

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum	= TRUE	None	MIL not Illuminated for DTC's: TCM: None ECM: None	> 5 Rom Test Fail Counter	One Trip
Transmission Control Module (TCM)	P0602	Transmission Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE	None	MIL not Illuminated for DTC's: TCM: None ECM: None		One Trip
Transmission Control Module (TCM)	P0603	Transmission Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure	= TRUE	None	MIL not Illuminated for DTC's: TCM: None ECM: None		One Trip
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	None	MIL not Illuminated for DTC's: TCM: None ECM: None	>= 5 Count	One Trip
Transmission Control Module (TCM)	P062F	Transmission Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag	= TRUE	None	MIL not Illuminated for DTC's: TCM: None ECM: None		One Trip
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0705	NSBU ABCP inputs indicate illegal position	ABCP Inputs	= 0000 or 0001			>= 60 sec	Two Trips

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					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0706	NSBU Performance	NSBU state = CeTRGR_PRN DL_Neutral or NSBU state = CeTRGR_PRN DL_Transitional 2 or NSBU state = CeTRGR_PRN DL_Transitional 11				>= 3 Sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Output speed >= 50 RPM Throttle position >= 10.001 PCT Engine Torque >= 45 Nm Engine Torque <= 1492 Nm Trans Temp >= 20 Deg C			

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					Ratio >= 1.993 Ratio Ratio <= 2.2928 Ratio PSM state = Reverse Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Engine Speed Status Valid = TRUE				
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0306, P0716, P0101, P0307, P0717, P0102, P0308, P0722, P0103, P0335, P0723, P0106, P0336, P0751, P0107, P0340, P0752, P0108, P0345, P0756, P0171, P0346, P0757, P0172, P0365, P0787, P0174, P0366, P0788, P0175, P0390, P0973, P0201, P0391, P0974, P0202, P0401, P0976, P0203, P042E P0977, P0204, P1810, P0205, P1815, P0206, P1816, P0207, P1817, P0208, P1818, P0300, P1759, P0301, P175A, P0302, P175B, P0303, P175C, P0304, P0705. P0305,			
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	<u>Fail Case 1</u> TFT Delta from Startup	<= 2 C°	Vehicle Speed >= 8 Kph Vehicle Speed Above min for >= 300 Sec TCC Slip >= 120 RPM TCC Slip above min for >= 300 Sec Transmission Fluid Temperature Lo >= -39 C°		>= 80 Fail Time (Sec)	Special No Trip	

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					Transmission Fluid Temperature High	<= 20 C°		
					Engine Coolant Temp	>= 70 C°		
					Engine Coolant Temp Delta	>= 55 C°		
			<u>Fail Case 2</u> TFT Delta from startup	< 2 C°			>= 80	Fail Time (Sec)
					Vehicle Speed	>= 8 Kph		
					Vehicle Speed Above min for	>= 300 Sec		
					TCC Slip	>= -20 RPM		
					TCC Slip above min for	>= 0 Sec		
					Transmission Fluid Temperature	>= 129 C°		
					Transmission Fluid Temperature	<= 149 C°		
					Engine Coolant Temp	>= 70 C°		
					Engine Coolant Temp Delta from startup	>= 55 C°		
			<u>Fail Case 3</u> TFT Delta	>= 20 C°			>= 14	Fail Counts (100ms loop) Sample Time (Sec)
							< 7	Time (Sec)
			<u>Fail Case 4</u> Transmission Fluid Temperature	<= 20 C°			>= Refer to Table 1	Fail Time (Sec)
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 89.999 Pct		
					Vehicle Speed Lo	>= 8 Kph		
					Vehicle Speed Hi	<= 511 Kph		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 6500 RPM		
					Engine Coolant Lo	>= -39 C°		
					Engine Coolant Hi	<= 149 C°		
					Engine Torque Signal Valid	= TRUE		

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					Throttle Position Signal Valid Engine Speed Status Valid	= TRUE = TRUE		
					P0711 Common Enable Conditions Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Ignition Voltage Engine speed Engine speed above min for Engine speed above min for Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Coolant Sensor Signal Valid	>= -39 C° <= 149 C° >= 8 V <= 18 V >= Refer to RPM Table 4 >= Refer to Sec Table 5 >= 5 Sec >= 500 RPM <= 6500 RPM >= 2 Sec = TRUE = TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0207, P0716, P0101, P0208, P0717, P0102, P0300, P0722, P0103, P0301, P0723, P0106, P0302, P0742 P0107, P0303, P0108, P0304, P0116, P0305, P0117, P0306, P0118, P0307, P0125, P0308, P0128, P0335, P0171, P0336, P0172, P0340, P0174, P0345, P0175, P0346,		

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						P0201, P0365, P0202, P0366, P0203, P0390, P0204, P0391, P0205, P0401, P0206, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48 Ω			>= 12 Fail Time (Sec)	Special No Trip
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE			
					Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to	TFT resistance	>= 97292 Ω			>= 80 Fail Time (Sec)	Special No Trip
					Output Speed >= 65.625 RPM Output Speed above min for >= 200 Sec TCC Slip speed >= 120 RPM TCC Slip Speed above min for >= 200 sec Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM			

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					Engine speed between min/max for Engine Speed Status Valid	>= 2 Sec = TRUE		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000 RPM	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed Input Speed min Input Speed above min for Positive ISS Δ Positive ISS Δ less than min for Throttle Throttle Position Signal Valid	>= 8 volts <= 18 volts >= 500 RPM <= 6500 RPM >= 2 Sec = TRUE >= 50 N*m <= 1492 N*m = TRUE >= 16 KPH > 1050 RPM >= 2 Sec < 500 RPM >= 2 Sec >= 8.0002 Pct = TRUE	>= 3.25 sec	Two Trips

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					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0717, P0101, P0301, P0722, P0102, P0302, P0723, P0103, P0303, P0752, P0106, P0304, P0973, P0107, P0305, P0974 P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	< 50 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 Kph		>= 4.5 Sec	Two Trips	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0722, P0101, P0301, P0723 P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307,		

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						P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max >= 2 Sec Engine Speed Status Valid = TRUE Engine Torque min & Range= R >= 50 N*m Engine Torque max & Range= R <= 1492 N*m Engine Torque min & Range= R >= 1492 N*m Engine Torque max & Range= R <= 1492 N*m Engine Torque Signal Valid = TRUE Throttle Position >= 8.0002 % Throttle Position Signal Valid = TRUE Input Speed >= 1500 RPM Input Speed <= 6500 RPM TCC Slip >= -20 RPM Trans Temp >= -40 C		>= 4.5 Sec	Two Trips
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0716, P0101, P0301, P0717, P0102, P0302, P0722 P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307,		

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						P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 393.5 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for = 2 Sec Engine Speed Status Valid = TRUE Range Change Timer >= 6 Sec 4WD Range Timer >= 6 Sec Input Speed Δ < 500 RPM Input Speed Δ <max for >= 2 Sec Raw Output Speed min > 327.75 RPM Raw Output Speed > min for >= 2 Sec Positive Output Speed Δ <= 163.75 RPM Positive Output Speed Δ <max for >= 2 Sec Disable Conditions: MIL not illuminated for DTC's:	TCM: ECM: P0716, P0335, P0717, P0336, P0974 P0340, P0345, P0346, P0365, P0366, P0390, P0391	>= 3.25 Sec	Two Trips

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Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM			>= 8 Sec	Two Trips
							>= 2 Count	
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 18 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 2 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Throttle Position	>= 8.0002 %		
					Throttle Position	<= 89.999 %		
					2nd Gear Ratio	>= 1.5122 Ratio		
					2nd Gear Ratio	<= 1.7397 Ratio		
					3rd Gear Ratio	>= 0.9301 Ratio		
					3rd Gear Ratio	<= 1.0699 Ratio		
					4th Gear Ratio	>= 0.6333 Ratio		
					4th Gear Ratio	<= 0.7288 Ratio		
					TFT	>= 20 C		
					TFT	<= 130 C		
					TCC Capacity	>= 64.999 %		
					TCC Capacity Timer	>= 2 sec		
					TCC Mode	= On or Lock		
					PTO Active	= FALSE		
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					If 4L80E Cmd Gear	≠ 4th		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0716, P0101, P0301, P0717, P0102, P0302, P0722, P0103, P0303, P0723, P0106, P0304, P0742, P0107, P0305,		

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						P0842, P0108, P0306, P0843, P0171, P0307, P2763, P0172, P0308, P2764, P0174, P0335, P2769, P0175, P0336, P2770 P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM			>= 6 Sec	Two Trips
			TCC Slip Speed	<= 20 RPM		= 3 Count		
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m TFT >= 20 C TFT <= 130 C Throttle Position >= 8.0002 % Throttle Position <= 89.999 % Vehicle Speed >= 16 KPH Vehicle Speed <= 511 KPH Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Gear Ratio >= 0.6333 Ratio Gear Ratio <= 1.739 Ratio Commanded Gear ≠ 1st Gear TCC Mode = Off Engine Torque Status Valid = TRUE			

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					Throttle Position Signal Valid PTO Active	= TRUE = FALSE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0716, P0101, P0301, P0717, P0102, P0302, P0722, P0103, P0303, P0723, P0106, P0304, P0741, P0107, P0305, P2762, P0108, P0306, P2763, P0171, P0307, P2764, P0172, P0308, P2769, P0174, P0335, P2770 P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P042E			
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 18 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 2 Sec		= 2 counts	
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			

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					Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE				
					Disable Conditions: MIL not illuminated for DTC's:	TCM: ECM: P0301, P0716, P0101, P0302, P0717, P0102, P0303, P0722, P0103, P0304, P0723, P0106, P0305, P0973, P0107, P0306, P0974, P0108, P0307, P0976, P0171, P0308, P0977, P0172, P0335, P1915, P0174, P0336, P182A, P0175, P0340, P182C, P0201, P0345, P182D, P0202, P0346, P182E, P0203, P0365, P182F, P0204, P0366, P0741, P0205, P0390, P0742, P0206, P0391, P2763, P0207, P0401, P2764, P0208, P042E, P2769, P0300, P2770			
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	Fail Case 1	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts		

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					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0301, P0716, P0101, P0302, P0717, P0102, P0303, P0722, P0103, P0304, P0723, P0106, P0304, P0973, P0107, P0305, P0974, P0108, P0306, P0976, P0171, P0307, P0977, P0172, P0308, P1915, P0174, P0335, P182A, P0175, P0336, P182C, P0201, P0340, P182D, P0202, P0345, P182E, P0203, P0346, P182F, P0204, P0365, P0741, P0205, P0366, P0742, P0206, P0390, P2763, P0207, P0391, P2764, P0208, P0401, P2769, P0300, P042E P2770		

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Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	= 2 counts			
				Disable Conditions: MIL not Illuminated for DTC's: TCM: ECM: P0302, P0716, P0101, P0303, P0717, P0102, P0304, P0722, P0103, P0305, P0723, P0106, P0306, P0973, P0107, P0307, P0974, P0108, P0308, P0976, P0171, P0335, P0977, P0172, P0336, P1915, P0174, P0340,					

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						P182A, P0175, P0345, P182C, P0201, P0346, P182D, P0202, P0365, P182E, P0203, P0366, P182F, P0204, P0390, P0741, P0205, P0391, P0742, P0206, P0401, P2763, P0207, P042E, P2764, P0208, P2769, P0300, P2770 P0301,			
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	<u>Fail Case 1</u>	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts		
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 18 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 2 Sec			
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			
					4WD Range Timer	>= 6 Sec			
					Range Change Timer	>= 6 Sec			
					PTO Active	= FALSE			
					Trans Temp	>= 20 C			
					Trans Temp	<= 130 C			
					Engine Torque Signal Valid	= TRUE			
					Throttle Position Signal Valid	= TRUE			

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				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0302, P0716, P0101, P0303, P0717, P0102, P0304, P0722, P0103, P0305, P0723, P0106, P0306, P0973, P0107, P0307, P0974, P0108, P0308, P0976, P0171, P0335, P0977, P0172, P0336, P1915, P0174, P0340, P182A, P0175, P0345, P182C, P0201, P0346, P182D, P0202, P0365, P182E, P0203, P0366, P182F, P0204, P0390, P0741, P0205, P0391, P0742, P0206, P0401, P2763, P0207, P042E P2764, P0208, P2769, P0300, P2770 P0301,		
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	=	Closed		>= 8 Sec	Two Trips
							>= 2 count	
						Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec TFT >= 20 C TFT <= 130 C Vehicle Speed >= 16 KPH Vehicle Speed <= 511.99 KPH Engine Torque >= 50 Nm Engine Torque <= 1492 Nm TCC Slip >= 100 RPM TCC Mde = OFF Torque Validity Flag = Valid Engine Speed Status Valid = TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not illuminated for DTC's:	TCM: ECM: P0716, P0101, P0300, P0717, P0102, P0301, P0741, P0103, P0302, P0742, P0106, P0303, P0843, P0107, P0304, P0894, P0108, P0305, P2763, P0171, P0306, P2764, P0172, P0307, P2769, P0174, P0308, P2770 P0175, P0335, P0201, P0336, P0202, P0340, P0203, P0345, P0204, P0346, P0205, P0365, P0206, P0366, P0207, P0390, P0208, P0391, P0401, P042E		
Transmission Fluid Pressure Switch	P0843	TCC release switch circuit high voltage	TCC release switch state	=	Open		>= 6 Sec	Two Trips
						>= 2 count		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 2 Sec		
					TFT	>= 20 C		
					TFT	<= 130 C		
					TCC Pressure	>= 90 Kpa		
					TCC Pressure	<= 830 Kpa		
					Engine Torque	>= 50 Nm		
					Engine Torque	<= 1492 Nm		
					TCC Slip	>= -20 RPM		
					TCC Slip	<= 60 RPM		
					TCC Mde	= On or Lock		
					Engine Torque Status Valid	= TRUE		
					Engine Speed Status Valid	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0301, P0716, P0101, P0302, P0717, P0102, P0303, P0741, P0103, P0304, P0742, P0106, P0305, P0843, P0107, P0306, P0894, P0108, P0307, P2763, P0171, P0308, P2764, P0172, P0335, P2769, P0174, P0336, P2770 P0175, P0340, P0201, P0345, P0202, P0346, P0203, P0365, P0204, P0366, P0205, P0390, P0206, P0391, P0207, P0401, P0208, P042E P0300,			
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips
							Out of 50	Sample Counts (100ms)	
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE	Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: None P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			Fail Count (100ms loop)	Two Trips	
							>= 44		
							Out of 50 Sample Counts (100ms)		
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE				
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Shift Solenoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			Fail Count (100ms loop)	One Trip	
							>= 44		
							Out of 50 Sample Counts (100ms)		
						Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Engine Speed Status Valid	= TRUE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Shift Solenoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44	Fail Count (100ms loop)	One Trip
							Out of 50	Sample Counts (100ms)	
						Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch (TFP)	P1810	TFP state is illegal	TFP Illegal (switch B & C low)	= TRUE			>= 5 Sec	Two Trips
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P1815	Transmission Range Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE			>= 0 sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch (TFP)	P1816	TFP indicates Park or Neutral (P/N) with drive ratio	TFP indication	= P/N			>= 12 Sec	Two Trips
			1st gear ratio low	>= 2.752807617 Ratio				
			1st gear ratio High	<= 3.167236328 Ratio				
			2nd gear ratio low	>= 1.512207031 Ratio				
			2nd gear ratio High	<= 1.739746094 Ratio				
			3rd gear ratio low	>= 0.930053711 Ratio				
			3rd gear ratio High	<= 1.069946289 Ratio				
			4th gear ratio low	>= 0.633300781 Ratio				
			4th gear ratio High	<= 0.728637695 Ratio				
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 18 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 2 Sec		
					Output speed	>= 82 RPM		
					Throttle position	>= 8.0002 PCT		
					Engine Torque	>= 50 Nm		
					Engine Torque	<= 1492 Nm		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					Engine Speed Status Valid	= TRUE		
					PTO Active	= FALSE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0300, P0716, P0101, P0301, P0717, P0102, P0302, P0722, P0103, P0303, P0723, P0106, P0304, P0751, P0107, P0305, P0752, P0108, P0306, P0756, P0171, P0307, P0757, P0172, P0308, P0787, P0174, P0335, P0788, P0175, P0336, P0973, P0201, P0340, P0974, P0202, P0345, P0976, P0203, P0346, P0977, P0204, P0365, P1810, P0205, P0366,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P1817, P0206, P0390, P1818 P0207, P0391, P0208, P0401, P042E		
Transmission Fluid Pressure Switch (TFP)	P1818	TFP indicates Park or Neutral (P/N) with reverse ratio	TFP indication = P/N Ratio >= 1.993041992 Ratio Ratio <= 2.29284668 Ratio				>= 3 Sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Output speed >= 50 RPM Throttle position >= 10.001 PCT Engine Torque >= 45 Nm Engine Torque <= 1492 Nm Trans Temp >= 20 Deg C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Engine Speed Status Valid = TRUE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0301, P0716, P0101, P0302, P0717, P0102, P0303, P0722, P0103, P0304, P0723, P0106, P0305, P0751, P0107, P0306, P0752, P0108, P0307, P0756, P0171, P0308, P0757, P0172, P0335, P0787, P0174, P0336, P0788, P0175, P0340, P0973, P0201, P0345, P0974, P0202, P0346, P0976, P0203, P0365, P0977, P0204, P0366, P1810, P0205, P0390, P1815, P0206, P0391, P1816, P0207, P0401, P1817, P0208, P042E P1825. P0300,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200	One Trip	
							Out of 220		Fail Count (25ms loop) Sample Count (25ms loop)
					Engine running state from ECM Power Mode	= Running = Acc or Run			
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: None ECM: None			
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			>= 44	Two Trips	
							Out of 50		Fail Count (100ms loop) Sample Counts (100ms loop)
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE TCC PWM command = ON				
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0346, P0365, P0366, P0390, P0391			
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips
							Out of 50	Sample Counts (100ms loop)	
							Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 2 Sec Engine Speed Status Valid = TRUE TCC PWM command = OFF Disable Conditions: MIL not illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE Boolean			>= 5	Fail Count (1000ms loop)	Two Trips
						Out of 5	Sample Counts (1000ms loop)		
					Ignition On				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Comm. Message Invalid Between ECU and TCM	= TRUE Boolean			>= 12 Fail Count (1000ms loop) Out of 12 Sample Counts (1000ms loop)	Two Trips
					Ignition Voltage Lo >= 11 Volt Ignition Voltage Hi <= 18 Volt Power Mode = Run	Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0073 ECM: None	

Supporting Tables

Table 1

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

Table 2

Axis	0	6.248474	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	Units PCT
Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Kpa

