COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum	= TRUE	None		> 5 Rom Test Fail Counter	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure	= TRUE	None			One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag	= TRUE	None			One Trip
				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
					Power Mode	= Run		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: U0073 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)	P0602	Transmission Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE	None			One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	None		>= 5 Count	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0705	NSBU ABCP inputs indicate illegal position	ABCP Inputs	= 0000 or 0001			>= 60 sec	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>= 8 V <= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0706	NSBU Performance	NSBU state	= CeTRGR_PRNDL_Neutral			>= 3 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			or NSBU state	= CeTRGR_PRNDL_Transitional2				
			or NSBU state	= CeTRGR_PRNDL_Transitional11				
					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		
					Output speed	>= 50 RPM		
					Throttle position	>= 10.001 PCT		
					Engine Torque	>= 45 Nm		
					Engine Torque	<= 1492 Nm		
					Trans Temp	>= 20 Deg C		
					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		

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, P0751, P0752, P0756, P0757, P0787, P0788, P0973, P0974, P0976, P0977, P1810, P1815, P1816, P1817, P1818, P1759, P175A, P175B, P175C, P0705. 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 Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1 TFT Delta from Startup	<= 2 C°			>= 80 Fail Time (Sec)	Special No Trip
					Vehicle Speed	>= 8 Kph		
					Vehicle Speed Above min for	>= 300 Sec		
					TCC Slip	>= 120 RPM		
					TCC Slip above min for	>= 300 Sec		
					Transmission Fluid Temperature Lo	>= -39 C°		
					Transmission Fluid Temperature High	<= 20 C°		
					Engine Coolant Temp	>= 70 C°		
					Engine Coolant Temp Delta	>= 55 C°		
			Fail Case 2 TFT Delta from startup	< 2 C°			>= 80 Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 Cº Transmission Fluid Temperature <= 149 Cº Engine Coolant Temp >= 70 Cº Engine Coolant Temp Delta from startup >= 55 Cº		
			Fail Case 3 TFT Delta	>= 20 Cº			>= 14 Fail Counts (100ms loop) < 7 Sample Time (Sec)	
			Fail Case 4 Transmission Fluid Temperature	<= 20 Cº	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 Cº Engine Coolant Hi <= 149 Cº Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	>= 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.
					Engine Speed Status Valid	= TRUE		
					P0711 Common Enable Conditions			
					Transmission Fluid Temperature Lo	>= -39 Cº		
					Transmission Fluid Temperature Hi	<= 149 Cº		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 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: P0716, P0717, P0722, P0723, P0742 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48 Ω			>= 12 Fail Time (Sec)	Special No Trip
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	>= 97292 Ω			>= 80 Fail Time (Sec)	Special No Trip
					Output Speed	>= 65.625 RPM		
					Output Speed above min for	>= 200 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Slip speed	>= 120 RPM		
					TCC Slip Speed above min for	>= 200 sec		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000 RPM			>= 3.25 sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Engine Torque Signal Valid	= TRUE		
					Vehicle Speed	>= 16 KPH		
					Input Speed min	> 1050 RPM		
					Input Speed above min for	>= 2 Sec		
					Positive ISS Δ	< 500 RPM		
					Positive ISS Δ less than min for	>= 2 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle	>= 8.0002 Pct		
					Throttle Position Signal Valid	= TRUE		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0717, P0722, P0723, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	< 50 RPM			>= 4.5 Sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Engine Torque Signal Valid	= TRUE		
					Vehicle Speed	>= 16 Kph		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed	>= 1500 RPM		
					Input Speed	<= 6500 RPM		
					TCC Slip	>= -20 RPM		
					Trans Temp	>= -40 C		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 393.5 RPM			>= 3.25 Sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Range Change Timer	>= 6 Sec		
					4WD Range Timer	>= 6 Sec		
					Input Speed Δ	< 500 RPM		
					Input Speed Δ <max for	>= 2 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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: 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	<= 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		
					Trottle Position	>= 8.0002 %		
					Trottle 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM			>= 6 Sec	Two Trips
			TCC Slip Speed	<= 20 RPM			= 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TFT	<= 130 C		
					Trottle Position	>= 8.0002 %		
					Trottle 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		
					Throttle Position Signal Valid	= TRUE		
					PTO Active	= FALSE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail Case 1 — 1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
			1st gear high ratio multiplier	<= 1.050048828 Pct				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 2 4th gear low ratio multiplier 4th gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle Engine Torque Output Speed Input Speed 4WD Range Timer Range Change Timer PTO Active Trans Temp Trans Temp Engine Torque Signal Valid Throttle Position Signal Valid	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM >= 0.5 Sec >= 8.0002 Pct >= 50 N*m >= 50 RPM >= 50 RPM >= 6 Sec >= 6 Sec = FALSE >= 20 C <= 130 C = TRUE = TRUE	= 2 counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	Fail Case 1 2nd gear low ratio multiplier 2nd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	Two Trips
			Fail Case 2 3rd gear low ratio multiplier 3rd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM >= 0.5 Sec	= 2 counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle	>= 8.0002 Pct		
					Engine Torque	>= 50 N*m		
					Output Speed	>= 50 RPM		
					Input Speed	>= 50 RPM		
					4WD Range Timer	>= 6 Sec		
					Range Change Timer	>= 6 Sec		
					PTO Active	= FALSE		
					Trans Temp	>= 20 C		
					Trans Temp	<= 130 C		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1 — 1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
			Fail Case 1 — 1st gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2 — 2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail Case 1 — 3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
			Fail Case 1 — 3rd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2 — 4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
			Fail Case 2 — 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
				Disable Conditions:				
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	>= 5 Sec		
					TFT	>= 20 C		
					TFT	<= 130 C		
					Vehicle Speed	>= 16 KPH		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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		
				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, P0304,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						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	>= 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		
				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, P0304, P0305, P0306, P0307, P0308, P0335, P0336,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0340, P0345, P0346, P0365, P0366, P0390, P0391, P042E		
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage 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: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 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	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	One Trip
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				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.
Shift Solinoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	One Trip
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage 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: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Fluid Pressure Switch (TFP)	P1810	TFP state is illegal	TFP Illegal (switch B & C low)	= TRUE			>= 5 Sec	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid PTO Active	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = FALSE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Fluid Pressure Switch (TFP)	P1816	TFP indicates Park or Neutral (P/N) with drive ratio	TFP indication 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	= P/N >= 2.752807617 Ratio <= 3.167236328 Ratio >= 1.512207031 Ratio <= 1.739746094 Ratio >= 0.930053711 Ratio <= 1.069946289 Ratio >= 0.633300781 Ratio <= 0.728637695 Ratio			>= 12 Sec	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Output speed Throttle position Engine Torque Engine Torque Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid PTO Active	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec >= 82 RPM >= 8.0002 PCT >= 50 Nm <= 1492 Nm = TRUE = TRUE = TRUE = FALSE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0787, P0788, P0973, P0974, P0976, P0977, P1810, P1817, P1818		

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 Fluid Pressure Switch (TFP)	P1818	TFP indicates Park or Neutral (P/N) with reverse ratio	TFP indication	= P/N			>= 3 Sec	Two Trips
			Ratio	>= 1.993041992 Ratio				
			Ratio	<= 2.29284668 Ratio				
					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		
					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: P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0787, P0788, P0973, P0974, P0976, P0977,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P1810, P1815, P1816, P1817, P1825. 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		
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Fail Count (25ms loop) Out of 220 Sample Count (25ms loop)	One Trip
					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 Fail Count (100ms loop)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid TCC PWM command	>= 8 V <= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = ON		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>= 8 V <= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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) Out of 5 Sample Counts (1000ms loop)	Two Trips
					Ignition On			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

Table 1

Axis	-40.00	-25.00	-10.00	5.00	20.00	ºC
Curve	1900.00	1000.00	800.00	520.00	200.00	Sec

Table 2

Axis	0.00	6.25	12.50	18.75	24.99	31.24	37.49	43.74	49.99	56.24	62.48	68.73	74.98	81.23	87.48	93.73	99.98	%
Curve	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	Kpa

Table 3

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	RPM

Table 4

Axis	-40.00	-16.25	7.50	31.25	55.00	78.75	102.50	126.25	150.00	ºC
Curve	600.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	RPM

