COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	ТІМ	E REQ	UIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	=	TRUE	Boolean					>=	5	Fail Counts	One Trip
							Ignition Voltage Lo Ignition Voltage Hi		8.5996 18	Volts Volts				
						Disable Conditions:	MIL not Illuminated for DTC's:	P0601						
								ECM: None						
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	=	TRUE	Boolean					C	Runs Continu ously		One Trip
							Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.5996 18	Volts Volts				
						Disable Conditions:	MIL not Illuminated for DTC's:	P0603						
								ECM: None						
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)		TRUE	Boolean					>=	5 16	Fail Counts Sample	One Trip
							Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.5996 18	Volts Volts			Counts	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0604						
								ECM: None						
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown		TRUE	Boolean					C	Runs Continu ously		One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	т	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQU	IRED	MIL ILLUM.
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None						
		Transmission Electro-Hydraulic	<u>Fail</u>					None					Fail	One Trip
Transmission Control Module (TCM)	P0634	Control Module Internal Temperature Too High	Case 1 Substrate Temperature	e >= 1	42.1015625	°C					>=		Time (Sec)	0.10 mp
			Fail Case 2 Substrate Temperature	e >=	50	°C					>=		Fail Time (Sec)	
			Ignition Voltage	;>=	18	Volts								
			Note: either fail case can set the DTC	1										
			set the DTC	,			Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	31.99	Volts				
							Substrate Temp Lo	>=	0	°C				
							Substrate Temp Hi	<=	170	°C				
							Substrate Temp Between Temp Range for Time	>=	0.25 Test	Sec				
							P0634 Status is	¥	Failed This Key On or Fault Active					
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
HWIO	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports low voltage (Open or ground short) error flag	=	TRUE	Boolean					>=	3	Fail Counts	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							out 5 Sample of 5 Counts	
					P0658 Status is not	or Fault		
					High Side Driver 1 On	Active = True Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	lf transmission oil temp to substrate temp Δ	Refer to Table > 21 in supporting °C documents				Two Trips
			If TCM substrate temp to power up temp $\Delta$					
			Both conditions above required to increment fail counter				>= 3000 Fail (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and				Out Sample Out 3750 of (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter unti				>= 700 Pass Counts (100ms loop)	
							Sample Out Counts of (100ms loop)	

#### MAIN SECTION 1 of 1 Section

AULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
				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		100	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		

AULT ODE	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 Conditions:		TCM: P0658, P0668, P0660, P06AD, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729,		
					ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low 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	geoliectProp	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0668 Status is	<= 31.99 Volts >= 500 RPM <= 7500 RPM >= 5 Sec Test Failed This	Fail >= 60 Timer (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	/ALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME	REQU	IIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's:	None ECM:						
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	>= 249	°C °C	TOSS Speed Toss Speed greater than above cal for TCC Slip TCC Slip greater than above cal for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0669 Status is	None	0 0 0 8.5996 31.99 500 7500 5 Test Failed This Key On or Fault Active	Volts RPM RPM Sec	>= (		Fail Timer (Sec)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		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 $\Delta$	Refer to Table > 22 in supporting °C documents				Two Trips
			lf transmission oil temp to power up temp Δ	Refer to Table > 20 in supporting °C documents				
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp,				>= 3000 Fail (100ms loop) Sample Out 3750 Counts of (100ms	
			substrate temp and Non-continuous (intermittent) fail conditions will delay resetting fail counter until				Out of arrspace of the second	
					Engine Torque Signal Valid	= TRUE Boolean		
					Accelerator Position Signal Valid			
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo			
					Engine Speed Hi	<= 7500 RPM		

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	100	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 CeTFT			
					Clutch used to exit brake torque active		D_e_C 3_Ratl Enbl			
					The above clutch pressure is greater than this value for one loop		600	kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>=	20	Sec		
					P06AC Status is	¥	Test Failed This Key On or Fault Active			

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658,		
			Conditions:		P0658, P0668,		
					P0669,		
					P06AD,		
					P06AE,		
					P0716,		
					P0712,		
					P0713,		
					P0717,		
					P0722,		
					P0723,		
					P0962,		
					P0963,		
					P0966,		
					P0967,		
					P0970,		
					P0971, P215C,		
					P2720,		
					P2721,		
					P2729,		
					P2730		
					ECM:		
					P0101,		
					P0102,		
					P0103,		
					P0106,		
1 1					P0107,		
					P0108, P0171,		
					P0171, P0172,		
					P0172, P0174,		
					P0175,		
					P0201,		
					P0202,		
					P0203,		
					P0204,		
					P0205,		
					P0206,		
					P0207,		
					P0208, P0300,		
1 1					P0300, P0301,		
					P0302,		
					P0303,		
					P0304,		
					/		

Module (TCM)         POMP voltage low	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRE	ESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
Instantiation Control Woodage low       POMP (Up Temp 4 = 1.98 °C)       Control Memory Definition Voltage L (Sec)       >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>									P0306, P0307, P0308, P0401,						
$ \begin the transition control Model in the transition control of the transition control Model in the transition control Mod$	Transmission Control Module (TCM)	P06AD		Power Up Temp	<= -	-59 °	С					>=	60	Time	Two Trips
$     Figure Species within the allowable limits for S_{2} = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = $								Ignition Voltage Hi	<=	31.99	Volts			(360)	
$ \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$								Engine Speed Hi Engine Speed is within the							
$ \begin{tabular}{ c c c c c c c } & & & & & & & & & & & & & & & & & & &$															
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $									>=						
Image: series of the series								•							
Image: series of the series										Test Failed This Key On or Fault					
$\frac{1}{10000000000000000000000000000000000$								MIL not Illuminated for DTC's:	P0716, P0717, P0722,						
P06AE       P06AE       ICM power-up thermistor circuit voltage high       Power Up Temp       >=       164       °C       >=       60       Time (Sec)         Module (TCM)       Voltage high       Power Up Temp       >=       164       °C       >=       8.5996       Voltage         Ignition Voltage Line       <=															
Ignition Voltage Lo >= 8.5996 Volts Ignition Voltage Hi <= 31.99 Volts	Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 1	۵	С					>=	60	Time	Two Trips
														()	
								Engine Speed Lo	<= >=	31.99 500	Volts RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi Engine Speed is within the allowable limits for P06AE Status is	>= 5 Sec Test Failed This		
				Disable Conditions:	MIL not Illuminated for DTC's:	: TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	lf transmission oil temp to substrate temp Δ					Two Trips
			lf 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 Counts of 3750 (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIR	D MIL ILL	UM.
								Sar Out Co of (10 Io	ints )ms	
				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		100	N*m			
				Throttle		30	Pct			
				Transmission Input Speed		200	RPM			
				Vehicle Speed Transmission Range		8 Park	Kph			
				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				
				Clutch hydraulic pressure	¥	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 REQUIRED	MIL ILLUM.
					The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are met for: P0711 Status is	>= 600 kpa >= 20 Sec Test Failed This		
				Disable Conditions:		TCM: P0658, P0668, P0669, P06AD, P0716, P0712, P0713, P0717, P0722, P0723, P0966, P0963, P0966, P0967, P0970, P0970, P0971, P215C, P2720, P2720, P2721, P2729, P2730 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp Either condition above will satisfy the fail conditions	= CeTFTI_e_Volta geDirectProp <= -74 °C >= -74 °C	TOSS TOSS above thresh for TCC slip TCC slip above thresh for Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 0 RPM >= 0 Sec >= 8.5996 Volts <= 31.99 Volts		Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	ΓIONS	TIME R	EQUIRED	MIL ILLUM.
						Engine Speed is within the allowable limits for P0712 Status is	>=	5 Test Failed This Key On	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716,	or Fault Active				
							P0717, P0722, P0723 ECM:					
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used If Transmission Fluid	geDirectProp	1		None					Two Trips
			Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor =	>= 174 <= 174	℃ ⊃°							
			Indirect Proportional and Temp Either condition above will satisfy the fail conditions							>= 6	Fail D Time (Sec)	
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.5996 31.99 500	Volts Volts RPM			
						Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5 Test	RPM Sec			
						P0713 Status is	¥	Failed This Key On or Fault Active				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALU	JE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REG	UIRED	MIL ILLUM.
				Co	Disable nditions:	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 RPN	1					>= 0.8	Fail Time (Sec)	One Trip
						Engine Torque is	>=	0	N*m			
						Engine Torque is	<=	8192	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	<	8191.8	RPM/L oop			
						The previous requirement has been satisfied for	>=	0	Sec			
						Throttle Position Signal Valid	=	TRUE				
						Engine Torque Signal Valid		TRUE				
						Ignition Voltage	>=	8.5996	Volts			
						Ignition Voltage	<=	31.99 Test	Volts			
								Failed				
						P0716 Status is not	=	This Key On				
						FUT TO Status IS NOT	-	or				
								Fault Active				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME RE	QUIRED	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	FailTransmission Input Case 1Speed is	\$ 52.025	RPM					>= 4.5	Fail Time (Sec)	One Trip
			Fail         When P0722 DTC           Case 2         Status equal to Test           Failed and Transmission         Input Speed is		RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean			
						Engine Torque is	>=	50	N*m			
						Engine Torque is	<=	8192	N*m			
						Vehicle Speed	>=	16	Kph			
						Engine Torque Signal Valid	=	TRUE	Boolean			
						Ignition Voltage	>=	8.5996	Volts			
						Ignition Voltage	<=	31.99	Volts			
						Engine Speed	>=	500	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disable Conditions:	P0717 Status is not	P0722,	Test Failed This Key On or Fault Active ECM: P0101, P0102, P0103				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRES	HOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35	RPM	P0722 Status is not Transmission Input Speed Check Engine Torque Check Throttle Position Transmission Fluid Temperature Disable this DTC if the PTO is active Engine Torque Signal Valid Throttle Position Signal Valid Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is within the allowable limits for		Test Failed This Key On or Fault Active TRUE Boolear TRUE Boolear 1 Boolear TRUE Boolear TRUE Boolear TRUE Boolear S.5996 Volts 31.99 Volts 31.99 Volts 500 RPM 7500 RPM		
						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 OR Transmission Range is Engine Torque is Engine Torque is	= = >=	comple te Park or Neutral 8191.8 N*m 8191.8 N*m		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Engine Torque Condition 2 Engine Torque is Engine Torque is 	>= 50 N*m		
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE			
					TIS Check Condition 1			
					Transmission Input Speed is			
					Transmission Input Speed is	<= 5350 RPM		
					TIS Check Condition 2			
					Engine Speed without the brake			
					applied is	2- 3200 RFIVI		
					Engine Speed with the brake applied is	>= 3200 RPM		
					Engine Speed is			
					Controller uses a single power supply for the speed sensors	= 1 Boolear		
					Powertrain Brake Pedal is Valid	= TRUE Boolean		
				Disable				
				Conditions:		P0716, P0717,		
						P0723		
						ECM:		
						P0101, P0102,		
						P0103, P0121,		
						P0122,		
						P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABL		ONS	TIM	E REQ	UIRED	MIL ILLUM.
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Raw Output Speed	>=	105	RPM					>=	0	Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8191.75	RPM					>=	0	Enable Time (Sec)	
			Output Speed Drop	Λ	650	RPM					>=	1.5	Output Speed Drop Recover Fail Time (Sec)	
							Range_Disable	=	FALSE B	oolean				
							OR							
							Neutral_Range_Enable	=	TRUE B	oolean				
							And							
							Neutral_Speed_Enable	=	TRUE B	oolean				
							are TRUE concurrently							
							Transmission_Range_Enable	=	TRUE B	oolean				
							Transmission_Input_Speed_Enab	=	TRUE B	oolean				
							No Change in Transfer Case Range (High <-> Low) for	>=	5 Se	econds				
							Engine Torque Signal Valid		TRUE B					
							Throttle Position Signal Valid	=	TRUE Bo Test Failed This	oolean				
							P0723 Status is not	=	Key On or Fault Active					
							Disable this DTC if the PTO is active	=		oolean				
							Ignition Voltage is			Volts				
							Ignition Voltage is			Volts				
							Engine Speed is			RPM				
							Engine Speed is	<=	7500 F	RPM				

