Component/	Fault	Monitor Strategy	Malfunction		reshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	\	/alue	Malfunction	Conditions	Required	Illum.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module	Incorrect program/calibration s checksum	= TRUE	Boolean			>= 5 Fail Counts	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0601 ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long-Term	Non-volatile memory (static or dynamic) checksum failure at	= TRUE	Boolean			Runs Contin ously	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0603 ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module	RAM Read/Write Failure (Single Word)	= TRUE	Boolean			>= 5 Fail Counts = 16 Sample Counts	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module	TCM Non-Volatile Memory bit Incorrect flag at	= TRUE	Boolean			Runs Contin ously	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None		

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature				Fail >= 5 Time (Sec)	One Trip
			Fail Substrate Case 2 Temperature	= 50 °C			Fail >= 2 Time (Sec)	
			Ignition Voltage Note: either fail	> 18 Volts				
	l .		case can set the					
					Ignition Voltage Lo Ignition Voltage Hi Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range	>= 8.5996094 Volts <= 31.999023 Volts >= 0 °C <= 170 °C >= 0.25 Sec		
					P0634 Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction	Enable Conditions		Tin Requ		Mil Illum.
High Side Driver 1		Actuator Supply	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean				>=	4	Fail Counts	One Trip
								out of	6	Sample Counts	
						P0658 Status is not	Test Failed This Key On or Fault Active				
						High Side Driver 1 On	= True Boolean				
					isable itions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Control Module (TCM)		TCM Internal Temp (substrate) Sensor Circuit Range/ Performance	If transmission oil temp to substrate temp Δ								Two Trips
			If TCM substrate temp to power up temp Δ								

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and				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 (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		
					Accelerator Position Signal Valid	= TRUE Boolean		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM		
					Engine Speed Hi Engine Speed is within the allowable limits for	<= 7500 RPM >= 5 Sec		
					Brake torque active Below describes the brake torque entry	= FALSE		_
					Engine Torque Throttle Transmission Input	>= 90 N*m >= 30.000305 Pct <= 200 RPM		
					Vehicle Speed Transmission Range Transmission Range	<= 8 Kph ≠ Park ≠ Neutral		
					РТО	= Not Active		
					Set Brake Torque Active TRUE if above conditions are met for:	>= 7 sec		

Component/		Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria	value	Below describes the brake torque exit criteria				Kequirea	illulli.
					Brake torque entry	=	Not Met			
					Clutch hydraulic pressure	<b>≠</b>	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD_e _C3_RatIE nbl			
					The above clutch pressure is greater than this value for one loop Set Brake Torque	>=	600	kpa		
					Active FALSE if above conditions are met for:	>=	20	Sec		
					P0667 Status is	<b>≠</b>	Test Failed This Key On or Fault Active			

Component/	Fault	Monitor Strategy	Malfunction	Threshol	d	Secondary	Enable		Time	Mil
System	Code	Description	Criteria	Value		Malfunction	Conditions		Required	Illum.
				C	Disable conditions:		TCM: P0658, P0668, P066 P06AD, P06AE, P0716, P0712, P0713, P0717, P07 P0723, P0962, P0963, P09 P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730	722,		
							ECM: P0101, P0102, P010 P0106, P0107, P0108, P01 P0172, P0174, P0175, P02 P0202, P0203, P0204, P02 P0206, P0207, P0208, P03 P0301, P0302, P0303, P03 P0305, P0306, P0307, P03 P0401, P042E	171, 201, 205, 300,		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	CeTFTI_e_ = VoltageDir ectProp						Two Trips
		a low voltge	If TCM Substrate Temperature Sensor = Direct Proportional and If TCM Substrate Temperature Sensor = Indirect Proportional and	= -249 °C = > 240 °C						
			Either condition above will satisfy			Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.5996094 Vo <= 31.999023 Vo >= 400 RF <= 7500 RF >= 5 Se	olts PM PM	Fail Timer	

System C		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					P0668 Status is	Test Failed This Key On or Fault Active		
				Disable Conditions	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used  If TCM Substrate Temperature Sensor = Direct Proportional and If TCM Substrate Temperature Sensor = Indirect Proportional and Either condition above will satisfy the fail conditions	= VoltageDif ectProp > 249 °C = 249 °C	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for  P0669 Status is  For Hybrids, below conditions must also be Estimated Motor Power	>= 400 RPM <= 7500 RPM >= 5 Sec  Test Failed This Key On or Fault Active	>= 60 Timer (Sec)	Two Trips

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Estimated Motor Power Loss greater than limit	>= 0 Sec		
					Lost Communication			
					with Hybrid Processor			
					Control Module Estimated Motor Power			
					Loss Fault	= FALSE		
					MIL not Illuminated for	TCM: P0716, P0717, P0722,		
				Conditions:	DTC's:	P0723		
						ECM: None		
T		TCM Power-up	# TOM	Refer to				Two Trips
Transmission Control Module	P06AC	Temp Sensor	If TCM power-up temp to substrate	Table 20 in				Trips
(TCM)		Circuit Range/ Performance	temp Δ	supporting documents				
				Refer to				
			If transmission oil temp to power up	Table 18 in oc				
			temp Δ	supporting documents				
				documents				
			Both conditions				Fail	
			above required to increment fail				>= 3000 Counts (100ms	
			counter				loop)	
			Note: table					
			reference temp =				Sample	
			to the median temp of trans oil temp,				Out 3750 Counts	
			substrate temp and				loop)	
			power up temp.					$oldsymbol{ol}}}}}}}}}}}}}}}}}}$

Component/		Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
System	Code	Description	Criteria	value	Walluffction		Conditions			Requi	rea	mum.
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						>=	700	Pass Counts (100ms loop)	
			counter unui						Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean				
					Accelerator Position Signal Valid	=	TRUE	Boolean				
	I				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	>=	5	Sec				
					the allowable limits for Brake torque active		FALSE					
					Below describes the	=	FALSE					1 I
					brake torque entry							
					Engine Torque	>=	90	N*m				
					Throttle	>=	30.000305	Pct				
					Transmission Input	<=	200	RPM				
					Vehicle Speed	<=	8	Kph				
					Transmission Range	≠	Park					
					Transmission Range	≠	Neutral					
					РТО	=	Not Active					
					Set Brake Torque Active TRUE if above	>=	7	sec				
	I				conditions are met for:	~-	,	550				
	I				Below describes the							1
					brake torque exit criteria							
					Brake torque entry	=	Not Met					
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Ontena	14,40	Clutch used to exit brake torque active	CoTETD o	. roquirou	
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					P06AC Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
							-	
Transmission Control Module	P06AD	TCM power-up thermistor circuit	Power Up Temp	< -59 °C =	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM	>= 60 Fail Time	Two Trips

Component/		Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		Tir		Mil Illum.
System	Code	Description	Criteria	Value			Conditions	2214	Requ	iirea	illum.
					Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec			
					P06AD Status is	<b>≠</b>	Test Failed This Key On or Fault Active				
					For Hybrids, below conditions must also be Estimated Motor Power Estimated Motor Power Loss greater than limit Lost Communication with Hybrid Processor Control Module Estimated Motor Power Loss Fault	>= >= =	0 0 FALSE FALSE	kW Sec			
				Disab Condition	le MIL not Illuminated for s: DTC's:			P0722,			
Transmission	P06AE	TCM power-up	Power Up Temp	> 164 °C					>= 60	Fail	Two
Control Module		thermistor circuit			Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM		Time	Trips
					P06AE Status is	≠	Test Failed This Key On or Fault Active				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/ Performance	If transmission oil temp to substrate temp Δ	Refer to Table 19 in oC supporting documents				Two Trips
			If transmission oil temp to power up temp Δ	Refer to Table 18 in oC supporting documents				
			Both conditions above required to increment fail counter				>= 3000 Fail Counts (100ms loop)	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Out 3750 Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
					Familia Tarawa Oi		Out 875 Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		

System Co	Code	Description	Criteria	Value	Malfunction		Conditions			
									Required	Illum.
					Accelerator Position	=	TRUE	Boolean		
					Signal Valid					
					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	>=	5	Sec		
					the allowable limits for		EAL 0E			
		-			Brake torque active	=	FALSE			-
					Below describes the					
					brake torque entry		00	N I #		
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.000305	Pct		
					Transmission Input	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	<b>≠</b> <i>→</i>	Park			
					Transmission Range	≠	Neutral			
					PTO	=	Not Active			
					Set Brake Torque					
					Active TRUE if above	>=	7	sec		
					conditions are met for:					
					Below describes the					
					brake torque exit criteria					
					Brake torque entry	=	Not Met			
							Clutch			
					Clutch hydraulic		Hydraulic			
					pressure	≠	Air Purge			
					,		Event			
							CeTFTD_e			
					Clutch used to exit	=	_C3_RatIE			
					brake torque active		nbl			
					The above clutch					
					pressure is greater than	>=	600	kpa		
[					this value for one loop	~-	550	πρα		
[					Set Brake Torque					
[					Active FALSE if above	>=	20	Sec		
					conditions are met for:	/-	20	500		

