

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE Boolean			>= 5 Fail Counts	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 18 Volts		
Transmission Control Module (TCM)	P0602	Transmission Electro-Hydraulic Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE Boolean			Runs Continuously	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 18 Volts		
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 Continuously	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 18 Volts		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access	RAM Read/Write Failure (Single Word)	= TRUE Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
					Ignition Voltage Lo	>= 8.5996 Volts		

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					Ignition Voltage Hi	<= 18 Volts		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None	
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown	= TRUE Boolean			Runs Continuously	One Trip
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None	
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	<u>Fail Case 1</u> Substrate Temperature	>= 142.1015625 °C			>= 5 Fail Time (Sec)	One Trip
			<u>Fail Case 2</u> Substrate Temperature	>= 50 °C			>= 2 Fail Time (Sec)	
			Ignition Voltage	>= 18 Volts				
			Note: either fail case can set the DTC					
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Substrate Temp Lo	>= 0 °C		
					Substrate Temp Hi	<= 170 °C		
					Substrate Temp Between Temp Range for Time	>= 0.25 Sec		
					P0634 Status is	≠ Key On or Fault Active		

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					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: None		
HWIO	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports low voltage (Open or ground short) error flag	= TRUE Boolean			>= 3 Fail Counts out of 5 Sample Counts	One Trip
					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: None		
HWIO	P0659	Actuator Supply Voltage Circuit High	During the controller power-up, prior to the HSD being turned on, the hwio reports that power short failure is	= TRUE Boolean			>= 3 Fail Counts out of 5 Sample Counts	Two Trips
					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: None		

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Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> 21 in supporting °C documents				Two Trips	
			If TCM substrate temp to power up temp Δ	> 22 in supporting °C documents					
			Both conditions above required to increment fail counter						Fail Counts (100ms loop) >= 3000
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.						Sample Counts (100ms loop) Out of 3750
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						Pass Counts (100ms loop) >= 700 Sample Counts (100ms loop) Out of 875
					Engine Torque Signal Valid = TRUE Boolean Accelerator Position Signal Valid = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 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				

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					Throttle Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for	>= 30 Pct <= 200 RPM <= 8 Kph ≠ Park ≠ Neutral = Not Active = Active >= 7 sec		
					Below describes the brake torque exit criteria Brake torque entry criteria Clutch hydraulic pressure Clutch used to exit brake torque active The above clutch pressure is greater than this value for one Set Brake Torque Active FALSE if above conditions are met for P0667 Status is Disable Conditions:	= Not Met ≠ Clutch Hydraulic Air Purge Event = CeTFT D_e_C 3_Ratl Enbl >= 600 kpa >= 20 Sec ≠ Test Failed This Key On or Fault Active MIL not Illuminated for DTC's:		
						TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717,		

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						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 voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= -249 °C >= -249 °C				
			Either condition above will satisfy the fail conditions				>= 12.75	Fail Timer (Sec)
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0668 Status is	>= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	= CeTFTI_e_VoltageDirectProp >= 249 °C <= 249 °C				Two Trips
			Either condition above will satisfy the fail conditions				>= 60	Fail Timer (Sec)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Toss Speed \geq 0 RPM Toss Speed greater than above cal for TCC Slip \geq 0 RPM TCC Slip greater than above cal for Ignition Voltage Lo \geq 8.5996 Volts Ignition Voltage Hi \leq 31.999 Volts Engine Speed Lo \geq 500 RPM Engine Speed Hi \leq 7500 RPM Engine Speed is within the allowable limits for P0669 Status is \neq Key On or Fault Active	Test Failed This MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ > 22 in supporting documents If transmission oil temp to power up temp Δ > 20 in supporting documents	Refer to Table 22 in supporting documents Refer to Table 20 in supporting documents				Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid = TRUE Boolean Accelerator Position Signal Valid = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Brake torque active = FALSE			
					Below describes the brake torque entry criteria Engine Torque >= 90 N*m Throttle >= 30 Pct Transmission Input Speed <= 200 RPM Vehicle Speed <= 8 Kph Transmission Range ≠ Park Transmission Range ≠ Neutral PTO = Not Active Set Brake Torque Active TRUE if above conditions are met for >= 7 sec			
					Below describes the brake torque exit criteria			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Brake torque entry criteria Clutch hydraulic pressure Clutch used to exit brake torque active The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are met for P06AC Status is Disable Conditions:	= Not Met ≠ Clutch Hydraulic Air Purge Event CeTFT = D_e_C3_Ratl Enbl >= 600 kpa >= 20 Sec ≠ Test Failed This Key On or Fault Active MIL not Illuminated for DTC's:			
						TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P215C, P2720, P2721, P2729, P2730 ECM:			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0966, P0967, P0970, P0971, P0103, P0106, P0101, P0102, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 °C			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Toss Speed	>= 0 RPM		
					Toss Fail Timer	>= 0 Sec		
					TCC slip	>= 0 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Fail Timer P06AD Status is	>= 0 Sec Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 °C			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P06AE Status is	>= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Mode Switch	P071A	Transmission Mode Switch A Circuit	If Tow Haul / Winter Switch Active	= TRUE Boolean			>= 600 Fail Time (Sec)	Special No Trip

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					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	TCM: P1762 ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> 21 in supporting °C documents				Two Trips
			If transmission oil temp to power up temp Δ	> 20 in supporting °C documents				
			Both conditions above required to increment fail counter					
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Fail Counts (100ms loop) Out of 3000 Sample Counts (100ms loop) of 3750	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				Pass Counts (100ms loop) Out of 700 Sample Counts (100ms loop) of 875	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Signal Valid = TRUE Boolean Accelerator Position Signal Valid = TRUE Boolean Ignition Voltage Low >= 8.5996 Volts Ignition Voltage High <= 31.999 Volts Engine Speed Low >= 500 RPM Engine Speed High <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Brake torque active = FALSE			
					Below describes the brake torque entry criteria Engine Torque >= 90 N*m Throttle >= 30 Pct Transmission Input Speed <= 200 RPM Vehicle Speed <= 8 Kph Transmission Range ≠ Park Transmission Range ≠ Neutral PTO = Not Active Set Brake Torque Active TRUE if above conditions are met for >= 7 sec			
					Below describes the brake torque exit criteria Brake torque entry criteria = Not Met Clutch hydraulic pressure ≠ Clutch Hydraulic Air Purge Event Clutch used to exit brake torque active = 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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Test Failed This Key On or Fault Active P0711 Status is ≠ MIL not Illuminated for DTC's: TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205,		

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						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 Either condition above will satisfy the fail conditions	= CeTFTI_e_VoltageDirectProp <= -74 °C >= -74 °C				Two Trips
					TOSS TOSS above thresh for TCC slip TCC slip above thresh for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 0 RPM >= 0 Sec >= 0 RPM >= 0 Sec >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec	>= 12.75 Fail Time (Sec)	

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						Test Failed This Key On or Fault Active P0712 Status is ≠		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used = CeTFTI_e_VoltageDirectProp If Transmission Fluid Temperature Sensor = Direct Proportional and Temp >= 174 °C If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp <= 174 °C					Two Trips
			Either condition above will satisfy the fail conditions				>= 60	Fail Time (Sec)
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Test Failed This Key On or Fault Active P0713 Status is ≠		

