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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME	REQUIRED	MIL ILLUM.
						Ignition Voltage	>=	8	V			
						Ignition Voltage	<=	18	V			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	6500	RPM			
						Engine speed between min/max for	>=	2	Sec			
						Engine Speed Status Valid	=	TRUE				
					Disable	MIL not Illuminated for DTC's	TCM					
					Conditions:	mil not munimated for DTC 3.	None					
							ECM: P0335, P0336,					
							P0340, P0345, P0346.					
							P0365, P0366,					
							P0390, P0391					
Transmission Range Switch (Neutral Safety Back Up	P0706	NSBU Performance	NSBU state	= CeTRGR_PRN DL_Neutral						>=	3 Sec	Two Trips
Switch NSBO)			or NSBU state	CeTRGR_PRN = DL_Transitional								
			or NSBU state	2 CeTRGR_PRN = DL_Transitional 11								
						Ignition Voltage	>=	8	volts			
						Ignition Voltage	<=	18	volts			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	6500	RPM			
						Engine speed between min/max for	>=	2	Sec			
						Output speed	>=	50	RPM			
							>=	10.001	PC1			
							>=	45	Nm			
						Engine Torque	<=	149Z 20				
			l l			Trans Temp	>=	20	Deg C			I

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDITIO	INS	TIME REQU	JIRED	MIL ILLUM.
				Disable Conditions:	Ratio Ratio PSM state Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid MIL not Illuminated for DTC's:	>= = = = = TCM: P0716, P0717, P0722, P0757, P0756, P0757, P0787, P0787, P0787, P0787, P0974, P0976, P0977, P1810, P1815, P1816, P1815, P1818, P1759, P1754, P1754, P1755,	1.993 Ra 2.2928 Ra Reverse TRUE TRUE TRUE TRUE TRUE CM: P00 P0101, P00 P0102, P00 P0103, P00 P0104, P00 P0107, P00 P0174, P00 P0174, P00 P0175, P00 P0175, P00 P0175, P00 P0174, P00 P0204, P02005, P02004, P02005, P02004, P02005, P02004, P02005, P02004, P02005, P02006, P02007, P02004, P02006, P02007, P02007, P02006, P02007, P0	atio atio 306, 307, 308, 335, 336, 340, 345, 346, 365, 390, 391, 401, 42E			
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1 TFT Delta from Startup	<= 2 C ⁰	Vehicle Speed Vehicle Speed Above min for TCC Slip TCC Slip above min for Transmission Fluid Temperature Lo	>= >= >= >= >= >=	P0305, 8 K 300 S 120 R 300 S -39 C	íph Sec PM Sec Cº	>= 80	Fail Time (Sec)	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	e condi	TIONS	TIME REQ	UIRED	MIL ILLUM.
							Transmission Fluid Temperature High	<=	20	C⁰			
							Engine Coolant Temp	>=	70	C⁰			
							Engine Coolant Temp Delta	>=	55	C⁰			
			Fail Case 2 TFT Delta from startur	> <	2	C°					>= 80	Fail Time (Sec)	
							Vehicle Speed	>=	8	Kph		(000)	
							Vehicle Speed Above min for	>=	300	Sec			
							TCC Slip	>=	-20	RPM			
							TCC Slip above min for	>=	0	Sec			
							Transmission Fluid Temperature	>=	129	C⁰			
							Transmission Fluid Temperature	<=	149	C°			
							Engine Coolant Temp	>=	70	C⁰			
							Engine Coolant Temp Delta from		55	C ⁰			
							startup	>=	55	C.			
			Foil									Fail	
			Case 3 TFT Delta	a >=	20	C°					>= 14	Counts	
					20	0					2- 11	(100ms	
												Sample	
											< 7	Time	
			Fail Transmission Fluid Case 4 Temperature	d <=	20	C°					>= Refer to Table 1	Fail Time	
							Engine Torque Lo	>=	50	N*m		(Sec)	
							Engine Torque Hi	<=	1492	N*m			
							Throttle Position Lo	>=	8.0002	Pct			
							Throttle Position Hi	<=	89.999	Pct			
							Vehicle Speed Lo	>=	8	Kph			
							Vehicle Speed Hi	<=	511	Kph			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	6500	RPM			
							Engine Coolant Lo	>=	-39	Cº			
							Engine Coolant Hi	<=	149	C⁰			
							Engine Torque Signal Valid	=	TRUE				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position Signal Valid	=	TRUE			
					Engine Speed Status Valid	=	TRUE			
					P0711 Common Enable Conditions					
					Transmission Fluid Temperature	>=	-39	C⁰		
					Transmission Fluid Temperature Hi	<=	149	C⁰		
					Ignition Voltage	>=	8	V		
					Ignition Voltage	<=	18	V		
					Engine speed	>=	Refer to Table 4	RPM		
					Engine speed above min for	>=	Refer to Table 5	Sec		
					Engine speed above min for	>=	5	Sec		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max for	>=	2	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Coolant Sensor Signal Valid	=	TRUE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118,	P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,		
							P0125, P0128, P0171, P0172, P0174, P0175,	P0308, P0335, P0336, P0340, P0345, P0346,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	e condi	TIONS	TIMI	E REQI	JIRED	MIL ILLUM.
								P0201, P0202, P0203, P0204, P0205, P0206,	P0365, P0366, P0390, P0391, P0401, P042E				
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48	Ω					>=	12	Fail Time (Sec)	Special No Trip
					Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= = TCM: None ECM: P0335, P0346, P0346, P0346, P0366, P0390, P0390, P0390,	8 18 500 6500 2 TRUE	V RPM RPM Sec				
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to	TFT resistance	>= 97292	Ω					>=	80	Fail Time (Sec)	Special No Trip
						Output Speed Output Speed above min for TCC Slip speed TCC Slip Speed above min for Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= >= >= >= >= >= = =	65.625 200 120 200 8 18 500 6500	RPM Sec RPM sec V V RPM RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	IOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIF	ED	MIL ILLUM.
						Engine speed between min/max	>=	2	Sec			
						Engine Speed Status Valid	=	TRUE				
						5						
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717					
							ECM: P0335, P0336, P0340, P0345, P0346,					
							P0365, P0366, P0390, P0391					
Transmission Input Speed	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000	RPM					>= 3.25	sec	Two Trips
						Ignition Voltage	>=	8	volts			
						Ignition Voltage	<=	18	volts			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	6500	RPM			
						Engine speed between min/max for	>=	2	Sec			
						Engine Speed Status Valid	=	TRUE				
						Engine Torque	>=	50	N*m			
						Engine Torque	<=	1492	N*m			
						Engine Torque Signal Valid	=	TRUE				
						Vehicle Speed	>=	16	KPH DDM			
						Input Speed min	>	1050	RPM			
						Positive ISS A	>=	2 500	RDM			
						Positive ISS \wedge less than min for	>=	2	Sec			
						Throttle	>=	- 8.0002	Pct			
						Throttle Position Signal Valid	=	TRUE				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESH	OLD VALUE		SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME R	EQUIRE	D	MIL ILLUM.
										P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208,	P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E				
Transmission Output Speed	P0722	Output Speed Sensor Circuit Low	TOSS	<=	50	rpm						>= 4.	5 Se	с	Two Trips
								Ignition Voltage	>=	8	volts				
								Ignition Voltage	<=	18	volts				
								Engine Speed	>=	500	RPM				
								Engine Speed	<=	6500	RPM				
								Engine speed between min/max	>=	2	Sec				
								۔ Engine Speed Status Valid	=	TRUE					
								Engine Torque min & Range= R	>=	50	N*m				
								Engine Torque max & Range= R	<=	1492	N*m				
								Engine Torque min & Range=	>=	1492	N*m				
								Engine Torque max & Range=	<=	1492	N*m				
								Engine Torque Signal Valid	=	TRUE					
								Throttle Position	>=	8.0002	%				
								Throttle Position Signal Valid	=	TRUE					
								Input Speed	>=	1500	RPM				
								Input Speed	<=	6500	RPM				
								TCC Slip	>=	-20	RPM				
								Trans Temp	>=	-40	С				
						Dis Conditi	able ons:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171,	P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	D VALUE	SECONDARY PARAMETERS	ENABLE		TIONS	TIME REQU	JIRED	MIL ILLUM.
								P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208,	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 ∆	. > 393.5	RPM	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid Range Change Timer 4WD Range Timer Input Speed Δ Input Speed Δ <max for<br="">Raw Output Speed min Raw Output Speed > min for Positive Output Speed Δ</max>	,, , , , , , , , , , , , , , , , , , ,	8 18 500 6500 2 TRUE 6 6 500 2 327.75 2 163.75	volts RPM RPM Sec Sec Sec RPM Sec RPM Sec RPM	>= 3.25	Sec	Two Trips
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0974	ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391				

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COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	ТІМ	E REQ	UIRED	MIL ILLUM.
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>=	8	Sec	Two Trips
									>=	2	Count	
					Ignition Voltage		0	V				
						>=	0 19	V				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	2	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque	>=	50	N*m				
					Engine Torque	<=	1492	N*m				
					Throttle Position	>=	8.0002	%				
					Throttle Position	<=	89.999	%				
					2nd Gear Ratio	>=	1.5122	Ratio				
					2nd Gear Ratio	<=	0.0301	Ratio				
					3rd Gear Ratio	<=	1 0699	Ratio				
					4th Gear Ratio	>=	0.6333	Ratio				
					4th Gear Ratio	<=	0.7288	Ratio				
					TFT	>=	20	С				
					TFT	<=	130	С				
					TCC Capacity	>=	64.999	%				
					TCC Capacity Timer	>=	2	sec				
					TCC Mode	=	On or Lock					
					PTO Active	=	FALSE					
					Engine Torque Status Valid	=	TRUE					
					Throttle Position Signal Valid	=	TRUE					
					If 4L80E Cmd Gear	¥	4th					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742,	ECM: P0101, P0102, P0103, P0106, P0107,	P0300, P0301, P0302, P0303, P0304, P0305,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESH	OLD VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIM	E REG	UIRED	MIL ILLUM.
								P0842, P0843, P2763, P2764, P2769, P2770	P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208,	P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0360, P0390, P0391, P0401, P042E				
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-20	RPM					>=	6	Sec	Two Trips
			TCC Slip Speed	<=	20	RPM					=	3	Count	
							Ignition Voltage	>=	8	V				
							Ignition Voltage	<=	18	V				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Engine speed between min/max for	>=	2	Sec				
							Engine Speed Status Valid	=	TRUE					
							Engine Torque	>=	50	N*m				
							Engine Torque	<=	1492	N*m				
							TFT	>=	20	С				
							TFT	<=	130	С				
							Throttle Position	>=	8.0002	%				
							Throttle Position	<=	89.999	%				
							Vehicle Speed	>=	16	KPH				
							Vehicle Speed	<=	511	KPH				
							Engine Speed	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Gear Ratio	>=	0.6333	Ratio				
							Gear Ratio	<=	1.739 1st	Rallo				
							Commanded Gear	¥	Gear					
							TCC Mode	=	Off					
							Engine Torque Status Valid	=	TRUE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDITION	sт	IME REC	QUIRED	MIL ILLUM.
						Throttle Position Signal Valid PTO Active	=	TRUE FALSE				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770	ECM: P03 P0101, P03 P0102, P03 P0106, P03 P0107, P03 P0108, P03 P0171, P03 P0172, P03 P0174, P03 P0175, P03 P0201, P03 P0202, P03 P0205, P03 P0206, P03 P0208, P04 P04	00, 01, 02, 03, 04, 05, 06, 07, 08, 35, 36, 40, 45, 46, 55, 66, 041, 01, 22E			
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail 1st gear low ratio Case 1 multiplier 1st gear high ratio 1st gear high ratio	>= 0.949951172	Pct				=	= 2	Sec	Two Trips
			multiplier Fail 4th gear low ratio	>= 0.949951172	Pct					= 2	Sec	
			<u>Case z</u> multiplier 4th gear high ratio multiplier	<= 1.050048828	Pct							
						Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle	>= <= >= = >= >= >= >= >=	8 vol 18 vol 500 RP 6500 RP 2 Se TRUE 150 RP 0.5 Se 8.0002 Po	s s M C M c t	= 2	counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	TIONS	TIME	REQU	IIRED	MIL ILLUM.
						Engine Torque	>=	50	N*m				
						Unput Speed	>=	50					
						4WD Range Timer	>=	6	Sec				
						Range Change Timer	>=	6	Sec				
						PTO Active	=	FALSE					
						Trans Temp	>=	20	С				
						Trans Temp	<=	130	С				
						Engine Torque Signal Valid	=	TRUE					
						Throttle Position Signal Valid	=	TRUE					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0974, P0976, P0977, P1915, P182C, P182C, P182C, P182C, P182C, P182E, P182F, P0741, P0742, P0742, P2764, P2764,	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0208,	P0301, P0302, P0303, P0306, P0306, P0307, P0308, P0336, P0340, P0346, P0346, P0365, P0366, P0366, P0391, P0391, P0401, P042E				
			F _1)				P2770	,					Ture T. i
Shift solenoid A Performance	P0752	Snift Solenoid Valve A Stuck On 1-1-4-4	<u>raii</u> 2nd gear low ratio Case 1 multiplier	>= 0.949951172	Pct					=	2	Sec	i wo i rips
			2nd gear high ratio	<= 1.050048828	Pct								
			Fail 3rd gear low ratio Case 2 multiplier	>= 0.949951172	Pct					=	2	Sec	
			3rd gear high ratio	<= 1.050048828	Pct								
										=	2	counts	

Image: Section of Section Sectin Section Section Section Section Section Section Sectio	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
Image: Section 1 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 Image: Section 2 Section 2 Section 2 Section 2 <td< th=""><th></th><th></th><th></th><th></th><th></th><th>Ignition Voltage</th><th>>=</th><th>8</th><th>volts</th><th></th><th></th></td<>						Ignition Voltage	>=	8	volts		
Image: Signer speed battware miniting of the spin spin spin spin spin spin spin spin						Ignition Voltage	<=	18	volts		
Image: Speed Server minitives Set Set Engine Speed between minitives Set Set Engine Speed between minitives Set Set Engine Speed Server minitives Set Set Gear Sile Set Set Engine Speed Server minitives Set Set Gear Sile Set Set Gear Sile Set Set Gear Sile Set Set Gear Sile Set Set Multipolity Set Set Trans Temp Set Set Fegine Torpue Signal Vality Set Set Fegine Torpue Signal Vality Set Set Fegine Torpue Signal Vality Tams Temp Set<						Engine Speed	>=	500	RPM		
Engine speed between minima See 2 See Engine Speed Stanks Valid See 8000 PPM Geers Sip See 8000 PPM Output Speed See 8000 PPM Output Speed See 800 PPM Tornst Formal Speed Value See 800 PPM Output Speed See 800 PPM PPM Speed Spee						Engine Speed	<=	6500	RPM		
Image: Singer						Engine speed between min/max for	>=	2	Sec		
Image: Sing Part Part Part Part Part Part Part Part						Engine Speed Status Valid	=	TRUE			
Bishie Gear Silp Fail Tme >= 0.0 Soc Throttie >= 8.000 PTM Couput Speet >= 50 NTM Output Speet >= 50 NTM Output Speet >= 6 Soc Range Change Time >= 6 Soc PTO Active = FALS Soc Trans Tem >= 20 C Trans Tem >= 130 C Engine Torque Signal Valid = TRUE Soc Trans Tem >= 130 C Trans Tem >= 130 C PTO Active = TRUE Soc Soc Trans Tem >= 130 C Trans Tem >= 130 C C Proto Active Trans Tem >= 130 C Proto Active Trans Tem >= 130 C Proto Active Proto Active Proto Active Proto Active Proto Active Proto Active						Gear Slip	>=	150	RPM		
Image: Signe Craque See Sec Sec Engine Craque Sec Sec Sec Imput Spect Sec Se						Gear Slip Fail Time	>=	0.5	Sec		
Image: Section 1 Secie Secie Secie Control 1 Secie Secie Secie Secie AWD Range Change Time Secie Secie Secie Secie PTO Action Secie Secie Secie Secie Secie Image: Change Time Secie Secie<						Throttle	>=	8.0002	Pct		
Image: Section of Control of Contro of Contro of Contro Control of Control of Control of Control of C						Engine Torque	>=	50	N*m		
Imput Speed >> 50 PM WDD Range Time >> 50 Sec Range Change Time >> 50 Sec PTO Active >> 2 C PTO Active >> 2 C Trans Temp >> 2 C Imput Speed >> C C Imput Speed Imput Speed Sec C Imput Speed Imput Speed Sec C Imput Speed Imput Speed C C Imput Speed Imput Speed C C Imput Speed Imput Speed C C						Output Speed	>=	50	RPM		
4WD Range Timer >= 6 Sec Range Change Timer >= 8 Sec PTO Active = 20 C PTO Active = 20 C Trans Temp >= 20 C Trans Temp >= 7 20 C Engine Torque Signal Valid = TTM F Throttle Position Signal Valid = TTM F P016, P0101, P0302, P0303, P017, P0305, P017, P						Input Speed	>=	50	RPM		
Range Change Time >> 6 Sec PTO Active = FALS='' Image Change Time >> 2 130 C Image Change Time > 2 130 C Image Change Time > 2 130 C Image Change Time > 130 C C C Image Change Time > 130 C <						4WD Range Timer	>=	6	Sec		
Image: Signed						Range Change Timer	>=	6	Sec		
Image: Construct of the second sec						PTO Active	=	FALSE			
Image: Construct of the second sec						Trans Temp	>=	20	С		
Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Throttle Position Signal Valid = TRUE MIL not Illuminated for DTC'S TCM: ECM: P0301, P0716, P0101, P0302, P0716, P0101, P0303, P072 P0103, P0104, P0303, P072, P0103, P0304, P073, P0107, P0307, P0107, P0303, P0304, P073, P0107, P0303, P074, P013, P0304, P073, P0107, P0303, P017, P0303, P0974, P018, P0304, P071, P0303, P017, P0303, P0974, P018, P0174, P0303, P0174, P0303, P1915, P0174, P0303, P1915, P0174, P0336, P1822, P0203, P0346, P1822, P0203, P0346, P1825, P0204, P036, P1826, P036, P1826, P036, P1825, P0204, P036, P03						Trans Temp	<=	130	С		
Image: Condition Signal Valid = TRUE Image: Conditions MIL not Illuminated for DTC's TCM: ECM: P0301, P0716, P0101, P0302, P0716, P0101, P0302, P0722, P0103, P0723, P0106, P0304, P0723, P0106, P0304, P0723, P0106, P0304, P0724, P0108, P0306, P0974, P0108, P0306, P0976, P0171, P0103, P0306, P0974, P0108, P0306, P0975, P0171, P0103, P0306, P0976, P0171, P0306, P0976, P0171, P0103, P0306, P0976, P0174, P0336, P0976, P0174, P0336, P1915, P0174, P0336, P182A, P0175, P0134, P0346, P182D, P0202, P0346, P182D, P0202, P0346, P182D, P0205, P0366, P182D, P0205, P0366, P182D, P0205, P0366, P182D, P0205, P0366, P0205, P0366,						Engine Torque Signal Valid	=	TRUE			
MIL not Illuminated for DTC's: TCM: ECM: P0301, P0716, P0101, P0302, P077, P0102, P0303, P0717, P0103, P0304, P0723, P0106, P0304, P0723, P0106, P0304, P0723, P0106, P0304, P073, P0106, P0304, P0723, P0106, P0304, P074, P0305, P074, P0305, P0974, P0305, P076, P0171, P0307, P0077, P0171, P0307, P0976, P0171, P0305, P0974, P0305, P0976, P0171, P0305, P1815, P0174, P0335, P1825, P0201, P0346, P1825, P0204, P1826, P02						Throttle Position Signal Valid	=	TRUE			
P2764, P0208, P0401, P2769, P0300, P042E					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0976, P0976, P0977, P1915, P182A, P182C, P182C, P182E, P182F, P0741, P0742, P2763, P2764, P2769,	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0207, P0208, P0300,	P0301, P0302, P0303, P0304, P0306, P0306, P0306, P0306, P0336, P0346, P0346, P0346, P0346, P0346, P0346, P0366, P0390, P0391, P04011, P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME	E REQ	UIRED	MIL ILLUM.
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail 1st gear low ratio Case 1 multiplie) 	0.949951172 Pct					=	2	Sec	One Trip
			1st gear high ratio multiplie) <=	1.050048828 Pct								
			Fail2nd gear low ratioCase 2multiplie) >=	0.949951172 Pct					=	2	Sec	
			2nd gear high ratio multiplie	-=	1.050048828 Pct								
										=	2	counts	
						Ignition Voltage	>=	8	volts				
						Ignition Voltage	<=	18	volts				
						Engine Speed	>=	500	RPM				
						Engine Speed	<=	6500	RPM				
						Engine speed between min/max for	>=	2	Sec				
						Engine Speed Status Valid	=	TRUE					
						Gear Slip	>=	150	RPM				
						Gear Slip Fail Time	>=	0.5	Sec				
						Throttle	>=	8.0002	Pct				
						Engine Torque	>=	50	N*m				
						Output Speed	>=	50	RPM				
						Input Speed	>=	50	RPM				
						4WD Range Timer	>=	6	Sec				
						Range Change Timer	>=	6	Sec				
						PTO Active	=	FALSE					
						Trans Temp	>=	20	С				
						Trans Temp	<=	130	С				
						Engine Torque Signal Valid	=	TRUE					
						Throttle Position Signal Valid	=	TRUE					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915,	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174,	P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI ⁻	TIONS	TIMI	E REG	QUIRED	MIL ILLUM.
								P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770	P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301,	P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E				
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail 3rd gear low ratio Case 1 multiplier 3rd gear high ratio 3rd gear high ratio	>=	0.949951172	Pct					=	2	Sec	One Trip
			multiplier Fail 4th gear low ratio Case 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 between min/max for Engine Speed Status Valid 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	, , , , , , , , , , , , , , , , , , ,	8 18 500 6500 2 TRUE 150 0.5 8.0002 50 50 6 6 6 6 FALSE 20 130 TRUE TRUE	volts RPM RPM Sec Pct RPM RPM Sec Sec C C C	=	2	counts	

	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	ТІМ	E REQ	UIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0974, P0976, P0977, P1915, P182A, P182C, P182C, P182C, P182E, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770	ECM: P0101, P0102, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0205, P0206, P0207, P0208, P0200, P0300, P0301,	P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0336, P0346, P0346, P0346, P0346, P0366, P0390, P0391, P0391, P0401, P042E				Two Trips
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed					>=	8	Sec	Two Trips
					Engine Speed		500	DDM	/-	2	count	
					Engine Speed	/=	6500					
					Engine speed between min/max	>=	2	Sec				
					TFT	>=	20	С				
					TFT	<=	130	С				
					Vehicle Speed	>=	16	KPH				
					Vehicle Speed	<=	511.99	KPH				
					Engine Torque	>=	50	Nm				
					Engine Torque	<=	1492	Nm				
					TCC Slip	>=	100	RPM				
					TCC Mde	=	OFF					
					Torque Validity Flag	=	Valid					
					Engine Speed Status Valid	=	TRUE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	ITIONS	TIM	E REQ	UIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0747, 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, P0306, P0306, P0306, P0340, P0345, P0346, P0346, P0346, 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
					Engine Speed		500	DDM	>=	2	count	
					Engine Speed	~=	6500	RPM				
					Engine speed between min/max for	>=	2	Sec				
					TFT	>=	20	С				
					TFT	<=	130	С				
					TCC Pressure	>=	90	Кра				
					TCC Pressure	<=	830	Kpa				
					Engine Torque	>=	50	Nm				
					Engine Torque	<=	-20					
					TCC Slip	<=	60	RPM				
					TCC Mde	=	On or Lock					
					Engine Torque Status Valid	=	TRUE					
					Engine Speed Status Valid	=	TRUE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIM	E REQ	UIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P0894, P2763, P2764, P2769, P2770	ECM: P0101, P0102, P0103, P0106, P0107, P0174, P0174, P0175, P0201, P0203, P0204, P0205, P0206, P0206, P0206, P0208, P020	P0301, P0302, P0303, P0305, P0306, P0306, P0307, P0308, P0345, P0345, P0346, P03465, P03465, P0366, P0390, P0391, P0401, P042E				
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE					>= Out of	44 50	Fail Count (100ms loop) Sample Counts	Two Trips
				Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= = TCM: None	8 18 500 6500 2 TRUE ECM: P0336, P0346, P0346, P0346, P0390, P0391	volts volts RPM RPM Sec			(100ms	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIM	E REC	QUIRED	MIL ILLUM.
Shift Solenoid	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	
				Disabl Conditions	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= = TCM: None ECM: P0335, P0336, P0346, P0365, P0366, P036	8 500 6500 2 TRUE	volts RPM RPM Sec				
Shift Solenoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE		P0391			>=	44	Fail Count (100ms	One Trip
									Out of	50	Sample Counts (100ms	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for	>= <= >= >=	8 18 500 6500 2	volts volts RPM RPM Sec				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME F	EQUIRED	MIL ILLUM.
Transmission Fluid Prossure Switch (TEP)	P1810	TFP state is illegal	TFP Illegal (switch B & C	= TRUE						>= 5	Sec	Two Trips
			10%)			Ignition Voltage	>=	8	volts			-
						Ignition Voltage	<=	18	volts			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	6500	RPM			
						Engine speed between min/max	>=	2	Sec			
						Engine Speed Status Valid	=	TRUE				
						PTO Active	=	FALSE				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None					
					••••••••							
							ECM: P0335					
							P0336,					
							P0340, P0345					
							P0346,					
							P0365,					
							P0300, P0390,					
							P0391					
Transmission Range Switch												Two Trips
(Neutral Safety Back Up	P1815	in Wrong Range	Range= Park or Neutral	= FALSE						>= (sec	
Switch NSBO)												
						Ignition Voltage	>=	8	volts			
						Ignition Voltage	<=	18	volts			
						Engine Speed	>=	0	RPM			
						Power Mode	=	Crank				
						Crank request	<=	0	Sec			
					Disable	MIL not Illuminated for DTClas	TCM					
					Conditions:	mine not munimated for DTC S:	None					
							ECM					
							None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME RI	EQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch (TFP)	P1816	TFP indicates Park or Neutral (P/N) with drive ratio	TFP indication 1st gear ratio low 1st gear ratio low 2nd gear ratio low 3rd gear ratio low 3rd gear ratio low 4th gear ratio High	P/N 2.752807617 3.167236328 1.512207031 1.739746094 0.930053711 1.069946289 0.633300781 0.728637695	Ratio Ratio Ratio Ratio Ratio Ratio Ratio Disable Conditions:	Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for Output speed Throttle position Engine Torque Engine Torque Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid PTO Active MIL not Illuminated for DTC's:	>= <= >= >= = = = = TCM: P0716, P0717, P0722, P0751, P0752, P0756, P0757, P0788, P0757, P0788, P0757,	8 18 500 6500 2 82 8.0002 50 1492 TRUE TRUE TRUE TRUE FALSE ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0174, P0175, P0201	Volts Volts RPM RPM Sec RPM PCT Nm Nm Nm P0300, P0300, P0301, P0303, P0304, P0305, P0306, P0305, P0306, P00	>= 12	2 Sec	Two Trips
							P0974, P0976, P0977, P1810,	P0202, P0203, P0204, P0205,	P0345, P0346, P0365, P0366,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
								P1817, P1818	P0206, P0207, P0208,	P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch (TFP)	P1818	TFP indicates Park or Neutral (P/N) with reverse ratio	TFP indication Ratio Ratio	= >= <=	P/N 1.993041992 2.29284668	Ratio					>= 3 Sec	Two Trips
						Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Output speed Throttle position Engine Torque Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= >= >= = = TCM: P0716, P0717, P0722, P0756, P0757, P0757, P0757, P0788, P0973, P0976, P0976, P0977, P1810, P1815, P1816, P1816, P1817, P1816, P1817, P1825.	8 18 500 6500 2 50 10.001 45 1492 20 TRUE TRUE TRUE TRUE ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0172, P0174, P0172, P0174, P0172, P0201, P0205, P0206, P0207, P0208, P0208, P0208, P0	volts volts RPM RPM Sec RPM PCT Nm Deg C P0301, P0302, P0303, P0304, P0305, P0306, P0306, P0306, P03304, P0346, P0		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2	volt	Engine running state from ECM	=	Runnin g		>= Out of	200 220	Fail Count (25ms loop) Sample Count (25ms loop)	One Trip
					Disable Conditions:	Power Mode	= TCM: None ECM: None	Run					
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE						>= Out of	44 50	Fail Count (100ms loop) Sample Counts (100ms	Two Trips
					Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid TCC PWM command	>= <= >= = = TCM: None	8 18 500 6500 2 TRUE ON	V V RPM RPM Sec			loop)	
							ECM: P0335, P0336, P0340, P0345,						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIM	E REG	UIRED	MIL ILLUM.
							P0346, P0365, P0366, P0390, P0391						
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE						>=	44	Fail Count (100ms loop) Sample	Two Trips
										Out of	50	Counts (100ms loop)	
						Ignition Voltage	>=	8	V				
						Ignition Voltage	<=	18	V				
						Engine Speed	>=	500	RPM				
						Engine Speed	<=	6500	RPM				
						Engine speed between min/max for	>=	2	Sec				
						Engine Speed Status Valid	=	TRUE					
						TCC PWM command	=	OFF					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
							5014						
							ECM: P0335,						
							P0336,						
							P0340, P0345,						
							P0346,						
							P0365, P0366						
							P0390,						
							P0391					Fail	Two Tripo
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE	Boolean					>=	5	Count (1000m	Two Thps
												s loop) Sample	
										Out of	5	Counts (1000m	
						Ignition On						(4000)	

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

			<u>Sup</u>	oportin	<u>g Tabl</u>	<u>es</u>													
<u>Table 1</u>	Axis Curve	-40 1900	<mark>-25</mark> 1000	-10 800	5 520	20 200	Units Deg C Sec												
<u>Table 2</u>	Axis	0 6	6.248474	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	Units PCT
	Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Кра
Table 3	—		0.4	400	100	050	000	00.4		540	Units								
	Curve	150	64 150	128	192	150	<u>320</u> 150	<u>384</u> 150	448 150	512 150	RPM								
Table 4											Units								
10010 1	Axis Curve	-40 600	-16.25 400	7.5 400	31.25 400	55 400	78.75 400	102.5 400	126.25 400	150 400	Deg C RPM								
<u>Table 5</u>	Axis Curve	-40 0.1	7.5 0.15	55 0.2	102.5 0.3	150 0.3	Units Deg C Sec												

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MAL	FUNCTION CRITERIA	ТН	RESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME	REQUIF	RED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	<u>Fail</u> Case 1	Tap Up Switch Stuck in the Up Position in Gear 1	=	0	Boolean						Special No Trip
(-)				Enabled									
				Tap Up Switch Stuck in		•	Dealasa						
				the Up Position in Gear 2 Enabled	=	0	Boolean						
				Tap Up Switch Stuck in									
				the Up Position in Gear 3	=	0	Boolean						
				Enabled									
				Tap Up Switch Stuck in the Up Position in Coar 4	_	0	Boolean						
				Enabled	-	0	Doolean						
				Tap Up Switch Stuck in									
				the Up Position in	=	0	Boolean						
				Neutral Enabled									
				the Lip Position in Park	=	0	Boolean						
				Enabled		Ū	Dooloan						
				Tap Up Switch Stuck in									
				the Up Position in	=	0	Boolean						
				Reverse Enabled									
				TUTD Up Input	=	TRUE				>=	0	Sec	
			Fail	Tan Lin Switch Stuck in									
			Case 2	the Up Position in Gear 1	=	0	Boolean						
				Enabled									
				Tap Up Switch Stuck in		•							
				the Up Position in Gear 2	=	0	Boolean						
				Tap Up Switch Stuck in									
				the Up Position in Gear 3	=	0	Boolean						
				Enabled									
				Tap Up Switch Stuck in	_	0	Pooloon						
				Fnabled	=	0	Budiean						
				Tap Up Switch Stuck in									
				the Up Position in	=	0	Boolean						
				Neutral Enabled									
				Tap Up Switch Stuck in	_	0	Boolean						
				the up Position in Park	=	U	DUDIEGU						
				Tap Up Switch Stuck in									
				the Up Position in	=	0	Boolean						
				Reverse Enabled									
				TUTD Up Input	=	TRUE				>=	0	Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
							Ignition Voltage	>=	8	volts		
							Ignition Voltage	<=	18	volts		
							Engine Speed	~-	500	RPM		
							Engine Speed		6500	RDM		
							Engine speed between min/max	>=	5	Sec		
							Engine Speed Status Valid	=	TRUE			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P1761 FCM [:]				
								P0335, P0336, P0340, P0345, P0346,				
								P0365, P0366, P0390, P0391				
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	<u>Fail</u> Tap Down Switch Stuck <u>Case 1</u> in the Down Position ir Gear 1 Enabled Tap Down Switch Stuck	k n = d	0	Boolean						Trip
			in the Down Position in Gear 2 Enabled	n = d	0	Boolean						
			in the Down Switch Stude Gear 3 Enabled	k n = d	0	Boolean						
			in the Down Position in Gear 4 Enabled Tap Down Switch Stuck	n = d	0	Boolean						
			in the Down Position in Neutral Enabled	n =	0	Boolean						
			in the Down Switch Study Post Enabled Tap Down Switch Study	n = d	0	Boolean						
			in the Down Position ir Reverse Enabled	n = d	0	Boolean						
			TUTD Down Inpu	it =	TRUE						>= 0 Sec	

