COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	=	TRUE	Boolean					>= 5	Fail Counts	One Trip
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	18	Volts			
				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
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	18	Volts			
				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	One Trip
											= 16	Sample Counts	
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	18	Volts			
				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
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	18	Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
					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	>=	142.1015625	ºC					>= 5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>=	50	ºC					>= 2	Fail Time (Sec)	
			Ignition Voltage	>=	18	Volts							
			Note: either fail case can set the DTC										
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Substrate Temp Lo	>=	0	ºC			
							Substrate Temp Hi	<=	170	ºC			
							Substrate Temp Between Temp Range for Time	>=	0.25	Sec			
							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					>= 3	Fail Counts	One Trip
											out of 5	Sample Counts	
							P0658 Status is not	=	Test Failed This Key On or Fault Active				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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 °C				Two Trips
			If TCM substrate temp to power up temp Δ	> Refer to Table 20 in supporting documents °C				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid = TRUE Boolean Accelerator Position Signal Valid = TRUE Boolean Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD _e_C3_R atlEnbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P0667 Status is	≠	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	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)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	=	CeTFTI_e_Volt ageDirectProp							Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<=	-249	ºC						
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>=	-249	ºC						
			Either condition above will satisfy the fail conditions								>= 60	Fail Timer (Sec)
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							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_Volt ageDirectProp							Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>=	249	ºC						
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<=	249	ºC						
			Either condition above will satisfy the fail conditions								>= 60	Fail Timer (Sec)
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							P0669 Status is	≠	Test Failed This Key On or Fault Active			
							For Hybrids, below conditions must also be met					
							Estimated Motor Power Loss	>=	0	kW		
							Estimated Motor Power Loss greater than limit for time	>=	0	Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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 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

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	>=	8.59961 Volts			
					Ignition Voltage Hi	<=	31.999 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD _e_C3_R atlEnbl			
					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 PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E					
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<=	-59	ºC					>= 60	Fail Time (Sec)	Two Trips
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							P06AD Status is	≠	Test Failed This Key On or Fault Active				
							For Hybrids, below conditions must also be met						
							Estimated Motor Power Loss	>=	0	kW			
							Estimated Motor Power Loss greater than limit for time	>=	0	Sec			
							Lost Communication with Hybrid Processor Control Module	=	FALSE				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							Estimated Motor Power Loss Fault	=	FALSE				
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None					
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>=	164	ºC					>= 60	Fail Time (Sec)	Two Trips
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							P06AE Status is	≠	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	If Tow Haul / Winter Switch Active	=	TRUE	Boolean					>= 600	Fail Time (Sec)	Special No Trip
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: P1762 ECM: None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
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	>= 8.59961 Volts			
					Ignition Voltage Hi	<= 31.999 Volts			
					Engine Speed Lo	>= 400 RPM			
					Engine Speed Hi	<= 7500 RPM			
					Engine Speed is within the allowable limits for	>= 5 Sec			
					Brake torque active	= FALSE			
					Below describes the brake torque entry criteria				
					Engine Torque	>= 90 N*m			
					Throttle	>= 30.0003 Pct			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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_R atlEnbl			
					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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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 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				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo >= 8.59961 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					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	<=	31.999　Volts		
					Engine Speed Lo	>=	400　RPM		
					Engine Speed Hi	<=	7500　RPM		
					Engine Speed is within the allowable limits for	>=	5　Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							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	>=	881.75	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	>=	0	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	<=	31.999	Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
								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	<	32.625	RPM					>= 4.5 Fail Time (Sec)	One Trip
			Fail Case 2	When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	<	653.125	RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean		
								Engine Torque is	>=	50	N*m		
								Engine Torque is	<=	8191.88	N*m		
								Vehicle Speed	>=	16	Kph		
								Engine Torque Signal Valid	=	TRUE	Boolean		
								Ignition Voltage	>=	8.59961	Volts		
								Ignition Voltage	<=	31.999	Volts		
								Engine Speed	>=	400	RPM		
								Engine Speed	<=	7500	RPM		
								Engine Speed is within the allowable limits for	>=	5	Sec		
								P0717 Status is not	=	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: P0101, P0102, P0103				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<=	35	RPM					>= 4.5	Fail Time (Sec)	One Trip
							P0722 Status is not	=	Test Failed This Key On or Fault Active				
							Transmission Input Speed Check	=	TRUE	Boolean			
							Engine Torque Check	=	TRUE	Boolean			
							Throttle Position	>=	8.00018	Pct			
							Transmission Fluid Temperature	>=	-40	ºC			
							Disable this DTC if the PTO is active	=	1	Boolean			
							Engine Torque Signal Valid	=	TRUE	Boolean			
							Throttle Position Signal Valid	=	TRUE	Boolean			
							Ignition Voltage is	>=	8.59961	Volts			
							Ignition Voltage is	<=	31.999	Volts			
							Engine Speed is	>=	400	RPM			
							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						
							Shift Status is not	=	complete				
							OR						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Transmission Range is	=	Park or Neutral		
					Engine Torque is	>=	8191.75 N*m		
					Engine Torque is	<=	8191.75 N*m		
					Engine Torque Condition 2				
					Engine Torque is	>=	54 N*m		
					Engine Torque is	<=	8191.75 N*m		

