Component/	Fault	Monitor Strategy	Malfunction	Thr	eshold	Secondary	Enable	Ti	me	Mil
System	Code	Description	Criteria		alue	Secondary Malfunction	Conditions		uired	Illum.
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE	Boolean			>= 5	Fail Counts	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0601 ECM: None			
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	= TRUE	Boolean			Runs Continously	,	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0603 ECM: None			
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	Boolean			>= 5	Fail Counts 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 Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown	= TRUE	Boolean			Runs Continously	1	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None			

Component/	Fault	Monitor Strategy	Malfunction		Thresh	old	Secondary Malfunction		Enable		I	Ti	me	Mil
System	Code	Description	Criteria		Value	9	Malfunction		Conditions			Requ	uired	Illum.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High		>= 142.	.1016 °	С					>=	5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature	>= 5	50 °	C					>=	2	Fail Time (Sec)	1
			Ignition Voltage	>= 1	18 V	/olts								
			Note: either fail case can set the DTC											
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.99902	Volts				
							Substrate Temp Lo Substrate Temp Hi Substrate Temp Between Temp Range for Time	>= <= >=	0 170 0.25	°C °C Sec				
							P0634 Status is	≠	Test Failed This Key On or Fault Active					
						Disable Conditions:		TCM: None ECM: None						
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag		RUE B	Boolean					>=	4	Fail Counts	One Trip
											out of	6	Sample Counts	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Secondary Malfunction	Conditions	Required	Illum.
					P0658 Status is not	Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		
				Disabl Conditions		TCM: None ECM: None		
						Leivi. None		'
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	Refer to Table 19 in °C supporting documents				Two Trips
			If TCM substrate temp to power up temp Δ	Refer to Table  20 in  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 of (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
							Out 875 Sample Counts of (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		1

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		Time	Mil Illum.
System	Code	Description	Criteria	Value	Mairunction		Conditions		Required	IIIum.
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.99902	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the		5	Sec		
					allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake					
					torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	<b>≠</b>	Park			
					Transmission Range	<b>≠</b>	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE					
					if above conditions are met for:	>=	7	sec		
					Below describes the brake					
					torque exit criteria					
					Brake torque entry criteria	=	Not Met			
							Clutch			
					Clutch hydraulic pressure	≠	Hydraulic			
					Oldteri ffydradiie pressure	,	Air Purge			
							Event			
					Clutch used to exit brake torque		CeTFTD_e			
					active	=	_C3_RatlE			
							nbl			
					The above clutch pressure is					
					greater than this value for one	>=	600	kpa		
					loop					
					Set Brake Torque Active					
					FALSE if above conditions are	>=	20	Sec		
					met for:					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					P0667 Status is	Test Failed This Key ≠ On or Fault Active		
				Disabl Conditions	:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	= CeTFTI_e_Vol tageDirectProp				Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and					
			Temp Either condition above will satisfy the fail conditions				>= 60 Fail Timer (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400 RPM		
					Engine Speed is within the allowable limits for			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0668 Status is	Test Failed This Key Øn or Fault Active		
				Disabl Conditions		TCM: None ECM: None		
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used  If TCM Substrate Temperature Sensor = Direct Proportional and Temp  If TCM Substrate Temperature Sensor = Indirect Proportional and Temp  Either condition above will satisfy the fail conditions	tageDirectProp >= 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 met Estimated Motor Power Loss	<= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec Test Failed This Key On or Fault Active	>= 60 Fail Timer (Sec)	Two Trips

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ	Refer to Table  20 in °C  supporting documents				Two Trips
			If transmission oil temp to power up temp Δ					
			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 of (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until				>= 700 Pass Counts (100ms loop)	
							Out 875 Sample Counts of (100ms loop)	
					Engine Torque Signal Valid	= TRUE Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		Time	Mil Illum.
System	Code	Description	Criteria	Value	Mairunction		Conditions		Required	IIIum.
					Accelerator Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.99902	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the		5	Sec		
					allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake					
					torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range	<b>≠</b>	Park			
					Transmission Range	<b>≠</b>	Neutral			
					PTO	=	Not Active			
					Set Brake Torque Active TRUE					
					if above conditions are met for:	>=	7	sec		
					Below describes the brake					
					torque exit criteria					
					Brake torque entry criteria	=	Not Met			
							Clutch			
					Clutch hydraulic pressure	≠	Hydraulic			
					Oldteri ffydradiie pressure	,	Air Purge			
							Event			
					Clutch used to exit brake torque		CeTFTD_e			
					active	=	_C3_RatlE			
							nbl			
					The above clutch pressure is					
					greater than this value for one	>=	600	kpa		
					loop					
					Set Brake Torque Active					
					FALSE if above conditions are	>=	20	Sec		
					met for:					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Oysteni	Code	Description	S. C. L.		P06AC Status is	Test Failed This Key On or Fault Active	, roquito	
				Disable Conditions:		TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		_
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 °C			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.59961 Volls <= 31.99902 Volls >= 400 RPM <= 7500 RPM >= 5 Sec		
					P06AD Status is	Test Failed This Key ≠ On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= 0 kW		

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Estimated Motor Power Loss greater than limit for time	>= 0 Sec	Required	
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault	= FALSE		
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 °C			>= 60 Fail Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		
					P06AE Status is	Test Failed		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	Refer to Table 19 in °C supporting documents				Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Ti Req	me	Mil Illum.
System	Code	Description	If transmission oil temp to power up temp Δ	Refer to Table			Conditions			Keq	un eu	ii/diii.
			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 of	3750	Sample Counts (100ms loop)	
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until						>=	700	Pass Counts (100ms loop)	
									Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	=	TRUE	Boolean				l
					Accelerator Position Signal Valid	=	TRUE	Boolean				
					lgnition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	8.59961 31.99902 400 7500	Volts Volts RPM RPM				
					Engine Speed is within the allowable limits for Brake torque active	>=	5 FALSE	Sec				
					Below describes the brake torque entry criteria Engine Torque	>=	90	N*m				
					Throttle Transmission Input Speed Vehicle Speed	>= <= <=	30.0003 200 8	Pct RPM Kph				
					Transmission Range Transmission Range PTO	≠ ≠ =	Park Neutral Not Active	.4				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Chiena	Value	Set Brake Torque Active TRUE if above conditions are met for:		7	sec	required	
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	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		600	kpa		
					loop Set Brake Torque Active					
					FALSE if above conditions are met for:	>=	20	Sec		
					P0711 Status is	≠	Test Failed This Key On or Fault Active			

