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	>=	8.5996	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 Contin ously		One Trip
						Ignition Voltage Lo	>=	8.5996	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	>=	8.5996	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: 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 Ignition Voltage Hi	>= <=	8.5996 18	Volts Volts			
				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	℃					>= 5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>=	50	℃					>= 2	Fail Time (Sec)	
			Ignition Voltage	>=	18	Volts							
			Note: either fail case can set the DTC										
							Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time	>= <= >= <= >=	8.5996 31.999 0 170 0.25	Volts Volts ℃ ℃ Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0634 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None		
						ECM: None		
HWIO	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		
					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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
			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					>= 3000	Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Out of 3750	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until					>= 700	Pass Counts (100ms loop)	
								Out of 875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE Boolean			
					Accelerator Position Signal Valid	=	TRUE Boolean			
					Ignition Voltage Lo	>=	8.5996 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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	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_Ratl Enbl		
					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_VoltageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<=	-249 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>=	-249 ºC				
			Either condition above will satisfy the fail conditions					>= 60 Fail Timer (Sec)	
						Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 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		
					P0668 Status is	≠	Test Failed This Key On or Fault Active			
			Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None					
					ECM: None					
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp						Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= 249 ºC						
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= 249 ºC						
			Either condition above will satisfy the fail conditions						>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>=	8.5996	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.
					P0669 Status is	≠	Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met				
					Estimated Motor Power Loss	>=	0 kW		
					Estimated Motor Power Loss greater than limit for time	>=	0 Sec		
					Lost Communication with Hybrid Processor Control Module	=	FALSE		
					Estimated Motor Power Loss Fault	=	FALSE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None			
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ	> Refer to Table 20 in supporting documents ℃					Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 in supporting documents ℃					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Both conditions above required to increment fail counter						>= 3000	Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.						Out of 3750	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						>= 700	Pass Counts (100ms loop)	
									Out of 875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean			
					Accelerator Position Signal Valid	=	TRUE	Boolean			
					Ignition Voltage Lo	>=	8.5996	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	Pct			
					Transmission Input Speed	<=	200	RPM			
					Vehicle Speed	<=	8	Kph			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	=	CeTFT D_e_C 3_Ratl Enbl			
					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	>=	8.5996	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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							For Hybrids, below conditions must also be met						
							Estimated Motor Power Loss	>=	0	kW			
							Estimated Motor Power Loss greater than limit for time	>=	0	Sec			
							Lost Communication with Hybrid Processor Control Module	=	FALSE				
							Estimated Motor Power Loss Fault	=	FALSE				
				Disable Conditions:		**MIL not Illuminated for DTC's:**		TCM: P0716, P0717, P0722, P0723 ECM: None					
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>=	164	ºC					>= 60	Fail Time (Sec)	Two Trips
							Ignition Voltage Lo	>=	8.5996	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				

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 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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Accelerator Position Signal Valid	=	TRUE Boolean		
					Ignition Voltage Lo	>=	8.5996 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 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_Ratl Enbl		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P0711 Status is	≠		Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
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	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							P0712 Status is	≠	Test Failed This Key On or Fault Active				
							For Hybrids, below conditions must also be met						
							Estimated Motor Power Loss	>=	0	kW			
							Estimated Motor Power Loss greater than limit for time	>=	0	Sec			

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 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	>= 8.5996 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	<=	8191.9	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	<	8191.9	RPM/ Loop			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							The previous requirement has been satisfied for	>=	0	Sec		
							Throttle Position Signal Valid	=	TRUE	Boolean		
							Engine Torque Signal Valid	=	TRUE	Boolean		
							Ignition Voltage	>=	8.5996	Volts		
							Ignition Voltage	<=	31.999	Volts		
							P0716 Status is not	=	Test Failed This Key On or Fault Active			
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0717, P0752, P0973, P0974				
								ECM: P0101, P0102, P0103, P0121, P0122, P0123				
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	<	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	<=	8191.9	N*m		
							Vehicle Speed	>=	16	Kph		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							Engine Torque Signal Valid	=	TRUE	Boolean		
							Ignition Voltage	>=	8.5996	Volts		
							Ignition Voltage	<=	31.999	Volts		
							Engine Speed	>=	400	RPM		
							Engine Speed	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							P0717 Status is not	=	Test Failed This Key On or Fault Active			
						Disable Conditions:	**MIL not Illuminated for DTC's:**					
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<=	35	RPM					>= 4.5 Fail Time (Sec)	One Trip
							P0722 Status is not	=	Test Failed This Key On or Fault Active			
							Transmission Input Speed Check	=	TRUE	Boolean		
							Engine Torque Check	=	TRUE	Boolean		
							Throttle Position	>=	8.0002	Pct		
							Transmission Fluid Temperature	>=	-40	ºC		
							Disable this DTC if the PTO is active	=	1	Boolean		
							Engine Torque Signal Valid	=	TRUE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Throttle Position Signal Valid	=	TRUE Boolean		
					Ignition Voltage is	>=	8.5996 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				
					Transmission Range is	=	Park or Neutral		
					Engine Torque is	>=	8191.8 N*m		
					Engine Torque is	<=	8191.8 N*m		
					Engine Torque Condition 2				
					Engine Torque is	>=	54 N*m		
					Engine Torque is	<=	8191.8 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	>=	653.13 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							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	<=	8191.9	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
			Output Speed Delta	<=	8192	RPM					>= 0 Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Output Speed Drop	> 650 RPM					>= 1.5	Output Speed Drop Recover Fail Time (Sec)	
					---------------------- Range_Disable OR ---------------------- Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently ----------------------	= = =	FALSE TRUE TRUE	Boolean Boolean Boolean			
					Transmission_Range_Enable	=	TRUE	Boolean			
					Transmission_Input_Speed_ Enable	=	TRUE	Boolean			
					No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds			
					Engine Torque Signal Valid	=	TRUE	Boolean			
					Throttle Position Signal Valid	=	TRUE	Boolean			
					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	>=	8.5996	Volts			
					Ignition Voltage is	<=	31.999	Volts			
					Engine Speed is	>=	400	RPM			
					Engine Speed is	<=	7500	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_ Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta	<=	4095.9	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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Transmission Range is	=	Neutral/ Drive Transiti onal 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		
					Transmission Range is	=	Park/R everse Transit onal ENUM		
					Input Clutch is not	=	ON (Fully Applied) ENUM		

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	409.59 Seconds		
					Transmission Output Speed	>	0 RPM		
					And the acceleration of the Transmission Output Speed is	<	0 RPM/L oop Rate		
					And the acceleration of the Transmission Output Speed is	>	0 RPM/L oop Rate		

