COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRE	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum		TRUE		None		Ro Te > 5 Fa Cour	st I
						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 Cot (100 s loc	nt Om
									Sam Out of 12 Cou (100 s loo	nts Om
							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 V	'ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME RE	QUIRED	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)	H	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	<= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec			
						Disable Conditions:		TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0706	NSBU Performance	NSBU state	=	CeTRGR_PRN DL_Neutral				>= 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_PRN = DL_Transitiona I2				
			or NSBU state	CeTRGR_PRN = DL_Transitiona I11				
					Ignition Voltage	>= 8 volts		
					Ignition Voltage			
					Engine Speed			
					Engine Speed			
					Engine speed between min/max for			
					Output speed			
					Throttle position	>= 10.001 PCT		
					Engine Torque			
					Engine Torque			
					Trans Temp			
					Ratio			
					Ratio			
					PSM state	= Reverse		
					Engine Torque Signal Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					Engine Speed Status Valid			
					giilo opood otatas valia			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE (TIME	REQUI	RED	MIL ILLUM.
				Disable Conditions:	DTC's:	TCM: P0711 P0722, P072 P0752, P075 P0787, P078 P0974, P097 P1810, P187 P1817, P187 P0705. ECM: P010 P0103, P010 P0108, P011 P0174, P017 P0202, P0202 P0208, P030 P0305, P030 P0305, P030 P0306, P036 P0365, P036 P0365, P036	23, P075 56, P075 38, P097 76, P097 15, P181 18, P175 56, P010 71, P0102 06, P010 71, P020 03, P020 06, P020 00, P030 03, P030 06, P030 35, P033 45, P034	1, 7, 3, 7, 6, 9, 6, 7, 1, 4, 7, 1, 4, 7, 6,				
						P0391, P040						
Transmission Fluid Temperature Sensor (TFT)		Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1 TFT Delta from Startup	<= 2 C°					>=		Fail Time (Sec)	Special No Trip
					Vehicle Speed		8	Kph				
					Vehicle Speed Above min for	>=	300	Sec				
					TCC Slip TCC Slip above min for		120 300	RPM Sec				
					Transmission Fluid Temperature Lo	>=	-39	C°				
					Transmission Fluid Temperature High		20	Cº				
					Engine Coolant Temp		70	C°				
			Fail Case		Engine Coolant Temp Delta	>=	55	C°			Fa::	
			2 TFT Delta from startur) < 2 C°					>=		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			
					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°			Fail Counts (100ms loop)	
							Sample < 7 Time (Sec)	
			Fail Case 4 Transmission Fluid Temperature	<= 20 C°			Refer Fail >= to Time Table (Sec)	
					Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Lo Vehicle Speed Hi Engine Speed Hi Engine Coolant Lo Engine Coolant Hi	<pre><= 1492 N*m >= 8.0002 Pct <= 89.999 Pct >= 8 Kph <= 511 Kph >= 500 RPM <= 6500 RPM >= -39 C°</pre>		
					Engine Torque Signal Valid Throttle Position Signal Valid			

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			
					Transmission Fluid Temperature Hi			
					Ignition Voltage			
					Ignition Voltage			
					Engine speed	Refer >= to RPM Table 4		
					Engine speed above min for	Refer >= to Sec Table 5		
					Engine speed above min for	>= 5 Sec		
					Engine Speed			
					Engine Speed			
					Engine speed between min/max for	>= 5 Sec		
					Engine Speed Status Valid	= TRUE		
					Engine Coolant Sensor Signal Valid			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:		P0722, P0723, P0742 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0171, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0346, P0390, P0391,		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48	Ω Disable Conditions:		<= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		Special No Trip
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	>= 97292	Ω	Output Speed Output Speed above min for	P0340, P0345, P0346, P0365, P0366, P0390, P0391 >= 65.625 RPM		Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		>= 200 sec >= 8 V <= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop ∆	>= 1000 RPM	Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed Input Speed min Input Speed above min for Positive ISS Δ Positive ISS Δ less than min for	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m = TRUE >= 16 KPH > 1050 RPM >= 2 Sec < 500 RPM</pre>	>= 3.25 sec	Two Trips

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:	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,		
Transmission Input		Input Speed Sensor Circuit Low				P0391, P0401, P042E		Two Trips
Speed Sensor (TISS)	P0717	Voltage	input speed	< 50 RPM			>= 4.5 Sec	
					Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for Engine Speed Status Valid Engine Torque	<= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m		
					Engine Torque Signal Valid Vehicle Speed			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		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, P0355, P0366, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm			>= 4.5 Sec	Two Trips
					Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed between min/max for Engine Speed Status Valid Engine Torque min & Range= R or D Engine Torque max & Range= R or D Engine Torque min & Range= P/N Engine Torque max & Range= P/N Engine Torque Signal Valid Throttle Position	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m >= 1492 N*m <= 1492 N*m = TRUE >= 8.0002 %</pre>		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed Input Speed TCC Slip Trans Temp	<= 6500 RPM >= -20 RPM		
				Disable Conditions:	: DTC's:			
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 393.5 RPM	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Range Change Timer 4WD Range Timer Input Speed ∆	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 6 Sec >= 6 Sec < 500 RPM</pre>		Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIME	REQU	JIRED	MIL ILLUM.
					Raw Output Speed min	>	327.75	RPM				
					Raw Output Speed > min for	>=	2	Sec				
					Positive Output Speed ∆	<=	163.75	RPM				
					Positive Output Speed Δ							
					<max for<="" td=""><td>>=</td><td>2</td><td>Sec</td><td></td><td></td><td></td><td></td></max>	>=	2	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P07 P0974	16, P071	7,				
						ECM: P03 P0340, P0 P0365, P0 P0391	345, P03	1 6,				
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>=	8	Sec	Two Trips
Ciuter (100)									>=	2	Count	
					Ignition Voltage	>=	8	V				
					Ignition Voltage		31.999	V				
					Engine Speed		500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for		5	Sec				
					Engine Speed Status Valid		TRUE					
					Engine Torque		50	N*m				
					Engine Torque		1492	N*m				
					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 TFT	<= >=	0.7288	Ratio C				
					TFT	<=	130	C				
					TCC Capacity		64.999	%				
					TCC Capacity Timer		2	sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIME	E REQI	JIRED	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:	DTC's:	TCM: P07 P0722, P07 P0842, P08 P2764, P27	723, P074 843, P276	42, 63,				
								ECM: P01 P0103, P0 P0108, P0 P0174, P0 P0205, P0 P0205, P0 P0302, P0 P0305, P0 P0305, P0 P0306, P0 P0308, P0 P0308, P0 P03091, P0	106, P010 171, P017 175, P020 203, P020 206, P020 300, P030 303, P030 306, P030 335, P033 345, P034	07, 72, 01, 04, 07, 01, 04, 07, 36, 46, 90,				
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 Engine Speed		500 6500	RPM 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	С				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TFT Trottle Position Trottle Position Vehicle Speed Vehicle Speed	>= 8.0002 % <= 89.999 % >= 16 KPH <= 511 KPH		
					Engine Speed Engine Speed Gear Ratio Gear Ratio	<= 6500 RPM >= 0.6333 Ratio <= 1.739 Ratio		
					Commanded Gear TCC Mode Engine Torque Status Valid	≠ Gear = Off		
					Throttle Position Signal Valid PTO Active			
				Disable Conditions:	: DTC's:	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,		
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail Case 1st gear low ratio 1 multiplier 1st gear high ratio multiplier	<= 1.050048828 Pct		P0365, P0366, P0390, P0391, P0401, P042E	= 2 Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDIT	ions	TIME REQUIRED	MIL ILLUM.
			<u>Fail Case</u> 4th gear low ratio 2 multiplier	0.949951172 Pct					= 2 Sec	
			4th gear high ratio multiplier	1.050048828 Pct						
					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	<= >= <= >= >= >= >=	31.999 500 6500 5 TRUE 150 0.5 8.0002	volts volts RPM RPM Sec RPM Sec RPM Sec		
					Output Speed Input Speed Input Speed 4WD Range Timer Range Change Timer PTO Active Trans Temp Trans Temp Engine Torque Signal Valid	>= >= >= = >= <=	50 6 6 FALSE 20	RPM RPM Sec Sec C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	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 2nd gear low ratio 1 multiplier				= 2 Sec	Two Trips
			2nd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 3rd gear low ratio 2 multiplier				= 2 Sec	
			3rd gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM</pre>		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disa Conditio	ns: DTC's:	>= 50 N*m >= 50 RPM >= 50 RPM >= 50 RPM >= 6 Sec == 6 Sec == FALSE >= 20 C <= 130 C == TRUE == TRUE		
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1st gear low ratio multiplier 1st gear high ratio				= 2 Sec	One Trip
			multiplier Fail Case 2nd gear low ratio 2 multiplier	1.030046626 FCI			= 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			
					Ignition Voltage			
					Engine Speed			
					Engine Speed	<= 6500 RPM		
					Engine speed between min/max for	>= 5 Sec	:	
					Engine Speed Status Valid	= TRUE		
					Gear Slip			
					Gear Slip Fail Time			
					Throttle			
					Engine Torque			
					Output Speed	>= 50 RPM		
					Input Speed			
					4WD Range Timer		:	
					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:		TCM: P0716, P0717, P0722, P0723, P0973,		
				Conditions		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	E CONDIT	TONS	TIME	REQU	JIRED	MIL ILLUM.
							P0108, P0 P0174, P0 P0202, P0 P0205, P0 P0208, P0 P0302, P0 P0305, P0 P0308, P0 P0340, P0 P0365, P0 P0391, P0	175, P02 203, P02 206, P02 300, P03 303, P03 306, P03 335, P03 345, P03 366, P03	01, 04, 07, 01, 04, 07, 36, 46, 90,				
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	<u>Fail Case</u> 1 3rd gear low ratio multiplier	>=	0.949951172 Pct					=	2	Sec	One Trip
			3rd gear high ratio multiplier	<=	1.050048828 Pct								
			Fail Case 4th gear low ratio 2 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			RPM				
						Gear Slip Fail Time			Sec				
						Throttle		8.0002	Pct				
						Engine Torque			N*m RPM				
						Output Speed Input Speed			RPM RPM				
						4WD Range Timer			Sec				
						Range Change Timer			Sec				
						PTO Active		FALSE					
						Trans Temp	>=	20	С				
						Trans Temp	<=	130	С				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE C	ONDITIO	NS	TIME I	REQUI	RED	MIL ILLUM.
					Engine Torque Signal Valid	= T	ΓRUE					
					Throttle Position Signal Valid	= T	TRUE					
				Disable	: DTC's:	TCM: P0716 P0722, P072 P0974, P0979 P1915, P182 P182D, P182 P0741, P074: P2764, P276: ECM: P0101 P0103, P0107 P0174, P017: P0202, P020: P0205, P020: P0208, P030: P0302, P030: P0305, P030: P0305, P030: P0305, P030: P0306, P030: P0307, P030: P0308, P030: P03091, P040	3, P0973, 6, P0977, A, P182C 2E, P182F 2, P2763, 9, P2770 1, P0102, 6, P0107, 1, P0172, 5, P0201, 3, P0204, 6, P0207, 0, P0301, 3, P0304, 6, P0307, 5, P0306, 5, P0306, 5, P0306, 6, P0390,	, , , , , , , , , , , , , , , , , , , ,				
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed					>=	8	Sec	Two Trips
									>=	2	count	
					Engine Speed	>=		RPM				
					Engine Speed	<=	6500 I	RPM				
					Engine speed between min/max for	>=	5	Sec				
					TFT	>=	20	С				
					TFT	<=	130	С				
					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 Engine Torque Engine Torque	>= 50 Nm		
					TCC Slip	>= 100 RPM		
					TCC Mde Torque Validity Flag Engine Speed Status Valid	= Valid		
				Disable Conditions:	DTC's:	TCM: P0716, P0717, P0741, P0741, P0742, 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,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIM	E REC	UIRED	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					
					Engine Speed Engine speed between min/max for	>= 5 Sec				
					TFT					
					TFT					
					TCC Pressure					
					TCC Pressure					
					Engine Torque					
					Engine Torque					
					TCC Slip					
					TCC Slip TCC Mde	_ On or				
					Engine Torque Status Valid	Lock = TRUE				
					Engine Speed Status Valid					
				.						
				Disable Conditions:	DTC's:	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 (CONDITION	S TIM	E REQ	UIRED	MIL ILLUM.
							P0340, P03 P0365, P03 P0391, P04	66, P0390,	T			
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	>= <= ;		olts			
						Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>=	6500 R	PM PM Sec			
					Disable Conditions:	DTC's:	TCM: None ECM: P033: P0340, P03 P0365, P03 P0391	45, P0346,				
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 \	/ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	<= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec		
					Disable Conditions:				
Shift Solinoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE				Fail >= 44 Count (100ms loop)	One Trip
								Sample Out of 50 Counts (100ms loop)	
					Disable Conditions:		<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE TCM: None</pre>		

11 OBDG08 TRANS Diagnostics

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				Fail >= 44 Count (100ms loop)	One Trip
							Sample Out of 50 Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	<= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec		
				Disable Conditions:	: DTC's:			
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	<= 31.999 volts >= 500 RPM <= 6500 RPM		
					min/max for Engine Speed Status Valid PTO Active	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLI	E CONDIT	ions	TIME REQUIRED	MIL ILLUM.
					Disa Conditio		MIL not Illuminated for DTC's:	ECM: P0	335, P033 345, P03	46,		
Transmission Fluid Pressure Switch (TFP)	P1816	TFP indicates Park or Neutral (P/N) with drive ratio	TFP indication	= >=	P/N 2.752807617 Ratio						>= 12 Sec	Two Trips
			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	<= >= <= >= <=	3.167236328 Ratio 1.512207031 Ratio 1.739746094 Ratio 0.930053711 Ratio 1.069946289 Ratio 0.633300781 Ratio							
			4th gear ratio High	<=	0.728637695 Ratio		Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	31.999 500	volts volts RPM RPM		
							Engine speed between min/max for Output speed Throttle position Engine Torque Engine Torque		82 8.0002 50	Sec RPM PCT Nm Nm		
							Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid PTO Active	=	TRUE TRUE TRUE FALSE			
					Disa Conditio	able ons:	MIL not Illuminated for DTC's:	P0722, P0 P0752, P0 P0787, P0 P0974, P0)723, P079)756, P079	51, 57, 73, 77,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIME	REQU	IRED	MIL ILLUM.
								ECM: P011 P0103, P01 P0108, P01 P0174, P01 P0202, P02 P0205, P02 P0208, P03 P0302, P03 P0308, P03 P0304, P03 P0340, P03 P0365, P03 P0391, P04	106, P01 171, P01 175, P02 203, P02 206, P02 800, P03 803, P03 806, P03 335, P03 845, P03	07, 72, 01, 04, 07, 01, 04, 07, 36, 46, 90,				
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	<=	2.29284668	Ratio			•					
							Ignition Voltage Ignition Voltage	>=	8 31.999	volts 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 Engine Torque	>= <=	45 1492	Nm Nm				
							Trans Temp	>=		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:		16, P071 723, P079 756, P079	51, 57, 73,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRE	O 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, P0345, P0346, P0390, P0391, P0401, P042E		
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	lgnition 1 (run/crank) input	<= 2	volt			>= 200	nt ms
								Sam Out of 220 (25i loo	int ms
						Engine running state from ECM Power Mode	= Runnin g = 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				Fa >= 44 Cou (100 loo	nt ms

