16 OBDG03 TCM Summary Tables T76 (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)	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	<= 3.85 g's >= 0.53 g's >= 120 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	<= 3.85 g's >= 0.53 g's >= 90 Sec = FALSE Boolean = 1st through 6th <= 100 RPM = Clutch to Clutch Transmission = TRUE Boolean >= 15 kph = TRUE Boolean <= 31.999023 Volts >= 9 Volts >= 0.1 Sec <= 31.999023 Volts >= 9 Volts = FALSE Boolean >= 0.1 Sec		
				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		
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

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	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		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 144 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	>= 9 Volts <= 31.990234 Volts >= 0 ºC <= 240 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	= 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.
					High Side Driver 1 On	= True Boolean		
				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 ºC				Two Trips
			If TCM substrate temp to power up temp Δ	> Refer to Table 20 in supporting documents ºC				
			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 Brake torque active	= TRUE Boolean = TRUE Boolean >= 9 Volts <= 31.990234 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE		
					Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for:	 >= 90 N*m >= 30.000305 Pct <= 200 RPM <= 8 Kph ≠ Park ≠ Neutral = Not Active >= 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		
					P0667 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 Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	= CeTFTI_e_VoltageInverseProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= 254 °C				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= 254 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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_VoltageInverseProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= -254 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= -254 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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		
				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	> Refer to Table 20 in supporting documents ºC				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 in supporting documents ºC				
			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	>=	9	Volts				
					Ignition Voltage Hi	<=	31.990234	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	>=	30.000305	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_RatIEnbl					
					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	<= 254 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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		
					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	>= -254 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P06AE 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 Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 19 in supporting documents °C				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 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	= TRUE Boolean		
					Accelerator Position Signal Valid	= TRUE Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 30.000305 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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_VoltageInverseProp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= 254 °C				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= 254 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageInverseProp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= -254 °C				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= -254 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0713 Status is	≠ 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	>= 1350 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Engine Torque is	>= 0 N*m		
					Engine Torque is	<= 8191.875 N*m		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Vehicle Speed is	>= 10 Kph		
					Throttle Position is	>= 0 Pct		

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					The change (loop to loop) in transmission input speed is	< 8191.75 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	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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	< 1000 RPM	Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Engine Torque is	>= 50 N*m		
					Engine Torque is	<= 8191.875 N*m		
					Vehicle Speed	>= 16 Kph		
					Engine Torque Signal Valid	= TRUE Boolean		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Throttle Position	>=	8.0001831	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	>=	9	Volts		
					Ignition Voltage is	<=	31.990234	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					
					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	>=	30	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	>=	1000	RPM		
					Transmission Input Speed is	<=	8191.75	RPM		
					TIS Check Condition 2					
					Engine Speed without the brake applied is	>=	3200	RPM		
					Engine Speed with the brake applied is	>=	3200	RPM		
					Engine Speed is	<=	8191.75	RPM		
					Controller uses a single power supply for the speed sensors	=	1	Boolean		
					Powertrain Brake Pedal is Valid	=	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, 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 Output Speed Delta Output Speed Drop AND Transmission Range is	>= 105 RPM <= 8191.75 RPM > 1000 RPM = Driven range (R,D)			>= 0 Enable Time (Sec) >= 0 Enable Time (Sec) >= 3 Output Speed Drop Recovery Fail Time (Sec)	One Trip
					---------- Range_Disable OR ---------- Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently ----------	= FALSE See Below = TRUE See Below = TRUE See Below		
					Transmission_Range_Enable Transmission_Input_Speed_Enable No Change in Transfer Case Range (High <-> Low) for P0723 Status is not Disable this DTC if the PTO is active Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is Engine Speed is within the allowable limits for	= TRUE See Below = TRUE See Below >= 5 Seconds = Test Failed This Key On or Fault Active = 1 Boolean >= 9 Volts <= 31.990234 Volts >= 400 RPM <= 7500 RPM >= 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 Input Speed Delta Raw Input Speed	>= 0 Enable Time (Sec) <= 4095 RPM >= 500 RPM		

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

					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		
					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 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	>	1.5	Seconds		
					Transmission Output Speed	>	130	RPM		
					The loop to loop change of the Transmission Output Speed is	<	125	RPM		
					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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 660 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	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	<= 8191.875 N*m		
					Throttle Position Lo	>= 8.0001831 Pct		
					Throttle Position Hi	<= 99.998474 Pct		
					2nd Gear Ratio Lo	>= 2.7528076 Ratio		
					2nd Gear Ratio High	<= 3.1672363 Ratio		
					3rd Gear Ratio Lo	>= 1.7762451 Ratio		
					3rd Gear Ratio High	<= 2.0437012 Ratio		
					4th Gear Ratio Lo	>= 1.3485107 Ratio		
					4th Gear Ratio High	<= 1.5515137 Ratio		
					5th Gear Ratio Lo	>= 0.9300537 Ratio		

16 OBDG03 TCM Summary Tables T76 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					5th Gear Ratio Hi	<= 1.0699463 Ratio		
					6th Gear Ratio Lo	>= 0.6975098 Ratio		
					6th Gear Ratio High	<= 0.8024902 Ratio		
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hi	<= 130 ºC		
					PTO Not Active	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					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	>= -60 RPM				One Trip
			TCC Slip Speed	<= 30 RPM				
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 0.4 Fail Time (Sec) >= 5 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	<= 6000 RPM		
					Engine Speed Lo	>= 500 RPM		
					Vehicle Speed HI	<= 511 KPH		
					Vehicle Speed Lo	>= 1 KPH		
					Engine Torque Hi	<= 8191.875 Nm		
					Engine Torque Lo	>= 35 Nm		
					Current Range	≠ Neutral Range		
					Current Range	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 ºC		
					Transmission Sump Temperature	>= 15 ºC		
					Throttle Position Hyst High AND	>= 10.00061 Pct		
					Max Vehicle Speed to Meet Throttle Enable	<= 8 KPH		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Once Hyst High has been met, the enable will remain while	>= 2.0004272 Pct		
					Throttle Position	>= 75 Pct		
					Disable for Throttle Position	= 1 Boolean		
					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	>= 9 V		
					Ignition Voltage	<= 31.990234 V		
					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	<= 1.518310547			>= 0.3 Fail Tmr	
			Gear Ratio	>= 1.373657227			= 5 Fail Counts	
			If the above parameters are true				≠ 0 Neutral Timer (Sec)	
							>= 0.3 Fail Timer (Sec)	
							>= 8 Counts	
					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	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Transmission Fluid Temperature	>= -6.65625 ºC		
					Range Shift State	= Range Shift Completed ENUM		
					TPS	>= 0.5004883 %		
					OR			
					Output Speed	>= 100 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		
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	<= 1000 RPM				
			If Gear Ratio	>= 4.354858398				
			And Gear Ratio	<= 4.813232422				
							>= 1.5 Fail Timer (Sec)	
							>= 5 Counts	

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	<= 31.990234 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	>= 100 RPM		
					OR			
					TPS	>= 0.5004883 %		
					Range Shift State	= Range Shift Completed ENUM		
					Transmission Fluid Temperature	>= -6.65625 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)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear					One Trip
			Commanded Gear	= 3rd Gear				
			Gearbox Slip	>= 400 RPM			>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	
			Command 4th Gear once Output Shaft Speed	<= 1000 RPM				
			If Gear Ratio	>= 1.373657227				
			And Gear Ratio	<= 1.518310547				
							>= 3 Fail Timer (Sec)	
			It the above condiations are true, Increment 3rd gear fail counter				>= 2 3rd Gear Fail Counts	
							or	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					
			Commanded Gear	= 5th Gear				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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				or >= 14 3-5R Clutch Fail Counts	
					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	>= 100 RPM		
					A OR B			
					(A) Output speed enable	>= 100 RPM		
					(B) Accelerator Pedal enable	>= 0.5004883 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= -6.65625 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)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip	>= 400 RPM				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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)					
			Gear Ratio	<= 2.007324219				
			Gear Ratio	>= 1.744628906				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			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				
			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	<= 2.007324219				
			Gear Ratio	>= 1.744628906				
			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	<= 1.069946289				
			Gear Ratio	>= 0.930053711				
			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				
			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	<= 1.069946289			>= 1.1 Fail Timer (Sec)	
			Gear Ratio	>= 0.930053711			>= 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 >= 100 Nm (B) Accelerator Pedal enable >= 0.5004883 Nm Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 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 >= 10.00061 Pct if Attained Gear=1st FW Engine Torque Enable >= 45 Nm if Attained Gear=1st FW Engine Torque Enable <= 8191.875 Nm Transmission Fluid Temperature >= -6.65625 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)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized Clutch				
			Primary Offgoing Clutch Pressure Command Status	= exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 50 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)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (3-2 shifting with Throttle)	>= 0.400390625 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)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.400390625 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)	>= 0.400390625 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)	>= 0.400390625 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)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Closed 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					
			3rd gear fail counter				>= 3 3rd gear fail counts OR	
			5th gear fail counter				>= 3 5th gear fail counts OR	
			Total fail counter				>= 3 total fail counts	
					TUT Enable temperature	>= -6.65625 °C		
					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	>= 200 RPM		
					input speed limit for TUT	>= 200 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE 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		
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	>= 75 Counts				
					P077C Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	= 1 Boolean >= 9 Volts <= 31.990234 Volts		
				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	>= 75 Counts				
					P077D Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	= 1 Boolean >= 9 Volts <= 31.990234 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077C		
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

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 the above conditions have been met					
			Increment 4th Gear Fail Counter				>= 2 4th Gear Fail Count OR	
			and C456 Fail Counters				>= 14 C456 Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					
			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				>= 2 5th Gear Fail Count OR	
			and C456 Fail Counters				>= 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				>= 2 6th Gear Fail Count OR	
			and C456 Fail Counter				>= 14 C456 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 100 RPM		
					A OR B			
					(A) Output speed enable	>= 100 RPM		
					(B) Accelerator Pedal enable	>= 0.5004883 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= -6.65625 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		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st					One Trip
			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)					
			Gear Ratio	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	
							>= 2 Fail Count in 1st Gear or	
							>= 3 Total Fail Counts	
			Fail Case 2 Case Steady State 2nd					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			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				
			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	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							>= 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	>= 100 Nm		
					(B) Accelerator Pedal enable	>= 0.5004883 Nm		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 10.00061 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.875 Nm		
					Transmission Fluid Temperature	>= -6.65625 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)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized Clutch				
			Primary Offgoing Clutch Pressure Command Status	= exhaust command				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 50 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (4-1 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (6-2 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					
			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				>= 3 Total Fail Counter	
					TUT Enable temperature	>= -6.65625 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					High Side Driver ON = TRUE Boolean output speed limit for TUT >= 200 RPM input speed limit for TUT >= 200 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		
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	>= 75 Counts				
					P07BF Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 Volts			
				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	>= 4.75 Volts			>= 5.00E-02 sec	One Trip
			P07C0 Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P07C0 Fail Counter					
			DTC P07C0 Sets when the Fail Counter	>= 75 Counts				
					P07C0 Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 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: 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 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 Tap Up Switch Stuck in the Up Position in Reverse Enabled Tap Up Switch ON	= 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = TRUE Boolean			>= 1 Fail Time (Sec)	Special No MIL
			Fail Case 2 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 Tap Up Switch Stuck in the Up Position in Reverse Enabled Tap Up Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	= 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 1 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = TRUE Boolean			>= 120 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	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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					Special No MIL
			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 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				