Component/	Fault Code	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Cinteria	Value	P0711 Status is	Test Failed	required	
				Disable Conditions	: DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature	B0740	Transmission fluid temperature	Type of Sensor	CeTFTI_e_				Two Trips
Sensor (TFT)	PU/12	thermistor failed at a low voltage	Used  If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission	ectProp				
			Fluid Temperature Sensor = Indirect Proportional and Temp	> -74 °C				

Component/		Monitor Strategy	Malfunction	Thresh		Secondary		Enable			Time		Mil
System	Code	Description	Criteria	Valu	е	Malfunction		Conditions		Re	equire		Illum.
			Either condition above will satisfy the fail conditions							>= 6	60	Fail Time (Sec)	
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996094 31.999023 400 7500	Volts Volts RPM RPM Sec				
						P0712 Status is	≠	Test Failed This Key On or Fault Active					
						For Hybrids, below conditions must also be Estimated Motor Power Estimated Motor Power Loss greater than limit Lost Communication with Hybrid Processor Control Module	>= >= =	0 0 FALSE	kW Sec				
						Estimated Motor Power Loss Fault	=	FALSE					
					Disable Conditions:	MIL not Illuminated for DTC's:	P0723		20722,				
							ECM: N	one					
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	CeTFTI_e_ = VoltageDir ectProp									Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	> 174 °C	;								

Component/	Fault	Monitor Strategy	Malfunction			reshold		Secondary		Enable		Tir		Mil
System	Code	Description	Criteria		'	Value		Malfunction		Conditions		Requ	ired	Illum.
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	< =	174	°C								
			Either condition above will satisfy the fail conditions									>= 60	Fail Time (Sec)	
								Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	\" \" \" \" \" \" \" \" \" \" \" \" \" \	8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM Sec			
								P0713 Status is	≠	Test Failed This Key On or Fault Active				
						Cor	Disable nditions:	MIL not Illuminated for DTC's:	TCM: P P0722,	0713, P0716, F P0723	P0717,			
	1								ECM: N	one				
Transmission Input Speed	P0716	Input Speed Sensor	Transmission Input Speed Sensor		900	RPM						>= 0.8	Fail Time	One Trip
								Engine Torque is Engine Torque is Engine Speed Engine Speed is within the allowable limits for Vehicle Speed is Throttle Position is Transmission Input The previous requirement has been	>=	0 8191.875 400 7500 5 10 0	N*m N*m RPM RPM Sec Kph Pct RPM			

Component/		Monitor Strategy	Malfunction		eshold ′alue	Secondary Malfunction		Enable Conditions			Time	Mil
System	Code	Description	Criteria	V	alue	The change (loop to	<	8191.875	RPM/	Ke	quired	Illum.
						loop) in transmission The previous	>=	0	Loop Sec			
						requirement has been Throttle Position Signal	=	TRUE	Boolean			
						Valid Engine Torque Signal Valid	=	TRUE	Boolean			
						Ignition Voltage Ignition Voltage	>= <=	8.5996094 31.999023				
						P0716 Status is not	=	Test Failed This Key On or Fault Active				
					Disable Conditions:	MIL not Illuminated for DTC's:		0717, P0752,	P0973,			
								20101, P0102, P0122, P0123				
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Transmission Input Case 1 Speed is	< 33	RPM					>= 4.	Fail 5 Time (Sec)	One Trip
			Fail When P0722 DTC Case 2 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	>= <=	120 8191.875	N*m N*m			
						Vehicle Speed Engine Torque Signal	>=	12	Kph			
						Valid	=	TRUE 8.5996094	Boolean Volts			
						Ignition Voltage Ignition Voltage	>= <=	31.999023	Volts			
						Engine Speed Engine Speed	>= <=	400 7500	RPM RPM			

Component/	Fault		Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Engine Speed is within the allowable limits for P0717 Status is not	>= 5 Sec  Test Failed This Key On or Fault Active		
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0102, P0103		
Mode Switch	P071A	Transmission  Mode Switch A	Tow Haul Mode Switch state	= TRUE Boolean			>= 600 Fail Time	Specia I No
		Wode Gwich A	- Switch State		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM <= 7500 RPM >= 5 Sec	Time	, 1146
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P1762 ECM: None		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	< 35 RPM			Fail >= 4.5 Time (Sec)	One Trip
					P0722 Status is not	Test Failed This Key On or Fault Active		
					Transmission Input Speed Check	= TRUE Boolean		
					Engine Torque Check			
					Throttle Position	>= 8.0001831 Pct		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	Value	Malfunction		Conditions		Required	Illum.
	l .				Transmission Fluid	>=	-40	°C		
	l .				Temperature			Ĭ		
	l .				Disable this DTC if the PTO is active	=	1 E	Boolean		
	l .				Engine Torque Signal					
					Valid	=	TRUE E	Boolean		
					Throttle Position Signal	=	TRUE E	Boolean		
					Valid					
					Ignition Voltage is Ignition Voltage is	>=	8.5996094 31.999023	Volts Volts		
					Engine Speed is	<= >=	400	RPM		
	l .				Engine Speed is	<=	7500	RPM		
	l .				Engine Speed is within	~-				
					the allowable limits for	>=	5	Sec		
					Enable_Flags Defined					1
	l .				The Engine Torque					
	l .				Check is TRUE, if either					
	l .				of the two following conditions are TRUE					
					Conditions are TRUE					
					Engine Torque					
					Range Shift Status	<b>≠</b>	Range shift completed	ENUM		
					OR					
					Transmission Range is	=	Park or Neutral			
	I				Engine Torque is	>=	8191.75	N*m		
					Engine Torque is	<=	8191.75	N*m		
					Engine Torque					
	I				Engine Torque is	>=	54	N*m		
	I				Engine Torque is	<=	8191.75	N*m		
	I				The Transmission Input					
					Speed (TIS) Check is					
	I				TRUE, if either of the					
	I				two following conditions are TRUE					
					ale IRUE					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction		Enable Conditions	<b>5</b>		Tim Requi		Mil Illum.
		·				TIS Check Condition 1 Transmission Input Transmission Input	>= <=	653.125 5350	RPM RPM				
						TIS Check Condition 2 Engine Speed without the brake applied is Engine Speed with the brake applied is Engine Speed is	>= >= <=	3200 3200 8191.875	RPM RPM RPM				
						Controller uses a single power supply for the speed sensors Powertrain Brake Pedal is Valid		1 TRUE	Boolean				
					Disable Conditions:		ECM: P	0716, P0717, 0101, P0102, P0122, P012	, P0103,				
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed		RPM					>=	0	Enable Time (Sec)	One Trip
			Output Speed Delta		RPM					>=	0	Enable Time (Sec) Output	
			Output Speed Drop	> 650	RPM					>=	1.5	Speed Drop Recove ry Fail Time (Sec)	
			AND Transmission Range is	Driven = range (R,D)									

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions	Т	Time Required	Mil Illum.
System	Code	Description	Onteria	Value	Range_Disable OR	=	EALSE SE	ee low	roquiiou	
					Neutral_Range_Enable And	=		ee low		
					Neutral_Speed_Enable are TRUE concurrently	=		ee low		
					Transmission_Range_E nable Transmission_Input_Sp eed_Enable No Change in Transfer Case Range (High <-> Low) for	= = >=	TRUE Be	ee low ee low cond		-
					P0723 Status is not	=	Test Failed This Key On or Fault Active			
					Disable this DTC if the PTO is active Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is Engine Speed is within the allowable limits for Enable_Flags Defined	= >= <= >= <= >=	8.5996094 Vo 31.999023 Vo 400 RF 7500 RF	olean olts olts oM on on olean		-
					Transmission_Input_Sp eed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					TIS Condition 1 is TRUE when both of the following conditions are satsified for Input Speed Delta	>= 0 Enable >= 0 Time (Sec) <= 4095.875 RPM		
					Raw Input Speed	>= 500 RPM		
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied Input Speed	= 0 RPM		
					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		
					Transmission Range is	Reverse/ = Neutral ENUM Transitonal		
					Transmission Range is	Neutral/ = Drive ENUM Transitional		
					And when a drop occurs Loop to Loop Drop of Transmission Output Speed is	> 650 RPM		
					Range_Disable is TRUE when any of the next three conditions are TRUE Transmission Range is	= Park ENUM		
					Transmission Range is	Park/		