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					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 881.75 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Engine Torque is >= 0 N*m Engine Torque is <= 8191.9 N*m Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Vehicle Speed is >= 0 Kph Throttle Position is >= 0 Pct ----- Transmission Input Speed is >= 0 RPM The previous requirement has been satisfied for >= 0 Sec ----- The change (loop to loop) in transmission input speed is < 8191 RPM/Loop The previous requirement has been satisfied for >= 0 Sec Throttle Position Signal Valid = TRUE Boolean Engine Torque Signal Valid = TRUE Boolean Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts ----- Test Failed This P0716 Status is not = Key On or Fault Active			

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					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0717, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123			
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1	Transmission Input Speed is	< 32.625 RPM		>= 4.5	Fail Time (Sec)	One Trip
			Fail Case 2	When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	< 653.125 RPM	Controller uses a single power supply for the speed sensors	= 1	Boolean	
						Engine Torque is >= 50 N*m Engine Torque is <= 8191.9 N*m Vehicle Speed >= 16 Kph Engine Torque Signal Valid = TRUE Boolean Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0717 Status is not = Test Failed This Key On or Fault Active			

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					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0102, P0103			
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 100 RPM	<p>P0722 Status is not</p> <p>Transmission Input Speed Check</p> <p>Engine Torque Check</p> <p>Throttle Position</p> <p>Transmission Fluid Temperature</p> <p>Disable this DTC if the PTO is active</p> <p>Engine Torque Signal Valid</p> <p>Throttle Position Signal Valid</p> <p>Ignition Voltage is</p> <p>Ignition Voltage is</p> <p>Engine Speed is</p> <p>Engine Speed is</p> <p>Engine Speed is within the allowable limits for</p>	<p>Test Failed This</p> <p>= Key On or Fault Active</p> <p>= TRUE Boolean</p> <p>= TRUE Boolean</p> <p>>= 14.999 Pct</p> <p>>= -40 °C</p> <p>= 1 Boolean</p> <p>= TRUE Boolean</p> <p>= TRUE Boolean</p> <p>>= 8.5996 Volts</p> <p><= 31.999 Volts</p> <p>>= 500 RPM</p> <p><= 7500 RPM</p> <p>>= 5 Sec</p>	>= 3	Fail Time (Sec)	One Trip
					Enable_Flags Defined Below				
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE				
					Engine Torque Condition 1				

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					Shift Status is not = comple te OR Transmission Range is = Park or Neutral Engine Torque is >= 8191.8 N*m Engine Torque is <= 8191.8 N*m Engine Torque Condition 2 Engine Torque is >= 54 N*m Engine Torque is <= 8191.8 N*m -----			
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE TIS Check Condition 1 Transmission Input Speed is >= 653.13 RPM Transmission Input Speed is <= 5350 RPM TIS Check Condition 2 Engine Speed without the brake applied is >= 3200 RPM Engine Speed with the brake applied is >= 3200 RPM Engine Speed is <= 8191 RPM Controller uses a single power supply for the speed sensors = 1 Boolean Powertrain Brake Pedal is Valid = TRUE Boolean			

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					Disable Conditions:	MIL not illuminated for DTC's:	TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>=	3000 RPM		>= 0	Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8191 RPM		>= 0	Enable Time (Sec)	
			Output Speed Drop	>	3000 RPM		>= 1.5	Output Speed Drop Recover Fail Time (Sec)	
					----- Range_Disable OR ----- Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently -----	= FALSE Boolean			
					Transmission_Range_Enable Transmission_Input_Speed_Enable le No Change in Transfer Case Range (High <-> Low) for Engine Torque Signal Valid Throttle Position Signal Valid	= TRUE Boolean = TRUE Boolean >= 5 Seconds = TRUE Boolean = TRUE Boolean			

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					P0723 Status is not	= Test Failed This Key On or Fault Active		
					Disable this DTC if the PTO is active	= 1 Boolean		
					Ignition Voltage is	>= 8.5996 Volts		
					Ignition Voltage is	<= 31.999 Volts		
					Engine Speed is	>= 500 RPM		
					Engine Speed is	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Enable_Flags Defined Below			
					Transmission_Input_Speed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:			
					TIS Condition 1 is TRUE when both of the following conditions are satisfied for	>= 0 Enable Time (Sec)		
					Input Speed Delta	<= 4095.9 RPM		
					Raw Input Speed	>= 500 RPM		
					TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied			
					Input Speed	= 0 RPM		
					A Single Power Supply is used for all speed sensors	= TRUE Boolean		
					Powertrain Brake Pedal Applied is	= FALSE Boolean		
					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE			
					Transmission Range is	= Neutral ENUM		

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					Transmission Range is	= Reverse/Neutral ENUM Transitional Neutral/Drive Transitional ENUM		
					Transmission Range is ----- Range_Disable is TRUE when any of the next three conditions are TRUE Transmission Range is Transmission Range is Input Clutch is not	= Park ENUM Park/Reverse Transitional ON (Fully Applied) ENUM		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satisfied for Transmission Output Speed And the acceleration of the Transmission Output Speed is And the acceleration of the Transmission Output Speed is -----	> 409.59 Seconds > 0 RPM < 0 RPM/Loop Rate > 0 RPM/Loop Rate		
					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE Transmission Range is Transmission Range is	= Neutral ENUM Reverse/Neutral ENUM Transitional		