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

							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			
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)		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			(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	>=	8.5996	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	<=	8191.9	N*m				
							Throttle Position Lo	>=	8.0002	Pct				
							Throttle Position Hi	<=	99.998	Pct				
							2nd Gear Ratio Lo	>=	2.1948	Ratio				
							2nd Gear Ratio High	<=	2.5251	Ratio				
							3rd Gear Ratio Lo	>=	1.4229	Ratio				
							3rd Gear Ratio High	<=	1.6371	Ratio				
							4th Gear Ratio Lo	>=	1.0695	Ratio				
							4th Gear Ratio High	<=	1.2305	Ratio				
							5th Gear Ratio Lo	>=	0.7905	Ratio				
							5th Gear Ratio Hi	<=	0.9095	Ratio				
							6th Gear Ratio Lo	>=	0.623	Ratio				
							6th Gear Ratio High	<=	0.7169	Ratio				
							Transmission Fluid Temperature Lo	>=	-6.656	ºC				
							Transmission Fluid Temperature Hi	<=	130	ºC				
							TCC Command Lock ON or ON mode	=	TRUE	Boolean				
							PTO Not Active	=	TRUE	Boolean				
							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.
							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	>=	-12	RPM					One Trip
			TCC Slip Speed	<=	13	RPM					
									>= 2.5	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:				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Gear Ratio	<=	1.6393	Ratio		
					Gear Ratio	>=	0.623	Ratio		
					Engine Speed Hi	<=	6500	RPM		
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	0	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	<=	8191.9	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	-6.656	ºC		
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	2.9999	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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0742 Status is	≠	Test Failed This Key On or Fault Active			
			Disable Conditions:	MIL not Illuminated for DTC's:		TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
								P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E						
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>=	400	RPM								Two Trips
			Commanded Gear	=	1st Lock	rpm								
			Gear Ratio	<=	1.209594727						>=	0.2	Fail Tmr	
			Gear Ratio	>=	1.094360352						=	8	Fail Counts	
			If the above parameters are true											
											≠	0	Neutral Timer (Sec)	
											>=	0.3	Fail Timer (Sec)	
											>=	8	Counts	
							Ignition Voltage Lo	>=	8.5996	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	>=	-6.656	°C				
							Shift is Complete							
							TPS	>=	0.5005	%				
							OR							
							Output Speed	>=	0	RPM				
							Throttle Position Signal Valid from ECM	=	TRUE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Engine Torque Signal Valid from ECM, High side driver is enabled	= TRUE Boolean		
							High-Side Driver is Enabled	= TRUE Boolean		
							Input Speed Sensor fault	= FALSE Boolean		
							Output Speed Sensor fault	= FALSE Boolean		
							Default Gear Option is not present	= TRUE		
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E		
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	Rpm				One Trip
			Commanded Gear	=	3rd	Gear				
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On	=	TRUE	Boolean				
			C456/CBR1 Pressure Switch	=	Pressurized	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			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	>=	8.5996	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	>=	0.5005	%			
					Shift is Complete						
					Transmission Fluid Temperature	>=	-6.656	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 Gear Box Slip >= 400 RPM Intrusive Shift to 2nd Commanded Gear Previous = 1st Locked Gear Gear Ratio <= 2.482177734 Gear Ratio >= 2.245849609 If the above parameters are true			Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM	>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec) >= 1 sec >= 3 counts	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Output Speed	>=	0	RPM		
					OR					
					TPS	>=	0.5005	%		
					Shift is Complete					
					Transmission Fluid Temperature	>=	-6.656	°C		
					High-Side Driver is Enabled	=	TRUE	Boolean		
					Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear Commanded Gear	= 3rd Gear						One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Gearbox Slip	>=	400　Rpm			>=	Please Refer to Table 5 in Supporting Documents　Neutral Timer (Sec)	
			Intrusive Test: Command 4th Gear							
			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)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			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			
					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	>=	0.5005	Pct			
					Common Enable Criteria						
					Ignition Voltage Lo	>=	8.5996	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.
					Throttle Position Signal valid = TRUE Boolean			
					HSD Enabled = TRUE Boolean			
					Transmission Fluid Temperature >= -6.656 ºC			
					Input Speed Sensor fault = FALSE Boolean			
					Output Speed Sensor fault = FALSE Boolean			
					Default Gear Option is not present = TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio	 >= 400 RPM >= Table Based Time Please Refer to Table 4 in supporting documents — Enable Time (Sec) <= 1.608642578				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			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					
			Intrusive test: (CB26 clutch exhausted)								

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Gear Ratio	>=	0.809448242					
			If the above parameters are true							
								>= 1.1	Fail Timer (Sec)	
								>= 3	Fail Count in 4th Gear	
									or	
								>= 3	Total Fail Counts	
			Fail Case 4 Case: Steady State 6th gear							
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 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)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED			MIL ILLUM.
			Gear Ratio	>= 0.809448242				>=	3	counts	
			If the above parameters are true					>=	1.1	Fail Timer (Sec)	
								>=	3	Fail Count in 6th Gear	
										or	
								>=	3	Total Fail Counts	
					PRNDL State defaulted	=	FALSE Boolean				
					inhibit RVT	=	FALSE Boolean				
					IMS fault pending indication	=	FALSE Boolean				
					output speed	>=	0 RPM				
					TPS validity flag	=	TRUE Boolean				
					HSD Enabled	=	TRUE Boolean				
					Hydraulic_System_Pressurized	=	TRUE Boolean				
					Minimum output speed for RVT	>=	0 Nm				
					A OR B						
					(A) Output speed enable	>=	16 Nm				
					(B) Accelerator Pedal enable	>=	0.5005 Nm				
					Ignition Voltage Lo	>=	8.5996 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	>=	5.0003 Pct				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					if Attained Gear=1st FW Engine Torque Enable	>= 5 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.9 Nm		
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Attained Gear Slip	<=	40	RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:							
			fail timer 1 (3-1 shifting with Closed Throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>=	0.299804688	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)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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)			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers						>= 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.
			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	
					Trans oil temperature	>	255.99	°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				
					TUT Enable temperature	>=	-6.656	°C				
					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					

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)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 3 Case: Steady State 6th Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					
			If attained Gear ≠ 5th for time	>= 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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							(A) Output speed enable	>=	16	RPM		
							(B) Accelerator Pedal enable	>=	0.5005	Pct		
							Common Enable Criteria					
							Ignition Voltage Lo	>=	8.5996	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	>=	-6.656	°C		
							Input Speed Sensor fault	=	FALSE	Boolean		
							OutputSpeed Sensor fault	=	FALSE	Boolean		
							Default Gear Option is not present	=	TRUE			
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E				
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip	>=	400	RPM						One Trip

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 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	
								>= 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				

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 2nd Gear	
									or	
								>= 3	Total fail counts	
			Fail Case 3 Case Steady State 3rd							
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec					
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec					

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	<= 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		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 16 Nm		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					(B) Accelerator Pedal enable	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	8.5996	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	>=	5.0003	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm		
					Transmission Fluid Temperature	>=	-6.656	°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)	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)				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			4th gear fail counter						>=	3	Fail Counter From 4th Gear	
											OR	
			5th gear fail counter						>=	3	Fail Counter From 5th Gear	
											OR	
			6th gear fail counter						>=	3	Fail Counter From 6th Gear	
											OR	
			Total fail counter						>=	5	Total Fail Counter	
					Trans oil temperature	>	255.99	ºC				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					TUT Enable temperature	>=	-6.656	ºC				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode	=	FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				

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

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 Reverse Enabled	=	0	Boolean						
			Tap Up Switch ON	=	TRUE	Boolean			>=	1	Fail Time (Sec)	
			Fail Case 2 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1	Boolean						
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0	Boolean						
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	0	Boolean						
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean						
			Tap Up Switch ON	=	TRUE	Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 Fail Time (Sec)	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.5996 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

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 2 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean				
			Tap Down Switch ON	=	TRUE	Boolean			>= 1 sec	
			Fail Case 2 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	0	Boolean								
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	0	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean								
			Tap Down Switch ON	=	TRUE	Boolean								
			NOTE: Both Failcase1 and Failcase 2 Must Be Met								>=	600	sec	
							Time Since Last Range Change	>=	1	Enable Time (Sec)				
							Ignition Voltage Lo	>=	8.5996	Volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	8.5996	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		
					P0826 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: 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	>=	-6.656	ºC			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	ºC			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	ºC			
							Ignition Voltage Lo	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	31.999	Volts			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
							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	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	>=	-6.656	°C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99 ºC		
					Ignition Voltage Lo	>= 8.5996 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		
				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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			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	>=	-6.656	°C				
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C				
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	°C				
							Ignition Voltage Lo	>=	8.5996	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	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	>=	-6.656	ºC		
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	ºC		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	ºC		
							Ignition Voltage Lo	>=	8.5996	Volts		
							Ignition Voltage Hi	<=	31.999	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi	<=	7500	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							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)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	=	TRUE	Boolean					>= 1.5 Fail Time (Sec) out of 1.875 Sample Time (Sec)	One Trip
							Ignition Voltage	>=	8.5996	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.
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	>=	8.5996	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	>=	8.5996	Volts			
							Ignition Voltage	<=	31.999	Volts			
							Engine Speed	>=	400	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							P0966 Status is not	=	Test Failed This Key On or Fault Active				