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 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 Enable Time (Sec)		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 9 Volts <= 31.990234 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	>= 9 Volts <= 31.990234 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		
					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	>= 9 Volts <= 31.990234 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)	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 >= 9 Volts Ignition Voltage <= 31.990234 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec 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 >= 9 Volts Ignition Voltage <= 31.990234 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	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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	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	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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		
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 Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	= Test Failed This Key On or Fault Active >= 9 Volts <= 31.990234 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	
				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 Current range Previous range Previous range Range Shift State Absolute Attained Gear Slip Attained Gear	= Transition 1 (bit state 1110) Range ≠ CeTRGR_e_PRNDL_Drive 6 Range ≠ CeTRGR_e_PRNDL_Drive 5 Range = Range Shift Completed ENUM <= 50 rpm <= Sixth				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Attained Gear	>= First				
			Throttle Position Available	= TRUE				
			Throttle Position	>= 8.000183105 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				
			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	≠ CeTRGR_e_PRNDL_Drive5		
			Engine Torque	>= -8192 Nm	Previous range	≠ CeTRGR_e_PRNDL_Drive5		
			Engine Torque	<= 8191.75 Nm	IMS is 7 position configuration	= 0 Boolean		
			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 Current range	= Transition 8 (bit state 0111) Range	Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8			
			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)			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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				
			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	>= 8.000183105 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		
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	
			Fail Case 7 Current PRNDL State	= PRNDL circuit ABCP = 1101 Range				
			and					
			Previous PRNDL state	= PRNDL circuit ABCP =1111 Range				
			Input Speed	>= 150 RPM				
			Reverse Trans Ratio	<= 2.736938477 ratio				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Reverse Trans Ratio	>= 3.149047852 ratio				
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	
			P182E will report test fail when any of the above 7 fail cases are met					
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
				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	>= 650 RPM				
			Final Transmission Input Speed	>= 40 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.990234 V		
					Ignition Voltage Hyst High (enables above this value)	>= 5 V		
					Ignition Voltage Hyst Low (disabled below this value)	<= 2 V		
					Transmission Output Speed	<= 90 rpm		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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) Ignition Voltage High Hyst (run crank goes true when above this value) Ignition Voltage Low Hyst (run crank goes false when below this value)	= FALSE Boolean 5 Volts 2 Volts			>= 280 Fail Counts (25ms loop) Out of 280 Sample Counts (25ms loop)	One Trip
					ECM run/crank active status available ECM run/crank active status	= TRUE Boolean = 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) Ignition Voltage High Hyst (run crank goes true when above this value) Ignition Voltage Low Hyst (run crank goes false when below this value)	= TRUE Boolean 5 Volts 2 Volts			>= 280 Fail Counts (25ms loop) Out of 280 Sample Counts (25ms loop)	One Trip
					ECM run/crank active status available ECM run/crank active status	= TRUE Boolean = 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 Gear slip Intrusive test: commanded 3rd gear	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	
			and CB26 Fail Count				or >= 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)	
			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				>= 3 5th Gear Fail Count	
			and CB26 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	>= 100 RPM		
					(B) Accelerator Pedal enable	>= 0.5004883 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= -6.65625 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)	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 Clutch				
			Primary Offgoing Clutch Pressure Command Status	= exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 50 RPM				
			If above coditons are true, increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-1 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.400390625 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (6-5 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					
			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				>= 3 Total Fail Counter	
					TUT Enable temperature	>= -6.65625 °C		
					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	>= 200 RPM		
					input speed limit for TUT	>= 200 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					One Trip
			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)					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear Ratio Gear Ratio If the above parameters are true	<= 3.112670898 >= 2.705322266			>= 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 Min Delta Output Speed Hysteresis If the Above is True for Time Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec >= Table Based value Please Refer to Table 23 in supporting documents rpm/sec >= Table Based Time Please Refer to Table 17 in supporting documents Sec <= 3.112670898 >= 2.705322266			>= 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 Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 22 in supporting documents rpm/sec >= Table Based value Please Refer to Table 23 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	<= 0.798217773				
			Gear Ratio	>= 0.693725586				
			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	<= 0.798217773				
			Gear Ratio	>= 0.693725586				
			If the above parameters are true					
							>= 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	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					A OR B			
					(A) Output speed enable	>= 100 Nm		
					(B) Accelerator Pedal enable	>= 0.5004883 Nm		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 10.00061 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.875 Nm		
					Transmission Fluid Temperature	>= -6.65625 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)	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	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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		

16 OBDG03 TCM Summary Tables T76 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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			>= 2	1st Gear Fail Count	
			and C1234 fail counter			>= 14	or C1234 Clutch Fail Count	
			Fail Case 2 Case: Steady State 2nd Gear					
			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			>= 2	2nd Gear Fail Count	
			and C1234 fail counter			>= 14	or C1234 Clutch Fail Count	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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				>= 2 3rd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
			Fail Case 4 Case: Steady State 4th 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 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	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 100 RPM		
					(B) Accelerator Pedal enable	>= 0.5004883 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= -6.65625 °C		
					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)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1 (2-6 shifting with throttle) fail timer 1 (2-6 shifting without throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting without throttle) fail timer 1 (4-5 shifting with throttle) fail timer 1 (4-5 shifting without throttle) fail timer 1 (4-6 shifting with throttle) fail timer 1 (4-6 shifting without throttle)	= TRUE Boolean = Maximum pressurized Clutch = exhaust command ≠ Initial Clutch Control <= 50 RPM >= 0.400390625 sec >= 0.5 sec >= 0.400390625 sec >= 0.5 sec >= 0.400390625 sec >= 0.5 sec >= 0.400390625 sec >= 0.5 sec				One Trip

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					
			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	
			total fail counter				>= 3 Total Fail Counter	
					TUT Enable temperature	>= -6.65625 °C		
					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	>= 200 RPM		
					input speed limit for TUT	>= 200 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					One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			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				
			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	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							>= 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	>= 100 Nm		
					(B) Accelerator Pedal enable	>= 0.5004883 Nm		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	>= 10.00061 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.875 Nm		
					Transmission Fluid Temperature	>= -6.65625 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
					P2729 Status is not	= Test Failed This Key On or Fault Active		

16 OBDG03 TCM Summary Tables T76 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage >= 9 Volt Ignition Voltage <= 31.990234 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 >= 9 Volt Ignition Voltage <= 31.990234 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)	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 >= 9 Volt Ignition Voltage <= 31.990234 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		

16 OBDG03 TCM Summary Tables T76 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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	>= 9 Volt		
					Ignition Voltage	<= 31.990234 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		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 Fail counts (≈ 10 seconds) Out of 70 Sample Counts (≈ 11 seconds)	One Trip
			Delay timer	>= 0.1125 sec				
					Stabilization delay	>= 3 sec		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.990234 Volt		
					Power Mode	= 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	>= 3 sec		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.990234 Volt		
					Power Mode	= Run		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	P0562	Ignition voltage at the TCM is low for an extended period of time.	Ignition Voltage	<= 10 Volts			= 8 Fail counts (1000ms loop) Out of 12 Sample Counts (1000ms loop)	No Mil
					Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo (disabled below this value) Engine Speed	> 5 Volts <= 2 Volts > 1350 RPM		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0563	Ignition voltage at the TCM is high for an extended period of time.	Ignition Voltage	>= 18 Volts			= 10 Fail counts (1000ms loop) Out of 12 Sample Counts (1000ms loop)	No Mil
					Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo (disabled below this value)	> 5 Volts <= 2 Volts		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0602	Transmission Electro-Hydraulic Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE Boolean			Runs Continously	No Mil
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0602 ECM: None		
High Side Driver 1	P0659	Actuator Supply Voltage Circuit High	During the controller power-up, prior to the HSD being turned on, the HWIO reports that power short failure is	= TRUE Boolean			>= 4 Fail Counts out of 6 Sample Counts	No Mil
					P0659 Status is not	= Test Failed This Key On or Fault Active		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Mode Switch	P071A	Transmission Mode Switch A Circuit	Tow Haul Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo	>= 9 Volts		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Hi <= 31.990234 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	P071D	Transmission Mode Switch B Circuit	Sport Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 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 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear = 1st Locked Gear Box Slip >= 400 RPM Intrusive Shift to 2nd Commanded Gear Previous = 1st Locked Gear Gear Ratio <= 3.111816406 Gear Ratio >= 2.704589844 If the above parameters are true				>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec) >= 1 sec >= 3 counts	No Mil
					Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Output Speed >= 110 RPM OR TPS >= 0.5004883 % Range Shift State = Range Shift Completed ENUM Transmission Fluid Temperature >= -6.65625 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			

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		
Mode Switch	P078F	Transmission Mode Switch C Circuit	Winter Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	P07CE	Transmission Mode Switch D Circuit	Tour Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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	P07D1	Transmission Mode Switch E Circuit	Comfort Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Mode Switch	P07D4	Transmission Mode Switch F Circuit	Normal Mode Switch state	= TRUE Boolean			>= 600 Fail Time (Sec)	No Mil
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 9 Volts <= 31.990234 Volts >= 400 RPM <= 7500 RPM >= 5 Sec	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1762 ECM: None	
Transmission Fluid Pressure Switch	P0842	Transmission Fluid Pressure (TFP) Sensor A Circuit Low Voltage	C35R Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter	<= 50 Kpa >= See Table 7 for Delay Timer Cal Sec			>= 42 Fail Counts	No Mil
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa				
					Transmission Fluid Temperature Lo Transmission Fluid Temperature Hyst Hi (disable above this) Transmission Fluid Temperature Hyst Lo (enable below this) Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min PRNDL State	>= -6.65625 ºC Not >= 120 ºC <= 255.99219 ºC >= 9 Volts <= 31.990234 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM = Drive 1- Drive 6	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None	

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Fluid Pressure Switch	P0843	Transmission Fluid Pressure (TFP) Sensor A Circuit High Voltage	C35R Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter	>= 700 Kpa >= See Table 7 for Delay Timer Cal Sec			>= 57 Fail Counts	No Mil
			Note: Subsequent fail counts require C35R pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 Kpa				
					Transmission Fluid Temperature Lo >= -6.65625 ºC Transmission Fluid Temperature Hyst Hi (disable above this) Not >= 120 ºC Transmission Fluid Temperature Hyst Lo (enable below this) <= 255.99219 ºC Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Default Gear Action = FALSE High Side Driver ON = TRUE RVT Status = Normal Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM PRNDL State = Drive 1- Drive 6		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter	<= 50 KPa >= See Table 8 for Delay Timer Cal Sec			>= 8 Fail Counts	No Mil
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99219 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					PRNDL State	= Drive 1-Drive 6		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure	>= 700 KPa				No Mil
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 11 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99219 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 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.
					Default Gear Action = FALSE High Side Driver ON = TRUE RVT Status = Normal Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM PRNDL State = Drive 1-Drive 6			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa				No Mil
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 12 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo >= -6.65625 ºC Transmission Fluid Temperature Hyst Hi (disable above this) Not >= 120 ºC Transmission Fluid Temperature Hyst Lo (enable below this) <= 255.99219 ºC Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.990234 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Default Gear Action = FALSE High Side Driver ON = TRUE RVT Status = Normal Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM PRNDL State = Drive 1-Drive 6		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

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: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter	>= 700 KPa >= See Table 6 for Delay Timer Cal Sec			>= 12 Fail Counts	No Mil
			Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 Kpa				
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99219 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					PRNDL State	= Drive 1-Drive 6		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0965	Pressure Control (PC) Solenoid B Control Circuit Rationality Test (C35R 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)	No Mil
					Ignition Voltage Ignition Voltage	>= 9 Volts <= 31.990234 Volts		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Engine Speed	>=	400	RPM				
					Engine Speed	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					P0965 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)	P0969	Pressure Control (PC) Solenoid C Control Circuit Rationality Test (C456/CBR1 VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean					>=	4.4	Fail Time (Sec)	No Mil
									out of	5	Sample Time (Sec)	
					P0969 Status is not	=	Test Failed This Key On or Fault Active					
					Ignition Voltage	>=	9	Volts				
					Ignition Voltage	<=	31.990234	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						
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low (Mode 3 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean					>=	1.2	Sec	No Mil
									out of	1.5	Sec	
					P0976 Status is not	=	Test Failed This Key On or Fault Active					
					Ignition Voltage	>=	9	Volts				
					Ignition Voltage	<=	31.990234	Volts				
					Engine Speed	>=	400	RPM				
					Engine Speed	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

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	No Mil
					P0977 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.990234 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		
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure	<= 50 Kpa				No Mil
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 17 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99219 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					PRNDL State	= Drive 1- Drive 6		
					MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
				Disable Conditions:				
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure	>= 700 Kpa				No Mil
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 30 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= -6.65625 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99219 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					PRNDL State	= Drive 1- Drive 6		
					MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
				Disable Conditions:				
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	No Mil

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value			Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
												>	10	Sample Timer (Sec)	
								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						
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	=	0	Boolean								No Mil
				Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	0	Boolean								
				Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	0	Boolean								
				Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	0	Boolean								
				Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	0	Boolean								
				Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	0	Boolean								
				Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	1	Boolean								
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	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 NOTE: Both Failcase1 and Failcase 2 Must Be Met	=	TRUE	Boolean					>=	600	Fail Time (Sec)	
								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.
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					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	= 0 Boolean				No Mil
			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				
			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				