Component/		Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		Time	Mil
System	Code	Description	Criteria	Value	Walluffction		Conditions		Required	Illum.
					Input Clutch is not	=	ON (Fully Applied)	ENUM		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	1.5	Second s		-
					Transmission Output	>	130	RPM		
					The loop to loop change of the Transmission	<	20	RPM		
					Output Speed is The loop to loop change of the Transmission Output Speed is	>	-10	RPM		
					Transmission_Range_E nable is TRUE when one of the next six conditions is TRUE					-
					Transmission Range is Transmission Range is	=	Reverse/	ENUM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable onditions			Tim Requi		Mil Illum.
System	Code	Description	Citteria	Value	Transmission Range is	=	Neutral/ Drive ransitional	ENUM		tequi	icu	
					Time since a driven range (R,D) has been selected	>= T s	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				
				Disa Conditio	able MIL not Illuminated for	P0977	)1, P0102, F	P0103,				
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	Refer to Table 1 in Supporting RPM Document S					>=	5	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	> 420 DDM					>=	5	Fail Time (Sec)	

Component/		Monitor Strategy	Malfunction	Threshold	Secondary		Enable		Tim		Mil
System	Code	Description	Criteria	Value	Malfunction		Conditions		Requ	ired	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 Ignition Voltage Hi Engine Speed Engine Speed Engine Speed is within the allowable limits for Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi 2nd Gear Ratio Lo 2nd Gear Ratio High 3rd Gear Ratio Lo 3rd Gear Ratio High 4th Gear Ratio Lo 4th Gear Ratio High 5th Gear Ratio Lo 5th Gear Ratio Lo 6th Gear Ratio High Transmission Fluid Temperature Lo Transmission Fluid	\  \  \  \  \  \  \  \  \  \  \  \  \  \	8.5996094 31.999023 400 7500 5 5 8191.875 8.0001831 99.998474 2.1948242 2.5251465 1.4228516 1.637085 1.069458 1.2304688 0.7905273 0.9095459 0.6230469	Volts Volts RPM RPM Sec N*m Pct Pct Ratio			
					Temperature Hi	<=					
					PTO Not Active	=	TRUE B	Boolean			
					Engine Torque Signal Valid	=	TRUE E	Boolean			
					Throttle Position Signal Valid	=	TRUE B	Boolean			
					Dynamic Mode	=	FALSE B	Boolean			

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					P0741 Status is	Test Failed  This Key  On or Fault  Active		
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, P2763, P2764 ECM: P0101, P0102, P0103,		
						P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	_				One Trip
			TCC Slip Speed	=			>= 1.5 Fail Time	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 6 Fail Counter	
					TCC Mode Enable test if Cmnd Gear = 1stFW and value true	= 1 Boolean		
					Enable test if Cmnd Gear = 2nd and value true Engine Speed Hi	= 0 Boolean		
					Engine Speed Lo Vehicle Speed HI Vehicle Speed Lo Engine Torque Hi	>= 500 RPM <= 511 KPH >= 1 KPH		

Component/		Monitor Strategy	Malfunction	Threshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	Value	Malfunction		Conditions		Required	Illum.
					Engine Torque Lo	>=	80	Nm		
					Current Range	<b>≠</b>	Neutral	Range		
					Current Range	¥	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	18	°С		
					Throttle Position Hyst AND	>=	5.0003052	Pct		
					Max Vehicle Speed to Meet Throttle Enable Once Hyst High has	<=	8	KPH		
					been met, the enable will remain while	>=	2.0004272	Pct		
					Throttle Position Disable for Throttle	>=	75	Pct		
					Disable if PTO active and value true	=		Boolean		
					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	=	1	Boolean		
					value true Disable if in D5 and	=	1	Boolean		
					value true Disable if in MUMD and	=		Boolean		
					value true Disable if in TUTD and	=		Boolean		
					value true 4 Wheel Drive Low	=	FALSE	Boolean		
					Active Disable if Air Purge active and value false	=	0	Boolean		
					RVT Diagnostic Active	=	FALSE	Boolean		
					Ignition Voltage	>=	8.5996094	V		
					Ignition Voltage Vehicle Speed	<= <=	31.999023 511	V KPH		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
		·				Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <= >=	400 7500 5	RPM RPM Sec				
						Engine Torque Signal Valid	=	TRUE	Boolean				
						Throttle Position Signal Valid	=	TRUE	Boolean				
						P0742 Status is	≠	Test Failed This Key On or Fault Active					
					Disable Conditions:		P0723,	P0741, P276	3, P2764				
							P0106, P0172, P0202,	P0101, P0102 P0107, P0103 P0174, P0173 P0203, P0204 P0207, P0204	8, P0171, 5, P0201, 4, P0205,				
							P0301, P0305,	P0302, P030 P0306, P030 P042E	3, P0304,				
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip		RPM								Two Trips
			Commanded Gear	_	rpm								
			Gear Ratio	=						>=	0.2	Fail Tmr Fail	
			Gear Ratio If the above	> 1.0943604 =						=	5	Counts	
			parameters are									Neutral	
										<b>≠</b>	0	Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Tim Requi		Mil Illum.
System	Code	Description	Cinteria	Value	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Transmission Fluid Temperature	>= <= >= <= >= >=	8.5996094 31.999023 400 7500 5 -6.65625 Range	Volts Volts RPM RPM Sec	0.3	Fail Timer (Sec) Counts	
					Range Shift State  TPS OR Output Speed Throttle Position Signal Valid from ECM Engine Torque Signal Valid from ECM, High side driver is enabled High-Side Driver is Enabled Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= >= = = = =	TRUE TRUE FALSE	KPM Boolean Boolean Boolean Boolean Boolean			

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disabl Conditions	: DTC's:	TCM: P0716, P0717, P0722, P0723, P182E  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
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	= 3rd Gear  = TRUE Boolean  < 400 RPM			Refer to Table 16 in Suppo rting Docu ments  Refer to Neutral Timer (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Tin Requ		Mil Illum.
			And Gear Ratio	< 4.2283936 = 4.2283936	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for High-Side Driver is Enabled Throttle Position Signal Valid from ECM Output Speed	>= <= >= <= >= = = >=	8.5996094 31.999023 400 7500 5 TRUE TRUE 67	Volts Volts RPM RPM Sec Boolean Boolean	_	Fail Timer Counts	
					TPS  Range Shift State  Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= = = = =		% ENUM °C Boolean Boolean			

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
System	Code	Description	Criteria		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,	Required	muni
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	<u>Fail</u> <u>Case 1</u> Commanded Gear	= 1st Locked		P0401, P042E		One Trip
			Gear Box Slip	> 400 RPM =			Pleas e Refer to Neutra Table 5 in Suppo rting Docu ments	
				<ul> <li>2.4821777</li> <li>2.2458496</li> </ul>			>= 1 sec	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400 RPM	>= 3 counts	8

Component/		Monitor Strategy			reshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	`	Value	Malfunction		Conditions		Required	Illum.
						Engine Speed is within the allowable limits for	>=	5	Sec		
						Output Speed OR	>=	67	RPM		
						TPS	>=	0.5004883	%		
						Range Shift State	=	Range Shift Completed	ENUM		
						Transmission Fluid Temperature	>=	-6.65625	°C		
						High-Side Driver is Enabled	=	TRUE	Boolean		
						Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not present	=	TRUE			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P P0723,	0716, P0717, P182E	P0722,		
							P0106, P0172, P0202,	0101, P0102, P0107, P0108 P0174, P0175 P0203, P0204 P0207, P0208	3, P0171, 5, P0201, 1, P0205,		
								P0302, P0303 P0306, P0307 P042E			
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid B Stuck Off [C35R]	<u>Fail</u> Case: Steady State Case 1 3rd Gear								One Trip
			Commanded Gear	= 3rd	Gear						
			Gearbox Slip	> = 400	RPM						

