Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction	Enable Conditions	Time Required	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
					Disable Conditions:	MIL not Illuminated for DTC's:			
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			Runs Continously	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:			
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			Runs Continously	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>= 142.1016	6 °C			>= 5 Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature Ignition Voltage  Note: either fail case can set the DTC		°C Volts			>= 2 Fail Time (Sec)	-
						Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time	<= 170 °C		=
						P0634 Status is	This Key		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	d	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
•					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				·		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ If TCM substrate temp to power up temp Δ	supporting documents  Refer to Table 20 in									Two Trips
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.							>= Out of	3000 3750	Fail Counts (100ms loop) Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until							>=	700	Pass Counts (100ms loop)	
			country and							Out of	875	Sample Counts (100ms loop)	
						Engine Torque Signal Valid Accelerator Position Signal Valid	=	TRUE TRUE	Boolean Boolean				
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >= <= >=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
						Brake torque active Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed	>= >= >= <=	90 30.0003 200	N*m Pct RPM				
						Vehicle Speed Transmission Range Transmission Range PTO	<= ≠ ≠ =	8 Park Neutral Not Active	Kph				
						Set Brake Torque Active TRUE if above conditions are met for: Below describes the brake torque exit criteria	>=	7	sec				
						Brake torque entry criteria	=	Not Met					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		,			Clutch hydraulic pressure	Clutch		
					Clutch used to exit brake torque active	CeTFTD_e		
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for			
					P0667 Status is	This Key		
				Disal Condition		TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used  If TCM Substrate Temperature	р				Two Trips
			Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and	<= -249 °C				
			Temp Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Se	c)
			an rail containons		Ignition Voltage Lo Ignition Voltage H Engine Speed Lo Engine Speed H Engine Speed is within the allowable limits for	<= 31.99902 Volls >= 400 RPM <= 7500 RPM		
					P0668 Status is	This Key		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Dis Conditi				
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	p >= 249 °C				Two Trips
			Either condition above will satisfy the fail conditions		Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the speed is within the speed is within the speed is speed is speed in the speed in th	Hi		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ	supporting	Estimated Motor Power Lo Fa	ss = FALSE  or TCM: P0716, P0717, P0722, P0723		Two Trips
			If transmission oil temp to power up temp Δ					

System	Code	Description	Criteria	Value	Malfunction		Conditions		1	Req	uired	Illu
			Both conditions above required to						>=	3000	Fail Counts	
			increment fail counter						>=	3000	(100ms loop)	
			Note: table reference temp = to									
			the median temp of trans oil temp,						Out	3750	Sample Counts	
			substrate temp and power up						of	3730	(100ms loop)	
			temp.									1
			Non-continuous (intermittent) fail							700	Pass Counts	1
			conditions will delay resetting fail						>=	700	(100ms loop)	1
			counter until						01			
									Out of	875	Sample Counts	
									OI		(100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean				1
					Accelerator Position Signal							
					Valid	=	TRUE	Boolean				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.99902	Volts				1
					Engine Speed Lo	>=	400	RPM				1
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the	>=	5	Sec				
					allowable limits for			300				
					Brake torque active	=	FALSE					-
					Below describes the brake							
					torque entry criteria		00	Nites				
					Engine Torque Throttle	>=	90	N*m Pct				
					Transmission Input Speed	>= <=	30.0003 200	RPM				
					Vehicle Speed	<=	8	Kph				
					Transmission Range	<b>≠</b>	Park	крп				
					Transmission Range	, ≠	Neutral					
					PTO	=	Not Active					
					Set Brake Torque Active							
					TRUE if above conditions are	>=	7	sec				
					met for:							
					Below describes the brake							1
					torque exit criteria							
					Brake torque entry criteria	=	Not Met					
							Clutch					
					Clutch hydraulic pressure	≠	Hydraulic					
					Siaton Hydraumo prossaro	,	Air Purge					
							Event					
					Clutch used to exit brake		CeTFTD_e					
					torque active	=	_C3_RatlE					
					The above clutch pressure is		nbl					1
					greater than this value for one	>=	600	kpa				1
					loop	>=	000	кра				1
					Set Brake Torque Active							1
					FALSE if above conditions are	>=	20	Sec				1
					met for:	-	20	- 50				
					met ioi.		Test Failed					1
							This Key					1
					P06AC Status is	<b>≠</b>	On or					1
							Fault					1
							Active					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·		Disable Conditions:		TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 °C			>= 60 Fail Time (Se	c) Two
(TOIN)		vollage low		Disable Conditions:	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for  P06AD Status is  For Hybrids, below conditions must also be met Estimated Motor Power Loss Estimated Motor Power Loss greater than limit for time Lost Communication with Hybrid Processor Control Module Estimated Motor Power Loss Fault  MIL not Illuminated for DTC's:	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec  Test Failed This Key  ≠ On or Fault Active  >= 0 kW >= 0 Sec  = FALSE  = FALSE  TCM: P0716, P0717, P0722, P0723  ECM: None		TipS
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 °C			>= 60 Fail Time (Se	c) Two Trips
,					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for P06AE Status is	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec  Test Failed This Key  ≠ On or Fault Active		