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 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	
					Time Since Last Range Change	>= 1 Sec		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 400 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		
				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)	No Mil
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.990234 Volts		
					Engine Speed Lo	>= 400 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		

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range TUTD Enable Switch is Active	= Park or Reverse or Neutral Range State = TRUE Boolean			>= 3 Fail Time (Sec) >= 5 Fail Counts	Special No MIL
					Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P1876 Status is	>= 9 Volts <= 31.990234 Volts <= 511 KPH >= 400 RPM <= 7500 RPM >= 5 Sec ≠ 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		
Transmission Control Module (TCM)	P2537	Ignition Switch Accessory Position Circuit Low	TCM Accessory Input Note: If P2537 has not passed or failed this key cycle, a pass counter will be incremented if the Accessory input is TRUE (high). Once the delay time is satisfied, this pass counter will then be evaluated to determine pass or fail. If the pass criteria has not been met a fail is reported.	= FALSE Boolean			< 1 Pass Counts (12.5ms loop)	No Mil
					P2537 P2537 Propulsion System Active Delay timer	≠ Test Pass This Key On ≠ Test Failed This Key On = TRUE Boolean >= 32 Sec		
			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 (open or ground short) error flag	= TRUE Boolean			>= 0 Fail Counts out of 0 Sample Counts	No Mil

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P2670 Status is not = Test Failed This Key On or Fault Active			
					High Side Driver 2 On = True Boolean			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
High Side Driver 2	P2671	Actuator Supply Voltage B Circuit High	During the controller power-up, prior to the HSD being turned on, the HWIO reports that power short failure is	= TRUE Boolean			>= 0 Fail Counts out of 0 Sample Counts	No Mil
					P2671 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)	P2719	Pressure Control (PC) Solenoid D Control Circuit Rationality Test (CB26 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)	No Mil
					P2719 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 9 Volts			
					Ignition Voltage <= 31.990234 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)	P2728	Pressure Control (PC) Solenoid E Control Circuit Rationality Test (C1234 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)	No Mil

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P2728 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 9 Volt			
					Ignition Voltage <= 31.990234 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)	P2762	Torque Converter Clutch Pressure Control Solenoid Control Rationality Test	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	No Mil
					P2762 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 9 Volt			
					Ignition Voltage <= 31.990234 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		
Communication	U0121	Loss Communications with ABS (Anti-lock Brake System)	CAN messages from ABS are not received by the TCM	= TRUE Boolean			>= 12 sec	No Mil
					Stabilization delay >= 3 sec			
					Ignition Voltage >= 9 Volt			
					Ignition Voltage <= 31.990234 Volt			
					Power Mode = Run			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Communication	U0140	Loss Communications with BCM (Body Control Module)	CAN messages from BCM are not received by the TCM	= TRUE Boolean			>= 12 sec	No Mil
					Stabilization delay >= 3 sec			
					Ignition Voltage >= 9 Volt			
					Ignition Voltage <= 31.990234 Volt			
					Power Mode = Run			

16 OBDG03 TCM Summary Tables T76 (6 Speed Unique)

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: U0073 ECM: None		
Communication	U0293	Loss Communications with HPCM (Hybrid Powertrain Control Module)	CAN messages from HPCM are not received by the TCM	= TRUE Boolean			>= 12 sec	No Mil
					Stabilization delay	>= 3 sec		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.990234 Volt		
					Power Mode	= Run		

Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	100.00	120.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	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	3.50	3.50	Sec

Table 4

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.99	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	-30.00	-20.00	0.00	30.00	60.00	ºC
Curve	8.85	3.75	1.31	0.28	0.28	Sec

Table 11

Axis	-30.00	-20.00	0.00	30.00	60.00	ºC
Curve	5.00	1.70	0.40	0.25	0.25	Sec

Table 12

Axis	-30.00	-20.00	0.00	30.00	60.00	ºC
Curve	8.00	2.20	0.70	0.25	0.25	Sec

Table 13

Axis	-30.00	-20.00	0.00	30.00	60.00	ºC
Curve	5.20	1.60	0.50	0.27	0.23	Sec

Table 14

Axis	-30.00	-20.00	0.00	30.00	60.00	ºC
Curve	5.00	1.50	0.70	0.25	0.25	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

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

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Longitudinal Acceleration Sensor	C1253	Longitudinal Acceleration Sensor Circuit High	G Sensor	≧ 1.71 G			> 5.0 sec	Special No MIL
					Two fault occurances accumulated or continuous	= TRUE		
					System Voltage	> 10 volt ≦ 32 volt		
					Vehicle speed	≧ 1 kph		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073, P175F		
Longitudinal Acceleration Sensor	C1252	Longitudinal Acceleration Sensor Circuit Low	G Sensor	≦ -1.71 G			> 5.0 sec	Special No MIL
					Two fault occurances accumulated or continuous	= TRUE		
					System Voltage	> 10 volt ≦ 32 volt		
					Vehicle speed	≧ 1 kph		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073, P175F		
Longitudinal Acceleration Sensor	C1254	Longitudinal Acceleration Sensor Performance	G Sensor variation (Calculated from vehicle speed)	≧ 0.027 G			> 5.0 sec	Special No MIL
					Two fault occurances accumulated or continuous	= TRUE		
					System Voltage	> 10 volt ≦ 32 volt		
					Stuck at a high	OFF	> 1.0 sec	
					Stuck at a low	OFF		
					Absolute of G Sensor Variation	≦ 0.011 G		
					CAN diagnosis	OFF		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073, P175F		
System Voltage	P0561	System Voltage Performance Diagnostic	ABS(VIGN-VBatt)	≧ 3 V			> 4 sec	One Trip
					Propulsion System Active Starter Motor Engaged	= TRUE = FALSE		
					Vbatt(PVIGN) Run Crack status	>= 5 V = TRUE		

16 OBDG03 TCM Summary Tables T54 (CVT)

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: U0100, P0885, P2534、U0073、P0563 ECM: None		
TCM CPU	P0601	ROM Fail	ROM Diagnosis Result from Operating System OR Fast ROM Diagnosis Result from Operation System	= Fail = Fail	System Voltage	= from IGN-ON before Power-Off	Immediately	One Trip
TCM CPU	P0604	RAM Fail	RAM Diagnosis Result from Operating System OR Fast RAM Diagnosis Result from Operation System	= Fail = Fail	System Voltage	= from IGN-ON before Power-Off	Immediately	One Trip
TCM CPU	P0606	CPU Fail	CPU Diagnosis Result from Operating System OR Semicondutor-Relay Stuck Off Diagnosis Result from Operating System OR Semicondutor-Relay Stuck On Diagnosis Result from Operating System	= Fail = Fail = Fail	System Voltage	= from IGN-ON before Power-Off	Immediately	One Trip
Transmission Control Module (TCM)	P0603	Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum mismatch	= TRUE	None MIL not Illuminated for DTC's:	TCM: None ECM: None		One Trip
A/T Range (TR) Switch	P0705	Transmission Range Switch Circuit	Fail Case 1 The range signal from the TR switch	switch signal is in a "no range signal" state	System voltage System voltage MIL not Illuminated for DTC's:	>= 10 V =< 32 V TCM: None ECM: None	> 30 Sec	One Trip

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Fail Case 2 The range signal from the TR switch	switch signal is in a "no range signal" state			> 5 Sec	
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Engine speed - Calculated turbine speed	> 200 (calibration value) rpm		
					Calculated turbine speed	>= 250 (calibration value) rpm		
					LU patern	≠ LU condition		
					ATF Temperature	>= 20 degC		
					Clutch Status	= Close		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0100, P0717, P0711, P0712, P0713 ECM: None		
A/T Range (TR) Switch	P0706	Transmission Range Switch Performance	The range signal from the TR switch	more than one "range signal" is detected (Except combination of D and L which has overlap by design;defaults to D			> 2 Sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Transmission Fluid Temperature Sensor Performance	ATF Fluid temperature stuck in temperature zone				>= 10 Fail Time (Min)	One Trip
				A/T Fluid temperature <= 10 C°				
				A/T Fluid temperature >= -40 C°	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Range	D or L Range		
					Engine speed	>= 450 rpm		
					Vehicle speed	>= 7 mph		
					Pedal position	>= 12.5 %		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0705, P0706 ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission Fluid Temperature Sensor Circuit Low Voltage (short to ground).	A/T Fluid temperature	>= 180 C°			>= 5 Fail Time (Sec)	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

16 OBDG03 TCM Summary Tables T54 (CVT)

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 Sensor Circuit High Voltage (open or short to power).	A/T Fluid temperature	<= -40 C°			>= 5 Fail Time (Sec)	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Vehicle speed	>= 7 mph		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit No Signal	Fail Case 1 Primary pulley speed	< 150 RPM			>= 5 Sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Secondary Pulley speed	>= 1000 RPM		
		Check pulse input	Fail Case 2 Pulse input	No pulse			>= 500 msec	
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Latest calculated Primary pulley speed	>= 1000 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
A/T Vehicle Speed Sensor (Output Gear Speed Sensor)	P0721	Output Speed Sensor Performance	Fail Case 1 Output gear speed	< 150 RPM			>= 10 sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Secondary Pulley speed	>= 1500 rpm		
					Range	D Range or L Range or R Range		
					Calculated turbine speed is experienced after engagement	< 300 rpm		
					Output gear speed is not experienced after engagement	> 250 rpm		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0705, P0706 ECM: None		
		Pulse input	Fail Case 2 Pulse input	No pulse			>= 500 msec	
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Latest calculated Output gear speed	>= 730 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	Torque converter slip	>= (40 + Vehicle speed [mph] x 1.6/2) RPM			>= 30 Sec	One Trip
					System voltage	>= 10 V		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					System voltage	=< 32 V		
					TCC Mode	Commanded Lock		
					Lock up command oil pressure	> 0.2 MPa		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717 ECM: TBD(engine speed)		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	The LU coast learning value CLPrsL ; with A/C OFF CLPrsLACON ; with A/C ON	=< -0.1 MPa			Immediately	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					LU coast learning control	Experienced at least once in the same		
					TCC Slip	< 100 rpm		
					Engine speed	<= 1500 rpm		
					Temperature	> 10 degC		
						< 140 degC		
					TCC Mode	Commanded Lock		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2763, P2764, P0741, P0742, P0705, P0706, P0717, P0711, P0712, P0713, P0841, P0842, P0843, P0885, P0961, P0962, P0963, U100		
Secondary pulley Speed Sensor	P0792	Intermediate Shaft Speed Sensor Circuit Performance	Fail Case 1 Secondary pulley speed	< 150 RPM			> 5 Sec	One Trip
					System voltage	>= 10 V		
		Check Secondary pulley speed			System voltage	=< 32 V		
					Primary pulley speed	>= 1000 rpm		
			Fail Case 2 Check pulse input	No pulse			> 500 msec	
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Latest calculated Secondary pulley speed	>= 1000 rpm		

16 OBDG03 TCM Summary Tables T54 (CVT)

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		
Auxiliary Shift Gear In Neutral	P0796	Pressure Control Solenoid Valve 3 Stuck Off [Gear ratio in Neutral (1st gear)] Check current commanded gear ratio and actual gear ratio	Actual auxiliary shift gear ratio	>= 2.232	System voltage System voltage Engine speed Output gear speed Secondary pulley speed Range Pedal position Current commanded auxiliary shift gear	>= 10 V =< 32 V > 625 rpm > 300 rpm > 300 rpm D Range or L Range >= 7.8 % = 1st Gear	>= 2 sec	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2715,P2714, P0797, P0721, P0792, P0706, P0705, P0970, P0971, P2720, P2721, U0100, U0073 ECM: TBD(engine speed) TBD(Pedal position)		
Auxiliary Shift Gear Interlock / Incorrect Auxiliary Shift Gear Ratio	P0797	Pressure Control Solenoid Valve 3 Stuck On [Gear ratio fail (2nd gear)] Check vehicle deceleration and the actual gear ratio	Fail Case 1 Actual auxiliary shift gear ratio	without +/-50% range of designed 2nd gear ratio	System voltage System voltage Engine speed Output gear speed Secondary pulley speed Range Vehicle speed Vehicle G Current commanded auxiliary shift gear	>= 10 V =< 32 V > 625 rpm > 300 rpm > 300 rpm D Range or L Range >= 7 Mph < -0.05 G = 2nd gear	>= 200 msec	One Trip
		Check current commanded gear ratio and actual gear ratio	Fail Case 2 Actual auxiliary shift gear ratio	within +/-10% range of designed 1st gear ratio			>= 500 msec	

