COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Т	HRESHOLI) 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
						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
						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)	ш	TRUE	Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown		TRUE	Boolean			Runs Contin ously	One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case Substrate Temperature	>=	144	°C			Fail >= 5 Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
			Fail Case 2 Substrate Temperature Ignition Voltage Note: either fail case can set the DTC		50 18	°C Volts	Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time P0634 Status is	>= <= >= >= }=	9 31.99 0 240 0.25 Test Failed This Key On or Fault Active		>=	2	Fail Time (Sec)	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: No						
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flad	=	TRUE	Boolean					>= out of		Fail Counts Sample Counts	One Trip
							P0658 Status is not High Side Driver 1 On		Test Failed This Key On or Fault Active True					
						Disable Conditions:		TCM: No						
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 CONI	DITIONS	TIME REQUIRED	MIL ILLUM.
			If TCM substrate temp to power up temp Δ	Refer to Table > 20 in °C supporting documents					
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp,					>= 3000 Fail Counts (100ms loop) Sample Counts (100ms loop)	
			substrate temp and power up temp. Non-continuous (intermittent) fail conditions will delay resetting fail counter until					>= 700 Pass Counts (100ms loop)	
								Out of 875 Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal Valid	= TRUE	Boolean Boolean		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 9 <= 31.99 >= 400 <= 7500	RPM		
					Engine Speed is within the allowable limits for Brake torque active	>= 5 = FALSI	Sec		
					Below describes the brake torque entry criteria Engine Torque Throttle	>= 90 >= 30	N*m Pct		
					Transmission Input Speed Vehicle Speed Transmission Range	>= 30 <= 200 <= 8 ≠ Park	RPM Kph		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDIT	TIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for:	= >=	Neutral Not Active 7	sec		
					Below describes the brake torque exit criteria Brake torque entry criteria		Not Met			
					Clutch hydraulic pressure		Clutch Hydraul ic 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		
					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:	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 If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	р	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 9 Volts <= 31.99 Volts >= 400 RPM <= 7500 RPM	Fail >= 60 Timer (Sec)	Two Trips
					Engine Speed is within the allowable limits for			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME	REQU	IRED	MIL ILLUM.
						P0668 Status is	≠	Test Failed This Key On or Fault Active					
					Disable Conditions		TCM: No						
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	=	CeTFTI_e_Volt ageInversePro p								Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp		-254 °C								
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<=	-254 °C								
			Either condition above will satisfy the fail conditions							>=	60	Fail Timer (Sec)	
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	9 31.99 400 7500	Volts Volts RPM RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						P0669 Status is	≠	Test Failed This Key On or Fault Active					
						For Hybrids, below conditions must also be met							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD \	'ALUE	SECONDARY PARAMETERS	ENAE	BLE COND	DITIONS	TIME REQ	UIRED	MIL ILLUM.
						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	Ē			
						Estimated Motor Power Loss Fault	=	FALSE	_			
					Disable Conditions:		TCM: P P0722,	0716, P07 P0723	17,			
							ECM: N	lone				
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	°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							>= 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 4250	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until							>= 700	Pass Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
									Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal	=		Boolean		
					Valid Ignition Voltage Lo Ignition Voltage Hi	>= <=	9 31.99	Volts Volts		
					Engine Speed Lo Engine Speed Hi Engine Speed is within the	>= <=	400 7500	RPM RPM		
					allowable limits for Brake torque active	>=	5 FALSE	Sec		
					Below describes the brake torque entry criteria Engine Torque	>=	90	N*m		
					Throttle Transmission Input Speed Vehicle Speed	>= <= <=	30 200 8	Pct RPM Kph		
					Transmission Range	≠ ≠	Park Neutral			
					PTO Set Brake Torque Active	=	Not Active			
					TRUE if above conditions are met for: Below describes the brake	>=	7	sec		
					torque exit criteria Brake torque entry criteria	=	Not Met	i		
					Clutch hydraulic pressure	≠	Hydraul ic Air Purge Event			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch used to exit brake torque active			
					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:			
					P06AC Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721,		
						P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,		
						P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -254 °C			>= 60 Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 9 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					P06AD Status is	≠	Test Failed This Key On or Fault Active				
					For Hybrids, below conditions must also be met						
					Estimated Motor Power Loss	>=	0	kW			
					Estimated Motor Power Loss greater than limit for time		0	Sec			
					Lost Communication with Hybrid Processor Control Module	=	FALSE				
					Estimated Motor Power Loss Fault	=	FALSE				
				Disable Conditions		TCM: P0 P0722, F ECM: No	20723	17,			
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 254 °C					>= 60	Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>=	9	Volts			
					Ignition Voltage Hi	<=	31.99	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.
					P06AE Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:		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 °C supporting documents				Two Trips
			If transmission oil temp to power up temp Δ					
			Both conditions above required to increment fail counter				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)	
							Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo		9	Volts		
					Ignition Voltage Hi		31.99	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			
					РТО	=	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 Hydraul ic 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Set Brake Torque Active FALSE if above conditions are met for: P0711 Status is	>= 20 Sec Test Failed		
				Disable Conditions:	DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	p				Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
			Either condition above will satisfy the fail conditions							>=	60	Fail Time (Sec)	
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi		9 31.99 400 7500	Volts Volts RPM RPM				
						Engine Speed is within the allowable limits for P0712 Status is	<i>></i> -	Test Failed This Key On or Fault Active	Sec				
						For Hybrids, below conditions must also be met		0	130/				
						Estimated Motor Power Loss Estimated Motor Power Loss greater than limit for time	>=	0	kW Sec				
						Lost Communication with Hybrid Processor Control Module	=	FALSE					
				г	Disable	Estimated Motor Power Loss Fault	= TCM: P(FALSE	7				
					itions:	DTC's:	P0722, I	20723	.,				
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used If Transmission Fluid	р									Two Trips
			Temperature Sensor = Direct Proportional and Temp	>= -254 °C									
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	. 054 00									