Component/	Fault Code	Monitor Strategy	Malfunction Criteria		Thres Val		Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
System	Code	Description	Criteria	$\vdash$	vai	ue	Walturiction		Conditions			Req	uned	muni.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed		105	RPM					>=	0	Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8192	RPM					>=	0	Enable Time (Sec)	
			Output Speed Drop	>	650	RPM					>=	1.5	Output Speed Drop Recovery Fail Time (Sec)	
			AND Transmission Range is		Driven range (R,D)								Tull Tille (See)	
					(R,D)		Range_Disable OR	=	FALSE	See Below				
							Neutral_Range_Enable	=	TRUE	See Below				
							And Neutral_Speed_Enable are TRUE concurrently	=	TRUE	See Below				
							Transmission_Range_Enable Transmission_Input_Speed_E	=	TRUE	See Below				
							nable No Change in Transfer Case	=	TRUE	See Below				
							Range (High <-> Low) for	>=	5 Test Failed This Key	Seconds				
							P0723 Status is not	=	On or Fault Active					
							Disable this DTC if the PTO is active	=	1	Boolean				
							Ignition Voltage is Ignition Voltage is	>= <=	8.59961 31.99902	Volts Volts				
							Engine Speed is Engine Speed is Engine Speed is within the	>= <=	400 7500	RPM RPM				
							allowable limits for Enable_Flags Defined Below	>=	5	Sec				
							Transmission_Input_Speed_E nable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:							
							TIS Condition 1 is TRUE when both of the following conditions are satsified for Input Speed Delta	>= <=	0 4095.88	Enable Time (Sec) RPM				
							Raw Input Speed	>=	500	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	•	Enable Conditions		Time Required	Mi Illur
System	Code	Description	Criteria	value	TIS Condition 2 is TRUE when		Conditions		Required	illui
					ALL of the next two conditions					
					are satisfied		_			
					Input Speed	=	0	RPM		
					A Single Power Supply is used	=	TRUE	Boolean		
					for all speed sensors		INOL	Doolcan		
					Neutral_Range_Enable is					
					TRUE when any of the next 3					
					conditions are TRUE					
					Transmission Range is	=	Neutral	ENUM		
							Dayaraa/N			
							Reverse/N			
					Transmission Range is	=	eutral	ENUM		
							Transitonal			
							Neutral/Dri			
	l						ve			
					Transmission Range is	=	Transitiona	ENUM		
	l						1141151110114			- 1
					And when a dran agains		1			
					And when a drop occurs					
					Loop to Loop Drop of		150	DDM		
					Transmission Output Speed is	>	650	RPM		
					Range_Disable is TRUE when					
					any of the next three					
					conditions are TRUE					
					Transmission Range is	=	Park	ENUM		
							D 1/D			
							Park/Reve			
					Transmission Range is	=	rse	ENUM		
							Transitonal			
							ON (Fully			
					Input Clutch is not	=	Applied)	ENUM		
							Applied)			
					Neutral_Speed_Enable is					$\dashv$
	l				TRUE when All of the next					- 1
					three conditions are satsified	>	1.5	Seconds		
	l									
					for Transmission Output Speed		120	DDt4		
					Transmission Output Speed	>	130	RPM		- 1
	l				The loop to loop change of the		20	DDM		- 1
					Transmission Output Speed is	<	20	RPM		
					The loop to loop change of the					
					Transmission Output Speed is	>	-10	RPM		
					Transmission output speed is					
					Transmission_Range_Enable		·			
					is TRUE when one of the next					
					six conditions is TRUE					
					Transmission Range is	=	Neutral	ENUM		
							Reverse/N			
	l						eutral			- 1
		1	1	I	Transmission Range is	=		ENUM		1
					Transmission Range is		Transitiona	LIVOIVI		