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

Tap Up Tap Down Switch					
(TUTD) P0826 Up and Down Shift Switch Circuit voltage invalid = TRUE	>=	: (0	Sec	Special No Trip
Ignition Voltage >= 8 volts					
Ignition Voltage <= 18 volts					
Engine Speed >= 500 RPM					
Engine Speed <= 6500 RPM					
Engine speed between min/max					
Engine Speed Status Valid = TRUE					
Disable MIL not Illuminated for DTC's: TCM: Conditions: P1761					
ECM: P0335,					
P0336, P0340.					
P0345,					
P0346, P0365					
P0366,					
P0390, P0391					
Tap Up Tap Down Enable Braze Tap Up and Down Enable Switch TUTD crable switch - Cloced	<u> </u>	. (0	Soc	Special No
Switch (TUTD) Closed	>=	- (0	Sec	Trip
Trans Range ≠ CeTRGR_PRN ≠ DL_Drive3	>=	= (0	Count	
Ignition Voltage >= 8 V					
Ignition Voltage <= 18 V					
Engine Speed >= 500 RPM					
Engine Speed <= 6500 RPM					
Engine speed between min/max					
Engine Speed Status Valid = TRUE					
Disable MIL not Illuminated for DTC's: TCM: ECM: Conditions: P0705 P0335					
P0815, P0336,	1				
P0816, P0340,	1				
P1761, P0346,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	ТІМ	E REC	QUIRED	MIL ILLUM.
						P1810, P1816, P1817, P1818, P182A, P182C, P182D, P182E, P182F, P182F, P1877, P1915, U0100	P0365, P0366, P0390, P0391					
Tap Up Tap Down Enable Switch (TUTD)	P1877	Tap Up and Down Enable Switch Open	TUTD enable switch Trans Range	= Open = CeTRGR_PRN DL_Drive3 Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= TCM: P0705, P0815, P0816, P0826, P1761, P1816, P1816, P1817, P1818, P182A, P182A, P182C, P182E, P182F, P182F, P1876, P1915, U0100	8 18 500 6500 5 TRUE ECM: P0336, P0340, P0345, P0346, P0366, P0390, P0391	V V RPM RPM Sec	X	0	Sec	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQI	JIRED	MIL ILLUM.
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175A	NSBU-Circuit A Low	NSBU circuit A low	= TRUE						>=	0	sec	Two Trips
						En sins Tanana	<u> </u>	0	N I X	>=	0	count	
						Engine Torque	>=	0	N°M				
							<=	0					
							>=	0 10	volto				
						Engine Speed	<=	500					
						Engine Speed	~=	6500					
						Engine speed between min/max	>=	5	Sec				
						Engine Speed Status Valid	=	TRUE					
						Engine Torque Signal Valid	=	TRUE					
						Range = Park for	>=	0	sec				
					Disable	MIL not Illuminated for DTC's:	TCM:						
					Conditions:		None						
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208, P0208, P0300	P0301, P0302, P0303, P0304, P0306, P0306, P0306, P0330, P0336, P0336, P0346, P0346, P0346, P0366, P0390, P0391, P0401, P0401, P0401,					
Transmission Range Switch													Two Trips
(Neutral Safety Back Up Switch NSBU)	P175B	NSBU-Circuit B High	NSBU circuit B High	= TRUE						>=	0	sec	
										>=	0	count	
						Engine Torque	>=	0	N*m				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	TIONS	TIM	E REQL	JIRED	MIL ILLUM.
					Engine Torque	<=	0	N*m				
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	18	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE					
					Range = Park for	>=	0	sec				
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: None						
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0208, P0203, P0208, P0203, P0208, P0208, P0207, P0208, P020	P0301, P0302, P0303, P0304, P0305, P0306, P0306, P0340, P0346, P0346, P0346, P0346, P0366, P0390, P0391, P0401, P042E					
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175C	NSBU-Circuit C High	NSBU circuit C High	= TRUE					>=	0	sec	Two Trips
					Engine Tergue		0	NI*ma	>=		count	
					Engine Torque Signal Valid	>=						
					Lingine Torque Signar Value	-	8	volts				
					Ignition Voltage	<=	18	volts				
					Vehicle Speed	>=	0	kph				
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQUI	RED	MIL ILLUM.
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					1st gear ratio low	>=	2.7528	Ratio				
					1st gear ratio High	<=	3.1672	Ratio				
					2nd gear ratio low	>=	1.5122	Ratio				
					2nd gear ratio High	<=	1.7397	Ratio				
					3rd gear ratio low	>=	0.9301	Ratio				
					3rd gear ratio High	<=	1.0699	Ratio				
					4th gear ratio low	>=	0.6333	Ratio				
					4th gear ratio High	<=	0.7286	Ratio				
				Disable	MIL not Illuminated for DTC's:	TCM:						
				Conditions		P0722, P0723						
						ECM:	, P0205, P0206					
						P0101,	P0207,					
						P0103,	P0208,					
						P0106, P0107	P0300, P0301.					
						P0108,	P0302,					
						P0171,	P0303,					
						P0172, P0174.	P0304, P0305,					
						P0175,	P0306,					
						P0201,	P0307,					
						P0202, P0203,	P0308, P0401,					
						P0204	P042E					
Transmission Range Switch (Neutral Safety Back Up	P1759	NSBU-Circuit P Low	NSBU circuit P Low	= TRUE					>=	0	sec	Two Trips
Switch INSBU)									>=	0	count	
					Engine Torque	>=	0	N*m				
					Engine Torque	<=	0	N*m				
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	18	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max	~-	5	Sec				
					for	/-	5	000				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE				l	l

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	METERS ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	Range = Park for MIL not Illuminated for DTC's:	>= TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,	0 P0301, P0302, P0303, P0304, P0305, P0306, P0306, P0306, P0340, P0346, P0346, P0346, P0346, P0390, P0390, P0391, P0401, P042E	Sec		

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

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V4	LUE	SECONDARY PARAMETERS	ENABLE	CONDIT	TIONS	TIME	REQUI	IRED	MIL ILLUM.
Transmission Input Speed Sensor (TISS) P0717 Voltag	t Speed Sensor Circuit Low age	input speed	< 50 R	PM Disable Conditions:	Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed Status Valid Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed MIL not Illuminated for DTC's:	P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0305, P0306, P0305, P0306, P0335, P0336, P0346, P0326, P036, P036, P036, P036,	8 31.999 500 6500 5 TRUE 50 1492 TRUE 16	volts volts RPM Sec N*m N*m Kph	×	4.5	Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	т	HRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDITI	IONS	TIME REC	QUIRED	MIL ILLUM.
Transmission Output Speed		Output Speed Sensor Circuit Low						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0207, P0208, P0206, P0206, P0206, P0207, P0208, P0206, P0206, P0206, P0206, P0206, P0206, P0206, P0307, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0306, P0307, P0306, P030					Two Trips
Sensor (TOSS)	P0722	Voltage	TOSS	<=	50	rpm	Ignition Voltage Ignition Voltage Engine Speed	>= <= ,=	8 31.999 500	volts volts RPM	>= 4.5	Sec	Two Thps
							Engine Speed	<=	6500	RPM			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE C	ONDITIONS	TIME REQUI	RED	MIL ILLUM.
						P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0346, P0366, P0390, P0391, P0401, P042E				
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop ∆	> 420 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 Δ Input Speed Δ <max for<br="">Raw Output Speed → min for Positive Output Speed Δ Positive Output Speed Δ <max for<br="">MIL not Illuminated for DTC's:</max></max>	>= 31 >= 5 <= 6 >= TH >= 5 = 7 >= 5 >= 5 >= 3 >= 1 >= 1 >= 1 P0716, P0717, P0974 ECM:	8 volts 1.999 volts 500 RPM 5500 RPM 5 Sec 6 Sec 500 RPM 2 Sec 350 RPM 2 Sec 175 RPM 2 Sec 175 RPM 2 Sec	>= 3.25	Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME	REQL	JIRED	MIL ILLUM.
						P0336, P0340, P0345, P0346, P0366, P0366, P0390, P0391						
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>=	8	Sec Count	Two Trips
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Throttle Position Throttle Position 2nd Gear Ratio 2nd Gear Ratio 3rd Gear Ratio 3rd Gear Ratio 3rd Gear Ratio 4th Gear Ratio 4th Gear Ratio TFT TFT TCC Capacity TCC Capacity Timer TCC Mode PTO Active Engine Torque Status Valid Throttle Position Signal Valid		8 31.999 500 6500 5 TRUE 50 1492 8.0002 89.999 1.458 1.678 0.9301 1.0699 0.656 0.754 20 130 64.999 2 0.656 0.754 20 130 64.999 2 0.0 or Lock FALSE TRUE	V V RPM RPM Sec N*m % Ratio Ratio Ratio Ratio Ratio Ratio Ratio Ratio Sec % Sec		2		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					If 4L80E Cmd Gear	≠ 4th		
	CODE	DESCRIPTION		Disable Conditions:	If 4L80E Cmd Gear MIL not Illuminated for DTC's:	≠ 4th TCM: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0106, P0107, P0108, P0174, P0177, P0108, P0171, P0175, P02001, P0202, P0203, P0204, P0205, P0205, P0206, P0300, P0301, P0302, P0303, P0304, P0305,		
						P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346,		

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

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

pinit solunoid Valve A Sluck Of Part/ormane Fall Solution of the solution of call is the pert input of the solution of multiplier in signer lipits = 0.040951172 Pert Fer Image: First Solution of Voltege Pert of the solution of the	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	ТІМІ	E REC	QUIRED	MIL ILLUM.
1 1	Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail1st gear low ratio Case 1multiplie	o >=	0.949951172	Pct					=	2	Sec	Two Trips
Eail Cade 2 ath gear low rate ath gear low rate ath gear low rate ath gear low rate ath gear low rate beam low rate ath gear low rate beam low rate ath gear low rate beam low rate 				1st gear high ratio multiplie	0 <=	1.050048828	Pct								
dhi gear Aigh rule				<u>Fail</u> 4th gear low ration <u>Case 2</u> multiplie	0 =r	0.949951172	Pct					=	2	Sec	
Image: Condition of the set of the				4th gear high ratio multiplie	o <=	1.050048828	Pct								
Image: Section of Construction c c 31.99 volts Engine Speed c 6500 RPM Engine Speed between min/mar for c 5 Sec Engine Speed between min/mar for c 5 Sec Engine Speed between min/mar for c 5 Sec Engine Speed between min/mar for c 0.5 Sec Engine Torque c 5.00 RPM Gear Sitip Fail Time c 5.00 RPM Gear Sitip Fail Time c 5.00 RPM Mutopt Speed c 6 Sec Trans Temp c 6 Sec Engine Torque Signal Valid c 17.01 V Engine Torque Signal Valid c 7 7 P077.								Ignition Voltage	>=	8	volts	=	2	counts	
Engine Speed See 500 RPM Engine Speed Detween mini/max See 500 RPM Engine Speed Detween mini/max See TRUE See Engine Speed Status Vait See TRUE See Gear Slip Fall Time See 800 RPM Gear Slip Fall Time See 800 RPM Throttle See 800 RPM Gear Slip Fall Time See 800 RPM Throttle See 800 RPM Output Speed See 800 RPM Houtput Speed See 800 RPM Gear Slip Fall Time See 800 RPM Output Speed See 800 RPM Guapus Time See 6 See Guapus Time See 6 See Throttle Paris See 80 See Guapus Time See 80 See Throttle Paris See See See Throttle Paris Time See See See <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Ignition Voltage</td> <td><=</td> <td>31.999</td> <td>volts</td> <td></td> <td></td> <td></td> <td></td>								Ignition Voltage	<=	31.999	volts				
Engine Speed 6 600 RPM Engine Speed between minimate 5 Sec Engine Speed Status Valid = TRUE Engine Speed Status Valid = TRUE Gear Silip Fail Time >= 0.05 Sec Gear Silip Fail Time >= 0.05 Sec Output Speed >= 500 NPM Output Speed >= 500 NPM Output Speed >= 500 NPM WOR Range Time >= 6 Sec Trans Temp >= 6 Sec Trans Temp >= 200 C Trans Temp = 200 C Trans Temp = 1700 C Trans Temp = 1700 C Throttle Position Signal Valid = TRUE F0717, F P0723, F0737, F F0723, F0737, F F0723, F0737, F0723, F0737, F F0723, F0737, F P0724 F0976, F0776, F0724, F0776, F								Engine Speed	>=	500	RPM				
Engline speed between min/max >= 5 Sec Engline Speed Status Valiti = TRUE Engline Speed Status Valiti >= 100 RPM Gear Slip Fait >= 8.0002 Pct Gear Slip Fait >= 6.0002 Pct Throttle >= 50 N*m Gear Slip Fait >= 6.002 Pct Input Speed >= 6.002 Pct Input Speed >= 6 Scc AWD Range Timer >= 6 Scc Range Change Timer >= 6 Scc Range Change Timer >= 6 Scc Engline Torous Ugand Valiti = TRUE Scc Engline Torous Ugand Valiti = TRUE Scc Range Change Timer >= 6 Scc Engline Torous Ugand Valiti = TRUE Scc Engline Torous Ugand Valiti = TRUE Scc Engline Torous Ugand Valiti = TRUE Scc Engline Coditions								Engine Speed	<=	6500	RPM				
Image: Speed Status Valid Image:								Engine speed between min/max for	>=	5	Sec				
Image: Signe Sign								Engine Speed Status Valid	=	TRUE					
Image: Singe:								Gear Slip	>=	150	RPM				
Image: Second								Gear Slip Fail Time	>=	0.5	Sec				
Image: Second								Throttle	>=	8.0002	Pct				
Image: Conditions See See See Imput Speed See See								Engine Torque	>=	50	N*m				
Image: Second								Output Speed	>=	50	RPM				
4WD Range Time >= 6 Sec Range Change Time >= 6 Sec Range Change Time >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp >= 130 C C Trans Temp Sec Engine Torque Signal Valid = TRUE TRUE TRUE Sec Disable MIL not Illuminated for DTC's TRUE Sec Sec P0717. P0722. Sec Sec Sec P074. P077. P0723. Sec Sec P0776. P0776. Sec Sec Sec								Input Speed	>=	50	RPM				
Range Change Time >= 6 Sec PTO Active = FALSE FALSE Trans Temp >= 130 C Engine Torque Signal Vaid = TRUE TRUE Throttle Position Signal Vaid = TRUE TOPOTA, POTOF, POTOF, POTOF, POTOF, POTOF, POTOF, POTOF, PO								4WD Range Timer	>=	6	Sec				
Image: Section of the section of th								Range Change Timer	>=	6	Sec				
Image: Section of the section of th								PTO Active	=	FALSE					
Image: Section of the section of th								Trans Temp	>=	20	С				
Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Throttle Position Signal Valid = TRUE Disable MIL not Illuminated for DTC's: P0716, P0717, P0722, P0723, P073, P0973, P0974, P0974, P0977 P0977					Í			Trans Temp	<=	130	С				
Image: Provide Position Signal Valid = TRUE Image: Position Signal Valid = Position Signal Valid Image: Position Signal Valid = TRUE Image: Position Signal Valid = True Signave Image: Position								Engine Torque Signal Valid	=	TRUE					
Disable MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P0723, P0723, P0974, P0974, P0976, P0977								Throttle Position Signal Valid	=	TRUE					
Conditions: P0716, P0717, P0722, P0722, P0723, P073, P0973, P0974, P0974, P0974, P0974, P0977 P0977							Disable	MIL not Illuminated for DTC's:	TCM:						
P0717, P0722, P0723, P0973, P0974, P0976, P0976, P0977							Conditions:		P0716,						
P0723, P0973, P0974, P0976, P0977									P0717, P0722.						
P0973, P0974, P0976, P0977					1				P0723,						
P0974, P0976, P0977					1				P0973,						
P0977									P0974, P0976.						
									P0977,						
P1915,					1				P1915,						

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

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

COMPONENT/ SYSTEM	AULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0974, P0976, P0977, P1915, P182A, P182C, P182C, P182E, P182E, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0108, P0177, P0108, P0177, P0108, P0177, P0178, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0206, P0207, P0208, P0300, P0304, P0305, P0306, P0306, P0307, P0308, P0335, P0336, P0340, P0345, Statesting P0340, P0345, P0340, P0340, P0345, P0340, P0340, P0345, P0340, P0340, P0340, P0345, P0340, P0340, P0340, P0340, P0345, P0340, P0340, P0340, P0345, P0340, P0340, P0340, P0345, P0340, P0340, P0345, P0340, P0340, P0345, P0340, P0345, P0340, P0340, P0345, P0340, P0345, P0340, P0340, P0345, P0340, P0340, P0345, P0340, P0345, P0340, P0345, P0340, P0345, P0345, P0340, P0345, P		

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIM	E REC	QUIRED	MIL ILLUM.
								P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P0401,						
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail 3rd gear low ratio Case 1 multiplier	>=	0.949951172	Pct					=	2	Sec	One Trip
			nultiplier	<=	1.050048828	Pct								
			<u>Case 2</u> 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 Fail Time Throttle Engine Torque Output Speed 4WD Range Timer Range Change Timer PTO Active Trans Temp Trans Temp		8 31.999 500 6500 5 TRUE 150 0.5 8.0002 50 6 6 6 6 FALSE 20 130 TRUE	volts volts RPM Sec Pct N*m RPM Sec Sec C C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Conditions:		P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P1815, P182A, P182C, P182E, P182E, P182F, P182F, P182F,		
						P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108,		
						P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305, P0306, P0307,		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIO	IS TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 = 0 = 0	Boolean Boolean Boolean				
					Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= 8 vo <= 31.999 vo >= 500 RF <= 6500 RF >= 5 Se = TRUE TCM: P0826, P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0346, P0346, P0366, P0390, P0391	>= 0 Sec	
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Stuck Case 1 in the Down Position in Gear 1 Enabled Tap Down Switch Stuck in the Down Position in Gear 2 Enabled Tap Down Switch Stuck in the Down Position in Gear 3 Enabled Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 0 = 0 = 0	Boolean Boolean Boolean				Special No Trip
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0	Boolean				
			TUTD Down Input	= TRUE				>= 0 Sec	
			Fail Tap Down Switch Stuck Case 2 in the Down Position in Gear 1 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0	Boolean				
			TUTD Down Input	= TRUE				>= 0 Sec	
						Ignition Voltage	N- 8 volte		
						Ignition Voltage	>= 3 volts		
						Engine Speed	>= 500 RPM		
						Engine Speed	<= 6500 RPM		
						Engine speed between min/max	>= 5 Sec		
						Engine Speed Status Valid	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE	CONDIT	IONS	TIME R	EQUIRED	MIL ILLUM.
				Dis Condit	sable ions:	MIL not Illuminated for DTC's:	TCM: P0826, P1761 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391					
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD/MUMD switch voltage invalid	= TRUE Dis Condit	sable ions:	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= TCM: P1761 ECM: P0335, P0346, P0346, P0346, P0365, P0390, P0391	8 31.999 500 6500 5 TRUE	volts volts RPM Sec	>= 0	Sec	Special No Trip
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	= Closed		Engine Speed Engine Speed Engine speed between min/max for	>= <= >=	500 6500 5	RPM RPM Sec	>= 10	Count	Two Trips

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.	
				TFT	>= <=	20 130	c		
1 1				Vehicle Speed	>=	16	KPH		
1 1				Vehicle Speed	<=	511	KPH		
1 1				Engine Torque	>=	50	Nm		
1 1				Engine Torque	<=	1492	Nm		
1 1				TCC Slip	>=	100	RPM		
1 1				TCC Mde	=	OFF			
1 1				Torque Validity Flag	=	Valid			
1 1				Engine Speed Status Valid	=	TRUE			
			Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0303, P0303,				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	- TRIF		P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0206, P0207, P0208, P0300, P0301, P0302, P0300, P0304, P0305, P0306, P0305, P0306, P0305, P0306, P0335, P0336, P0336, P0346, P0346, P0365, P0366, P0391, P0391, P0401, P0401, P042E	2 8 590	Two Trips
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	= TRUE			>= 8 sec >= 1 count	rite nipe

COMPONENT/ SYSTEM FAUL	T MONITOR STRATEGY E DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
				Engine Torque	>=	50	N*m		
				Engine Torque	<=	1492	N*m		
				Ignition Voltage	>=	8	volts		
				Ignition Voltage	<=	31.999	volts		
				Engine Speed	>=	500	RPM		
				Engine Speed	<=	6500	RPM		
				Engine speed between min/max for	>=	5	Sec		
				Engine Speed Status Valid	=	TRUE			
				Engine Torque Signal Valid	=	TRUE			
				Range = Park for	>=	1	sec		
			Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
					ECM: P0101, P0102, P0103, P0106, P0107, P0107, P0107, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P02006, P02007, P0206, P02007, P0208, P03001, P0302, P0303, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	7	Threshold V	'ALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	FIONS	TIM	E REQ	UIRED	MIL ILLUM.
								P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E						
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	=	TRUE						>=	8	sec	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	>=	500	RPM				
							Engine Speed	<=	6500	RPM				
							Engine speed between min/max for	>=	5	Sec				
							Engine Speed Status Valid	=	TRUE					
							Engine Torque Signal Valid	=	TRUE					
							Range = Park for	>=	1	sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
								ECM: P0101, P0102, P0103, P0106, P0107, P0172, P0172, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207,						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE C	CONDITIONS	5 TIN	1E REQI	UIRED	MIL ILLUM.
						P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0346, P0365, P0390, P0391, P0401, P042E					
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE				>=	8	sec	Two Trips
				Disa Conditio	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max fo Engine Speed Status Valid MIL not Illuminated for DTC's	 >= 3 >= -= TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0366, P0390, P0391 	8 volts 31.999 volts 500 RPM 6500 RPM 5 Sec TRUE				
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE				>=	8	sec	Two Trips

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	RIA THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		ТІГ	/IE REC	QUIRED	MIL ILLUM.	
								P0306, P0307, P0308, P0401, P042E					
Internal Mode Switch (IMS)	P1915	Internal Mode Switch-Start in Wrong Range	Range= Park or Neutral	=	FALSE	TRUE	Ignition Voltage Ignition Voltage Engine Speed Power Mode	>= <= >=	8 volts 31.999 volts 560 RPM Crank	>=	2	sec	Two Trips
						Disable Conditions:	Crank request	<= TCM: None ECM: None	409 Sec				
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<=	2	volt				>= Out of	200 220	Fail Count (25ms loop) Sample Count (25ms loop)	One Trip
							Engine running state from ECM Power Mode	=	Runnin g Acc or Run			.,	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None					

Supporting Tables



Table 2

Units	

																		••
Axis	0	6.24847412	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	РСТ
Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Кра

Table 3											Units
	Axis	0	64	128	192	256	320	384	448	512	Nm
C	urve	125	125	125	125	125	125	125	125	125	RPM
		-					-	-			•

Table 4										Units
Axis	-40	-16.25	7.5	31.25	55	78.75	102.5	126.25	150	Deg C
Curve	600	400	400	400	400	400	400	400	400	RPM

Table 5						Units	
	Axis	-40	7.5	55	102.5	150 Deg C	
	Curve	0.1	0.15	0.2	0.3	0.3 Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFU	MALFUNCTION CRITERIA		THRESHOLD VALUE		SECONDARY PARAMETERS	SECONDARY PARAMETERS ENABLE CONDITION		ITIONS	TIME REQUIRED		JIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	<u>Fail</u> Case 1	TFT Delta from Startup	<=	2	C°					>=	80	Fail Time	Special No Trip
								Vehicle Speed	>=	8	Kph			(360)	
								Vehicle Speed Above min for	>=	300	Sec				
								TCC Slip	>=	120	RPM				
								TCC Slip above min for	>=	300	Sec				
								Transmission Fluid Temperature	>=	-39	C⁰				
								Transmission Fluid Temperature High	<=	20	C⁰				
								Engine Coolant Temp	>=	70	C⁰				
								Engine Coolant Temp Delta	>=	55	C⁰				
			<u>Fail</u> <u>Case 2</u>	TFT Delta from startup	<	2	C°					>=	80	Fail Time (Sec)	
								Vehicle Speed	>=	8	Kph				
								Vehicle Speed Above min for	>=	300	Sec				
								TCC Slip	>=	-20	RPM				
								TCC Slip above min for	>=	0	Sec				
								Transmission Fluid Temperature	>=	129	C⁰				
								Transmission Fluid Temperature	<=	149	C⁰				
								Engine Coolant Temp	>=	70	C⁰				
								Engine Coolant Temp Delta from startup	>=	55	C⁰				
			Fail											Foil	
			<u>Case 3</u>	TFT Delta	>=	20	C°					>=	14	Fail Counts (100ms loop)	
												<	7	Sample Time (Sec)	
			<u>Fail</u> Case 4	Transmission Fluid Temperature	<=	20	C°					>= F	tefer to Γable 1	Fail Time (Sec)	
								Engine Torque Lo	>=	50	N*m				
								Engine Torque Hi	<=	1492	N*m				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.	
					Throttle Position Lo	>=	2.0004	Pct		
					Throttle Position Hi	<=	89.999	Pct		
					Vehicle Speed Lo	>=	8	Kph		
					Vehicle Speed Hi	<=	511	Kph		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	6500	RPM		
					Engine Coolant Lo	>=	-39	C°		
					Engine Coolant Hi	<=	149	C°		
					Engine Torque Signal Valid	=	TRUE			
					Throttle Position Signal Valid	=	TRUE			
					Engine Speed Status Valid	=	TRUE			
					P0711 Common Enable					
					Conditions					
					Lo	>=	-39	C°		
					Transmission Fluid Temperature	<=	149	C⁰		
					Hi Ignition Voltage		0	V		
					Ignition Voltage	>=	0	V		
					Ignition voltage	<=	10	v		
					Engine speed	>=	Refer to Table 4	RPM		
					Engine speed above min for	>=	Refer to Table 5	Sec		
					Engine speed above min for	>=	5	Sec		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Coolant Sensor Signal Valid	=	TRUE	Boolean		
l										

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQU	JIRED	MIL ILLUM.	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P01125, P0128, P0171, P0172, P0174, P0175, P0201, P0202, P0203,	P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0304, P0305, P0306, P0306, P0307, P0308, P0336, P0336, P0340, P0345, P0346, P0346, P0365, P0366, P0390, P0391, P0401, P042E				
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop ∆	>= 1000	RPM	Ignition Voltage Ignition Voltage Engine Speed Engine Speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed Input Speed above min for Positive ISS Δ		8 18 1 500 F 6500 F 5 7 TRUE 50 F 1492 F 1492 F 1050 F 2 7 500 F	volts volts RPM RPM Sec N*m KPH RPM Sec RPM	>= 3.25	Sec	Two Trips

COMPONENT/ SYSTEM FAULT CODE MONITOR STRATEGY DESCRIPTION MALFUNCTION CRITERIA THRESHOLD VALUE SECONDARY PARAMETERS ENABLE CONDITIONS TIME	VE REQUIRED	MIL ILLUM.						
Positive ISS \triangle less than min for $>=$ 2 Sec								
Throttle >= 8.0002 Pct								
Throttle Position Signal Valid = TRUE								
Disable MIL not Illuminated for DTC's: TCM: ECM: P0301, Conditions: P0717, P0101, P0302, P0722, P0102, P0303,								
P0723, P0103, P0304, P0752 P0106 P0305								
P0973, P0107, P0306,								
P0974 P0108, P0307, P0171 P0308								
P0172, P0335,								
P0174, P0336,								
P0175, P0340, P0201, P0345,								
P0202, P0346,								
P0203, P0365, P0204, P0366,								
P0205, P0390,								
P0206, P0391, P0207 P0401								
P0208, P042E								
P0300,								
Transmission Input Speed Sensor (TISS) Input Speed Sensor Circuit Low Voltage input speed < 50 RPM	4.5 Sec	Two Trips						
Ignition Voltage >= 8 volts								
Ignition Voltage <= 18 volts								
Engine Speed >= 500 RPM								
Engine Speed <= 6500 RPM								
Engine speed between min/max for >= 5 Sec								
Engine Speed Status Valid = TRUE								
Engine Torque >= 50 N*m								
Engine Forque <= 1492 N°m								
Engine Torque Signal Valida = TROE								
venicie Speed >= 16 Kpri								
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
---------------------------	---------------	---------------------------------	----------------------	------------------------	---	--	---------------	------------
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0301, P0102, P0302, P0103, P0303, P0106, P0304, P0107, P0305, P0108, P0306, P0171, P0307, P0172, P0308, P0174, P0335, P0175, P0336, P0175, P0336, P0201, P0340, P0202, P0345,		
Transmission Output Speed	D0722	Output Speed Sensor Circuit Low	TOSS			P0202, P0346, P0203, P0365, P0204, P0365, P0205, P0390, P0206, P0390, P0207, P0391, P0208, P0401, P0300, P042E		Two Trips
Sensor (TOSS)	P0722	Voltage	TOSS	<= 50 rpm	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 P/N Engine Torque min & Range= P/N Engine Torque max & Range= P/N	>= 8 volts <= 18 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m <= 1492 N*m = TRUE >= 5.0002 %	>= 4.5 Sec	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	METERS ENABLE CO			TIME	REQUIRED	MIL ILLUM.
					4WD Range Timer	>=	6	Sec			
					Input Speed Δ	<	500	RPM			
					Input Speed Δ <max for<="" td=""><td>>=</td><td>2</td><td>Sec</td><td></td><td></td><td></td></max>	>=	2	Sec			
					Raw Output Speed min	>	321.5	RPM			
					Raw Output Speed > min for	>=	2	Sec			
					Positive Output Speed Δ	<=	160.75	RPM			
					Positive Output Speed Δ <max for<="" td=""><td>>=</td><td>2</td><td>Sec</td><td></td><td></td><td></td></max>	>=	2	Sec			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0974 ECM: P0335, P0336, P0340, P0345, P0346, P0366, P0390, P0391					
Torque Converter Clutch	D 0 T 11										Two Trips
(TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>=	8 Sec	
									>=	2 Count	-
							_				
					Ignition Voltage	>=	8	V			
					Ignition Voltage	<=	18	V			
					Engine Speed	>=	500				
					Engine speed between min/max	<=	0500				
					for	>=	5	Sec			
					Engine Speed Status Valid	=	TRUE				
					Engine Torque	>=	50	N*m			
					Engine Torque	<=	1492	N*m			
					Throttle Position	>=	2.0004	%			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position	<=	89.999	%		
					2nd Gear Ratio	>=	1.5157	Ratio		
					2nd Gear Ratio	<=	1.7441	Ratio		
					3rd Gear Ratio	>=	0.9301	Ratio		
					3rd Gear Ratio	<=	1.0699	Ratio		
					4th Gear Ratio	>=	0.6324	Ratio		
					4th Gear Ratio	<=	0.7275	Ratio		
					TFT	>=	20	С		
					TFT	<=	130	С		
					TCC Capacity	>=	64.999	%		
					TCC Capacity Timer	>=	2	sec		
					TCC Mode	=	On or Lock			
					PTO Active	=	FALSE			
					Engine Torque Status Valid	=	TRUE			
					Throttle Position Signal Valid	=	TRUE			
					If 4L80E Cmd Gear	¥	4th			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0742, P0842, P0843, P2763, P2764, P2769, P2770	ECM: P0101, P0102, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0206, P0206, P0207, P0208, P0300,	P0301, P0302, P0303, P0305, P0306, P0307, P0307, P0308, P0335, P0336, P0346, P0346, P0346, P0365, P0390, P0390, P0391, P0391, P0421		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM					>= 4 Sec	Two Trips