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Sample Counts Out of 50 (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between	<= 31.999 V >= 500 RPM <= 6500 RPM		
					min/max for Engine Speed Status Valid TCC PWM command	= TRUE		
				Disable Conditions	: DTC's:			
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			Fail Count (100ms loop)	Two Trips
							Sample Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	<= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:			
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	E IPIIE Roolean			>= 5	
				Disable Conditions:	DTC's:			

|--|

Axis -40.00 -25.00 -10.00 5.00 20.00 °C **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 192.00 448.00 512.00 N*m 0.00 64.00 128.00 256.00 320.00 384.00 Curve 150.00 150.00 150.00 150.00 150.00 150.00 150.00 150.00 150.00 RPM

Table 4

55.00 150.00 °C **Axis** -40.00 -16.25 7.50 31.25 78.75 102.50 126.25 600.00 400.00 400.00 400.00 400.00 400.00 400.00 400.00 400.00 RPM Curve

Table 5

 Axis
 -40.00
 7.50
 55.00
 102.50
 150.00
 °C

 Curve
 0.10
 0.15
 0.20
 0.30
 0.30
 Sec

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME	REQ	UIRED	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	One Trip
											=	16	Sample Counts	
							Ignition Voltage Lo	>=	9	Volts				
							Ignition Voltage Hi	<=	18	Volts				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P						
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case Substrate Temperature	>=	144	°C					>=	5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>=	50	°C					>=	2	Fail Time (Sec)	
			Ignition Voltage	>=	18	Volts								
			Note: either fail case can set the DTC											
							Ignition Voltage Lo	>=	9	Volts				
							Ignition Voltage Hi		31.99	Volts				
							Substrate Temp Lo		0	°C °C				
							Substrate Temp Hi Substrate Temp Between Temp Range for Time		240 0.25	Sec				
							P0634 Status is		Test Failed This Key On or Fault Active					
						Disable Conditions:	MIL not Illuminated for DTC's:							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
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	One Trip
							out of 5 Sample Counts	
					P0658 Status is not	Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		
				Disable Conditions:	DTC's:			
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ					Two Trips
			If TCM substrate temp to power up temp Δ					
			Both conditions above required to increment fail counter				Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Sample Counts Out of 3750 (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 Boole	าก	
					Accelerator Position Signal Valid	= TRUE Boole	ลก	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Brake torque active	= FALSE		
					Below describes the brake torque entry criteria			
					Engine Torque			
					Throttle			
					Transmission Input Speed Vehicle Speed			
					Transmission Range			
					Transmission Range			
					РТО	= Not Active		
					Set Brake Torque Active TRUE if above conditions are met for:			
					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 Hydraul ≠ ic Air Purge Event		
					Clutch used to exit brake torque active	CeTFT D_e_C 3_Ratl Enbl		
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:			
					P0667 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME	REQI	JIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	=	CeTFTI_e_Volt ageInversePro p									Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<=	254	PC								
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>=	254	PC								
			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: N						
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	=	CeTFTI_e_Volt ageInversePro p									Two Trips

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 °C				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	= -254 °C				
			Either condition above will satisfy the fail conditions				Fail >= 60 Timer (Sec)	
					Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo Engine Speed Hi			
					Engine Speed is within the allowable limits for	5 0		
					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			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	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					Two Trips
			If transmission oil temp to power up temp Δ					
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
							Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	Neutral			
					РТО	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraul ic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFT D_e_C 3_Ratl Enbl			

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	: DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -254 °C			Fail >= 60 Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.99 Volts >= 400 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			
				Disable Conditions:	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 °C			Fail >= 60 Time (Sec)	Two Trips
					Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo Engine Speed Hi			
					Engine Speed is within the allowable limits for	5 0		

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:	DTC's:			
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ					Two Trips
			If transmission oil temp to power up temp Δ					
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
							Sample Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	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 Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraul ic Air Purge Event			
					Clutch used to exit brake torque active		CeTFT D_e_C 3_Ratl Enbl			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop	-		
					Set Brake Torque Active FALSE if above conditions are met for:			
					P0711 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)		Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used	CeTFTI_e_Volt = ageInversePro p				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= 254 °C				

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

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_Volt d = ageInversePro p				Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	= d >= -254 °C				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	= d <= -254 °C				
			Either condition above will satisfy the fail conditions				Fail >= 60 Time (Sec)	
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi Engine Speed Lo	<= 31.99 Volts >= 400 RPM		
					Engine Speed Hi			
					Engine Speed is within the allowable limits for	>= 5 Soc		
					P0713 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:		P0717, P0722, P0723		
						ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	t s >= 1350 RPM			>= 0.8 Time (Sec)	One Trip
I								
					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			
					Engine Speed Engine Speed			
					Engine Speed is within the allowable limits for	- F Coo		
					Vehicle Speed is	,		
					Throttle Position is	>= 0 Pct		
					Transmission Input Speed is			
					The previous requirement has been satisfied for			
					The change (loop to loop) in transmission input speed is	< 8191.8 RPM/ Loop		
					The previous requirement has been satisfied for			
					Throttle Position Signal Valid	= TRUE Boolean		
					Engine Torque Signal Valid	= TRUE Boolean		
					Ignition Voltage			
					Ignition Voltage	Test Failed This		
				Disable Conditions		TCM: P0717, P0752, P0973, P0974 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	<u>Fail Case</u> 1 Transmission Input Speed is	< 50 RPM			Fail >= 4.5 Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	DLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQ	JIRED	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 Engine Torque is Vehicle Speed		50 8191.9 16	N*m N*m Kph			
						Engine Torque Signal Valid Ignition Voltage Ignition Voltage Engine Speed	>=	TRUE 9 31.99 400	Boolean Volts Volts RPM			
						Engine Speed Engine Speed is within the allowable limits for		7500 5	RPM Sec			
						P0717 Status is not	=	Test Failed This Key On or Fault Active				
					Disable Conditions:	DTC's:		722, P072 101, P010				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35	RPM					>= 4.5	Fail Time (Sec)	One Trip
						P0722 Status is not	ш	Test Failed This Key On or Fault Active				
						Transmission Input Speed Check	=		Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM
					Engine Torque Check Throttle Position	= >=	TRUE 8.0002	Boolean Pct		
					Transmission Fluid Temperature		-40	°C		
					Disable this DTC if the PTO	_	1	Boolean		
					is active Engine Torque Signal Valid		TRUE	Boolean		
					Throttle Position Signal Valid			Boolean		
					Ignition Voltage is		9	Volts		
					Ignition Voltage is		31.99			
					Engine Speed is Engine Speed is		400 7500	RPM 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	Tŀ	HRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	LE COND	TIONS	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				
							TIS Check Condition 2 Engine Speed without the brake applied is		3200	RPM			
							Engine Speed with the brake applied is Engine Speed is	>=	3200 8191.8	RPM RPM			
							Controller uses a single power supply for the speed sensors	=	1	Boolean			
						Disable		= TCM: P0		Boolean			-
						Conditions:		ECM: PO	0101, P01 P0121, P0				
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>=	105	RPM					>=	Enable 0 Time (Sec)	One Trip
			Output Speed Delta	<=	8191.75	RPM					>=	Enable 0 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			Output Speed Drop >= 3 Recove r Fail Time (Sec)	
					Range_Disable	= FALSE See Below		
					Neutral_Range_Enable And	= TRUE See Below		
					Neutral_Speed_Enable are TRUE concurrently	Below		
					Transmission_Range_Enable	Delow		
					Transmission_Input_Speed_ Enable			
					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			
					Ignition Voltage is Ignition Voltage is Engine Speed is	<= 31.99 Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE COND	DITIONS	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 RPM		
					Raw Input Speed TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied		500	RPINI		
					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	=	Neutra	I ENUM		
					Transmission Range is	=	Revers e/Neut al Transii onal	r ENUM		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	/ALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME	REQUIREC)	MIL ILLUM.
							Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE							
							Transmission Range is	=	Neutra	ENUM				
							Transmission Range is	=	Revers e/Neutr al Transiti onal	ENUM				
							Transmission Range is	=	Neutral Drive Transiti onal					
							Range Change Delay Timer	>=	5	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0 P0976, P	973, P09 0977	74,				
								ECM: P0 P0103, P P0123						
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>=	500	Кра					>=	Enal 2 Tim (Se	е	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					>=	Fa 5 Tim (Se	е	
			(B) TCC Slip @ Lock On Mode	>=	130	RPM					>=	Fa 5 Tim (Se	е	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	ITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						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			
					4th Gear Ratio High	<=	1.5515			
					5th Gear Ratio Lo		0.9301			
					5th Gear Ratio Hi		1.0699			
					6th Gear Ratio Lo		0.6975			
					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			Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Dynamic Mode	=	FALSE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Т	HRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME RE	QUIRED	MIL ILLUM.
							P0741 Status is	Test Failed This ≠ Key On or Fault Active			
						Disable Conditions:		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 30	RPM RPM			>= 1.2	Fail 2 Time (Sec)	One Trip
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						>= 5	Fail	
							Run TCC Stuck On Test Enable Criteria: Gear Ratio Gear Ratio Engine Speed Hi Engine Speed Lo Vehicle Speed HI	<= 3.1715 Ratio >= 2.7565 Ratio <= 6500 RPM >= 500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE COND	ITIONS	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	°C		
					Transmission Sump Temperature	>=	-7	°C		
					Throttle Position Hyst High	>=	10	Pct		
					Throttle Position Hyst Low	<=	2.9999			
					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			
					Ignore Air Purge if value = true			
					TCC Mode Common Enables:	= OFF		
					Ignition Voltage			
					Ignition Voltage			
					Vehicle Speed Engine Speed			
					Engine Speed			
					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:		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,		
						P0300, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME F	EQUIRED	MIL ILLUM
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>=	400	RPM							Two Trips
vaive			Commanded Gear	=	1st Lock	rpm							
			Gear Ratio	<=	1.529052734						>= (.3 Fail	
			Gear Ratio	>=	1.328979492						=	5 Fail Coun	
			If the above parameters are true									Coun	
											≠	Neutr 0 Time (Sec	r
											>= (Fail .3 Time (Sec	r
											>=	8 Coun	s
							Ignition Voltage Lo	>=	9	Volts			
							Ignition Voltage Hi Engine Speed Lo	<= >=	31.99 400	Volts RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
							Transmission Fluid Temperature	>=	-6.656	°C			
							Shift is Complete						
							TPS OR	>=	0.5005	%			
							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 Output Speed Sensor fault		FALSE FALSE	Boolean Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:				
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	Rpm		1 0000, 1 0 10 1, 1 0 122		One Trip
			Commanded Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On		3rd TRUE	Gear				
			C456/CBR1 Pressure Switch	=	Pressurized	Boolean				
			C456/CBR1 Pressure Switch Fault If the above parameters are true	=	FALSE	Boolean				
									Pleas e Refer to Neutral >= Table 16 in Suppo rting Docu ments	

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			
					Engine Speed Lo Engine Speed Hi			
					Engine Speed is within the			
					allowable limits for	>= 5 Sec		
					High-Side Driver is Enabled		ın	
					Throttle Position Signal Valid from ECM		ın	
					Output Speed			
					OR			
					TPS Shift is Complete			
					Transmission Fluid			
					Temperature)= -0.000 °C		
					Input Speed Sensor fault			
					Output Speed Sensor fault		ın	
					Default Gear Option is not present			
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102,		
						P0103, P0106, P0107,		
						P0108, P0171, P0172, P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300, P0301,		
						P0302, P0303, P0304,		
						P0305, P0306, P0307, P0308, P0401, P042E		
			Fail Case					One Trip
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<u>1</u> Case: Steady State 3rd Gear					
			Commanded Gear	= 3rd Gear				