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					Transmission Range is Range Change Delay Timer	= Neutral /Drive Transitional ENUM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met (A) TCC Slip Error @ TCC On Mode (B) TCC Slip @ Lock On Mode If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter	>= 800 Kpa >= Refer to Table 1 in Supporting Documents RPM >= 130 RPM			>= 2 Enable Time (Sec) >= 6 Fail Time (Sec) >= 6 Fail Time (Sec) >= 2 TCC Stuck Off Fail Counter	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi 2nd Gear Ratio Lo 2nd Gear Ratio High 3rd Gear Ratio Lo 3rd Gear Ratio High 4th Gear Ratio Lo 4th Gear Ratio High 5th Gear Ratio Lo 5th Gear Ratio Hi 6th Gear Ratio Lo 6th Gear Ratio High Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi TCC Command Lock ON or ON PTO Not Active Engine Torque Signal Valid Throttle Position Signal Valid Dynamic Mode Test Failed This Key On or Fault Active P0741 Status is	>= 50 N*m <= 1492 N*m >= 8.0002 Pct <= 99.998 Pct >= 2.1985 Ratio <= 2.5295 Ratio >= 1.4248 Ratio <= 1.6393 Ratio >= 1.0714 Ratio <= 1.2327 Ratio >= 0.7924 Ratio <= 0.9116 Ratio >= 0.6204 Ratio <= 0.7137 Ratio >= 20 °C <= 130 °C = TRUE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean = FALSE Boolean ≠			
				Disable Conditions:	MIL not illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM: P0101,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter	>= -12 RPM <= 13 RPM			>= 2.5 Fail Time (Sec) >= 6 Fail Counter	One Trip
					Run TCC Stuck On Test Enable Criteria: Gear Ratio <= 1.6393 Ratio Gear Ratio >= 0.6204 Ratio Engine Speed Hi <= 6500 RPM Engine Speed Lo >= 500 RPM Vehicle Speed Hi <= 511 KPH			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Vehicle Speed Lo	>= 16 KPH		
					Stuck On During Upshift Enabled	= 0 Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>= 55 Nm		
					Down Shift In Progress	= FALSE Boolean		
					Current Gear	≠ 1st Gear Boolean		
						Locked		
					Engine Torque Hi	<= 1492 Nm		
					Engine Torque Lo	>= 115 Nm		
					Current Range	≠ Neutral Range		
					Current Range	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 °C		
					Transmission Sump Temperature	>= 20 °C		
					Throttle Position Hyst High	>= 8.0002 Pct		
					Throttle Position Hyst Low	<= 2.9999 Pct		
					PTO Active	= FALSE Boolean		
					Disable if in D1 and value true	= 0 Boolean		
					Disable if in D2 and value true	= 0 Boolean		
					Disable if in D3 and value true	= 0 Boolean		
					Disable if in D4 and value true	= 0 Boolean		
					Disable if in D5 and value true	= 0 Boolean		
					Disable if in MUMD and value true	= 0 Boolean		
					Disable if in TUTD and value true	= 0 Boolean		
					4 Wheel Drive Active	= FALSE Boolean		
					Hydraulic Clutch Air Purge Active	= FALSE Boolean		
					Ignore Air Purge if value = true	= 0 Boolean		
					TCC Mode	= OFF		
					Common Enables:			
					Ignition Voltage	>= 8.5996 V		
					Ignition Voltage	<= 31.999 V		
					Vehicle Speed	<= 511 KPH		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Signal Valid = TRUE Boolean Throttle Position Signal Valid = TRUE Boolean P0742 Status is ≠ Key On or Fault Active Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0305, P0306, P0307, P0308, P0401, P042E+ W597		
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip Commanded Gear Gear Ratio Gear Ratio If the above parameters are true	>= 200 RPM = 1st Lock rpm <= 1.209594727 >= 1.094360352			>= 0.3 Fail Tmr = 8 Fail Counts ≠ 0 Neutral Timer (Sec) >= 0.3 Fail Timer (Sec) >= 8 Counts	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Transmission Fluid Temperature Shift is Complete TPS OR Output Speed Throttle Position Signal Valid from ECM Engine Torque Signal Valid from ECM, High side driver is enabled	>= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec >= 0 °C >= 0.5005 % >= 0 RPM = TRUE Boolean = TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present Disable MIL not Illuminated for DTC's: Conditions:	= TRUE Boolean = FALSE Boolean = FALSE Boolean = TRUE TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 200 Rpm				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Commanded Gear = 3rd Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On = TRUE Boolean C456/CBR1 Pressure Switch = Pressurized Boolean C456/CBR1 Pressure Switch Fault = FALSE Boolean If the above parameters are true				Please Refer to Table 16 in Supporting Documents >= 5 Neutral Timer (Sec) >= 5 Counts	
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec High-Side Driver is Enabled = TRUE Boolean Throttle Position Signal Valid from ECM = TRUE Boolean Output Speed >= 0 RPM OR TPS >= 0.5005 % Shift is Complete Transmission Fluid Temperature >= 0 °C Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Commanded Gear	= 1st Locked			Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	One Trip
			Gear Box Slip	>= 200 RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive Shift to 2nd Commanded Gear = 1st Locked Gear Previous Gear Ratio <= 2.482177734 Gear Ratio >= 2.245849609 If the above parameters are true				>= 1 sec >= 5 counts	
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Output Speed >= 0 RPM OR TPS >= 0.5005 % Shift is Complete Transmission Fluid Temperature >= 0 °C High-Side Driver is Enabled = TRUE Boolean Throttle Position Signal Valid from ECM = TRUE Boolean Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<p>Fail Case: Steady State 3rd Gear Commanded Gear = 3rd Gear</p> <p>Gearbox Slip >= 200 Rpm</p> <p>Intrusive Test: Command 4th Gear</p> <p>If attained Gear=4th gear for Time >= Refer to Table 3 in supporting documents</p>				<p>Please Refer to Table 5 in Supporting Documents</p> <p>Neutral Timer (Sec)</p>	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			It the above conditions are true, Increment 3rd gear fail counter				>= 2 3rd Gear Fail Counts	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
			<u>Fail Case 2</u> Case: Steady State 5th Gear Commanded Gear = 5th Gear					
			Gearbox Slip	>= 200 Rpm			>= Neutral Timer (Sec)	
			Intrusive Test: Command 6th Gear					
			If attained Gear=6th gear Time	>= Table Based Time Please Refer to Table 3 in supporting documents	Enable Time (Sec)			
			It the above conditions are true, Increment 5th gear fail counter				>= 2 5th Gear Fail Counts	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					A OR B (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 Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 650 RPM >= 0.5005 Pct >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<p><u>Fail Case 1</u> Case: Steady State 1st</p> <p>Attained Gear slip >= 200 RPM</p> <p>If the Above is True for Time >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)</p> <p>Intrusive test: (CBR1 clutch exhausted)</p> <p>Gear Ratio <= 1.608642578</p> <p>Gear Ratio >= 1.455444336</p> <p>If the above parameters are true</p>				<p>>= 1.1 Fail Timer (Sec)</p> <p>>= 2 Fail Count in 1st Gear or</p> <p>>= 3 Total Fail Counts</p>	One Trip
			<p><u>Fail Case 2</u> Case: Steady State 2nd gear</p>					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.608642578				
			Gear Ratio	>= 1.455444336				
			If the above parameters are true				>= 1.1	Fail Timer (Sec)
							>= 1	Fail Count in 2nd Gear or
							>= 3	Total Fail Counts
			<u>Fail Case 3</u> Case: Steady State 4th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.89465332				
			Gear Ratio	>= 0.809448242				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	
							>= 1 Fail Count in 4th Gear or	
							>= 3 Total Fail Counts	
			<u>Fail Case 4</u> Case: Steady State 6th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If the Above is True for Time</p> <p>Intrusive test: (CB26 clutch exhausted)</p> <p>Gear Ratio</p> <p>Gear Ratio</p> <p>If the above parameters are true</p>	<p>Table Based Time Please Refer to Table 19 in supporting documents</p> <p>>= Sec</p> <p><= 0.89465332</p> <p>>= 0.809448242</p>			<p>>= 1.1</p> <p>>= 1</p> <p>>= 1.1</p> <p>>= 1</p> <p>>= 3</p>	<p>Fail Timer (Sec) counts</p> <p>Fail Timer (Sec) Fail Count in 6th Gear or Total Fail Counts</p>
					<p>PRNDL State defaulted = FALSE Boolean</p> <p>inhibit RVT = FALSE Boolean</p> <p>IMS fault pending indication = FALSE Boolean</p> <p>output speed >= 0 RPM</p> <p>TPS validity flag = TRUE Boolean</p> <p>HSD Enabled = TRUE Boolean</p> <p>Hydraulic_System_Pressurized = TRUE Boolean</p> <p>Minimum output speed for RVT >= 0 Nm</p> <p>A OR B</p> <p>(A) Output speed enable >= 650 Nm</p> <p>(B) Accelerator Pedal enable >= 0.5005 Nm</p> <p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 31.999 Volts</p> <p>Engine Speed Lo >= 500 RPM</p> <p>Engine Speed Hi <= 7500 RPM</p>			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault	>= 5 Sec >= 5.0003 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dynamic)	<p>Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)</p> <p>Primary Oncoming Clutch Pressure Command Status</p> <p>Primary Offgoing Clutch Pressure Command Status</p> <p>Range Shift Status</p> <p>Attained Gear Slip</p> <p>If the above conditions are true run appropriate Fail 1 Timers Below:</p> <p>fail timer 1 (3-1 shifting with Closed Throttle)</p> <p>fail timer 1 (3-2 shifting with Closed Throttle)</p> <p>fail timer 1 (3-2 shifting with Closed Throttle)</p> <p>fail timer 1 (3-4 shifting with Closed Throttle)</p> <p>fail timer 1 (3-4shifting with Closed Throttle)</p> <p>fail timer 1 (3-5 shifting with Closed Throttle)</p> <p>fail timer 1 (3-5 shifting with Closed Throttle)</p> <p>fail timer 1 (5-3 shifting with Closed Throttle)</p>	<p>= TRUE Boolean</p> <p>= Maximum pressurized</p> <p>= Clutch exhaust command</p> <p>≠ Initial Clutch Control</p> <p><= 40 RPM</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p>				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (5-3 shifting with Closed Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-4 shifting with Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-4 shifting with Closed Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-6 shifting with Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-6 shifting with Closed Throttle)	>= 1.200195313	Fail Time (Sec)			
			If Attained Gear Slip is Less than Above Call Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				>= 3	3rd gear fail counts OR