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Transmission Range i	Neutral/Dri	nequired	muni.
					Time since a driven rang (R,D) has been selecter			
					Transmission Output Spee Sensor Raw Spee Output Speed when a fau was detecte	d >= 500 RPM		
					oisable MIL not Illuminated fo DTC's	TCM: P0973, P0974, P0976, P0977 : ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gea				Please See Table 5 For Neutral Timer	One Trip
			Gear sli Intrusive tes commanded 5th gea	t:			>= Neutral Time (Sec)	
			If attained Gear ≠5th for tim if the above conditions have bee	Documents	(Sec)			
			mo Increment 4th Gear Fail Counte				>= 3 4th Gear Fail Count OR C456 Fail	
			and C456 Fail Counter  Fail Case 2 Case: Steady State 5th Gea				>= 14 C430 Fall Counts  Please See	-
			Gear sli				Table 5 For Neutral Timer >= Neutral Time (Sec) Cal	
			Intrusive tes commanded 6th gea	er Please Refer				
			If attained Gear ≠ 6th for tim	to Table 3 in Supporting Documents	(Sec)			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Condition			Tim Requi		Mi Illur
-,			if the above conditions have been	*****							
			met							Fib Coor Foll	
			Increment 5th Gear Fail Counter					>=	3	5th Gear Fail Count	
										OR	
			and C456 Fail Counters					>=	14	C456 Fail	
								>=	14	Counts	
			Fail Case 3 Case: Steady State 6th Gear						lease See		
									able 5 For	Neutral Timer	
			Gear slip	>= 400 RPM					eutral Time		
									Cal	(/	
			Intrusive test:								
			commanded 5th gear								
				Please refer							
			If attained Gear ≠ 5th for time	>= to Table 3 in Supporting Shift Time (Sec)							
				Documents							
			if the above conditions have been								
			met								
			Increment 6th Gear Fail Counter					>=	3	6th Gear Fail	
			and C456 Fail Counter							Count OR	
										C456 Fail	
			and C456 Fail Counter					>=	14	Counts	
					PRNDL State defaulted	= FALS					
					inhibit RVT	= FALS					
					IMS fault pending indication TPS validity flag	= FALS = TRUE					
					Hydraulic System Pressurized	= TRUE					
					Minimum output speed for						
					RVT	>= 67	RPM				
					A OR B						
					(A) Output speed enable	>= 67	RPM				
					(B) Accelerator Pedal enable Common Enable Criteria	>= 0.500	5 Pct				1
					Ignition Voltage Lo	>= 8.5996	1 Volts				1
					Ignition Voltage Hi	<= 31.999					1
					Engine Speed Lo	>= 400	RPM				
					Engine Speed Hi	<= 7500	RPM				1
					Engine Speed is within the allowable limits for	>= 5	Sec				1
					allowable limits for Throttle Position Signal valid	= TRUE	Boolean				1
					HSD Enabled	= TRUE					1
					Transmission Fluid						1
					Temperature	>= -6.656					
					Input Speed Sensor fault	= FALS					
					OutputSpeed Sensor fault	= FALS	Boolean				
					Default Gear Option is not	= TRUE					
					present						
											1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Griteria	Disable		TCM: P0716, P0717, P0722, P0723,	Required	mulli.
				Conditions:	DTC's:			
						ECM: P0101, P0102, P0103, P0106,		
						P0107, P0108, P0171, P0172, P0174,		
						P0175, P0201, P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305,		
						P0306, P0307, P0308, P0401, P042E		
deble Die d Celeveld (ADC)	D0707	Pressure Control (PC) Solenoid C	Fail Case 1					One Tr
riable Bleed Solenoid (VBS)	P0797	Stuck On [C456] (Steady State)	Case: Steady State 1st					
			Attained Gear slip					
				Table Based				
				Time Please				
			If the Above is True for Time	>= Refer to Table Enable Time				
				4 in (Sec)				
				supporting documents				
			Intrusive test:	documents				
			(CBR1 clutch exhausted)					
			Gear Ratio	<= 1.20959				
			Gear Ratio					
			If the above parameters are true					
			·				>= 1.1 Fail Timer (	(202
							>= 2 Fail Count	
							1st Gea	r
							or	.
							>= 3 Total Fa	
			Fail Case 2 Case Steady State 2nd				Counts	
			Tall Case 2	Table Based				
				value Dioces				
			Max Delta Output Speed					
			Hysteresis	>= rpm/sec				
			,	supporting				
				documents				
				Table Based				
				value Please				
			Min Delta Output Speed					
			Hysteresis					
				supporting				
				documents Table Record				
				Table Based Time Please				
				Refer to Table				
			If the Above is True for Time	>= 17 in Sec				
				supporting				
				documents				
			Intrusive test:					
			(CB26 clutch exhausted)					
			Gear Ratio					
			Gear Ratio					
	1	1	If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		T Red	ime quired	III
		<u> </u>					>=	1.1	Fail Timer (Sec)	
									Fail Count in	
							>=	3	2nd Gear	
									or	
							>=	3	Total fail counts	
			Fail Case 3 Case Steady State 3rd	Table Based						
				ualua Diagga						
			Max Delta Output Speed	Refer to Table						
			Hysteresis							
				supporting documents						
				Table Based						
			M. D. II. O	value Please						
			Min Delta Output Speed Hysteresis	Refer to Table rpm/sec						
			Trystorosis	supporting						
				documents						l
				Table Based Time Please						
			1611 AL . 1 T . 6 T	Pofor to Table						l
			If the Above is True for Time	17 In						
				supporting						l
			Intrusive test:	documents						
			(C35R clutch exhausted)							
				<= 1.20959						
			Gear Ratio  If the above parameters are true	>= 1.09436						
			ii tile above parameters are tide					1.1	Fail Times (Cas)	
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 3rd Gear	
								OR	Sid Geal	
							>=	3	Total Fail	
					PRNDL State defaulted	= FALSE Boolean	1		Counts	ł
					inhibit RVT	= FALSE Boolean	1			
					IMS fault pending indication	= FALSE Boolean	1			
					output speed TPS validity flag	>= 0 RPM = TRUE Boolean				
					HSD Enabled	= TRUE Boolean				
					Hydraulic_System_Pressurize	= TRUE Boolean				1
					d	- INGL DOOLEGIT	1			
					A OR B (A) Output speed enable	>= 67 Nm				1
					(B) Accelerator Pedal enable	>= 0.5005 Nm	1			
					Ignition Voltage Lo	>= 8.59961 Volts				1
					Ignition Voltage Hi	<= 31.99902 Volts >= 400 RPM	1			
					Engine Speed Lo Engine Speed Hi	>= 400 RPM <= 7500 RPM	1			
					Engine Speed is within the					1
					allowable limits for	>= 5 Sec	1			П

