0603	Description Transmission Electro-Hydraulic Control Module Read Only Memory Transmission Electro-Hydraulic Control Module Long-Term Memory	Criteria Incorrect program/calibrations checksum	=	TRUE	alue Boolean	Malfunction		Conditions		>=	Requi	Fail Counts	One Trip
0603	Control Module Long-Term Memory												
0603	Control Module Long-Term Memory				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0601 ECM: None						
0603	Control Module Long-Term Memory						ECIVI. NUTIE						
	Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	=	TRUE	Boolean						Runs ntinously		One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:							
							ECM: None						
0604		RAM Read/Write Failure (Single Word)	=	TRUE	Boolean					>=	5	Fail Counts	One Trip
	-									=	16	Sample Counts	
					Disable	MIL not Illuminated for	TCM· P0604						
					Conditions:	DTC's:							
062F		TCM Non-Volatile Memory bit Incorrect flag at Powerdown	=	TRUE	Boolean								One Trip
					Disable Conditions:	DTC's:							
							ECM: None						
	Control Module Internal Temperature		>= 142	2.1015625	5 °C					>=	5	Fail Time (Sec)	One Trip
		Ignition Voltage		50 18	°C Volts					>=	2	Fail Time (Sec)	-
		DTC											_
						Ignition Voltage Lo	>=	8.5996094	Volts				
						Ignition Voltage Hi	<i>/-</i>	31 000033	Volte				
						Substrate Temp Lo Substrate Temp Hi	>= <=	0 170	°C °C				
06	52F	604       Control Module Random Access         Memory       Memory         52F       Transmission Electro-Hydraulic         Control Module Long Term Memory       Performance         Transmission Electro-Hydraulic       Transmission Electro-Hydraulic	504       Control Module Random Access Memory       RAM Read/Write Failure (Single Word)         52F       Transmission Electro-Hydraulic Control Module Long Term Memory Performance       TCM Non-Volatile Memory bit Incorrect flag at Powerdown         534       Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Fail Case 1 Substrate Temperature Ignition Voltage Note: either fail case can set the	604       Control Module Random Access Memory       RAMI Read/Write Failure (Single Word)       =         22F       Transmission Electro-Hydraulic Control Module Long Term Memory Performance       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       =         534       Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Fail Case 1       Substrate Temperature Ignition Voltage >=       >=         534       Fail Case 2       Substrate Temperature Ignition Voltage >=       >=       14.	204       Control Module Random Access Memory       RAM Read/Write Pailule (Single Word)       =       TRUE         22F       Transmission Electro-Hydraulic Control Module Long Term Memory Performance       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       =       TRUE         334       Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Fail Case 1       Substrate Temperature Ignition Voltage       >=       142.101562         334       Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Fail Case 2       Substrate Temperature Ignition Voltage       >=       142.101562	Image: Section Control Module Random Access Memory       RAM Read/Write Failure (Single Word)       = TRUE Boolean         Image: Disable Conditions:       Disable       Disable         Image: Disable Conditions:       Control Module Long Term Memory       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       = TRUE Boolean         Image: Disable Conditions:       Transmission Electro-Hydraulic       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       = TRUE Boolean         Image: Disable Conditions:       Eail Case 1       Substrate Temperature       Substrate Temperature       >= 142.1015625 °C         Image: Disable Conditions:       Fail Case 2       Substrate Temperature       >= 50 °C       Province         Image: Disable Conditions:       Fail Case 2       Substrate Temperature       >= 50 °C       Province         Image: Disable Conditions:       Fail Case 2       Substrate Temperature       >= 50 °C       Province         Image: Disable Conditions:       Fail Case 2       Substrate Temperature       >= 18 Volts       Volts	Image: Signed Flectro-Hydraulic Control Module Random Access Memory       RAM Read/Write Failure (Single Word)       = TRUE Boolean       Disable Conditions:       MIL not Illuminated for DTC's:         Image: Transmission Electro-Hydraulic Control Module Long Term Memory Performance       Transmission Electro-Hydraulic Incorrect flag at Powerdown       = TRUE Boolean       MIL not Illuminated for DTC's:         Image: Transmission Electro-Hydraulic Control Module Long Term Memory Performance       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       = TRUE Boolean       MIL not Illuminated for DTC's:         Image: Transmission Electro-Hydraulic Control Module Long Term Memory Performance       Eail Case 1       Substrate Temperature Performance       MIL not Illuminated for DTC's:         Image: Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Eail Case 2       Substrate Temperature Performance       = 142.1015625 °C         Image: Transmission Electro-Hydraulic Control Module Internal Temperature Too High       Eail Case 2       Substrate Temperature Performance       = 18 Volts         Image: Troo High       Fail Case 2       Substrate Temperature Performance       = 18 Volts       Ignition Voltage Lo         Image: Troo High         Image: Troo High       Image: Troo High       Image: Troo High       Image: Troo High       Image: Troo	Image: Substrate Temperature Substr	Image: State	International Electro-Hydraulic Control Module Random Access     RAM Read/Wite Failure (Single Word)     = TRUE     Boolean     Image: Control Module Random Access     Image: Control Module Random Access       Verify     Image: Control Module Random Access     RAM Read/Wite Failure (Single Word)     = TRUE     Boolean     Image: Control Module Random Access     Image: Control Module Internal Temperature     = TRUE     Boolean     Image: Control Module Internal Temperature     = TRUE     Boolean     Image: Control Module Internal Temperature     Eall Case 1     Substrate Temperature     = 142:1015625 °C     Image: Control Module Internal Temperature     = 142:1015625 °C     Im	Image: Instantise in Electro-Hydraulic Of Control Module Random Accesss Memory       RAM Read/With Failure (Single Word)       = TRUE       Boolean       MIL not Illuminated for OTC's       TCM. P0604       >=       =         ZF       Control Module Long Term Memory       TCM Non-Volatile Memory bit incorrect flag at Powerdown incorrect flag at Powerdown       = TRUE       Boolean       MIL not Illuminated for OTC's       TCM. P0604       >=       Control Module Long Term Memory ECM. None       >=       Control Module Iternal Termperature Tor High       =       TRUE       Boolean       MIL not Illuminated for OTC's       TCM. P062F       Control Module Iternal Termperature ECM. None       >=       Control Module Iternal Termperature Tor High       =       142.1015625 °C       Image: Control Module Iternal Termperature Tor High       >=       12       Substrate Termperature Disable       Image: Control Module Iternal Termperature Tor High       >=       12       1       >=       >=       >=       >=       >=       >=       >=       >=       >=       >=       >=       >=       Image: Control Module Iternal Termperature Tor High       >=       12       1       >=       Image: Control Module Iternal Termperature Tor High       >=       10       Image: Control Module Iternal Termperature Tor High       >=       10       Image: Control Module Iternal Termperature Tor High       >=       10       Image: Control Mod	I name inside Electro Hydraulic Ocnord Module Random Accesss Memory       RAM Read/Write Failure (Single Word)       * TRUE       Boolean       Image: Control Module Random Accesss       **       5         27       Control Module Long Term Memory       TCM Non-Volatile Memory bit Incorrect flag at Powerdown       *       TRUE       Boolean       ML not Illuminated for DICS       TCM: P0604       ** <td>Image: solution of the solutio</td>	Image: solution of the solutio

