16 OBDG07A TCM Summary Tables (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE Boolean			>= 5 Fail Counts	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0601 ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	= TRUE Boolean			Runs Continously	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0603 ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown	= TRUE Boolean			Runs Continously	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P062F ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 142.10156 ºC			>= 5 Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature Ignition Voltage	>= 50 ºC >= 18 Volts			>= 2 Fail Time (Sec)	
			Note: either fail case can set the DTC					
					Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time P0634 Status is	>= 8.59961 Volts <= 31.999 Volts >= 0 ºC <= 170 ºC >= 0.25 Sec ≠ Test Failed This Key On or Fault Active	
			Disable Conditions:	**MIL not Illuminated for DTC's:**		TCM: None ECM: None		
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean			>= 4 Fail Counts out of 6 Sample Counts	One Trip
					P0658 Status is not High Side Driver 1 On	= Test Failed This Key On or Fault Active = True Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 19 in supporting documents °C				Two Trips
			If TCM substrate temp to power up temp Δ	> Refer to Table 20 in supporting documents °C				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal Valid Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= TRUE Boolean = TRUE Boolean >= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e_C3_RatlEnbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P0667 Status is	≠	Test Failed This Key On or Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= -249 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= -249 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0668 Status is	≠ Test Failed This Key On or Fault Active		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= 249 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= 249 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0669 Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ If transmission oil temp to power up temp Δ	> Refer to Table 20 in supporting documents °C > Refer to Table 18 in supporting documents °C				Two Trips
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal Valid Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	= TRUE Boolean = TRUE Boolean >= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e_C3_RatlEnbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P06AC Status is	≠	Test Failed This Key On or Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P06AD Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Estimated Motor Power Loss Fault	= FALSE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P06AE Status is	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec ≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ If transmission oil temp to power up temp Δ	> Refer to Table 19 in supporting documents ºC > Refer to Table 18 in supporting documents ºC				Two Trips
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.						Out of	3750	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						>=	700	Pass Counts (100ms loop)	
									Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean				
					Accelerator Position Signal Valid	=	TRUE	Boolean				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.999	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Brake torque active	=	FALSE					
					Below describes the brake torque entry criteria							
					Engine Torque	>=	90	N*m				
					Throttle	>=	30.0003	Pct				
					Transmission Input Speed	<=	200	RPM				
					Vehicle Speed	<=	8	Kph				
					Transmission Range	≠	Park					
					Transmission Range	≠	Neutral					
					PTO	=	Not Active					
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec				
					Below describes the brake torque exit criteria							
					Brake torque entry criteria	=	Not Met					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Clutch hydraulic pressure ≠ Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active = CeTFTD_e_C3_RatlEnbl			
					The above clutch pressure is greater than this value for one loop >= 600 kpa			
					Set Brake Torque Active FALSE if above conditions are met for: >= 20 Sec			
					P0711 Status is ≠ Test Failed This Key On or Fault Active			
					Disable Conditions:	**MIL not Illuminated for DTC's:** TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= -74 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= -74 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0712 Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		
			Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= 174 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= 174 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0713 Status is	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec ≠ Test Failed This Key On or Fault Active		
			Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 900 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Engine Torque is Engine Torque is Engine Speed Engine Speed Engine Speed is within the allowable limits for Vehicle Speed is Throttle Position is	>= 0 N*m <= 8191.88 N*m >= 400 RPM <= 7500 RPM >= 5 Sec >= 10 Kph >= 0 Pct		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.

					Transmission Input Speed is	>= 0 RPM		
					The previous requirement has been satisfied for	>= 0 Sec		

					The change (loop to loop) in transmission input speed is	< 8191.88 RPM/Loop		
					The previous requirement has been satisfied for	>= 0 Sec		
					Throttle Position Signal Valid	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					P0716 Status is not	= Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0717, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	< 33 RPM			>= 4.5 Fail Time (Sec)	One Trip
			Fail Case 2 When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	< 653.125 RPM	Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Engine Torque is	>= 120 N*m		
					Engine Torque is	<= 8191.88 N*m		
					Vehicle Speed	>= 12 Kph		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Ignition Voltage	>=	8.59961	Volts		
					Ignition Voltage	<=	31.999	Volts		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					P0717 Status is not	=	Test Failed This Key On or Fault Active			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: P0101, P0102, P0103				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35 RPM					>= 4.5 Fail Time (Sec)	One Trip
					P0722 Status is not	=	Test Failed This Key On or Fault Active			
					Transmission Input Speed Check	=	TRUE	Boolean		
					Engine Torque Check	=	TRUE	Boolean		
					Throttle Position	>=	8.00018	Pct		
					Transmission Fluid Temperature	>=	-40	ºC		
					Disable this DTC if the PTO is active	=	1	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage is	>=	8.59961	Volts		
					Ignition Voltage is	<=	31.999	Volts		
					Engine Speed is	>=	400	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE					
					Engine Torque Condition 1					
					Range Shift Status	≠	Range shift completed	ENUM		
					OR					
					Transmission Range is	=	Park or Neutral			
					Engine Torque is	>=	8191.75	N*m		
					Engine Torque is	<=	8191.75	N*m		
					Engine Torque Condition 2					
					Engine Torque is	>=	54	N*m		
					Engine Torque is	<=	8191.75	N*m		

					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE					
					TIS Check Condition 1					
					Transmission Input Speed is	>=	653.125	RPM		
					Transmission Input Speed is	<=	5350	RPM		
					TIS Check Condition 2					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Engine Speed without the brake applied is	>= 3200 RPM		
					Engine Speed with the brake applied is	>= 3200 RPM		
					Engine Speed is	<= 8191.88 RPM		
					Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Powertrain Brake Pedal is Valid	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed	>= 105 RPM			>= 0 Enable Time (Sec)	One Trip
			Output Speed Delta	<= 8192 RPM			>= 0 Enable Time (Sec)	
			Output Speed Drop	> 650 RPM			>= 1.5 Output Speed Drop Recovery Fail Time (Sec)	
			AND					
			Transmission Range is	= Driven range (R,D)				
					---------- Range_Disable OR ----------	= FALSE See Below		
					Neutral_Range_Enable And	= TRUE See Below		
					Neutral_Speed_Enable are TRUE concurrently	= TRUE See Below		
					---------- Transmission_Range_Enable	= TRUE See Below		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Transmission_Input_Speed_Enable	=	TRUE	See Below		
					No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds		
					P0723 Status is not	=	Test Failed This Key On or Fault Active			
					Disable this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage is	>=	8.59961	Volts		
					Ignition Voltage is	<=	31.999	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta	<=	4095.88	RPM		
					Raw Input Speed	>=	500	RPM		
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied					
					Input Speed	=	0	RPM		
					A Single Power Supply is used for all speed sensors	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.

					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/ Neutral Transitional	ENUM		
					Transmission Range is	=	Neutral/ Drive Transitional	ENUM		
					And when a drop occurs Loop to Loop Drop of Transmission Output Speed is	>	650	RPM		

					Range_Disable is TRUE when any of the next three conditions are TRUE					
					Transmission Range is	=	Park	ENUM		
					Transmission Range is	=	Park/Reverse Transitional	ENUM		
					Input Clutch is not	=	ON (Fully Applied)	ENUM		