Table 5

Axis	-40.00	7.50	55.00	102.50	150.00	ºC
Curve	0.10	0.15	0.20	0.30	0.30	Sec

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 9 Volts <= 18 Volts		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 144 ºC			>= 5 Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>= 50 ºC			>= 2 Fail Time (Sec)	
			Ignition Voltage	>= 18 Volts				
			Note: either fail case can set the DTC					
					Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time P0634 Status is	>= 9 Volts <= 31.99 Volts >= 0 ºC <= 240 ºC >= 0.25 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.
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean			>= 3 Fail Counts out of 5 Sample Counts	One Trip
					P0658 Status is not	= Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		
			Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 19 in supporting documents °C				Two Trips
			If TCM substrate temp to power up temp Δ	> Refer to Table 20 in supporting documents °C				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		
					Accelerator Position Signal Valid	= TRUE Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Brake torque active	= FALSE		
					Below describes the brake torque entry criteria			
					Engine Torque	>= 90 N*m		
					Throttle	>= 30 Pct		
					Transmission Input Speed	<= 200 RPM		
					Vehicle Speed	<= 8 Kph		
					Transmission Range	≠ Park		
					Transmission Range	≠ Neutral		
					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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch hydraulic pressure	≠ Clutch Hydraulic Air Purge Event		
					Clutch used to exit brake torque active	= CeTFTD_e_C3_RatlEnbl		
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P0667 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	= CeTFTI_e_VoltageInversePropp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= 254 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= 254 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0668 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageInversePropp				Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= -254 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= -254 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0669 Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		

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 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ	> Refer to Table 20 in supporting documents ºC				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 in supporting documents ºC				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e_C3_RatlEnbl			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P06AC Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -254 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		

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		
					P06AD Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		
				Disable Conditions:	**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	>= 254 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P06AE Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 19 in supporting documents °C				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 18 in supporting documents °C				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e_C3_RatlEnbl			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P0711 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used	= CeTFTI_e_VoltageInversePropp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= 254 ºC				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= 254 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0712 Status is	≠ Test Failed This Key On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723 ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageInversePrp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= -254 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= -254 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0713 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0713, P0716, P0717, P0722, P0723 ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 1350 RPM			>= 0.8 Fail Time (Sec)	One Trip
					Engine Torque is	>= 0 N*m		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque is	<= 8191.9 N*m		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Vehicle Speed is	>= 10 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	< 8191.8 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	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					P0716 Status is not	= Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0717, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	< 50 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.
			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	= 1 Boolean		
					Engine Torque is	>= 50 N*m		
					Engine Torque is	<= 8191.9 N*m		
					Vehicle Speed	>= 16 Kph		
					Engine Torque Signal Valid	= TRUE Boolean		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0717 Status is not	= Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: P0101, P0102, P0103		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35 RPM			>= 4.5 Fail Time (Sec)	One Trip
					P0722 Status is not	= Test Failed This Key On or Fault Active		
					Transmission Input Speed Check	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Torque Check	=	TRUE	Boolean		
					Throttle Position	>=	8.0002	Pct		
					Transmission Fluid Temperature	>=	-40	ºC		
					Disable this DTC if the PTO is active	=	1	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage is	>=	9	Volts		
					Ignition Voltage is	<=	31.99	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE:					
					Engine Torque Condition 1					
					Shift Status is not	=	complete			
					OR					
					Transmission Range is	=	Park or Neutral			
					Engine Torque is	>=	8191.8	N*m		
					Engine Torque is	<=	8191.8	N*m		
					Engine Torque Condition 2					
					Engine Torque is	>=	30	N*m		
					Engine Torque is	<=	8191.8	N*m		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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	>= 1000 RPM		
					Transmission Input Speed is	<= 8191.8 RPM		
					TIS Check Condition 2			
					Engine Speed without the brake applied is	>= 3200 RPM		
					Engine Speed with the brake applied is	>= 3200 RPM		
					Engine Speed is	<= 8191.8 RPM		
					Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Powertrain Brake Pedal is Valid	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>= 105 RPM			>= 0 Enable Time (Sec)	One Trip
			Output Speed Delta	<= 8191.75 RPM			>= 0 Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Output Speed Drop	> 1000 RPM			>= 3 Output Speed Drop Recover Fail Time (Sec)	

					Range_Disable	= FALSE See Below		
					OR			

					Neutral_Range_Enable	= TRUE See Below		
					And			
					Neutral_Speed_Enable	= TRUE See Below		
					are TRUE concurrently			

					Transmission_Range_Enable	= TRUE See Below		
					Transmission_Input_Speed_Enable	= TRUE See Below		
					No Change in Transfer Case Range (High <-> Low) for	>= 5 Seconds		
					P0723 Status is not	= Test Failed This Key On or Fault Active		
					Disable this DTC if the PTO is active	= 1 Boolean		
					Ignition Voltage is	>= 9 Volts		
					Ignition Voltage is	<= 31.99 Volts		
					Engine Speed is	>= 400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_ Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta	<=	4095	RPM		
					Raw Input Speed	>=	500	RPM		
					TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied					
					Input Speed	=	0	RPM		
					A Single Power Supply is used for all speed sensors	=	TRUE	Boolean		
					Powertrain Brake Pedal Applied is	=	FALSE	Boolean		

					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/Neutral Transitional	ENUM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Range is = Neutral/ Drive Transitional ENUM And when a drop occurs Loop to Loop Drop of Transmission Output Speed is > 650 RPM ----------			
					Range_Disable is TRUE when any of the next three conditions are TRUE Transmission Range is = Park ENUM Transmission Range is = Park/Reverse Transitional ENUM Input Clutch is not = ON (Fully Applied) ENUM ----------			
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for > 1 Seconds Transmission Output Speed > 100 RPM And the acceleration of the Transmission Output Speed is < 500 RPM/ Loop Rate And the acceleration of the Transmission Output Speed is > 0 RPM/ Loop Rate ----------			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE			
					Transmission Range is	= Neutral ENUM		
					Transmission Range is	= Reverse/Neutral Transitional ENUM		
					Transmission Range is	= Neutral/Drive Transitional ENUM		
					Range Change Delay Timer	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 500 Kpa			>= 2 Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= Refer to Table 1 in Supporting Documents RPM			>= 5 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>= 5 Fail Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 6 TCC Stuck Off Fail Counter	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 8191.9 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 99.998 Pct		
					2nd Gear Ratio Lo	>= 2.7528 Ratio		
					2nd Gear Ratio High	<= 3.1672 Ratio		
					3rd Gear Ratio Lo	>= 1.7762 Ratio		
					3rd Gear Ratio High	<= 2.0437 Ratio		
					4th Gear Ratio Lo	>= 1.3485 Ratio		
					4th Gear Ratio High	<= 1.5515 Ratio		
					5th Gear Ratio Lo	>= 0.9301 Ratio		
					5th Gear Ratio Hi	<= 1.0699 Ratio		
					6th Gear Ratio Lo	>= 0.6975 Ratio		
					6th Gear Ratio High	<= 0.8025 Ratio		
					Transmission Fluid Temperature Lo	>= -7 °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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0741 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: **MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -50 RPM				One Trip
			TCC Slip Speed	<= 30 RPM				
							>= 1.2 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 5 Fail Counter	
					Run TCC Stuck On Test Enable Criteria:			
					Gear Ratio	<= 3.1715 Ratio		
					Gear Ratio	>= 2.7565 Ratio		
					Engine Speed Hi	<= 6500 RPM		
					Engine Speed Lo	>= 500 RPM		
					Vehicle Speed HI	<= 511 KPH		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	1	Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	50	Nm		
					Down Shift In Progress	=	FALSE	Boolean		
					Current Gear	≠	1st Gear Locked	Boolean		
					Engine Torque Hi	<=	8191.9	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	-7	ºC		
					Throttle Position Hyst High	>=	10	Pct		
					Throttle Position Hyst Low	<=	2.9999	Pct		
					PTO Active	=	FALSE	Boolean		
					Disable if in D1 and value true	=	0	Boolean		
					Disable if in D2 and value true	=	0	Boolean		
					Disable if in D3 and value true	=	0	Boolean		
					Disable if in D4 and value true	=	0	Boolean		
					Disable if in D5 and value true	=	0	Boolean		
					Disable if in MUMD and value true	=	0	Boolean		
					Disable if in TUTD and value true	=	0	Boolean		
					4 Wheel Drive Active	=	FALSE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Hydraulic Clutch Air Purge Active	= FALSE Boolean		
					Ignore Air Purge if value = true	= 0 Boolean		
					TCC Mode	= OFF		
					Common Enables:			
					Ignition Voltage	>= 9 V		
					Ignition Voltage	<= 31.99 V		
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P0742 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 400 RPM				Two Trips
			Commanded Gear	= 1st Lock rpm				
			Gear Ratio	<= 1.529052734			>= 0.3 Fail Tmr	
			Gear Ratio	>= 1.328979492			= 5 Fail Counts	
			If the above parameters are true				≠ 0 Neutral Timer (Sec)	
							>= 0.3 Fail Timer (Sec)	
							>= 8 Counts	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Transmission Fluid Temperature	>= -6.656 ºC		
					Shift is Complete			
					TPS	>= 0.5005 %		
					OR			
					Output Speed	>= 0 RPM		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Engine Torque Signal Valid from ECM, High side driver is enabled	= TRUE Boolean		
					High-Side Driver is Enabled	= TRUE Boolean		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 400 Rpm			>= Please Refer to Table 16 in Supporting Documents Neutral Timer (Sec)	One Trip
			Commanded Gear	= 3rd Gear				
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On	= TRUE Boolean				
			C456/CBR1 Pressure Switch	= Pressurized Boolean				
			C456/CBR1 Pressure Switch Fault	= FALSE Boolean				
			If the above parameters are true					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 5 Counts	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Output Speed	>= 0 RPM		
					OR			
					TPS	>= 0.5005 %		
					Shift is Complete			
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear Commanded Gear	= 3rd Gear				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gearbox Slip	>= 400 Rpm			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Test: Command 4th Gear					
			If attained Gear=4th gear for Time	>= Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)				
			It the above condiations are true, Increment 3rd gear fail counter				>= 2 3rd Gear Fail Counts	
			and C35R Fail counter				or >= 14 3-5R Clutch Fail Counts	
		Fail Case 2	Case: Steady State 5th Gear					
			Commanded Gear	= 5th Gear				
			Gearbox Slip	>= 400 Rpm			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive Test: Command 6th Gear					
			If attained Gear=6th gear Time	>= Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)				
			It the above condiations are true, Increment 5th gear fail counter				>= 3 5th Gear Fail Counts	
							or	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 650 RPM		
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature	>= -6.656 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 400 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 2.007324219 >= 1.744628906			>= 1.1 Fail Timer (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case 2 Case: Steady State 2nd gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 2.007324219				
			Gear Ratio	>= 1.744628906				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Fail Count in 2nd Gear or >= 3 Total Fail Counts	
			Fail Case 3 Case: Steady State 4th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 1.069946289				
			Gear Ratio	>= 0.930053711				
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Fail Count in 4th Gear or >= 3 Total Fail Counts	
			Fail Case 4 Case: Steady State 6th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.069946289			>= 1.1 Fail Timer (Sec)	
			Gear Ratio	>= 0.930053711			>= 3 counts	
			If the above parameters are true				>= 1.1 Fail Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Fail Count in 6th Gear or >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 650 Nm		
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 10.001 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.9 Nm		
					Transmission Fluid Temperature	>= -6.656 ºC		
					Input Speed Sensor fault	= 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	= FALSE Boolean		
					MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
			Disable Conditions:					
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:					
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (3-2 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (3-4 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Closed Throttle)	>= 0.900390625 Fail Time (Sec)				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TUT Enable temperature	>= -6.672 °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	>= 200 RPM		
					input speed limit for TUT	>= 200 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P077C	Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25 Volts			>= 0.05 sec	One Trip
			P077C Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P077C Fail Counter					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			DTC P077C Sets when the Fail Counter	>= 75 Counts	P077C Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.99 Volts			
			Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: P077D		
Transmission Output Speed Sensor (TOSS)	P077D	Output Speed Sensor Circuit High	TOSS Analog Signal Voltage	<= 4.75 Volts			>= 0.05 sec	One Trip
			P077D Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P077D Fail Counter					
			DTC P077D Sets when the Fail Counter	>= 75 Counts	P077D Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.99 Volts			
			Disable Conditions:		**MIL not Illuminated for DTC's:**	TCM: P077C		
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
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	