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
							Pleas	
							е	
							Refer	
							to	
							Toblo Neuliai	
							>= 16 in (Sec)	
							Suppo	
							rting	
							Docu	
							ments	
			Command 4th					
			Gear once Output	400 RPM				
			If Gear Ratio	> 1.0943604 =				
			And Gear Ratio	1.2095947				
							Fail	
							>= 3 Timer	
			It the above				3rd	
			condiations are				Goar	
			true, Increment 3rd				>= 3 Geal Fail	
			gear fail counter				Counts	
			Ü					
							or	
			and C35R Fail				3-5R >= 14 Clutch	
			counter				>= 14 Clutch Fail	
			Fail Case: Steady State				ı alı	
			Case 2 5th Gear					
			Commanded Gear					
			Communaca Cour	- on oon				
							Pleas	
							e	
							Refer	
							to Table Neutral	
			Gearbox Slip	> 400 Rpm			>= Table 5 in Suppo (Sec)	
							Suppo (Sec)	
							rting	
							Docu	
							ments	

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Intrusive Test: Command 6th Gear					
			If attained Gear=6th gear Time	Please refer to Table 3 in supporting documents  Shift Time (Sec)				
			It the above condiations are true, Increment 5th gear fail counter				5th Gear >= 3 Fail Counts or	
			and C35R Fail counter				3-5R >= 14 Clutch Fail	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		
					IMS fault pending indication	= FALSE Boolean		
					TPS validity flag	= TRUE Boolean		
					Hydraulic System Pressurized	= TRUE Boolean		
					Minimum output speed for RVT A OR B	>= 67 RPM		
					(A) Output speed (B) Accelerator Pedal Common Enable	>= 67 RPM >= 0.5004883 Pct		
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.5996094 Volts <= 31.999023 Volts >= 400 RPM <= 7500 RPM		
					Engine Speed is within the allowable limits for Throttle Position Signal valid	>= 5 Sec = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	ı	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·				HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= TRUE Boolean >= -6.65625 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Co	Disable onditions:	DTC's:	TCM: P0716, P0717, P0722, P0723, P182E  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Case 1 Case: Steady State 1st  Attained Gear slip  If the Above is True for Time	> 400 RPM = Table Based Time > Please Enabl	le Time				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
oystem -	Gode	Description	Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	<pre>1.6086426 = 1.4554443</pre>			Fail >= 1.1 Timer (Sec) Fail Count in 1st Gear or Total >= 3 Fail Counts	
			Fail Case: Steady State  2nd gear  Max Delta Output Speed Hysteresis	Table Based value Please				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Min Delta Output Speed Hysteresis					
			If the Above is True for Time					
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	< 1.6086426 =				
			Gear Ratio	=				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec) Fail	
							>= 3 Count in 2nd Gear	
							or Total >= 3 Fail Counts	
			Fail Case: Steady State 4th gear					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time > Please Sec = Refer to Table 17 in supporting documents				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio Gear Ratio	_				
			If the above parameters are true				Fail	
							>= 1.1 Timer (Sec)	

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
							>= 3 Fail Count in 4th Gear or Total >= 3 Fail	
			Fail Case: Steady State Case 4 6th gear	Table			Counts	
			Max Delta Output Speed Hysteresis	Based value Please				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time Intrusive test:	Table Based Time > Please Sec = Refer to Table 17 in supporting documents				
			(CB26 clutch exhausted)					

Component/		Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable conditions			Tim Requi		Mil Illum.
System	Code	Description	Criteria	value	Manufiction		onaitions			Requ		mum.
			Gear Ratio	< 0.8946533					>=	1.1	Fail Timer (Sec)	
			Gear Ratio	> 0.8094482 =					>=	3	counts	
			If the above parameters are true									
									>=	1.1	Fail Timer (Sec) Fail	
									>=	3	Count in 6th Gear	
									>=	3	or Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	>=	0	RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pres surized A OR B	=	TRUE	Boolean				
					(A) Output speed (B) Accelerator Pedal Ignition Voltage Lo Ignition Voltage Hi	>= {	67 0.5004883 8.5996094 31.999023	Nm Nm Volts Volts				
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >=	400 7500 5	RPM RPM Sec				

Component/		Monitor Strategy		Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value	if Attained Gear=1st FW Accelerator Pedal	>= 5.0003052 Pct	Required	illum.
					enable if Attained Gear=1st FW Engine Torque Enable			
					if Attained Gear=1st FW Engine Torque Enable			
					Transmission Fluid Temperature	>= -6.65625 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	EALSE DOOLESION		
					Disable MIL not Illuminated for litions: DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)					One Trip
			Primary Oncoming Clutch Pressure Command Status					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Primary Offgoing	Clutch				
			Clutch Pressure					
			Command Status					
				Initial				
			Range Shift Status					
				Control				
			Attained Gear Slip	< 40 RPM				
			·	=				
			If the above					
			conditions are true					
			run appropriate					
			Fail 1 Timers					
			Below:					
			fail timer 1					
			(3-1 shifting with	> 0.5 Fail Time (Sec)				
			Closed Throttle)	=				
			fail timer 1	_				
			(3-2 shifting with	0.2998047 Fail Time (Sec)				
			Throttle)					
			fail timer 1	> 0.5 5 1171 (0.)				
			(3-2 shifting with	= 0.5 Fail Time (Sec)				
			Closed Throttle) fail timer 1					
			(3-4 shifting with	> 0.2998047 Fail Time (Sec)				
			Throttle)	= 0.2990047 1 all 1111e (Sec)				
			fail timer 1					
			(3-4shifting with	> 0.5 Fail Time (Sec)				
			Closed Throttle)	= ` ′				
			fail timer 1					
			(3-5 shifting with	0.2998047 Fail Time (Sec)				
			Throttle)	_				
			fail timer 1	_				
			(3-5 shifting with	= 0.5 Fail Time (Sec)				
			Closed Throttle)					
			fail timer 1	> 0.0000047 F-11 Time - (0.1)				
			(5-3 shifting with	0.2998047 Fail Time (Sec)				
			Throttle)					
			fail timer 1 (5-3 shifting with	> 0.5 Fail Time (Sec)				
			Closed Throttle)					
			Olosea Hilottie)					

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description		Value	Maltunction	Conditions	Required	IIIum.
Component/ System	Fault		fail timer 1 (5-4 shifting with Throttle) fail timer 1 (5-4 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Throttle) fail timer 1 (5-6 shifting with Closed Throttle) fail timer 1 (5-6 shifting with Closed Throttle)  If Attained Gear Slip is Less than Above Cal Increment Fail Timers	Value	Secondary Malfunction	Enable Conditions	Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer	Mil Illum.
			Timers					

Component/	Fault		Malfunction Critoria	Threshold Value	Secondary Malfunction		Enable			Tim	Mil Illum
Component/ System	Fault	Monitor Strategy Description	Malfunction Criteria  If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter  3rd gear fail counter  5th gear fail counter  Total fail counter	Threshold Value	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	>= = = = >= >= =	FALSE 1st TRUE 100 150 FALSE	°C Boolean Boolean Boolean RPM RPM Boolean	>= >= >=	3	Illum.
					IMS Fault Pending Service Fast Learn	=	FALSE	Boolean			
					Mode HSD Enabled	=	FALSE TRUE	Boolean Boolean			
					Default Gear Option is not present	=	TRUE				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, 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					One Trip
			Gear slip	> 400 RPM =			Pleas e See Table 5 For Neutra al Time Col	
			Intrusive test: commanded 5th gear				Cal	
				Please refer to > Table 3 in Shift Time = Supporting (Sec) Document s				
			if the above conditions have been met				4th	
			Increment 4th Gear Fail Counter				>= 3 Gear Fail Count OR	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cyclom		2000	and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case: Steady State Case 2 5th Gear  Gear slip				Pleas e See Table 5 For Neutr al Time Cal	
			Intrusive test: commanded 6th gear  If attained Gear ≠ 6th for time  if the above	Please Refer to > Table 3 in Shift Time = Supporting (Sec) Document s			Gai	
			conditions have been met Increment 5th Gear Fail Counter				5th Gear >= 3 Fail Count OR	
			and C456 Fail Counters Fail Case 3 Case: Steady State 6th Gear				C456 >= 14 Fail Counts	-

Component/		Monitor Strategy	Malfunction	Threshold	Secondary		able		Time		Mil
System	Code	Description	Criteria	Value	Malfunction	Cond	ditions		Requir	ed	Illum.
			Gear slip	> 400 RPM =				>= \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Pleas	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear	Please					Cai		
				refer to > Table 3 in Shift Time = Supporting (Sec) Document s							
			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					>=		C456 Fail Counts	
					PRNDL State defaulted	= FA	ALSE Boolean				
					inhibit RVT	= FA	ALSE Boolean				
					IMS fault pending indication	= FA	ALSE Boolean				
					TPS validity flag	= TI	RUE Boolean				
					Hydraulic System Pressurized	= TI	RUE Boolean				
					Minimum output speed for RVT A OR B	>=	67 RPM				
					(A) Output speed (B) Accelerator Pedal		67 RPM 004883 Pct				