Component/	Fault	Monitor Strategy	Malfunction	Threshold		Secondary Malfunction		Enable				me	Mil
System	Code	Description	Criteria	Value				Conditions			Requ	uired	Illum.
						MIL not Illuminated for DTC's:							
				Co	onditions:			6, P0712, P0713					
								3, P0962, P0963					
								), P0971, P215C	, P2720,				
							P2721, P272	9, P2730					
							ECM D0101	D0100 D0100	D010/				
								, P0102, P0103, 3, P0171, P0172					
								1, P0202, P0203					
								6, P0207, P0208					
								2, P0303, P0304					
								7, P0308, P0401					
Transmission Fluid Temperature		Transmission fluid temperature		CeTFTI_e_Vol									Two
Sensor (TFT)	P0712	thermistor failed at a low voltage	Type of Sensor Used	= tageDirectProp									Trips
Sensor (11.1)		thermistor falled at a low voltage		tagebirecti Top									
			If Transmission Fluid Temperature										
			Sensor = Direct Proportional and	<= -74 °C									
			Temp										
			If Transmission Fluid Temperature	74 00									
			Sensor = Indirect Proportional and Temp	>= -74 °C									
			Either condition above will satisfy										
			the fail conditions							>=	60	Fail Time (Sec)	
			the fall conditions			Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.99902	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the		5	Sec				
						allowable limits for	>=	3	Sec				
								Test Failed					
						P0712 Status is	<b>≠</b>	This Key					
						. 0. 12 Status is	, , , , , , , , , , , , , , , , , , ,	On or Fault					
								Active					
						For Hubrido, bolous on aller-							
						For Hybrids, below conditions							
						must also be met							

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Time Required		Mil Illum.
System	Code	Description	Criteria	value				134/		Required		mum.
					Estimated Motor Power Loss	>=	0	kW				
					Estimated Motor Power Loss greater than limit for time	>=	0	Sec				
					Lost Communication with Hybrid Processor Control Module	=	FALSE					
					Estimated Motor Power Loss Fault	=	FALSE					
				Disable Conditions	MIL not Illuminated for DTC's:		P0717, P0722, I	P0723				
						ECM: None						
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	= CeTFTI_e_Vol tageDirectProp								Two Trips
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp									
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp									
			Either condition above will satisfy the fail conditions						>=	60 Fail	Time (Sec)	
			the fair conditions		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.59961 31.99902 400	Volts Volts RPM				
					Engine Speed Hi Engine Speed is within the	<=	7500	RPM				
					allowable limits for	>=	5	Sec				
					P0713 Status is	<b>≠</b>	Test Failed This Key On or Fault Active					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresho Value		Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
						Disable Conditions:		P0723	P0716, P0717,	P0722,				
Transmission Input Speed	D071/	land Care d Course Deferman	Transmission Input Speed Sensor		900 R	PM		ECM: None				0.0	F-11 Ti (C)	One Trip
Sensor (TISS)	P0/16	Input Speed Sensor Performance	Drops	>=	900 K	PIVI					>=	8.0	Fail Time (Sec)	
							Engine Torque is	>=	0	N*m				
							Engine Torque is	<=	8191.88	N*m				
							Engine Speed	>=	400	RPM				
							Engine Speed Engine Speed is within the	<=	7500	RPM				
							allowable limits for	>=	5	Sec				
							Vehicle Speed is	>=	10	Kph				
							Throttle Position is	>=	0	Pct				
							Transmission Input Speed is	>=	0	RPM				
							The previous requirement has		0	Sec				
							been satisfied for	>=	0	Sec				
							The change (loop to loop) in							
							transmission input speed is	<	8191.88	RPM/Loop				
							The previous requirement has			_				
							been satisfied for	>=	0	Sec				
							Throttle Position Signal Valid	=	TRUE	Boolean				
							Engine Torque Signal Valid	=	TRUE	Boolean				
							Ignition Voltage	>=	8.59961	Volts				
							Ignition Voltage	<=	31.99902	Volts				

Component/	Fault	Monitor Strategy	Malfunction			shold	Secondary Malfunction		Enable Conditions			Tir Regu		Mil Illum.
System	Code	Description	Criteria		va	ilue	P0716 Status is not	=	Test Failed This Key On or Fault Active			кеді	iired	mum.
						Dis Conditi			P0102, P0103,					
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	5 <	33	RPM					>=	4.5	Fail Time (Sec)	One Trip
			Fail Case 2 When P0722 DTC Status equal to Test Failed and Transmission Inpul Speed is		653.13	RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean				
							Engine Torque is Engine Torque is Vehicle Speed Engine Torque Signal Valid Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>=	80 8191.88 10 TRUE 8.59961 31.99902 400 7500 5 Test Failed This Key On or Fault Active	N°m N°m Kph Boolean Volts Volts RPM RPM Sec				
							. 5 5							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Ti Req	me uired	Mil Illum.
		·		Disable Conditions	MIL not Illuminated for DTC's:		, P0723 , P0102, P0103					
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 35 RPM					>=	4.5	Fail Time (Sec)	One Trip
					P0722 Status is not	=	Test Failed This Key On or Fault Active					
					Transmission Input Speed Check	=	TRUE	Boolean				
					Engine Torque Check Throttle Position		TRUE 8.0002	Boolean Pct				
					Transmission Fluid Temperature	>=	-40	°C				
					Disable this DTC if the PTO is active	=	1	Boolean				
					Engine Torque Signal Valid		TRUE	Boolean				
					Throttle Position Signal Valid		TRUE	Boolean				
					Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is	<= >=	8.59961 31.99902 400 7500	Volts Volts RPM RPM				
					Engine Speed is within the allowable limits for	\	5	Sec				
					Enable_Flags Defined Below							
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE							
					Engine Torque Condition 1							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Range Shift Status	≠	Range shift completed	ENUM	·	
					OR					
					Transmission Range is	=	Park or Neutral			
					Engine Torque is Engine Torque is	>= <=	8191.75 8191.75	N*m N*m		
					Engine Torque Condition 2					
					Engine Torque is Engine Torque is	>= <=	50 8191.75	N*m N*m		
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE					
					TIS Check Condition 1					
					Transmission Input Speed is	>=	653.13	RPM		
					Transmission Input Speed is	<=	5350	RPM		
					TIS Check Condition 2 Engine Speed without the brake applied is	>=	3200	RPM		
					Engine Speed with the brake applied is	>=	3200	RPM		
					Engine Speed is	<=	8191.88	RPM		
					Controller uses a single power supply for the speed sensors	=	1	Boolean		
					Powertrain Brake Pedal is Valid	=	TRUE	Boolean		