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
			Either condition above will satisfy the fail conditions				Fail >= 60 Time (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 400 RP i <= 7500 RP	s M M	
					P0713 Status is	Test Failed This ≠ Key On or Fault Active		
				Disal Condition		TCM: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 1350 RPM			Fail >= 0.8 Time (Sec)	One Trip
					Engine Torque is Engine Torque is Engine Speed Engine Speed Engine Speed is within the allowable limits for Vehicle Speed is Throttle Position is Transmission Input Speed is The previous requirement has been satisfied for	<pre> <= 8191.9 N* >= 400 RP <= 7500 RP >= 5 Se >= 10 Kp >= 0 Pc </pre> >= 0 RP	n M M C n t	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	ТНЕ	RESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME RE	QUIRED	MIL ILLUM.
							The change (loop to loop) in transmission input speed is	<	8191.8	RPM/L oop			
							The previous requirement has been satisfied for	>=	0	Sec			
							Throttle Position Signal Valid	=	TRUE	Boolean			
							Engine Torque Signal Valid	=	TRUE	Boolean			
							Ignition Voltage	>=	9	Volts			
							Ignition Voltage P0716 Status is not	=	31.99 Test Failed This Key On or Fault Active				
						Disable		TCM: P0 P0973, F		52,			
						Conditions:		ECM: P0	0974 0101, P010 0121, P0				
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case Transmission Input Speed is	<	50	RPM					>= 4.5	Fail Time (Sec)	One Trip
			Fail Case When P0722 DTC Status 2 equal to Test Failed and Transmission Input Speed is	<	1000	RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean			
							Engine Torque is	>=	50	N*m			
							Engine Torque is Vehicle Speed	<= >=	8191.9 16	N*m Kph			
							Engine Torque Signal Valid	=	TRUE	Boolean			
							Ignition Voltage	>=	9	Volts			
							lgnition Voltage Engine Speed	<= >=	31.99 400	Volts 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	ENABL	E CONDI	ITIONS	TIME REQU	JIRED	MIL ILLUM.
						P0717 Status is not	=	Test Failed This Key On or Fault Active				
					Disable Conditions:	DTC's:		722, P072 1101, P010				
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	=		Boolean			
						Engine Torque Check Throttle Position	= >=	TRUE 8.0002	Boolean Pct			
						Transmission Fluid Temperature		-40	°C			
						Disable this DTC if the PTO is active	=	1	Boolean			
						Engine Torque Signal Valid	=	TRUE	Boolean			
						Throttle Position Signal Valid			Boolean			
						Ignition Voltage is Ignition Voltage is	>= <=	9 31.99	Volts Volts			
						Engine Speed is	>=	400	RPM			
						Engine Speed is	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
						Enable_Flags Defined Below						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE			
					Engine Torque Condition 1 Shift Status is not OR	= complete		
					Transmission Range is Engine Torque is Engine Torque is	>= 8191.8 N*m		
					Engine Torque Condition 2 Engine Torque is			
					Engine Torque isThe Transmission Input	<= 8191.8 N*m		
					Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE			
					TIS Check Condition 1 Transmission Input Speed is	>= 1000 RPM		
					Transmission Input Speed is			
					TIS Check Condition 2 Engine Speed without the brake applied is	>= 3200 RPM		
					Engine Speed with the brake applied is Engine Speed is	>= 3200 RPM <= 8191.8 RPM		
					Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Powertrain Brake Pedal is Valid	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME	REQU	JIRED	MIL ILLUM.
						Disable Conditions:		TCM: P07 P0723	716, P07	17,				
								ECM: P01 P0103, P0 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	<=	8191.75	RPM					>=	0	Enable Time (Sec)	
			Output Speed Drop	>	1000	RPM					>=	3	Output Speed Drop Recove r Fail Time (Sec)	
							Range_Disable OR	=	FALSE	See Below				
							Neutral_Range_Enable And	=	TRUE	See Below				
							Neutral_Speed_Enable are TRUE concurrently	=	TRUE	See Below				
							Transmission_Range_Enable	=	TRUE	See Below				
							Transmission_Input_Speed_ Enable	=	TRUE	0				
							No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0723 Status is not	Test Failed This Key On or Fault Active		
					Disable this DTC if the PTO is active	= 1 Boolean		
					Ignition Voltage is Ignition Voltage is Engine Speed is	<= 31.99 Volts >= 400 RPM		
					Engine Speed is 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 Time		
					Input Speed Delta Raw Input Speed			
					TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied			
					Input Speed 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	Revers e/Neutr = al ENUM Transit onal		
					Transmission Range is	Neutral/ Drive ENUM Transiti onal		
					And when a drop occurs Loop to Loop Drop of Transmission Output Speed is			
					Range_Disable is TRUE when any of the next three conditions are TRUE			
					Transmission Range is			
					Transmission Range is	Park/R everse Transit ENUM onal		
					Input Clutch is not	ON = (Fully Applied ENUM)		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	Second		
					Transmission Output Speed	> 100 RPM		
					And the acceleration of the Transmission Output Speed is	RPM/L < 500 oop Rate		
					And the acceleration of the Transmission Output Speed is			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	E CONDITIONS	TIME	REQUII	RED	MIL ILLUM.
							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 ENUM Transiti onal				
							Transmission Range is	=	Neutral/ Drive Transiti onal				
							Range Change Delay Timer	>=	5 Sec				
						Disable Conditions:		TCM: P0 P0976, F	973, P0974, P0977				
								ECM: P0 P0103, F P0123	101, P0102, P0121, P0122,				
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>=	500	Кра				>=	2	Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met										
			(A) TCC Slip Error @ TCC On Mode	>=	Refer to Table 1 in Supporting Documents	RPM				>=	5	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>=	130	RPM				>=	5	Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						TCC >= 6 Stuck Off Fail Counter	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed	>= <= >=	9 31.99 400	Volts Volts RPM		
					Engine Speed Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec		
					Engine Torque Lo Engine Torque Hi	>= <=	50 8191.9	N*m N*m		
					Throttle Position Lo Throttle Position Hi	>= <=	8.0002 99.998			
					2nd Gear Ratio Lo 2nd Gear Ratio High	>= <=	2.7528 3.1672	Ratio		
					3rd Gear Ratio Lo 3rd Gear Ratio High 4th Gear Ratio Lo	>= <= >=	1.7762 2.0437 1.3485	Ratio		
					4th Gear Ratio High 5th Gear Ratio Lo	<= >=	1.5515 0.9301			
					5th Gear Ratio Hi 6th Gear Ratio Lo 6th Gear Ratio High	<= >= <=	1.0699 0.6975 0.8025	Ratio		
					Transmission Fluid Temperature Lo	>=	-7	°C		
					Transmission Fluid Temperature Hi TCC Command Lock ON or ON mode	<=	130 TRUE	°C Boolean		
					PTO Not Active Engine Torque Signal Valid			Boolean Boolean		
					Throttle Position Signal Valid Dynamic Mode		TRUE FALSE	Boolean Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESI	HOLD VALUE	SECONDARY PARAMETERS	ENABLE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	DTC's:	or Fault Active	17,		
							ECM: P0101, P01 P0103, P0106, P0 P0108, P0171, P0 P0174, P0175, P0 P0202, P0203, P0 P0205, P0206, P0 P0208, P0300, P0 P0302, P0303, P0 P0305, P0306, P0 P0308, P0401, P0	107, 172, 201, 204, 207, 301, 304, 307,		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -50					Fa >= 1.2 Tim (Se	е
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter			Run TCC Stuck On Test Enable Criteria:			>= 5 Fa Cour	
						Gear Ratio Gear Ratio Gear Ratio Engine Speed Hi Engine Speed Lo Vehicle Speed Lo Vehicle Speed Lo Stuck On During Upshift Enabled	<= 6500 >= 500 <= 511 >= 16			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	50	Nm		
					Down Shift In Progress	=		Boolean		
					Current Gear	≠	1st Gear Locked	Boolean		
					Engine Torque Hi		8191.9			
					Engine Torque Lo		80	Nm		
					Current Range			Range		
					Current Range Transmission Sump Temperature		130	Range		
					Transmission Sump Temperature		-7	°C		
					Throttle Position Hyst High		10	Pct		
					Throttle Position Hyst Low		2.9999			
					PTO Active Disable if in D1 and value true	_	0	Boolean 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 Disable if in D5 and value	=	0	Boolean		
					true Disable if in MUMD and value	=	0	Boolean		
					true Disable if in TUTD and value	=	0	Boolean		
					true			Boolean		
					4 Wheel Drive Active Hydraulic Clutch Air Purge	_		Boolean Boolean		
					Active Ignore Air Purge if value true	_	0	Boolean		
					TCC Mode		OFF			
					Common Enables:					
					Ignition Voltage		9	V		
					Ignition Voltage	<=	31.99	V		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME RE	QUIRED	MIL ILLUM.
							Vehicle Speed Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <=	511 400 7500 5	KPH RPM RPM Sec			
							Engine Torque Signal Valid			Boolean			
							Throttle Position Signal Valid P0742 Status is		TRUE Test Failed This Key On or Fault Active	ı t			
						Disable Conditions:	DTC's:		P0723, P0				
								P0103, I P0108, I P0174, I P0202, I P0205, I P0208, I P0302, I	0101, P01 P0106, P0 P0171, P0 P0175, P0 P0203, P0 P0300, P0 P0303, P0 P0306, P0 P0306, P0 P0306, P0	1107, 1172, 1201, 1204, 1207, 1301, 1304, 1307,			
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>=	400	RPM							Two Trips
			Commanded Gear Gear Ratio	= <=	1st Lock 1.529052734	rpm					>= 0.3	Fail Tmr	
			Gear Ratio If the above parameters are true	>=	1.328979492						= 5	Fail Counts	
											≠ 0	Neutral Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Fail >= 0.3 Timer (Sec) >= 8 Counts	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400 RPM <= 7500 RPM		
					Engine Speed is within the allowable limits for Transmission Fluid Temperature	>= -6.656 °C		
					Shift is Complete TPS OR Output Speed	>= 0.5005 %		
					Throttle Position Signal Valid from ECM Engine Torque Signal Valid from ECM, High side driver is	= TRUE Boolean		
					enabled High-Side Driver is Enabled Input Speed Sensor fault	= TRUE Boolean		
				D: 44	Output Speed Sensor fault Default Gear Option is not present	= TRUE		
				Disable Conditions:	DTC's:	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	ENAB	LE CONDI	TIONS	TIME REQUIRE	MIL ILLUM
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	Rpm						One Trip
			Commanded Gear Commanded Gear has	=	3rd	Gear						
			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 If the above parameters	=	FALSE	Boolean						
			are true								Pleas	
											e Refer to	rol
											>= Table Tim 16 in Suppo (Se	er
											rting Docu ments	
							Ignition Voltage Lo	>=	9	Volts	>= 5 Cou	nts
							Ignition Voltage Hi Engine Speed Lo	<= >=	31.99	Volts RPM		
							Engine Speed Hi	<=	400 7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							High-Side Driver is Enabled Throttle Position Signal Valid	=		Boolean		
							from ECM Output Speed	>=	TRUE 0	Boolean RPM		
							OR TPS	>=	0.5005			
							Shift is Complete			•		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Blood			Fail Case Case: Steady State 3rd	Disable Conditions:	DTC's:	= -6.656 °C = FALSE Boolean = FALSE Boolean = TRUE		One Trin
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case Case: Steady State 3rd Gear Commanded Gear Gearbox Slip	= 3rd Gear			Pleas e Refer to Neutral Table 5 in Suppo rting Docu	One Trip
			Intrusive Test: Command 4th Gear If attained Gear=4th gear for Time	Table Based Time Please Enable Time			ments	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			It the above condiations are true, Increment 3rd gear fail counter				3rd Sear Fail Counts	
			and C35R Fail counter				or 3-5R >= 14 Clutch Fail Counts	
			Fail Case Case: Steady State 5th 2 Gear Commanded Gear					
			Gearbox Slip	>= 400 Rpm			Pleas e Refer to Table 5 in Suppo rting Docu ments	
			Intrusive Test: Command 6th Gear	Table Based			ments	
			If attained Gear=6th gear Time	Time Please >= Refer to Table 3 in supporting documents Time Please Enable Time (Sec)				
			It the above condiations are true, Increment 5th gear fail counter				>= 3 Sth Gear Fail Counts or	
			and C35R Fail counter				3-5R Clutch Fail Counts	
					PRNDL State defaulted inhibit RVT	= FALSE Boolean = FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT A OR B	>= U RPIVI		
					(A) Output speed enable			
					(B) Accelerator Pedal enable			
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi Engine Speed is within the			
					allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled			
					Transmission Fluid Temperature	>= -0.000 °C		
					Input Speed Sensor fault			
					Output Speed Sensor fault Default Gear Option is not	= FALSE Boolean		
					present	= TRUE		
				Disable Conditions:		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)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1s	t					One Trip
			Attained Gear sli	>=	400 RPM				
			If the Above is True fo	>=	Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)				
			Intrusive tes (CBR1 clutch exhausted						
			Gear Ratio Gear Ratio		2.007324219 1.744628906				
			If the above parameter are true	S	1.744020900				
			are uu					Fail >= 1.1 Timer (Sec)	
								Fail Count in 1st Gear	
								or Total >= 3 Fail Counts	
			Fail Case Case: Steady State 2ngea						
			Max Delta Output Spee Hysteresi	>=	Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Spee Hysteresi	d >=	Table Based value Please Refer to 3D Table 2 in supporting documents				