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	1.5	Seconds		
					Transmission Output Speed	>	130	RPM		
					The loop to loop change of the Transmission Output Speed is	<	20	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					The loop to loop change of the Transmission Output Speed is ----------	>	-10	RPM		
					Transmission_Range_Enable is TRUE when one of the next six conditions is TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/ Neutral Transitional	ENUM		
					Transmission Range is	=	Neutral/ Drive Transitional	ENUM		
					Time since a driven range (R,D) has been selected	>=	Table Based Time Please Refer to Table 21 in supporting documents	Sec		
					Transmission Output Speed Sensor Raw Speed	>=	500	RPM		
					Output Speed when a fault was detected	>=	500	RPM		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 750 Kpa			>= 2 Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= Refer to Table 1 in Supporting Documents RPM			>= 5 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>= 5 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 2 TCC Stuck Off Fail Counter	
					TCC Mode	= On or Lock		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 8191.88 N*m		
					Throttle Position Lo	>= 8.00018 Pct		
					Throttle Position Hi	<= 99.9985 Pct		
					2nd Gear Ratio Lo	>= 2.19482 Ratio		
					2nd Gear Ratio High	<= 2.52515 Ratio		
					3rd Gear Ratio Lo	>= 1.42285 Ratio		
					3rd Gear Ratio High	<= 1.63708 Ratio		
					4th Gear Ratio Lo	>= 1.06946 Ratio		
					4th Gear Ratio High	<= 1.23047 Ratio		
					5th Gear Ratio Lo	>= 0.79053 Ratio		
					5th Gear Ratio Hi	<= 0.90955 Ratio		
					6th Gear Ratio Lo	>= 0.62305 Ratio		
					6th Gear Ratio High	<= 0.71692 Ratio		
					Transmission Fluid Temperature Lo	>= -6.6563 ºC		
					Transmission Fluid Temperature Hi	<= 130 ºC		
					PTO Not Active	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Throttle Position Signal Valid	= TRUE Boolean		
					Dynamic Mode	= FALSE Boolean		
					P0741 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -50 RPM				One Trip
			TCC Slip Speed	<= 13 RPM				
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 1.5 Fail Time (Sec) >= 6 Fail Counter	
					TCC Mode	= Off		
					Enable test if Cmnd Gear = 1stFW and value true	= 1 Boolean		
					Enable test if Cmnd Gear = 2nd and value true	= 0 Boolean		
					Engine Speed Hi Engine Speed Lo Vehicle Speed HI	<= 6000 RPM >= 500 RPM <= 511 KPH		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Vehicle Speed Lo	>=	1	KPH		
					Engine Torque Hi	<=	8191.88	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	18	ºC		
					Throttle Position Hyst High	>=	5.00031	Pct		
					AND					
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position	>=	2.00043	Pct		
					Disable for Throttle Position	>=	75	Pct		
					Disable if PTO active and value true	=	1	Boolean		
					Disable if in D1 and value true	=	1	Boolean		
					Disable if in D2 and value true	=	1	Boolean		
					Disable if in D3 and value true	=	1	Boolean		
					Disable if in D4 and value true	=	1	Boolean		
					Disable if in D5 and value true	=	1	Boolean		
					Disable if in MUMD and value true	=	1	Boolean		
					Disable if in TUTD and value true	=	1	Boolean		
					4 Wheel Drive Low Active	=	FALSE	Boolean		
					Disable if Air Purge active and value false	=	0	Boolean		
					RVT Diagnostic Active	=	FALSE	Boolean		
					Ignition Voltage	>=	8.59961	V		
					Ignition Voltage	<=	31.999	V		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P0742 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 400 RPM				Two Trips
			Commanded Gear	= 1st Lock rpm				
			Gear Ratio	<= 1.2095947			>= 0.2 Fail Tmr	
			Gear Ratio	>= 1.0943604			= 5 Fail Counts	
			If the above parameters are true				≠ 0 Neutral Timer (Sec)	
							>= 0.3 Fail Timer (Sec)	
							>= 8 Counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Transmission Fluid Temperature	>=	-6.6563	ºC		
					Range Shift State	=	Range Shift Completed	ENUM		
					TPS OR	>=	0.50049	%		
					Output Speed	>=	67	RPM		
					Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
					Engine Torque Signal Valid from ECM, High side driver is enabled	=	TRUE	Boolean		
					High-Side Driver is Enabled	=	TRUE	Boolean		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 400 RPM				One Trip
			Commanded Gear	= 3rd Gear				
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On	= TRUE Boolean				
			If the above parameters are true				>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	
			Command 4th Gear once Output Shaft Speed	<= 400 RPM				
			If Gear Ratio	>= 3.8256836				
			And Gear Ratio	<= 4.2283936				
							>= 1.5 Fail Timer (Sec)	
							>= 5 Counts	
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Output Speed OR	>= 67 RPM		
					TPS	>= 0.50049 %		
					Range Shift State	= Range Shift Completed ENUM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Transmission Fluid Temperature	>= -6.6563 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear Gear Box Slip Intrusive Shift to 2nd Commanded Gear Previous Gear Ratio Gear Ratio If the above parameters are true	= 1st Locked >= 400 RPM = 1st Locked Gear <= 2.4821777 >= 2.2458496			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec) >= 1 sec >= 3 counts	One Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Output Speed	>= 67 RPM		
					OR			
					TPS	>= 0.50049 %		
					Range Shift State	= Range Shift Completed ENUM		
					Transmission Fluid Temperature	>= -6.6563 ºC		
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear Commanded Gear Gearbox Slip	= 3rd Gear >= 400 RPM				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	
			Command 4th Gear once Output Shaft Speed	<= 400 RPM				
			If Gear Ratio	>= 1.0943604				
			And Gear Ratio	<= 1.2095947				
							>= 3 Fail Timer (Sec)	
			It the above condiations are true, Increment 3rd gear fail counter				>= 3 3rd Gear Fail Counts	
			and C35R Fail counter				>= 14 or 3-5R Clutch Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					
			Commanded Gear	= 5th Gear				
			Gearbox Slip	>= 400 Rpm			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Test: Command 6th Gear					
			If attained Gear=6th gear Time	>= Please refer to Table 3 in supporting documents Shift Time (Sec)				
			It the above condiations are true, Increment 5th gear fail counter				>= 3 5th Gear Fail Counts	
			and C35R Fail counter				>= 14 or 3-5R Clutch Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					IMS fault pending indication	=	FALSE	Boolean		
					TPS validity flag	=	TRUE	Boolean		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT A OR B	>=	67	RPM		
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	-6.6563	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= 400 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 1.6086426 >= 1.4554443			>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	One Trip
			Fail Case 2 Case: Steady State 2nd gear Max Delta Output Speed Hysteresis	 >= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.6086426				
			Gear Ratio	>= 1.4554443				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 2nd Gear or >= 3 Total Fail Counts	
			Fail Case 3 Case: Steady State 4th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.8946533				
			Gear Ratio	>= 0.8094482				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 4th Gear or >= 3 Total Fail Counts	
			Fail Case 4 Case: Steady State 6th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 0.8946533			>= 1.1 Fail Timer (Sec)	
			Gear Ratio	>= 0.8094482			>= 3 counts	
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 6th Gear or >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					A OR B (A) Output speed enable	>= 67 Nm		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					(B) Accelerator Pedal enable >= 0.50049 Nm Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec if Attained Gear=1st FW Accelerator Pedal enable >= 5.00031 Pct if Attained Gear=1st FW Engine Torque Enable >= 5 Nm if Attained Gear=1st FW Engine Torque Enable <= 8191.88 Nm Transmission Fluid Temperature >= -6.6563 ºC Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean **Disable Conditions:** **MIL not Illuminated for DTC's:** TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE Boolean = Maximum pressurized				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:					
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (3-4 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Throttle)	>= 0.2998047 Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (5-6 shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 >= sec	
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers					
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				>= 3 3rd gear fail counts OR	
			5th gear fail counter				>= 3 5th gear fail counts OR	
			Total fail counter				>= 5 total fail counts	
					TUT Enable temperature	>= -6.6563 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st Boolean		
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT	>= 100 RPM		
					input speed limit for TUT	>= 150 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					HSD Enabled	= TRUE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear					One Trip
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					
			If attained Gear ≠5th for time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			if the above conditions have been met Increment 4th Gear Fail Counter				>= 3 4th Gear Fail Count	
			and C456 Fail Counters				OR >= 14 C456 Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 6th gear If attained Gear ≠ 6th for time	>= Please Refer to Table 3 in Supporting Documents Shift Time (Sec)				
			if the above conditions have been met Increment 5th Gear Fail Counter				>= 3 5th Gear Fail Count	
			and C456 Fail Counters				OR >= 14 C456 Fail Counts	
			Fail Case 3 Case: Steady State 6th Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear If attained Gear ≠ 5th for time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			if the above conditions have been met Increment 6th Gear Fail Counter and C456 Fail Counter				>= 3 6th Gear Fail Count	
			and C456 Fail Counter				OR >= 14 C456 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					TPS validity flag	=	TRUE	Boolean		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	67	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	-6.6563	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					OutputSpeed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= 400 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 1.2095947 >= 1.0943604			>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	One Trip
			Fail Case 2 Case Steady State 2nd Max Delta Output Speed Hysteresis	 >= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.2095947				
			Gear Ratio	>= 1.0943604				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 2nd Gear or >= 3 Total fail counts	
			Fail Case 3 Case Steady State 3rd					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.2095947				
			Gear Ratio	>= 1.0943604				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 3rd Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					A OR B (A) Output speed enable	>= 67 Nm		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.6563	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE Boolean = Maximum pressurized						One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (4-1 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers						Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	>=	sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter									
			4th gear fail counter							>= 3	Fail Counter From 4th Gear OR	
			5th gear fail counter							>= 3	Fail Counter From 5th Gear OR	
			6th gear fail counter							>= 3	Fail Counter From 6th Gear OR	
			Total fail counter							>= 5	Total Fail Counter	
					TUT Enable temperature	>=	-6.6563	ºC				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					IMS Fault Pending = FALSE Boolean Service Fast Learn Mode = FALSE Boolean HSD Enabled = TRUE Boolean **Disable Conditions:** **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled Tap Up Switch Stuck in the Up Position in Range 2 Enabled Tap Up Switch Stuck in the Up Position in Range 3 Enabled Tap Up Switch Stuck in the Up Position in Range 4 Enabled Tap Up Switch Stuck in the Up Position in Range 5 Enabled Tap Up Switch Stuck in the Up Position in Range 6 Enabled Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 1 Boolean = 1 Boolean				Special No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions	Time Required			Mil Illum.
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean						
			Tap Up Switch ON	=	TRUE	Boolean			>=	1	Fail Time (Sec)	
			Fail Case 2 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0	Boolean						
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	0	Boolean						
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean						
			Tap Up Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	=	TRUE	Boolean			>=	600	Fail Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Time Since Last Range Change >= 1 Enable Time (Sec) Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0815 Status is ≠ Test Failed This Key On or Fault Active			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Range 2 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Range 3 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Range 4 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Range 5 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Range 6 Enabled = 0 Boolean					Special No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions	Time Required			Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean			>=	1	sec	
			Fail Case 2 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	=	TRUE	Boolean			>=	600	sec	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No MIL
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0826 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P1761 ECM: None		
Variable Bleed Solenoid (VBS)	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.5 Fail Time (Sec) out of 1.875 Sample Time (Sec)	One Trip
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0966 Status is not = Test Failed This Key On or Fault Active			
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage >= 8.59961 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0967 Status is not = Test Failed This Key On or Fault Active			
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0970 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.59961 Volts			
					Ignition Voltage <= 31.999 Volts			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0971 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.59961 Volts			
					Ignition Voltage <= 31.999 Volts			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	One Trip
					P0973 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	Two Trips
					P0974 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High (Mode 3 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Sec out of 1.5 Sec	One Trip
					P0977 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	= Test Failed This Key On or Fault Active >= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec	
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer (Sec)	Special No MIL
					Tap Up Tap Down Message Health Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= TRUE Boolean >= 400 RPM <= 7500 RPM >= 5 Sec	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case 1					One Trip
			Current range	= Transition 1 (bit state 1110) Range				
			Previous range	≠ CeTRGR_e_PRNDL_Drive6 Range				
			Previous range	≠ CeTRGR_e_PRNDL_Drive4 Range				
			Range Shift State	= Range Shift Completed ENUM				
			Absolute Attained Gear Slip	<= 50 rpm				
			Attained Gear	<= Sixth				
			Attained Gear	>= First				
			Throttle Position Available	= TRUE				
			Throttle Position	>= 8.0001831 pct				
			Output Speed	>= 200 rpm				
			Engine Torque	>= 50 Nm				
			Engine Torque	<= 8191.75 Nm				
			If the above conditions are met then Increment Fail Timer				>= 1 Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 5 Fail Counts	
			Fail Case 2					
			Output Speed	<= 70 rpm				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
			The following PRNDL sequence events occur in this exact order:											
			PRNDL state	=	Drive 6 (bit state 0110)	Range								
			PRNDL state = Drive 6 for	>=	1	Sec								
			PRNDL state	=	Transition 8 (bit state 0111)	Range								
			PRNDL state	=	Drive 6 (bit state 0110)	Range								
			PRNDL state	=	Transition 1 (bit state 1110)	Range								
			Above sequencing occurs in	<=	1	Sec								
			Neutral Idle Mode	=	Inactive									
			If all conditions above are met Increment delay Timer											
			If the below two conditions are met Increment Fail Timer								>=	3	Fail Seconds	
			delay timer	>=	1	Sec								
			Input Speed	>=	400	Sec								
			If Fail Timer has Expired then Increment Fail Counter								>=	2	Fail Counts	
			Fail Case 3 Current range	=	Transition 13 (bit state 0010)	Range	Previous range	≠	CeTRG R_e_PR NDL_Drive1					
			Engine Torque	>=	-8192	Nm	Previous range	≠	CeTRG R_e_PR NDL_Drive2					
			Engine Torque	<=	8191.75	Nm	IMS is 7 position configuration	=	1	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above conditions are met then, Increment Fail Timer		If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transition 13"		>= 0.225 Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 4		Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8			
			Current range	= Transition 8 (bit state 0111) Range				
			Inhibit bit (see definition)	= FALSE	Set inhibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transition 11) Set inhibit bit false if PRNDL = 1001 (park)			
			Steady State Engine Torque	>= 100 Nm				
			Steady State Engine Torque	<= 8191.75 Nm				
			If the above conditions are met then Increment Fail Timer				>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 5					
			Throttle Position Available	= TRUE Boolean				
			The following PRNDL sequence events occur in this exact order:					
			PRNDL State	= Reverse (bit state 1100) Range				
			PRNDL State	= Transition 11 (bit state 0100) Range				
			PRNDL State	= Neutral (bit state 0101) Range				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			PRNDL State	= Transition 11 (bit state 0100) Range				
			Above sequencing occurs in	<= 1 Sec				
			Then delay timer increments					
			Delay timer	>= 5 sec				
			Range Shift State	= Range Shift Complete				
			Absolute Attained Gear Slip	<= 50 rpm				
			Attained Gear	<= Sixth				
			Attained Gear	>= First				
			Throttle Position	>= 8.0001831 pct				
			Output Speed	>= 200 rpm				
			If the above conditions are met Increment Fail Timer				>= 20 Seconds	
			Fail Case 6 Current range	= Illegal (bit state 0000 or 1000 or 0001)	A Open Circuit Definition (flag set false if the following conditions are met):			
			and		Current Range	≠ Transition 11 (bit state 0100)		
			A Open Circuit (See Definition)	= FALSE Boolean	or			
					Last positive state	≠ Neutral (bit state 0101)		
					or			
					Previous transition state	≠ Transition 8 (bit state 0111)		
					Fail case 5 delay timer	= 0 sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	
			Fail Case 7 Current PRNDL State and Previous PRNDL state Input Speed Reverse Trans Ratio Reverse Trans Ratio If the above Condtions are met then, Increment Fail timer	= = >= <= >= 	PRNDL circuit ABCP = 1101 PRNDL circuit ABCP =1111 150 2.8458252 3.2741699 	Range Range RPM ratio ratio 	>= 6.25 Seconds	
			P182E will report test fail when any of the above 7 fail cases are met		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Signal Valid	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P07C0, P07BF, P077C, P077D ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠ Park or Neutral Enumeration				One Trip
			The following events must occur Sequentially					
			Initial Engine speed	<= 50 RPM			>= 0.25 Enable Time (Sec)	
			Then					
			Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.06875 Enable Time (Sec)	
			Then					
			Final Engine Speed	>= 525 RPM				
			Final Transmission Input Speed	>= 100 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.999 V		
					Ignition Voltage Hyst High (enables above this value)	>= 5 V		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Hyst Low (disabled below this value)	<= 2 V		
					Transmission Output Speed	<= 90 rpm		
					P1915 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALSE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	5 Volts			>= 280 Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2 Volts			Out of 280 Sample Counts (25ms loop)	
					ECM run/crank active status available	= TRUE Boolean		
					ECM run/crank active status	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	= TRUE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	5 Volts			>= 280 Fail Counts (25ms loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2 Volts			Out of 280 Sample Counts (25ms loop)	
					ECM run/crank active status available	= TRUE Boolean		
					ECM run/crank active status	= FALSE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear					One Trip
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear					
			If attained Gear = 3rd for Time	>= Table Based Time Please see Table 2 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met Increment 2nd gear fail count				>= 3 2nd Gear Fail Count or	
			and CB26 Fail Count				>= 14 CB26 Fail Count	
			Fail Case 2 Case: Steady State 6th Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time	>= Table Based Time Please see Table 2 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 5th gear fail counter and CB26 Fail Count				>= 3 5th Gear Fail Count or >= 14 CB26 Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT A OR B	>= 0 RPM		
					(A) Output speed enable	>= 67 RPM		
					(B) Accelerator Pedal enable	>= 0.50049 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.6563 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Default Gear Option is not present	= TRUE		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If above coditons are true, increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-1 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (2-4 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.2998047 Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 >= sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear OR	
			6th gear fail counter				>= 3 Fail Counter From 6th Gear OR	
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature	>= -6.6563 ºC		
					Input Speed Sensor fault	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Output Speed Sensor fault = FALSE Boolean Command / Attained Gear ≠ 1st Boolean High Side Driver ON = TRUE Boolean output speed limit for TUT >= 100 RPM input speed limit for TUT >= 150 RPM PRNDL state defaulted = FALSE Boolean IMS Fault Pending = FALSE Boolean Service Fast Learn Mode = FALSE Boolean HSD Enabled = TRUE Boolean			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip >= 400 RPM If the Above is True for Time >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) Intrusive test: (CBR1 clutch exhausted)					One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear Ratio	<= 2.4821777				
			Gear Ratio	>= 2.2458496				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 5 Fail Count in 1st Gear or >= 5 Total Fail Counts	
			Fail Case 2 Case: Steady State 3rd Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 2.4821777				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear Ratio	>= 2.2458496				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 3rd Gear or >= 5 Total Fail Counts	
			Fail Case 3 Case: Steady State 4rd Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.7003174				
			Gear Ratio	>= 0.633667				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 4th Gear or >= 5 Total Fail Counts	
			Fail Case 4 Case: Steady State 5th Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 0.7003174				
			Gear Ratio	>= 0.633667				
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
									>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 5th Gear or	
									>=	5	Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	>=	0	RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pressurized A OR B	=	TRUE	Boolean				
					(A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.50049	Nm				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.999	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct				
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm				
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm				
					Transmission Fluid Temperature	>=	-6.6563	ºC				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Default Gear Option is not present	=	TRUE					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2770 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	= Test Failed This Key On or Fault Active >= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec	
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 2nd gear					
			If attained Gear ≠ 2nd for Time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			If Above Conditions have been met, Increment 1st gear fail counter				>= 3 1st Gear Fail Count	
			and C1234 fail counter				>= 14 or C1234 Clutch Fail Count	
			Fail Case 2 Case: Steady State 2nd Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear If attained Gear ≠ 3rd for Time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			If Above Conditions have been met, Increment 2nd gear fail counter				>= 3 2nd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
			Fail Case 3 Case: Steady State 3rd Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 4th gear If attained Gear ≠ 4th for time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			If Above Conditions have been met, Increment 3rd gear fail counter				>= 3 3rd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
			Fail Case 4 Case: Steady State 4th Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time	>= Please refer to Table 3 in Supporting Documents Shift Time (Sec)				
			If Above Conditions have been met, Increment 4th gear fail counter				>= 3 4th Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT A OR B	>= 0 RPM		
					(A) Output speed enable	>= 67 RPM		
					(B) Accelerator Pedal enable	>= 0.50049 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.6563 ºC		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-6 shifting with throttle)	>= 0.2998047 sec				
			fail timer 1 (2-6 shifting without throttle)	>= 0.5 sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (3-5 shifting with throttle)	>= 0.2998047 sec				
			fail timer 1 (3-5 shifting without throttle)	>= 0.5 sec				
			fail timer 1 (4-5 shifting with throttle)	>= 0.2998047 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 0.5 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 0.2998047 sec				
			fail timer 1 (4-6 shifting without throttle)	>= 0.5 sec				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 >= sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	
			3rd gear fail counter				>= 3 Fail Counter From 3rd Gear	
			4th gear fail counter				>= 3 Fail Counter From 4th Gear	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature	>= -6.6563 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st Boolean		
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT	>= 100 RPM		
					input speed limit for TUT	>= 150 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.2095947				
			Gear Ratio	>= 1.0943604				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 5th Gear OR >= 3 Total Fail Counts	
			Fail Case 2 Case: 6th Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.2095947				
			Gear Ratio	>= 1.0943604				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 6th Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized A OR B	= TRUE Boolean		
					(A) Output speed enable	>= 67 Nm		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					(B) Accelerator Pedal enable >= 0.50049 Nm Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec if Attained Gear=1st FW Accelerator Pedal enable >= 5.00031 Pct if Attained Gear=1st FW Engine Torque Enable >= 5 Nm if Attained Gear=1st FW Engine Torque Enable <= 8191.88 Nm Transmission Fluid Temperature >= -6.6563 ºC Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P2729 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.59961 Volt			
					Ignition Voltage <= 31.999 Volt			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2730 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.59961 Volt			
					Ignition Voltage <= 31.999 Volt			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	Two Trips
					P2763 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.999 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659 ECM: None		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	One Trip
					P2764 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.999 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 Fail counts (≈ 10 seconds)	One Trip
			Delay timer	>= 0.1125 sec			Out of 70 Sample Counts (≈ 11 seconds)	
					Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= 3 sec >= 8.59961 Volt <= 31.999 Volt = Run		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM	= TRUE Boolean			>= 12 sec	One Trip
					Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= 3 sec >= 8.59961 Volt <= 31.999 Volt = Run		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: U0073 ECM: None		

16 OBDG07A Diagnostic 2D Tables - TCM (6 Speed Common)

Supporting Documents

Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	RPM

Table 2

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.00	2.00	Sec

Table 3

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	4.00	4.00	Sec

Table 4

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.00	2.00	Sec

Table 5

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	3.00	3.00	Sec

Table 6

Axis	-6.67	-6.66	40.00	80.00	120.00	ºC
Curve	409.00	3.60	1.60	1.40	1.40	Sec

Table 7

Axis	-6.67	-6.66	40.00	80.00	120.00	ºC
Curve	409.00	3.40	1.40	1.30	1.20	Sec

Table 8

Axis	-6.67	-6.66	40.00	80.00	120.00	ºC
Curve	409.00	3.60	1.60	1.50	1.40	Sec

Table 9

Axis	-6.67	-6.66	40.00	80.00	120.00	ºC
Curve	409.00	3.30	1.30	1.20	1.10	Sec

Table 10

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	3.03	1.86	1.00	0.75	0.58	Sec