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			5th gear fail counter				>= 3	5th gear fail counts
			Total fail counter				>= 5	total fail counts
					Trans oil temperature	> 0 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st Boolean		
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT	>= 350 RPM		
					input speed limit for TUT	>= 200 RPM		
					TUT Enable temperature	>= 0 °C		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
					Default Gear Option is not present	= TRUE		
				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,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	<p><u>Fail Case 1</u> Case: Steady State 4th Gear</p> <p>Gear slip</p> <p>Intrusive test: commanded 5th gear</p> <p>If attained Gear #5th for time</p> <p>if the above conditions have been met</p> <p>Increment 4th Gear Fail Counter</p> <p>and C456 Fail Counters</p>	<p>>= 200 RPM</p> <p>>= Enable Time (Sec)</p> <p>Table Based Time Please Refer to Table 3 in supporting documents</p>			<p>Please See Table 5 For Neutral Time Cal</p> <p>>= 2 4th Gear Fail Count OR C456 Fail Counts</p> <p>>= 14</p>	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p><u>Fail Case 2</u> Case: Steady State 5th Gear</p> <p>Gear slip >= 200 RPM</p> <p>Intrusive test: commanded 6th gear</p> <p>If attained Gear # 6th for time >= Table Based Time Please Refer to Table 3 in supporting documents</p> <p>if the above conditions have been met</p> <p>Increment 5th Gear Fail Counter</p> <p>and C456 Fail Counters</p>				<p>Please See Table 5 Neutral Timer (Sec)</p> <p>>= For Neutral Time Cal</p> <p>5th Gear Fail Count OR C456 Fail Counts</p> <p>>= 2</p> <p>>= 14</p>	
			<p><u>Fail Case 3</u> Case: Steady State 6th Gear</p> <p>Gear slip >= 200 RPM</p> <p>Intrusive test: commanded 5th gear</p> <p>If attained Gear # 5th for time >= Table Based Time Please Refer to Table 3 in supporting documents</p> <p>if the above conditions have been met</p>				<p>Please See Table 5 Neutral Timer (Sec)</p> <p>>= For Neutral Time Cal</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Increment 6th Gear Fail Counter and C456 Fail Counter				>= 2 6th Gear Fail Count OR >= 14 C456 Fail Counts	
			and C456 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 (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 Transmission Fluid Temperature Input Speed Sensor fault OutputSpeed Sensor fault Default Gear Option is not present	= FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean >= 0 RPM >= 650 RPM >= 0.5005 Pct >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101,	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 200 RPM Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 1.209594727 >= 1.094360352				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case 2 Case Steady State 2nd	Table Based value Please Refer to Table 17 in supporting documents Max Delta Output Speed Hysteresis >= rpm/sec Table Based value Please Refer to Table 18 in supporting documents Min Delta Output Speed Hysteresis >= rpm/sec Table Based Time Please Refer to Table 19 in supporting documents If the Above is True for Time >= Sec Intrusive test: (CB26 clutch exhausted) Gear Ratio <= 1.209594727 Gear Ratio >= 1.094360352 If the above parameters are true			>= 1.1 Fail Timer (Sec) >= 1 Fail Count in 2nd Gear or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Total fail counts	
			Fail Case 3 Case Steady State 3rd					
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 17 in supporting documents rpm/sec			
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 18 in supporting documents rpm/sec			
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 19 in supporting documents Sec			
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<=	1.209594727			
			Gear Ratio	>=	1.094360352			
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 1 Fail Count in 3rd Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					output speed TPS validity flag HSD Enabled Hydraulic_System_Pressurized Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 0 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean >= 0 Nm >= 650 Nm >= 0.5005 Nm >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec >= 5.0003 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status = Maximum pressurized Primary Offgoing Clutch Pressure Command Status = Clutch exhaust command Range Shift Status ≠ Initial Clutch Control Attained Gear Slip ≤ 40 RPM If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1 (4-1 shifting with throttle) ≥ 1.200195313 Fail Time (Sec)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM ≥ 1.200195313 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 (4-1 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (4-2 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (4-2 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (4-3 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (4-3 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-3 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (5-3 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-2 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-2 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			If Attained Gear Slip is Less than Above Call Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail 1, and Reference Supporting 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.
			<p>If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter</p> <p>4th gear fail counter</p> <p>5th gear fail counter</p> <p>6th gear fail counter</p> <p>Total fail counter</p>				<p>Fail Counter From 4th Gear OR Fail Counter From 5th Gear OR Fail Counter From 6th Gear OR Total Fail Counter</p> <p>>= 3</p> <p>>= 3</p> <p>>= 3</p> <p>>= 5</p>	
					<p>Trans oil temperature</p> <p>Input Speed Sensor fault</p> <p>Output Speed Sensor fault</p> <p>Command / Attained Gear</p> <p>High Side Driver ON</p> <p>output speed limit for TUT</p> <p>input speed limit for TUT</p> <p>TUT Enable temperature</p> <p>PRNDL state defaulted</p> <p>IMS Fault Pending</p> <p>Service Fast Learn Mode</p> <p>HSD Enabled</p>	<p>> 0 °C</p> <p>= FALSE Boolean</p> <p>= FALSE Boolean</p> <p>≠ 1st Boolean</p> <p>= TRUE Boolean</p> <p>>= 350 RPM</p> <p>>= 200 RPM</p> <p>>= 0 °C</p> <p>= FALSE Boolean</p> <p>= FALSE Boolean</p> <p>= FALSE Boolean</p> <p>= TRUE Boolean</p>		<p>Disable Conditions:</p> <p>MIL not Illuminated for DTC's:</p> <p>TCM: P0716, P0717,</p>