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Ti Req	me uired	Mil Illum
					P0634 Status is	Test Failed This Key ≠ On or Fault Active				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean			>= out	4	Fail Counts	One T
							of	6	Sample Counts	
					P0658 Status is not	Test Failed This Key = On or Fault Active				
					High Side Driver 1 On					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
						ECM: None				1
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp $\Delta$							Two Trip
			If TCM substrate temp to power up temp $\Delta$	Refer to Table 20 in °C supporting documents						
			Both conditions above required to increment fail counter Note: table reference temp = to				>=	3000	Fail Counts (100ms loop)	
			the median temp of trans oil temp, substrate temp and power up temp.				Out of	3750	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>=	700	Pass Counts (100ms loop)	
							Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean	1			
					Accelerator Position Signal Valid	= TRUE Boolean	1			
					Ignition Voltage Lo Ignition Voltage Hi	>= 8.5996094 Volts <= 31.999023 Volts	1			
					Engine Speed Lo	>= 400 RPM	1			I
	I	I		l	Engine Speed Hi	<= 7500 RPM	1			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum
						Engine Speed is within the	>=	5	Sec		
						allowable limits for			500		
						Brake torque active	=	FALSE			
						Below describes the brake					
						torque entry criteria		90	N*m		
						Engine Torque Throttle	>= >=	90 30.000305	Pct		
						Transmission Input Speed	<=	200	RPM		
						Vehicle Speed	<=	8	Kph		
						Transmission Range	, ≠	Park	pri		
						Transmission Range	¥	Neutral			
						PTO	=	Not Active			
						Set Brake Torque Active					
						TRUE if above conditions are	>=	7	Sec		
						met for:					
						Below describes the brake					
						torque exit criteria					
						Brake torque entry criteria	=	Not Met Clutch			
								Hydraulic			
						Clutch hydraulic pressure	¥	Air Purge			
								Event			
								CeTFTD_e			
						Clutch used to exit brake	=	_C3_RatlE			
						torque active		nbl			
						The above clutch pressure is					
						greater than this value for one	>=	600	kpa		
						loop					
						Set Brake Torque Active					
						FALSE if above conditions are	>=	20	Sec		
						met for:					
								Test Failed			
								This Key			
						P0667 Status is	¥	On or			
								Fault			
								Active			
					Disable	MIL not Illuminated for	TCM: P0658	, P0668, P0669,	P06AD,		
				(	Conditions:			16, P0712, P071			
								23, P0962, P0963			
								70, P0971, P2150	C, P2720,		
							P2721, P272	29, P2730			
							FOM DOTO	1 00100 00100	D010/		
								1, P0102, P0103			
								)8, P0171, P0172 )1, P0202, P0203			
								)6, P0202, P0203 )6, P0207, P0208			
								02, P0207, P0206 02, P0303, P0304			
								02, P0303, P0304 07, P0308, P0401			
									,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Transmission Control Module	D0//0	TCM internal temperature (substrate)	Time of Come in the	CeTFTI_e_Vo							Two
(TCM)	P0668	thermistor failed at a low voltge	Type of Sensor Used	<ul> <li>ItageDirectPro</li> </ul>							Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Т	hreshold Value	Secondary Malfunction		Enable Conditions				ime juired	Mil Illum.
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= -249	°C								
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= -249	°C								
			Either condition above will satisfy the fail conditions							>=	60	Fail Timer (Sec)	
						Ignition Voltage L Ignition Voltage I Engine Speed I Engine Speed Is within th allowable limits f	Hi <= 0 >= Hi <= e	8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM Sec				
						P0668 Status		Test Failed This Key On or Fault Active					
					D Cond	sable MIL not Illuminated fo ions: DTC':							
ransmission Control Module	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	CeTFTI_e = ItageDirec									Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and	p >= 249	°C								
			Temp If TCM Substrate Temperature Sensor = Indirect Proportional and	<= 249	°C								
			Temp Either condition above will satisfy the fail conditions							>=	60	Fail Timer (Sec)	-
						Ignition Voltage L Ignition Voltage I Engine Speed L Engine Speed	Hi <= .0 >= Hi <=	8.5996094 31.999023 400 7500	Volts Volts RPM RPM				
						Engine Speed is within the allowable limits for		5 Test Failed	Sec				
						P0669 Status	is ≠	This Key On or Fault Active					
						For Hybrids, below condition must also be mu	et		1414				
						Estimated Motor Power Los Estimated Motor Power Los greater than limit for tim	e >=	0 0	kW Sec				
						Lost Communication wil Hybrid Processor Contr Modu	= lc	FALSE					
						Estimated Motor Power Los Fau	s _	FALSE					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp $\Delta$ If transmission oil temp to power up temp $\Delta$	Refer to Table 20 in °C supporting documents Refer to Table 18 in °C supporting documents				Two Trips
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				>= 3000 Fail Counts (100ms loop) Out 3750 Sample Counts (100ms loop)	-
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop) Out 875 Sample Counts of (100ms loop)	-
					Engine Torque Signal Valid Accelerator Position Signal Valid Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed is within the allowable limits for Brake torque active	>= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM		-
					Brake torque active Below describes the brake torque entry criteria Engine Torque Throttle Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for:			
					Below describes the brake torque exit criteria Brake torque entry criteria			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Require		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:				
					P06AC Status is	Test Failed This Key ≠ On or Fault Active			
				Disable Conditions:		TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730			
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, 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 (Sec)	Two Trips
		5			Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed swithin the allowable limits for	>= 400 RPM <= 7500 RPM			
					P06AD Status is	Fault Active			
					For Hybrids, below conditions must also be met Estimated Motor Power Loss greater than limit for time Lost Communication with	>= 0 kW >= 0 Sec			
					Hybrid Processor Control Module	= FALSE			
					Estimated Motor Power Loss Fault	= FALSE			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	t	Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, ECM: None	P0717, P0722	, P0723				
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 °C		Ignition Voltage Lo	>=	8.5996094	Volts	>=	60	Fail Time (Sec)	Two Trips
						Ignition Voltage Hi Engine Speed Lio Engine Speed Hi Engine Speed is within the allowable limits for	<= >= <= >=	31.999023 400 7500 5 Test Failed	Volts RPM RPM Sec				
						P06AE Status is	¥	This Key On or Fault Active					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp $\Delta$	Refer to Table > 19 in °C supporting documents									Two Trips
			If transmission oil temp to power up temp $\Delta$	Refer to Table 18 in °C supporting documents									
			Both conditions above required to increment fail counter Note: table reference temp = to the median temp of trans oil temp,							>= Out	3000	Fail Counts (100ms loop) Sample Counts	
			substrate temp of tails of tails of tails substrate temp and power up temp. Non-continuous (intermittent) fail							of	3750	(100ms loop)	
			conditions will delay resetting fail counter until							>=	700	Pass Counts (100ms loop)	
										Out of	875	Sample Counts (100ms loop)	
						Engine Torque Signal Valid Accelerator Position Signal Valid	=	TRUE TRUE	Boolean Boolean				
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	8.5996094 31.999023 400 7500	Volts Volts RPM RPM				
						Engine Speed is within the allowable limits for Brake torque active	>=	5 FALSE	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Ena Condi		Time Required	Mil Illum.
System	Code	Description	Griteria	value	Below describes the brake	Cond	10113	Kequirea	inum.
					torque entry criteria				
					Engine Torque	>= 9	0 N*m		
					Throttle		00305 Pct		
					Transmission Input Speed		00 RPM		
					Vehicle Speed		B Kph		
					Transmission Range		ark		
					Transmission Range PTO	≠ Net = Not A	utral		
					Set Brake Torque Active	- NOUP	CUVC		
					TRUE if above conditions are	>=	7 sec		
					met for:				
					Below describes the brake				
					torque exit criteria				
					Brake torque entry criteria				
							Itch		
					Clutch hydraulic pressure	≠ Hydi			
						Ev	Purge		
						CeTF			
					Clutch used to exit brake		RatlE		
					torque active		bl		
					The above clutch pressure is				
					greater than this value for one	>= 6	00 kpa		
					loop				
					Set Brake Torque Active				
					FALSE if above conditions are	>= 2	0 Sec		
					met for:	Test	- 11 - J		
						Test	-alled Key		
					P0711 Status is	≠ Or			
					10/11 5000315	, Fa			
							tive		
				Disable	MIL not Illuminated for				
				Conditions:	DTC's:	P06AE, P0716, P071			
						P0722, P0723, P096			
						P0967, P0970, P097			
						P2721, P2729, P273	J		
						ECM: P0101, P0102	. P0103. P0106.		
						P0107, P0108, P017			
						P0175, P0201, P020	2, P0203, P0204,		
						P0205, P0206, P020			
						P0301, P0302, P0303			
						P0306, P0307, P030	3, P0401, P042E		
	I							+	Tur
Transmission Fluid	P0712	Transmission fluid temperature	Type of Sensor Used	CeTFTI_e_Vo = ItageDirectPro					Two Trips
Temperature Sensor (TFT)	10/12	thermistor failed at a low voltage	Type of Sellson Osed	p					TTPS
			If Transmission Fluid Temperature	4					
			Sensor = Direct Proportional and	<= -74 °C					
			Temp						
			If Transmission Fluid Temperature						
			Sensor = Indirect Proportional and						
1	I		Temp	I	l			1	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	F	Time Required	Mil Illum.
			Either condition above will satisfy				>= 60	Fail Time (Sec)	
			the fail conditions		Ignition Voltage Lo Ignition Voltage H Engine Speed Lo Engine Speed H Engine Speed is within the allowable limits for P0712 Status is P0712 Status is For Hybrids, below conditions must also be met Estimated Motor Power Loss greater than limit for time Lost Communication with Hybrid Processor Control Module Estimated Motor Power Loss Fault	$\Rightarrow= 400 RPM$ $<= 7500 RPM$ $\Rightarrow= 5 Sec$ $Test Failed$ $This Key$ $≠ 0n or$ $Fault$ $Active$ $\Rightarrow= 0 KW$ $\Rightarrow= 0 Sec$ $= FALSE$ $= FALSE$	>= 60	Fail Time (Sec)	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None			
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	p >= 174 ℃					Two Trips
			Either condition above will satisfy the fail conditions		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed is within the allowable limits for P0713 Status is	<= 31.999023 Volts >= 400 RPM <= 7500 RPM	>= 60	Fail Time (Sec)	
				Disable Conditions:		TCM: P0713, P0716, P0717, P0722, P0723 ECM: None			

Component/ System	Fault Code	Monitor Strategy Description		Malfunction Criteria			eshold alue		Secondary Malfunction		Enable Conditions				ïme quired	Mil Illum.
Transmission Input Speed Sensor (TISS)		Input Speed Sensor Performance		Transmission Input Speed Sensor Drops	>=	900	RPM						>=	0.8	Fail Time (Sec)	One Tri
									Engine Torque is Engine Torque is Engine Speed Engine Speed is within the allowable limits for Vehicle Speed is	>= <= >= <= >= >=	0 8191.875 400 7500 5 10	N*m N*m RPM RPM Sec Kph				
									Throttle Position is  Transmission Input Speed is	>=	0	Pct				
									The previous requirement has been satisfied for	>=	0	Sec				
									The change (loop to loop) in transmission input speed is The previous requirement has	<	8191.875	RPM/Loop				
									Throttle Position Signal Valid Engine Torque Signal Valid Ignition Voltage	>= = >= <=	0 TRUE TRUE 8.5996094 31.999023 Test Failed	Sec Boolean Boolean Volts Volts				
									P0716 Status is not	=	This Key On or Fault Active					
							Co	Disable nditions:			01, P0102, P0103					
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	<u>Fail Case 1</u>	Transmission Input Speed is	<	33	RPM						>=	4.5	Fail Time (Sec)	One Tr
			Fail Case 2	When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	<	653.125	RPM		Controller uses a single power supply for the speed sensors	=	1	Boolean				
									Engine Torque is Engine Torque is Vehicle Speed Engine Torque Signal Valid Ignition Voltage Ignition Voltage Engine Speed	>= >= <= >=	120 8191.875 12 TRUE 8.5996094 31.999023 400	N*m N*m Kph Boolean Volts Volts RPM				
									Engine Speed Engine Speed is within the allowable limits for	>=	7500 5	RPM Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue		Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
								P0717 Status is not	=	Test Failed This Key On or Fault Active					
						Сог	Disable nditions:	MIL not Illuminated for DTC's:		2, P0723 1, P0102, P0103					
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<=	35	RPM						>=	4.5	Fail Time (Sec)	One Tri
3ensor (1035)		voitage	Sensor Raw Speed					P0722 Status is not Transmission Input Speed Check Engine Torque Check Throttle Position Transmission Fluid	= = >=	Test Failed This Key On or Fault Active TRUE 8.0001831	Boolean Boolean Pct				-
								Tanismission Fidu 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	>= = >= >= = = = = = = = = =	-40 1 TRUE TRUE 8.5996094 31.999023 400 7500	°C Boolean Boolean Volts Volts RPM RPM				
								allowable limits for	>=	5	Sec				
								Enable_Flags Defined Below The Engine Torque Check is TRUE, if either of the two following conditions are TRUE Engine Torque Condition 1 Range Shift Status	¥	Range shift	ENUM				
								OR Transmission Range is Engine Torque is Engine Torque Condition 2 Engine Torque is Engine Torque is Engine Torque is	= >= <= >= <=	completed Park or Neutral 8191.75 8191.75 54 8191.75	N*m N*m N*m				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			shold alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
							The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE							
							TIS Check Condition 1 Transmission Input Speed is Transmission Input Speed is	>= <=	653.125 5350	RPM RPM				
							TIS Check Condition 2 Engine Speed without the brake applied is	>=	3200	RPM				
							Engine Speed with the brake applied is	>=	3200	RPM				
							Engine Speed is Controller uses a single power	<=	8191.875 1	RPM Boolean				
							supply for the speed sensors Powertrain Brake Pedal is Valid	=	TRUE	Boolean				
						Dis Conditie	MIL not Illuminated for DTC's:		, P0102, P0103					
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	
			Output Speed Drop	>	650	RPM					>=	1.5	Drop Recovery Fail Time (Sec)	
			AND Transmission Range is	=	Driven range (R,D)	2								
							Range_Disable	=	FALSE	See Below				
							Neutral_Range_Enable And	=	TRUE	See Below				
							Neutral_Speed_Enable are TRUE concurrently	=	TRUE	See Below				
							Transmission_Range_Enable Transmission_Input_Speed_E nable	=	TRUE TRUE	See Below See Below				
							No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds				
							P0723 Status is not	=	Test Failed This Key On or Fault Active					