					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE				
					TIS Check Condition 1				
					Transmission Input Speed is	>=	653.125 RPM		
					Transmission Input Speed is	<=	5350 RPM		
					TIS Check Condition 2				
					Engine Speed without the brake applied is	>=	3200 RPM		
					Engine Speed with the brake applied is	>=	3200 RPM		
					Engine Speed is	<=	8191.88 RPM		
					Controller uses a single power supply for the speed sensors	=	1 Boolean		
					Powertrain Brake Pedal is Valid	=	TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0723			
						ECM: P0101, P0102, P0103, P0121, P0122, P0123			
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed >=	105 RPM				>= 0 Enable Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Output Speed Delta	<=	8192	RPM					>=	0	Enable Time (Sec)
			Output Speed Drop	>	650	RPM					>=	1.5	Output Speed Drop Recover Fail Time (Sec)
							---------------------- Range_Disable	=	FALSE	See Below			
							OR ---------------------- Neutral_Range_Enable	=	TRUE	See Below			
							And Neutral_Speed_Enable	=	TRUE	See Below			
							are TRUE concurrently ----------------------						
							Transmission_Range_Enable	=	TRUE	See Below			
							Transmission_Input_Speed_ Enable	=	TRUE	See Below			
							No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds			
							P0723 Status is not	=	Test Failed This Key On or Fault Active				
							Disable this DTC if the PTO is active	=	1	Boolean			
							Ignition Voltage is	>=	8.59961	Volts			
							Ignition Voltage is	<=	31.999	Volts			
							Engine Speed is	>=	400	RPM			
							Engine Speed is	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							Enable_Flags Defined Below						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					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 three conditions are satisfied				
					Input Speed	=	0	RPM	
					A Single Power Supply is used for all speed sensors	=	TRUE	Boolean	
					Powertrain Brake Pedal Applied is	=	FALSE	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/D rive Transitio nal	ENUM	
					And when a drop occurs				
					Loop to Loop Drop of Transmission Output Speed is	>	8192	RPM	

					Range_Disable is TRUE when any of the next three conditions are TRUE				
					Transmission Range is	=	Park	ENUM	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>	409.594	Seconds		
					Transmission Output Speed	>	0	RPM		
					And the acceleration of the Transmission Output Speed is	<	0	RPM/Loop Rate		
					And the acceleration of the Transmission Output Speed is	>	0	RPM/Loop Rate		