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Tap Up Switch Stuck in the Up Position in Range 1 Enabled Case 1 Tap Up Switch Stuck in the Up Position in Range 2 Enabled Tap Up Switch Stuck in the Up Position in Range 3 Enabled Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean				Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean			>= 1	Fail Time (Sec)
			<u>Fail Case 2</u> Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 Fail Time (Sec)	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
						Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	<u>Fail Case 1</u> Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 0 Boolean				Special No Trip
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 0 Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 0 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 sec	
			<u>Fail Case 2</u> Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0 Boolean				
			Tap Down Switch ON	= TRUE Boolean				
			NOTE: Both Failcase 1 and Failcase 2 Must Be Met				>= 600 sec	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	≠ Test Failed This Key On or Fault Active		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Test Failed This P0826 Status is ≠ Key On or Fault Active			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P1761 ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay. If so then Increment Fail Counter	<= 50 KPa >= See Table 8 for Delay Timer Cal Sec			>= 18 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa				
					Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min	>= 0 °C <= 120 °C >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec			>= 20 Fail Counts	
			Check for Switch to be in Pressurized Position after delay. If so then Increment Fail Counter					
		Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition		< 700 kpa				
					Transmission Fluid Temperature Lo	>= 0 °C		
					Transmission Fluid Temperature Hi	<= 120 °C		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec			>= 5 Fail Counts	
			Check for Switch to be in Exhausted Position after delay. If so then Increment Fail Counter					
		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 Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min	>= 0 °C <= 120 °C >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec			>= 8 Fail Counts	
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter					
		Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition		< 700 Kpa				
					Transmission Fluid Temperature Lo	>= 0 °C		
					Transmission Fluid Temperature Hi	<= 120 °C		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi Engine Speed is within the allowable limits for Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min	<= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	Two Trips
					Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0966 Status is not = Test Failed This or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			Fail Time (Sec) Sample Time (Sec) >= 0.3 out of 0.375	One Trip
					Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Test Failed This P0967 Status is not = 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	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			Fail Time (Sec) Sample Time (Sec) >= 0.3 out of 0.375	One Trip
					Test Failed This P0970 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for Engine Speed >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) out of 0.375	One Trip
					P0971 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			Fail Time (Sec) >= 1.2 Sample Time (Sec) out of 1.5	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0973 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	Test Failed This = Key On or Fault Active >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	Two Trips
					P0974 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	Test Failed This = Key On or Fault Active >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	=	TRUE Boolean		>= 1.2 Sec	One Trip	
							out of 1.5 Sec		
						Test Failed This = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None			
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure	<=	50 Kpa			Special No Trip	
			Hydraulic Delay Timer (Table Based)	>=	See Table 9 for Delay Timer Cal	Sec			
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter						>= 18 Fail Counts
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	>	50 kpa				
					Transmission Fluid Temperature Lo	>=	0 °C		
					Transmission Fluid Temperature Hi	<=	120 °C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Default Gear Action = FALSE High Side Driver ON = TRUE RVT Status = Normal Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	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	>= 700 Kpa >= See Table 9 for Delay Timer Cal Sec			>= 15 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition</p>	<p>< 700 kpa</p>				
					<p>Transmission Fluid Temperature Lo >= 0 °C Transmission Fluid Temperature Hi <= 120 °C Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 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</p> <p>Disable MIL not Illuminated for DTC's: Conditions: TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E</p> <p>ECM: None</p>			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is	>= 100 RPM			>= 5 Fail Counts	Two Trips
			If Slip is Greater than the Above Cal Increment Fail Counter & Sample Counter				Out of 5 Sample Counts	
					Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	= 1 Seconds		
					M2 Solenoid is Commanded On	= TRUE Boolean		
					Current Gear ≠ 2nd Gear	≠ 2nd Gear		
					Calculated line pressure is	>= 1300 kPa		
					The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<= 110 RPM		
					Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	= 0.5 Sec		
					Upshift is In Progress	= FALSE Boolean		
					Input Speed Sensor Signal Hysteresis High (enabled above this value)	>= 1175 RPM		
					Input Speed Sensor Signal Hysteresis Low (disabled below this value)	<= 900 RPM		
					The torque converter clutch has transition from Locked to Unlocked.	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Stuck On Enable Criteria:			
					Gear Ratio	<= 1.6393 Ratio		
					Gear Ratio	>= 0.6204 Ratio		
					Engine Speed Hi	<= 6500 RPM		
					Engine Speed Lo	>= 500 RPM		
					Vehicle Speed Hi	<= 511 KPH		
					Vehicle Speed Lo	>= 16 KPH		
					Stuck On During Upshift Enabled	= 0 Boolean		
					If Stuck On During Upshift is enabled (See Above).	>= 55 Nm		
					Engine Torque Must be			
					Down Shift In Progress	= FALSE Boolean		
					Current Gear	≠ Gear Boolean		
					Engine Torque Hi	<= 1492 Nm		
					Engine Torque Lo	>= 115 Nm		
					Current Range	≠ Neutral Range		
					Current Range	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 °C		
					Transmission Sump Temperature	>= 20 °C		
					Throttle Position Hyst High	>= 8.0002 Pct		
					Throttle Position Hyst Low	<= 2.9999 Pct		
					PTO Active	= FALSE Boolean		
					Disable if in D1 and value true	= 0 Boolean		
					Disable if in D2 and value true	= 0 Boolean		
					Disable if in D3 and value true	= 0 Boolean		
					Disable if in D4 and value true	= 0 Boolean		
					Disable if in D5 and value true	= 0 Boolean		
					Disable if in MUMD and value true	= 0 Boolean		
					Disable if in TUTD and value true	= 0 Boolean		
					4 Wheel Drive Active	= FALSE Boolean		
					Air Purge Active	= FALSE Boolean		
					Ignore Air Purge if value = true	= 0 Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					TCC Mode Common Enables: Ignition Voltage Ignition Voltage Vehicle Speed Engine Speed Engine Speed Engine Speed is within the allowable limits for Engine Torque Signal Valid Throttle Position Signal Valid P1751 Status is Disable Conditions:	= OFF >= 8.5996 V <= 31.999 V <= 511 KPH >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean Test Failed This Key On MIL not Illuminated for DTC's:			
						TCM: P0716, P0717, P0722, P0723, P0741, P0742, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	=	TRUE	Boolean	>= 3	Fail Counter	Special No Trip
							> 10	Sample Timer (Sec)	
					Tap Up Tap Down Message Health = TRUE Boolean Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	TCM: None ECM: None			
Mode Switch	P1762	Transmission Mode Switch Signal Circuit (rolling count)	Rolling count value received from BCM does not match expected value	=	TRUE	Boolean	>= 3	Fail Counter	Special No Trip
							> 10	Sample Timer (Sec)	
					Pattern Switch Message Health = TRUE Boolean Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable MIL not illuminated for DTC's: Conditions:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	<u>Fail Case 1</u>	Current range = "Transitional 1" Range State				One Trip
				Previous range != CeTRGR_e_PR NDL_Drive6 Range State				
				Previous range != CeTRGR_e_PR NDL_Drive4 Range State				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			Engine Torque	>= -50 Nm				
			Engine Torque	<= 8191.75 Nm				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			<u>Fail Case 2</u>	Current range = "Transitional 1" Range State				
			S3 Pressure Switch indicates "Exhausted"	= TRUE Boolean				
			Commanded Gear	= 1st Locked Gear				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			<u>Fail Case 3</u>	Current range = "Transitional 13"	Previous range	!= CeTRGR_e_PRND L_Drive1		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>Either the S1 or S3 Pressure Switch indicates "Pressure Present"</p> <p>Engine Torque</p> <p>Engine Torque</p> <p>If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter</p>	<p>= TRUE Boolean</p> <p>>= -8192 Nm</p> <p><= 8191.75 Nm</p>	<p>Previous range</p> <p>IMS is 7 position configuration If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"</p>	<p>CeTR GR_e_PRND L_Drive1</p> <p>!=</p> <p>= 1 Boolean</p>	<p>>= 0.225 Seconds</p> <p>>= 15 Fail Counts</p>	
			<p><u>Fail Case 4</u></p> <p>Current range</p> <p>Either the S1 or S3 Pressure Switch indicates "Pressure Present"</p> <p>Steady State Engine Torque</p> <p>Steady State Engine Torque</p> <p>If the above conditions are present Increment Fail Timer If the above Conditions have been met, Increment Fail Counter</p>	<p>"Transitional 2" or "Transitional 8"</p> <p>= TRUE Boolean</p> <p>>= 100 Nm</p> <p><= 8191.75 Nm</p>	<p>Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8</p>		<p>>= 0.225 Seconds</p> <p>>= 15 Fail Counts</p>	