Component/	Fault	Monitor Strategy	Malfunction			eshold		Secondary Malfunction		Enable			Ti	me	Mil
System	Code	Description	Criteria		V	alue		Malfunction		Conditions		<u> </u>	Req	uired	Illum.
						(	Disable Conditions:			P0102, P0103,					
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed		105	RPM						>=	0	Enable Time (Sec)	One Trip
			Output Speed Delta	<=	8192	RPM						>=	0	Enable Time (Sec)	
			Output Speed Drop	>	650	RPM						>=	1.5	Output Speed Drop Recovery Fail Time (Sec)	
			AND												
			Transmission Range is	=	Driven range (R,D)	9									
								Range_Disable OR	=	FALSE	See Below				
								Neutral_Range_Enable And	=	TRUE	See Below				
								Neutral_Speed_Enable are TRUE concurrently	=	TRUE	See Below				
								Transmission_Range_Enable	=	TRUE	See Below				
								Transmission_Input_Speed_En able	=	TRUE	See Below				
								No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds				
								P0723 Status is not	=	Test Failed This Key On or Fault Active					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		Time	Mil
System	Code	Description	Criteria	Value			Conditions		Required	Illum.
					Disable this DTC if the PTO is	=	1	Boolean		
					active		•			
					Ignition Voltage is	>=	8.59961	Volts		
					Ignition Voltage is	<=	31.99902	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is	<=	7500	RPM		
					Engine Speed is within the	>=	5	Sec		
					allowable limits for	/-		300		
					Enable_Flags Defined Below					
					Enable_i lags belined below					
										4
					Transmission_Input_Speed_En					
					able is TRUE when either TIS					
					Condition 1 or TIS Condition 2 is					
					TRUE:					
					TIS Condition 1 is TRUE when			Enable Time		
					both of the following conditions	>=	0	(Sec)		
					are satsified for					
					Input Speed Delta	<=	4095.88	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	=	TRUE	Boolean		
					for all speed sensors			Booloan		
										4
	1				Neutral_Range_Enable is TRUE					
					when any of the next 3					
					conditions are TRUE					
	1				Transmission Range is	=	Neutral	ENUM		
							Reverse/N			
					Transmission Range is	=	eutral	ENUM		
	1				a.ia.iiiasioii kange is		Transitonal			
							an ortona			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria	value	Mananotion	i		Kequireu	1
					Transmission Range is	Neutral/Dri = ve	ENUM		
						Transitional			
					And when a drop occurs				
					Loop to Loop Drop of	> 650	RPM		
					Transmission Output Speed is	, 000	TO IVI		
					Range_Disable is TRUE when				-
					any of the next three conditions				
					are TRUE		ENUM		
					Transmission Range is		ENUM		
					Transmission Range is	Park/Rever = se	ENUM		
						Transitonal			
					Input Clutch is not	ON (Fully	ENUM		
						= Applied)	LIVOINI		
					Neutral_Speed_Enable is TRUE				-
					when All of the next three	> 1.5	Seconds		
					conditions are satsified for				
					Transmission Output Speed	> 130	RPM		
					The loop to loop change of the Transmission Output Speed is		RPM		
					Halisilission Output Speed is				
					The loop to loop change of the		RPM		
					Transmission Output Speed is				
					Transmission_Range_Enable is				-
					TRUE when one of the next six				
					conditions is TRUE Transmission Range is	= Neutral	ENUM		
	1		l .	1	Transmission Range is	- iveuliai	LINUIVI		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable onditions			Tii Requ		Mil Illum.
		·				Transmission Range is	=	Reverse/N eutral Fransitional	ENUM				
						Transmission Range is	=	Neutral/Dri ve Fransitional	ENUM				
						Time since a driven range (R,D) has been selected	>= 1	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				
				C	Disable Conditions:		TCM: P0973, P09 ECM: P0101, P01 P0122, P0123						
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met	·						>=	2	Enable Time (Sec)	Two Trips
			(A) TCC Slip Error @ TCC On Mode	Refer to Table  1 in RPM Supporting Documents						>=	5	Fail Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold /alue	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
Oystein	Code	Description						001141110110					
			(B) TCC Slip @ Lock On Mode	>= 130	RPM					>=	5	Fail Time (Sec)	
			If Above Conditions Have been Met,									TCC Stuck Off	
			and Fail Timer Expired, Increment							>=	2	Fail Counter	
			Fail Counter									raii Countei	] '
						TCC Mode	=	On or Lock					
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.99902	Volts				'
						Engine Speed	>=	400	RPM				'
						Engine Speed	<=	7500	RPM				'
						Engine Speed is within the							'
						allowable limits for	>=	5	Sec				'
						Engine Torque Lo	>=	50	N*m				'
						Engine Torque Hi	<=	8191.88	N*m				'
						Throttle Position Lo	>=	8.0002	Pct				'
						Throttle Position Hi	<=	99.9985	Pct				'
						2nd Gear Ratio Lo	>=	2.19482	Ratio				'
						2nd Gear Ratio High	<=	2.52515	Ratio				'
						3rd Gear Ratio Lo	>=	1.42285	Ratio				'
						3rd Gear Ratio High	<=	1.63708	Ratio				'
						4th Gear Ratio Lo	>=	1.06946	Ratio				'
						4th Gear Ratio High	<=	1.23047	Ratio				'
						5th Gear Ratio Lo	>=	0.79053	Ratio				'
						5th Gear Ratio Hi	<=	0.90955	Ratio				'
						6th Gear Ratio Lo	>=	0.62305	Ratio				'
						6th Gear Ratio High	<=	0.71692	Ratio				'
						Transmission Fluid Temperature Lo	>=	-6.6563	°C				
						Transmission Fluid Temperature	<=	130	°C				
						PTO Not Active	=	TRUE	Boolean				
						Engine Torque Signal Valid	=	TRUE	Boolean				
						Throttle Position Signal Valid	=	TRUE	Boolean				
						Dynamic Mode	=	FALSE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions				ime quired	Mil Illum.
				Ī			P0741 Status is	≠	Test Failed This Key On or Fault Active					
						D Cond		P0742, P276 ECM: P010	53, P2764 1, P0102, P0103	3, P0106,				
								P0175, P020 P0205, P020 P0301, P030	08, P0171, P017 01, P0202, P020 06, P0207, P020 02, P0303, P030 07, P0308, P040	3, P0204, 8, P0300, 4, P0305,				
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-50	RPM								One Trip
			TCC Slip Speed	<=	13	RPM								
											>=	1.5	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter								>=	6	Fail Counter	
							TCC Mode	=	Off					1
							Enable test if Cmnd Gear = 1stFW and value true	=	1	Boolean				
							Enable test if Cmnd Gear = 2nd							
							and value true		0	Boolean				
							Engine Speed Hi		6000	RPM				
							Engine Speed Lo		500	RPM				
							Vehicle Speed HI	<=	511	KPH				
							Vehicle Speed Lo Engine Torque Hi	>= <=	1 8191.88	KPH Nm				
							Engine Torque Lo		80	Nm				
							Current Range		Neutral	Range				
							Current Range	<b>≠</b>	Reverse	Range				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
Cystem		Description	3.1.0.1.2		Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	18	°C		
					Throttle Position Hyst High AND	>=	5.0003	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while	>=	2.0004	Pct		
					Throttle Position Disable for Throttle Position	>=	75	Pct		
					Disable if PTO active and value true	=	1	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 value true	=	1	Boolean		
					Disable if in D5 and value true	=	1	Boolean		
					Disable if in MUMD and value true	=	1	Boolean		
					Disable if in TUTD and value true	=	1	Boolean		
					4 Wheel Drive Low Active Disable if Air Purge active and	=	FALSE 0	Boolean Boolean		
					value false RVT Diagnostic Active	=	FALSE	Boolean		
					Ignition Voltage Ignition Voltage	>= <=	8.59961 31.99902	V V		
					Vehicle Speed Engine Speed	<= >=	511 400	KPH RPM		
					Engine Speed Engine Speed is within the	<=	7500	RPM		
					allowable limits for	>=	5	Sec		