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	OLD VALUE	SECONDARY PARAMETERS	METERS ENABLE C			TIME	E REQ	UIRED	MIL ILLUM.
						4WD Range Timer	>=	6	Sec				
						Range Change Timer	>=	6	Sec				
						PTO Active	=	FALSE					
						Trans Temp	>=	20	С				
						Trans Temp	<=	130	С				
						Engine Torque Signal Valid	=	TRUE					
						Throttle Position Signal Valid	=	TRUE					
					Disable Conditions:	MIL not Illuminated for DTC's	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182C, P182C, P182C, P182E, P182F, P0741, P0742, P2763, P2764, P2770	ECM: P0101, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0208, P0300.	P0301, P042E, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0346, P0365, P0360, P0390, P0391, P0401,				
Shift solenoid A		Shift Solenoid Valve A Stuck On	Fail 2nd gear low ratio										Two Trips
Performance	P0752	1-1-4-4	Case 1 multiplier	>= 0.949951	172 Pct					=	2	Sec	
			2nd gear high ratio multiplier	<= 1.050048	328 Pct								
			Fail 3rd gear low ratio	>= 0.949951	172 Pct					=	2	Sec	
			3rd gear high ratio	<= 1.050048	328 Pct								
			multiplier				 			_	2	counto	
						Ignition Voltage	\	8	volte	=	2	counts	
							>= 	0 1 Q	volte				
						Engine Speed	<=	10 500					
	I					Engine Speed	>=	500					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	IETERS ENABLE COI			TIME REQUIRED	MIL ILLUM.
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max	>=	5	Sec		
					tor Engine Speed Status Valid	=	TRUE			
					Gear Slip	>=	150	RPM		
					Gear Slip Fail Time	>=	0.5	Sec		
					Throttle	>=	8.0002	Pct		
					Engine Torque	>=	50	N*m		
					Output Speed	>=	50	RPM		
					Input Speed	>=	50	RPM		
					4WD Range Timer	>=	6	Sec		
					Range Change Timer	>=	6	Sec		
					PTO Active	=	FALSE	0		
					Trans Temp	>=	20 120	C C		
					Engine Torque Signal Valid	_	TRUE	C		
					Throttle Position Signal Valid	=	TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716.	ECM.			
						P0717,	P0101,			
						P0722, P0723.	P0102,	P0301,		
						P0973,	P0103, P0106,	P0302, P0303,		
						P0974, P0976	P0107,	P0304,		
						P0977,	P0108, P0171,	P0305, P0306,		
						P1915, P1824	P0172,	P0307,		
						P182C,	P0174, P0175,	P0308, P0335,		
						P182D,	P0201,	P0336,		
						P182F,	P0202, P0203.	P0340, P0345.		
						P0741,	P0204,	P0346,		
						P0742, P2763,	P0205, P0206	P0365, P0366		
						P2764,	P0207,	P0390,		
						P2769, P2770	P0208,	P0391,		
							1 0000,	P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	e condi	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail1st gear low rations Case 1multiplie	r r	0.949951172 Pct					=	2	Sec	One Trip
			1st gear high ratio multiplie	r r	1.050048828 Pct								
			Fail 2nd gear low ration 2 Case 2 multiplie	r r	0.949951172 Pct					=	2	Sec	
			2nd gear high ration multiplie	r r	1.050048828 Pct								
										=	2	counts	
						Ignition Voltage	>=	8	volts				
						Ignition Voltage	<=	18	volts				
						Engine Speed	>=	500	RPM				
						Engine speed between min/max	<= >=	5	Sec				
						Findine Speed Status Valid	=	TRUE					
						Gear Slip	>=	150	RPM				
						Gear Slip Fail Time	>=	0.5	Sec				
						Throttle	>=	8.0002	Pct				
						Engine Torque	>=	50	N*m				
						Output Speed	>=	50	RPM				
						Input Speed	>=	50	RPM				
						4WD Range Timer	>=	6	Sec				
						Range Change Timer	>=	6	Sec				
						PTO Active	=	FALSE					
						Trans Temp	>=	20	С				
						Trans Temp	<=	130	С				
						Engine Torque Signal Valid	=	TRUE					
						Throttle Position Signal Valid	=	TRUE					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976,	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0108,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIM	E REG	UIRED	MIL ILLUM.
						P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770	P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208, P0200, P0300, P0301, P0302,	P0303, P0304, P0305, P0306, P0307, P0308, P0336, P0340, P0346, P0346, P0366, P0366, P0390, P0391, P0391, P0401, P042E				
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail3rd gear low ratio Case 1 3rd gear high ratio multinlier	>= 0.949951172 Pct <= 1.050048828 Pct					=	2	Sec	One Trip
			Fail 4th gear low ratio Case 2 multiplier 4th gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct					=	2	Sec	
									=	2	counts	
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	18	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Gear Slip	>=	150	RPM				
					Gear Slip Fail Time	>=	0.5	Sec				
					Throttle	>=	8.0002	Pct				
					Engine Torque	>=	50	N*m				
					Output Speed	>=	50	RPM				
					Input Speed	>=	50	RPM				
					4WD Range Timer	>=	6	Sec				
					Range Change Timer	>=	6	Sec				
					PTO Active	=	FALSE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQL	JIRED	MIL ILLUM.
					Trans Temp	>=	20	С				
					Trans Temp	<=	130	С				
					Engine Torque Signal Valid	=	TRUE					
					Throttle Position Signal Valid	=	TRUE					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182C, P182E, P182F, P182F, P0741, P0742, P2763, P2764, P2769,	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, P0336, P0345, P0346, P0345, P0346, P0346, P0391, P0401, P0401, P0421				
						12/10	,					Two Trips
Internal Mode Switch (IMS)	P182A	Internal Mode Switch-Circuit A	IMS circuit A low	= TRUE					>=	8	sec	
									>=	1	count	
					Engine Torque	>=	50	N*m				
					Engine Torque	<=	1492	N*m				
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	18	volts				
					Engine Speed	>=	500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE					
					Range = Park for	>=	1	sec				1

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	NS	TIME	REQ	UIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	Disable Conditions:	MIL not Illuminated for DTC's: Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed Status Valid Engine Torque Signal Valid Range = Park for	TCM: None ECM: P0101, P0302, P0303, P0304, P0103, P0306, P0107, P0103, P0304, P0306, P0107, P0306, P0171, P0336, P0172, P037, P0174, P0336, P0175, P0201, P0202, P0346, P0203, P0206, P0204, P0366, P0205, P0206, P0391, P0206, P0207, P0401, P0208, P0206, P0301, >= 50 N [*] >= 500 RF <=	ſm ſm lts PM PM ec ec	>= >=	8	sec count	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONI	DITIONS	TIME REQUIRED	MIL ILLUM.
				Disable	MIL not Illuminated for DTC's	TCM: None ECM: P0101, P0301 P0102, P0302 P0103, P0302 P0106, P0302 P0107, P0305 P0108, P0306 P0171, P0307 P0172, P0308 P0174, P0338 P0175, P0338 P0201, P0340 P0202, P0346 P0203, P0346 P0204, P0366 P0206, P0390 P0207, P0397 P0208, P0391			
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE		P0300, P0421	, E	>= 8 sec	Two Trips
				Disable Conditions	Ignition Voltage Ignition Voltage Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= 8 <= 18 >= 500 <= 6500 >= 5 = TRUE TCM: None ECM: P0335, P0346, P0346, P0346, P0365, P0366, P0390, P0341	volts volts RPM RPM Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE						>=	8	sec	Two Trips
						En sin a Tanana		50	N1*	>=	1	count	
						Engine Torque	>=		IN"M				
							=	8	volts				
						Ignition Voltage	<=	18	volts				
						Vehicle Speed	>=	16	kph				
						1st gear ratio low	>=	2.7528	Ratio				
						1st gear ratio High	<=	3.1672	Ratio				
						2nd gear ratio low	>=	1.5157	Ratio				
						2nd gear ratio High	<=	1.7441	Ratio				
						3rd gear ratio low	>=	0.9301	Ratio				
						3rd gear ratio High	<=	1.0699	Ratio				
						4th gear ratio low	>=	0.6324	Ratio				
						4th gear ratio High	<=	0.7275	Ratio				
					Disable	MIL not Illuminated for DTC's	TCM:						
					Conditions:		P0722,						
							F0723						
							ECM:						
							P0101, P0102,	P0206					
							P0103,	P0207,					
							P0106,	P0208,					
							P0108,	P0300, P0301,					
							P0171,	P0302,					
							P0172, P0174	P0303,					
							P0175,	P0304, P0305.					
							P0201,	P0306,					
							P0202, P0203	P0307, P0308					
							P0204,	P0401,					
							P0205,	P042E					
Internal Mode Switch (IMS)	P1915	Internal Mode Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE	TRUE					>=	2	sec	Two Trips
						Ignition Voltage	>=	8	volts	l			

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

Supporting Tables

Table 1							Units												
	Axis	-40	-25	-10	5	20	Deg												
	Curve	1900	1000	800	520	200	Sec												
		-	-	-	-														
Table 2																			Inite
	Avis	0	6 2/8/7/12	12/0605	18 7/5/2	2/ 0030	31 2/237	37 /008/	13 73032	10 08770	56 23627	62 18171	68 73322	7/ 08160	81 23016	87 / 786/	03 72711	00 07550	
	Curve	624	624	624	624	24.9939	624	624	43.73932	49.90779	624	624	624	624	624	624	93.72711 624	624	(na
	ourve	024	024	024	024	024	024	024	024	024	024	024	024	024	024	024	024	024	ιpa
Table 3											Units								
	Axis	0	64	128	192	256	320	384	448	512	Nm								
	Curve	125	125	125	125	125	125	125	125	125	RPM								
Table 4											Units								
	Axis	-40	-16.25	7.5	31.25	55	78.75	102.5	126.25	150	Deg C								
	Curve	600	400	400	400	400	400	400	400	400	RPM								
Table 5							Units												
	Axis	-40	7.5	55	102.5	150	Deg C												
	Curve	0.1	0.15	0.2	0.3	0.3	Sec												

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
TCM Internal Test	P0601	Error in Flash Memory	Rom Test Fail Counter	>= 5 Counts	Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts	>= 5 Counts	one trip
					Disabling Conditions - MIL not Illuminated for DTCs:	None		
ТСМ	P0603	Error in RAM copy	Non-volatile memory (static or dynamic) checksum failure	= TRUE				
Internal Test		of NVM @ power up			Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		one trip
					Disabling Conditions - MIL not Illuminated for DTCs:	None		
ТСМ	P0604	Test the read/write	Transmission Electro-Hydraulic Control Module Random Access Memory	= TRUE				
Internal Test		capability of each RAM location			Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		one trip
					Disabling Conditions - MIL not Illuminated for DTCs:	None		
ТСМ	P062F	Error in RAM copy	TCM Non-Volatile Memory bit Incorrect flag	= TRUE				
Internal Test		of NVM @ power down			Ignition Voltage Ignition Voltage	>= 11 Volts <= 18 Volts		
								one trip
					Disabling Conditions - MIL not Illuminated for DTCs:	None		
Transmission Fluid Temperature	P0711	Range/Performance	Fail Case 1 TFT TFT Engine Coolant Temp	>= -40 C <= 20 C >= 70 C	Ignition Voltage Ignition Voltage Engine Speed	>= 11 Volts <= 18 Volts >= 500 RPM		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission	D0740	Oinsuit Ulinh Insuit	Terrentiation Child Terrentiation	444.005 k Ohma				
Transmission	P0713	Circuit - High Input	Transmission Fluid Temperature	>= 111.605 K Onms				
Fluid Temperature		(Low Temperature)	Fail Time	>= 25 Sec	Engine Speed Engine Speed Output Speed Slip Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 200 RPM >= 120 RPM >= 11 Volts <= 18 Volts	= 5 Sec = 200 Sec = 200 Sec	N/A Special
					Disabling Conditions - MIL not Illuminated for DTCs:	None		
Input	P0716	Signal - Performance	Input Speed Sensor Delta Drop	>= 1000 RPM				
Speed Sensor	P0/16	Signal - Performance Drop	Fail Time	>= 1000 RPM >= 4 Sec	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Vehicle Speed Input Speed Sensor Throttle Position Input Speed Sensor Delta Engine Torque Engine Torque Disabling Conditions - MIL not Illuminated for DTCs:	>= 450 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 16 Kph > 1050 RPM >= 12 % <= 500 RPM >= 50 N*m <= 450 N*m P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, Engine Torque Valid	= 5 Sec >= 2 Sec >= 2 Sec	two trips
Input Speed Sensor	P0717	Signal - Low Input	Input Speed Sensor Fail Time	< 100 RPM >= 5 Sec	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Vehicle Speed Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 16 Kph >= 50 N*m <= 450 N*m	= 5 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disabling Conditions - MIL not Illuminated for DTCs:	P0717, P0722, P0723, Engine Torque Valid		
					F			
Output Speed	P0722	Signal - Low Input	Output Speed Sensor Fail Time	<= 100 RPM >= 3 Sec				
Sensor					Engine Speed Engine Speed	>= 450 RPM <= 6800 RPM	= 5 Sec	
					Engine Torque Engine Torque	>= 70 N*m <= 450 N*m		
					Throttle Position	>= 12 % >= 1500 RPM		
					Input Speed Sensor	<= 6800 RPM		two trips
					Disabling Conditions -	P0716, P0717, P0722,		
					MIL not illuminated for DICS:	P0723, P0752, P0973, P0974, Engine Torque Valid		
						, vana		
Output	P0723	Signal - Performance	Output Speed Sensor Drop	>= 1300 RPM				
Sensor		ыор	T all Time	2= 3 360	Engine Speed	>= 450 RPM	= 5 Sec	
					Engine Speed	<= 6800 RPM		
					Engine Torque	<= 450 N*m		
					Throttle Position	>= 12 %		
					Input Speed Sensor	>= 1500 RPM <= 6800 RPM		two trips
					Input Speed Sensor Delta	<= 500 RPM	>= 2 Sec	
					Output Speed	>= 1400 RPM	>= 2 Sec	
					Output Speed Delta	<= 500 RPM	>= 2 Sec	
					Disabling Conditions -	P0716, P0717, P0974,		
					MIL not Illuminated for DTCs:	Engine Torque Valid		
Torque	P0741	TCC Slip - High when	Engine Torque	<= 192 N*m	TCC Slip	>= 150 RPM	>= 4 Sec	
Convertor		TCC is commanded	Engine Torque	> 192 N*m	TCC Slip	>= 250 RPM	>= 4 Sec	
Clutch		ON	Fail Counts	>= 2 Counts	Fasing Oracid		5.0	
					Engine Speed	>= 450 KPM <= 6800 RPM	= 5 Sec	
					Ignition Voltage	>= 11 Volts		
					Ignition Voltage	<= 18 Volts		
					Vehicle Speed	>= 16 Kph		
					Engine Torque	>= 55 N*m		

COMPONENT/ SYSTEM	ULT DDE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Throttle Position Throttle Position Transmission Temperature Transmission Temperature TCC Mode TCC Pressure TCC Duty Cycle Transmission Range Transmission Range	<= 450 N*m >= 10 % <= 90 % >= 20 C <= 130 C = Lock or ON >= 200 Kpa >= 80% = D2, D3, D4, D5 > 6 Sec	= 2 Sec = 2 Sec	two trips
					Disabling Conditions - MIL not Illuminated for DTCs:	P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0742, Engine Torque Valid		
Torque P07 Convertor Clutch	0742	TCC Slip - Low when TCC is commanded Off	TCC Slip TCC Slip Fail Timer Fail Counter	>= -20 RPM <= 20 RPM >= 3.5 Sec >= 3 Counts	Engine Torque Engine Torque Engine Speed Engine Speed Ignition Voltage Ignition Voltage Ignition Voltage Throttle Position Transmission Temperature Transmission Temperature TCC Mode Transmission Range Transmission Gear Disabling Conditions - MIL not Illuminated for DTCs:	>= 80 N*m <= 450 N*m >= 500 RPM <= 6800 RPM >= 11 Volts <= 18 Volts >= 12 % <= 90 % >= 20 C <= 130 C = OFF = D5 = 2, 3, 4, or 5 P1791, P1795, P0716, P0717, P0722, P0723, P0752, P0973, P0974, P1822, P1823, P1825, P1826, P1915, P2763,		two trips

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Count	= 3	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor Input Speed Sensor Output Speed Sensor	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM <= 6800 RPM >= 100 RPM	= 5 Sec	two trips
					Disabling Conditions - MIL not Illuminated for DTCs:	P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Shift Solenoid B	P0757	SSB stuck ON This DTC detects abnormal shift pattern 1-2-2-1-1 pattern	Fail Case 7 3rd Gear Commanded Engine Torque Engine Torque Throttle Position	= 2nd Gear Ratio >= 20 N*m <= 450 N*m >= 10 %	Fail Timer		2 Sec	
			Fail Case 8 4th or 5th Gear Commanded Engine Torque Engine Torque Throttle Position	= 1st Gear Ratio >= 12 N*m <= 450 N*m >= 10 %	Fail Timer		2 Sec	
			Fail Count	= 1	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM	= 5 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Input Speed Sensor Output Speed Sensor Disabling Conditions - MIL not Illuminated for DTCs:	<= 6800 RPM >= 100 RPM P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P0741, Engine Torque Valid, Throttle Position Valid,		
Shift Solenoid C	P0761	SSC stuck OFF This DTC detects abnormal shift pattern 1-2-3-5-5 pattern	Fail Case 9 4th Gear Commanded Engine Torque Throttle Position Fail Count	= 5th Gear Ratio >= 36 N*m <= 450 N*m >= 10 % = 2	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage Transmission Temperature Transmission Temperature Transmission Range Input Speed Sensor Input Speed Sensor Output Speed Sensor Output Speed Sensor Disabling Conditions - MIL not Illuminated for DTCs:	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts >= 20 C <= 130 C = Drive >= 200 RPM <= 6800 RPM >= 100 RPM P1791, P1795, P0716, P0717, P0722, P0723, P0742, P0973, P0974, P0976, P0977, P0979, P0980, P1822, P1823, P1825, P1826, P1915, P2763, P2764, P07411, Engine Torque Valid, Throttle Position Valid,	4 Sec = 5 Sec	two trips

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

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Switch					Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque	<= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 55 N*m	>= 1 Sec	two trips
IMS (Range) Switch	P182C	IMS Circuit B High	IMS B Circuit Short to Battery	= True	Fail Timer Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 55 N*m <= 450 N*m	= 4 Sec = 5 Sec >= 1 Sec	two trips
IMS (Range) Switch	P182D	IMS Circuit P Low	IMS P Circuit Short to Ground	= True	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts = Park >= 25 N*m <= 450 N*m	= 5 Sec = 5 Sec >= 1 Sec	two trips
IMS (Range) Switch	P182E	IMS Range is Illegal	IMS State	#NAME?	Fail Timer Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec = 5 Sec	two trips
IMS (Range) Switch	P182F	IMS Circuit C High	IMS C Circuit Short to Battery	= True Disabling (MIL not Illumir	Fail Timer Engine Speed Ignition Voltage Ignition Voltage IMS Range Engine Torque Engine Torque Gear Ratio Vehicle Speed Conditions -	>= 450 RPM <= 6800 RPM >= 8 Volts = Park >= 20 N*m = Valid Drive Ratio >= 8 Kph P1826, P0722, P0723, Valid Engine Torque	= 3 Sec = 5 Sec >= 1 Sec	two trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
IMS (Range) Switch	P1915	IMS Range is Wrong during Startup	IMS State during startup 1st Engine Speed 2nd Engine Speed 3rd Engine Speed	 ≠ Park or Neutral <= 60 RPM = 81 to 625 RPM >= 651 RPM 	Fail Timer Input Speed Transmission Output Speed Ignition Voltage Ignition Voltage	>= 200 RPM <= 100 RPM >= 6 Volts <= 18 Volts	= 5 Sec = .25 Sec = .15 Sec = 1.5 Sec	two trips
				Disabling (MIL not Illumir	Conditions - nated for DTCs:	P0722, P0723		
Transmission Pattern Enable Switch	P1876	Mismatch between Tap Mode Enable Switch and IMS range indication	Transmission Up/Down Switch Transmission Range	= Enable ≠ D5 Disabling 0 MIL not Illumir	Engine Speed Engine Speed Ignition Voltage Ignition Voltage Conditions - nated for DTCs:	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts P1915, P182A, P182C, P182D, P182F, P0815, P0816, P0826	= 5 Sec	N/A Special
Ignition "RUN/CRANK" Voltage	P2534	Circuit - Open / Short to Ground	hardware circuitry detects ground short or open error is true for Time	>= 400 out of 480 Counts (1 cnt every 25 msec)	Engine Running Message	= True		one trip
High Side Driver "2"	P2670	Circuit - Short to Ground	hardware circuitry detects ground short error is true for Time	>= 21 out of 25 Counts (1 cnt every 25 msec)	Engine Speed Engine Speed Ignition Voltage Ignition Voltage	>= 450 RPM <= 6800 RPM >= 8 Volts <= 18 Volts	= 5 Sec	two trips

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFU	UNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIM	IE REG	QUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	<u>Fail</u> Case 1	Substrate Temperature	>=	142.1015625	٥C					>=	5	Fail Time (Sec)	One Trip
			<u>Fail</u> Case 2	Substrate Temperature	>=	50	٥C					>=	2	Fail Time (Sec)	
				Ignition Voltage	>=	18	Volts								
								Substrate Temp Lo	>=	0	°C			ľ	
								Substrate Temp Hi	<=	170	°C			ľ	
								Substrate Temp Between Temp Range for Time	>=	0.25	Sec				
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0634						
									ECM: None						
HWIO	P0658	Actuator Supply Voltage Circuit Low		Open or ground short is detected by hardware circuitry	=	TRUE	Boolean					>=	3	Fail Counts	One Trip
												=	5	Sample Counts	
								Ignition Voltage Lo	>=	8.5996	Volts			ľ	
								Ignition Voltage Hi	<=	18	Volts			ľ	
								Engine Speed Lo	>=	500	RPM			ľ	
								Engine Speed Hi	<=	7500	RPM			ľ	
								Engine Speed is within the allowable limits for	>=	5	Sec				
								HSD #1 Enabled	=	True	Boolear				
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658 ECM:						
									None						
Transmission Fluid Temperature Sensor (TFT)	P0667	TCM internal temperature thermistor failed at a constant value or toggling at high frequency.	<u>Fail</u> <u>Case 1</u>	Enable Vehicle Speed	>=	8	Kph					>=	300	Vehicle Speed Enable Time (Sec)	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		THRESHOLD VALUE SECONDARY PARAMETERS ENABLE CONDITIONS		TIME REQUIRED		IIRED	MIL ILLUM.	
			Enable TCC Slip	^	150	RPM			>=	150 E	TCC Slip Enable Time (Sec)	
			Enable Transmission Fluid Temperature	>=	70	°C					(000)	
			Enable Transmission Fluid Temperature Delta from startup	>=	55	°C						
			Enable Substrate Temp Delta	<	2	٥C			>=	100 E	Temp Delta Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>=	-55	°C					()	
			Temperature HI Enable When Above FC1	<=	21	°C					Foil	
			Enable Conditions have been Met, Increment Fail Timer						>	100	Timer (Sec)	
			<u>Fail</u> <u>Case 2</u> Vehicle Speed	>=	8	RPM			>=	\ 300 E	Vehicle Speed Enable Time (Sec) TCC	
			TCC Slip	>	-12	RPM			>=	-12 E	Slip Enable Time	
			Transmission Fluid Temperature	>=	70	°C					(000)	
			Temperature Delta from startup	>=	55	°C					Temp	
			Enable Substrate Temp Delta	<	2	°C			>=	100 E	Delta Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>=	120	°C						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIN	IE REQ	UIRED	MIL ILLUM.
			Startup Substrate Temperature HI Enable When Above FC2 Enable Conditions have been Met, Increment Fail Timer	<=	150	°C					>	100	Fail Timer (Sec)	
			Fail Case <u>3</u> TCM Internal temp delta	>=	20	℃					>=	14 7	Fail Counts Sample Time (Sec)	
							TCM Internal Temp Lo	>=	-55	°C				
							TCM Internal Temp Hi	<=	150	°C				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18 500					
							Engine Speed Ed	~=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0667,P 0716,P0 717,P07 22,P072 3						
								ECM:						
Transmission Control Module (TCM)	P0668	TCM internal temperature thermistor failed at a high temperature (short to Ground).	TCM Substrate Temp	>=	-249	°C		NUTE			>=	12.75	Fail Timer (Sec)	Special No Trip
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THR	ESHOLD VALUE		SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
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					D	isable	MIL not Illuminated for DTC's:	TCM:						
					Conu	illons.		F0000						
								ECM: None						
Transmission Control Module (TCM)	P0669	TCM internal temperature thermistor failed at a low temperature (open or short to power).	TCM Substrate Temp	<=	249 ⁰C						>=	4	Fail Timer (Sec)	Special No Trip
							TOSS Speed	>=	200	RPM				
							Toss Speed greater than above cal for	>=	200	Sec				
							TCC Slip	>=	-12	RPM				
							TCC Slip greater than above cal	>=	0	Sec				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
					D Cond	isable itions:	MIL not Illuminated for DTC's:	TCM: P0669, P0716, P0717, P0722, P0723 ECM: None						
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	<u>Fail</u> <u>Case 1</u> Vehicle Speed	>=	8 Kph						>=	300	Vehicle Speed Enable Time (Sec)	Special No Trip
			TCC Slip	>=	150 RPM						>=	0	Slip Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Transmission Fluid	>=	-50	°C				
			Transmission Fluid		01	00				
			Temperature High	<=	21	۰ ت				
			Engine Coolant Temp	>=	70	°C				
			Delta	>=	55	°C				
			TFT Delta from Startup	<	2	°C				
			If the Above Enable Conditions are Met, Then Increment Fail						Fail >= 100 Time (Sec)	
			Fail	 					Vehicl	9
			<u>Case 2</u> Vehicle Speed	>=	8	Kph			Speed >= 300 Enable Time) 2
					10	DDM			(Sec) TCC Slip	
			TCC Sip	>=	-12	RPM			>= 0 Enable Time (Sec)	3
			Transmission Fluid Temperature	>=	129	٥C				
			Transmission Fluid Temperature	<=	170	°C				
			Engine Coolant Temp	>=	70	°C				
			Engine Coolant Temp Delta	>=	55	٥C				
									TFT Delte	
			TFT Delta from startup	<	2	٥C			>= 100 Enable Time	9
			If the Above Enable Conditions are Met, Then Increment Fail Counter						Fail >= 100 Time (Sec)	
			Fail. Case 3 TFT Delta	>=	20	°C			= 5 Fail Count Sampl = 7 Time	6
									(Sec)	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE (CONDITIONS	TIME	E REQU	IIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: 1 P0711, F P0716, F P0717, F P0722, F P0723, F P0742, F P2726 F F F F F F F F F F F F F	ECM: 20101, 20102, 20103, 20116, 20117, 20118, 20121, 20121, 20123, 20123, 20336, 20337, 20338				
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	Transmission Fluid Temperature	>= -74 ºC	Innition Voltage La	~_ 8	3 5996 Volts	>= ´	12.75	Fail Time (Sec)	Special No Trip
					Ignition Voltage Hi	>= 0 <=	18 Volts				
					Engine Speed Lo	>=	500 RPM				
					Engine Speed Hi	<=	7500 RPM				
					Engine Speed is within the	<u>.</u>	5 500				
					allowable limits for	2-	5 000				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0712, P0716, P0717, P0722, P0723					
						ECM: None					
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	Transmission Fluid Temperature	>= 174 ºC				>=	10	Fail Time (Sec)	Special No Trip
					Ignition Voltage Lo	>= 8	3.5996 Volts				
					Ignition Voltage Hi	<=	18 Volts				
					Engine Speed Lo	>=	500 RPM				
					Engine Speed Hi	<=	7500 RPM				
					Engine Speed is within the allowable limits for	>=	5 Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIMI	E REQU	JIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0713, P0716, P0717, P0722, P0723 ECM: None						
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 881.75	RPM					>=	0.8	Fail Time (Sec)	One Trip
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Lo Engine Torque Hi Vehicle Speed Throttle Position Engine Torque Signal Valid	, , , , , , , , , , , , , , , , , , ,	8.5996 18 500 7500 5 0 1492 0 0 TRUE TRUE	Volts Volts RPM Sec N*m Kph Pct Boolean Boolean				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0752, P0973, P0974	ECM: P0101, P0102, P0103, P0121, P0122, P0123					
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Transmission Input Speed Sensor	< 50	RPM	Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.5996 18	Volts Volts	>=	4.5	Fail Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQI	UIRED	MIL ILLUM.
					Engine Speed Lo	>=	500	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Engine Torque Lo	>=	50	N*m				
					Engine Torque Hi	<=	1492	N*m				
					Vehicle Speed	>=	16	Kph				
				Disab Condition	le MIL not Illuminated for DTC's: s:	TCM: P0716, P0717, P0722, P0723	ECM: P0101, P0102, P0103					
Transmission Output Spood		Output Spood Sonsor Circuit Low	Transmission Output								Fail	One Trip
Sensor (TOSS)	P0722	Voltage	Speed Sensor Raw	<= 35 RPM					>=	4	Time	
			Speed		Ignition Voltage Lo	>=	8 5996	Volts			(Sec)	
					Ignition Voltage Hi	<=	18	Volts				
					Engine Speed Lo	>=	500	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Engine Torque Lo	>=	50	N*m				
					Engine Torque Hi	<=	1492	N*m				
					Throttle Position	>=	5.0003	Pct				
					Transmission Input Speed Lo	>=	653.13	RPM				
					Transmission Input Speed Hi	<=	5350	RPM				
					Transmission Fluid Temperature	>=	-40	°C				
					Engine Torque Signal Valid	=	TRUE	Boolean				
					Throttle Position Signal Valid	=	TRUE	Boolean				
				Disab Condition	le MIL not Illuminated for DTC's: s:	TCM: P0716, P0717, P0722	ECM: P0101, P0102, P0103, P0121, P0122, P0123					

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	ТІМ	E REQ	UIRED	MIL ILLUM.
			(B) TCC Slip Error @ Lock On Mode If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter	>= 130	RPM Disable Conditions:	Ignition Voltage Lo Ignition Voltage Hi Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi 2nd Gear Ratio High 3rd Gear Ratio High 3rd Gear Ratio High 4th Gear Ratio High 4th Gear Ratio High 5th Gear Ratio Io 5th Gear Ratio Io 6th Gear Ratio High Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi TCC Command Lock ON or ON PTO Not Active Engine Torque Signal Valid MIL not Illuminated for DTC's:	>= <= >= <= >= <= >= <= >= <= >= <= = = =	8.5996 18 50 1492 8.0002 99.998 2.1985 2.5295 1.4248 1.6393 1.0714 1.2327 0.7924 0.9116 0.6204 0.7137 20 130 TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE	Volts Volts N*m Pct Pct Ratio	ж ж	6	Enable Time (Sec) TCC Stuck Off Fail Counter	
							P2763, P2764	-					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRE	ESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	.E CONDI	TIONS	TIN	ЛЕ REC	QUIRED	MIL ILLUM.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed TCC Slip is between above cals when TCC Commanded Off, Increment Fail Timer If Fail Timer has expired, increment Fail Counter	~=	-1	12 13	RPM RPM Disable	Ignition Voltage Lo Ignition Voltage Hi Engine Torque Lo Engine Torque Lo Engine Torque Hi Transmission Fluid Temperature Uo Transmission Fluid Temperature Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Engine Speed Lo Engine Speed Hi Gear Ratio Lo Gear Ratio Lo Gear Ratio Hi Commanded Gear Shift Solenoid A Enabled TCC Command Off Engine Torque Signal Valid MIL not Illuminated for DTC's:	>= <= >= <= >= <= >= <= >= <= >= = = = =	8.5996 18 115 1492 20 130 8.0002 2.9999 16 500 6500 0.6204 1.6393 2nd TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE	Volts Volts N*m N*m °C °C Pct Pct Pct RPM RPM Ratio Ratio Gear Boolear Boolear Boolear	>=	2.5	Fail Time (Sec) Fail Counter	One Trip
									P1751, P2762, P2763, P2764	,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLE	E COND	ITIONS	ТІМ	IE REQ	UIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip Commanded Gear Closest Gear Ratio) >=	200 1st Lock 4th	RPM rpm Gear Disable Conditions:	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for TPS Shift is Complete AND Transmission Fluid Temperature 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	>= <= >= >= = = TCM: P0716, P0717.	8.5996 18 500 7500 5 0.5005 0 0 TRUE TRUE TRUE TRUE TRUE ECM: P0122	Volts Volts RPM Sec % °C RPM Boolean Boolean Boolean	<i>≠</i> >=	0	Neutral Timer (Sec) Fail Timer (Sec)	Two Trips
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip) >=	200	Rpm		P0717, P0722, P0723, P182E	P0122, P0123		 	Please Refer to Table 7 in Support ing Docum ents	Neutral Timer (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
			Attained Gear	¥	3rd	Gear						
			Commanded Gear	=	3rd	Gear						
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd	=	TRUE	Boolean						
			C456/CBR1 Pressure Switch Error	=	TRUE	Boolean						
							Ignition Voltage Lo	>=	8.5996	Volts		
							Ignition Voltage Hi	<=	18	Volts		
							Engine Speed Lo	>=	500	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							High-Side Driver is Enabled	=	TRUE	Boolean		
							Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Output Speed	>=	0	RPM		
							OR					
							TPS	>=	0.5005	%		
							Shift is Complete					
							Transmission Fluid Temperature	>=	0	°C		
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717,	ECM: P0121, P0122,			
								P0722, P0723, P182E	P0123			
	Dorre		Fail a state		1st Locked or							One Trip
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Case 1 Commanded Gear	=	1st FW							
			0		200						Please Refer to Table 7 in Timer	
			Gear Box Slip	>=	200	КРМ					>= Support ing Docum ents	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFU	JNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFU <u>Fail</u> <u>Case 2</u>	INCTION CRITERIA Commanded Gear Gear Box Slip Closest Gear Ratio	= <= =	THRESHOLI 2nd 200 2nd	D VALUE Gear RPM Gear	SECONDARY PARAMETERS Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Lo Engine Speed is within the allowable limits for Output Speed OR TPS Shift is Complete Transmission Fluid Temperature High-Side Driver is Enabled Throttle Position Signal Valid from ECM	ENABLE >= <= >= >= >= >= = =	E CONDI 8.5996 18 500 7500 5 0 0.5005 0 TRUE TRUE	Volts Volts RPM Sec RPM % % C Boolean Boolean	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	<u>Fail</u> Case 1	Case: Steady State 3rd Gear			Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E	ECM: P0121, P0122, P0123			One Trip
				Commanded Gear Gearbox Slip Intrusive Test:	-	3rd 200	Gear Rpm					Please Refer to Table 7 Neutral Support ing Docum ents	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If attained Gear=4th gear for Time	Table Based Time Please >= Refer to Table 4 in supporting documents				
			It the above conditions are true, Increment Sum and Fail counters				>= 2 3rd Gear Fail Counts 3-5R >= 14 Clutch Fail	
			Fail Case: Steady State 5th Case 2 Gear Commanded Gear	= 5th Gear			Counts	
			Gearbox Slip	>= 200 Rpm			Please Refer to Table 7 Neutral Support ing Docum	
			Intrusive Test: Command 6th Gear				ents	
			If attained Gear=6th gear Time	>= Refer to Table 4 in supporting documents				
			It the above conditions are true, Increment Sum and Fail counters				5th Sear Fail Counts 3-5R	
					PRNDL State defaulted	= FALSE Boolean	>= 14 Clutch Fail Counts	
					PRNDL State defaulted inhibit RVT	= FALSE Boolean = FALSE Boolean		