Supporting Documents

Table 11

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.72	1.11	0.60	0.36	0.22	Sec

Table 12

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	2.12	1.39	0.84	0.64	0.33	Sec

Table 13

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	2.51	0.95	0.50	0.29	0.13	Sec

Table 14

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	2.97	0.82	0.47	0.20	0.13	Sec

Table 15

Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00	ºC
Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sec

Table 16

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.50	2.50	Sec

Table 17

Axis	-6.67	-6.66	40.00	ºC
Curve	0.40	0.35	0.30	Sec

Table 18

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	ºC
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00	ºC

Table 19

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	ºC
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00	ºC

Table 20

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	ºC
Curve	256.00	10.00	8.00	8.00	8.00	8.00	8.00	8.00	256.00	ºC

Supporting Documents

Table 21

Axis	-40.00	-20.00	40.00	ºC
Curve	5.00	3.00	1.00	Sec

Table 22

Axis	-6.67	-6.66	40.00	ºC
Curve	8191.75	8191.75	8191.75	RPM/Sec

Table 23

Axis	-6.67	-6.66	40.00	ºC
Curve	8191.75	8191.75	8191.75	RPM/Sec

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	C1251	The lateral accleration signal is stuck at a high magnitude in range	Lateral accleration magnitude Lateral accleration magnitude Lateral accleration magnitude is within the range above for	<= 3.849999905 g's >= 0.529999971 g's >= 75 Sec				Special No MIL
					Lateral accleration magnitude Lateral accleration magnitude Lateral accleration magnitude is within the range above for Diagnostic shifting override command Attained Gear State Attained Gear Slip Transmission Type High Side Driver 1 On Vehicle Speed Lateral acceleration stuck in range diagnostic enable Battery Voltage Battery Voltage Battery voltage is within the allowable limits for Ignition Voltage Ignition Voltage Service Fast Learn (SFL) Mode Ignition voltage and SFL conditions met for	<= 3.8499999 g's >= 0.53 g's >= 60 Sec = FALSE Boolean = 1st through 6th <= 100 RPM = Clutch to Clutch Transmission = TRUE Boolean >= 15 kph = 1 Boolean <= 31.999023 Volts >= 9 Volts >= 0.1 Sec <= 31.999023 Volts >= 9 Volts = FALSE Boolean >= 0.1 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: If calibrated to illuminate the MIL (P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073) ECM: None		
Mode Switch	P071A	Transmission Mode Switch A Circuit	Tow Haul Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	Special No MIL
					Ignition Voltage Lo	>= 8.5996094 Volts		
					Ignition Voltage Hi	<= 31.999023 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1762 ECM: None		
Mode Switch	P1762	Transmission Mode Switch Signal Circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer (Sec)	Special No MIL
					Pattern Switch Message Health	= TRUE Boolean		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	P0561	Battery to ignition voltage performance error at the TCM for an extended period of time.	delta = ABS(TCM battery voltage - TCM ignition voltage)	>= 3 Volts			= 40 Fail counts (100ms loop) Out of 50 Sample Counts (100ms loop)	One Trip
					battery to ignition voltage performance diagnostic enable calibration	= 1		
					TCM has battery voltage circuit	= 1 Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE Boolean			>= 5 Fail Counts (background task continuous)	One Trip
					NVM write error diagnotic enable	= 1 Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0601 ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at controller initialization	= TRUE Boolean			Runs Continously	One Trip
					not programmed diagnotic enable	= 1 Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0603 ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	secondary micro processor RAM error	= TRUE Boolean			1000 ms cont.	One Trip
			OR					
			dual store RAM write time out error	= TRUE Boolean			> 175 seconds (interrupt driven based on calling functions)	
			OR					
			system RAM fault	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					
			cashe RAM fault	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					
			secondary micro processor micro code error	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					
					Service mode $04 active or end of trip processing active	= FALSE Boolean		
			write attempt occurred during RAM lock	= TRUE Boolean			> 65534 counts (background task continuous)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			main processor RAM circuit hardware failure	= TRUE Boolean	RAM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR					
			main processor flash EPROM circuit hardware failure	= TRUE Boolean	flash EPROM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR					
			main processor memory stack failure	= TRUE Boolean	Service mode $04 active and end of trip processing active	= FALSE Boolean	>= 5 counts (100 msec continuous)	
					main processor memory stack test enable	= 1 Boolean		
			OR					
			secondary processor memory stack failure	= TRUE Boolean	secondary processor memory stack test enable	= 1 Boolean	>= 5 counts (12.5 msec continuous)	
			OR					
			secondary micro processor remedial action active on request	= FALSE Boolean			>= 1 counts (controller power up, 12.5 ms continuous)	
			OR					
			main processor ROM first test complete	= FALSE Boolean			>= 35 counts (12.5 msec continuous)	
			OR					
			secondary processor to main processor seed sequence fault	= TRUE Boolean			>= 0.5 seconds	
			OR					
			seed sequence error	≠ FALSE Boolean	program sequence watch communication fault	= FALSE Boolean	>= 3 counts (12.5 msec continuous)	
					main processor to secondary processor serial peripheral interface error	= FALSE Boolean	>= 17 counts (12.5 msec continuous)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					seed sequence test enable = see table 50 in supporting documents Boolean			
					battery voltage > 11 Volts ignition voltage >= 11 volts			
			OR					
			seed key fault current loop	= TRUE Boolean	seed key test enable = see table 50 in supporting documents Boolean			
					seed key fault previous loop = TRUE Boolean			
					Service mode $04 active and end of trip processing active = FALSE Boolean			
			OR					
			normalize 0-5 volt (absolute value (analog to digital test voltage commanded - actual analog to digital voltage feedback))	> 3.298950195 percent	analog to digital voltage test enabled = 1 Boolean		>= 3 counts (50 msec continuous)	
					ignition voltage >= 7 Volts		>= 8 counts (50 msec continuous)	
					analog to digital voltage channel enabled = see Table 46 in supporting documents Boolean			
					analog to digital test voltage command = see Table 47 in supporting documents Volts		>= 0.2 seconds	
					Service mode $04 active and end of trip processing active = FALSE Boolean			
			OR					
			arithmatic logic unit 1 test pass	= FALSE Boolean	arithmatic logic unit test enable = 1 Boolean		at controller initialization, then 12.5 ms cont.	
					arithmatic logic unit 1 test pass previous loop = FALSE Boolean			
					Service mode $04 active and end of trip processing active = FALSE Boolean			
					A and B and C must occur A: starter motor engaged = TRUE Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					B: ignition voltage <= 11 Volts C: starter motor engaged time < 0.025 sec A and B must occur A: ignition voltage <= 6.40917969 Volts B: ignition low voltage time >= 2.50E-02 sec			
			arithmatic logic unit 2 test pass	= FALSE Boolean	arithmatic logic unit test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	
					arithmatic logic unit 1 test pass previous loop = FALSE Boolean Service mode $04 active and end of trip processing active = FALSE Boolean A and B and C must occur A: starter motor engaged = TRUE Boolean B: ignition voltage <= 11 Volts C: starter motor engaged time < 0.025 sec			
			OR secondary processor arithmatic logic unit fault OR	= TRUE Boolean				
			clock test fail current loop	= TRUE Boolean	clock test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	
					clock test fail previous loop = TRUE Boolean Service mode $04 active and end of trip processing active = FALSE Boolean A and B and C must occur A: starter motor engaged = TRUE Boolean B: ignition voltage <= 11 Volts C: starter motor engaged time < 0.025 sec A and B must occur A: ignition voltage <= 6.40917969 Volts B: ignition low voltage time >= 2.50E-02 sec			
			OR configuration register test fail current loop	= TRUE Boolean	configuration register test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					configuration register test fail previous loop = TRUE Boolean			
					Service mode $04 active and end of trip processing active = FALSE Boolean			
					A and B and C must occur			
					A: starter motor engaged = TRUE Boolean			
					B: ignition voltage <= 11 Volts			
					C: starter motor engaged time < 0.025 sec			
					A and B must occur			
					A: ignition voltage <= 6.40917969 Volts			
					B: ignition low voltage time >= 2.50E-02 sec			
			OR					
			secondary processor configuration register fault	= TRUE Boolean				
			OR					
			A or B occur					
			A: direct memeory access (DMA) read/write test result	≠ FALSE Boolean	flash data transfer test enable	= 1 Boolean	normal controller initialization	
			B: direct memeory access (DMA) read/write value	≠ $5AA5A55A hexadecimal value	flash data transfer test enable	= 1 Boolean	normal controller initialization	
			software uses DMA peripheral function to write and read $5AA5A55A to flash memory locations to verify each flash memory location		running reset	= FALSE Boolean		
					normal power up reset	= TRUE Boolean		
			OR					
			secondary micro processor detects main micor processor SPI fault	= TRUE Boolean				
			OR					
			A or B or C or D occur		seed and key store fault test enable	= 0 Boolean		
			A: last 6.25 msec seed and key time	> see Table 48 in supporting documents sec				
			B: last 12.5 msec seed and key time	> see Table 48 in supporting documents sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			C: last 50 msec seed and key time	> see Table 48 in supporting documents sec				
			D: last lores engine interrupt seed and key time	> see Table 48 in supporting documents sec				
			OR					
			A or B or C or D occur		prgram sequence watch test enable	= see 3D_Table 1 in supporting documents Boolean		
			A: 6.25 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 6.25 msec time interrupt)				
			B: 12.5 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 12.5 msec time interrupt)				
			C: 50 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous)				
			D: engine lores interrupt program sequence fault fail count	>= see Table 49 in supporting documents counts (on execution of engine lores interrupts ECM only)				
			OR					
			secondary processor reports SPI communication fault	= TRUE Boolean	Service mode $04 active and end of trip processing active	= FALSE Boolean		
					secondary processor reports SPI communication fault previous loop	= TRUE Boolean		
			OR					
			SPI valid messsage received by main micro processor	= FALSE Boolean				
							= previous SPI message type	
					A and B and C must occur			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					A: starter motor engaged = TRUE Boolean B: ignition voltage <= 11 Volts C: starter motor engaged time < 0.025 sec SPI message checksum fault ≠ FASLE Boolean			
				Disable Conditions:	MIL not Illuminated for DTC's:			
Internal TCM Processor Integrity Fault	P0606	Transmission Electro-Hydraulic Control Module Processor Integrity	main processor RAM circuit hardware failure = TRUE Boolean OR main processor flash EPROM circuit hardware failure = TRUE Boolean OR main processor memory stack failure = TRUE Boolean OR secondary processor memory stack failure = TRUE Boolean OR secondary micro processor remedial action active on request = FALSE Boolean OR main processor ROM first test complete = FALSE Boolean OR		RAM diagnotic test enable = 1 Boolean hardware reset source is controller power up reset = TRUE Boolean flash EPROM diagnotic test enable = 1 Boolean hardware reset source is controller power up reset = TRUE Boolean Service mode $04 active and end of trip pocessing active = FALSE Boolean main processor memory stack test enable = 1 Boolean secondary processor memory stack test enable = 1 Boolean	>= 5 counts (controller initialization) >= 5 counts (controller initialization) >= 5 counts (100 msec continuous) >= 5 counts (12.5 msec continuous) >= 1 counts (controller power up, 12.5 ms continuous) >= 35 counts (12.5 msec continuous)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			secondary processor to main processor seed sequence fault	= TRUE Boolean			>= 0.5 seconds	
			OR					
			seed sequence error	≠ FALSE Boolean	program sequence watch communication fault	= FALSE Boolean	>= 3 counts (12.5 msec continuous)	
					main processor to secondary processor serial peripheral interface error	= FALSE Boolean	>= 17 counts (12.5 msec continuous)	
					seed sequence test enable	= see table 50 in supporting documents Boolean		
					battery voltage	> 11 Volts		
					ignition voltage	>= 11 volts		
			OR					
			seed key fault current loop	= TRUE Boolean	seed key test enable	= see table 50 in supporting documents Boolean		
					seed key fault previous loop	= TRUE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
			OR					
			normalize 0-5 volt (absolute value (analog to digital test voltage commanded - actual analog to digital voltage feedback))	> 3.298950195 percent	analog to digital voltage test enabled	= 1 Boolean	>= 3 counts (50 msec continuous)	
					ignition voltage	>= 7 Volts	>= 8 counts (50 msec continuous)	
					analog to digital voltage channel enabled	= see Table 46 in supporting documents Boolean		
					analog to digital test voltage command	= see Table 47 in supporting documents Volts	>= 0.2 seconds	
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
			OR					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			arithmatic logic unit 1 test pass	= FALSE Boolean	arithmatic logic unit test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	
					arithmatic logic unit 1 test pass previous loop	= FALSE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					A and B and C must occur			
					A: starter motor engaged	= TRUE Boolean		
					B: ignition voltage	<= 11 Volts		
					C: starter motor engaged time	< 0.025 sec		
					A and B must occur			
					A: ignition voltage	<= 6.40917969 Volts		
					B: ignition low voltage time	>= 2.50E-02 sec		
			arithmatic logic unit 2 test pass	= FALSE Boolean	arithmatic logic unit test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	
					arithmatic logic unit 1 test pass previous loop	= FALSE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					A and B and C must occur			
					A: starter motor engaged	= TRUE Boolean		
					B: ignition voltage	<= 11 Volts		
					C: starter motor engaged time	< 0.025 sec		
			OR					
			secondary processor arithmatic logic unit fault	= TRUE Boolean				
			OR					
			clock test fail current loop	= TRUE Boolean	clock test enable	= 1 Boolean	at controller initialization, then 12.5 ms cont.	
					clock test fail previous loop	= TRUE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					A and B and C must occur			
					A: starter motor engaged	= TRUE Boolean		
					B: ignition voltage	<= 11 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					C: starter motor engaged time < 0.025 sec			
					A and B must occur			
					A: ignition voltage <= 6.40917969 Volts			
					B: ignition low voltage time >= 2.50E-02 sec			
			OR					
			configuration register test fail current loop = TRUE Boolean		configuration register test enable = 1 Boolean		at controller initialization, then 12.5 ms cont.	
					configuration register test fail previous loop = TRUE Boolean			
					Service mode $04 active and end of trip processing active = FALSE Boolean			
					A and B and C must occur			
					A: starter motor engaged = TRUE Boolean			
					B: ignition voltage <= 11 Volts			
					C: starter motor engaged time < 0.025 sec			
					A and B must occur			
					A: ignition voltage <= 6.40917969 Volts			
					B: ignition low voltage time >= 2.50E-02 sec			
			OR					
			secondary processor configuration register fault = TRUE Boolean					
			OR					
			A or B occur					
			A: direct memeory access (DMA) read/write test result ≠ FALSE Boolean		flash data transfer test enable = 1 Boolean		normal controller initialization	
			B: direct memeory access (DMA) read/write value ≠ $5AA5A55A hexadecimal value		flash data transfer test enable = 1 Boolean		normal controller initialization	
			software uses DMA peripheral function to write and read $5AA5A55A to flash memory locations to verify each flash memory location		running reset = FALSE Boolean			
					normal power up reset = TRUE Boolean			
			OR					
			secondary micro processor detects main micor processor SPI fault = TRUE Boolean					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			OR					
			A or B or C or D occur		seed and key store fault test enable	= 0 Boolean		
			A: last 6.25 msec seed and key time	> see Table 48 in supporting documents sec				
			B: last 12.5 msec seed and key time	> see Table 48 in supporting documents sec				
			C: last 50 msec seed and key time	> see Table 48 in supporting documents sec				
			D: last lores engine interrupt seed and key time	> see Table 48 in supporting documents sec				
			OR					
			A or B or C or D occur		prgram sequence watch test enable	= see 3D_Table 1 in supporting documents Boolean		
			A: 6.25 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 6.25 msec time interrupt)				
			B: 12.5 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 12.5 msec time interrupt)				
			C: 50 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous)				
			D: engine lores interrupt program sequence fault fail count	>= see Table 49 in supporting documents counts (on execution of engine lores interrupts ECM only)				
					Service mode $04 active and end of trip processing active	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					secondary processor reports SPI communication fault previous loop	= TRUE Boolean		
					A and B and C must occur A: starter motor engaged B: ignition voltage C: starter motor engaged time SPI message checksum fault	= TRUE Boolean <= 11 Volts < 0.025 sec ≠ FASLE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Indicates that the TCM has detected an internal processor integrity fault	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory read or write error	= TRUE Boolean			every controller initialization	One Trip
					NVM write error diagnotic enable	= 1 Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None		
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 6 Fail Counts (6.25 msec continuous) out of 2395 Sample Counts (6.25 msec continuous)	One Trip
					actuator supply voltage circuit low enable calibration Service mode $04 active and end of trip pocessing active	= 1 = FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P0658 Status is not	=	Test Failed This Key On or Fault Active			
					P0658 Status is not	=	Test Failed This Key On or Fault Active			
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean		
					VBS Failsafe	=				
					High Side Driver 1 On	=	True	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Fluid Temperature Sensor (TFT)	P0711	transmission fluid temperature sensor rationality	Fail Case 1 transmission fluid temperature warm up test transmission fluid temperature raw	<= 15 °C					>= see Table 26 in supporting documents seconds	Two Trips
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean		
					P0712 and P0713	≠	Fault Active			
					Battery Voltage	<=	31.9990234	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean		
					VBS Failsafe					
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					transmission fluid temperature warm up test calibration enable	=	1	Boolean				
					driver accelerator pedal position valid	=	TRUE	Boolean				
					driver accelerator pedal position	>=	5	%				
					engine torque valid	=	TRUE	Boolean				
					engine torque steady state raw	>=	50	N*m				
					engine speed valid engine speed	= >=	TRUE 500	Boolean RPM				
					P0722, P0723, P077C, P077D	≠	Fault Active					
					Vehicle Speed	>=	10	KPH				
					P2809 TCC stuck on fault fault status	≠	Test Failed This Key On or Fault Active					
					transmission fluid temperature	>=	-40	ºC				
					transmission fluid temperature	<=	150	ºC				
					engine coolant temperature valid	=	TRUE	Boolean				
					engine coolant temperature engine coolant temperature	>= <=	-40 150	ºC ºC				
			Fail Case 2 transmission fluid temperature intermittent delta temperature test transmission fluid temperature delta (100 ms loop to loop)	>= 10 ºC					>= 8 >= 12		seconds (100 ms cont.) seconds (100 ms cont.)	
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean				
					P0712 and P0713 Battery Voltage	≠ <=	Fault Active 31.9990234	 Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					transmission fluid temperature intermittent delta temperature test calibration enable	=	1	Boolean		
					propulsion system active	=	TRUE	Boolean		
			Fail Case 3 transmission fluid temperature stuck in range test transmission fluid temperature delta (100 ms loop to loop)	<= 0 °C					>= 300 seconds (100 ms cont.)	
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean		
					P0712 and P0713	≠	Fault Active			
					Battery Voltage	<=	31.9990234	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					transmission fluid temperature stuck in range test calibration enable	=	1	Boolean		
					propulsion system active	=	TRUE	Boolean		
					transmission fluid temperature	<=	150	°C		
					transmission fluid temperature	>=	-40	°C		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0712, P0713, P0717, P0722, P0723, P077C, P077D, P02809 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature sensor failed at a low voltage	If Transmission Fluid Temperature Sensor Raw Resistance	<= 47.45000076 Ohms			>= 10 Fail Time (Sec) out of 12 Sample Time (Sec)	Two Trips
					trans fluid temp sensor low voltage diagnostic enable = 1 Boolean Battery Voltage <= 31.9990234 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.9990234 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature sensor failed at a high voltage	If Transmission Fluid Temperature Sensor Raw Resistance	>= 105445 Ohms			>= 10 Fail Time (Sec) out of 12 Sample Time (Sec)	Two Trips
					trans fluid temp sensor high voltage diagnostic enable = 1 Boolean Battery Voltage <= 31.9990234 Volts Battery Voltage >= 9 Volts			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Abolute Value Of Transmission Input Speed Sensor Delta (loop to loop)	>= 850 RPM					>= 1.5 seconds >= 5 fail events			One Trip
					speed sensor processing	=	time based					
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean				
					transmission input speed sensor performance diagnostic enable	=	1	Boolean				
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts				
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts				
					Ignition Voltage Min (enabled above this value)	>=	9	Volts				
					P0717 Status is not	=	Test Failed This Key On					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P07BF Status is not	=	Test Failed This Key On			
					P07C0 Status is not	=	Test Failed This Key On			
					last valid transmission input speed	>	148	RPM		
					OR					
					transmission input speed raw	>=	148	RPM		
					transmssion input speed last valid or raw timer	>=	2	Seconds		
					transmission input speed sensor performance test complete (initialized to FALSE set to TRUE when P0716 fails)	=	FALSE	Boolean		
					transmission hydraulic system pressurized	=	TRUE	Boolean		
					driver accelerator pedal position available	=	TRUE	Boolean		
					engine torque inaccurate	=	FALSE	Boolean		
					Transmission Output Speed Sensor Raw Speed	>=	230	RPM		
					driver accelerator pedal position	>=	5.00030518	Pct		
					engine actual torque steady state raw	<=	8191.875	N*m		
					engine actual torque steady state raw	>=	30	N*m		
					P0716 Status is not	=	Test Failed This Key On or Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is OR	< 100 RPM			>= 4 Fail Time (Sec)	One Trip
			Fail Case 2 P0722 DTC Status is Test Failed This Key On and and controller uses single power feed Transmission Input Speed is	< 175 RPM				
					Controller uses a single power supply for the speed sensors speed sensor processing Service mode $04 active and end of trip pocessing active transmission input speed sensor low diagnostic enable transmission hydraulic system pressurized Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo disabled below this value) speed sensor connected to controller P0722 Status is not P0723 Status is not P077C Status is not P077D Status is not brake pedal position is not engine torque inaccurate P0716 Status is not P07BF Status is not	= 0 Boolean = time based = FALSE Boolean = 1 Boolean = TRUE Boolean > 5 Volts <= 2 Volts = 1 Boolean = fault active = fault active = fault active = fault active >= 69.9996948 Pct = FALSE Boolean = Test Failed This Key On = Test Failed This Key On	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P07C0 Status is not	= Test Failed This Key On		
					driver accelerator pedal position	>= 5 Pct		
					engine actual torque steady state raw	<= 8191.875 N*m		
					engine actual torque steady state raw	>= 30 N*m		
					attained gear low	< CeCGSR_e _CR_Sixth		
					Transmission Output Speed Sensor Raw Speed when attained gear low	>= 72 RPM		
					attained gear high	>= CeCGSR_e _CR_Sixth		
					Transmission Output Speed Sensor Raw Speed when attained gear high	>= 230 RPM		
					P0717 Status is not	= Test Failed This Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0722, P0723, P077C, P077D, P07BF, P07C0 ECM: P0101, P0102, P0103		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 30 RPM	attained gear high	> CeCGSR_e _CR_Fourth ENUM	>= 5 Fail Time (Sec)	One Trip
					attained gear low	<= CeCGSR_e _CR_Fourth ENUM	>= 3.5 Fail Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P0722 Status is not	=	Test Failed This Key On or Fault Active			
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					transmission output speed sensor low diagnostic enable	=	1	Boolean		
					power flow not active (garage shift not complete, PRNDL = P or PRNDL = N, transmission range control in progress)	=	TRUE	Boolean		
					engine actual torque steady state raw power flow not active	>=	8192	N*m		
					driver accelerator position	>=	99.9984741	Pct		
					power flow not active (garage shift not complete, PRNDL = P or PRNDL = N, transmission range control in progress)	=	FALSE	Boolean		
					attained gear high	>	CeCGSR_e_CR_Fourth	ENUM		
					high gear engine actual torque steady state raw power flow active hysteresis high	>=	50	N*m		
					high gear engine actual torque steady state raw power flow active hysteresis low not	<=	30	N*m		
					high gear accelerator pedal position power flow active hysteresis high	>=	4.9987793	Pct		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					high gear accelerator pedal position power flow active hysteresis low not	<=	2.99987793	Pct		
					attained gear low	<=	CeCGSR_e_CR_Fourth	ENUM		
					low gear engine actual torque steady state raw power flow active hysteresis high	>=	80	N*m		
					low gear engine actual torque steady state raw power flow active hysteresis low not	<=	50	N*m		
					low gear accelerator pedal position power flow active hysteresis high	>=	7.99865723	Pct		
					low gear accelerator pedal position power flow active hysteresis low not	<=	4.9987793	Pct		
					---					
					use transmission input speed sensor	=	TRUE	Boolean		
					speed sensors have single power feed	=	0	Boolean		
					transmission input speed sensor signal raw	<=	8191.875	RPM		
					transmission input speed sensor signal raw	>=	175	RPM		
					---					
					use transmission input speed sensor	=	FALSE	Boolean		
					speed sensors have single power feed	=	0	Boolean		
					engine speed sensor signal	<=	8191.875	RPM		
					engine speed sensor signal	>=	3500	RPM		