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
						if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= 5.0003 >= 5 <= 8191.88 >= -6.6563 = FALSE = FALSE = TRUE	Pct Nm Nm °C Boolean Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P072 P182E	2, P0723,		
							ECM: P0101, P0102, P010 P0107, P0108, P0171, P01 P0175, P0201, P0202, P02 P0205, P0206, P0207, P02 P0301, P0302, P0303, P03 P0306, P0307, P0308, P04	72, P0174, 03, P0204, 08, P0300, 04, P0305,		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers)	= TRUE	Boolean					One Trip
			Primary Oncoming Clutch Pressure Command Status	= Maximum pressurized Clutch						
			Primary Offgoing Clutch Pressure Command Status	<ul> <li>exhaust command</li> <li>Initial Clutch</li> </ul>						
			Range Shift Status Attained Gear Slip	≠ Control	RPM					
			If the above conditions are true increment appropriate Fail 1 Timers Below:							
			fail timer 1 (4-1 shifting with throttle)	>= 0.2998	Fail Time (Sec)					
			fail timer 1 (4-1 shifting without throttle) fail timer 1	>= 0.5	Fail Time (Sec)					
			(4-2 shifting with throttle) fail timer 1 (4-2 shifting without throttle)	>= 0.2998 >= 0.5	Fail Time (Sec) Fail Time (Sec)					
			fail timer 1 (4-3 shifting with throttle)	>= 0.2998	Fail Time (Sec)					
			fail timer 1 (4-3 shifting without throttle) fail timer 1	>= 0.5	Fail Time (Sec)					
			(5-3 shifting with throttle)	>= 0.2998	Fail Time (Sec)					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction	Enable Conditions		Time Requi		Mil Illum.
			fail timer 1 (5-3 shifting without throttle)	>=	0.5	Fail Time (Sec)				-		
			fail timer 1 (6-2 shifting with throttle)	>=	0.2998	Fail Time (Sec)						
			fail timer 1 (6-2 shifting without throttle)	>=	0.5	Fail Time (Sec)						
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers						Tii + En fo >=	Total Fail me = (Fail 1 Fail 2) See table Timers r Fail Timer 1, and Reference Supporting table 15 for tail Timer 2	sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter									
			4th gear fail counter						>=	3	Fail Counter From 4th Gear OR	
			5th gear fail counter						>=	3	Fail Counter From 5th Gear OR	
			6th gear fail counter						>=	3	Fail Counter From 6th Gear OR	
			Total fail counter						>=	5	Total Fail Counter	
							TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.6563 °C = FALSE Boolean = FALSE Boolean = TRUE Boolean >= 100 RPM >= 150 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean = TRUE Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E				
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions				ne uired	Mil Illum.
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No MIL
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	<=	8.59961 31.99902 400 7500 5 Test Failed	Volts Volts RPM RPM Sec				
						P0826 Status is	≠	This Key On or Fault Active					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P1761 ECM: None						
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= out	0.3	Fail Time (Sec) Sample Time	One Trip
						P0970 Status is not	=	Test Failed This Key On or Fault Active		of	0.070	(Sec)	-
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	<= >= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= out	0.3	Fail Time (Sec)	One Trip
						P0971 Status is not Ignition Voltage Ignition Voltage Engine Speed	>= <=	Test Failed This Key On or Fault Active 8.59961 31.99902 400	Volts Volts RPM	of	0.375	(Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
						Engine Speed is within the	>=	5	Sec				
						allowable limits for		-					
					Disable	MIL not Illuminated for	TCM: None						
					Conditions:	DTC's:							
							ECM: None						
	<u> </u>		Fail Case 1	Transition 1						1			One Tri
nternal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Current range		Range								
				1110)									
			Dravious range	≠ CeTRGR_e_F ≠ RNDL_Drive6	Dongo								
			Previous range	<sup>≠</sup> RNDL_Drive6	, Range								
				CoTDCD o F	)								
			Previous range	≠ CeTRGR_e_F RNDL_Drive4	Range								
			Range Shift State	<ul> <li>Range Shift</li> <li>Completed</li> </ul>	ENUM								
			Absolute Attained Gear Slip		rpm								
			Attained Gear										
			Attained Gear Throttle Position Available	>= First = TRUE									
			Throttle Position Available Throttle Position		pct								
			Output Speed		rpm								
			Engine Torque	>= 50	Nm								
			Engine Torque	<= 8191.75	Nm								
			If the above conditions are met then Increment Fail Timer							>=	1	Fail Seconds	
			If Fail Timer has Expired then										
			Increment Fail Counter							>=	5	Fail Counts	
			Fail Case 2 Output Speed	<= 70	rpm								
			The following PRNDL sequence events occur in this exact order:										
				Drive 6 (bit	_								
			PRNDL state	= state 0110)	Range								
			PRNDL state = Drive 6 for		Sec								
			DDNDI state	Transition 8									
			PRNDL state	= (bit state 0111)	Range								
			DDNDI state	Drivo 6 (hit	Donne								
			PRNDL state	state 0110)	Range								
			DDND	Transition 1									
			PRNDL state	= (bit state 1110)	Range								
			Above sequencing occurs in		Sec								
			Neutral Idle Mode										
			If all conditions above are met										
			Increment delay Timer										
			If the below two conditions are met Increment Fail Timer							>=	3	Fail Seconds	
			delay timer	>= 1	Sec								
			Input Speed		Sec								
			If Fail Timer has Expired then							>=	2	Fail Counts	
	I	I	Increment Fail Counter	I						I			I