			<p><u>Fail Case 5</u></p> <p>Current range</p> <p>Engine Torque</p> <p>Either the S1 or S3 Pressure Switch indicates "Pressure Present"</p> <p>If the above conditions are present Increment Fail Timer If the above Conditions have been met, Increment Fail Counter</p>	<p>"Transitional 11"</p> <p>>= -50 Nm</p> <p>= TRUE Boolean</p>			<p>>= 0.225 Seconds</p> <p>>= 15 Fail Counts</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p><u>Fail Case 6</u></p> <p>Current range = "Illegal"</p> <p>or</p> <p>ECM Park/Neutral Message = "Park/Neutral" and</p> <p>Current Range ≠ Park, Neutral, Reverse, Transitional 8, or Transitional 11</p> <p>and</p> <p>A Open Circuit (See Definition) = FALSE Boolean</p> <p>If the above Conditions are present, Increment Fail timer</p>		<p>A Open Circuit Definition (flag set false if the following conditions are met):</p> <p>Current Range ≠ "Transitional 11"</p> <p>or</p> <p>Last positive state ≠ Neutral</p> <p>or</p> <p>Previous transitional state ≠ Transitional 8 and Illegal</p> <p>and</p> <p>PRNDL Circuit A = Open Circuit</p> <p>PRNDL Circuit B = Closed Circuit</p> <p>PRNDL Circuit C = Open Circuit</p> <p>PRNDL Circuit P = Open Circuit</p>		>= 6.25 Seconds	
			<p><u>Fail Case 7</u></p> <p>Current PRNDL State = PRNDL circuit ABCP = 1101</p> <p>and</p> <p>Previous valid state = PRNDL encoded value Range of ABCP = 1111</p> <p>Input Speed >= 150 RPM</p> <p>Reverse Trans Ratio <= 2.795898438 ratio</p> <p>Reverse Trans Ratio >= 3.149047852 ratio</p> <p>If the above Conditions are present, Increment Fail timer</p>				>= 6.25 Seconds	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			P182E will report test fail when any of the above 7 fail cases are met		Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Vehicle Speed Lo <= 511 KPH Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Signal Valid = TRUE Boolean	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0401, P042E			
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is \neq Park or Neutral Enumeration					One Trip	
			The following events must occur Sequentially						
			Initial Engine speed	\leq	50	RPM			\geq 0.25 Enable Time (Sec)
			Then Engine Speed Between Following Cals						
			Engine Speed Lo Hist	\geq	50	RPM			
			Engine Speed Hi Hist	\leq	480	RPM			\geq 0.0688 Enable Time (Sec)
Then Final Engine Speed	\geq	525	RPM						
Final Transmission Input Speed	\geq	200	RPM			\geq 1.25 Fail Time (Sec)			
					DTC has Ran this Key Cycle?	= FALSE Boolean			
					Ignition Voltage Lo	\geq 6 V			
					Ignition Voltage Hi	\leq 31.999 V			
					Ignition Voltage Hyst High (enables above this value)	\geq 6 V			
					Ignition Voltage Hyst Low (disabled below this value)	\leq 2 V			
					Transmission Output Speed	\leq 90 rpm			
						Test Failed This Key On or Fault Active			
					P1915 Status is	\neq Key On or Fault Active			
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: None			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
			<p><u>Fail Case 2</u> Case: Steady State 6th Gear</p> <p>Gear slip >= 200 RPM</p> <p>Intrusive test: commanded 5th gear</p> <p>If attained Gear = 5th For Time >= Table Based Time Please see Table 2 in Supporting Documents Enable Time (Sec)</p> <p>If Above Conditions have been met, Increment 5th gear fail counter</p> <p>and CB26 Fail Count</p>				<p>Please See Table 5 Neutral For Neutral Time Cal</p> <p>>= 2 5th Gear Fail Count or CB26 Fail Count</p> <p>>= 14</p>		
					<p>PRNDL State defaulted = FALSE Boolean</p> <p>inhibit RVT = FALSE Boolean</p> <p>IMS fault pending indication = FALSE Boolean</p> <p>TPS validity flag = TRUE Boolean</p> <p>Hydraulic System Pressurized = TRUE Boolean</p> <p>Minimum output speed for RVT >= 0 RPM</p> <p>A OR B</p> <p>(A) Output speed enable >= 650 RPM</p> <p>(B) Accelerator Pedal enable >= 0.5005 Pct</p> <p>Common Enable Criteria</p> <p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 31.999 Volts</p> <p>Engine Speed Lo >= 500 RPM</p> <p>Engine Speed Hi <= 7500 RPM</p> <p>Engine Speed is within the allowable limits for >= 5 Sec</p> <p>Throttle Position Signal valid = TRUE Boolean</p>				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= TRUE Boolean >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P0402		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	<p>Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)</p> <p>Primary Oncoming Clutch Pressure Command Status</p> <p>Primary Offgoing Clutch Pressure Command Status</p> <p>Range Shift Status</p> <p>Attained Gear Slip</p> <p>If above conditions are true, increment appropriate Fail 1 Timers Below:</p> <p>fail timer 1 (2-1 shifting with throttle)</p> <p>fail timer 1 (2-1 shifting without throttle)</p> <p>fail timer 1 (2-3 shifting with throttle)</p> <p>fail timer 1 (2-3 shifting without throttle)</p> <p>fail timer 1 (2-4 shifting with throttle)</p> <p>fail timer 1 (2-4 shifting without throttle)</p> <p>fail timer 1 (6-4 shifting with throttle)</p> <p>fail timer 1 (6-4 shifting without throttle)</p> <p>fail timer 1 (6-5 shifting with throttle)</p>	<p>= TRUE Boolean</p> <p>= Maximum pressurized</p> <p>= Clutch exhaust command</p> <p>≠ Initial Clutch Control</p> <p><= 40 RPM</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p> <p>>= 1.200195313 Fail Time (Sec)</p>				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (6-5 shifting without throttle)	>= 1.200195313 Fail Time (Sec)			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referen ce Support ing Table 15 for Fail Timer 2	
			If Attained Gear Slip is Less than Above Call Increment Fail Timers					
			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 Fail Counter	
			6th gear fail counter				>= 3 From 6th Gear OR Total Fail Counter	
			total fail counter				>= 5 Total Fail Counter	
					Trans oil temperature	> 0 °C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	= FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = FALSE Boolean = 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,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	<p><u>Fail Case 1</u></p> <p>Case: Steady State 1st</p> <p>Attained Gear slip >= 200 RPM</p> <p>If the Above is True for Time >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)</p> <p>Intrusive test: (CBR1 clutch exhausted)</p> <p>Gear Ratio <= 2.482177734</p> <p>Gear Ratio >= 2.245849609</p> <p>If the above parameters are true</p>				<p>>= 1.1 Fail Timer (Sec)</p> <p>>= 2 Fail Count in 1st Gear or</p> <p>>= 3 Total Fail Counts</p>	One Trip
			<p><u>Fail Case 2</u></p> <p>Case: Steady State 3rd Gear</p> <p>Max Delta Output Speed Hysteresis >= Table Based value Please Refer to Table 17 in supporting documents rpm/sec</p> <p>Min Delta Output Speed Hysteresis >= Table Based value Please Refer to Table 18 in supporting documents rpm/sec</p>					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If the Above is True for Time</p> <p>Intrusive test: (C35R clutch exhausted)</p> <p>Gear Ratio <= 2.482177734</p> <p>Gear Ratio >= 2.245849609</p> <p>If the above parameters are true</p>	<p>Table Based Time Please Refer to Table 19 in supporting documents</p> <p>>= Sec</p> <p><= 2.482177734</p> <p>>= 2.245849609</p>			<p>>= 1.1 Fail Timer (Sec)</p> <p>>= 1 Fail Count in 3rd Gear or</p> <p>>= 3 Total Fail Counts</p>	
			<p><u>Fail Case 3</u> Case: Steady State 4rd Gear</p> <p>Max Delta Output Speed Hysteresis</p> <p>Min Delta Output Speed Hysteresis</p> <p>If the Above is True for Time</p> <p>Intrusive test: (C1234 clutch exhausted)</p>	<p>Table Based value Please Refer to Table 17 in supporting documents</p> <p>>= rpm/sec</p> <p>Table Based value Please Refer to Table 18 in supporting documents</p> <p>>= rpm/sec</p> <p>Table Based Time Please Refer to Table 19 in supporting documents</p> <p>>= Sec</p>				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio <= 0.700317383 Gear Ratio >= 0.633666992 If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 1 Fail Count in 4th Gear or >= 3 Total Fail Counts	
			<u>Fail Case 4</u> Case: Steady State 5th Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio <= 0.700317383 Gear Ratio >= 0.633666992 If the above parameters are true				>= 1.1 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Fail Count in 5th Gear or Total Fail Counts >= 1 >= 3	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean output speed >= 0 RPM TPS validity flag = TRUE Boolean HSD Enabled = TRUE Boolean Hydraulic_System_Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 Nm A OR B (A) Output speed enable >= 650 Nm (B) Accelerator Pedal enable >= 0.5005 Nm Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec if Attained Gear=1st FW Accelerator Pedal enable >= 5.0003 Pct if Attained Gear=1st FW Engine Torque Enable >= 20 Nm if Attained Gear=1st FW Engine Torque Enable <= 1492 Nm Transmission Fluid Temperature >= 0 °C Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE	= FALSE Boolean = FALSE Boolean = FALSE Boolean >= 0 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean >= 0 Nm >= 650 Nm >= 0.5005 Nm >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec >= 5.0003 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						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	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			Fail Time (Sec) Sample Time (Sec) out of 0.375	One Trip
					P2770 Status is not Ignition Voltage	Test Failed This Key On or Fault Active = >= 8.5996 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) out of 0.375	One Trip
					P2721 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear Gear slip >= 200 RPM				Please See Table 5 Neutral For Timer (Sec) >= Neutral Time Cal	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: commanded 2nd gear					
			If attained Gear ≠ 2nd for Time	>=	Table based Timer, Please See Table 3 in Supporting Documents	Enable Time (Sec)		
			If Above Conditions have been met, Increment 1st gear fail counter				>= 2	1st Gear Fail Count
			and C1234 fail counter				>= 14	or C1234 Clutch Fail Count
			<u>Fail Case 2</u> Case: Steady State 2nd Gear					
			Gear slip	>=	200	RPM		Please See Table 5 For Neutral Timer (Sec) Cal
			Intrusive test: commanded 3rd gear					
			If attained Gear ≠ 3rd for Time	>=	Table based Timer, Please See Table 3 in Supporting Documents	Enable Time (Sec)		
			If Above Conditions have been met, Increment 2nd gear fail counter				>= 2	2nd Gear Fail Count
			and C1234 fail counter				>= 14	or C1234 Clutch Fail Count
			<u>Fail Case 3</u> Case: Steady State 3rd Gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>Gear slip</p> <p>Intrusive test: commanded 4th gear</p> <p>If attained Gear ≠ 4th for time</p> <p>If Above Conditions have been met, Increment 3rd gear fail counter</p> <p>and C1234 fail counter</p>	<p>≥ 200 RPM</p> <p>Table based Timer, Please See Table 3 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 5 For Neutral Time Cal</p> <p>Neutral Timer (Sec)</p> <p>≥ 2</p> <p>3rd Gear Fail Count or C1234 Clutch Fail Count</p>	
			<p>Fail Case 4</p> <p>Case: Steady State 4th Gear</p> <p>Gear slip</p> <p>Intrusive test: commanded 5th gear</p> <p>If attained Gear = 5th For Time</p> <p>If Above Conditions have been met, Increment 4th gear fail counter</p>	<p>≥ 200 RPM</p> <p>Table based Timer, Please See Table 3 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 5 For Neutral Time Cal</p> <p>Neutral Timer (Sec)</p> <p>≥ 2</p> <p>4th Gear Fail Count or</p>	