#### MAIN SECTION 1 of 1 Section

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			
					Enable_Flags Defined Below			
					Transmission_Input_Speed_Enab le is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:			
					TIS Condition 1 is TRUE when both of the following conditions are satisfied for Input Speed Delta	>= 0 Time (Sec)		
					Raw Input Speed			
					TIS Condition 2 is TRUE when ALL of the next three conditions are satisfied			
					Input Speed A Single Power Supply is used for all speed sensors			
					Powertrain Brake Pedal Applied is	= FALSE Boolean		
					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE			
					Transmission Range is	Revers e/Neutr		
					Transmission Range is	= al ENUM Transiti onal		
					Transmission Range is	Neutral /Drive Transiti onal		
					Range_Disable is TRUE when any of the next three conditions are TRUE			
					Transmission Range is	= Park ENUM		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Range is	Park/R = everse Transiti onal		
					Input Clutch is not	ON (Fully Applied )		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satisfied for	> 410 Seconds		
					Transmission Output Speed And the acceleration of the Transmission Output Speed is	RPM/L < 0 oop Rate		
					And the acceleration of the Transmission Output Speed is 	> 0		
					Transmission_Range_Enable is TRUE when one of the next four conditions is TRUE Transmission Range is	= Neutral ENUM		
					Transmission Range is	Revers e/Neutr = al ENUM Transiti onal		
					Transmission Range is	Neutral /Drive Transiti onal		
					Range Change Delay Timer	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	E REQ	UIRED	MIL ILLUM.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123						
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met		800	Кра					>=	2	Enable Time (Sec)	Two Trips
			(A) TCC Slip Error @ TCC On Mode	F	Refer to Table 1 in Supporting Documents						>=	6	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>=	130	RPM					>=	6	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	2	TCC Stuck Off Fail Counter	
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	31.99	Volts				
							Engine Speed	>=	500	RPM				
							Engine Speed Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec				
							Engine Torque Lo	>=	50	N*m				
							Engine Torque Hi	<=	1492	N*m				
							Throttle Position Lo	>=	8.0002	Pct				
							Throttle Position Hi	<=	99.998					
							2nd Gear Ratio Lo	>=	2.2051					
							2nd Gear Ratio High	<=	2.537	Ratio				
							3rd Gear Ratio Lo	>=	1.4424	Ratio				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDIT	ΓIONS	TIME REQUIRED	MIL ILLUM.
					3rd Gear Ratio High	<=	1.6595	Ratio		
					4th Gear Ratio Lo	>=	1.076	Ratio		
					4th Gear Ratio High	<=	1.238	Ratio		
					5th Gear Ratio Lo	>=	0.7933	Ratio		
					5th Gear Ratio Hi	<=	0.9127	Ratio		
					6th Gear Ratio Lo	>=	0.6268	Ratio		
					6th Gear Ratio High	<=	0.7212	Ratio		
					Transmission Fluid Temperature Lo	>=	20	°C		
					Transmission Fluid Temperature Hi	<=	130	°C		
					TCC Command Lock ON or ON mode		TRUE	Boolean		
					PTO Not Active	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid		TRUE			
					Dynamic Mode	=	FALSE	Boolean		
							Test Failed This			
					P0741 Status is	¥	Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:	P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM:				
						P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	-	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	ТІМІ	E REQU	IRED	MIL ILLUM.
								P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0300, P0301, P0301, P0304, P0305, P0306, P0307, P0308, P0307, P0308, P0401, P042E						
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-12	RPM								One Trip
			TCC Slip Speed	<=	13	RPM					>=	2.5	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	6 (	Fail Counte r	
							Run TCC Stuck On Test Enable Criteria:							
							Gear Ratio		1.6393					
							Gear Ratio Engine Speed Hi		0.6268 6500	Ratio RPM				
							Engine Speed Lo	>=	500	RPM				
							Vehicle Speed HI	<=	511	KPH				
							Vehicle Speed Lo	>=	16	KPH				
							Stuck On During Upshift Enabled	=	0	Boolean				
							lf Stuck On During Upshift is enabled (See Above), Engine Torque Must be	>=	8191	Nm				

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT	ΓIONS	TIME REQUIRED	MIL ILLUM.
				Down Shift In Progress	=	FALSE	Boolean		
				Current Gear	¥	1st Gear Locked	Boolean		
				Engine Torque Hi	<=	1492	Nm		
				Engine Torque Lo		80	Nm		
				Current Range		Neutral	Range		
				Current Range		Reverse			
				Transmission Sump Temperature	<=	130	°C		
				Transmission Sump Temperature	>=	20	°C		
				Throttle Position Hyst High	>=	8.0002	Pct		
				Throttle Position Hyst Low	<=	2.9999	Pct		
				PTO Active	=	FALSE	Boolean		
				Disable if in D1 and value true	=	0	Boolean		
				Disable if in D2 and value true	=	0	Boolean		
				Disable if in D3 and value true	=	0	Boolean		
				Disable if in D4 and value true	=	0	Boolean		
				Disable if in D5 and value true	=	0	Boolean		
				Disable if in MUMD and value true	=	0	Boolean		
				Disable if in TUTD and value true	=	0	Boolean		
				4 Wheel Drive Active	=	FALSE	Boolean		
				Hydraulic Clutch Air Purge Active	=	FALSE	Boolean		
				Ignore Air Purge if value = true	=	0	Boolean		
				TCC Mode	=	OFF			
				Common Enables:					
				Ignition Voltage	>=	8.5996	V		
				Ignition Voltage	<=	31.99	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		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Throttle Position Signal Valid P0742 Status is	Test Failed This		
				Disable Conditions:		P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
								P0401 P042E- W597	+					
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip	>=	200	RPM								Two Trips
			Commanded Gear	=	1st Lock	rpm								
			Gear Ratio	<=	1.209594727						>=	0.3	Fail Tmr	
			Gear Ratio	>=	1.094360352						=	8	Fail	
			If the above parameters are true										Counts	
											¥	0	Neutral Timer (Sec)	
											>=	0.3	Fail Timer	
													(Sec)	
							Ignition Voltage Lo	>=	8.5996	Volts	>=	8	Counts	
							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				
							Transmission Fluid Temperature	>=	0	°C				
							Shift is Complete							
							TPS		0.5005	%				
							Output Speed		0	RPM				
							Throttle Position Signal Valid from ECM	=	TRUE					
							Engine Torque Signal Valid from ECM, High side driver is enabled	=	TRUE	Boolean				
							High-Side Driver is Enabled	=	TRUE	Boolean				
							Input Speed Sensor fault	=	FALSE	Boolean				
							Output Speed Sensor fault	=	FALSE	Boolean				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						Default Gear Option is not present	= TRUE		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
							ECM: P0101, P0102, P0103, P0106, P0107, P0108,		
							P0171, P0172, P0174, P0175, P0201, P0202, P0203,		
							P0204, P0205, P0206, P0207, P0208, P0300, P0300,		
							P0302, P0303, P0304, P0305, P0306, P0307, P0308,		
	50750						P0401, P042E		One Trip
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip Commanded Gear		Rpm Gear				