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

11 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME I	REQUI	RED	MIL ILLUM.
			Intrusive Test: Command 6th Gear									
			If attained Gear=6th gear Time	Table Based Time Please >= Refer to Table 3 in supporting documents Table Based 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 inhibit RVT	= =		Boolean Boolean				
					IMS fault pending indication	=		Boolean				
					TPS validity flag	=		Boolean				
					Hydraulic System Pressurized	=		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		•	V - 11 -				
					Ignition Voltage Lo Ignition Voltage Hi	>= <=	9 31.99	Volts Volts				
					Ignition Voltage Hi 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	THRE	SHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	DTC's:	= -6.656 °C = FALSE Boolean = FALSE Boolean = TRUE		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	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	Table Time >= Refer 4 in si docu	400 RPM e Based t Please to Table (Sec) upporting uments 7324219 4628906			Fail >= 1.1 Timer (Sec)	One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Fail Count in 2nd Gear or	
							Total >= 3 Fail Counts	
			Fail Case Case: Steady State 4th 3 gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time Please Refer to Table 17 in supporting documents				
			Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true					
			2.0 0.0				Fail >= 1.1 Timer (Sec)	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME RE	QUIRED	MIL ILLUM.
									>= 3	Fail Count in 6th Gear	
							511.05		>= 3	or Total Fail Counts	
					PRNDL State defaulted inhibit RVT	=	FALSE FALSE				
					IMS fault pending indication output speed TPS validity flag	= >= =	FALSE 0 TRUE	RPM			
					HSD Enabled Hydraulic_System_Pressurize	=	TRUE	Boolean Boolean			
					u 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 Ignition Voltage Hi Engine Speed Lo	>= <= >=	9 31.99 400	Volts Volts RPM			
					Engine Speed Hi Engine Speed is within the	<= >=	7500 5	RPM Sec			
					allowable limits for if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct			
					if Attained Gear=1st FW Engine Torque Enable	>=	45	Nm			
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm			
					Transmission Fluid Temperature	>=	-6.656	°C			
					Input Speed Sensor fault	=	FALSE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:				
								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 Attained Gear Slip	<i>≠</i> <=	Initial Clutch Control 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 V	LUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (3-2 shifting with Throttle)	>=		ail Time Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>=		ail Time Sec)				
			fail timer 1 (3-4 shifting with Throttle)	>=		ail Time Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>=	0.900390625 F	ail Time Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>=		ail Time Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>=	0.900390625 F	ail Time Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>=		ail Time Sec)				
			fail timer 1 (5-3 shifting with Closed Throttle)	>=		ail Time Sec)				
			fail timer 1 (5-4 shifting with Throttle)	>=	0.700195313 F	ail Time Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>=	0.900390625 F	ail Time Sec)				
			fail timer 1 (5-6 shifting with Throttle)	>=		ail Time Sec)				
			fail timer 1 (5-6 shifting with Closed Throttle)	>=	0.900390625 F	ail 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 Enabl e Timer s for >= Fail Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				3rd >= 3 gear fail counts OR	
			5th gear fail counter				5th >= 3 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.
				Disable Conditions:		= FALSE Boolean = FALSE Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		
Transmission Output Speed Sensor (TOSS)	P077C	Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25 Volts		P0305, P0306, P0307, P0308, P0401, P042E	>= 0.05 sec	One Trip
			P077C Status is not If the above conditons have been met, increment the P077C Fail Counter	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.
			DTC P077C Sets when the Fail Counter	>=	75	Counts Disable Conditions:		>= <=	1 Boolean 9 Volts 31.99 Volts		
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		
							lgnition Voltage Lo Ignition Voltage Hi	>= <=	9 Volts 31.99 Volts		
						Disable Conditions:		TCM: P077	7C		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case Case: Steady State 4th Gear								One Trip
			Gear slip	>=	400	RPM				Pleas e See Table Neutral >= 5 For Timer Neutr al Time Cal	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: commanded 5th gear					
			If attained Gear ≠5th for time					
			if the above conditions have been met					
			Increment 4th Gear Fail Counter				4th Gear Fail Count OR	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case Case: Steady State 5th Gear					
			Gear slip	>= 400 RPM			Pleas e See Table >= 5 For Neutr al Time Cal	
			Intrusive test: commanded 6th gear					
			If attained Gear ≠ 6th for time					
			if the above conditions have been met					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME RE	QUIRED	MIL ILLUM.
			Increment 5th Gear Fail Counter							>= 2	5th Gear Fail Count OR	
			and C456 Fail Counters							>= 14	C456	
			Fail Case Case: Steady State 6th Gear									
			Gear slip	>=	400 RPM					Plea e Se Tabl >= 5 Fo Neu al Tim Ca	e Neutral or Timer tr (Sec)	
			Intrusive test: commanded 5th gear									
			If attained Gear ≠ 5th for time	>=	Table Based Time Please Refer to Table 3 in supporting documents Enable 1 (Sec)	ime						
			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	
							PRNDL State defaulted inhibit RVT	=	FALSE Boolean FALSE Boolean			
							IMS fault pending indication	=	FALSE Boolean			
1							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	>- U RFIVI		
					A OR B (A) Output speed enable			
					(B) Accelerator Pedal enable			
					Common Enable Criteria Ignition Voltage Lo	>= 9 Volts		
					lgnition Voltage Hi Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid			
					HSD Enabled			
					Transmission Fluid Temperature			
					Input Speed Sensor fault OutputSpeed Sensor fault			
					Default Gear Option is not	= TRUE		
					present	- INGE		
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107,		
						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 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	>=	Table Based Time Please Refer to Table 4 in supporting documents 1.529052734 1.328979492			Fail >= 1.1 Timer (Sec) Fail Count in 1st Gear or Total >= 3 Fail Counts	One Trip
			Fail Case 2 Case Steady State 2nd Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 2 in supporting documents				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 1.328979492			Fail >= 1.1 Timer (Sec) Fail >= 3 Count in 3rd Gear OR Total >= 3 Fail	
					PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled Hydraulic_System_Pressurize d Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable	= FALSE Boole = FALSE Boole >= 0 RPI = TRUE Boole = TRUE Boole = TRUE Boole >= 0 Nn	Counts an an an d an an	
					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	<= 31.99 Voli >= 400 RPI <= 7500 RPI >= 5 Se	s 1 1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW	>= 45 NIII		
					Engine Torque Enable	<= 8191.9 Nm		
					Transmission Fluid Temperature Input Speed Sensor fault	>= -0.050 °C		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present			
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,		
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,		
						P0208, P0300, P0301, P0302, P0303, P0304,		
						P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	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					
			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 Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail Refer ence Suppo rting Table 15 for Fail Timer	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter				2	
			4th gear fail counter				Fail Counter >= 3 From 4th Gear OR	
			5th gear fail counter				Fail Counter >= 3 From 5th Gear OR	
			6th gear fail counter				Fail Counter >= 3 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 Total >= 5 Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	= FALSE Boolean = FALSE Boolean = 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for			
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage P07BF Status is not	Test Failed			>= 0.05 sec	One Trip
			If the above conditons have been met, increment the P07BF Fail Counter					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	ONS	TIME REQUIRED	MIL ILLUM.
			DTC P07BF Sets when the Fail Counter	>=	75	Counts	P07BF Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	= >= <=	9	Boolean Volts 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 Ignition Voltage Lo Ignition Voltage Hi	= >= <=	9	Boolean Volts Volts		
						Disable Conditions:	MIL not Illuminated for DTC's:					
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case Tap Up Switch Stuck in 1 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	D 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			Fail >= 1 Time (Sec)	
			Fail Case Tap Up Switch Stuck in 2 the Up Position in Range 1 Enabled		1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	1	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQ	UIRED	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	O VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
Tan Ha Tan Dawa			Fail Case Tap Down Switch Stuck							Special No Trip
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	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 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		THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM
			Fail Case 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 NOTE: Both Failcase1	=	TRUE	Boolean				
			and Failcase 2 Must Be Met						>= 600 sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
					Time Since Last Range Change	Ena >= 1 Tini (Se	е	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	<= 31.99 Vo	s	
					Engine Speed Hi Engine Speed is within the			
					allowable limits for P0816 Status is	Test Failed		
				Disable Conditions	: DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
						LCIVI. NOTIE		Special No Trip
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			Fail >= 60 Time (Sec)	ореска No Trip
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.99 Vo >= 400 RP	s M	
					Engine Speed is within the allowable limits for	- F 96		
					P0826 Status is	Test Failed This		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P17 ECM: No				
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 fo Delay Timer Cal							
			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	Кра						
							Transmission Fluid Temperature Lo	>=	-6.656	°C		
							Transmission Fluid Temperature Hyst Hi (disable above this)	Not >=	120	°C		
							Transmission Fluid Temperature Hyst Lo (enable below this)		110	°C		
							Ignition Voltage Lo	>=	9	Volts		
							Ignition Voltage Hi	<=	31.99	Volts		
							Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM		
							Engine Speed is within the allowable limits for	\ <u>-</u>	5	Sec		
							Default Gear Action		FALSE			
							High Side Driver ON	=	TRUE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	LE CONDIT	TIONS	TIME REQUIRED	MIL ILLUM.
							RVT Status	=	Normal			
							Hydraulic Pressure Available		TRUE			
							Engine Speed Min	>=	550	RPM		
						Disable Conditions:	DTC's:	P0713, F P0722, F P0742, F P0973, F	0711, P071: P0716, P07 P0723, P07 P0756, P07 P0974, P09 P1915, P18	717, 751, 757, 976,		
								ECM: No	one			
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							
			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	°C		
							Transmission Fluid Temperature Hyst Hi (disable above this)		120	°C		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	110	°C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:	<pre><= 31.99 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM</pre>		
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	See Table 6 for >= Delay Timer Sec Cal > 50 kpa	Transmission Fluid Temperature Lo	S= -6.656 °C	>= 12 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIO	NS TI	ME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hyst Hi (disable above this)	Not >= 120	°C		
					Transmission Fluid Temperature Hyst Lo (enable below this)	<= 110	°C		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	<= 31.99 \	olts olts PM		
					Engine Speed Hi Engine Speed is within the	\ E	PM Sec		
					allowable limits for Default Gear Action High Side Driver ON	= FALSE			
					RVT Status	= Normal			
					Hydraulic Pressure Available Engine Speed Min		РM		
				Disable Conditions:	MIL not Illuminated for DTC's:		, , ,		
						ECM: None			
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure	>= 700 KPa					Special No Trip
			Hydraulic Delay Timer (Table Based)	See Table 6 for >= Delay Timer Sec Cal					
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter				>	= 12 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	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	Кра						
						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		
						lgnition Voltage Lo Ignition Voltage Hi	>= <=	9 31.99	Volts Volts		
						Engine Speed Lo	>=	400	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the allowable limits for	>=	5	Sec		
						Default Gear Action	=	FALSE			
						High Side Driver ON		TRUE			
						RVT Status		Normal			
						Hydraulic Pressure Available		TRUE			
						Engine Speed Min	>=	550	RPM		
					Disable Conditions:	DTC's:	P0713, P P0722, P P0742, P	0716, P07 0723, P07 0756, P07 0974, P09 1915, P18	717, 751, 757, 976,		
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					Fail >= 4.4 Time (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE (CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
										out of		Sample Time (Sec)	
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>=	9 31.99 400 7500	Volts Volts RPM 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)	One Trip
										out of	1.875	Sample Time (Sec)	
						Ignition Voltage	>=	9	Volts				
						Ignition Voltage		31.99	Volts				
						Engine Speed		400	RPM				
						Engine Speed Engine Speed is within the allowable limits for		7500 5	RPM 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)	Two Trips
										out of	5	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ΓIONS	TIME REQ	UIRED	MIL ILLUM.
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	9 31.99 400 7500	Volts Volts RPM RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: No					
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sample Time (Sec)	
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	9 31.99 400 7500	Volts Volts RPM 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: No					
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)	One Trip
										out of 0.375	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE C	CONDITI	IONS	TIME REQ	UIRED	MIL ILLUM.
					Ignition Voltage	>=	9	Volts			
					Ignition Voltage			Volts			
					Engine Speed			RPM			
					Engine Speed		7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					P0967 Status is not	= Ko	Test Failed This Tey On r Fault Active				
				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)	One Trip
									out of 0.375	Sample Time (Sec)	
					P0970 Status is not	= Ko	Test Failed This Eey On r Fault Active				
					Ignition Voltage	>=	9	Volts			
					Ignition Voltage			Volts			
					Engine Speed			RPM			
					Engine Speed	<=	7500	RPM			
					Engine Speed is within the allowable limits for		5	Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL				E CONDI	TIONS	TIME F	EQUI	RED	MIL ILLUM.
					Disable Conditions:	DTC's:	TCM: No						
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					>= (out of 0.	S 375	Fail Time (Sec) Sample Time (Sec)	One Trip
						P0971 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= >= <=	9 31.99 400 7500	Volts Volts RPM RPM				
						Engine Speed is within the allowable limits for	<i>/-</i>	5	Sec				
					Disable Conditions:	DTC's:							
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= '		Fail Time (Sec)	One Trip
										out of	1.5	Sample Time (Sec)	
						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	ENABL	E CONDI	TIONS	TIME	REQU	IRED	MIL ILLUM.
					Ignition Voltage		9	Volts				
					Ignition Voltage		31.99	Volts				
					Engine Speed Engine Speed		400 7500	RPM RPM				
					Engine Speed is within the allowable limits for		5	Sec				
				Disal Condition	ole MIL not Illuminated for	TCM: No						
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean					>=		Fail Time (Sec)	Two Trips
									out of		Sample Time (Sec)	
					P0974 Status is no	=	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				
				Disal Condition								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure	<=	50	Кра						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 9 fo Delay Timer Cal							
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter								>= 17 Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	>	50	kpa						
							Transmission Fluid Temperature Lo		-6.656	°C		
							Transmission Fluid Temperature Hyst Hi (disable above this)		120	°C		
							Transmission Fluid Temperature Hyst Lo (enable below this)	<=	110	°C		
							Ignition Voltage Lo		9	Volts		
							Ignition Voltage Hi		31.99	Volts		
							Engine Speed Lo Engine Speed Hi		400 7500	RPM RPM		
							Engine Speed is within the allowable limits for	\ -	5	Sec		
							Default Gear Action		FALSE			
							High Side Driver ON RVT Status		TRUE Normal			
							Hydraulic Pressure Available Engine Speed Min		TRUE 550	RPM		
							Engine Speed Min	>=	550	KPIVI		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P07 P0713, P0 P0722, P0 P0742, P0 P0973, P0 P0977, P1 ECM: Non	9716, P07 9723, P07 9756, P07 974, P09 915, P18	717, 751, 757, 976,		
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulio pressure		700	Кра						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 9 fo Delay Timer Cal							
			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	°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		
I							Ignition Voltage Hi Engine Speed Lo	<= >=	31.99 400	Volts RPM		
I							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 Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min	= FALSE = TRUE = Normal = TRUE		
					Disable Conditions:		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 Count Samp > 10 Time (Sec	e r
					Disable Conditions:	Tap Up Tap Down Message Health Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 400 RPM <= 7500 RPM >= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1 Current range	=	"Transitional 1"	Range State				One Trip
			Previous range	≠	CeTRGR_e_P RNDL_Drive6	Range State				
			Previous range	≠	CeTRGR_e_P RNDL_Drive5	Range State				
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean				
			Engine Torque	>=	-50	Nm				
			Engine Torque	<=	8191.75	Nm				
			If the above conditions are present Increment Fail Timer						Fail >= 0.225 Second s	
			lf Fail Timer has Expired then Increment Fail Counter						>= 15 Fail Counts	
			<u>Fail Case</u> <u>2</u> Current range	=	"Transitional 1"	Range State				
			S3 Pressure Switch indicates "Exhausted"	=	TRUE	Boolean				
			Commanded Gear	=	1st Locked	Gear				
			If the above conditions are present Increment Fail Timer						Fail >= 0.225 Second s	
			If Fail Timer has Expired then Increment Fail Counter						>= 15 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	≠	CeTRG R_e_P RNDL_ Drive5		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	II	TRUE	Boolean	Previous range	≠	CeTRG R_e_P RNDL_ Drive5		
			Engine Torque	>=	-8192	Nm	IMS is 7 position configuration	=	0 Boolean		
			Engine Torque	<=	8191.75	Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transitional 13"				
			If the above conditions are present Increment Fail Timer							>= 0.225 Seconds	
			lf 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	ENAB	LE 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"	l					
			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	II	"Illegal"		A Open Circuit Definition (flag set false if the following conditions are met):				
			and				Current Range	≠	"Transit ional 11"		
			A Open Circuit (See Definition)	=	FALSE	Boolean	or				
							Last positive state	≠	Neutral		
							Previous transitional state	≠	Transiti onal 8 and Illegal		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITION	S TIME REQUIRED	MIL ILLUM.
			If the above Condtions are present, Increment Fail timer Fail Case 7 Current PRNDL State and Previous valid state Input Speed Reverse Trans Ratio Reverse Trans Ratio Reverse Trans Ratio If the above Condtions are present, Increment Fail timer P182E will report test fail when any of the above 7 fail cases are met	= >= <=	PRNDL circuit ABCP = 1101 PRNDL circuit ABCP = 1111 150 RPM 2.795898438 ratio 3.149047852 ratio	Ignition Voltage Lo Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Signal Valid	= = = = = = = = = = = = = = = = = = = =	Open Circuit Closed Circuit Open Circuit Open Circuit 1 Open Circuit Open Circuit 1 Open Circuit Open Circuit Open Circuit Open Circuit Open Circuit	s I 1 1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	E CONDI	TIONS	TIME	REQU	IIRED	MIL ILLUM.
						Disable Conditions:		ECM: P P0103, F P0108, F P0174, F P0202, F P0205, F P0208, F P0302, F P0305, F	0722, P072 0101, P01 P0106, P0- P0171, P0- P0175, P02 P0203, P02 P0206, P02 P0300, P03 P0306, P03 P0306, P03 P0401, P04	02, 107, 172, 201, 204, 207, 301, 304,				
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	=	Park or Reverse or Neutral	Range State								Special No Trip
			TUTD Enable Switch is Active	=	TRUE	Boolean								
											>=	3	Fail Time (Sec)	
											>=	5	Fail Counts	
							Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= <= >= >=	9 31.99 511 400 7500 5 Test Failed This Key On or Fault Active	Volts Volts KPH RPM RPM Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDITIO	ONS	TIME REQU	JIRED	MIL ILLUM.
						Disable Conditions:	DTC's:	P0826, P1	761, P1825 1915, U0100	5,			
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠	Park or Neutra	al Enumeration							One Trip
			The following events must occur Sequentially										
			Initial Engine speed	<=	50	RPM					>= 0.1	Enable Time (Sec)	
			Then Engine Speed Between Following Cals										
			Engine Speed Lo Hist		50	RPM					h = 0.000	Enable	
			Engine Speed Hi Hist Then		480	RPM					>= 0.069	Time (Sec)	
			Final Engine Speed Final Transmission Input Speed	>=	100	RPM RPM					>= 1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	>=	FALSE Bo	V			
							Ignition Voltage Hi Ignition Voltage Hyst High (enables above this value)	<= >=	31.99 6	V 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:	DTC's:			
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Run crank active (based on voltage thresholds below)	= FALSE					One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	6	Volts			Fail >= 280 Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2	Volts			Sample Counts Out of 280 (25ms loop)	
						Normal CAN Comm Enabled	= TRUE Boolean	1	
						ECM run/crank active status	= TRUE Boolear	1	
					Disable Conditions:	DTC's:			