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALF	UNCTION CRITERIA	٦	HRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQ	UIRED	MIL ILLUM.
			<u>Fail</u> <u>Case 2</u>	Case: Steady State 2nd gear Closest Gear Ratio Neutral Time Intrusive test: (CB26 clutch	= ≠	3rd 0	Gear Sec							
			Fail	exhausted) 3rd closest gear Case: Steady State 4th	=	TRUE						>= 1.1	Fail Timer (Sec)	
			Case 3	gear										
				Closest Gear Ratio	= ∡	3rd	Gear							
				Intrusive test: (C456 clutch exhausted)	+	0	Sec							
				3rd closest gear	=	TRUE						>= 1.1	Fail Timer (Sec)	
			<u>Fail</u> Case 4	Case: Steady State 6th gear									()	
				Closest Gear Ratio	=	5th	Gear							
				Neutral Time Intrusive test: (CB26 clutch exhausted)	¥	0	Sec						Feil	
				5th closest gear	=	TRUE						>= 1.1	Fail Timer (Sec)	
								PRNDL State defaulted	=	FALSE			()	
								inhibit RVT	=	FALSE				
								IMS fault pending indication	=	FALSE				
								output speed	>=	0	RPM			
								TPS validity flag	=	TRUE				
								Hydraulic_System_Pressurized	=	IRUE	Nm			
									>=	U	INIII			
								(A) Output speed enable	>=	16	Nm			
								(B) Accelerator Pedal enable	>=	0.5005	Nm			
								Ignition Voltage Lo	>=	8.5996	Volts			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (3-5 shifting with Throttle) fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1 (5-3 shifting with Closed Throttle) fail timer 1 (5-3 shifting with Closed Throttle) fail timer 1 (5-4 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle)	$ \begin{cases} 1 \\ th \\ e \\ e \\ e \\ 1 \\ ad \\ ed \\ e \\$			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referenc e Support ing Table 17 for Fail Timer 2	
				1	Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault	> 0 °C = FALSE Boolean = FALSE Boolean		

COMPONENT/ SYSTEM FAULT MONITOR STR CODE DESCRIPT	ATEGY MALFUNCTION CRITERIA ON	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS) Variable Aleed Solenoid (VBS)) Solenoid C ady State) Solenoid C <u>Gear Si</u> Case 1 Case: Steady State 4 Gear Si Intrusive tes commanded 5th gear If attained Gear #5th fo tim Increment 4th Gear Fa Counter and C456 Fa Counter	Disable Conditions: p >= 200 RPM t: r p >= 200 RPM Table Based Time Please Refer to Table 4 in supporting documents	Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	 Ist FW Boolear TRUE Boolear 350 RPM 200 RPM 0 °C FALSE Boolear FALSE Boolear FALSE Boolear TRUE Boolear 	Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal } >= 2 4th Gear Fail Count	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case: Steady State 5th Case 2 Gear Gear slip	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			commanded 6th gear If attained Gear ≠ 6th for time	Table Based Time Please >= Refer to Table 4 in supporting documents			5th	
			Increment 5th Gear Fail Counter and C456 Fail Counters Fail Case: Steady State 6th				>= 2 Gear Fail Count C456 >= 14 Fail Counts	
			<u>Case 3</u> Gear Gear slip	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			commanded 5th gear If attained Gear ≠ 5th for time	Table Based Time Please >= Refer to Table 4 in supporting documents				
			Increment 6th Gear Fai Counter and C456 Fail Counters				6th >= 2 Gear Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V.	ALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQUII	RED	MIL ILLUM.
										>=	14 C	2456 Fail ounts	
						PRNDL State defaulted	=	FALSE	Boolean	n			
						inhibit RVT	=	FALSE	Boolean	ı			
						IMS fault pending indication	=	FALSE	Boolean	ı			
						TPS validity flag	=	TRUE	Boolean	n			
						Hydraulic System Pressurized	=	TRUE	Boolean	n			
						Minimum output speed for RVT	>=	0	RPM				
						A OR B							
						(A) Output speed enable	>=	16	RPM				
						(B) Accelerator Pedal enable	>=	0.5005	Pct				
						Common Enable Criteria							
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						Throttle Position Signal valid	=	TRUE	Boolean	n			
						HSD Enabled	=	TRUE	Boolean	ı			
					Disable	MIL not Illuminated for DTC's:	TCM:	ECM:					
					Conditions:		P0716, P0717, P0722, P0723, P1825	P0121, P0122, P0123					
			Fail				FIOZE						One Trip
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Case 1 Case: Steady State 1st Lock										
			Commanded Gear slip	<= 33 F	RPM								
			If the Above is True for Time	Table Based Time Please >= Refer to Table 6 (in supporting documents	Enable Time Sec)								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted)							
			4th closest gear	= TRUE					Fail >= 1.1 Timer (Sec)	
			Fail Case 2 Case Steady State 2nd							
			4th closest gear	= TRUE	Boolean					
			Neutral Time	≠ 0	Sec					
			Intrusive test: (CB26 clutch						Fail >= 1.1 Timer	
			exhausted)						(Sec)	
			4th closest gear	= TRUE	Boolean					
			<u>Fail</u> Case Steady State 3rd							
			4th closest gear	= TRUE	Boolean					
			Closest Gear Ratio	= 3rd	Gear					
			Neutral Time	≠ 0	Sec					
			Intrusive test: (C35R clutch exhausted)							
			4th closest gear	= TRUE	Boolean				Fail >= 1.1 Timer (Sec)	
						PRNDL State defaulted	=	FALSE Boolean		
						inhibit RVT	=	FALSE Boolean		
						IMS fault pending indication	=	FALSE Boolean		
						output speed	>=	0 RPM		
						Crank Enable Criteria is met	=	TRUE Boolean		
						Hydraulic System Pressurized	=	TRUE Boolean		
						Minimum output speed for RVT	>=	0 RPM		
						A OR B	-	0 10 10		
						(A) Output speed enable	>=	16 RPM		
						(B) Accelerator Pedal enable	>=	0.5005 Pct		
					Dieablo	MIL not Illuminated for DTClev	TCM			
					Conditions:	mic not munimated for DTC S.	P182E			
							ECM:			
							None			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail Timer 1 + Fail Timer 2) See Below Enable Timers for Fail Timer 1, and Referen ce Support ing Table 17 for Fail Timer 2	
				Disable Conditions:	Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	 > 0 °C = FALSE Boolea = FALSE Boolea ≠ 1st FW Boolea = TRUE Boolea >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolea = FALSE Boolea = FALSE Boolea = TRUE Boolea = TRUE Boolea 	n n n n n	

IPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Т	HRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLE	COND	ITIONS	TIME	REQUIRED	MIL ILLUM.
Up Tap Down Switch	P0815	Upshift Switch Circuit	Fail Tap Up Switch Stuck ir Case 1 the Up Position in Gear 1	ר 1 =	0	Boolean	Time Since Last Range Change	>=	1	Enable Time			Special No Trip
D)			Enabled	4	-		· · · · · · · · · · · · · · · · · · ·			(Sec)			
			Tap Up Switch Stuck in the Up Position in Gear 2	ר כ –	0	Boolean							
			Enabled		0	Doolcan							
			Tap Up Switch Stuck in	n									
			the Up Position in Gear 3 Enabled	3 =	0	Boolean							
			Tap Up Switch Stuck in	1									
			the Up Position in Gear 4	4 =	0	Boolean							
			Enabled Tap Up Switch Stuck in										
			the Up Position in Gear 5	5 =	0	Boolean							
			Enabled	t d									
			Tap Up Switch Stuck in the Up Position in Gear 6	n 3 =	0	Boolean							
			Enabled	t	Ū	20010411							
			Tap Up Switch Stuck in	ר	4	Deslass							
			the Up Position in Neutral Enabled	1 = 1	I	Boolean							
			Tap Up Switch Stuck in	1									
			the Up Position in Park	< =	1	Boolean							
			Tap Up Switch Stuck in	ג ר									
			the Up Position in	n =	0	Boolean							
			Reverse Enabled	b								Foil	
			Tap Down Switch ON	N =	TRUE	Boolean					>=	1 Time (Sec)	
			Fail Tap Up Switch Stuck in	1						Enable			
			Case 2 the Up Position in Gear 1	1 =	1	Boolean	Time Since Last Range Change	>=	1	Time			
			Enableo Tan Lin Switch Stuck in							(Sec)			
			the Up Position in Gear 2	2 =	1	Boolean							
			Enabled	t l									
			Tap Up Switch Stuck in the Up Position in Gear 2	ר 2 –	1	Boolean							
			Enabled			Doolcan							
			Tap Up Switch Stuck in	n									
			the Up Position in Gear 4	4 =	1	Boolean							
			Tap Up Switch Stuck in	L N									
			the Up Position in Gear 5	5 =	1	Boolean							
			Enabled	d									
			the Up Position in Gear 6	5 =	1	Boolean							
			Enabled	t l									

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIM	E REQU	JIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in	= 0	Boolean								
			the Up Position in Park Enabled	= 0	Boolean								
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0	Boolean							Fail	
			Tap Down Switch ON	= TRUE	Boolean					>=	600	Time (Sec)	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met										
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0815, P182F						
							P1761 ECM: None						
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Stuck Case 1 in the Down Position in Gear 1 Enabled	= 0	Boolean	Time Since Last Range Change	>=	1	Sec				Special No Trip
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 0	Boolean								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	DLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Park Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Reverse Enabled	= 0	Boolean				
			Tap Down Switch ON	= TRUE	Boolean			>= 1 sec	
			FailTap Down Switch Stuck Case 2in the Down Position in Gear 1 Enabled	= 1	Boolean	Time Since Last Range Change	>= 1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 1	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	LD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	ie reqi	JIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 1	Boolean								
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0	Boolean								
			Tap Down Switch ON	= TRUE	Boolean					>=	600	sec	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met										
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0816, P182E, P1761 ECM: None						
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No Trip
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
		1		1		Engine Speed Lo	>=	500	RPM				1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME RE	QUIRED	MIL ILLUM.
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the	>=	5	Sec			
				Disable	MIL not Illuminated for DTC's:	TCM:					
				Conditions:		P0826, P1761					
						ECM.					
						None					
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulio pressure	<= 50 KPa							Special No Trip
		-	Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal Sec							
			Check for Switch to be in							5 -11	
			delay, If so then						>= 18	Fail Counts	
			Increment Fail Counter		Transmission Fluid Temperature						
					Lo	>=	0	°C			
					Transmission Fluid Temperature Hi	<=	120	٥C			
					Ignition Voltage Lo	>=	8.5996	Volts			
					Ignition Voltage Hi	<=	18	Volts			
					Engine Speed Lo	>=	500	RPM			
					Engine Speed Hi Engine Speed is within the	<=	7500	RPM			
					allowable limits for	>=	5	Sec			
				Disable	MIL not Illuminated for DTC's:	TCM:					
				Conditions:		P0711,					
						P0712, P0713,					
						P0973, P0974					
						P0976,					
						P0977, P1915,					
						P182E					
						ECM:					
						none					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	E REQUI	IRED	MIL ILLUM.
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter	<= 50 >= See Table 8 fo Delay Timer Ca	KPa ^{or} Sec al	Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo		0 120 8.5996 18 500	°C °C Volts Volts RPM	>=	5 c	Fail Counts	Special No Trip
					Disable	Engine Speed Ed Engine Speed Hi Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= >= TCM:	500 7500 5	RPM Sec				
					Conditions:		P0711, P0712, P0713, P0973, P0974, P0976, P0977, P1915, P182E ECM: None						
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE	Boolean	P0962 Test Enabled Ignition Voltage Lo Ignition Voltage Hi	= >= <=	TRUE 8.5996 18	Boolean Volts Volts	>=	0.3 S 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	TH	IRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIN	1E REQI	UIRED	MIL ILLUM.
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the		5	Soc				
							allowable limits for	>=	5	360				
							Line Pressure Control Solenoid Enabled	=	TRUE	Boolean				
						Disable	MIL not Illuminated for DTC's:	TCM:						
						Continuona.		F 0302						
								ECM:						
								None						
Variable Bleed Solenoid	P0966	Pressure Control (PC) Solenoid B	Hardware circuitry	_	TRIIE	Boolean						03	Fail	One Trip
(VBS)	r 0300	Control Circuit Low Voltage	detects ground short	-	INCL	DUDEan						0.5	(Sec)	l l
												0 375	Sample	
											_	0.575	(Sec)	
							P0966 Test Enabled	=	TRUE	Boolean				l l
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							allowable limits for	>=	5	Sec				
							Line Pressure Control Solenoid	=	TRUE	Boolean				
							Enabled							
						Disable	MIL not Illuminated for DTC's:	TCM:						
						Conditions:		P0966						l I
								ECM:						l
								None						
Variable Bleed Solenoid	DOOCT	Pressure Control (PC) Solenoid B	Hardware circuitry		TDUE	Dealast							Fail	One Trip
(VBS)	P0967	Control Circuit High Voltage	detects open circuit or power short	=	IRUE	Boolean					>=	0.3	lime (Sec)	
												0.075	Sample	
											=	0.375	(Sec)	
							P0967 Test Enabled	=	TRUE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIN	/IE REQ	UIRED	MIL ILLUM.
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0967						
							EOM.						
							None						
Variable Bleed Solenoid	D0070	Pressure Control (PC) Solenoid C	Hardware circuitry		Pooloon						0.2	Fail	One Trip
(VBS)	F0970	Control Circuit Low Voltage	detects ground short	= IROE	DUDIEdIT					>=	0.5	(Sec)	
										_	0 275	Sample	
										-	0.575	(Sec)	
						P0970 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0970						
							FOM:						
							None						
Variable Blood Selencid		Prossura Control (PC) Salanoid C	Hardware circuitry									Fail	One Trip
(VBS)	P0971	Control Circuit High Voltage	detects open circuit or	= TRUE	Boolean					>=	0.3	Time (Soc)	
			power shore									(Sec) Sample	
										=	0.375	Time (Soc)	
						P0971 Test Enabled	=	TRUE	Boolean			(380)	
						Ignition Voltage Lo	>=	8.5996	Volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E COND	TIONS	TIM	IE REG	UIRED	MIL ILLUM.
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the		F	C a a				
						allowable limits for	>=	Э	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0971 ECM:						
							None						
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	Hardware circuitry detects ground short	= TRUE	Boolean					>=	1.2	Fail Time (Sec) Sample	One Trip
										=	1.5	(Sec)	
						P0973Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable	MIL not Illuminated for DTC's:	TCM:						
					Conditions:		P0973						
							ECM:						
							None						
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High	Hardware circuitry detects open circuit or power short	= TRUE	Boolean					>=	1.2	Fail Time (Sec) Sample	Two Trips
										=	1.5	Time	
						P()974 Test Fnabled		TRUF	Boolean			(Sec)	
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	_D VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIM	E REQI	UIRED	MIL ILLUM.
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the	~-	5	Sec				
						allowable limits for	/=	0	000				
					D		TOM						
					Disable Conditions:	MIL not illuminated for DIC's:	P0974						
							ECM:						
							None						
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low	Hardware circuitry detects ground short	= TRUE	Boolean					>=	1.2	Sec	One Trip
										=	1.5	Sec	
						P0976 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the	>=	5	Sec				
						allowable limits for							
					Disable	MIL not Illuminated for DTC's:	TCM.						
					Conditions:		P0976						
							ECM						
							None						
			Hardware circuitry										One Trip
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit	detects high pressure	= TRUE	Boolean					>=	1.2	Sec	one mp
		i ligit	error										
										=	1.5	Sec	
						P0977 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0977 ECM: None			
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter If Slip is Greater than the Above Cal Increment Fail Sample	>= 100	RPM				= 5 Fail Counts Fail = 5 Sample S	Two Trips
						Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	=	1 Second	s	
						Attained Gear Slip	>=			
						M2 Solenoid is Commanded On Current Gear ≠ 2nd Gear	= ≠	2nd Gear Gear		
						Calculated line pressure is	>=	1300 kPa		
						The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<=	110 RPM		
						Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	=	0.5 Sec		
						Upshift is In Progress	=	FALSE Boolea	n	
						Input Speed Sensor Signal	>=	1175 RPM		
						The torque converter clutch has transition from Locked to Unlocked.	=	TRUE Boolea	n	
						TCC Stuck On Enable Criteria:				
						Gear Ratio	<=	1.6393 Ratio		
						Gear Ratio	>=	0.6204 Ratio		
						Engine Speed Hi	<=	6500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	КРН		
					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	>=	8191	Nm		
					Down Shift In Progress	=	FALSE	Boolean		
					Current Gear ≠ 1st Gear Locked	¥	1st Gear Locked	Boolean		
					Engine Torque Hi	<=	1492	Nm		
					Engine Torque Lo	>=	115	Nm		
					Current Range ≠ Reverse	¥	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	20	٥C		
					PTO Active	=	FALSE	Boolean		
					Common Enables:					
					Vehicle Speed Calculated from TOSS	<=	511	KPH		
					Ignition Voltage	>=	8.5996	V		
					Ignition Voltage	<=	18	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	500	RPM		
					Engine Speed is within the	<= >=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
				Disable	MIL not Illuminated for DTC's:	TCM:	ECM:			
				Conditions:		P0716,	P0101,			
						P0717, P0722,	P0102, P0103,			
						P0723,	P0121,			
						P0741, P0742.	P0122, P0123			
						P1751,				
						P2763, P2764				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION	CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIM	IE REQ	UIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit	Seria Corruj	Data Signal is pted or Missing	=	TRUE	Boolean					>=	3 10	Fail Counter Sample Timer	Special No Trip
								Rolling Count Diagnostic Enabled	=	TRUE	Boolean			(000)	
								Tap Up Tap Down Message Health	=	TRUE	Boolean				
								Ignition Voltage Lo	>=	8.5996	Volts				
								Ignition Voltage Hi	<=	18	Volts				
								Engine Speed Lo	>=	500	RPM				
								Engine Speed Hi	<=	7500	RPM				
								Engine Speed is within the allowable limits for	>=	5	Sec				
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
									ECM						
									None						
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid	<u>Fail</u> <u>Case 1</u>	Current range	=	"Transitional 1"	Range State								One Trip
				Previous range	!=	CeTRGR_PRN DL_Drive6	Range State								
				Previous range	!=	CeTRGR_PRN DL_Drive5	Range State								
			Eithe P indic	er the S1 or S3 ressure Switch ates "Pressure Present"	=	TRUE	Boolean								
			Stead	y State Engine Torque	>=	-50	Nm								
			Stead	y State Engine Torque	<=	1492	Nm								
			If the ab are pre If Fail Tim	ove conditions sent Increment Fail Timer her has Expired	>=	0.225	Seconds							Foil	
			then	Increment Fail Counter								>=	15	Fail Counts	
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLI	E CONDITIONS	TIME REG	QUIRED	MIL ILLUM.			
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			Fail Current range Case 2 S3 Pressure Switch indicates "Pressure Present" Commanded Gear))) r =	"Transitional 1 FALSE 1st Locked	" Range State Boolean Gear									
			If the above conditions are present Incremen Fail Timer If Fail Timer has Expired then Increment Fai Counter	s t >= r d il r	0.225	Seconds				>= 15	Fail Counts				
			Fail Case 3 Current range	e =	"Transitional 13	"	Previous range	!=	CeTR GR_P RNDL_ Drive5						
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	} } €	TRUE	Boolean	Previous range	!=	CeTR GR_P RNDL_ Drive5						
			Engine Torque	e >=	-1492	Nm									
			Engine Torque	÷ <=	1492	Nm	the "IMS 7 Position" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"								
			If the above conditions are present Incremen Fail Timer If Fail Timer has Expired then Increment Fai Counter	s t >= d il	0.225	Seconds				>= 15	Fail Counts				
			Fail Case 4 Current range	9 =	"Transitional 2 or "Transitional	"									
			Either the S1 or S3 Pressure Switch indicates "Pressure Present")) =	8" TRUE	Boolean									
			Steady State Engine Torque	; ;	-50	Nm									
			Steady State Engine Torque The above conditions	; ; ;	1492	Nm									
			are present for	r r	0.225	Seconds									

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIM	E REG	UIRED	MIL ILLUM.
			If the above Conditions have been met, Increment Fail Counter						>=	15	Fail Counts	
			FailCase 5Current range	= "Illegal"		A Open Circuit Definition:						
			or			Last Valid Range State	¥	"Neutr al, Transiti onal 8, or Transiti onal 11"				
			ECM Park/Neutral Message	= "Park/Neutral"		and						
			and			Previous transitional state	¥	"Illegal"				
			Current Range	≠ Park or Neutral		and		-				
			or			PRNDL Circuit A	=	Open Circuit				
			ECM Park/Neutral Message	≠ "Park/Neutral"		PRNDL Circuit B	=	Closed Circuit				
			and			PRNDL Circuit C	=	Open Circuit				
			Current range	Park, Neutral, Reverse, = Transitional 8, or Transitional 11		PRNDL Circuit P	=	Open Circuit				
			and									
			A Open Circuit (See Definition)	= FALSE	Boolean							
			If the above Conditions are present, Increment Fail timer						>=	2	Seconds	
			Fail Current PRNDL State	= "Reverse"								
			and	"D eiter 4"	Danas							
			Last Previous valid state If the above Conditions are present, Increment Fail timen	= "Drive 4"	ĸange				>=	2	Seconds	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME F	REQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range TUTD/MUMD Mode is Selected Enable Switch is Active The above conditions are present for	✓ CeTRGR_PRN DL_Drive6 = TRUE = TRUE = TRUE	Disable Conditions: Range State Boolean Boolean Boolean	Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for MIL not Illuminated for DTC's: Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= <= >= TCM: P182E, P0723 ECM: P0101, P0102, P0102, P0102, P01023 P0121, P01023 P0123 P0123	8.5996 18 511 500 7500 5 3 8 8.5996 18 511 500 7500 5	Volts KPH RPM Sec Sec	>=	Fail 2 Time (Sec)	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQI	UIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0816, P0826, P182E, P1876, U0100 ECM: None						
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is The following events must occur Sequentially	¥	Park or Neutral	Enumeration								One Trip
			Initial Engine speed Engine Speed Between Following Cals	<=	50	RPM					>=	0.25 0.0688	Enable Time (Sec) Enable Time	
			Engine Speed Lo Hist	>=	50	RPM							(Sec)	
			Engine Speed Hi Hist	<=	480	RPM								
			Then											
			Final Transmission Input Speed	>=	525	RPM					>=	1.25	Fail Time (Sec)	
							PRNDL State is	¥	Park or Neutral	Enume ration				
							DTC has Ran this Key Cycle?	=	FALSE	Boolear	n			
							Ignition Voltage Lo	>=	8.5996	V				
							Ignition Voltage Hi	<=	18	V				
							Transmission Output Speed	<=	90	rpm				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723,F 1915	5					
								None						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABL	E CONDITIONS	ті	ME REC	QUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Ignition Voltage to TCM	< 6	6 Volts				>=	280 280	Fail Counts Sample Counts	One Trip
						Normal CAN Comm Enabled	=	TRUE Boolean	n		oounto	
						Engine Running Flag From ECM	=	TRUE Boolean	n			
						Run Crank Diag Enabled	=	TRUE Boolean	n			
					Disab Condition	e MIL not Illuminated for DTC's:	TCM: None					
							ECM: None					
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case: Steady State 2nd Case 1 Gear Gear slip Intrusive test: Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time If Above Conditions have been met, Increment Fail Counter and Sum Counters Counters Fail Case: Steady State 6th Case 2 Gear	>= 20 Table I Time Ple >= Table Suppo Docun	00 RPM Based Pase see Pat in Enable Time Orting (Sec) ments				>=	Please See Table 7 For Neutral Time Cal	2nd Gear Fail CB26 Fail Count CB26 Fail Count	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	5 TIN	/IE REQL	JIRED	MIL ILLUM.
			Gear slip Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	>= 200 RPM Table Based Time Please see Table 4 in Supporting Documents Sec)	PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid		FALSEBooleaFALSEBooleaFALSEBooleaTRUEBooleaTRUEBoolea0RPM16RPM0.5005Pct18Volts18Volts18Volts19RPM500RPM5SecTRUEBoolea	>= >= >=	Please See Table 7 For Neutral Time Cal 2 14	Neutral Timer (Sec) 5th Gear Fail Count Total Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE S		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0716, P0121, P0717, P0122, P0722,, P0123 P0723, P182E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 15 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status	= = ≠	TRUE Maximum pressurized Clutch exhaust command Initial Clutch Control	Boolean				One Trip
			Attained Gear Slip	<=	40	RPM				
			Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-1 shifting without	>=	1.200195313 1.200195313	Fail Time (Sec) 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)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD V	/ALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQUI	RED	MIL ILLUM.
			fail timer 1 (6-4 shifting without throttle)	>=	1.200195313	Fail Time (Sec)							
			fail timer 1 (6-5 shifting with throttle)	>=	1.200195313	Fail Time (Sec)							
			fail timer 1 (6-5 shifting without throttle)	>=	1.200195313	Fail Time (Sec)							
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers								Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Referen ce Support ing Table 17 for Fail Timer 2	sec	
							Trans oil temperature	>		°C Booloop			
							output speed sensor fault	=	FALSE	Boolean			
							Command / Attained Gear	¥	1st FW	Boolean			
							High Side Driver ON	=	TRUE	Boolean			
							output speed limit for TUT	>=	350	RPM			
							input speed limit for TUT	>=	200	RPM			
							TUT Enable temperature	>=	0	°C			
							PRNDL state defaulted	=	FALSE	- Boolean			
							IMS Fault Pending	=	FALSE	Boolean			
							Service Fast Learn Mode	=	FALSE	Boolean			
							HSD Enabled	=	TRUE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION	CRITERIA	THRESHOLD VALUE SE		SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E ECM: None		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	<u>Fail</u> Case 1 Case: S Comma	teady State 1st Inded Gear slip	<= 33 Table Based Time Please see >= Table 6 in	MPH ⁹ Enable Time				One Trip
			Fail Case: S	Intrusive test: Exhaust CBR1) If closest gear teady State 3rd	= 2nd	(Sec) Gear			>= 1.1 sec	
			<u>Case 2</u> (Gear If Closet gear Intrusive test: Exhaust C35R) If Closet gear	= 2nd = 2nd	gear gear			>= 1.1 sec	
			<u>Fail</u> Case: S <u>Case 3</u> (E	teady State 4rd Gear If Closet gear Intrusive test: Exhaust C1234)	= 6th	gear			>= 11 sec	
			<u>Fail</u> Case: S <u>Case 4</u>	teady State 5th Gear If Closet gear Neutral Time Intrusive test:	= 6th ≠ 0	gear sec				
			(Exhaust C35R) If Closet gear	= 6th	gear	Trans oil temperature Input Speed Sensor FA or TFTKO	> 0 °C = FALSE Boolean	>= 1.1 sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE S		SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQU	JIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE	Disable Conditions: Boolean Disable Conditions:	output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled MIL not Illuminated for DTC's: Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	= ≠ = = = = TCM: P182E ECM: None >= <= >= <= TCM: P2720	FALSE 1st FW TRUE 350 200 0 FALSE FALSE FALSE TRUE 8.5996 18 500 7500	Boolean Boolean RPM RPM ©C Boolean Boolean Boolean Boolean Boolean Boolean Roolean Roolean	>= (0.3	Fail Time (Sec) Sample Time (Sec)	One Trip
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE	Boolean		ECM: None			>= = (0.3).375	Fail Time (Sec) Sample Time (Sec)	One Trip

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

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIN	1E REQ	UIRED	MIL ILLUM.
								>=	14	C1234 Total Fail Count	
			<u>Fail</u> Case: Steady State 4th <u>Case 4</u> Gear						Please		
			Gear slip	>= 200 RPM				>=	Table 7 For Neutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear								
			If attained Gear = 5th For Time	Table based Timer, Please See Table 4 in Supporting Documents							
			If Above Conditions have been met, Increment Fail Counter and Sum Counters					>=	2	4th Gear Fail Count	
								>=	14	Total Fail Count	
					PRNDL State defaulted	=	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				
					(D) Accelerator Pedal enable Common Enable Criteria	>=	0.0005 PCt				
					Ignition Voltage Lo	>=	8.5996 Volts				
					Ignition Voltage Hi	<=	18 Volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid MIL not Illuminated for DTC's:	>= <= = TCM: P0716, P0717, P0722, P0723, P182E	500 7500 5 TRUE ECM: P0121, P0122, P0123	RPM RPM Sec Boolean		One Trip
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip fail timer 1 (2-6 shifting with throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting with throttle)	+ + , , , , ,	TRUE Maximum pressurized Clutch exhaust command Initial Clutch Control 40 1.200195313 1.200195313 1.200195313	Boolean RPM sec sec sec						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (4-5 shifting with throttle)	>=	1.200195313 sec						
			fail timer 1 (4-5 shifting without throttle)	>=	1.200195313 sec						
			fail timer 1 (4-6 shifting with throttle)	>=	1.200195313 sec						
			fail timer 1 (4-6 shifting without throttle)	>=	1.200195313 sec						
			If attained gear has been met then increment fail timers							Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Referen ce Support ing Table 19 for Fail Timer 2	
						Trans oil temperature	> =	0 FALSE	٥C		
						output speed sensor fault	=	FALSE			
						Command / Attained Gear	≠	1st FW			
						High Side Driver ON	=	TRUE			
						output speed limit for TUT	>=	350	RPM		
						Input speed limit for TUT	>=	200	KPM 0C		
							>=		ŗ		
						PRINDL State defaulted	=	FALSE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	OLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	ТІМ	E REQI	JIRED	MIL ILLUM.
						IMS Fault Pending	=	FALSE				
						Service Fast Learn Mode	=	FALSE				
					Disable	MIL not Illuminated for DTC's:	TCM:					
					Conditions:		P182E					
							ECM:					
							None					
) (ariable Diard Oalaraid									-			Ono Trin
(VBS)	P2724	Stuck On	Case: 5th Gear									One mp
· · · ·			Closest Gear	= 4th	gear							
			Neutral Time	≠ 0	Sec							
			Fail Intrusive test:									
			Case 1 (C35R clutch exhausted)									
			If closest gear	= 4th	Gear				>=	1.1	sec	
			Case: 6th Gear									
			Closest Gear	= 4th	gear							
			Neutral Time	≠ 0	Sec							
			FailIntrusive test: Case 2(CB26 clutch exhausted)									
			If closest gear	= 4th	Gear				>=	1.1	sec	
						output speed	>=	0 RPM				
						PRNDL State defaulted	=	FALSE Boolean				
						inhibit RVT	=	FALSE Boolean				
						IMS fault pending indication	=	FALSE Boolean				
						TPS validity flag	=	TRUE Boolean				
						output speed	>=	0 RPM				
						Ignition Voltage Lo	>=	8.5996 Volts				
						Ignition Voltage Hi	<=	18 Volts				
						Engine Speed Lo	>=	500 RPM				
						Engine Speed Hi	<=	7500 RPM				
						Engine Speed is within the	~-	5 500				
						allowable limits for	>=	5 560				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	1E REQ	UIRED	MIL ILLUM.
					Disable	MIL not Illuminated for DTC's:	TCM:						
					Conditions:		PIOZE						
							ECM:						
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE	Boolean		None			>=	0.3 0.375	Fail Time (Sec) Sample Time	One Trip
						Ignition Voltage Lo	>=	8 5996	Volt			(Sec)	
						Ignition Voltage Hi	<=	18	Volt				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2729 ECM: None						
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE	Boolean					>=	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
						Ignition Voltage Lo	>=	8.5996	Volt			(000)	
						Ignition Voltage Hi	<=	18	Volt				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2730						
							ECM: None						