Component/	Fault	Monitor Strategy	Malfunction Criteria			eshold alue	П	Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
System	Code	Description	Criteria		V	aiue		Engine Torque Signal Valid	=	TRUE	Boolean		Keq	uirea	illulli.
								Throttle Position Signal Valid	=	TRUE	Boolean				
								Throttle Fosition Signal Valla	_	TRUL	Doolean				
										Test Failed					
								P0742 Status is	<b>≠</b>	This Key					
										On or Fault Active					
										Active					
						Disa	ahla	MIL not Illuminated for DTC's:	TCM: D071	6 D0717 D0722	D0723				
						Conditio		wile not indiminated for DTC 3.		763, P2764	10723,				
									FOLA DOA	04 00400 00400	D040/				
										01, P0102, P0103 108, P0171, P017					
									P0175, P02	201, P0202, P020	3, P0204,				
										206, P0207, P020					
										302, P0303, P030 307, P0308, P040					
										,,					
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>=	400	RPM									Two Trips
			Commanded Gear	=	1st Lock	rpm									Прз
			Gear Ratio		1.20959	•						>=	0.2	Fail Tmr	
			Gear Ratio	>=	1.09436							=	5	Fail Counts	
			If the above parameters are true												
												<b>≠</b>	0	Neutral Timer (Sec)	
												>=	0.3	Fail Timer (Sec)	
							-	Ignition Voltage Lo	>=	8.59961	Volts	>=	8	Counts	
								Ignition Voltage Hi	<=	31.99902	Volts				
								Engine Speed Lo	>=	400	RPM				
								Engine Speed Hi Engine Speed is within the	<=	7500	RPM				
								allowable limits for	>=	5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Citteria	l '		Transmission Fluid Temperature	>=	-6.6563	°C	Required	
						Range Shift State	=	Range Shift Completed	ENUM		
						TPS OR	>=	0.5005	%		
						Output Speed		67	RPM		
						Throttle Position Signal Valid from ECM		TRUE	Boolean		
						Engine Torque Signal Valid from ECM, High side driver is enabled		TRUE	Boolean		
						High-Side Driver is Enabled	=	TRUE	Boolean		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault Default Gear Option is not present		FALSE TRUE	Boolean		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716 P182E	o, P0717, P0722,	P0723,		
							P0107, P010 P0175, P020 P0205, P020 P0301, P030	1, P0102, P0103, 08, P0171, P0172 01, P0202, P0203 06, P0207, P0208 02, P0303, P0304 07, P0308, P0401	, P0174, , P0204, , P0300, , P0305,		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 400	RPM						One Trip
			Commanded Gear	= 3rd	Gear						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cystem		2000 <b>p</b>	Commanded Gear has Achieved 1st					
			If the above parameters are true  Command 4th Gear once Output	Joo DDN			Please Refer to Table 16 in Neutral Timer >= Supporting (Sec) Documents	
			Shaft Speed If Gear Ratio And Gear Ratio	>= 3.82568			>= 1.5 Fail Timer (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM	>= 5 Counts	-
					Engine Speed is within the allowable limits for High-Side Driver is Enabled	>= 5 Sec = TRUE Boolean		
					Throttle Position Signal Valid from ECM Output Speed	= TRUE Boolean >= 67 RPM		
					OR TPS	>= 0.5005 %		
					Range Shift State	= Range Shift Completed ENUM		
					Transmission Fluid Temperature	>= -6.6563 °C		
					Input Speed Sensor fault Output Speed Sensor fault	= FALSE Boolean = FALSE Boolean		