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Engine speed	> 625 rpm		
					Output gear speed	> 300 rpm		
					Secondary pulley speed	> 300 rpm		
					Range	D Range or L Range		
					Vehicle speed	>= 7 Mph		
					Pedal position	>= 7.8 %		
					Current commanded auxiliary shift gear	= 2nd gear		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2715,P2714, P0796, P0721, P0792, P0706, P0705, P0970, P0971, P2720, P2721, U0100, U0073 ECM: TBD(engine speed) TBD(Pedal position)		
	P0841		Fail Case 1					One Trip
Secondary pulley Pressure		Transmission Fluid Pressure Sensor Performance Rationality	Actual secondary pressure -	> 0.675 MPa			5 sec	
Sensor		Compare actual pressure with target pressure	Target secondary pressure		System voltage	>= 10 V		
					System voltage	=< 32 V		
					Range	D Range		
					Primary Pulley	> 306 rpm		
					Secondary Pulley	> 230 rpm		
					|Vehicle Speed Rate of Change|	< 31 mph		
					|Pulley ratio Rate of Change|	< 0.1		
					|Pedal position Rate of Change|	< 21 %		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717, P0792, P0721, U0100, P0706, P0705, P0963, P0961, P0842, P0843, P0885 ECM: TBD(engine speed)		
			Fail Case 2					
			Target secondary pressure -	> 1.2 MPa			10 sec	
			Actual secondary pressure		System voltage	>= 10 V		
					Range	D Range		
					Engine speed	>= 450 rpm		
					Vehicle Speed	>= 7 mph		
					Pedal position	>= 12.5 %		
					Target secondary pressure	>= 0 MPa		
					A/T Fluid temperature	< 180 C°		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					A/T Fluid temperature	> 10 Cº		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717, P0792, P0721, U0100, P0706, P0705, P0963, P0962, P0961, P0842, P0843, P0741, P2764, P2763, U0073, P0711, P0712, P0713 ECM: TBD(engine speed) TBD(Pedal position)		
Secondary pulley Pressure Sensor	P0842	Transmission Fluid Pressure Sensor Circuit Low Voltage Check input voltage	Sensor circuit Input Voltage	<= 0.09 volts			>= 5 sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					A/T Fluid temperature	> -20 Cº		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Secondary pulley Pressure Sensor	P0843	Transmission Fluid Pressure Sensor Circuit High Voltage Check input voltage	Sensor circuit Input Voltage	>= 4.7 volts			>= 5 sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					A/T Fluid temperature	> -20 Cº		
					Target pressure of Secondary Pressure Solenoid	<= 5.7 MPa		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
ROM Assembly	P0863	ROM Read error	ROM assembly read error	= TRUE			>= 10 sec	One Trip
					System voltage	>= 6.5 V		
					Range	P range or N range		
					Output speed sensor pulse input starting from IGN-ON	= None		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM:None ECM: None		
		Communication error	ROM assembly communication error	= TRUE			>= 10 sec	
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Range	P range or N range		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Output speed sensor pulse input starting from IGN-ON	= None		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Pressure Switch	P0871	Transmission Fluid Pressure Switch Performance	Fail Case 1 High clutch pressure switch status	= ON			> 1.5 sec	One Trip
					Range High clutch pressure command	P Range or R Range or N range =< 0 MPa		
					ROM assembly communication status	Not communicating		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0705, P0706, P0796, P2715, ECM: None		
			Fail Case 2 High clutch pressure switch status	= ON			> 1.5 sec	
					Range High clutch pressure command Engine speed Current commanded auxiliary shift gear Vehicle speed	D range or L range =< 0 MPa > 400 rpm = 1st gear < 7 Mph		
					ROM assembly communication status	Not communicating		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0705, P0706, P0796, P2715, ECM: None		
			Fail Case 3 High clutch pressure switch status	= OFF			> Refer to Table 1 sec	
					Range High clutch pressure command	D range or L range >= 0.2 MPa		
					Current commanded auxiliary shift gear	= 2nd		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					High Clutch pressure solenoid command current	=< 50 mA		
					High Clutch pressure solenoid monitor current	=< 60 mA		
					Engine speed	> 550 rpm		
					Output gear speed	> 300 rpm		
					Secondary pulley speed	> 300 rpm		
					Actual auxiliary shift gear ratio	< 1.1		
					Pedal position	>= 7.8 %		
					ROM assembly communication status	Not communicating		
					MIL not Illuminated for DTC's:	TCM: P0705, P0706, P0796, P2715, ECM: None		
Input Voltage	P0885	Transmission Control Module (TCM) Power Relay Control Circuit	Power Source	< 8.4 V			>= 200 msec	One Trip
					System voltage	> 11 V		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Line Pressure Solenoid	P0961	Line Pressure Control Solenoid Valve Performance Check pulley ratio	Fail Case 1 (Primary pulley speed /Secondary pulley speed)	> 2.55			>= 200 msec	One Trip
					Range	D Range or L Range or R Range		
					Engine Speed	> 600 rpm		
					Primary pulley speed	> 500 rpm		
					Key On timer	>= 500 ms		
					Vehicle G	>= -0.051 G		
					Output speed or Secondary pulley speed	<= 107 rpm > 61 rpm		
					Pedal pressed	= TRUE		
					Interval time after 1st detection	>= 1 sec		
		Check pulley ratio	Fail Case 2 (Primary pulley speed /Secondary pulley speed)	> 3.35			>= 100 msec	
					Range	D Range or L Range or R Range		
					Engine Speed	> 600 rpm		
					Primary pulley speed	> 500 rpm		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Key On timer >= 500 ms Vehicle G >= -0.051 G Output speed <= 107 rpm or Secondary pulley speed > 61 rpm Pedal pressed = TRUE Interval time after 1st detection >= 1 sec			
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0717, P0721 ECM: None		
Line Pressure Solenoid	P0962	Line Pressure Control Solenoid Valve Control Circuit Low Voltage	Monitored current Commanded current	<= 200 mA >= 750 mA			>= 200 msec	One Trip
					System voltage >= 10 V System voltage =< 32 V Hardware circuitry detects short to ground = TRUE Line Pressure Solenoid command = ON			
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0963 ECM: None		
Line Pressure Solenoid	P0963	Line Pressure Control Solenoid Valve Control Circuit High Voltage	Monitored current Commanded current	<= 200 mA >= 750 mA			>= 200 msec	One Trip
					System voltage >= 10 V System voltage =< 32 V Hardware circuitry detects short to ground = FALSE Line Pressure Solenoid command = ON			
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0962 ECM: None		
Primary Pressure Solenoid	P0965	Pressure Control Solenoid Valve 2 Performance	Fail Case 1 Pulley ratio (Primary pulley speed /Secondary pulley speed)	>= 2.0 and <= 2.4	Range D Range or L Range or R Range Engine Speed > 500 rpm Target pulley ratio < 1.2		>= 5 Sec	One Trip
			Fail Case 2 Pulley ratio (Primary pulley speed /Secondary pulley speed)	>= 0.35 and <= 0.75	Range D Range or L Range or R Range		>= 5 Sec	

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Engine Speed	> 500 rpm		
					Target pulley ratio	> 1.55		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717, P0792, P0842, P0843, P0841, P0962, P0963, P0961, P0966, P0967, P0706, P0705, U0100 ECM: TBD(Engine speed)		
Primary Pressure Solenoid	P0966	Pressure Control Solenoid Valve 2 Control Circuit Low Voltage STG	Monitored current	<= 200 mA			> 480 msec	One Trip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= TRUE		
					Primary Pressure Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0967 ECM: None		
Primary Pressure Solenoid	P0967	Pressure Control Solenoid Valve 2 Control Circuit High Voltage Open	Monitored current	<= 200 mA			> 200 msec	One Trip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= FALSE		
					Primary Pressure Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0966 ECM: None		
Low Brake (L/B) Solenoid	P0970	Pressure Control Solenoid Valve 3 Control Circuit Low Voltage STG	Monitored current	<= 200 mA			> 480 msec	One Trip

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= TRUE		
					Low Brake (L/B) Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0971 ECM: None		
Low Brake (L/B) Solenoid	P0971	Pressure Control Solenoid Valve 3 Control Circuit High Voltage Open	Fail Case 1 Monitored current	<= 200 mA			> 200 msec	One Trip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= FALSE		
					Low Brake (L/B) Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0970 ECM: None		
			Fail Case 2 Monitored voltage of Low Brake (L/B) Solenoid's drive circuit	>= 8 V			> 200 msec	
					Low Brake (L/B) Solenoid command duty	= 0 %		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Longitudinal Acceleration Sensor	P175F	Acceleration Sensor Signal Message Counter Incorrect	Fail Case 1 Error Conter	≧ 20 Error counts (window timer 60 sec)	CAN Communication Status	= Receive	immediate	Special No MIL
					System Voltage	≧ 9 volt		
				※Error is counted when ARC CAN signal is not same with Expected ARC value				
			Fail Case 2 Comm. Message Invalid Between BCM and TCM	= TRUE Boolean	System voltage	>= 10 V	> 2 Sec or	

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					System voltage over Min for	> 2 sec	> ID Periodic Interval × 5 times	
					Ignition On for	> 2 sec		
					Engine speed	>= 600 rpm		
					Calculated turbine speed	>= 600 rpm		
ROM Assembly	P1790	Data mismatch	Data miss match between ROM assembly data and NVM data	= TRUE				One Trip
					ROM assembly read succeed	= TRUE		
					Output speed sensor pulse input starting from IGN-ON	= None		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Internal Control Modul Driver Performance	P17C9	Voltage Level Monitor After the Semiconductor Relay	Fail Case 1 Actuator Supply Voltage	< 7.55 volt			>= 5 sec	One trip
					Power Source	>= 8.4 V		
					Power Source - Actuator Supply Voltage	=< 3 V		
					System voltage	> 9 V		
					System voltage	< 32 V		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
			Fail Case 2 Fail of Actuator on lower side of semi-conductor-Relay	= TRUE			Same as Actuator error	
					Power Source	>= 8.4 V		
					Power Source - Actuator Supply Voltage	=< 3 V		
					System voltage	> 9 V		
					System voltage	< 32 V		
					Actuator Supply Voltage	< 8.4 V		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System Voltage	P2534	Ignition voltage Diagnosis(Low) by ignition switch open circuit	TCM Status	= ACC Mode	Engine Controller Run Crank Terminal Status for ACC Voltage Diagnosis	= TRUE	>= 7 sec	One Trip
					Engine 12 Volt Starter Motor Commanded On for ACC Voltage Diagnosis	= FALSE		
					Propulsion System Active for ACC Voltage Diagnosis	= TRUE		
					CAN Communication Status for ACC Voltage Diagnosis	= Normal		
Auxiliary Shift Gear Interlock / Incorrect Auxiliary Shift Gear Ratio	P2714	Pressure Control (PC) Solenoid 4 - Stuck Off [Gear ratio fail (1st gear)] Check vehicle deceleration and the actual gear ratio	Fail Case 1 Actual auxiliary shift gear ratio	outside a +/-50% range of designed 1st gear ratio	System voltage System voltage Engine speed Output gear speed Secondary pulley speed Range Vehicle speed Vehicle G Current commanded auxiliary shift gear	>= 10 V =< 32 V > 625 rpm > 300 rpm > 300 rpm D Range or L Range >= 7 Mph < -0.05 G = 1st Gear	>= 200 msec	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2715,P0797, P0796, P0721, P0792, P0706, P0705, P0970, P0971, P2720, P2721, U0100, U0073 ECM: TBD(engine speed) TBD(Pedal position)		
		Check current commanded gear ratio and actual gear ratio	Fail Case 2 Actual auxiliary shift gear ratio	within +/-10% range of designed 2nd gear ratio	System voltage System voltage Engine speed Output gear speed Secondary pulley speed Range Vehicle speed Pedal position Current commanded auxiliary shift gear	>= 10 V =< 32 V > 625 rpm > 300 rpm > 300 rpm D Range or L Range >= 7 Mph >= 7.8 % = 1st Gear	>= 500 msec	