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
					PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (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 Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean >= 0 RPM >= 650 RPM >= 0.5005 Pct >= 8.5996 Volts <= 31.999 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status = Maximum pressurized Primary Offgoing Clutch Pressure Command Status = Clutch exhaust command Range Shift Status ≠ Initial Clutch Control Attained Gear Slip ≤ 40 RPM If the above conditions are true increment appropriate Fail 1 Timers Below:	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-6 shifting with throttle)	>= 1.200195313 sec			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail 1, and Reference Supporting Table 15 for Fail Timer 2	
			fail timer 1 (2-6 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (3-5 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (3-5 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (4-5 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (4-6 shifting without throttle)	>= 1.200195313 sec				
			If Attained Gear Slip is Less than Above Call Increment Fail Timers				>= Timer sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter</p> <p>2nd gear fail counter</p> <p>3rd gear fail counter</p> <p>4th gear fail counter</p> <p>total fail counter</p>				<p>Fail Counter From 2nd Gear</p> <p>>= 3</p> <p>Fail Counter From 3rd Gear</p> <p>>= 3</p> <p>Fail Counter From 4th Gear</p> <p>>= 3</p> <p>Total Fail Counter</p> <p>>= 5</p>	
					<p>Trans oil temperature > 0 °C</p> <p>Input Speed Sensor fault = FALSE Boolean</p> <p>Output Speed Sensor fault = FALSE Boolean</p> <p>Command / Attained Gear ≠ 1st Boolean</p> <p>High Side Driver ON = TRUE Boolean</p> <p>output speed limit for TUT >= 350 RPM</p> <p>input speed limit for TUT >= 200 RPM</p> <p>TUT Enable temperature >= 0 °C</p> <p>PRNDL state defaulted = FALSE Boolean</p> <p>IMS Fault Pending = FALSE Boolean</p> <p>Service Fast Learn Mode = FALSE Boolean</p> <p>HSD Enabled = TRUE Boolean</p>			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>	<p>TCM: P0716, P0717, P0722, P0723, P182E</p> <p>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</p>		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	<p>Fail Case 1</p> <p>Case: 5th Gear</p> <p>Max Delta Output Speed Hysteresis</p>	<p>>=</p> <p>Table Based value Please Refer to Table 17 in supporting documents</p>				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	>= Refer to Table 18 in supporting documents	rpm/sec			
			If the Above is True for Time	>= Refer to Table 19 in supporting documents	Sec			
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.209594727				
			Gear Ratio	>= 1.094360352				
			If the above parameters are true				>= 1.1	Fail Timer (Sec)
							>= 1	Fail Count in 5th Gear
							>= 3	OR Total Fail Counts
			<u>Fail Case 2</u> Case: 6th Gear					
			Max Delta Output Speed Hysteresis	>= Refer to Table 17 in supporting documents	rpm/sec			
			Min Delta Output Speed Hysteresis	>= Refer to Table 18 in supporting documents	rpm/sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time Invasive test: (CB26 clutch exhausted) Gear Ratio <= 1.209594727 Gear Ratio >= 1.094360352 If the above parameters are true	Table Based Time Please Refer to Table 19 in supporting documents >= Sec			>= 1.1 Fail Timer (Sec) >= 1 Fail Count in 6th Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean output speed >= 0 RPM TPS validity flag = TRUE Boolean HSD Enabled = TRUE Boolean Hydraulic_System_Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 Nm A OR B (A) Output speed enable >= 650 Nm (B) Accelerator Pedal enable >= 0.5005 Nm Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.999 Volts Engine Speed Lo >= 500 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.
					if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 5.0003 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			Fail Time (Sec) Sample Time (Sec) out of 0.375	One Trip
						P2729 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.999 Volt Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			Fail Time (Sec) Sample Time (Sec) out of 0.375	One Trip
						P2730 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.999 Volt Engine Speed >= 500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	One Trip
					P2763 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.999 Volt Engine Speed >= 500 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:	Test Failed This or Fault Active TCM: P0658, P0659 ECM: None		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports an high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 MPH out of 5 MPH	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P2764 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for High Side Driver Enabled	Test Failed This = Key On or Fault Active >= 8.5996 Volt <= 31.999 Volt >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error Delay timer	= TRUE Boolean >= 0.1125 sec			>= 250 Fail counts (12.25 ms loop) Out of 253 Sample Counts (12.25 ms loop)	One Trip
					Stabilization delay Power Mode Ignition Voltage Lo Ignition Voltage Hi	>= 3 sec = Run >= 8.5996 Volt <= 31.999 Volt		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Communication Message Invalid From ECM	= TRUE Boolean			>= 12 sec	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Stabilization delay Power Mode Ignition Voltage Lo Ignition Voltage Hi	>= 3 sec = Run >= 8.5996 Volt <= 31.999 Volt		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