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On C456/CBR1 Pressure Switch C456/CBR1 Pressure Switch Fault If the above parameters are true	<ul> <li>TRUE Boolean</li> <li>Pressurized Boolean</li> <li>FALSE Boolean</li> </ul>	Ignition Voltage Lo 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 Output Speed Sensor fault	= TRUE Boolean >= 0 RPM >= 0.5005 % >= 0 °C = FALSE Boolean	Please Refer to Table Support ing Docum ents >= 5 Counts	

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

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ITIONS	TIME	E REQU	JIRED	MIL ILLUM.
			Intrusive Shift to 2nd Commanded Gear Previous Gear Ratio Gear Ratio If the above parameters are true	= <= >=	1st Locked 2.482177734 2.245849609				TRUE FALSE FALSE TRUE	Volts RPM Sec RPM % Solean Boolean		15	sec counts	
								P0101, P0102, P0103, P0106,						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD V	ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							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, P0401, P042E		
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		Gear Rpm			Please Refer to Table 5 Neutral >= Support ing Docum ents	One Trip
			Intrusive Test: Command 4th Gear If attained Gear=4th gear for Time	Table Based Time Please = Refer to Table 3 in supporting documents	Enable Time (Sec)				

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

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	16	RPM		
					(B) Accelerator Pedal enable	>=	0.5005	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=		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			
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	0	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0722, P0723, P182E ECM: P0101, P0102, P0106, P0107, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0206, P0207, P0208, P0300, P0301, P0302, P0302, P0303, P0304, P0305, P0306, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Stuck On [C35R] (Steady State)	Fail       Case: Steady State 1st         Case 1       Case: Steady State 1st         Attained Gear slip       If the Above is True for         If the Above is True for       Time         Intrusive test:       (CBR1 clutch exhausted)         Gear Ratio       Gear Ratio         If the above parameters       are true         Eail       Case: Steady State 2nd         Case 2       gear	<ul> <li>&gt;= 200 RPM</li> <li>Table Based Time Please in supporting documents</li> <li>= 1.608642578</li> <li>&gt;= 1.455444336</li> </ul>			<ul> <li>&gt;= 0.5688 Timer (Sec) Fail</li> <li>&gt;= 2 Count in 1st Gear or Total</li> <li>&gt;= 3 Fail Counts</li> </ul>	One Trip

COMPONENT/ SYSTEM FAULT CODE	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					
	If the Above is True for Time					
	Intrusive test: (CB26 clutch exhausted) Gear Ratio Gear Ratio	<= 1.608642578				
	If the above parameters are true				Fail >= 0.5688 Timer (Sec) Fail Count	
					>= 1 Count in 2nd Gear or Total >= 3 Fail Counts	
	Eail     Case: Steady State 4th       Case 3     gear       Max Delta Output Speed       Hysteresis					

COMPONENT/ SYSTEM FAULT CODE	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					
	Intrusive test: (C1234 clutch exhausted) Gear Ratio	<= 0.89465332				
	Gear Ratio If the above parameters	>= 0.809448242				
	are true				>= 0.5688 Fail (Sec) Fail >= 1 Count in 4th Gear or Total	
	Fail Case: Steady State 6th				>= 3 Fail Counts	
	Case 4 gear Max Delta Output Speed Hysteresis	Table Based value Please				
	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	ENABI	LE CONDITIONS	TIME REQU	JIRED	MIL ILLUM.
			If the Above is True for Time							
			Intrusive test: (CB26 clutch exhausted)						Fail	
			Gear Ratio	<= 0.89465332				>= 0.5688	Timer	
			Gear Ratio	>= 0.809448242				>= 1	(Sec) counts	
			If the above parameters are true							
								>= 0.5688	Fail Timer (Sec)	
									Fail Count	
								>= 1	in 6th	
									Gear or	
									Total	
								>= 3	Fail Counts	
					PRNDL State defaulted		FALSE Boolean			
					inhibit RVT		FALSE Boolean			
					IMS fault pending indication output speed		FALSE Boolean 0 RPM			
					TPS validity flag		TRUE Boolean			
					HSD Enabled		TRUE Boolean			
					Hydraulic_System_Pressurized		TRUE Boolean			
					Minimum output speed for RVT	>=	0 Nm			
					A OR B					
					(A) Output speed enable	>=	16 Nm			
					(B) Accelerator Pedal enable	>=	0.5005 Nm			
					Ignition Voltage Lo		8.5996 Volts			
					Ignition Voltage Hi		31.99 Volts			
					Engine Speed Lo	>=	500 RPM			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	.E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed Hi		7500	RPM		
					Engine Speed is within the allowable limits for	/-	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	-	1492	Nm		
					Transmission Fluid Temperature	>=	0	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108,				
						P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0200, P0300, P0301, P0303, P0304,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P07777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dynamic)	Throttle) fail timer 1 (3-2 shifting with Closed Throttle) fail timer 1 (3-4 shifting with Throttle) fail timer 1 (3-4shifting with Closed Throttle) fail timer 1	a=TRUEBooleana=Maximum pressurized-aClutch exhaust command-aClutch exhaust commandaInitial Clutch Controlb=0.299804688b-0.299804688b-0.299804688b-0.299804688c-0.299804688b-0.299804688c-0.299804688b-0.299804688c-0.299804688c-0.299804688b-0.299804688c-0.299804688c-0.299804688c-0.299804688c-0.299804688c-0.299804688cc-0.299804688cc-0.299804688c-c-cc-c <td></td> <td></td> <td></td> <td>One Trip</td>				One Trip

COMPONENT/ SYSTEM FAUL	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1 (5-3 shifting with 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)	>=       0.299804688       Fail Time (Sec)         >=       0.299804688       Fail Time (Sec)			Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referen ce Support ing Table 15 for Fail	
	If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter				Timer 2	

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			3rd gear fail counter				3rd >= 3 gear fail counts OR	
			5th gear fail counter				5th >= 3 gear fail counts OR	
			Total fail counter				>= 5 total fail counts	
				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	<ul> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>TRUE Boolean</li> <li>TRUE Boolean</li> <li>TRUE Boolean</li> <li>100 RPM</li> <li>150 RPM</li> <li>150 RPM</li> <li>0 °C</li> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>TRUE Boolean</li> <li>TRUE</li> </ul>		
						P0103, P0106, P0107, P0108,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Eail Case 1 Case 1 Case: Steady State 4th Gear Gear slip Intrusive test: commanded 5th gear If attained Gear ≠5th for time	>= 200 RPM Table Based Time Please = Refer to Table 3 Enable Time		P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0306, P0307, P0308, P0401, P042E	Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	One Trip
			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 4th Gear Fail Counter				4th >= 3 Gear Fail Count OR	
		and C456 Fail Counters <u>Fail</u> Case: Steady State 5th <u>Case 2</u> Gear				C456 >= 14 Fail Counts	
		Gear slip	>= 200 RPM			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time	
		Intrusive test: commanded 6th gear				Cal	
			in supporting documents				
		if the above conditions have been met Increment 5th Gear Fail Counter				5th >= 3 Gear Fail	
		and C456 Fail Counters				Count OR C456 >= 14 Fail Counts	
		Fail Case: Steady State 6th Case 3 Gear				Please See Table 5 Neutral	
		Gear slip	>= 200 RPM			>= For Timer Neutral (Sec) Time Cal	

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	DESCRIPTION	Intrusive test: commanded 5th gear If attained Gear ≠ 5th for time if the above conditions have been met Increment 6th Gear Fail Counter and C456 Fail Counter and C456 Fail Counter	Table Based Time Please Refer to Table 3 in supporting documents		= FALSE Boolean	6th >= 3 Gear Fail Count OR C456 >= 14 Fail Counts	
				TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	<ul> <li>TRUE Boolean</li> <li>RPM</li> <li>16 RPM</li> <li>0.5005 Pct</li> <li>8.5996 Volts</li> <li>31.99 Volts</li> <li>500 RPM</li> <li>7500 RPM</li> </ul>		
				Engine Speed is within the allowable limits for Throttle Position Signal valid HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault	= TRUE Boolean = TRUE Boolean >= 0 °C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	OutputSpeed Sensor fault Default Gear Option is not present MIL not Illuminated for DTC's:	= TRUE		
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					One Trip

COMPONENT/ SYSTEM	ULT MONITOR STRATEGY DE DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If the Above is True for Time	Table Based Time Please = Refer to Table 4 in supporting documents				
		Intrusive test: (CBR1 clutch exhausted) Gear Ratio					
		Gear Ratio If the above parameters are true	>= 1.094360352			Fail >= 0.5688 Timer	
						(Sec) Fail >= 2 Count in 1st Gear	
		Fail				or Total >= 3 Fail Counts	
		Case 2 Case 2 Max Delta Output Speed Hysteresis					
		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					

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		Intrusive test: (CB26 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.209594727 >= 1.094360352			Fail >= 0.5688 Timer (Sec) Fail >= 1 Count in 2nd Gear or Total >= 3 fail	
		Fail Case 3 Case 3 Max Delta Output Speed Hysteresis	Table Based value Please			counts	
		Min Delta Output Speed Hysteresis If the Above is True for Time	value Please >= Refer to Table rpm/sec 18 in supporting documents Table Based Time Please >= Refer to Table Sec				
		Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<= 1.209594727 >= 1.094360352				