16 OBDG03 TCM Summary Tables T54 (CVT)

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: P2715,P0797, P0796, P0721, P0792, P0706, P0705, P0970, P0971, P2720, P2721, U0100, U0073 ECM: TBD(engine speed) TBD(Pedal position)		
			Fail Case 3 High clutch pressure switch status	= ON			> 1.5 sec	
					Engine speed	> 400 rpm		
					Vehicle speed	< 7 Mph		
					High clutch pressure command	=< 0 MPa		
					Current commanded auxiliary shift gear	= 1st Gear		
					High clutch pressure switch valid judgement	= FALSE		
					High clutch pressure status changed from OFF to ON during engagement to D range	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2714, P0797, P0796, P2715, P0970, P0971, P2720, P2721, P0721, P0792, P0717, P0706, P0705, P0871 ECM: TBD(engine speed)		
			Fail Case 4 High clutch pressure switch status	= ON			> 1.5 sec	
					Engine speed	> 400 rpm		
					Vehicle speed	< 7 Mph		
					Range	D Range or L Range		
					High clutch pressure command	=< 0 MPa		
					Current commanded auxiliary shift gear	= 1st Gear		
					High clutch pressure switch valid judgement	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2714, P0797, P0796, P2715, P0970, P0971, P2720, P2721, P0721, P0792, P0717, P0706, P0705, P0871 ECM: TBD(engine speed)		
Auxiliary Shift Gear In Neutral	P2715	Pressure Control Solenoid Valve 4 Stuck On [Gear ratio in Neutral (2nd gear)] Check current commanded gear ratio and actual gear ratio	Actual auxiliary shift gear ratio	>= 2.232			>= 2 sec	One Trip
					System voltage	>= 10 V		
					System voltage	=< 32 V		
					Engine speed	> 625 rpm		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Output gear speed	> 300 rpm		
					Secondary pulley speed	> 300 rpm		
					Range	D Range or L Range		
					Pedal position	>= 7.8 %		
					Current commanded auxiliary shift gear	= 2nd gear		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2714, P0796, P0797, P0721, P0792, P0706, P0705, P0970, P0971, P2720, P2721, U0100, U0073 ECM: TBD(engine speed) TBD(Pedal position)		
High Clutch (H/C) Solenoid	P2720	Pressure Control Solenoid Valve 4 Control Circuit Low Voltage STG	Monitored current	<= 200 mA			> 200 msec	One Trip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= TRUE		
					High Clutch (H/C) Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2721		
High Clutch (H/C) Solenoid	P2721	Pressure Control Solenoid Valve 4 Control Circuit High Voltage Open	Fail Case 1 Monitored current	<= 200 mA			> 200 msec	One Trip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= FALSE		
					High Clutch (H/C) Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2720 ECM: None		
			Fail Case 2 Monitored voltage of High Clutch (H/C) Solenoid's drive circuit	>= 8 V			> 200 msec	
					High Clutch (H/C) Solenoid command duty	= 0 %		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
TCC Linear Solenoid	P2763	Torque Converter Clutch (TCC) Pressure Control Solenoid Valve Control Circuit High Voltage Open	Monitored current	<= 200 mA			> 5 Sec	OneTrip
			Commanded current	>= 750 mA	System voltage	>= 10 V		
					System voltage	=< 32 V		
					Hardware circuitry detects short to ground	= FALSE		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					TCC Linear Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2764 ECM: None		
TCC Linear Solenoid	P2764	Torque Converter Clutch (TCC) Pressure Control Solenoid Valve Control Circuit Low Voltage STG	Monitored current	<= 200 mA			>= 480 msec	OneTrip
			Commanded Current	>= 750 mA	System voltage System voltage	>= 10 V =< 32 V		
					Hardware circuitry detects short to ground	= TRUE		
					TCC Linear Solenoid command	= ON		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2763 ECM: None		
Electric Oil Pump	P2796	Electric Oil Pump Electrical Failure During Being Indicated Driving	Fail Case 1 Monitored State Duty Signal From Electril Oil Pump	< 46 %			> 1.0 sec	Special No MIL
					Ignition ON for Input voltage Input Voltage over Min for Electric Oil Pump commanded ON for Relay commanded State Signal Frequency State Signal Frequency	> 0.36 sec > 10 V > 0.52 sec > 1.0 sec = ON > 90 Hz < 110 Hz		
			Fail Case 2 Monitored State Duty Signal From Electril Oil Pump	> 54 %			> 1.0 sec	
					Ignition ON for Input voltage Input Voltage over Min for Electric Oil Pump commanded ON for Relay commanded State Signal Frequency State Signal Frequency	> 0.36 sec > 10 V > 0.52 sec > 1.0 sec = ON > 90 Hz < 110 Hz		
		Electric Oil Pump Electrical Failure During Being Indicated Stopping	Fail Case 1 Monitored State Duty Signal From Electril Oil Pump	< 26 %			> 1.0 sec	
					Ignition ON for	> 0.36 sec		

16 OBDG03 TCM Summary Tables T54 (CVT)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value			Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
								Input voltage	>	10	V				
								Input Voltage over Min for	>	0.52	sec				
								Electric Oil Pump commanded OFF for	>	0.25	sec				
								Relay commanded ON for	>	0.52	sec				
								State Signal Frequency	>	90	Hz				
								State Signal Frequency	<	110	Hz				
			Fail Case 2	Monitored State Duty Signal From Electril Oil Pump	>	34	%					>	1.0	sec	
								Ignition ON for	>	0.36	sec				
								Input voltage	>	10	V				
								Input Voltage over Min for	>	0.52	sec				
								Electric Oil Pump commanded OFF for	>	0.25	sec				
								Relay commanded ON for	>	0.52	sec				
								State Signal Frequency	>	90	Hz				
								State Signal Frequency	<	110	Hz				
Electric Oil Pump	P2797	Electric Oil Pump Performance	First Time	Line pressure	<	0.06	Mpa					>	1.0	sec	Special No MIL
								Ignition ON for	>	0.36	sec				
								Input voltage	>	10	V				
								Input Voltage over Min for	>	0.52	sec				
								Relay commanded	=	ON					
								Start stop control commanded	=	ON					
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0841, P0842, P0843 Electric Oil Pump Electrical Failure ECM: None						
			Second Time	Line pressure	<	0.06	Mpa					>	1.0	sec	
								Ignition ON for	>	0.36	sec				
								Input voltage	>	10	V				
								Input Voltage over Min for	>	0.52	sec				
								Relay commanded	=	ON					
								Start stop control commanded	=	ON (on period different from first time)					

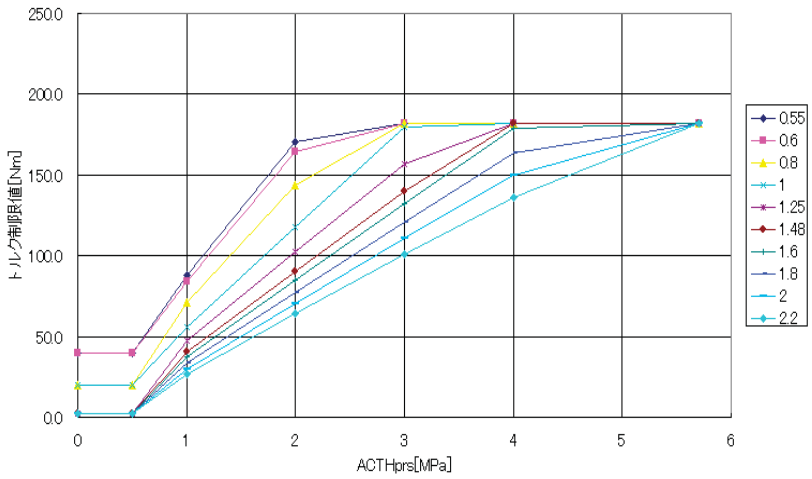
16 OBDG03 TCM Summary Tables T54 (CVT)

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: P0841, P0842, P0843 Electric Oil Pump Electrical Failure ECM: None		
Relay of Electric Oil Pump	P2799	Stuck ON	Monitored State Duty Signal From Electril Oil Pump	≠ 0 %			> 5.0 sec	Special No MIL
					Ignition ON for	> 0.36 sec		
					Input voltage	> 10 V		
					Relay commanded	= OFF		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE Boolean			> 3 Sec or > ID Periodic Interval × 5 times	One Trip
					System voltage	>= 10 V		
					System voltage over Min for	> 2 sec		
					Ignition On for	> 2 sec		
					Engine speed	>= 600 rpm		
					Calculated turbine speed	>= 600 rpm		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Comm. Message Invalid Between ECU and TCM	= TRUE Boolean			> 2 Sec or > ID Periodic Interval × 5 times	One Trip
					System voltage	>= 10 V		
					System voltage over Min for	> 2 sec		
					Ignition On for	> 2 sec		
					Engine speed	>= 600 rpm		
					Calculated turbine speed	>= 600 rpm		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

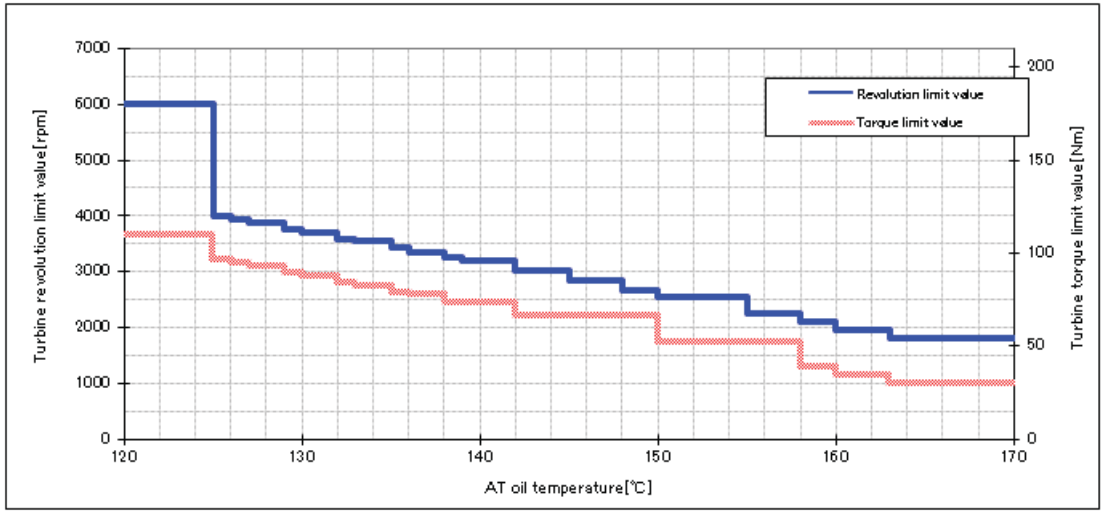
Table 1

											Units
Axis	-55	-20	-19	-10	-9	0	1	40	41	200	Deg C
Curve	10.2	10.2	7.5	7.5	5.5	5.5	3.5	3.5	2.5	2.5	Sec