Table 3

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

Table 4

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

Table 5

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	<u>Fail Case 1</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 0 Boolean				Special No Trip
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 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				
			TUTD Up Input	= TRUE		>= 0 Sec		
			<u>Fail Case 2</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 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				
			TUTD Up Input	= TRUE		>= 0 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<u>Fail Case 2</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled Tap Down Switch Stuck in the Down Position in Gear 2 Enabled Tap Down Switch Stuck in the Down Position in Gear 3 Enabled Tap Down Switch Stuck in the Down Position in Gear 4 Enabled Tap Down Switch Stuck in the Down Position in Neutral Enabled Tap Down Switch Stuck in the Down Position in Park Enabled Tap Down Switch Stuck in the Down Position in Reverse Enabled TUTD Down Input	= 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = TRUE				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0826, P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	>= 0 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD/MUMD switch voltage invalid	= TRUE	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Disable Conditions: MIL not illuminated for DTC's:	TCM: P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	>= 0 Sec	Special No Trip
Tap Up Tap Down Enable Switch (TUTD)	P1876	Tap Up and Down Enable Switch Closed	TUTD enable switch Trans Range	= Closed ≠ CeTRGR_PRN DL_Drive3	Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Disable Conditions: MIL not illuminated for DTC's:	TCM: P0705, P0815, P0816, P0826, P1761, ECM: P0335, P0336, P0340, P0345, P0346,	>= 0 Sec >= 0 Count	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P1810, P0365, P1816, P0366, P1817, P0390, P1818, P0391 P182A, P182C, P182D, P182E, P182F, P1877, P1915, U0100			
Tap Up Tap Down Enable Switch (TUTD)	P1877	Tap Up and Down Enable Switch Open	TUTD enable switch	=	Open			>= 0 Sec	Special No Trip
			Trans Range	=	CeTRGR_PRN DL_Drive3			>= 0 Count	
							Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Disable Conditions: MIL not Illuminated for DTC's:		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175A	NSBU-Circuit A Low	NSBU circuit A low	= TRUE			>= 0 sec	Two Trips
							>= 0 count	
					Engine Torque >= 0 N*m Engine Torque <= 0 N*m Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque Signal Valid = TRUE Range = Park for >= 0 sec Disable MIL not Illuminated for DTC's: TCM: None Conditions: ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E			
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175B	NSBU-Circuit B High	NSBU circuit B High	= TRUE			>= 0 sec	Two Trips
							>= 0 count	
					Engine Torque >= 0 N*m			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque <= 0 N*m Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque Signal Valid = TRUE Range = Park for >= 0 sec Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E			
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175C	NSBU-Circuit C High	NSBU circuit C High = TRUE				>= 0 sec >= 0 count	Two Trips
					Engine Torque >= 0 N*m Engine Torque Signal Valid = TRUE Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Vehicle Speed >= 0 kph			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					1st gear ratio low 1st gear ratio High 2nd gear ratio low 2nd gear ratio High 3rd gear ratio low 3rd gear ratio High 4th gear ratio low 4th gear ratio High	>= 2.7528 Ratio <= 3.1672 Ratio >= 1.5122 Ratio <= 1.7397 Ratio >= 0.9301 Ratio <= 1.0699 Ratio >= 0.6333 Ratio <= 0.7286 Ratio		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0722, P0723 ECM: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204 P042E		
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P1759	NSBU-Circuit P Low	NSBU circuit P Low =	TRUE			>= 0 sec >= 0 count	Two Trips
					Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Signal Valid	>= 0 N*m <= 0 N*m >= 8 volts <= 18 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Range = Park for Disable Conditions:	>= 0 sec TCM: None ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 KPH Input Speed min > 1050 RPM Input Speed above min for >= 2 Sec Positive ISS Δ < 500 RPM Positive ISS Δ less than min for >= 2 Sec Throttle >= 8.0002 Pct Throttle Position Signal Valid = TRUE	TCM: P0717, P0722, P0723, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203,	>= 3.25 sec	Two Trips
					Disable MIL not Illuminated for DTC's: Conditions:			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	< 50 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 Kph Disable MIL not Illuminated for DTC's: Conditions: TCM: P0722, P0723	>= 4.5 Sec	Two Trips	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm	Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM	>= 4.5 Sec	Two Trips	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for Engine Speed Status Valid Engine Torque min & Range= R or D Engine Torque max & Range= R or D Engine Torque min & Range= P/N Engine Torque max & Range= P/N Engine Torque Signal Valid Throttle Position Throttle Position Signal Valid Input Speed Input Speed TCC Slip Trans Temp	>= 5 Sec = TRUE >= 50 N*m <= 1492 N*m >= 1492 N*m <= 1492 N*m = TRUE >= 8.0002 % = TRUE >= 1500 RPM <= 6500 RPM >= -20 RPM >= -40 C		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 420 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Range Change Timer >= 6 Sec 4WD Range Timer >= 6 Sec Input Speed Δ < 500 RPM Input Speed Δ <max for >= 2 Sec Raw Output Speed min > 350 RPM Raw Output Speed > min for >= 2 Sec Positive Output Speed Δ <= 175 RPM Positive Output Speed Δ <max for >= 2 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P0716, P0717, P0974 ECM: P0335,	>= 3.25 Sec	Two Trips	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM			>= 8 Sec	Two Trips
							>= 2 Count	
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Throttle Position	>= 8.0002 %		
					Throttle Position	<= 89.999 %		
					2nd Gear Ratio	>= 1.458 Ratio		
					2nd Gear Ratio	<= 1.678 Ratio		
					3rd Gear Ratio	>= 0.9301 Ratio		
					3rd Gear Ratio	<= 1.0699 Ratio		
					4th Gear Ratio	>= 0.656 Ratio		
					4th Gear Ratio	<= 0.754 Ratio		
					TFT	>= 20 C		
					TFT	<= 130 C		
					TCC Capacity	>= 64.999 %		
					TCC Capacity Timer	>= 2 sec		
					TCC Mode	= On or Lock		
					PTO Active	= FALSE		
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					If 4L80E Cmd Gear Disable MIL not Illuminated for DTC's: Conditions:	≠ 4th TCM: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0365, P0366, P0390, P0391, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM			>= 6 Sec	Two Trips
			TCC Slip Speed	<= 20 RPM		= 3 Count		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					TFT	>= 20 C		
					TFT	<= 130 C		
					Throttle Position	>= 8.0002 %		
					Throttle Position	<= 89.999 %		
					Vehicle Speed	>= 16 KPH		
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Gear Ratio	>= 0.656 Ratio		
					Gear Ratio	<= 1.678 Ratio		
					Commanded Gear	≠ 1st Gear		
					TCC Mode	= Off		
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					PTO Active	= FALSE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0723, P0741, P2762, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts		
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 31.999 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 5 Sec			
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			
					4WD Range Timer	>= 6 Sec			
					Range Change Timer	>= 6 Sec			
					PTO Active	= FALSE			
					Trans Temp	>= 20 C			
					Trans Temp	<= 130 C			
					Engine Torque Signal Valid	= TRUE			
					Throttle Position Signal Valid	= TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0391, P0401, P042E			
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	<u>Fail Case 1</u>	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts		
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 31.999 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 5 Sec			
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			
					4WD Range Timer	>= 6 Sec			
					Range Change Timer	>= 6 Sec			
					PTO Active	= FALSE			
					Trans Temp	>= 20 C			
					Trans Temp	<= 130 C			
					Engine Torque Signal Valid	= TRUE			
					Throttle Position Signal Valid	= TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	= 2 counts			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	<u>Fail Case 1</u>	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
							= 2 counts		
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 31.999 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 5 Sec			
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			
					4WD Range Timer	>= 6 Sec			
					Range Change Timer	>= 6 Sec			
					PTO Active	= FALSE			
					Trans Temp	>= 20 C			
					Trans Temp	<= 130 C			
					Engine Torque Signal Valid	= TRUE			
					Throttle Position Signal Valid	= TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	<u>Fail Case 1</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled Tap Up Switch Stuck in the Up Position in Gear 2 Enabled Tap Up Switch Stuck in the Up Position in Gear 3 Enabled Tap Up Switch Stuck in the Up Position in Gear 4 Enabled Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch Stuck in the Up Position in Reverse Enabled TUTD Up Input	= 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean = TRUE			>= 0 Sec	Special No Trip
			<u>Fail Case 2</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled Tap Up Switch Stuck in the Up Position in Gear 2 Enabled Tap Up Switch Stuck in the Up Position in Gear 3 Enabled Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 Boolean = 0 Boolean = 0 Boolean = 0 Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch Stuck in the Up Position in Reverse Enabled TUTD Up Input	= 0 Boolean = 0 Boolean = 0 Boolean = TRUE			>= 0 Sec	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0826, P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	<u>Fail Case 1</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled Tap Down Switch Stuck in the Down Position in Gear 2 Enabled Tap Down Switch Stuck in the Down Position in Gear 3 Enabled Tap Down Switch Stuck in the Down Position in Gear 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 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				
			TUTD Down Input	= TRUE			>= 0 Sec	
			<u>Fail Case 2</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0 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				
			TUTD Down Input	= TRUE			>= 0 Sec	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		

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: P0826, P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD/MUMD switch voltage invalid	= TRUE	Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE	Disable Conditions: MIL not illuminated for DTC's: TCM: P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	>= 0 Sec	Special No Trip
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed	Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec		>= 10 Sec >= 2 count	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TFT	>= 20 C		
					TFT	<= 130 C		
					Vehicle Speed	>= 16 KPH		
					Vehicle Speed	<= 511 KPH		
					Engine Torque	>= 50 Nm		
					Engine Torque	<= 1492 Nm		
					TCC Slip	>= 100 RPM		
					TCC Mde	= OFF		
					Torque Validity Flag	= Valid		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P0894, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch	P0843	TCC release switch circuit high voltage	TCC release switch state	=	Open		>= 6 Sec	Two Trips
						>= 2 count		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					TFT	>= 20 C		
					TFT	<= 130 C		
					TCC Pressure	>= 125 Kpa		
					TCC Pressure	<= 830 Kpa		
					Engine Torque	>= 50 Nm		
					Engine Torque	<= 1492 Nm		
					TCC Slip	>= -20 RPM		
					TCC Slip	<= 60 RPM		
					TCC Mde	= On or Lock		
					Engine Torque Status Valid	= TRUE		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P0894,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	= TRUE			>= 8 sec >= 1 count	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Signal Valid Range = Park for	>= 50 N*m <= 1492 N*m >= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = TRUE >= 1 sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Signal Valid Range = Park for	>= 50 N*m <= 1492 N*m >= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = TRUE >= 1 sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE			>= 8 sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE	Disable MIL not Illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE			>= 8 sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 1 count	
					Engine Torque	>= 50 N*m		
					Engine Torque Signal Valid	= TRUE		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Vehicle Speed	>= 16 kph		
					1st gear ratio low	>= 2.717 Ratio		
					1st gear ratio High	<= 3.125 Ratio		
					2nd gear ratio low	>= 1.458 Ratio		
					2nd gear ratio High	<= 1.678 Ratio		
					3rd gear ratio low	>= 0.9301 Ratio		
					3rd gear ratio High	<= 1.0699 Ratio		
					4th gear ratio low	>= 0.656 Ratio		
					4th gear ratio High	<= 0.754 Ratio		
				Disable Conditions:	MIL not illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0306, P0307, P0308, P0401, P042E		
Internal Mode Switch (IMS)	P1915	Internal Mode Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE TRUE			>= 2 sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 31.999 volts Engine Speed >= 560 RPM Power Mode = Crank Crank request <= 409 Sec			
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Out of 220	One Trip
					Engine running state from ECM = Running Power Mode = Acc or Run			
						TCM: None ECM: None		

Supporting Tables

Table 1

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

Table 2

Axis	0	6.24847412	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	Units PCT
Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Kpa

Table 3

Axis	0	64	128	192	256	320	384	448	512	Units Nm
Curve	125	125	125	125	125	125	125	125	125	RPM

Table 4

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

Table 5

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	<u>Fail Case 1</u> TFT Delta from Startup	<= 2 C°	Vehicle Speed >= 8 Kph Vehicle Speed Above min for >= 300 Sec TCC Slip >= 120 RPM TCC Slip above min for >= 300 Sec Transmission Fluid Temperature Lo >= -39 C° Transmission Fluid Temperature High <= 20 C° Engine Coolant Temp >= 70 C° Engine Coolant Temp Delta >= 55 C°		>= 80 Fail Time (Sec)	Special No Trip
			<u>Fail Case 2</u> TFT Delta from startup	< 2 C°	Vehicle Speed >= 8 Kph Vehicle Speed Above min for >= 300 Sec TCC Slip >= -20 RPM TCC Slip above min for >= 0 Sec Transmission Fluid Temperature >= 129 C° Transmission Fluid Temperature <= 149 C° Engine Coolant Temp >= 70 C° Engine Coolant Temp Delta from startup >= 55 C°		>= 80 Fail Time (Sec)	
			<u>Fail Case 3</u> TFT Delta	>= 20 C°			>= 14 Fail Counts (100ms loop) < 7 Sample Time (Sec)	
			<u>Fail Case 4</u> Transmission Fluid Temperature	<= 20 C°	Engine Torque Lo >= 50 N*m Engine Torque Hi <= 1492 N*m	>= Refer to Table 1 Fail Time (Sec)		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position Lo	>= 2.0004 Pct		
					Throttle Position Hi	<= 89.999 Pct		
					Vehicle Speed Lo	>= 8 Kph		
					Vehicle Speed Hi	<= 511 Kph		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 6500 RPM		
					Engine Coolant Lo	>= -39 C°		
					Engine Coolant Hi	<= 149 C°		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					Engine Speed Status Valid	= TRUE		
					P0711 Common Enable Conditions			
					Transmission Fluid Temperature Lo	>= -39 C°		
					Transmission Fluid Temperature Hi	<= 149 C°		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 18 V		
					Engine speed	Refer to Table 4 RPM		
					Engine speed above min for	Refer to Table 5 Sec		
					Engine speed above min for	>= 5 Sec		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Coolant Sensor Signal Valid	= TRUE Boolean		

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: P0204, P0716, P0205, P0717, P0206, P0722, P0207, P0723, P0208, P0742, P0300, ECM: P0301, P0101, P0302, P0102, P0303, P0103, P0304, P0106, P0305, P0107, P0306, P0108, P0307, P0116, P0308, P0117, P0335, P0118, P0336, P0125, P0340, P0128, P0345, P0171, P0346, P0172, P0365, P0174, P0366, P0175, P0390, P0201, P0391, P0202, P0401, P0203, P042E		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 KPH Input Speed min > 1050 RPM Input Speed above min for >= 2 Sec Positive ISS Δ < 500 RPM		>= 3.25 sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Positive ISS Δ less than min for Throttle Throttle Position Signal Valid Disable Conditions: MIL not Illuminated for DTC's:	>= 2 Sec >= 8.0002 Pct = TRUE TCM: ECM: P0301, P0717, P0101, P0302, P0722, P0102, P0303, P0723, P0103, P0304, P0752, P0106, P0305, P0973, P0107, P0306, P0974 P0108, P0307, P0171, P0308, P0172, P0335, P0174, P0336, P0175, P0340, P0201, P0345, P0202, P0346, P0203, P0365, P0204, P0366, P0205, P0390, P0206, P0391, P0207, P0401, P0208, P042E P0300,		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed <	50 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 Kph		>= 4.5 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque min & Range= R or D >= 50 N*m Engine Torque max & Range= R or D <= 1492 N*m Engine Torque min & Range= P/N >= 1492 N*m Engine Torque max & Range= P/N <= 1492 N*m Engine Torque Signal Valid = TRUE Throttle Position >= 8.0002 %	>= 4.5 Sec	Two Trips	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position Signal Valid Input Speed Input Speed TCC Slip Trans Temp	= TRUE >= 1500 RPM <= 6500 RPM >= -20 RPM >= -40 C		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722 ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 385.75 RPM	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Range Change Timer	>= 8 volts <= 18 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 6 Sec	>= 3.25 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					4WD Range Timer >= 6 Sec Input Speed Δ < 500 RPM Input Speed Δ <max for >= 2 Sec Raw Output Speed min > 321.5 RPM Raw Output Speed > min for >= 2 Sec Positive Output Speed Δ <= 160.75 RPM Positive Output Speed Δ <max for >= 2 Sec			
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0716, P0717, P0974 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM			>= 8 Sec >= 2 Count	Two Trips
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Throttle Position >= 2.0004 %			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position 2nd Gear Ratio 2nd Gear Ratio 3rd Gear Ratio 3rd Gear Ratio 4th Gear Ratio 4th Gear Ratio TFT TFT TCC Capacity TCC Capacity Timer TCC Mode PTO Active Engine Torque Status Valid Throttle Position Signal Valid If 4L80E Cmd Gear	<= 89.999 % >= 1.5157 Ratio <= 1.7441 Ratio >= 0.9301 Ratio <= 1.0699 Ratio >= 0.6324 Ratio <= 0.7275 Ratio >= 20 C <= 130 C >= 64.999 % >= 2 sec = On or Lock = FALSE = TRUE = TRUE ≠ 4th		
					Disable Conditions:	MIL not Illuminated for DTC's:		
						TCM: ECM: P0716, P0101, P0301, P0717, P0102, P0302, P0722, P0103, P0303, P0723, P0106, P0304, P0742, P0107, P0305, P0842, P0108, P0306, P0843, P0171, P0307, P2763, P0172, P0308, P2764, P0174, P0335, P2769, P0175, P0336, P2770, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM			>= 4 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			TCC Slip Speed	<= 20 RPM			= 4 Count	
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 18 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					TFT	>= 20 C		
					TFT	<= 130 C		
					Throttle Position	>= 8.0002 %		
					Throttle Position	<= 89.999 %		
					Vehicle Speed	>= 16 KPH		
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Gear Ratio	>= 0.6324 Ratio		
					Gear Ratio	<= 1.0699 Ratio		
					Commanded Gear	≠ 1st Gear		
					TCC Mode	= Off		
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					PTO Active	= FALSE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E			
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 18 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 5 Sec		= 2 counts	
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, ECM: P0301, P0717, P0101, P042E, P0722, P0102, P0302, P0723, P0103, P0303, P0973, P0106, P0304, P0974, P0107, P0305, P0976, P0108, P0306, P0977, P0171, P0307, P1915, P0172, P0308, P182A, P0174, P0335, P182C, P0175, P0336, P182D, P0201, P0340, P182E, P0202, P0345, P182F, P0203, P0346, P0741, P0204, P0365, P0742, P0205, P0366, P2763, P0206, P0390, P2764, P0207, P0391, P2769, P0208, P0401, P2770 P0300,		
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	<u>Fail Case 1</u> 2nd gear low ratio multiplier >= 0.949951172 Pct 2nd gear high ratio multiplier <= 1.050048828 Pct <u>Fail Case 2</u> 3rd gear low ratio multiplier >= 0.949951172 Pct 3rd gear high ratio multiplier <= 1.050048828 Pct				= 2 Sec = 2 Sec = 2 counts	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts 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 <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, ECM: P0717, P0101, P0722, P0102, P0301, P0723, P0103, P0302, P0973, P0106, P0303, P0974, P0107, P0304, P0976, P0108, P0305, P0977, P0171, P0306, P1915, P0172, P0307, P182A, P0174, P0308, P182C, P0175, P0335, P182D, P0201, P0336, P182E, P0202, P0340, P182F, P0203, P0345, P0741, P0204, P0346, P0742, P0205, P0365, P2763, P0206, P0366, P2764, P0207, P0390, P2769, P0208, P0391, P2770 P0300, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	<u>Fail Case 1</u>	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			<u>Fail Case 2</u>	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
						= 2 counts			
					Ignition Voltage	>= 8 volts			
					Ignition Voltage	<= 18 volts			
					Engine Speed	>= 500 RPM			
					Engine Speed	<= 6500 RPM			
					Engine speed between min/max for	>= 5 Sec			
					Engine Speed Status Valid	= TRUE			
					Gear Slip	>= 150 RPM			
					Gear Slip Fail Time	>= 0.5 Sec			
					Throttle	>= 8.0002 Pct			
					Engine Torque	>= 50 N*m			
					Output Speed	>= 50 RPM			
					Input Speed	>= 50 RPM			
					4WD Range Timer	>= 6 Sec			
					Range Change Timer	>= 6 Sec			
					PTO Active	= FALSE			
					Trans Temp	>= 20 C			
					Trans Temp	<= 130 C			
					Engine Torque Signal Valid	= TRUE			
					Throttle Position Signal Valid	= TRUE			
				Disable Conditions:	MIL not illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977,	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P1915, P0172, P0303, P182A, P0174, P0304, P182C, P0175, P0305, P182D, P0201, P0306, P182E, P0202, P0307, P182F, P0203, P0308, P0741, P0204, P0335, P0742, P0205, P0336, P2763, P0206, P0340, P2764, P0207, P0345, P2769, P0208, P0346, P2770 P0300, P0365, P0301, P0366, P0302, P0390, P0391, P0401, P042E			
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail Case 1	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE	= 2 counts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Disable MIL not Illuminated for DTC's: TCM: Conditions: P0716, ECM: P0301, P0717, P0101, P0302, P0722, P0102, P0303, P0723, P0103, P0304, P0973, P0106, P0305, P0974, P0107, P0306, P0976, P0108, P0307, P0977, P0171, P0308, P1915, P0172, P0335, P182A, P0174, P0336, P182C, P0175, P0340, P182D, P0201, P0345, P182E, P0202, P0346, P182F, P0203, P0365, P0741, P0204, P0366, P0742, P0205, P0390, P2763, P0206, P0391, P2764, P0207, P0401, P2769, P0208, P042E, P2770, P0300,			
Internal Mode Switch (IMS)	P182A	Internal Mode Switch-Circuit A	IMS circuit A low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque Signal Valid = TRUE Range = Park for >= 1 sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: None P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	= TRUE			>= 8 sec >= 1 count	Two Trips	
					Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque Signal Valid = TRUE Range = Park for >= 1 sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not illuminated for DTC's: TCM: None ECM: P0101, P0302, P0102, P0303, P0103, P0304, P0106, P0305, P0107, P0306, P0108, P0307, P0171, P0308, P0172, P0335, P0174, P0336, P0175, P0340, P0201, P0345, P0202, P0346, P0203, P0365, P0204, P0366, P0205, P0390, P0206, P0391, P0207, P0401, P0208, P042E P0300, P0301,		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 18 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0201, P0340, P0202, P0345, P0203, P0346, P0204, P0365, P0205, P0366, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE			>= 8 sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE	Disable Conditions: MIL not Illuminated for DTC's:		
						TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE			>= 8 sec	Two Trips	
							>= 1 count		
					Engine Torque >= 50 N*m Engine Torque Signal Valid = TRUE Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Vehicle Speed >= 16 kph 1st gear ratio low >= 2.7528 Ratio 1st gear ratio High <= 3.1672 Ratio 2nd gear ratio low >= 1.5157 Ratio 2nd gear ratio High <= 1.7441 Ratio 3rd gear ratio low >= 0.9301 Ratio 3rd gear ratio High <= 1.0699 Ratio 4th gear ratio low >= 0.6324 Ratio 4th gear ratio High <= 0.7275 Ratio				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0102, P0206, P0103, P0207, P0106, P0208, P0107, P0300, P0108, P0301, P0171, P0302, P0172, P0303, P0174, P0304, P0175, P0305, P0201, P0306, P0202, P0307, P0203, P0308, P0204, P0401, P0205, P042E			
Internal Mode Switch (IMS)	P1915	Internal Mode Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE TRUE			>= 2 sec	Two Trips	
					Ignition Voltage >= 8 volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Engine Speed Power Mode Crank request	<= 18 volts >= 560 RPM = Crank <= 409.59 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Supporting Tables

Table 1

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

Table 2

Axis	0	6.24847412	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	Units PCT
Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Kpa

Table 3

Axis	0	64	128	192	256	320	384	448	512	Units Nm
Curve	125	125	125	125	125	125	125	125	125	RPM