Supporting Documents

Table 1

	Units									Units
Axis	0	64	128	192	256	320	384	448	512	N-m
Curve	50	50	50	50	50	50	50	50	50	RPM

Table 2

	Units			
Axis	-0.00781	0	40	°C
Curve	409.5938	2	2	Sec

Table 3

	Units			
Axis	-0.00781	0	40	°C
Curve	409.5938	5.5	5.5	Sec

Table 4

	Units			
Axis	-0.00781	0	40	°C
Curve	409.5938	2	2	Sec

Table 5

	Units			
Axis	-0.00781	0	40	°C
Curve	409.5938	5	5	Sec

Table 6

	Units					
Axis	-40	-0.00781	40	80	120	°C
Curve	409	409	1.6	1.4	1.4	Sec

Table 7

	Units					
Axis	-40	-0.00781	40	80	120	°C
Curve	409	409	1.4	1.3	1.2	Sec

Table 8

	Units					
Axis	-40	-0.00781	40	80	120	°C
Curve	409	409	1.6	1.5	1.4	Sec

Table 9

	Units					
Axis	-40	-0.00781	40	80	120	°C
Curve	409	409	1.3	1.2	1.1	Sec

Table 10

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

Table 11

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

Table 12

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

Table 13

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

Table 14

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

Table 15

Axis	-40	-30	-20	-10	0	10	20	30	40	Units °C
Curve	0	0	0	0	0	0	0	0	0	Sec

Table 16

Axis	-0.00781	0	40	Units °C
Curve	409.5938	1.5	1.5	Sec

Table 17

Axis	-0.00781	0	40	Units °C
Curve	8191.75	1676	1676	rpm/sec

Table 18

Axis	-0.00781	0	40	Units °C
Curve	8191.75	500	500	rpm/sec

Table 19

Axis	-0.00781	0	40	Units °C
Curve	0.4	0.35	0.3	Sec

Table 20

Axis	-40.1016	-40	-20	0	30	60	100	149	149.1016	Units °C
Curve	255.9961	50	45	40	34	35	20	20	255.9961	°C

Table 21

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

Table 22

Axis	-40.1016	-40	-20	0	30	60	100	149	149.1016	Units
Curve	255.9961	10	8	8	8	8	8	8	255.9961	°C

Table 28

Axis
Curve

Table 29

Axis
Curve

Table 30

Axis
Curve

Table 31

Axis
Curve

Table 32

Axis
Curve

Table 33

Axis
Curve

Table 34

Axis
Curve

Table 35

Axis
Curve

Table 36

Axis
Curve

Table 37

Axis
Curve

Table 38

Axis
Curve

Table 39

Axis
Curve

MY10 DTC Check List

T43 Speed Transmission

List DTC of monitor used that detects the following failure mode:

Monitor/System	OOR-low	Circuit low	OOR- high	Circuit high	open circuit	Rationality-low	Rationality-high	Other Rationality	Functional #1	Functional #2	Other Functional
Transmission Fluid Temperature Sensor	P0712	P0712	P0713	P0713	P0713	P0711	P0711	P0711	P0711		
Transmission Internal Temperature Thermistor A	P0669	P0669	P0668	P0668	P0669	P0667	P0667	P0667	P0634		
Output Speed Sensor		P0722		P0722	P0722				P0723	P0722	
Input Speed Sensor		P0717		P0717	P0717				P0716	P0717	
Transmission Fluid Pressure Switch C		P0872							P0872		
Transmission Fluid Pressure Switch D		P0877							P0877		
Pressure Control Solenoid A		P0962									
Pressure Control Solenoid B		P0966		P0967	P0967				P0776	P0777	
Pressure Control Solenoid C		P0970		P0971	P0971				P0796	P0797	
Pressure Control Solenoid D		P2721		P2720	P2721				P2714	P2715	
Pressure Control Solenoid E		P2729		P2730	P2730				P2723	P2724	
Shift Solenoid A		P0973		P0974	P0974				P0751	P0752	
Shift Solenoid B		P0976		P0977	P0977				P0756		
Transmission Torque Converter Solenoid		P2764		P2763	P2763				P0741	P0742	P1751
Controller Memory									P0601 P0603 P0604 P062F		
Actuator Supply Voltage		P0658			P0658						
Ignition 1 Voltage									P2534		
Shift Pattern Signal									P071A P071D		P1762 P1763
Tap Switch Circuit 1	P0826		P0826			P1876			P0815 P0816		P1761
Tap Switch Circuit 2	P1767		P1767						P1765 P1766		
Internal Mode Switch									P182E P1915		
Can Bus A		U0073		U0073	U0073				U0100		