					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/ Neutral Transitional	ENUM		
					Transmission Range is	=	Neutral/Drive Transitional	ENUM		
					Range Change Delay Timer	>=	5	Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0973, P0974, P0976, P0977				
						ECM: P0101, P0102, P0103, P0121, P0122, P0123				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>=	750	Kpa					>=	2 Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met										
			(A) TCC Slip Error @ TCC On Mode	>=	Refer to Table 1 in Supporting Documents	RPM					>=	6 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>=	130	RPM					>=	6 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	2 TCC Stuck Off Fail Counter	
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							Engine Torque Lo	>=	50	N*m			
							Engine Torque Hi	<=	8191.88	N*m			
							Throttle Position Lo	>=	8.00018	Pct			
							Throttle Position Hi	<=	99.9985	Pct			
							2nd Gear Ratio Lo	>=	2.19482	Ratio			
							2nd Gear Ratio High	<=	2.52515	Ratio			
							3rd Gear Ratio Lo	>=	1.42285	Ratio			
							3rd Gear Ratio High	<=	1.63708	Ratio			
							4th Gear Ratio Lo	>=	1.06946	Ratio			
							4th Gear Ratio High	<=	1.23047	Ratio			
							5th Gear Ratio Lo	>=	0.79053	Ratio			
							5th Gear Ratio Hi	<=	0.90955	Ratio			
							6th Gear Ratio Lo	>=	0.62305	Ratio			
							6th Gear Ratio High	<=	0.71692	Ratio			
							Transmission Fluid Temperature Lo	>=	-6.65625	ºC			
							Transmission Fluid Temperature Hi	<=	130	ºC			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
							TCC Command Lock ON or ON mode	=	TRUE	Boolean				
							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								
											>=	2	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	6	Fail Counter	
							Run TCC Stuck On Test Enable Criteria:							
							Gear Ratio	<=	2.52515	Ratio				
							Gear Ratio	>=	2.19482	Ratio				
							Engine Speed Hi	<=	6500	RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	1	Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	55	Nm		
					Down Shift In Progress	=	FALSE	Boolean		
					Current Gear	≠	1st Gear Locked	Boolean		
					Engine Torque Hi	<=	8191.88	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	-6.65625	°C		
					Throttle Position Hyst High	>=	8.00018	Pct		
					Throttle Position Hyst Low	<=	2.99988	Pct		
					PTO Active	=	FALSE	Boolean		
					Disable if in D1 and value true	=	0	Boolean		
					Disable if in D2 and value true	=	0	Boolean		
					Disable if in D3 and value true	=	0	Boolean		
					Disable if in D4 and value true	=	0	Boolean		
					Disable if in D5 and value true	=	0	Boolean		
					Disable if in MUMD and value true	=	0	Boolean		
					Disable if in TUTD and value true	=	0	Boolean		
					4 Wheel Drive Active	=	FALSE	Boolean		
					Hydraulic Clutch Air Purge Active	=	FALSE	Boolean		
					Ignore Air Purge if value = true	=	0	Boolean		
					TCC Mode	=	OFF			
					Common Enables:					
					Ignition Voltage	>=	8.59961	V		
					Ignition Voltage	<=	31.999	V		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P0742 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip >= 400 RPM				>= 0.2 Fail Tmr	Two Trips
			Commanded Gear = 1st Lock rpm				= 8 Fail Counts	
			Gear Ratio <= 1.209594727					
			Gear Ratio >= 1.094360352				≠ 0 Neutral Timer (Sec)	
			If the above parameters are true				>= 0.3 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
									>=	8	Counts	
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.999	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Transmission Fluid Temperature	>=	-6.65625	ºC				
					Shift is Complete							
					TPS	>=	0.50049	%				
					OR							
					Output Speed	>=	0	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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			Commanded Gear	=	3rd	Gear						
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On	=	TRUE	Boolean						
			C456/CBR1 Pressure Switch	=	Pressurized	Boolean						
			C456/CBR1 Pressure Switch Fault	=	FALSE	Boolean						
			If the above parameters are true								Please Refer to Table 16 in Supporting Documents	Neutral Timer (Sec)
											>=	>= 5 Counts
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							High-Side Driver is Enabled	=	TRUE	Boolean		
							Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Output Speed	>=	0	RPM		
							OR					
							TPS	>=	0.50049	%		
							Shift is Complete					
							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 PARAMETERS	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	= 1st Locked				One Trip
			Gear Box Slip	>= 400 RPM			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Shift to 2nd Commanded Gear Previous Gear Ratio Gear Ratio If the above parameters are true	= 1st Locked Gear <= 2.482177734 >= 2.245849609			>= 1 sec >= 3 counts	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Output Speed OR TPS	>= 8.59961 Volts <= 31.999 Volts >= 400 RPM <= 7500 RPM >= 5 Sec >= 0 RPM >= 0.50049 %		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Shift is Complete			
					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		
					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]	<u>Fail Case 1</u> Case: Steady State 3rd Gear					One Trip
			Commanded Gear	= 3rd Gear				
			Gearbox Slip	>= 400 Rpm			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Test: Command 4th Gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			If attained Gear=4th gear for Time	>=	Table Based Time Please Refer to Table 3 in supporting documents	Enable Time (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	>=	Table Based Time Please Refer to Table 3 in supporting documents	Enable 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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					IMS fault pending indication	=	FALSE	Boolean		
					TPS validity flag	=	TRUE	Boolean		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	16	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	-6.65625	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						One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			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	<=	1.608642578							
			Gear Ratio	>=	1.455444336							
			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						
			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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			Intrusive test: (CB26 clutch exhausted)								
			Gear Ratio	<=	1.608642578						
			Gear Ratio	>=	1.455444336						
			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	<=	0.89465332						
			Gear Ratio	>=	0.809448242						
			If the above parameters are true								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
									>=	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 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	<=	0.89465332				>=	1.1	Fail Timer (Sec)	
			Gear Ratio	>=	0.809448242				>=	3	counts	
			If the above parameters are true						>=	1.1	Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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	=	TRUE	Boolean			
					Minimum output speed for RVT	>=	0	Nm			