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					
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 out of 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
							Ignition Voltage	>=	8.5996	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 out of 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip

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	>=	8.5996	Volts		
					Ignition Voltage	<=	31.999	Volts		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None				
						ECM: None				
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean					>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0971 Status is not	=	Test Failed This Key On or Fault Active			
					Ignition Voltage	>=	8.5996	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					
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	>=	8.5996	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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
						P0974 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	8.5996	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:**							
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	>=	8.5996	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.
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	>=	8.5996	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						
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	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			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	>=	-6.656	ºC		
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	ºC		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	ºC		
							Ignition Voltage Lo	>=	8.5996	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		
							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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
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	>=	-6.656	°C				
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C				
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	°C				
							Ignition Voltage Lo	>=	8.5996	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			
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)	
							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			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear								One Trip
			Gear slip	>=	400	RPM			>=	Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear								
			If attained Gear = 3rd for Time	>=	Table Based Time Please see Table 2 in Supporting Documents	Enable Time (Sec)					
			If Above Conditions have been met								
			Increment 2nd gear fail count						>=	3	2nd Gear Fail Count	
										or	
			and CB26 Fail Count						>=	14	CB26 Fail Count	
			Fail Case 2 Case: Steady State 6th Gear								
			Gear slip	>=	400	RPM			>=	Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Intrusive test: commanded 5th gear								
			If attained Gear = 5th For Time	>=	Table Based Time Please see Table 2 in Supporting Documents	Enable Time (Sec)					
			If Above Conditions have been met, Increment 5th gear fail counter						>= 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	>=	0.5005	Pct			
					Common Enable Criteria						
					Ignition Voltage Lo	>=	8.5996	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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature	>= -6.656 °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		
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				

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

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 Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear OR	
			6th gear fail counter				>= 3 Fail Counter From 6th Gear OR	

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	
					Trans oil temperature > 255.99 °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			
					TUT Enable temperature >= -6.656 °C			
					PRNDL state defaulted = FALSE Boolean			
					IMS Fault Pending = FALSE Boolean			
					Service Fast Learn Mode = FALSE Boolean			
					HSD Enabled = TRUE Boolean			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1
			
			  Case: Steady State 1st
			
			  Attained Gear slip >= 400 RPM
								One Trip

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	$\geq$ Table Based Time Please Refer to Table 4 in supporting documents / Enable Time (Sec)				
			Intrusive test: (CBR1 clutch exhausted)					
			Gear Ratio	$\leq$ 2.482177734				
			Gear Ratio	$\geq$ 2.245849609				
			If the above parameters are true					
							$\geq$ 1.1 Fail Timer (Sec)	
							$\geq$ 2 Fail Count in 1st Gear	
							or	
							$\geq$ 3 Total Fail Counts	
		Fail Case 2	Case: Steady State 3rd Gear					
			Max Delta Output Speed Hysteresis	$\geq$ Table Based value Please Refer to 3D Table 1 in supporting documents / rpm/sec				
			Min Delta Output Speed Hysteresis	$\geq$ 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					

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: (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					

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	$\geq$ Table Based Time Please Refer to Table 17 in supporting documents Sec								
			Intrusive test: (C35R clutch exhausted)									
			Gear Ratio	$\leq$ 0.700317383								
			Gear Ratio	$\geq$ 0.633666992								
			If the above parameters are true						$\geq$ 1.1	Fail Timer (Sec)		
									$\geq$ 3	Fail Count in 5th Gear		
										or		
									$\geq$ 3	Total Fail Counts		
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	$\geq$	0	RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pressurized	=	TRUE	Boolean				
					Minimum output speed for RVT	$\geq$	0	Nm				
					A OR B							
					(A) Output speed enable	$\geq$	16	Nm				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 8.5996 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	>= 5.0003 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 5 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.9 Nm		
					Transmission Fluid Temperature	>= -6.656 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	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)	
					P2770 Status is not	=	Test Failed This Key On or Fault Active		
					Ignition Voltage	>=	8.5996 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
								out of 0.375 Sample Time (Sec)	
					P2721 Status is not	=	Test Failed This Key On or Fault Active		
					Ignition Voltage	>=	8.5996 Volts		
					Ignition Voltage	<=	31.999 Volts		
					Engine Speed	>=	400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							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
											>=	Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
				Gear slip	>=	400	RPM						
				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	
				and C1234 fail counter								>= 14	C1234 Clutch Fail Count	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Intrusive test: commanded 4th gear							
			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
			and C1234 fail counter					>=	14	or 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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
									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			
					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	>=	0.5005 Pct			
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.5996 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	>=	-6.656 °C			
					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)	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				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter								
			2nd gear fail counter						>= 3	Fail Counter From 2nd Gear	
			3rd gear fail counter						>= 3	Fail Counter From 3rd Gear	
			4th gear fail counter						>= 3	Fail Counter From 4th Gear	
			total fail counter						>= 5	Total Fail Counter	
					Trans oil temperature	>	255.99	ºC			
					Input Speed Sensor fault	=	FALSE	Boolean			
					Output Speed Sensor fault	=	FALSE	Boolean			
					Command / Attained Gear	≠	1st	Boolean			
					High Side Driver ON	=	TRUE	Boolean			
					output speed limit for TUT	>=	100	RPM			
					input speed limit for TUT	>=	150	RPM			
					TUT Enable temperature	>=	-6.656	ºC			
					PRNDL state defaulted	=	FALSE	Boolean			
					IMS Fault Pending	=	FALSE	Boolean			
					Service Fast Learn Mode	=	FALSE	Boolean			
					HSD Enabled	=	TRUE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY 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)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear						One Trip
			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)						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			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	>=	0.5005	Nm			
					Ignition Voltage Lo	>=	8.5996	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	>=	5.0003	Pct			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm			
							if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm			
							Transmission Fluid Temperature	>=	-6.656	ºC			
							Input Speed Sensor fault	=	FALSE	Boolean			
							Output Speed Sensor fault	=	FALSE	Boolean			
							Default Gear Option is not present	=	TRUE				
						Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E					
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E					
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	=	TRUE	Boolean					>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)		One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					P2729 Status is not	=	Test Failed This Key On or Fault Active			
					Ignition Voltage	>=	8.5996	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	>=	8.5996	Volt		
					Ignition Voltage	<=	31.999	Volt		
					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						
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	=	TRUE Boolean						>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)		Two Trips
						P2763 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	8.5996	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		One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
											out of	5	MPH	
							P2764 Status is not	=	Test Failed This Key On or Fault Active					
							Ignition Voltage	>=	8.5996	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						
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	>=	8.5996	Volt				
							Ignition Voltage Hi	<=	31.999	Volt				

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						
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	>=	8.5996	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	64	128	192	256	320	384	448	512	Nm
Curve	50	50	50	50	50	50	50	50	50	RPM