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P2763, P2764, P0658, P0659 ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean		8.5006 Volt	>= 5 Fail Count Sample = 5 Time (Sec)	One Trip
				Disable	Ignition Voltage Lo Ignition Voltage Hi MIL not Illuminated for DTC's:	>= 8.5996 Volt <= 18 Volt TCM:		
				Conditions		U0073 ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Communication Message Missing From	= TRUE Boolean			= 12 Fail Counts	One Trip
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volt <= 18 Volt	Counts	
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: U0100 ECM: None		



Table 2

																	Uni	its
Axis	0	6.249905	12.49981	18.74971	24.99962	31.24952	37.49943	43.74933	49.99924	56.24914	62.49905	68.74895	74.99886	81.24876	87.49866	93.74857	99.99847 PC	T
Curve	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800 Kp a	а

Table 3									Units
Axis	0	64	128	192	256	320	384	448	512 Kpa
Curve	50	50	50	50	50	50	50	50	50 RPM

Table 4					Units
	Axis	-0.00781	0	40	°C
	Curve	409.5938	2	2	Sec
	-				-

Table 5	_				Units
	Axis	-0.00781	0	40	°C
	Curve	409.5938	5.5	5.5	Sec

Table 6					Units
	Axis	-0.00781	0	40	°C
	Curve	409.5938	2	2	Sec

Table 7					Units
	Axis	-0.00781	0	40	°C
	Curve	409.5938	5	5	Sec

Table 8	_					Unit	s
	Axis	-40	-0.00781	40	80	120 °C	
	Curve	409	409	1.6	1.4	1.4 Sec	

Table 9							Units
	Axis	-40	-0.00781	40	80	120	°C
	Curve	409	409	1.4	1.3	1.2	Sec
		-					-

Table 10							Units
	Axis	-40	-0.00781	40	80	120	°C
	Curve	409	409	1.6	1.5	1.4	Sec

Table 11							Units			
	Axis	-40	-0.00781	40	80	120	°C			
	Curve	409	409	1.3	1.2	1.1	Sec			
Table 12	🛏						Units			
	Axis	-40	-20	0	30	110	°C			
	Curve	3.029297	1.85/422	1.00293	0.754883	0.583984	Sec			
Table 13							Units			
	Axis	-40	-20	0	30	110	°C			
	Curve	1.720703	1.108398	0.595703	0.359375	0.21582	Sec			
Table 14							Units			
	Axis	-40	-20	0	30	110	°C			
	Curve	2.121094	1.393555	0.841797	0.642578	0.332031	Sec			
Table 45							l Inita			
Table 15	Avia	40	20	0	20	110	Onits			
	Curve	-40 2 507813	0.9521/8	0 /00023	0.202060	0 126953	Sec			
	ourve	2.007010	0.352140	0.433023	0.232303	0.120300	000			
Table 16							Units			
	Axis	-40	-20	0	30	110	°C			
	Curve	2.972656	0.818359	0.47168	0.204102	0.132813	Sec			
							I			
Table 17	–									
	Axis	-40	-30	-20	-10	0		10	20	30
	Curve	0	0	0	0	0		0	0	0

Units

40 ⁰C 0 Sec

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALF	UNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITION		ENABLE CONDITIONS		ENABLE CONDITIONS		S ENABLE CONDITION		ENABLE CONDITIONS		E REG	QUIRED	MIL ILLUM.								
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	<u>Fail</u> Case 1	Substrate Temperature	>=	146.296875	٥C					>=	5	Fail Time (Sec)	One Trip														
			<u>Fail</u> Case 2	Substrate Temperature	>=	50	٥C					>=	2	Fail Time (Sec)															
				Ignition Voltage	>=	18	Volts							()															
				Note: either fail case can set the DTC																									
								Ignition Voltage Lo	>=	8.5996	Volts																		
								Ignition Voltage Hi	<=	31.99	Volts																		
								Substrate Temp Lo	>=	0	٥C																		
								Substrate Temp Hi	<=	170	°C																		
								Substrate Temp Between Temp Range for Time	>=	0.25	Sec																		
										Test Failed This																			
								P0634 Status is	¥	Key On or Fault Active																			
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None																				
															0 T														
HWIO	P0658	Actuator Supply Voltage Circuit Low		The HWIO reports low voltage (Open or ground short) error flag	=	TRUE	Boolean					>=	3	Fail Counts	One Trip														
												out of	5	Sample Counts															
								P0658 Status is not	=	Test Failed This Key On or Fault Active																			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIONS	TIME F	REQUIRED	MIL ILLUM.
				Disable Conditions:	High Side Driver 1 On MIL not Illuminated for DTC's:	= TCM: None ECM: None	True Boolean			
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ If TCM substrate temp to power up temp Δ	Refer to Table > 21 in supporting °C documents Refer to Table > 22 in supporting °C documents						Two Trips
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp. Non-continuous (intermittent) fail					>= 30 Out 37 >= 70	50 Fail Counts (100ms loop) Sample Counts (100ms loop) Pass Counts	
			conditions will delay resetting fail counter unti		Engine Torque Signal Valid Accelerator Position Signal Valid Ignition Voltage Lo	= = >=	TRUE Boolean TRUE Boolean 8.5996 Volts	Out 87	(100ms loop) Sample Counts (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI.	TIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	¥	Park			
					Transmission Range	¥	Neutral			
					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 Hydrau lic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFT D_e_C 3_Ratl Enbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0667 Status is	Test Failed This ≠ Key On or Fault Active		
				Disable	MIL not Illuminated for DTC's:	TCM: ECM: P0304, P0658, P0101, P0305, P0668, P0102, P0306, P0664, P0103, P0307, P06AD, P0106, P0308, P0712, P0171, P0712, P0717, P0174, P0722, P0723, P0201, P0963, P0964, P0203, P0203, P0965, P0204, P0966, P0970, P0206, P0207, P215C, P0208, P2720, P2729, P0302, P2729, P2730 P0303, P2730		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltage	Type of Sensor Used If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	= CeTFTI_e_Volta geDirectProp <= -249 °C >= -249 °C	Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996 Volts <= 31.99 Volts	Fail >= 60 Timer (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE S		MALFUNCTION CRITERIA THRESHOLD VALUE SECOND		SECONDARY PARAMETERS	ENABL	ENABLE CONDITIONS		TIME RE	QUIRED	MIL ILLUM.
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
									Test Failed					
							D0668 Status is	4	This Koy On					
							F0000 Status IS	+	or					
									Fault Active					
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
								ECM: None						
Transmission Control	P0669	TCM internal temperature (substrate) thermistor failed at a	Type of Sensor Used	_ Ce	eTFTI_e_Volt	a							Two Trips	
Module (TCM)		high voltage		9	geDirectProp							ļ		
			If TCM Substrate = Temperature Sensor		040	00								
			Direct Proportional and Temp	>=	249	Ĵ								
			If TCM Substrate											
			Temperature Sensor = Indirect Proportional and	<=	249	٥C								
			Temp									Fail		
			will satisfy the fail								>= 60	Timer		
			Conditions				TOSS Speed	>=	0	RPM		(Sec)		
							Toss Speed greater than above	>=	0	Sec				
							TCC Slip	>=	0	RPM				
							TCC Slip greater than above cal	>=	0	Sec				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	31.99	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for P0669 Status is	>= 5 Sec Test Failed This ≠ Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	: TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ If transmission oil temp to power up temp Δ	Refer to Table > 22 in supporting °C documents Refer to Table > 20 in supporting °C documents				Two Trips
			Both conditions above required to increment fai counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp. Non-continuous (intermittent) fai conditions will delay resetting fail counter unti				>= 3000 Fail Counts (100ms loop) Out 3750 Counts (100ms loop) >= 700 Pass (100ms loop)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT.	TIONS	TIME REQ	UIRED	MIL ILLUM.
									Out 875 of	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean			
					Accelerator Position Signal Valid	=	TRUE	Boolean			
					Ignition Voltage Lo	>=	8.5996	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo	>=	500	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Brake torque active	=	FALSE				
					Below describes the brake torque entry criteria						
					Engine Torque	>=	90	N*m			
					Throttle	>=	30	Pct			
					Transmission Input Speed	<=	200	RPM			
					Vehicle Speed	<=	8	Kph			
					Transmission Range	¥	Park				
					Transmission Range	¥	Neutral				
					PTO	=	Not Active				
					Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec			
					Below describes the brake torque exit criteria						
					Brake torque entry criteria	=	Not Met				
					Clutch hydraulic pressure	¥	Clutch Hydrau lic 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 REQUIR	ED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE	>=	600	kpa			
					if above conditions are met for: P06AC Status is	>=	20 Test Failed This Key On or Fault Active	Sec			
				Disable	MIL not Illuminated for DTC's	TCM: P0658, P0669, P06AD, P06AD, P0712, P0713, P0717, P0722, P0723, P0723, P0963, P0966, P0967, P0970, P0971, P2720, P2720, P2721, P2720, P2730	ECM: P0101, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0174, P0175, P0201, P0203, P0203, P0204, P0205, P0206, P0207, P0206, P0207, P0208, P0200, P0203, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P0207, P0208, P020	P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 ⁰C					F >= 60 Ti (S	ail me ec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the	>= <= >= <= >=	8.5996 31.99 500 7500 5	Volts Volts RPM RPM Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQ	UIRED	MIL ILLUM.
					Toss Speed	>=	0	RPM			
					Toss Fail Timer	>=	0	Sec			
					TCC slip	>=	0	RPM			
					TCC Fail Timer	>=	0	Sec			
					P06AD Status is	¥	Test Failed This Key On or Fault Active				
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723					
						ECM: None					
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	o >= 164 ⁰C					>= 60	Fail Time (Sec)	Two Trips
					Ignition Voltage Lo	>=	8.5996	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo	>=	500	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					P06AE Status is	¥	Test Failed This Key On or Fault Active				
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: None ECM:					
						None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	NABLE CONDITIONS		TIME REQ	UIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	Refer to Table > 21 in supporting °C documents							Two Trips
			If transmission oil temp to power up temp Δ	Refer to Table > 20 in supporting °C 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 3750 of	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						>= 700	Pass Counts (100ms loop)	
									Out 875 of	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE B	oolean			
					Accelerator Position Signal Valid	=	TRUE B	oolean			
					Ignition Voltage Lo	>=	8.5996	/olts			
					Ignition Voltage Hi	<=	31.99 \	/olts			
					Engine Speed Lo	>=	500 F	RPM			
					Engine Speed Hi	<=	7500 F	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 I	N*m			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			TIME REQUIRED	MIL ILLUM.
					Throttle	>=	30	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	¥	Neutral			
					ΡΤΟ	=	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 Hydrau lic 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		
					P0711 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	MIL not Illuminated for DTC's	TCM: ECM: P0303, P0658, P0101, P0304, P0668, P0102, P0305, P0669, P0103, P0306, P06AD, P0106, P0307, P06AE, P0107, P0308, P0716, P0108, P0401, P0712, P0171, P042E P0713, P0174, P0722, P0723, P0201, P0962, P0963, P0203, P0966, P0970, P0206, P0970, P0971, P0207, P215C, P0720, P0300, P2721, P2720, P0300, P2721, P2730 P0302, P2730		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	= CeTFTI_e_Volta geDirectProp <= -74 °C >= -74 °C	TOSS TOSS above thresh for	>= 0 RPM >= 0 Sec	Fail >= 60 Time (Sec)	Two Trips
					TOSS above thresh for TCC slip TCC slip above thresh for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 0 Sec >= 0 RPM >= 0 Sec >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS			ENABLE CONDITIONS		ENABLE CONDITIONS		IONS	TIME RE	QUIRED	MIL ILLUM.
						Engine Speed is within the allowable limits for P0712 Status is	>=	5 Test Failed This Key On or Fault Active	Sec								
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None										
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	= CeTFTI_e_Volta geDirectProp >= 174 <= 174	°C °C	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0713 Status is	>= <= >= <= >= *	8.5996 31.99 500 7500 5 Test Failed This Key On or Fault Active	Volts Volts RPM RPM Sec	>= 60	Fail Time (Sec)	Two Trips					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIONS	TIME REQ	UIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0713, P0716, P0717, P0722, P0723 ECM: None					
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 1350 RPM					>= 0.8	Fail Time (Sec)	One Trip
					Engine Torque is	>=	0	N*m			
					Engine Torque is	<=	1492	N*m			
					Engine Speed	>=	500	RPM			
					Engine Speed	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Vehicle Speed is	>=	0	Kph			
					Throttle Position is	>=	0	Pct			
					Transmission Input Speed is	>=	0	RPM			
					The previous requirement has been satisfied for	>=	0	Sec			
					The change (loop to loop) in transmission input speed is	<	8191	RPM/L oop			
					The previous requirement has been satisfied for	>=	0	Sec			
					Throttle Position Signal Valid	=	TRUE	Boolean			
					Engine Torque Signal Valid	=	TRUE	Boolean			
					Ignition Voltage	>=	8.5996	Volts			
					Ignition Voltage P0716 Status is not	<=	31.99 Test Failed This Key On or Fault	Volts			
		l l					Active				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE SE		SECONDARY PARAMETERS	ENABLE CONDITIONS		ENABLE CONDITIONS		NABLE CONDITIONS		NABLE CONDITIONS		IE REQ	UIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0717, P0752, P0973, P0974	ECM: P0101, P0102, P0103, P0121, P0122, P0123									
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Transmission Input Case 1 Speed is	<	50	RPM					>=	4.5	Fail Time (Sec)	One Trip				
			Fail When P0722 DTC Case 2 Status equal to Test Failed and Transmission Input Speed is	<	1000	RPM	Controller uses a single power supply for the speed sensors	=	TRUE	Boolean								
							Engine Torque is	>=	50	N*m								
							Engine Torque is	<=	1492	N*m								
							Vehicle Speed	>=	16	Kph								
							Engine Torque Signal Valid	=	TRUE	Boolean								
							Ignition Voltage	>=	8.5996	Volts								
							Ignition Voltage	<=	31.99	Volts								
							Engine Speed	>=	500									
							Engine Speed is within the	<= >=	5	Sec								
							P0717 Status is not	=	Test Failed This Key On or Fault Active									
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723	ECM: P0101, P0102, P0103									
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<=	70	RPM					>=	4.5	Fail Time (Sec)	One Trip				
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	TIONS	TIME REQUIRED	MIL ILLUM.								
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					P0722 Status is not	=	Test Failed This Key On or Fault											
					Transmission Input Speed Check	=	TRUE E	Boolean										
					Engine Torque Check	=	TRUE E	Boolean										
					Throttle Position	>=	5	Pct										
					Transmission Fluid Temperature	>=	-40	٥C										
					Disable this DTC if the PTO is active	=	1 E	Boolean										
					Engine Torque Signal Valid	=	TRUE E	Boolean										
					Throttle Position Signal Valid	=	TRUE E	Boolean										
					Ignition Voltage is	>=	8.5996	Volts										
					Ignition Voltage is	<=	31.99	Volts										
					Engine Speed is	>=	500	RPM										
					Engine Speed is Engine Speed is within the allowable limits for	<= >=	7500 5	RPM 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													
l					Engine Torque is	>=	35	N*m										

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME	REQUIRED	MIL ILLUM.
						Disable Conditions:	Engine Torque is The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE TIS Check Condition 1 Transmission Input Speed is Transmission Input Speed is TIS Check Condition 2 Engine Speed without the brake applied is Engine Speed with the brake applied is Engine Speed with the brake applied is Controller uses a single power supply for the speed sensors Powertrain Brake Pedal is Valid	<= >= <= = = = TCM: P0716, P0717, P0723	1492 1000 8191 3200 3200 8191 TRUE TRUE TRUE ECM: P0101, P0102, P0103, P0121, P0103,	N*m RPM RPM RPM Boolean Boolean			
Transmission Output Speed	0700	Output Speed Sensor Circuit	Daw Output Sacad			DDM			P0122, P0123			Enable	› One Trip
Sensor (TOSS)	FU/23	Intermittent	Output Speed	~=	8191	RPM					>=	0 Time (Sec) Enable 0 Time (Sec) Outpu	t
			Output Speed Drop	>	650	RPM					>=	1.5 Speed Drop Recove r Fail Time	-

COMPONENT/ SYSTEM FAULT MONITOR STRATEGY DESCRIPTION MALFUNCTION CRITERIA THRESHOLD VALUE SECONDARY PARAMETERS ENABLE CONDI-	TIONS T	TIME REQUIRED	MIL ILLUM.
Range_Disable = FALSE	Boolean		
OR			
Neutral_Range_Enable = TRUE	Boolean		
And			
Neutral_Speed_Enable = TRUE	Boolean		
are TRUE concurrently			
Transmission_Range_Enable = TRUE	Boolean		
Transmission_Input_Speed_Enab = TRUE	Boolean		
le No Chango in Transfer Case			
Range (High <-> Low) for	Seconds		
Engine Torque Signal Valid = TRUE	Boolean		
Throttle Position Signal Valid = TRUE	Boolean		
Test			
Failed			
P0723 Status is not = Key On			
or			
Fault			
Disable this DTC if the PTO is active = 1	Boolean		
Ignition Voltage is >= 8.5996	Volts		
Ignition Voltage is <= 31.99	Volts		
Engine Speed is >= 500	RPM		
Engine Speed is <= 7500	RPM		
Engine Speed is within the set 5	Sec		
Enable_Flags Defined Below			
Transmission_Input_Speed_Enab			
le is TRUE when either TIS			
Condition 1 or 115 Condition 2 is TRUE:			
TIS Condition 1 is TRUE when	Enable		
both of the following conditions >= 0	Time (Soc)		
are satisfy for	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Raw Input Speed TIS Condition 2 is TRUE when ALL of the next three conditions	>=	500	RPM		
					are satisfied Input Speed A Single Power Supply is used for all speed sensors	=	0 TRUE	RPM 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 Revers e/Neut	I ENUM s r		
					Transmission Range is	=	al Transit onal	ENUM i		
					Transmission Range is	=	Neutra /Drive Transit onal	I i ENUM		
					Dongo Diochla is TDUC when					
					any of the next three conditions are TRUE					
					Transmission Range is	=	Park Park/R	ENUM		
					Transmission Range is	=	everse Transit onal	i ENUM		
					Input Clutch is not	=	ON (Fully Applied)	ENUM		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satisfied for	>	1	Secon ds		
					Transmission Output Speed	>	70	RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQL	JIRED	MIL ILLUM.
							And the acceleration of the Transmission Output Speed is And the acceleration of the Transmission Output Speed is	V ,	500 0	RPM/L oop Rate RPM/L oop Rate				
							Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE Transmission Range is	=	Neutral Revers	ENUM				
							Transmission Range is	=	e/Neutr al Transiti onal	ENUM				
							Transmission Range is	=	/Drive Transiti onal	ENUM				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0973, P0974, P0976, P0977	ECM: P0101, P0102, P0103, P0121,	360				
									P0122, P0123				Enable	Two Tripo
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met	>=	500	Кра					>=	2	Time (Sec)	Two Thps
			(A) TCC Slip Error @ TCC On Mode	>=	Refer to Table 1 in Supporting Documents	1 RPM					>=	4	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>=	130	RPM					>=	4	Fail Time (Sec)	
			Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	3	Stuck Off Fail Counter	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Lo	>=	50	N*m		
					Engine Torque Hi	<=	1492	N*m		
					Throttle Position Lo	>=	8.0002	Pct		
					Throttle Position Hi	<=	99.998	Pct		
					2nd Gear Ratio Lo	>=	2.671	Ratio		
					2nd Gear Ratio High	<=	3.073	Ratio		
					3rd Gear Ratio Lo	>=	1.713	Ratio		
					3rd Gear Ratio High	<=	1.9709	Ratio		
					4th Gear Ratio Lo	>=	1.3151	Ratio		
					4th Gear Ratio High	<=	1.5129	Ratio		
					5th Gear Ratio Lo	>=	0.9301	Ratio		
					5th Gear Ratio Hi	<=	1.0699	Ratio		
					6th Gear Ratio Lo	>=	0.6901	Ratio		
					6th Gear Ratio High	<=	0.7939	Ratio		
					Transmission Fluid Temperature	>=	20	°C		
					Transmission Fluid Temperature Hi	<=	130	٥C		
					TCC Command Lock ON or ON mode	=	TRUE	Boolean		
					PTO Not Active	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Dynamic Mode	=	FALSE	Boolean		
					P0741 Status is	. ≠	Test Failed This Key On or Fault			
							ACTIVE			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P0742, P0107, P0301, P2763, P0108, P0302, P2764 P0171, P0303, P0172, P0304, P0174, P0175, P0306, P0201, P0175, P0306, P0201, P0201, P0307, P0202, P0203, P0401, P0204, P0204, P042E P0204,		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed If Above Conditions Have been Met, and Fai Timer Expired, Increment Fail Counter	1 >= -20 RPM 4 <= 30 RPM	Run TCC Stuck On Test Enable Criteria: Gear Ratio Gear Ratio Engine Speed Hi Engine Speed Lo Vehicle Speed Hi Vehicle Speed Hi Vehicle Speed Lo Stuck On During Upshift Enabled If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress Current Gear	<= 3.073 Ratio >= 0.6901 Ratio <= 6500 RPM >= 500 RPM <= 511 KPH = 0 Boolean >= 55 Nm = FALSE Boolean 1st Gear Boolean Locked	Fail >= 2.5 Time (Sec) >= 6 Fail Counter	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	-E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	٥C		
					Transmission Sump Temperature	>=	20	٥C		
					Throttle Position Hyst High	>=	8.0002	Pct		
					Throttle Position Hyst Low	<=	3	Pct		
					PTO Active	=	FALSE	Boolean		
					Disable if in D1 and value true	=	0	Boolean		
					Disable if in D2 and value true	=	0	Boolean		
					Disable if in D3 and value true	=	0	Boolean		
					Disable if in D4 and value true	=	0	Boolean		
					Disable if in D5 and value true	=	0	Boolean		
					Disable if in MUMD and value true	=	0	Boolean		
					Disable if in TUTD and value true	=	0	Boolean		
					4 Wheel Drive Active	=	FALSE	Boolean		
					Hydraulic Clutch Air Purge Active	=	FALSE	Boolean		
					Ignore Air Purge if value = true	=	0	Boolean		
					TCC Mode	=	OFF			
					Common Enables:					
					Ignition Voltage	>=	8.5996	V		
					Ignition Voltage	<=	31.99	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		NS TI	TIME REQUIRED		RED	MIL ILLUM.
						Disable Conditions:	P0742 Status is	≠ TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764	Test Failed This Key On or Fault Active P0101, P02 P0102, P02 P0103, P03 P0106, P03 P0107, P03 P0171, P03 P0174, P03 P0175, P03 P0175, P03 P0201, P03 P0204, P04	205, 206, 207, 208, 300, 301, 303, 304, 305, 306, 305, 306, 307, 308, 42E				
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip Commanded Gear Gear Ratio Gear Ratio If the above parameters are true	л н н н	200 1st Lock 1.485 1.343	RPM rpm	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	, , , , , , , , , , , , , , , , , , ,	8.5996 Vc 31.99 Vc 500 RF 7500 RF	>= = 7 >= >= >= >= N PM	= 0 = 655 = 0 = 1	1.3 535 Ca Na 0 (;).3 () 8 Ci	Fail Tmr Fail ounts eutral 'imer Sec) Fail 'imer Sec) ounts	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
							Engine Speed is within the allowable limits for	>=	5	Sec		
							Transmission Fluid Temperature	>=	0	°C		
							Shift is Complete					
							TPS OR	>=	0.4	%		
							Output Speed	>=	0	RPM		
							Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Engine Torque Signal Valid from ECM, High side driver is enabled	=	TRUE	Boolean		
							High-Side Driver is Enabled	=	TRUE	Boolean		
							Input Speed Sensor fault	=	FALSE	Boolean		
							Output Speed Sensor fault	=	FALSE	Boolean		
							Default Gear Option is not present	=	TRUE			
						Disable	MIL not Illuminated for DTC's:	TCM:	ECM:	P0205,		
						Conditions:		P0716, P0717.	P0101, P0102	P0206, P0207		
								P0722,	P0103,	P0208,		
								P0723,	P0106,	P0300,		1
								PIOZE	P0107, P0108	P0301, P0302		1
									P0171,	P0303,		4
									P0172,	P0304,		1
									P0174,	P0305,		
									P0201,	P0307,		1
									P0202,	P0308,		1
									P0203,	P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	200	Rpm			1 0204,	10422		One Trip
			Commanded Gear	_	3rd	Gear						
			Commanded Gear has		0.4	2.00.						
			Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol.	=	TRUE	Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQUIRED	MIL ILLUM.
			C456/CBR1 Pressure Switch C456/CBR1 Pressure Switch Fault If the above parameters are true	Pressurized FALSE	Boolean	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo 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		8.5996 31.99 500 7500 5 TRUE 0 0.4 0 FALSE FALSE FALSE TRUE	Volts Volts RPM Sec Boolean RPM % % Boolean Boolean Boolean	Please Refer to Table Neutr Support ing Docum ents >= 5 Count	5
											1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Tł	HRESHOLD	VALUE	SECONDARY PARAMETERS			IONS	TIME REQUI	RED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E	ECM: F P0101, F P0102, F P0103, F P0106, F P0107, F P0108, F P0172, F P0172, F P0174, F P0175, F P0202, F P0202, F P0203, F P0204, F	P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0306, P0306, P0307, P0308, P0			
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Case 1 Gear Box Slip	= 1 >=	st Locked	RPM					Please Refer to Table 5 N= Support ing Docum	leutral Fimer (Sec)	One Trip
			Intrusive Shift to 2nd Commanded Gear Previous Gear Ratio Gear Ratio If the above parameters are true	= 1 <= >=	st Locked 3.016 2.728	Gear					ents >= 1 >= 5 €	sec	
							Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Output Speed OR TPS	>= <= >= >= >= >= >=	8.5996 31.99 500 7500 5 0 0.4	Volts Volts RPM RPM Sec RPM			

Shift is Complete Transmission Fluid Temperature >= 0 °C High-Side Driver is Enabled = TRUE Boolean Throttle Position Signal Valid from ECM = TRUE Boolean Input Speed Sensor fault = FALSE Boolean Output Speed Sensor fault = FALSE Boolean Default Gear Option is not present = TRUE	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	ITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS) P0776 Pressure Control (PC) Solenoid B Eail Case: Steady State 3rd Gear Case: Steady State 3rd Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Case: Steady State 3rd Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Case: Steady State 3rd Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear Case: Steady State 3rd Gear P0776 Pressure Control (PC) Solenoid B Eail Commanded Gear P0776 P0772, P0302, P0722, P0303, P0775, P0306, P0775, P0306, P0775, P0306, P0775, P0307, P0722, P0307, P0722, P0307, P0722, P0307, P0722, P0307, P0722, P0307, P0722, P0307, P0722, P0307, P0775, P0307, P0722, P0308, P0776, P0776, P0776, P0776, P0776, P0776, P0776, P0776, P0776,	Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case: Steady State 3rd Case 1 Gear Commanded Gear Gearbox Slip Intrusive Test: Command 4th Gear If attained Gear=4th gear	= 3rd = 200 Table Based Time Please >= Refer to Table 3	Disable Conditions: Gear Rpm Enable Time	Shift is Complete Transmission Fluid Temperature High-Side Driver is Enabled Throttle Position Signal Valid from ECM Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present MIL not Illuminated for DTC's:	>= = = = TCM: P0716, P0717, P0722, P0723, P182E	0 TRUE FALSE FALSE TRUE ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0172, P0201, P0202, P0203, P0204, P0205,	°C Boolean Boolean Boolean P0206, P0207, P0208, P0300, P0301, P0306, P0307, P0306, P0307, P0308, P0307, P0308, P0307, P0308, P0307,	Please Refer to Table 5 >= Support ing Docum ents	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			It the above conditions are true, Increment 3rd gear fail counter				3rd >= 2 Gear Fail or	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
			Fail Case: Steady State 5th					
			Commanded Gear	= 5th Gear				
							Please Refer to Table 5 in Neutral	
			Gearbox Slip	>= 200 Rpm			>= Timer Support (Sec) Docum	
			Intrusive Test: Command 6th Gear	Table Deced			ents	
			If attained Gear=6th gear Time	Time Please Time Please >= Refer to Table 3 (Sec) in supporting documents				
			It the above conditions are true, Increment 5th gear fail counter				>= 3 5th Fail Counts	
			and C35R Fail counter				>= 14 Clutch Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean	1	
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT	>= 0 RPM		
					A OR B			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	.E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					(A) Output speed enable	>=	650	RPM		
					(B) Accelerator Pedal enable	>=	0.4	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	0	٥C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174 P0175 P0201 P0202 P0203 P0204	P0205, , P0206, , P0207, , P0208, , P0300, , P0301, , P0302, , P0303, , P0304, , P0305, , P0306, , P0307, , P0308, , P0401, , P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<u>Fail</u> <u>Case 1</u> Case: Steady State 1st							One Trip
			Attained Gear slip	>= 200 RPM						
			If the Above is True for Time	Table Based Time Please >= Refer to Table 4 in supporting documents						