System         Code         Description         Criteria         Value         Madhunction         Conditions         Re           Image: System         Image: System         Disable His TIC (The PTO) second	ne M lired Illu
Image: Second	
Image: Section of the section of th	
Image: Speed s is see and set of the speed	
Image: Special image	
Engine Specie swithin the altraviabe limits of the second swithin the altraviabe limits of the following conditions as the following conditions are following to aseted as the following conditing are following	
Image: Control of the second secon	
Image: Flags Defined Below       Image: Flags Defined Below         Transmission Ipput, Speed, E       nuble is TRUE when ther TIS         Condition 1 or TIS Condition 2       is TRUE         TIS Condition 1 or TIS Condition 2       >= 0         Enable, Flags Defined Below       >= 0         Enable, Tigst Defined Below       >= 0         Reversore       = 0	
Image: Struct when either TIS     Image: Struct when either TIS       Condition 1 or TIS Condition 2 is TRUE:     ITS Condition 1 or TIS Condition 3       ITS Condition 1 or TIS Condition 2 is TRUE:     ITS Condition 1 or TIS Condition 3       Its Condition 2 is TRUE:     Its Condition 2 is TRUE:       Its Condition 2 is TRUE when both of the falowing conditions are assisted of input Speed Detal     Its Condition 2 is TRUE when ALL of the next two conditions are assisted of input Speed Detal       Its Condition 2 is TRUE when ALL of the next two conditions are assisted of input Speed Detal     Its Condition 2 is TRUE when ALL of the next two conditions are assisted of input Speed I input Speed I is true when any of the next 3 conditions are assisted of input Speed I is true when any of the next 3 conditions are TRUE I Boolean       Its Condition 2 is TRUE when ALL of the next two conditions are TRUE I Boolean       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Boolean       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Boolean       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Boolean       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Boolean       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Transitiona I I       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Interviewer and the conditions are TRUE I Interviewer and the conditions are TRUE I Interviewer and the condition of the transitiona I I       Its Condition 2 is TRUE when any of the next 3 conditions are TRUE I Interviewer and the condition of the transinterviewer an	
hable is TRUE when ther TIS Condition 1 or TIS Condition 2 is TRUE TIS Condition 2 is TRUE both of the following conditions are satisfied or hight Speed Delta - 4095.875 RPM Raw Input Speed Delta - 4095.875 RPM Raw Input Speed - 0 RPM A Single Prover Supply such for all speed sensors - TRUE when any of the next 3 conditions are TRUE - Neutral Engle Finable is ransmission Range is - eutral ENUM Transmission Range is - transmission Rang	
hable is TRUE when ther TIS Condition 1 or TIS Condition 2 is TRUE TIS Condition 2 is TRUE both of the following conditions are satisfied or hight Speed Delta - 4095.875 RPM Raw Input Speed Delta - 4095.875 RPM Raw Input Speed - 0 RPM A Single Prover Supply such for all speed sensors - TRUE when any of the next 3 conditions are TRUE - Neutral Engle Finable is ransmission Range is - eutral ENUM Transmission Range is - transmission Rang	
Image: Condition 1 or TIS Condition 1 is TRUE:       >=       0       Enable Time both of the following conditions are satisfied for logic system of the following conditions are satisfied for logic system of the following conditions are satisfied for an estatisfied or logic system of the following conditions are satisfied for an estatisfied are satisfied are satisfied or logic system of the following conditions are satisfied or logic system of the following conditions are satisfied or logic system of the following conditions are satisfied or logic system of the logic system of the following conditions are satisfied or logic system of the logic system of thelogic system of the logic system of the log	
Image: Section of the following conditions both of the following conditions are satisfied for provide performance of the following conditions are satisfied for the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are satisfied in pull Speed and the following conditions are represented in the following conditions are represented and the following conditions are represented and the following conditions are represented at the following conditions arepresented at the following condit for the following	
both of the following conditions >= 0 Challer lines (See) A Single Power Source Sourc	
both of the following conditions >= 0 Challer lines (See) A Single Power Source Sourc	
Image: Construction of the following contained of the following contain	
Image: Second	
Raw input Speed       >=       500       RPM         TIS Condition 2 is TRUE when ALL of the next two conditions are asslined input Speed       =       0       RPM         A Single Power Supply is used for all speed esnors       =       0       RPM         Neutral-Range_Enable is TRUE when any of the next 3 conditions are TRUE       =       TRUE       Boolean         Transmission Range is       =       Neutral       ENUM         Transmission Range is       =       Neutral/Dti eutral       ENUM         Transmission Range is       =       Neutral/Dti eutral       ENUM         And when a drop occurs       1       ENUM	
Image: Second	
ALL of the next two conditions are satisfied Input Speed       =       0       RPM         A Single Power Supply is used for all speed sensors       =       TRUE       Boolean         Neutral_Range_Enable is TRUE when any of the next 3 conditions are tRUE Transmission Range is       =       Neutral       ENUM         Transmission Range is       =       Neutral       ENUM       Transmission Range is       =       Reverse/N         Transmission Range is       =       Ve       Ve       Transmission Range is       =       Neutral       ENUM         Transmission Range is       =       Ve       Ve       Transmission Range is       =       Neutral       ENUM         And when a drop occurs       I       I       I       I       I       I	
ALL of the next two conditions are satisfied Input Speed       =       0       RPM         A Single Power Supply is used for all speed sensors       =       TRUE       Boolean         Neutral_Range_Enable is TRUE when any of the next 3 conditions are tRUE Transmission Range is       =       Neutral       ENUM         Transmission Range is       =       Neutral       ENUM       Transmission Range is       =       Neutral         And when a drop occurs       I       I       I       I       I       I	
Image: Second	
Image: Second	
A Single Power Supply is used for all speed sensors Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE Transmission Range is = Neutral ENUM Reverse/N eutral ENUM Transmission Range is = Neutral ENUM Transmission Range is = Ve ENUM Transitional Neutral/Dri ve Transmission Range is = Ve ENUM Transitional Neutral/Dri ve Transmission Range is = Neutral ENUM Transitional Neutral/Dri ve Transmission Range is = Neutral ENUM Transitional Neutral/Dri ve Transmission Range is = Neutral ENUM Transitional Neutral/Dri ve Transmission Range is = Neutral ENUM Transitional Neutral/Dri ve Transitiona Neutral/Dri ve Transmission Range is = Neutral ENUM Transitiona Neutral/Dri Ve Transitiona Neutral/Dri Neutr	
Image: Section of all speed sensors       =       IRUE       Boulean         Image: Section of all speed sensors       =       IRUE       Boulean         Image: Section of all speed sensors       =       IRUE       Boulean         Image: Section of all speed sensors       =       IRUE       Boulean         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =       Image: Section of all speed sensors         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =       Image: Section of all speed sensors         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =       Image: Section of all speed sensors         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =       Image: Section of all speed sensors         Image: Section of all speed sensors       =       Image: Section of all speed sensors       =       Image: Section of all speed sensors         Image: Section of all speed sensors       Image: Section of all speed sensors       Image: Section of all sectio	
Neutral_Range_Enable is       Neutral_Range_Enable is         TRUE when any of the next 3       TRUE when any of the next 3         Transmission Range is       =         Neutral       ENUM         Reverse/N         Transmission Range is       =         eutral       ENUM         Transmission Range is       =         eutral       ENUM         Transmission Range is       =         eutral       ENUM         Transmission Range is       =         Ve       Transmission Range is         Image: Transmission Range is       =         Ve       Transmission Range is         Image: Transmission Range is       =         Ve       Transmission Range is         Image: Transmission Range is       =         Ve       Transmission Range is         Image: Transmission Range is       =         Image: Transmission Range is       =         Image: Transmission Range is       =         Image: Transmission Range is       1	
TRUE when any of the next 3 conditions are TRUE       =       Neutral       ENUM         Transmission Range is       =       Neutral       Neutral         I       Neutral       ENUM       Transmission Range is       I         Neutral       I       Neutral       Neutral       ENUM         Transmission Range is       =       Neutral       ENUM         I       And when a drop occurs       I       I	
Conditions are TRUE   Transmission Range is   =   Neutral   ENUM   Transmission Range is   =   eutral   ENUM   Transmission Range is   =   Ve   Transmission Range is   i   Ve   Transmission Range is   i    i   i	
Image: Sector of Control	
Reverse/N       Reverse/N         Transmission Range is       =         Reverse/N       Reverse/N         Transmission Range is       =         Neutral/Dri       Ve         Transitional       I         And when a drop occurs       I         Loop to Loop Drop of       >       650       RPM	
Image: Second	
Image: Second	
Transitional Neutral/Dri Ve Transitiona I And when a drop occurs Loop to Loop Drop of	
Neutral/Dri         Ve         Transmission Range is         I         And when a drop occurs         Loop to Loop Drop of         Neutral/Dri         Ve         Transitiona         I	
Transmission Range is = Ve Transitiona I And when a drop occurs Loop to Loop Drop of S 650 RPM	
And when a drop occurs	
And when a drop occurs Loop to Loop Drop of	
And when a drop occurs Loop to Loop Drop of	
Loop to Loop Drop of	
Transmission Output Spood is	
Transmission output Speed is	
Range_Disable is TRUE when	
any of the next three	
conditions are TRUE	
Transmission Range is = Park ENUM	
Park/Reve	
Transmission Range is = rse ENUM	
Transitonal	
Input Clutch is not = $\frac{ON (Fully}{Applied} ENUM$	
Applied)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Requir		Mil Illum.
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	> 1.5	Seconds				
					Transmission Output Speed	> 130	RPM				
					The loop to loop change of the Transmission Output Speed is	< 20	RPM				
					The loop to loop change of the Transmission Output Speed is	> -10	RPM				
					Transmission_Range_Enable is TRUE when one of the next six conditions is TRUE Transmission Range is	= Neutral	ENUM				
					Transmission Range is	Reverse/N = eutral Transitiona	ENUM				
					Transmission Range is	Neutral/Dri	ENUM				
					Time since a driven range (R,D) has been selected	Table Based Time Please Refer to Table 21 in supporting documents	Sec				
					Transmission Output Speed Sensor Raw Speed Output Speed when a fault was detected	>= 500 >= 500	RPM RPM				
				Dis Conditi	sable MIL not Illuminated for	TCM: P0973, P0974, P0976 ECM: P0101, P0102, P0103 P0122, P0123					
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met	>= 750 Kpa				>=	2	Enable Time (Sec)	Two Trips
			(A) TCC Slip Error @ TCC On Mode					>=	5	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM				>=	5	Fail Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	2	TCC Stuck Off Fail Counter	
							TCC Mode	=	On or Lock					
							Ignition Voltage Lo	>=	8.5996094	Volts				
							Ignition Voltage Hi	<=		Volts				
							Engine Speed Engine Speed	>= <=	400 7500	RPM RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							Engine Torque Lo	>=	50	N*m				
							Engine Torque Hi		8191.875	N*m				
							Throttle Position Lo Throttle Position Hi	>=	8.0001831 99.998474	Pct Pct				
							2nd Gear Ratio Lo	<= >=	2.1948242	Ratio				
							2nd Gear Ratio High	<=	2.5251465	Ratio				
							3rd Gear Ratio Lo		1.4228516	Ratio				
							3rd Gear Ratio High 4th Gear Ratio Lo	<=	1.637085 1.069458	Ratio Ratio				
							4th Gear Ratio High	>= <=	1.2304688	Ratio				
							5th Gear Ratio Lo	>=	0.7905273	Ratio				
							5th Gear Ratio Hi	<=	0.9095459	Ratio				
							6th Gear Ratio Lo 6th Gear Ratio High	>=		Ratio Ratio				
							Transmission Fluid	<=						
							Temperature Lo	>=	-6.65625	°C				
							Transmission Fluid	<=	130	°C				
							Temperature Hi							
							PTO Not Active Engine Torque Signal Valid	=	TRUE TRUE	Boolean Boolean				
							Throttle Position Signal Valid	=	TRUE	Boolean				
							Dynamic Mode	=	FALSE	Boolean				
									Test Failed					
							P0741 Status is	≠	This Key On or					
							1 07 11 514143 15	,	Fault					
									Active					
						Disable	MIL was Illuminated for	TOM DO	21/ 00212 00202	D0700				
						Conditions:	MIL not Illuminated for DTC's:		2763, P2764	, PU723,				
								ECM: PC	0101, P0102, P010	3, P0106,				
									0108, P0171, P017					
									0201, P0202, P020 0206, P0207, P020					
									0208, P0207, P020 0302, P0303, P030					
									0307, P0308, P040					
Torque Converter Clutch	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-50	RPM					1			One Trip
(TCC)	1		TCC Slip Speed		13	RPM								
	1		If Above Conditions Have been								>=	1.5	Fail Time (Sec)	
			Met, and Fail Timer Expired,								>=	6	Fail Counter	
	1		Increment Fail Counter											