Table 4

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

Table 5

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
TCM Internal Test	P0601	Error in Flash Memory	Rom Test Fail Counter	>= 5 Counts	Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts	>= 5 Counts	one trip
					Disabling Conditions - MIL not Illuminated for DTCs:			
TCM Internal Test	P0603	Error in RAM copy of NVM @ power up	Non-volatile memory (static or dynamic) checksum failure	= TRUE	Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		one trip
					Disabling Conditions - MIL not Illuminated for DTCs:			
TCM Internal Test	P0604	Test the read/write capability of each RAM location	Transmission Electro-Hydraulic Control Module Random Access Memory	= TRUE	Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		one trip
					Disabling Conditions - MIL not Illuminated for DTCs:			
TCM Internal Test	P062F	Error in RAM copy of NVM @ power down	TCM Non-Volatile Memory bit Incorrect flag	= TRUE	Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		one trip
					Disabling Conditions - MIL not Illuminated for DTCs:			
Transmission Fluid Temperature	P0711	Range/Performance	Fail Case 1 TFT TFT Engine Coolant Temp	>= -40 C <= 20 C >= 70 C	Ignition Voltage Ignition Voltage Engine Speed	>= 11 Volts <= 18 Volts >= 500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Engine Coolant Temp Delta TFT Delta from startup	≥ 65 C < 2 C	Engine Speed TFT Startup TFT Startup	≤ 7500 RPM ≥ -40 C ≤ 20 C	≥ 100 Sec	N/A Special
			Fail Case 2 Vehicle Speed TCC Slip TFT TFT Engine Coolant Temp Engine Coolant Temp Delta TFT Delta from startup	≥ 8 Kph ≥ 150 RPM ≥ 129 C ≤ 150 C ≥ 70 C ≥ 55 C < 2 C	Ignition Voltage Ignition Voltage Engine Speed Engine Speed TFT Startup TFT Startup	≥ 11 Volts ≤ 18 Volts ≥ 500 RPM ≤ 7500 RPM ≥ 129 C ≤ 150 C	≥ 100 Sec	
			Fail Case 3 TFT Delta from startup Fail Time Fail Case 4 TFT (For Calibratable Amount of Time)	≥ 20 C = 7 Sec ≤ 20 C	None Engine Speed Engine Speed Engine Coolant Engine Coolant Vehicle Speed Vehicle Speed Engine Torque Engine Torque Throttle Position Throttle Position	 ≥ 500 RPM ≤ 6500 RPM ≥ -39 C ≤ 149 C ≥ 8 Kph ≤ 511 Kph ≥ 50 N*m ≤ 1492 N*m ≥ 8 % ≤ 100 %	$= 5$ Sec	
Disabling Conditions - MIL not Illuminated for DTCs:						P0711, P0716, P0717, P0722, P0723		
Transmission	P0712	Circuit - Low Input (High Temperature)	Transmission Fluid Temperature Fail Time	≤ 46.18 Ohms ≥ 10 Sec	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	≥ 450 RPM ≤ 6800 RPM ≥ 11 Volts ≤ 18 Volts		N/A Special
Disabling Conditions - MIL not Illuminated for DTCs:						None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature	P0713	Circuit - High Input (Low Temperature)	Transmission Fluid Temperature Fail Time	>= 111.605 k Ohms >= 25 Sec	Engine Speed Engine Speed Output Speed Slip Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 200 RPM >= 120 RPM >= 11 Volts <= 18 Volts	= 5 Sec = 200 Sec = 200 Sec	N/A Special
Disabling Conditions - MIL not Illuminated for DTCs:						None		
Input Speed Sensor	P0716	Signal - Performance Drop	Input Speed Sensor Delta Drop Fail Time	>= 1000 RPM >= 4 Sec	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Vehicle Speed Input Speed Sensor Throttle Position Input Speed Sensor Delta Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 16 Kph > 1050 RPM >= 12 % <= 500 RPM >= 50 N*m <= 450 N*m	= 5 Sec >= 2 Sec >= 2 Sec	two trips
Disabling Conditions - MIL not Illuminated for DTCs:						P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, Engine Torque Valid		
Input Speed Sensor	P0717	Signal - Low Input	Input Speed Sensor Fail Time	< 100 RPM >= 5 Sec	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Vehicle Speed Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 16 Kph >= 50 N*m <= 450 N*m	= 5 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disabling Conditions - MIL not Illuminated for DTCs: P0717, P0722, P0723, Engine Torque Valid				
Output Speed Sensor	P0722	Signal - Low Input	Output Speed Sensor Fail Time	<= 100 RPM >= 3 Sec	Engine Speed Engine Speed Engine Torque Engine Torque Throttle Position Input Speed Sensor Input Speed Sensor	>= 450 RPM <= 6800 RPM >= 70 N*m <= 450 N*m >= 12 % >= 1500 RPM <= 6800 RPM	= 5 Sec	two trips
				Disabling Conditions - MIL not Illuminated for DTCs: P0716, P0717, P0722, P0723, P0752, P0973, P0974, Engine Torque Valid				
Output Speed Sensor	P0723	Signal - Performance Drop	Output Speed Sensor Drop Fail Time	>= 1300 RPM >= 3 Sec	Engine Speed Engine Speed Engine Torque Engine Torque Throttle Position Input Speed Sensor Input Speed Sensor Input Speed Sensor Delta Output Speed Output Speed Delta	>= 450 RPM <= 6800 RPM >= 70 N*m <= 450 N*m >= 12 % >= 1500 RPM <= 6800 RPM <= 500 RPM >= 1400 RPM <= 500 RPM	= 5 Sec >= 2 Sec >= 2 Sec >= 2 Sec	two trips
				Disabling Conditions - MIL not Illuminated for DTCs: P0716, P0717, P0974, Engine Torque Valid				
Torque Convertor Clutch	P0741	TCC Slip - High when TCC is commanded ON	Engine Torque Engine Torque Fail Counts	<= 192 N*m > 192 N*m >= 2 Counts	TCC Slip TCC Slip Engine Speed Engine Speed Ignition Voltage Ignition Voltage Vehicle Speed Engine Torque	>= 150 RPM >= 250 RPM >= 450 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 16 Kph >= 55 N*m	>= 4 Sec >= 4 Sec = 5 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Throttle Position Throttle Position Transmission Temperature Transmission Temperature TCC Mode TCC Pressure TCC Duty Cycle Transmission Range Transmission Range Change	<= 450 N*m >= 10 % <= 90 % >= 20 C <= 130 C = Lock or ON >= 200 Kpa >= 80% = D2, D3, D4, D5 > 6 Sec	= 2 Sec = 2 Sec	two trips
					Disabling Conditions - MIL not Illuminated for DTCs: P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0742, Engine Torque Valid			
Torque Convertor Clutch	P0742	TCC Slip - Low when TCC is commanded Off	TCC Slip TCC Slip Fail Timer Fail Counter	>= -20 RPM <= 20 RPM >= 3.5 Sec >= 3 Counts	Engine Torque Engine Torque Engine Speed Engine Speed Ignition Voltage Ignition Voltage Throttle Position Throttle Position Transmission Temperature Transmission Temperature TCC Mode Transmission Range Transmission Gear	>= 80 N*m <= 450 N*m >= 500 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 12 % <= 90 % >= 20 C <= 130 C = OFF = D5 = 2, 3, 4, or 5		two trips
					Disabling Conditions - MIL not Illuminated for DTCs: P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Shift Solenoid A	P0751	SSA stuck ON This DTC detects abnormal shift pattern 2-2-3-3-3 pattern	Fail Case 1 1st Gear Commanded Engine Torque Engine Torque Throttle Position	= 2nd Gear Ratio >= 40 N*m ≤ 450 N*m ≥ 10 %	Fail Timer		1.25 Sec	two trips
			Fail Case 2 4th or 5th Gear Commanded Engine Torque Engine Torque Throttle Position Fail Count	= 3rd Gear Ratio ≥ 36 N*m ≤ 450 N*m ≥ 10 % = 2	Fail Timer		5 Sec	
						Engine Speed ≥ 450 RPM Engine Speed ≤ 6800 RPM Ignition Voltage ≥ 8 Volts Ignition Voltage ≤ 18 Volts Transmission Temperature ≥ 20 C Transmission Temperature ≤ 130 C Transmission Range = Drive Input Speed Sensor ≥ 200 RPM Input Speed Sensor ≤ 6800 RPM Output Speed Sensor ≥ 100 RPM	= 5 Sec	
						Disabling Conditions - MIL not Illuminated for DTCs: P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Shift Solenoid A	P0752	SSA stuck OFF This DTC detects abnormal shift pattern 1-1-4-4-5 pattern	Fail Case 3 2nd Gear Commanded Engine Torque Engine Torque Throttle Position	= 1st Gear Ratio ≥ 32 N*m ≤ 450 N*m ≥ 10 %	Fail Timer		2 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 4 3rd Gear Commanded Engine Torque Engine Torque Throttle Position Fail Count	= 4th Gear Ratio >= 32 N*m <= 450 N*m >= 10 % = 2	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor Input Speed Sensor Output Speed Sensor	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM <= 6800 RPM >= 100 RPM	3 Sec = 5 Sec	two trips
					Disabling Conditions - MIL not Illuminated for DTCs:	P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Shift Solenoid B	P0756	SSB stuck OFF This DTC detects abnormal shift pattern 5-3-3-4-5 pattern	Fail Case 5 1st Gear Commanded Engine Torque Engine Torque Throttle Position Fail Case 6 2nd Gear Commanded Engine Torque Engine Torque Throttle Position	= 5th Gear Ratio >= 40 N*m <= 450 N*m >= 10 % = 3rd Gear Ratio >= 36 N*m <= 450 N*m >= 10 %	Fail Timer Fail Timer		1.2 Sec 1.2 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed Sensor Output Speed Sensor	<= 6800 RPM >= 100 RPM		
					Disabling Conditions - MIL not Illuminated for DTCs:			
						P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Shift Solenoid C	P0761	SSC stuck OFF This DTC detects abnormal shift pattern 1-2-3-5-5 pattern	Fail Case 9 4th Gear Commanded Engine Torque Engine Torque Throttle Position Fail Count	= 5th Gear Ratio >= 36 N*m <= 450 N*m >= 10 % = 2	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor Input Speed Sensor Output Speed Sensor	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM <= 6800 RPM >= 100 RPM	4 Sec = 5 Sec	two trips
					Disabling Conditions - MIL not Illuminated for DTCs:			
						P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Shift Solenoid C	P0762	SSC stuck ON This DTC detects abnormal shift pattern 1-2-3-4-4 pattern	Fail Case 10 5th Gear Commanded Engine Torque Engine Torque Throttle Position	= 4th Gear Ratio >= 36 N*m <= 450 N*m >= 10 %	Fail Timer		3.5 Sec	two trips
			Fail Case 11 2nd or 3rd Gear Commanded Engine Torque Engine Torque Throttle Position	= Gear Ratio >= 12 N*m <= 450 N*m >= 10 %	Fail Timer		3 Sec	
			Fail Count	= 2	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor Input Speed Sensor Output Speed Sensor	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM <= 6800 RPM >= 100 RPM	= 5 Sec	
Disabling Conditions - MIL not Illuminated for DTCs:						P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Transmission Pattern Switch	P0815	Upshift Switch Circuit Stuck ON	Range State Upshift Button Throttle Position	= Valid = ON >= 10 %	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	600 Sec = 5 Sec	N/A Special

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disabling Conditions - MIL not Illuminated for DTCs:			
Transmission Pattern Switch	P0816	Downshift Switch Circuit Stuck OFF	Range State Downshift Button Throttle Position	= Valid = ON >= 10 %	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	600 Sec = 5 Sec	N/A Special
					Disabling Conditions - MIL not Illuminated for DTCs:			
						P1898 or P826		
Transmission Pattern Switch	P0826	Pattern Switch Voltage - Out of Range	Tap Switch Voltage	= Invalid	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	5 Sec = 5 Sec	N/A Special
					Disabling Conditions - MIL not Illuminated for DTCs:			
						None		
Shift Solenoid A	P0973	Circuit - Open / Short to Ground	hardware circuitry detects ground short or open error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Shift Solenoid A	P0974	Circuit - Short to Voltage	hardware circuitry detects battery short error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Shift	P0976	Circuit - Open /	hardware circuitry detects ground short or open error is true for Time	>= 43 out of 50 Counts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Solenoid B		Short to Ground			Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Shift Solenoid B	P0977	Circuit - Short to Voltage	hardware circuitry detects battery short error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Shift Solenoid C	P0979	Circuit - Open / Short to Ground	hardware circuitry detects ground short or open error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Shift Solenoid C	P0980	Circuit - Short to Voltage	hardware circuitry detects battery short error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
Transmission Pattern Up/Down Switch	P1761	Alive Rolling Count value does not match expected value sent from BCM	Alive Rolling count errors detected	>= 3 out of 10 samples	Fail Timer Engine Speed Engine Speed	>= 500 RPM <= 6800 RPM	10 Sec = 5 Sec	N/A Special
Transmission Pattern Mode Switch	P1762	Alive Rolling Count value does not match expected value sent from BCM	Alive Rolling count errors detected	>= 3 out of 10 samples	Fail Timer Engine Speed Engine Speed	>= 500 RPM <= 6800 RPM	10 Sec = 5 Sec	N/A Special
IMS (Range)	P182A	IMS Circuit A Low	IMS A Circuit Short to Ground	= True	Fail Timer Engine Speed	>= 450 RPM	= 4 Sec = 5 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Switch					Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque	<= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 55 N*m <= 450 N*m	>= 1 Sec	two trips	
IMS (Range) Switch	P182C	IMS Circuit B High	IMS B Circuit Short to Battery	= True	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 55 N*m <= 450 N*m	= 4 Sec = 5 Sec >= 1 Sec	two trips	
IMS (Range) Switch	P182D	IMS Circuit P Low	IMS P Circuit Short to Ground	= True	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 25 N*m <= 450 N*m	= 5 Sec = 5 Sec >= 1 Sec	two trips	
IMS (Range) Switch	P182E	IMS Range is Illegal	IMS State	#NAME?	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec = 5 Sec	two trips	
IMS (Range) Switch	P182F	IMS Circuit C High	IMS C Circuit Short to Battery	= True	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque Gear Ratio Vehicle Speed	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 20 N*m <= 450 N*m = Valid Drive Ratio >= 8 Kph	= 3 Sec = 5 Sec >= 1 Sec	two trips	
					Disabling Conditions - MIL not Illuminated for DTCs:				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
IMS (Range) Switch	P1915	IMS Range is Wrong during Startup	IMS State during startup 1st Engine Speed 2nd Engine Speed 3rd Engine Speed	≠ Park or Neutral ≤ 60 RPM = 81 to 625 RPM ≥ 651 RPM	Fail Timer	≥ 200 RPM ≤ 100 RPM ≥ 6 Volts ≤ 18 Volts	= 5 Sec = .25 Sec = .15 Sec = 1.5 Sec	two trips
					Input Speed Transmission Output Speed Ignition Voltage Ignition Voltage			
Disabling Conditions - MIL not Illuminated for DTCs:						P0722, P0723		
Transmission Pattern Enable Switch	P1876	Mismatch between Tap Mode Enable Switch and IMS range indication	Transmission Up/Down Switch Transmission Range	= Enable ≠ D5	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	≥ 450 RPM ≤ 6800 RPM ≥ 8 Volts ≤ 18 Volts	= 5 Sec	N/A Special
Disabling Conditions - MIL not Illuminated for DTCs:						P1915, P182A, P182C, P182D, P182F, P0815, P0816, P0826		
Ignition "RUN/CRANK" Voltage	P2534	Circuit - Open / Short to Ground	hardware circuitry detects ground short or open error is true for Time	≥ 400 out of 480 Counts (1 cnt every 25 msec)	Engine Running Message	= True		one trip
High Side Driver "2"	P2670	Circuit - Short to Ground	hardware circuitry detects ground short error is true for Time	≥ 21 out of 25 Counts (1 cnt every 25 msec)	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	≥ 450 RPM ≤ 6800 RPM ≥ 8 Volts ≤ 18 Volts	= 5 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
High Side Driver "2"	P2671	Circuit - Short to Voltage	Drive 2 Circuit detects voltage while driver is off	>= 6.4 Volts			.375 Sec	two trips
TCC PWM Solenoid	P2763	Circuit - Short to Voltage	hardware circuitry detects battery short error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
TCC PWM Solenoid	P2764	Circuit - Open / Short to Ground	hardware circuitry detects ground short or open error is true for Time	>= 43 out of 50 Counts	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips
CAN Bus	U0073	CAN bus shorted	hardware circuitry detects a short on the CAN bus	>= 5 out of 5 Counts	Ignition Voltage Ignition Voltage	>= 8 Volts <= 18 Volts		two trips
CAN Bus	U0100	CAN bus communication error	hardware circuitry detects a loss of communication with ECM	>= 12 Sec	Ignition Voltage Ignition Voltage	>= 8 Volts <= 18 Volts		two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Throttle Position Signal	P0120	Invalid throttle position message from ECU	Throttle Position message value	≠ Valid	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	>= 2 Sec = 5 Sec	two trips
Torque Reduction Signal	P2544	Invalid engine torque request message from ECU	ECU CAN torque request	≠ Valid	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	>= 2 Sec = 5 Sec	two trips
Engine Torque Signal	P2637	Invalid engine torque message from ECU	ECU CAN torque signal	≠ Valid	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	>= 2 Sec = 5 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1	Substrate Temperature	>= 142.1015625 °C		>= 5	Fail Time (Sec)	One Trip
			Fail Case 2	Substrate Temperature	>= 50 °C		>= 2	Fail Time (Sec)	
				Ignition Voltage	>= 18 Volts				
						Substrate Temp Lo >= 0 °C Substrate Temp Hi <= 170 °C Substrate Temp Between Temp Range for Time >= 0.25 Sec			
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0634 ECM: None			
HWIO	P0658	Actuator Supply Voltage Circuit Low	Open or ground short is detected by hardware circuitry	= TRUE Boolean			>= 3	Fail Counts	One Trip
							= 5	Sample Counts	
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0658 ECM: None			
Transmission Fluid Temperature Sensor (TFT)	P0667	TCM internal temperature thermistor failed at a constant value or toggling at high frequency.	Fail Case 1	Enable Vehicle Speed	>= 8 Kph		>= 300	Vehicle Speed Enable Time (Sec)	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Enable TCC Slip	> 150 RPM			>= 150	TCC Slip Enable Time (Sec)
			Enable Transmission Fluid Temperature	>= 70 °C				
			Enable Transmission Fluid Temperature Delta from startup	>= 55 °C				
			Enable Substrate Temp Delta	< 2 °C			>= 100	Temp Delta Enable Time (Sec)
			Startup Substrate Temperature Lo Enable	>= -55 °C				
			Startup Substrate Temperature HI Enable	<= 21 °C				
			When Above FC1 Enable Conditions have been Met, Increment Fail Timer				> 100	Fail Timer (Sec)
			<u>Fail Case 2</u>					
			Vehicle Speed	>= 8 RPM			>= 300	Vehicle Speed Enable Time (Sec)
			TCC Slip	> -12 RPM			>= -12	TCC Slip Enable Time (Sec)
			Transmission Fluid Temperature	>= 70 °C				
			Transmission Fluid Temperature Delta from startup	>= 55 °C				
			Enable Substrate Temp Delta	< 2 °C			>= 100	Temp Delta Enable Time (Sec)
			Startup Substrate Temperature Lo Enable	>= 120 °C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Startup Substrate Temperature HI Enable When Above FC2 Enable Conditions have been Met, Increment Fail Timer	<= 150 °C			> 100 Fail Timer (Sec)	
			<u>Fail Case 3</u> TCM Internal temp delta	>= 20 °C			>= 14 Fail Counts >= 7 Sample Time (Sec)	
					TCM Internal Temp Lo TCM Internal Temp Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= -55 °C <= 150 °C >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0667,P0716,P0717,P0722,P0723 ECM: None		
Transmission Control Module (TCM)	P0668	TCM internal temperature thermistor failed at a high temperature (short to Ground).	TCM Substrate Temp	>= -249 °C			>= 12.75 Fail Timer (Sec)	Special No Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.5996 Volts <= 18 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: P0668 ECM: None			
Transmission Control Module (TCM)	P0669	TCM internal temperature thermistor failed at a low temperature (open or short to power).	TCM Substrate Temp	<=	249 °C		>= 4	Fail Timer (Sec)	Special No Trip
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1	Vehicle Speed	>= 8 Kph		>= 300	Vehicle Speed Enable Time (Sec)	Special No Trip
				TCC Slip	>= 150 RPM		>= 0	TCC Slip Enable Time (Sec)	
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0669, P0716, P0717, P0722, P0723 ECM: None			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Transmission Fluid Temperature Low	>= -50 °C				
			Transmission Fluid Temperature High	<= 21 °C				
			Engine Coolant Temp	>= 70 °C				
			Engine Coolant Temp Delta	>= 55 °C				
			TFT Delta from Startup	< 2 °C				
			If the Above Enable Conditions are Met, Then Increment Fail Counter				>= 100	Fail Time (Sec)
			<u>Fail Case 2</u>					
			Vehicle Speed	>= 8 Kph			>= 300	Vehicle Speed Enable Time (Sec)
			TCC Slip	>= -12 RPM			>= 0	TCC Slip Enable Time (Sec)
			Transmission Fluid Temperature	>= 129 °C				
			Transmission Fluid Temperature	<= 170 °C				
			Engine Coolant Temp	>= 70 °C				
			Engine Coolant Temp Delta	>= 55 °C				
			TFT Delta from startup	< 2 °C			>= 100	TFT Delte Enable Time (Sec)
			If the Above Enable Conditions are Met, Then Increment Fail Counter				>= 100	Fail Time (Sec)
			<u>Fail Case 3</u>					
			TFT Delta	>= 20 °C			= 5	Fail Counts
							= 7	Sample Time (Sec)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p><u>Fail Case 4</u></p> <p>Transmission Fluid Temperature</p>	<p><= 20 °C</p>	<p>Engine Torque Lo >= 50 N*m Engine Torque Hi <= 1492 N*m Throttle Position Lo >= 8.0002 Pct Throttle Position Hi <= 99.998 Pct Vehicle Speed Lo >= 8 Kph Vehicle Speed Hi <= 511 Kph Engine Speed Lo >= 500 RPM Engine Speed Hi <= 6500 RPM Engine Coolant Lo >= -39 °C Engine Coolant Hi <= 149 °C Engine Torque Signal Valid = TRUE Boolean Accelerator Position Signal Valid = TRUE Boolean Engine Crank Position Sensor Signal Valid = TRUE Boolean</p>	<p>>=</p>	<p>Please Refer to Table 1 in supporting Documents for Calibration Table</p> <p>Fail Time (Sec)</p>	
					<p>Transmission Fluid Temperature Lo >= -50 °C Transmission Fluid Temperature Hi <= 170 °C Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Coolant Sensor Signal Valid = TRUE Boolean Engine Speed is within the allowable limits for >= 5 Sec</p>			