Units: Nm / RPM

Table 2

Axis	-6.67188	-6.65625	40	°C
Curve	409.5938	2	2	Sec

Units

Table 3

Axis	-6.67188	-6.65625	40	°C
Curve	409.5938	4	4	Sec

Units

Table 4

Axis	-6.67188	-6.65625	40	°C
Curve	409.5938	2	2	Sec

Units

Table 5

Axis	-6.67188	-6.65625	40	°C
Curve	409.5938	3	3	Sec

Units

Table 6

Axis	-6.67188	-6.65625	40	80	120	°C
Curve	409	3.6	1.6	1.4	1.4	Sec

Units

Table 7

Axis	-6.67188	-6.65625	40	80	120	°C
Curve	409	3.4	1.4	1.3	1.2	Sec

Units

Table 8

Axis	-6.67188	-6.65625	40	80	120	°C
Curve	409	3.6	1.6	1.5	1.4	Sec

Units

Supporting Documents - 2D Tables

Table 9

						Units
Axis	-6.67188	-6.65625	40	80	120	ºC
Curve	409	3.3	1.3	1.2	1.1	Sec

Table 10

						Units
Axis	-40	-20	0	30	110	ºC
Curve	3.029297	1.857422	1.00293	0.754883	0.583984	Sec

Table 11

						Units
Axis	-40	-20	0	30	110	ºC
Curve	1.720703	1.108398	0.595703	0.359375	0.21582	Sec

Table 12

						Units
Axis	-40	-20	0	30	110	ºC
Curve	2.121094	1.393555	0.841797	0.642578	0.332031	Sec

Table 13

						Units
Axis	-40	-20	0	30	110	ºC
Curve	2.507813	0.952148	0.499023	0.292969	0.126953	Sec

Table 14

						Units
Axis	-40	-20	0	30	110	ºC
Curve	2.972656	0.818359	0.47168	0.204102	0.132813	Sec

Table 15

									Units
Axis	-40	-30	-20	-10	0	10	20	30	40	ºC
Curve	0	0	0	0	0	0	0	0	0	Sec

Table 16

				Units
Axis	-6.67188	-6.65625	40	ºC
Curve	409.5938	1.5	1.5	Sec

Supporting Documents - 2D Tables

Table 17

				Units
Axis	-6.67188	-6.65625	40	ºC
Curve	0.4	0.35	0.3	Sec

Table 18

									Units
Axis	-40.1016	-40	-20	0	30	60	100	149	149.1016	ºC
Curve	255.9961	50	45	40	34	25	20	20	255.9961	ºC

Table 19

									Units
Axis	-40.1016	-40	-20	0	30	60	100	149	149.1016	ºC
Curve	255.9961	50	45	40	34	25	20	20	255.9961	ºC

Table 20

									Units
Axis	-40.1016	-40	-20	0	30	60	100	149	149.1016	ºC
Curve	255.9961	10	8	8	8	8	8	8	255.9961	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.
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	>=	8.5996	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					
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	>=	8.5996	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.
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is	>=	100	RPM								Two Trips
			If Slip is Greater than the Above Cal Increment Fail Counter & Sample Counter								>=	5	Fail Counts	
											Out of	5	Sample Counts	
							Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	=	1	Seconds				
							M2 Solenoid is Commanded On	=	TRUE	Boolean				
							Current Gear ≠ 2nd Gear	≠	2nd Gear	Gear				
							Calcaluted line pressure is	>=	1300	kPa				
							The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<=	110	RPM				
							Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	=	0.5	Sec				
							Upshift is In Progress	=	FALSE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Input Speed Sensor Signal Hyst High (enabled above this value)	>=	1175	RPM		
					Input Speed Sensor Signal Hyst Low (disabled below this value)	<=	900	RPM		
					The torque converter clutch has transition from Locked to Unlocked.	=	TRUE	Boolean		
					TCC Stuck On Enable Criteria:					
					Gear Ratio	<=	1.6393	Ratio		
					Gear Ratio	>=	0.623	Ratio		
					Engine Speed Hi	<=	6500	RPM		
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	0	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	<=	8191.9	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	-6.656	ºC		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	2.9999	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		
					Air Purge Active	=	FALSE	Boolean		
					Ignore Air Purge if value = true	=	0	Boolean		
					TCC Mode	=	OFF			
					Common Enables:					
					Ignition Voltage	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P1751 Status is	≠	Test Failed This Key On			

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, P0741, 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		
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	Special No Trip
							> 10 Sample Timer (Sec)	
					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	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
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	Special No Trip
											> 10	Sample Timer (Sec)	
							Pattern Switch Message Health	=	TRUE	Boolean			
							Engine Speed Lo	>=	400	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None					
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_Drive5	Range State							
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			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	≠	CeTRG R_e_P RNDL_ Drive2			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	≠	CeTRG R_e_P RNDL_ Drive1			
			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"					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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			Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8			
			Current range	=	"Transitional 2" or "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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			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 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			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										
							Ignition Voltage Lo	>=	8.5996	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:						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>=	105	RPM					>= 0	Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8191	RPM					>= 0	Enable Time (Sec)	
			Output Speed Drop	>	1000	RPM					>= 1.5	Output Speed Drop Recover Fail Time (Sec)	
							---------------------- Range_Disable OR ----------------------	=	FALSE	Boolean			
							Neutral_Range_Enable And	=	TRUE	Boolean			
							Neutral_Speed_Enable are TRUE concurrently ----------------------	=	TRUE	Boolean			
							Transmission_Range_Enable	=	TRUE	Boolean			
							Transmission_Input_Speed_ Enable	=	TRUE	Boolean			
							No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds			
							Engine Torque Signal Valid	=	TRUE	Boolean			
							Throttle Position Signal Valid	=	TRUE	Boolean			
							P0723 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 this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage is	>=	8.5996	Volts		
					Ignition Voltage is	<=	31.999	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_ Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta	<=	4095.9	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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Transmission Range is	=	Reverse/Neutral Transitonal ENUM		
					Transmission Range is	=	Neutral/ Drive Transitional ENUM		
					And when a drop occurs				
					Loop to Loop Drop of Transmission Output Speed is	>	8192 RPM		

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

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	409.59 Seconds		
					Transmission Output Speed	>	0 RPM		
					And the acceleration of the Transmission Output Speed is	<	0 RPM/Loop Rate		

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

							Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE						
							Transmission Range is	=	Neutral	ENUM			
							Transmission Range is	=	Revers e/Neutr al Transiti onal	ENUM			
							Transmission Range is	=	Neutral/ Drive Transiti onal	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					
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>=	800	Kpa					>= 2	Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met										

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			(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	>=	8.5996	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	<=	1492	N*m			
							Throttle Position Lo	>=	8.0002	Pct			
							Throttle Position Hi	<=	99.998	Pct			
							2nd Gear Ratio Lo	>=	2.1985	Ratio			
							2nd Gear Ratio High	<=	2.5295	Ratio			
							3rd Gear Ratio Lo	>=	1.4248	Ratio			
							3rd Gear Ratio High	<=	1.6393	Ratio			
							4th Gear Ratio Lo	>=	1.0714	Ratio			
							4th Gear Ratio High	<=	1.2327	Ratio			
							5th Gear Ratio Lo	>=	0.7924	Ratio			
							5th Gear Ratio Hi	<=	0.9116	Ratio			
							6th Gear Ratio Lo	>=	0.6204	Ratio			
							6th Gear Ratio High	<=	0.7137	Ratio			
							Transmission Fluid Temperature Lo	>=	20	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	>=	-12	RPM					One Trip
			TCC Slip Speed	<=	13	RPM					
									>= 1.25	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						>= 6	Fail Counter	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					Run TCC Stuck On Test Enable Criteria:				
					Gear Ratio	<=	2.5251 Ratio		
					Gear Ratio	>=	2.1948 Ratio		
					Engine Speed Hi	<=	6500 RPM		
					Engine Speed Lo	>=	500 RPM		
					Vehicle Speed HI	<=	511 KPH		
					Vehicle Speed Lo	>=	16 KPH		
					Stuck On During Upshift Enabled	=	0 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	<=	1492 Nm		
					Engine Torque Lo	>=	80 Nm		
					Current Range	≠	Neutral Range		
					Current Range	≠	Reverse Range		
					Transmission Sump Temperature	<=	130 °C		
					Transmission Sump Temperature	>=	20 °C		
					Throttle Position Hyst High	>=	8.0002 Pct		
					Throttle Position Hyst Low	<=	2.9999 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0742 Status is	≠	Test Failed This Key On or Fault Active			
			Disable Conditions:	MIL not Illuminated for DTC's:		TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
							P0305, P0306, P0307, P0308, P0401, P042E			
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st							One Trip
			Attained Gear slip	>=	400 RPM					
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 4 in supporting documents	Enable Time (Sec)				
			Intrusive test: (CBR1 clutch exhausted)							
			Gear Ratio	<=	1.608642578					
			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				

