Max line pressure TUTD InhAction FATKO Fault Active This Key On	Pass Case 1 1st gear commd 2.7170 < Ratio < 3.125 0.9 sec Pass Case 2 2nd gear commd 1.4600 < Ratio < 1.6801 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m
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 1.4800 < Ratio < 1.6500 1.5 sec. after gear change Fail Case 8 0 ≤ Engine Torque ≤ 1492 N-m Commanded 4th 1.6500 < Ratio < 3.0870 1.5 sec. after gear change Count = 2	See P0751	Fail Case 7 2.0 sec Fail Case 8 2.0 sec Type A	Alt Coast Shift Pattern Freeze adapts Max line pressure Inhibit 4th Gear TUTD InhAction FATKO Fault Active This Key On	Pass Case 3 3rd gear commd 0.9301 < Ratio < 1.07 0.9 sec Pass Case 4 4th gear commd 0.6560 < Ratio < 0.7540 0.9 sec	50 ≤ Engine Torque ≤ 1492 N-m
Upshift Switch Circuit	**P0815**	Detects a Upshift Switch Circuit Fault	Fail Case 1 Gear Range = Park Tap Switch position = Up for 1 second Fail Case 2 Gear Range = D4 Tap Switch position = Up For 600 seconds DTC will set when both Fail Cases are true	500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8V ≤ Ignition Voltage ≤ 18V P0826 not active Time since last range change ≥ 6 seconds	Fail Case 1 ≥ 1Second Fail Case 2 ≥600 seconds Type C	Alt Coast Shift Pattern Inhibit TUTD FA Fault Active	Tap Switch ≠ Up ≥ 10 seconds	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Downshift Switch Circuit	**P0816**	Detects a Downshift Switch Circuit Fault	Fail Case 1 Gear Range = Park Tap Switch position = Down for 1 second Fail Case 2 Gear Range = D4 Tap Switch position = Down For 600 seconds DTC will set when both Fail Cases are true	500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8V ≤ Ignition Voltage ≤ 18V P0826 not active Time since last range change ≥ 6 seconds	Fail Case 1 ≥ 1Second Fail Case 2 ≥600 seconds Type C	Alt Coast Shift Pattern Inhibit TUTD FA Fault Active	Tap Switch ≠ Up ≥ 10 seconds	Same as Fail
Up/Downshift Switch Circuit	**P0826**	Detects an Open, Short to Ground, or Short to Power in the TapUp/TapDown circuit.	Tap Switch = Invalid	500 ≤ Engine RPM ≤ 6500 for 5.0 sec 8V ≤ Ignition Voltage ≤ 18V P0826 not active Time since last range change ≥ 6 seconds	5 Seconds Type C	Alt Coast Shift Pattern Inhibit TUTD FA Fault Active	Tap Switch ≠ Invalid for 4 seconds	Same as Fail
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 (grounding) for 6.0 sec 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 80 RPM < Slip Speed 50 < Engine Torque < 1492 N-m 20° C. < Trans Temp < 130° C. 16 kph < VSS < 511 kph	10.0 sec Type B	Alt Coast Shift Pattern Max Line Pressure Freeze adapts Force TCC On 1-2-3-4 (not hydraulically possible in 1st) Inhibit Max Gear in Hot Mode Inhibit TUTD FATKO Fault Active This Key On	Release switch is open 5.0 sec	500 ≤ Engine RPM ≤ 6500 for 5.0 sec

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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. 150 < TCC Pressure < 830 kPa	6.0 sec Type B	Force TCC off Inhibit TCC Solenoid Freeze adapts Inhibit Max Gear in Hot Mode FATKO Fault Active This Key On	Release switch is closed 5.0 sec	Same as Fail
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)	4 seconds Type C-	Freeze adapts Max line pressure FATKO Fault Active This Key On	Pressure Control Solenoid Short bit = 0	System Voltage Low timer > 0 System Voltage Malf is clear
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	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type B	Alt Coast Shift Pattern Freeze adapts Max line pressure No 3-2 shift > 52 kph Inhibit TUTD FATKO Fault Active This Key On	ODM = PCM commd state Pass count = 43 out of 50	None

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type B	Alt Coast Shift Pattern Freeze adapts Max line pressure Inhibit TUTD FATKO Fault Active This Key On	ODM = PCM commd state Pass count = 43 out of 50	None
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	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type A	Alt Coast Shift Pattern Freeze adapts Max line pressure Inhibit 1st Gear Inhibit 4th Gear Soft landing Inhibit TUTD FATKO Fault Active This Key On	ODM state = PCM commanded state Pass count = 43 out of 50	None
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	Fail count = 44 out of 50 (Time ≈ 4.4 sec) Type A	Alt Coast Shift Pattern Freeze adapts Inhibit 4th Gear Max line pressure Inhibit TUTD FATKO Fault Active This Key On	ODM state = PCM commanded state Pass count = 43 out of 50	None