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					
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true	>= 1.744628906				
							Fail >= 1.1 Timer (Sec) Fail	
							>= 3 Count in 2nd Gear or	
			Fail Case Case: Steady State 4th				Total >= 3 Fail Counts	
			Fail Case Case: Steady State 4th 3 gear	Table Based				
			Max Delta Output Speed Hysteresis	Table 1 in supporting documents Table Based				
			Min Delta Output Speed Hysteresis	Table 2 in supporting documents Table Based				
			If the Above is True for Time					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.069946289 >= 0.930053711			Fail >= 1.1 Timer (Sec) Fail Count in 4th Gear or Total >= 3 Fail	
			Fail Case Case: Steady State 6th 4 gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in supporting documents Table Based value Please			Counts	
			Min Delta Output Speed Hysteresis If the Above is True for Time	>= Refer to 3D Table 2 in supporting documents Table Based Time Please Refer to Table				
			Intrusive test: (CB26 clutch exhausted)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
			Gear Ratio	<= 1.069946289			Fail >= 1.1 Timer (Sec)	
			Gear Ratio If the above parameters are true	>= 0.930053711			>= 3 counts	
			are nue				Fail >= 1.1 Timer (Sec)	
							Fail >= 3 Count in 6th Gear	
							or	
							Total >= 3 Fail Counts	
					PRNDL State defaulted inhibit RVT			
					IMS fault pending indication			
					output speed TPS validity flag	= TRUE Book	ean	
					HSD Enabled Hydraulic_System_Pressurize			
					Minimum output speed for RVT		1	
					A OR B (A) Output speed enable		1	
					(B) Accelerator Pedal enable			
					Ignition Voltage Lo			
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400 RF	M	
					Engine Speed is within the allowable limits for			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
							if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct		
							if Attained Gear=1st FW Engine Torque Enable		45	Nm		
							if Attained Gear=1st FW Engine Torque Enable		8191.9	Nm		
							Transmission Fluid Temperature	>=	-6.656	°C		
							Input Speed Sensor fault	=	FALSE FALSE	Boolean		
						Disable Conditions:	Output Speed Sensor fault MIL not Illuminated for	TCM: P		7,		
								ECM: P0 P0103, I P0108, I P0174, I P0202, I P0205, I P0208, I P0302, I P0305, I	0101, P010 P0106, P0 P0171, P0 P0175, P02 P0203, P02 P0206, P03 P0303, P03 P0306, P03 P0401, P04	02, 107, 172, 201, 204, 207, 301, 304,		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	=	TRUE	Boolean						One Trip
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized							
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command							
			Range Shift Status	≠	Initial Clutch Control							
			Attained Gear Slip	<=	40	RPM						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	E	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above conditions are true run appropriate Fail 1 Timers Below:							
			fail timer 1 (3-1 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (3-2 shifting with Throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (3-2 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (3-4 shifting with Throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (3-4shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (3-5 shifting with Throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (3-5 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (5-3 shifting with Throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (5-3 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)	ime				
			fail timer 1 (5-4 shifting with Throttle)	>=	0.700195313 Fail T (Sec)	ime				
			fail timer 1 (5-4 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (5-6 shifting with Throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (5-6 shifting with Closed Throttle)	>=	0.900390625 Fail T (Sec)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			lf Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				3rd >= 3 gear fail counts	
			5th gear fail counter				OR 5th >= 3 gear fail counts OR	
			Total fail counter		TUT Enable temperature Input Speed Sensor fault	>= -6.672 °C = FALSE Boolean	>= 5 total fail >= 5 counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQU	IRED	MIL ILLUM.
						Disable Conditions:		>= = = = = = = = = = = = = = = = = = =	FALSE Boolean 1st Boolean 1st Boolean 200 RPM 200 RPM 200 RPM FALSE Boolean FALSE Boolean TRUE Boolean TRUE Boolean TRUE 0716, P0717, P0723, P182E 0101, P0102, P0106, P0107, P0171, P0172, P0175, P0201, P0203, P0204, P0206, P0207, P0300, P0301, P0303, P0304, P0306, P0307, P0401, P042E			
Transmission Output Speed Sensor (TOSS)	P077C	Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage P077C Status is not If the above conditons have been met, increment the P077C Fail Counter DTC P077C Sets when the Fail Counter	<= = >=	0.25 Test Failed This Key On or Fault Active	Volts	P077C Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	>=	1 Boolean 9 Volts 31.99 Volts	>= 0.05	sec	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY ENABLE CONDITION PARAMETERS		TIME REQUIRED	MIL ILLUM.
					Disable Conditions:		TCM: P077D		
Transmission Output Speed Sensor (TOSS)	P077D	Output Speed Sensor Circuit High	TOSS Analog Signal Voltage P077D Status is not If the above conditons have been met, increment the P077D Fail Counter	Test Faile = This Key O Fault Acti	n or			>= 0.05 sec	One Trip
			DTC P077D Sets when the Fail Counter	>= 75	Counts Disable Conditions:		<= 31.99 Volts		
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	>= 400	RPM			Pleas e See Table S For Neutr al Time Cal	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If attained Gear ≠5th for time	Table Based Time Please >= Refer to Table 3 in supporting documents Table Based Enable Time (Sec)				
			if the above conditions have been met					
			Increment 4th Gear Fail Counter				4th Sear Fail Count	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case Case: Steady State 5th 2 Gear					
			Gear slip	>= 400 RPM			Pleas e See Table 5 For Neutral Time Cal	
			Intrusive test: commanded 6th gear					
			If attained Gear ≠ 6th for time					
			if the above conditions have been met					
			Increment 5th Gear Fail Counter				5th Sear Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			and C456 Fail Counters						OR C456 >= 14 Fail Counts	
			Fail Case Case: Steady State 6th 3 Gear						Pleas e See Table	
			Gear slip	>=	400 RPM				>= 5 For Neutral Timer (Sec) Time Cal	
			Intrusive test: commanded 5th gear		Table Based					
			If attained Gear ≠ 5th for time if the above conditions		Time Please Refer to Table 3 in supporting documents					
			have been met Increment 6th Gear Fail Counter and C456 Fail						6th Sear >= 2 Fail	
			Counter and C456 Fail Counter						Count OR C456 >= 14 Fail	
						PRNDL State defaulted inhibit RVT	=	FALSE Boolean	Counts	
						IMS fault pending indication TPS validity flag Hydraulic System Pressurized		FALSE Boolean TRUE Boolean TRUE Boolean		
						Minimum output speed for RVT A OR B	>=	0 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		>= 0.5005 Pct >= 9 Volts <= 31.99 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= -6.656 °C = FALSE Boolean = TRUE TRUE TRUE TRUE TRUE		
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time	Table Based		P0308, P0401, P042E		One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.529052734 >= 1.328979492			Fail >= 1.1 Timer (Sec) Fail Count in 1st Gear or Total >= 3 Fail	
			Fail Case Case Steady State 2nd Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in supporting documents Table Based value Please			Counts	
			If the Above is True for Time Intrusive test: (CB26 clutch exhausted) Gear Ratio	supporting documents Table Based Time Please Refer to Table 17 in supporting documents				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio If the above parameters are true	rs			Fail >= 1.1 Timer	
							(Sec) Fail Count in 2nd Gear	
							or Total >= 3 fail counts	
			Fail Case Case Steady State 3rd					
			Max Delta Output Speed Hysteresis	Table Based value Please ed				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time Please or = Refer to Table				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true	io >= 1.328979492 rs				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
									>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 3rd Gear	
										OR 3	Total Fail	
					PRNDL State defaulted	=	FALSE				Counts	
					inhibit RVT IMS fault pending indication	=	FALSE FALSE					
					output speed		0	RPM				
					TPS validity flag		TRUE					
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pressurize d	=	TRUE	Boolean				
					Minimum output speed for RVT	>=	0	Nm				
					A OR B (A) Output speed enable	>=	650	Nm				
					(B) Accelerator Pedal enable		0.5005	Nm				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi		31.99	Volts				
					Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM				
					Engine Speed is within the allowable limits for		5	Sec				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct				
					if Attained Gear=1st FW Engine Torque Enable	/-	45	Nm				
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm				
					Transmission Fluid Temperature	>=	-6.656	°C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		ECM: PO	FALSE Boolean FALSE Boolean TRUE 0716, P0717, P0723, P182E 0101, P0102, P0106, P0107, P0171, P0172, P0175, P0201, P0203, P0204, P0206, P0207, P0300, P0301, P0303, P0304,		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	=	TRUE Maximum pressurized	Boolean		P0305,	P0306, P0307, P0401, P042E		One Trip
			Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip		Clutch exhaust command Initial Clutch Control 40	RPM					
			If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1 (4-1 shifting with throttle) fail timer 1 (4-1 shifting without		0.700195313 0.900390625	Fail Time (Sec) Fail Time					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (4-2 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	0.900390625 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	0.900390625 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=	0.900390625 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>=	0.900390625 Fail Time (Sec)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers					Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	