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					TCC Mode	=	Off			1
					Enable test if Cmnd Gear =					
					1stFW and value true	=	1	Boolean		
					Enable test if Cmnd Gear =		0	Dealara		
					2nd and value true	=	0	Boolean		
					Engine Speed Hi	<=	6000	RPM		
					Engine Speed Lo	>=	500	RPM		
					Vehicle Speed HI	<=	511	KPH		
					Vehicle Speed Lo	>=	1	KPH		
					Engine Torque Hi	<=	8191.875	Nm		
					Engine Torque Lo	>=	80	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	, ≠	Reverse	Range		
					Transmission Sump	,				
					Temperature	<=	130	°C		
					Transmission Sump					
					Temperature	>=	18	°C		
					Throttle Position Hyst High		5.0003052	Pct		
		1			I nrottle Position Hyst High AND	>=	5.0003052	PÜL	1	1
					Max Vehicle Speed to Meet	<=	8	KPH		
					Throttle Enable					
					Once Hyst High has been met,					
					the enable will remain while	>=	2.0004272	Pct		
					Throttle Position					
					Disable for Throttle Position	>=	75	Pct		
					Disable if PTO active and	=	1	Boolean		
					value true					
					Disable if in D1 and value true	=	1	Boolean		
					Disable if in D2 and value true	=	1	Boolean		
					Disable if in D3 and value true	=	1	Boolean		
					Disable if in D4 and value true	=	1	Boolean		
					Disable if in D5 and value true	=	1	Boolean		
					Disable if in MUMD and value	=	1	Boolean		
					true	-	I	Buulean		
					Disable if in TUTD and value		1	Deeleen		
					true	=	1	Boolean		
					4 Wheel Drive Low Active	=	FALSE	Boolean		
					Disable if Air Purge active and		0	Dealara		
					value false	=	0	Boolean		
					RVT Diagnostic Active	=	FALSE	Boolean		1
					Ignition Voltage	>=	8.5996094	V		1
					Ignition Voltage	<=	31.999023	V		
					Vehicle Speed	<=	511	KPH		1
					Engine Speed	>=	400	RPM		1
					Engine Speed	<=	7500	RPM		
		1			Engine Speed is within the				1	1
		1			allowable limits for	>=	5	Sec	1	1
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
		1			valor osalori orginar Valiu	-	Test Failed	Doolcan	1	1
							This Key			1
					P0742 Status is	≠	On or			
					PUT42 Status IS	+	Fault			
		1					Active		1	1
		1					Active		1	1
1	1	I	I	1	1				1	1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		F	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P07 P0741, P2763, P2764	23,			
						ECM: P0101, P0102, P0103, P01 P0107, P0108, P0171, P0172, P0 P0175, P0201, P0202, P0203, P0 P0205, P0206, P0207, P0208, P0 P0301, P0302, P0303, P0304, P0 P0306, P0307, P0308, P0401, P0	174, 204, 300, 305,			
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 400 RPM						Two Trips
				= 1st Lock rpm <= 1.209594727 >= 1.094360352			>=		Fail Tmr Fail Counts	
							ŧ	÷ 0	Neutral Timer (Sec)	
							>=	0.3	Fail Timer (Sec)	)
					Ignition Voltage Lo	>= 8.5996094 V	>= olts	8	Counts	-
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.999023 V >= 400 R	olts PM PM			
					Engine Speed is within the allowable limits for		Sec			
					Transmission Fluid Temperature	>= -6.65625	°C			
					Range Shift State	Range = Shift EN Completed	NUM			
					TPS	>= 0.5004883	%			
					Output Speed Throttle Position Signal Valid		PM			
					from ECM Engine Torque Signal Valid	= IRUE BO	olean			
					from ECM, High side driver is enabled		olean			
					High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault	= FALSE Bo	olean olean olean			
					Default Gear Option is not present	= TRUE				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
					Disable Conditions:		P182E ECM: P010 <sup>,</sup> P0107, P01 P0175, P02 P0205, P02 P0301, P03	5, P0717, P0722, 1, P0102, P0103, 08, P0171, P017 01, P0202, P020 06, P0207, P020 02, P0303, P030 07, P0308, P040	P0106, 2, P0174, 3, P0204, 8, P0300, 4, P0305,				
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip Commanded Gear Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd with Mode 2 Sol. Commanded On If the above parameters are true Command 4th Gear once Output Shaft Speed If Gear Ratio And Gear Ratio	= = <= >= 3.8		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Io Engine Speed Hi Engine Speed Ii swithin the allowable limits for High-Side Driver is Enabled Throttle Position Signal Valid from ECM Output Speed OR TPS Range Shift State Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present		8.5996094 31.999023 400 7500 5 TRUE TRUE 67 0.5004883 Range Shift Completed -6.65625 FALSE FALSE FALSE TRUE	Volts Volts RPM RPM Boolean RPM & RPM Boolean Boolean Boolean	>= <sup>to '</sup> S	Supporting Occuments	Neutral Timer (Sec) Fail Timer (Sec) Counts	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tin Requ		Mil
oystem.	Code	Description		Disab	e MIL not Illuminated for	TCM: P0716, P0717, P0722 P182E	2, P0723,			
						ECM: P0101, P0102, P0103 P0107, P0108, P0171, P01 P0175, P0201, P0202, P020 P0205, P0206, P0207, P020 P0301, P0302, P0303, P030 P0306, P0307, P0308, P040	72, P0174, 03, P0204, 08, P0300, 04, P0305,			
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear	= 1st Locked				Please Refer		One 1
			Gear Box Slip	>= 400 RPM					Neutral Timer (Sec)	
			Gear Ratio	= 1st Locked Gear <= 2.482177734 >= 2.245849609						
			If the above parameters are true					>= 1	Sec	
								>= 3	counts	
					Ignition Voltage Lo Ignition Voltage Hi		Volts Volts			
					Engine Speed Lo		RPM			
					Engine Speed Hi	<= 7500	RPM			
					Engine Speed is within the		Sec			
					allowable limits for Output Speed		RPM			
					OR					
					TPS		%			
					Range Shift State	Range = Shift Completed	ENUM			
					Transmission Fluid Temperature		°C			
					High-Side Driver is Enabled		Boolean			
					Throttle Position Signal Valid		Boolean			
					from ECM Input Speed Sensor fault		Boolean			
					Output Speed Sensor fault	= FALSE	Boolean			1
					Default Gear Option is not	= IRUF				1
					present					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		(prior)		Disable	MIL not Illuminated for	TCM: P0716, P0717, P0722, P0723,		
				Conditions:	DTC's:	P182E		
						ECM: P0101, P0102, P0103, P0106,		
						P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305,		
						P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B	Fail Case 1 Case: Steady State 3rd Gear					One Trip
		Stuck Off [C35R]	Commanded Gear	= 3rd Gear				
			Gearbox Slip	>= 400 RPM				
							Please Refer to Table 16 in Neutral Timer	
							>= Supporting (Sec)	
			Command 4th Coor error Outruit				Documents	
			Command 4th Gear once Output Shaft Speed	<= 400 RPM				
			And Gear Ratio	<= 1.209594727				
							>= 3 Fail Timer (Sec)	)
			It the above condiations are true, Increment 3rd gear fail counter				>= 3 3rd Gear Fail Counts	
			indement of gear fair counter				or	
			and C35R Fail counter				>= 14 3-5R Clutch Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					1
			Commanded Gear	= 5th Gear				
							Please Refer	
			Gearbox Slip	>= 400 Rpm			>= to Table 5 in Neutral Timer	
							Supporting (Sec) Documents	
			Intrusive Test: Command 6th Gear					
				Please refer				
			If attained Gear=6th gear Time	to Table 3 in				
			n attained Gear=oth year Time	>= supporting documents				
			It the above condiations are true,	documents			5th Gear Fail	
			Increment 5th gear fail counter				>= 3 Counts	
							or 3-5R Clutch	
			and C35R Fail counter				>= 14 Fail Counts	1
					PRNDL State defaulted inhibit RVT	= FALSE Boolean = FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized Minimum output speed for	= TRUE Boolean		
					RVT	>= 67 RPM		
					A OR B (A) Output speed enable	>= 67 RPM		
· I		l	I	I	(A) Output speed enable	>= 67 RPM	1	I.

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum
-,					(B) Accelerator Pedal enable	>= 0.5004883 Pct			
					Common Enable Criteria				
					Ignition Voltage Lo	>= 8.5996094 Volts			
					Ignition Voltage Hi Engine Speed Lo	<= 31.999023 Volts >= 400 RPM			
					Engine Speed Lo	>= 400 RPM <= 7500 RPM			
					Engine Speed is within the				
					allowable limits for	>= 5 Sec			
					Throttle Position Signal valid	= TRUE Boolean			
					HSD Enabled	= TRUE Boolean			
					Transmission Fluid Temperature	>= -6.65625 °C			
					Input Speed Sensor fault	= FALSE Boolean			
					Output Speed Sensor fault	= FALSE Boolean			
					Default Gear Option is not	= TRUE			
					present	= IRUE			
				Disable	MIL not Illuminated for	TCM: P0716, P0717, P0722, P0723,			
				Conditions:		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			
			5 10 4						0 T
/ariable Bleed Solenoid (VBS	) P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st						One T
		Sluck On [CSSK] (Sleady Slale)	Attained Gear slip	>= 400 RPM					
				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	<= 1.608642578					
				>= 1.455444336					
			If the above parameters are true						
							>= 1.1	Fail Timer (Sec)	
							>= 2	Fail Count in	
	1						>= 2	1st Gear	
	1							Or Tatal Fall	
							>= 3	Total Fail Counts	
	1		Fail Case 2 Case: Steady State 2nd gear					Counts	1
				Table Based					
	1			value Please					
			Max Delta Output Speed	>= Refer to 3D rpm/sec					
	1		Hysteresis	Table I In .					
	1			supporting documents					
	1	I	I	uocuments	I	I	I		1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	N IIIu
·			Min Delta Output Speed Hysteresis	supporting documents				
			If the Above is True for Time	I / In				
			Intrusive test: (CB26 clutch exhausted)	supporting documents				
			Gear Ratio Gear Ratio If the above parameters are true	<= 1.608642578 >= 1.455444336				
							Fail	Fimer (Sec) I Count in nd Gear
							> T(	or otal Fail Counts
			Fail Case 3 Case: Steady State 4th gear Max Delta Output Speed	Table Based value Please				
			Max Dena Output Speed Hysteresis	>= Refer to 3D Table 1 in supporting documents Table Based				
			Min Delta Output Speed Hysteresis	value Please Refer to 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time Please Refer to Table 17 in supporting				
			Intrusive test: (C1234 clutch exhausted) Gear Ratio	documents				
			Gear Ratio If the above parameters are true	>= 0.809448242			>= 1.1 Fail T	limer (Sec)
								l Count in th Gear or
			Fail Case 4 Case: Steady State 6th gear				>- 3	or otal Fail Counts