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: (CB26 clutch exhausted)								
			Gear Ratio	<=	1.608642578						
			Gear Ratio	>=	1.455444336						
			If the above parameters are true								
								>=	1.1	Fail Timer (Sec)	
								>=	1	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					

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: (C1234 clutch exhausted)							
			Gear Ratio	<=	0.89465332					
			Gear Ratio	>=	0.809448242					
			If the above parameters are true							
								>= 1.1	Fail Timer (Sec)	
								>= 1	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					

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: (CB26 clutch exhausted)										
			Gear Ratio	<=	0.89465332					>=	1.1	Fail Timer (Sec)	
			Gear Ratio	>=	0.809448242					>=	1	counts	
			If the above parameters are true										
										>=	1.1	Fail Timer (Sec)	
										>=	1	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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	8.5996	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	>=	5.0003	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	1492	Nm		
					Transmission Fluid Temperature	>=	-6.656	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

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] (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	
								>= 3	Total Fail Counts	
			<u>Fail Case 2</u> Case Steady State 2nd							
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 1 in supporting documents	rpm/sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY 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: (CB26 clutch exhausted)							
			Gear Ratio	<=	1.209594727					
			Gear Ratio	>=	1.094360352					
			If the above parameters are true					>= 1.1	Fail Timer (Sec)	
								>= 1	Fail Count in 2nd Gear	
									or	
								>= 3	Total fail counts	
			Fail Case 3 Case Steady State 3rd							
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 1 in supporting documents	rpm/sec				

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)	
											>=	1	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	>=	0	Nm		
					A OR B					
					(A) Output speed enable	>=	16	Nm		
					(B) Accelerator Pedal enable	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	8.5996	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	>=	5.0003	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	1492	Nm		
					Transmission Fluid Temperature	>=	-6.656	°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.
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	>=	0	℃			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	℃			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	℃			
							Ignition Voltage Lo	>=	8.5996	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	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						>= 20	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	>= 0 ºC			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99 ºC			
							Ignition Voltage Lo	>= 8.5996 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						
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	>=	0	°C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 255.99 ºC		
					Ignition Voltage Lo	>= 8.5996 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		
				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 Sec Cal				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 8 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
			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	>=	0	ºC		
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	ºC		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	ºC		
							Ignition Voltage Lo	>=	8.5996	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		
						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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
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	>=	0	°C			
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	°C			
							Ignition Voltage Lo	>=	8.5996	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	>=	0	ºC				
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	ºC				
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	255.99	ºC				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	31.999	Volts				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi	<=	7500	RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							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				
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1									One Trip
			Current range	=	"Transitional 1"	Range State						
			Previous range	≠	CeTRGR_e_PRNDL_Drive6	Range State						
			Previous range	≠	CeTRGR_e_PRNDL_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	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
			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	Seconds	
			If Fail Timer has Expired then Increment Fail Counter								>=	15	Fail Counts	
			Fail Case 3											
			Current range	=	"Transitional 13"		Previous range	≠		CeTRGR_e_PRNDL_Drive1				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	≠		CeTRGR_e_PRNDL_Drive2				
			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	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Fail Case 4			Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8				
			Current range	=	"Transitional 2" or "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	
			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):				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			P182E will report test fail when any of the above 7 fail cases are met		Ignition Voltage Lo >= 8.5996 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:**			
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip >= 400 RPM If the Above is True for Time >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) Intrusive test: (CBR1 clutch exhausted) Gear Ratio <= 2.482177734 Gear Ratio >= 2.245849609 If the above parameters are true				>= 1.1 Fail Timer (Sec)	One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 1 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				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.700317383				
			Gear Ratio	>= 0.633666992				
			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.
							>= 1	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						
							>= 1.1	Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
								>= 1	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	>=	0.5005 Nm			
					Ignition Voltage Lo	>=	8.5996 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	>=	5.0003 Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	5 Nm			
					if Attained Gear=1st FW Engine Torque Enable	<=	1492 Nm			
					Transmission Fluid Temperature	>=	-6.656 °C			
					Input Speed Sensor fault	=	FALSE Boolean			
					Output Speed Sensor fault	=	FALSE Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY 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)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear						One Trip
			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)						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
			Gear Ratio	<=	1.209594727					
			Gear Ratio	>=	1.094360352					
			If the above parameters are true							
								>= 1.1	Fail Timer (Sec)	
								>= 1	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				
			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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			If the above parameters are true						>= 1.1	Fail Timer (Sec)	
									>= 1	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	>=	0.5005	Nm			
					Ignition Voltage Lo	>=	8.5996	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	>=	5.0003	Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					if Attained Gear=1st FW Engine Torque Enable	<= 1492 Nm		
					Transmission Fluid Temperature	>= -6.656 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.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-12	RPM							One Trip
			TCC Slip Speed	<=	13	RPM							
											>= 1.25	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	<=	2.5251	Ratio			
							Gear Ratio	>=	2.1948	Ratio			
							Engine Speed Hi	<=	6500	RPM			
							Engine Speed Lo	>=	500	RPM			
							Vehicle Speed HI	<=	511	KPH			
							Vehicle Speed Lo	>=	16	KPH			
							Stuck On During Upshift Enabled	=	0	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	<=	8191.9	Nm			
							Engine Torque Lo	>=	80	Nm			
							Current Range	≠	Neutral	Range			
							Current Range	≠	Reverse	Range			
							Transmission Sump Temperature	<=	130	ºC			
							Transmission Sump Temperature	>=	-6.656	ºC			
							Throttle Position Hyst High	>=	8.0002	Pct			
							Throttle Position Hyst Low	<=	2.9999	Pct			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0742 Status is	≠	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1								One Trip
			Current range	=	"Transitional 1"	Range State					
			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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			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	≠	CeTRG R_e_P RNDL_ Drive1				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean	Previous range	≠	CeTRG R_e_P RNDL_ Drive2				
			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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
			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		
			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	≠	"Transit ional 11"			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
			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	>=	8.5996	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:**					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-12	RPM							One Trip
			TCC Slip Speed	<=	13	RPM							
											>= 1.25	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	<=	2.5251	Ratio			
							Gear Ratio	>=	2.1948	Ratio			
							Engine Speed Hi	<=	6500	RPM			
							Engine Speed Lo	>=	500	RPM			
							Vehicle Speed HI	<=	511	KPH			
							Vehicle Speed Lo	>=	16	KPH			
							Stuck On During Upshift Enabled	=	0	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	<=	8191.9	Nm			
							Engine Torque Lo	>=	80	Nm			
							Current Range	≠	Neutral	Range			
							Current Range	≠	Reverse	Range			
							Transmission Sump Temperature	<=	130	ºC			
							Transmission Sump Temperature	>=	-6.656	ºC			
							Throttle Position Hyst High	>=	8.0002	Pct			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Throttle Position Hyst Low	<=	2.9999	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	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
			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_PRNDL_Drive4		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean	Previous range	≠	CeTRGR_e_PRNDL_Drive4		
			Engine Torque	>=	-8192 Nm	IMS is 7 position configuration	=	0 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"				