Component/		Monitor Strategy			eshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	\	/alue	Malfunction		Conditions		Required	Illum.
						Common Enable Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	8.5996094 31.999023 400 7500			
						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		
						OutputSpeed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not present	=	TRUE			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: F P0723,	P0716, P0717, P182E	P0722,		
							P0106, P0172, P0202, P0206, P0301, P0305,	P0101, P0102, P0107, P0103 P0174, P0173 P0203, P0204 P0207, P0203 P0302, P0303 P0306, P0303 P042E	8, P0171, 5, P0201, 4, P0205, 8, P0300, 3, P0304,		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	<u>Fail</u> <u>Case 1</u> Case: Steady State 1st								One Trip
		(Steady State)	Attained Gear slip	> = 400	RPM						

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the Above is True for Time					
			Intrusive test: (CBR1 clutch exhausted)					
			Gear Ratio	< 1.2095947				
			Gear Ratio	=				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec) Fail	
							>= 2 Count in 1st Gear or	
							Total >= 3 Fail Counts	
			Fail Case Steady State Case 2 2nd					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				

Component/		Monitor Strategy		Threshold	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value	waitunction	Conditions	Required	mum.
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time > Please = Refer to Table 17 in supporting documents				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	=				
			Gear Ratio	_				
			If the above parameters are					
			true				Fail >= 1.1 Timer (Sec)	
							Fail Count in 2nd Gear	
							or Total >= 3 fail counts	

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Fail Case Steady State Case 3 3rd					
			Max Delta Output Speed Hysteresis					
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time > Please Sec = Refer to Table 17 in supporting documents				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	< 1.2095947 =				
			Gear Ratio	> 1.0943604				
			If the above parameters are true					

Component/		Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
System	Code	Description	Criteria	Value	Walluffelon		Conditions		>=		Fail Timer (Sec) Fail Count in 3rd	mum.
									>=	OR 3	Gear Total Fail Counts	
					PRNDL State defaulted inhibit RVT	=	FALSE FALSE	Boolean Boolean				
					IMS fault pending indication output speed	= = >=	FALSE 0	Boolean RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled Hydraulic_System_Pres surized	=	TRUE TRUE	Boolean Boolean				
					A OR B  (A) Output speed  (B) Accelerator Pedal Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within	>= >= >= >= >= >= >=	67 0.5004883 8.5996094 31.999023 400 7500 5	Nm Nm Volts Volts RPM RPM Sec				
					the allowable limits for 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				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Citteria			Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present  MIL not Illuminated for DTC's:	>= -6.65625 °C  = FALSE Boolean  = FALSE Boolean  = TRUE  TCM: P0716, P0717, P0722, P0723, P182E  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,	rrequired	
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers)		Boolean		P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		One Trip
			Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status Attained Gear Slip	= pressurize d Clutch = exhaust command Initial	RPM				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the above					
			conditions are true					
			increment					
			appropriate Fail 1 Timers Below:					
			fail timer 1					
			(4-1 shifting with	> 0.2998047 Fail Time (Sec)				
			throttle)	= 0.2330047 1 all 111116 (06c)				
			fail timer 1					
			(4-1 shifting	> 0.5 Fail Time (Sec)				
			without throttle)	= 0.5 1 all 1111e (500)				
			fail timer 1					
			(4-2 shifting with	> 0.2998047 Fail Time (Sec)				
			throttle)	_				
			fail timer 1	>				
			(4-2 shifting	0.5 Fail Time (Sec)				
			without throttle)					
			fail timer 1 (4-3 shifting with	> 0.2998047 Fail Time (Sec)				
			(4-3 Shilling with throttle)	= 0.2996047 Fall Time (Sec)				
			fail timer 1					
			(4-3 shifting	> 0.5 Fail Time (Sec)				
			without throttle)	=				
			fail timer 1					
			(5-3 shifting with	> 0.2998047 Fail Time (Sec)				
			throttle)	_				
			fail timer 1	>				
			(5-3 shifting	0.5 Fail Time (Sec)				
			without throttle)					
			fail timer 1 (6-2 shifting with	> 0.2998047 Fail Time (Sec)				
			(6-2 Shirting With throttle)	= 0.2990047 Fall Tille (Sec)				
			fail timer 1					
			(6-2 shifting	> 0.5 Fail Time (Sec)				
			without throttle)	= """ (333)				

Component/	Fault			Threshold	Secondary Malfunction	Enable	Time	Mil Illum.
System	Code	Description	Criteria	Value	Mairunction	Conditions	Required	mum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter				2 Fail	
			4th gear fail counter				Counter >= 3 From 4th Gear OR Fail	
			5th gear fail counter				Counter >= 3 From 5th Gear	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tin Requ		Mil Illum.
		·	6th gear fail counter						>=	3	OR Fail Counter From 6th Gear OR	
			Total fail counter						>=	5	Total Fail Counter	
					TUT Enable temperature	>=	-6.65625	°C				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode	=	FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				

Component/	Fault	Monitor Strategy	Malfunction	Т	hreshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria		Value	Malfunction	Conditions	Required	Illum.
					Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Tap Up Switch Case 1 Stuck in the Up Position in Range 1 Enabled		Boolean				Specia I No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1	Boolean				

Component/		Monitor Strategy			reshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	'	Value	Malfunction	Conditions	Required	Illum.
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0	Boolean			F-11	
			Tap Up Switch ON	= TRUE	Boolean			Fail >= 1 Time (Sec)	
			<u>Fail</u> Tap Up Switch <u>Case 2</u> Stuck in the Up Position in Range 1 Enabled	= 1	Boolean				-
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0	Boolean				

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch	= 0 Boolean				
			Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON NOTE: Both Failcase1 and Failcase 2 Must Be Met				Fail >= 600 Time (Sec)	
					Time Since Last Range	Enable		
					Change Ignition Voltage Lo	>= 1 Time (Sec) >= 8.5996094 Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi			
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0815 Status is	Test Failed This Key ≠ On or Fault Active		

Component/		Monitor Strategy	Malfunction		reshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	\	/alue	Malfunction	Conditions	Required	Illum.
					Disable Conditions:		TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761		
							ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Case 1 Stuck in the Down Position in Range 1 Enabled	= 0	Boolean				Specia I No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 0	Boolean				
			Tap Down Switch ON	= TRUE	Boolean			>= 1 sec	

Component/	Fault	Monitor Strategy	Malfunction		reshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	١ ،	Value	Malfunction	Conditions	Required	Illum.
			Fail Tap Down Switch Case 2 Stuck in the Down Position in Range 1 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0	Boolean				
			Tap Down Switch ON NOTE: Both	= IRUE	Boolean				
			Failcase1 and Failcase 2 Must Be Met					>= 600 sec	

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction	Enab Conditi		Tin Requ		Mil Illum.
System	Code	Description	Criteria		value	Time Since Last Range Change	- 1	Enable Time	Kequ	iieu	
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.5996	023 Volts RPM			
						P0816 Status is	Test Fa This k ≠ On or F Activ	ey ault			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0815, P08 P1876, P1877, P ECM: None				
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean	Louitian Valta es La	0.5000	204 Valta	>= 60	Fail Time (Sec)	Specia I No MIL
						Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 400 <= 750	023 Volts RPM			

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					P0826 Status is	Test Failed This Key ✓ On or Fault Active		
				Disabl Conditions	e MIL not Illuminated for :: DTC's:	TCM: P1761 ECM: None		
Variable Bleed Solenoid (VBS)	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean			Fail >= 4.4 Time (Sec)	Two Trips
		-7					out Sample of 5 Time of (Sec)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.999023 Volts >= 400 RPM <= 7500 RPM		
				Disabl Conditions	e MIL not Illuminated for :: DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			Fail >= 1.5 Time (Sec)	One Trip
		-,			Ignition Voltage	>= 8.5996094 Volts	out Sample out 1.875 Time of (Sec)	

Component/	Fault Code	Monitor Strategy	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
System	Code	Description	Criteria		value	Ignition Voltage Engine Speed Engine Speed	<= >= <=	31.999023 400 7500	Volts RPM RPM		Keyui	ieu	mum.
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: N ECM: N						
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	4.4	Fail Time (Sec)	Two Trips
		VB3)								out of	5	Sample Time (Sec)	
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>=	8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: N ECM: N						
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One Trip