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime quired	Mil Illum.
			Max Delta Output Speed Hysteresis									
			Min Delta Output Speed Hysteresis	documents Table Based value Please Refer to 3D								
			If the Above is True for Time	Time Please Refer to Table								
			Intrusive test: (CB26 clutch exhausted)	documents								
			Gear Ratio	<= 0.89465332					>=	1.1	Fail Timer (Sec)	
			Gear Ratio	>= 0.809448242					>=	3	counts	
			If the above parameters are true						>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in	
										3	6th Gear or Total Fail	
					PRNDL State defaulted	=	FALSE	Boolean	>=	3	Counts	
					inhibit RVT IMS fault pending indication output speed	= = >=	FALSE FALSE 0	Boolean Boolean RPM				
					TPS validity flag HSD Enabled	=	TRUE TRUE	Boolean Boolean				
					Hydraulic_System_Pressurize d	=	TRUE	Boolean				
					A OR B (A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable Ignition Voltage Lo	>= >=	0.5004883 8.5996094	Nm Volts				
					Ignition Voltage Hi Engine Speed Lo	<= >=	31.999023 400	Volts RPM				
					Engine Speed Hi Engine Speed is within the	<=	7500	RPM				
					allowable limits for	>=	5	Sec				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003052	Pct				
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm				
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.875	Nm				
					Transmission Fluid Temperature	>=	-6.65625	°C				
1		l			Input Speed Sensor fault	=	FALSE	Boolean	l			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Disable Conditions:	DTC's:	= FALSE Boolean TCM: P0716, P0717, P0722, P0723,		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If the above conditions are true run appropriate Fail 1 Timers Below: fail timer 1 (3-1 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Closed Throttle) fail timer 1 (3-2 shifting with Closed Throttle) fail timer 1 (3-4 shifting with Closed Throttle) fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1 (3-5 shifting with Closed Throttle) fail timer 1 (5-3 shifting with Closed Throttle) fail timer 1 (5-3 shifting with Closed Throttle) fail timer 1 (5-4 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle) fail timer 1	<ul> <li>&lt;= 40</li> <li>RPM</li> <li>&gt;= 0.5</li> <li>Fail 1</li> <li>&gt;= 0.299804688</li> <li>Fail 1</li> <li>&gt;= 0.5</li> <li>Fail 1</li> <li>&gt;= 0.299804688</li> <li>Fail 1</li> <li>&gt;= 0.299804688</li> <li>Fail 1</li> <li>&gt;= 0.299804688</li> <li>Fail 1</li> <li>&gt;= 0.5</li> <li>Fail 1</li> </ul>	Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec) Fime (Sec)				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enable Conditions	Tim Requi		Mil Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers					Total Fail Time = (Fail 1 + Fail 2) See Enable Timer 1, and Reference Supporting Table 15 for Fail Timer 2	Sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter							
			3rd gear fail counter					>= 3	3rd gear fail counts OR 5th gear fail	
			5th gear fail counter Total fail counter					>= 3 >= 5	counts OR total fail counts	
						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 Default Gear Option is not present	<ul> <li>&gt;= -6.65625 °C</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>≠ 1st Boolean</li> <li>= TRUE Boolean</li> <li>&gt;= 100 RPM</li> <li>&gt;= 150 RPM</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= TRUE Boolean</li> </ul>			
					Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E			
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear					Please See		One Trip
			Gear slip Intrusive test: commanded 5th gear	>= 400	RPM			>= Table 5 For Neutral Time Cal	Neutral Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tim Requ		Mil Illum
			If attained Gear ≠5th for time	>= Please refer to Table 3 in Supporting Documents						
			if the above conditions have been met	Documents						
			Increment 4th Gear Fail Counter					>= 3	4th Gear Fail Count OR	
			and C456 Fail Counters					>= 14	C456 Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear					Please See		1
			Gear slip	>= 400 RPM				>= Table 5 For Neutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 6th gear	Please Refer				Gui		
			If attained Gear ≠ 6th for time	to Table 3 in						
			if the above conditions have been met							
			Increment 5th Gear Fail Counter					>= 3	5th Gear Fail Count OR	
			and C456 Fail Counters					>= 14	C456 Fail Counts	
			Fail Case 3 Case: Steady State 6th Gear						Counts	1
			Gear slip	>= 400 RPM				>= Please See Table 5 For Neutral Time	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					Cal		
			If attained Gear ≠ 5th for time	<pre>&gt;= Please refer to Table 3 in Supporting Documents</pre>						
			if the above conditions have been met							
			Increment 6th Gear Fail Counter and C456 Fail Counter					>= 3	6th Gear Fail Count OR	
			and C456 Fail Counter					>= 14	C456 Fail Counts	
					PRNDL State defaulted inhibit RVT	= FALSE = FALSE	Boolean Boolean			
					IMS fault pending indication TPS validity flag	= FALSE = TRUE	Boolean Boolean			
					Hydraulic System Pressurized	= TRUE	Boolean			
					Minimum output speed for RVT	>= 67	RPM			
					A OR B (A) Output speed enable	>= 67	RPM			
	I .		I		(B) Accelerator Pedal enable	>= 0.5004883	Pct	I		I

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
	0000	Desemption	Onona	- diag	Common Enable Criteria	Conditione			
					Ignition Voltage Lo	>= 8.5996094 Volts			
					Ignition Voltage Hi	<= 31.999023 Volts			
					Engine Speed Lo	>= 400 RPM			
					Engine Speed Hi	<= 7500 RPM			
					Engine Speed is within the allowable limits for	>= 5 Sec			
					Throttle Position Signal valid	= TRUE Boolean			
					HSD Enabled	= TRUE Boolean			
					Transmission Fluid				
					Temperature				
					Input Speed Sensor fault	= FALSE Boolean			
					OutputSpeed Sensor fault	= FALSE Boolean			
					Default Gear Option is not	= TRUE			
					present				
				Disable	MIL not Illuminated for	TCM: P0716, P0717, P0722, P0723,			
				Conditions:		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			
						1 0300, 1 0307, 1 0300, 1 0401, 1 042E			
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C	Fail Case 1 Case: Steady State 1st						One Tr
		Stuck On [C456] (Steady State)	-						
			Attained Gear slip						
				Table Based Time Please					
				Refer to Table Enable Time					
			If the Above is True for Time	>= 4 in (Sec)					
				supporting					
				documents					
			Intrusive test:						
			(CBR1 clutch exhausted)						
				<= 1.209594727					
			If the above parameters are true	>= 1.094360352					
			If the above parameters are the						
							>= 1.	.1 Fail Timer (Sec)	
							>= 2	Fail Count in	
							>= 2	1st Gear	
								or	
							>= 3	3 Total Fail	
			Fall Case 2 Case Steady State 2nd				Ì	Counts	-
			Fail Case 2 Case Steady State 2nd	Table Based					
				value Please					
			Max Delta Output Speed	Refer to 3D					
			Hysteresis	>= Table 1 in rpm/sec					
			,	supporting					
1	1			documents			1		1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Table Based value Please Refer to 3D Table 2 in supporting documents Table Based Time Please Refer to Table 17 in supporting documents <= 1.209594727 >= 1.094360352			>= 1.1 Fail Timer (Sec >= 3 Fail Count in 2nd Gear or	
				Table Based value Please Refer to 3D Table 1 in supporting documents Table Based value Please Refer to 3D Table 2 in supporting documents Table Based Time Please Perfer to Table 17 in supporting documents Sec 1.209594727 1.094360352			>= 3 Total fail counts >= 1.1 Fail Timer (Sec >= 3 Fail Count in 3rd Gear OR >= 3 Total Fail Counts	

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria	value		inhibit RVT	=	FALSE	Boolean	Required	mum.
						IMS fault pending indication	=	FALSE	Boolean		
						output speed	>=	0	RPM		
						TPS validity flag	=	TRUE	Boolean		
						HSD Enabled	=	TRUE	Boolean		
						Hydraulic_System_Pressurize	-				
						nyuraune_system_nessurze d	=	TRUE	Boolean		
						A OR B					
						(A) Output speed enable	>=	67	Nm		
						(B) Accelerator Pedal enable	>=	0.5004883	Nm		
						Ignition Voltage Lo	>=	8.5996094	Volts		
						Ignition Voltage Hi	<=	31.999023	Volts		
						Engine Speed Lo	>=	400	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the	-				
						allowable limits for	>=	5	Sec		
						if Attained Gear=1st FW					
						Accelerator Pedal enable	>=	5.0003052	Pct		
						if Attained Gear=1st FW					
						Engine Torque Enable	>=	5	Nm		
						if Attained Gear=1st FW					
						Engine Torque Enable	<=	8191.875	Nm		
						Transmission Fluid					
						Temperature	>=	-6.65625	°C		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not					
						present	=	TRUE			
						I.					
					Disable	MIL not Illuminated for	TCM: P0716	, P0717, P0722	, P0723,		
				(	Conditions:	DTC's:	P182E				
							ECM: P0101	, P0102, P0103	, P0106,		
							P0107, P010	8, P0171, P017	2, P0174,		
							P0175, P020	1, P0202, P020	)3, P0204,		
								6, P0207, P020			
								2, P0303, P030			
							P0306, P030	7, P0308, P040	)1, P042E		
			Primary Offgoing Clutch is								One Trip
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C	exhausted (See Table 11 in	= TRUE Book	ean						
		Stuck On [C456] (Dynamic)	Supporting Documents for								
			Exhaust Delay Timers)								
			Primary Oncoming Clutch	Maximum							
			Pressure Command Status	pressurized							
			Primary Offgoing Clutch Pressure	Clutch							
			Command Status	= exhaust							
				command							
			Range Shift Status	≠ Initial Clutch							
				Control	,						
			Attained Gear Slip	<= 40 RPM	1						
			If the above conditions are true								
			increment appropriate Fail 1								
			Timers Below:								
1		l	Tillers below.		1		l			I	I