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]	<u>Fail Case</u> <u>1</u> Case: Steady State 2nd Gear				Pleas	One Trip
			Gear slip	o >= 400 RPM			e See Table 5 For Neutral Timer (Sec) Time	
			Intrusive test: commanded 3rd gear				Cal	
			If attained Gear = 3rd for Time					
			If Above Conditions have been met					
			Increment 2nd gear fail count				2nd Sear Fail Count	
			and CB26 Fail Count	t			or CB26 >= 14 Fail Count	
			Fail Case Case: Steady State 6th 2 Gear				Pleas	
			Gear slip	o >= 400 RPM			e See Table Neutral Timer e See Table Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear	:			Cal	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REG	QUIRED	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 or	
			and CB26 Fail Count					>= 14	CB26 Fail Count	
					PRNDL State defaulted	=	FALSE Boole			
					inhibit RVT	=	FALSE Boole	ın		
					IMS fault pending indication	=	FALSE Boole	ın		
					TPS validity flag	=	TRUE Boole	ın		
					Hydraulic System Pressurized	=	TRUE Boole	ın		
					Minimum output speed for RVT	>=	0 RPM			
					A OR B					
					(A) Output speed enable		650 RPM			
					(B) Accelerator Pedal enable	>=	0.5005 Pct			
					Common Enable Criteria					
					Ignition Voltage Lo Ignition Voltage Hi	>= <=	9 Volts 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 Boole	ın		
					HSD Enabled	=	TRUE Boole	ın		
					Transmission Fluid Temperature	>=	-6.656 °C			
					Input Speed Sensor fault	=	FALSE Boole	เท		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable	Output Speed Sensor fault Default Gear Option is not present MIL not Illuminated for	= TRUE		
					Conditions:	DTC's:	ECM: 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		One Trip
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)	ш	TRUE Boolean				Ole IIIp
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized				
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command				
			Range Shift Status Attained Gear Slip		Initial Clutch Control 40 RPM				
			If above coditons are true, increment appropriate Fail 1 Timers Below:						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	E	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-1 shifting with throttle)	>=	0.700195313 Fail T (Sec)	Γime)				
			fail timer 1 (2-1 shifting without throttle)	>=	0.900390625 Fail T (Sec)	Γime)				
			fail timer 1 (2-3 shifting with throttle)	>=	0.700195313 Fail T (Sec)	Γime)				
			fail timer 1 (2-3 shifting without throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (2-4 shifting with throttle)	>=	0.700195313 Fail T (Sec)	Γime)				
			fail timer 1 (2-4 shifting without throttle)	>=	0.900390625 Fail T (Sec)	Γime)				
			fail timer 1 (6-4 shifting with throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (6-4 shifting without throttle)	>=	0.900390625 Fail T (Sec)					
			fail timer 1 (6-5 shifting with throttle)	>=	0.700195313 Fail T (Sec)					
			fail timer 1 (6-5 shifting without throttle)	>=	0.900390625 Fail T (Sec)	Γime)				

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 Enabl e Timer s for >= Fail Sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear OR	
			6th gear fail counter				Fail Counter >= 3 From 6th Gear OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			total fail counter				Total >= 5 Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	= FALSE Boolean = FALSE Boolean = 1st Boolean = TRUE Boolean >= 200 RPM >= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean		
				Disable Conditions:	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 Case: Steady State 1st Attained Gear slip If the Above is True for Time	>= 400 RPM Table Based Time Please				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 3.112670898 >= 2.705322266			Fail >= 1.1 Timer (Sec) Fail Count in 1st Gear or	
			<u>Fail Case</u> Case: Steady State 3rd 2 Gear				Total >= 8 Fail Counts	
			Max Delta Output Speed Hysteresis					
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time Please Refer to Table 17 in supporting documents				
			Intrusive test: (C35R clutch exhausted)					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio Gear Ratio If the above parameters are true	>=	3.112670898 2.705322266			Fail	
								>= 1.1 Timer (Sec) Fail Count in 3rd	
								Gear or Total >= 8 Fail Counts	
			Fail Case 3 Case: Steady State 4rd Gear		Table Based				
			Max Delta Output Speed Hysteresis	>=	value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 17 in supporting documents				
			Intrusive test: (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				Fail >= 1.1 Timer (Sec) Fail >= 3	
			<u>Fail Case</u> 4 Case: Steady State 5th Gear				in 4th Gear or Total >= 8 Fail Counts	
			Max Delta Output Speed Hysteresis	Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents Table Based				
			If the Above is True for Time	Time Please				
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 0.693725586				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME REG	QUIRED	MIL ILLUM.
									>= 1.1	Fail Timer (Sec)	
									>= 3	Fail Count in 5th Gear	
									>= 8	or Total Fail	
					PRNDL State defaulted inhibit RVT	=	FALSE FALSE			Counts	
					IMS fault pending indication	=	FALSE				
					output speed TPS validity flag	>=	0 TRUE	RPM Boolean			
					HSD Enabled	=		Boolean			
					Hydraulic_System_Pressurize d	=	TRUE	Boolean			
					Minimum output speed for RVT	>=	0	Nm			
					A OR B (A) Output speed enable	>=	650	Nm			
					(B) Accelerator Pedal enable	>=	0.5005	Nm			
					Ignition Voltage Lo	>=	9	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo Engine Speed Hi	>=	400	RPM			
					Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5	RPM 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 Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= -6.656 °C = FALSE Boolean = FALSE Boolean		
				Disable Conditions	: 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 >= 0.3 Time (Sec) Sample out of 0.375 Time (Sec)	One Trip
					P2770 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed	or Fault Active >= 9 Volts <= 31.99 Volts >= 400 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	: DTC's:			
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 Time (Sec)	One Trip
							Sample out of 0.375 Time (Sec)	
					P2721 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage			
					Ignition Voltage			
					Engine Speed Engine Speed			
					Engine Speed is within the allowable limits for	S- 5 Coo		
				Disable Conditions	: DTC's:			
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			Pleas e See Table 5 For Neutral Neutr al Time (Sec)	
			Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time	Table based Timer, Please See Table 3 in Enable Time			Cal	
			If Above Conditions have been met, Increment 1st gear fail counter	Documents			1st >= 2 Gear Fail Count or	
			and C1234 fail counter				C1234 >= 14 Clutch Fail Count	
			2 Case: Steady State 2nd Gear Gear				Pleas e See Table Neutral >= Neutral Neutr al Time Cal	
			Intrusive test: commanded 3rd gear				Cal	

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				2nd >= 2 Gear Fail Count or	
			and C1234 fail counter				>= 14 Clutch Fail Count	
			3 Case: Steady State 3rd Gear				Pleas	
			Gear slip	>= 400 RPM			e See Table Table Neutral From the control of the c	
			Intrusive test: commanded 4th gear	Toble based				
			If attained Gear ≠ 4th for time					
			If Above Conditions have been met, Increment 3rd gear fail counter				3rd Gear >= 2 Fail Count or	
			and C1234 fail counter				C1234 >= 14 Clutch Fail Count	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
						Ignition Voltage Lo	>=	9	Volts		
						Ignition Voltage Hi		31.99	Volts		
						Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM		
						Engine Speed is within the allowable limits for		5	Sec		
						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:	DTC's:	TCM: P0 P0722, F ECM: P0 P0103, F P0108, F P0174, F P0202, F P0205, F P0208, F P0302, F P0305, F P0308, F	20723, P1 20101, P01 20106, P0 20171, P0 20175, P0 20203, P0 20206, P0 20300, P0 20303, P0 20306, P0	82E 02, 107, 172, 1201, 1204, 1207, 1301, 1304, 1307,		
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 Attained Gear Slip		Initial Clutch Control 40 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:		10 10 10				
			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 Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear	
			3rd gear fail counter				Fail Counter >= 3 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				Fail Counter >= 3 From 4th Gear	
			total fail counter				Total >= 5 Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON	≠ 1st Boolean = TRUE Boolean		
					output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode	>= 200 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean		
				Disable	HSD Enabled MIL not Illuminated for	TCM: P0716, P0717,		
				Conditions:		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)	<u>Fail Case</u> 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				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time					
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters	<= 1.529052734 >= 1.328979492				
			are true				Fail >= 1.1 Timer (Sec)	
							Fail Count in 5th Gear OR	
			<u>Fail Case</u> 2 Case: 6th Gear				Total >= 3 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQU	JIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 1 in supporting documents						
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to 3D Table 2 in supporting documents						
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 17 in supporting documents						
			Intrusive test: (CB26 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 6th Gear	
									>= 3	OR Total Fail Counts	
						PRNDL State defaulted inhibit RVT	=	FALSE Boolean 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	ENAB	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pressurize d	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	Nm		
					A OR B					
					(A) Output speed enable	>=	650	Nm		
					(B) Accelerator Pedal enable	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.001	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	45	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.9	Nm		
					Transmission Fluid Temperature	>=	-6.656	°C		
					Input Speed Sensor fault	=	FALSE	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:	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				Fail >= 0.3 Time (Sec) Sample out of 0.375 Time (Sec)	One Trip
					P2729 Status is not	Test Failed This = Key On or Fault Active		
					Ignition Voltage			
					Ignition Voltage Engine Speed			
					Engine Speed			
					Engine Speed is within the allowable limits for			
				Disable Conditions:				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	OLD VALUE	SECONDARY PARAMETERS	ENABLE CO	NDITIONS	TIME	REQUIR	ED	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	= TRU	E Boolean				>=	0.3 T	Fail ime Sec)	One Trip
									out of 0).375 T	mple ime Sec)	
						P2730 Status is not	Fa TI = Key or F	est led nis r On fault tive				
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31 >= 4	9 Volt .99 Volt 00 RPM 00 RPM	1			
						Engine Speed is within the allowable limits for	>=	5 Sec				
					Disable Conditions		TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRU	E Boolean				>=	4.4 T	ail ime Sec)	Two Trips
									out of	5 T	mple ime Sec)	
						P2763 Status is not	Fa TI = Key or F	est led nis On ault				
						lgnition Voltage Ignition Voltage		9 Volt .99 Volt				
						Engine Speed		.99 Voit 00 RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME F	EQUIRE) МІ	L 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: P0 ECM: No		59				
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE	Boolean					>= 4	.4 MP		One Trip
										out of	5 MP	Н	
						P2764 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage		9	Volt				
						Ignition Voltage Engine Speed		31.99 400	Volt RPM				
						Engine Speed Engine Speed		7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
						High Side Driver Enabled	=	TRUE	Boolean				
					Disable Conditions:	DTC's:	TCM: P0 ECM: No		59				
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error		Boolean					>= (Fa cour 62 (≈ 1 secc s)	I ts 0 nd	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			Sample Counts Out of 70 (≈ 11 second s)	
					Stabilization delay	>= 3 sec		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage	<= 31.99 Volt		
					Power Mode	= Run		
				Disable Conditions:	DTC's:			

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	٥С
Curve	409.59	2.00	2.00	Sec

Table 3

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	3.50	3.50	Sec

Table 4

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	2.99	2.00	Sec

Table 5

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	3.00	3.00	Sec

Table 6

Axis	-7.01	-7.00	40.00	80.00	120.00	٥С
Curve	409.00	3.60	1.60	1.40	1.40	Sec

Supporting Documents - 6T40 2D Tables

T	a	b	le	7

Axis	-7.01	-7.00	40.00	80.00	120.00 °C
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 °C
Curve	409.00	3.60	1.60	1.50	1.40 Se

Table 9

Axis	-7.01	-7.00	40.00	80.00	120.00	٥С
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	٥С
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	٥С
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	٥С
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	οС
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	٥С
Curve	5.00	1.50	0.70	0.25	0.25	Sec

Table 15

Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00 °C
Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 Sec

Table 16

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	1.50	1.50	Sec

<u>Table 17</u>

Axis	-6.67	-6.66	40.00	٥С
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	٥С
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00	٥С

Table 19

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	٥С
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00	٥С

Table 20

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	٥С
Curve	256.00	10.00	8.00	8.00	8.00	8.00	8.00	8.00	256.00	٥С

Supporting Documents - 6T40 3D Tables

3D_Table 1

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

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

3D_Table 2

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	IONS	TIME REG	QUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0602	Transmission Electro-Hydraulic Control Module Not Programmed	Non-Programmed TECHM Failure	=	TRUE	Boolean					Runs Contii ously	n	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 Memorv	RAM Read/Write Failure (Single Word)	=	TRUE	Boolean					>= 5	Fail Counts	One Trip
											= 16	Sample Counts	
						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 Substrate Temperature	>=	146.296875	°C					>= 5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>=	50	°C					>= 2	Fail Time (Sec)	
			Ignition Voltage	>=	18	Volts							
			Note: either fail case can set the DTC										
							Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between	>= <= >= <= >=		Volts Volts °C °C			

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 Sample	One Trip
					P0658 Status is not	or Fault Active	out of 5 Counts	
				Disable Conditions	High Side Driver 1 On MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ					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				
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
							Sample Counts Out of 875 (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal Valid	- TDLIE Boolo		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.99 Volt: >= 400 RPM	5 1	
					Engline Speed File Engine Speed File Engine Speed is within the allowable limits for Brake torque active			
					Below describes the brake torque entry criteria Engine Torque Throttle	>= 90 N*m		
					Transmission Input Speed			