					P0716 Status is not	=	Fault Active			
					P0717 Status is not	=	Fault Active			
					P07BF Status is not	=	Fault Active			
					P07C0 Status is not	=	Fault Active			
					PTO disable	=	1	Boolean		
					PTO engaged	=	FALSE	Boolean		
					driver accelerator pedal position available	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					engine torque inaccurate	=	FALSE	Boolean				
					transmission hydraulic system pressurized	=	TRUE	Boolean				
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts				
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts				
					Ignition Voltage Min (enabled above this value)	>=	9	Volts				
					transmssion fluid temperature sensor	>=	-40	ºC				
					P0723 Status is not	=	Test Failed This Key On					
					P077C Status is not	=	Test Failed This Key On					
					P077D Status is not	=	Test Failed This Key On					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123						
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	transmission output speed delta	>= see "set fail RPM threshold" RPM					>= 1.5		Fail Time (Sec)	One Trip
					transmission output speed OR	>=	36	RPM	>= 5		fail events	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					transmission output speed last valid output speed before drop	>=	36	RPM		
					for TOSS output speed raw, TOSS last valid output speed, time	>=	2	seconds		
					set fail RPM threshold					
					4WD low state valid	=	TRUE	Boolean		
					4WD low state	=	TRUE	Boolean		
					2WD delta transmission output speed fail threshold	=	500	RPM		
					4WD gear ratio	=	2.71			
					final delta transmission output speed fail threshold	=	1355	RPM		
					OR					
					4WD low state valid	=	TRUE	Boolean		
					4WD low state	=	FALSE	Boolean		
					OR					
					4WD low state valid	=	FALSE	Boolean		
					2WD delta transmission output speed fail threshold	=	500	RPM		
					final delta transmission output speed fail threshold	=	500	RPM		

					Range_Disable	=	FALSE	See Below		
					OR					

					Neutral_Range_Enable	=	TRUE	See Below		
					And					
					Neutral_Speed_Enable	=	TRUE	See Below		
					are TRUE concurrently					

					Transmission_Range_Enable	=	TRUE	See Below		
					Transmission_Input_Speed_Enable	=	TRUE	See Below		
					transmission output speed sensor performance diagnostic enable	=	1	Boolean		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P0723 Status is not	=	Test Failed This Key On or Fault Active			
					Disable this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		
					P077C Status is not	=	Test Failed This Key On			
					P077D Status is not	=	Test Failed This Key On			
					Enable_Flags Defined Below					
					Transmission_Input_Speed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	2	Enable Time (Sec)		
					Input Speed Delta	<=	4095.875	RPM		
					Raw Input Speed	>=	148	RPM		
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied					
					Input Speed	=	0	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					A Single Power Supply is used for all speed sensors	=	TRUE	Boolean		

					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/Neutral Transitonal	ENUM		
					Transmission Range is	=	Neutral/Drive Transitional	ENUM		
					KeTOSI_n_OutSpdInNeutNoiseMaxLim	<	50	RPM		
					and when Loop to Loop Drop of Transmission Output Speed is	>	500	RPM		

					Range_Disable is TRUE when any of the next three conditions are TRUE					
					Transmission Range is	=	Park	ENUM		
					Transmission Range is	=	Park/Reverse Transitonal	ENUM		
					Input Clutch is not	=	ON (Fully Applied)	ENUM		