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (4-1 shifting with throttle) fail timer 1	>= 0.299804688 Fail Time (Sec)				
			(4-1 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.299804688 Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>= 0.299804688 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.299804688 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.5 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.299804688 Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>= 0.5 Fail Time (Sec)				
							Total Fail Time = (Fail 1 + Fail 2) See	
			If Attained Gear Slip is Less than				Enable Timers for Fail	
			Above Cal Increment Fail Timers				>= Timer 1, and Reference	
							Supporting 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				>= 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	
			Total fail counter		TUT Enable temperature	>= -6.65625 °C	>= 5 Counter	-
					Input Speed Sensor fault Output Speed Sensor fault	= FALSE Boolean = FALSE Boolean		
					Command / Attained Gear High Side Driver ON	≠ 1st Boolean = TRUE Boolean		
					output speed limit for TUT	>= 100 RPM		
					input speed limit for TUT PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending Service Fast Learn Mode	= FALSE Boolean = FALSE Boolean		
l i			l		HSD Enabled	= TRUE Boolean	I	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value	Secondary Malfunction	Enable Conditions			ime uired	Mil Illum.
					Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0208, P0300, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305,				
							P0306, P0307, P0308, P0401, P042E				
Variable Bleed Solenoid (VBS)	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRU	E Boolean			>=	4.4	Fail Time (Sec)	Two Trips
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	e <= 31.999023 Volts i >= 400 RPM i <= 7500 RPM	out of	5	Sample Time (Sec)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRU	E Boolean			>= out	1.5 1.875	Fail Time (Sec) Sample Time	One Trip
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	<pre>&lt; &lt;= 31.999023 Volts i &gt;= 400 RPM i &lt;= 7500 RPM </pre>	of	1.073	(Sec)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRU	E Boolean			>=	4.4	Fail Time (Sec)	Two Trips
						Ignition Voltage	2 >= 8.5996094 Volts	out of	5	Sample Time (Sec)	-

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum
						Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= >= <= >=	31.999023 400 7500 5	Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One T
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for P0966 Status is not	>= <= <= >= =	8.5996094 31.999023 400 7500 5 Test Failed This Key On or Fault Active	Volts Volts RPM RPM Sec	out of	0.375	Sample Time (Sec)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
/ariable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One -
										out of	0.375	Sample Time (Sec)	
						Ignition Vollage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for P0967 Status is not	>= <= >= >= =	8.5996094 31.999023 400 7500 5 Test Failed This Key On or	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None	Fault Active					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum
		Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	=	TRUE	Boolean	Mananenen		Conditions		>=	0.3	Fail Time (Sec)	One Tr
											out of	0.375	Sample Time (Sec)	
							P0970 Status is not	=	Test Failed This Key On or Fault					
							Ignition Voltage Ignition Voltage	>= <=	Active 8.5996094 31.999023	Volts Volts				
							Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <= >=	400 7500 5	RPM RPM Sec				
						Disable	Allowable limits for	TCM: None						
						Conditions:	DTC's:	ECM: None						
/ariable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	=	TRUE	Boolean					>=	0.3	Fail Time (Sec)	One T
									Test Failed		out of	0.375	Sample Time (Sec)	-
							P0971 Status is not	=	This Key On or Fault					
							Ignition Voltage Ignition Voltage Engine Speed	>= <= >=	Active 8.5996094 31.999023 400	Volts Volts RPM				
							Engine Speed Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	=	TRUE	Boolean					>=	1.2	Fail Time (Sec)	One T
									Test Celled		out of	1.5	Sample Time (Sec)	
							P0973 Status is not	=	Test Failed This Key On or Fault					
							Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	Active 8.5996094 31.999023 400 7500	Volts Volts RPM RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions			Ti Req	me uired	Mil Illum.
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= out of	1.2 1.5	Fail Time (Sec) Sample Time (Sec)	Two Trips
						P0974 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	= <= >= <= >=	Test Failed This Key On or Fault Active 8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High (Mode 3 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= out	1.2	Sec	One T
						P0977 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>=	Test Failed This Key On or Fault Active 8.5996094 31.999023 400 7500	Volts Volts RPM RPM	of	1.5	Sec	
					Disable Conditions:	Engine Speed Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>=	5	Sec				
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case 1 Current range	Transition 1 = (bit state 1110)	Range								One T

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Γ	Thres Valu		Secondary Malfunction		Enable Conditions			Tin Requ		Mil Illum.
oyacan	0000	Description	ontena		CeTRGR_e_									
			Previous range			Range								
					6									
					CeTRGR_e_									
			Previous range			Range								
					4									
			Dange Chill Clate		Range Shift	ENUM								
			Range Shift State		Completed	ENUIVI								
			Absolute Attained Gear Slip	) <=		rpm								
			Attained Gear		Sixth									
			Attained Gear		First									
			Throttle Position Available		TRUE									
			Throttle Position											
			Output Speed			rpm								
			Engine Torque			Nm								
			Engine Torque	2 <=	8191.75	Nm								
	1		If the above conditions are met then Increment Fail Timer	1							>=	1	Fail Seconds	
			If Fail Timer has Expired then											
			Increment Fail Counter								>=	5	Fail Counts	
			Fail Case 2 Output Speed	1 <=	70	rpm								
			The following PRNDL sequence		70	ipin								
			events occur in this exact order:											
					Drive 6 (bit	_								
			PRNDL state	=	state 0110)	Range								
			PRNDL state = Drive 6 for			Sec								
					Transition 8									
			PRNDL state	=	(bit state	Range								
					0111)									
			PRNDL state	_	Drive 6 (bit	Range								
			TRIDE Side	-	state 0110)	Range								
					Transition 1									
			PRNDL state	=		Range								
					1110)									
			Above sequencing occurs in			Sec								
			Neutral Idle Mode	=	Inactive									
			If all conditions above are met											
			Increment delay Timer If the below two conditions are											
			If the below two conditions are met Increment Fail Timer								>=	3	Fail Seconds	
			delay timer	<pre> </pre>	1	Sec								
	1		Input Speed			Sec								
	1		If Fail Timer has Expired then		UUT	500								
	1		Increment Fail Counter								>=	2	Fail Counts	
	1		Fail Case 3	1	Transition 13				CeTRGR_					
			Current range			Range	Previous range	≠	e_PRNDL					
	1			1	0010)	5		-	_Drive2					
				1	*				CeTRGR_					
	1		Engine Torque	) >=	-8192	Nm	Previous range	≠	e_PRNDL					
				1			Ů		_Drive1					
	1		Engine Torque	9 <=	8191.75	Nm	IMS is 7 position configuration	=	1	Boolean				
	-	-		-							-			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tir Requ	ne Jired	Mil Illum.
			If the above conditions are met then, Increment Fail Timer		1 then the "previous range" 1 then the "previous range" criteria above must also be satsified when the "current range" – "Transition 12"		>=	0.225	Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>=	15	Fail Counts	
			Fail Case 4 Current range	Transition 8 = (bit state Range 0111)	Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8					
			Inhibit bit (see definition)	= FALSE	Set inhibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transition 11) Set inhibit bit false if PRNDL = 1001 (park)					
			Steady State Engine Torque Steady State Engine Torque If the above conditions are met then Increment Fail Timer	<= 8191.75 Nm			>=	0.225	Seconds	
			If the above Condtions have been met, Increment Fail Counter				>=	15	Fail Counts	
			Fail Case 5 Throttle Position Available The following PRNDL sequence events occur in this exact order:	= TRUE Boolean						
			PRNDL State	e = Reverse (bit state 1100) Range Transition 11						
			PRNDL State	0100)						
			PRNDL State	Transition 11						
			PRNDL State	0100)						
			Above sequencing occurs in Then delay timer increments							
			Delay timer Range Shift State	>= 5 sec Range Shift Complete						
			Absolute Attained Gear Slip Attained Gear Attained Gear	<= 50 rpm <= Sixth >= First						
			Throttle Position Output Speed If the above conditions are met Increment Fail Timer				>=	20	Seconds	
			Fail Case 6 Current range	lllegal (bit = state 0000 or 1000 or 0001)	A Open Circuit Definition (flag set false if the following conditions are met):	Transition				
			and		Current Range	≠ 11 (bit state 0100)				
			A Open Circuit (See Definition)	= FALSE Boolean	or	0100/				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thres Val		Secondary Malfunction		Enable Conditions			Tiı Requ		Mil Illum.
							Last positive state	¥	Neutral (bit state 0101)			qv		
							or Previous transition state	¥	Transition 8 (bit state 0111)					
			If the above Condtions are met				Fail case 5 delay timer	=	0	Sec				
			then, Increment Fail timer								>=	6.25	Seconds	
			Fail Case 7 Current PRNDL State and	AD	NDL circuit CP = 1101									
			Previous PRNDL state	= PR	NDL circuit 3CP =1111	Range								
			Input Speed	>=	150	RPM								
			Reverse Trans Ratio Reverse Trans Ratio											
			If the above Condtions are met then, Increment Fail timer								>=	6.25	Seconds	
														-
			P182E will report test fail when any of the above 7 fail cases are met											
							Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.5996094 31.999023	Volts Volts				
							Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							Engine Torque Signal Valid	=	TRUE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:		6, P0717, P0722 7BF, P077C, P07					
								FCM: P01	01, P0102, P010	3. P0106.				
								P0107, P01	08, P0171, P017 201, P0202, P020	2, P0174,				
								P0205, P02	206, P0207, P020	08, P0300,				
									802, P0303, P030 807, P0308, P040					
	<u> </u>	Internal Mode Switch Does Not			Park or	_								One Trip
Internal Mode Switch (IMS)	P1915	Indicate Park/Neutral (P/N) During Start	PRNDL State is		Neutral	Enumeration								
	1		The following events must occur Sequentially											
			Initial Engine speed	<=	50	RPM					>=	0.25	Enable Time (Sec)	
			Then Engine Speed Between Following Cals											
	1	I	Engine Speed Lo Hist	>=	50	RPM					I			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions			Tiı Requ	me uired	Mil Illum.
			Engine Speed Hi Hist	<=	480	RPM					>=	0.06875	Enable Time (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	>= <=	6 31.999023	V V				
							Ignition Voltage Hyst High (enables above this value)	>=	5	V				
							Ignition Voltage Hyst Low (disabled below this value) Transmission Output Speed	<= <=	2 90	V rpm				
							P1915 Status is	¥	Test Failed This Key On or Fault Active	·				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0722, ECM: None	P0723					
Transmission Control Module	P2534	Ignition Switch Run/Start Position	TCM Run crank active (based on	=	FALSE	Boolean								One Tri
(TCM)		Circuit Low	voltage thresholds below) 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	=	TRUE	Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Transmission Control Module	P2535	Ignition Switch Run/Start Position	TCM Run crank active (based on	=	TRUE	Boolean								One Tri
(TCM)		Circuit High	voltage thresholds below) 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				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				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 Gear slip Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time	Table Based			>= Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	One Trip
			If Above Conditions have been met Increment 2nd gear fail count and CB26 Fail Count				>= 3 2nd Gear Fail Count or CB26 Fail	
			Fail Case 2 Case: Steady State 6th Gear Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	-
			commanded 5th gear If attained Gear = 5th For Time	Table Based Time Please Enable Time				
			If Above Conditions have been met, Increment 5th gear fail counter and CB26 Fail Count				>= 3 5th Gear Fail Count or CB26 Fail	
					PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B	= FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean >= 0 RPM	Count	-
					(A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= 67 RPM >= 0.5004883 Pct >= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal valid HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	<= 7500 RPM >= 5 Sec = TRUE Boolean = TRUE Boolean >= -6.65625 °C = FALSE Boolean = FALSE Boolean = TRUE TCM: P0716, P0717, P0722, P0723,		
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	<ul> <li>TRUE Boolean</li> <li>Maximum pressurized Clutch</li> <li>exhaust command</li> <li>bitic Clutch</li> </ul>		P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		One Trip
			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 (2-3 shifting without throttle) fail timer 1 (2-4 shifting without throttle) fail timer 1	<ul> <li>40 RPM</li> <li>40 RPM</li> <li>0.299804688 Fail Time (Sec)</li> <li>0.5 Fail Time (Sec)</li> <li>0.299804688 Fail Time (Sec)</li> <li>0.5 Fail Time (Sec)</li> <li>0.299804688 Fail Time (Sec)</li> </ul>				
			fail timer 1 (2-4 shifting without throttle) fail timer 1 (6-4 shifting with throttle) fail timer 1 (6-4 shifting without throttle)	>= 0.5 Eail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (6-5 shifting with throttle) fail timer 1 (6-5 shifting without throttle)	>= 0.299804688 Fail Time (Sec) >= 0.5 Fail Time (Sec)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail Timer 1, and Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter 2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	r
			6th gear fail counter total fail counter				OR >= 3 Fail Counter From 6th Gear OR DR	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.65625 °C = FALSE Boolean = FALSE Boolean ≠ 1st Boolean >= TRUE Boolean >= 100 RPM >= 150 RPM = FALSE Boolean = FALSE Boolean = TRUE Boolean	Counter	
				Disable Conditions		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,		
Variable Bleed Solenoid (VBS	i) P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip			P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		One T