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions		Tir Requ		Mil Illum.
Oystem	Code	Description	omena			MIL not Illuminated for DTC's:		ne		134		
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Time (Sec)	-
						P0970 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996094 31.999023 400 7500 5	Volts Volts RPM RPM Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: Nor					
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sample Time (Sec)	

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Citteria	value	P0971 Status is not	Test Failed This Key On or Fault Active	roquilou	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.999023 Volts >= 400 RPM <= 7500 RPM		
				Conditions	MIL not Illuminated for DTC's:			
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.2 Fail >= 1.2 Time (Sec)  out Sample of 1.5 Time (Sec)	One Trip
					P0973 Status is not	Test Failed This Key On or Fault Active	(000)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= 400 RPM <= 7500 RPM		
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold /alue	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
Shift Solinoid	P0974	Shift Solenoid A	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean			Conditions			1.2	Fail Time (Sec) Sample Time (Sec)	Two Trips
					Disable Conditions:	P0974 Status is not  Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for  MIL not Illuminated for DTC's:	= >= <= >= >= TCM: No		Volts Volts RPM RPM Sec				
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	= IKUE	Boolean					>= out of	1.2	Sec Sec	One Trip
						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				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:	Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= 5 Sec  TCM: None  ECM: None		
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= IRUE Boolean			>= 3 Fail Counter  Sample > 10 Timer (Sec)	
				Disable Conditions:	Tap Up Tap Down Message Health Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for  MIL not Illuminated for DTC's:	= TRUE Boolean >= 400 RPM <= 7500 RPM >= 5 Sec  TCM: None  ECM: None		
Mode Switch	P1762	Transmission Mode Switch Signal Circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean		LOW. NOTE	>= 3 Fail Counter  Sample > 10 Timer	
					Pattern Switch Message Health Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= TRUE Boolean >= 400 RPM <= 7500 RPM >= 5 Sec	(Sec)	

Component/		Monitor Strategy	Malfunction		eshold alue	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	V	alue	Waltunction	Conditions	Required	mum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	<u>Fail</u> <u>Case 1</u> Current range	Transition = 1 (bit state 1110)	Range				One Trip
			Previous range	CeTRGR_ ≠ e_PRNDL_ Drive6					
			Previous range	CeTRGR_ ≠ e_PRNDL_ Drive4					
			Range Shift State	Range = Shift Completed	ENUM				
			Absolute Attained Gear Slip	< 50 =	rpm				
			Attained Gear	< Sixth					
			Attained Gear	=					
			Throttle Position	_					
			Throttle Position	8.0001831	pct				
			Output Speed	> = 200	rpm				
			Engine Torque	> = 50	Nm				
			Engine Torque	< 8191.75	Nm				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the above conditions are met then Increment Fail Timer				Fail >= 1 Second s	
			If Fail Timer has Expired then Increment Fail Counter				>= 5 Fail Counts	
			Fail Case 2 Output Speed	< 70 rpm				
			The following PRNDL sequence events occur in this exact order:					
			PRNDL state	= Drive 6 (bit state 0110)				
			PRNDL state = Drive 6 for					
			PRNDL state	Transition = 8 (bit state Range 0111)				
			PRNDL state	= Drive 6 (bit state 0110)				
			PRNDL state	Transition = 1 (bit state Range 1110)				
			Above sequencing occurs in Neutral Idle Mode	= 1 Sec				
			If all conditions above are met Increment delay Timer					

Component/		Monitor Strategy		Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria  If the below two conditions are met Increment Fail Timer		Manufiction	Conditions	Fail >= 3 Second s	
			delay timer Input Speed	> 400 Sec				
			If Fail Timer has Expired then Increment Fail Counter				>= 2 Fail Counts	
			Fail Case 3 Current range	Transition = 13 (bit Range state 0010)	Previous range	CeTRGR_e ≠ _PRNDL_ Drive1		
			Engine Torque	> -8192 Nm =	Previous range	CeTRGR_e ≠ _PRNDL_ Drive2		
			Engine Torque	< 8191.75 Nm =	IMS is 7 position configuration	= 1 Boolean		
			If the above conditions are met then, Increment Fail Timer		If the "IMS 7 Position config" = 1 then the "previous range" criteria above must also be satsified when the "current range" = "Transition 13"		>= 0.225 Second S	
			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			

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Inhibit bit (see definition)		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 If the above Condtions have been met, Increment Fail Counter	= 100 Nm < 8191.75 Nm =			>= 0.225 Second s	
			Fail Case 5 Throttle Position Available The following PRNDL sequence events occur in this exact order:  PRNDL State	Reverse				
			PRNDL State	Transition = 11 (bit Range state 0100)				
			PRNDL State PRNDL State	Transition				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Above sequencing occurs in Then delay timer increments	< 1 Sec				
			Delay timer	> 5 sec				
			Range Shift State	Range = Shift Complete				
			Absolute Attained Gear Slip	< 50 rpm				
			Attained Gear	< Sixth				
			Attained Gear	> First =				
			Throttle Position	> 8.0001831 pct				
			Output Speed	=				
			If the above conditions are met Increment Fail Timer				>= 20 Second	
			<u>Fail</u> <u>Case 6</u> Current range	Illegal (bit   state 0000   or 1000 or   0001)	A Open Circuit Definition (flag set false if the following conditions are met):			
			and		Current Range	Transition ≠ 11 (bit state 0100)		
			A Open Circuit (See Definition)	= FALSE Boolean	or			
					Last positive state	→ Neutral (bit state 0101)		
					or			

Component/		Monitor Strategy		Threshold	Secondary		Enable		Time		Mil
System	Code	Description	Criteria	Value	Malfunction		Conditions		Requir	ed	Illum.
					Previous transition state	<b>≠</b>	Transition 8 (bit state 0111)				
					Fail case 5 delay timer	=	0	sec			
			If the above Condtions are met then, Increment Fail timer						>= 6.25	Second s	
			Fail Case 7 Current PRNDL State	PRNDL circuit ABCP = Range							
			and Previous PRNDL state	PRNDL circuit Range							
			Input Speed	> 150 RPM							
			Reverse Trans Ratio								
			Reverse Trans Ratio								
			If the above Condtions are met then, Increment Fail timer						>= 6.25	Second s	
			P182E will report test fail when any of the above 7 fail cases are met								
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within	>= <=	8.5996094 31.999023 400 7500	Volts Volts RPM RPM			
					the allowable limits for	>=	5	Sec			

Component/		Monitor Strategy	Malfunction		reshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria		/alue	Malfunction	Conditions	Required	Illum.
						Engine Torque Signal Valid	= TRUE Boolean		
					Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P07C0, P07BF, P077C, P077D		
							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		
Internal Mode Switch (IMS)		Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠ Park or Neutral	Enumeration				One Trip
			The following events must occur Sequentially						
			Initial Engine speed		RPM			Enable >= 0.25 Time (Sec)	
			Then Engine Speed Between Following Cals						
			Engine Speed Lo Hist		RPM				
			Engine Speed Hi Hist		RPM			>= 0.069	
			Then Final Engine Speed		RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction		Enable Conditions		Tim Requi		Mil Illum.
System	Code	Description	Final Transmission Input Speed	> 100	RPM	indiffunction		Conditions		>= 1.25	Fail Time (Sec)	
						DTC has Ran this Key Cycle? Ignition Voltage Lo Ignition Voltage Hi Ignition Voltage Hyst High (enables above this value) Ignition Voltage Hyst Low (disabled below this value) Transmission Output	= >= <= >= <= #	FALSE 6 31.999023 5 2 90 Test Failed This Key On or Fault Active	Boolean V V V rpm			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P					
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)		Boolean							One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	5	Volts					>= 280	Fail Counts (25ms loop)	