COMPONENT/ SYSTEM CO	AULT MONITOR STRATEGY ODE 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 Fail Case: Steady State 2nd Case 2 gear	<= 1.934 >= 1.75 Table Based value Please			Fail >= 0.75 Timer (Sec) Fail >= 2 Count Gear or Total >= 3 Fail Counts	
		Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis	 >= Refer to Table rpm/sec 17 in supporting documents Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents 				
		If the Above is True for Time Intrusive test: (CB26 clutch exhausted) Gear Ratio Gear Ratio	Table Based Time Please >= Refer to Table Sec 19 in supporting documents <= 1.934 >= 1.75				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	CODE	DESCRIPTION	Eail Case: Steady State 4th Case 3 gear Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis If the Above is True for Time Intrusive test: (C1234 clutch exhausted) Gear Ratio If the above parameters are true	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents Table Based Time Please >= Refer to Table Sec 19 in supporting documents = 1.05 >= 0.95			Fail	
							>= 2 Count (Sec) Fail >= 2 Count in 4th Gear or	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB	LE CONDITIONS	TIME	REQUIR	ED	MIL ILLUM.
COMPONENT/ SYSTEM	FAULT	MONITOR STRATEGY DESCRIPTION	Fail Case: Steady State 6th Case 4 gear Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis If the Above is True for Time Intrusive test: (CB26 clutch exhausted) Gear Ratio If the above parameters are true	1 1 <t< td=""><td>THRESHOLD VALUE</td><td>SECONDARY PARAMETERS</td><td>ENAB</td><td></td><td>TIME >= (>= (>= (>= (</td><td>REQUIRI Trong 3 F Con 2 Con 5.75 Tir (S 2 Con (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S) 5.75 Tir (S) 5.75</td><td>ail mer ec) ail mer ec) ail mer ec) ail mer foth</td><td>MIL ILLUM.</td></t<>	THRESHOLD VALUE	SECONDARY PARAMETERS	ENAB		TIME >= (>= (>= (>= (REQUIRI Trong 3 F Con 2 Con 5.75 Tir (S 2 Con (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S 5.75 Tir (S) 5.75	ail mer ec) ail mer ec) ail mer ec) ail mer foth	MIL ILLUM.
						PRNDL State defaulted inhibit RVT	=	FALSE Boolean FALSE Boolean	>=	Gr Gr Tc 3 F <u>Co</u> r	ear or otal ail unts	
						output speed	>=	0 RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	Nm		
					A OR B					
					(A) Output speed enable	>=	650	Nm		
					(B) Accelerator Pedal enable	>=	0.4	Nm		
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	20	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	1492	Nm		
					Transmission Fluid Temperature	>=	0	٥C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
				Disable	MIL not Illuminated for DTC's:	TCM: P0716	ECM:	P0205,		
				conditions.		P0717,	P0101, P0102	P0206, P0207		
						P0722,	P0103,	P0208,		
						P0723, P182E	P0106,	P0300,		
							P0107, P0108,	P0301, P0302,		
							P0171,	P0303,		
							P0172, P0174.	P0304, P0305.		
							P0175,	P0306,		
							P0201,	P0307,		
							P0202,	P0401,		
							P0204,	P042E		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dynamic)	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 Primary Offgoing Clutch Pressure Command Status Range Shift Status	=	Maximum pressurized Clutch exhaust command Initial Clutch					
			Attained Gear Slip	≁ <=	Control 40	RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below: fail timer 1 (3-1 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Throttle) fail timer 1 (3-2 shifting with Closed	>= >= >=	1.200195313 1.200195313 1.200195313	Fail Time (Sec) Fail Time (Sec) Fail Time				
			Throttle) fail timer 1 (3-4 shifting with Throttle) fail timer 1	>=	1.200195313	(Sec) Fail Time (Sec) Fail Time				
			(3-4shifting with Closed Throttle) fail timer 1 (3-5 shifting with Throttle)	>= >=	1.200195313 1.200195313	(Sec) Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1	>=	1.200195313	Fail Time (Sec)				
			(5-3 shifting with Throttle) fail timer 1	>=	1.200195313	(Sec)				
			(5-3 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.
			fail timer 1 (5-4 shifting with Throttle) fail timer 1 (5-4 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle) If Attained Gear Slip is Less than Above Cal Increment Fail Timers	p is Cale			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referen ce Support ing Table	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter 3rd gear fail counter 5th gear fail counter	ater fail fail nter			Fail Timer 2 Fail Timer 2	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIM	E REQ	≀UIRED	MIL ILLUM.
			Total fail counter						>=	5	total fail counts	
				Disable Conditions:	Trans oil temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled Default Gear Option is not present	> = ≠ = >= >= = = = = TCM: P0716, P0717, P0722, P0723, P182E	0 FALSE FALSE 1st TRUE 350 200 0 FALSE FALSE FALSE TRUE TRUE ECM: P0101, P0102, P0103, P0106, P0107,	°C Boolean Boolean RPM RPM °C Boolean Boolean Boolean Boolean Boolean Boolean P0205, P0206, P0207, P0208, P0200, P0300,				
Variable Bleed Solenoid		Pressure Control (PC) Solenoid C	Fail Case: Steady State 4th				P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204,	P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Increment 5th Gear Fai Counter				>= 2 5th Gear Fail Count	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			<u>Case 3</u> Gear	>- 200 RPM			Please See Table 5 Neutral	
			Intrusive test:	22 200 KFM			Neutral (Sec) Time	
			commanded 5th gear If attained Gear ≠ 5th for time	Table Based Time Please >= Refer to Table 3 in supporting documents				
			if the above conditions have been met Increment 6th Gear Fail Counter and C456 Fail Counter				6th >= 2 Gear Fail Count	
			and C456 Fail Counter				OR C456 >= 14 Fail Counts	
					PRNDL State defaulted inhibit RVT IMS fault pending indication	= FALSE Boolean = FALSE Boolean = FALSE Boolean		
					TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT	= TRUE Boolean = TRUE Boolean >= 0 RPM		
					A OR B (A) Output speed enable (B) Accelerator Pedal enable	>= 650 RPM >= 0.4 Pct		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLE	E CONDITI	IONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal valid HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault OutputSpeed Sensor fault Default Gear Option is not present MIL not Illuminated for DTC's:	>= <= >= = = = TCM: P0716, P0717, P0722, P182E	8.5996 A 31.99 A 500 F 7500 F 5 TRUE B TRUE B TRUE B FALSE B FALSE B TRUE ECM: P P0101, P P0102, P P0102, P P0108, P P0108, P P0107, P P0172, P P0174, P P0174, P P0175, P P0175, P P0202, P P0202, P P0202, P P0202, P P0202, P P0202, P	Volts Volts RPM Sec Boolean C Boolean C Boolean Boolean Boolean Boolean C C C C C C C C C C C C C C C C C C C		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted)	>= 200 F Table Based Time Please >= Refer to Table 4 in supporting documents	RPM Enable Time Sec)						One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio Gear Ratio If the above parameters are true	<= 1.485 >= 1.343			Fail >= 0.75 Timer (Sec) Fail >= 2 Count in 1st Gear or Total >= 3 Fail	
			Fail Case 2 Case Steady State 2nd Max Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents			Counts	
			Min Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents				
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents				
			Intrusive test: (CB26 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.485 >= 1.343				
			are ilue				Fail >= 0.75 Timer (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							>= 2 Fail Count in 2nd Gear or Total >= 3 fail counts	
			Fail Case 3 Case Steady State 3rd 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 >= Refer to Table rpm/sec 18 in supporting documents				
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents				
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters	<= 1.485 >= 1.343				
			are true				Fail >= 0.75 Timer (Sec) Fail	
							>= 2 Count in 3rd Gear OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITION	6	TIME	REQI	UIRED	MIL ILLUM.
									>=	3	Total Fail Counts	
					PRNDL State defaulted	=	FALSE Boole	an		-	Counto	
					inhibit RVT	=	FALSE Boole	an				
					IMS fault pending indication	=	FALSE Boole	an				
					output speed	>=	0 RPM	1				
					TPS validity flag	=	TRUE Boole	an				
					HSD Enabled	=	TRUE Boole	an				
					Hydraulic_System_Pressurized	=	TRUE Boole	an				
					Minimum output speed for RVT	>=	0 Nm					
					A OR B							
					(A) Output speed enable	>=	650 Nm					
					(B) Accelerator Pedal enable	>=	0.4 Nm					
					Ignition Voltage Lo	>=	8.5996 Volts	S				
					Ignition Voltage Hi	<=	31.99 Volts	S				
					Engine Speed Lo	>=	500 RPM	1				
					Engine Speed Hi	<=	7500 RPM	1				
					Engine Speed is within the allowable limits for	>=	5 Sec	:				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5 Pct					
					if Attained Gear=1st FW Engine Torque Enable	>=	20 Nm					
					if Attained Gear=1st FW Engine Torque Enable	<=	1492 Nm					
					Transmission Fluid Temperature	>=	0 °C					
					Input Speed Sensor fault	=	FALSE Boole	an				
					Output Speed Sensor fault	=	FALSE Boole	an				
					Default Gear Option is not present	=	TRUE					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E	ECM: P020 P0101, P020 P0102, P020 P0103, P020 P0106, P030 P0107, P030 P0108, P030	5, 6, 7, 8, 0, 1, 2,				
							P0171, P030 P0172, P030	3, 4,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1 (4-1 shifting with throttle) fail timer 1 (4-2 shifting with throttle) fail timer 1 (4-2 shifting with throttle) fail timer 1 (4-3 shifting without throttle) fail timer 1 (4-3 shifting without	TRUE Maximum pressurized Clutch exhaust command Initial Clutch Control 40 1.200195313 1.200195313 1.200195313 1.200195313 1.200195313 1.200195313	Boolean RPM Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec)				One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME	E REQI	JIRED	MIL ILLUM.
			6th gear fail counter						>=	3	Fail Counter From 6th Gear	
			Total fail counter						>=	5	OR Total Fail Counter	
					Trans oil temperature	>	0	°C			ľ	
					Input Speed Sensor fault	=	FALSE	Boolean			ľ	
					Output Speed Sensor fault	=	FALSE	Boolean			ľ	
					High Side Driver ON	<i>+</i>		Boolean			ľ	
					output speed limit for TUT	- >=	350	RPM			ľ	
					input speed limit for TUT	>=	200	RPM			ľ	
					TUT Enable temperature	>=	0	°C			ľ	
					PRNDL state defaulted	=	FALSE	Boolean			ľ	
					IMS Fault Pending	=	FALSE	Boolean			ľ	
					Service Fast Learn Mode	=	FALSE	Boolean			ľ	
					HSD Enabled	=	TRUE	Boolean			ľ	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P1723, 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, P0308, P0401, P042E				
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Tap Up Switch Stuck in Case 1 the Up Position in Range 1 Enabled	= 1 Boolean								Special No Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQU	JIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	1	Boolean							
			the Up Position in Reverse Enabled	=	1	Boolean							
			Tap Up Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be	=	TRUE	Boolean					>= 600	Fail Time	
			Met									(Sec)	
							Time Since Last Range Change	>=	1	Enable Time (Sec)			
							Ignition Voltage Lo	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	31.99	Volts			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
									Test Failed This				
							P0815 Status is	¥	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 Tap Down Switch Stuck Case 1 in the Down Position in Range 1 Enabled	=	1	Boolean							Special No Trip
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean							

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQI	JIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 1	Boolean								
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 1	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 1	Boolean								
			Tap Down Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be	= TRUE	Boolean					>=	600	sec	
			inet			Time Since Last Range Change	>=	1	Enable Time (Sec)				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						allowable limits for	>=	5	Sec				
								Test Failed This					
						P0816 Status is	¥	Key On or Fault					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761	Active					
							None						
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No Trip
						Ignition Voltage Lo	>=	8.5996	Volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage H	<=	31.99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed H	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					P0826 Status is	¥	Test Failed This Key On or Fault Active			
				Disa Conditio	ble MIL not Illuminated for DTC's	TCM: P1761				
						ECM: None				
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low	CB26 Hydraulic pressure	<= 50 KPa						Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal						
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter						>= 18 Fail Counts	
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 Kpa						
					Transmission Fluid Temperature	>=	0	°C		
					Lo Transmission Fluid Temperature H	<=	120	٥C		
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage H	<=	31.99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed H	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
---------------------------------------	---------------	---	--	---	--------------------------------	---	----------------------	--------------------		
					Default Gear Action	= FALSE				
					RV/T Status	= Normal				
					Hvdraulic 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:				
Transmission Fluid Pressure Switch	P0873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure Hydraulic Delay Timer (Table Based)	>= 700 KPa >= See Table 8 for Delay Timer Cal Sec		None		Special No Trip		
			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						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature	>=	0	°C		
					Transmission Fluid Temperature	<=	120	°C		
					Hi Ignition Voltage Lo		8 5996	Volts		
					Ignition Voltage Hi	~= <=	31,99	Volts		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Default Gear Action	=	FALSE			
					High Side Driver ON	=	TRUE			
					RVT Status	=	Normal			
					Hydraulic Pressure Available	=	TRUE			
					Engine Speed Min	>=	550	RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0751, P0752, P0751, P0742, P0756, P0757, P0973, P0977, P0976, P0977, P1915, P1915, P182E ECM: None				
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure	<= 50 KPa						Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec		1				1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	.D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter							>= 5 Fail Counts	
			Note: Subsequent fail counts require C1234 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50	kpa						
						Transmission Fluid Temperature	>=	0	٥C		-
						Transmission Fluid Temperature Hi	<=	120	٥C		
						Ignition Voltage Lo	>=	8.5996	Volts		
						Ignition Voltage Hi	<=	31.99	Volts		
						Engine Speed Lo	>=	500	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the allowable limits for	>=	5	Sec		
						Default Gear Action	=	FALSE			
						High Side Driver ON	=	TRUE			
						RVT Status	=	Normal			
						Hydraulic Pressure Available	=	TRUE			
						Engine Speed Min	>=	550	RPM		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0756, P0757, P0973, P0974, P0976,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI ⁻	TIONS	TIME REQU	JIRED	MIL ILLUM.
						P0977,					
						P1915, P182E					
						ECM: None					
Transmission Fluid Pressure Switch	P0878	Transmission Fluid Pressure (TFP) Sensor D Circuit High Voltage	C1234 Hydraulic pressure	>= 700 KPa							Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 6 for Delay Timer Cal Sec							
			Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter						>= 8	Fail Counts	
			Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 Kpa							
					Transmission Fluid Temperature Lo	>=	0	٥C			
					Hi	<=	120	°C			
					Ignition Voltage Lo	>=	8.5996	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo	>=	500 7500				
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Default Gear Action	=	FALSE				
					High Side Driver ON	=	TRUE				
					RVT Status	=	Normal				
					Hydraulic Pressure Available	=	TRUE				
					Engine Speed Min	>=	550	RPM			
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	-D VALUE	SECONDARY PARAMETERS	ENABLE		TIONS	TIME REC	≀UIRED	MIL ILLUM.
							P0717, P0722, P0723, P0751, P0756, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None					
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	= TRUE	Boolean Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	None >= <= >= = TCM: None ECM: None	8.5996 31.99 500 7500 5	Volts Volts RPM RPM Sec	>= 0.3 out 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	= TRUE	Boolean	Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	8.5996 31.99 500 7500	Volts Volts RPM RPM	>= 0.3 out 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip

Engine Speed is within the		
allowable limits for Failed This P0966 Status is not Fault Active		
Disable MIL not Illuminated for DTC's: TCM: Conditions: None ECM: None		
Variable Bleed Solenoid (VBS) P0967 Pressure Control (PC) Solenoid B Control Circuit High Voltage bower short) error flag	Fail >= 0.3 Time (Sec) Sample of 0.375 Time (Sec)	One Trip
Ignition Voltage >= 8.5996 Volts		
Ignition Voltage <= 31.99 Volts		
Engine Speed >= 500 RPM		
Engine Speed <= 7500 RPM		
Engine Speed is within the allowable limits for >= 5 Sec		
Test Failed This P0967 Status is not = Key On or Fault Active		
Disable MIL not Illuminated for DTC's: TCM: Conditions: None ECM:		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQ	UIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	=	TRUE	Boolean					>= 0.3 out 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
							P0970 Status is not	н	Test Failed This Key On or Fault Active			(000)	
							Ignition Voltage	>=	8.5996	Volts			
							Ignition Voltage	<=	31.99	Volts			
							Engine Speed	>=	500	RPM			
							Engine Speed Engine Speed is within the allowable limits for	<= >=	7500 5	Sec			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	=	TRUE	Boolean					>= 0.3 out of 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
							P0971 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed		Test Failed This Key On or Fault Active 8.5996 31.99 500 7500	Volts Volts RPM RPM			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIM	E REQL	JIRED	MIL ILLUM.
						P0974 Status is not	=	Test Failed This Key On or Fault					
								Active					
						Ignition Voltage	>=	8.5996	Volts				
						Ignition Voltage	<=	500					
						Engine Speed	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
							ECM: None						
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE	Boolean					>=	1.2	Sec	Two Trips
										out	1.5	Sec	
						P0976 Status is not	=	Test Failed This Key On or Fault		or			
						Ignition Voltage	>=	8.5996	Volts				
						Ignition Voltage	<=	31.99	Volts				
						Engine Speed	>=	500	RPM				
						Engine Speed	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
							ECM: None						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIM	E REQI	UIRED	MIL ILLUM.
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE	Boolean					>= out	1.2	Sec Sec	One Trip
						P0977 Status is not	=	Test Failed This Key On or Fault Active		of			
						Ignition Voltage	>=	8.5996	Volts				ļ
						Ignition Voltage	<=	31.99	Volts				
						Engine Speed	>=	500	RPM				
						Engine Speed	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM:						
							None						
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 Ca	^{ar} Sec								
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter							>=	18	Fail Counts	
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50	kpa	T							
						I ransmission Fluid Temperature	>=	0	٥C				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	FIONS	TIME REQUIRED	MIL ILLUM.
				Dis Conditio	Transmission Fluid Temperature H Ignition Voltage Lo Ignition Voltage H Engine Speed Lo Engine Speed Is Within the allowable limits fo Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Mir Able MIL not Illuminated for DTC's	<pre><=</pre>	120 8.5996 31.99 500 7500 5 FALSE TRUE Normal TRUE 550	°C Volts RPM RPM Sec		
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High Voltage	CBR1/C456 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter	>= 700 Kpa >= See Table 9 for Delay Timer Cal Sec		P0974, P0976, P0977, P1915, P182E ECM: None			>= 15 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE		TIONS	TIME REQUIRED	MIL ILLUM.
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700	kpa						
						Transmission Fluid Temperature	>=	0	°C		
						Transmission Fluid Temperature Hi	<=	120	°C		
						Ignition Voltage Lo	>=	8.5996	Volts		
						Ignition Voltage Hi	<=	31.99	Volts		
						Engine Speed Lo	>=	500	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the allowable limits for	>=	5	Sec		
						Default Gear Action	=	FALSE			
						High Side Driver ON	=	TRUE			
						RVT Status	=	Normal			
						Hydraulic Pressure Available	=	TRUE			
						Engine Speed Min	>=	550	RPM		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E				
							ECM: None				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	ТІМ	E REC	QUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is	>=	100	RPM								Two Trips
			If Slip is Greater than the Above Cal Increment Fail Counter & Sample Counter								>=	5	Fail Counts	
											Out of	5	Sample Counts	
							Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	=	1	Seconds				
							M2 Solenoid is Commanded On	=	TRUE	Boolean				
							Current Gear ≠ 2nd Gear	¥	2nd Gear	Gear				
							Calculated line pressure is	>=	1300	kPa				
							The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<=	110	RPM				
							Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	=	0.5	Sec				
							Upshift is In Progress	=	FALSE	Boolean				
							Input Speed Sensor Signal Hyst High (enabled above this value)	>=	1200	RPM				
							Input Speed Sensor Signal Hyst Low (disabled below this value)	<=	900	RPM				
							The torque converter clutch has transition from Locked to Unlocked.	=	TRUE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Stuck On Enable Criteria:				
					Gear Ratio	<=	3.073 Ratio		
					Gear Ratio	>=	0.6901 Ratio		
					Engine Speed Hi	<=	600 RPM		
					Lingine Speed Lo	>=			
					Vehicle Speed Hi	<=			
					Venicie Speed Lo	>=			
					Stuck On During Upshift Enabled	=	0 Boolear		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	55 Nm		
					Down Shift In Progress	=	FALSE Boolear		
					Current Gear	¥	1st Gear Boolear Locked		
					Engine Torque Hi	<=	1492 Nm		
					Engine Torque Lo	>=	80 Nm		
					Current Range	¥	Neutral Range		
					Current Range	¥	Reverse Range		
					Transmission Sump Temperature	<=	130 ⁰C		
					Transmission Sump Temperature	>=	20 °C		
					Throttle Position Hyst High	>=	8.0002 Pct		
					Throttle Position Hyst Low	<=	3 Pct		
					PTO Active	=	FALSE Boolear		
					Disable if in D1 and value true	=	0 Boolear		
					Disable if in D2 and value true	=	0 Boolear		
					Disable if in D3 and value true	=	0 Boolear		
					Disable if in D4 and value true	=	0 Boolear		
					Disable if in D5 and value true	=	0 Boolear		
					Disable if in MUMD and value true	=	0 Boolear		
					Disable if in TUTD and value true	=	0 Boolear		
					4 Wheel Drive Active	=	FALSE Boolear		
l					Air Purge Active	=	FALSE Boolear	4	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME	EREQUIR	ED	MIL ILLUM.
					Ignore Air Purge if value = true	=	0	Boolean				
					TCC Mode	=	OFF					
					Common Enables:							
					Ignition Voltage	>=	8.5996	V				
					Ignition Voltage	<=	31.99	V				
					Vehicle Speed	<=	511	KPH				1
					Engine Speed	>=	500	RPM				1
					Engine Speed	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Engine Torque Signal Valid	=	TRUE	Boolean				
					Throttle Position Signal Valid	=	TRUE	Boolean				
					P1751 Status is	¥	Test Failed This Key On	I				
				Disable Conditions:	MIL not Illuminated for DTC's	TCM: P0716, P0717, P0722, P0723, P0741, P0742, P2763, P2764	ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0201,	P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0307,				
							P0202, P0203, P0204,	P0308, P0401, P042E				
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected	= TRUE Boolean					>=	3 F Co	⁻ ail unter	Special No Trip
									>	10 Sai	mple mer	
					Tap Up Tap Down Message Health	=	TRUE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
							Engine Speed Lo	>=	500	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the		5	800		
							allowable limits for	>=	5	Sec		
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
								ECM:				
								None				
		Internal Mode Switch - Circuit A	<u>Fail</u> Case 1									One Trip
Internal Mode Switch (IMS)		Low Reported as	Current range	_	"Transitional 1"	Range State						
	P182E	Internal Mode Switch-Invalid Range	Current range		Tranonional T	Rango otato						
			Previous range	!= (CeTRGR_e_PR NDL_Drive6	Range State						
			Previous range	!= (CeTRGR_e_PR NDL_Drive4	Range State						
			Either the S1 or S3									
			Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean						
			Engine Torque	>=	-50	Nm						
			Engine Torque	<=	1492	Nm						
			If the above conditions								Fail	
			are present Increment								>= 0.225 Second	
			If Fail Timer has Expired								S	
			then Increment Fail								>= 15 Counts	
			Fail									
			Case 2 Current range	=	"Transitional 1"	Range State						
			S3 Pressure Switch indicates "Exhausted"	=	TRUE	Boolean						
			Commanded Gear	=	1st Locked	Gear						
			If the above conditions								Fail	
			Fail Timer								>= 0.225 Second S	
			If Fail Timer has Expired								Fail	
			then increment Fail Counter								>= 15 Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.	
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	!=	CeTR GR_e_ PRND L_Driv e3		
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	!=	CeTR GR_e_ PRND L_Driv e2		
			Engine Torque	>=	-50	Nm	IMS is 7 position configuration	=	₀ Boolea		
			Engine Torque	<=	1492	Nm	If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"				
			If the above conditions							>= 0.225 Secon	d
			Fail Timer							s 0.220 s	
			then Increment Fail							>= 15 Fail Counts	3
			Fail Case 4 Current range	=	"Transitional 2" or "Transitional 8"		Disable Fail Case 4 if last positive range was Drive 6 and curren 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	d
			If the above Conditions have been met, Increment Fail Counter							>= 15 Fail Counts	6
			<u>Fail</u> Case 5 Current range	=	"Transitional 11"						
			Engine Torque	>=	-50	Nm					
			Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABI	E CONDITIONS	TIME REQUIR	D MIL ILLUM.
			If the above conditions are present Increment Fail Timer If the above Conditions have been met, Increment Fail Counter						>= 0.225 ^{Se} >= 15 ^F Co	ond 3 ail unts
			<u>Case 6</u> Current range	= "Illegal"		false if the following conditions are met):	4	"Transi		
			or ECM Park/Neutral Message	= "Park/Neutral"		Current Range	7	tional		
			and	Park, Neutral,		Last positive state	¥	Neutral		
			Current Range	 ≠ 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 Closed		
						PRNDL Circuit C	=	Circuit Open Circuit		
						PRNDL Circuit P	=	Open Circuit		
			If the above Conditions are present, Increment Fail timer						>= 6.25 ^{Se}	ond 3
			<u>Fall</u> Current PRNDL State Case 7 and	= PRNDL circuit ABCP = 1101						
			Previous valid state	PRNDL = encoded value of ABCP =111	e Range					
			Input Speed	>= 150	RPM					

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	UIRED	MIL ILLUM.
			Initial Engine speed	<=	50	RPM					>= 0.25	Enable Time (Sec)	
			Then Engine Speed Between Following Cals										
			Engine Speed Lo Hist	>=	50	RPM						Fachle	
			Engine Speed Hi Hist	<=	480	RPM					>= 0.0688	Time (Sec)	
			Then										
			Final Engine Speed	>=	525	RPM						Foil	
			Final Transmission Input Speed	>=	200	RPM					>= 1.25	Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE	Boolean			
							Ignition Voltage Lo	>=	6	V			
							Ignition Voltage Hi	<=	31.99	V			
							(enables above this value)	>=	6	V			
							Ignition Voltage Hyst Low (disabled below this value)	<=	2	V			
							Transmission Output Speed	<=	90 Taat	rpm			
							P1015 Status is	¥	Failed This				
							F 1915 Status IS	+	or Fault Active				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723					
								ECM:					
			Pup crank active /based					NOTE			 		One Trip
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	on voltage thresholds below)	=	FALSE								one mp

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDITIONS	TIME RE	QUIRED	MIL ILLUM.
			Ignition Voltage High Hyst (run crank goes true when above this value) Ignition Voltage Low	n 6 0	6	Volts				>= 280	Fail Counts (25ms Ioop) Sample	
			Hyst (run crank goes false when below this value)	6 6	2	Volts				Out 280 of 280	Counts (25ms loop)	
							Normal CAN Comm Enabled	=	TRUE Boolean			
								_				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
								ECM: None				
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case: Steady State 2nd Case 1 Gear Gear	r						Pleas	e	One Trip
			Gear slip) >=	200	RPM				Table >= For Neutr	5 Neutral Timer al (Sec)	
			Intrusive test commanded 3rd gear	r						~ `		
			If attained Gear = 3rd fo Time	r >=	Table Based ime Please see Table 2 in Supporting Documents	Enable Time (Sec)						
			If Above Conditions have been me	e							and	
			Increment 2nd gear fai coun	t						>= 3	Gear Fail Count	
			and CB26 Fail Coun	t						>= 14	or CB26 Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case: Steady State 6th Case 2 Gear Gear slip Intrusive test: Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment 5th gear fail counter and CB26 Fail Count	>= 200 RPM Table Based Time Please see Table 2 in Supporting Documents				Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal >= 3 5th Gear Fail Count or CB26 >= 14 Fail	
					PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal valid		FALSEBooleanFALSEBooleanFALSEBooleanTRUEBooleanTRUEBoolean0RPM650RPM0.4Pct8.5996Volts31.99Volts500RPM7500RPM5SecTRUEBoolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLI	E CONDIT	IONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	CODE P2715	DESCRIPTION	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE = Maximum pressurized	Disable Conditions: Boolean	SECONDARY PARAMETERS HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present MIL not Illuminated for DTC's:	= = = = TCM: P0716, P0717, P0722, P0723, P182E	TRUE E 0 FALSE E FALSE E TRUE ECM: F P0101, F P0102, F P0103, F P0103, F P0106, F P0107, F P0107, F P0107, F P0172, F P0174, F P0175, F P0202, F P0203, F P0204, F	P0205, P0205, P0206, P0207, P0206, P0207, P0300, P0300, P0300, P0300, P0305, P0306, P0307, P0306, P0307, P0308, P0307, P0308, P0307, P0308, P0307, P0308, P0307, P0308, P0308, P0307, P0308, P0		One Trip
			Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If above conditions are true, increment appropriate Fail 1 Timers Below;	 Clutch exhaust command ≠ Initial Clutch Control <= 40 	RPM						

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	E CONDITIONS	TIME R	EQUIRED	MIL ILLUM.
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter							
			2nd gear fail counter					>= 3	Fail Counter From 2nd Gear OR	
			6th gear fail counter					>= 3	Fail Counter From 6th Gear	
			total fail counter					>= 5	Total Fail Counter	
					Trans oil temperature	>	0 °C			
					Input Speed Sensor fault	=	FALSE Boolea	n		
					Output Speed Sensor fault	=	FALSE Boolea	ר		
					Command / Attained Gear	≠	1st Boolea	า		
					High Side Driver ON	=	TRUE Boolea	ר		
					output speed limit for TUT	>=	350 RPM			
					TUT Enable temperature	>=				
					PRNDL state defaulted	=	FALSE Boolea	h		
					IMS Fault Pending	=	FALSE Boolea	1		
					Service Fast Learn Mode	=	FALSE Boolea	n		
					HSD Enabled	=	TRUE Boolea	n		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALU	E	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Con	Disable ditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0101, P022, P0102, P0102, P0102, P0103, P0103, P0106, P0106, P0107, P0108, P0107, P0108, P0107, P0108, P0107, P0304, P0172, P0304, P0175, P0304, P0175, P0304, P0201, P0202, P0201, P0304, P0202, P0204, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case: Steady State 1st Case 1 Attained Gear slip If the Above is True for Time If the Above is True for Time Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 200 RPM Table Based Time Please Refer to Table 4 in supporting documents <= 3.016 >= 2.728	le Time			>= 0.75 Timer (Sec) >= 2 Count in 1st Gear or Total >= 3 Fail Counts	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case: Steady State 3rd Case 2 Gear	5 T				
			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 >= Refer to Table rpm/sec 18 in supporting documents				
			If the Above is True fo Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents				
			Intrusive test (C35R clutch exhausted)	: h)				
			Gear Ratio	o <= 3.016				
			Gear Ratio	5 >= 2.728				
			are true	3			Fail >= 0.75 Timer (Sec)	
							>= 2 Count in 3rd Gear	
							or Total >= 3 Fail Counts	
			Fail Case: Steady State 4rd Case 3 Gear					1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Max Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents				
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents				
			Intrusive test: (C1234 clutch exhausted) Gear Ratio	<= 0.779				
			Gear Ratio	>= 0.705				
			are true				>= 0.75 Fail >= 0.75 Timer (Sec) Fail >= 2 Count	
							in 4th Gear or Total >= 3 Fail	
			FailCase: Steady State 5thCase 4Gear				Counts	
			Max Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Min Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents					
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents					
			Intrusive test: (C35R clutch exhausted) Gear Patio	~- 0.770					
			Gear Ratio	<= 0.779 >= 0.705					
			If the above parameters						
			are true					5-11	
								>= 0.75 Timer	
								(Sec) Fail	
								>= 2 Count	
								in 5th Gear	
								or	
								Total >= 3 Fail	
							544.05 5 4	Counts	5
					PKNDL State defaulted	=	FALSE Boolean		
					IMS fault pending indication	=	FALSE Boolean		
					output speed	>=	0 RPM		
					TPS validity flag	=	TRUE Boolean		
					HSD Enabled	=	TRUE Boolean		
					Hydraulic_System_Pressurized	=	TRUE Boolean		
					Minimum output speed for RVT	>=	0 Nm		
					A OR B				
					(A) Output speed enable	>=	650 Nm 0.4 Nm		
						>=	0.4 INTA 8 5996 Volte		
				1	ignition voltage Lo		0.0000 0000		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	ITIONS	TIME REQUIRE	D MIL ILLUM.
						Ignition Voltage Hi	<=	31.99	Volts		
						Engine Speed Lo	>=	500	RPM		
						Engine Speed Hi Engine Speed is within the	<=	7500	RPM		
						allowable limits for	>=	5	Sec		
						if Attained Gear=1st FW Accelerator Pedal enable	>=	5	Pct		
						if Attained Gear=1st FW Engine Torque Enable	>=	20	Nm		
						if Attained Gear=1st FW Engine Torque Enable	<=	1492	Nm		
						Transmission Fluid Temperature	>=	0	°C		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not present	=	TRUE			
					Disable	MIL not Illuminated for DTC's:	TCM:	ECM:	P0205,		
					Conditions:		P0716, P0717,	P0101, P0102	P0206, P0207		
							P0722,	P0103,	P0208,		
							P0723, P182E	P0106, P0107,	P0300, P0301,		
								P0108,	P0302,		
								P0171, P0172,	P0303, P0304,		
								P0174, P0175	P0305, P0306		
								P0201,	P0307,		
								P0202, P0203.	P0308, P0401.		
								P0204,	P042E		
Variable Bleed Solenoid	P2720	Pressure Control (PC) Solenoid D	The HWIO reports an low voltage (ground	= TRUE	Boolean					Fa >= 0.3 Tim	I One Trip e
(VBS)			short) error flag							(Se Sam	c)
										out 0.375 Tim	e
							 	Test		(Se	<u>c)</u>
								Failed			
						P2770 Status is not	=	Key On			
								or Fault			
							1	Active			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIREI) MIL ILLUM.
					Ignition Voltage	>=	8.5996	Volts		
					Ignition Voltage	<=	31.99	Volts		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
						ECM: None				
Variable Bleed Solenoid	D0701	Pressure Control (PC) Solenoid D	The HWIO reports an						Fai	One Trip
(VBS)	1 2121	Control Circuit High	power short) error flag	- INCL DOOLEAN					>= 0.5 min	:)
									out 0.375 Tim of (See	e e
					P2721 Status is not	=	Test Failed This Key On or Fault			<u></u>
					Ignition Voltage	>=	8.5996	Volts		
					Ignition Voltage	<=	31.99	Volts		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			and C1234 fail counter	r			or C1234 >= 14 Clutch Fail Count	
			Fail Case: Steady State 3rd Case 3 Gear	s r			Please See	
			Gear slip	D >= 200 RPM			Table 5 Neutral >= For Timer Neutral (Sec) Time	
			Intrusive test: commanded 4th gear	Table based			Cal	
			If attained Gear ≠ 4th for time	 See Table 3 in Supporting Documents Enable Time (Sec) 			Зrd	
			If Above Conditions have been met, Increment 3rd gear fail counter	9 2 1			>= 2 Gear Fail Count or	
			and C1234 fail counter	r ~			>= 14 Clutch Fail Count	
			<u>Case 4</u> Gear	r			Please See Table 5. Neutral	
			Gear slip	o>= 200 RPM			>= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 5th gear	r r Table based Timer, Please				
			If attained Gear = 5th For Time	 See Table 3 in Supporting Documents Enable Time (Sec) 				