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		ime uired	Mil Illum.
			If the Above is True for Time	Table Based Time Please Refer to Table Enable Time >= 4 in (Sec) supporting documents					
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio						
				>= 2.245849609					
							>= 1.1	Fail Timer (Sec)	
							>= 5	Fail Count in 1st Gear or	
			Fail Case 2         Case: Steady State 3rd Gear				>= 5	Total Fail Counts	
			<u>rail Case z</u> Case. Sleady State Sid Gear	Table Based value Please					
			Max Delta Output Speed Hysteresis	Refer to 3D					
				documents Table Based					
			Min Delta Output Speed Hysteresis						
				documents Table Based Time Please					
			If the Above is True for Time	>= Refer to Table Sec 17 in supporting documents					
			Intrusive test: (C35R clutch exhausted) Gear Ratio						
			Gear Ratio If the above parameters are true	>= 2.245849609					
							>= 1.1	Fail Timer (Sec)	
							>= 3	Fail Count in 3rd Gear or	
			Fail Case 3 Case: Steady State 4rd Gear				>= 5	Total Fail Counts	
				Table Based value Please					
			Max Delta Output Speed Hysteresis	>= Refer to 3D Table 1 in supporting					
				documents					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time equired II	Mil Illum.
			Min Delta Output Speed Hysteresis	supporting documents					
			If the Above is True for Time	supporting					
			Gear Ratio	documents <= 0.700317383 >= 0.633666992					
			If the above parameters are true				>= 1.1	Fail Timer (Sec)	
							>= 3	Fail Count in 4th Gear or	
			Fail Case 4 Case: Steady State 5th Gear				>= 5	Total Fail Counts	
			Max Delta Output Speed Hysteresis	supporting documents Table Based					
			Min Delta Output Speed Hysteresis	Table 2 in supporting documents Table Based Time Please					
			If the Above is True for Time Intrusive test:	Pofor to Table					
			(C35R clutch exhausted) Gear Ratio	<= 0.700317383 >= 0.633666992					
							>= 1.1	Fail Timer (Sec)	
							>= 3	Fail Count in 5th Gear or	
							>= 5	Total Fail Counts	
					PRNDL State defaulted inhibit RVT	= FALSE Boolean = FALSE Boolean			

Also But drong hot too supplications of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the source of the sourc	Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
Index         Index <th< td=""><td>, i</td><td></td><td></td><td></td><td></td><td></td><td>IMS fault pending indication</td><td>=</td><td></td><td>Boolean</td><td></td><td></td><td></td><td></td></th<>	, i						IMS fault pending indication	=		Boolean				
name         name <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>output speed</td><td>&gt;=</td><td>0</td><td>RPM</td><td></td><td></td><td></td><td></td></td<>							output speed	>=	0	RPM				
number         Production         -							TPS validity flag	=	TRUE	Boolean				
All of a bit of							HSD Enabled	=	TRUE	Boolean				
atable Beee Schmod (VS)         P220         Descare Corent (PC) Schwalz D (SS VSL)         The HWDD regists is to volter gynamistic) error         THUE         Boolean							Hydraulic_System_Pressurize	=	TRUF	Boolean				
Ander mess Subsect (MP)         Party Control (PC) Solution (PC)         Party Control (PC) Solution (PC) Solution (PC)         Party Control (PC) Solution (PC) Solution (PC) Solution (PC) (PC) (PC) (PC) (PC) (PC) (PC) (PC)							d		INCL	Doolean				
Image: series of the								<u> </u>	67	Nm				
ariabe Beed Schmod (VP)         Space Control (VP) Schmod 10         Space Schwod 10														
Image: series in the series of the														
Image: second in the														
atiable Beed Solend (NS)         P2/20         Possue Contiol (PC) Solend D         The HNID operts to to vidiag														
initial Bieled Solenoid (VB)         P220         Persure Control (PC) Solenoid D         The HWO reports to voiding ground shart) error flag         Initial Bieled Solenoid (VB)         P220														
abiabatio limits for abiabatio desiral priority (Conditiones)         >														
Ariable Bierd Solemaid (VBS)       P220       Persure Control (PC) Solemaid D       The HWD reports a too voting ground short) emerting ground short) emeriting ground short) emeriting ground short i emeriting grou								>=	5	Sec				
Accolation Paid include Accolation Paid Inclu														
Arabe Beed Solend (VBS)         P270         Center Coronal (PC) Solended D         The HWO reports a low watage (group Short) error for Short (Group Short) error for								>=	5.0003052	Pct				
arabe Bleed Solenoid (VBS)         P2 20         Persure Control (PC) Solenoid D         The HWI0 reports a low voltage (ground short) error lag														
Image: series of the									5	Nm				
Image: Control Croup: Contro														
Image: set in the set								<=	8191.875	Nm				
artable Bled Solendi (VBS)         Pressure Control (PC) Solendi D (G22 VBS).         The HWIO reports a low voltage (ground stori) error lag         = TRUE         Boolean														
Input Speed Somor fault Default Gor Option in not present         • FALSE • FALSE • RUE         Boolean • TRUE           arable Bied Solenoi (VDB FUE         Pressure Control (PC) Solenoi dD Control Crcut Low (G2B / VBS)         The HWIO reports a low voltage (ground short) error flag         = TRUE         Boolean OLARE         - FALSE FUE         Boolean • TRUE         - FALSE FUE         FUE         - FALSE FUE         - FALSE FUE         FUE         - FALSE FUE         FUE         - FALSE FUE         - FALSE FUE         FUE         - FALSE FUE         FUE         - FALSE FUE         - FALSE FUE         FUE         - FALSE FUE         <								>=	-6.65625	°C				
ariable Bleed Solenoid (VBS)       P270       Persure Control (PC) Solenoid D       The HWO reports a low voltage (ground short) error rtag       = TRUE       Nul. not Illuminated for TCM. P0716, P0717, P0722, P0723, D0766, P0107, P0102, P0103, P0106, P0107, P0102, P0107, P0102, P0103, P0106, P0107, P0102, P0107, P01							Input Speed Sensor fault	=	FALSE	Boolean				
Image: series and ser														
Image: set of the set														
Image: Speed solution       Image: Speed solu								=	TRUE					
Image: control of control (PC) Solenoid D (CB26 VBS)     Pressure Control (PC) Solenoid D (CB26 VBS)     The HWIO reports a low voltage (ground short) error flag     = TRUE Boolean     TRUE Boolean     Image: control (CB26 VBS)     >=     0.3     Fail Time (Sec)     One Tri- (Sec)     One Tri- (Sec)       Image: control (PC) Solenoid D (CB26 VBS)     The HWIO reports a low voltage (ground short) error flag     = TRUE Boolean     Image: control (CB26 VBS)     >=     0.3     Fail Time (Sec)     One Tri- (Sec)       Image: control (PC) Solenoid D (CB26 VBS)     Image: control (PC) Solenoid D (CB26 VBS)     The HWIO reports a low voltage (ground short) error flag     = TRUE Boolean     Image: control (PC) Solenoid D (PC)     Image: control (PC) Solenoid D (CB26 VBS)     Sample Time (Sec)     Image: control (PC) Solenoid D (PC)     Image: control (PC) Solenoid D (PC) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DTC's:</td> <td>P182E ECM: P0101 P0107, P010 P0175, P020 P0205, P020 P0301, P030</td> <td>I, P0102, P0103 08, P0171, P017 01, P0202, P020 06, P0207, P020 02, P0303, P030</td> <td>, P0106, 12, P0174, 13, P0204, 18, P0300, 14, P0305,</td> <td></td> <td></td> <td></td> <td></td>							DTC's:	P182E ECM: P0101 P0107, P010 P0175, P020 P0205, P020 P0301, P030	I, P0102, P0103 08, P0171, P017 01, P0202, P020 06, P0207, P020 02, P0303, P030	, P0106, 12, P0174, 13, P0204, 18, P0300, 14, P0305,				
ariable Bleed Solenoid (VBS)       P2720       Control Circuit Low (CB26 VBS)       Control Circuit Low (Brown dshort) error flag (ground short) error flag       = TRUE Boolean       Image: Control Circuit Low (CB26 VBS)       >= 0.3       Fail Time (Sec)         Image: Control Circuit Low (CB26 VBS)       Image: Control Circuit Low (CB26 VBS)       Image: Control Circuit Low (Ground short) error flag       = TRUE Boolean       Image: Control Circuit Low (CB26 VBS)       >= 0.3       Fail Time (Sec)         Image: Control Circuit Low (CB26 VBS)       Image: Control Circuit Low (Ground short) error flag       = TRUE Boolean       Image: Control Circuit Low (CB26 VBS)       Image: Control Circuit Low (CB26 VBS)       >= 0.3       Fail Time (Sec)         Image: Control Circuit Low (CB26 VBS)       Image: Control Circuit Low (Ground short) error flag       = TRUE Boolean       Image: Control Circuit Low (CB26 VBS)       Image														0
Image: state of the state o	Variable Bleed Solenoid (VBS)	P2720	Control Circuit Low		= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One Trip
P2770 Status is not P2770 Status is not Ignition Voltage Ignition Voltage Ignitage Ignition Voltage Ignitage Ignitage Ignition Vol												0.375		
P2770 Status is not = On or Fault Active Ignition Voltage >= 8.5996094 Volts Ignition Voltage <= 31.999023 Volts Engine Speed >= 400 RPM Engine Speed s within the Engine Speed is within the														1
Fault       Active         Ignition Voltage       >=       8.5996094       Volts         Ignition Voltage       <=														
Active         Ignition Voltage       >=       8.5996094       Volts         Ignition Voltage       <=							P2/70 Status is not	=						
Ignition Voltage       >=       8.5996094       Volts         Ignition Voltage       <=														
Ignition Voltage       <=							Innition Voltage			Volte				
Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the														
Engine Speed <= 7500 RPM Engine Speed is within the														
Engine Speed is within the											1			
							allowable limits for		5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold Ilue	Secondary Malfunction		Enable Conditions		Tim Requi		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					>= 0.3 out 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
						P2721 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	= <= >= <= >=	31.999023 400 7500	Volts Volts RPM RPM Sec	5	(00)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None					
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear Gear slip Intrusive test: commanded 2nd gear	>= 400 Please refer to Table 3 in						Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	One Trip
			If attained Gear ≠ 2nd for Time If Above Conditions have been met, Increment 1st gear fail counter and C1234 fail counter	>= Supporting Documents	Shift Time (Sec)					>= 3 >= 14	1st Gear Fail Count or C1234 Clutch Fail Count	
			Fail Case 2 Case: Steady State 2nd Gear Gear slip Intrusive test: commanded 3rd gear		RPM					Please See Table 5 For Neutral Time Cal	Neutral Timer (Sec)	
			If attained Gear ≠ 3rd for Time	>= Please refer to Table 3 in Supporting Documents								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
		·	If Above Conditions have been met, Increment 2nd gear fail counter					d Gear Fail Count or
			and C1234 fail counter	r				234 Clutch fail Count
			Fail Case 3 Case: Steady State 3rd Gear Gear slip				Please See Table 5 For Ne Neutral Time Cal	utral Timer (Sec)
			Intrusive test: commanded 4th gear If attained Gear ≠ 4th for time	Please refer to Table 3 in Shift Time (Sec)				
			If Above Conditions have been met, Increment 3rd gear fai counter	Documents			>= 3 <sup>3</sup> r	d Gear Fail Count
			and C1234 fail counter	r				or 234 Clutch ail Count
			Gear slip				Please See Table 5 For Ne Neutral Time Cal	utral Timer (Sec)
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time	Please refer to Table 3 in Shift Time (Sec)				
			If Above Conditions have been met, Increment 4th gear fail counter	Documents			>= 3 <sup>4t</sup>	n Gear Fail Count
			and C1234 fail counter				>= 14	or 234 Clutch fail Count
					PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized	= FALSE Boolear = FALSE Boolear = FALSE Boolear = TRUE Boolear = TRUE Boolear		
					Minimum output speed for RVT A OR B (A) Output speed enable	>= 0 RPM >= 67 RPM		
					(B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= 0.5004883 Pct >= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM		
					Engine Speed Hi Engine Speed is within the allowable limits for	<= 7500 RPM >= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Throttle Position Signal valid HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= TRUE Boolean = TRUE Boolean >= -6.65625 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for 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		
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 Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1 (2-6 shifting with throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (3-5 shifting with throttle) fail timer 1 (4-5 shifting without throttle) fail timer 1 (4-5 shifting without throttle) fail timer 1 (4-6 shifting without throttle) fail timer 1	■       Maximum pressurized Clutch         ■       exhaust command         ✓       Initial Clutch Control         <=				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 Sec Timer 1, and Reference Supporting 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				>= 3 Fail Counter From 2nd Gea	
			3rd gear fail counter				>= 3 Fail Counter From 3rd Gea	
			4th gear fail counter				>= 3 Fail Counter From 4th Gea	
			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	<ul> <li>&gt;= -6.65625 °C</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>≠ 1st Boolean</li> <li>= TRUE Boolean</li> <li>&gt;= 100 RPM</li> <li>&gt;= 150 RPM</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= TRUE Boolean</li> </ul>		
				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		
ariable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear					One T