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	2	Seconds		
					Transmission Output Speed	>=	50	RPM		
					The loop to loop change of the Transmission Output Speed is	<	20	RPM		
					The loop to loop change of the Transmission Output Speed is	>	-140	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Transmission_Range_Enable is TRUE when one of the next six conditions is TRUE			
					Transmission Range is	= Neutral ENUM		
					Transmission Range is	= Reverse/Neutral Transitional ENUM		
					Transmission Range is	= Neutral/Drive Transitional ENUM		
					Time since a driven range (R,D) has been selected	>= see Table 21 in supporting documents Sec		
					Transmission Output Speed Sensor Raw Speed	>= 250 RPM		
					Output Speed when a fault was detected	>= 250 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077C, P077D ECM: P2771, P279A, P279B, P279C		
Variable Force Solenoid (VFS)	P0746	Pressure Control Solenoid A Stuck Off (clutch1/CB1278R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	= TRUE boolean		
					PRNDL State not	= park enumeration		
					PRNDL State not	= neutral enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P0747	Pressure Control Solenoid A Stuck On (clutch1/CB1278R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM			when fail time reaches fail limit increment fail event count above	
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	> see Table 12 in supporting documents N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 2 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 38 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 59 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean		
					VBS Failsafe					
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P0776	Pressure Control Solenoid B Stuck Off (clutch2/CB12345R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	= TRUE boolean		
					PRNDL State not	= park enumeration		
					PRNDL State not	= neutral enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds delay time calibration	= 0.5 seconds		
					A) neutral condition fault pending	= FALSE boolean		
					B) intrusive shift active	= FALSE boolean		
					C) range shift state	= shift complete enumeration		
					intrusive shift allowed	= TRUE boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P0777	Pressure Control Solenoid B Stuck On (clutch2/CB12345R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM			when fail time reaches fail limit increment fail event count above	
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	> see Table 12 in supporting documents N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 3 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 39 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 60 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P077C	Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25 Volts			>= 5.00E-02 sec	One Trip
			P077C Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P077C Fail Counter					
			DTC P077C Sets when the Fail Counter	>= 16 Counts (6.25 msec continuous)	P077C Enable Calibration	= 1		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Battery Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Battery Voltage Min (disabled below this value)	<= 10 Volts		
					Ignition Voltage Min (disabled below this value)	>= 10 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077D		
Transmission Output Speed Sensor (TOSS)	P077D	Output Speed Sensor Circuit High	TOSS Analog Signal Voltage	>= 4.75 Volts			>= 5.00E-02 sec	One Trip
			P077D Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P077D Fail Counter					
			DTC P077D Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)				
					P077D Enable Calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Battery Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Battery Voltage Min (disabled below this value)	<= 10 Volts		
					Ignition Voltage Min (disabled below this value)	>= 10 Volts		
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077C		
Variable Force Solenoid (VFS)	P0796	Pressure Control Solenoid C Stuck Off (clutch3/C13567)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
									when fail time reaches fail limit increment fail event count >= 3 event counts	
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	=	TRUE	boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	=	TRUE	boolean		
					PRNDL State not	=	park	enumeration		
					PRNDL State not	=	neutral	enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					G) Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean VBS Failsafe Ignition voltage and SFL conditions met for >= 0.1 Sec Hydraulic System Pressurized = TRUE Boolean high side driver 1 enabled = TRUE Boolean high side driver 2 enabled = TRUE Boolean			
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P0797	Pressure Control Solenoid C Stuck On (clutch3/C13567)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM				
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 12 in supporting documents	N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 13 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 4 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 40 in supporting documents	seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					off going clutch pressure up shift delay time	>=	see Table 61 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid D or E	=	TRUE	Boolean		
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time F or G	>=	0.1	sec		
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Hydraulic System Pressurized	= TRUE Boolean		
					high side driver 1 enabled	= TRUE Boolean		
					high side driver 2 enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage	<= 0.25 Volts			>= 5.00E-02 sec	One Trip
			P07BF Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P07BF Fail Counter					
			DTC P07BF Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)				
					speed sensor processing	= time based		
					P07BF Enable Calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Battery Voltage Max (disabled above this value) <= 31.9990234 Volts Battery Voltage Min (disabled below this value) <= 10 Volts Ignition Voltage Min (disabled below this value) >= 10 Volts for voltage stablity time >= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P07C0		
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage P07C0 Status is not If the above conditons have been met, increment the P07C0 Fail Counter	>= 4.75 Volts = Test Failed This Key On or Fault Active			>= 5.00E-02 sec	One Trip
			DTC P07C0 Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)	speed sensor processing = time based P07C0 Enable Calibration = 1 Service mode $04 active and end of trip pocessing active = FALSE Boolean Ignition Voltage Hyst Hi (enabled above this value) > 5 Volts Ignition Voltage Hyst Lo disabled below this value) <= 2 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Battery Voltage Max (disabled above this value) <= 31.9990234 Volts Battery Voltage Min (disabled below this value) <= 10 Volts Ignition Voltage Min (disabled below this value) >= 10 Volts			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P07BF		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 7 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 8 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean			>= 1 Fail Time (Sec)	
			Fail Case 2 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Tap Up Switch Stuck in the Up Position in Range 7 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 8 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 120 Fail Time (Sec)	
					upshift switch diagnostic monitor enable calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					Time Since Last Range Change	>= 1 Enable Time (Sec)		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0815 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0826, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 7 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 8 Enabled	= 1 Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions	Time Required			Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean			>=	1	sec	
			Fail Case 2									
			Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 7 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 8 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	0	Boolean						
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met						>= 120 sec	
					downshift switch diagnostic monitor enable calibration	=	1			
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		
					Time Since Last Range Change	>=	1	Enable Time (Sec)		
					P0816 Status is	≠	Test Failed This Key On or Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No MIL
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					upshift downshift switch circuit diagnostic monitor enable calibration	= 1		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					P0826 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:			
Variable Force Solenoid (VFS)	P0960	Pressure Control Solenoid A Control Circuit Open (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0962	Pressure Control Solenoid A Control Circuit Low (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0963	Pressure Control Solenoid A Control Circuit High (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3	= TRUE Boolean		
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	>= 1 seconds >= 8 volts <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0964	Pressure Control Solenoid B Control Circuit Open (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3	= TRUE Boolean		
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0966	Pressure Control Solenoid B Control Circuit Low (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Force Solenoid (VFS)	P0967	Pressure Control Solenoid B Control Circuit High (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0968	Pressure Control Solenoid C Control Circuit Open (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0970	Pressure Control Solenoid C Control Circuit Low (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is = CeTSCR_e_HSD2 enumeration high side driver VFS source enabled = TRUE Boolean controller power mode state is ignition or accessory = TRUE Boolean battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0971	Pressure Control Solenoid C Control Circuit High (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is = CeTSCR_e_HSD2 enumeration			
					high side driver VFS source enabled = TRUE Boolean			
					controller power mode state is ignition or accessory = TRUE Boolean			
					battery voltage in range for stability time			
					battery voltage stability time >= 1 seconds			
					battery voltage >= 8 volts			
					battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16E9	Transmission Control Module	secondary micro processor hardware serial peripheral device fault active = TRUE Boolean secondary micro processor hardware serial peripheral device fault active previous loop = TRUE Boolean					One Trip
					Service mode $04 active and end of trip pocessing active = FALSE Boolean			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16F0	Transmission Control Module	secondary micro processor serial peripheral device message valid detected by primary micro processor since controller initialization = FALSE Boolean				>= 5 counts (12.5 ms) cont	One Trip
			OR				>= 8 counts (12.5 ms) cont	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			secondary micro processor serial peripheral device message valid detected by primary micro processor after controller initialization	= FALSE Boolean			>= 5 counts (12.5 ms) cont	
			OR				>= 8 counts (12.5 ms) cont	
			secondary micro processor serial peripheral device message valid detected by primary micro processor after controller initialization	= FALSE Boolean			>= 5 counts (12.5 ms) NON continuous	
							>= 8 counts (12.5 ms) NON continuous	
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time			
					low voltage mode time	>= 2.50E-02 seconds		
					A) low voltage mode hysteresis time	<= 0.1 seconds		
					B) ignition voltage, set low voltage mode	<= 6.40917969 volts		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16F3	Transmission Control Module	diagnostic monitor fails when any of the following conditions occur A or B or C					One Trip
			A) command pressure and its dual store do not equal	= TRUE Boolean	redundent memory command pressure disable calibration not	= TRUE Boolean		
					OR			
			OR		redundent memory command pressure enable calibration	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) command shift and its dual store do not equal	= TRUE Boolean	redundent memory command shift disable calibration not	= FALSE Boolean		
					OR	Boolean		
					redundent memory command shift enable calibration	= TRUE Boolean		
			OR					
			C) rate limited vehicle speed and its dual store do not equal	= TRUE Boolean	rate limited vehicle speed dual store enable calibration	= TRUE Boolean	>= 10 counts (25 msec continuous)	
							>= 20 counts (25 msec continuous)	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Transmission Control Module (TCM)	P16F4	Transmission Control Module	redundent path calculation of driver selected transmission range error	= TRUE Boolean			>= 6 counts (25 msec continuous)	One Trip
							>= 8 counts (25 msec continuous)	
					secureed controller or emission critical ignition voltage	>= 11 volts		
					P16F4 status is not	= test pass this key on Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Transmission Control Module (TCM)	P16FB	Transmission Control Module	transmission output speed raw (25 ms loop value) - transmission output speed raw (6.25 ms loop value)	>= 60 RPM			>= 8 seconds	One Trip
							>= 10 seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts				
					Battery Voltage Min (disabled below this value)	<=	10	Volts				
					Ignition Voltage Min (disabled below this value)	>=	10	Volts				
					for voltage stablity time	>=	5	seconds				
					transmission output speed raw (6.25 ms loop value)	>=	150	RPM				
					transmission output speed raw (25 ms loop value)	>=	150	RPM				
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean				
					diagnostic monitor enable calibration	=	1	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Lateral acceleration signal	P175F	Lateral acceleration signal circuit (rolling count or checksum)	P175F will fail when A: message alive rolling count erroror or B: message checksum error									Special No MIL
			A: Rolling count value received from EBCM and expected TCM calculated value not	= TRUE Boolean					>=	9	Fail Counter (50 msec continuous)	
									>	54	Fail Timer (Sec)	
					Lateral acceleration message health (message receive occur)	=	TRUE	Boolean				
					Lateral acceleration signal circuit rolling count diagnostic monitor enable calibration	=	1	Boolean				
					battery voltage	<=	31.9990234	volts				
					battery voltage	>=	9	volts				
					battery voltage time	>=	0.1	sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean			
					Ignition voltage and SFL conditions met for >= 0.1 Sec			
			B: checksum of lateral acceleration message value error	= TRUE Boolean			>= 54 Fail Timer (Sec)	
					Lateral acceleration message health (message receive occur) = TRUE Boolean			
					Lateral acceleration signal circuit checksum diagnostic monitor enable calibration = 1 Boolean			
					battery voltage <= 31.9990234 volts			
					battery voltage >= 9 volts			
					battery voltage time >= 0.1 sec			
					Ignition Voltage <= 31.9990234 Volts			
					Ignition Voltage >= 9 Volts			
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean			
					Ignition voltage and SFL conditions met for >= 0.1 Sec			
					normal serial data communication enabled = TRUE Boolean			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Transmission Intermediate Speed Sensor	P176B	Transmission Intermediate Speed Sensor Performance	attained gear is Reverse or 1st or 2nd		fail time	>= 4 seconds	>= 4 counts (25 msec continuous)	Two Trips
			transmssion intermediate speed attained gear is 3rd or 4th or 5th or 6th or 7th or 8th	> 60 PRM				
			calculated intermediate gear slip = absolute value (transmission input speed - (transmission intermediate speed * command gear intermediate ratio))	> 60 PRM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					calculated gear slip = absolute value (transmission input speed - (transmission output speed * command gear ratio))	<=	60	RPM		
					calculated gear slip stablity time when all of the conditions below are met	>=	1	seconds		
					diagnostic monitor enable calibration	=	1	Boolean		
					transmission output speed	>=	190	RPM		
					transmission input speed	>=	395	RPM		
					neutral idle mode requesting holding clutch disable	=	FALSE	Boolean		
					range shift state is	=	shift complete			
					Hydraulic System Pressurized	=	TRUE	Boolean		
					battery voltage	<=	31.9990234	volts		
					battery voltage	>=	9	volts		
					battery voltage time	>=	0.1	sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D				
Transmission Intermediate Speed Sensor	P176C	Intermediate Speed Sensor Circuit Low	speed sensor1 voltage	<= see Table 51 in supporting documents volts	speed sensor1 fail time	>=	see Table 53 in supporting documents	seconds	>= see Table 52 in supporting documents counts (12.5 msec continuous)	Two Trips
					speed sensor1 circuit low diagnostic monitor enable calibration	=	see Table 54 in supporting documents	Boolean		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Battery Voltage Min (disabled below this value)	<=	10	Volts		
					Ignition Voltage Min (disabled below this value)	>=	10	Volts		
					for voltage stablity time	>=	5	seconds		
					P176C Status is not	=	Test Failed This Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P176D				
Transmission Intermediate Speed Sensor	P176D	Intermediate Speed Sensor Circuit High	speed sensor1 voltage	>= see Table 55 in supporting documents volts	speed sensor1 fail time	>=	see Table 57 in supporting documents	seconds	>= see Table 56 in supporting documents counts (12.5 msec continuous)	Two Trips
					speed sensor1 circuit high diagnostic monitor enable calibration	=	see Table 58 in supporting documents	Boolean		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Battery Voltage Min (disabled below this value)	<=	10	Volts		
					Ignition Voltage Min (disabled below this value)	>=	10	Volts		
					for voltage stablity time	>=	5	seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P176D Status is not = Test Failed This Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P176C		
Internal Mode Switch (IMS)	P1824	Internal Mode Switch P Circuit High Voltage	IMS switch P voltage	> 2.380000114 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182A	Internal Mode Switch A Circuit Low Voltage	IMS switch A voltage	< 0.699999988 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182B	Internal Mode Switch B Circuit Low Voltage	IMS switch B voltage	< 0.699999988 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182C	Internal Mode Switch B Circuit High Voltage	IMS switch B voltage	> 2.380000114 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch P Circuit Low Voltage	IMS switch P voltage	< 0.699999988 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182E	Internal Mode Switch Illegal Range	Range	= Illegal (SABCP= 00000 or SABCP= 10000) enumeration					>=	108	Fail Counts (25ms loop)	Two Trips
									out of	125	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182F	Internal Mode Switch C Circuit High Voltage	IMS switch C voltage	> 2.380000114 volts					>=	70	Fail Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1838	Internal Mode Switch A Circuit High Voltage	IMS switch A voltage	> 2.380000114 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1839	Internal Mode Switch C Circuit Low Voltage	IMS switch C voltage	< 0.699999988 volts					>= 70 out of 80		Fail Counts (25ms loop) Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1840	Internal Mode Switch S Circuit Low Voltage	IMS switch S voltage	< 0.699999988 volts					>= 70 out of 80		Fail Counts (25ms loop) Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1841	Internal Mode Switch S Circuit High Voltage	IMS switch S voltage	> 2.380000114 volts					>= out of	70 80	Fail Counts (25ms loop) Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Internal Mode Switch (IMS)	P18B5	Internal Mode Switch A Circuit Shorted	IMS switch A voltage	< 1.679999948 volts					>= 70		Fail Counts (25ms loop)	Two Trips
			IMS switch A voltage	> 0.966000021 volts					out of 80		Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P18B6	Internal Mode Switch B Circuit Shorted	IMS switch B voltage	< 1.679999948 volts					>= 70		Fail Counts (25ms loop)	Two Trips
			IMS switch B voltage	> 0.966000021 volts					out of 80		Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18B7	Internal Mode Switch C Circuit Shorted	IMS switch C voltage	< 1.679999948 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
			IMS switch C voltage	> 0.966000021 volts				
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18B8	Internal Mode Switch P Circuit Shorted	IMS switch P voltage	< 1.679999948 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
			IMS switch P voltage	> 0.966000021 volts				
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P18B9	Internal Mode Switch S Circuit Shorted	IMS switch S voltage	< 1.679999948 volts					>=	70	Fail Counts (25ms loop)	Two Trips
			IMS switch S voltage	> 0.966000021 volts					out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BA	Internal Mode Switch A Stuck Off	Range Switch A	= Transition 30 (SABCP= 00001) enumeration ≠ True (this key cycle) boolean			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo Ignition Voltage Hi Ignition Voltage within the above low / high thresholds for	= 1 Boolean >= 9 Volts <= 31.9990234 Volts >= 7 Volts < 9 Volts <= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BB	Internal Mode Switch B Stuck Off	Range Prev Range	= Transition 29 (SABCP= 00010) enumeration = Transition 14 (SABCP= 10001)			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi	= 1 Boolean >= 9 Volts <= 31.9990234 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BC	Internal Mode Switch C Stuck Off	Range	= Transition 27 (SABCP= 00100) enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BD	Internal Mode Switch P Stuck Off	Range = Transition 23 (SABCP= 01000) enumeration Prev Range = Transition 11 (SABCP= 10100)				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BE	Internal Mode Switch S Stuck Off	Range = Drive 8 enumeration Prev Range = Transition 26 (SABCP= 00101) Switch A = True (this key cycle) boolean Switch S ≠ True (this key cycle) boolean				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C0	Internal Mode Switch B Stuck On	Range = Drive 8 enumeration Prev Range = Park for >= 80 counts (25ms loop) Switch B ≠ False (this key cycle) boolean				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C1	Internal Mode Switch C Stuck On	Range	= Transition 20 (SABCP= 01011) enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
			Switch C	≠ False (this key cycle) boolean				
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C2	Internal Mode Switch P Stuck On	Range	= Transition 24 (SABCP= 00111) enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C3	Internal Mode Switch S Stuck On	Range	= Drive 7 enumeration			>= 108 Fail Counts (25ms loop)	Two Trips