					A OR B						
					(A) Output speed enable	>=	16	Nm			
					(B) Accelerator Pedal enable	>=	0.50049	Nm			
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm			
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm			
					Transmission Fluid Temperature	>=	-6.65625	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 PARAMETERS	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)	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					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	≠	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:							
			fail timer 1 (3-1 shifting with Closed Throttle)	>=	0.5	Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (3-2 shifting with Throttle)	>=	0.299804688 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)	>=	0.299804688 Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>=	0.5 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>=	0.299804688 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)	>=	0.299804688 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)	>=	0.299804688 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)	>=	0.299804688 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 PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				>=	sec	Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			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	>=	-6.65625	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Command / Attained Gear	≠	1st	Boolean		
					High Side Driver ON	=	TRUE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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)	<u>Fail Case 1</u> Case: Steady State 4th Gear Gear slip Intrusive test: commanded 5th gear If attained Gear ≠5th for time if the above conditions have been met	>= 400 RPM Table Based Time Please Refer to Table 3 in supporting documents　Enable Time (Sec)			>= 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 PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Increment 4th Gear Fail Counter						>=	3	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	>=	Table Based Time Please Refer to Table 3 in supporting documents	Enable Time (Sec)					
			if the above conditions have been met								
			Increment 5th Gear Fail Counter						>=	3	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)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Intrusive test: commanded 5th gear								
			If attained Gear ≠ 5th for time	>=	Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)						
			if the above conditions have been met								
			Increment 6th Gear Fail Counter and C456 Fail Counter						>= 3	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			
					Hydraulic System Pressurized	=	TRUE	Boolean			
					Minimum output speed for RVT	>=	0	RPM			
					A OR B						
					(A) Output speed enable	>=	16	RPM			
					(B) Accelerator Pedal enable	>=	0.50049	Pct			
					Common Enable Criteria						
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Throttle Position Signal valid	=	TRUE	Boolean			
					HSD Enabled	=	TRUE	Boolean			
					Transmission Fluid Temperature	>=	-6.65625	ºC			
					Input Speed Sensor fault	=	FALSE	Boolean			
					OutputSpeed Sensor fault	=	FALSE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	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)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	<u>Fail Case 1</u> 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	<=	1.209594727						
			Gear Ratio	>=	1.094360352						
			If the above parameters are true								
									>=	1.1	Fail Timer (Sec)	
									>=	2	Fail Count in 1st Gear or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
									>=	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					
			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	<=	1.209594727						
			Gear Ratio	>=	1.094360352						
			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								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	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: (C35R clutch exhausted)									
			Gear Ratio	<=	1.209594727							
			Gear Ratio	>=	1.094360352							
			If the above parameters are true							>=	1.1	Fail Timer (Sec)	
										>=	3	Fail Count in 3rd Gear
										OR		
										>=	3	Total Fail Counts
						PRNDL State defaulted	=	FALSE	Boolean			
						inhibit RVT	=	FALSE	Boolean			
						IMS fault pending indication	=	FALSE	Boolean			
						output speed	>=	0	RPM			
						TPS validity flag	=	TRUE	Boolean			
						HSD Enabled	=	TRUE	Boolean			
						Hydraulic_System_Pressurized	=	TRUE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Minimum output speed for RVT A OR B	>=	0	Nm		
					(A) Output speed enable	>=	16	Nm		
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.65625	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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
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				
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command				
			Range Shift Status	≠	Initial Clutch Control				
			Attained Gear Slip	<=	40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:						
			fail timer 1 (4-1 shifting with throttle)	>=	0.299804688 Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>=	0.5 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=	0.299804688 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	0.5 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	0.299804688 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=	0.299804688 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=	0.5 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>=	0.299804688 Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			6th gear fail counter				>= 3 Fail Counter From 6th Gear OR	
			Total fail counter				>= 5 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 >= 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		
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	= 0 Boolean				Special No Trip
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 0 Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	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								>= 600 Fail Time (Sec)	
							Time Since Last Range Change	>=	1	Enable Time (Sec)		
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							P0815 Status is	≠		Test Failed This Key On or Fault Active		
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None				
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	0	Boolean						Special No Trip
			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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			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						
			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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean					>= 600 sec	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met									
							Time Since Last Range Change	>=	1	Enable Time (Sec)		
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							P0816 Status is	≠	Test Failed This Key On or Fault Active			
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None				