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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					
					Ignition Voltage Lo	>= 8.5996 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:**			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter	Special No Trip
							> 10 Sample Timer (Sec)	
					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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-12	RPM							One Trip
			TCC Slip Speed	<=	13	RPM							
											>= 1.25	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	<=	2.5251	Ratio			
							Gear Ratio	>=	2.1948	Ratio			
							Engine Speed Hi	<=	6500	RPM			
							Engine Speed Lo	>=	500	RPM			
							Vehicle Speed HI	<=	511	KPH			
							Vehicle Speed Lo	>=	16	KPH			
							Stuck On During Upshift Enabled	=	0	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	<=	8191.9	Nm			
							Engine Torque Lo	>=	80	Nm			
							Current Range	≠	Neutral	Range			
							Current Range	≠	Reverse	Range			
							Transmission Sump Temperature	<=	130	ºC			
							Transmission Sump Temperature	>=	-6.656	ºC			
							Throttle Position Hyst High	>=	8.0002	Pct			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Throttle Position Hyst Low	<=	2.9999	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	>=	8.5996	V		
					Ignition Voltage	<=	31.999	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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				>= 0.8 Fail Tmr	Two Trips
			Commanded Gear = 1st Lock rpm				= 1 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)	
							>= 8 Counts	
					Ignition Voltage Lo >= 8.5996 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	>=	-6.656	°C		
					Shift is Complete					
					TPS	>=	0.5005	%		
					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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	Rpm								One Trip
			Commanded Gear	=	3rd	Gear								
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On	=	TRUE	Boolean								
			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)	
												>= 1	Counts	
							Ignition Voltage Lo	>=	8.5996	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							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TPS Shift is Complete	>= 0.5005 %		
					Transmission Fluid Temperature	>= -6.656 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear	= 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	= 1st Locked Gear				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio	<= 2.482177734				
			Gear Ratio	>= 2.245849609				
			If the above parameters are true				>= 1 sec >= 1 counts	
					Ignition Voltage Lo	>= 8.5996 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		
					Output Speed	>= 0 RPM		
					OR			
					TPS	>= 0.5005 %		
					Shift is Complete			
					Transmission Fluid Temperature	>= -6.656 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1	Boolean					Special No Trip
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	Boolean					
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	1	Boolean					
			Tap Up Switch ON	=	TRUE	Boolean			>= 1	Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 2	Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	1 Boolean				
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	1 Boolean				
				Tap Up Switch ON	=	TRUE Boolean				
				NOTE: Both Failcase1 and Failcase 2 Must Be Met					>= 600 Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
							Time Since Last Range Change	>=	1	Enable Time (Sec)		
							Ignition Voltage Lo	>=	8.5996	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	=	1	Boolean					Special No Trip
				Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean					
				Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED			MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	1	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	1	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean			>=	1	sec	
		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						

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 6 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	1	Boolean								
			Tap Down Switch ON	=	TRUE	Boolean								
			NOTE: Both Failcase1 and Failcase 2 Must Be Met								>=	600	sec	
							Time Since Last Range Change	>=	1	Enable Time (Sec)				
							Ignition Voltage Lo	>=	8.5996	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					

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: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1765	Upshift Switch Circuit #2	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	0	Boolean				Special No Trip
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean				
			Tap Up Switch ON	=	TRUE	Boolean			>= 1 Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA			THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Fail Case 2	Tap Up Switch Stuck in the Up Position in Range 1 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1	Boolean							
				Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0	Boolean							
				Tap Up Switch Stuck in the Up Position in Park Enabled	=	0	Boolean							
				Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean							
				Tap Up Switch ON	=	TRUE	Boolean							
				NOTE: Both Failcase1 and Failcase 2 Must Be Met								>= 600	Fail Time (Sec)	
								Time Since Last Range Change	>=	1	Enable Time (Sec)			
								Ignition Voltage Lo	>=	8.5996	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.
								P1765 Status is	≠ Test Failed This Key On or Fault Active		
						Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: P1767, P1761, P182E, P1915 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1766	Downshift Switch Circuit #2	Fail Case 1	Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	0	Boolean				Special No 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				
				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				

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 Reverse Enabled	=	0	Boolean								
			Tap Down Switch ON	=	TRUE	Boolean					>=	1	sec	
			Fail Case 2 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean								
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	0	Boolean								
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	0	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean								
			Tap Down Switch ON	=	TRUE	Boolean								
			NOTE: Both Failcase1 and Failcase 2 Must Be Met								>=	600	sec	
							Time Since Last Range Change	>=	1	Sec				
							Ignition Voltage Lo	>=	8.5996	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.
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					P1766 Status is	≠	Test Failed This Key On or Fault Active			
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P1767, P1761, P182E, P1915				
						ECM: None				
Tap Up Tap Down Switch (TUTD)	P1767	Up and Down Shift Switch Circuit #2	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean					>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>=	8.5996	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		
					P1767 Status is	≠	Test Failed This Key On or Fault Active			
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P1761				
						ECM: None				

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_Drive5 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_P RNDL_ Drive5			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE Boolean	Previous range	≠	CeTRGR_e_PRNDL_Drive5			
			Engine Torque	>=	-8192 Nm	IMS is 7 position configuration	=	0 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	>=	70 Nm						
			Steady State Engine Torque	<=	8191.75 Nm						

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
					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						
					Ignition Voltage Lo	>=	8.5996 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					
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	=	Park or Reverse or Neutral	Range State					>= 3	Fail Time (Sec)	Special No Trip
			TUTD Enable Switch is Active	=	TRUE	Boolean					>= 5	Fail Counts	
							Ignition Voltage Lo	>=	8.5996	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			
							P1876 Status is	≠	Test Failed This Key On or Fault Active				
							Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0815, P0816, P0826, P1761, P1825, P1877, P1915, U0100 ECM: None				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum	= TRUE	None		> 5 Rom Test Fail Counter	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure	= TRUE	None			One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	None		>= 5 Count	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag	= TRUE	None			One Trip