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: ECM: P0711, P0101, P0716, P0102, P0717, P0103, P0722, P0116, P0723, P0117, P0742, P0118, P2726 P0121, P0122, P0123, P0336, P0337, P0338		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	Transmission Fluid Temperature	>= -74 °C			>= 12.75 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>= 8.5996 Volts		
					Disable Conditions: MIL not illuminated for DTC's:	TCM: ECM: P0712, P0101, P0716, P0102, P0717, P0103, P0722, P0116, P0723, P0117, P0742, P0118, P2726 P0121, P0122, P0123, P0336, P0337, P0338		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	Transmission Fluid Temperature	>= 174 °C			>= 10 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>= 8.5996 Volts		
					Disable Conditions: MIL not illuminated for DTC's:	TCM: ECM: P0712, P0101, P0716, P0102, P0717, P0103, P0722, P0116, P0723, P0117, P0742, P0118, P2726 P0121, P0122, P0123, P0336, P0337, P0338		
					Ignition Voltage Hi	<= 18 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.
					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
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Lo >= 0 N*m Engine Torque Hi <= 1492 N*m Vehicle Speed >= 0 Kph Throttle Position >= 0 Pct Engine Torque Signal Valid = TRUE Boolean Throttle Position Signal Valid = TRUE Boolean			
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Transmission Input Speed Sensor	< 50 RPM			>= 4.5 Fail Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Lo >= 50 N*m Engine Torque Hi <= 1492 N*m Vehicle Speed >= 16 Kph Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103 P0723		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35 RPM			>= 4 Fail Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Lo >= 50 N*m Engine Torque Hi <= 1492 N*m Throttle Position >= 5.0003 Pct Transmission Input Speed Lo >= 653.13 RPM Transmission Input Speed Hi <= 5350 RPM Transmission Fluid Temperature >= -40 °C Engine Torque Signal Valid = TRUE Boolean Throttle Position Signal Valid = TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0121, P0122, P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>= 210 RPM			>= 0 Enable Time (Sec)	One Trip
			Input Speed Delta	< 4095 RPM			>= 0 Enable Time (Sec)	
			Output Speed Delta	<= 8191 RPM			>= 0 Enable Time (Sec)	
			Output Speed Drop	> 650 RPM			>= 1.5 Output Speed Drop Recover Time (Sec)	
					Ignition Voltage Low	>= 8.5996 Volts		
					Ignition Voltage High	<= 18 Volts		
					Engine Speed Low	>= 3200 RPM		
					Engine Speed High	<= 7500 RPM		
					Range Change Delay Timer	>= 5 Sec		
					4WD Range Change Delay Timer	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0973, P0122, P0974, P0123 P0976, P0977		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 800 Kpa			>= 2 Enable Time (Sec)	One Trip
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= Please See Calibration Table 3 in Supporting Documents RPM			>= 6 Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			(B) TCC Slip Error @ Lock On Mode	>= 130 RPM			>= 6 Enable Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 2 TCC Stuck Off Fail Counter	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 99.998 Pct		
					2nd Gear Ratio Lo	>= 2.1985 Ratio		
					2nd Gear Ratio High	<= 2.5295 Ratio		
					3rd Gear Ratio Lo	>= 1.4248 Ratio		
					3rd Gear Ratio High	<= 1.6393 Ratio		
					4th Gear Ratio Lo	>= 1.0714 Ratio		
					4th Gear Ratio High	<= 1.2327 Ratio		
					5th Gear Ratio Lo	>= 0.7924 Ratio		
					5th Gear Ratio Hi	<= 0.9116 Ratio		
					6th Gear Ratio Lo	>= 0.6204 Ratio		
					6th Gear Ratio High	<= 0.7137 Ratio		
					Transmission Fluid Temperature Lo	>= 20 °C		
					Transmission Fluid Temperature Hi	<= 130 °C		
					TCC Command Lock ON or ON	= TRUE Boolean		
					PTO Not Active	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0742, P0122, P2762, P0123 P2763, P2764		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -12 RPM				One Trip
			TCC Slip Speed	<= 13 RPM				
			If TCC Slip is between above calcs when TCC Commanded Off, Increment Fail Timer				>= 2.5 Fail Time (Sec)	
			If Fail Timer has expired, increment Fail Counter				= 6 Fail Counter	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Torque Lo	>= 115 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Transmission Fluid Temperature Lo	>= 20 °C		
					Transmission Fluid Temperature Hi	<= 130 °C		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 2.9999 Pct		
					Vehicle Speed	>= 16 Kph		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 6500 RPM		
					Gear Ratio Lo	>= 0.6204 Ratio		
					Gear Ratio Hi	<= 1.6393 Ratio		
					Commanded Gear	>= 2nd Gear		
					Shift Solenoid A Enabled	= TRUE Boolean		
					TCC Command Off	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0741, P0122, P0742, P0123 P1751, P2762, P2763, P2764		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip	>= 200 RPM			≠ 0 Neutral Timer (Sec) ≥ 1.1 Fail Timer (Sec)	Two Trips
			Commanded Gear	= 1st Lock rpm				
			Closest Gear Ratio	= 4th Gear				
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					TPS	>= 0.5005 %		
					Shift is Complete			
					AND			
					Transmission Fluid Temperature	>= 0 °C		
					OR			
					Output Speed	>= 0 RPM		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Engine Torque Signal Valid from ECM, High side driver is enabled	= TRUE Boolean		
					High-Side Driver is Enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 200 Rpm			≥ Please Refer to Table 7 in Supporting Documents	One Trip Neutral Timer (Sec)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
			Attained Gear ≠ 3rd Gear Commanded Gear = 3rd Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd C456/CBR1 Pressure Switch Error = TRUE Boolean							
					Ignition Voltage Lo ≥= 8.5996 Volts Ignition Voltage Hi ≤= 18 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					
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123				
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail Case 1</u> Commanded Gear = 1st Locked or 1st FW Gear Box Slip ≥= 200 RPM				Please Refer to Table 7 in Supporting Documents Neutral Timer (Sec)	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></p> <p>Commanded Gear = 2nd Gear</p> <p>Gear Box Slip <= 200 RPM</p> <p>Closest Gear Ratio = 2nd Gear</p>					
					<p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 18 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>Output Speed >= 0 RPM</p> <p>OR</p> <p>TPS >= 0.5005 %</p> <p>Shift is Complete</p> <p>Transmission Fluid Temperature >= 0 °C</p> <p>High-Side Driver is Enabled = TRUE Boolean</p> <p>Throttle Position Signal Valid from ECM = TRUE Boolean</p>			
					<p>Disable Conditions:</p> <p>MIL not Illuminated for DTC's:</p> <p>TCM: P0716, P0717, P0722, P0723, P182E</p> <p>ECM: P0121, P0122, P0123</p>			
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<p><u>Fail Case 1</u></p> <p>Case: Steady State 3rd Gear</p> <p>Commanded Gear = 3rd Gear</p> <p>Gearbox Slip >= 200 Rpm</p> <p>Intrusive Test: Command 4th Gear</p>				<p>Please Refer to Table 7 in Supporting Documents</p> <p>Neutral Timer (Sec)</p> <p>>=</p>	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If attained Gear=4th gear for Time</p> <p>It the above conditions are true, Increment Sum and Fail counters</p>	<p>Table Based Time Please Refer to Table 4 in supporting documents</p> <p>Enable Time (Sec)</p>			<p>>= 2 3rd Gear Fail Counts</p> <p>>= 14 3-5R Clutch Fail Counts</p>	
			<p><u>Fail Case 2</u> Case: Steady State 5th Gear Commanded Gear</p> <p>Gearbox Slip</p> <p>Intrusive Test: Command 6th Gear</p> <p>If attained Gear=6th gear Time</p> <p>It the above conditions are true, Increment Sum and Fail counters</p>	<p>= 5th Gear</p> <p>>= 200 Rpm</p> <p>Table Based Time Please Refer to Table 4 in supporting documents</p> <p>Enable Time (Sec)</p>			<p>>= Neutral Timer (Sec)</p> <p>>= 2 5th Gear Fail Counts</p> <p>>= 14 3-5R Clutch Fail Counts</p>	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM A OR B (A) Output speed enable >= 16 RPM (B) Accelerator Pedal enable >= 0.5005 Pct Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean				
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0121, P0717, P0122, P0722, P0123 P0723, P182E			
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Lock Commanded Gear slip <= 33 RPM If the Above is True for Time >= Enable Time (Sec) Table Based Time Please Refer to Table 6 in supporting documents Intrusive test: (CBR1 clutch exhausted) 3rd closest gear = TRUE				>= 1.1 Fail Timer (Sec)	One Trip	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<u>Fail Case 2</u> Case: Steady State 2nd gear Closest Gear Ratio = 3rd Gear Neutral Time ≠ 0 Sec Intrusive test: (CB26 clutch exhausted) 3rd closest gear = TRUE				>= 1.1 Fail Timer (Sec)	
			<u>Fail Case 3</u> Case: Steady State 4th gear Closest Gear Ratio = 3rd Gear Neutral Time ≠ 0 Sec Intrusive test: (C456 clutch exhausted) 3rd closest gear = TRUE				>= 1.1 Fail Timer (Sec)	
			<u>Fail Case 4</u> Case: Steady State 6th gear Closest Gear Ratio = 5th Gear Neutral Time ≠ 0 Sec Intrusive test: (CB26 clutch exhausted) 5th closest gear = TRUE		PRNDL State defaulted = FALSE inhibit RVT = FALSE IMS fault pending indication = FALSE output speed >= 0 RPM TPS validity flag = TRUE Hydraulic_System_Pressurized = TRUE Minimum output speed for RVT >= 0 Nm A OR B (A) Output speed enable >= 16 Nm (B) Accelerator Pedal enable >= 0.5005 Nm Ignition Voltage Lo >= 8.5996 Volts		>= 1.1 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable MIL not Illuminated for DTC's: Conditions: TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R]	Primary Offgoing Clutch is exhausted (See Table 14 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 Fail 1 Timers Below: fail timer 1 (3-1 shifting with Closed Throttle) >= 1.200195313 Fail Time (Sec) fail timer 1 (3-2 shifting with Closed Throttle) >= 1.200195313 Fail Time (Sec) fail timer 1 (3-2 shifting with Closed Throttle) >= 1.200195313 Fail Time (Sec) fail timer 1 (3-4 shifting with Closed Throttle) >= 1.200195313 Fail Time (Sec) fail timer 1 (3-4shifting with Closed Throttle) >= 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 (3-5 shifting with Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (3-5 shifting with Closed 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 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 17 for Fail Timer 2	
					Trans oil temperature	> 0 °C		
					Input Speed Sensor FA or TFTKO	= FALSE Boolean		
					output speed sensor fault	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Command / Attained Gear ≠ 1st FW 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	TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear Gear slip Intrusive test: commanded 5th gear If attained Gear #5th for time Increment 4th Gear Fail Counter and C456 Fail Counters	>= 200 RPM >= Enable Time (Sec) Refer to Table 4 in supporting documents	Disable Conditions: MIL not Illuminated for DTC's:		Please See Table 7 Neutral For Timer Neutral (Sec) Time Cal >= 2 4th Gear Fail Count C456 >= 14 Fail Counts	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 4 in supporting documents Enable Time (Sec)</p> <p>Increment 5th Gear Fail Counter and C456 Fail Counters >= 2</p> <p>>= 14</p>				<p>Please See Table 7 Neutral For Timer (Sec) Neutral Time Cal</p> <p>5th Gear Fail Count C456 Fail Counts</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 4 in supporting documents Enable Time (Sec)</p> <p>Increment 6th Gear Fail Counter and C456 Fail Counters >= 2</p>				<p>Please See Table 7 Neutral For Timer (Sec) Neutral Time Cal</p> <p>6th Gear Fail Count</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							C456 >= 14 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 A OR B >= 0 RPM (A) Output speed enable >= 16 RPM (B) Accelerator Pedal enable >= 0.5005 Pct Common Enable Criteria Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean	Disable Conditions:	MIL not Illuminated for DTC's: TCM: ECM: P0716, P0121, P0717, P0122, P0722, P0123, P0723, P182E	
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Lock Commanded Gear slip <= 33 RPM If the Above is True for Time >= Enable Time (Sec) Refer to Table 6 in supporting documents					One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted)					
			4th closest gear =	TRUE			>= 1.1	Fail Timer (Sec)
			<u>Fail Case 2</u> Case Steady State 2nd					
			4th closest gear =	TRUE Boolean				
			Neutral Time ≠	0 Sec				
			Intrusive test: (CB26 clutch exhausted)					
			4th closest gear =	TRUE Boolean			>= 1.1	Fail Timer (Sec)
			<u>Fail Case 3</u> Case Steady State 3rd					
			4th closest gear =	TRUE Boolean				
			Closest Gear Ratio =	3rd Gear				
			Neutral Time ≠	0 Sec				
			Intrusive test: (C35R clutch exhausted)					
			4th closest gear =	TRUE Boolean			>= 1.1	Fail Timer (Sec)
					PRNDL State defaulted = FALSE Boolean			
					inhibit RVT = FALSE Boolean			
					IMS fault pending indication = FALSE Boolean			
					output speed >= 0 RPM			
					Crank Enable Criteria is met = TRUE Boolean			
					TPS validity flag = TRUE Boolean			
					Hydraulic_System_Pressurized = TRUE Boolean			
					Minimum output speed for RVT >= 0 RPM			
					A OR B			
					(A) Output speed enable >= 16 RPM			
					(B) Accelerator Pedal enable >= 0.5005 Pct			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E		
						ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456]	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip Fail 1 Timers Below: fail timer 1 (4-1 shifting without throttle) fail timer 1 (4-1 shifting with throttle) fail timer 1 (4-2 shifting without throttle) fail timer 1 (4-2 shifting with throttle) fail timer 1 (4-3 shifting without throttle) fail timer 1 (4-3 shifting with throttle) fail timer 1 (5-3 shifting without throttle) fail timer 1 (5-3 shifting with throttle) fail timer 1 (6-2 shifting without throttle) fail timer 1 (6-2 shifting with throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 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.
			<p>If Attained Gear Slip is Less than Above Call Increment Fail Timers</p>				<p>Total Fail Time = (Fail Timer 1 + Fail Timer 2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 17 for Fail Timer 2</p>	
					<p>Trans oil temperature > 0 °C Input Speed Sensor FA or TFTKO = FALSE Boolean output speed sensor fault = FALSE Boolean Command / Attained Gear ≠ 1st FW 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</p>	<p>>= sec</p>		
				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>	<p>TCM: P182E ECM: None</p>		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	<u>Fail Case 1</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 0 Boolean	Time Since Last Range Change	>= 1 Enable Time (Sec)		Special No Trip		
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 0 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 5 Enabled	= 0 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 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 Down Switch ON	= TRUE Boolean					>= 1 Fail Time (Sec)	
			<u>Fail Case 2</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 1 Boolean					Time Since Last Range Change	>= 1 Enable Time (Sec)
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 1 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 1 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 1 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 5 Enabled	= 1 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 6 Enabled	= 1 Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 6 Enabled	= 1 Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in 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 Down Switch ON = TRUE Boolean NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600	Fail Time (Sec)
					Ignition Voltage Low >= 8.5996 Volts Ignition Voltage High <= 18 Volts Engine Speed Low >= 500 RPM Engine Speed High <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable MIL not Illuminated for DTC's: TCM: P0826, P0815, P182E, 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 Gear 1 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 2 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 3 Enabled = 0 Boolean		Time Since Last Range Change	>= 1 Sec		Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled = 0 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled = 0 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled = 0 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear Park Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 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 Gear 1 Enabled = 1 Boolean		Time Since Last Range Change	>= 1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Gear 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 Gear 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				>= 600 sec	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met					
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0816, P182E, 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	<= 18 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	<= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0826, 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 9 for Delay Timer Cal Sec			>= 18 Fail Counts	Special No Trip
					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	>= 0 °C <= 120 °C >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, 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	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 8 for Delay Timer Cal Sec			>= 5 Fail Counts	
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter					
					Transmission Fluid Temperature Lo	>= 0 °C		
					Transmission Fluid Temperature Hi	<= 120 °C		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample	One Trip
						= 0.375 Time (Sec)		
					P0962 Test Enabled	= TRUE Boolean		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Line Pressure Control Solenoid Enabled = TRUE Boolean	= TRUE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			>= 0.3 Fail Time (Sec) = 0.375 Sample Time (Sec)	One Trip
					P0966 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Line Pressure Control Solenoid Enabled = TRUE Boolean	TCM: P0962 ECM: None		
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE Boolean			>= 0.3 Fail Time (Sec) = 0.375 Sample Time (Sec)	One Trip
					P0967 Test Enabled = TRUE Boolean			

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 <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	MIL not Illuminated for DTC's: TCM: P0967 ECM: None		
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) = 0.375	One Trip
					P0970 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	MIL not Illuminated for DTC's: TCM: P0970 ECM: None		
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) = 0.375	One Trip
					P0971 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	TCM: P0971 ECM: None		
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	Hardware circuitry detects ground short	= TRUE Boolean			Fail Time (Sec) >= 1.2 Sample Time (Sec) = 1.5	One Trip
					P0973Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	TCM: P0973 ECM: None		
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High	Hardware circuitry detects open circuit or power short	= TRUE Boolean			Fail Time (Sec) >= 1.2 Sample Time (Sec) = 1.5	Two Trips
					P0974 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0974 ECM: None		
Mode 3 Multiplex Valve	P0976	Shift Solenoid B Control Circuit Low	Hardware circuitry detects ground short	= TRUE Boolean			>= 1.2 Sec	One Trip
							= 1.5 Sec	
Mode 3 Multiplex Valve	P0976	Shift Solenoid B Control Circuit Low	Hardware circuitry detects ground short	= TRUE Boolean		P0976 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0976 ECM: None	
							>= 1.2 Sec	
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	Hardware circuitry detects high pressure error	= TRUE Boolean			>= 1.2 Sec	One Trip
							= 1.5 Sec	
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	Hardware circuitry detects high pressure error	= TRUE Boolean		P0977 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0976 ECM: None	
							>= 1.2 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: P0977 ECM: None		
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter If Slip is Greater than the Above Cal Increment Fail Sample	>= 100 RPM			= 5 Fail Counts = 5 Fail Samples	Two Trips
					Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for Attained Gear Slip M2 Solenoid is Commanded On Current Gear ≠ 2nd Gear Calculated line pressure is 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 Test is delayed by a calibrated amount of time to allow the M2 valve to get into position Upshift is In Progress Input Speed Sensor Signal The torque converter clutch has transition from Locked to Unlocked. TCC Stuck On Enable Criteria: Gear Ratio Gear Ratio Engine Speed Hi	= 1 Seconds >= 100 = TRUE Boolean ≠ 2nd Gear >= 1300 kPa <= 110 RPM = 0.5 Sec = FALSE Boolean >= 1175 RPM = TRUE Boolean <= 1.6393 Ratio >= 0.6204 Ratio <= 6500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo >= 500 RPM Vehicle Speed Hi <= 511 KPH Vehicle Speed Lo >= 16 KPH Stuck On During Upshift Enabled = 0 Boolean If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress = FALSE Boolean Current Gear ≠ 1st Gear Locked ≠ Gear Locked Boolean Engine Torque Hi <= 1492 Nm Engine Torque Lo >= 115 Nm Current Range ≠ Reverse ≠ Reverse Range Transmission Sump Temperature <= 130 °C Transmission Sump Temperature >= 20 °C PTO Active = FALSE Boolean Common Enables: Vehicle Speed Calculated from TOSS <= 511 KPH Ignition Voltage >= 8.5996 V Ignition Voltage <= 18 V Vehicle Speed <= 511 KPH 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			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0741, P0122, P0742, P0123 P1751, P2763, P2764		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit	Serial Data Signal is Corrupted or Missing	= TRUE Boolean			>= 3 Fail Counter <= 10 Sample Timer (Sec)	Special No Trip
						Rolling Count Diagnostic Enabled = TRUE Boolean Tap Up Tap Down Message Health = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None	
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	<u>Fail Case 1</u> Current range = "Transitional 1" Range State Previous range != CeTRGR_PRN DL_Drive6 Range State Previous range != CeTRGR_PRN DL_Drive5 Range State Either the S1 or S3 Pressure Switch indicates "Pressure Present" = TRUE Boolean Steady State Engine Torque >= -50 Nm Steady State Engine Torque <= 1492 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	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<u>Fail Case 2</u> Current range = "Transitional 1" Range State S3 Pressure Switch indicates "Pressure Present" = FALSE Boolean Commanded Gear = 1st Locked Gear If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	= 0.225 Seconds			>= 15 Fail Counts	
			<u>Fail Case 3</u> Current range = "Transitional 13" Either the S1 or S3 Pressure Switch indicates "Pressure Present" = TRUE Boolean Engine Torque >= -1492 Nm Engine Torque <= 1492 Nm If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	= 0.225 Seconds	Previous range != CeTR GR_P RNDL_Drive5 Previous range != CeTR GR_P RNDL_Drive5 If the "IMS 7 Position" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"	CeTR GR_P RNDL_Drive5 CeTR GR_P RNDL_Drive5	>= 15 Fail Counts	
			<u>Fail Case 4</u> Current range = "Transitional 2" or "Transitional 8" Either the S1 or S3 Pressure Switch indicates "Pressure Present" = TRUE Boolean Steady State Engine Torque >= -50 Nm Steady State Engine Torque <= 1492 Nm The above conditions are present for	>= 0.225 Seconds				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above Conditions have been met, Increment Fail Counter				>= 15 Fail Counts	
			<p><u>Fail Case 5</u></p> <p>Current range = "Illegal"</p> <p>or</p> <p>ECM Park/Neutral Message = "Park/Neutral"</p> <p>and</p> <p>Current Range ≠ Park or Neutral</p> <p>or</p> <p>ECM Park/Neutral Message ≠ "Park/Neutral"</p> <p>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:</p> <p>Last Valid Range State ≠ "Neutral, Transitional 8, or Transitional 11"</p> <p>and</p> <p>Previous transitional state ≠ "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>			
			<p><u>Fail Case 6</u></p> <p>Current PRNDL State = "Reverse"</p> <p>and</p> <p>Last Previous valid state = "Drive 4" Range</p> <p>If the above Conditions are present, Increment Fail timer</p>				>= 2 Seconds	
							>= 2 Seconds	