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			
					РТО	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:		7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraul ic Air Purge Event			
					Clutch used to exit brake torque active		CeTFT D_e_C 3_Ratl Enbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					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		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	agebliectProp				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				Fail >= 60 Timer (Sec)	
					Ignition Voltage Lo			
					Ignition Voltage Hi Engine Speed Lo	<= 31.99 Volts >= 400 RPM		
					Engine Speed Lo			
					Engine Speed is within the allowable limits for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VA	ALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQU	IRED	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 If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	= >= <=	CeTFTI_e_Volt ageDirectProp	c								Two Trips
			Either condition above will satisfy the fail conditions				TOSS Speed	>=	0	RPM	>=	60	Fail Timer (Sec)	
							Toss Speed greater than above cal for	>=	0	Sec				
							TCC Slip TCC Slip greater than above cal for	>=	0	RPM Sec				
							Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996 31.99 400 7500	Volts Volts RPM RPM 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:	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 °C supporting documents				Two Trips
			If transmission oil temp to power up temp Δ		Refer to Table 20 in °C supporting documents				
			Both conditions above required to increment fail counter					>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until					>= 700 Pass Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	E CONDI	ITIONS	TIME REQUIRED	MIL ILLUM.
									Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal			Boolean		
					Valid Ignition Voltage Lo	= >=	TRUE 8.5996	Boolean		
					Ignition Voltage Lo	>= <=	31.99			
					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 Transmission Input Speed	>= <=	30 200	Pct RPM		
					Vehicle Speed		8	KPIVI		
					Transmission Range	≠	Park	i		
					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 Hydraul ic Air Purge Event			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch used to exit brake torque active	CeTFT D_e_C 3_Ratl Enbl		
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P06AC Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:		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, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOI	.D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<=	-59	°C					>=	60	Fail Time (Sec)	Two Trips
						Disat Condition	Ignition Voltage Lo Ignition Voltage Ho Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Toss Speed Toss Fail Timer TCC slip TCC Fail Timer P06AD Status is	<= >= >= >= >= >= >=	8.5996 31.99 400 7500 5 0 0 Test Failed This Key On or Fault Active	Volts RPM RPM Sec RPM Sec RPM Sec				
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>=	164	°C	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	<= >=	8.5996 31.99 400	Volts RPM	>=	60	Fail Time (Sec)	Two Trips
							Engine Speed Hi Engine Speed is within the allowable limits for		7500 5	RPM 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					Two Trips
			If transmission oil temp to power up temp Δ	Refer to Table 20 in supporting documents				
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Out of 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
									Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal			Boolean		
					Valid Ignition Voltage Lo Ignition Voltage Hi		8.5996 31.99			
					Engine Speed Lo Engine Speed Hi		400 7500	RPM RPM		
					Engine Speed is within the allowable limits for Brake torque active	>=	5 FALSE	Sec		
					Below describes the brake torque entry criteria Engine Torque	>=	90	N*m		
					Throttle Transmission Input Speed	>= <=	30 200	Pct RPM		
					Vehicle Speed Transmission Range Transmission Range	<= ≠ ≠	8 Park Neutral	Kph		
					РТО	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec		
					Below describes the brake torque exit criteria Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure		Clutch Hydraul ic Air Purge Event			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Clutch used to exit brake torque active			
					The above clutch pressure is greater than this value for one loop			
					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:		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		

P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temn If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	= <=	CeTFTI_e_V ageDirectPro -74	olt op °C							Two Trips
		Temperature Sensor = Direct Proportional and Temn If Transmission Fluid Temperature Sensor = Indirect Proportional and			°C							
		Temperature Sensor = Indirect Proportional and	>=	-74								
					°C							
		Either condition above will satisfy the fail conditions								>= 60	Fail Time (Sec)	
						TOSS	>=	0	RPM			
						TOSS above thresh for	>=	0	Sec			
						TCC slip TCC slip above thresh for	>= >=	0 0	RPM Sec			
						Ignition Voltage Lo	>=	8.5996				
							>=					
							<=	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					
							Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0712 Status is	lgnition Voltage Hi Engine Speed Lo Engine Speed Hi <= Engine Speed is within the allowable limits for P0712 Status is ≠ Disable Conditions: Disable NIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723	Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Speed is within the allowable limits for P0712 Status is Disable Conditions: Disable Conditions: Disable Conditions: Disable Conditions: Disable Conditions: Disable Conditions: Engine Speed Lo Engine Speed Hi Engine Sp	Ignition Voltage Hi	lgnition Voltage Hi <= 31.99 Volts Engine Speed Lo >= 400 RPM Engine Speed Hi <= 7500 RPM Engine Speed is within the allowable limits for Sec allowable limits for P0712 Status is Disable Conditions: Disable Conditions: Disable Conditions: Disable Conditions: Et allowable Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723 ECM:	Ignition Voltage Hi

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	.D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ΓIONS	TIME R	EQUIRED	N	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	=	CeTFTI_e_\ ageDirectPr	/olt op								Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>=	174	°C								
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<=	174	°C								
			Either condition above will satisfy the fail conditions								>= 6	Fai 0 Time (Sec	е	
							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	Fai 5 Tim (Sed	l e	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque is Engine Torque is Engine Speed Engine Speed Engine Speed is within the allowable limits for Vehicle Speed is Throttle Position is Transmission Input Speed is The previous requirement has been satisfied for The change (loop to loop) in	>= <= >= >= >= >= >=	0 1492 400 7500 5 10 0	N*m N*m RPM RPM Sec Kph Pct		
					transmission input speed is The previous requirement has been satisfied for Throttle Position Signal Valid Engine Torque Signal Valid Ignition Voltage Ignition Voltage	>= = = >= <=	0 TRUE	Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	LD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQU	JIRED	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	<u>Fail Case</u> 1 Transmission Input Speed is	< 50	RPM					>= 4.5	Fail Time (Sec)	One Trip
			Fail Case When P0722 DTC Status 2 equal to Test Failed and Transmission Input Speed is	< 1000	RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean			
						Engine Torque is Engine Torque is Vehicle Speed Engine Torque Signal Valid	>= <= >=	50 1492 16	N*m N*m Kph Boolean			
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >=	8.5996 31.99 400 7500				
						Engine Speed is within the allowable limits for P0717 Status is not	_	5 Test Failed This	Sec			
						PU/1/ Status is not		Key On or Fault Active				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 70 RPM			Fail >= 4.5 Time (Sec)	One Trip
					P0722 Status is not	Test Failed This Key On or Fault Active		
					Transmission Input Speed Check	- IRUE Boolean		
					Engine Torque Check Throttle Position	>= 5.0003 Pct		
					Transmission Fluid Temperature	>= -40 °C		
					Disable this DTC if the PTO is active			
					Engine Torque Signal Valid			
					Throttle Position Signal Valid Ignition Voltage is			
					Ignition Voltage is	<= 31.99 Volts		
					Engine Speed is Engine Speed is			
					Engine Speed is within the allowable limits for	>= E Coo		
					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 OR			
					Transmission Range is	= Park or Neutral		
					Engine Torque is Engine Torque is			
					Engine Torque Condition 2 Engine Torque is Engine Torque is	>= 35 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			
					TIS Check Condition 2 Engine Speed without the	>= 2200 DDM		
					brake applied is Engine Speed with the brake applied is	>- 2200 DDM		
					Engine Speed is Controller uses a single power supply for the speed			
					sensors Powertrain Brake Pedal is Valid	= TRUE Roolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME	REQU	JIRED	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				>=		Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8191	RPM				>=	0	Enable Time (Sec)	
			Output Speed Drop	>	650	RPM				>=		Output Speed Drop Recove r Fail Time (Sec)	
							 Range_Disable OR	=	FALSE Boolean				
							Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently		TRUE Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	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			
					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			
					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	Revers e/Neutr = al ENUM Transit onal		
					Transmission Range is	Neutral/ = Drive Transiti onal		
					Range_Disable is TRUE			
					when any of the next three conditions are TRUE			
					Transmission Range is	= Park ENUM		
					Transmission Range is	Park/R everse Transit onal		
					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 Casanda		
					Transmission Output Speed And the acceleration of the	RPM/		
					Transmission Output Speed is And the acceleration of the	Rate		
					Transmission Output Speed is	> 0 Loop Rate		
					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE			
					Transmission Range is			
					Transmission Range is	Revers e/Neutr = al ENUM Transiti onal		
					Transmission Range is	onal		
					Range Change Delay Timer	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	ΓIONS	TIME	REQU	JIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121,						
Torque Converter								P0121, P0122, P0123					Enable	Two Trips
Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met		800	Кра					>=	2	Time (Sec)	
			(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								>=		TCC Stuck Off Fail Counter	
							Ignition Voltage Lo	>=		Volts				
							Ignition Voltage Hi Engine Speed	<= >=	31.99 400	Volts 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				

	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			Throttle Position Lo	>=	8.0002	Pct		
			Throttle Position Hi	<=	99.998			
			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			
			4th Gear Ratio Lo	>=	1.3151			
			4th Gear Ratio High 5th Gear Ratio Lo	<= >=	1.5129 0.9301			
			5th Gear Ratio Hi	<=	1.0699			
			6th Gear Ratio Lo	>=	0.6901			
			6th Gear Ratio High	<=	0.7939			
			Transmission Fluid Temperature Lo	>=	20	°C		
			Transmission Fluid Temperature Hi	<=	130	°C		
			TCC Command Lock ON or ON mode	=	TRUE	Boolean		
			PTO Not Active	=	TRUE	Boolean		
			Engine Torque Signal Valid	=	TRUE	Boolean		
			Throttle Position Signal Valid	=	TRUE	Boolean		
			Dynamic Mode	=	FALSE	Boolean		
			P0741 Status is	≠	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESHOLI		SECONDARY PARAMETERS		LE COND		TIME	REQU	JIRED	MIL ILLUM.
						Disable Conditions		P0722, F P2763, F ECM: P0 P0103, F P0108, F P0174, F P0202, F P0205, F P0208, F P0302, F P0305, F	P0723, P0	02, 107, 172, 201, 204, 207, 301, 304, 307,				
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed		-20 30	RPM RPM					>=	2.5	Fail Time (Sec)	One Trip
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				Run TCC Stuck On Test				>=	6	Fail Counter	
							Enable Criteria: Gear Ratio Gear Ratio Engine Speed Hi Engine Speed Lo	<= >= <= >=	3.073 0.6901 6500 500	RPM RPM				
							Vehicle Speed HI Vehicle Speed Lo Stuck On During Upshift Enabled	<= >= =	511 16 0	KPH KPH Boolea n				
							If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress	>=	55 FALSE	Nm Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	: CONDITI	ONS	TIME REQUIRED	MIL ILLUM.
					Current Gear	≠	1st Gear B Locked	oolean		
					Engine Torque Hi	<=	1492	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral F	Range		
					Current Range	≠	Reverse F	Range		
					Transmission Sump Temperature		130	°C		
					Transmission Sump Temperature	>=	20	°C		
					Throttle Position Hyst High		8.0002	Pct		
					Throttle Position Hyst Low			Pct		
					PTO Active	=	FALSE B	oolean		
					Disable if in D1 and value true	=	0 В	oolean		
					Disable if in D2 and value true	=	0 B	oolean		
					Disable if in D3 and value true	=	0 B	oolean		
					Disable if in D4 and value true	=	0 B	oolean		
					Disable if in D5 and value true	=	0 B	oolean		
					Disable if in MUMD and value true	=	0 В	oolean		
					Disable if in TUTD and value true	=	0 в	oolean		
					4 Wheel Drive Active	=	FALSE B	oolean		
					Hydraulic Clutch Air Purge Active		FALSE B	oolean		
					Ignore Air Purge if value = true	=	0 B	oolean		
					TCC Mode	=	OFF			
					Common Enables:					
					Ignition Voltage		8.5996	V		
					Ignition Voltage		31.99	VDU		
					Vehicle Speed Engine Speed			KPH RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
							Engine Speed Engine Speed is within the	<= >=	7500 5	RPM Sec		
							allowable limits for					
							Engine Torque Signal Valid Throttle Position Signal Valid			Boolean Boolean		
							P0742 Status is		Test Failed This Key On or Fault Active	ı t		
						Disable Conditions:		P0722, I P2763, I ECM: P P0103, I P0108, I P0174, I	P0723, P0 P2764 P0101, P01 P0106, P0 P0171, P0 P0175, P0	0741, 102, 0107, 0172, 0201,		
								P0205, I P0208, I P0302, I P0305, I	P0203, P0 P0206, P0 P0300, P0 P0303, P0 P0306, P0 P0401, P0)207,)301,)304,)307,		
Mode 2 Multiplex												Two Trips
Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>=	200	RPM						Tripo
			Commanded Gear Gear Ratio	= <=	1st Lock 1.484985352	rpm					>= 0.3 Fail Tmr	
			Gear Ratio	>=	1.343017578						= 8 Fail Counts	,
			If the above parameters are true									