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

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	
							OR	
			and C456 Fail Counters				>= 14 C456 Fail Counts	
			Fail Case 3 Case: Steady State 6th Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			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	
							OR	
			and C456 Fail Counter				>= 14 C456 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 650 RPM		
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					OutputSpeed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= 400 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 1.529052734 >= 1.328979492			>= 1.1 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	One Trip
			Fail Case 2 Case Steady State 2nd Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis	 >= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec >= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 <= 1.529052734 >= 1.328979492			>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 3rd Gear OR >= 3 Total Fail Counts	
					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	= FALSE Boolean = FALSE Boolean = FALSE Boolean >= 0 RPM = TRUE Boolean = TRUE Boolean = TRUE Boolean >= 0 Nm >= 650 Nm >= 0.5005 Nm >= 9 Volts <= 31.99 Volts >= 400 RPM <= 7500 RPM >= 5 Sec >= 10.001 Pct		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					if Attained Gear=1st FW	>= 45 Nm		
					Engine Torque Enable			
					if Attained Gear=1st FW	<= 8191.9 Nm		
					Engine Torque Enable			
					Transmission Fluid Temperature	>= -6.656 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (4-1 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Total fail counter				OR >= 5 Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.672 ºC = FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage P07BF Status is not If the above conditons have been met, increment the P07BF Fail Counter	<= 0.25 Volts = Test Failed This Key On or Fault Active			>= 0.05 sec	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			DTC P07BF Sets when the Fail Counter	>= 75 Counts	P07BF Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.99 Volts			
				Disable Conditions:	**MIL not Illuminated for DTC's:**			
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage	>= 4.75 Volts			>= 0.05 sec	One Trip
			P07C0 Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P07C0 Fail Counter					
			DTC P07C0 Sets when the Fail Counter	>= 75 Counts	P07C0 Enable Calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.99 Volts			
				Disable Conditions:	**MIL not Illuminated for DTC's:**			
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				Special No Trip
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				

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 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)	
			Fail Case 2 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				

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 Up Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 Fail Time (Sec)	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0815 Status is	≠ Test Failed This Key On or Fault Active		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					MIL not Illuminated for DTC's:	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				Special No Trip
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			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	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Time Since Last Range Change >= 1 Enable Time (Sec)			
					Ignition Voltage Lo >= 9 Volts			
					Ignition Voltage Hi <= 31.99 Volts			
					Engine Speed Lo >= 400 RPM			
					Engine Speed Hi <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
					P0816 Status is ≠ Test Failed This Key On or Fault Active			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo >= 9 Volts			
					Ignition Voltage Hi <= 31.99 Volts			
					Engine Speed Lo >= 400 RPM			
					Engine Speed Hi <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
					P0826 Status is ≠ Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P1761 ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 8 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa				
					Transmission Fluid Temperature Lo	>= -6.656 °C		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 °C		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 °C		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					Disable Conditions:	**MIL not Illuminated for DTC's:** TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 11 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= -6.656 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 ºC		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 12 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo	>= -6.656 ºC		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 12 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 Kpa				
					Transmission Fluid Temperature Lo	>= -6.656 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							out of 5 Sample Time (Sec)	
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.5 Fail Time (Sec) out of 1.875 Sample Time (Sec)	One Trip
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 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.
					Ignition Voltage >= 9 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage >= 9 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0966 Status is not = Test Failed This Key On or Fault Active			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage >= 9 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec P0967 Status is not = Test Failed This Key On or Fault Active **MIL not Illuminated for DTC's:**	**Disable Conditions:** TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0970 Status is not = Test Failed This Key On or Fault Active Ignition Voltage >= 9 Volts Ignition Voltage <= 31.99 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the allowable limits for >= 5 Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0971 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	One Trip
					P0973 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	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	Two Trips
					P0974 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**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.
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				>= 17 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo	>= -6.656 °C		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 °C		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 °C		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure	>= 700 Kpa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 30 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= -6.656 ºC		
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120 ºC		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110 ºC		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer (Sec)	Special No Trip
					Tap Up Tap Down Message Health	= TRUE Boolean		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1 Current range Previous range Previous range Either the S1 or S3 Pressure Switch indicates "Pressure Present" Engine Torque Engine Torque If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	= "Transitional 1" Range State ≠ CeTRGR_e_PRNDL_Drive6 Range State ≠ CeTRGR_e_PRNDL_Drive5 Range State = TRUE Boolean >= -50 Nm <= 8191.75 Nm			>= 0.225 Fail Seconds >= 15 Fail Counts	One Trip
			Fail Case 2 Current range S3 Pressure Switch indicates "Exhausted" Commanded Gear If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	= "Transitional 1" Range State = TRUE Boolean = 1st Locked Gear			>= 0.225 Fail Seconds >= 15 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 3					
			Current range	= "Transitional 13"	Previous range	≠ CeTRGR_e_PRNDL_Drive5		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean	Previous range	≠ CeTRGR_e_PRNDL_Drive5		
			Engine Torque	>= -8192 Nm	IMS is 7 position configuration	= 0 Boolean		
			Engine Torque	<= 8191.75 Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transitional 13"			
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 4					
			Current range	= "Transitional 2" or "Transitional 8"	Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8			
			Inhibit bit (see definition)	= FALSE	Set inihibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transitional) Set inhibit bit false if PRNDL = 1001 (park)			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			Steady State Engine Torque	>= 20 Nm				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Steady State Engine Torque	<= 8191.75 Nm				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 5 Current range	= "Transitional 11"				
			Engine Torque	>= 20 Nm				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 6 Current range	= "Illegal"	A Open Circuit Definition (flag set false if the following conditions are met):			
			and		Current Range	≠ "Transitional 11"		
			A Open Circuit (See Definition)	= FALSE Boolean	or			
					Last positive state	≠ Neutral		
					or			
					Previous transitional state	≠ Transitional 8 and Illegal		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					and			
					PRNDL Circuit A	= Open Circuit		
					PRNDL Circuit B	= Closed Circuit		
					PRNDL Circuit C	= Open Circuit		
					PRNDL Circuit P	= Open Circuit		
			If the above Condtions are present, Increment Fail timer				>= 6.25 Seconds	
			Fail Case 7 Current PRNDL State	= PRNDL circuit ABCP = 1101				
			and					
			Previous valid state	= PRNDL circuit ABCP =1111 Range				
			Input Speed	>= 150 RPM				
			Reverse Trans Ratio	<= 2.795898438 ratio				
			Reverse Trans Ratio	>= 3.149047852 ratio				
			If the above Condtions are present, Increment Fail timer				>= 6.25 Seconds	
			P182E will report test fail when any of the above 7 fail cases are met					
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Vehicle Speed Lo	<= 511 KPH		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	= Park or Reverse or Neutral Range State			>= 3 Fail Time (Sec) >= 5 Fail Counts	Special No Trip
			TUTD Enable Switch is Active	= TRUE Boolean				
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Vehicle Speed Lo	<= 511 KPH		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P1876 Status is	≠ Test Failed This Key On or Fault Active		