Component/	Fault	Monitor Strategy	Malfunction		Threshold	1	Secondary		Enable		I	Time		Mil
System	Code	Description	Criteria		Value		Secondary Malfunction		Conditions			Required	l	Illum.
						8: 11	Default Gear Option is not present	=	TRUE	20700				
						Conditions:	MIL not Illuminated for DTC's:	P182E	, P0/17, P0/22, I	20723,				
								P0107, P010 P0175, P020 P0205, P020 P0301, P030	, P0102, P0103, I 8, P0171, P0172 1, P0202, P0203 6, P0207, P0208 2, P0303, P0304 7, P0308, P0401	, P0174, , P0204, , P0300, , P0305,				
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear	= 1st	Locked									One Trip
			Gear Box Slip		400 RPI	М					>= Please to Table Suppo Docum	e 5 in M rting	Neutral Timer (Sec)	
			Intrusive Shift to 2nd Commanded Gear Previous Gear Ratio Gear Ratio	= 1st <= 2.4	Locked Gea .48218 .24585	ar								
			If the above parameters are true											
											>= 1 >= 3		sec counts	
							Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= <= >= <=	8.59961 31.99902 400 7500	Volts Volts RPM RPM				
							Engine Speed in Engine Speed in Engine Speed is within the allowable limits for	>=	5	Sec				
							Output Speed OR	>=	67	RPM				
							TPS	>=	0.5005	%				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions		Time Requir		Mil Illum.
						Range Shift State	=	Range Shift Completed	ENUM			
						Transmission Fluid Temperature	>=	-6.6563	°C			
						High-Side Driver is Enabled Throttle Position Signal Valid	=	TRUE	Boolean			
						from ECM	=	TRUE	Boolean			
						Input Speed Sensor fault Output Speed Sensor fault	=	FALSE FALSE	Boolean Boolean			
						Default Gear Option is not present	=	TRUE	Doolean			
					Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0716, P182E	P0717, P0722,	P0723,			
							P0107, P0108 P0175, P0201 P0205, P0206 P0301, P0302	P0102, P0103, 3, P0171, P0172 1, P0202, P0203 5, P0207, P0208 2, P0303, P0304 7, P0308, P0401	, P0174, , P0204, , P0300, , P0305,			
Variable Bleed Solenoid (VBS)	P0776		Fail Case 1 Case: Steady State 3rd Gear									One Trip
,		Stuck Off [C35R]	Commanded Gear Gearbox Slip	= 3rd	Gear RPM							
										Please Refer to Table 16 in >= Supporting Documents	Neutral Timer (Sec)	
			Command 4th Gear once Outpu Shaft Speec If Gear Ratic And Gear Ratic	>= 1.09436	RPM							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
											>=	3	Fail Timer (Sec)	
			It the above condiations are true, Increment 3rd gear fail counter								>=	3	3rd Gear Fail Counts	
			and C35R Fail counter								>=	14	or 3-5R Clutch Fail Counts	
			Fail Case 2 Case: Steady State 5th Gear Commanded Gear	=	5th	Gear								
			Gearbox Slip	>=	400	Rpm					>= to	Please Refer to Table 5 in Supporting Documents		
			Intrusive Test: Command 6th Gear											
			If attained Gear=6th gear Time	>=	Please refer Table 3 in supporting documents	Shift Time (Sec)								
			It the above condiations are true, Increment 5th gear fail counter								>=	3	5th Gear Fail Counts	
			and C35R Fail counter								>=	14	or 3-5R Clutch Fail Counts	
							PRNDL State defaulted inhibit RVT	= =	FALSE FALSE	Boolean Boolean				
							IMS fault pending indication TPS validity flag	=	FALSE TRUE	Boolean Boolean				
							Hydraulic System Pressurized	=	TRUE	Boolean				
							Minimum output speed for RVT	>=	67	RPM				
							A OR B (A) Output speed enable	>=	67	RPM				
							(B) Accelerator Pedal enable	>=	0.5005	Pct				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value		Conditions	Required	Illum.
					Common Enable Criteria	0.500/1		
					Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo			
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for			
					Throttle Position Signal valid			
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature	>= -6.6563 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not	= TRUE		
					present	- INGE		
				Diaghla	MIL mot Illuminated for DTCla	TCM: P0716, P0717, P0722, P0723,		
				Conditions:	WILL NOT IIIUMINATED FOR DTC S:	P182E		
				Conditions.		P102E		
						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		Fail Case 1 Case: Steady State 1st					One Trip
		Stuck On [C35R] (Steady State)						
			Attained Gear slip	1.1.1				
				Table Based				
				Time Please Refer to Table Enable Time				
			If the Above is True for Time	>= 4 in (Sec)				
				supporting				
				documents				
			Intrusive test:	Godinono				
			(CBR1 clutch exhausted)					
			Gear Ratio	<= 1.60864				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
-,			Gear Ratio						
			If the above parameters are true	9					
							>= 1	.1 Fail Timer (Sec)	
							>=	2 Fail Count in 1st Gear	
								or T-4-1 F-11	
							>=	3 Total Fail Counts	
			Fail Case 2 Case: Steady State 2nd gea	r				Counts	
				Table Based					
				value Please					
			Max Delta Output Speed Hysteresi	Table I in .					
				supporting					
				documents					
				Table Based					
				value Please Refer to 3D					
			Min Delta Output Speed Hysteresi	Table 2 in					
				supporting					
				documents					
				Table Based					
				Time Please					
			If the Above is True for Time	e >= Refer to Table Sec					
				supporting					
				documents					
			Intrusive tes	:					
			(CB26 clutch exhausted						
			Gear Ration						
			Gear Ration	o >= 1.45544					
			If the above parameters are true	9					
							>= 1	.1 Fail Timer (Sec)	
								, Fail Count in	
							>=	3 2nd Gear	

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tir Requ	ne	Mil Illum.
System	Code	Description	Criteria	value	Walluffction	Conditions		Requ	or	"""
							>=	3	Total Fail Counts	
			Fail Case 3 Case: Steady State 4th gear							1
				Table Based						
				value Please						
			Max Delta Output Speed Hysteresis	>= Refer to 3D rpm/sec						
				supporting						
				documents						
				Table Based						
				value Please Refer to 3D						
			Min Delta Output Speed Hysteresis	>= Table 2 in rpm/sec						
				supporting						
				documents						
				Table Based						
				Time Please Refer to Table Sec						
			If the Above is True for Time	>= 17 in Sec						
				supporting						
				documents						
			Intrusive test: (C1234 clutch exhausted)							
			Gear Ratio	<= 0.89465						
			Gear Ratio							
			If the above parameters are true							
			and above parameters are true							
							>=	1.1	Fail Timer (Sec)	
								3	Fail Count in 4th	1
							>=	3	Gear	
									or	
							>=	3	Total Fail Counts	
			Fail Case 4 Case: Steady State 6th gear						Couries	-