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	Table Based	Wanuncuon	Conditions	Required	mum.
				value Please				
			Max Delta Output Speed	Pofor to 3D				
			Hysteresis	>= Table 1 in rpm/sec				
				supporting				
				documents				
				Table Based				
				value Please				
			Min Delta Output Speed Hysteresis	>= Refer to 3D Table 2 in rpm/sec				
			nysteresis	supporting				
				documents				
				Table Based				
				Time Please				
			If the Above is True for Time	$ = \frac{\text{Refer to Table}}{17 \text{ in }} \text{Sec} $				
				17 111				
				supporting				
			Intrusive test:	documents				1
			(C35R clutch exhausted)					1
				<= 1.209594727				1
				>= 1.094360352				
			If the above parameters are true					
							>= 1.1 Fail Timer (See	c)
							>= 3 Fail Count in 5th Gear	
							OR	
							Total Fail	
							>= 3 Counts	
			Fail Case 2 Case: 6th Gear					
				Table Based				
			Max Delta Output Speed	value Please Refer to 3D				
			Hysteresis	>= Table 1 in rpm/sec				
			1135010313	supporting				
				documents				
				Table Based				
				value Please				
			Min Delta Output Speed	>= Refer to 3D rpm/sec				
			Hysteresis	Table 2 In				
				supporting documents				
				Table Based				
				Time Please				
			If the Above is True for Time	Pofor to Table				
			in the Above is true for Time	17 111				
				supporting				
			for the second sec	documents				
			Intrusive test:					
			(CB26 clutch exhausted)	<= 1.209594727				
				<= 1.209394727 >= 1.094360352				
			If the above parameters are true					
								~
	1						>= 1.1 Fail Timer (See	.)

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions				me uired	N III
										>=	3	Fail Count in 6th Gear	
												OR	
											3	Total Fail	
										>=	3	Counts	
						PRNDL State defaulted	=	FALSE	Boolean				
						inhibit RVT	=	FALSE	Boolean				
						IMS fault pending indication output speed	= >=	FALSE 0	Boolean RPM				
						TPS validity flag	=	TRUE	Boolean				
						HSD Enabled	=	TRUE	Boolean				
						Hydraulic_System_Pressurize							
						d	=	TRUE	Boolean				
						A OR B							
						(A) Output speed enable	>=	67	Nm				
						(B) Accelerator Pedal enable	>=	0.5004883	Nm				
						Ignition Voltage Lo Ignition Voltage Hi	>=	8.5996094 31.999023	Volts Volts				
						Engine Speed Lo	<= >=	31.999023 400	RPM				
						Engine Speed Et	<=	7500	RPM				
						Engine Speed is within the							
						allowable limits for	>=	5	Sec				
						if Attained Gear=1st FW	>=	5.0003052	Pct				
						Accelerator Pedal enable	>=	0.0003002	FUI				
						if Attained Gear=1st FW	>=	5	Nm				
						Engine Torque Enable		-					
						if Attained Gear=1st FW	<=	8191.875	Nm				
						Engine Torque Enable Transmission Fluid							
						Temperature	>=	-6.65625	°C				
						Input Speed Sensor fault	=	FALSE	Boolean				
						Output Speed Sensor fault	=	FALSE	Boolean				
						Default Gear Option is not	=	TRUE					
						present	-	INUL					
					Disable	MIL not Illuminated for	TCM: P0716	, P0717, P0722	, P0723,				
				(	Conditions:	DTC's:	P182E						
								, P0102, P0103					
								)8, P0171, P017 )1, P0202, P020					
								)6, P0202, P020 )6, P0207, P020					
								02, P0303, P030					
								07, P0308, P040					
		Pressure Control (PC) Solenoid E	The LIMIO reports a law values										0
ble Bleed Solenoid (VBS	5) P2729	Control Circuit Low	The HWIO reports a low voltage (ground short) error flag	= TRUE Boole	ean					>=	0.3	Fail Time (Sec)	
		(C1234 VBS)	, j , j , j , j , j , j , j , j , j , j							out	0.075	Sample Time	
										of	0.375	(Sec)	1
								Test Failed					1
						P2729 Status is not	=	This Key On or					1
						1 2127 Sidius IS HUL	=	Fault					
		1						Active		1			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		hreshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996094 31.999023 400 7500 5	Volt Volt RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One Trip
								Test Failed This Key		out of	0.375	Sample Time (Sec)	-
						P2730 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	= <= <= <= >=	On or Fault Active 8.5996094 31.999023 400 7500 5	Volt Volt 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					>=	4.4	Fail Time (Sec)	Two Trips
						P2763 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for High Side Driver Enabled	= <= >= <= >= =	Test Failed This Key On or Fault Active 8.5996094 31.999023 400 7500 5 TRUE	Volt Volt RPM RPM Sec Boolean	out of	5	Sample Time (Sec)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, ECM: None	, P0659					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	=	TRUE	Boolean					>=	4.4	MPH	One Tri
											out of	5	MPH	
							P2764 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	= >= >= = = >=	Test Failed This Key On or Fault Active 8.5996094 31.999023 400 7500 5	Volt Volt RPM RPM Sec				
		Controller Area Network Bus	CAN Hardware Circuitry Detects a			Disable Conditions:	High Side Driver Enabled MIL not Illuminated for DTC's:	= TCM: P0658 ECM: None		Boolean			Fail counts (≈	Opo T
Communication	U0073	Communication Error	Low Voltage Error Delay timer		TRUE 0.1125	Boolean					>= Out	62 70	10 seconds) Sample Counts	
							Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= >= <= =	3 8.5996094 31.999023 Run	sec Volt Volt	of		(≈ 11 seconds)	_
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM	=	TRUE	Boolean					>=	12	Sec	One Tr
							Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= >= <= =	3 8.5996094 31.999023 Run	sec Volt Volt				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U007 ECM: None						

### Table 1

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	<mark>512.00</mark> 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	°C
Curve	409.59	2.00	2.00	Sec

### Table 3

Axis	-6.67	-6.66	40.00 °C	
Curve	409.59	4.00	4.00 Sec	

### Table 4

Axis	-6.67	-6.66	40.00	°C
Curve	409.59	2.00	2.00	Sec

### Table 5

Axis	-6.67	-6.66	40.00	°C
Curve	409.59	3.00	3.00	Sec

#### Table 6

Axis	-6.67	-6.66	40.00	80.00	120.00 °	С
Curve	409.00	3.60	1.60	1.40	1.40 S	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						
	Axis	-6.67	-6.66	40.00	80.00	120.00 °C
	Curve	409.00	3.30	1.30	1.20	1.10 Sec
Table 10	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	3.03	1.86	1.00	0.75	0.58 Sec
	Curve	3.03	1.00	1.00	0.75	0.50 360
Table 11	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	0.00	0.64	0.33 Sec
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	00.001			
	Axis	-40.00	-20.00	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	20.00	30.00	40.00 °C
Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 Sec

### Table 16

Axis	-6.67	-6.66	40.00	°C
Curve	409.59	2.50	2.50	Sec

### Table 17

Axis	-6.67	-6.66	40.00	°C
Curve	0.40	0.35	0.30	Sec

### Table 18

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	٥С
Curve	256.00	50.00	45.00	40.00	34.00	25.00	20.00	20.00	256.00	⁰С

### <u>Table 19</u>

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

#### Table 20

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	<mark>149.10</mark> ⁰C
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	°C
Curve	5.00	3.00	1.00	Sec

0.00

8191.75

500.00

500.00

-6.67 -6.66

40.00

### 3D\_Table 1

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

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

2.00

8191.75

500.00

500.00

5.00

8191.75

300.00

300.00

25.00

8191.75

300.00

300.00

100.00

8191.75

300.00

300.00

3D\_Table 2

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