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, P1761, P1825, P1877, P1915, 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			>= 0.1 Enable Time (Sec)	
			Then					
			Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.069 Enable Time (Sec)	
			Then					
			Final Engine Speed	>= 500 RPM				
			Final Transmission Input Speed	>= 100 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.99 V		
					Ignition Voltage Hyst High (enables above this value)	>= 6 V		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hyst Low (disabled below this value)	<= 2 V		
					Transmission Output Speed	<= 90 rpm		
					P1915 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Run crank active (based on voltage thresholds below)	= FALSE				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	6 Volts			>= 280 Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2 Volts			Out of 280 Sample Counts (25ms loop)	
					Normal CAN Comm Enabled	= TRUE Boolean		
					ECM run/crank active status	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If attained Gear = 5th For Time	>= Table Based Time Please see Table 2 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 5th gear fail counter				>= 3 5th Gear Fail Count	
			and CB26 Fail Count				or >= 14 CB26 Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 650 RPM		
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= 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	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If above coditons 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)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.700195313 Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>= 0.900390625 Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	
							OR	
			6th gear fail counter				>= 3 Fail Counter From 6th Gear	
							OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.672 °C = FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st					One Trip
				Attained Gear slip	>= 400 RPM			
				If the Above is True for Time	>= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)			

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	<= 3.112670898				
			Gear Ratio	>= 2.705322266				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 8 Fail Count in 1st Gear or >= 8 Total Fail Counts	
			Fail Case 2 Case: Steady State 3rd Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio	<= 3.112670898				
			Gear Ratio	>= 2.705322266				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 3rd Gear or >= 8 Total Fail Counts	
			Fail Case 3 Case: Steady State 4rd Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.798217773				
			Gear Ratio	>= 0.693725586				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 5th Gear or >= 8 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 650 Nm		
					(B) Accelerator Pedal enable	>= 0.5005 Nm		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 10.001 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.9 Nm		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2770 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE 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		
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 2nd gear					
			If attained Gear ≠ 2nd for Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 1st gear fail counter				>= 2 1st Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
		Fail Case 2	Case: Steady State 2nd Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If attained Gear ≠ 3rd for Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 2nd gear fail counter				>= 2 2nd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
			Fail Case 3 Case: Steady State 3rd Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 4th gear					
			If attained Gear ≠ 4th for time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 3rd gear fail counter				>= 2 3rd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 4 Case: Steady State 4th Gear					
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					
			If attained Gear = 5th For Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 4th gear fail counter				>= 3 4th Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 650 RPM		
					(B) Accelerator Pedal enable	>= 0.5005 Pct		
					Common Enable Criteria			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.656 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-6 shifting with throttle)	>= 0.700195313 sec				
			fail timer 1 (2-6 shifting without throttle)	>= 0.900390625 sec				
			fail timer 1 (3-5 shifting with throttle)	>= 0.700195313 sec				
			fail timer 1 (3-5 shifting without throttle)	>= 0.900390625 sec				
			fail timer 1 (4-5 shifting with throttle)	>= 0.700195313 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 0.900390625 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 0.700195313 sec				
			fail timer 1 (4-6 shifting without throttle)	>= 0.900390625 sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	
			3rd gear fail counter				>= 3 Fail Counter From 3rd Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			4th gear fail counter				>= 3 Fail Counter From 4th Gear	
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature	>= -6.672 °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	>= 200 RPM		
					input speed limit for TUT	>= 200 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear					One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 5th Gear OR >= 3 Total Fail Counts	
			Fail Case 2 Case: 6th Gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 1 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to 3D Table 2 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 17 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.529052734				
			Gear Ratio	>= 1.328979492				
			If the above parameters are true				>= 1.1 Fail Timer (Sec) >= 3 Fail Count in 6th Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		

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	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	45	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm		
					Transmission Fluid Temperature	>=	-6.656	ºC		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2729 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				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)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2730 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	Two Trips
					P2763 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659 ECM: None		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 MPH out of 5 MPH	One Trip
					P2764 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 Fail counts (≈ 10 seconds)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Delay timer	>= 0.1125 sec			Out of 70 Sample Counts (≈ 11 seconds)	
					Stabilization delay	>= 3 sec		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Power Mode	= Run		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

Supporting Documents - 6T40 2D Tables

Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	100.00	120.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	RPM

Table 2

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.00	2.00	Sec

Table 3

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	3.50	3.50	Sec

Table 4

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	2.99	2.00	Sec

Table 5

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	3.00	3.00	Sec

Table 6

Axis	-7.01	-7.00	40.00	80.00	120.00	ºC
Curve	409.00	3.60	1.60	1.40	1.40	Sec

Supporting Documents - 6T40 2D Tables

Table 7

Axis	-7.01	-7.00	40.00	80.00	120.00	ºC
Curve	409.00	3.40	1.40	1.30	1.20	Sec

Table 8

Axis	-7.01	-7.00	40.00	80.00	120.00	ºC
Curve	409.00	3.60	1.60	1.50	1.40	Sec

Table 9

Axis	-7.01	-7.00	40.00	80.00	120.00	ºC
Curve	409.00	3.30	1.30	1.20	1.10	Sec

Table 10

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	8.85	3.75	1.31	0.28	0.28	Sec

Table 11

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	5.00	1.70	0.40	0.25	0.25	Sec

Table 12

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	8.00	2.20	0.70	0.25	0.25	Sec

Table 13

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	5.20	1.60	0.50	0.27	0.16	Sec

Supporting Documents - 6T40 2D Tables

Table 14

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	5.00	1.50	0.70	0.25	0.25	Sec

Table 15

Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00	ºC
Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sec

Table 16

Axis	-6.67	-6.66	40.00	ºC
Curve	409.59	1.50	1.50	Sec

Table 17

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

Table 18

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

Table 19

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

Table 20

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

Supporting Documents - 6T40 3D Tables

3D_Table 1

X-Axis Calibration	%
Y-Axis Calibration	ºC
Table Calibration	RPM/Sec

	0.00	2.00	5.00	25.00	100.00
-6.67	8191.75	8191.75	8191.75	8191.75	8191.75
-6.66	1125.00	1125.00	850.00	700.00	700.00
40.00	1125.00	1125.00	850.00	700.00	700.00

3D_Table 2

X-Axis Calibration	%
Y-Axis Calibration	ºC
Table Calibration	RPM/Sec

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0602	Transmission Electro-Hydraulic Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE Boolean			Runs Continously	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0602 ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 146.296875 ºC			>= 5 Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>= 50 ºC			>= 2 Fail Time (Sec)	
			Ignition Voltage	>= 18 Volts				
			Note: either fail case can set the DTC					
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Substrate Temp Lo	>= 0 ºC		
					Substrate Temp Hi	<= 170 ºC		
					Substrate Temp Between Temp Range for Time	>= 0.25 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0634 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
HWIO	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean			>= 3 Fail Counts out of 5 Sample Counts	One Trip
					P0658 Status is not	= Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 21 in supporting documents °C				Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If TCM substrate temp to power up temp Δ	> Refer to Table 22 in supporting documents ºC				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out of 875 Sample Counts (100ms loop)	
					Engine Torque Signal Valid 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 >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE		
					Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed	 >= 90 N*m >= 30 Pct <= 200 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e_C3_Ratl Enbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P0667 Status is	≠	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= -249 ºC				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= -249 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0668 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= 249 °C				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= 249 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					TOSS Speed	>= 0 RPM		
					Toss Speed greater than above cal for	>= 0 Sec		
					TCC Slip	>= 0 RPM		
					TCC Slip greater than above cal for	>= 0 Sec		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0669 Status is	≠ 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	> Refer to Table 22 in supporting documents ºC				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 20 in supporting documents ºC				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	