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL		TIME REQUIRED	MIL ILLUM.
								>= 0.5688 Timer (Sec) Fail >= 1 Count in 3rd Gear OR >= 3 Total Fail Counts	
					PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled	= = >= =	FALSE Boolea FALSE Boolea FALSE Boolea 0 RPM TRUE Boolea TRUE Boolea	n n	
					Hydraulic_System_Pressurized Minimum output speed for RVT A OR B (A) Output speed enable	>=	TRUE Boolea 0 Nm 16 Nm	n	
					(B) Accelerator Pedal enable Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the	>= <= >= <=	0.5005 Nm 8.5996 Volts 31.99 Volts 500 RPM 7500 RPM		
					allowable limits for allowable limits for if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable Torque Enable	>= >= >=	5 Sec 5.0003 Pct 5 Nm 1492 Nm		
					Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault		0 °C FALSE Boolea FALSE Boolea		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:				
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)					One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALU	E	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			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:	<ul> <li>pressurized</li> <li>Clutch exhaust command</li> <li>✓ Initial Clutch</li> <li>✓ Control</li> <li>&lt;= 40 RPM</li> </ul>					
			fail timer 1 (4-1 shifting with throttle) fail timer 1 (4-1 shifting without throttle)	>= 0.299804688 Fail (Sec >= 0.299804688 Fail (Sec	ïme				
			fail timer 1 (4-2 shifting with throttle) fail timer 1 (4-2 shifting without throttle)	>= 0.299804688 Fail (Sec >= 0.299804688 Fail (Sec	īme				
			fail timer 1 (4-3 shifting with throttle) fail timer 1 (4-3 shifting without throttle)	>= 0.299804688 <sup>Fail</sup> (Sec >= 0.299804688 <sup>Fail</sup> (Sec	ime				
			fail timer 1 (5-3 shifting with throttle) fail timer 1 (5-3 shifting without throttle)	>= 0.299804688 Fail (Sec >= 0.299804688 Fail (Sec	īme				
			fail timer 1 fail timer 1 (6-2 shifting with throttle) fail timer 1 (6-2 shifting without throttle)	>= 0.299804688 Fail (Sec >= 0.299804688 Fail (Sec	ime				

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 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	

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			6th gear fail counter				Fail Counter >= 3 From 6th Gear	
			Total fail counter				OR Total >= 5 Fail Counter	
				Disable Conditions:		<ul> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>TRUE Boolean</li> <li>TRUE Boolean</li> <li>TRUE Boolean</li> <li>100 RPM</li> <li>150 RPM</li> <li>150 RPM</li> <li>0 °C</li> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>FALSE Boolean</li> <li>TCM: P0716, P0716, P0717, P0723, P182E</li> </ul>		
						P0171, P0172, P0174, P0175,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0300, P0300, P0301, P0302, P0302, P0303, P0304, P0305, P0306, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Eail       Tap Up Switch Stuck in         Case 1       the Up Position in Range         1       Enabled         Tap Up Switch Stuck in       the Up Position in Range         2       Enabled         Tap Up Switch Stuck in       the Up Position in Range         2       Enabled         Tap Up Switch Stuck in       the Up Position in Range         3       Enabled         Tap Up Switch Stuck in       the Up Position in Range         4       Enabled         Tap Up Switch Stuck in       the Up Position in Range         5       Enabled         Tap Up Switch Stuck in       the Up Position in Range         6       Enabled         Tap Up Switch Stuck in       the Up Position in Range         6       Enabled         Tap Up Switch Stuck in       the Up Position in Range         6       Enabled         Tap Up Switch Stuck in       the Up Position in Range         6       Enabled         Tap Up Switch Stuck in       the Up Position in Range         12       Tap Up Switch Stuck in         13       the Up Position in Range         14       Tap Up Switch Stuck in         15       Tap Up Switch Stuck in	=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean=1Boolean				Special No Trip

COMPONENT/ SYSTEM	MONITOR STRATEGY E DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIONS	TIM	E REQI	JIRED	MIL ILLUM.
		Tap Up Switch ON	= TRUE	Boolean				>=	1	Fail Time (Sec)	
		Fail Tap Up Switch Stuck in Case 2 the Up Position in Range 1 Enabled	= 1	Boolean							
		Tap Up Switch Stuck in the Up Position in Range 2 Enabled Tap Up Switch Stuck in	= 1	Boolean							
		the Up Position in Range 3 Enabled Tap Up Switch Stuck in	= 1	Boolean							
		the Up Position in Range 4 Enabled Tap Up Switch Stuck in		Boolean							
		the Up Position in Range 5 Enabled Tap Up Switch Stuck in the Up Position in Pagas		Boolean							
		the Up Position in Range 6 Enabled Tap Up Switch Stuck in the Up Position in		Boolean Boolean							
		Tap Up Switch Stuck in the Up Position in Park		Boolean							
		Tap Up Switch Stuck in the Up Position in		Boolean							
		Reverse Enabled		Boolean							
		NOTE: Both Failcase1 and Failcase 2 Must Be Met						>=	600	Fail Time (Sec)	
					Time Since Last Range Change	>=	Enable 1 Time (Sec)				
					Ignition Voltage Lo Ignition Voltage Hi		8.5996 Volts 31.99 Volts				
					Engine Speed Lo Engine Speed Hi		500         RPM           7500         RPM				
					Engine Speed is within the allowable limits for	>=	5 Sec				

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	P0815 Status is	Test Failed This ≠ Key On or Fault Active 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	n = 1 Boolean				Special No Trip
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	n = 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	n = 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	n = 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	n = 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	n = 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	n = 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 Range Park Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 0	Boolean				
			Tap Down Switch ON	= TRUE	Boolean			>= 1 sec	
			FailTap Down Switch Stuck Case 2in the Down Position in Range 1 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled		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		Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled		Boolean				
			Tap Down Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met		Boolean			>= 600 sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	TH	IRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQI	UIRED	MIL ILLUM.
						Disable	Time Since Last Range Change Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P0816 Status is MIL not Illuminated for DTC's:	>= <= >= >= ≠	1 8.5996 31.99 500 7500 5 Test Failed This Key On or Fault Active	Enable Time (Sec) Volts RPM RPM Sec				
						Conditions:		P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None						
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	=	TRUE	Boolean	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed is within the allowable limits for P0826 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)	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRI	D MIL ILLU	UM.
				Disa Conditio		TCM: P1761					
				Conditio							
						ECM: None					
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulio pressure	<= 50 KPa						Special Trip	
		-	Hydraulic Delay Timer (Table Based)	>= See Table 8 for Delay Timer Cal Sec							
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter						>= 25 F Co		
			Note: Subsequent fail counts require CB26 pressure above this value to re-enable fail logic. Results in one fail count per clutch transition								
					Transmission Fluid Temperature Lo	>=	0	°C			
					Transmission Fluid Temperature Hi	<=	120	°C			
					Ignition Voltage Lo	>=	8.5996	Volts			
					Ignition Voltage Hi	<=	31.99	Volts			
					Engine Speed Lo		500	RPM			
					Engine Speed Hi		7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Default Gear Action		FALSE				
					High Side Driver ON		TRUE				
					RVT Status Hydraulic Pressure Available		Normal TRUE				
					Engine Speed Min		550	RPM			

	AULT	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch	20873	Transmission Fluid Pressure (TFP) Sensor C Circuit High Voltage	CB26 Hydraulic Pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter Note: Subsequent fail counts require CB26 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	See Table 8 for Delay Timer Cal Sec < 700 kpa	MIL not Illuminated for DTC's: Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi	P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0756, P0757, P0974, P0976, P0977, P1915, P182E ECM: None >= 0 °C	>= 15 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		>= 5 Sec = FALSE = TRUE = Normal = TRUE >= 550 RPM		
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	See Table 6 for >= Delay Timer Cal			>= 15 Fail Counts	Special No Trip

#### MAIN SECTION 1 of 1 Section

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHO	_D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
		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	°C		
					Transmission Fluid Temperature Hi	<=	120	°C		
					Ignition Voltage Lo	>=	8.5996			
					Ignition Voltage Hi Engine Speed Lo	<= >=	31.99 500	Volts RPM		
					Engine Speed Hi		7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Default Gear Action		FALSE			
					High Side Driver ON	=	TRUE			
					RVT Status	=	Normal			
					Hydraulic Pressure Available	=	TRUE			
					Engine Speed Min	>=	550	RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0751, P0752, P0751, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P1915, P1915, P1915, P192E ECM: None				