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thres Val		Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illun
0,0.0	1	2000.191.011	Fail Case 3		Transition 13				CeTRGR_					<u> </u>
			Current range		(bit state	Range	Previous range	¥	e_PRNDL					
					0010)	Ü			_Drive1					
									CeTRGR_					
			Engine Torque	>=	-8192	Nm	Previous range	<b>≠</b>	e_PRNDL					
									_Drive2					
			Engine Torque	<=	8191.75	Nm	IMS is 7 position configuration	=	1	Boolean				
							If the "IMS 7 Position config" =							
			If the above conditions are met				1 then the "previous range"							
			then, Increment Fail Timer				criteria above must also be				>=	0.225	Seconds	
							satsified when the "current							
			IS Fall Throughout Free land the co				range" = "Transition 13"							
			If Fail Timer has Expired then	1							>=	15	Fail Counts	
			Increment Fail Counter Fail Case 4								1			1
			Fall Case 4		Transition 8		Disable Fail Case 4 if last							
			Current range	=	(bit state	Range	positive range was Drive 6 and							
					0111)		current range is transition 8							
							Set inhibit bit true if PRNDL =							
							1100 (rev) or 0100 (Rev-Neu							
			Inhibit bit (see definition)	=	FALSE		transition 11)							
							Set inhibit bit false if PRNDL =							
							1001 (park)							
			Steady State Engine Torque			Nm								
			Steady State Engine Torque	<=	8191.75	Nm								
			If the above conditions are met								>=	0.225	Seconds	
			then Increment Fail Timer	1										
			If the above Condtions have been								>=	15	Fail Counts	
			met, Increment Fail Counter								>=	13	Fall Counts	
			Fail Case 5 Throttle Position Available	=	TRUE	Boolean								1
			The following PRNDL sequence											
			events occur in this exact order:											
			PRNDL State		Reverse (bit	Range								
			FRINDL State		state 1100)	Range								
					Transition 11									
			PRNDL State	=		Range								
					0100)									1
			PRNDL State		Neutral (bit	Range								1
					State UTUT)	. 3.								
			DDNDI Ctoto		Transition 11	Donne								
			PRNDL State	=	(bit state 0100)	Range								
			Above sequencing occurs in	<=		Sec								
			Then delay timer increments		'	300								
			Delay timer		5	sec								
					Range Shift									
			Range Shift State	=	Complete									
			Absolute Attained Gear Slip			rpm								
			Attained Gear		Sixth									
			Attained Gear		First									
			Throttle Position			pct								
			Output Speed	>=	200	rpm								
			If the above conditions are met	1							>=	20	Seconds	
	1	1	Increment Fail Timer	1							1		00001143	1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		ime Juired	Mil Illum.
-,			Fail Case 6	Illegal (bit	A Open Circuit Definition (flag		1.00		
			Current range	= state 0000 or	set false if the following				
				1000 or 0001)	conditions are met):				
						Transition			
			and		Current Range	≠ 11 (bit			
					3	state			
			A Open Circuit (See Definition)	= FALSE Boolean	or	0100)			
			A Open Circuit (See Delinition)	= FALSE BOOIEdII	OI	Neutral (bit			
					Last positive state	≠ state			
						0101)			
					or	,			
						Transition			
					Previous transition state	≠ 8 (bit state			
						0111)			
					Fail case 5 delay timer	= 0 sec	1		
			If the above Condtions are met				>= 6.25	Seconds	
			then, Increment Fail timer Fail Case 7	DDNDL circuit					-
			Current PRNDL State	= PRNDL circuit ABCP = 1101 Range					
			and						
				PRNDL circuit Range					
			Previous PRNDL state	= ABCP =1111 Range					
			Input Speed	>= 150 RPM					
			Reverse Trans Ratio						
			Reverse Trans Ratio	>= 3.27417 ratio					
			If the above Condtions are met				>= 6.25	Seconds	
			then, Increment Fail timer				-		-
			P182E will report test fail when						
			any of the above 7 fail cases are						
			met						
					Ignition Voltage Lo	>= 8.59961 Volts			
					Ignition Voltage Hi	<= 31.99902 Volts			
					Engine Speed Lo	>= 400 RPM			
					Engine Speed Hi Engine Speed is within the	<= 7500 RPM			
					allowable limits for	>= 5 Sec			
					Engine Torque Signal Valid	= TRUE Boolean			
					g 10. 440 0g.lul Vullu	ez Boolean			
							1		
				Disabl		TCM: P0716, P0717, P0722, P0723,			
				Conditions	: DTC's:	P07C0, P07BF, P077C, P077D	1		
						ECM: P0101, P0102, P0103, P0106,			
						P0107, P0108, P0171, P0172, P0174,	1		
						P0175, P0201, P0202, P0203, P0204,			
						P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305,	1		
	1		1	1	1	1 0001, 1 0002, 1 0000, F0004, F0000,	1		1
						P0306, P0307, P0308, P0401, P042E			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			shold lue	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is		Park or Neutral	Enumeration						·		One Trip
			The following events must occur Sequentially										5 W T	