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
1-2 Shift Valve Performance	**P1750**	Detects a 1st gear ratio when 2nd gear is commanded. (Used to detect a stuck 1-2 shift valve)	3.25 seconds	500 ≤ Engine RPM ≤ 6500 for 5.0 sec TPS ≥ 8.0% Vehicle Speed ≥ 24 kph Trans Temp ≥ 20 °C No Input Speed Sesor DTC 50 < Engine Torque < 1492 N-m 2.870 ≤ Ratio ≤ 2.97 2nd gear commanded ≤ 2 seconds	Type C	Alt Coast Shift Pattern Freeze adapts Max line pressure Assume D4 Shift Pattern Inhibit TUTD Inhibit 3-2 downshift FA Fault Active	2nd gear commanded 1.52 ≤ Ratio ≤ 1.62 1 second	Same as Fail
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 Fault Active This Key On	Considered passed every ignition cycle	None
Internal Mode Switch (IMS) A Circuit Low Voltage	**P1820**	Detects IMS circuit A voltage being continuously low	IMS RANGE = Transitional 1 for ≥ 8 seconds	No Engine Torque Malf Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec IMS = Park/Neutral ≥ 1.0 seconds 50 < Engine Torque < 1492 N-m	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS RANGE ≠ Transitional 1 for ≥ 4 seconds	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Internal Mode Switch (IMS) B Circuit High Voltage	**P1822**	Detects IMS circuit B voltage being continuously high	IMS RANGE = Transitional 13 for ≥ 8 seconds	No Engine Torque Malf Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec IMS = Park/Neutral ≥ 1.0 seconds 50 < Engine Torque < 1492 N-m	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS RANGE ≠ Transitional 13 for ≥ 4 seconds	Same as Fail
Internal Mode Switch (IMS) P Circuit Low Voltage	**P1823**	Detects IMS circuit P voltage being continuously LOW	IMS RANGE = Transitional 8 for ≥ 8 seconds	No Engine Torque Malf Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec IMS = Park/Neutral ≥ 1.0 seconds 50 < Engine Torque < 1492 N-m	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS RANGE ≠ Transitional 8 for ≥ 4 seconds	Same as Fail
Internal Mode Switch (IMS) Invalid Range	**P1825**	Detects IMS range = Invalid	IMS RANGE = INVALID for ≥ 8 seconds	No Engine Torque Malf Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec IMS = Park/Neutral ≥ 1.0 seconds 50 < Engine Torque < 1492 N-m	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS RANGE ≠ INVALID for ≥ 4 seconds	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Internal Mode Switch (IMS) C Circuit High Voltage	**P1826**	Detects IMS circuit C voltage being continuously high	IMS Circuit C High for ≥ 8 seconds	No Engine Torque Malf No VSS DTC DTC P1826 has not passed Ignition ON 8V ≤ Ignition Voltage ≤ 18V 500 ≤ Engine RPM ≤ 6500 for 5.0 sec Vehicle Speed ≥ 16 kph Gear Ratio = 1st, 2nd, 3rd, or 4th IMS = Park/Neutral ≥ 1.0 seconds 50 < Engine Torque < 1492 N-m	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS circuit C voltage being continuously high ≥ 4 seconds	Same as Fail
Start In Wrong Range	**P1915**	Detects an IMS Range other than Park/Neutral during engine start up	IMS Range ≠ Park/Neutral ≥ 2 seconds	8V ≤ Ignition Voltage ≤ 18V Engine Speed > 560 rpm Crank Request has been requested ≤ 409 second	1 count Type B-	Alt Coast Shift Pattern Max Line Pressure Assume D4 Shift Pattern Freeze Adapts Inhibit TUTD FATKO Fault Active This Key On	Pass Count = 1 IMS Range = Park/Neutral ≥ .25 seconds	Same as Fail
IgnSwitch Run Crank Circuit	**P2534**	Detects a continuous open in TCM Ignition 1 Switch	Every 25 msec, the FAIL counter is incremented if an open is detected	Engine Running	Fail Counts >/= 200 out of 220 counts Type A	Freeze adapts Max line pressure Immediate Landing FATKO Fault Active This Key On	Fail Counts < 200 out of 220 counts	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
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 Fault Active This Key On	Pass Count = 43 out of 50	Same as Fail
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 Fault Active This Key On	Pass Count = 43 out of 50	Same as Fail
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	1.0 sec Type B	Eng Spd Fault Action Force TCC On 1-2-3-4 (not hydraulically possible in 1st) Freeze adapts Max line pressure Throttle Position Fault Action FATKO Fault Active This Key On	GetCNDD_b_BusOffSt() = FALSE 1.0 sec	Same as Fail

SENSED PARAMETER	FAULT CODE	ACCEPTABLE OPERATING RANGE AND	PRIMARY MALF DETECTION PARAMETERS	SECONDARY PARAMETERS AND CONDITIONS	MONITORING TIME & DTC TYPE	DEFAULT ACTIONS	PRIMARY MALF PASS CONDITION	SECONDARY PASS CONDITIONS
Lost Communications with Engine Control System	**U0100**	Communication between TCM & Engine Control System Lost	CAN Bus ECM Error flag = 1 1.0 Sec.	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	1.0 sec Type B	Eng Spd Fault Action Force TCC On 1-2-3-4 (not hydraulically possible in 1st) Freeze adapts Max line pressure Throttle Position Fault Action FATKO Fault Active This Key On Coolant Temp Fault Action Inhibit Torque Management Action Intake Temp Fault Action	CAN Bus ECM Error flag = 0 for 1.0 sec	Same as Fail
Lost Communication with Traction Control System / Anti-Lock BrakeSystem	**U0121**	Communication between TCM & TCS/ABS System Lost	CAN Bus ABS Error Flag = 1 1.0 Sec	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	1.0 sec Type C	None	CAN Bus ABS Error flag = 0 for 1.0 sec	Same as Fail
Lost Communication with BodyControl System	**U0140**	Communication between TCM & Body Control System Lost	CAN Bus BCM Error Flag = 1 1.0 Sec	Ignition ON 8V ≤ Ignition Voltage ≤ 18V for 5 seconds	1.0 sec Type C	None	CAN Bus BCM Error flag = 0 for 1.0 sec	Same as Fail