COMPONENT/SYSTEM	STRATEGY MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Transmission Fluid Temperature Shift is Complete TPS OR Output Speed Throttle Position Signal Valid from ECM Engine Torque Signal Valid from ECM, High side driver is enabled High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 400 RPM <= 7500 RPM >= 5 Sec >= 0 °C >= 0.3998 % >= 0 RPM = TRUE Boolean = TRUE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean	≠ 0 Timer (Sec) Fail >= 0.3 Timer (Sec) >= 8 Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	200	Rpm				One Trip
			Commanded Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd		3rd TRUE	Gear Boolean				
			with Mode 2 Sol. Commanded On C456/CBR1 Pressure							
			Switch C456/CBR1 Pressure	=	Pressurized FALSE	Boolean Boolean				
			Switch Fault If the above parameters are true							
									Pleas e Refer to Neutral Table 16 in Suppo rting Docu ments	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for High-Side Driver is Enabled Throttle Position Signal Valid from ECM Output Speed OR TPS Shift is Complete Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= 0 RPM >= 0.3998 % >= 0 °C = FALSE Boolean = FALSE Boolean	>= 5 Counts	
				Disable Conditions		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail Case</u> 1 Commanded Gear	= 1st Locked				One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQ	UIRED	MIL ILLUM.
			Gear Box Slip	>=	200 RPM					Pleas e Refer to 7 Table 5 in Suppo rting Docu ments	Neutral Timer (Sec)	
			Intrusive Shift to 2nd									
			Commanded Gear Previous	=	1st Locked Gear							
			Gear Ratio Gear Ratio	<= >=	3.015991211 2.728027344							
			If the above parameters are true									
										>= 1	sec	
						Ignition Voltage Lo	>=	8.5996	Volts	>= 5	counts	
						Ignition Voltage Hi	<=	31.99	Volts			
						Engine Speed Lo	>=	400	RPM			
						Engine Speed Hi Engine Speed is within the	<= >=	7500 5	RPM Sec			
						allowable limits for Output Speed	>=	0	RPM			
						Odiput Speed OR	7-	O	IXI IVI			
						TPS Shift is Complete	>=	0.3998	%			
						Transmission Fluid Temperature	>=	0	°C			
						High-Side Driver is Enabled	=	TRUE	Boolean			
						Throttle Position Signal Valid from ECM	=	TRUE	Boolean			
						Input Speed Sensor fault	=	FALSE	Boolean			
						Output Speed Sensor fault	=	FALSE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		= TRUE TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case Case: Steady State 3rd Gear Commanded Gear Gearbox Slip	r = 3rd Gear			Pleas e Refer to Neutral Table >= 5 in Suppo rting Docu	One Trip
			Intrusive Test: Command 4th Gear If attained Gear=4th gear for Time	Table Based Time Please Enable Time			ments	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					PRNDL State defaulted	=	FALSE Boolea		
					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:		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)	Attained Gear slip If the Above is True for Time	>= 200 RPM Table Based Time Please >= Refer to Table 4 in supporting documents Table Based Enable Time (Sec)				One Trip
			(CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.933959961 >= 1.75			Fail >= 0.75 Timer (Sec) Fail Count in 1st Gear or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			F. 7.0				Total >= 3 Fail Counts	
			Fail Case Case: Steady State 2nd 2 gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table 17 in supporting documents				
			Min Delta Output Speed Hysteresis					
			If the Above is True for Time	Table Based Time Please Refer to Table 19 in supporting documents				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio Gear Ratio					
			If the above parameters are true					
							Fail >= 0.75 Timer (Sec)	
							Fail >= 1 Count in 2nd Gear	
							or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Total >= 3 Fail Counts	
			<u>Fail Case</u> Case: Steady State 4th <u>3</u> gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table 17 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to Table 18 in supporting documents				
			If the Above is True for Time					
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio Gear Ratio					
			If the above parameters are true	3.010001172				
			2.0 000				Fail >= 0.75 Timer (Sec)	
							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.
			Fail Cone				Total >= 3 Fail Counts	
			<u>Fail Case</u> Case: Steady State 6th 4 gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table rpm/sec 17 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please d >= Refer to Table s 18 in rpm/sec supporting documents				
			If the Above is True for Time					
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	o <= 1.050048828			Fail >= 0.75 Timer (Sec)	
			Gear Ratio If the above parameters are true	S			>= 1 counts	
							Fail >= 0.75 Timer (Sec)	
							Fail Count in 6th Gear	
							or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE COND	OITIONS	TIME	REQUI	IRED	MIL ILLUM.
									>=	3	Total Fail Counts	
					PRNDL State defaulted	=		Boolean				
					inhibit RVT	=		Boolean				
					IMS fault pending indication			Boolean				
					output speed TPS validity flag	>=	0 TRUF	RPM Boolean				
					HSD Enabled	=		Boolean				
					Hydraulic_System_Pressurize d	=		Boolean				
					Minimum output speed for RVT	>=	0	Nm				
					A OR B (A) Output speed enable	>=	16	Nm				
					(B) Accelerator Pedal enable		0.3998					
					Ignition Voltage Lo	>=	8.5996	Volts				
					Ignition Voltage Hi	<=	31.99					
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5	RPM 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 Output Speed Sensor fault	=		Boolean Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
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) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command	=	TRUE Maximum pressurized Clutch exhaus:	Boolean				One Trip
			Status Range Shift Status Attained Gear Slip If the above conditions are true run appropriate Fail 1 Timers Below:		command Initial Clutch Control 40	RPM				
			fail 1 Tilliels Below. fail timer 1 (3-1 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Throttle)		1.200195313 1.200195313	Fail Time (Sec) 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 Enabl e Timer s for >= Fail Sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				3rd >= 3 gear fail counts	
			5th gear fail counter				OR 5th >= 3 gear fail counts	
			Total fail counter		Trans oil temperature	> 0 °C	OR >= 5 total fail counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		= FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean = TRUE		
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case Case: Steady State 4th Gear	>= 200 RPM		P0305, P0306, P0307, P0308, P0401, P042E	Pleas e See Table >= 5 For Neutral Time Cal	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: commanded 5th gear					
			If attained Gear ≠5th for time					
			if the above conditions have been met					
			Increment 4th Gear Fail Counter				>= 2 4th Gear Fail Count OR	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case Case: Steady State 5th 2 Gear					
			Gear slip	>= 200 RPM			Pleas e See Table 5 For Neutr al Time Cal	
			Intrusive test: commanded 6th gear					
			If attained Gear ≠ 6th for time					
			if the above conditions have been met					
			Increment 5th Gear Fail Counter				5th Sear Fail Count OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	LE CONDITIONS	TIME REQ	UIRED	MIL ILLUM.
			and C456 Fail Counters						>= 14	C456 Fail Counts	
			<u>Fail Case</u> Case: Steady State 6th <u>3</u> Gear						Pleas		
			Gear slip	>=	200 RPM				e See Table 5 For Neutr al Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear						Cal		
			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 inhibit RVT	=	FALSE Boolean			
						IMS fault pending indication	=	FALSE Boolean			
						TPS validity flag	=	TRUE Boolean			
						Hydraulic System Pressurized Minimum output speed for RVT A OR B	>=	TRUE Boolean			
						(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			
					Ignition Voltage Hi			
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi			
					Engine Speed is within the allowable limits for			
					Throttle Position Signal valid	= TRUE Boolean		
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature			
					Input Speed Sensor fault			
					OutputSpeed Sensor fault			
					Default Gear Option is not present			
				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		Fail Case 1 Case: Steady State 1st					One Trip
			Attained Gear slip	>= 200 RPM				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	Table Based Time Please Refer to Table 19 in supporting documents				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true	>= 1.343017578				
							>= 0.75 Fail >= 0.75 Timer (Sec)	
							Fail >= 1 Count in 2nd Gear	
							or Total >= 3 fail counts	
			<u>Fail Case</u> 3 Case Steady State 3rd					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table 17 in rpm/sec supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to Table 18 in rpm/sec supporting documents				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	Table Based Time Please Refer to Table 19 in supporting documents					
			Intrusive test: (C35R clutch exhausted)						
			Gear Ratio Gear Ratio If the above parameters are true	>= 1.343017578					
								Fail >= 0.75 Timer (Sec) Fail	
								>= 1 Count in 3rd Gear	
								Total >= 3 Fail Counts	
					PRNDL State defaulted inhibit RVT	=	FALSE Boolean FALSE Boolean		
					IMS fault pending indication	=	FALSE Boolean		
					output speed	>=	0 RPM		
					TPS validity flag	=	TRUE Boolean		
					HSD Enabled	=	TRUE Boolean		
					Hydraulic_System_Pressurize d	=	TRUE Boolean		
					Minimum output speed for RVT A OR B	>=	0 Nm		
					(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 V	'ALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	TIONS	TIME REQUIRED	MIL ILLUM.
						Ignition Voltage Hi	<=	31.99	Volts		
						Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM		
						Engine Speed is within the allowable limits for		5	Sec		
						if Attained Gear=1st FW Accelerator Pedal enable	>=	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:		P0722, P ECM: P0 P0103, P P0108, P	716, P071 0723, P18 101, P010 0106, P01 0171, P01	2E 2, 07, 72,		
							P0202, P P0205, P P0208, P P0302, P P0305, P	20203, P02 20206, P02 20300, P03 20303, P03 20306, P03 20401, P04	04, 07, 01, 04, 07,		
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 Attained Gear Slip		Initial Clutch Control 40	RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:		.0					
			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)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail Sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			4th gear fail counter				Fail Counter >= 3 From 4th Gear OR	
			5th gear fail counter				Fail Counter >= 3 From 5th Gear	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			6th gear fail counter				OR Fail Counter >= 3 From 6th Gear OR	
			Total fail counter				Total >= 5 Fail Counter	
				Disable Conditions:		= FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		

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 Tap Up Switch Stuck in 1 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			Fail >= 1 Time (Sec)	
			Fail Case Tap Up Switch Stuck in 2 the Up Position in Range 1 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	=	1	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	JIRED	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 NOTE: Both Failcase1 and Failcase 2 Must Be Met	=	TRUE	Boolean					>= 600	Fail Time (Sec)	
										Enable			
							Time Since Last Range Change	>=	1	Time (Sec)			
							Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.5996 31.99 400	Volts Volts RPM			
							Engine Speed Hi		7500	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	ТНІ	RESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	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 Tap Down Switch Stuck 1 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	D 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 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	/- I IIII6		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= 8.5996 Volts <= 31.99 Volts		
					Engine Speed Hi Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	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		THRESH	OLD \	VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME	REQ	UIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	=	TRU	≣	Boolean					>=	60	Fail Time (Sec)	Special No Trip
								Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the	\= \= \= \= \=	8.5996 31.99 400 7500	Volts Volts RPM RPM				
								allowable limits for P0826 Status is	≠	Test Failed This Key On or Fault Active					
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1761 ECM:						
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<=	50		KPa		None						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table Delay T Cal	imer									
			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		Кра								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Lo	>=	0	°C		
					Transmission Fluid Temperature Hi	<=	120	°C		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.5996 31.99 400	Volts Volts RPM		
					Engine Speed Lo		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, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	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							
			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		
ĺ							Ignition Voltage Hi	<=	31.99	Volts		
							Engine Speed Lo	>=	400	RPM		
							Engine Speed Hi Engine Speed is within the	<= >=	7500 5	RPM Sec		
							allowable limits for		E41.0E			
							Default Gear Action High Side Driver ON	=	FALSE TRUE			
İ							RVT Status Hydraulic Pressure Available		Normal TRUE			
							Engine Speed Min	>=	550	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIO	NS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, 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	КРа						Special No Trip
			Hydraulic Delay Timer (Table Based)	>=	See Table 6 fo Delay Timer Cal							
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter								>= 5 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	^	50	kpa						
							Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi	>= <=		o. O.		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ΓIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo		8.5996			
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM		
					Engine Speed is within the allowable limits for		5	Sec		
					Default Gear Action	=	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,				
				Sondino		P0712,				
						P0713, P0716,				
						P0717,				
						P0722, P0723,				
						P0723,				
						P0742, P0756,				
						P0756, P0757,				
						P0973,				
						P0974, P0976,				
						P0977,				
						P1915, P182E				
						ECM: None				
		Tananaisaisa Flott Burning								Special No Trip
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulio pressure	>= 700 KPa						opoolal No The
			Hydraulic Delay Timer (Table Based)	See Table 6 for >= Delay Timer Sec Cal						

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			
					Transmission Fluid Temperature Hi			
					Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi Engine Speed is within the allowable limits for	\- E		
					Default Gear Action High Side Driver ON			
					RVT Status	= Normal		
					Hydraulic Pressure Available	= TRUE		
					Engine Speed Min	>= 550 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQ	UIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, 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 Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= <= >= <= >= TCM: None ECM: None	8.5996 31.99 400 7500 5	Volts Volts RPM RPM Sec	>= 0.3 out of 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
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		Boolean					>= 0.3	Fail Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	E CONDI	TIONS	TIME REQU	JIRED	MIL ILLUM.
										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)	One Trip
									out of 0.375	Sample Time (Sec)	
					Ignition Voltage	>=	8.5996				
					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 CONDITION	S 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 Time (Sec) Sample out of 0.375 Time (Sec)	One Trip
					P0970 Status is not	Test Failed This Key On or Fault Active	(000)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed is within the	>= 8.5996 Vo <= 31.99 Vo >= 400 RP <= 7500 RP	s A A	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	LD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME F	REQUIREI	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		Boolean					>= (Fa 0.3 Tim (Se	е
										out of 0.	Sam 375 Tim (Se	е
						P0971 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.5996	Volts			
						Ignition Voltage	<=	31.99	Volts			
i						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		Ttono			>=	Fa 1.2 Tim (Se	е
										out of	Sam 1.5 Tim (Se	е
						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			1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME RE	QUIRED	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)	Two Trips
									out of 1.5	Sample Time (Sec)	
					P0974 Status is not	=	Test Failed This Key On or Fault Active				
					Ignition Voltage	>=	8.5996	Volts			
					Ignition Voltage		31.99	Volts			
					Engine Speed Engine Speed		400 7500	RPM 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	2 Sec	Two Trips
									out of 1.5	5 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	O VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQU	IIRED	MIL ILLUM.
						P0976 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	8.5996					
						Ignition Voltage	<=	31.99	Volts				
						Engine Speed Engine Speed		400	RPM RPM				
						Engine Speed is within the	<=	7500	KEW				
						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		Boolean					>=	1.2	Sec	One Trip
										out of	1.5	Sec	
						P0977 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage	>=	8.5996	Volts				
						Ignition Voltage	<=	31.99	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		THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENAB	LE CONDI	TIONS	TIME REQUII	RED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None					
								ECM: None					
ransmission Fluid ressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low Voltage	CBR1/C456 Hydraulic pressure	<=	50	Кра							Special No Tr
		Vollage	Hydraulic Delay Timer (Table Based)	>=	See Table 9 f Delay Timer Cal								
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter		ou.							Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	>	50	kpa							
							Transmission Fluid Temperature Lo	>=	0	°C			
							Transmission Fluid Temperature Hi	<=	120	°C			
							Ignition Voltage Lo	>=	8.5996	Volts			
							lgnition Voltage Hi Engine Speed Lo	<= >=	31.99 400	Volts 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	CONDIT	TIONS	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 Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter	>=	700 See Table 9 for Delay Timer Cal						>= 15 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	<	700	kpa	Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo	>= <= >=	0 120 8.5996	°C °C Volts		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REG	QUIRED	MIL ILLUM.
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Default Gear Action	=	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, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None					Tuo Trino
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						>= 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 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.			
					TCC Stuck On Enable Criteria:			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Gear Ratio	<=	3.073	Ratio		
					Gear Ratio	>=	0.6901			
					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		
					Frains Transco III					
					Engine Torque Hi Engine Torque Lo	<= >=	1492 80	Nm Nm		
					Current Range	>= ≠		Range		
					Current Range	≠		Range		
					Transmission Sump Temperature		130	°C		
					Transmission Sump Temperature	>=	20	°C		
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	2.9999			
					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 4 Wheel Drive Active Air Purge Active Ignore Air Purge if value = true TCC Mode Common Enables: Ignition Voltage Ignition Voltage Vehicle Speed Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed Throttle Position Signal Valid Throttle Position Signal Valid	= FALSE Boolean = FALSE Boolean = O Boolean = OFF >= 8.5996 V <= 31.99 V <= 511 KPH >= 400 RPM <= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean		
				Disable Conditions:		Key On		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD V	/ALUE	SECONDARY PARAMETERS	ENABL	E COND	OITIONS	TIME	REQU	JIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value		TRUE	Boolean					>=	3	Fail Counter	Special No Trip
											>		Sample Timer (Sec)	
							Tap Up Tap Down Message Health	=	TRUE	Boolean				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec				
							allowable littlits for							
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
								ECM: None						
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	Fail Case 1 Current range	=	"Transitional 1"	Range State								One Trip
			Previous range	!=	CeTRGR_e_P RNDL_Drive6	Range State								
			Previous range	!=	CeTRGR_e_P RNDL_Drive5	Range State								
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean								
			Engine Torque			Nm								
i			Engine Torque	<=	1492	Nm								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If the above conditions are present Increment Fail Timer							Fail >= 0.225 Second s	
			If Fail Timer has Expired then Increment Fail Counter							>= 15 Fail Counts	
			<u>Fail Case</u> 2 Current range	=	"Transitional 1"	Range State					
			S3 Pressure Switch indicates "Exhausted"	=	TRUE	Boolean					
			Commanded Gear If the above conditions are present Increment Fail Timer	=	1st Locked	Gear				Fail >= 0.225 Second s	
			If Fail Timer has Expired then Increment Fail Counter							>= 15 Fail Counts	
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	!=	CeTRG R_e_P RNDL_ Drive3		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	!=	CeTRG R_e_P RNDL_ 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	
			<u>Fail Case</u> <u>4</u> 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 Second s	
			If the above Condtions have been met, Increment Fail Counter						>= 15 Fail Counts	
			<u>Fail Case</u> <u>5</u> 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 Second s	
			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):			