COMPONENT/ SYSTEM	FAULT CODE	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CON	DITIONS	TIME REQUIRED	MIL ILLUM.
COMPONENT/ SYSTEM Transmission Fluid Pressure Switch	CODE	MALFUNCTION CRITERIA C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Pressurized Position after delay, If so then Increment Fail Counter Note: Subsequent fail counts require C1234 pressure below this value to re-enable fail logic. Results in one fail count per clutch transition	>= 700 KPa >= See Table 6 for Delay Timer Cal Sec < 700 Kpa	SECONDARY PARAMETERS	>= 0 <= 120 >= 8.599 <= 31.9 >= 500 <= 750 >= 5 = FALS = TRU = Norm = TRU	°C °C 6 Volts 9 Volts RPM 0 RPM 5ec E = al	TIME REQUIRED	MIL ILLUM. Special No Trip
			Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0711, P0712, P0713, P0716, P0717, P0722, P0723, P0751, P0742, P0756,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	Т	THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.
								P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None					
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag		TRUE	Boolean					>= 0.3 out 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
							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	RPM Sec			
						Disable Conditions:	MIL not Illuminated for DTC's:	None ECM:					
								None					
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	=	TRUE	Boolean					>= 0.3 out of 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
							Ignition Voltage	>=	8.5996	Volts		(000)	
							Ignition Voltage	<=	31.99	Volts			
							Engine Speed	>=	500	RPM			
							Engine Speed	<=	7500	RPM			
							Engine Speed is within the allowable limits for	>=	5	Sec			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME RE	QUIRED	MIL ILLUM.
						P0966 Status is not	=	Test Failed This Key On or Fault Active				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	= TRUE	Boolean					>= 0.3 out 0.37	Fail Time (Sec) Sample 5 Time (Sec)	One Trip
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	<= >= <=	8.5996 31.99 500 7500 5 Test Failed	Volts Volts RPM RPM Sec			
						P0967 Status is not	=	This Key On or Fault Active				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage	The HWIO reports an low voltage (ground short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
							out Sampl of 0.375 Time (Sec)	
					P0970 Status is not	Test Failed This = Key On or Fault Active		
					Ignition Voltage		s	
					Ignition Voltage	<= 31.99 Vol	s	
					Engine Speed			
					Engine Speed		Л	
					Engine Speed is within the allowable limits for	>= 5 Se		
				Disabi Condition		TCM: None		
						ECM: None		
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean			Fail >= 0.3 Time (Sec) Sampl out 0.375 Time of (Saa)	e
					P0971 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed	or Fault Active >= 8.5996 Vol <= 31.99 Vol >= 500 RP <= 7500 RP	s s A	
					Engine Speed is within the allowable limits for	>= 5 Se		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
					Disable								
					Conditions:		None						
							ECM: None						
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE	Boolean					<b>t</b>	1.2 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				
						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:		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					<b>t</b>	1.2 1.5	Fail Time (Sec) Sample Time	Two Trips
						P0974 Status is not Ignition Voltage		Test Failed This Key On or Fault Active 8.5996	Volts			(Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQU	IRED	MIL ILLUM.
						Ignition Voltage		31.99	Volts				
						Engine Speed Engine Speed		500 7500	RPM RPM				
						Engine Speed is within the							
						allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	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 of	1.5	Sec	
						P0976 Status is not	=	Test Failed This Key On or					
								Fault Active					
						Ignition Voltage		8.5996					
						Ignition Voltage Engine Speed		31.99	Volts RPM				
						Engine Speed Engine Speed		500 7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:		TCM: None						
							ECM: None						
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE	Boolean					>= 1	1.2	Sec	One Trip
										out of	1.5	Sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					P0977 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	or Fault Active >= 8.5996 Volts <= 31.99 Volts >= 500 RPM <= 7500 RPM		
				Disab Condition		TCM: None ECM: None		
Transmission Fluid Pressure Switch	P0989	Transmission Fluid Pressure (TFP) Sensor E Circuit Low	CBR1/C456 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter Note: Subsequent fail counts require C35R	>= See Table 9 for Delay Timer Cal Sec			>= 18 Fail Counts	Special No Trip
			pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	> 50 kpa	Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<pre>&gt;= 0</pre>		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CO	ONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Fluid Pressure Switch	P0990	Transmission Fluid Pressure (TFP) Sensor E Circuit High	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	>= See Table 9 for >= Delay Timer Cal	Engine Speed is within the allowable limits for Default Gear Action High Side Driver ON RVT Status Hydraulic Pressure Available Engine Speed Min MIL not Illuminated for DTC's:	= FA = TF = Nc = TF >= 5	5 Sec ALSE RUE ormal RUE 550 RPM	>= 15 Fail Counts	Special No Trip
			Note: Subsequent fail counts require C35R pressure above this value to re-enable fail logic. Results in one fail count per clutch transition	< 700 kpa					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	/ALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIR	ED	MIL ILLUM.
	Î					Transmission Fluid Temperature	>=	0	°C			
						Lo 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, P0723, P0751, P0742, P0756, P0757, P0973, P0974, P0976, P0977, P1915, P182E ECM: None					
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter & Sample Counter		RPM					>= <sup>5</sup> Co Out <sub>5</sub> Sa	ail unts nple unts	Two Trips

AULT ODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	= 1 Second	5	
				M2 Solenoid is Commanded On	= TRUE Boolea	n	
				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	h	
				Input Speed Sensor Signal Hyst High (enabled above this value)	>= 1175 RPM		
				Input Speed Sensor Signal Hys Low (disabled below this value)	<= 900 RPM		
				The torque converter clutch has transition from Locked to Unlocked.	= TRUE Boolea	h	
				TCC Stuck On Enable Criteria:			
				Gear Ratio Gear Ratio			
				Engine Speed Hi			

COMPONENT/ SYSTEM	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			Engine Speed Lo	>=	500	RPM		
			Vehicle Speed HI	<=	511	KPH		
			Vehicle Speed Lo	>=	16	KPH		
			Stuck On During Upshift Enabled	=	0	Boolean		
			If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress		8191 FALSE	Nm Boolean		
			Current Gear		1st Gear Locked	Boolean		
			Engine Torque Hi	<=	1492	Nm		
			Engine Torque Lo	>=	80	Nm		
			Current Range	≠ 1	Neutral	Range		
			Current Range	≠ I	Reverse	Range		
			Transmission Sump Temperature	<=	130	°C		
			Transmission Sump Temperature	>=	20	°C		
			Throttle Position Hyst High	>=	8.0002	Pct		
			Throttle Position Hyst Low	<=	2.9999	Pct		
			PTO Active	=	FALSE	Boolean		
			Disable if in D1 and value true	=	0	Boolean		
			Disable if in D2 and value true	=	0	Boolean		
			Disable if in D3 and value true			Boolean		
			Disable if in D4 and value true			Boolean		
			Disable if in D5 and value true	=	0	Boolean		
			Disable if in MUMD and value true	=	0	Boolean		
			Disable if in TUTD and value true	=	0	Boolean		
			4 Wheel Drive Active	=	FALSE	Boolean		
			Air Purge Active	=	FALSE	Boolean		
			Ignore Air Purge if value = true	=	0	Boolean		
			TCC Mode	=	OFF			
			Common Enables:					
			Ignition Voltage	>=	8.5996	V		
			Ignition Voltage	<=	31.99	V		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					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	=		Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolea		
					P1751 Status is	¥	Test Failed This Key Or			
				Disable Conditions:		TCM: P0716, P0717,				
						P0722, P0723,				
						P0741, P0742,				
						P0742, P2763,				
						P2764				
						ECM:				
						P0101,				
						P0102, P0103,				
						P0106,				
						P0107, P0108,				
						P0171,				
						P0172, P0174,				
						P0175,				
						P0201, P0202,				
						P0203,				
						P0204, P0205,				
						P0206,				
						P0207, P0208,				
						P0300,				
						P0301, P0302,				
						P0303,				
						P0304,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0305, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			Fail >= 3 Counte r Sample > 10 Timer (Sec)	Special No Trip
					Tap Up Tap Down Message Health Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= 1ROE Boolean >= 500 RPM <= 7500 RPM	(666)	
				Disable Conditions		TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Circuit A Low	Fail       Current range         Case 1       Previous range         Previous range       Previous range         Either the S1 or S3       Pressure Switch         indicates "Pressure       Present"         Engine Torque       Previous range	!=       CeTRGR_e_PR NDL_Drive6       Range State         !=       CeTRGR_e_PR NDL_Drive5       Range State         =       TRUE       Boolean         >=       -50       Nm				One Trip
			Engine Torque If the above conditions are present Increment Fail Timer				Fail >= 0.225 Second s	

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	) VALUE	SECONDARY PARAMETERS	ENABI	LE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If Fail Timer has Expired then Increment Fail Counter							>= 15 Fail Counts	
		Fail Current range Case 2 S3 Pressure Switch		"Transitional 1						
		indicates "Exhausted" Commanded Gear		TRUE 1st Locked	Boolean Gear					
		If the above conditions are present Increment Fail Timer	ŝ		Gear				Fail >= 0.225 Second s	
		If Fail Timer has Expired then Increment Fail Counter							>= 15 Fail Counts	
		Fail Case 3 Current range	: = "	"Transitional 13	"	Previous range	!=	CeTR GR_e_ PRND L_Driv e5		
		Either the S1 or S3 Pressure Switch indicates "Pressure Present"	_	TRUE	Boolean	Previous range	!=	CeTR GR_e_ PRND L_Driv e5		
		Engine Torque	>=	-8191.75	Nm	IMS is 7 position configuration	=	0 Boolea n		
		Engine Torque	<=	8191.75	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 are present Increment Fail Timer	t						>= 0.225 Second s	
		If Fail Timer has Expired then Increment Fail Counter							>= 15 Fail Counts	
		<u>Fail</u> <u>Case 4</u> Current range		"Transitional 2' or "Transitional 8"		Disable Fail Case 4 if last positive range was Drive 6 and current range is transitional 8				