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	=	TRUE	Boolean		
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch used to exit brake torque active	= CeTFTD_e_C3_RatlEnbl		
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P06AC Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Toss Speed	>= 0 RPM		
					Toss Fail Timer	>= 0 Sec		
					TCC slip	>= 0 RPM		
					TCC Fail Timer	>= 0 Sec		
					P06AD Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 ºC			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P06AE Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> Refer to Table 21 in supporting documents ºC				Two Trips
			If transmission oil temp to power up temp Δ	> Refer to Table 20 in supporting documents ºC				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	

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	=	TRUE	Boolean		
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch used to exit brake torque active	= 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		
					P0711 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= -74 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= -74 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					TOSS	>= 0 RPM		
					TOSS above thresh for	>= 0 Sec		
					TCC slip	>= 0 RPM		
					TCC slip above thresh for	>= 0 Sec		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0712 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: 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 Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_VoltageDirectProp				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= 174 ºC				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= 174 ºC				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 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		
				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			>= 1.5 Fail Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Engine Torque is	>=	0	N*m		
					Engine Torque is	<=	1492	N*m		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Vehicle Speed is	>=	10	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		
					P0716 Status is not	=	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	< 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	= 1 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	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0717 Status is not	= Test Failed This Key On or Fault Active		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:			
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
					P0722 Status is not	= Test Failed This Key On or Fault Active		
					Transmission Input Speed Check	= TRUE Boolean		
					Engine Torque Check	= TRUE Boolean		
					Throttle Position	>= 5.0003 Pct		
					Transmission Fluid Temperature	>= -40 ºC		
					Disable this DTC if the PTO is active	= 1 Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					Ignition Voltage is	>= 8.5996 Volts		
					Ignition Voltage is	<= 31.99 Volts		
					Engine Speed is	>= 400 RPM		
					Engine Speed is	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Enable_Flags Defined Below			
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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 Engine Torque is <= 1492 N*m ----------			
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE TIS Check Condition 1 Transmission Input Speed is >= 1000 RPM Transmission Input Speed is <= 8191 RPM TIS Check Condition 2 Engine Speed without the brake applied is >= 3200 RPM Engine Speed with the brake applied is >= 3200 RPM Engine Speed is <= 8191 RPM Controller uses a single power supply for the speed sensors = 1 Boolean Powertrain Brake Pedal is Valid = TRUE Boolean		

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, P0723 ECM: P0101, P0102, 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
			Output Speed Delta	<= 8191 RPM			>= 0 Enable Time (Sec)	
			Output Speed Drop	> 650 RPM			>= 0.8 Output Speed Drop Recover Fail Time (Sec)	
					---------- Range_Disable = FALSE Boolean OR ---------- Neutral_Range_Enable = TRUE Boolean And Neutral_Speed_Enable = TRUE Boolean are TRUE concurrently ----------			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Transmission_Range_Enable	=	TRUE	Boolean		
					Transmission_Input_Speed_Enable	=	TRUE	Boolean		
					No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0723 Status is not	=	Test Failed This Key On or Fault Active			
					Disable this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage is	>=	8.5996	Volts		
					Ignition Voltage is	<=	31.99	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta	<=	4095	RPM		
					Raw Input Speed	>=	500	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied			
					Input Speed	= 0 RPM		
					A Single Power Supply is used for all speed sensors	= TRUE Boolean		
					Powertrain Brake Pedal Applied is	= FALSE Boolean		

					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE			
					Transmission Range is	= Neutral ENUM		
					Transmission Range is	= Reverse/Neutral Transitional ENUM		
					Transmission Range is	= Neutral/Drive Transitional ENUM		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	1	Seconds		
					Transmission Output Speed	>	70	RPM		
					And the acceleration of the Transmission Output Speed is	<	500	RPM/ Loop Rate		
					And the acceleration of the Transmission Output Speed is	>	0	RPM/ Loop Rate		

					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE					
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/Neutral Transitional	ENUM		
					Transmission Range is	=	Neutral/ Drive Transitional	ENUM		
					Range Change Delay Timer	>=	5	Sec		

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: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 800 Kpa			>= 2 Enable Time (Sec)	Two Trips
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= Refer to Table 1 in Supporting Documents RPM			>= 4 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>= 4 Fail Time (Sec)	
			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	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	ºC		
					Transmission Fluid Temperature Hi	<=	130	ºC		
					TCC Command Lock ON or ON mode	=	TRUE	Boolean		
					PTO Not Active	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					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: P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM				One Trip
			TCC Slip Speed	<= 30 RPM			>= 2.5 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 6 Fail Counter	
					Run TCC Stuck On Test Enable Criteria:			
					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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Current Gear	≠	1st Gear Locked	Boolean		
					Engine Torque Hi	<=	1492	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	20	ºC		
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	2.9999	Pct		
					PTO Active	=	FALSE	Boolean		
					Disable if in D1 and value true	=	0	Boolean		
					Disable if in D2 and value true	=	0	Boolean		
					Disable if in D3 and value true	=	0	Boolean		
					Disable if in D4 and value true	=	0	Boolean		
					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	>=	400	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P0742 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 200 RPM				Two Trips
			Commanded Gear	= 1st Lock rpm				
			Gear Ratio	<= 1.484985352			>= 0.3 Fail Tmr	
			Gear Ratio	>= 1.343017578			= 8 Fail Counts	
			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	Neutral Timer (Sec)	
									>=	0.3	Fail Timer (Sec)	
									>=	8	Counts	
					Ignition Voltage Lo	>=	8.5996	Volts				
					Ignition Voltage Hi	<=	31.99	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Transmission Fluid Temperature	>=	0	ºC				
					Shift is Complete							
					TPS	>=	0.3998	%				
					OR							
					Output Speed	>=	0	RPM				
					Throttle Position Signal Valid from ECM	=	TRUE	Boolean				
					Engine Torque Signal Valid from ECM, High side driver is enabled	=	TRUE	Boolean				
					High-Side Driver is Enabled	=	TRUE	Boolean				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Default Gear Option is not present	=	TRUE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	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. Commanded On C456/CBR1 Pressure Switch C456/CBR1 Pressure Switch Fault If the above parameters are true	>= 200 Rpm = 3rd Gear = TRUE Boolean = Pressurized Boolean = FALSE Boolean			>= Please Refer to Table 16 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.
							>= 5 Counts	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Output Speed	>= 0 RPM		
					OR			
					TPS	>= 0.3998 %		
					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		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear	= 1st Locked				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Box Slip	>= 200 RPM			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Shift to 2nd					
			Commanded Gear Previous	= 1st Locked Gear				
			Gear Ratio	<= 3.015991211				
			Gear Ratio	>= 2.728027344				
			If the above parameters are true				>= 1 sec >= 5 counts	
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Output Speed	>= 0 RPM		
					OR			
					TPS Shift is Complete	>= 0.3998 %		
					Transmission Fluid Temperature	>= 0 ºC		
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Default Gear Option is not present	= TRUE		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Gear					One Trip
			Commanded Gear	= 3rd Gear				
			Gearbox Slip	>= 200 Rpm			>= Please Refer to Table 5 in Supporting Documents Neutral Timer (Sec)	
			Intrusive Test: Command 4th Gear					
			If attained Gear=4th gear for Time	>= Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)				