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					
			4th gear fail counter				Fail Counter >= 3 From 4th Gear OR	
			5th gear fail counter				Fail Counter >= 3 From 5th Gear	
			6th gear fail counter				OR Fail Counter >= 3 From 6th Gear	
			Total fail counter				OR Total >= 5 Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	= FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage	<=	0.25	Volts			>= 0.05 sec	One Trip
			P07BF Status is not	=	Test Failed This Key On or Fault Active					
			If the above conditons have been met, increment the P07BF Fail Counter							
			DTC P07BF Sets when the Fail Counter	>=	75	Counts				
							P07BF Enable Calibration Ignition Voltage Lo Ignition Voltage Hi			
						Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage	>=	4.75	Volts			>= 0.05 sec	One Trip
			P07C0 Status is not	=	Test Failed This Key On or Fault Active					
			If the above conditons have been met, increment the P07C0 Fail Counter							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			DTC P07C0 Sets when the Fail Counter	>=	75	Counts Disable Conditions:	P07C0 Enable Calibration Ignition Voltage Lo Ignition Voltage Hi MIL not Illuminated for DTC's:	>= 9 Volts <= 31.99 Volts		
			Fail Case Tap Up Switch Stuck in							Special No Trip
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	1 the Up Position in Range 1 Enabled		1	Boolean				opedia No Imp
			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	II	TRUE	Boolean			Fail >= 1 Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case Tap Up Switch Stuck in 2 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 NOTE: Both Failcase1 and Failcase 2 Must Be Met	II	TRUE	Boolean			Fail >= 600 Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRES	SHOLD V	ALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
								Time Since Last Range	>=	1	Enable Time		
								Change	, –		(Sec)		
								Ignition Voltage Lo	>=	9	Volts		
								Ignition Voltage Hi		31.99	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:			P1876, P1 P1761			
			Fail Case Tap Down Switch Stuc	le									Special No Trip
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	1 in the Down Position in Range 1 Enable	n =	1	1 E	Boolean						орески но тир
			Tap Down Switch Stuc in the Down Position i Range 2 Enable	n =	1	1 E	Boolean						
			Tap Down Switch Stuc in the Down Position i Range 3 Enable	n =	1	1 E	3oolean						
			Tap Down Switch Stuc in the Down Position i Range 4 Enable	n =	1	1 E	Boolean						
			Tap Down Switch Stuc in the Down Position i Range 5 Enable	n =	1	1 E	Boolean						
			Tap Down Switch Stuc in the Down Position i Range 6 Enable	n =	1	1 E	Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNG	CTION CRITERIA	1	THRESHOLD	O VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			iı	ap Down Switch Stuck n the Down Position in Range Neutral Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Range Park Enabled	=	1	Boolean				
			i	ap Down Switch Stuck n the Down Position in ange Reverse Enabled	=	1	Boolean				
				Tap Down Switch ON	=	TRUE	Boolean			>= 1 sec	
				ap Down Switch Stuck n the Down Position in Range 1 Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Range 2 Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Range 3 Enabled	=	1	Boolean				
			i	ap Down Switch Stuck n the Down Position in Range 4 Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Range 5 Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Range 6 Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Neutral Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Park Enabled	=	1	Boolean				
				ap Down Switch Stuck n the Down Position in Reverse Enabled	=	1	Boolean				
				Tap Down Switch ON NOTE: Both Failcase1 nd Failcase 2 Must Be Met	=	TRUE	Boolean			>= 600 sec	
				iviet							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Time Since Last Range Change Ignition Voltage Lo	(Sec)		
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	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				Fail	Special No Trip
Switch (101 <i>b</i>)					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 400 RPM <= 7500 RPM >= 5 Sec Test Failed This	(Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P1 ECM: No					
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure		See Table 8 f								Special No Trip
			Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter	>=	Delay Timer Cal	Sec					>= 8	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	Кра							
							Transmission Fluid Temperature Lo Transmission Fluid	>=	-6.656	°C			
							Temperature Hyst Hi (disable above this) Transmission Fluid Temperature Hyst Lo (enable below this)	Not >= <=	120	°C			
							Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	9 31.99 400 7500	Volts Volts RPM RPM			
							Engine Speed is within the allowable limits for	/-	5	Sec			
							Default Gear Action High Side Driver ON RVT Status	= =	FALSE TRUE Normal				
							Hydraulic Pressure Available Engine Speed Min	= >=	TRUE 550	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REG	UIRED	MIL ILLUM.
						Disable Conditions:	DTC's:	P0713, P P0722, P P0742, P	0716, P07 0723, P07 0756, P07 0974, P09 1915, P18	717, 751, 757, 976,			
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure		700 See Table 8 fo	КРа							Special No Trip
			Hydraulic Delay Timer (Table Based) Check for Switch to be in	>=	Delay Timer Cal								
			Pressurized Position after delay, If so then Increment Fail Counter								>= 11	Fail Counts	
			Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	<	700	kpa							
							Transmission Fluid Temperature Lo	>=	-6.656	°C			
							Transmission Fluid Temperature Hyst Hi (disable above this)		120	°C			
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	110	°C			
							lgnition Voltage Lo Ignition Voltage Hi Engine Speed Lo	<=	9 31.99 400	Volts Volts RPM			
							Engine Speed Hi Engine Speed is within the allowable limits for	>-	7500 5	RPM Sec			
							Default Gear Action High Side Driver ON		FALSE TRUE				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
							RVT Status	=	Normal			
							Hydraulic Pressure Available		TRUE			
							Engine Speed Min		550	RPM		
						Disable Conditions:		TCM: P07 P0713, P0 P0722, P0 P0742, P0 P0973, P0 P0977, P0	0716, P07 0723, P07 0756, P07 0974, P09 1915, P18	717, 751, 757, 976,		
Transmission Fluid		Transmission Fluid Pressure	C1234 Hydraulio									Special No Trip
Pressure Switch	P0877	(TFP) Sensor D Circuit Low Voltage	pressure	<=	50	KPa						
			Hydraulic Delay Timer (Table Based)	>=	See Table 6 fo Delay Timer Cal							
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter								>= 12 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	>	50	kpa						
							Transmission Fluid Temperature Lo	>=	-6.656	°C		
							Transmission Fluid Temperature Hyst Hi (disable above this)		120	°C		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	110	°C		
							Ignition Voltage Lo		9	Volts		
							Ignition Voltage Hi Engine Speed Lo		31.99 400	Volts RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	DTC's:	= = = = = TCM: PP0713, P0722, P0742, P0973,	P0716, P0 P0723, P0 P0756, P0 P0974, P0 P1915, P1	717, 751, 757, 976,		Canada No Teir
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter Note: Subsequent fail	>=	700 See Table 6 for Delay Timer Cal						>= 12 Fail Counts	Special No Trip
			counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	<	700	Кра	Transmission Fluid Temperature Lo Transmission Fluid Temperature Hyst Hi (disable above this)	>= Not >=	-6.656 : 120	°C °C		