			Prev Range = Park for	>= 80 counts (25ms loop)			out of 125 Sample Counts (25ms loop)	
			Switch S	≠ False (this key cycle) boolean				
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	Range	≠ Park, Neutral, Transition 1 (SABCP= 11110), Transition 2 (SABCP= 11101), Transition 4 (SABCP= 11011), Transition 17 (SABCP= 01110), Transition 18 (SABCP= 01101), Transition 21 (SABCP= 01010) Enumeration				Two Trips
			The following events must occur Sequentially					
			Initial Engine speed	<= 50 RPM			>= 0.475 Enable Time (Sec)	
			Then Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.06875 Enable Time (Sec)	
			Then					
			Final Engine Speed	>= 550 RPM				
			Final Transmission Input Speed	>= 100 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.9003906 V		
					Ignition Voltage Hyst High (enables above this value)	>= 5 V		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Hyst Low (disabled below this value)	<= 2 V		
					Transmission Output Speed	<= 90 rpm		
					P1915 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALSE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	> 5 Volts			>= 280 one fail count per 25 ms loop	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	< 2 Volts			Out of 280 one sample count per 25 ms loop	
					Ignition Switch Run/Start Position Circuit Low diagnaotic enable calibration	= 1 Boolean		
					ECM run/crank active status available from serial data	= TRUE Boolean		
					ECM run/crank active status	= TRUE Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	= TRUE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	> 5 Volts			>= 280 one fail count per 25 ms loop	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Ignition Voltage Low Hyst (run crank goes false when below this value)	< 2 Volts			Out of 280 one sample count per 25 ms loop	
					Ignition Switch Run/Start Position Circuit High diagnaotic enable calibration	= 1 Boolean		
					ECM run/crank active status available from serial data	= TRUE Boolean		
					ECM run/crank active status	= FALSE Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
High Side Driver 2	P2670	Actuator Supply Voltage B Circuit Low	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 6 Fail Counts (6.25 msec continuous) out of 2395 Sample Counts (6.25 msec continuous)	One Trip
					actuator supply voltage circuit low enable calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					P2670 Status is not	= Test Failed This Key On or Fault Active		
					P2670 Status is not	= Test Failed This Key On or Fault Active		
					Service Fast Learn (SFL) Mode	= FALSE Boolean		
					VBS Failsafe High Side Driver 2 On	= True Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2714	Pressure Control Solenoid D Stuck Off (clutch4/C23468)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	= TRUE boolean		
					PRNDL State not	= park enumeration		
					PRNDL State not	= neutral enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds			
					delay time calibration	= 0.5 seconds		
					A) neutral condition fault pending	= FALSE boolean		
					B) intrusive shift active	= FALSE boolean		
					C) range shift state	= shift complete enumeration		
					intrusive shift allowed	= TRUE boolean		
					intrusive shift active	= FALSE boolean		
					steady state pressure adapt in progress	= FALSE boolean		
					transmission output speed	>= 100 RPM		
					accelerator pedal position	>= 0.50048828 %		
					accelerator pedal position valid	= TRUE Boolean		
					engine speed valid D or E	= TRUE Boolean		
					D) select battery voltage to enable diagnsotic monitor	= 0 Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					E) battery voltage <= 31.9990234 volts E) battery voltage >= 9 volts E) battery voltage time >= 0.1 sec F or G F) select ignition voltage to enable diagnsotic monitor = 0 Boolean G) Ignition Voltage <= 31.9990234 Volts G) Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec Hydraulic System Pressurized = TRUE Boolean high side driver 1 enabled = TRUE Boolean high side driver 2 enabled = TRUE Boolean Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P2715	Pressure Control Solenoid D Stuck On (clutch4/C23468)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM				
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					clutch test enabled	=	see Table 10 in supporting documents	boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 11 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 12 in supporting documents	N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 13 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					off going clutch pressure closed throttle down shift delay time	>=	see Table 5 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 41 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 62 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid D or E	=	TRUE	Boolean		
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					E) battery voltage time F or G	>= 0.1 sec		
					F) select ignition voltage to enable diagnsotic monitor	= 0 Boolean		
					G) Ignition Voltage	<= 31.9990234 Volts		
					G) Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode	= FALSE Boolean		
					VBS Failsafe Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Hydraulic System Pressurized	= TRUE Boolean		
					high side driver 1 enabled	= TRUE Boolean		
					high side driver 2 enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P2718	Pressure Control Solenoid D Control Circuit Open (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P2720	Pressure Control Solenoid D Control Circuit Low (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD1	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Force Solenoid (VFS)	P2721	Pressure Control Solenoid D Control Circuit High (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2723	Pressure Control Solenoid E Stuck Off (clutch5/C45678R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	= TRUE boolean		
					PRNDL State not	= park enumeration		
					PRNDL State not	= neutral enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P2724	Pressure Control Solenoid E Stuck On (clutch5/C45678R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM			when fail time reaches fail limit increment fail event count above	
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	> see Table 12 in supporting documents N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 6 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 42 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 63 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean		
					VBS Failsafe					
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P2727	Pressure Control Solenoid E Control Circuit Open (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Force Solenoid (VFS)	P2729	Pressure Control Solenoid E Control Circuit Low (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2730	Pressure Control Solenoid E Control Circuit High (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2736	Pressure Control Solenoid F Control Circuit Open (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is = CeTSCR_e_HSD2 enumeration high side driver VFS source enabled = TRUE Boolean controller power mode state is ignition or accessory = TRUE Boolean battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2738	Pressure Control Solenoid F Control Circuit Low (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is = CeTSCR_e_HSD2 enumeration			
					high side driver VFS source enabled = TRUE Boolean			
					controller power mode state is ignition or accessory = TRUE Boolean			
					battery voltage in range for stability time			
					battery voltage stability time >= 1 seconds			
					battery voltage >= 8 volts			
					battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2739	Pressure Control Solenoid F Control Circuit High (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean			
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is = CeTSCR_e_HSD2 enumeration			
					high side driver VFS source enabled = TRUE Boolean			
					controller power mode state is ignition or accessory = TRUE Boolean			
					battery voltage in range for stability time			
					battery voltage stability time >= 1 seconds			
					battery voltage >= 8 volts			
					battery voltage <= 32 Volts			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A7	VFS characterization	clutch1/CB1278R pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A8	VFS characterization	clutch2/CB12345R pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A9	VFS characterization	clutch3/C13567 pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AA	VFS characterization	clutch4/C23468 pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					manufacture enable counter	= 0 counts		
					memory type updated	= non-volatile memory		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AB	VFS characterization	clutch5/C45678R pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter	= 0 counts		
					memory type updated	= non-volatile memory		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AC	VFS characterization	line pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter	= 0 counts		
					memory type updated	= non-volatile memory		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AD	VFS characterization	TCC pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter	= 0 counts		
					memory type updated	= non-volatile memory		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Torque Converter Clutch (TCC)	P2808	TCC System Stuck OFF	TCC Pressure	>= 750 Kpa			>= 2 Enable Time (Sec)	Two Trips
			TCC capacity	>= 0 %			>= 0 Enable Time (Sec)	
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= see Table 1 in Supporting Documents RPM			>= 4 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>= 4 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 3 TCC Stuck Off Fail Counter	
					TCC Mode	= On or Lock		
					TCC system stuck off diagnostic monitor enable c	= 1		
					default valve state	= high (active)		
					absolute value of attained gear slip	>= 25 RPM		
					attained gear	>= CeCGSR_e_CR_Fourth		
					range shift state	= shift complete		
					Hydraulic System Pressurized	= TRUE Boolean		
					battery voltage	<= 31.9990234 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 0.1 sec		
					Ignition Voltage	<= 31.9990234 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 8191.75 N*m		
					Throttle Position	>= 8.00018311 Pct		
					Throttle Position	<= 99.9984741 Pct		
					Transmission Fluid Temperature	>= -6.65625 ºC		
					Transmission Fluid Temperature	<= 130 ºC		
					PTO Not Active	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Engine Torque Signal Valid = TRUE Boolean Accelerator Pedal Position Signal Valid = TRUE Boolean P2808 Status is ≠ Test Failed This Key On			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D, P2808, P2812, P2814, P2815 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P2809	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter	>= -50 RPM <= 30 RPM			>= 1.5 Fail Time (Sec) >= 6 Fail Counter	One Trip
					TCC Mode = Off default valve state = high (active) default valve state previous = low to high set default valve state timer = see Table 24 in Supporting Documents seconds default valve state timer times down to zero (0.0) when default valve state not = high (active) default valve state timer times down to zero (0.0) when default valve state previous not = low to high			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					either A or B ro C must be met					
					A) default valve state	=	low to high			
					B) default valve state timer	>	0	seconds		
					C) low TCC slip fail timer	>	0	seconds		
					clutch solenoid stuck off performance (neutral) test active	=	FALSE	Boolean		
					clutch solenoid stuck on performance (tie-up) test active	=	FALSE	Boolean		
					TCC Slip Speed	<=	300	RPM		
					derivative TCC slip speed	<=	see Table 25 in Supporting Documents	RPM/sec		
					TCC system stuck on diagnostic monitor enable c	=	1			
					Engine Speed	<=	5500	RPM		
					Engine Speed	>=	400	RPM		
					Vehicle Speed HI	<=	45	KPH		
					Engine Torque	<=	800	Nm		
					Engine Torque	>=	55	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Fluid Temperature	<=	130	ºC		
					Transmission Fluid Temperature	>=	-6.65625	ºC		
					Throttle Position Hyst High AND	>=	3.99932861	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position	>=	0.99945068	Pct		
					Disable for Throttle Position	>=	94.9996948	Pct		
					Disable if PTO active and value true	=	1			
					enable if tap up/down mode is false or tap up/down TCC calibration value is false	=	0	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					enable if manual up/down mode is false or manual up/down TCC calibration value is false	= 0 Boolean		
					enable if misfire disengage TCC is false or value TCC misfire calibration value is false	= 0 Boolean		
					4 Wheel Drive Low Active	= FALSE Boolean		
					battery voltage	<= 31.9990234 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 0.1 sec		
					Ignition Voltage	<= 31.9990234 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode	= FALSE Boolean		
					VBS Failsafe Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P0742 Status is	≠ Test Failed This Key On		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D, P2809, P2812, P2814, P2815 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Force Solenoid (VFS)	P2812	Pressure Control Solenoid G Control Circuit Open (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P2814	Pressure Control Solenoid G Control Circuit Low (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)			One Trip
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2815	Pressure Control Solenoid G Control Circuit High (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
default valve on/off valve solenoid	P2817	Hydraulic on/off Control Solenoid H Stuck Off (default valve on/off solenoid)	absolute value (attained gear slip) 4th gear commanded	>= 400 RPM	6th gear intrusive shift command when fail time reaches fail limit		>= 3 seconds	One Trip
					attained gear when intrusive 6th gear command	= 3rd		
					attained gear slip 3rd gear	<= 75 RPM		
					3rd gear attained time	>= 0.5 seconds		
					intrusive 6th gear commanded event count	>= 2 counts		
							>= 2 counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	=	TRUE	boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	=	TRUE	boolean		
					PRNDL State not	=	park	enumeration		
					PRNDL State not	=	neutral	enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Hydraulic System Pressurized	= TRUE Boolean		
					high side driver 1 enabled	= TRUE Boolean		
					high side driver 2 enabled	= TRUE Boolean		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
default valve on/off valve solenoid	P2818	Hydraulic on/off Control Solenoid H Stuck On (default valve on/off solenoid)	TCC slip speed	<= 6 RPM			>= 0.5 seconds >= 3 counts >= 5 counts	Two Trips
					delay time after TCC intrusive command pressure reaches intrusive value	>= see Table 28 in supporting documents seconds		
					TCC intrusive command pressure	>= 600 kPa		
					test delay timer calibration	= 0.5 seconds		
					test delay timer times down from calibration to zero (0.0) when all of the following conditinos are met			
					engine speed	>= 400 RPM		
					engine speed	<= 900 RPM		
					transmission temperature	>= 0 ºC		
					transmission temperature	<= 40 ºC		
					PRNDL state	= park enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Hydraulic System Pressurized = TRUE Boolean battery voltage <= 31.9990234 volts battery voltage >= 9 volts battery voltage time >= 0.1 sec Ignition Voltage <= 31.9990234 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean VBS Failsafe Ignition voltage and SFL conditions met for >= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P2812, P2814, P2815 ECM: none		
default valve on/off solenoid	P281D	Pressure Control Solenoid H Control Circuit Low (default valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is = CeTSCR_e_HSD1 enumeration high side driver VFS source enabled = TRUE Boolean controller power mode state is ignition or accessory = TRUE Boolean battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
default valve on/off solenoid	P281E	Pressure Control Solenoid H Control Circuit High (default valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
clutch2/CB12345R boost valve on/off solenoid	P2824	Pressure Control Solenoid J Control Circuit High (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
clutch2/CB12345R boost valve on/off solenoid	P2826	Pressure Control Solenoid J Control Circuit Low (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration = TRUE Boolean VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is = CeTSCR_e_HSD2 enumeration high side driver VFS source enabled = TRUE Boolean controller power mode state is ignition or accessory = TRUE Boolean battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
clutch2/CB12345R boost valve on/off solenoid	P2827	Pressure Control Solenoid J Control Circuit High (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							out of 0.5 Sample Time (Sec)	
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Bus Voltage Error (CAN bus off)	= TRUE Boolean			>= 62 counts	One Trip
			Bus off delay time	>= 0.1125 sec			>= 70 counts	
					all conditions A and B and C below must occur for stabilization time			
					Bus Stabilization time	>= 3 seconds		
					A) Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					A) normal serial data communication enabled	= TRUE Boolean		
					A) P0073 status not	= fault active		
					B) secured controller or emission critical then use ignition voltage	= CeCANR_e_OBDII_Dsbl Boolean		
					B) secureed controller or emission critical Ignition Voltage	>= 11 volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					B) Power Mode	=	Run			
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) Power Mode	=	Run			
					C) ignition off enable	=	1	Boolean		
					C) Power Mode	=	accessory			
					C) battery voltage	>=	11	volts		
					all conditions A and B below must occur					
					A) post clear code timer	>=	0.15	seconds		
					B) when Propulsion System Active use low voltage check	=	FALSE	Boolean		
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time					
					low voltage mode time	>=	2.50E-02	seconds		
					A) low voltage mode hysteresis time	<=	0.1	seconds		
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Communication	U0100	Lost Communications with ECM (Engine Control Module)	TCM Rx message missed frame		fail times are caculated based on Rx message enable calibration set to CeCANR_e_BusA_ECM		Tx controller			One Trip
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠	see Table 64 in supporting documents	enumeration	>= see Table 65 in supporting documents seconds	
					Frame recovery stabilization delay	>=	0.5	seconds		
					all conditions A and B and C below must occur for stabilization time					
					Bus Stabilization time	>=	3	seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					A) Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					A) normal serial data communication enabled	=	TRUE	Boolean		
					A) P0073 status not	=	fault active			
					B) secured controller or emission critical then use ignition voltage	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) secureed controller or emission critical Ignition Voltage	>=	11	volts		
					B) Power Mode	=	Run			
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) Power Mode	=	Run			
					C) ignition off enable	=	1	Boolean		
					C) Power Mode	=	accessory			
					C) battery voltage	>=	11	volts		
					all conditions A and B below must occur					
					A) post clear code timer	>=	0.15	seconds		
					B) when Propulsion System Active use low voltage check NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time	=	FALSE	Boolean		
					low voltage mode time	>=	2.50E-02	seconds		
					A) low voltage mode hysteresis time	<=	0.1	seconds		
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts		
					U0100 fault status is not	=	fault active			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Communication	U0121	Loss Communications with ABS (Anti-lock Brake System)	TCM Rx message missed frame		fail times are caculated based on the following Rx messages enable calibration set to CeCANR_e_BusA_ABS	Tx controller		Special No MIL
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠ see Table 64 in supporting documents enumeration	>= see Table 65 in supporting documents seconds	
					Frame recovery stabilization delay	>= 0.5 seconds		
					all conditions A and B and C below must occur for stabilization time			
					Bus Stabilization time	>= 3 seconds		
					A) Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					A) normal serial data communication enabled	= TRUE Boolean		
					A) P0073 status not	= fault active		
					B) secured controller or emission critical then use ignition voltage	= CeCANR_e_ OBDII_Dsbl Boolean		
					B) secureed controller or emission critical Ignition Voltage	>= 11 volts		
					B) Power Mode	= Run		
					B) secured controller or emission critical then use controller power mode	= CeCANR_e_ OBDII_Dsbl Boolean		
					B) Power Mode	= Run		
					C) ignition off enable	= 1 Boolean		
					C) Power Mode	= accessory		
					C) battery voltage	>= 11 volts		
					all conditions A and B below must occur			
					A) post clear code timer	>= 0.15 seconds		
					B) when Propulsion System Active use low voltage check	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time			
					low voltage mode time	>= 2.50E-02 seconds		
					A) low voltage mode hysteresis time	<= 0.1 seconds		
					B) ignition voltage, set low voltage mode	<= 6.40917969 volts		
					U0121 fault status is not	= fault active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Communication	U0140	Loss Communications with BCM (Body Control Module)	TCM Rx message missed frame		fail times are caculated based on the following Rx messages enable calibration set to CeCANR_e_BusA_BCM	Tx controller		Special No MIL
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠ see Table 64 in supporting documents enumeration	>= see Table 65 in supporting documents seconds	
					Frame recovery stabilization delay	>= 0.5 seconds		
					all conditions A and B and C below must occur for stabilization time			
					Bus Stabilization time	>= 3 seconds		
					A) Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					A) normal serial data communication enabled	= TRUE Boolean		
					A) P0073 status not	= fault active		
					B) secured controller or emission critical then use ignition voltage	= CeCANR_e_OBDII_Dsbl Boolean		
					B) secureed controller or emission critical Ignition Voltage	>= 11 volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					B) Power Mode	=	Run			
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) Power Mode	=	Run			
					C) ignition off enable	=	1	Boolean		
					C) Power Mode	=	accessory			
					C) battery voltage	>=	11	volts		
					all conditions A and B below must occur					
					A) post clear code timer	>=	0.15	seconds		
					B) when Propulsion System Active use low voltage check	=	FALSE	Boolean		
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time					
					low voltage mode time	>=	2.50E-02	seconds		
					A) low voltage mode hysteresis time	<=	0.1	seconds		
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts		
					U0140 fault status is not	=	fault active			