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	=	TRUE	Boolean					>= 60 Fail Time (Sec)	Special No Trip
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	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				
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<=	50	KPa						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 8 for Delay Timer Cal	Sec						
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter							>= 10	Fail Counts	
			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						
							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)	<=	255.992	ºC		
							Ignition Voltage Lo	>=	8.59961	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							Default Gear Action	=	FALSE			
							High Side Driver ON	=	TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							RVT Status	=	Normal				
							Hydraulic Pressure Available	=	TRUE				
							Engine Speed Min	>=	550	RPM			
				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							Special No Trip
			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								>=	15	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)	<=	255.992	ºC			
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	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			
						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							Special No Trip
			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								>= 5	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	°C			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.992	°C			
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							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			
					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	>=	700	KPa							Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 6 for Delay Timer Cal	Sec							
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter								>=	6 Fail Counts	
			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	°C			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.992	°C			
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							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			
					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)	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)	Two Trips
											out of 5	Sample Time (Sec)	
							Ignition Voltage	>=	8.59961	Volts			
							Ignition Voltage	<=	31.999	Volts			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	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)	One Trip
											out of 1.875	Sample Time (Sec)	
							Ignition Voltage	>=	8.59961	Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							Ignition Voltage	<=	31.999	Volts		
							Engine Speed	>=	400	RPM		
							Engine Speed	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: None				
								ECM: None				
Variable Bleed Solenoid (VBS)	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)	Two Trips
											out of 5 Sample Time (Sec)	
							Ignition Voltage	>=	8.59961	Volts		
							Ignition Voltage	<=	31.999	Volts		
							Engine Speed	>=	400	RPM		
							Engine Speed	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: None				
								ECM: None				
Variable Bleed Solenoid (VBS)	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)	One Trip
											out of 0.375 Sample Time (Sec)	
							Ignition Voltage	>=	8.59961	Volts		
							Ignition Voltage	<=	31.999	Volts		
							Engine Speed	>=	400	RPM		
							Engine Speed	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
						P0966 Status is not	=	Test Failed This Key On or Fault Active				
				Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: None					
							ECM: None					
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sample Time (Sec)	
						Ignition Voltage	>=	8.59961	Volts			
						Ignition Voltage	<=	31.999	Volts			
						Engine Speed	>=	400	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
						P0967 Status is not	=	Test Failed This Key On or Fault Active				
				Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: None					
							ECM: None					
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					P0970 Status is not	=	Test Failed This Key On or Fault Active			
					Ignition Voltage	>=	8.59961	Volts		
					Ignition Voltage	<=	31.999	Volts		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None				
						ECM: None				
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean					>= 0.3 Fail Time (Sec)	One Trip
									out of 0.375 Sample Time (Sec)	
					P0971 Status is not	=	Test Failed This Key On or Fault Active			
					Ignition Voltage	>=	8.59961	Volts		
					Ignition Voltage	<=	31.999	Volts		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None				
						ECM: None				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	=	TRUE	Boolean					>= 1.2 out of 1.5	Fail Time (Sec) Sample Time (Sec)	One Trip
							P0973 Status is not	=	Test Failed This Key On or Fault Active				
							Ignition Voltage	>=	8.59961	Volts			
							Ignition Voltage	<=	31.999	Volts			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**			TCM: None ECM: None					
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	=	TRUE	Boolean					>= 1.2 out of 1.5	Fail Time (Sec) Sample Time (Sec)	Two Trips
							P0974 Status is not	=	Test Failed This Key On or Fault Active				
							Ignition Voltage	>=	8.59961	Volts			
							Ignition Voltage	<=	31.999	Volts			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
				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	Two Trips
											out of	1.5	Sec	
							P0976 Status is not	=	Test Failed This Key On or Fault Active					
							Ignition Voltage	>=	8.59961	Volts				
							Ignition Voltage	<=	31.999	Volts				
							Engine Speed	>=	400	RPM				
							Engine Speed	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: None						
								ECM: None						
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	One Trip
											out of	1.5	Sec	
							P0977 Status is not	=	Test Failed This Key On or Fault Active					
							Ignition Voltage	>=	8.59961	Volts				
							Ignition Voltage	<=	31.999	Volts				
							Engine Speed	>=	400	RPM				
							Engine Speed	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
						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							Special No Trip
			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								>=	18 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)	<=	255.992	ºC			
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							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 PARAMETERS	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	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure	>=	700	Kpa								Special No Trip
			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								>=	15	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)	<=	255.992	ºC				
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.999	Volts				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							Default Gear Action	=	FALSE					
							High Side Driver ON	=	TRUE					
							RVT Status	=	Normal					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				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		