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 <= 18 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	Disable Conditions: MIL not Illuminated for DTC's: TCM: P182E, P0722, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range ≠ CeTRGR_PRN DL_Drive6 Range State TUTD/MUMD Mode is Selected = TRUE Boolean Enable Switch is Active = TRUE Boolean The above conditions are present for = TRUE Boolean				>= 2 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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			

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, P0816, P0826, P182E, P1876, U0100 ECM: None		
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 The following events must occur Sequentially Initial Engine speed \leq 50 RPM Engine Speed Between Following Cals Engine Speed Lo Hist \geq 50 RPM Engine Speed Hi Hist \leq 480 RPM Then Final Transmission Input Speed \geq 525 RPM				Enable Time (Sec) \geq 0.25 Enable Time (Sec) \geq 0.0688 Fail Time (Sec) \geq 1.25	One Trip
					PRNDL State is \neq Park or Enumeration Neutral DTC has Ran this Key Cycle? = FALSE Boolean Ignition Voltage Lo \geq 8.5996 V Ignition Voltage Hi \leq 18 V Transmission Output Speed \leq 90 rpm			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0722, P0723,P 1915 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Ignition Voltage to TCM	< 6 Volts			>= 280 Fail Counts = 280 Sample Counts	One Trip
					Normal CAN Comm Enabled = TRUE Boolean Engine Running Flag From ECM = TRUE Boolean Run Crank Diag Enabled = TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	<u>Fail Case 1</u> Case: Steady State 2nd Gear Gear slip Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time If Above Conditions have been met, Increment Fail Counter and Sum Counters <u>Fail Case 2</u> Case: Steady State 6th Gear	>= 200 RPM Table Based Time Please see Table 4 in Supporting Documents Enable Time (Sec)			Please See Table 7 For Neutral Timer (Sec) Time Cal >= 2 2nd Gear Fail Count >= 14 CB26 Fail Count	One Trip

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 5th gear</p> <p>If attained Gear = 5th For Time</p> <p>If Above Conditions have been met, Increment Fail Counter and Sum Counters</p>	<p>>= 200 RPM</p> <p>Table Based Time Please see Table 4 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 7 Neutral For Neutral Time Cal</p> <p>>= 2 5th Gear Fail Count</p> <p>>= 14 Total Fail Count</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 >= 16 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 <= 18 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.
					Disable Conditions:	MIL not illuminated for DTC's: TCM: P0716, P0717, P0722,, P0723, P182E ECM: P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 15 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-1 shifting without throttle) fail timer 1 (2-3 shifting with throttle) fail timer 1 (2-3 shifting without throttle) fail timer 1 (2-4 shifting with throttle) fail timer 1 (2-4 shifting without throttle) fail timer 1 (6-4 shifting with throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 1.200195313 Fail Time (Sec) ≥ 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 (6-4 shifting without throttle)	>= 1.200195313	Fail Time (Sec)		Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 17 for Fail Timer 2		
			fail timer 1 (6-5 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			sec	
			fail timer 1 (6-5 shifting without throttle)	>= 1.200195313	Fail Time (Sec)				
			If Attained Gear Slip is Less than Above Call Increment Fail Timers						
					Trans oil temperature	> 0 °C			
					Input Speed Sensor FA or TFTKO	= FALSE Boolean			
					output speed sensor fault	= FALSE Boolean			
					Command / Attained Gear	≠ 1st FW 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			

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: P182E ECM: None				
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	<u>Fail Case 1</u>	Case: Steady State 1st Commanded Gear slip	<= 33 MPH					
				If Above is True for Time	>= Table Based Time Please see Table 6 in Supporting Documents	Enable Time (Sec)				
				Intrusive test: (Exhaust CBR1)						
				If closest gear	= 2nd Gear			>= 1.1 sec		
			<u>Fail Case 2</u>	Case: Steady State 3rd Gear						
	If Closet gear	= 2nd gear								
	Intrusive test: (Exhaust C35R)									
	If Closet gear	= 2nd gear				>= 1.1 sec				
<u>Fail Case 3</u>	Case: Steady State 4rd Gear									
	If Closet gear	= 6th gear								
	Intrusive test: (Exhaust C1234)									
	If Closet gear	= 6th gear				>= 1.1 sec				
<u>Fail Case 4</u>	Case: Steady State 5th Gear									
	If Closet gear	= 6th gear								
	Neutral Time	≠ 0 sec								
	Intrusive test: (Exhaust C35R)									
	If Closet gear	= 6th gear				>= 1.1 sec				
					Trans oil temperature	> 0 °C				
					Input Speed Sensor FA or TFTKO	= FALSE Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 ≠ 1st FW 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: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE Boolean			≥ 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	≥ 8.5996 Volts ≤ 18 Volts ≥ 500 RPM ≤ 7500 RPM		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P2720 ECM: None		
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			≥ 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip

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 <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM	TCM: P2721 ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	<u>Fail Case 1</u> Case: Steady State 1st Gear Gear slip >= 200 RPM Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time >= Table based Timer, Please See Table 4 in Supporting Documents If Above Conditions have been met, Increment Fail Counter and Sum Counters				Please See Table 7 For Neutral Timer (Sec) Time Cal >= 2 1st Gear Fail Count >= 14 C1234 Clutch Fail Count	One Trip
			<u>Fail Case 2</u> Case: Steady State 2nd Gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear slip	>= 200 RPM			Please See Table 7 For Neutral Time Cal	Neutral Timer (Sec)
			Intrusive test: commanded 3rd gear					
			If attained Gear ≠ 3rd for Time	>=	Table based Timer, Please See Table 4 in Supporting Documents	Enable Time (Sec)		
			If Above Conditions have been met, Increment Fail Counter and Sum Counters				>= 2	2nd Gear Fail Count Total
							>= 14	Fail Count
			<u>Fail Case 3</u> Case: Steady State 3rd Gear					
			Gear slip	>= 200 RPM			Please See Table 7 For Neutral Time Cal	Neutral Timer (Sec)
			Intrusive test: commanded 4th gear					
			If attained Gear ≠ 4th for time	>=	Table based Timer, Please See Table 4 in Supporting Documents	Enable Time (Sec)		
			If Above Conditions have been met, Increment Fail Counter and Sum Counters				>= 2	3rd Gear Fail Count

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							C1234 Total Fail Count >= 14	
			Fail Case 4 Case: Steady State 4th Gear Gear slip Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	>= 200 RPM Table based Timer, Please See Table 4 in Supporting Documents >= Enable Time (Sec)			Please See Table 7 For Neutral Timer (Sec) Time Cal >= Neutral Timer (Sec) >= 2 4th Gear Fail Count Total Fail Count >= 14 Total Fail Count	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM A OR B (A) Output speed enable >= 16 RPM (B) Accelerator Pedal enable >= 0.5005 Pct Common Enable Criteria Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid	>= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: ECM: P0716, P0121, P0717, P0122, P0722, P0123 P0723, P182E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip fail timer 1 (2-6 shifting with throttle) fail timer 1 (2-6 shifting without throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting without throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control <= 40 RPM >= 1.200195313 sec >= 1.200195313 sec >= 1.200195313 sec >= 1.200195313 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 (4-5 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 has been met then increment fail timers				>=	Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 19 for Fail Timer 2 sec
					Trans oil temperature	> 0 °C		
					Input Speed Sensor FA or TFTKO	= FALSE		
					output speed sensor fault	= FALSE		
					Command / Attained Gear	≠ 1st FW		
					High Side Driver ON	= TRUE		
					output speed limit for TUT	>= 350 RPM		
					input speed limit for TUT	>= 200 RPM		
					TUT Enable temperature	>= 0 °C		
					PRNDL state defaulted	= FALSE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					IMS Fault Pending Service Fast Learn Mode	= FALSE = FALSE		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On	<p>Case: 5th Gear</p> <p>Closest Gear = 4th gear</p> <p>Neutral Time ≠ 0 Sec</p> <p><u>Fail Case 1</u> Intrusive test: (C35R clutch exhausted)</p> <p>If closest gear = 4th Gear</p> <p>Case: 6th Gear</p> <p>Closest Gear = 4th gear</p> <p>Neutral Time ≠ 0 Sec</p> <p><u>Fail Case 2</u> Intrusive test: (CB26 clutch exhausted)</p> <p>If closest gear = 4th Gear</p>				>= 1.1 sec	One Trip
					output speed PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag output speed Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 0 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean >= 0 RPM >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec	>= 1.1 sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P2729 ECM: None		
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P2730 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			Fail Time (Sec) >= 4.4 Sample Time (Sec) = 5	One Trip
						Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec High Side Driver Enabled = TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's: TCM: P2763, P2764, P0658, P0659 ECM: None		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	Hardware Circuitry Detects a high Pressure Error	= TRUE Boolean			MPH >= 4.4 MPH = 5	One Trip
						Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec High Side Driver Enabled = TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P2763, P2764, P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 5 Fail Count = 5 Sample Time (Sec)	One Trip
					Ignition Voltage Low Ignition Voltage High	>= 8.5996 Volt <= 18 Volt		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Communication Message Missing From ECM	= TRUE Boolean			= 12 Fail Counts = 12 Sample Counts	One Trip
					Ignition Voltage Low Ignition Voltage High	>= 8.5996 Volt <= 18 Volt		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0100 ECM: None		

Axis	-40	-0.00781	40	80	120	°C
Curve	2500	1000	800	520	200	Sec

Table 2

Axis	0	6.249905	12.49981	18.74971	24.99962	31.24952	37.49943	43.74933	49.99924	56.24914	62.49905	68.74895	74.99886	81.24876	87.49866	93.74857	99.99847	Units PCT	
Curve	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	Kpa

Table 3

Axis	0	64	128	192	256	320	384	448	512	Units Kpa
Curve	50	50	50	50	50	50	50	50	50	RPM

Table 4

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

Table 5

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

Table 6

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

Table 7

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

Table 8

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

Table 9

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

Table 10

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

Table 11

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

Table 12

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

Table 13

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

Table 14

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

Table 15

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

Table 16

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

Table 17

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 146.296875 °C			>= 5 Fail Time (Sec)	One Trip
			Fail Case 2 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 <= 31.99 Volts Substrate Temp Lo >= 0 °C Substrate Temp Hi <= 170 °C Substrate Temp Between Temp Range for Time >= 0.25 Sec Test Failed This P0634 Status is ≠ Key On or Fault Active Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
HWIO	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports low voltage (Open or ground short) error flag	= TRUE Boolean			>= 3 Fail Counts	One Trip
						out of 5 Sample Counts		
						Test Failed This P0658 Status is not = Key On or Fault Active		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					High Side Driver 1 On	= True Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: None ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> 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.			Out of 3750 Sample Counts (100ms loop)		
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				Pass Counts (100ms loop) >= 700	
					Engine Torque Signal Valid	= TRUE Boolean		
					Accelerator Position Signal Valid	= TRUE Boolean		
					Ignition Voltage Lo	>= 8.5996 Volts		
							Out of 875 Sample Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 31.99 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 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 P0667 Status is ≠		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltage	Type of Sensor Used = If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	= CeTFTI_e_VoltageDirectProp ≤ -249 °C ≥ -249 °C	Ignition Voltage Low Ignition Voltage High	≥ 8.5996 Volts ≤ 31.99 Volts	≥ 60 Fail Timer (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0668 Status is Disable Conditions:	>= 500 RPM <= 7500 RPM >= 5 Sec Test Failed This Key On or Fault Active MIL not Illuminated for DTC's:		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used = CeTFTI_e_VoltageDirectProp If TCM Substrate Temperature Sensor = Direct Proportional and Temp >= 249 °C If TCM Substrate Temperature Sensor = Indirect Proportional and Temp <= 249 °C Either condition above will satisfy the fail conditions					Two Trips
					Toss Speed Toss Speed greater than above cal for TCC Slip TCC Slip greater than above cal for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 0 RPM >= 0 Sec >= 0 RPM >= 0 Sec >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM	>= 60 Fail Timer (Sec)	

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 P0669 Status is	>= 5 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)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ If transmission oil temp to power up temp Δ	> 22 in supporting °C documents > 20 in supporting °C documents				Two Trips
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal Valid Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Brake torque active	= TRUE Boolean = TRUE Boolean >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = FALSE		
					Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for	>= 90 N*m >= 30 Pct <= 200 RPM <= 8 Kph ≠ Park ≠ Neutral = Not Active >= 7 sec		
					Below describes the brake torque exit criteria Brake torque entry criteria Clutch hydraulic pressure Clutch used to exit brake torque active	= Not Met ≠ Clutch Hydraulic Air Purge Event = CeTFT D_e_C 3_Ratl Enbl		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are met for	>= 600 kpa >= 20 Sec Test Failed This P06AC Status is ≠ Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0303, P0658, P0101, P0304, P0668, P0102, P0305, P0669, P0103, P0306, P06AD, P0106, P0307, P06AE, P0107, P0308, P0716, P0108, P0401, P0712, P0171, P042E, P0713, P0172, P0717, P0174, P0722, P0175, P0723, P0201, P0962, P0202, P0963, P0203, P0966, P0204, P0967, P0205, P0970, P0206, P0971, P0207, P215C, P0208, P2720, P0300, P2721, P0301, P2729, P0302, P2730		
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 <= 31.99 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.
					Toss Speed >= 0 RPM Toss Fail Timer >= 0 Sec TCC slip >= 0 RPM TCC Fail Timer >= 0 Sec P06AD Status is ≠ 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	Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P06AE Status is ≠ Key On or Fault Active Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None		>= 60 Fail Time (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> 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				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 <= 31.99 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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 >= 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 loop Set Brake Torque Active FALSE if above conditions are met for P0711 Status is	= 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		

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: ECM: P0303, P0658, P0101, P0304, P0668, P0102, P0305, P0669, P0103, P0306, P06AD, P0106, P0307, P06AE, P0107, P0308, P0716, P0108, P0401, P0712, P0171, P042E, P0713, P0172, P0717, P0174, P0722, P0175, P0723, P0201, P0962, P0202, P0963, P0203, P0966, P0204, P0967, P0205, P0970, P0206, P0971, P0207, P215C, P0208, P2720, P0300, P2721, P0301, P2729, P0302, P2730		
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	= CeTFTL_e_VoltageDirectProp <= -74 °C >= -74 °C			>= 60 Fail Time (Sec)	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	>= 0 RPM >= 0 Sec >= 0 RPM >= 0 Sec >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for P0712 Status is	>= 5 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 Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used = CeTFTL_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 <= 31.99 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0713 Status is ≠	Test Failed This Key On or Fault Active		

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: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 1350 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Engine Torque is >= 0 N*m Engine Torque is <= 1492 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 <= 31.99 Volts ----- Test Failed This P0716 Status is not = 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: ECM: P0717, P0101, P0752, P0102, P0973, P0103, P0974 P0121, P0122, P0123			
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1	Transmission Input Speed is	< 50 RPM		>= 4.5	Fail Time (Sec)	One Trip
			Fail Case 2	When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	< 1000 RPM	Controller uses a single power supply for the speed sensors	= TRUE Boolean		
						Engine Torque is >= 50 N*m Engine Torque is <= 1492 N*m Vehicle Speed >= 16 Kph Engine Torque Signal Valid = TRUE Boolean Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Test Failed This P0717 Status is not = Key On or Fault Active			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: ECM: P0722, P0101, P0723 P0102, P0103			
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 70 RPM			>= 4.5	Fail Time (Sec)	One Trip

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 Transmission Input Speed Check = TRUE Boolean Engine Torque Check = TRUE Boolean Throttle Position >= 5 Pct Transmission Fluid Temperature >= -40 °C Disable this DTC if the PTO is active = 1 Boolean Engine Torque Signal Valid = TRUE Boolean Throttle Position Signal Valid = TRUE Boolean Ignition Voltage is >= 8.5996 Volts Ignition Voltage is <= 31.99 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 The Engine Torque Check is TRUE, if either of the two following conditions are TRUE Engine Torque Condition 1 Shift Status is not = complete OR Transmission Range is = Park or Neutral Engine Torque is >= 8191.8 N*m Engine Torque is <= 8191.8 N*m Engine Torque Condition 2 Engine Torque is >= 35 N*m		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque is ----- The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE TIS Check Condition 1 Transmission Input Speed is Transmission Input Speed is TIS Check Condition 2 Engine Speed without the brake applied is Engine Speed with the brake applied is Engine Speed is Controller uses a single power supply for the speed sensors Powertrain Brake Pedal is Valid	<= 1492 N*m >= 1000 RPM <= 8191 RPM >= 3200 RPM >= 3200 RPM <= 8191 RPM = TRUE Boolean = TRUE Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's:		
						TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed Output Speed Delta Output Speed Drop	>= 210 RPM <= 8191 RPM > 650 RPM			>= 0.2 Enable Time (Sec) >= 0 Enable Time (Sec) >= 1.5 Output Speed Drop Recover Time	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Range_Disable OR ----- Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently -----	= FALSE Boolean = TRUE Boolean = TRUE 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		
					P0723 Status is not Disable this DTC if the PTO is active Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is Engine Speed is within the allowable limits for	= Key On or Fault Active = 1 Boolean >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Enable_Flags Defined Below			
					Transmission_Input_Speed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE: TIS Condition 1 is TRUE when both of the following conditions are satisfied for Input Speed Delta	= 0 Enable Time (Sec) <= 4095 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 Reverse/Neutral		
					Transmission Range is	= al ENUM Transitional		
					Transmission Range is	= Neutral/Drive ENUM Transitional		

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

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satisfied for			
					Transmission Output Speed	> 1 Seconds > 70 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					And the acceleration of the Transmission Output Speed is And the acceleration of the Transmission Output Speed is -----	< 500 RPM/L oop Rate > 0 RPM/L oop Rate		
					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE Transmission Range is Transmission Range is Transmission Range is Range Change Delay Timer	= Neutral ENUM Reverse/Neutral ENUM Transitional ENUM 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	>= 500 Kpa Refer to Table 1 in Supporting Documents >= 130 RPM			>= 2 Enable Time (Sec) >= 4 Fail Time (Sec) >= 4 Fail Time (Sec) >= 3 TCC Stuck Off Fail Counter	Two Trips

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	<= 31.99 Volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 99.998 Pct		
					2nd Gear Ratio Lo	>= 2.671 Ratio		
					2nd Gear Ratio High	<= 3.073 Ratio		
					3rd Gear Ratio Lo	>= 1.713 Ratio		
					3rd Gear Ratio High	<= 1.9709 Ratio		
					4th Gear Ratio Lo	>= 1.3151 Ratio		
					4th Gear Ratio High	<= 1.5129 Ratio		
					5th Gear Ratio Lo	>= 0.9301 Ratio		
					5th Gear Ratio Hi	<= 1.0699 Ratio		
					6th Gear Ratio Lo	>= 0.6901 Ratio		
					6th Gear Ratio High	<= 0.7939 Ratio		
					Transmission Fluid Temperature Lo	>= 20 °C		
					Transmission Fluid Temperature Hi	<= 130 °C		
					TCC Command Lock ON or ON mode	= TRUE Boolean		
					PTO Not Active	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					Dynamic Mode	= FALSE Boolean		
					P0741 Status is	Test Failed This Key On or Fault Active		

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: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P0742, P0107, P0301, P2763, P0108, P0302, P2764 P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, 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	>= -20 RPM <= 30 RPM			>= 2.5 Fail Time (Sec) >= 6 Fail Counter	One Trip
					Run TCC Stuck On Test Enable Criteria: Gear Ratio Gear Ratio Engine Speed Hi Engine Speed Lo Vehicle Speed Hi Vehicle Speed Lo Stuck On During Upshift Enabled If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress Current Gear Engine Torque Hi	<= 3.073 Ratio >= 0.6901 Ratio <= 6500 RPM >= 500 RPM <= 511 KPH >= 16 KPH = 0 Boolean >= 55 Nm = FALSE Boolean 1st Gear Boolean Locked <= 1492 Nm		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Lo	>= 80 Nm		
					Current Range	≠ Neutral Range		
					Current Range	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 °C		
					Transmission Sump Temperature	>= 20 °C		
					Throttle Position Hyst High	>= 8.0002 Pct		
					Throttle Position Hyst Low	<= 3 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	<= 31.99 V		
					Vehicle Speed	<= 511 KPH		
					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		