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

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	>=	16	RPM		
					(B) Accelerator Pedal enable	>=	0.3998	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= 200 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= 1.933959961 >= 1.75			>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Total Fail Counts	
			Fail Case 2 Case: Steady State 2nd 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	<= 1.933959961				
			Gear Ratio	>= 1.75				
			If the above parameters are true				>= 0.75 Fail Timer (Sec)	
							>= 1 Fail Count in 2nd Gear	
							or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 3 Total Fail Counts	
			Fail Case 3 Case: Steady State 4th 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: (C1234 clutch exhausted)					
			Gear Ratio	<= 1.050048828				
			Gear Ratio	>= 0.949951172				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail 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	
			Fail Case 4 Case: Steady State 6th gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			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	<= 1.050048828			>= 0.75 Fail Timer (Sec)	
			Gear Ratio	>= 0.949951172			>= 1 counts	
			If the above parameters are true					
							>= 0.75 Fail Timer (Sec)	
							>= 1 Fail Count in 6th 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	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 16 Nm		
					(B) Accelerator Pedal enable	>= 0.3998 Nm		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 5.0003 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 20 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 1492 Nm		
					Transmission Fluid Temperature	>= 0 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:					
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 1.200195313 Fail Time (Sec)				
			fail timer 1 (3-2 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.
			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)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				>= 3 3rd gear fail counts	
							OR	
			5th gear fail counter				>= 3 5th gear fail counts	
							OR	
			Total fail counter				>= 5 total fail counts	
					Trans oil temperature	> 0 °C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed Sensor fault	= 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 ºC		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	= FALSE Boolean		
					HSD Enabled	= TRUE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear Gear slip	>= 200 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: commanded 5th gear If attained Gear ≠5th for time if the above conditions have been met Increment 4th Gear Fail Counter and C456 Fail Counters	>= Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)			>= 2 4th Gear Fail Count OR >= 14 C456 Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear Gear slip Intrusive test: commanded 6th gear If attained Gear ≠ 6th for time if the above conditions have been met Increment 5th Gear Fail Counter	>= 200 RPM >= Table Based Time Please Refer to Table 3 in supporting documents Enable Time (Sec)			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec) >= 2 5th Gear Fail Count OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			and C456 Fail Counters				>= 14 C456 Fail Counts	
			Fail Case 3 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	
							OR	
			and C456 Fail Counter				>= 14 C456 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT A OR B	>= 0 RPM		
					(A) Output speed enable	>= 16 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					(B) Accelerator Pedal enable	>= 0.3998 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					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: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip	>= 200 RPM				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	>= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec)				
			Intrusive test: (CBR1 clutch exhausted)					
			Gear Ratio	<= 1.484985352				
			Gear Ratio	>= 1.343017578				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case 2 Case Steady State 2nd					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec			>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 2nd Gear or >= 3 Total fail counts	
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.484985352				
			Gear Ratio	>= 1.343017578				
			If the above parameters are true					
			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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec			>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 3rd Gear OR >= 3 Total Fail Counts	
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.484985352				
			Gear Ratio	>= 1.343017578				
			If the above parameters are true					
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 16 Nm		
					(B) Accelerator Pedal enable	>= 0.3998 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	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 5.0003 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 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 Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	≠	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:							
			fail timer 1 (4-1 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (6-2 shifting without throttle)	>= 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 sec	
			If Attained Gear Slip is Less than Above Cal 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	
			5th gear fail counter				>= 3 Fail Counter From 5th Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							OR	
			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: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

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

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 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 Fail Time (Sec)	
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0815 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 0 Boolean				Special No Trip
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 0 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 0 Boolean				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Time Since Last Range Change	>= 1 Enable Time (Sec)		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		

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 Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0826 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1761 ECM: None		
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 18 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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: >= 400 RPM Engine Speed Hi: <= 7500 RPM Engine Speed is within the allowable limits for: >= 5 Sec Default Gear Action: = FALSE High Side Driver ON: = TRUE RVT Status: = Normal Hydraulic Pressure Available: = TRUE Engine Speed Min: >= 550 RPM Disable Conditions: MIL not Illuminated for DTC's: TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 20 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= 0 °C		
					Transmission Fluid Temperature Hi	<= 120 °C		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter				>= 5 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa				
					Transmission Fluid Temperature Lo	>= 0 °C		
					Transmission Fluid Temperature Hi	<= 120 °C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure	>= 700 KPa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec				

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 Pressurized Position after delay, If so then Increment Fail Counter				>= 8 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 Kpa				
					Transmission Fluid Temperature Lo	>= 0 ºC		
					Transmission Fluid Temperature Hi	<= 120 ºC		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 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	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							out of 0.375 Sample Time (Sec)	
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0966 Status is not	= Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0967 Status is not = Test Failed This Key On or Fault Active			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0970 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Disable Conditions: 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)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P0971 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a 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	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec) out of 1.5 Sample Time (Sec)	Two Trips
					P0974 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:			
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low (Mode 3 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.2 Sec out of 1.5 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0976 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.5996 Volts			
					Ignition Voltage <= 31.99 Volts			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High (Mode 3 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Sec out of 1.5 Sec	One Trip
					P0977 Status is not = Test Failed This Key On or Fault Active			
					Ignition Voltage >= 8.5996 Volts			
					Ignition Voltage <= 31.99 Volts			
					Engine Speed >= 400 RPM			
					Engine Speed <= 7500 RPM			
					Engine Speed is within the allowable limits for >= 5 Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure 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
			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 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 >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure	>= 700 Kpa				Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec				
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>= 15 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa				
					Transmission Fluid Temperature Lo	>= 0 ºC		
					Transmission Fluid Temperature Hi	<= 120 ºC		
					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	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Default Gear Action	= FALSE		
					High Side Driver ON	= TRUE		
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None		
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter & Sample Counter	>= 100 RPM			>= 5 Fail Counts	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							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		
					Calcaluted line pressure is	>= 1300 kPa		
					The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<= 110 RPM		
					Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	= 0.5 Sec		
					Upshift is In Progress	= FALSE Boolean		
					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		
					TCC Stuck On Enable Criteria:			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					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	≠	1st Gear Locked	Boolean		
					Engine Torque Hi	<=	1492	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	ºC		
					Transmission Sump Temperature	>=	20	ºC		
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	2.9999	Pct		
					PTO Active	=	FALSE	Boolean		
					Disable if in D1 and value true	=	0	Boolean		
					Disable if in D2 and value true	=	0	Boolean		
					Disable if in D3 and value true	=	0	Boolean		
					Disable if in D4 and value true	=	0	Boolean		
					Disable if in D5 and value true	=	0	Boolean		
					Disable if in MUMD and value true	=	0	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable if in TUTD and value true	= 0 Boolean		
					4 Wheel Drive Active	= FALSE Boolean		
					Air Purge Active	= FALSE Boolean		
					Ignore Air Purge if value = true	= 0 Boolean		
					TCC Mode	= OFF		
					Common Enables:			
					Ignition Voltage	>= 8.5996 V		
					Ignition Voltage	<= 31.99 V		
					Vehicle Speed	<= 511 KPH		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					P1751 Status is	≠ Test Failed This Key On		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P0742, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>= 3 Fail Counter > 10 Sample Timer (Sec)	Special No Trip
					Tap Up Tap Down Message Health	= TRUE Boolean		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1 Current range	= "Transitional 1" Range State				One Trip
			Previous range	!= CeTRGR_e_PRNDL_Drive6 Range State				
			Previous range	!= CeTRGR_e_PRNDL_Drive5 Range State				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			Engine Torque	>= -50 Nm				
			Engine Torque	<= 1492 Nm				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above conditions are present Increment Fail Timer				>= 0.225 Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 2					
			Current range	= "Transitional 1" Range State				
			S3 Pressure Switch indicates "Exhausted"	= TRUE Boolean				
			Commanded Gear	= 1st Locked Gear				
			If the above conditions are present Increment Fail Timer				>= 0.225 Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 3					
			Current range	= "Transitional 13"	Previous range	!= CeTRGR_e_PRNDL_Drive3		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean	Previous range	!= CeTRGR_e_PRNDL_Drive2		
			Engine Torque	>= -1492 Nm	IMS is 7 position configuration	= 0 Boolean		
			Engine Torque	<= 1492 Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transitional 13"			
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 4 Current range	= "Transitional 2" or "Transitional 8"	Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			Steady State Engine Torque	>= 100 Nm				
			Steady State Engine Torque	<= 1492 Nm				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 5 Current range	= "Transitional 11"				
			Engine Torque	>= -50 Nm				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE Boolean				
			If the above conditions are present Increment Fail Timer				>= 0.225 Seconds	
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 6 Current range	= "Illegal"	A Open Circuit Definition (flag set false if the following conditions are met):			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				or			Current Range	≠ "Transitional 11"		
				ECM Park/Neutral Message	= "Park/Neutral"		or			
				and			Last positive state	≠ Neutral		
				Current Range	≠ Park, Neutral, Reverse, Transitional 8, or Transitional 11		or			
				and			Previous transitional state	≠ Transitional 8 and Illegal		
				A Open Circuit (See Definition)	= FALSE	Boolean	and			
							PRNDL Circuit A	= Open Circuit		
							PRNDL Circuit B	= Closed Circuit		
							PRNDL Circuit C	= Open Circuit		
							PRNDL Circuit P	= Open Circuit		
				If the above Condtions are present, Increment Fail timer					>= 6.25 Seconds	
			Fail Case 7	Current PRNDL State	= PRNDL circuit ABCP = 1101					
				and						
				Previous valid state	= PRNDL encoded value of ABCP =1111	Range				
				Input Speed	>= 150	RPM				
				Reverse Trans Ratio	<= 2.678344727	ratio				
				Reverse Trans Ratio	>= 3.081542969	ratio				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above Condtions are present, Increment Fail timer				>= 6.25 Seconds	
			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 >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠ Park or Neutral Enumeration				One Trip
			The following events must occur Sequentially					
			Initial Engine speed	<= 50 RPM			>= 0.25 Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Then					
			Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.069 Enable Time (Sec)	
			Then					
			Final Engine Speed	>= 525 RPM				
			Final Transmission Input Speed	>= 200 RPM			>= 1.25 Fail Time (Sec)	
					DTC has Ran this Key Cycle?	= FALSE Boolean		
					Ignition Voltage Lo	>= 6 V		
					Ignition Voltage Hi	<= 31.99 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	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Run crank active (based on voltage thresholds below)	= FALSE				One Trip