Zone A,B torque limit



Zone C torque limit



Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Acceleration Sensor	C124F	The lateral accleration signal is stuck at a low magnitude out of range because of a low circuit	Lateral accleration magnitude Lateral accleration magnitude is within the range above for	>= -3.85 g's >= 120 Sec			>= 105 seconds out of 120 sample	Special No MIL
					Lateral accleration magnitude Lateral accleration magnitude is within the range above for Sensor Type Transmission Type Lateral acceleration sensor circuit low 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	>= -3.85 g's >= 105 Sec = Voltage Directional Proportionate = Clutch to Clutch Transmission = TRUE Boolean <= 31.99902 Volts >= 9 Volts >= 0.1 Sec <= 31.99902 Volts >= 9 Volts = FALSE Boolean >= 0.1 Sec	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: If calibrated to illuminate the MIL (U0073, U0100) ECM: None		
Acceleration Sensor	C1250	The lateral accleration signal is stuck at a high magnitude out of range because of a high circuit	Lateral accleration magnitude Lateral accleration magnitude is within the range above for	>= 3.85 g's >= 120 Sec			>= 105 seconds out of 120 sample	Special No MIL
					Lateral accleration magnitude Lateral accleration magnitude is within the range above for Sensor Type Transmission Type	>= 3.85 g's >= 105 Sec = Voltage Directional Proportionate = Clutch to Clutch Transmission		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Lateral acceleration sensor circuit high diagnostic enable = TRUE Boolean Battery Voltage <= 31.99902 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.99902 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: If calibrated to illuminate the MIL (U0073, U0100) ECM: None		
Acceleration Sensor	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	<= 3.85 g's >= 0.53 g's >= 120 Sec				Special No MIL
					Lateral accleration magnitude <= 3.85 g's Lateral accleration magnitude >= 0.53 g's Lateral accleration magnitude is within the range above for >= 90 Sec Diagnostic shifting override command = FALSE Boolean Attained Gear State = 1st through 6th Attained Gear Slip <= 100 RPM Transmission Type = Clutch to Clutch Transmission High Side Driver 1 On = TRUE Boolean Vehicle Speed >= 15 kph Lateral acceleration stuck in range diagnostic enable = TRUE Boolean Battery Voltage <= 31.99902 Volts Battery Voltage >= 9 Volts Battery voltage is within the allowable limits for >= 0.1 Sec Ignition Voltage <= 31.99902 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

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		
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		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 142.1016 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	>= 8.59961 Volts <= 31.99902 Volts >= 0 ºC <= 170 ºC >= 0.25 Sec		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0634 Status is	≠ 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	= Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		
					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 If TCM substrate temp to power up temp Δ	> Refer to Table 19 in supporting documents ºC > Refer to Table 20 in supporting documents ºC				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 <= 31.99902 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		
					P0667 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 Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	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 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	<= 31.99902 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		
				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	<= 31.99902 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 ºC > Refer to Table 18 in supporting documents ºC				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 Engine Speed is within the allowable limits for Brake torque active	= TRUE Boolean = TRUE Boolean >= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE	
					Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for:	 >= 90 N*m >= 30.0003 Pct <= 200 RPM <= 8 Kph ≠ Park ≠ Neutral = Not Active >= 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_RatIEnbl		
					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		
				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	<= 31.99902 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		
					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)	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 <= 31.99902 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	> Refer to Table 19 in supporting documents ºC				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 in supporting documents ºC				
			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 Brake torque active	= TRUE Boolean = TRUE Boolean >= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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_RatIEnbl		
					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
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= -74 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= -74 ºC				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		
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	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0713 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0713, 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 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	>= 0 N*m		
					Engine Torque is	<= 8191.88 N*m		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Vehicle Speed is	>= 10 Kph		
					Throttle Position is	>= 0 Pct		
					---	---		
					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	<= 31.99902 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	< 653.13 RPM	Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Engine Torque is	>= 80 N*m		
					Engine Torque is	<= 8191.88 N*m		
					Vehicle Speed	>= 10 Kph		
					Engine Torque Signal Valid	= TRUE Boolean		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.99902 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.
					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	>=	8.0002	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	<=	31.99902	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					
					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	>=	50	N*m		
					Engine Torque is	<=	8191.75	N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 Transmission Input Speed is	 >= 653.13 RPM <= 5350 RPM		
					TIS Check Condition 2 Engine Speed without the brake applied is Engine Speed with the brake applied is Engine Speed is Controller uses a single power supply for the speed sensors Powertrain Brake Pedal is Valid	 >= 3200 RPM >= 3200 RPM <= 8191.88 RPM = 1 Boolean = 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 Output Speed Delta Output Speed Drop AND Transmission Range is	>= 105 RPM <= 8192 RPM > 650 RPM = Driven range (R,D)			>= 0 Enable Time (Sec) >= 0 Enable Time (Sec) >= 1.5 Output Speed Drop Recovery Fail Time (Sec)	One Trip
					---------- Range_Disable OR ---------- Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently ----------	 = FALSE See Below = TRUE See Below = TRUE See Below		
					Transmission_Range_Enable Transmission_Input_Speed_Enable No Change in Transfer Case Range (High <-> Low) for P0723 Status is not	= TRUE See Below = TRUE See Below >= 5 Seconds = 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 this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage is	>=	8.59961	Volts		
					Ignition Voltage is	<=	31.99902	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		

					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		
					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 Transitonal	ENUM		
					Input Clutch is not	=	ON (Fully Applied)	ENUM		

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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 <= 31.99902 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 >= 8.0002 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 °C		
						Transmission Fluid Temperature Hi <= 130 °C		
						PTO Not Active = TRUE Boolean		
						Engine Torque Signal Valid = TRUE Boolean		
						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			>= 1.5 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 6 Fail Counter	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	<=	6000	RPM		
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					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 AND	>=	5.0003	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position	>=	2.0004	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	<=	31.99902	V		
					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			

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, 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 Commanded Gear Gear Ratio Gear Ratio If the above parameters are true	>= 400 RPM = 1st Lock rpm <= 1.20959 >= 1.09436			>= 0.2 Fail Tmr = 5 Fail Counts ≠ 0 Neutral Timer (Sec) >= 0.3 Fail Timer (Sec) >= 8 Counts	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Transmission Fluid Temperature Range Shift State TPS OR Output Speed Throttle Position Signal Valid from ECM Engine Torque Signal Valid from ECM, High side driver is enabled High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec >= -6.6563 ºC = Range Shift Completed ENUM >= 0.5005 % >= 67 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean = FALSE Boolean = FALSE Boolean = 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		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 400 RPM			>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	One Trip
			Commanded Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On If the above parameters are true	= 3rd Gear = TRUE Boolean				
			Command 4th Gear once Output Shaft Speed If Gear Ratio And Gear Ratio	<= 400 RPM >= 3.82568 <= 4.22839			>= 1.5 Fail Timer (Sec) >= 5 Counts	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for High-Side Driver is Enabled Throttle Position Signal Valid from ECM Output Speed OR TPS Range Shift State Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 67 RPM >= 0.5005 % = Range Shift Completed ENUM >= -6.6563 ºC = FALSE Boolean = FALSE Boolean = 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		
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 <= 2.48218 >= 2.24585			>= 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 Engine Speed is within the allowable limits for Output Speed OR TPS Range Shift State Transmission Fluid Temperature High-Side Driver is Enabled Throttle Position Signal Valid from ECM Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec >= 67 RPM >= 0.5005 % = Range Shift Completed ENUM >= -6.6563 ºC = TRUE Boolean = TRUE Boolean = FALSE Boolean = FALSE Boolean = 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)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear					One Trip
			Commanded Gear	= 3rd Gear				
			Gearbox Slip	>= 400 RPM			>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	
			Command 4th Gear once Output Shaft Speed	<= 400 RPM				
			If Gear Ratio	>= 1.09436				
			And Gear Ratio	<= 1.20959				
							>= 3 Fail Timer (Sec)	
			It the above condiations are true, Increment 3rd gear fail counter				>= 3 3rd Gear Fail Counts or	
			and C35R Fail counter				>= 14 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 or	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
					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	>= 67 RPM		
					A OR B (A) Output speed enable	>= 67 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st					One Trip
			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)					
			Gear Ratio	<= 1.60864				
			Gear Ratio	>= 1.45544				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case 2 Case: Steady State 2nd gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 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 3D Table 2 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	<= 1.60864				
			Gear Ratio	>= 1.45544				
			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 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 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	<= 0.89465				
			Gear Ratio	>= 0.80945				
			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					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 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	<= 0.89465			>= 1.1 Fail Timer (Sec)	
			Gear Ratio	>= 0.80945			>= 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		
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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	>= 5.0003 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		

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		
					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)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized Clutch				
			Primary Offgoing Clutch Pressure Command Status	= 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)	>= 0.2998 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)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.2998 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)	>= 0.2998 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)	>= 0.2998 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)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Closed 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					
			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 °C		
					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		
					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					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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					
			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		
					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	>= 0.5005 Pct		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st					One Trip
			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)					
			Gear Ratio	<= 1.20959				
			Gear Ratio	>= 1.09436				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case 2 Case Steady State 2nd					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 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 3D Table 2 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	<= 1.20959				
			Gear Ratio	>= 1.09436				
			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 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 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	<= 1.20959				
			Gear Ratio	>= 1.09436				
			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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 (B) Accelerator Pedal enable >= 0.5005 Nm Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.99902 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 >= 5.0003 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 Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below:	= TRUE Boolean = Maximum pressurized Clutch = exhaust command ≠ Initial Clutch Control <= 40 RPM				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (4-1 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (6-2 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					
			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 °C		
					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		

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				
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 Neutral Enabled	=	1	Boolean						
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	Boolean						
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	1	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	=	1	Boolean						
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	Boolean						
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	1	Boolean						
				Tap Up Switch ON	=	TRUE	Boolean						
				NOTE: Both Failcase1 and Failcase 2 Must Be Met						>=	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 <= 31.99902 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	= 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	= 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	= 1 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	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	= TRUE Boolean			>= 600 sec	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		

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: 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 Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0826 Status is	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec ≠ 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 <= 31.99902 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 <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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 >= 8.59961 Volts Ignition Voltage <= 31.99902 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)	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 >= 8.59961 Volts Ignition Voltage <= 31.99902 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec 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 <= 31.99902 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			

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)	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
					P0970 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.99902 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	<= 31.99902 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	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		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage >= 8.59961 Volts Ignition Voltage <= 31.99902 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 <= 31.99902 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		
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 = Test Failed This Key On or Fault Active Ignition Voltage >= 8.59961 Volts Ignition Voltage <= 31.99902 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		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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	= 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		
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	= 0 Boolean				Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1 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				

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				>= 600 Fail Time (Sec)	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					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	= 0 Boolean				Special No MIL
			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				
			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				

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 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	
					Time Since Last Range Change	>= 1 Sec		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 400 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		
				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	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 Volts		
					Engine Speed Lo	>= 400 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		

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: P1761 ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case 1 Current range	= Transition 1 (bit state 1110) Range				One Trip
			Previous range	≠ CeTRGR_e_PRNDL_Drive 6 Range				
			Previous range	≠ CeTRGR_e_PRNDL_Drive 5 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	>= 8.0002 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				
			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	≠ CeTRGR_e_PRNDL_Drive5		
			Engine Torque	>= -8192 Nm	Previous range	≠ CeTRGR_e_PRNDL_Drive5		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Engine Torque	<= 8191.75 Nm	IMS is 7 position configuration	= 0 Boolean		
			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					
			Current range	= Transition 8 (bit state 0111) Range	Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8			
			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	>= 30 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				
			PRNDL State	= Transition 11 (bit state 0100) Range				
			Above sequencing occurs in Then delay timer increments	<= 1 Sec				
			Delay timer	>= 5 sec				
			Range Shift State	= Range Shift Complete				
			Absolute Attained Gear Slip	<= 50 rpm				
			Attained Gear	<= Sixth				
			Attained Gear	>= First				
			Throttle Position	>= 8.0002 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			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Last positive state	≠ Neutral (bit state 0101)		
					or			
					Previous transition state	≠ Transition 8 (bit state 0111)		
					Fail case 5 delay timer	= 0 sec		
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	
			Fail Case 7 Current PRNDL State	= PRNDL circuit ABCP = 1101 Range				
			and					
			Previous PRNDL state	= PRNDL circuit ABCP =1111 Range				
			Input Speed	>= 150 RPM				
			Reverse Trans Ratio	<= 2.97595 ratio				
			Reverse Trans Ratio	>= 3.42395 ratio				
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	
			P182E will report test fail when any of the above 7 fail cases are met					
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
				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		
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	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 Volts		
					Vehicle Speed Lo	<= 511 KPH		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 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		
					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		
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	<= 31.99902 V		
					Ignition Voltage Hyst High (enables above this value)	>= 5 V		
					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)	

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	= 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)	
			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	
			and CB26 Fail Count				or >= 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)	
			Intrusive test: commanded 5th gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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				>= 3 5th Gear Fail Count	
			and CB26 Fail Count				>= 14 or 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	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 67 RPM		
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		
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				