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 P0742 Status is ≠		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204		
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 <= 1.485 >= 1.343			>= 0.3 Fail Tmr = 65535 Fail Counts ≠ 0 Neutral Timer (Sec) >= 0.3 Fail (Sec) >= 8 Counts	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for 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 High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 5 Sec >= 0 °C >= 0.4 % >= 0 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean = FALSE Boolean = FALSE Boolean = TRUE		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip Commanded Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol.	>= 200 Rpm = 3rd Gear = TRUE Boolean				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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 <= 31.99 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 >= 0.4 % 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: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail Case 1</u> Commanded Gear = 1st Locked Gear Box Slip >= 200 RPM Intrusive Shift to 2nd Commanded Gear Previous = 1st Locked Gear Gear Ratio <= 3.016 Gear Ratio >= 2.728 If the above parameters are true				Please Refer to Table 5 in Neutral Supporting Documents Timer (Sec) >= 1 sec >= 5 counts	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 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 >= 0.4 %			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Shift is Complete Transmission Fluid Temperature	>= 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, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<u>Fail Case 1</u> Case: Steady State 3rd Gear Commanded Gear = 3rd Gear Gearbox Slip >= 200 Rpm Intrusive Test: Command 4th Gear If attained Gear=4th gear for Time >= Enable Time (Sec) Table Based Time Please Refer to Table 3 in supporting documents				Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If the above conditions are true, Increment 3rd gear fail counter</p> <p>and C35R Fail counter</p>				<p>>= 2 3rd Gear Fail</p> <p>or</p> <p>>= 14 3-5R Clutch Fail Counts</p>	
			<p><u>Fail Case 2</u> Case: Steady State 5th Gear</p> <p>Commanded Gear = 5th Gear</p> <p>Gearbox Slip >= 200 Rpm</p> <p>Intrusive Test: Command 6th Gear</p> <p>If attained Gear=6th gear Time >= Table Based Time Please Refer to Table 3 in supporting documents</p> <p>Enable Time (Sec)</p> <p>If the above conditions are true, Increment 5th gear fail counter</p> <p>and C35R Fail counter</p>				<p>Please Refer to Table 5 in Supporting Documents</p> <p>>= Neutral Timer (Sec)</p> <p>>= 3 5th Gear Fail Counts</p> <p>or</p> <p>>= 14 3-5R Clutch 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>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>			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					(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 >= 0.4 Pct => 8.5996 Volts <= 31.99 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: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Attained Gear slip If the Above is True for Time	>= 200 RPM Table Based Time Please Refer to Table 4 in supporting documents >= Enable Time (Sec)				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio <= 1.934 Gear Ratio >= 1.75 If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			<u>Fail Case 2</u> Case: Steady State 2nd 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: (CB26 clutch exhausted) Gear Ratio <= 1.934 Gear Ratio >= 1.75 If the above parameters are true					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 0.75 Fail Timer (Sec) Fail >= 2 Count in 2nd Gear or >= 3 Total Fail Counts	
			<u>Fail</u> Case: Steady State 4th <u>Case 3</u> gear	Table Based value Please Max Delta Output Speed >= Refer to Table rpm/sec Hysteresis 17 in supporting documents Table Based value Please Min Delta Output Speed >= Refer to Table rpm/sec Hysteresis 18 in supporting documents Table Based Time Please If the Above is True for >= Refer to Table Sec Time 19 in supporting documents Intrusive test: (C1234 clutch exhausted) Gear Ratio <= 1.05 Gear Ratio >= 0.95 If the above parameters are true			>= 0.75 Fail Timer (Sec) Fail >= 2 Count in 4th 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	
			<p><u>Fail Case 4</u> Case: Steady State 6th 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: (CB26 clutch exhausted)</p> <p>Gear Ratio <=</p> <p>Gear Ratio >=</p> <p>If the above parameters are true</p>	<p>Table Based value Please Refer to Table 17 in supporting documents rpm/sec</p> <p>Table Based value Please Refer to Table 18 in supporting documents rpm/sec</p> <p>Table Based Time Please Refer to Table 19 in supporting documents Sec</p> <p>1.05</p> <p>0.95</p>			<p>>= 0.75 Fail Timer (Sec)</p> <p>>= 2 counts</p> <p>>= 0.75 Fail Timer (Sec)</p> <p>>= 2 Count in 6th Gear or</p> <p>>= 3 Total Fail Counts</p>	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean output speed >= 0 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					TPS validity flag = TRUE Boolean HSD Enabled = TRUE Boolean Hydraulic_System_Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 Nm A OR B (A) Output speed enable >= 650 Nm (B) Accelerator Pedal enable >= 0.4 Nm Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 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 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				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) 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 Throttle)</p> <p>fail timer 1 (3-2 shifting with Closed Throttle)</p> <p>fail timer 1 (3-4 shifting with Throttle)</p> <p>fail timer 1 (3-4shifting with Closed Throttle)</p> <p>fail timer 1 (3-5 shifting with Throttle)</p> <p>fail timer 1 (3-5 shifting with Closed Throttle)</p> <p>fail timer 1 (5-3 shifting with 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> <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 (5-4 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
			5th gear fail counter				>= 3	5th gear fail counts OR

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Total fail counter				>= 5 total fail 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 MIL not Illuminated for DTC's: Conditions:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1	Case: Steady State 4th Gear				One Trip

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 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>Table Based Time Please Refer to Table 3 in supporting documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 5 Neutral For Timer (Sec) Neutral Time Cal</p> <p>>= 2 4th Gear Fail Count OR C456 Fail Counts</p> <p>>= 14</p>	
			<p><u>Fail Case 2</u> Case: Steady State 5th Gear</p> <p>Gear slip</p> <p>Intrusive test: commanded 6th gear</p> <p>If attained Gear # 6th for time</p> <p>if the above conditions have been met</p>	<p>>= 200 RPM</p> <p>Table Based Time Please Refer to Table 3 in supporting documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 5 Neutral For Timer (Sec) Neutral Time Cal</p> <p>>=</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Increment 5th Gear Fail Counter				>= 2 5th Gear Fail Count	
			and C456 Fail Counters				>= 14 C456 Fail Counts	
			<u>Fail Case 3</u> Case: Steady State 6th Gear					
			Gear slip	>= 200 RPM			>=	Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)
			Intrusive test: commanded 5th gear					
			If attained Gear ≠ 5th for time	>=	Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)			
			if the above conditions have been met					
			Increment 6th Gear Fail Counter and C456 Fail Counter				>= 2 6th Gear Fail Count	
			and C456 Fail Counter				>= 14 C456 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 650 RPM		
					(B) Accelerator Pedal enable	>= 0.4 Pct		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Common Enable Criteria Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean Transmission Fluid Temperature >= 0 °C Input Speed Sensor fault = FALSE Boolean OutputSpeed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE	Disable Conditions: MIL not Illuminated for DTC's: TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Attained Gear slip >= 200 RPM If the Above is True for Time >= Refer to Table 4 in supporting documents Intrusive test: (CBR1 clutch exhausted)	Table Based Time Please Enable Time (Sec)				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio <= 1.485 Gear Ratio >= 1.343 If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			<u>Fail Case 2</u> Case Steady State 2nd					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to 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 <= 1.485 Gear Ratio >= 1.343 If the above parameters are true				>= 0.75 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 2 Fail Count in 2nd Gear or >= 3 Total fail counts	
			Fail Case 3 Case Steady State 3rd					
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 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	<=	1.485			
			Gear Ratio	>=	1.343			
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 3rd Gear OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Total Fail Counts >= 3	
					PRNDL State defaulted inhibit RVT IMS fault pending indication 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 Disable MIL not Illuminated for DTC's:	= FALSE Boolean = FALSE Boolean = FALSE Boolean >= 0 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean >= 0 Nm >= 650 Nm >= 0.4 Nm >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec >= 5 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304.		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	<p>Primary Offgoing Clutch is exhausted (See Table 11 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 increment appropriate Fail 1 Timers Below:</p> <p>fail timer 1 (4-1 shifting with throttle)</p> <p>fail timer 1 (4-1 shifting without throttle)</p> <p>fail timer 1 (4-2 shifting with throttle)</p> <p>fail timer 1 (4-2 shifting without throttle)</p> <p>fail timer 1 (4-3 shifting with throttle)</p> <p>fail timer 1 (4-3 shifting without throttle)</p> <p>fail timer 1 (5-3 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>				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 without throttle)	>= 1.200195313	Fail Time (Sec)		Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			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					
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			4th gear fail counter				>= 3	Fail Counter From 4th Gear OR Fail Counter From 5th Gear OR
			5th gear fail counter				>= 3	Fail Counter From 5th Gear OR

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			6th gear fail counter				>= 3	Fail Counter From 6th Gear OR
			Total fail counter				>= 5	Total Fail Counter
					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		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				Special No 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 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 1 Boolean				
			Tap Up Switch ON	= TRUE Boolean			>= 1	Fail Time (Sec)
			<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	= 1 Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch Stuck in the Up Position in Reverse Enabled Tap Up Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met	= 1 Boolean = 1 Boolean = TRUE Boolean			>= 600 Fail Time (Sec)	
					Time Since Last Range Change Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0815 Status is	>= 1 Enable Time (Sec) >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 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 Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean = 1 Boolean				Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 sec	
			<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				
			Tap Down Switch Stuck in the Down Position in Range 6 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 Neutral Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Park Enabled = 1 Boolean					
			Tap Down Switch Stuck in the Down Position in Reverse Enabled = 1 Boolean					
			Tap Down Switch ON = TRUE Boolean					
			NOTE: Both 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	<= 31.99 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	≠ Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>= 8.5996 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0826 Status is Disable Conditions:	<= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec Test Failed This Key On or Fault Active TCM: P1761 ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low	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
			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	>= 0 °C <= 120 °C >= 8.5996 Volts <= 31.99 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.
					Default Gear Action = FALSE High Side Driver ON = TRUE RVT Status = Normal Hydraulic Pressure Available = TRUE Engine Speed Min >= 550 RPM 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 ECM: None			
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 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 8 for Delay Timer Cal Sec			>= 20 Fail Counts	Special No Trip
			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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 <= 31.99 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		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 5 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo 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 <= 31.99 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,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						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	<= 31.99 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,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						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			Fail Time (Sec) >= 0.3 Sample Time (Sec) out of 0.375	One Trip
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			Fail Time (Sec) >= 0.3 Sample Time (Sec) out of 0.375	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for P0966 Status is not	>= 5 Sec Test Failed This = Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None	
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	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)	One Trip
					Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 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: None ECM: None	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C 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
						Test Failed This P0970 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 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)	P0971	Pressure Control (PC) Solenoid C 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)	One Trip
						Test Failed This P0971 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					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			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	One Trip
						P0973 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Test Failed This = Key On or Fault Active 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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			>= 1.2 Sec out of 1.5 Sec	Two Trips
					P0976 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 <= 31.99 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 out of 1.5 Sec	One Trip
						P0977 Status is not Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 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: 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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	<= 120 °C >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		
					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 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.
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo >= 0 °C Transmission Fluid Temperature Hi <= 120 °C Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 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 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 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is	>= 100 RPM			>= 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 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 Hyst High (enabled above this value)	>= 1200 RPM		
					Input Speed Sensor Signal Hyst Low (disabled below this value)	<= 900 RPM		
					The torque converter clutch has transition from Locked to Unlocked.	= TRUE Boolean		

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	<= 3.073 Ratio		
					Gear Ratio	>= 0.6901 Ratio		
					Engine Speed Hi	<= 6500 RPM		
					Engine Speed Lo	>= 500 RPM		
					Vehicle Speed Hi	<= 511 KPH		
					Vehicle Speed Lo	>= 16 KPH		
					Stuck On During Upshift Enabled	= 0 Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>= 55 Nm		
					Down Shift In Progress	= FALSE Boolean		
					Current Gear	≠ Gear Boolean		
					Engine Torque Hi	<= 1492 Nm		
					Engine Torque Lo	>= 80 Nm		
					Current Range	≠ Neutral Range		
					Current Range	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 °C		
					Transmission Sump Temperature	>= 20 °C		
					Throttle Position Hyst High	>= 8.0002 Pct		
					Throttle Position Hyst Low	<= 3 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignore Air Purge if value = true 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 MIL not Illuminated for DTC's: Conditions:	= 0 Boolean = OFF >= 8.5996 V <= 31.99 V <= 511 KPH >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean Test Failed This Key On TCM: P0716, ECM: P0205, P0717, P0101, P0206, P0722, P0102, P0207, P0723, P0103, P0208, P0741, P0106, P0300, P0742, P0107, P0301, P2763, P0108, P0302, P2764 P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, 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	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer	Special No Trip
					Tap Up Tap Down Message Health	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	<u>Fail Case 1</u> Current range = "Transitional 1" Range State 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" Engine Torque >= -50 Nm Engine Torque <= 1492 Nm If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter				Fail >= 0.225 Second s Fail >= 15 Counts	One Trip
			<u>Fail Case 2</u> Current range = "Transitional 1" Range State S3 Pressure Switch indicates "Exhausted" Commanded Gear = 1st Locked Gear If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter				Fail >= 0.225 Second s Fail >= 15 Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<u>Fail Case 3</u> Current range = "Transitional 13" Either the S1 or S3 Pressure Switch indicates "Pressure Present" Engine Torque >= -50 Nm Engine Torque <= 1492 Nm If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	= "Transitional 13" = TRUE Boolean >= -50 Nm <= 1492 Nm	Previous range Previous range 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"	CeTR GR_e_ PRND L_Driv e3 CeTR GR_e_ PRND L_Driv e2 = 0 Boolean	>= 0.225 Seconds >= 15 Fail Counts	
			<u>Fail Case 4</u> Current range = "Transitional 2" or "Transitional 8" Either the S1 or S3 Pressure Switch indicates "Pressure Present" Steady State Engine Torque >= 100 Nm Steady State Engine Torque <= 1492 Nm If the above conditions are present Increment Fail Timer If the above Conditions have been met, Increment Fail Counter	= "Transitional 2" or "Transitional 8" = TRUE Boolean >= 100 Nm <= 1492 Nm	Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8		>= 0.225 Seconds >= 15 Fail Counts	
			<u>Fail Case 5</u> Current range = "Transitional 11" Engine Torque >= -50 Nm Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= "Transitional 11" >= -50 Nm = TRUE Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If the above conditions are present Increment Fail Timer</p> <p>If the above Conditions have been met, Increment Fail Counter</p>				<p>>= 0.225 Seconds</p> <p>>= 15 Fail Counts</p>	
			<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>A Open Circuit Definition (flag set false if the following conditions are met):</p> <p>Current Range ≠ "Transitional"</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>			
			<p>If the above Conditions are present, Increment Fail timer</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>					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Reverse Trans Ratio Reverse Trans Ratio If the above Conditions are present, Increment Fail timer	<= 2.6784 ratio >= 3.0816 ratio			>= 6.25 Seconds	
			P182E will report test fail when any of the above 7 fail cases are met					
					Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Signal Valid	>= 8.5996 Volts <= 31.99 Volts <= 511 KPH >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E	
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is The following events must occur Sequentially	≠ Park or Neutral Enumeration				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Initial Engine speed	<= 50 RPM			>= 0.25 Enable Time (Sec)	
			Then Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.0688 Enable Time (Sec)	
			Then Final Engine Speed	>= 525 RPM				
			Final Transmission Input Speed	>= 200 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.99 V		
					Ignition Voltage Hyst High (enables above this value)	>= 6 V		
					Ignition Voltage Hyst Low (disabled below this value)	<= 2 V		
					Transmission Output Speed	<= 90 rpm		
					P1915 Status is	≠ Key On or Fault Active	Test Failed This	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Run crank active (based on voltage thresholds below)	= FALSE				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Ignition Voltage High Hyst (run crank goes true when above this value) Ignition Voltage Low Hyst (run crank goes false when below this value)	6 Volts 2 Volts			Fail Counts (25ms loop) >= 280 Out of Sample Counts (25ms loop) 280	
					Normal CAN Comm Enabled ECM run/crank active status	= TRUE Boolean = TRUE Boolean		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	<u>Fail Case 1</u> Case: Steady State 2nd Gear Gear slip Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time If Above Conditions have been met Increment 2nd gear fail count and CB26 Fail Count	>= 200 RPM Table Based Time Please see Table 2 in Supporting Documents >= Enable Time (Sec)			Please See Table 5 For Neutral Time >= Neutral Timer (Sec) >= 3 2nd Gear Fail Count or >= 14 CB26 Fail Count	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 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 Timer (Sec) Neutral Time Cal</p> <p>>= 3 5th Gear Fail Count</p> <p>or</p> <p>>= 14 CB26 Fail Count</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 >= 0.4 Pct</p> <p>Common Enable Criteria</p> <p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 31.99 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: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM				One Trip
			If above conditions are true, increment appropriate Fail 1 Timers Below:					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-1 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-1 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-3 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-3 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-4 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-4 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-4 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-4 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-5 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-5 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 >= Timer 1, sec and Referenc e Supporti ng 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>2nd gear fail counter</p> <p>6th gear fail counter</p> <p>total fail counter</p>				<p>Fail Counter From 2nd Gear OR Fail Counter From 6th Gear OR Total Fail Counter</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>		

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, ECM: P0205, P0717, P0101, P0206, P0722, P0102, P0207, P0723, P0103, P0208, P182E, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, 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 >= Refer to Table 4 in supporting documents</p> <p>Intrusive test: (CBR1 clutch exhausted)</p> <p>Gear Ratio <= 3.016</p> <p>Gear Ratio >= 2.728</p> <p>If the above parameters are true</p>	<p>Table Based Time Please Enable Time (Sec)</p>			<p>>= 0.75 Fail Timer (Sec)</p> <p>>= 2 Fail Count in 1st Gear or</p> <p>>= 3 Total Fail Counts</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 3rd 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: (C35R clutch exhausted) Gear Ratio <= 3.016 Gear Ratio >= 2.728 If the above parameters are true</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>			<p>>= 0.75</p> <p>>= 2</p> <p>>= 3</p>	<p>Fail Timer (Sec)</p> <p>Fail Count in 3rd Gear or Total Fail Counts</p>
			<p><u>Fail Case 3</u> Case: Steady State 4rd 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: (C1234 clutch exhausted)					
			Gear Ratio	<=	0.779			
			Gear Ratio	>=	0.705			
			If the above parameters are true				>= 0.75	Fail Timer (Sec)
							>= 2	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			

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: (C35R clutch exhausted)					
			Gear Ratio	<=	0.779			
			Gear Ratio	>=	0.705			
			If the above parameters are true				>= 0.75	Fail Timer (Sec)
							>= 2	Fail Count in 5th Gear or
							>= 3	Total Fail Counts
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 650 Nm		
					(B) Accelerator Pedal enable	>= 0.4 Nm		
					Ignition Voltage Lo	>= 8.5996 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 31.99 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for if Attained Gear=1st FW Accelerator Pedal enable >= 5 Sec if Attained Gear=1st FW Engine Torque Enable >= 5 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 Disable MIL not Illuminated for DTC's:	TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, 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) >= 0.3 Sample Time (Sec) out of 0.375	One Trip
					P2770 Status is not	= Test Failed This Key On or Fault Active		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 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)	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 Ignition Voltage >= 8.5996 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 500 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Test Failed This = Key On or Fault Active TCM: None ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	<u>Fail Case 1</u> Case: Steady State 1st Gear	Gear slip >= 200 RPM			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	One Trip
			Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time >= Table based Timer, Please See Table 3 in Supporting Documents If Above Conditions have been met, Increment 1st gear fail counter and C1234 fail counter	Enable Time (Sec)		>= 2 1st Gear Fail Count or C1234 Clutch Fail Count >= 14		
			<u>Fail Case 2</u> Case: Steady State 2nd Gear	Gear slip >= 200 RPM			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 3rd gear If attained Gear ≠ 3rd for Time >= Table based Timer, Please See Table 3 in Supporting Documents If Above Conditions have been met, Increment 2nd gear fail counter	Enable Time (Sec)			>= 2 2nd Gear Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			and C1234 fail counter				>= 14 or C1234 Clutch Fail Count	
			<p><u>Fail Case 3</u> Case: Steady State 3rd Gear</p> <p>Gear slip >= 200 RPM</p> <p>Intrusive test: commanded 4th gear</p> <p>If attained Gear ≠ 4th for time >= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)</p> <p>If Above Conditions have been met, Increment 3rd gear fail counter</p> <p>and C1234 fail counter</p>				<p>>= 2 3rd Gear Fail Count or C1234 Clutch Fail Count</p> <p>Please See Table 5 For Neutral Timer (Sec) Time Cal</p>	
			<p><u>Fail Case 4</u> Case: Steady State 4th Gear</p> <p>Gear slip >= 200 RPM</p> <p>Intrusive test: commanded 5th gear</p> <p>If attained Gear = 5th For Time >= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)</p>				<p>>= 2 3rd Gear Fail Count or C1234 Clutch Fail Count</p> <p>Please See Table 5 For Neutral Timer (Sec) Time Cal</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions have been met, Increment 4th gear fail counter and C1234 fail counter				4th Gear Fail Count or C1234 Clutch Fail Count >= 3 >= 14	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM A OR B (A) Output speed enable >= 650 RPM (B) Accelerator Pedal enable >= 0.4 Pct Common Enable Criteria Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean Transmission Fluid Temperature >= 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 = TRUE Boolean = TRUE Boolean >= 0 RPM >= 650 RPM >= 0.4 Pct >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
					Disable MIL not Illuminated for DTC's: Conditions:	TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0108, P0302, P0171, P0303.		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	<p>Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers)</p> <p>Primary Oncoming Clutch Pressure Command Status = Clutch exhaust command</p> <p>Primary Offgoing Clutch Pressure Command Status = Initial Clutch Control</p> <p>Range Shift Status ≠ Initial Clutch Control</p> <p>Attained Gear Slip ≤ 40 RPM</p> <p>If the above conditions are true increment appropriate Fail 1 Timers Below:</p> <p>fail timer 1 (2-6 shifting with throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (2-6 shifting without throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (3-5 shifting with throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (3-5 shifting without throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (4-5 shifting with throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (4-5 shifting without throttle) ≥ 1.200195313 sec</p> <p>fail timer 1 (4-6 shifting with throttle) ≥ 1.200195313 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 (4-6 shifting without 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	
			If Attained Gear Slip is Less than Above Call Increment Fail Timers				>= Timer sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3	Fail Counter From 2nd Gear
			3rd gear fail counter				>= 3	Fail Counter From 3rd Gear
			4th gear fail counter				>= 3	Fail Counter From 4th Gear

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
			total fail counter				>= 5 Total Fail Counter		
					Trans oil temperature 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	> 0 °C = 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: P0205, P0101, P0206, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 17 in supporting documents rpm/sec			One Trip	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 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	<=	1.485			
			Gear Ratio	>=	1.343			
			If the above parameters are true					
			<u>Fail Case 2</u> Case: 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			
							>= 0.75	Fail Timer (Sec)
							>= 2	Fail Count in 5th Gear OR
							>= 3	Total Fail Counts

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 <= 1.485</p> <p>Gear Ratio >= 1.343</p> <p>If the above parameters are true</p>	<p>Table Based Time Please Refer to Table 19 in supporting documents</p>			<p>>= 0.75 Fail Timer (Sec)</p> <p>>= 2 Fail Count in 6th Gear OR</p> <p>>= 3 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 >= 0.4 Nm</p> <p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 31.99 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>			