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			T	ime Juired	Mil Illum.
Oystoni		Везоприон	<u> </u>	Table Based					İ			İ
				value Please								
			Max Delta Output Speed Hysteresis	>= Refer to 3D rpm/sec								
				>= Table 1 in rpm/sec supporting								
				documents								
				Table Based								
				value Please								
			Min Delta Output Speed Hysteresis	>= Refer to 3D rpm/sec								
				supporting								
				documents								
				Table Based								
				Time Please								
			If the Above is True for Time	>= Refer to Table Sec								
				supporting								
				documents								
			Intrusive test:									
			(CB26 clutch exhausted)									
			Gear Ratio	<= 0.89465					>=	1.1	Fail Timer (Sec)	
			Gear Ratio	>= 0.80945					>=	3	counts	
			If the above parameters are true									
									>=	1.1	Fail Timer (Sec)	
											Fail Count in 6th	
									>=	3	Gear	
											or	
									>=	3	Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean			Counts	1
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	>=	0	RPM				
					TPS validity flag HSD Enabled	=	TRUE TRUE	Boolean Boolean				
			l .		LIAN ELIANIEO	=	IKUE	DUUIEdil				[

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
- Joseph	0000	2000p				Hydraulic_System_Pressurized	=	TRUE	Boolean	.,	
							_	INOL	Doolcan		
						A OR B (A) Output speed enable		67	Nm		
							>=				
						(B) Accelerator Pedal enable	>=	0.5005	Nm		
						Ignition Voltage Lo	>=	8.59961	Volts		
						Ignition Voltage Hi	<=	31.99902	Volts		
						Engine Speed Lo	>=	400	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the	>=	5	Sec		
						allowable limits for if Attained Gear=1st FW					
						Accelerator Pedal enable	>=	5.0003	Pct		
						if Attained Gear=1st FW Engine					
						Torque Enable	>=	5	Nm		
						if Attained Gear=1st FW Engine		0101.00	Mari		
						Torque Enable	<=	8191.88	Nm		
						Transmission Fluid Temperature	>=	-6.6563	°C		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
					Disable	MIL not Illuminated for DTC's:	TCM: D0714	S D0717 D0722	D0723		
					Conditions:	INILE HOL III MITIII MICCO TOF DTC 3.	P182E	5,10717,10722,	10123,		
							ECM: P0101	I, P0102, P0103,	P0106,		
								08, P0171, P0172			
								01, P0202, P0203			
								06, P0207, P0208			
								02, P0303, P0304			
							P0306, P030	07, P0308, P0401	I, PU42E		
			Primary Offgoing Clutch is								One Trip
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B	exhausted (See Table 12 in	= TRUE	Boolean						'
variable bleed Solefiold (VBS)	PU///	StuckOn [C35R] (Dymanic)	Supporting Documents for Exhaust	= IRUE	DUUIEdII						
			Delay Timers)								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Oncoming Clutch Pressure Command Status	= Maximun pressurize					
			Primary Offgoing Clutch Pressure Command Status	= Clutch exha					
			Range Shift Status Attained Gear Slip	Control	ch RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:		KI III				
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (3-4 shifting with Throttle) fail timer 1	>= 0.2998	Fail Time (Sec)				
			(3-4shifting with Closed Throttle) fail timer 1	>= 0.5	Fail Time (Sec)				
			(3-5 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			(3-5 shifting with Closed Throttle) fail timer 1	>= 0.5	Fail Time (Sec)				
			(5-3 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			(5-3 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			(5-4 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions			Tin Requ	ne ired	Mil Illum.
			fail timer 1 (5-6 shifting with Throttle)	·=	0.2998	Fail Time (Sec)								
			fail timer 1 (5-6 shifting with Closed Throttle)	·=	0.5	Fail Time (Sec)								
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers								= ( 2) Tir >= Ti !	tal Fail Time (Fail 1 + Fai See Enable mers for Fai imer 1, and Reference Supporting Table 15 for Tail Timer 2		
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter											
			3rd gear fail counter								>=	3	3rd gear fail counts OR	
			5th gear fail counter								>=	3	5th gear fail counts OR	
			Total fail counter								>=	5	total fail counts	
1							TUT Enable temperature	>=	-6.6563	°C		-		
							Input Speed Sensor fault	=	FALSE	Boolean				
							Output Speed Sensor fault Command / Attained Gear	= ≠	FALSE 1st	Boolean 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 HSD Enabled	=	FALSE TRUE	Boolean Boolean				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value		Conditions	Required	Illum.
					Default Gear Option is not present	= TRUE		
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear					One Trip
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	
			Intrusive test: commanded 5th gear	Please refer to				
			If attained Gear ≠5th for time	T-1-1-21-				
			if the above conditions have been met					
			Increment 4th Gear Fail Counter				>= 3 4th Gear Fail Count OR	
			and C456 Fail Counters				>= 14 C456 Fail Counts	
			Fall Case 2 Case: Steady State 5th Gear Slip	>= 400 RPM			Please See Table 5 For Neutral Timer >= Neutral Time (Sec) Cal	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	En Con	able ditions		Tim Requi		Mil Illum.
dystem	0000	Безоприон	Intrusive test: commanded 6th gear								
				Please Refer							
			If attained Gear ≠ 6th for time	>= to Table 3 in Supporting Documents Shift Time (Sec)							
			if the above conditions have been met	2004on							
			Increment 5th Gear Fail Counter					>=	3	5th Gear Fail Count OR	
			and C456 Fail Counters					>=	14	C456 Fail Counts	
			Fail Case 3 Case: Steady State 6th Gear						Please See		
			Gear slip	>= 400 RPM				1	Table 5 For eutral Time	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear	Disconsiderate					oui		
			If attained Gear ≠ 5th for time	Please refer to  Table 3 in Supporting Documents  Shift Time (Sec)							
			if the above conditions have been met	Bodinents							
			Increment 6th Gear Fail Counter and C456 Fail Counter					>=	3	6th Gear Fail Count OR	
			and C456 Fail Counter					>=	14	C456 Fail Counts	
					PRNDL State defaulted inhibit RVT		ALSE Boolean ALSE Boolean				
					IMS fault pending indication	= F/	ALSE Boolean				
					TPS validity flag		RUE Boolean				l
					Hydraulic System Pressurized	= T	RUE Boolean				
					Minimum output speed for RVT	>=	67 RPM				