Transmission Fluid Temperature Hyst to female	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CO	ONDITIONS	TIME	REQUIRED	MIL ILLUM.
Ignilion Voltage H						Temperature Hyst Lo (enable	<= 1	10 °C			
Variable Bleed Solenoid (VBS) Possure Control (PC) Solenoid Solenoid (VBS) Pressure VBS) The HWIO reports an invalid voltage (out of a range) error flag Invalid voltage						Ignition Voltage Hi Engine Speed Lo	<= 31 >= 40	.99 Volts 00 RPM			
High Side Driver ON = TRUE						allowable limits for	>= ;				
Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM											
Variable Bleed Solenoid (VBS) 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 Engine Speed Min >= 550 RPM MIL not Illuminated for TCM: P0711, P0712, D0716, P0717, P0722, P0723, P0714, P0714, P0714, P0716, P0717, P0722, P0723, P0714, P0714, P0716, P0717, P0712, P0714, P						RVT Status	= Nor	rmal			
Variable Bleed Solenoid (VBS) Po961 Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) The HWIO reports an invalid voltage (out of range) error flag Ignition Voltage >= 9 Volts Voltage >= 9 Volts Sample Ignition Voltage >= 9 Volts Voltage >= 9 Volts Voltage >= 9 Volts Voltage Voltag											
Variable Bleed Solenoid (VBS) Possure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) The HWIO reports an invalid voltage (out of range) error flag TRUE Boolean Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts Ignition Voltage >= 9 Voltage Ignition Voltag						Engine Speed Min	>= 5	50 RPM			
Variable Bleed Solenoid (VBS) Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) The HWIO reports an invalid voltage (out of range) error flag Sample out of 5 Time (Sec) Ignition Voltage >= 9 Volts						: DTC's:	P0713, P0716 P0722, P0723 P0742, P0756 P0973, P0974	i, P0717, i, P0751, i, P0757, i, P0976,			
Solenoid (VBS) P0961 A Control Circuit Rationality Test (Line Pressure VBS) A Control Circuit Rationality Test (Line Pressure VBS) Figure 1 Fi							ECM: None				
Out of 5 Time (Sec)		P0961	A Control Circuit Rationality Test	invalid voltage (out of	= TRUE Boolean				>=	4.4 Time	Two Trips
									out of	5 Time	÷
ignition voltage · 01.00 volto											
Engine Speed >= 400 RPM											
Engine Speed <= 7500 RPM							<= 75	500 RPM			
Engine Speed is within the allowable limits for >= 5 Sec							>= {	5 Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL) VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		ENABLE CONDITIONS		TIME REQ	UIRED	MIL ILLUM.
					Disable Conditions:		TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag		Boolean				>= 1.5 out of 1.875	Fail Time (Sec) Sample Time (Sec)	One Trip		
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 9 <= 31.9 >= 400 <= 7500 >= 5	RPM					
					Disable Conditions:		TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean				>= 4.4	Fail Time (Sec)	Two Trips		
									out of 5	Sample Time (Sec)			
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= 9 <= 31.9 >= 400 <= 7500	RPM					
						Engine Speed is within the allowable limits for	>= 5	Sec					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQU	JIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: Non					
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	>=	9	Volts			
						Ignition Voltage Engine Speed	<= >=	31.99 400	Volts RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
						P0966 Status is not		Test Failed This Key On or Fault Active				
					Disable Conditions:		TCM: Non ECM: Non					
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec) Sample	One Trip
										out of 0.375	Time	
						Ignition Voltage	>=	9	Volts		(Sec)	
						Ignition Voltage	<=	31.99	Volts			
						Engine Speed	>=	400	RPM			
						Engine Speed	<=	7500	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					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				Fail >= 0.3 Time (Sec)	One Trip
								Sample out of 0.375 Time (Sec)	
					P0970 Status is not	Test Failed This Key On or Fault Active			
					Ignition Voltage	>= 9	Volts		
					Ignition Voltage	<= 31.99	Volts		
					Engine Speed		RPM		
					Engine Speed Engine Speed is within the		RPM		
					allowable limits for		Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIONS	TIME R	EQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: 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	Fail 3 Time (Sec) Sample 175 Time (Sec)	ġ.
						P0971 Status is not		Test Failed This Key On or Fault Active				
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= >= <=	9 31.99 400 7500 5	Volts Volts RPM RPM Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: 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 out of 1	(Sec) Sample	,