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 Pct >= 20 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, ECM: P0205, P0717, P0101, P0206, P0722, P0102, P0207, P0723, P0103, P0208, P182E P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, 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			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2729 Status is not	= Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volt		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage <= 31.99 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) >= 0.3 Sample Time (Sec) out of 0.375	One Trip
						Test Failed This P2730 Status is not = Key On or Fault Active Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.99 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)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			Fail Time (Sec) >= 4.4 Sample Time (Sec) out of 5	One Trip

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 Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.99 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: 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	One Trip
						Test Failed This = Key On or Fault Active Ignition Voltage >= 8.5996 Volt Ignition Voltage <= 31.99 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 250 Fail counts (12.25 ms loop) Out of 253 Sample Counts (12.25 ms loop)	One Trip
			Delay timer	>= 0.1125 sec				
					Stabilization delay Power Mode Ignition Voltage Lo Ignition Voltage Hi	>= 3 sec = Run >= 8.5996 Volt <= 31.99 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
					Stabilization delay Power Mode Ignition Voltage Lo Ignition Voltage Hi	>= 3 sec = Run >= 8.5996 Volt <= 31.99 Volt		
					Disable Conditions: MIL not illuminated for DTC's:	TCM: U0073 ECM: None		

Table 1

	Units									Units
Axis	0	64	128	192	256	320	384	448	512	Nm
Curve	50	50	50	50	50	50	50	50	50	RPM

Table 2

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

Table 3

	Units			
Axis	-40	0	40	°C
Curve	409.5938	3.5	3.5	Sec

Table 4

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

Table 5

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

Table 6

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.6	1.4	1.4	Sec

Table 7

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.4	1.3	1.2	Sec

Table 8

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.6	1.5	1.4	Sec

Table 9

Axis	-40	-0.0078125	40	80	120	Units °C
Curve	409	409	1.3	1.2	1.1	Sec

Table 10

Axis	-40	-20	0	30	110	Units °C
Curve	3.099609	1.90039063	1.099609	0.799805	0.599609	Sec

Table 11

Axis	-40	-20	0	30	110	Units °C
Curve	1.799805	1.20019531	0.599609	0.400391	0.299805	Sec

Table 12

Axis	-40	-20	0	30	110	Units °C
Curve	2.200195	1.40039063	0.900391	0.700195	0.400391	Sec

Table 13

Axis	-40	-20	0	30	110	Units °C
Curve	2.599609	1	0.5	0.299805	0.200195	Sec

Table 14

Axis	-40	-20	0	30	110	Units °C
Curve	3	0.90039063	0.5	0.299805	0.200195	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	-40	0	40	Units °C
Curve	409.5938	1.5	1.5	Sec

Table 17

	Units		
Axis	-40	0	40 °C
Curve	8191	1416	1416 Unknown Unit

Table 18

	Units		
Axis	-40	0	40 °C
Curve	8191	500	500 Unknown Unit

Table 19

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

Table 20

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

Table 21

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

Table 22

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1	Substrate Temperature	>= 146.296875 °C			>= 5 Fail Time (Sec)	One Trip	
			Fail Case 2	Substrate Temperature	>= 50 °C			>= 2 Fail Time (Sec)		
				Ignition Voltage	>= 18 Volts					
							Substrate Temp Lo >= 0 °C Substrate Temp Hi <= 170 °C Substrate Temp Between Temp Range for Time >= 0.25 Sec			
			Disable Conditions:		MIL not Illuminated for DTC's: TCM: P0634 ECM: None					
HWIO	P0658	Actuator Supply Voltage Circuit Low	Open or ground short is detected by hardware circuitry	= TRUE Boolean			>= 3 Fail Counts = 5 Sample Counts	One Trip		
						Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec HSD #1 Enabled = True Boolean				
			Disable Conditions:		MIL not Illuminated for DTC's: TCM: P0658 ECM: None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Transmission Fluid Temperature Sensor (TFT)	P0667	TCM internal temperature thermistor failed at a constant value or toggling at high frequency.	<u>Fail Case 1</u>	Enable Vehicle Speed	>= 8 Kph			Special No Trip	
			Enable TCC Slip	> 150 RPM			>= 300 Vehicle Speed Enable Time (Sec)		
			Enable Transmission Fluid Temperature	>= 70 °C			>= 150 TCC Slip Enable Time (Sec)		
			Enable Transmission Fluid Temperature Delta from startup	>= 55 °C					
			Enable Substrate Temp Delta	< 2 °C			>= 100 Temp Delta Enable Time (Sec)		
			Startup Substrate Temperature Lo Enable	>= -55 °C					
			Startup Substrate Temperature HI Enable	<= 21 °C					
			When Above FC1 Enable Conditions have been Met, Increment Fail Timer				> 100 Fail Timer (Sec)		
			<u>Fail Case 2</u>	Vehicle Speed	>= 8 RPM				>= 300 Vehicle Speed Enable Time (Sec)
			TCC Slip	> -12 RPM			>= -12 TCC Slip Enable Time (Sec)		
			Transmission Fluid Temperature	>= 70 °C					
			Transmission Fluid Temperature Delta from startup	>= 55 °C					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Enable Substrate Temp Delta	< 2 °C			>= 100 Temp Delta Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>= 120 °C				
			Startup Substrate Temperature HI Enable When Above FC2 Enable Conditions have been Met, Increment Fail Timer	<= 150 °C			> 100 Fail Timer (Sec)	
			<u>Fail Case 3</u> TCM Internal temp delta	>= 20 °C			>= 14 Fail Counts Sample Time (Sec) >= 7	
					TCM Internal Temp Lo TCM Internal Temp Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= -55 °C <= 150 °C >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0667, P0716, P0717, P0722, P0723 ECM: None	
Transmission Control Module (TCM)	P0668	TCM internal temperature thermistor failed at a high temperature (short to Ground).	TCM Substrate Temp	>= -249 °C			>= 12.75 Fail Timer (Sec)	Special No Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 18 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0668 ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature thermistor failed at a low temperature (open or short to power).	TCM Substrate Temp	<= 249 °C			>= 4 Fail Timer (Sec)	Special No Trip
					TOSS Speed Toss Speed greater than above cal for TCC Slip TCC Slip greater than above cal for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 200 RPM >= 200 Sec >= -12 RPM >= 0 Sec >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0669, P0716, P0717, P0722, P0723 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
					Tow Haul Mode Switch Diagnostic Enabled Ignition Voltage Lo	= TRUE Boolean >= 8.5996 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 18 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		
Mode Switch	P071D	Transmission Mode Switch B Circuit	If Sport Mode Switch is Active =	TRUE Boolean	Sport Mode Switch Diagnostic Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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	Fail Time (Sec) >= 600	Special No Trip
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Vehicle Speed >= 8 Kph TCC Slip >= 150 RPM Transmission Fluid Temperature Lo >= -50 °C				Vehicle Speed Enable Time (Sec) >= 300 TCC Slip Enable Time (Sec) >= 0	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Transmission Fluid Temperature High	<= 21 °C				
			Engine Coolant Temp	>= 70 °C				
			Engine Coolant Temp Delta	>= 55 °C				
			TFT Delta from Startup	< 2 °C				
			If the Above Enable Conditions are Met. Then Increment Fail Counter				>= 100	Fail Time (Sec)
			<u>Fail Case 2</u>					
			Vehicle Speed	>= 8 Kph			>= 300	Vehicle Speed Enable Time (Sec)
			TCC Slip	>= -12 RPM			>= 0	TCC Slip Enable Time (Sec)
			Transmission Fluid Temperature	>= 129 °C				
			Transmission Fluid Temperature	<= 170 °C				
			Engine Coolant Temp	>= 70 °C				
			Engine Coolant Temp Delta	>= 55 °C				
			TFT Delta from startup	< 2 °C			>= 100	TFT Delte Enable Time (Sec)
			If the Above Enable Conditions are Met. Then Increment Fail Counter				>= 100	Fail Time (Sec)
			<u>Fail Case 3</u>					
			TFT Delta	>= 20 °C			= 5	Fail Counts
							= 7	Sample Time (Sec)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 4					
			Transmission Fluid Temperature	<= 20 °C				
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 99.998 Pct		
					Vehicle Speed Lo	>= 8 Kph		
					Vehicle Speed Hi	<= 511 Kph		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 6500 RPM		
					Engine Coolant Lo	>= -39 °C		
					Engine Coolant Hi	<= 149 °C		
					Engine Torque Signal Valid	= TRUE Boolean		
					Accelerator Position Signal Valid	= TRUE Boolean		
					Engine Crank Position Sensor Signal Valid	= TRUE Boolean		
					Transmission Fluid Temperature Lo	>= -50 °C		
					Transmission Fluid Temperature Hi	<= 170 °C		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Coolant Sensor Signal Valid	= TRUE Boolean		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Disable Conditions: MIL not illuminated for DTC's:	TCM: ECM: P0711, P0101, P0716, P0102, P0717, P0103, P0722, P0116, P0723, P0117, P0742, P0118, P2726 P0121, P0122, P0123, P0336, P0337,			
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	Transmission Fluid Temperature	>= -74 °C			>= 12.75 Fail Time (Sec)	Special No Trip	
					Ignition Voltage Lo	>= 8.5996 Volts			Ignition Voltage Hi
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low	Transmission Fluid Temperature	>= 174 °C		Disable Conditions: MIL not illuminated for DTC's:	>= 10 Fail Time	Special No Trip	
					Ignition Voltage Lo	>= 8.5996 Volts			Ignition Voltage Hi

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: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 1350 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Engine Torque Lo >= 0 N*m Engine Torque Hi <= 1492 N*m Vehicle Speed >= 0 Kph Throttle Position >= 0 Pct Engine Torque Signal Valid = TRUE Boolean Throttle Position Signal Valid = TRUE Boolean			
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Transmission Input Speed Sensor	< 50 RPM			>= 4.5 Fail Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for Engine Torque Lo Engine Torque Hi Vehicle Speed Disable Conditions:	>= 5 Sec >= 50 N*m <= 1492 N*m >= 16 Kph MIL not Illuminated for DTC's: TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103 P0723		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 70 RPM			>= 4.5 Fail Time (Sec)	One Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Lo Engine Torque Hi Throttle Position Transmission Input Speed Lo Transmission Input Speed Hi Transmission Fluid Temperature Engine Torque Signal Valid Throttle Position Signal Valid Disable Conditions:	>= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec >= 50 N*m <= 1492 N*m >= 8 Pct >= 1000 RPM <= 8191 RPM >= -40 °C = TRUE Boolean = TRUE Boolean MIL not Illuminated for DTC's: TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>= 210 RPM			>= 0.2 Enable Time (Sec)	One Trip
			Input Speed Delta	< 4095 RPM			>= 0 Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Output Speed Delta	<= 8191 RPM			>= 0	Enable Time (Sec)
			Output Speed Drop	> 650 RPM			>= 1.5	Recover Fail Time (Sec)
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 3200 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Range Change Delay Timer	>= 5 Sec		
					4WD Range Change Delay Timer	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's:		
						TCM: ECM:		
						P0716, P0101,		
						P0717, P0102,		
						P0722, P0103,		
						P0723, P0121,		
						P0973, P0122,		
						P0974, P0123		
						P0976, P0977		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 500 Kpa			>= 2	Enable Time (Sec)
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>=	Please See Calibration Table 3 in Supporting Documents	RPM	>= 4	Enable Time (Sec)
			(B) TCC Slip Error @ Lock On Mode	>=		RPM	>= 4	Enable Time (Sec)
								One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 3 TCC Stuck Off Fail Counter	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 99.998 Pct		
					2nd Gear Ratio Lo	>= 2.671 Ratio		
					2nd Gear Ratio High	<= 3.073 Ratio		
					3rd Gear Ratio Lo	>= 1.713 Ratio		
					3rd Gear Ratio High	<= 1.9709 Ratio		
					4th Gear Ratio Lo	>= 1.3151 Ratio		
					4th Gear Ratio High	<= 1.5129 Ratio		
					5th Gear Ratio Lo	>= 0.9301 Ratio		
					5th Gear Ratio Hi	<= 1.0699 Ratio		
					6th Gear Ratio Lo	>= 0.6901 Ratio		
					6th Gear Ratio High	<= 0.7939 Ratio		
					Transmission Fluid Temperature Lo	>= 20 °C		
					Transmission Fluid Temperature Hi	<= 130 °C		
					TCC Command Lock ON or ON	= TRUE Boolean		
					PTO Not Active	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0742, P0122, P2762, P0123 P2763, P2764		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM				One Trip
			TCC Slip Speed	<= 30 RPM				
			If TCC Slip is between above calcs when TCC Commanded Off, Increment Fail Timer				>= 2.5 Fail Time (Sec)	
			If Fail Timer has expired, increment Fail Counter				= 6 Fail Counter	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Torque Lo	>= 80 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Transmission Fluid Temperature Lo	>= 20 °C		
					Transmission Fluid Temperature Hi	<= 130 °C		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 3 Pct		
					Vehicle Speed	>= 16 Kph		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 6500 RPM		
					Gear Ratio Lo	>= 0.6901 Ratio		
					Gear Ratio Hi	<= 3.073 Ratio		
					Commanded Gear	>= 2nd Gear		
					Shift Solenoid A Enabled	= TRUE Boolean		
					TCC Command Off	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0101, P0717, P0102, P0722, P0103, P0723, P0121, P0741, P0122, P0742, P0123 P1751, P2762, P2763, P2764		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip	>= 200 RPM			≠ 0 Neutral Timer (Sec) ≥ 0.75 Fail Timer (Sec)	Two Trips
			Commanded Gear	= 1st Lock rpm				
			Closest Gear Ratio	= 4th Gear				
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					TPS	>= 0.4 %		
					Shift is Complete			
					AND			
					Transmission Fluid Temperature	>= 0 °C		
					OR			
					Output Speed	>= 0 RPM		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Engine Torque Signal Valid from ECM, High side driver is enabled	= TRUE Boolean		
					High-Side Driver is Enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 200 Rpm			Please Refer to Table 7 in Supporting Documents Neutral Timer (Sec)	One Trip
			Attained Gear ≠ 3rd Gear Commanded Gear = 3rd Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd C456/CBR1 Pressure Switch Error = TRUE Boolean					
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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 >= 0.4 % Shift is Complete Transmission Fluid Temperature >= 0 °C			
					Disable MIL not Illuminated for DTC's: Conditions:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail Case 1</u>	Commanded Gear =	1st Locked or 1st FW			Please Refer to Table 7 in Neutral in Supporting Documents Timer (Sec)
				Gear Box Slip >=	200 RPM			
			<u>Fail Case 2</u>	Commanded Gear =	2nd Gear			
				Gear Box Slip <=	200 RPM			
			Closest Gear Ratio =	2nd Gear				
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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 >= 0.4 % Shift is Complete Transmission Fluid Temperature >= 0 °C High-Side Driver is Enabled = TRUE Boolean Throttle Position Signal Valid from ECM = TRUE Boolean			
					Disable Conditions: MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<p><u>Fail Case 1</u> Case: Steady State 3rd Gear</p> <p>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 >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)</p> <p>If the above conditions are true, Increment Sum and Fail counters</p>				<p>Please Refer to Table 7 in Supporting Documents Neutral Timer (Sec)</p> <p>>= 2 3rd Gear Fail Counts 3-5R</p> <p>>= 14 Clutch Fail Counts</p>	One Trip
			<p><u>Fail Case 2</u> Case: Steady State 5th Gear</p> <p>Commanded Gear = 5th Gear</p> <p>Gearbox Slip >= 200 Rpm</p> <p>Intrusive Test: Command 6th Gear</p> <p>If attained Gear=6th gear Time >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)</p>			<p>Please Refer to Table 7 in Supporting Documents Neutral Timer (Sec)</p>		

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 Sum and Fail counters				5th Gear Fail Counts 3-5R >= 3 Clutch Fail Counts >= 14	
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM A OR B (A) Output speed enable >= 650 RPM (B) Accelerator Pedal enable >= 0.4 Pct Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Lock Commanded Gear slip <=	33 RPM				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time Invasive test: (CBR1 clutch exhausted) 3rd closest gear = TRUE	Table Based Time Please Refer to Table 6 in supporting documents >= Enable Time (Sec)			>= 0.75	Fail Timer (Sec)
			Case: Steady State 2nd gear Closest Gear Ratio = 3rd Gear Neutral Time ≠ 0 Sec Invasive test: (CB26 clutch exhausted) 3rd closest gear = TRUE				>= 0.75	Fail Timer (Sec)
			Case: Steady State 4th gear Closest Gear Ratio = 3rd Gear Neutral Time ≠ 0 Sec Invasive test: (C456 clutch exhausted) 3rd closest gear = TRUE				>= 0.75	Fail Timer (Sec)
			Case: Steady State 6th gear Closest Gear Ratio = 5th Gear Neutral Time ≠ 0 Sec Invasive test: (CB26 clutch exhausted) 5th closest gear = TRUE				>= 0.75	Fail Timer (Sec)
					PRNDL State defaulted = FALSE inhibit RVT = FALSE IMS fault pending indication = FALSE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					output speed >= 0 RPM TPS validity flag = TRUE Hydraulic_System_Pressurized = TRUE Minimum output speed for RVT >= 0 Nm A OR B (A) Output speed enable >= 650 Nm (B) Accelerator Pedal enable >= 0.4 Nm Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R]	Primary Offgoing Clutch is exhausted (See Table 14 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip Fail 1 Timers Below: fail timer 1 (3-1 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control <= 40 RPM >= 1.200195313 Fail Time (Sec) >= 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 (3-2 shifting with Closed Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (3-4 shifting with Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (3-4shifting with Closed Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (3-5 shifting with Throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (3-5 shifting with Closed 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 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 17 for Fail Timer 2	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Trans oil temperature > 0 °C Input Speed Sensor FA or TFTKO = FALSE Boolean output speed sensor fault = FALSE Boolean Command / Attained Gear ≠ 1st FW 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	Disable MIL not Illuminated for DTC's: TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	<u>Fail Case 1</u> Case: Steady State 4th Gear Gear slip Intrusive test: commanded 5th gear If attained Gear ≠5th for time Increment 4th Gear Fail Counter and C456 Fail Counters	>= 200 RPM >= Enable Time (Sec) Refer to Table 4 in supporting documents			Please See Table 7 For Neutral Timer (Sec) Time Cal >= 2 4th Gear Fail Count C456 >= 14 Fail Counts	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 >= Enable Time (Sec) Refer to Table 4 in supporting documents</p> <p>Increment 5th Gear Fail Counter and C456 Fail Counters</p>				<p>Please See Table 7 Neutral For Timer (Sec) Neutral Time Cal</p> <p>>= 2 5th Gear Fail Count C456</p> <p>>= 14 Fail Counts</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 >= Enable Time (Sec) Refer to Table 4 in supporting documents</p> <p>Increment 6th Gear Fail Counter and C456 Fail Counters</p>				<p>Please See Table 7 Neutral For Timer (Sec) Neutral Time Cal</p> <p>>= 2 6th Gear Fail Count C456</p> <p>>= 14 Fail Counts</p>	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean Hydraulic System Pressurized = TRUE Boolean Minimum output speed for RVT >= 0 RPM A OR B (A) Output speed enable >= 650 RPM (B) Accelerator Pedal enable >= 0.4 Pct Common Enable Criteria Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123			
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Lock Commanded Gear slip <= 33 RPM If the Above is True for Time >= Enable Time (Sec) Refer to Table 6 in supporting documents					One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted)					
			4th closest gear =	TRUE			>= 0.75	Fail Timer (Sec)
			<u>Fail Case 2</u> Case Steady State 2nd					
			4th closest gear =	TRUE Boolean				
			Neutral Time ≠	0 Sec				
			Intrusive test: (CB26 clutch exhausted)					
			4th closest gear =	TRUE Boolean			>= 0.75	Fail Timer (Sec)
			<u>Fail Case 3</u> Case Steady State 3rd					
			4th closest gear =	TRUE Boolean				
			Closest Gear Ratio =	3rd Gear				
			Neutral Time ≠	0 Sec				
			Intrusive test: (C35R clutch exhausted)					
			4th closest gear =	TRUE Boolean			>= 0.75	Fail Timer (Sec)
					PRNDL State defaulted = FALSE Boolean			
					inhibit RVT = FALSE Boolean			
					IMS fault pending indication = FALSE Boolean			
					output speed >= 0 RPM			
					Crank Enable Criteria is met = TRUE Boolean			
					TPS validity flag = TRUE Boolean			
					Hydraulic_System_Pressurized = TRUE Boolean			
					Minimum output speed for RVT >= 0 RPM			
					A OR B			
					(A) Output speed enable >= 650 RPM			
					(B) Accelerator Pedal enable >= 0.4 Pct			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E		
						ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456]	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)	= TRUE	Boolean			One Trip		
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	≠	Initial Clutch Control					
			Attained Gear Slip	<=	40 RPM					
			Fail 1 Timers Below:							
			fail timer 1 (4-1 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-1 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
fail timer 1 (6-2 shifting without throttle)	>=	1.200195313	Fail Time (Sec)							
fail timer 1 (6-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			<p>If Attained Gear Slip is Less than Above Call Increment Fail Timers</p>				<p>Total Fail Time = (Fail Timer 1 + Fail Timer 2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 17 for Fail Timer 2</p> <p style="text-align: right;">sec</p>	
					<p>Trans oil temperature > 0 °C</p> <p>Input Speed Sensor FA or TFTKO = FALSE Boolean</p> <p>output speed sensor fault = FALSE Boolean</p> <p>Command / Attained Gear ≠ 1st FW 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>	<p>TCM: P182E</p> <p>ECM: None</p>		
				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled = 1 Boolean Tap Up Switch Stuck in the Up Position in Park Enabled = 1 Boolean Tap Up Switch Stuck in the Up Position in Reverse Enabled = 1 Boolean Tap Down Switch ON = TRUE Boolean NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600	Fail Time (Sec)
					Ignition Voltage Low >= 8.5996 Volts Ignition Voltage High <= 18 Volts Engine Speed Low >= 500 RPM Engine Speed High <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable MIL not Illuminated for DTC's: TCM: P0826, P0815, P182E, 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 Gear 1 Enabled = 1 Boolean Tap Down Switch Stuck in the Down Position in Gear 2 Enabled = 1 Boolean Tap Down Switch Stuck in the Down Position in Gear 3 Enabled = 1 Boolean Tap Down Switch Stuck in the Down Position in Gear 4 Enabled = 1 Boolean		Time Since Last Range Change	>= 1 Sec		Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 sec	
			<u>Fail Case 2</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled	= 1 Boolean	Time Since Last Range Change	>= 1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 600 sec	