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 Trip
					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		
Mode Switch	P1762	Transmission Mode Switch Signal Circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer (Sec)	Special No Trip
					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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
					Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None			
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1 Current range	=	"Transitional 1"	Range State				One Trip
			Previous range	≠	CeTRGR_e_P RNDL_Drive6	Range State				
			Previous range	≠	CeTRGR_e_P RNDL_Drive4	Range State				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean				
			Engine Torque	>=	-50	Nm				
			Engine Torque	<=	8191.75	Nm				
			If the above conditions are present Increment Fail Timer						>= 0.225	Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter						>= 15	Fail Counts	
			Fail Case 2 Current range	=	"Transitional 1"	Range State				
			S3 Pressure Switch indicates "Exhausted"	=	TRUE	Boolean				
			Commanded Gear	=	1st Locked	Gear				
			If the above conditions are present Increment Fail Timer						>= 0.225	Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter						>= 15	Fail Counts	
			Fail Case 3 Current range	=	"Transitional 13"		Previous range ≠	CeTRGR _e_PRN DL_Drive 1			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range ≠	CeTRGR _e_PRN DL_Drive 2			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Engine Torque	>=	-8192 Nm	IMS is 7 position configuration	= 1 Boolean			
			Engine Torque	<=	8191.75 Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transitional 13"				
			If the above conditions are present Increment Fail Timer					>= 0.225	Seconds	
			If Fail Timer has Expired then Increment Fail Counter					>= 15	Fail Counts	
			Fail Case 4 Current range	=	"Transitional 2" or "Transitional 8"	Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8				
			Inhibit bit (see definition)	=	FALSE	Set inihibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transitional) Set inhibit bit false if PRNDL = 1001 (park)				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean					
			Steady State Engine Torque	>=	100 Nm					
			Steady State Engine Torque	<=	8191.75 Nm					
			If the above conditions are present Increment Fail Timer					>= 0.225	Seconds	
			If the above Condtions have been met, Increment Fail Counter					>= 15	Fail Counts	
			Fail Case 5 Current range	=	"Transitional 11"					
			Engine Torque	>=	-50 Nm					
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean					
			If the above conditions are present Increment Fail Timer					>= 0.225	Seconds	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
			If the above Condtions have been met, Increment Fail Counter						>= 15	Fail Counts	
			Fail Case 6 Current range	=	"Illegal"	A Open Circuit Definition (flag set false if the following conditions are met):					
			and			Current Range	≠	"Transitional 11"			
			A Open Circuit (See Definition)	=	FALSE Boolean	or					
						Last positive state	≠	Neutral			
						or					
						Previous transitional state	≠	Transitional 8 and Illegal			
						and					
						PRNDL Circuit A	=	Open Circuit			
						PRNDL Circuit B	=	Closed Circuit			
						PRNDL Circuit C	=	Open Circuit			
						PRNDL Circuit P	=	Open Circuit			
			If the above Condtions are present, Increment Fail timer						>= 6.25	Seconds	
			Fail Case 7 Current PRNDL State	=	PRNDL circuit ABCP = 1101						
			and								
			Previous valid state	=	PRNDL circuit ABCP =1111 Range						
			Input Speed	>=	150 RPM						
			Reverse Trans Ratio	<=	2.845825195 ratio						
			Reverse Trans Ratio	>=	3.274169922 ratio						
			If the above Condtions are present, Increment Fail timer						>= 6.25	Seconds	
			P182E will report test fail when any of the above 7 fail cases are met								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							Ignition Voltage Lo	>=	8.59961	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Vehicle Speed Lo	<=	511	KPH			
							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: P0722, P0723					
								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					>= 0.069	Enable Time (Sec)	
			Then Final Engine Speed	>=	525	RPM							
			Final Transmission Input Speed	>=	200	RPM					>= 1.25	Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.999 V		
					Ignition Voltage Hyst High (enables above this value)	>= 6 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	Run crank active (based on voltage thresholds below)	= FALSE				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	6 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)	
					Normal CAN Comm Enabled	= TRUE Boolean		
					ECM run/crank active status	= TRUE 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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Gear slip	>=	400	RPM			>=	Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear								
			If attained Gear = 3rd for Time	>=	Table Based Time Please see Table 2 in Supporting Documents	Enable Time (Sec)					
			If Above Conditions have been met								
			Increment 2nd gear fail count						>=	3	2nd Gear Fail Count or	
			and CB26 Fail Count						>=	14	CB26 Fail Count	
			Fail Case 2 Case: Steady State 6th Gear								
			Gear slip	>=	400	RPM			>=	Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear								
			If attained Gear = 5th For Time	>=	Table Based Time Please see Table 2 in Supporting Documents	Enable Time (Sec)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			If Above Conditions have been met, Increment 5th gear fail counter						>=	3	5th Gear Fail Count	
											or	
			and CB26 Fail Count						>=	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	>=	0	RPM			
					A OR B						
					(A) Output speed enable	>=	16	RPM			
					(B) Accelerator Pedal enable	>=	0.50049	Pct			
					Common Enable Criteria						
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Throttle Position Signal valid	=	TRUE	Boolean			
					HSD Enabled	=	TRUE	Boolean			
					Transmission Fluid Temperature	>=	-6.65625	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 PARAMETERS	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					
			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)	>=	0.299804688	Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>=	0.299804688	Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>=	0.5	Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-4 shifting with throttle)	>=	0.299804688	Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>=	0.299804688	Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>=	0.299804688	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							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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	>= -6.65625 °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	>= 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
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)									
			Gear Ratio	<=	2.482177734							
			Gear Ratio	>=	2.245849609							