			Initial Engine speed	<=	50	RPM					>=	0.25	Enable Time (Sec)	
			Then Engine Speed Between Following Cals											
			Engine Speed Lo Hist		50	RPM							Enable Time	
			Engine Speed Hi Hist		480	RPM					>=	0.06875	(Sec)	
			Then Final Engine Speed Final Transmission Input Speed	>=	525 100	RPM RPM					>=	1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE	Boolean				
							Ignition Voltage Lo Ignition Voltage Hi Ignition Voltage Hyst High (enables above this value)	>= <= >=	6 31.99902 5	V V				
							Ignition Voltage Hyst Low (disabled below this value)	<=	2	V				
							Transmission Output Speed	<=	90 Test Failed	rpm				
							P1915 Status is	≠	This Key On or Fault Active					
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, ECM: None	P0723					
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)		TRUE	Boolean								One Trip
		J. T. J.	Ignition Voltage High Hyst (run crank goes true when above this value)		5	Volts					>=	280	Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)		2	Volts					Out of	280	Sample Counts (25ms loop)	
			,				ECM run/crank active status available	=	TRUE	Boolean				
							ECM run/crank active status	=	FALSE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear					LOW. NOTE						One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	
			Intrusive test:				Cai	
			commanded 3rd gear	Table Based				
			If attained Gear = 3rd for Time					
			If Above Conditions have been met	Bocuments				
			Increment 2nd gear fail count				>= 3 2nd Gear Fail Count	
			and CB26 Fail Count				or CB26 Fail Count	
			Fail Case 2 Case: Steady State 6th Gear				Please See	
			Gear slip	>= 400 RPM			>= Table 5 For Neutral Timer Neutral Time (Sec) Cal	
			Intrusive test: commanded 5th gear				Cal	
			If attained Gear = 5th For Time					
			If Above Conditions have been met, Increment 5th gear fail	Documents			>= 3 5th Gear Fail Count	
			counter				or	
			and CB26 Fail Count				>= 14 CB26 Fail Count	
					PRNDL State defaulted inhibit RVT	= FALSE Boolean = FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag Hydraulic System Pressurized	= TRUE Boolean = TRUE Boolean		
					Minimum output speed for	>= 0 RPM		
					RVT A OR B			
					(A) Output speed enable	>= 67 RPM		
					(B) Accelerator Pedal enable Common Enable Criteria	>= 0.5005 Pct		
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi Engine Speed Lo	<= 31.99902 Volts >= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Throttle Position Signal valid HSD Enabled	= TRUE Boolean = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
					Disable Conditions:	Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present  MIL not Illuminated for DTC's:	>= -6.6563 = FALSE B = FALSE B = TRUE	°C oolean oolean 723, 723, 724, 72001, 72004, 72004, 72005, 72005, 72005		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If above coditons are true, increment appropriate Fail 1 Timers Below: fail timer 1 (2-1 shifting with throttle) fail timer 1 (2-3 shifting without throttle) fail timer 1 (2-3 shifting without throttle) fail timer 1 (2-4 shifting with uthrottle) fail timer 1 (2-4 shifting with uthrottle) fail timer 1 (2-4 shifting without throttle) fail timer 1 (6-4 shifting without throttle) fail timer 1 (6-5 shifting with throttle) fail timer 1 (6-5 shifting with throttle) fail timer 1	Control	RPM  Fail Time (Sec)					One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer >= 1, and Sec Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter				Tall Tillot 2	
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gea	ar
			6th gear fail counter				OR Fail Counter From 6th Gea OR	r
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.6563 °C = FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 100 RPM >= 150 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182F		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case: Steady State 1st Attained Gear slip  If the Above is True for Time	Table Based Time Please				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	
o, stani	5546	2000. iption	Intrusive test:	- 3190					1
			(CBR1 clutch exhausted) Gear Ratio	<= 2.48218					
				>= 2.24585					
			If the above parameters are true	. 212 1000					
			· ·				>=	1.1 Fail Timer (	(202
							>=		
							>=	5 Fail Count	
								1st Geal or	
								Total Ea	ıl
							>=	5 Counts	
			Fail Case 2 Case: Steady State 3rd Gear						
				Table Based					
				value Please					
			Max Delta Output Speed Hysteresis	>= Refer to Table rpm/sec					
			riysteresis	supporting					
				documents					
				Table Based					
				value Please					
			Min Delta Output Speed	>= Refer to Table rpm/sec					
			Hysteresis						
				supporting documents					
				Table Based					
				Time Please					