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Image: state of the second state of	t 1 1
and C1234 fail counter Image: Constraint of the second	4 1 1
PRNDL State defaulted = FALSE Boolean inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean	
inhibit RVT = FALSE Boolean IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean	
IMS fault pending indication = FALSE Boolean TPS validity flag = TRUE Boolean	
TPS validity flag = TRUE Boolean	-
Livelanulla Overland Disease TDUE Destand	
Hydraulic System Pressurized = I RUE Boolean	
Minimum output speed for RVT >= 0 RPM	
A OR B	
(A) Output speed enable >= 650 RPM	
(B) Accelerator Pedal enable >= 0.4 Pct	
Common Enable Criteria	
Ignition Voltage Lo >= 8.5996 Volts	
Ignition Voltage Hi <= 31.99 Volts	
Engine Speed Lo >= 500 RPM	
Engine Speed Hi <= 7500 RPM	
Engine Speed is within the allowable limits for >= 5 Sec	
Throttle Position Signal valid = TRUE Boolean	
HSD Enabled = TRUE Boolean	
Transmission Fluid Temperature >= 0 °C	
Input Speed Sensor fault = FALSE Boolean	
Output Speed Sensor fault = FALSE Boolean	
Default Gear Option is not present = TRUE	
Disable Conditions: MIL not Illuminated for DTC's: TCM: ECM: P0205, P0716, P0101, P0206, P0717, P0102, P0207, P0722, P0103, P0208, P0723, P0106, P0300, P182E P0107, P0301, P0302, P0108, P0302,	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
								P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	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 Primary Offgoing Clutch Pressure Command Status Rance Shift Status	= = ≠	Maximum pressurized Clutch exhaust command Initial Clutch	:				
			Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below:	<=	Control 40	RPM				
			fail timer 1 (2-6 shifting with throttle) fail timer 1	>=	1.200195313	sec				
			(2-6 shifting without throttle) fail timer 1	>=	1.200195313 1.200195313	sec				
			(3-5 snifting with throttle) 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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (4-6 shifting without throttle) If Attained Gear Slip is Less than Above Cal Increment Fail Timers	>= 1.200195313 sec			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referen ce Support ing Table	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fai counter 2nd gear fail counter				15 for Fail Timer 2 Fail Counter >= 3 From 2nd	
			3rd gear fail counter				Gear Fail Counter >= 3 From 3rd Gear	
			4th gear fail counter				Fail Counter >= 3 From 4th Gear	
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
----------------------------------	---------------	---	--------------------------------------	---	-------------------------------	---	----------------------	------------
			total fail counter				>= 5 Fail Counter	
					Trans oil temperature	> 0 °C		
					Input Speed Sensor fault	t = FALSE Boolean	1	
					Output Speed Sensor fault	t = FALSE Boolean	1	
					Command / Attained Gear	r ≠ 1st Boolean	1	
					High Side Driver ON	I = TRUE Boolean	1	
					output speed limit for TUT	>= 350 RPM	ł	
					input speed limit for TUT	. >= 200 RPM	ł	
					TUT Enable temperature	°C =< €	ł	
					PRNDL state defaulted	= FALSE Boolean	ł	
					IMS Fault Pending	= FALSE Boolean	ł	
					Service Fast Learn Mode	= FALSE Boolean	ł	
					HSD Enabled	I = TRUE Boolean	ł	
							ł	
							1	
				Disable Conditions:	MIL not Illuminated for DTC's	TCM: P0716, P0717, P0722, P0723, P182E P182E P182E P100, P0207, P0102, P0207, P0103, P0208, P0106, P0300, P0107, P0301, P0108, P0302, P0171, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	<u>Fail</u> Case 1 Case: 5th Gear					One Trip
			Max Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents				

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 rpm/sec 18 in supporting documents				
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.485				
			Gear Ratio	>= 1.343				
							Fail >= 0.75 Timer	
							(Sec) Fail	
							>= 2 Count in 5th Gear	
							OR Total	
							>= 3 Fail Counts	
			<u>Fail</u> Case 2 Case: 6th 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 >= Refer to Table rpm/sec 18 in supporting documents				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	CONDARY PARAMETERS ENABLE CONDITIONS		TIME REQUIRED	MIL ILLUM.
			If the Above is True for Time	Table Based Time Please >= Refer to Table Sec 19 in supporting documents					
			Intrusive test: (CB26 clutch exhausted)	:					
			Gear Ratio	o <= 1.485					
			Gear Ratio	o >= 1.343					
			If the above parameters are true	6 9					
								Fail >= 0.75 Timer	
								(Sec)	
								>= 2 Count	
								in 6th Gear	
								OR	
								Total >= 3 Fail	
								Counts	
					PRNDL State defaulted	=	FALSE Boolean		
					IMS fault pending indication	=	FALSE Boolean		
					output speed	>=	0 RPM		
					TPS validity flag	=	TRUE Boolean		
					HSD Enabled	=	TRUE Boolean		
					Hydraulic_System_Pressurized	=	TRUE Boolean		
					Minimum output speed for RVT	>=	0 Nm		
					A OR B				
					(A) Output speed enable	>=	650 Nm		
					(B) Accelerator Pedal enable	>=	0.4 NM		
					Ignition Voltage Hi	<=	31.99 Volts		
					Engine Speed Lo	>=	500 RPM		
					Engine Speed Hi	<=	7500 RPM		
					Engine Speed is within the allowable limits for	>=	5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions	if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present MIL not Illuminated for DTC's:	>= 5 Pct >= 20 Nm <= 1492 Nm <= 1492 Nm >= 0 °C = FALSE Boolean = FALSE Boolean = TRUE * P0102, P0205, P0102, P0207, P0102, P0207, P0102, P0207, P0107, P0300, P0174, P0303, P0172, P0304, P0174, P0305, P0175, P0306, P0201, P0307, P0202, P0308, P0203, P0401, P0204, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean	P2729 Status is not Ignition Voltage	Test Failed This = Key On or Fault Active >= 8.5996 Volt	Fail >= 0.3 Time (Sec) Sample of 0.375 Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIONS	TIME RE	QUIRED	MIL ILLUM.
						Ignition Voltage	<=	31.99	Volt			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None					
							ECM: None					
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sample 5 Time (Sec)	
						P2730 Status is not	=	Test Failed This Key On or Fault				
						Ignition Voltage	~-	Active	Volt			
						Ignition Voltage	<=	31.99	Volt			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None					
							ECM: None					
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE	Boolean					>= 4.4	Fail Time (Sec)	One Trip
										out of 5	Sample Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE) VALUE	SECONDARY PARAMETERS	S ENABLE CONDITIONS		TIONS	тімі	E REQI	JIRED	MIL ILLUM.
							P2763 Status is not Ignition Voltage Ignition Voltage	= >= <=	Test Failed This Key On or Fault Active 8.5996 31.99	Volt Volt				
							Engine Speed	>=	500					
							Engine Speed Engine Speed is within the allowable limits for	<= >=	5	Sec				
							High Side Driver Enabled	=	TRUE	Boolean	1			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0659						
								ECM: None						
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports an high pressure/low voltage (ground short) error flag	=	TRUE	Boolean					>=	4.4	MPH	One Trip
											out	5	MPH	
							P2764 Status is not Ignition Voltage	= _=	Test Failed This Key On or Fault Active 8.5996	Volt				
							Ignition voltage	<=	500	voit RPM				1
							Engine Speed	>= <=	7500	RPM				1
							Engine Speed is within the allowable limits for	>=	5	Sec				
							High Side Driver Enabled	=	TRUE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE S		SECONDARY PARAMETERS	ENABLE CONDITIONS		TIONS	TIM	E REQ	UIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658,						
							P0659						
							ECM:						
							None						
			CAN Hardware Circuitry									Fail counts	One Trip
Communication	U0073	Controller Area Network Bus Communication Error	Detects a Low Voltage	= TRUE	Boolean					>=	250	(12.25	
			EIIOI									loop)	
												Sample	
			Delay timer	>= 0.1125	sec					Out	253	Counts (12.25	
										Of		ms	
						Stabilization delay	>=	3	sec			1000)	
						Power Mode	=	Run					
						Ignition Voltage Lo	>=	8.5996	Volt				
						Ignition Voltage Hi	<=	31.99	Volt				
					Disable	MIL not Illuminated for DTC's:	TCM:						
					Conditions:		None						
							ECM: None						
			Communication										One Trip
Communication	U0100	Lost Communications with Engine Control System	Message Invalid From	= TRUE	Boolean					>=	12	sec	
			ECM										
						Stabilization delay	>=	3 Run	sec				
						Ignition Voltage Lo	>=	8.5996	Volt				
						Ignition Voltage Hi	<=	31.99	Volt				
					Disable		TOM						
					Disable Conditions:	WIL not Illuminated for DIC's:	U0073						
							ECM:						
							None						



Table 9						Units	S		
	Axis	-40	-0.0078125	40	80	120 °C			
	Curve	409	409	1.3	1.2	1.1 Sec			
	-								
T-11- 40						11	_		
<u>Table 10</u>	A via	40	20	0	20		5		
		3 000600	1 90039063	1 000600	0 700805	0.599609 Sec			
	ourve	5.033003	1.90039003	1.033003	0.799000	0.033003 000			
<u> Table 11</u>						Units	5		
	Axis	-40	-20	0	30	110 ⁰C			
	Curve	1.799805	1.20019531	0.599609	0.400391	0.299805 Sec			
Table 12						Unite			
	Δxis	-40	-20	0	30		5		
	Curve	2.200195	1.40039063	0.900391	0.700195	0.400391 Sec			
Table 13	_					Units	5		
	Axis	-40	-20	0	30	110 ⁰C			
	Curve	2.599609	1	0.5	0.299805	0.200195 Sec			
Table 14						Units	5		
	Axis	-40	-20	0	30	110 °C			
	Curve	3	0.90039063	0.5	0.299805	0.200195 Sec			
Table 15	. · F	40		0.0	10		10	0.0	
	AXIS	-40	-30	-20	-10	0	10	20	3
	Curve	0	0	0	0	U	0	0	
<u>Table 16</u>					Units				
	Axis	-40	0	40	°C				
	Curve	409.5938	1.5	1.5	Sec				

Units 40 °C 0 Sec

Units

Units

Units

°C

°C



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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME R	EQUIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0667	TCM internal temperature thermistor failed at a constant value or toggling at high frequency.	Fail Case 1 Enable Vehicle Speed	>=	8	Kph			>= 30	Vehicle Speed 0 Enable Time (Sec)	Special No Trip
			Enable TCC Slip	>	150	RPM			>= 15	Slip 0 Enable Time (Sec)	
			Enable Transmission Fluid Temperature	>=	70	٥C					
			Enable Transmission Fluid Temperature Delta from startup	>=	55	°C				Temp	
			Enable Substrate Temp Delta	<	2	°C			>= 10	Delta 0 Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>=	-55	℃					
			Startup Substrate Temperature HI Enable When Above FC1 Enable Conditions have been Met, Increment Fail	<=	21	°C			> 10	Fail 0 Timer (Sec)	
			Fail Case 2 Vehicle Speed	>=	8	RPM			>= 30	Vehicle Speed 0 Enable Time (Sec)	
			TCC Slip	>	-12	RPM			>= -12	Slip 2 Enable Time	
			Transmission Fluid Temperature Transmission Fluid	>=	70	°C				(560)	
			Temperature Delta from startup	>=	55	℃					

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	LD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION			TIME F	REQUIRED	MIL ILLUM.
						Engine Speed Lo	>=	500	RPM			
						Engine Speed Hi	<=	7500	RPM			
						Engine Speed is within the		_	-			
						allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0668					
							ECM: None					
Transmission Control Module (TCM)	P0669	TCM internal temperature thermistor failed at a low temperature (open or short to power)	TCM Substrate Temp	<= 249	٥C					>= '	Fail 4 Timer (Sec)	Special No Trip
		201101).				TOSS Speed	>=	200	RPM			-
						Toss Speed greater than above cal for	>=	200	Sec			
						TCC Slip	>=	-12	RPM			
						TCC Slip greater than above cal for	>=	0	Sec			
						Ignition Voltage Lo	>=	8.5996	Volts			
						Ignition Voltage Hi	<=	18	Volts			
						Engine Speed Lo	>=	500	RPM			
						Engine Speed Hi	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0669, P0716, P0717, P0722, P0723 ECM: None					
Mode Switch	P071A	Transmission Mode Switch A Circuit	If Tow Haul / Winter Switch Active	= TRUE	Boolean					>= 60	Fail 00 Time (Sec)	Special No Trip
						Tow Haul Mode Switch Diagnostic Enabled	=	TRUE	Boolean			
		4	1			Ignition Voltage Lo	>=	8.5996	Volts	1		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	٢	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIM	E REQ	UIRED	MIL ILLUM.
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the		_	•				
							allowable limits for	>=	5	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1762 ECM: None						
		Transmission Made Switch P	If Sport Made Switch is										Fail	Special No
Mode Switch	P071D	Circuit	If Sport Mode Switch is Active	=	TRUE	Boolean					>=	600	Time	Trip
							Sport Mode Switch Diagnostic				-		(Sec)	
							Enabled	=	TRUE	Boolean				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
						Disable	MIL not Illuminated for DTC's:	TCM:						
						Conditions:		P1762						
								FCM.						
								None						
			Fail										Vahiala	Crasial Na
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	<u>Fail</u> <u>Case 1</u> Vehicle Speed	>=	8	Kph					>=	300	Speed Enable	Special No Trip
													Time (Sec) TCC	
			TCC Slip	>=	150	RPM					>=	0	Slip Enable Time	
			Transmission Fluid Temperature Lo	>=	-50	٥C							(Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHO	LD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		MIL ILLUM.
			Transmission Fluid	<=	21	٥C				
			Engine Coolant Temp	>=	70	°C				
			Engine Coolant Temp	>=	55	°C				
			TFT Delta from Startup	<	2	°C				
			If the Above Enable						Fai	
			Conditions are Met, Then Increment Fail						>= 100 Tim)
			Counter						(Sec	
			<u>Case 2</u> Vehicle Speed	>=	8	Kph			>= 300 Enab >= 100 Enab Tim (Sec	d le 3
			TCC Slip	>=	-12	RPM			>= 0 Enab Tim (Sec	le ≩)
			Transmission Fluid Temperature	>=	129	°C				
			Transmission Fluid Temperature	<=	170	°C				
			Engine Coolant Temp	>=	70	°C				
			Engine Coolant Temp Delta	>=	55	°C				
			TFT Delta from startup	<	2	℃			TFT Delt >= 100 Enab Tim (Sec	; e ;)
			Conditions are Met, Then Increment Fail Counter						Fai >= 100 Tim (Sec	;)
			<u>Fail</u> Case <u>3</u> TFT Delta	>=	20	°C			= 5 Fai Cour	ts
									Samp = 7 Tim (Sec	le ;)

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case 4 Transmission Fluid Temperature	<pre>4 <= 20 °C</pre>	Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Lo Vehicle Speed Hi Engine Speed Lo Engine Speed Hi Engine Coolant Lo Engine Coolant Lo Engine Coolant Hi Engine Torque Signal Valid Accelerator Position Signal Valid Engine Crank Position Sensor Signal Valid Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Engine Speed Lo Engine Speed Hi Engine Coolant Sensor Signal Valid Engine Speed is within the allowable limits for	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	Please Refer to Table 1 in Supporti ng Docum ents for Cal Table	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	ТІ	HRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	E REQL	JIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0716, P0717, P0722, P0723, P0742, P2726	ECM: P0101, P0102, P0103, P0116, P0117, P0118, P0121, P0122, P0123, P0336, P0337,					
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	Transmission Fluid Temperature	>=	-74	₀C					>=	12.75	Fail Time (Sec)	Special No Trip
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0712, P0716, P0717, P0722, P0723						
								ECM: None						
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low	Transmission Fluid Temperature	>=	174	°C					>=	10	Fail Time	Special No Trip
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							allowable limite for	>=	5	Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	т	HRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIM	/E REQ	UIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0713, P0716, P0717, P0722, P0723 ECM: None						
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>=	1350	RPM					>=	0.8	Fail Time (Sec)	One Trip
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							Engine Torque Lo	>=	0	N*m				
							Engine Torque Hi	<=	1492	N*m				
							Vehicle Speed	>=	0	Kph				
							Throttle Position	>=	0	Pct				
							Engine Torque Signal Valid	=	TRUE	Boolean				
							Throttle Position Signal Valid	=	TRUE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0752, P0973, P0974	ECM: P0101, P0102, P0103, P0121, P0122, P0123					
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Transmission Input Speed Sensor	<	50	RPM					>=	4.5	Fail Time (Sec)	One Trip
							Ignition Voltage Lo	>=	8.5996	Volts				1
							Ignition Voltage Hi	<=	18	Volts				1
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				1

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME	E REQ	UIRED	MIL ILLUM.
							Engine Speed is within the allowable limits for Engine Torque Lo Engine Torque Hi Vehicle Speed	, , , , , , , , , , , , , , , , , , ,	5 50 1492 16	Sec N*m N*m Kob				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723	ECM: P0101, P0102, P0103	κρη				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<=	70	RPM					>=	4.5	Fail Time (Sec)	One Trip
							Ignition Voltage Lo	>=	8.5996	Volts			(000)	
									500					
							Engine Speed Lo	>=	500					
							Engine Speed Hi Engine Speed is within the	<=	7500	RPM				
							allowable limits for	>=	5	Sec				
							Engine Torque Lo	>=	50	N*m				
							Engine Torque Hi	<=	1492	N*m				
							Throttle Position	>=	8	Pct				
							Transmission Input Speed Lo	>=	1000	RPM				
							Transmission Input Speed Hi	<=	8191	RPM				
							Transmission Fluid Temperature	>=	-40	°C				
							Engine Torque Signal Valid	=	TRUE	Boolean				
							Throttle Position Signal Valid	=	TRUE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722	ECM: P0101, P0102, P0103, P0121, P0122, P0123					
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>=	210	RPM					>=	0.2	Enable Time (Sec)	One Trip
			Input Speed Delta	<	4095	RPM					>=	0	Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
			Output Speed Delta	<=	8191	RPM					>=	0	Enable Time (Sec) Output	
			Output Speed Drop	>	650	RPM					>=	1.5	Speed Drop Recove r Fail Time (Sec)	
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	3200	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Range Change Delay Timer	>=	5	Sec				
							4WD Range Change Delay Timer	>=	5	Sec				
							Engine Torque Signal Valid	=	TRUE	Boolean				
							Throttle Position Signal Valid	=	TRUE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977	ECM: P0101, P0102, P0103, P0121, P0122, P0123					
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>=	500	Кра					>=	2	Enable Time	One Trip
			Either Condition (A) or (B) Must be Met										(000)	
			(A) TCC Slip Error @ TCC On Mode	>=	Please See Calibration Table 3 in Supporting Documents	RPM					>=	4	Enable Time (Sec)	
			(B) TCC Slip Error @ Lock On Mode	>=	130	RPM					>=	4	Enable Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIM	1E REQ	UIRED	MIL ILLUM.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						>=	3	TCC Stuck Off Fail Counter	
					Ignition Voltage Lo	>=	8.5996	Volts				
					Ignition Voltage Hi	<=	18	Volts				
					Engine Torque Lo	>=	50	N*m				
					Engine Torque Hi	<=	1492	N*m				
					Throttle Position Lo	>=	8.0002	Pct				
					Throttle Position Hi	<=	99.998	Pct				
					2nd Gear Ratio Lo	>=	2.671	Ratio				
					2nd Gear Ratio High	<=	3.073	Ratio				
					3rd Gear Ratio Lo	>=	1.713	Ratio				
					3rd Gear Ratio High	<=	1.9709	Ratio				
					4th Gear Ratio Lo	>=	1.3151	Ratio				
					4th Gear Ratio High	<=	1.5129	Ratio				
					5th Gear Ratio Lo	>=	0.9301	Ratio				
					5th Gear Ratio Hi	<=	1.0699	Ratio				
					6th Gear Ratio Lo	>=	0.6901	Ratio				
					6th Gear Ratio High	<=	0.7939	Ratio				
					Transmission Fluid Temperature	>=	20	°C				
					L0 Transmission Fluid Temperature							
					Hi	<=	130	°C				
					TCC Command Lock ON or ON	=	TRUE	Boolean				
					PTO Not Active	=	TRUE	Boolean				
					Engine Torque Signal Valid	=	TRUE	Boolean				
					Throttle Position Signal Valid	=	TRUE	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, P2762, P2763,	ECM: P0101, P0102, P0103, P0121, P0122, P0123					
						P2764						

COMPONENT/ SYSTEM FAULT MONITOR STRATEGY MA	IALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Torque Converter Clutch (TCC)	TCC Slip Speed TCC Slip is between above cals when TCC Commanded Off, Increment Fail Timer If Fail Timer has expired, increment Fail Counter	>= -20 RPM <= 30 RPM Disab	Ignition Voltage Lo Ignition Voltage Hi Engine Torque Lo Engine Torque Hi Transmission Fluid Temperature Hi Throstile Position Lo Throttle Position Lo Throttle Position Hi Vehicle Speed Engine Speed Lo Engine Speed Hi Gear Ratio Lo Gear Ratio Lo Gear Ratio Hi Commanded Gear Shift Solenoid A Enabled TCC Command Off Engine Torque Signal Valid Throttle Position Signal Valid MIL not Illuminated for DTC's:	>= 8.5996 Volts <=	>= 2.5 Time (Sec) = 6 Fail Counter	One Trip

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E COND	TIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	200	Rpm					Please Refer to Table 7 Neutral >= Support ing Docum ents	One Trip
			Attained Gear	¥	3rd	Gear					ents	
			Commanded Gear	-	3rd	Gear						
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd	=	TRUE	Boolean						
			C456/CBR1 Pressure Switch Error	=	TRUE	Boolean						
							Ignition Voltage Lo	>=	8.5996	Volts		
							Ignition Voltage Hi	<=	18	Volts		
							Engine Speed Lo	>=	500	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for	>=	5	Sec		
							High-Side Driver is Enabled	=	TRUE	Boolean		
							Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Output Speed	>=	0	RPM		
							OR		~ /			
							TPS Shift is Complete	>=	0.4	%		
							Transmission Fluid Temperature	>=	0	°C		
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUN	CTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail</u> <u>Case 1</u>	Commanded Gear Gear Box Slip	= ,=	1st Locked or 1st FW 200	RPM					Please Refer to Table 7 Neutral >= in Timer Support (Sec) Docum	One Trip
			<u>Fail</u> Case 2	Commanded Gear	=	2nd	Gear					ents	
				Gear Box Slip	<=	200	RPM						
				Closest Gear Ratio	=	2nd	Gear						
								Ignition Voltage Lo	>=	8.5996	Volts		
								Ignition Voltage Hi	<=	18	Volts		
								Engine Speed Lo	>=	500	RPM		
								Engine Speed Hi	<=	7500	RPM		
								Engine Speed is within the allowable limits for	>=	5	Sec		
								Output Speed	>=	0	RPM		
								OR					
								TPS	>=	0.4	%		
								Shift is Complete					
								Transmission Fluid Temperature	>=	0	°C		
								High-Side Driver is Enabled	=	TRUE	Boolean		
								Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case: Steady State 3rd Case 1 Gear Commanded Gear	d rr r = 3rd Gear			Please Refer to	One Trip
			Gearbox Slip	p >= 200 Rpm			>= in Timer Support (Sec) Docum ents	
			Intrusive Test: Command 4th Gear If attained Gear=4th gear	t: Table Based Time Please = Refer to Table 4 (conc)				
			It the above conditions are true, Increment Sum	e (Sec) documents s			3rd >= 2 Gear Fail	
			and Fail counters	s			>= 14 Counts 3-5R Clutch Fail Counts	
			<u>Fall</u> Case: Steady State 5th <u>Case 2</u> Gear Commanded Gear	n rr rr = 5th Gear			Please Refer to	
			Gearbox Slip	p >= 200 Rpm			Table 7 Neutral in Timer Support ing Docum ents	
			Intrusive Test: Command 6th Gear If attained Gear=6th gear	t: r Table Based Time Please Enable Time			6113	
			Time	= Refer to Table 4 (Sec) in supporting documents				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
		DESCRIPTION	It the above conditions are true, Increment Sum and Fail counters	Di Condi	PRNDL State defaulte inhibit RV IMS fault pending indicatio TPS validity fla Hydraulic System Pressurize Minimum output speed for RV A OR (A) Output speed of RV (B) Accelerator Pedal enab (B) Accelerator Pedal enab (B) Accelerator Pedal enab Ignition Voltage L Ignition Voltage L Engine Speed I Engine Speed is within th allowable limits fo Throttle Position Signal val HSD Enable	d = T = g = g = f >= g = f >= g = f >= hi <= o >= hi <= o >= hi <= o >= hi <= o >= hi <= o >= hi <= o >= hi <= p o 722, p 07223, p 182E	FALSEBooleaFALSEBooleaFALSEBooleaTRUEBooleaTRUEBoolea0RPM650RPM0.4Pct8.5996Volts18Volts18Volts500RPM500RPM5SecTRUEBooleaTRUEBoolea	n n	
			Fail			ECM: P0121, P0122, P0123			One Trip
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	Case 1 Case: Steady State 1st <u>Case 1</u> Lock Commanded Gear slip	<= 33 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 fo	Table Based Time Please >= Refer to Table (in supporting documents	6 G (Sec)				
			Intrusive tes (CBR1 clutch exhausted	::)				F 1	
			3rd closest gea	r = TRUE				Fail >= 0.75 Timer (Sec)	
			Fail Case: Steady State 2n Case 2 gea	d r					
			Closest Gear Rati	o = 3rd	Gear				
			Neutral Tim Intrusive tes (CB26 clutc exhaustec	e ≠ 0 ::)	Sec				
			3rd closest gea	r = TRUE				Fail >= 0.75 Timer (Sec)	
			Fail Case: Steady State 4t Case 3 gea	r				(000)	
			Closest Gear Rati	o = 3rd	Gear				
			Neutral Time	e ≠ 0	Sec				
			Intrusive tes (C456 clutch exhausted	::				Fail	
			3rd closest gea	r = TRUE				>= 0.75 Timer (Sec)	
			<u>Fail</u> Case: Steady State 6t <u>Case 4</u> gea	r					
			Closest Gear Rati	o = 5th	Gear				
			Neutral Tim Intrusive tes (CB26 clutc exhausted	e ≠ 0 ::)	Sec				
			5th closest gea	r = TRUE				Fail >= 0.75 Timer (Sec)	
						PRNDL State defaulted	= FALSE		
						inhibit RVT	= FALSE		
				I		IMS fault pending indication	= FALSE		

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

COMPONENT/ SYSTEM FAULT MONITOR STR/ CODE DESCRIPTIO	TEGY MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	fail timer (3-2 shifting with Closer Throttle fail timer (3-4 shifting with Closer Throttle fail timer (3-4 shifting with Closer Throttle fail timer (3-5 shifting with Closer Throttle fail timer (5-3 shifting with Closer Throttle fail timer (5-4 shifting with Closer Throttle fail timer (5-4 shifting with Closer Throttle fail timer (5-6 shifting with Closer Throttle fail timer	1 >= 1.200195313 Fail Time (Sec) 1 >= 1.200195313 Fail Time (Sec) <t< td=""><td></td><td></td><td>Total Fail Time = (Fail 1 + Fail 2) See Enable Timer 1, SeC and Referenc e Supporti ng Table 17 for Fail</td><td></td></t<>			Total Fail Time = (Fail 1 + Fail 2) See Enable Timer 1, SeC and Referenc e Supporti ng Table 17 for Fail	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	Ē	SECONDARY PARAMETERS	ENABL	E COND	DITIONS	TIME REQU	JIRED	MIL ILLUM.
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	Eail Case: Steady State 4th Case 1 Gear slip Intrusive test: commanded 5th gear	THRESHOLD VALUE	Disable	SECONDARY PARAMETERS Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled MIL not Illuminated for DTC's:	ENABLI 	E COND 0 FALSE FALSE 1st FW TRUE 350 200 0 FALSE FALSE FALSE TRUE	PITIONS °C E Boolean Boolean RPM RPM °C E Boolean Boolean Boolean	TIME REQU Please See Table 7 >= For Neutral Time Cal	JIRED Neutral Timer (Sec)	MIL ILLUM.
			If attained Gear ≠5th for time Increment 4th Gear Fail Counter and C456 Fail Counters	Table Based Time Please Enabl S= Refer to Table 4 in supporting documents	le Time					>= 2 >= 14	4th Gear Fail Count C456 Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case: Steady State 5th Case 2 Gear Gear slip Intrusive test: commanded 6th gear	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			If attained Gear ≠ 6th for time Increment 5th Gear Fail Counter and C456 Fail Counters	Table Based Time Please >= Refer to Table 4 in supporting documents			5th >= 2 Gear Fail Count C456 >= 14 Fail Counts	
			Fail Case: Steady State 6th Case 3 Gear Gear slip Intrusive test:	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			If attained Gear ≠ 5th for time Increment 6th Gear Fail Counter and C456 Fail Counters	Table Based Time Please Refer to Table 4 in supporting documents			6th >= 2 Gear Fail Count C456 >= 14 Fail Counts	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI ⁻	TIONS	TIME REQU	UIRED	MIL ILLUM.
			Intrusive test: (CBR1 clutch exhausted)									
			4th closest gear	= TRUE						>= 0.75	Fail Timer (Sec)	
			Fail_ Case 2 Case Steady State 2nd									
			4th closest gear	= TRUE	Boolean							
			Neutral Time	≠ 0	Sec							
			Intrusive test: (CB26 clutch exhausted)							>= 0.75	Fail Timer (Sec)	
			4th closest gear	= TRUE	Boolean						(000)	
			Fail_ Case 3_ Case Steady State 3rd									
			4th closest gear	= TRUE	Boolean							
			Closest Gear Ratio	= 3rd	Gear							
			Neutral Time	≠ 0	Sec							
			Intrusive test: (C35R clutch exhausted)									
			4th closest gear	= TRUE	Boolean					>= 0.75	Fail Timer (Sec)	
						PRNDL State defaulted	=	FALSE	Boolean			
						inhibit RVT	=	FALSE	Boolean			
						IMS fault pending indication	=	FALSE	Boolean			
						output speed	>=	0	RPM			
						Crank Enable Criteria is met	=	TRUE	Boolean			
						TPS validity flag	=	TRUE	Boolean			
						Hydraulic_System_Pressurized	=	TRUE	Boolean			
						Minimum output speed for RVT	>=	0	RPM			
						A OR B						
						(A) Output speed enable	>=	650				
						(D) Accelerator Pedal enable	>=	0.4	PCI			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E					
							ECM: None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456]	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)	=	TRUE	Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	=	Maximum pressurized					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	¥	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			Fail 1 Timers Below:							
			fail timer 1 (4-1 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-1 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.		
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			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail Timer 1 + Fail Timer 2) See Below Enable Timer 1, and Referen ce Support ing Table 17 for Fail Timer 2			
				Disable Conditions:	Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	 > 0 °C = FALSE Booleau = FALSE Booleau ≠ 1st FW Booleau = TRUE Booleau >= 350 RPM >= 200 RPM >= 0 °C = FALSE Booleau = FALSE Booleau = FALSE Booleau = FALSE Booleau = TRUE Booleau = TRUE Booleau = TRUE Booleau 				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	ERIA THRESHOLD VALUE		D VALUE	SECONDARY PARAMETERS		SECONDARY PARAMETERS		COND	DITIONS	TIME F	EQUIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	FailTap Up Switch Stuck in Case 1the Up Position in Gear 1	=	1	Boolean	Time Since Last Range Change	>=	1	Enable Time			Special No Trip		
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	=	1	Boolean				(Sec)					
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 4 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 5 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 6 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Neutral Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Park Enabled Tap Up Switch Stuck in	=	1	Boolean									
			Tap Down Switch ON	_	TRUE	Boolean					> - 1	Fail			
				_	IKUL	Doolean					/=	(Sec)			
			Fail Tap Up Switch Stuck in Case 2 the Up Position in Gear 1 Enabled	=	1	Boolean	Time Since Last Range Change	>=	1	Enable Time (Sec)					
			the Up Position in Gear 2 Enabled	=	1	Boolean									
			the Up Position in Gear 3 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 4 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 5 Enabled Tap Up Switch Stuck in	=	1	Boolean									
			the Up Position in Gear 6 Enabled	=	1	Boolean									