			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 3rd 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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	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	<=	2.482177734						
			Gear Ratio	>=	2.245849609						
			If the above parameters are true					>=	1.1	Fail Timer (Sec)	
								>=	3	Fail Count in 3rd Gear	
										or	
								>=	3	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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Intrusive test: (C1234 clutch exhausted)							
			Gear Ratio	<=	0.700317383					
			Gear Ratio	>=	0.633666992					
			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 5th 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: (C35R clutch exhausted)							
			Gear Ratio	<=	0.700317383					
			Gear Ratio	>=	0.633666992					
			If the above parameters are true							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
									>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 5th 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			
					Minimum output speed for RVT	>=	0	Nm			
					A OR B						
					(A) Output speed enable	>=	16	Nm			
					(B) Accelerator Pedal enable	>=	0.50049	Nm			
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm			
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm			
					Transmission Fluid Temperature	>=	-6.65625	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 PARAMETERS	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)	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 <= 31.999 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	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)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							out of 0.375 Sample Time (Sec)	
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:** TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 2nd gear					
			If attained Gear ≠ 2nd for Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 1st gear fail counter				>= 3 1st Gear Fail Count or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			and C1234 fail counter					>= 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	>=	Table based Timer, Please See Table 3 in Supporting Documents	Enable Time (Sec)					
			If Above Conditions have been met, Increment 2nd gear fail counter					>= 3	2nd Gear Fail Count or	
			and C1234 fail counter					>= 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							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			If attained Gear ≠ 4th for time	>=	Table based Timer, Please See Table 3 in Supporting Documents	Enable Time (Sec)						
			If Above Conditions have been met, Increment 3rd gear fail counter							>= 3	3rd Gear Fail Count or	
			and C1234 fail counter							>= 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	>=	Table based Timer, Please See Table 3 in Supporting Documents	Enable Time (Sec)						
			If Above Conditions have been met, Increment 4th gear fail counter							>= 3	4th Gear Fail Count or	
			and C1234 fail counter							>= 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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	16	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers)	=	TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command				
			Range Shift Status	≠	Initial Clutch Control				
			Attained Gear Slip	<=	40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:						
			fail timer 1 (2-6 shifting with throttle)	>=	0.299804688 sec				
			fail timer 1 (2-6 shifting without throttle)	>=	0.5 sec				
			fail timer 1 (3-5 shifting with throttle)	>=	0.299804688 sec				
			fail timer 1 (3-5 shifting without throttle)	>=	0.5 sec				
			fail timer 1 (4-5 shifting with throttle)	>=	0.299804688 sec				
			fail timer 1 (4-5 shifting without throttle)	>=	0.5 sec				
			fail timer 1 (4-6 shifting with throttle)	>=	0.299804688 sec				
			fail timer 1 (4-6 shifting without throttle)	>=	0.5 sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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 sec Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	
			3rd gear fail counter				>= 3 Fail Counter From 3rd Gear	
			4th gear fail counter				>= 3 Fail Counter From 4th Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			total fail counter				>= 5 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	>= 100 RPM		
					input speed limit for TUT	>= 150 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	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	<=	1.209594727					
			Gear Ratio	>=	1.094360352					
			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 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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	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: (CB26 clutch exhausted)								
			Gear Ratio	<=	1.209594727						
			Gear Ratio	>=	1.094360352						
			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			
					Minimum output speed for RVT	>=	0	Nm			
					A OR B						
					(A) Output speed enable	>=	16	Nm			
					(B) Accelerator Pedal enable	>=	0.50049	Nm			
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
							if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
							if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
							Transmission Fluid Temperature	>=	-6.65625	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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							Ignition Voltage	>=	8.59961	Volt			
							Ignition Voltage	<=	31.999	Volt			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: None					
								ECM: None					
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	=	TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
											out of 0.375	Sample Time (Sec)	
							P2730 Status is not	=	Test Failed This Key On or Fault Active				
							Ignition Voltage	>=	8.59961	Volt			
							Ignition Voltage	<=	31.999	Volt			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: None					
								ECM: None					
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)	Two Trips
											out of 5	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P2763 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.999 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659		
						ECM: None		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 MPH out of 5 MPH	One Trip
					P2764 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.999 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659		
						ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	=	TRUE	Boolean					>= 62	Fail counts (≈ 10 seconds)	One Trip
			Delay timer	>=	0.1125	sec					Out of 70	Sample Counts (≈ 11 seconds)	
							Stabilization delay	>=	3	sec			
							Power Mode	=	Run				
							Ignition Voltage Lo	>=	8.59961	Volt			
							Ignition Voltage Hi	<=	31.999	Volt			
				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			
							Power Mode	=	Run				
							Ignition Voltage Lo	>=	8.59961	Volt			
							Ignition Voltage Hi	<=	31.999	Volt			
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: U0073					
								ECM: None					