			If the Above is True for Time	>= Refer to Table Sec					
			ii tile Above is Tide for Tillie	17 111					
				supporting					
			Intrusive test:	documents					
			(C35R clutch exhausted)						
			Gear Ratio	<= 2.48218					
				>= 2.24585					
			If the above parameters are true						
							>=	1.1 Fail Timer (	Sec)
					1			Fail Count	- 1
					1		>=	3 3rd Gea	
								or	
							>=	5 Total Fa	
			5 110 00 00 00 110 110					Counts	_
			Fail Case 3 Case: Steady State 4rd Gear	Table Deced					
				Table Based value Please	1				
			Max Delta Output Speed	>= Refer to Table rpm/sec	1				
			Hysteresis	>= 22 in rpm/sec	1				
			,	supporting	1				
				documents					
				Table Based	1				
			Min Dollo Output Connel	value Please	1				
			Min Delta Output Speed Hysteresis	>= Refer to Table rpm/sec	1				
			nysteresis	supporting					
	1 1		1	documents			ı		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time quired	III
			If the Above is True for Time Intrusive test: (C1234 clutch exhausted) Gear Ratio	supporting documents						
			Gear Ratio If the above parameters are true							
							>	= 1.1	Fail Timer (Sec)	
							>	= 3	Fail Count in 4th Gear or	
							>	= 5	Total Fail Counts	
			Fail Case 4 Case: Steady State 5th Gear  Max Delta Output Speed Hysteresis  Min Delta Output Speed Hysteresis  If the Above is True for Time  Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	23 in supporting documents Table Based Time Please Refer to Table 17 in supporting documents  <= 0.70032						
							>		Fail Timer (Sec) Fail Count in	
							>	= 3	5th Gear or	
					PRNDL State defaulted	= FALSE	Boolean >	= 5	Total Fail Counts	
					inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled	= FALSE = FALSE >= 0 = TRUE = TRUE	Boolean Boolean RPM Boolean Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
System	Code	Description	Criteria	value	Hydraulic_System_Pressurize	<del>                                     </del>				Requ	ulleu	man.
					d	=	TRUE	Boolean				
					A OR B							
					(A) Output speed enable		67	Nm				
					(B) Accelerator Pedal enable		0.5005	Nm				
					Ignition Voltage Lo		8.59961	Volts				
					Ignition Voltage Hi		31.99902 400	Volts RPM				
					Engine Speed Lo Engine Speed Hi		7500	RPM				
					Engine Speed is within the							
					allowable limits for		5	Sec				
					if Attained Gear=1st FW		F 0000	D.I				
					Accelerator Pedal enable	>=	5.0003	Pct				
					if Attained Gear=1st FW		5	Nm				
					Engine Torque Enable		3	INIII				
					if Attained Gear=1st FW		8191.88	Nm				
					Engine Torque Enable							
					Transmission Fluid Temperature		-6.6563	°C				
					Input Speed Sensor fault		FALSE	Boolean				
					Output Speed Sensor fault		FALSE	Boolean				
					Default Gear Option is not							
					present	=	TRUE					
				Disa		TCM: P071	6, P0717, P0722	2, P0723,				
				Condition	DIC S:	P182E						
						FCM: P010	1, P0102, P0103	R P0106				
							08, P0171, P017					
							201, P0202, P020					
						P0205, P02	206, P0207, P020	08, P0300,				
							802, P0303, P030					
						P0306, P03	807, P0308, P040	01, P042E				
		0 1 1/00/01 110										O T.
Inviolate Disad Colonald (I/DC)	D2720	Pressure Control (PC) Solenoid D Control Circuit Low	The HWIO reports a low voltage	= TRUE Boolean						0.2	Fall Times (Cas)	One Trip
'ariable Bleed Solenoid (VBS)	P2720	(CB26 VBS)	(ground short) error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	
		(CB20 VB3)							out		Sample Time	
									of	0.375	(Sec)	
							Test Failed				()	1
					1		This Key					
					P2770 Status is not	=	On or					
							Fault					
					1 10 11 11		Active					
					Ignition Voltage		8.59961	Volts				
					Ignition Voltage Engine Speed		31.99902 400	Volts RPM				
					Engine Speed		7500	RPM				
					Engine Speed is within the							
					allowable limits for		5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thres Val		Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= -	TRUE	Boolean					>= out of	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Tri
							P2721 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	= <= >= <= >=	Test Failed This Key On or Fault Active 8.59961 31.99902 400 7500	Volts Volts RPM RPM Sec			()	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= -	TRUE	Boolean					>= out of	4.4 5	Fail Time (Sec) Sample Time (Sec)	Two Trips
							P2763 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed is within the allowable limits for High Side Driver Enabled	= <= >= <= >=	Test Failed This Key On or Fault Active 8.59961 31.99902 400 7500 5 TRUE	Volt Volt RPM RPM Sec Boolean			,	
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, ECM: None	P0659					
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= -	TRUE	Boolean					>= out	4.4	Fail Time (Sec)	One Tri