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	A THRESHOLD VALUE SE		SECONDARY PARAMETERS	S ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ΞD	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled Tap Up Switch Stuck in	=	1	Boolean												
			the Up Position in Park Enabled	=	1	Boolean												
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	1	Boolean					F	ail						
			Tap Down Switch ON	=	TRUE	Boolean					>= 600 Ti (S	me ec)						
			NOTE: Both Failcase1 and Failcase 2 Must Be Met															
							Ignition Voltage Lo	>=	8.5996	Volts								
							Ignition Voltage Hi	<=	18	Volts								
							Engine Speed Lo	>=	500	RPM								
							Engine Speed Hi	<=	7500	RPM								
							Engine Speed is within the allowable limits for	>=	5	Sec								
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826,										
								P0815, P182E, P1761										
								ECM:										
								None										
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Stuck Case 1 in the Down Position in Gear 1 Enabled To Position in	=	1	Boolean	Time Since Last Range Change	>=	1	Sec			Special No Trip					
			in the Down Switch Stuck in the Down Position in Gear 2 Enabled	=	1	Boolean												
			in the Down Switch Stuck Gear 3 Enabled	=	1	Boolean												
			in the Down Position in Gear 4 Enabled	=	1	Boolean												

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Park Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Reverse Enabled	= 1	Boolean				
			Tap Down Switch ON	= TRUE	Boolean			>= 1 sec	
			Fail Tap Down Switch Stuck Case 2 in the Down Position in Gear 1 Enabled	= 1	Boolean	Time Since Last Range Change	>= 1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 1	Boolean				
			in the Down Switch Stuck Gear 5 Enabled	= 1	Boolean				
			in the Down Position in Gear 6 Enabled Tap Down Switch Stuck	= 1	Boolean				
			in the Down Position in Neutral Enabled Tap Down Switch Stuck	= 1	Boolean				
			in the Down Position in Park Enabled Tap Down Switch Stuck	= 1	Boolean				
			in the Down Position in Reverse Enabled Tap Down Switch ON	= 1 = TRUF	Boolean			>= 600 sec	
			Tap Down Switch ON	- 1100	Doolean			~- 000 380	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	S ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		ENABLE CONDITIONS		TIONS	TIN	1E REQ	UIRED	MIL ILLUM.
			NOTE: Both Failcase1 and Failcase 2 Must Be																				
			Met																				
						Ignition Voltage Lo	>=	8.5996	Volts														
						Ignition Voltage Hi	<=	18	Volts														
						Engine Speed Lo	>=	500	RPM														
						Engine Speed Hi	<=	7500	RPM														
						allowable limits for	>=	5	Sec														
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0816, P182E, P1761																
							ECM: None																
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No Trip										
						Ignition Voltage Lo	>=	8.5996	Volts			(0001											
						Ignition Voltage Hi	<=	18	Volts														
						Engine Speed Lo	>=	500	RPM														
						Engine Speed Hi	<=	7500	RPM														
						Engine Speed is within the allowable limits for	>=	5	Sec														
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P1761 ECM: None																
Transmission Fluid	DOOZO	Transmission Fluid Pressure	CB26 Hydraulic	- F0	KDo								Special No										
Pressure Switch	PU8/2	Voltage	pressure	<= 50	кРа								ı rip										
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal	Sec																		
			Check for Switch to be in Exhausted Position after delay, If so ther Increment Fail Counter							>=	18	Fail Counts											

COMPONENT/ SYSTEM FAULT MONITOR STRATEGY DESCRIPTION MALFUNCTION CRITERIA THRESHOLD VALUE SECONDARY PARAMETERS ENABLE CONDITIONS TIME REQUIRED MIL	DMPONENT/ SYSTEM FAL	D MIL ILLUM.
Transmission Fluid Poarz Transmission Fluid Poarz Transmission Fluid Poarz Set Set <t< td=""><td>nsmission Fluid ssure Switch</td><td>ail unts</td></t<>	nsmission Fluid ssure Switch	ail unts

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	ITIONS	TIME	REQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0974, P0976, P0977, P1915, P182E ECM: None					
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE	Boolean					>= 0	Fail .3 Time (Sec) Sample 375 Time (Sec)	One Trip ≩
						P0962 Test Enabled	=	TRUE	Boolean			
						Ignition Voltage Lo	>=	8.5996	Volts			
						Ignition Voltage Hi Engine Speed Lo	<=	18 500	VOItS RPM			
						Engine Speed Hi	<=	7500	RPM			
						Engine Speed is within the	>=	5	Sec			
						Line Pressure Control Solenoid Enabled	=	TRUE	Boolean			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0962					
							ECM: None					
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE	Boolean					>= 0	Fail .3 Time (Sec) Sample	One Trip
										= 0.3	375 Time	
						P0966 Test Enabled	=	TRUE	Boolean		(360)	-
						Ignition Voltage Lo	>=	8.5996	Volts			
						Ignition Voltage Hi	<=	18	Volts			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	TION CRITERIA THRESHOLD VALUE SECONDARY PARAMETERS E			ENABLE CONDITIONS		ENABLE CONDITIONS		TIME REQ	UIRED	MIL ILLUM.
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the		F	C • •				
						allowable limits for	>=	5	Sec				
						Line Pressure Control Solenoid	=	TRUE	Boolean				
					Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0966						
					oonuniono.								
							ECM:						
			Llordwore eizewitz				None				5 -11	On a Taia	
Variable Bleed Solenoid	P0967	Pressure Control (PC) Solenoid B	detects open circuit or	= TRUE	Boolean					>= 0.3	Time	One mp	
(VBS)		Control Circuit High Voltage	power short								(Sec)		
										= 0.375	Sample Time		
											(Sec)		
						P0967 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0967						
							ECM:						
							None				Fail	One Trip	
Variable Bleed Solenoid	P0970	Pressure Control (PC) Solenoid C	Hardware circuitry	= TRUE	Boolean					>= 0.3	Time	One Thp	
(VBS)		Control Circuit Low Voltage	detects ground short								(Sec)		
										- 0.375	Sample		
										- 0.070	(Sec)		
						P0970 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIM	E REQI	JIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0970						
							ECM: None						
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE	Boolean					, , ,	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
						P0971 Test Enabled	=	TRUE	Boolean				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0971						
							ECM: None						
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	Hardware circuitry detects ground short	= TRUE	Boolean					>=	1.2	Fail Time (Sec) Sample	One Trip
										=	1.5	Time	
						P0973Test Enabled	=	TRUE	Boolean	-		(Sec)	
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0973						
							ECM: None						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLI	e condi	TIONS	TIME	REQU	JIRED	MIL ILLUM.
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High	Hardware circuitry detects open circuit or power short	=	TRUE	Boolean					>= ^	1.2 1.5	Fail Time (Sec) Sample Time	Two Trips
							P0974 Test Enabled Ignition Voltage Lo Ignition Voltage Hi	= >= <=	TRUE 8.5996 18	Boolean Volts Volts			(Sec)	
							Engine Speed Lo Engine Speed Hi Engine Speed is within the	>= <=	500 7500 5	RPM RPM Sec				
						Disable Conditions:	allowable limits for MIL not Illuminated for DTC's:	TCM: P0974	Ū	000				
								ECM: None						
Mode 3 Multiplex Valve	P0976	Shift Solenoid BControl Circuit Low	Hardware circuitry detects ground short	=	TRUE	Boolean					>= '	1.2	Sec	One Trip
						Disable Conditions:	P0976 Test Enabled Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	= >= >= <= >= TCM: P0976	TRUE 8.5996 18 500 7500 5	Boolean Volts Volts RPM RPM Sec	=	1.5	Sec	
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	Hardware circuitry detects high pressure error	=	TRUE	Boolean		ECM: None			>= ´	1.2	Sec	One Trip
							P0977 Test Enabled Ignition Voltage Lo Ignition Voltage Hi	= >= <=	TRUE 8.5996 18	Boolean Volts Volts	= ^	1.5	Sec	

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND.	ITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi	<=	6500	RPM		
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	0	Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	55	Nm		
					Down Shift In Progress	=	FALSE	Boolean		
					Current Gear ≠ 1st Gear Locked	≠	1st Gear	Boolean		
					Engine Torque Hi	<=	1492	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range ≠ Reverse	¥	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	20	°C		
					PTO Active	=	FALSE	Boolean		
					Common Enables:					
					Vehicle Speed Calculated from TOSS	<=	511	KPH		
					Ignition Voltage	>=	8.5996	V		
					Ignition Voltage	<=	18	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P0742				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REC	UIRED	MIL ILLUM.
							Engine Speed is within the allowable limits for	>=	5	Sec			
						Disable	MIL not Illuminated for DTC's:						
				_		Conditions:							0
Mode Switch	P1763	Winter Mode Switch	Serial Data Signal Corrupted or Missi	is ng =	TRUE	Boolean					>= 600	Fail Time (Sec)	Special No Trip
							Rolling Count Diagnostic Enabled	=	TRUE	Boolean			
							Winter Mode Switch Diagnostic Enabled	=	TRUE	Boolean			
							Ignition Voltage Lo	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	18	Volts			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
						Disable Conditions:	MIL not Illuminated for DTC's:						
Tap Up Tap Down Switch	D4765	Linahift Quitab Circuit #2	Fail Tap Up Switch Stuck	in	0	Declean	Time Since Leet Dange Change	_	4	Enable			Special No
(TUTD)	P1765	Opsnift Switch Circuit #2	Case 1 the Up Position in Gear Enable	1 = ed	0	Boolean	Time Since Last Range Change	>=	1	(Sec)			Trip
			Tap Up Switch Stuck the Up Position in Gear	in 2 =	0	Boolean							
			Enable Tap Lip Switch Stuck	ed in									
			the Up Position in Gear Enable	3 = ed	0	Boolean							
			Tap Up Switch Stuck the Up Position in Gear Enable	in 4 = ed	0	Boolean							
			Tap Up Switch Stuck the Up Position in Gear Enable	in 5 =	0	Boolean							
			Tap Up Switch Stuck	in									
			the Up Position in Gear Enable	6 =	0	Boolean							
			Tap Up Switch Stuck the Up Position	in in =	0	Boolean							
			Tap Up Switch Stuck the Up Position in Pa	in rk =	0	Boolean							
1			Enable	ed									

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRE	ESHOLD \	/ALUE	SECONDARY PARAMETERS	ENABLI	E CONDII	FIONS	TIME REQU	JIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in	=	0	Boolean							
			Reverse Enabled	= TF	RUE	Boolean					>= 1	Fail Time (Sec)	
			FailTap Up Switch Stuck in Case 2the Up Position in Gear 1 Enabled Tap Up Switch Stuck in	=	0	Boolean	Time Since Last Range Change	>=	1	Enable Time (Sec)			
			the Up Position in Gear 2 Enabled	=	0	Boolean							
			the Up Position in Gear 3 Enabled	=	0	Boolean							
			the Up Position in Gear 4 Enabled Tap Up Switch Stuck in	=	0	Boolean							
			the Up Position in Gear 5 Enabled Tap Up Switch Stuck in	=	0	Boolean							
			the Up Position in Gear 6 Enabled Tap Up Switch Stuck in	=	0	Boolean							
			the Up Position in Neutral Enabled Tap Up Switch Stuck in	=	0	Boolean							
			the Up Position in Park Enabled Tap Up Switch Stuck in	=	0	Boolean							
			the Up Position in Reverse Enabled	=	0	Boolean						Fail	
			Tap Down Switch ON	= TF	RUE	Boolean					>= 600	Time (Sec)	
			NOTE: Both Failcase1 and Failcase 2 Must Be Met										
							Ignition Voltage Lo	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	18	Volts			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Tŀ	IRESHOLD	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1767, P1765 P182E, P1761			
								ECM: None			
Tap Up Tap Down Switch (TUTD)	P1766	Downshift Switch Circuit #2	Fail Tap Down Switch Stud Case 1 in the Down Position in Gear 1 Enable	k n = d	0	Boolean	Time Since Last Range Change	>=	1 Sec		Special No Trip
			in the Down Position in Gear 2 Enabled Tap Down Switch Stuc	n = d k	0	Boolean					
			in the Down Position in Gear 3 Enabled Tap Down Switch Stuck	n = d k	0	Boolean					
			in the Down Position in Gear 4 Enable Tap Down Switch Stuc	n = d k	0	Boolean					
			in the Down Position in Gear 5 Enabled Tap Down Switch Stuc	n = d k	0	Boolean					
			In the Down Position II Gear 6 Enable Tap Down Switch Stuck	n = d k	0	Boolean					
			Gear Neutral Enabled Tap Down Switch Studi in the Down Resition is	n = d k	0	Boolean					
			Gear Park Enabled Tap Down Switch Stud	n = d k n =	0	Boolean					
			Gear Reverse Enabled Tap Down Switch Of	d N =	TRUE	Boolean				>= 1 sec	
			Fail Tap Down Switch Stuck Case 2 in the Down Position in Gear 1 Enable	k n = d	0	Boolean	Time Since Last Range Change	>=	1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	k n = d	0	Boolean					
			in the Down Position in Gear 3 Enable	n = d	0	Boolean					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	E REQI	JIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0	Boolean								
			in the Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean								
			in the Down Switch Stuck Reverse Enabled	= 0	Boolean								
			Tap Down Switch ON	= TRUE	Boolean					>=	600	sec	
			and Failcase 2 Must Be										
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1767, P1766, P182E, P1761						
							ECM: None						
Tap Up Tap Down Switch (TUTD)	P1767	Up and Down Shift Switch Circuit #2	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No Trip
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= TCM: P1767, P1761 ECM:	5	Sec		
								None				
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low Reported as Internal Mode Switch-Invalid Range	<u>Fail</u> <u>Case 1</u> Current range	=	"Transitional 1"	Range State						One Trip
			Previous range	!=	CeTRGR_PRN DL_Drive6	Range State						
			Previous range	!=	CeTRGR_PRN DL_Drive4	Range State						
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean						
			Steady State Engine Torque	>=	-50	Nm						
			Steady State Engine	<=	1492	Nm						
			If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	>=	0.225	Seconds					>= 15 Fail Counts	5
			Fail Current range	=	"Transitional 1"	Range State						-
			S3 Pressure Switch indicates "Pressure Present"	=	FALSE	Boolean						
			Commanded Gear	=	1st Locked	Gear						
			are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	>=	0.225	Seconds					>= 15 Fail Counts	5
			Fail Case 3 Current range	=	"Transitional 13"		Previous range	!=	CeTR GR_P RNDL_ Drive3			

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRE	D	MIL ILLUM.
			or ECM Park/Neutral Message and	¥	"Park/Neutral"		PRNDL Circuit A PRNDL Circuit B PRNDL Circuit C	= = =	Open Circuit Closed Circuit Open Circuit				
			Current range	=	Park, Neutral, Reverse, Transitional 8, or Transitional 11		PRNDL Circuit P	=	Open Circuit				
			and A Open Circuit (See Definition)	=	FALSE	Boolean							
			are present, Increment Fail timer		"D						>= 2 Seco	onds	
			Case 6 Current PRNDL State	=	Reverse								
			Last Previous valid state If the above Conditions are present, Increment Fail timer	=	"Drive 4"	Range					>= 2 Seco	onds	
							Ignition Voltage Lo Ignition Voltage Hi Vehicle Speed Lo	>= <=	8.5996 18 511	Volts Volts KPH			
							Engine Speed Lo Engine Speed Hi	>= <=	500 7500	RPM RPM			
						Disable	Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= TCM:	5	Sec			
						Conditions:		P182E, P0722, P0723					
								ECM: P0101, P0102, P0103, P0121					
								P0122, P0123					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQU	JIRED	MIL ILLUM.
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch	Current range	¥	CeTRGR_PRN DI Drive4	Range State							Special No Trip
(::::)			TUTD/MUMD Mode is Selected	=	TRUE	Boolean							
			Enable Switch is Active	=	TRUE	Boolean							
			The above conditions are present for	=	TRUE	Boolean					>= 2	Fail Time (Sec)	
							Ignition Voltage Lo	>=	8.5996	Volts			
							Ignition Voltage Hi	<=	18	Volts			
							Vehicle Speed Lo	<=	511 500	КРН			
							Engine Speed Lo Engine Speed Hi	>= <=	7500	RPM			
							Engine Speed is within the	~-	5	Sec			
						Disable	allowable limits for MIL not Illuminated for DTC's:	TCM.	0	000			
						Conditions:		P0815,					
								P0816, P0826,					
								P182E,					
								U0100					
								ECM.					
								None					
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	¥	Park or Neutral	Enumeration							One Trip
			The following events must occur Sequentially										
			Initial Engine speed	<=	50	RPM					>= 0.25	Enable Time (Sec)	
			Engine Speed Between Following Cals								>= 0.0688	Enable Time (Sec)	
			Engine Speed Lo Hist	>=	50	RPM						(200)	
			Engine Speed Hi Hist	<=	480	RPM							
			Then									Foil	
			Final Transmission Input Speed	>=	525	RPM					>= 1.25	Time (Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VAL	UE	SECONDARY PARAMETERS	ENABLI	E CONDITIONS	TIME REC	QUIRED	MIL ILLUM.
						PRNDL State is	¥	Park or Enume Neutral ration			
						DTC has Ran this Key Cycle?	=	FALSE Boolean			
						Ignition Voltage Lo	>=	8.5996 V			
						Ignition Voltage Hi	<=	18 V			
						Transmission Output Speed	<=	90 rpm			
				C	Disable onditions:	MIL not Illuminated for DTC's:	TCM: P0722, P0723,P 1915				
							ECM: None				
Transmission Control	P2534	Ignition Switch Run/Start Position	Ignition Voltage to TCM	< 6 Vo	lts				>= 280	Fail	One Trip
									= 280	Sample Counts	
						Normal CAN Comm Enabled	=	TRUE Boolean			
						Engine Running Flag From ECM	=	TRUE Boolean			
						Run Crank Diag Enabled	=	TRUE Boolean			
				C	Disable	MIL not Illuminated for DTC's:	TCM: None	-			
							ECM: None				
Variable Bleed Solenoid	P2714	Pressure Control (PC) Solenoid D Stuck Off (CB26)	Fail Case: Steady State 2nd								One Trip
(VBS)			<u>Gea</u> l						Please See Table 7	7 Neutral	
			Gear slip	>= 200 RP	M				>= For Neutra Time	Timer I (Sec)	
			Intrusive test: commanded 3rd gear	Table Based					Cal		
			If attained Gear = 3rd for Time	>= Table 4 in Supporting Documents	able Time ec)						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Above Conditions have been met, Increment Fail Counter and Sum Counters					>= 3 2nd Gear Fail Count CB26 >= 14 Fail Count	
			Fail Case: Steady State 6th Case 2 Gear Gear slip	>= 200 RPM				Please See Table 7 Neutral >= For Timer	
			Intrusive test: commanded 5th gear	Table Based				Neutral (Sec) Time Cal	
			If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail	>= Table 4 in (Sec) Supporting Documents				5th >= 3 Gear	
			Counter and Sum Counters		PRNDL State defaulted	=	FALSE Boolean	Fail Count Total >= 14 Fail Count	
					inhibit RVT IMS fault pending indication	=	FALSE Boolean FALSE Boolean		
					TPS validity flag Hydraulic System Pressurized	=	TRUE Boolean TRUE Boolean		
					Minimum output speed for RVT A OR B	>=	0 RPM		
					(A) Output speed enable(B) Accelerator Pedal enableCommon Enable Criteria	>= >=	650 RPM 0.4 Pct		
					Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.5996 Volts 18 Volts		
					Engine Speed Lo	>=	500 RPM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid MIL not Illuminated for DTC's:	<= = TCM: P0716, P0717, P0722,, P0723, P182E ECM: P0121, P0122, P0123	7500 5 TRUE	RPM Sec Boolean		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 15 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-3 shifting with throttle) fail timer 1 (2-3 shifting with throttle) fail timer 1 (2-3 shifting with throttle)	 = TRUE = Maximum pressurized = Clutch exhaust command ≠ Initial Clutch Control <= 40 >= 1.200195313 >= 1.200195313 >= 1.200195313 >= 1.200195313 	Boolean RPM Fail Time (Sec) Fail Time (Sec) Fail Time (Sec) Fail Time (Sec)						One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIO	ONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (2-4 shifting with throttle)	>=	1.200195313	Fail Time (Sec)						
			fail timer 1 (2-4 shifting without throttle)	>=	1.200195313	Fail Time (Sec)						
			fail timer 1 (6-4 shifting with throttle)	>=	1.200195313	Fail Time (Sec)						
			fail timer 1 (6-4 shifting without throttle)	>=	1.200195313	Fail Time (Sec)						
			fail timer 1 (6-5 shifting with throttle)	>=	1.200195313	Fail Time (Sec)						
			fail timer 1 (6-5 shifting without throttle)	>=	1.200195313	Fail Time (Sec)						
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers								Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Referen ce Support ing Table 17 for Fail Timer 2	
							Trans oil temperature Input Speed Sensor FA or TFTKO	> =	0 FALSE Bo	⁰C olean		
							output speed sensor fault Command / Attained Gear	= ≠	FALSE Bo	olean olean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disab Condition	High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled MIL not Illuminated for DTC's:	 TRUE Boolean 350 RPM 200 RPM 0 °C FALSE Boolean FALSE Boolean FALSE Boolean TRUE Boolean TCM: P182E ECM: None 		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case: Steady State 1: Case 1 Commanded Gear sli If Above is True for Time Intrusive test (Exhaust CBR) If closest gea If closest gea Fail Case: Steady State 3: Case 2 Gea If Closet gea If Closet gea If Cl	sti jp <= 33 MPH Table Based Time Please see Table 6 in Supporting Documents t: 1) ar = 2nd Gear ar = 2nd gear t: ar = 2nd gear t: ar = 6th gear t: ar = 6th gear			>= 0.75 sec >= 0.75 sec >= 0.75 sec	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	A THRESHOLD VALUE		SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	JIRED	MIL ILLUM.
			Neutral Time Intrusive test: (Exhaust C35R) If Closet gear	≠ 0 = 6th	sec gear					>= 0.75	sec	
						Trans oil temperature	>	0	°C			
						Input Speed Sensor FA or TFTKO	=	FALSE	Boolean			
						output speed sensor fault	=	FALSE	Boolean			
						Command / Attained Gear	¥	1st FW	Boolean			
						High Side Driver ON	=	TRUE	Boolean			
						output speed limit for TUT	>=	350	RPM			
						input speed limit for TUT	>=	200	RPM			
						TUT Enable temperature	>=	0	°C			
						PRNDL state defaulted	=	FALSE	Boolean			
						IMS Fault Pending	=	FALSE	Boolean			
						Service Fast Learn Mode	=	FALSE	Boolean			
						HSD Enabled	=	TRUE	Boolean			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E					
							ECM: None					
Variable Bleed Solenoid		Pressure Control (PC) Solenoid D	Hardware Circuitry								Fail	One Trip
(VBS)	P2720	Control Circuit High	Detects a High Pressure	= TRUE	Boolean					>= 0.3	Time (Sec)	
			LIIO								Sample	
										= 0.375	Time (Sec)	
						Ignition Voltage Lo	>=	8.5996	Volts		(000)	
						Ignition Voltage Hi	<=	18	Volts			
						Engine Speed Lo	>=	500	RPM			
						Engine Speed Hi	<=	7500	RPM			
					Disable	MIL not Illuminated for DTC's:	TCM:					
					Conditions:		P2720					
							ECM.					
							None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	IONS	TIME REQU	UIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	e = r	TRUE	Boolean					>= 0.3 = 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
						Disable Conditions:	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi MIL not Illuminated for DTC's:	>= <= >= <= TCM: P2721 ECM: None	8.5996 18 500 7500	Volts Volts RPM RPM		(000)	
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case: Steady State 1st Case 1 Gear Gear slip Intrusive test: Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time If Above Conditions have been met, Increment Fail Counter and Sum Counters Fail Case: Steady State 2nd Case 2 Gear		200 Table based Timer, Please See Table 4 in Supporting Documents	RPM Enable Time (Sec)					Please See Table 7 >= For Neutral Time Cal >= 2 >= 14	Neutral Timer (Sec) 1st Gear Fail Count Clutch Fail Count	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear slip Intrusive test: commanded 3rd gear If attained Gear ≠ 3rd for	o >= 200 RPM Table based Timer, Please Enable Time			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	 >= See Table 4 in (Sec) Supporting Documents In S 			>= 2 Gear Fail Count Total >= 14 Fail Count	
			Case 3 Gear Gear slip Intrusive test: commanded 4th gear	n n >= 200 RPM n			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			If attained Gear ≠ 4th for time If Above Conditions have been met, Increment Fail Counter and Sum Counters <u>Fail</u> Case: Steady State 4th Case 4	Table based Timer, Please See Table 4 in (Sec) Documents			>= 2 Gear Fail Count C1234 >= 14 Total Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	A THRESHOLD VALUE			SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME REQ	UIRED	MIL ILLUM.
			Gear slip Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	>= 2 Table Timer >= See T Sup Doct	200 e based r, Please Fable 4 in porting uments	RPM Enable Time (Sec)	PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed for RVT (A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid		FALSE FALSE FALSE TRUE 0 650 0.4 8.5996 18 500 7500 5 TRUE	Boolean Boolean Boolean RPM RPM Pct Volts RPM RPM RPM Sec Boolean	Please See Table 7 For Neutral Time Cal >= 3 >= 14	Neutral Timer (Sec) 4th Gear Fail Count Total Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	=	TRUE	Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status	= = (Maximum pressurized Clutch exhaust command					
			Range Shift Status	¥	Initial Clutch Control	5514				
			Attained Gear Slip	<=	40	RPM				
			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				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	FIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (4-6 shifting with throttle) fail timer 1 (4-6 shifting without throttle) If attained gear has been met then increment fail timers	>= 1.200195313 sec >= 1.200195313 sec					Total fail timer (fail timer1 + fail timer2) See Below Enable Timer2 Timer 1, and Referen ce Support ing Table 19 for	
					Trans oil temperature	,	0	°C	Fail Timer 2	
					Input Speed Sensor FA or TFTKO	=	FALSE	Ũ		
					output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode	=	FALSE 1st FW TRUE 350 200 0 FALSE FALSE FALSE	RPM RPM ℃		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	OLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQU	JIRED	MIL ILLUM.
					Disable	MIL not Illuminated for DTC's:	TCM:					
					Conditions:		P182E					
							ECM:					
							None					
Variable Bleed Solenoid	D2724	Pressure Control (PC) Solenoid E	Copp: Eth Copr									One Trip
(VBS)	FZ124	Stuck On	Case. Sin Gear									
			Closest Gear	= 4th	gear							
			Neutral Time	≠ 0	Sec							
			<u>Fail</u> <u>Case 1</u> (C35B clutch exhausted)									
				(th	Coor					N- 0.75		
			li ciosesi gear	= 40	Gear					>= 0.75	sec	
			Closost Goar	- 4th								
			Neutral Time	= 401 ± 0	geai							
			Fail	7 0	Get							
			Case 2 (CB26 clutch exhausted)									
			If closest gear	= 4th	Gear					>= 0.75	sec	
						output speed	>=	0	RPM			
						PRNDL State defaulted	=	FALSE	Boolean			
						inhibit RVT	=	FALSE	Boolean			
						IMS fault pending indication	=	FALSE	Boolean			
						TPS validity flag	=	TRUE	Boolean			
						output speed	>=	0	RPM			
						Ignition Voltage Lo	>=	8.5996	Volts			
						Ignition Voltage Hi	<=	18	Volts			
						Engine Speed Lo	>=	500	RPM			
						Engine Speed Hi	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable	MIL not Illuminated for DTC's:	TCM:					
					Conditions:		P182E					
							ECM:					
							None					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	RIA THRESHOLD VALUE		SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.	
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit High	Hardware Circuitry Detects a High Pressure Error	=	TRUE	Boolean					>= 0.3	Fail Time (Sec) Sample Time	One Trip
							Ignition Voltage Lo	>=	8 5996	Volt		(Sec)	
							Ignition Voltage Hi	<=	18	Volt			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2729					
								ECM: None					
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	=	TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
											= 0.375	Time (Sec)	
							Ignition Voltage Lo	>=	8.5996	Volt			
							Ignition Voltage Hi	<=	18	Volt			
							Engine Speed Lo	>=	500	RPM			
							Engine Speed Hi	<=	7500	RPM			
							allowable limits for	>=	5	Sec			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2730					
								ECM: None					
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	Hardware Circuitry Detects a Low Pressure Error	=	TRUE	Boolean					>= 4.4	Fail Time (Sec)	One Trip
											= 5	Sample Time (Sec)	
							Ignition Voltage Lo	>=	8.5996	Volt		(223)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE CONDITION			ТІМ	IE REG	≀UIRED	MIL ILLUM.
						Ignition Voltage Hi	<=	18	Volt			·i	
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						High Side Driver Enabled	=	TRUE	Boolean				
				Di	sable	MIL not Illuminated for DTC's:	: TCM:						
				Condi	ions:		P2763, P2764		ľ				
							P0658,						
							P0659		ľ				
							ECM:		ľ				
							None						
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit	Hardware Circuitry Detects a high Pressure Error	= TRUE Boolear	n					>=	4.4	MPH	One Trip
		Low	LIIU							=	5	MPH	
						Ignition Voltage Lo	>=	8.5996	Volt				
						Ignition Voltage Hi	<=	18	Volt				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						High Side Driver Enabled	=	TRUE	Boolean				
				Di Condi	sable ions:	MIL not Illuminated for DTC's:	TCM: P2763, P2764, P0658, P0659						
							ECM: None						
Communication	U0073	Controller Area Network Bus	CAN Hardware Circuitry Detects a Low Voltage	= TRUE Boolear	ı					>=	5	Fail	One Trip
										=	5	Sample Time	
							<u> </u>	0.5000) (- k	└──		(Sec)	
						Ignition Voltage Lo	>=	8.5996 10	Volt				
						ignition voltage H	<=	10	VOI	1			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	ENABLE CONDITIONS		TIM	E REC	QUIRED	MIL ILLUM.
				Disable	MIL not Illuminated for DTC's:	TCM:						
				Conditions		00073						
						ECM:						
						None						
Communication	U0100	Lost Communications with Engine Control System	Communication Message Missing From	= TRUE Boolean					=	12	Fail Counts	One Trip
									=	12	Sample Counts	
					Ignition Voltage Lo	>=	8.5996	Volt				
					Ignition Voltage Hi	<=	18	Volt				
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: U0100						
						ECM: None						
2010 OBDG08 TRANS Diagnostics

	Supporting Tables										
<u>Table 1</u>	Units Axis -40 -0.0078125 40 80 120 ⁰C Curve 2500 1000 800 520 200 Sec										
<u>Table 2</u>	Axis 0 6.24990463 12.49981 18.74971 24.99962 31.24952 37.49943 43.74933 49.99924 56.24914 62.49905 68.74895 74.99886 81.24876 87.49866 93.74857 99.99847 Nm Curve 800										
<u>Table 3</u>	Axis 0 64 128 192 256 320 384 448 512 Nm Curve 50 50 50 50 50 50 50 RPM										
<u>Table 4</u>	Units Axis -0.008 0 40 ⁰C Curve 409.5938 2 2 Sec										
<u>Table 5</u>	Units Axis -0.008 0 40 •C Curve 409.5938 3.5 3.5 Sec										
<u>Table 6</u>	Units Axis -0.008 0 40 ℃ Curve 409.5938 2 2 Sec										
<u>Table 7</u>	Units Axis <u>-0.008</u> 0 40 ⁰C Curve 409.5938 1.5 1.5 Sec										
<u>Table 8</u>	Axis -40 -0.0078125 40 80 120 °C Curve 409 409 1.6 1.4 1.4 Sec										
<u>Table 9</u>	Axis -40 -0.0078125 40 80 120<℃										
Table 10	Units Axis -40 -0.0078125 40 80 120 °C Curve 409 409 1.6 1.5 1.4 Sec										

Supporting Tables

Table 11							Units				
	Axis	-40	-0.0078125	40	80	120	°C				
	Curve	409	409	1.3	1.2	1.1	Sec				
Table 12	_						Units				
	Axis	-40	-20	0	30	110	°C				
	Curve	3.099609	1.90039063	1.099609	0.799805	0.599609	Sec				
	-										
Table 13							Units				
	Axis	-40	-20	0	30	110	°C				
	Curve	1.799805	1.20019531	0.599609	0.400391	0.299805	Sec				
Table 44							11:1:40				
Table 14	A	40	20	0	20	110	Units				
	AXIS	-40	-20	0 000201	0 700105	0.400204	*U Saa				
	Curve	2.200195	1.40039063	0.900391	0.700195	0.400391	Sec				
Table 15							Units				
	Δxis	-40	-20	0	30	110	0 0 0				
	Curve	2 599609	1	0.5	0.299805	0 200195	Sec				
	ou.ro	2.000000	•	0.0	0.200000	0.200100					
Table 16							Units				
	Axis	-40	-20	0	30	110	°C				
	Curve	3	0.90039063	0.5	0.299805	0.200195	Sec				
Table 17											Units
	Axis	-40	-30	-20	-10	0	10	20)	30	40 °C
	Curve	0	0	0	0	0	0	()	0	0 Sec