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 above coditons are true, increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-1 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.2998 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.2998 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		
					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.
					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 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) <= 2.48218 >= 2.24585			>= 1.1 Fail Timer (Sec) >= 5 Fail Count in 1st Gear or >= 5 Total Fail Counts	One Trip
			Fail Case 2 Case: Steady State 3rd Gear Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis	 >= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec >= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	<= 2.48218				
			Gear Ratio	>= 2.24585				
			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 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 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	<= 0.70032				
			Gear Ratio	>= 0.63367				
			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 3D Table 1 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 3D Table 2 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	<= 0.70032				
			Gear Ratio	>= 0.63367				
			If the above parameters are true				>= 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	= TRUE Boolean		
					A OR B			
					(A) Output speed enable	>= 67 Nm		
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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	>= 5.0003 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	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.99902 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)	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
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.99902 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

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 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				or >= 14 C1234 Clutch Fail Count	
			Fail Case 2 Case: Steady State 2nd Gear					
			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					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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		
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				

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 (2-6 shifting with throttle)	>= 0.2998 sec				
			fail timer 1 (2-6 shifting without throttle)	>= 0.5 sec				
			fail timer 1 (3-5 shifting with throttle)	>= 0.2998 sec				
			fail timer 1 (3-5 shifting without throttle)	>= 0.5 sec				
			fail timer 1 (4-5 shifting with throttle)	>= 0.2998 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 0.5 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 0.2998 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	
			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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 Min Delta Output Speed Hysteresis If the Above is True for Time Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec >= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec >= Table Based Time Please Refer to Table 17 in supporting documents Sec <= 1.20959 >= 1.09436			>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 5th Gear OR >= 3 Total Fail Counts	One Trip
			Fail Case 2 Case: 6th Gear Max Delta Output Speed Hysteresis	 >= Table Based value Please Refer to 3D Table 1 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 3D Table 2 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	<= 1.20959				
			Gear Ratio	>= 1.09436				
			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		
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.99902 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	>= 5.0003 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)	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
					P2729 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.99902 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	<= 31.99902 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		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

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	<= 31.99902 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	<= 31.99902 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		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 Fail counts (≈ 10 seconds) Out of 70 Sample Counts (≈ 11 seconds)	One Trip
			Delay timer	>= 0.1125 sec				
					Stabilization delay	>= 3 sec		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.99902 Volt		
					Power Mode	= Run		

16 OBDG03 TCM Summary Tables T43 (6 Speed Common)

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		
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	>= 3 sec		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.99902 Volt		
					Power Mode	= Run		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

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

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

Table 21

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

16 OBDG03 Diagnostic 3D Tables TCM T43 (6 Speed Common)

3D_Table 1

X-Axis Calibration	%
Y-Axis Calibration	ºC
Table Calibration	RPM/Sec

	0.00	2.00	5.00	25.00	100.00
-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
-6.66	8191.75	8191.75	8191.75	8191.75	8191.75
40.00	8191.75	8191.75	8191.75	8191.75	8191.75

3D_Table 2

X-Axis Calibration	%
Y-Axis Calibration	ºC
Table Calibration	RPM/Sec

	0.00	2.00	5.00	25.00	100.00
-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
-6.66	500.00	500.00	300.00	300.00	300.00
40.00	500.00	500.00	300.00	300.00	300.00

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_VoltageDirectPop	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_VoltageDirectPop								
			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_VoltageDirectPop	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_VoltageDirectPop								
			Lateral accleration magnitude	<= 3.849999905 g's								
					Lateral 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						

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	absolute value (lateral accleration) absolute value (lateral accleration)	>= 0.529999971 g's <= 3.849999905 g's	absolute value (lateral accleration) for stablity absolute value (lateral accleration) for stablity stability time	>= 0.53 g's <= 3.8499999 g's >= 30 Sec	>= 75 Sec	Special No MIL
					Diagnostic shifting override command Attained Gear State Attained Gear Slip Transmission Type High Side Drivers enabled Vehicle Speed Lateral acceleration stuck in range diagnostic enable calibration Battery Voltage Battery Voltage Battery voltage is within the allowable limits for Ignition Voltage Ignition Voltage Service Fast Learn (SFL) Mode VBS Failsafe Ignition voltage and SFL conditions met for	= FALSE Boolean = 1st through 8th <= 100 RPM = Clutch to Clutch Transmission = TRUE Boolean >= 15 kph = 1 <= 31.999023 Volts >= 9 Volts >= 0.1 Sec <= 31.999023 Volts >= 9 Volts = FALSE Boolean >= 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 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 Battery Voltage Battery Voltage Battery voltage is within the allowable limits for Ignition Voltage Ignition Voltage	= 1 <= 31.999023 Volts >= 9 Volts >= 0.1 Sec <= 31.999023 Volts >= 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: U0073 ECM: None						
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				
					Transmission Type	=	Clutch to Clutch Transmission					
					High Side Drivers enabled	=	TRUE	Boolean				
					transmssion output speed acceleration	>=	0.53	meter/second/second				

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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		
				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)	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal TCM Processor Integrity Fault	P0606	Transmission Electro-Hydraulic Control Module Processor Integrity	main processor RAM circuit hardware failure	= TRUE Boolean	RAM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 pocessing 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)	
					seed sequence test enable	= see table 50 in supporting documents Boolean		
					battery voltage ignition voltage	> 11 Volts >= 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					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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		
					B: ignition voltage	<= 11 Volts		
					C: starter motor engaged time	< 0.025 sec		
					A and B must occur			
					A: ignition voltage	<= 6.4091797 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.	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 <= 6.4091797 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 <= 6.4091797 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				

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

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		
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	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					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 VBS Failsafe	= FALSE Boolean		
					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	<= 31.999023 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	<=	31.999023	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
					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	=	TRUE	Boolean				
					engine speed	>=	500	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	>=	-40	ºC				
					engine coolant temperature	<=	150	ºC				
			Fail Case 2 transmission fluid temperature intermittent delta temperature test transmission fluid temperature delta (100 ms loop to loop)	>= 10 ºC					>= 8	seconds (100 ms cont.)		
									>= 12	seconds (100 ms cont.)		
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean				
					P0712 and P0713	≠	Fault Active					
					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				

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		
					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 ºC			>= 300 seconds (100 ms cont.)	
					transmission fluid temperature sensor performance diagnsotic enable calibration	= 1 Boolean		
					P0712 and P0713	≠ Fault Active		
					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		
					transmission fluid temperature stuck in range test calibration enable	= 1 Boolean		
					propulsion system active	= TRUE Boolean		
					transmission fluid temperature	<= 150 ºC		
					transmission fluid temperature	>= -40 ºC		
				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	<= 31.999023 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 Ignition Voltage Ignition Voltage Service Fast Learn (SFL) Mode VBS Failsafe Ignition voltage and SFL conditions met for	>= 0.1 Sec <= 31.999023 Volts >= 9 Volts = FALSE Boolean >= 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 Battery Voltage Battery Voltage Battery voltage is within the allowable limits for Ignition Voltage Ignition Voltage Service Fast Learn (SFL) Mode VBS Failsafe Ignition voltage and SFL conditions met for	= 1 Boolean <= 31.999023 Volts >= 9 Volts >= 0.1 Sec <= 31.999023 Volts >= 9 Volts = FALSE Boolean >= 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 Service mode $04 active and end of trip pocessing active transmission input speed sensor performance diagnostic enable Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo disabled below this value) Service Fast Learn (SFL) Mode VBS Failsafe Ignition Voltage Max (disabled above this value)	= time based = FALSE Boolean = 1 Boolean > 5 Volts <= 2 Volts = FALSE Boolean <= 31.999023 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					P0717 Status is not	= Test Failed This Key On		
					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	>= 5.0003052 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		
				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	< 100 RPM			>= 4 Fail Time (Sec)	One Trip
			OR					
			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	= 0 Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					speed sensor processing	=	time based			
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					transmission input speed sensor low diagnostic enable	=	1	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		
					speed sensor connected to controller	=	1	Boolean		
					P0722 Status is not	=	fault active			
					P0723 Status is not	=	fault active			
					P077C Status is not	=	fault active			
					P077D Status is not	=	fault active			
					brake pedal position is not	>=	69.999695	Pct		
					engine torque inaccurate	=	FALSE	Boolean		
					P0716 Status is not	=	Test Failed This Key On			
					P07BF Status is not	=	Test Failed This Key On			
					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			

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, 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)	
					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	>= 99.998474 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		
					high gear accelerator pedal position power flow active hysteresis low not	<= 2.9998779 Pct		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	7.9986572	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		
					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)	<=	31.999023	Volts		
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					transmssion fluid temperature sensor	>= -40 °C		
					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) >= 5 fail events	One Trip
					transmission output speed	>= 36 RPM		
					OR			
					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			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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		
					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)	<=	31.999023	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		
					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		

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

					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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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		
					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	>= 0.5004883 %		
					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	<= 31.999023 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	<= 31.999023 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		
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	
							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				

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 during shift deceleration limited increment fail time when slip criteria met, fail time during shift no deceleration						>= see Table 35 in supporting documents >= see Table 36 in supporting documents	seconds seconds when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>=	0.558				
					inertia phase test measured gear ratio	<=	4.7150002				
					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			
					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			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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		
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.000427	%		
					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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					E) battery voltage	<= 31.999023 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	<= 31.999023 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)	P0776	Pressure Control Solenoid B Stuck Off (clutch2/CB12345R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds	One Trip
							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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	0.5004883	%		
					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	<=	31.999023	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	<=	31.999023	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)	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						

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	>= 0.558		
					inertia phase test measured gear ratio	<= 4.7150002		
					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 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	27.000427	%		
					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	<=	31.999023	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	<=	31.999023	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 P077C Status is not If the above conditons have been met, increment the P077C Fail Counter	<= 0.25 Volts = Test Failed This Key On or Fault Active			>= 5.00E-02 sec	One Trip
			DTC P077C Sets when the Fail Counter	>= 16 Counts (6.25 msec continuous)	P077C Enable Calibration Service mode $04 active and end of trip pocessing active Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo disabled below this value) Service Fast Learn (SFL) Mode VBS Failsafe Battery Voltage Max (disabled above this value) Battery Voltage Min (disabled below this value) Ignition Voltage Min (disabled below this value) for voltage stablity time	= 1 = FALSE Boolean > 5 Volts <= 2 Volts = FALSE Boolean <= 31.999023 Volts <= 10 Volts >= 10 Volts >= 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 P077D Status is not	>= 4.75 Volts = Test Failed This Key On or Fault Active			>= 5.00E-02 sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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)	<= 31.999023 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
							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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					steady state pressure adapt in progress = FALSE boolean transmission output speed >= 100 RPM accelerator pedal position >= 0.5004883 % 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 <= 31.999023 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 <= 31.999023 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)	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				

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 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	>= 0.558		
					inertia phase test measured gear ratio	<= 4.7150002		
					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		

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 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		
					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		

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	>=	27.000427	%		
					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	<=	31.999023	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	<=	31.999023	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 Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage P07BF Status is not If the above conditons have been met, increment the P07BF Fail Counter	<= 0.25 Volts = Test Failed This Key On or Fault Active			>= 5.00E-02 sec	One Trip
			DTC P07BF Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)	speed sensor processing P07BF Enable Calibration Service mode $04 active and end of trip pocessing active Ignition Voltage Hyst Hi (enabled above this value) Ignition Voltage Hyst Lo disabled below this value) Service Fast Learn (SFL) Mode VBS Failsafe Battery Voltage Max (disabled above this value) Battery Voltage Min (disabled below this value) Ignition Voltage Min (disabled below this value) for voltage stablity time	= time based = 1 = FALSE Boolean > 5 Volts <= 2 Volts = FALSE Boolean <= 31.999023 Volts <= 10 Volts >= 10 Volts >= 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	>= 4.75 Volts = Test Failed This Key On or Fault Active			>= 5.00E-02 sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above conditons have been met, increment the P07C0 Fail Counter					
			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)	<= 31.999023 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: 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				

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 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 NOTE: Both Failcase1 and Failcase 2 Must Be Met	= TRUE Boolean			>= 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)	<= 31.999023 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					P0815 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)	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				
			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				

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 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 NOTE: Both Failcase1 and Failcase 2 Must Be Met	= TRUE Boolean			>= 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)	<= 31.999023 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 upshift downshift switch circuit	= FALSE Boolean		
					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)	<= 31.999023 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) 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)	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) 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 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts		
				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 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 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)	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		
					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)	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) 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		

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 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

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)	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 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			