Component/	Fault		Malfunction		reshold	Secondary	Enal			Tim		Mil
System	Code	Description	Criteria	\	/alue	Malfunction	Condi	tions		Requi	red	Illum.
			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 ECM run/crank active status	= IK					
					Disable Conditions:	MIL not Illuminated for DTC's:						
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	= TRUE	Boolean							One Trip
			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 ECM run/crank active	= 180					
					Diaghts	status  MIL not Illuminated for		oc boolean				
					Conditions:	DTC's:						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case: Steady State Case 1 2nd Gear				Pleas	One Trip
			Gear slip	> 400 RPM			e See Table 5 For Neutral Timer (Sec) Time Cal	
			Intrusive test: commanded 3rd gear				Od.	
				Table Based Time > Please see Enable Time = Table 2 in (Sec) Supporting Document s				
			lf Above Conditions have been met					
			Increment 2nd gear fail count				2nd Gear Fail Count	
			and CB26 Fail Count				or CB26 >= 14 Fail Count	
			Fail Case: Steady State Case 2 6th Gear					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable		Tim		Mil
System	Code	Description	Criteria	Value	Malfunction	Condition	S	Requi		Illum.
			Gear slip	> 400 RPM =				Pleas e See Table 5 For Neutr al Time	Neutral	
			Intrusive test: commanded 5th gear					Cal		
				Table Based Time > Please see Enable Time = Table 2 in (Sec) Supporting Document s						
			If Above Conditions have been met, Increment 5th gear fail counter					>= 3	5th Gear Fail Count	
			and CB26 Fail Count					>= 14	or CB26 Fail Count	
					PRNDL State defaulted	= FALSE	Boolean			
					inhibit RVT	= FALSE	Boolean			
					IMS fault pending indication	= FALSE	Boolean			
					TPS validity flag	= TRUE	Boolean			
					Hydraulic System Pressurized	= TRUE	Boolean			
					Minimum output speed for RVT A OR B	>= 0	RPM			
					(A) Output speed	>= 67	RPM			

Component/		Monitor Strategy	Malfunction		eshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	V	/alue	Malfunction		Conditions		Required	Illum.
						(B) Accelerator Pedal Common Enable	>=	0.5004883	Pct		
	1					Ignition Voltage Lo	>=	8.5996094			
	1					Ignition Voltage Hi		31.999023			
	1					Engine Speed Lo Engine Speed Hi		400 7500	RPM RPM		
	1					Engine Speed In	\_				
	1					the allowable limits for	>=	5	Sec		
						Throttle Position Signal valid	=	TRUE	Boolean		
						HSD Enabled	=	TRUE	Boolean		
	1					Transmission Fluid		-6.65625	°C		
	1					Temperature	>=	-0.03023	30		
	1					Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor	=	FALSE	Boolean		
	1					fault Default Gear Option is					
						not present	=	TRUE			
	1					MIL not Illuminated for			P0722,		
					Conditions:	DTC's:	P0723,	P182E			
							-014 B	<b>D</b>	D0400		
	1							0101, P0102, P0107, P0108			
	1							P0174, P0175			
	1							P0203, P0204			
	1							P0207, P0208 P0302, P0303			
	1							P0302, P0303			
							P0401,		,		
	-		Primary Offgoing								One
			Clutch is								Trip
		Pressure Control	exhausted (See								
Variable Bleed Solenoid (VBS)	P2715	(PC) Solenoid D Stuck On [CB26]	Table 13 in		Boolean						
Soletiola (VBS)		(Dynamic)	Supporting Documents for								
		, , ,	Exhaust Delay								
			Timers)								

Component/		Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Waltunction	Conditions	Required	Illum.
	1		Primary Oncoming					
			Clutch Pressure	= pressurize				
	1		Command Status	d				
	1		Primary Offgoing	Clutch				
			Clutch Pressure					
			Command Status	command				
	1			Initial				
			Range Shift Status					
	1		· ·	Control				
			Attained Gear Slip	< 40 RPM				
	1		Attailled Geal Glip	= 40 1(11/1)				
	1							
	I		If above coditons					
			are true, increment					
			appropriate Fail 1					
	1		Timers Below:					
	1		fail timer 1					
			(2-1 shifting with	> 0.2998047 Fail Time (Sec)				
	1		throttle)	=				
	1		fail timer 1					
	1		(2-1 shifting	> 0.5 Fail Time (Sec)				
	1		without throttle)	=				
	1		fail timer 1	_				
	1		(2-3 shifting with	0.2998047 Fail Time (Sec)				
	1		throttle)					
			fail timer 1	> 0.5 5-11 Time (0)				
	1		(2-3 shifting without throttle)	= 0.5 Fail Time (Sec)				
	1		fail timer 1					
	1		(2-4 shifting with	> 0.2998047 Fail Time (Sec)				
	1		throttle)	= 0.2000017 1 dil 711110 (000)				
			fail timer 1					
	I		(2-4 shifting	> 0.5 Fail Time (Sec)				
	I		without throttle)	= ' '				
	I		fail timer 1	_				
	I		(6-4 shifting with	0.2998047 Fail Time (Sec)				
	I		throttle)					
	I		fail timer 1	> 05 5 17 (0.1				
	I		(6-4 shifting	= 0.5 Fail Time (Sec)				
			without throttle)					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			fail timer 1 (6-5 shifting with throttle) fail timer 1 (6-5 shifting without throttle)	_			Total	
			W. W				Fail Time = (Fail 1 + Fail 2) See Enabl e	
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tin Requ		Mil Illum.
dystem	Code	Description	2nd gear fail counter						>=	3	Fail Counter From 2nd Gear	
			6th gear fail counter						>=	3	OR Fail Counter From 6th Gear OR	
			total fail counter						>=	5	Total Fail Counter	
					TUT Enable temperature	>=	-6.65625	°C				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode	=	FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st					One Trip
			Attained Gear slip	> 400 RPM				
			If the Above is True for Time					
			Intrusive test: (CBR1 clutch exhausted)					
			Gear Ratio	<u> </u>				
			Gear Ratio If the above parameters are true	=			Fail	
							>= 1.1 Timer (Sec)	

Component/		Monitor Strategy		Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	mananonon	Containons	Fail >= 5 Count in 1st	u.ii
							Gear or Total >= 5 Fail Counts	
			Fail Case: Steady State Case 2 3rd Gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time	Table Based Time > Please = Refer to Table 17 in supporting documents				

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Intrusive test: (C35R clutch exhausted) Gear Ratio					
			Gear Ratio					
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec) Fail	
							>= 3 Count in 3rd Gear or	
			Fail				Total >= 5 Fail Counts	-
			Fail Case: Steady State Case 3 4rd Gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the Above is True for Time Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are	= Refer to Table 17 in supporting documents <ul> <li>0.7003174</li> <li>0.633667</li> </ul>			Fail >= 1.1 Timer (Sec) Fail >= 3 Count in 4th Gear or Total	
			<u>Fail</u> Case: Steady State <u>Case 4</u> 5th Gear				>= 5 Fail Counts	
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable		Time		
System	Code	Description	Criteria	Value	Malfunction	Conditions	;	Require	d Illu	m.
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents						
			If the Above is True for Time Intrusive test:	= Refer to Table 17 in supporting documents						
			(C35R clutch exhausted) Gear Ratio							
			Gear Ratio	> 0.633667 =						
			If the above parameters are true							
								>= 1.1	Fail Timer (Sec) Fail	
								>= 3	Count in 5th Gear	
								>= 5	or Total Fail Counts	
					PRNDL State defaulted	= FALSE	Boolean			
					inhibit RVT	= FALSE	Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
.,					IMS fault pending indication	=	FALSE	Boolean		
					output speed	>=	0	RPM		
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pres surized	=	TRUE	Boolean		
					A OR B (A) Output speed	>=	67	Nm		
					(B) Accelerator Pedal	>=	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			

Component/		Monitor Strategy	Malfunction		eshold	Secondary	Enable	Tim		Mil
System	Code	Description	Criteria	V	/alue	Malfunction	Conditions	Requ	ired	Illum.
					Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E			
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171 P0172, P0174, P0175, P0201 P0202, P0203, P0204, P0205 P0206, P0207, P0208, P0300 P0301, P0302, P0303, P0304 P0305, P0306, P0307, P0308 P0401, P042E			
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean			>= 0.3	Fail Time (Sec)	One Trip
		,						out of 0.375	Sample Time (Sec)	
						P2770 Status is not Ignition Voltage Ignition Voltage Engine Speed Engine Speed	Active >= 8.5996094 Volts <= 31.999023 Volts			
						Engine Speed is within the allowable limits for	>= 5 Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None			
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean			>= 0.3	Fail Time (Sec)	One Trip