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 Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1 TFT Delta from Startup	<=	2	C°					>= 80	Fail Time (Sec)	Special No Trip
							Vehicle Speed	>=	8	Kph			
							Vehicle Speed Above min for	>=	300	Sec			
							TCC Slip	>=	120	RPM			
							TCC Slip above min for	>=	300	Sec			
							Transmission Fluid Temperature Lo	>=	-39	C°			
							Transmission Fluid Temperature High	<=	20	C°			
							Engine Coolant Temp	>=	70	C°			
							Engine Coolant Temp Delta	>=	55	C°			
			Fail Case 2 TFT Delta from startup	<	2	C°					>= 80	Fail Time (Sec)	
							Vehicle Speed	>=	8	Kph			
							Vehicle Speed Above min for	>=	300	Sec			
							TCC Slip	>=	-20	RPM			
							TCC Slip above min for	>=	0	Sec			
							Transmission Fluid Temperature	>=	129	C°			
							Transmission Fluid Temperature	<=	149	C°			
							Engine Coolant Temp	>=	70	C°			
							Engine Coolant Temp Delta from startup	>=	55	C°			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
			Fail Case 3 TFT Delta	>=	20	C°					>= 14	Fail Counts (100ms loop)	
											< 7	Sample Time (Sec)	
			Fail Case 4 Transmission Fluid Temperature	<=	20	C°					>= Refer to Table 1	Fail Time (Sec)	
							Engine Torque Lo	>=	50	N*m			
							Engine Torque Hi	<=	1492	N*m			
							Throttle Position Lo	>=	8.0002	Pct			
							Throttle Position Hi	<=	89.999	Pct			
							Vehicle Speed Lo	>=	8	Kph			
							Vehicle Speed Hi	<=	511.99	Kph			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	6500	RPM			
							Engine Coolant Lo	>=	-39	C°			
							Engine Coolant Hi	<=	149	C°			
							Engine Torque Signal Valid	=	TRUE				
							Throttle Position Signal Valid	=	TRUE				
							Engine Speed Status Valid	=	TRUE				
							P0711 Common Enable Conditions						
							Transmission Fluid Temperature Lo	>=	-39	C°			
							Transmission Fluid Temperature Hi	<=	149	C°			
							Ignition Voltage	>=	8	V			
							Ignition Voltage	<=	31.999	V			
							Engine speed	>=	Refer to Table 4	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED		MIL ILLUM.
							Engine speed above min for	>=	Refer to Table 5	Sec			
							Engine speed above min for	>=	5	Sec			
							Engine Speed	>=	500	RPM			
							Engine Speed	<=	6500	RPM			
							Engine speed between min/max for	>=	5	Sec			
							Engine Speed Status Valid	=	TRUE				
							Engine Coolant Sensor Signal Valid	=	TRUE	Boolean			
					Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742					
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E					
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<=	48	Ω					>= 12	Fail Time (Sec)	Special No Trip
							Ignition Voltage	>=	8	V			
							Ignition Voltage	<=	31.999	V			
							Engine Speed	>=	500	RPM			
							Engine Speed	<=	6500	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None				
						ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391				
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	>= 97292 Ω					>= 80 Fail Time (Sec)	Special No Trip
					Output Speed	>=	200	RPM		
					Output Speed above min for	>=	200	Sec		
					TCC Slip speed	>=	120	RPM		
					TCC Slip Speed above min for	>=	200	sec		
					Ignition Voltage	>=	8	V		
					Ignition Voltage	<=	31.999	V		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717				
						ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>=	1000	RPM					>=	3.25	sec	Two Trips
							Ignition Voltage	>=	8	volts				
							Ignition Voltage	<=	31.999	volts				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Engine speed between min/max for	>=	5	Sec				
							Engine Speed Status Valid	=	TRUE					
							Engine Torque	>=	50	N*m				
							Engine Torque	<=	1492	N*m				
							Engine Torque Signal Valid	=	TRUE					
							Vehicle Speed	>=	16	KPH				
							Input Speed min	>	1050	RPM				
							Input Speed above min for	>=	2	Sec				
							Positive ISS Δ	<	500	RPM				
							Positive ISS Δ less than min for	>=	2	Sec				
							Throttle	>=	8.0002	Pct				
							Throttle Position Signal Valid	=	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: P0717, P0722, P0723, P0752, P0973, P0974 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E						
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	<	50	RPM					>= 4.5	Sec		Two Trips
							Ignition Voltage	>=	8	volts				
							Ignition Voltage	<=	31.999	volts				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Engine speed between min/max for	>=	5	Sec				
							Engine Speed Status Valid	=	TRUE					
							Engine Torque	>=	50	N*m				
							Engine Torque	<=	1492	N*m				
							Engine Torque Signal Valid	=	TRUE					
							Vehicle Speed	>=	16	Kph				

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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E				
Tow Haul Switch	P071A	Tow Haul switch circuit low	Tow Haul switch circuit low (switch closed)	=	TRUE				>=	600	sec	Special No Trip
							Ignition Voltage	>= 8 volts				
							Ignition Voltage	<= 31.999 volts				
							Engine Speed	>= 500 RPM				
							Engine Speed	<= 6500 RPM				
							Engine speed between min/max for	>= 5 Sec				
							Engine Speed Status Valid	= TRUE				
				Disable Conditions:			**MIL not Illuminated for DTC's:**	TCM: P1762 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<=	50	rpm			>=	4.5	Sec	Two Trips
							Ignition Voltage	>= 8 volts				
							Ignition Voltage	<= 31.999 volts				
							Engine Speed	>= 500 RPM				
							Engine Speed	<= 6500 RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Torque min & Range= R or D	>=	50	N*m		
					Engine Torque max & Range= R or D	<=	1492	N*m		
					Engine Torque min & Range= P/N	>=	1492	N*m		
					Engine Torque max & Range= P/N	<=	1492	N*m		
					Engine Torque Signal Valid	=	TRUE			
					Throttle Position	>=	8.0002	%		
					Throttle Position Signal Valid	=	TRUE			
					Input Speed	>=	1500	RPM		
					Input Speed	<=	6500	RPM		
					TCC Slip	>=	-20	RPM		
					Trans Temp	>=	-40	C		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722				
						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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 1200 RPM					>= 3.25		Sec	Two Trips
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	31.999	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Range Change Timer	>=	6	Sec				
					4WD Range Timer	>=	6	Sec				
					Input Speed Δ	<	500	RPM				
					Input Speed Δ <max for	>=	2	Sec				
					Raw Output Speed min	>	105	RPM				
					Raw Output Speed > min for	>=	2	Sec				
					Positive Output Speed Δ	<=	500	RPM				
					Positive Output Speed Δ <max for	>=	2	Sec				
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0974						
						ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391						
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>= 5		Sec	Two Trips
									>= 3		Count	
					Ignition Voltage	>=	8	V				
					Ignition Voltage	<=	31.999	V				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Torque	>=	80	N*m		
					Engine Torque	<=	400	N*m		
					Trottle Position	>=	10.001	%		
					Trottle Position	<=	89.999	%		
					2nd Gear Ratio	>=	1.511	Ratio		
					2nd Gear Ratio	<=	1.739	Ratio		
					3rd Gear Ratio	>=	0.9301	Ratio		
					3rd Gear Ratio	<=	1.0699	Ratio		
					4th Gear Ratio	>=	0.647	Ratio		
					4th Gear Ratio	<=	0.745	Ratio		
					TFT	>=	-7	C		
					TFT	<=	130	C		
					TCC Capacity	>=	64.999	%		
					TCC Capacity Timer	>=	######	sec		
					TCC Mode	=	On or Lock			
					PTO Active	=	FALSE			
					Engine Torque Status Valid	=	TRUE			
					Throttle Position Signal Valid	=	TRUE			
					If 4L80E Cmd Gear	≠	4th			

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, P0742, P0842, P0843, P2763, P2764, P2769, P2770						
								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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E						
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-20	RPM					>=	6	Sec	Two Trips
			TCC Slip Speed	<=	20	RPM					=	5	Count	
							Ignition Voltage	>=	8	V				
							Ignition Voltage	<=	31.999	V				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Engine speed between min/max for	>=	5	Sec				
							Engine Speed Status Valid	=	TRUE					
							Engine Torque	>=	90	N*m				
							Engine Torque	<=	1492	N*m				
							TFT	>=	-7	C				
							TFT	<=	130	C				
							Trottle Position	>=	10.001	%				
							Trottle Position	<=	89.998	%				
							Vehicle Speed	>=	16	KPH				
							Vehicle Speed	<=	511	KPH				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Gear Ratio	>=	0.642	Ratio				
							Gear Ratio	<=	1.787	Ratio				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Commanded Gear	≠ 1st Gear		
					TCC Mode	= Off		
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					PTO Active	= FALSE		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770