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria	value		A OR B		Conditions		Required	illulli.
						(A) Output speed enable	>=	67	RPM		
							>=				
						(B) Accelerator Pedal enable	>=	0.5005	Pct		
						Common Enable Criteria					
						Ignition Voltage Lo	>=	8.59961	Volts		
						Ignition Voltage Hi	<=	31.99902	Volts		
						Engine Speed Lo	>=	400	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the	>=	5	Sec		
						allowable limits for	/-				
						Throttle Position Signal valid	=	TRUE	Boolean		
						HSD Enabled	=	TRUE	Boolean		
					Т	Transmission Fluid Temperature	>=	-6.6563	°C		
						Input Speed Sensor fault	=	FALSE	Boolean		
						OutputSpeed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not			Booloan		
						present	=	TRUE			
						F					
						MIL not Illuminated for DTC's:		, P0717, P0722,	P0723,		
				Cor	nditions:		P182E				
								, P0102, P0103,			
								8, P0171, P0172			
								1, P0202, P0203			
1								6, P0207, P0208			
1								2, P0303, P0304 7, P0308, P0401			
							PU3U0, PU3U	1, PU3U8, PU4U I	, PU42E		
Variable Blood Colonaid (VBC)	P0797	Pressure Control (PC) Solenoid C	Fail Case 1 Case: Steady State 1st								One Trip
Variable Bleed Solenoid (VBS)	PU/9/	Stuck On [C456] (Steady State)	Case: Steady State 1st								
			Attained Gear slip	>= 400 RPM							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	F	Time equired	Mil Illum.
- System		Scott profi	If the Above is True for Time	Table Based Time Please					
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio	<= 1.20959					
			If the above parameters are true	1.07430					
			·				>= 1.1	Fail Timer (Sec)	
							>= 2	Fail Count in 1st Gear or	
							>= 3	Total Fail Counts	
			Fail Case 2 Case Steady State 2nd  Max Delta Output Speed Hysteresis	Table Based value Please					
			Min Delta Output Speed Hysteresis	documents Table Based value Please					
			If the Above is True for Time	Table Based Time Please Refer to Table >= 17 in Sec supporting documents					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Intrusive test:					
			(CB26 clutch exhausted)	1 20050				
			Gear Ratio Gear Ratio	<= 1.20959 >= 1.09436				
				2- 1.07430				
			If the above parameters are true					
							>= 1.1 Fail Timer (Sec)	
							Fail Count in	
							>= 3 2nd Gear	
							or	
							>= 3 Total fail counts	
			Fail Case 3 Case Steady State 3rd				<u> </u>	1
				Table Based				
				value Please				
			Max Delta Output Speed Hysteresis	Refer to 3D rpm/sec				
			,	Table Lin .				
				supporting documents				
				Table Based				
				value Please				
			Min Delta Output Speed Hysteresis	>= Refer to 3D rpm/sec				
			Will Bella Output Speed Hysteresis	Table 2 In .				
				supporting documents				
				Table Based				
				Time Please				
			If the Above is True for Time	Defeate Table				
			If the Above is true for time	17 111				
				supporting				
			Intrusive test:	documents				
			(C35R clutch exhausted)					
			Gear Ratio	<= 1.20959				
			Gear Ratio					
			If the above parameters are true					
L			'					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime quired	Mil Illum.
									>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 3rd Gear	
									>=	OR 3	Total Fail Counts	
					PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled Hydraulic_System_Pressurized A OR B (A) Output speed enable (B) Accelerator Pedal enable Ignition Voltage Lo Ignition Voltage Highiton Voltage Highiton Speed Lo Engine Speed Lo Engine Speed Imits for if Attained Gear=1st FW Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable if Attained Gear=1st FW Engine Torque Enable	= = = = = = = = = = = = = = = = = = =	FALSE FALSE FALSE FALSE 0 0 TRUE TRUE  67 0.5005 8.59961 31.99902 400 7500 5 5.0003	Boolean Boolean Boolean RPM Boolean Boolean Nm Nm Volts Volts RPM RPM Sec Pct Nm				
					Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= = = =	-6.6563 FALSE FALSE TRUE	°C Boolean Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thre: Va	shold lue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
5,330					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)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure	= TRUE	Boolean				One Trip
			Command Status	= pressurized					
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhausi command					
			Range Shift Status Attained Gear Slip	Control	RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:						
			fail timer 1 (4-1 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle) fail timer 1	>= 0.2998	Fail Time (Sec)				
			(4-2 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			(4-3 shifting with throttle) fail timer 1	>= 0.2998	Fail Time (Sec)				
			(4-3 shifting without throttle)	>= 0.5	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thr V	eshold alue	Secondary Malfunction		Enable Conditions			Tin Requ	ne ired	Mil Illum.
	7	·	fail timer 1 (5-3 shifting with throttle)	>=	0.2998	Fail Time (Sec)								
			fail timer 1 (5-3 shifting without throttle)	>=	0.5	Fail Time (Sec)								
			fail timer 1	>=	0.2998	Fail Time (Sec)								
			fail timer 1	>=	0.5	Fail Time (Sec)								
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers								= (I 2): Tin >= Tin F S	al Fail Time Fail 1 + Fail See Enable ners for Fail mer 1, and Reference Supporting able 15 for ail Timer 2	  - 	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter											
			4th gear fail counter								>=	3	Fail Counter From 4th Gear	
			5th gear fail counter								>=	3	OR Fail Counter From 5th Gear OR	
			6th gear fail counter								>=	3	Fail Counter From 6th Gear OR	
			Total fail counter								>=	5	Total Fail Counter	
							TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON	>= = = # =	-6.6563 FALSE FALSE 1st TRUE	°C Boolean Boolean Boolean Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions			Time equired	Mil Illum.
	1	·				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			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P182E	P0717, P0722,	, P0723,			
							P0107, P0108 P0175, P0201	P0102, P0103, 8, P0171, P017: 1, P0202, P020:	2, P0174, 3, P0204,			
							P0301, P0302	6, P0207, P020 2, P0303, P030 7, P0308, P040	4, P0305,			
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled		Boolean							Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled		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							
			Tap Up Switch Stuck in the Up Position in Park Enabled		Boolean							
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0	Boolean							
			Tap Up Switch ON	= TRUE	Boolean					>= 1	Fail Time (Sec)	