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)	6 Volts			>= 280 Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2 Volts			Out of 280 Sample Counts (25ms loop)	
					Normal CAN Comm Enabled	= TRUE Boolean		
					ECM run/crank active status	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear					One Trip
			Gear slip	>= 200 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear					
			If attained Gear = 3rd for Time	>= Table Based Time Please see Table 2 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Increment 2nd gear fail count				>= 3 2nd Gear Fail Count	
			and CB26 Fail Count				or >= 14 CB26 Fail Count	
			Fail Case 2 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 see Table 2 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 5th gear fail counter				>= 3 5th Gear Fail Count	
			and CB26 Fail Count				or >= 14 CB26 Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 16 RPM		
					(B) Accelerator Pedal enable	>= 0.3998 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= 0 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE			SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)	=	TRUE	Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	≠	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If above coditons are true, increment appropriate Fail 1 Timers Below:							
			fail timer 1 (2-1 shifting with throttle)	>=	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)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (6-5 shifting 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 Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear OR	

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: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	 >= 200 RPM >= Table Based Time Please Refer to Table 4 in supporting documents Enable Time (Sec) <= >=			>= 0.75 Fail Timer (Sec) >= 2 Fail Count in 1st Gear or >= 3 Total Fail Counts	One Trip
			Fail Case 2 Case: Steady State 3rd 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	<= 3.015991211				
			Gear Ratio	>= 2.728027344				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 3rd Gear or >= 3 Total Fail Counts	
			Fail Case 3 Case: Steady State 4rd Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.779052734				
			Gear Ratio	>= 0.704956055				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 4th Gear or >= 3 Total Fail Counts	
			Fail Case 4 Case: Steady State 5th Gear					
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to 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	<= 0.779052734				
			Gear Ratio	>= 0.704956055				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 5th Gear or >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 16 Nm		
					(B) Accelerator Pedal enable	>= 0.3998 Nm		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 5.0003 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 20 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 1492 Nm		
					Transmission Fluid Temperature	>= 0 ºC		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2770 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2721 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volts		
					Ignition Voltage	<= 31.99 Volts		
					Engine Speed	>= 400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip
			Gear slip	>= 200 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 2nd gear					
			If attained Gear ≠ 2nd for Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 1st gear fail counter				>= 2 1st Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 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.
			Gear slip	>= 200 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 3rd gear					
			If attained Gear ≠ 3rd for Time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 2nd gear fail counter				>= 2 2nd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
		Fail Case 3	Case: Steady State 3rd Gear					
			Gear slip	>= 200 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 4th gear					
			If attained Gear ≠ 4th for time	>= Table based Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions have been met, Increment 3rd gear fail counter				>= 2 3rd Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
			Fail Case 4 Case: Steady State 4th 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 Timer, Please See Table 3 in Supporting Documents Enable Time (Sec)				
			If Above Conditions have been met, Increment 4th gear fail counter				>= 3 4th Gear Fail Count	
			and C1234 fail counter				or >= 14 C1234 Clutch Fail Count	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			
					(A) Output speed enable	>= 16 RPM		
					(B) Accelerator Pedal enable	>= 0.3998 Pct		
					Common Enable Criteria			
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					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		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhaust command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip	<= 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-6 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (2-6 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (3-5 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (3-5 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (4-5 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 1.200195313 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 1.200195313 sec				
			fail timer 1 (4-6 shifting without throttle)	>= 1.200195313 sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2 sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	
			3rd gear fail counter				>= 3 Fail Counter From 3rd Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			4th gear fail counter				>= 3 Fail Counter From 4th Gear	
			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: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear					One Trip
			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	<= 1.484985352				
			Gear Ratio	>= 1.343017578				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 5th Gear OR >= 3 Total Fail Counts	
			Fail Case 2 Case: 6th Gear					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 17 in supporting documents rpm/sec				
			Min Delta Output Speed Hysteresis	>= Table Based value Please Refer to Table 18 in supporting documents rpm/sec				
			If the Above is True for Time	>= Table Based Time Please Refer to Table 19 in supporting documents Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.484985352				
			Gear Ratio	>= 1.343017578				
			If the above parameters are true				>= 0.75 Fail Timer (Sec) >= 1 Fail Count in 6th Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					output speed	>= 0 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TPS validity flag	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Hydraulic_System_Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 Nm		
					A OR B			
					(A) Output speed enable	>= 16 Nm		
					(B) Accelerator Pedal enable	>= 0.3998 Nm		
					Ignition Voltage Lo	>= 8.5996 Volts		
					Ignition Voltage Hi	<= 31.99 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 5.0003 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 20 Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 1492 Nm		
					Transmission Fluid Temperature	>= 0 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2729 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.375 Sample Time (Sec)	One Trip
					P2730 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4 Fail Time (Sec) out of 5 Sample Time (Sec)	One Trip
					P2763 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0658, P0659 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)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 MPH out of 5 MPH	One Trip
					P2764 Status is not	= Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.5996 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 Fail counts (≈ 10 seconds) Out of 70 Sample Counts (≈ 11 seconds)	One Trip
			Delay timer	>= 0.1125 sec				
					Stabilization delay	>= 3 sec		
					Power Mode	= Run		

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		

Supporting Documents - 6T70 Cal Tables

Table 1

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

Table 2

				Units
Axis	-0.0078	0	40	ºC
Curve	409.594	2	2	Sec

Table 3

				Units
Axis	-0.0078	0	40	ºC
Curve	409.594	3.5	3.5	Sec

Table 4

				Units
Axis	-0.0078	0	40	ºC
Curve	409.594	2	2	Sec

Table 5

				Units
Axis	-0.0078	0	40	ºC
Curve	409.594	3	3	Sec

Table 6

						Units
Axis	-40	-0.0078	40	80	120	ºC
Curve	409	409	1.6	1.4	1.4	Sec

Supporting Documents - 6T70 Cal Tables

Table 7

						Units
Axis	-40	-0.0078	40	80	120	ºC
Curve	409	409	1.4	1.3	1.2	Sec

Table 8

						Units
Axis	-40	-0.0078	40	80	120	ºC
Curve	409	409	1.6	1.5	1.4	Sec

Table 9

						Units
Axis	-40	-0.0078	40	80	120	ºC
Curve	409	409	1.3	1.2	1.1	Sec

Table 10

						Units
Axis	-40	-20	0	30	110	ºC
Curve	3.09961	1.90039	1.09961	0.7998	0.59961	Sec

Table 11

						Units
Axis	-40	-20	0	30	110	ºC
Curve	1.7998	1.2002	0.59961	0.40039	0.2998	Sec

Table 12

						Units
Axis	-40	-20	0	30	110	ºC
Curve	2.2002	1.40039	0.90039	0.7002	0.40039	Sec

Supporting Documents - 6T70 Cal Tables

Table 13

						Units
Axis	-40	-20	0	30	110	ºC
Curve	2.59961	1	0.5	0.2998	0.2002	Sec

Table 14

						Units
Axis	-40	-20	0	30	110	ºC
Curve	3	0.90039	0.5	0.2998	0.2002	Sec

Table 15

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

Table 16

				Units
Axis	-0.0078	0	40	ºC
Curve	409.594	1.5	1.5	Sec

Table 17

				Units
Axis	-0.0078	0	40	ºC
Curve	8191	1676	1676	Rpm/s

Table 18

				Units
Axis	-0.0078	0	40	ºC
Curve	8191	500	500	Rpm/s

Supporting Documents - 6T70 Cal Tables

Table 19

				Units
Axis	-0.0078	0	40	ºC
Curve	0.4	0.35	0.3	Sec

Table 20

										Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102	ºC
Curve	255.996	50	45	40	34	25	20	20	255.996	ºC