COMPONENT/ SYSTEM FAUL CODE	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	Either the S1 or S3 Pressure Switch indicates "Pressure Present"	= TRUE	Boolean				
	Steady State Engine Torque	- 30	Nm				
	Steady State Engine Torque	<= 8191.75	Nm				
	If the above conditions are present Increment Fail Timer					>= 0.225 Second s	
	If the above Conditions have been met, Increment Fail Counter					>= 15 Fail Counts	
	Fail_ Case 5Current range	= "Transitional 11"					
	Engine Torque Either the S1 or S3 Pressure Switch indicates "Pressure Present"		Nm Boolean				
	If the above conditions are present Increment Fail Timer					>= 0.225 Second s	
	If the above Conditions have been met, Increment Fail Counter					>= 15 Fail Counts	
	Fail <u>Case 6</u> Current range	= "Illegal"		A Open Circuit Definition (flag set false if the following conditions are met):	"Transi		
	or			Current Range			
	ECM Park/Neutral Message	= "Park/Neutral"		or			
	and	Park, Neutral,		Last positive state	≠ Neutral		
	Current Range	Reverse, ≠ Transitional 8, or Transitional 11		or			

FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDITIONS	TIME REQUIRED	MIL ILLUM.
		and				Previous transitional state	¥	Transiti onal 8 and Illegal		
		A Open Circuit (See Definition)	=	FALSE	Boolean	and				
		Dominiony				PRNDL Circuit A	=	Open Circuit		
						PRNDL Circuit B	=	Closed Circuit		
						PRNDL Circuit C	=	Open Circuit		
						PRNDL Circuit P	=	Open Circuit		
		If the above Conditions are present, Increment Fail timer							>= 6.25 Second s	
		Fail Case 7 Current PRNDL State and	=	PRNDL circuit ABCP = 1101						
		Previous valid state		PRNDL encoded value of ABCP =1111						
		Input Speed Reverse Trans Ratio		150 2.85	RPM ratio					
		Reverse Trans Ratio		3.4	ratio					
		If the above Conditions are present, Increment Fail timer							>= 6.25 Second s	
		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 RPM		
						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:	Engine Torque Signal Valid MIL not Illuminated for DTC's:			
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range TUTD Enable Switch is Active	NDL_DIVeo	Ignition Voltage Lo	>= 8.5996 Volts	Fail >= 2 Time (Sec) >= 3 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
							Ignition Voltage Hi Vehicle Speed Lo	<= <=	31.99 511	Volts KPH		
							Engine Speed Lo		500	RPM		
							Engine Speed Hi		7500	RPM		
							Engine Speed is within the		5	Sec		
							allowable limits for P1876 Status is		Test Failed This Key On or Fault Active			
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P0816, P0826, P1761, P1825, P1877, P1915, U0100 ECM: None				
		Internal Mode Switch Does Not										One Trip
Internal Mode Switch (IMS)	P1915	Indicate Park/Neutral (P/N) During Start	The following events		Park or Neutral	Enumeration						one mp
			must occur Sequentially									
			Initial Engine speed	<=	50	RPM					>= 0.25 Enable Time	
			Then								· · · · · ·	
			Engine Speed Between Following Cals									
			Engine Speed Lo Hist	>=	50	RPM						
			Engine Speed Hi Hist	<=	480	RPM					>= 0.0688 Enable Time	
			Then									
			Final Engine Speed	>=	525	RPM						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDIT.	ΓIONS	TIM	E REQ	UIRED	MIL ILLUM.
			Final Transmission Input Speed	>=	200	RPM					>=	1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE				(000)	
							Ignition Voltage Lo	>=	6	V				
							Ignition Voltage Hi Ignition Voltage Hyst High (enables above this value)	<= >=	31.99 6	V V				
							Ignition Voltage Hyst Low (disabled below this value)	<=	2	v				
							Transmission Output Speed	<=	90 Test	rpm				
							P1915 Status is	¥	Failed This Key On or					
						Disable	MIL not Illuminated for DTC's:	TCM:	Fault Active					
						Conditions:		P0722, P0723						
								ECM: None						
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	Run crank active (based on voltage thresholds below)	=	FALSE									One Trip
			Ignition Voltage High Hyst (run crank goes true when above this		6	Volts					>=	280	Fail Counts (25ms	
			value) Ignition Voltage Low Hyst (run crank goes false when below this		2	Volts					Out of	280	loop) Sample Counts (25ms	
			value)						TOUE				loop)	
							Normal CAN Comm Enabled ECM run/crank active status	=	TRUE TRUE					
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
								ECM: None						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail       Case: 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 2nd gear fail       count         and CB26 Fail Count       Count	>= 200 RPM Table Based Time Please see Table 2 in (Sec) Supporting Documents			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal >= 3 Gear Fail Count or CB26 >= 14 Fail Count	One Trip
			Fail       Case: Steady State 6th         Case 2       Gear         Gear slip       Intrusive test:         Intrusive test:       commanded 5th gear         If attained Gear = 5th       For Time	>= 200 RPM Table Based Time Please see Enable Time			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	

#### MAIN SECTION 1 of 1 Section

If Above Conditions have been met, increment Sity gear fail counter       shits         and CB26 Fail Count	ULT MONITOR STRATEGY DDE DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
$ \left  \begin{array}{c c c c c } \\ \begin{array}{c c c c } \\ \\ \\ \\ \end{array} \\ \\ \\ \\ \end{array} \\ \\ \\ \\ \\ \end{array} \\ \\ \\ \\ \\ \\ \\ \end{array} \\ \\ \\ \\ \\ \\ \\ \\ \end{array} \\$		been met, Increment 5th				>= 3 Gear Fail Count	
Image: Second and a second		and CB26 Fail Count				CB26 >= 14 Fail Count	
Hydraulic System Pressurized       =       TRUE       Boolean         Minimum output speed for RVT       >=       0       RPM         A OR B       -       -       -       -         (A) Output speed enable       >=       16       RPM         (B) Accelerator Pedal enable       >=       0.5005       Pct         Common Enable Criteria       -       -       -       -         Ignition Voltage Lio       >=       8.5996       Volts         Ignition Speed Lio       >=       5.00       RPM         Engine Speed Lio       >=       5.00       RPM				inhibit RVT	= FALSE Boolean		
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 <= 31.99 Volts Engine Speed Hi <= 500 RPM Engine Speed Hi <= 7500 RPM							
(B) Accelerator Pedal enable       >=       0.5005       Pct         Common Enable Criteria       Ignition Voltage Lo       >=       8.5996       Volts         Ignition Voltage Hi       <=				A OR B			
Ignition Voltage Hi       <=				(B) Accelerator Pedal enable	>= 0.5005 Pct		
Engine Speed is within the				Ignition Voltage Hi	<= 31.99 Volts		
				Engine Speed Hi Engine Speed is within the	<= 7500 RPM		
Throttle Position Signal valid = TRUE Boolean HSD Enabled = TRUE Boolean				HSD Enabled	= TRUE Boolean		
Transmission Fluid Temperature       >=       0       °C         Input Speed Sensor fault       =       FALSE Boolean         Output Speed Sensor fault       =       FALSE Boolean				Input Speed Sensor fault	= FALSE Boolean		
Default Gear Option is not present = TRUE							

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0177, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0203, P0204, P0205, P0206, P0207, P0208, P0206, P0207, P0208, P0300, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)					One Trip

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If above conditions are true, increment appropriate 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 (2-4 shifting with throttle) fail timer 1 (2-4 shifting with throttle) fail timer 1 (2-4 shifting with throttle) fail timer 1 (6-4 shifting with throttle) fail timer 1 (6-4 shifting with throttle) fail timer 1 (6-5 shifting with throttle) fail timer 1 (6-5 shifting with throttle) fail timer 1	<ul> <li>■ Maximum pressurized</li> <li>■ Clutch exhaust command</li> <li>✓ Initial Clutch Control</li> <li>&lt;= 40 RPM</li> <li>&gt;= 0.299804688 Fail Time (Sec)</li> </ul>				

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 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					
		2nd gear fail counter				Fail Counter >= 3 From 2nd Gear OR	
		6th gear fail counter				Fail Counter >= 3 From 6th Gear OR	
		total fail counter				Total >= 5 Fail Counter	
				Trans oil temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear	= FALSE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT	>= 100 RPM		
					input speed limit for TUT	>= 150 RPM		
					TUT Enable temperature	>= 0 °C		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending			
					Service Fast Learn Mode			
					HSD Enabled			
				Disable				
				Conditions:	mile not manimated for bird 3.	P0716,		
						P0717,		
						P0722, P0723,		
						P182E		
						ECM:		
						P0101,		
						P0102,		
						P0103, P0106,		
						P0100, P0107,		
						P0108,		
						P0171, P0172,		
						P0172, P0174,		
						P0175,		
						P0201, P0202,		
						P0202, P0203,		
						P0204,		
						P0205,		
						P0206, P0207,		
						P0208,		
						P0300,		
						P0301, P0302,		
						P0303,		
						P0304,		
						P0305, P0306,		
						P0307,		
						P0308,		
						P0401, P042E		

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail       Case: Steady State 1st         Case 1       Case: Steady State 1st         Attained Gear slip       If the Above is True for         If the Above is True for       Intrusive test:         (CBR1 clutch exhausted)       Gear Ratio         Gear Ratio       Gear Ratio         If the above parameters are true       Gear Ratio         Eail       Case: Steady State 3rd         Case 2       Gear         Max Delta Output Speed       Hysteresis         Min Delta Output Speed       Hysteresis	<ul> <li>&gt;= 200 RPM</li> <li>Table Based Time Please Refer to Table 4 occuments</li> <li>= 2.482177734</li> <li>&gt;= 2.245849609</li> <li>Table Based value Please Refer to Table from/sec 17 in supporting documents</li> <li>Table Based value Please Refer to Table from/sec</li> <li>Table Based value Please Refer to Table from/sec</li> </ul>			Fail >= 0.5688 Timer (Sec) Fail >= 2 Count in 1st Gear or Total >= 3 Fail Counts	One Trip