Supporting Documents - 2D Tables

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

Supporting Documents - 2D Tables

Table 8

Axis	-6.67	-6.66	40.00	80.00	120.00	°C
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	°C
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	°C
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	°C
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	°C
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	°C
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	°C
Curve	2.97	0.82	0.47	0.20	0.13	Sec

Supporting Documents - 2D Tables

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	1.50	1.50	Sec

Table 17

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

Table 18

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

Table 19

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

Table 20

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

Supporting Documents - 3D Tables

3D_Table 1

X-Axis Calibration	%		0.00	2.00	5.00	25.00	100.00
Y-Axis Calibration	ºC	-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
Table Calibration	RPM/Sec	-6.66	1125.00	1125.00	850.00	700.00	700.00
		40.00	1125.00	1125.00	850.00	700.00	700.00

3D_Table 2

X-Axis Calibration	%		0.00	2.00	5.00	25.00	100.00
Y-Axis Calibration	ºC	-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
Table Calibration	RPM/Sec	-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 PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	**Fail Case 1** Current range	=	"Transitional 1"	Range State						One Trip
			Previous range	≠	CeTRGR_e_P RNDL_Drive6	Range State						
			Previous range	≠	CeTRGR_e_P RNDL_Drive4	Range State						
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean						
			Engine Torque	>=	-50	Nm						
			Engine Torque	<=	8191.75	Nm						
			If the above conditions are present Increment Fail Timer							>= 0.225		
			If Fail Timer has Expired then Increment Fail Counter							>= 15	Fail Counts	
			Fail Case 2 Current range	=	"Transitional 1"	Range State						
			S3 Pressure Switch indicates "Exhausted"	=	TRUE	Boolean						
			Commanded Gear	=	1st Locked	Gear						
			If the above conditions are present Increment Fail Timer							>= 0.225	Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter							>= 15	Fail Counts	
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	≠	CeTRGR_e_P RNDL_Drive1			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	≠	CeTRGR_e_P RNDL_Drive1			
			Engine Torque	>=	-8192	Nm	IMS is 7 position configuration	=	1	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Engine Torque	<=	8191.75 Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transitional 13"			
			If the above conditions are present Increment Fail Timer					>= 0.225 Seconds	
			If Fail Timer has Expired then Increment Fail Counter					>= 15 Fail Counts	
			Fail Case 4 Current range	=	"Transitional 2" or "Transitional 8"	Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8			
			Inhibit bit (see definition)	=	FALSE	Set inihibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transitional) Set inhibit bit false if PRNDL = 1001 (park)			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean				
			Steady State Engine Torque	>=	100 Nm				
			Steady State Engine Torque	<=	8191.75 Nm				
			If the above conditions are present Increment Fail Timer					>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter					>= 15 Fail Counts	
			Fail Case 5 Current range	=	"Transitional 11"				
			Engine Torque	>=	-50 Nm				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean				
			If the above conditions are present Increment Fail Timer					>= 0.225 Seconds	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
			If the above Condtions have been met, Increment Fail Counter					>= 15 Fail Counts	
			<u>Fail Case 6</u>		A Open Circuit Definition (flag set false if the following conditions are met):				
			Current range	= "Illegal"					
			and		Current Range	≠	"Transitional 11"		
					or				
			A Open Circuit (See Definition)	= FALSE Boolean	Last positive state	≠	Neutral		
					or				
					Previous transitional state	≠	Transitional 8 and Illegal		
					and				
					PRNDL Circuit A	=	Open Circuit		
					PRNDL Circuit B	=	Closed Circuit		
					PRNDL Circuit C	=	Open Circuit		
					PRNDL Circuit P	=	Open Circuit		
			If the above Condtions are present, Increment Fail timer					>= 6.25 Seconds	
			<u>Fail Case 7</u> Current PRNDL State	= PRNDL circuit ABCP = 1101					
			and						
			Previous valid state	= PRNDL circuit ABCP =1111 Range					
			Input Speed	>= 150 RPM					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			Reverse Trans Ratio	<=	2.845825195	ratio								
			Reverse Trans Ratio	>=	3.274169922	ratio								
			If the above Condtions are present, 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	<=	31.999	Volts				
							Vehicle Speed Lo	<=	511	KPH				
							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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 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		