Table 21

										Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102	ºC
Curve	255.996	50	45	40	34	25	20	20	255.996	ºC

Table 22

										Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102	ºC
Curve	255.996	10	8	8	8	8	8	8	255.996	ºC

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0602	Transmission Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE	None			One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	None		>= 5 Count	One Trip
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1 TFT Delta from Startup	<= 2 C°			>= 80 Fail Time (Sec)	Special No Trip
					Vehicle Speed	>= 8 Kph		
					Vehicle Speed Above min for	>= 300 Sec		
					TCC Slip	>= 120 RPM		
					TCC Slip above min for	>= 300 Sec		
					Transmission Fluid Temperature Lo	>= -39 C°		
					Transmission Fluid Temperature High	<= 20 C°		
					Engine Coolant Temp	>= 70 C°		
					Engine Coolant Temp Delta	>= 55 C°		
			Fail Case 2 TFT Delta from startup	< 2 C°			>= 80 Fail Time (Sec)	
					Vehicle Speed	>= 8 Kph		
					Vehicle Speed Above min for	>= 300 Sec		
					TCC Slip	>= -20 RPM		
					TCC Slip above min for	>= 0 Sec		
					Transmission Fluid Temperature	>= 129 C°		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature	<= 149 C°		
					Engine Coolant Temp	>= 70 C°		
					Engine Coolant Temp Delta from startup	>= 55 C°		
			Fail Case 3 TFT Delta	>= 20 C°			>= 14 Fail Counts (100ms loop) < 7 Sample Time (Sec)	
			Fail Case 4 Transmission Fluid Temperature	<= 20 C°			>= Refer to Table 1 Fail Time (Sec)	
					Engine Torque Lo	>= 50 N*m		
					Engine Torque Hi	<= 1492 N*m		
					Throttle Position Lo	>= 8.0002 Pct		
					Throttle Position Hi	<= 89.999 Pct		
					Vehicle Speed Lo	>= 8 Kph		
					Vehicle Speed Hi	<= 511 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°		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hi	<= 149 Cº		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 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		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0742 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48 Ω			>= 12 Fail Time (Sec)	Special No Trip
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	>= 97292 Ω			>= 80 Fail Time (Sec)	Special No Trip
					Output Speed	>= 70 RPM		
					Output Speed above min for	>= 200 Sec		
					TCC Slip speed	>= 120 RPM		
					TCC Slip Speed above min for	>= 200 sec		
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		

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 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			>= 3.25 sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Engine Torque Signal Valid	= TRUE		
					Vehicle Speed	>= 16 KPH		
					Input Speed min	> 1050 RPM		
					Input Speed above min for	>= 2 Sec		
					Positive ISS Δ	< 500 RPM		
					Positive ISS Δ less than min for	>= 2 Sec		
					Throttle	>= 8.0002 Pct		
					Throttle Position Signal Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0717, P0722, P0723, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,		

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		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	< 50 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	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m = TRUE >= 16 Kph	>= 4.5 Sec	Two Trips
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm			>= 4.5 Sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque min & Range= R or D	>= 50 N*m		
					Engine Torque max & Range= R or D	<= 1492 N*m		
					Engine Torque min & Range= P/N	>= 1492 N*m		
					Engine Torque max & Range= P/N	<= 1492 N*m		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position	>= 8.0002 %		
					Throttle Position Signal Valid	= TRUE		
					Input Speed	>= 1500 RPM		
					Input Speed	<= 6500 RPM		
					TCC Slip	>= -20 RPM		
					Trans Temp	>= -40 C		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,		

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		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 420 RPM			>= 3.25 Sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Range Change Timer	>= 6 Sec		
					4WD Range Timer	>= 6 Sec		
					Input Speed Δ	< 500 RPM		
					Input Speed Δ <max for	>= 2 Sec		
					Raw Output Speed min	> 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, 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					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		
					Trottle Position	>= 8.0002 %		
					Trottle 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		
					If 4L80E Cmd Gear	≠ 4th		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,		

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		
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		
					Trottle Position	>= 8.0002 %		
					Trottle 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail Case 1 — 1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
			1st gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2 — 4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
			4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage	>= 8 volts	= 2 counts	
					Ignition Voltage	<= 31.999 volts		
					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		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							= 2 counts	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Gear Slip	>= 150 RPM		
					Gear Slip Fail Time	>= 0.5 Sec		
					Throttle	>= 8.0002 Pct		
					Engine Torque	>= 50 N*m		
					Output Speed	>= 50 RPM		
					Input Speed	>= 50 RPM		
					4WD Range Timer	>= 6 Sec		
					Range Change Timer	>= 6 Sec		
					PTO Active	= FALSE		
					Trans Temp	>= 20 C		
					Trans Temp	<= 130 C		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1 1st gear low ratio multiplier 1st gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	One Trip
			Fail Case 2 2nd gear low ratio multiplier 2nd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct			= 2 Sec	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle Engine Torque Output Speed Input Speed 4WD Range Timer Range Change Timer PTO Active Trans Temp Trans Temp Engine Torque Signal Valid Throttle Position Signal Valid	>= 8 volts <= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM >= 0.5 Sec >= 8.0002 Pct >= 50 N*m >= 50 RPM >= 50 RPM >= 6 Sec >= 6 Sec = FALSE >= 20 C <= 130 C = TRUE = TRUE	= 2 counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	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				
							= 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Output Speed	>= 50 RPM		
					Input Speed	>= 50 RPM		
					4WD Range Timer	>= 6 Sec		
					Range Change Timer	>= 6 Sec		
					PTO Active	= FALSE		
					Trans Temp	>= 20 C		
					Trans Temp	<= 130 C		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed			>= 10 Sec	Two Trips
							>= 2 count	
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					TFT	>= 20 C		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Slip	<= 60 RPM		
					TCC Mde	= On or Lock		
					Engine Torque Status Valid	= TRUE		
					Engine Speed Status Valid	= TRUE		
					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, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
				Disable Conditions:				
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		

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 Solinoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage 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: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage 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: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Shift Solinoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	One Trip
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage 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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
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	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B 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	<= 1492 N*m		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 sec		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE			>= 8 sec >= 1 count	Two Trips
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Torque Signal Valid	= TRUE		
					Range = Park for	>= 1 sec		
					Disable Conditions:	**MIL not Illuminated for DTC's:** TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE			>= 8 sec	Two Trips
					Ignition Voltage	>= 8 volts		
					Ignition Voltage	<= 31.999 volts		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Disable Conditions:	**MIL not Illuminated for DTC's:** TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

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 >= 1 count	Two Trips
					Engine Torque Engine Torque Signal Valid Ignition Voltage Ignition Voltage Vehicle Speed 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	>= 50 N*m = TRUE >= 8 volts <= 31.999 volts >= 16 kph >= 2.717 Ratio <= 3.125 Ratio >= 1.458 Ratio <= 1.678 Ratio >= 0.9301 Ratio <= 1.0699 Ratio >= 0.656 Ratio <= 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, 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 Ignition Voltage Engine Speed Power Mode Crank request	>= 8 volts <= 31.999 volts >= 560 RPM = Crank <= 409 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Fail Count (25ms loop) Out of 220 Sample Count (25ms loop)	One Trip
					Engine running state from ECM	= Running		
					Power Mode	= Acc or Run		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= 8 V <= 31.999 V >= 500 RPM <= 6500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					TCC PWM command	= ON		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44 Fail Count (100ms loop)	Two Trips
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage	>= 8 V		
					Ignition Voltage	<= 31.999 V		
					Engine Speed	>= 500 RPM		
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					TCC PWM command	= OFF		
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE Boolean			>= 5 Fail Count (1000ms loop) Out of 5 Sample Counts (1000ms loop)	Two Trips
					Ignition On			
				Disable Conditions:	**MIL not Illuminated for DTC's:**	TCM: None ECM: None		

Supporting Documents - 4T65 Cal Tables

Table 1

Axis	-40.00	-25.00	-10.00	5.00	20.00	ºC
Curve	1900.00	1000.00	800.00	520.00	200.00	Sec

Table 2

Axis	0.00	6.25	12.50	18.75	24.99	31.24	37.49	43.74	49.99	56.24	62.48	68.73	74.98	81.23	87.48	93.73	99.98	%
Curve	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	624.00	Kpa

Table 3

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	RPM

Table 4

Axis	-40.00	-16.25	7.50	31.25	55.00	78.75	102.50	126.25	150.00	ºC
Curve	600.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	RPM

Table 5

Axis	-40.00	7.50	55.00	102.50	150.00	ºC
Curve	0.10	0.15	0.20	0.30	0.30	Sec