COMPONENT/ SYSTEM	LT MONITOR STRATEGY DE DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If the Above is True for Time	>= Poter to Lable Sec				
		Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio	<= 2.482177734				
		If the above parameters are true				Fail >= 0.5688 Timer (Sec)	
						Fail >= 1 Count in 3rd Gear or	
		<u>Fail</u> Case: Steady State 4rd <u>Case 3</u> Gear				Total >= 3 Fail Counts	
		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					
		Intrusive test: (C1234 clutch exhausted)					

COMPONENT/ SYSTEM	AULT MO ODE	DNITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Gear Ratio Gear Ratio If the above parameters are true	>= 0.633666992			>= 0.5688 Timer (Sec) Fail >= 1 Count in 4th Gear or Total >= 3 Fail Counts	
		Ē	F <u>ail</u> Case: Steady State 5th Case 4 Gear Max Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 17 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please >= Refer to Table rpm/sec 18 in supporting documents Table Based				
			If the Above is True for Time Intrusive test: (C35R clutch exhausted)	Time Please >= Refer to Table Sec 19 in supporting documents				
				<= 0.700317383 >= 0.633666992			Fail ≻= 0.5688 Timer (Sec)	

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled Hydraulic_System_Pressurized Minimum output speed for RVT A OR B (A) Output speed for RVT (B) Accelerator Pedal enable Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable	$\begin{array}{cccccccc} > & 0 & RPM \\ = & TRUE & Boolean \\ > = & 0 & Nm \\ \end{array}$ $\begin{array}{cccccccccccccccccccccccccccccccccccc$		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0205, P0206, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0308, P0308, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail (Sec) out 0.375 Time of (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	e condi	TIONS	TIME REQUIRED	MIL ILLUM.
					P2770 Status is not Ignition Voltage Ignition Voltage Engine Speed	>= <=	Test Failed This Key On or Fault Active 8.5996 31.99 500	Volts Volts RPM		
					Engine Speed		7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:		TCM: None				
						ECM: None				
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High	The HWIO reports an high voltage (open or power short) error flag	= TRUE Boolean					Fail >= 0.3 Time (Sec) Sample out 0.375 Time of (Sec)	One Trip
					P2721 Status is not	=	Test Failed This Key On or Fault Active		(000)	
					Ignition Voltage		8.5996	Volts		
					Ignition Voltage		31.99	Volts		
					Engine Speed Engine Speed		500 7500	RPM RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
				Disable Conditions:		TCM: None				
						ECM: None				

COMPONENT/ SYSTEM	FAULT CODE		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	>= 200 RPM			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	One Trip
			Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time	Table based				
			If Above Conditions have been met, Increment 1st gear fail counter and C1234 fail counter				>= 3 Gear Fail Count or C1234 >= 14 Clutch Fail	
			<u>Fail</u> Case: Steady State 2nd <u>Case 2</u> Gear Gear slip	>= 200 RPM			Please See Table 5 Neutral >= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 3rd gear If attained Gear ≠ 3rd for Time	Table based Timer, Please See Table 3 in Enable Time				
			If Above Conditions have been met, Increment 2nd gear fail counter				2nd >= 3 Gear Fail Count	

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

COMPONENT/ SYSTEM	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	If attained Gear  = 5th For Time	Table based Timer, Please See Table 3 in Supporting Documents				
	If Above Conditions have been met, Increment 4th gear fail counter				4th >= 3 Gear Fail Count or	
	and C1234 fail counter				>= 14 Cl234 Clutch Fail Count	
			PRNDL State defaulted inhibit RVT	<ul><li>FALSE Boolean</li><li>FALSE Boolean</li></ul>		
			IMS fault pending indication			
			TPS validity flag			
			Hydraulic System Pressurized	= TRUE Boolean		
			Minimum output speed for RVT	>= 0 RPM		
			A OR B			
			(A) Output speed enable	>= 16 RPM		
			(B) Accelerator Pedal enable	>= 0.5005 Pct		
			Common Enable Criteria			
			Ignition Voltage Lo			
			Ignition Voltage Hi Engine Speed Lo	<= 31.99 Volts >= 500 RPM		
			Engine Speed Et			
			Engine Speed is within the allowable limits for			
			Throttle Position Signal valid			
			HSD Enabled			
			Transmission Fluid Temperature	>= 0 °C		
			Input Speed Sensor fault	= FALSE Boolean		
			Output Speed Sensor fault	= FALSE Boolean		
			Default Gear Option is not present	= TRUE		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions		P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0205, P0206, P0206, P0207, P0208, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE Boolean		P0308, P0401, P042E		One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Primary Offgoing Clutch Pressure Command Status		Clutch exhaust command					
			Range Shift Status	¥	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:							
			fail timer 1 (2-6 shifting with throttle)	>=	0.299804688	sec				
			fail timer 1 (2-6 shifting without throttle)	>=	0.299804688	sec				
			fail timer 1 (3-5 shifting with throttle)	>=	0.299804688	sec				
			fail timer 1 (3-5 shifting without throttle)	>=	0.299804688	sec				
			fail timer 1 (4-5 shifting with throttle)	>=	0.299804688	sec				
			fail timer 1 (4-5 shifting without throttle)	>=	0.299804688	sec				
			fail timer 1 (4-6 shifting with throttle)	>=	0.299804688	sec				
			fail timer 1 (4-6 shifting without throttle)	>=	0.299804688	sec				

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 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					
		2nd gear fail counter				Fail Counter >= 3 From 2nd Gear	
		3rd gear fail counter				Fail Counter >= 3 From 3rd Gear	
		4th gear fail counter				Fail Counter >= 3 From 4th Gear	

#### MAIN SECTION 1 of 1 Section

COMPONENT/ SYSTEM FAUL	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	total fail counter				Total >= 5 Fail Counter	
			Trans oil temperature	> 0 °C		
			Input Speed Sensor fault	= FALSE Boolean		
			Output Speed Sensor fault	= FALSE Boolean		
			Command / Attained Gear	≠ 1st Boolean		
			High Side Driver ON	= TRUE Boolean		
			output speed limit for TUT	>= 100 RPM		
			input speed limit for TUT	>= 150 RPM		
			TUT Enable temperature	⊃° 0 =<		
			PRNDL state defaulted	= FALSE Boolean		
			IMS Fault Pending	= FALSE Boolean		
			Service Fast Learn Mode	= FALSE Boolean		
			HSD Enabled	= TRUE Boolean		
		Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P1723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail_ Case 1 Case: 5th Gear					One Trip
			Max Delta Output Speed Hysteresis					
			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 are true	>= 1.094360352			Fail	
							>= 0.5688 Timer (Sec) Fail >= 1 Count in 5th Gear OR	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			F <u>ail</u> Case: 6th Gear Max Delta Output Speed Hysteresis Min Delta Output Speed Hysteresis	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			Total >= 3 Fail Counts	
			In the Above is Frue for Time (CB26 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<ul> <li>&gt;= Refer to Table Sec 19 in supporting documents     </li> <li>&lt;= 1.209594727     </li> <li>&gt;= 1.094360352     </li> </ul>			Fail >= 0.5688 Timer (Sec) Fail >= 1 Count in 6th Gear OR	
					PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag	= FALSE Boolean = FALSE Boolean >= 0 RPM	Total >= 3 Fail Counts	

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDITION	TIME REQUIRED	MIL ILLUM.
				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	>=	16 Nm		
				(B) Accelerator Pedal enable	>= (	0.5005 Nm		
				Ignition Voltage Lo	>= 8	8.5996 Volt	3	
				Ignition Voltage Hi	<=	31.99 Volt	3	
				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	5.0003 Pc		
				if Attained Gear=1st FW Engine Torque Enable	>=	5 Nm		
				if Attained Gear=1st FW Engine Torque Enable	<=	1492 Nm		
				Transmission Fluid Temperature	>=	0 °C		
				Input Speed Sensor fault		ALSE Boole		
				Output Speed Sensor fault	= F	FALSE Boole	an	
				Default Gear Option is not present	= '	TRUE		
			Disable Conditions:		TCM: P0716, P0717, P0722, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,			