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0973 Status is not	Test Failed This Key On or Fault Active		
					lgnition Voltage Ignition Voltage Engine Speed Engine Speed	<pre><= 31.99 Volts >= 400 RPM</pre>		
					Engine Speed is within the allowable limits for			
				Disa Conditio		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			Fail >= 1.2 Time (Sec)	Two Trips
							Sample out of 1.5 Time (Sec)	
					P0974 Status is no	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<pre><= 31.99 Volts >= 400 RPM <= 7500 RPM</pre>		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: Noi				
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure	<=	50	Кра						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 9 fo Delay Timer Cal							
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter								>= 17 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	>	50	kpa						
							Transmission Fluid Temperature Lo	>=	-6.656	°C		
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	110	°C		
							Ignition Voltage Lo	>=	9	Volts		
							Ignition Voltage Hi	<=	31.99	Volts		
							Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM		
							Engine Speed is within the allowable limits for		5	Sec		
							Default Gear Action High Side Driver ON	=	FALSE TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	DTC's:	P0713, P P0722, P P0742, P P0973, P	20716, P07 20723, P07 20756, P07 20974, P09 21915, P18	717, 751, 757, 976,		
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count	>=	700 See Table 9 fo Delay Timer Cal						>= 30 Fail	Special No Trip
			per clutch transition				Transmission Fluid Temperature Lo Transmission Fluid Temperature Hyst Hi (disable above this) Transmission Fluid Temperature Hyst Lo (enable below this)	>= Not >= <= >=	-6.656 120 110 9	°C °C Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VA	LUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQUI	RED	MIL ILLUM.
						Ignition Voltage Hi	<=	31.99	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				
				C	Disable Conditions:		P0713, P P0722, P P0742, P P0973, P	0716, P07 0723, P07 0756, P07 0974, P09 1915, P18	717, 751, 757, 976,				
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		oolean					>=	3 0	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: No ECM: No						

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	<u>Fail Case</u> 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						Fail >= 0.225 Second s	
			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						Fail >= 0.225 Second s	
			If Fail Timer has Expired then Increment Fail Counter						>= 15 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD \	/ALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	≠	CeTRG R_e_P RNDL_ Drive5		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	≠	CeTRG R_e_P RNDL_ 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 Second s	
			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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Steady State Engine Torque	>=	20	Nm					
			Steady State Engine Torque	<=	8191.75	Nm					
			If the above conditions are present Increment Fail Timer							>= 0.225 Second s	
			If the above Condtions have been met, Increment Fail Counter							>= 15 Fail Counts	
			Fail Case 5 Current range	=	"Transitional 11"						
			Engine Torque	>=	20	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"		
			A Open Circuit (See Definition)	=	FALSE	Boolean	or Last positive state	≠	Neutral		
							cast positive state	7	riculal		
							Previous transitional state	≠	Transiti onal 8 and Illegal		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above Condtions are present, Increment Fail timer Fail Case 7 Current PRNDL State And Previous valid state Input Speed Reverse Trans Ratio Reverse Trans Ratio If the above Condtions are present, Increment Fail timer P182E will report test fail when any of the above 7 fail cases are met	= >= <=	PRNDL circuit ABCP = 1101 PRNDL circuit ABCP = 1111 150 RPM 2.795898438 ratio 3.149047852 ratio	Ignition Voltage Lo Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Signal Valid	<= >= <= >=	Open Circuit Closed Circuit Open Circuit Open Circuit 31.99 Volt 31.99 Volt 511 KPH 400 RPM 7500 RPM 5 Sec TRUE Boole		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
						Disable Conditions:		ECM: F P0103, P0108, P0174, P0202, P0205, P0208, P0302, P0305,	0722, P072 0101, P01 P0106, P0 P0171, P0 P0175, P0: P0203, P0: P0300, P0: P0303, P0: P0306, P0: P0306, P0: P0306, P0: P0401, P0-	02, 107, 172, 201, 204, 207, 301, 304, 307,				
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	=	Park or Reverse or Neutral	Range State								Special No Trip
			TUTD Enable Switch is Active	=	TRUE	Boolean								
											>=	3	Fail Time (Sec)	
											>=	5	Fail Counts	
							Ignition Voltage Lo	>=	9	Volts				
							lgnition Voltage Hi Vehicle Speed Lo	<= <=	31.99 511	Volts 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					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	TONS	TIME REQU	JIRED	MIL ILLUM.
						Disable Conditions:	DTC's:	P0826, F	815, P0816 91761, P18 91915, U01	25,			
								ECM: No	one				
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠	Park or Neutr	al Enumeration							One Trip
			The following events must occur Sequentially										
			Initial Engine speed	<=	50	RPM					>= 0.1	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	>=	500	RPM							
			Final Transmission Input Speed		100	RPM					>= 1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE	Boolean			
							lgnition Voltage Lo Ignition Voltage Hi		6 31.99	V V			
							Ignition Voltage Hyst High (enables above this value)	\	6	V			
							Ignition Voltage Hyst Low (disabled below this value)	<=	2	٧			
							Transmission Output Speed	<=	90	rpm			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P1915 Status is	Test Failed This ≠ Key On or Fault Active		
					Disable Conditions:		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			Fail >= 280 Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2	Volts			Sample Out of 280 Counts (25ms loop)	
						Normal CAN Comm Enabled ECM run/crank active status	= TRUE Boolean		
					Disable Conditions:		TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case Case: Steady State 2nd 1 Gear		_				One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME RE	QUIRED	MIL ILLUM.
			If attained Gear = 5th For Time	Table Based Time Please >= see Table 2 in Supporting Documents Table Based 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 inhibit RVT	=	FALSE FALSE				
					IMS fault pending indication		FALSE				
					TPS validity flag		TRUE				
					Hydraulic System Pressurized	=	TRUE	Boolean			
					Minimum output speed for RVT	>=	0	RPM			
					A OR B (A) Output speed enable		650	RPM			
					(B) Accelerator Pedal enable		0.5005	Pct			
					Common Enable Criteria						
					Ignition Voltage Lo Ignition Voltage Hi	>= <=	9 31.99	Volts 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				
					HSD Enabled		TRUE	Boolean			
					Transmission Fluid Temperature		-6.656	°C			
					Input Speed Sensor fault	=	FALSE				
					Output Speed Sensor fault	=	FALSE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESHOLD \	/ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		= TRUE		
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) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If above coditons are true, increment appropriate Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle)	= = = *	Maximum pressurized Clutch exhaust command Initial Clutch Control 40	Boolean RPM Fail Time (Sec)				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-1 shifting without throttle)		0.900390625 Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)		0.900390625 Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)		0.900390625 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>=	0.900390625 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>=	0.700195313 Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>=	0.900390625 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 Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail Sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear OR	
			6th gear fail counter				Fail Counter >= 3 From 6th Gear OR	
			total fail counter				Total >= 5 Fail Counter	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:	= FALSE Boolean = FALSE Boolean = 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio	>= 400 RPM Table Based Time Please >= Refer to Table 4 in supporting documents CSec) <= 3.112670898				One Trip