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					P2764 Status is not	=	Test Failed This Key On or			
							Fault Active			
					Ignition Voltage		8.59961	Volt		
					Ignition Voltage		31.99902	Volt		
					Engine Speed		400	RPM		
					Engine Speed		7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
					High Side Driver Enabled	=	TRUE	Boolean		
				Disable Conditions:	DTC's:					
						ECM: None				

#### Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00	N*m
Curve	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	RPM

#### Table 2

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

#### Table 3

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	4.00	4.00	Sec

#### Table 4

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

#### Table 5

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

#### Table 6

Axis	-6.67	-6.66	40.00	80.00	120.00 °C
Curve	409.00	3.60	1.60	1.40	1.40 Sec

#### Table 7

Axis	-6.67	-6.66	40.00	80.00	120.00 °C
Curve	409.00	3.40	1.40	1.30	1.20 Sec

#### Table 8

	Axis	-6.67	-6.66	40.00	80.00	120.00 °C			
	Curve	409.00	3.60	1.60	1.50	1.40 Sec			
Table 9									
145100	Axis	-6.67	-6.66	40.00	80.00	120.00 °C			
	Curve	409.00	3.30	1.30	1.20	1.10 Sec			
				•					
<b>T</b> 11 40									
<u>Table 10</u>	Axis	-40.00	-20.00	0.00	30.00	110.00 °C			
	Curve	3.03	1.86	1.00	0.75	0.58 Sec			
	Oui Ve	0.00	1.00	1.00	0.70	0.00			
<u>Table 11</u>	_								
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C			
	Curve	1.72	1.11	0.60	0.36	0.22 Sec			
Table 12									
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C			
	Curve	2.12	1.39	0.84	0.64	0.33 Sec			
Table 13									
Table 13	Axis	-40.00	-20.00	0.00	30.00	110.00 °C			
	Curve	2.51	0.95	0.50	0.29	0.13 Sec			
	_								
Table 14	🗖	40.00	22.22	2.00	22.22	110.00			
	Axis	-40.00	-20.00 0.82	0.00	30.00	110.00 °C			
	Curve	2.97	0.82	0.47	0.20	0.13 Sec			
Table 15									
	Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00		
	Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0.00 0.00

**Table 16** 

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	2.50	2.50	Sec

<u>Table 17</u>

Axis	-6.67	-6.66	40.00	٥С
Curve	0.40	0.35	0.30	Sed

<u>Table 18</u>

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

<u>Table 19</u>

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	С
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00 0	С

Table 20

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

**Table 21** 

Axis	-40.00	-20.00	40.00	٥С
Curve	5.00	3.00	1.00	Sec

Table 22

Axis	-6.67	-6.66	40.00	°C
Curve	8191.75	8191.75	8191.75	RPM/Sec

#### Table 23

Axis	-6.67	-6.66	40.00	٥C
Curve	8191.75	8191.75	8191.75	RPM/Sec