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					
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0826, P0816, P182E, 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 <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0826, P1761 ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec			>= 18 Fail Counts	
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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	>= 0 °C <= 120 °C >= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM >= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, 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 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			>= 5 Fail Counts	Special No Trip
					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	>= 0 °C <= 120 °C >= 8.5996 Volts <= 18 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: P0711, P0712, P0713, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) = 0.375	One Trip
					P0962 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Line Pressure Control Solenoid Enabled = TRUE Boolean	Disable Conditions: MIL not Illuminated for DTC's: TCM: P0962 ECM: None		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			Fail Time (Sec) >= 0.3 Sample Time (Sec) = 0.375	One Trip
					P0966 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Line Pressure Control Solenoid Enabled = TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's: TCM: P0966 ECM: None			
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					P0967 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P0967 ECM: None			
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					P0970 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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.
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0970 ECM: None		
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					P0971 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not illuminated for DTC's: TCM: P0971 ECM: None		
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	Hardware circuitry detects ground short	= TRUE Boolean			>= 1.2 Fail Time (Sec) Sample = 1.5 Time (Sec)	One Trip
					P0973 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec	Disable Conditions: MIL not illuminated for DTC's: TCM: P0973 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High	Hardware circuitry detects open circuit or power short	= TRUE Boolean			>= 1.2 Fail Time (Sec) Sample = 1.5 Time (Sec)	Two Trips
					P0974 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P0974 ECM: None			
Mode 3 Multiplex Valve	P0976	Shift Solenoid B Control Circuit Low	Hardware circuitry detects ground short	= TRUE Boolean			>= 1.2 Sec = 1.5 Sec	One Trip
					P0976 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P0976 ECM: None			
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	Hardware circuitry detects high pressure error	= TRUE Boolean			>= 1.2 Sec = 1.5 Sec	One Trip
					P0977 Test Enabled = TRUE Boolean Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Disable Conditions:	>= 500 RPM <= 7500 RPM >= 5 Sec MIL not Illuminated for DTC's: TCM: P0977 ECM: None		
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter If Slip is Greater than the Above Cal Increment Fail Sample	>= 100 RPM	Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for Attained Gear Slip M2 Solenoid is Commanded On Current Gear ≠ 2nd Gear Calculated line pressure is 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 Test is delayed by a calibrated amount of time to allow the M2 valve to get into position Upshift is In Progress Input Speed Sensor Signal The torque converter clutch has transition from Locked to Unlocked. TCC Stuck On Enable Criteria:	= 1 Seconds >= 100 = TRUE Boolean ≠ 2nd Gear >= 1300 kPa <= 110 RPM = 0.5 Sec = FALSE Boolean >= 1200 RPM = TRUE Boolean <= 3.073 Ratio >= 0.6901 Ratio	= 5 Fail Counts = 5 Fail Samples	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi	<= 6500 RPM		
					Engine Speed Lo	>= 500 RPM		
					Vehicle Speed Hi	<= 511 KPH		
					Vehicle Speed Lo	>= 16 KPH		
					Stuck On During Upshift Enabled	= 0 Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>= 55 Nm		
					Down Shift In Progress	= FALSE Boolean		
					Current Gear ≠ 1st Gear Locked	≠ Gear Locked Boolean		
					Engine Torque Hi	<= 1492 Nm		
					Engine Torque Lo	>= 80 Nm		
					Current Range ≠ Reverse	≠ Reverse Range		
					Transmission Sump Temperature	<= 130 °C		
					Transmission Sump Temperature	>= 20 °C		
					PTO Active	= FALSE Boolean		
					Common Enables:			
					Vehicle Speed Calculated from TOSS	<= 511 KPH		
					Ignition Voltage	>= 8.5996 V		
					Ignition Voltage	<= 18 V		
					Vehicle Speed	<= 511 KPH		
					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		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P0742,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P1751, P2763, P2764 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit	Serial Data Signal is Corrupted or Missing	= TRUE Boolean			>= 3 Fail Counter Sample Timer (Sec) <= 10	Special No Trip
					Rolling Count Diagnostic Enabled = TRUE Boolean Tap Up Tap Down Message Health = TRUE Boolean Ignition Voltage Low >= 8.5996 Volts Ignition Voltage High <= 18 Volts Engine Speed Low >= 500 RPM Engine Speed High <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable MIL not Illuminated for DTC's: TCM: None Conditions: ECM: None			
Mode Switch	P1762	Transmission Mode Switch Signal Circuit	Serial Data Signal is Corrupted or Missing	= TRUE Boolean			>= 3 Fail Counter Sample Timer (Sec) <= 10	Special No Trip
					Pattern Switch Rolling Count Diagnostic Enabled = TRUE Boolean Pattern Switch Message Health = TRUE Boolean Ignition Voltage Low >= 8.5996 Volts Ignition Voltage High <= 18 Volts Engine Speed Low >= 500 RPM Engine Speed High <= 7500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:			
Mode Switch	P1763	Winter Mode Switch	Serial Data Signal is Corrupted or Missing	= TRUE Boolean			>= 600 Fail Time (Sec)	Special No Trip
					Rolling Count Diagnostic Enabled	= TRUE Boolean		
					Winter Mode Switch Diagnostic Enabled	= TRUE Boolean		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 Volts		
					Engine Speed Lo	>= 500 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:			
Tap Up Tap Down Switch (TUTD)	P1765	Upshift Switch Circuit #2	<u>Fail Case 1</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 0 Boolean	Time Since Last Range Change	>= 1 Enable Time (Sec)		Special No Trip
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 5 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 6 Enabled	= 0 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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 Fail Time (Sec)	
			<u>Fail Case 2</u> Tap Up Switch Stuck in the Up Position in Gear 1 Enabled	= 0 Boolean	Time Since Last Range Change	>= 1 Enable Time (Sec)		
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 5 Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Gear 6 Enabled	= 0 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 Down Switch ON	= TRUE Boolean			>= 600 Fail Time (Sec)	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met					
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 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.
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P1767, P1765 P182E, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P1766	Downshift Switch Circuit #2	<u>Fail Case 1</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 2 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 3 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 4 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 5 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 6 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear Park Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear Reverse Enabled = 0 Boolean Tap Down Switch ON = TRUE Boolean		Time Since Last Range Change	>= 1 Sec		Special No Trip
			<u>Fail Case 2</u> Tap Down Switch Stuck in the Down Position in Gear 1 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 2 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 3 Enabled = 0 Boolean		Time Since Last Range Change	>= 1 Sec	>= 1 sec	

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 Gear 4 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 5 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Gear 6 Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Neutral Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Park Enabled = 0 Boolean Tap Down Switch Stuck in the Down Position in Reverse Enabled = 0 Boolean Tap Down Switch ON = TRUE Boolean NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 sec	
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P1767, P1766, P182E, P1761 ECM: None			
Tap Up Tap Down Switch (TUTD)	P1767	Up and Down Shift Switch Circuit #2	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for Disable Conditions:	>= 5 Sec TCM: P1767, P1761 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 Previous range != CeTRGR_PRN DL_Drive6 Range State Previous range != CeTRGR_PRN DL_Drive4 Range State Either the S1 or S3 Pressure Switch indicates "Pressure Present" Steady State Engine Torque >= -50 Nm Steady State Engine Torque <= 1492 Nm If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	One Trip
			<u>Fail Case 2</u> S3 Pressure Switch indicates "Pressure Present" Commanded Gear = 1st Locked Gear If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			<u>Fail Case 3</u> Current range = "Transitional 13"		Previous range !=	CeTR GR_P RNDL_Drive3		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Either the S1 or S3 Pressure Switch indicates "Pressure Present" Engine Torque	= TRUE Boolean >= -1492 Nm	Previous range	CeTR GR_P RNDL_ Drive2 !=		
			Engine Torque	<= 1492 Nm	If the "IMS 7 Position" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"			
			If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	>= 0.225 Seconds			>= 15	Fail Counts
			<u>Fail Case 4</u> Current range	= "Transitional 2" or "Transitional 8"				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present" Steady State Engine Torque	= TRUE Boolean >= -50 Nm				
			Steady State Engine Torque	<= 1492 Nm				
			The above conditions are present for If the above Conditions have been met, Increment Fail Counter	>= 0.225 Seconds			>= 15	Fail Counts
			<u>Fail Case 5</u> Current range	= "Illegal"	A Open Circuit Definition:			
			or		Last Valid Range State	≠ "Neutral, Transitional 8, or Transitional 11"		
			ECM Park/Neutral Message	= "Park/Neutral"	and			
			and		Previous transitional state	≠ "Illegal"		
			Current Range	≠ Park or Neutral	and			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			or ECM Park/Neutral Message ≠ "Park/Neutral" and Current range = Park, Neutral, Reverse, Transitional 8, or Transitional 11 and A Open Circuit (See Definition) = FALSE Boolean If the above Conditions are present, Increment Fail timer		PRNDL Circuit A = Open Circuit PRNDL Circuit B = Closed Circuit PRNDL Circuit C = Open Circuit PRNDL Circuit P = Open Circuit		>= 2 Seconds	
			Fail Case 6 Current PRNDL State = "Reverse" and Last Previous valid state = "Drive 4" Range If the above Conditions are present, Increment Fail timer				>= 2 Seconds	
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 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 Disable Conditions: MIL not Illuminated for DTC's:	TCM: P182E, P0722, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	≠ CeTRGR_PRN DL_Drive4 Range State				Special No Trip
			TUTD/MUMD Mode is Selected	= TRUE Boolean				
			Enable Switch is Active	= TRUE Boolean				
			The above conditions are present for	= TRUE Boolean			>= 2 Fail Time (Sec)	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 18 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		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0816, P0826, P182E, P1876, U0100 ECM: None		
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠ Park or Neutral Enumeration				One Trip
			The following events must occur Sequentially					
			Initial Engine speed	<= 50 RPM			>= 0.25 Enable Time (Sec)	
			Engine Speed Between Following Cals				>= 0.0688 Enable Time (Sec)	
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM				
			Then					
			Final Transmission Input Speed	>= 525 RPM			>= 1.25 Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					PRNDL State is \neq Park or Neutral Enumeration DTC has Ran this Key Cycle? $=$ FALSE Boolean Ignition Voltage Lo \geq 8.5996 V Ignition Voltage Hi \leq 18 V Transmission Output Speed \leq 90 rpm Disable Conditions: MIL not Illuminated for DTC's: TCM: P0722, P0723, P1915 ECM: None			
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Ignition Voltage to TCM	$<$ 6 Volts			\geq 280 Fail Counts $=$ 280 Sample Counts	One Trip
					Normal CAN Comm Enabled $=$ TRUE Boolean Engine Running Flag From ECM $=$ TRUE Boolean Run Crank Diag Enabled $=$ TRUE Boolean Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case: Steady State 2nd Gear Case 1 Gear slip Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time	\geq 200 RPM \geq Enable Time (Sec) Table Based Time Please see Table 4 in Supporting Documents			\geq Please See Table 7 For Neutral Timer (Sec) Time Cal	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions have been met, Increment Fail Counter and Sum Counters				>= 3 2nd Gear Fail Count >= 14 CB26 Fail Count	
			<p><u>Fail Case 2</u> Case: Steady State 6th 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 Fail Counter and Sum Counters</p>	<p>>= 200 RPM</p> <p>Table Based Time Please see Table 4 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 7 For Neutral Time Cal</p> <p>>= 3 5th Gear Fail Count >= 14 Total Fail Count</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 >= 0.4 Pct</p> <p>Common Enable Criteria</p> <p>Ignition Voltage Lo >= 8.5996 Volts</p> <p>Ignition Voltage Hi <= 18 Volts</p> <p>Engine Speed Lo >= 500 RPM</p>			

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 Throttle Position Signal Valid Disable Conditions:	<= 7500 RPM >= 5 Sec = TRUE Boolean TCM: P0716, P0717, P0722,, P0723, P182E ECM: P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 15 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-1 shifting without throttle) fail timer 1 (2-3 shifting with throttle) fail timer 1 (2-3 shifting without throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control <= 40 RPM >= 1.200195313 Fail Time (Sec) >= 1.200195313 Fail Time (Sec) >= 1.200195313 Fail Time (Sec) >= 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 (2-4 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (2-4 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-4 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-4 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-5 shifting with throttle)	>= 1.200195313	Fail Time (Sec)			
			fail timer 1 (6-5 shifting without throttle)	>= 1.200195313	Fail Time (Sec)			
			If Attained Gear Slip is Less than Above Call Increment Fail Timers				Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 17 for Fail Timer 2	
					Trans oil temperature	> 0 °C		
					Input Speed Sensor FA or TFTKO	= FALSE Boolean		
					output speed sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st FW Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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	= 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: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	<u>Fail Case 1</u> Case: Steady State 1st Gear Commanded Gear slip If Above is True for Time Intrusive test: (Exhaust CBR1) If closest gear	<= 33 MPH Table Based Time Please see >= Table 6 in Supporting Documents Enable Time (Sec) = 2nd Gear			>= 0.75 sec	One Trip
			<u>Fail Case 2</u> Case: Steady State 3rd Gear If Closet gear Intrusive test: (Exhaust C35R) If Closet gear	= 2nd gear = 2nd gear			>= 0.75 sec	
			<u>Fail Case 3</u> Case: Steady State 4rd Gear If Closet gear Intrusive test: (Exhaust C1234) If Closet gear	= 6th gear = 6th gear			>= 0.75 sec	
			<u>Fail Case 4</u> Case: Steady State 5th Gear If Closet gear	= 6th gear				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Neutral Time Invasive test: (Exhaust C35R) If Closet gear	≠ 0 sec = 6th gear			>= 0.75 sec	
					Trans oil temperature Input Speed Sensor FA or TFTKO 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	> 0 °C = FALSE Boolean = FALSE Boolean ≠ 1st FW 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: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.5996 Volts <= 18 Volts >= 500 RPM <= 7500 RPM		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P2720 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 18 Volts Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Disable Conditions: MIL not Illuminated for DTC's: TCM: P2721 ECM: None			
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip
			Gear slip >= 200 RPM Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time >= Table based Timer, Please See Table 4 in Supporting Documents If Above Conditions have been met, Increment Fail Counter and Sum Counters		Enable Time (Sec)	Please See Table 7 For Neutral Timer (Sec) Cal >= 2 1st Gear Fail Count C1234 >= 14 Clutch Fail Count		
			Fail Case 2 Case: Steady State 2nd 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 3rd gear</p> <p>If attained Gear ≠ 3rd for Time</p> <p>If Above Conditions have been met, Increment Fail Counter and Sum Counters</p>	<p>≥ 200 RPM</p> <p>Table based Timer, Please See Table 4 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 7 For Neutral Time Cal</p> <p>≥ 2</p> <p>≥ 14</p> <p>2nd Gear Fail Count Total Fail Count</p>	
			<p>Fail Case 3 Case: Steady State 3rd Gear</p> <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 Fail Counter and Sum Counters</p>	<p>≥ 200 RPM</p> <p>Table based Timer, Please See Table 4 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 7 For Neutral Time Cal</p> <p>≥ 2</p> <p>≥ 14</p> <p>3rd Gear Fail Count C1234 Total Fail Count</p>	
			<p>Fail Case 4 Case: Steady State 4th Gear</p>					

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 5th gear</p> <p>If attained Gear = 5th For Time</p> <p>If Above Conditions have been met, Increment Fail Counter and Sum Counters</p>	<p>>= 200 RPM</p> <p>Table based Timer, Please See Table 4 in Supporting Documents</p> <p>Enable Time (Sec)</p>			<p>Please See Table 7 For Neutral Time Cal</p> <p>>= 3</p> <p>>= 14</p> <p>4th Gear Fail Count Total Fail Count</p>	
					<p>PRNDL State defaulted</p> <p>inhibit RVT</p> <p>IMS fault pending indication</p> <p>TPS validity flag</p> <p>Hydraulic System Pressurized</p> <p>Minimum output speed for RVT</p> <p>A OR B</p> <p>(A) Output speed enable</p> <p>(B) Accelerator Pedal enable</p> <p>Common Enable Criteria</p> <p>Ignition Voltage Lo</p> <p>Ignition Voltage Hi</p> <p>Engine Speed Lo</p> <p>Engine Speed Hi</p> <p>Engine Speed is within the allowable limits for</p> <p>Throttle Position Signal Valid</p>	<p>= FALSE Boolean</p> <p>= FALSE Boolean</p> <p>= FALSE Boolean</p> <p>= TRUE Boolean</p> <p>= TRUE Boolean</p> <p>>= 0 RPM</p> <p>>= 650 RPM</p> <p>>= 0.4 Pct</p> <p>>= 8.5996 Volts</p> <p><= 18 Volts</p> <p>>= 500 RPM</p> <p><= 7500 RPM</p> <p>>= 5 Sec</p> <p>= TRUE Boolean</p>		

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: P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip fail timer 1 (2-6 shifting with throttle) fail timer 1 (2-6 shifting without throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting without throttle) fail timer 1 (4-5 shifting with throttle) fail timer 1 (4-5 shifting without throttle)	= TRUE Boolean = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control ≤ 40 RPM ≥ 1.200195313 sec ≥ 1.200195313 sec ≥ 1.200195313 sec ≥ 1.200195313 sec ≥ 1.200195313 sec ≥ 1.200195313 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 (4-6 shifting with throttle)	>= 1.200195313 sec			Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Reference Supporting Table 19 for Fail Timer 2	
			fail timer 1 (4-6 shifting without throttle)	>= 1.200195313 sec				
			If attained gear has been met then increment fail timers					
					Trans oil temperature	> 0 °C		
					Input Speed Sensor FA or TFTKO	= FALSE		
					output speed sensor fault	= FALSE		
					Command / Attained Gear	≠ 1st FW		
					High Side Driver ON	= TRUE		
					output speed limit for TUT	>= 350 RPM		
					input speed limit for TUT	>= 200 RPM		
					TUT Enable temperature	>= 0 °C		
					PRNDL state defaulted	= FALSE		
					IMS Fault Pending	= FALSE		
					Service Fast Learn Mode	= FALSE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P2729 ECM: None			
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			>= 0.3 Fail Time (Sec) Sample = 0.375 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec Disable Conditions: MIL not Illuminated for DTC's: TCM: P2730 ECM: None			
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean			>= 4.4 Fail Time (Sec) Sample = 5 Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec High Side Driver Enabled = TRUE Boolean			
					Disable Conditions: MIL not Illuminated for DTC's: TCM: P2763, P2764, P0658, P0659 ECM: None			
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	Hardware Circuitry Detects a high Pressure Error	= TRUE Boolean			>= 4.4 MPH = 5 MPH	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt Engine Speed Lo >= 500 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec High Side Driver Enabled = TRUE Boolean			
					Disable Conditions: MIL not Illuminated for DTC's: TCM: P2763, P2764, P0658, P0659 ECM: None			
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage	= TRUE Boolean			>= 5 Fail Count = 5 Sample Time (Sec)	One Trip
					Ignition Voltage Lo >= 8.5996 Volt Ignition Voltage Hi <= 18 Volt			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Communication Message Missing From	= TRUE Boolean			= 12 Fail Counts = 12 Sample Counts	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volt <= 18 Volt		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0100 ECM: None		

Supporting Tables

Table 1

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	2500	1000	800	520	200	Sec

Table 2

	Units																		
Axis	0	6.24990463	12.49981	18.74971	24.99962	31.24952	37.49943	43.74933	49.99924	56.24914	62.49905	68.74895	74.99886	81.24876	87.49866	93.74857	99.99847	Nm	
Curve	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	Kpa

Table 3

	Units									
Axis	0	64	128	192	256	320	384	448	512	Nm
Curve	50	50	50	50	50	50	50	50	50	RPM

Table 4

	Units			
Axis	-0.008	0	40	°C
Curve	409.5938	2	2	Sec

Table 5

	Units			
Axis	-0.008	0	40	°C
Curve	409.5938	3.5	3.5	Sec

Table 6

	Units			
Axis	-0.008	0	40	°C
Curve	409.5938	2	2	Sec

Table 7

	Units			
Axis	-0.008	0	40	°C
Curve	409.5938	1.5	1.5	Sec

Table 8

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.6	1.4	1.4	Sec

Table 9

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.4	1.3	1.2	Sec

Table 10

	Units					
Axis	-40	-0.0078125	40	80	120	°C
Curve	409	409	1.6	1.5	1.4	Sec

Supporting Tables

Table 11

Axis	-40	-0.0078125	40	80	120	Units °C
Curve	409	409	1.3	1.2	1.1	Sec

Table 12

Axis	-40	-20	0	30	110	Units °C
Curve	3.099609	1.90039063	1.099609	0.799805	0.599609	Sec

Table 13

Axis	-40	-20	0	30	110	Units °C
Curve	1.799805	1.20019531	0.599609	0.400391	0.299805	Sec

Table 14

Axis	-40	-20	0	30	110	Units °C
Curve	2.200195	1.40039063	0.900391	0.700195	0.400391	Sec

Table 15

Axis	-40	-20	0	30	110	Units °C
Curve	2.599609	1	0.5	0.299805	0.200195	Sec

Table 16

Axis	-40	-20	0	30	110	Units °C
Curve	3	0.90039063	0.5	0.299805	0.200195	Sec

Table 17

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