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				Fail >= 1.1 Timer (Sec)	
							Fail Count in 1st Gear	
			Fail Case Case: Steady State 3rd				or Total >= 8 Fail Counts	
			Gear Max Delta Output Speed	Table Based value Please Refer to 3D				
			Hysteresis	supporting documents Table Based value Please				
			Min Delta Output Speed Hysteresis	>= Refer to 3D rpm/sec Table 2 in supporting documents Table Based				
			If the Above is True for Time	Time Please				
			Intrusive test: (C35R clutch exhausted) Gear Ratio					
			Gear Ratio Gear Ratio If the above parameters are true	>= 2.705322266				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Fail >= 1.1 Timer (Sec)	
							Fail Count in 3rd Gear	
							or Total >= 8 Fail Counts	
			<u>Fail Case</u> Case: Steady State 4rd <u>3</u> Gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time					
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
								Fail Count in 4th Gear or	
			Fail Case Case: Steady State 5th					Total >= 8 Fail Counts	
			4 Gear Max Delta Output Speed Hysteresis		Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time		Table Based Time Please Refer to Table 17 in supporting documents				
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters	<= >=	0.798217773 0.693725586				
			are true					Fail >= 1.1 Timer (Sec) Fail	
								>= 3 Count in 5th Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIONS	TIME REQUIRED	MIL ILLUM.
								Total >= 8 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_Pressurize d	=	TRUE Boolean		
					Minimum output speed for RVT	>=	0 Nm		
					A OR B				
					(A) Output speed enable	>=	650 Nm		
					(B) Accelerator Pedal enable	>=	0.5005 Nm		
					Ignition Voltage Lo	>=	9 Volts		
					Ignition Voltage Hi	<=	31.99 Volts		
					Engine Speed Lo	>=	400 RPM		
					Engine Speed Hi	<=	7500 RPM		
					Engine Speed is within the allowable limits for	>=	5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9 Nm		
					Transmission Fluid Temperature	>=	-6.656 °C		
					Input Speed Sensor fault		FALSE Boolea		
					Output Speed Sensor fault	=	FALSE Boolea		
					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:		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 Time (Sec) Sample out of 0.375 Time (Sec)	One Trip
					P2770 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.99 Volts >= 400 RPM <= 7500 RPM		
				Disable Conditions:		TCM: None ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					Fail >= 0.3 Time (Sec	
										Samp out of 0.375 Time (Sec	
						P2721 Status is not	=	Test Failed This Key On or Fault Active			
						Ignition Voltage	>=	9	Volts		
						Ignition Voltage		31.99	Volts		
						Engine Speed		400	RPM		
						Engine Speed		7500	RPM		
						Engine Speed is within the allowable limits for	>=	5	Sec		
					Disable Conditions:	DTC's:					
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case Case: Steady State 1st Gear								One Trip
			Gear slip	>= 400	RPM					Pleas e See Table S For Neutr al Time Cal	-
			Intrusive test: commanded 2nd gear								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If attained Gear ≠ 2nd for Time					
			If Above Conditions have been met, Increment 1st gear fail counter				1st Sear Fail Count	
			and C1234 fail counter Fail Case Case: Steady State 2nd				C1234 Clutch Fail Count	
			Fail Case Case: Steady State 2nd 2 Gear Gear	>= 400 RPM			Pleas e See Table Table S= 5 For Neutral Neutr al Time Cal	
			Intrusive test: commanded 3rd gear	Table based Timer, Please				
			If attained Gear ≠ 3rd for Time If Above Conditions have	>= See Table 3 in (Sec) Supporting Documents			2nd Gear	
			been met, Increment 2nd gear fail counter				>= 2 Gear Fail Count or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			and C1234 fail counter				>= 14 C1234 Clutch Fail Count	
			<u>Fail Case</u> <u>3</u> Case: Steady State 3rd Gear				Pleas	
			Gear slip	>= 400 RPM			e See Table Neutral S= Neutr Neutr Al (Sec) Time	
			Intrusive test: commanded 4th gear	Table based			Cal	
			If attained Gear ≠ 4th for time		me			
			If Above Conditions have been met, Increment 3rd gear fail counter				3rd Gear Fail Count or	
			and C1234 fail counter				C1234 >= 14 Clutch Fail Count	
			Fail Case Case: Steady State 4th 4 Gear				Pleas e See	
			Gear slip	>= 400 RPM			Table Neutral 5 For Timer (Sec) Time Cal	