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENAE	BLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		or			Current Range	≠	"Transit ional 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	≠	Transiti onal 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		DDUD!					
		Previous valid state	=	PRNDL encoded value of ABCP =1111					
		Input Speed		150 RPM					
		Reverse Trans Ratio Reverse Trans Ratio		2.678344727 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					
					lgnition Voltage Lo Ignition Voltage Hi	<= 31.99 Volts		
					Vehicle Speed Lo Engine Speed Lo	<= 511 KPH >= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
				Disable Conditions:		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		One Trip
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			Enable >= 0.25 Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	LD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	JIRED	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 Ignition Voltage Hyst High		31.99	V			
							(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			Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2	Volts			Sample Counts Out of 280 (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			Pleas e See Table 5 For Timer Neutr al Time Cal	
			Intrusive test: commanded 3rd gear						
			If attained Gear = 3rd for Time	Table Based Time Please >= see Table 2 in Supporting Documents	E				
			If Above Conditions have been met						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME	REQUII	RED	MIL ILLUM.
			Increment 2nd gear fail count							>=	3	2nd Gear Fail Count or	
			and CB26 Fail Count Fail Case Case: Steady State 6th							>=	14	CB26 Fail Count	
			2 Gear Slip	>=	200	RPM				e T >= 5 N	FOr .	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time	>=	Table Based Time Please see Table 2 in	Enable Time (Sec)					Cai		
			If Above Conditions have been met, Increment 5th gear fail counter		Supporting Documents	(260)				>=	3	5th Gear Fail Count or	
			and CB26 Fail Count						54105 0	>=	14	CB26 Fail Count	
							PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag	= =	FALSE Boolean FALSE Boolean FALSE Boolean 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			
					A OR B (A) Output speed enable			
					(B) Accelerator Pedal enable	>= 0.3998 Pct		
					Common Enable Criteria Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for			
					Throttle Position Signal valid			
					HSD Enabled Transmission Fluid	0 00		
					Temperature Input Speed Sensor fault			
					Output Speed Sensor fault			
					Default Gear Option is not	= TRUF		
					present			
				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	DDM				
			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 Enabl e Timer s for >= Fail Sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear OR	

AULT MONITOR STRATEGY CODE DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	6th gear fail counter				Fail Counter >= 3 From 6th Gear	
	total fail counter				OR Total >= 5 Fail Counter	
		Disable Conditions:		= FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		

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 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	>= <= >=	4 in supporting (Sec) documents 3.015991211			>= 0.75 Timer (Sec) Fail Count in 1st Gear or	One Trip
			Fail Case Case: Steady State 3rd Gear Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 17 in supporting documents			Total >= 3 Fail Counts	

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				
			If the Above is True for Time					
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters are true	>= 2.728027344				
							Fail >= 0.75 Timer (Sec)	
							Fail >= 1 Count in 3rd Gear	
			Fail Case Case: Steady State 4rd				or Total >= 3 Fail Counts	
			Case: Steady State 4rd Gear	Table Based				
			Max Delta Output Speed Hysteresis	value Please Refer to Table				

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 rpm/sec supporting documents				
			If the Above is True for Time					
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio Gear Ratio If the above parameters					
			are true				Fail >= 0.75 Timer (Sec)	
							Fail Count in 4th Gear	
							or Total >= 3 Fail Counts	
			Fail Case Case: Steady State 5th 4 Gear	Table Based				
			Max Delta Output Speed Hysteresis	value Please				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQ	UIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 18 in supporting documents						
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 19 in supporting documents						
			Intrusive test: (C35R clutch exhausted)								
			Gear Ratio Gear Ratio If the above parameters are true		0.779052734 0.704956055						
									>= 0.75	Fail Timer (Sec)	
									>= 1	Fail Count in 5th Gear	
									>= 3	or Total Fail Counts	
						PRNDL State defaulted inhibit RVT	=	FALSE Boolean FALSE Boolean			
						IMS fault pending indication	=	FALSE Boolean			
						output speed TPS validity flag HSD Enabled	>= = =	0 RPM TRUE Boolean			
						HSD Enabled Hydraulic_System_Pressurize d	=	TRUE Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	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 Ignition Voltage Hi Engine Speed Lo		8.5996 31.99 400	Volts Volts RPM		
					Engine Speed Lo		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 Output Speed Sensor fault	=	FALSE FALSE			
					Default Gear Option is not present	=	TRUE	200.00		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0 P0722, F	716, P071 20723, P18	7, 32E		
						P0103, F P0108, F P0174, F P0202, F P0205, F P0208, F P0302, F	20101, P010 P0106, P01 P0171, P02 P0175, P02 P0203, P02 P0206, P02 P0300, P03 P0306, P03	107, 172, 201, 204, 207, 301,		
							P0401, P04			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	JIRED	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)	One Trip
										out of 0.375	Sample Time (Sec)	
						P2770 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.5996	Volts			
						Ignition Voltage	<=	31.99	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)	One Trip
										out of 0.375	Sample Time (Sec)	
						P2721 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=					
						Ignition Voltage	<=	31.99	Volts			
						Engine Speed	>=	400	RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALU	JE	SECONDARY PARAMETERS	ENABL	E CONDIT	ΓIONS	TIME REQUIRED	MIL ILLUM.
							Engine Speed	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
					c	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 Case: Steady State 1st Gear									One Trip
			Gear slip	>=	200 RPM	Л					Pleas e See Table 5 For Neutral 7 Neutral Timer (Sec)	
			Intrusive test: commanded 2nd gear								Cal	
			If attained Gear ≠ 2nd for Time	>=	Table based Timer, Please See Table 3 in Supporting Documents Enal (Sec	ble Time						
			If Above Conditions have been met, Increment 1st gear fail counter								1st Sear >= 2 Fail Count or	
			and C1234 fail counter								C1234 >= 14 Clutch Fail Count	
			Fail Case 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			Pleas e See Table 5 For Neutral Timer (Sec) Time Cal	
			Intrusive test: commanded 3rd gear ommanded 3rd gear If attained Gear ≠ 3rd for Time	Table based Timer, Please See Table 3 in Enable Time			Cal	
			If Above Conditions have been met, Increment 2nd gear fail counter				2nd Sear Fail Count or C1234	
			and C1234 fail counter Fail Case Case: Steady State 3rd				>= 14 Clutch Fail Count	
			3 Gear Slip	>= 200 RPM			Pleas e See Table >= 5 For Neutr al Timer (Sec)	
			Intrusive test: commanded 4th gear	Table based			Cal	
			If attained Gear ≠ 4th for time					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	LE CONDITIONS	TIME	REQUII	RED	MIL ILLUM.
			If Above Conditions have been met, Increment 3rd gear fail counter							>=	2	3rd Gear Fail Count or	
			and C1234 fail counter							>=	14	C1234 Clutch Fail Count	
			Fail Case Case: Steady State 4th 4 Gear Gear	>=	200	RPM				>= { }	For .	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)						4th	
			If Above Conditions have been met, Increment 4th gear fail counter							>=	3	Gear Fail Count or	
			and C1234 fail counter				PRNDL State defaulted	=	FALSE Boolean	>=	14	C1234 Clutch Fail Count	
							inhibit RVT IMS fault pending indication TPS validity flag	= =	FALSE Boolean FALSE Boolean 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			
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the allowable limits for	5 Soc		
					Throttle Position Signal valid			
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= () °(:		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present			
				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 Attained Gear Slip		Initial Clutch Control 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 Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail Fail Fail Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear	
			3rd gear fail counter				Fail Counter >= 3 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				Fail Counter >= 3 From 4th Gear	
			total fail counter				Total >= 5 Fail Counter	
				Disable Conditions:		= FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		

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 Case: 5th Gear						One Trip
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 17 in supporting documents				
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 18 in supporting documents				
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 19 in Supporting documents				
			Intrusive test: (C35R clutch exhausted)						
			Gear Ratio Gear Ratio If the above parameters are true	>=	1.484985352 1.343017578				
								Fail >= 0.75 Timer (Sec)	
								Fail Count in 5th Gear	
								OR Total >= 3 Fail Counts	
			<u>Fail Case</u> 2 Case: 6th Gear						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 17 in supporting documents					
			Min Delta Output Speed Hysteresis	>=	Table Based value Please Refer to Table 18 in supporting documents					
			If the Above is True for Time	>=	Table Based Time Please Refer to Table 19 in supporting documents					
			Intrusive test: (CB26 clutch exhausted)							
			Gear Ratio Gear Ratio If the above parameters are true	<= >=	1.484985352 1.343017578					
									Fail >= 0.75 Timer (Sec)	
									Fail Count >= 1 in 6th Gear OR	
									Total >= 3 Fail Counts	
						PRNDL State defaulted inhibit RVT	=	FALSE Boolean FALSE Boolean		
						IMS fault pending indication output speed	= >=	FALSE Boolean 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_Pressurize d	= TRUE Boolear		
					Minimum output speed for RVT	>= 0 NIII		
					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			
					Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the allowable limits for			
					if Attained Gear=1st FW Accelerator Pedal enable			
					if Attained Gear=1st FW Engine Torque Enable			
					if Attained Gear=1st FW Engine Torque Enable	<= 1492 Nm		
					Transmission Fluid Temperature			
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault			
					Default Gear Option is not present			
				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	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REC	QUIRED	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	(Sec)	One Trip
										out of 0.37	Sample Time (Sec)	
						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)	One Trip
										out of 0.37	Sample Time (Sec)	
						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 VA	ALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQI	JIRED	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 B	oolean					>= 4.4	Fail Time (Sec)	One Trip
										out of 5	Sample Time (Sec)	
						P2763 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.5996	Volt			
						Ignition Voltage	<=	31.99	Volt			
						Engine Speed Engine Speed	>= <=	400 7500	RPM 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:					
						MIL not Illuminated for DTC's:	P0658, P0659					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	: REQI	JIRED	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	One Trip
											out of	5	MPH	
							P2764 Status is not		Test Failed This Key On or Fault Active					
							Ignition Voltage		8.5996	Volt				
							lgnition Voltage Engine Speed		31.99 400	Volt 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:	P0658, P0659 ECM:						
								None						
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	=	TRUE	Boolean					>=	62	Fail counts (≈ 10 second s)	One Trip
			Delay timer	>=	0.1125	sec					Out of	70	Sample Counts (≈ 11 second s)	
							Stabilization delay	>=	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		

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	°C
Curve	409.594	2	2	Sec

Table 3				Units
Axis	-0.0078	0	40	°C
Curve	409.594	3.5	3.5	Sec

Table 4				Units
Axis	-0.0078	0	40	∘C
Curve	409.594	2	2	Sec

Table 5				Units
Axis	-0.0078	0	40	°C
Curve	409.594	3	3	Sec

Table 6						Units
Axis	-40	-0.0078	40	80	120	°C
Curve	409	409	1.6	1.4	1.4	Sec

Table 7 Units										
Axis	-40	-0.0078	40	80	120 °C					
Curve	409	409	1.4	1.3	1.2 Sec					
Table 8					Units					
Axis	-40	-0.0078	40	80	120 °C					
Curve	409	409	1.6	1.5	1.4 Sec					
•										
Table 9					Units					
Axis	-40	-0.0078	40	80	120 °C					
Curve	409	409	1.3	1.2	1.1 Sec					
•										
Table 10 Unit										
Table 10										
Axis	-40	-20	0	30	110 °C					
Axis	-40 3.09961	-20 1.90039	1.09961	30 0.7998						
Axis					110 °C					
Axis Curve					110 °C 0.59961 Sec					
Axis					110 °C 0.59961 Sec Units					
Axis Curve	3.09961	1.90039	1.09961	0.7998	110 °C 0.59961 Sec Units					
Axis Curve Table 11	3.09961	1.90039	1.09961	0.7998	110 °C 0.59961 Sec Units					
Axis Curve Table 11 Axis	3.09961	1.90039	1.09961	0.7998	110 °C 0.59961 Sec Units					
Axis Curve Table 11 Axis Curve	3.09961	1.90039	1.09961	0.7998	110 °C 0.59961 Sec Units 110 °C 0.2998 Sec					
Axis Curve Table 11 Axis Curve	3.09961	-20 1.2002	0 0.59961	0.7998 30 0.40039	110 °C 0.59961 Sec Units 110 °C 0.2998 Sec					
Axis Curve Table 11 Axis Curve	3.09961	1.90039	1.09961	0.7998	110 °C 0.59961 Sec Units 110 °C 0.2998 Sec					

Table 13					Units
Axis	-40	-20	0	30	110 °C
Curve	2.59961	1	0.5	0.2998	0.2002 Sec

Table 14								
Axis	-40	-20	0	30	110 °C			
Curve	3	0.90039	0.5	0.2998	0.2002 Sec			

<u>Table 15</u>										Units
Axis	-40	-30	-20	-10	0	10	20	30	40	٥С
Curve	0	0	0	0	0	0	0	0	0	Sec

Table 16								
Axis	-0.0078	0	40	°C				
Curve	409.594	1.5	1.5	Sec				

Table 17							
Axis	-0.0078	0	40	°C			
Curve	8191	1676	1676	Rpm/s			

Table 18							
Axis	-0.0078	0	40	۰C			
Curve	8191	500	500	Rpm/s			

Table 19				Units
Axis	-0.0078	0	40	٥С
Curve	0.4	0.35	0.3	Sec

Table 20									Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102 °C
Curve	255.996	50	45	40	34	25	20	20	255.996 ℃

Table 21										Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102	٥С
Curve	255.996	50	45	40	34	25	20	20	255.996	٥С

Table 22										Units
Axis	-40.102	-40	-20	0	30	60	100	149	149.102	٥С
Curve	255.996	10	8	8	8	8	8	8	255.996	٥С

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE (CONDIT	IONS	TIME	REQU	JIRED	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:							
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:							
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case TFT Delta from Startup	<=	2	C°					>=	80	Fail Time (Sec)	Special No Trip
							Vehicle Speed Vehicle Speed Above min for		8 300	Kph Sec				
							TCC Slip		120	RPM				
							TCC Slip above min for		300	Sec				
							Transmission Fluid Temperature Lo		-39	Cº				
							Transmission Fluid Temperature High	<=	20	Cº				
							Engine Coolant Temp		70	Cº				
							Engine Coolant Temp Delta	>=	55	C°				
			Fail Case 2 TFT Delta from startup	<	2	Co					>=	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	Cº				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Engine Coolant Temp Engine Coolant Temp Delta from startup	>= 70 C°		
			<u>Fail Case</u> <u>3</u> TFT Delta	>= 20 C°			Fail >= 14 Counts (100ms loop)	
			Fail Case 4 Transmission Fluid Temperature	<= 20 C°			Sample Sample Sample Sec)	
					Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Lo Vehicle Speed Hi	<= 1492 N*m >= 8.0002 Pct <= 89.999 Pct >= 8 Kph		
					Engine Speed Lo Engine Speed Hi Engine Coolant Lo Engine Coolant Hi Engine Torque Signal Valid	>= 500 RPM <= 6500 RPM >= -39 C° <= 149 C°		
					Throttle Position Signal Valid Engine Speed Status Valid P0711 Common Enable Conditions	= TRUE		
					Transmission Fluid Temperature Lo	>- 20 00		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Hi Ignition Voltage Ignition Voltage	<= 149 C° >= 8 V <= 31.999 V Refer		
					Engine speed Engine speed above min for	Table 4 Refer >= to Sec Table 5		
					Engine speed above min for			
					Engine Speed Engine Speed			
					Engine speed between min/max for	5- F Coo		
					Engine Speed Status Valid	= TRUE		
					Engine Coolant Sensor Signal Valid			
				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		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIME	E REQI	JIRED	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 Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	<= >= <= >=	8 31.999 500 6500 5 TRUE	V V RPM RPM Sec				
						Disable Conditions:	DTC's:	TCM: None ECM: P03 P0340, P0 P0365, P0 P0391	35, P033 345, P03	46,				
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 Output Speed above min for TCC Slip speed TCC Slip Speed above min for Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed Status Valid	>= >= >= >= <= >= >=	70 200 120 200 8 31.999 500 6500 5	RPM Sec RPM sec V V RPM RPM Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VAL	UE	SECONDARY PARAMETERS	ENABLE CONDITI		TIME REQU	JIRED	MIL ILLUM.
				c	Disable onditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717 ECM: P0335, P0336 P0340, P0345, P034 P0365, P0366, P039 P0391	6,			
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop ∆	>= 1000 RP	M				>= 3.25	sec	Two Trips
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed Input Speed min Input Speed above min for Positive ISS △ Positive ISS △ less than min for Throttle	<pre><= 31.999 >= 500 <= 6500 >= 5 = TRUE >= 50 <= 1492 = TRUE >= 16 > 1050 >= 2 < 500 >= 2 < 500 >= 2</pre>	volts volts RPM RPM Sec N*m N*m KPH RPM Sec RPM Sec			
				c	Disable onditions:	MIL not Illuminated for DTC's:		2, 7, 2, 1,			