16 OBDG07A Diagnostic 2D Tables - TCM (8 Speed Common)

Supporting Documents

Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	RPM

Table 2

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.60	1.10	0.95	0.85	0.85	Sec

Table 3

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	0.90	0.80	0.80	Sec

Table 4

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.40	0.90	0.75	0.65	0.65	Sec

Table 5

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	1.00	1.00	1.00	Sec

Table 6

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	0.90	0.80	0.80	Sec

Table 7

Axis	CeRSSR_e_CD_21	CeRSSR_e_CD_31	CeRSSR_e_CD_32	CeRSSR_e_CD_42	CeRSSR_e_CD_43	CeRSSR_e_CD_51	CeRSSR_e_CD_53	CeRSSR_e_CD_54	CeRSSR_e_CD_63
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0
	CeRSSR_e_CD_64	CeRSSR_e_CD_65	CeRSSR_e_CD_71	CeRSSR_e_CD_75	CeRSSR_e_CD_76	CeRSSR_e_CD_82	CeRSSR_e_CD_84	CeRSSR_e_CD_86	
	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	
	CeRSSR_e_CD_87	closed throttle down shift type: 2-1, 3-1, 3-2, 4-2, 4-3, 5-1, 5-3, 5-4, 6-3, 6-4, 6-5, 7-1, 7-,5 7-6, 8-2, 8-4, 8-6, 8-7							
	750.0	kPa							

Table 8

Axis	CeRSSR_e_US_12	CeRSSR_e_US_23	CeRSSR_e_US_34	CeRSSR_e_US_45	CeRSSR_e_US_56	CeRSSR_e_US_67	CeRSSR_e_US_78	CeRSSR_e_US_13	CeRSSR_e_US_24
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0
	CeRSSR_e_US_35	CeRSSR_e_US_46	CeRSSR_e_US_57	CeRSSR_e_US_68	up shift type: 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-8, 1-3, 2-4, 3-5, 4-6, 5-7, 6-8				
	750.0	750.0	750.0	750.0	kPa				

Supporting Documents

Table 9

NOT USED
NOT USED

Table 10

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	1	1	1	1	1	BOOLEAN

Table 11

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	180.0	180.0	180.0	180.0	180.0	N*m

Table 12

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	60.0	60.0	60.0	60.0	60.0	N*m

Table 13

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	10.0	10.0	10.0	10.0	10.0	N*m

Table 14

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	-30.0	-30.0	-30.0	-30.0	-30.0	N*m

Table 15

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	100.0	100.0	100.0	100.0	100.0	N*m

Table 16

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	60.0	60.0	60.0	60.0	60.0	N*m

Table 17

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	10.0	10.0	10.0	10.0	10.0	N*m

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Table 18

	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Axis						
Curve	-30.0	-30.0	-30.0	-30.0	-30.0	N*m

Table 19

NOT USED
NOT USED

Table 20

NOT USED
NOT USED

Table 21

Axis	-40.00	0.00	40.00	ºC
Curve	5.00	5.00	5.00	Sec

Table 22

NOT USED
NOT USED

Table 23

NOT USED
NOT USED

Table 24

Axis	-7.00	10.00	40.00	ºC
Curve	1.50	1.25	1.00	Sec

Table 25

Axis	-7.00	10.00	40.00	ºC
Curve	-2000.00	-2000.00	-2000.00	RPM/Sec

Table 26

Axis	-40.00	-30.00	-20.00	0.00	20.00	ºC
Curve	1800.00	1500.00	1200.00	600.00	60.00	Sec

Table 27

Axis	0.00	20.00	60.00	100.00	120.00	Kph
Curve	-8.00	-8.00	-8.00	-8.00	-8.00	ºC

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Table 28

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	5.00	3.00	2.00	1.75	1.00	Sec

Table 29

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 30

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 31

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 32

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	4	4	4	4	4	counts

Table 33

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	4	4	4	4	4	counts

Table 34

NOT USED
NOT USED

Table 35

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

Table 36

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

Table 37

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	300.0	300.0	300.0	300.0	300.0	kPa

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Table 38

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	0.95	0.45	0.30	0.30	0.30	Sec

Table 39

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	0.95	0.45	0.30	0.20	0.20	Sec

Table 40

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	0.95	0.45	0.30	0.20	0.20	Sec

Table 41

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	1.10	0.60	0.55	0.55	0.55	Sec

Table 42

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	0.95	0.45	0.30	0.20	0.20	Sec

Table 43

NOT USED
NOT USED

Table 44

NOT USED
NOT USED

Table 45

Axis	eRSCR_e_CC_US	eRSCR_e_CC_CD	eRSCR_e_CC_PD	eRSCR_e_CC_GS	up shift, closed throttle down shift, power down shift, garage shift
Curve	1	1	1	0	BOOLEAN

Table 46

Axis	0	1	2	3	1 ADchannel, 2 AD channels, 3 AD channels, 4 AD channels
Curve	1	0	0	0	BOOLEAN

Table 47

Axis	A2D_TestVoltage1	A2D_TestVoltage2	A2D_TestVoltage3	A2D_TestVoltage4	1 ADchannel, 2 AD channels, 3 AD channels, 4 AD channels
Curve	5.0000	25.0000	75.0000	95.0000	volts

Supporting Documents

Table 48

Axis	SR_e_6p25msSeq	ISR_e_12.5msSeq	ePISR_e_25msSeq	PISR_e_LORES_C	6.25 msec loop, 12.5 msec loop, 25 msec loop, low res engine
Curve	0.2000	0.2000	0.2000	409.5938	seconds

Table 49

Axis	SR_e_6p25msSeq	ISR_e_12.5msSeq	ePISR_e_25msSeq	PISR_e_LORES_C	6.25 msec loop, 12.5 msec loop, 25 msec loop, low res engine
Curve	16	8	4	16	counts

Table 50

Axis	eMPMR_i_MontrA	eMPMR_i_MontrB	eMPMR_i_MontrC	seed key test enable, seed sequence test enable, seed timeout test enable
Curve	1	0	0	BOOLEAN

Table 51

Axis	0	1	speed sensor1, speed sensor2
Curve	0.2500	0.0000	volts

Table 52

Axis	0	1	speed sensor1, speed sensor2
Curve	40	65535	counts

Table 53

Axis	0	1	speed sensor1, speed sensor2
Curve	0.0500	409.5938	seconds

Table 54

Axis	0	1	speed sensor1, speed sensor2
Curve	1	0	BOOLEAN

Table 55

Axis	0	1	speed sensor1, speed sensor2
Curve	4.7500	12.0000	volts

Table 56

Axis	0	1	speed sensor1, speed sensor2
Curve	40	65535	counts

Table 57

Axis	0	1	speed sensor1, speed sensor2
Curve	0.0500	409.5938	seconds

Supporting Documents

Table 58

Axis	0	1	speed sensor circuit low, speed sensor circuit high
Curve	1	0	BOOLEAN

Table 59

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.9000	0.8500	0.7500	0.7500	seconds

Table 60

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2500	0.7500	0.6000	0.6000	0.6000	seconds

Table 61

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.4500	0.4500	seconds

Table 62

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.5500	0.5500	seconds

Table 63

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.4500	0.4500	seconds

Table 64

Axis	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
Curve	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_BusA_	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusB_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame		
		CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	enable or invalid		

Supporting Documents

Table 65

Axis	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvM	frame
Curve	12.000	12.000	12.000	12.000	0.500	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvM	frame
		0.500	12.000	12.000	12.000	12.000	12.000	0.500	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvM	frame
		0.500	12.000	12.000	12.000	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvM	frame
		12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvM	frame		
		12.000	12.000	12.000	12.000	12.000	0.500	seconds		

Supporting Documents - 3D Tables

3D_Table 1

CeTSKR_Cnt_MaxCPUs	**X-Axis Calibration**	CeTSKR_e_CPU				CeTSKR_e_CPU2				CPU
CePISR_e_NumOfSeqTasks	**Y-Axis Calibration**	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C	loop test type
KaPISD_b_ProgSeqWatchEnbl	**Table Calibration**	1	1	1	0	0	0	0	0	BOOLEAN