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)	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 secondary micro processor serial peripheral device message valid detected by primary micro processor after controller initialization	= FALSE Boolean			>= 8 counts (12.5 ms) cont >= 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	NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time low voltage mode time A) low voltage mode hysteresis time B) ignition voltage, set low voltage mode	>= 2.50E-02 seconds <= 0.1 seconds <= 6.4091797 volts	>= 5 counts (12.5 ms) NON continuous >= 8 counts (12.5 ms) NON continuous	
				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 OR	= TRUE Boolean	redundent memory command pressure disable calibration not OR redundent memory command pressure enable calibration	= TRUE Boolean = TRUE Boolean		
			B) command shift and its dual store do not equal	= TRUE Boolean	redundent memory command shift disable calibration not	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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) >= 8 counts (25 msec continuous)	One Trip
					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 >= 10 seconds	One Trip
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Battery Voltage Max (disabled above this value)	<= 31.999023 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		

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		
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	<= 31.999023 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 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		
			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	<= 31.999023 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 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		
					normal serial data communication enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: 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

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

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 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		
					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		
				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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P1767 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1761 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				
					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	<= 31.999023 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 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, P07BF, P07C0, P0722, P0723, P077C, P077D		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
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		
					Battery Voltage Max (disabled above this value)	<= 31.999023 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)	<= 31.999023 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 <= 31.999023 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 Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.999023 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)	P182B	Internal Mode Switch B Circuit Low Voltage	IMS switch B voltage	< 0.699999988 volts					>= 70 out of 80		Fail Counts (25ms loop) 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 9 31.999023 7 9 7.50E-02	Boolean Volts Volts Volts Volts seconds				
				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 out of 80		Fail Counts (25ms loop) 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 9 31.999023 7 9 7.50E-02	Boolean Volts Volts Volts Volts 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)	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	<=	31.999023	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)	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	<=	31.999023	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
									out of	80	Sample Counts (25ms loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.999023	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	<=	31.999023	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)	P1839	Internal Mode Switch C Circuit Low Voltage	IMS switch C 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	<=	31.999023	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)	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	<=	31.999023	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)	P1841	Internal Mode Switch S Circuit High Voltage	IMS switch S voltage	> 2.380000114 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	<=	31.999023	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				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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		
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range TUTD Enable Switch is Active	= Park or Reverse or Neutral Range State = TRUE Boolean			>= 3 Fail Time (Sec) >= 5 Fail Counts	Special No MIL
					Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P1876 Status is	>= 9 Volts <= 31.999023 Volts <= 511.99219 KPH >= 250 RPM <= 7500 RPM >= 5 Sec ≠ 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		
Internal Mode Switch (IMS)	P18B5	Internal Mode Switch A Circuit Shorted	IMS switch A voltage IMS switch A voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 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 <= 31.999023 Volts >= 7 Volts < 9 Volts <= 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)	P18B6	Internal Mode Switch B Circuit Shorted	IMS switch B voltage IMS switch B voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 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 <= 31.999023 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)	P18B7	Internal Mode Switch C Circuit Shorted	IMS switch C voltage IMS switch C voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 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 <= 31.999023 Volts >= 7 Volts < 9 Volts <= 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)	P18B8	Internal Mode Switch P Circuit Shorted	IMS switch P voltage IMS switch P voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 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 <= 31.999023 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)	P18B9	Internal Mode Switch S Circuit Shorted	IMS switch S voltage IMS switch S voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 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 <= 31.999023 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)	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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.999023 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)	P18BB	Internal Mode Switch B Stuck Off	Range = Transition 29 (SABCP= 00010) enumeration Prev Range = Transition 14 (SABCP= 10001)				>= 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 <= 31.999023 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)	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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.999023 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)	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 <= 31.999023 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				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Switch S	≠ True (this key cycle) boolean				
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.999023 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 Prev Range = Park for Switch B	= Drive 8 enumeration >= 80 counts (25ms loop) ≠ 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 <= 31.999023 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)	P18C1	Internal Mode Switch C Stuck On	Range Switch C	= Transition 20 (SABCP= 01011) enumeration ≠ False (this key cycle) boolean			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.999023 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 <= 31.999023 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)	P18C3	Internal Mode Switch S Stuck On	Range = Drive 7 enumeration Prev Range = Park for >= 80 counts (25ms loop) Switch S ≠ 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			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Hi	<= 31.999023 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)	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	<= 31.900391 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	
			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		

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		
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 VBS Failsafe	= FALSE Boolean		
					High Side Driver 2 On	= True Boolean		
				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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	0.5004883	%		
					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	<=	31.999023	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	<=	31.999023	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	>= 0.558		
					inertia phase test measured gear ratio	<= 4.7150002		
					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 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	27.000427	%		
					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	<=	31.999023	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	<=	31.999023	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)	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		
					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) 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		
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 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 while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	0.5004883	%		
					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	<=	31.999023	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	<=	31.999023	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)	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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	
							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	>= 0.558		
					inertia phase test measured gear ratio	<= 4.7150002		
					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 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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	>=	27.000427	%		
					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	<=	31.999023	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	<=	31.999023	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)	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		
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		

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		
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			
					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		

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)	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 VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 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 VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 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
					manufacture enable counter memory type updated	= 0 counts = 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.
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		
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)		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 <= 31.999023 volts battery voltage >= 9 volts battery voltage time >= 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 Engine Torque >= 50 N*m Engine Torque <= 8191.75 N*m Throttle Position >= 8.0001831 Pct Throttle Position <= 99.998474 Pct Transmission Fluid Temperature >= -6.65625 ºC Transmission Fluid Temperature <= 130 ºC PTO Not Active = TRUE Boolean 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	>= -50 RPM				One Trip
			TCC Slip Speed	<= 30 RPM				
							>= 1.5 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 6 Fail Counter	
					TCC Mode = Off default valve state = high (active) default valve state previous = low to high			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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			
					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	>=	3.9993286	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position	>=	0.9994507	Pct		
					Disable for Throttle Position	>=	94.999695	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	<=	31.999023	volts				
					battery voltage	>=	9	volts				
					battery voltage time	>=	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				
					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 out of 0.5		Fail Time (Sec) 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)	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 VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts	
				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 VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 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 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	
					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	>=	0.5004883	%				
					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	<=	31.999023	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	<=	31.999023	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		
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		
					Hydraulic System Pressurized	= TRUE Boolean		
					battery voltage	<= 31.999023 volts		
					battery voltage	>= 9 volts		
					battery voltage time	>= 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, P07BF, P07C0, P2812, P2814, P2815 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	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		
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)	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_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	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) 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		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Bus Voltage Error (CAN bus off) = TRUE Boolean Bus off delay time >= 0.1125 sec				>= 62 counts >= 70 counts	One Trip
					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 processing 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	<= 6.4091797 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		
					A) Service mode $04 active and end of trip processing 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	<= 6.4091797 volts		
					U0100 fault status is not	= fault active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	<=	6.4091797	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		
					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		

16 OBDG03 TCM Summary Tables T87 (8 Speed Common)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					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	<=	6.4091797	volts		
					U0140 fault status is not	=	fault active			

16 OBDG03 Diagnostic 2D Tables TCM T87 (8 Speed Common)

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	R_e_CD_21	SR_e_CD_31	R_e_CD_32	R_e_CD_42	R_e_CD_43	R_e_CD_51	R_e_CD_53	R_e_CD_54	R_e_CD_63	closed throttle down shift type: 2-1, 3-1, 3-2, 4-2, 4-3, 5-1, 5-3, 5-4, 6-3
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	kPa
Axis	R_e_CD_64	SR_e_CD_65	R_e_CD_71	R_e_CD_75	R_e_CD_76	R_e_CD_82	R_e_CD_84	R_e_CD_86	R_e_CD_87	closed throttle down shift type: 6-4, 6-5, 7-1, 7-,5 7-6, 8-2, 8-4, 8-6, 8-7
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	kPa

Table 8

Axis	R_e_US_12	SR_e_US_23	R_e_US_34	R_e_US_45	R_e_US_56	R_e_US_67	R_e_US_78	R_e_US_13	R_e_US_24	up shift type: 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-8, 1-3, 2-4
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	kPa
Axis	R_e_US_35	SR_e_US_46	R_e_US_57	R_e_US_68	up shift type: 3-5, 4-6, 5-7, 6-8					
Curve	750.0	750.0	750.0	750.0	kPa					

Table 9

NOT USED
NOT USED

Table 10

Axis	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	1	1	1	1	1	BOOLEAN

Table 11

Axis	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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 18

Axis	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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 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

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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_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	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	4	4	4	4	4	counts

Table 33

	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Axis						
Curve	4	4	4	4	4	counts

Table 34

NOT USED
NOT USED

Table 35

	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Axis						
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

Table 36

	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Axis						
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

Table 37

	_C1_Clutch	e_C2_Clutch	_C3_Clutch	_C4_Clutch	_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Axis						
Curve	300.0	300.0	300.0	300.0	300.0	kPa

Table 38

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
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	ºC
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	ºC
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	ºC
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	ºC
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	_e_CC_US	R_e_CC_CD	_e_CC_PD	_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	stVoltage1	TestVoltage2	stVoltage3	stVoltage4	1 ADchannel, 2 AD channels, 3 AD channels, 4 AD channels
Curve	5.0000	25.0000	75.0000	95.0000	volts

Table 48

Axis	p25msSeq	_12.5msSeq	_25msSeq	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	p25msSeq	_12.5msSeq	_25msSeq	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	R_i_MontrA	MR_i_MontrB	R_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

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	0BE_BusA	GACY_BusA	0C1_BusA	0C5_BusA	0C9_BusA	0F1_BusA	_CA_BusA	12A_BusA	185_BusA	18E_BusA	ACY_BusA	191_BusA	1A1_BusA	frame
Curve	dRxDevice	alidRxDevice	dRxDevice	dRxDevice	BusA_ECM	dRxDevice	dRxDevice	dRxDevice	dRxDevice	BusA_ECM	dRxDevice	dRxDevice	BusA_ECM	enable or invalid
Axis	1A3_BusA	g_1A5_BusA	1AA_BusA	ACY_BusA	1BA_BusA	1CB_BusA	1DF_BusA	1E9_BusA	1F1_BusA	1F3_BusA	1F9_BusA	1FC_BusA	287_BusA	frame
Curve	dRxDevice	alidRxDevice	BusA_ECM	dRxDevice	BusA_ECM	dRxDevice	dRxDevice	BusA_ABS	dRxDevice	BusA_BCM	BusA_PTO	dRxDevice	dRxDevice	enable or invalid
Axis	2D1_BusA	g_2F9_BusA	3D1_BusA	3E9_BusA	3FC_BusA	4A3_BusA	4C1_BusA	4C7_BusA	4DF_BusA	4E1_BusA	4E9_BusA	4F1_BusA	589_BusA	frame
Curve	sA_TCCM	alidRxDevice	dRxDevice	BusB_ECM	dRxDevice	dRxDevice	BusA_ECM	dRxDevice	dRxDevice	dRxDevice	dRxDevice	dRxDevice	dRxDevice	enable or invalid

Table 65

Axis	0BE_BusA	GACY_BusA	0C1_BusA	0C5_BusA	0C9_BusA	0F1_BusA	_CA_BusA	12A_BusA	185_BusA	18E_BusA	ACY_BusA	191_BusA	1A1_BusA	frame
Curve	12.000	12.000	12.000	12.000	0.500	12.000	12.000	12.000	12.000	0.500	12.000	12.000	12.000	seconds
Axis	1A3_BusA	g_1A5_BusA	1AA_BusA	ACY_BusA	1BA_BusA	1CB_BusA	1DF_BusA	1E9_BusA	1F1_BusA	1F3_BusA	1F9_BusA	1FC_BusA	287_BusA	frame
Curve	12.000	12.000	0.500	12.000	0.500	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	seconds
Axis	2D1_BusA	g_2F9_BusA	3D1_BusA	3E9_BusA	3FC_BusA	4A3_BusA	4C1_BusA	4C7_BusA	4DF_BusA	4E1_BusA	4E9_BusA	4F1_BusA	589_BusA	frame
Curve	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	0.500	seconds

16 OBDG03 Diagnostic 3D Tables TCM T87 (8 Speed Common)

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 ty
KaPISD_b_ProgSeqWatchEnbl	Table Calibration	1	1	1	0	0	0	0	0	BOOLEAN