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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E | | |
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail Case 1 1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
			1st gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2 4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
			4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage	>= 8 volts	= 2 counts	
					Ignition Voltage	<= 31.999 volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Gear Slip	>=	150	RPM		
					Gear Slip Fail Time	>=	0.5	Sec		
					Throttle	>=	8.0002	Pct		
					Engine Torque	>=	50	N*m		
					Output Speed	>=	50	RPM		
					Input Speed	>=	50	RPM		
					4WD Range Timer	>=	6	Sec		
					Range Change Timer	>=	6	Sec		
					PTO Active	=	FALSE			
					Trans Temp	>=	20	C		
					Trans Temp	<=	130	C		
					Engine Torque Signal Valid	=	TRUE			
					Throttle Position Signal Valid	=	TRUE			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770				
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
									P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E						
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	Fail Case 1	2nd gear low ratio multiplier	>=	0.949951172	Pct					=	2	Sec	Two Trips
				2nd gear high ratio multiplier	<=	1.050048828	Pct								
			Fail Case 2	3rd gear low ratio multiplier	>=	0.949951172	Pct					=	2	Sec	
				3rd gear high ratio multiplier	<=	1.050048828	Pct								
												=	2	counts	
								Ignition Voltage	>=	8	volts				
								Ignition Voltage	<=	31.999	volts				
								Engine Speed	>=	500	RPM				
								Engine Speed	<=	6500	RPM				
								Engine speed between min/max for	>=	5	Sec				
								Engine Speed Status Valid	=	TRUE					
								Gear Slip	>=	150	RPM				
								Gear Slip Fail Time	>=	0.5	Sec				
								Throttle	>=	8.0002	Pct				
								Engine Torque	>=	50	N*m				
								Output Speed	>=	50	RPM				
								Input Speed	>=	50	RPM				
								4WD Range Timer	>=	6	Sec				
								Range Change Timer	>=	6	Sec				
								PTO Active	=	FALSE					
								Trans Temp	>=	20	C				
								Trans Temp	<=	130	C				
								Engine Torque Signal Valid	=	TRUE					
								Throttle Position Signal Valid	=	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, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1 1st gear low ratio multiplier 1st gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	One Trip
			Fail Case 2 2nd gear low ratio multiplier 2nd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	
					Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM		= 2 counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Gear Slip Fail Time	>= 0.5 Sec		
					Throttle	>= 8.0002 Pct		
					Engine Torque	>= 50 N*m		
					Output Speed	>= 50 RPM		
					Input Speed	>= 50 RPM		
					4WD Range Timer	>= 6 Sec		
					Range Change Timer	>= 6 Sec		
					PTO Active	= FALSE		
					Trans Temp	>= 20 C		
					Trans Temp	<= 130 C		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770		
						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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail Case 1 3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
			3rd gear high ratio multiplier	<= 1.050048828 Pct				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 2 4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
			4th gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Gear Slip	>= 150 RPM		
					Gear Slip Fail Time	>= 0.5 Sec		
					Throttle	>= 8.0002 Pct		
					Engine Torque	>= 50 N*m		
					Output Speed	>= 50 RPM		
					Input Speed	>= 50 RPM		
					4WD Range Timer	>= 6 Sec		
					Range Change Timer	>= 6 Sec		
					PTO Active	= FALSE		
					Trans Temp	>= 20 C		
					Trans Temp	<= 130 C		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	=　　TRUE			>=　44　Fail Count (100ms loop)	Two Trips
							Out of　50　Sample Counts (100ms loop)	
					Ignition Voltage　>=　8　volts Ignition Voltage　<=　31.999　volts Engine Speed　>=　500　RPM Engine Speed　<=　6500　RPM Engine speed between min/max for　>=　5　Sec Engine Speed Status Valid　=　TRUE **Disable Conditions:**　**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	=　　TRUE			>=　44　Fail Count (100ms loop)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
			Disable Conditions:	**MIL not Illuminated for DTC's:**		TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	One Trip
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= 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: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Shift Solinoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	=	TRUE			>= 44	Fail Count (100ms loop)	One Trip
								Out of 50	Sample Counts (100ms loop)	
						Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE				
				Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P1759	NSBU-Circuit P Low	NSBU circuit P Low	=	TRUE			>= 8	sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 1 count	
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None		
						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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Mode Switch	P1762	Trans mode switch signal circuit (BCM to TCM Rolling Count check)	Rolling count value received from BCM does not match expected value	= TRUE			>= 3 cont	Special No Trip
							= 10 sec	
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P1815	Transmission Range Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE			>= 2 sec	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Power Mode Crank request	>= 8 volts <= 31.999 volts >= 560 RPM = Crank <= 409 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182A	Internal Mode Switch-Circuit A	IMS circuit A low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque Engine Torque Ignition Voltage Ignition Voltage	>= 50 N*m <= 1492 N*m >= 8 volts <= 31.999 volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED			MIL ILLUM.
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE					
					Range = Park for	>=	1	sec				
			Disable Conditions:	**MIL not Illuminated for DTC's:**		TCM: None						
						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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E						
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	= TRUE					>=	8	sec	Two Trips
									>=	1	count	
					Engine Torque	>=	50	N*m				
					Engine Torque	<=	1492	N*m				
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	31.999	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE					
					Range = Park for	>=	1	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: 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 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: 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE			>= 8 sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque	>= 50 N*m		
					Engine Torque Signal Valid	= TRUE		
					Ignition Voltage	>= 8 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.
					Vehicle Speed	>= 16 kph		
					1st gear ratio low	>= 2.8448 Ratio		
					1st gear ratio High	<= 3.274 Ratio		
					2nd gear ratio low	>= 1.511 Ratio		
					2nd gear ratio High	<= 1.74 Ratio		
					3rd gear ratio low	>= 0.9301 Ratio		
					3rd gear ratio High	<= 1.0699 Ratio		
					4th gear ratio low	>= 0.65 Ratio		
					4th gear ratio High	<= 0.7469 Ratio		
				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-Start in Wrong Range	Range= Park or Neutral	= FALSE TRUE			>= 2 sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 560 RPM		
					Power Mode	= Crank		
					Crank request	<= 409 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.
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Fail Count (25ms loop)	One Trip
							Out of 220 Sample Count (25ms loop)	
					Engine running state from ECM = Running			
					Power Mode = Acc or Run			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None		
						ECM: None		
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage >= 8 V			
					Ignition Voltage <= 31.999 V			
					Engine Speed >= 500 RPM			
					Engine Speed <= 6500 RPM			
					Engine speed between min/max for >= 5 Sec			
					Engine Speed Status Valid = TRUE			
					TCC PWM command = ON			

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: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage >= 8 V			
					Ignition Voltage <= 31.999 V			
					Engine Speed >= 500 RPM			
					Engine Speed <= 6500 RPM			
					Engine speed between min/max for >= 5 Sec			
					Engine Speed Status Valid = TRUE			
					TCC PWM command = OFF			
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
TCC Enable Solenoid	P2769	TCC enable solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage >= 8 V			
					Ignition Voltage <= 31.999 V			
					Engine Speed >= 500 RPM			
					Engine Speed <= 6500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					TCC Enable solenoid command	= OFF		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
TCC Enable Solenoid	P2770	TCC enable solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					TCC Enable solenoid command	= ON		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

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 Bus Detects Invalid Message Error	= TRUE Boolean			>= 5	Fail Count (1000ms loop)	Two Trips
							Out of 5	Sample Counts (1000ms loop)	
					Ignition On				
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None			
						ECM: None			
Communication	U0100	Lost Communications with Engine Control System	Comm. Message Invalid Between ECU and TCM	= TRUE Boolean			>= 12	Fail Count (1000ms loop)	Two Trips
							Out of 12	Sample Counts (1000ms loop)	
					Ignition Voltage Lo	>= 11 Volt			
					Ignition Voltage Hi	<= 18 Volt			
					Power Mode	= Run			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: U0073			
						ECM: None			

Supporting Documents - 4L60 Unique Cal Tables

Table 1

						Units
Axis	-40	-25	-10	5	20	Deg C
Curve	1900	1000	800	520	200	Sec

Table 2

																	Units
Axis	0	6.248474	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	PCT
Curve	0	60	120	180	280	392	480	552	600	624	624	624	624	624	624	624	624	Kpa

Table 3

									Units
Axis	0	64	128	192	256	320	384	448	512	Nm
Curve	100	100	100	100	100	100	150	150	150	RPM

Table 4

									Units
Axis	-40	-16.25	7.5	31.25	55	78.75	102.5	126.25	150	Deg C
Curve	600	400	400	400	400	400	400	400	400	RPM

Table 5

						Units
Axis	-40	7.5	55	102.5	150	Deg C
Curve	0.1	0.15	0.2	0.3	0.3	Sec