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Control Module (TCM)	C124F	The lateral accleration sensor signal failed at a low voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>=	30	Sec	>=	75	Sec	Special No MIL
			Lateral accleration sensor raw signal	<= -3.849999905 g's					out of	120	Sec	
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			Lateral accleration magnitude	>= -3.849999905 g's								
					Lateral acceleration low voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1250	The lateral accleration sensor signal failed at a high voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>=	30	Sec	>=	75	Sec	Special No MIL
			Lateral accleration sensor raw signal	>= 3.849999905 g's					out of	120	Sec	
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			Lateral accleration magnitude	<= 3.849999905 g's								
					Lateral acceleration high voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None				
Transmission Control Module (TCM)	C1251	The lateral accleration signal is stuck at a high magnitude in range	absolute value (lateral accleration)	>= 0.529999971 g's	absolute value (lateral accleration) for stablity	>=	0.53	g's	>= 75 Sec	Special No MIL
			absolute value (lateral accleration)	<= 3.849999905 g's	absolute value (lateral accleration) for stablity	<=	3.8499999	g's		
					stability time	>=	30	Sec		
					Diagnostic shifting override command	=	FALSE	Boolean		
					Attained Gear State	=	1st through 8th			
					Attained Gear Slip	<=	100	RPM		
					Transmission Type	=	Clutch to Clutch Transmission			
					High Side Drivers enabled	=	TRUE	Boolean		
					Vehicle Speed	>=	15	kph		
					Lateral acceleration stuck in range diagnostic enable calibration	=	1			
					Battery Voltage	<=	31.999023	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Transmission Control Module (TCM)	C1252	The longitudinal accleration sensor signal failed at a low voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
			longitudinal accleration sensor raw signal	<= -3.849999905 g's				
			hardware configuration	= CeLATR_e_VoltageDirectPrOp				
			longitudinal accleration sensor raw signal	>= -3.849999905 g's				
					longitudinal acceleration low voltage diagnostic enable calibration = 1 Battery Voltage <= 31.999023 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.999023 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Control Module (TCM)	C1253	The longitudinal accleration sensor signal failed at a high voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>=	30	Sec	>=	75	Sec	Special No MIL
			longitudinal accleration sensor raw signal	>= 3.849999905 g's					out of	120	Sec	
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			longitudinal accleration sensor raw signal	<= 3.849999905 g's								
					longitudinal acceleration high voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1254	The longitudinal accleration signal is stuck at a high magnitude in range	absolute value (longitudinal accleration)	>= 0.529999971 g's	absolute value (longitudinal accleration) for stablity	>=	0.53	g's	>=	75	Sec	Special No MIL
			absolute value (longitudinal accleration)	<= 3.849999905 g's	absolute value (longitudinal accleration) for stablity	<=	3.8499999	g's	out of	120	Sec	
					stability time	>=	30	Sec				
					Diagnostic shifting override command	=	FALSE	Boolean				
					Attained Gear State	=	1st through 8th					
					Attained Gear Slip	<=	100	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Transmission Type	=	Clutch to Clutch Transmission					
					High Side Drivers enabled	=	TRUE	Boolean				
					transmssion output speed acceleration	>=	0.53	meter/second /second				
					Vehicle Speed	>=	15	kph				
					longitudinal acceleration stuck in range diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None						
Manual Mode Switch	P0827	Manual Mode Switch Circuit Low Voltage	Manual Mode Switch State	= Invalid 1 enumeration					>= 5 out of 7.5	Fail Time (Sec) Sample Time (Sec)		Special No MIL
					manual mode switch diagnostic monitor enable calibration	=	1					
					Diagnostic enable complete flag	=	TRUE	Boolean				
					Diagnostic re-enable complete flag	=	TRUE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition Voltage Max (disabled above this value)	<=	31.999023	Volts				
					Ignition Voltage Min (enabled above this value)	>=	9	Volts				
					Ignition voltage delay timer	>=	0.1	Enable Time (Sec)				
					P0828 & P085F Status is	≠	Fault Active					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Manual Mode Switch	P0828	Manual Mode Switch Circuit High Voltage	Manual Mode Switch State or Manual Mode Switch State or Manual Mode Switch State	= Tap Down enumeration = Invalid 3 enumeration = Invalid 4 enumeration					>= 5 Fail Time (Sec) out of 7.5 Sample Time (Sec)			Special No MIL
					manual mode switch diagnostic monitor enable calibration	=	1					
					Diagnostic enable complete flag	=	TRUE	Boolean				
					Diagnostic re-enable complete flag	=	TRUE	Boolean				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition Voltage Max (disabled above this value)	<=	31.999023	Volts				
					Ignition Voltage Min (enabled above this value)	>=	9	Volts				
					Ignition voltage delay timer	>=	0.1	Enable Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0827 & P085F Status is	≠ Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Manual Mode Switch	P085F	Manual Mode Switch Circuit Performance	Manual Mode Switch State	= Invalid 2 enumeration			>= 5 Fail Time (Sec) out of 7.5 Sample Time (Sec)	Special No MIL
					manual mode switch diagnostic monitor enable calibration	= 1		
					Diagnostic enable complete flag	= TRUE Boolean		
					Diagnostic re-enable complete flag	= TRUE Boolean		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.999023 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					Ignition voltage delay timer	>= 0.1 Enable Time (Sec)		
					P0827 & P0828 Status is	≠ Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM and expected TCM calculated value not	= TRUE Boolean			>= 3 Fail Counter (100 msec continuous) > 10 Fail Timer (Sec)	Special No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Tap up/down message health (message receive occur)	=	TRUE	Boolean		
					Tap up/downswitch signal circuit (rolling count) diagnostic monitor enable calibration	=	1	Boolean		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	C124F	The lateral accleration sensor signal failed at a low voltge	hardware configuration Lateral accleration sensor raw signal hardware configuration Lateral accleration magnitude	= CeLATR_e_VoltageDirectPrOp <= -3.849999905 g's = CeLATR_e_VoltageDirectPrOp >= -3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					Lateral acceleration low voltage diagnostic enable calibration	= 1		
					Battery Voltage	<= 31.999023 Volts		
					Battery Voltage	>= 9 Volts		
					Battery voltage is within the allowable limits for	>= 0.1 Sec		
					Ignition Voltage	<= 31.999023 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
			Disable Conditions:	MIL not Illuminated for DTC's:		TCM: U0073 ECM: None		
Transmission Control Module (TCM)	C1250	The lateral accleration sensor signal failed at a high voltge	hardware configuration Lateral accleration sensor raw signal hardware configuration Lateral accleration magnitude	= CeLATR_e_VoltageDirectPrOp >= 3.849999905 g's = CeLATR_e_VoltageDirectPrOp <= 3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					Lateral acceleration high voltage diagnostic enable calibration	= 1		
					Battery Voltage	<= 31.999023 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None				
Transmission Control Module (TCM)	C1251	The lateral accleration signal is stuck at a high magnitude in range	absolute value (lateral accleration)	>= 0.529999971 g's	absolute value (lateral accleration) for stablity	>=	0.53	g's	>= 75 Sec	Special No MIL
			absolute value (lateral accleration)	<= 3.849999905 g's	absolute value (lateral accleration) for stablity	<=	3.8499999	g's		
					stability time	>=	30	Sec		
					Diagnostic shifting override command	=	FALSE	Boolean		
					Attained Gear State	=	1st through 8th			
					Attained Gear Slip	<=	100	RPM		
					Transmission Type	=	Clutch to Clutch Transmission			
					High Side Drivers enabled	=	TRUE	Boolean		
					Vehicle Speed	>=	15	kph		
					Lateral acceleration stuck in range diagnostic enable calibration	=	1			
					Battery Voltage	<=	31.999023	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Transmission Control Module (TCM)	C1252	The longitudinal accleration sensor signal failed at a low voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
			longitudinal accleration sensor raw signal	<= -3.849999905 g's				
			hardware configuration	= CeLATR_e_VoltageDirectPrOp				
			longitudinal accleration sensor raw signal	>= -3.849999905 g's				
					longitudinal acceleration low voltage diagnostic enable calibration = 1 Battery Voltage <= 31.999023 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.999023 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Control Module (TCM)	C1253	The longitudinal accleration sensor signal failed at a high voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>=	30	Sec	>=	75	Sec	Special No MIL
			longitudinal accleration sensor raw signal	>= 3.849999905 g's					out of	120	Sec	
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			longitudinal accleration sensor raw signal	<= 3.849999905 g's								
					longitudinal acceleration high voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1254	The longitudinal accleration signal is stuck at a high magnitude in range	absolute value (longitudinal accleration)	>= 0.529999971 g's	absolute value (longitudinal accleration) for stablity	>=	0.53	g's	>=	75	Sec	Special No MIL
			absolute value (longitudinal accleration)	<= 3.849999905 g's	absolute value (longitudinal accleration) for stablity	<=	3.8499999	g's	out of	120	Sec	
					stability time	>=	30	Sec				
					Diagnostic shifting override command	=	FALSE	Boolean				
					Attained Gear State	=	1st through 8th					
					Attained Gear Slip	<=	100	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Transmission Type = Clutch to Clutch Transmission			
					High Side Drivers enabled = TRUE Boolean			
					transmssion output speed acceleration >= 0.53 meter/second /second			
					Vehicle Speed >= 15 kph			
					longitudinal acceleration stuck in range diagnostic enable calibration = 1			
					Battery Voltage <= 31.999023 Volts			
					Battery Voltage >= 9 Volts			
					Battery voltage is within the allowable limits for >= 0.1 Sec			
					Ignition Voltage <= 31.999023 Volts			
					Ignition Voltage >= 9 Volts			
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean			
					Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1765	Upshift Switch Circuit #2	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction		Enable Conditions			Time Required			Mil Illum.
				Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0 Boolean									
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	0 Boolean									
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0 Boolean									
				Tap Up Switch ON	=	TRUE Boolean						>=	1	Fail Time (Sec)	
			Fail Case 2	Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1 Boolean									
				Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0 Boolean									
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	0 Boolean									
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0 Boolean									
				Tap Up Switch ON	=	TRUE Boolean									
				NOTE: Both Failcase1 and Failcase 2 Must Be Met								>=	120	Fail Time (Sec)	
							Time Since Last Range Change	>=	1	Enable Time (Sec)					
							Ignition Voltage Lo	>=	9	Volts					
							Ignition Voltage Hi	<=	31.999023	Volts					
							Engine Speed Lo	>=	250	RPM					
							Engine Speed Hi	<=	7500	RPM					
							Engine Speed is within the allowable limits for	>=	5	Sec					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P1765 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P1767, P1761, P182E, P1915 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1766	Downshift Switch Circuit #2	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 0 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 sec	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Fail Case 2					
			Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0 Boolean				
			Tap Down Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	= TRUE Boolean			>= 120 sec	
					Time Since Last Range Change	>= 1 Sec		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 250 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P1766 Status is	≠ Test Failed This Key On or Fault Active		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1767, P1761, P182E, P1915 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1767	Up and Down Shift Switch Circuit #2	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No MIL
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.999023 Volts		
					Engine Speed Lo	>= 250 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P1767 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	= Park or Reverse or Neutral Range State				Special No MIL
			TUTD Enable Switch is Active	= TRUE Boolean			>= 3 Fail Time (Sec) >= 5 Fail Counts	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.999023 Volts		
					Vehicle Speed Lo	<= 511.99219 KPH		
					Engine Speed Lo	>= 250 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P1876 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0815, P0816, P0826, P1761, P1825, P1877, P1915, U0100 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	C124F	The lateral accleration sensor signal failed at a low voltge	hardware configuration Lateral accleration sensor raw signal hardware configuration Lateral accleration magnitude	= CeLATR_e_VoltageDirectPrOp <= -3.849999905 g's = CeLATR_e_VoltageDirectPrOp >= -3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					Lateral acceleration low voltage diagnostic enable calibration	= 1		
					Battery Voltage	<= 31.999023 Volts		
					Battery Voltage	>= 9 Volts		
					Battery voltage is within the allowable limits for	>= 0.1 Sec		
					Ignition Voltage	<= 31.999023 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Transmission Control Module (TCM)	C1250	The lateral accleration sensor signal failed at a high voltge	hardware configuration Lateral accleration sensor raw signal hardware configuration Lateral accleration magnitude	= CeLATR_e_VoltageDirectPrOp >= 3.849999905 g's = CeLATR_e_VoltageDirectPrOp <= 3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					Lateral acceleration high voltage diagnostic enable calibration	= 1		
					Battery Voltage	<= 31.999023 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None				
Transmission Control Module (TCM)	C1251	The lateral accleration signal is stuck at a high magnitude in range	absolute value (lateral accleration)	>= 0.529999971 g's	absolute value (lateral accleration) for stablity	>=	0.53	g's	>= 75 Sec	Special No MIL
			absolute value (lateral accleration)	<= 3.849999905 g's	absolute value (lateral accleration) for stablity	<=	3.8499999	g's		
					stability time	>=	30	Sec		
					Diagnostic shifting override command	=	FALSE	Boolean		
					Attained Gear State	=	1st through 8th			
					Attained Gear Slip	<=	100	RPM		
					Transmission Type	=	Clutch to Clutch Transmission			
					High Side Drivers enabled	=	TRUE	Boolean		
					Vehicle Speed	>=	15	kph		
					Lateral acceleration stuck in range diagnostic enable calibration	=	1			
					Battery Voltage	<=	31.999023	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.999023	Volts		
					Ignition Voltage	>=	9	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Transmission Control Module (TCM)	C1252	The longitudinal accleration sensor signal failed at a low voltge	hardware configuration = CeLATR_e_VoltageDirectPrOp longitudinal accleration sensor raw signal <= -3.849999905 g's hardware configuration = CeLATR_e_VoltageDirectPrOp longitudinal accleration sensor raw signal >= -3.849999905 g's		transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					longitudinal acceleration low voltage diagnostic enable calibration = 1 Battery Voltage <= 31.999023 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.999023 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Control Module (TCM)	C1253	The longitudinal accleration sensor signal failed at a high voltge	hardware configuration	= CeLATR_e_VoltageDirectProp	transient delay timer	>=	30	Sec	>=	75	Sec	Special No MIL
			longitudinal accleration sensor raw signal	>= 3.849999905 g's					out of	120	Sec	
			hardware configuration	= CeLATR_e_VoltageDirectProp								
			longitudinal accleration sensor raw signal	<= 3.849999905 g's								
					longitudinal acceleration high voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1254	The longitudinal accleration signal is stuck at a high magnitude in range	absolute value (longitudinal accleration)	>= 0.529999971 g's	absolute value (longitudinal accleration) for stablity	>=	0.53	g's	>=	75	Sec	Special No MIL
			absolute value (longitudinal accleration)	<= 3.849999905 g's	absolute value (longitudinal accleration) for stablity stability time	<= >=	3.8499999 30	g's Sec	out of	120	Sec	
					Diagnostic shifting override command	=	FALSE	Boolean				
					Attained Gear State	=	1st through 8th					
					Attained Gear Slip	<=	100	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Transmission Type	=	Clutch to Clutch Transmission					
					High Side Drivers enabled	=	TRUE	Boolean				
					transmssion output speed acceleration	>=	0.53	meter/second /second				
					Vehicle Speed	>=	15	kph				
					longitudinal acceleration stuck in range diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None						
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM and expected TCM calculated value not	= TRUE Boolean					>=	3	Fail Counter (100 msec continuous)	Special No MIL
									>	10	Fail Timer (Sec)	
					Tap up/down message health (message receive occur)	=	TRUE	Boolean				
					Tap up/downswitch signal circuit (rolling count) diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage	<=	31.999023	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:					
Transmission Cooling Fan	P184F	Transmission Cooling Fan Performance	If drop in TCM trans oil temp after 300 second monitoring period	<= Refer to Table 27 in supporting documents ºC					>= 2 Fail Counts (300 sec sample period)	Two Trips
			delta transmission fluid temperature fail = transmission fluid temperature start of test - current value transmission fluid temperature							
			transmission fluid temperature start of test is latched to the current value of transmission fluid temperature when transmission cooling fan run time is not zero (0.0)							
					Outisde Air Signal Valid	=	TRUE	Boolean		
					Fan Status Valid	=	TRUE	Boolean		
					Battery Voltage	<=	31.99902	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Range Shift State	≠	RangeShift Completed	Enumeration		
					Range Shift State Previous	=	RangeShift Completed	Enumeration		
					Absolute TCC Slip	>=	80	RPM		
					Attained Gear	>=	First - Sixth	Enumeration		
					Transmission Input Speed	<=	3000	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Outside Air	>=	-8192	ºC		
					Outside Air	<=	58	ºC		
					Outside Air Mask Calibration	=	FALSE	Boolean		
					Transmission Temp	<=	255	ºC		
					Transmission Temp	>=	110	ºC		
					Powertrain Fan Status	=	FanIsOn	Enumeration		
					Fan Command Percent	>=	18.5	%		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P07BF, P07C0, P2808, P2809, P2812, P2814, P2815				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	C1252	The longitudinal accleration sensor signal failed at a low voltge	hardware configuration longitudinal accleration sensor raw signal hardware configuration longitudinal accleration sensor raw signal	= CeLATR_e_VoltageDirectPrOp <= -3.849999905 g's = CeLATR_e_VoltageDirectPrOp >= -3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL
					longitudinal acceleration low voltage diagnostic enable calibration	= 1		
					Battery Voltage	<= 31.999023 Volts		
					Battery Voltage	>= 9 Volts		
					Battery voltage is within the allowable limits for	>= 0.1 Sec		
					Ignition Voltage	<= 31.999023 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Transmission Control Module (TCM)	C1253	The longitudinal accleration sensor signal failed at a high voltge	hardware configuration longitudinal accleration sensor raw signal hardware configuration longitudinal accleration sensor raw signal	= CeLATR_e_VoltageDirectPrOp >= 3.849999905 g's = CeLATR_e_VoltageDirectPrOp <= 3.849999905 g's	transient delay timer	>= 30 Sec	>= 75 Sec out of 120 Sec	Special No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					longitudinal acceleration high voltage diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.999023	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1254	The longitudinal accleration signal is stuck at a high magnitude in range	absolute value (longitudinal accleration)	>= 0.529999971 g's	absolute value (longitudinal accleration) for stablity	>=	0.53	g's	>=	75	Sec	Special No MIL
			absolute value (longitudinal accleration)	<= 3.849999905 g's	absolute value (longitudinal accleration) for stablity stability time	<=	3.8499999	g's	out of	120	Sec	
						>=	30	Sec				
					Diagnostic shifting override command	=	FALSE	Boolean				
					Attained Gear State	=	1st through 8th					
					Attained Gear Slip	<=	100	RPM				
					Transmission Type	=	Clutch to Clutch Transmission					
					High Side Drivers enabled	=	TRUE	Boolean				
					transmssion output speed acceleration	>=	0.53	meter/second/second				
					Vehicle Speed	>=	15	kph				
					longitudinal acceleration stuck in range diagnostic enable calibration	=	1					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Battery Voltage	<= 31.999023 Volts		
					Battery Voltage	>= 9 Volts		
					Battery voltage is within the allowable limits for	>= 0.1 Sec		
					Ignition Voltage	<= 31.999023 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM and expected TCM calculated value not	= TRUE Boolean			>= 3 Fail Counter (100 msec continuous) > 10 Fail Timer (Sec)	Special No MIL
					Tap up/down message health (message receive occur)	= TRUE Boolean		
					Tap up/downswitch signal circuit (rolling count) diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage	<= 31.999023 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:			