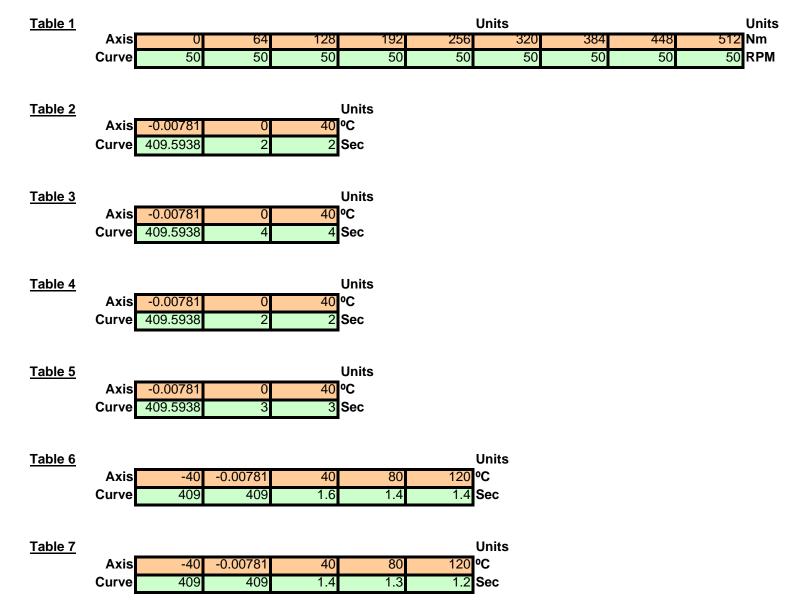
					P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0207, P0208, P0300, P0301, P0302, P0303,					
					P0304, P0305, P0306, P0307, P0308, P0401, P042E					
ure Control (PC) Solenoid E ol Circuit Low	The HWIO reports an low voltage (ground short) error flag	= TRUE Boole	an					>= 0.3 out 0.375	Fail Time (Sec) Sample Time	One Trip
			Disable	P2729 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= <= >= <= >=	31.99 500	Volt Volt RPM RPM Sec		<u>(Sec)</u>	

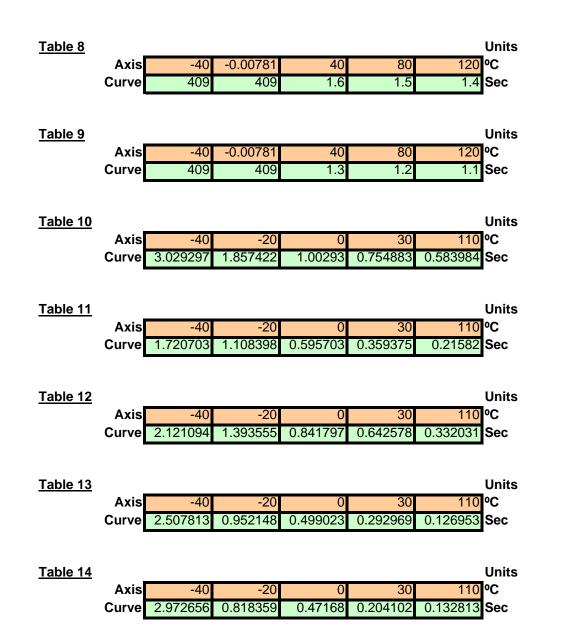
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRES	HOLD VALUE	SECONDARY PARAMETERS	ENABL	e condi	TIONS	TIME	E REQ	UIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High	The HWIO reports an high voltage (open or power short) error flag		E Boolean					>= out of		Fail Time (Sec) Sample Time (Sec)	One Trip
						P2730 Status is not	=	Test Failed This Key On or Fault					
						Ignition Voltage Ignition Voltage	<=	Active 8.5996 31.99	Volt Volt				
						Engine Speed Engine Speed Engine Speed is within the allowable limits for	<=	500 7500 5	RPM RPM Sec				
					Disable Conditions		TCM: None ECM:						
							None						
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRU	E Boolean					>= out of	4.4 5	Fail Time (Sec) Sample Time	One Trip
						P2763 Status is not Ignition Voltage Ignition Voltage	>=	Test Failed This Key On or Fault Active 8.5996 31.99	Volt Volt			(Sec)	
						Engine Speed	>=	500 7500	RPM RPM				

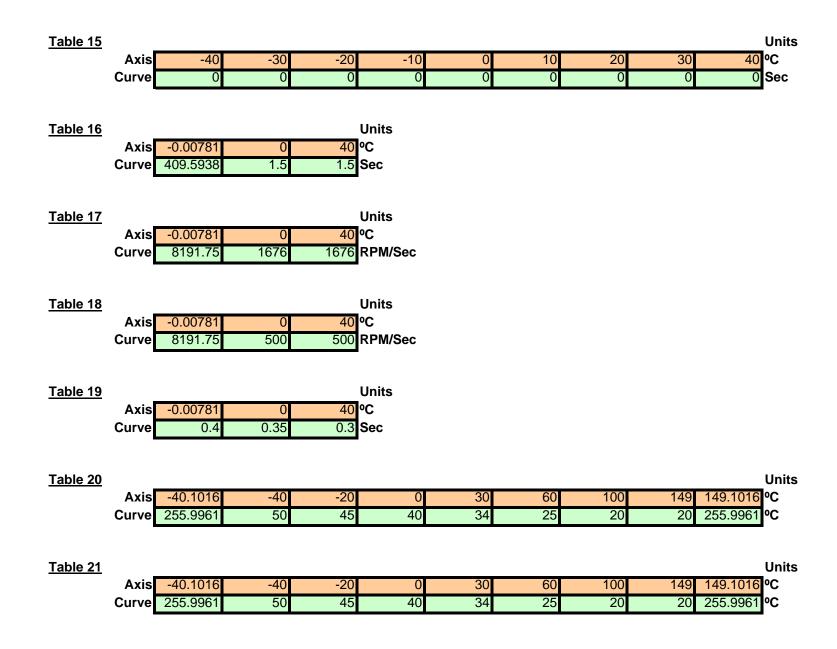
COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	REQU	JIRED	MIL ILLUM.
					Disable Conditions:	Engine Speed is within the allowable limits for High Side Driver Enabled MIL not Illuminated for DTC's:		5 TRUE	Sec Boolean				
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					>= out of	4.4 5	MPH MPH	Two Trips
						P2764 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the	>= <= >= <= >=	8.5996 31.99 500 7500	Volt Volt RPM RPM				
					Disable Conditions:	allowable limits for High Side Driver Enabled MIL not Illuminated for DTC's:	=	5 TRUE	Sec Boolean				
	110070	Controller Area Network Bus	CAN Hardware Circuitry	TOUE			ECM: None					Fail	One Trip
Communication	U0073	Communication Error	Detects a Low Voltage Error Delay timer		Boolean sec					Quit	253	counts (12.25 Sample Counts (12.25	

Communication       U0100       Lost Communications with Engine       Communication       Communication       MIL not Illuminated for DTC'ss       TCM: None       >=       3 sec Run       >=       12 sec       One Trip         Communication       U0100       Lost Communications with Engine       Communication Message Invalid From =       TRUE       Boolean       TCM: None       >=       12 sec       One Trip         Communication       U0100       Lost Communications with Engine       Communication Message Invalid From =       TRUE       Boolean       TCM: None       >=       12 sec       One Trip         Communication       MIL not Illuminated for DTC'ss       Communication delay       >=       3 sec       =       None       >=       12 sec       One Trip         Communication       MIL not Illuminated for DTC'ss       Communication delay       >=       3 sec       =       None       >=       12 sec       Sec <t< th=""><th>COMPONENT/ SYSTEM</th><th>FAULT CODE</th><th>MONITOR STRATEGY DESCRIPTION</th><th>MALFUNCTION CRITERIA</th><th>THRESHOLD VALUE</th><th>SECONDARY PARAMETERS</th><th colspan="2">ENABLE CONDITIONS</th><th colspan="2">TIME REQUIRED</th><th>MIL ILLUM.</th></t<>	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS		TIME REQUIRED		MIL ILLUM.	
Image: constraint of the second sector of						Stabilization delay	>=	3	sec			
Image: constraint of the section of the sectin of the section of the section of the section of the section of						Power Mode	=	Run				
Image: bit is able with the problem is able withe problem is able with the problem is able						Ignition Voltage Lo	>=	8.5996	Volt			
$ \left[ \begin{array}{cccccccccccccccccccccccccccccccccccc$						Ignition Voltage Hi	<=	31.99	Volt			
Image: series of the series					Disable	MIL not Illuminated for DTC's:	TCM:					
Image: constraint of the constraint					Conditions		None					
Communication       U0100       Control System       Message Invalid From =       TRUE       Boolean       Stabilization delay       >=       3       sec         Control System       ECM       FCM       FCM <td></td>												
Stabilization delay       >=       3       sec         Power Mode       =       Run         Ignition Voltage Lo       >=       8.5996       Volt         Ignition Voltage Hi       <=	Communication	U0100	Lost Communications with Engine Control System	Message Invalid From						>= 12	sec	One Trip
Image: Second state Image: Second state   Image: Second state Image						Stabilization delay	>=	3	sec			
Disable       MIL not Illuminated for DTC's:       TCM:         U0073       ECM:						Power Mode	=	Run				
Disable MIL not Illuminated for DTC's: TCM: Conditions: U0073 ECM:						Ignition Voltage Lo	>=	8.5996	Volt			
Conditions: U0073 ECM:						Ignition Voltage Hi	<=	31.99	Volt			
Conditions: U0073 ECM:												
Conditions: U0073 ECM:					Disable	MIL not Illuminated for DTC/a	TOM					

# **Supporting Documents**







<u>Table 22</u>									4.40	Un	its
	Axis Curve	-40.1016 255.9961	-40 10	-20 8	0 8	30 8	60 8	100 8		149.1016 °C 255.9961 °C	
<u>Table 28</u>	Axis Curve										
<u>Table 29</u>	Axis Curve										
<u>Table 30</u>	Axis Curve										
<u>Table 31</u>	Axis Curve										
<u>Table 32</u>	Axis Curve										
<u>Table 33</u>	Axis Curve										
<u>Table 34</u>	Axis Curve										

<u>Table 35</u>	Axis Curve
<u>Table 36</u>	Axis Curve
<u>Table 37</u>	Axis Curve
<u>Table 38</u>	Axis Curve
Table 39	Avia

Axis Curve