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			>= 4.5 Sec	Two Trips
				Disable Conditions:	: DTC's:	<= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m = TRUE >= 16 Kph		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	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 Ignition Voltage Engine Speed Engine Speed	<= >=	8 31.999 500 6500	volts RPM		
							Engine speed between min/max for Engine Speed Status Valid		5 TRUE			
							Engine Speed Status valid Engine Torque min & Range= R or D	>=	50			
							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	\-				
							Engine Torque Signal Valid Throttle Position		TRUE 8.0002			
							Throttle Position Signal Valid		TRUE			
							Input Speed Input Speed		1500 6500			
							TCC Slip Trans Temp		-20 -40	RPM C		
						Disable Conditions			16, P071	7,		
								ECM: P0 ² P0103, P0 P0108, P0 P0174, P0 P0202, P0 P0205, P0 P0208, P0 P0302, P0 P0305, P0	106, P01 171, P01 175, P02 1203, P02 1206, P02 1300, P03	07, 72, 201, 204, 207, 301,		

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	Ignition Voltage Ignition Voltage		>= 3.25 Sec	Two Trips
					Engine Speed Engine Speed Engine speed between min/max for	>= 500 RPM <= 6500 RPM		
					Engine Speed Status Valid Range Change Timer 4WD Range Timer	= TRUE >= 6 Sec >= 6 Sec		
					Input Speed ∆ Input Speed ∆ <max for="" min="" output="" raw="" speed=""> min for</max>	> 350 RPM		
					Positive Output Speed Δ Positive Output Speed Δ <a <="" href="mailto:red" td=""><td><= 175 RPM</td><td></td><td></td>	<= 175 RPM		
				Disable Conditions:				
						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			
					Engine Speed			
					Engine Speed			
					Engine speed between min/max for			
					Engine Speed Status Valid	= TRUE		
					Engine Torque	>= 50 N*m		
					Engine Torque	<= 1492 N*m		
					Trottle Position			
					Trottle Position			
					2nd Gear Ratio			
					2nd Gear Ratio			
					3rd Gear Ratio			
					3rd Gear Ratio			
					4th Gear Ratio			
					4th Gear Ratio TFT			
					TFT			
					TCC Capacity			
					TCC Capacity Timer			
					TCC Mode	On or		
					PTO Active			
					Engine Torque Status Valid	= TRUE		
					Throttle Position Signal Valid	= TRUE		
					If 4L80E Cmd Gear	≠ 4th		
				Disable.	MIL was Illered to a face	TOM: D0740 D0747		
				Disable Conditions:	MIL not Illuminated for DTC's:	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,		

P002P, P003D,	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	TIONS	TIME	REQU	JIRED	MIL ILLUM.
Commanded Gear Figure Fi									P0302, P03 P0305, P03 P0308, P03 P0340, P03 P0365, P03	303, P030 306, P030 335, P030 345, P030 366, P030	04, 07, 36, 46, 90,				
TCC Slip Speed		P0742	TCC System Stuck ON	TCC Slip Speed	>=	-20	RPM					>=	6	Sec	Two Trips
Ignition Voltage >= 8	0.0.0 (1.00)			TCC Slip Speed	<=	20	RPM					=	3	Count	
Engine Speed								Ignition Voltage	>=	8	V				
Engine Speed <= 6500 RPM								Ignition Voltage	<=	31.999	V				
Engine speed between min/max for Engine Speed Status Valid Engine Torque >= 50 N*m Engine Torque <= 1492 N*m FFT >= 20 C TFT == 130 C Trottle Position >= 8.0002 % Trottle Position >= 8.0002 % Trottle Position >= 8.0002 % Vehicle Speed >= 16 KPH Vehicle Speed <= 511 KPH Vehicle Speed <= 511 KPH Engine Speed <= 6500 RPM Engine Speed <= 6000 RPM Gear Ratio <= 0.856 Ratio Gear Ratio <= 1.678 Ratio Commanded Gear											RPM				
Engine Speed Status Valid = TRUE Engine Torque								Engine Speed	<=	6500	RPM				
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 <= 511 KPH Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Gear Ratio Speed <= 6500 RPM Gear Ratio C= 1.678 Ratio Commanded Gear								Engine speed between min/max for	>=	5	Sec				
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 <= 5500 RPM Engine Speed <= 5500 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								Engine Speed Status Valid	=	TRUE					
TFT >= 20										50	N*m				
TFT <= 130								Engine Torque	<=	1492	N*m				
Trottle Position >= 8.0002 % Trottle Position <= 89.999 % Vehicle Speed >= 16 KPH Vehicle Speed <= 511 KPH Engine Speed >= 500 RPM Engine Speed <= 6500 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															
Trottle Position															
Vehicle Speed >= 16 KPH Vehicle Speed <=															
Vehicle Speed <= 511 KPH															
Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Gear Ratio >= 0.656 Ratio Gear Ratio <= 1.678 Ratio Commanded Gear TCC Mode = Off Engine Torque Status Valid = TRUE Throttle Position Signal Valid = TRUE															
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															
Gear Ratio >= 0.656 Ratio Gear Ratio <= 1.678 Ratio Commanded Gear															
Gear Ratio <= 1.678 Ratio Commanded Gear															
Commanded Gear # 1st Gear TCC Mode = Off Engine Torque Status Valid = TRUE Throttle Position Signal Valid = TRUE															
Engine Torque Status Valid = TRUE Throttle Position Signal Valid = TRUE										1st					
Throttle Position Signal Valid = TRUE								TCC Mode	=						
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								Engine Torque Status Valid	=	TRUE					
PTO Active = FALSE								Throttle Position Signal Valid	=	TRUE					
1 1 1 1 1 1 1 1 1 1								PTO Active	=	FALSE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIM	E REG	QUIRED	MIL ILLUM.
					Disable Conditions:		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, 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 1st gear low ratio 1 multiplier 1st gear high ratio	>=	0.949951172 Pct 1.050048828 Pct			=	2	Sec	Two Trips
			multiplier Fail Case 4th gear low ratio multiplier 4th gear high ratio	/-	0.949951172 Pct 1.050048828 Pct			=	2	Sec	-
			multiplier		1.050040020 PCI	Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle Engine Torque Output Speed	<pre><= 31.999 vol >= 500 RP <= 6500 RP >= 5 Se = TRUE >= 150 RP >= 0.5 Se >= 8.0002 P >= 50 N*</pre>	as a	2	counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed 4WD Range Timer Range Change Timer PTO Active	>= 6 Sec >= 6 Sec		
					Trans Temp			
					Trans Temp			
					Engine Torque Signal Valid Throttle Position Signal Valid			
				Disable Conditions:	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, 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 2nd gear low ratio multiplier	>= 0.949931172 FCI			= 2 Sec	Two Trips
			2nd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 3rd gear low ratio 2 multiplier	>= 0.949951172 Pct			= 2 Sec	
			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.
					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 Range Change Timer PTO Active Trans Temp Trans Temp Engine Torque Signal Valid	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM >= 0.5 Sec >= 8.0002 Pct >= 50 RPM >= 50 RPM >= 6 Sec = FALSE >= 20 C0 = TRUE</pre>		
				Disable Conditions:	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	ENABL	E CONI	ITION	6	TIME F	REQU	IRED	MIL ILLUM.
							P0340, P0 P0365, P0 P0391, P0	0366, P	390,	Ī				
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1st gear low ratio multiplier	>=	0.949951172 Pct					T	=	2	Sec	One Trip
			1st gear high ratio multiplier	<=	1.050048828 Pct									
			Fail Case 2nd gear low ratio 2 multiplier	>=	0.949951172 Pct						=	2	Sec	
			2nd gear high ratio multiplier	<=	1.050048828 Pct									
						Ignition Voltage 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	<pre></pre>	31.99 50 650 TRUI 15 0. 8.000 5 5 5	9 vo	PM sec Pct *m PM	=	2	counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	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, P0346, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail Case 3rd gear low ratio multiplier	>= 0.949951172 PCt			= 2 Sec	One Trip
			3rd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 4th gear low ratio 2 multiplier	7- 0.9 4 9951172 1 Ct			= 2 Sec	
			4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle Engine Torque	<= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 150 RPM >= 0.5 Sec >= 8.0002 Pct		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:	>= 50 RPM >= 6 Sec >= 6 Sec = FALSE >= 20 C <= 130 C = TRUE = TRUE		
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed	Engine Speed	>= 500 RPM	>= 10 Sec >= 2 count	Two Trips
					Engine Speed Engine Speed between min/max for TFT	<= 6500 RPM >= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	NS	TIME	E REQI	JIRED	MIL ILLUM.
				Disable Conditions:	DTC's:	>= 16	C (PH (PH Nm Nm RPM				
Transmission Fluid Pressure Switch	P0843	TCC release switch circuit high voltage	TCC release switch state	= Open				>=		Sec	Two Trips
					Engine Speed Engine Speed Engine speed between min/max for TFT TFT TCC Pressure TCC Pressure Engine Torque Engine Torque TCC Slip	<= 6500 F >= 5 >= 20 <= 130 >= 125 <= 830 >= 50 <= 1492	RPM RPM Sec C C Kpa Kpa Nm Nm	>=	2	count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Slip	On or		
					TCC Mde	= Lock		
					Engine Torque Status Valid			
					Engine Speed Status Valid	= TRUE		
				Disable Conditions:	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, P035, P0346, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			Fail Count (100ms loop)	Two Trips
							Sample Out of 50 (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for	<= 31.999 volts >= 500 RPM <= 6500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLE CONDITION	IS T	IME REG	QUIRED	MIL ILLUM.
					Disable Conditions:	Engine Speed Status Valid MIL not Illuminated for DTC's:					
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE					>= 44 of 50	Fail Count (100ms loop) Sample Counts (100ms loop)	Two Trips
					Disable Conditions:	DTC's:	<= 31.999	olts olts PM PM Sec			
Shift Solinoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE				\dagger	>= 44	Fail Count (100ms loop)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLE CONDI	TIONS	TIME	REQUIRED	MIL ILLUM.
									Out of	Sample Counts (100ms loop)	:
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed between min/max for Engine Speed Status Valid	>= 5	volts RPM RPM Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:		36, 346,			
Shift Solinoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE					>=	Fail Count (100ms loop)	
									Out of	Sample Counts (100ms loop)	:
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>= 5	volts RPM RPM Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	TONS	TIME	REQU	JIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P033 P0340, P0 P0365, P0 P0391	35, P0336 345, P03	46,				
Internal Mode Switch (IMS)	P182A	Internal Mode Switch-Circuit A	IMS circuit A low	= TRUE							8	sec count	Two Trips
						Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed Status Valid Engine Torque Signal Valid	<= >= <= >= <= >=	50 1492 8 31.999 500 6500 5 TRUE TRUE	N*m N*m volts volts RPM RPM		•	count	
					Disable Conditions:	DTC's:	TCM: Non ECM: P01 P0103, P0 P0108, P0 P0174, P0 P0202, P0 P0205, P0 P0208, P0 P0305, P0 P0305, P0 P0308, P0 P0308, P0 P0308, P0 P0308, P0 P03091, P0	01, P010 106, P010 171, P01 175, P02 203, P02 206, P02 300, P03 303, P03 306, P03 335, P03 345, P03 366, P03	07, 72, 01, 04, 07, 01, 04, 07, 36, 46, 90,				
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	E REC	UIRED	MIL ILLUM.
							>=	1	count	
					Engine Torque					
					Engine Torque					
					Ignition Voltage Ignition Voltage					
					Engine Speed					
					Engine Speed					
					Engine speed between min/max for	5 0				
					Engine Speed Status Valid					
					Engine Torque Signal Valid					
					Range = Park for					
				Disab						
				Conditions	S: DTC's:	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				
						1 0001,1 0401,1 042				Tura Taina
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE			>=	8	sec	Two Trips
							>=	1	count	
					Engine Torque	>= 50 N*m				
					Engine Torque	<= 1492 N*m				
					Ignition Voltage	>= 8 volts				
					Ignition Voltage	<= 31.999 volts				
					Engine Speed					
					Engine Speed	<= 6500 RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		= TRUE = TRUE = TRUE >= 1 sec 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, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346,		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	<pre><= 31.999 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE</pre>	>= 8 sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABLE CONDITI	ONS	TIME	REQU	JIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE					>=	_	sec count	Two Trips
						Engine Torque	>= 50	N*m		•	oount	
						Engine Torque Signal Valid	= TRUE					
						Ignition Voltage		volts				
						Ignition Voltage		volts				
						Vehicle Speed	>= 16	kph				
						1st gear ratio low		Ratio				
						1st gear ratio High	<= 3.125	Ratio				
						2nd gear ratio low		Ratio				
						2nd gear ratio High		Ratio				
						3rd gear ratio low 3rd gear ratio High		Ratio Ratio				
						4th gear ratio low		Ratio				
						4th gear ratio High	<= 0.754	Ratio				
					Disable Conditions:	MIL not Illuminated for		3 2, 17, 12, 11, 14, 17, 11,				
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 <= 31.999 >= 560 = Crank <= 409	volts volts RPM Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:			
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Fail Count (25ms loop) Sample Count (25ms loop)	One Trip
					Engine running state from ECM Power Mode	- Running	loop)	
				Disable Conditions	DTC's:			
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			Fail >= 44 Count (100ms loop)	Two Trips
					Ignition Voltage		Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage Engine Speed Engine Speed	>= 500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	DTC's:	= TRUE = ON TCM: None		
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid TCC PWM command	<= 31.999 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		
				Disable Conditions:	DTC's:			

11 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	I FNABLE CONDITIONS		MIL ILLUM.
Communication	110073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	I = IRIIE BOOIEAN			Fail >= 5 Count (1000m s loop)	
							Sample Counts Out of 5 (1000m s loop)	
					Ignition On			
				Disable Conditions:	DTC's:			

Supporting Documents - 4T65 Cal Tables

Т	a	b	le	1

Axis	-40.00	-25.00	-10.00	5.00	20.00	٥С
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 °C
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 °C
Curve	0.10	0.15	0.20	0.30	0.30 Sec