Component/		Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value	Waitunction	Conditions	Required	
							out of 0.375 Sample Time (Sec)	
					P2721 Status is not Ignition Voltage	Test Failed This Key On or Fault Active >= 8.5996094 Volts		
					Ignition Voltage Engine Speed Engine Speed	<= 31.999023 Volts >= 400 RPM <= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case: Steady State  1st Gear				Pleas	One Trip
			Gear slip	> 400 RPM =			e See Table 5 For Neutr al Time Cal	
			Intrusive test: commanded 2nd gear				Ou.	
				Please refer to > Table 3 in Shift Time = Supporting (Sec) Document s				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If Above Conditions have been met, Increment 1st gear fail counter				1st >= 3 Gear Fail Count	
			and C1234 fail counter				or C1234 Clutch Fail Count	
			<u>Fail</u> Case: Steady State <u>Case 2</u> 2nd Gear				Pleas a Soo Neutral	
			Gear slip Intrusive test:	> 400 RPM =			>= e See Timer Table (Sec)	
			commanded 3rd gear	Please				
				refer to > Table 3 in Shift Time = Supporting (Sec) Document s				
			If Above Conditions have been met, Increment 2nd gear fail counter				2nd Sear Fail Count	
			and C1234 fail counter				or C1234 Clutch Fail Count	
			<u>Fail</u> <u>Case 3</u> Case: Steady State 3rd Gear					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Gear slip	> 400 RPM =			Pleas e See Table 5 For Neutral Timer al Time Cal	
			Intrusive test: commanded 4th gear	Please				
				refer to > Table 3 in Shift Time = Supporting (Sec) Document s				
			If Above Conditions have been met, Increment 3rd gear fail counter				3rd Gear Fail Count or	
			and C1234 fail counter				C1234 >= 14 Clutch Fail Count	
			Fail Case: Steady State Case 4 4th Gear				Pleas e See	
			Gear slip Intrusive test:	=			Table 5 For Neutral Timer (Sec) Time Cal	
			commanded 5th gear					

Component/		Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable			Time		Mil Illum.
System	Code	Description	5th For Time  If Above  Conditions have been met, Increment 4th gear fail counter	Please refer to > Table 3 in Shift Time = Supporting (Sec) Document s	Manunction		Conditions		>=	<b>Requi</b>	4th Gear Fail Count or C1234	mum.
			and C1234 fail counter						>=	14	Clutch Fail Count	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					TPS validity flag	=	TRUE	Boolean				
					Hydraulic System Pressurized	=	TRUE	Boolean				
					Minimum output speed for RVT A OR B	>=	0	RPM				
					(A) Output speed (B) Accelerator Pedal Common Enable	>= >=	67 0.5004883					
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	8.5996094 31.999023 400 7500					
					Engine Speed is within the allowable limits for Throttle Position Signal valid	>=	5 TRUE	Sec Boolean				
					HSD Enabled	=	TRUE	Boolean				

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	= FALSE Boolean = FALSE Boolean - TRUE		
				Dis Conditi	able MIL not Illuminated for ons: DTC's:	TCM: P0716, P0717, P0722, P0723, P182E  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	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	= TRUE Boolean  Maximum				One Trip
			Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status	d Clutch = exhaust command Initial				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Attained Gear Slip	< 40 RPM				
	1		If the above					
	1		conditions are true					
			increment					
			appropriate Fail 1					
	1		Timers Below:					
			fail timer 1					
			(2-6 shifting with throttle)					
			fail timer 1					
			(2-6 shifting	> 0.5 sec				
	1		without throttle)					
			fail timer 1					
	1		(3-5 shifting with	> 0.2998047 sec				
			throttle)	=				
			fail timer 1					
	1		(3-5 shifting	_ 0.5 sec				
	1		without throttle)					
			fail timer 1					
	1		(4-5 shifting with throttle)					
	1		fail timer 1					
	1		(4-5 shifting					
	1		without throttle)					
			fail timer 1					
			(4-6 shifting with	> 0.2998047 sec				
			throttle)					
			fail timer 1					
			(4-6 shifting	_ 0.5 sec				
			without throttle)					

Component/	Fault			Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter >= 3 From 2nd Gear	
			3rd gear fail counter				Fail Counter >= 3 From 3rd	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		F	Time Required		
			4th gear fail counter						>=	3	Fail Counter From 4th	
			total fail counter						<b>&gt;</b> =	5	Total Fail Counter	
					TUT Enable temperature	>=	-6.65625	°C				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode	=	FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				

Component/		Monitor Strategy		Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
- J				Disable Conditions:	DTC's:	TCM: P0716, P0717, P0722, P0723, P182E  ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,	·	
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	<u>Fail</u> <u>Case 1</u> Case: 5th Gear			P0401, P042E		One Trip
			Max Delta Output Speed Hysteresis					
			Min Delta Output Speed Hysteresis					

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the Above is True for Time					
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	< 1.2095947 =				
			Gear Ratio If the above parameters are true					
			iide				Fail >= 1.1 Timer (Sec) Fail	
							>= 3 Count in 5th Gear OR	
			F-11				Total >= 3 Fail Counts	
			Fail Case 2 Case: 6th Gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 1 in supporting documents				

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to rpm/sec 3D Table 2 in supporting documents				
			If the Above is True for Time					
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	- -				
			Gear Ratio If the above parameters are true	1.0943604				
							Fail >= 1.1 Timer (Sec) Fail	
							>= 3 Count in 6th Gear	
							OR Total >= 3 Fail Counts	
					PRNDL State defaulted	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					inhibit RVT	=	FALSE	Boolean		
					IMS fault pending indication	=	FALSE	Boolean		
					output speed	>=	0	RPM		
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pres surized A OR B	=	TRUE	Boolean		
					(A) Output speed	>=	67	Nm		
					(B) Accelerator Pedal	>=	0.5004883	Nm		
					Ignition Voltage Lo	>=	8.5996094	Volts		
					Ignition Voltage Hi Engine Speed Lo	<=	31.999023 400	Volts RPM		
					Engine Speed Lo	>= <=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003052	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			

Component/		Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Time (Sec)  Sample out 0.375 Time of (Sec)	One Trip
					P2729 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.999023 Volt >= 400 RPM <= 7500 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/	Fault	Monitor Strategy	Malfunction	Thres		Secondary		Enable			Tim		Mil
System	Code	Description	Criteria	Val	ue	Malfunction		Conditions			Requi	red	Illum.
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE E	Boolean					out	0.3 0.375	Fail Time (Sec) Sample Time	One Trip
						P2730 Status is not  Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed is within the allowable limits for	= >= <= >= >=	Test Failed This Key On or Fault Active 8.5996094 31.999023 400 7500	Volt Volt RPM RPM Sec			(Sec)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: N ECM: N						
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 E	Boolean					>=	4.4	Fail Time (Sec) Sample	Two Trips
								· - · - · - · - · - · - · · - ·		out of	5	Time (Sec)	
						P2763 Status is not	= >=	Test Failed This Key On or Fault Active 8.5996094	Volt				
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within	<= >= <=	31.999023 400 7500	Volt RPM RPM				
						the allowable limits for	>=	5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Gystem	Gode	Безеприон	Ontona		High Side Driver Enabled MIL not Illuminated for DTC's:	= TRUE Boolean TCM: P0658, P0659		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag				>= 4.4 MPH  out of 5 MPH	One Trip
					P2764 Status is not  Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for High Side Driver Enabled	>= 400 RPM <= 7500 RPM >= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0659 ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction	Enable Conditions		Tim Requi		Mil Illum.
Communication		Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE	Boolean			>=	62	Fail counts (≈ 10 second s)	One Trip
			Delay timer	> 0.1125 =	sec			Out of	70	Sample Counts (≈ 11 second s)	
						Stabilization delay Ignition Voltage Ignition Voltage Power Mode	<= 31.999023 Volt				
					Disable Conditions:						
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM	= TRUE	Boolean			>=	12	sec	One Trip
						Stabilization delay Ignition Voltage Ignition Voltage Power Mode	<= 31.999023 Volt				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None				

# **Supporting Tables - 2D**

#### Table 1

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

#### Table 2

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

#### Table 3

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

#### Table 4

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

#### Table 5

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

#### Table 6

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

#### Table 7

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

# **Supporting Tables - 2D**

#### 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	٥С
Curve	3.03	1.86	1.00	0.75	0.58	Sec

#### **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	0.84	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

Axis	-40.00	-20.00	0.00	30.00	110.00 °C	)
Curve	2.97	0.82	0.47	0.20	0.13 S	ес

# **Supporting Tables - 2D**

#### **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

#### <u>Table 16</u>

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

#### Table 17

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

#### Table 18

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

#### **Table 19**

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

#### Table 20

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

#### **Table 21**

Axis	-40.00	-20.00	40.00	°C
Curve	5.00	3.00	1.00	Sec

# **Supporting Tables - 3D**

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

3D_Table 2		
	X-Axis Calibration	%
	Y-Axis Calibration	°C
	Table Calibration	RPM/Sec

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