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 If Above Conditions have been met, Increment 4th gear fail counter	Table based Timer, Please See Table 3 in Supporting Documents Table based Enable Time (Sec)			4th Sear Fail Count or C1234	
			and C1234 fail counter		PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B	= FALSE Boolea = FALSE Boolea = TRUE Boolea = TRUE Boolea >= 0 RPM	>= 14 Fail Count	
					(A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal valid HSD Enabled	>= 650 RPM >= 0.5005 Pct >= 9 Volts <= 31.99 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolea	n	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	/ALUE	SECONDARY PARAMETERS	ENABL	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= = =	-6.656 °C FALSE Boolean FALSE Boolean TRUE		
						Disable Conditions:	MIL not Illuminated for DTC's:		9716, P0717, P0723, P182E		
								P0103, F P0108, F P0174, F P0202, F P0205, F P0208, F P0302, F P0305, F	0101, P0102, P0106, P0107, P0171, P0172, P0175, P0201, P0203, P0204, P0206, P0207, P0300, P0301, P0303, P0304, P0306, P0307, 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)	ш	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 If the above conditions are true increment appropriate Fail 1 Timers Below:	<=	40	RPM					
			fail timer 1 (2-6 shifting with throttle)	>=	0.700195313	sec					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-6 shifting without throttle)	>=	0.900390625 sec				
			fail timer 1 (3-5 shifting with throttle)	>=	0.700195313 sec				
			fail timer 1 (3-5 shifting without throttle)	>=	0.900390625 sec				
			fail timer 1 (4-5 shifting with throttle)	>=	0.700195313 sec				
			fail timer 1 (4-5 shifting without throttle)	>=	0.900390625 sec				
			fail timer 1 (4-6 shifting with throttle)	>=	0.700195313 sec				
			fail timer 1 (4-6 shifting without throttle)	>=	0.900390625 sec				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers					Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE 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					Fail Counter >= 3 From 2nd Gear	
			3rd gear fail counter					Fail Counter >= 3 From 3rd Gear	
			4th gear fail counter					Fail Counter >= 3 From 4th Gear	
			total fail counter					Total >= 5 Fail Counter	
					TUT Enable temperature	>=	-6.672 °C		
					Input Speed Sensor fault		FALSE Boolean		
					Output Speed Sensor fault		FALSE Boolean		
					Command / Attained Gear High Side Driver ON		1st Boolean TRUE Boolean		
					output speed limit for TUT	>=	200 RPM		
					input speed limit for TUT		200 RPM		
					PRNDL state defaulted	=	FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear					One Trip
Soletiola (VBS)		E didox on (dieady diale)	Max Delta Output Speed Hysteresis					
			Min Delta Output Speed Hysteresis					
			If the Above is True for Time					
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio Gear Ratio					

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				Fail	
							>= 1.1 Timer (Sec) Fail	
							>= 3 Count in 5th Gear	
							OR Total >= 3 Fail Counts	
			<u>Fail Case</u> 2 Case: 6th Gear					
			Max Delta Output Speed Hysteresis	Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time Please Refer to Table 17 in Supporting documents				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDIT	TIONS	TIME RE	QUIRED	MIL ILLUM.
									>= 1.1	Fail Timer (Sec)	
									>= 3	Fail Count in 6th Gear	
									>= 3	OR Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean			
					inhibit RVT	=	FALSE	Boolean			
					IMS fault pending indication	=	FALSE				
					output speed TPS validity flag	>=	0 TRUE	RPM			
					HSD Enabled	=	TRUE				
					Hydraulic_System_Pressurize d	=	TRUE				
					Minimum output speed for RVT	>=	0	Nm			
					A OR B (A) Output speed enable	>=	650	Nm			
					(B) Accelerator Pedal enable	>=	0.5005	Nm			
					Ignition Voltage Lo	>=	9	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	45	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			
					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		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 Time (Sec)	One Trip
							out of 0.375 Sample (Sec)	
					P2729 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage			
					Engine Speed Engine Speed	>= 400 RPM <= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABLE COND	ITIONS	TIME REQI	UIRED	MIL ILLUM.
						Engine Speed is within the allowable limits for		Sec			
					Disable Conditions:		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 Or or Faul Active	ı t			
						Ignition Voltage Ignition Voltage Engine Speed	>= 9 <= 31.99 >= 400	Volt Volt RPM			
						Engine Speed Engine Speed is within the allowable limits for	>- 5	RPM Sec			
					Disable Conditions:		TCM: None ECM: None				
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE	Boolean				>= 4.4	Fail Time (Sec)	Two Trips
									out of 5	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD \	/ALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME	REQU	IRED	MIL ILLUM.
						P2763 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	9	Volt				
						Ignition Voltage	<=	31.99	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: P0		59				
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
										out of	5	MPH	
						P2764 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	9	Volt				
						Ignition Voltage	<=	31.99	Volt				
						Engine Speed	>=	400	RPM RPM				
						Engine Speed Engine Speed is within the	<= >=	7500 5	Sec				
						allowable limits for High Side Driver Enabled	=		Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED		IIRED	MIL ILLUM.
						Disable Conditions:	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 second s)	One Trip
			Delay timer	>=	0.1125	sec			Out of	70	Sample Counts (≈ 11 second s)	
							Stabilization delay Power Mode	>= 3 sec = Run				
						Disable Conditions:	DTC's:					
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 Power Mode					
						Disable Conditions:	DTC's:	TCM: U0073 ECM: None				

					2	D Tab	les			
Table 1	Axis Curve	0.00	64.00 120.00	128.00 150.00	192.00 150.00	256.00 150.00	320.00 150.00	384.00 150.00	448.00 150.00	512.00 N*m 150.00 RPM
Table 2	Axis Curve	-6.67 409.59	-6.66 2.00	40.00 °C 2.00 Se						
Table 3	Axis Curve	-6.67 409.59	-6.66 3.50	40.00 °C 3.50 Se						
Table 4	Axis Curve	-6.67 409.59	-6.66 2.99	40.00 °C 2.00 Se						
Table 5	Axis Curve	-6.67 409.59	-6.66 3.00	40.00 °C 3.00 Se						
Table 6	Axis Curve	-7.01 409.00	-7.00 3.60	40.00 1.60	80.00	120.00 °(1.40 S				
Table 7	Axis Curve	-7.01 409.00	-7.00 3.40	40.00 1.40	80.00	120.00 °(1.20 S				

Table 8						
	Axis	-7.01	-7.00	40.00	80.00	120.00 °C
	Curve	409.00	3.60	1.60	1.50	1.40 Sec
Table 9						
	Axis	-7.01	-7.00	40.00	80.00	120.00 °C
	Curve	409.00	3.30	1.30	1.20	1.10 Sec
		•	•	•	•	
Table 10						
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	8.85	3.75	1.31	0.28	0.28 Sec
Table 11						
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	5.00	1.70	0.40	0.25	0.25 Sec
	0 1 0	0.00	0	0.10	0.20	0.20
Table 12						
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	8.00	2.20	0.70	0.25	0.25 Sec
	5 41.75	3.00	2.20	0.70	0.20	0.20
Table 13						
14510 10	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	5.20	1.60	0.50	0.27	0.16 Sec
	Curve	5.20	1.00	0.50	0.21	0.10 360
Table 14						
Table 14	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
		5.00	1.50	0.70	0.25	0.25 Sec
	Curve	5.00	1.50	0.70	0.25	0.25 Sec

Table 15										
	Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00 °C
	Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 Sec
	_									
Table 16										
Table 10	Axis	-6.67	-6.66	40.00 0	C					
	Curve	409.59	1.50	1.50 S						
	_									
Table 17					_					
	Axis	-6.67	-6.66	40.00 %						
	Curve	0.40	0.35	0.30 S	sec					
Table 18										
	Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10 °C
	Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00 °C
Table 19										
	Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10 °C
	Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00 °C
	_									
Toble 20										
Table 20	Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10 °C
	Curve	256.00	10.00	8.00	8.00	8.00	8.00	8.00	8.00	256.00 °C
	Juive	200.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	200.00

3D Tables

3D_Table 1

X-Axis Calibration	%
Y-Axis Calibration	°C
Table Calibration	RPM/Sec

	0.00	2.00	5.00	25.00	100.00
-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
-6.66	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	%
Y-Axis Calibration	°C
Table Calibration	RPM/Sec

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