Component/	Fault	Monitor Strategy	Malfunction			reshold	Secondary		Enable			Tim		Mil
System	Code	Description	Criteria	!	'	Value	Malfunction		Conditions			Requi	ired	Illum.
			Foil Coop 2 Top Up Cuitob Charles to Up											
			Fail Case 2 Tap Up Switch 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		1	Dooloon								
			Position in Range 3 Enabled	=	1	Boolean								
			Tap Up Switch Stuck in the Up		1	Boolean								
			Position in Range 4 Enabled											
			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		0	Boolean								
			Position in Neutral Enabled		U	Doolean								
			Tap Up Switch Stuck in the Up		0	Boolean								
			Position in Park Enabled Tap Up Switch Stuck in the Up											
			Position in Reverse Enabled	=	0	Boolean								
			Tap Up Switch ON	= T	ΓRUE	Boolean								
			NOTE: Both Failcase1 and Failcase								>=	600	Fail Time (Sec)	
			2 Must Be Met									000	ran rime (Sec)	
										Enable Time				
							Time Since Last Range Change	>=	1	(Sec)				
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.99902	Volts				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi	<=	7500	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
Cycloni		2000.,p.10				Engine Speed is within the allowable limits for	>=	5	Sec		
						P0815 Status is	<b>≠</b>	Test Failed This Key On or Fault Active			
					Disable Conditions:		TCM: P0816 P1877, P19 <sup>2</sup> ECM: None		P1876,		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 0	Boolean		ECIVI. NOTIE				Special 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						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold 'alue	Secondary Malfunction	Enable Conditions		Time Required	1	Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean						
			Tap Down Switch ON	=	TRUE	Boolean			>=	1	sec	
			Fail Case 2 Tap Down Switch 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 Failcase1 and Failcase 2 Must Be Met	=	TRUE	Boolean			>=	600	sec	

Component/	Fault	Monitor Strategy	Malfunction	Thre	eshold	Secondary Malfunction		Enable				me	Mil
System	Code	Description	Criteria	Va	alue	Maitunction		Conditions			Requ	uired	Illum.
						Time Since Last Range Change		1	Enable Time				
						ů ů	>=		(Sec)				
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.99902	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						allowable littlits for							
								Test Failed					
								This Key					
						P0816 Status is	<b>≠</b>	On or Fault					
								Active					
						MIL not Illuminated for DTC's:			P1876,				
					Conditions:		P1877, P191	5, P1/61					
							ECM: None						
Tap Up Tap Down Switch	D000/		THTCO: "D. I.I. FINE	TOUE	D 1		LOW. NOTIC					F 11.T1 (C. )	Special
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	No MIL
						Ignition Voltage Lo	>=	8.59961	Volts		-		
						Ignition Voltage Hi	<=	31.99902	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the	>=	5	Sec				
						allowable limits for							

Fault	Monitor Strategy	Malfunction	Thr	eshold	Secondary		Enable		Ι	Ti	me	Mil
Code	Description	Criteria			Malfunction	Ĭ	Conditions					Illum.
					P0826 Status is	<b>≠</b>	Test Failed This Key On or Fault Active					
				Disable Conditions:								
P0961		The HWIO reports an invalid voltage (out of range) error flag	= TRUE	Boolean					>=	4.4	Fail Time (Sec)	Two Trips
	,								out of	5	Sample Time (Sec)	
					Ignition Voltage Engine Speed Engine Speed Engine Speed is within the	>= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
				Disable Conditions:								
P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)			Boolean					>= out	1.5	Fail Time (Sec)	One Trip
					Ignition Voltage Engine Speed	>=	8.59961 31.99902 400	Volts Volts RPM	of	1.875	(Sec)	-
	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)  Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)  Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)  Pressure Control (PC) Solenoid A Control Circuit Low Voltage  Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)  Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)  The HWIO reports an invalid voltage (out of range) error flag  TRUE  Pressure Control (PC) Solenoid A Control Circuit Low Voltage  Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Code    Description   Criteria   Value	Code     Description     Criteria     Value     Malfunction       P0826 Status is       P0941 Control (PC) Solenoid A Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)     The HWIO reports an invalid voltage (out of range) error flag     TRUE Boolean       P0942 Pressure Control (PC) Solenoid A Control (PC) Solenoid A Control Circuit Low Voltage (Ingline Speed Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed (ground short) error flag     TRUE Boolean       P0942 Control (PC) Solenoid A Control (PC) Solenoid A Control Circuit Low Voltage (ground short) error flag (ground short) err	Code   Description   Criteria   Value   Malfunction   P0826 Status is   #	Code In Pack Problem In Criteria         Criteria         Value         Maffunction         Conditions           P0962 Status is In Pack Problem In Status In Pack Problem In Pack Probl	Description   Description	Description	Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possure VBS)   Possure Control (PC) Solenoid A   Possure VBS)   Possur	Description

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable		I		me	Mil
System	Code	Description	Criteria	Value	Malfunction		Conditions			Requ	uired	Illum.
					Engine Speed is within the allowable limits for		5	Sec				
				Disab Condition								
						ECM: None						
		Pressure Control (PC) Solenoid A										Two Trips
Variable Bleed Solenoid (VBS)		Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag						>=	4.4	Fail Time (Sec)	
									out of	5	Sample Time (Sec)	
					Ignition Voltage		8.59961	Volts				
					Ignition Voltage Engine Speed		31.99902 400	Volts RPM				
					Engine Speed		7500	RPM				
					Engine Speed is within the allowable limits for	\	5	Sec				
				Disab Condition	le MIL not Illuminated for DTC's:	TCM: None						
						ECM: None						
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag						>=	0.3	Fail Time (Sec)	One Trip
		(33 130)							out of	0.375	Sample Time (Sec)	
					Ignition Voltage Ignition Voltage		8.59961 31.99902	Volts Volts				
					Engine Speed	<= >=	400	RPM				
					Engine Speed	<=	7500	RPM				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable			Tin	ne	Mil
System	Code	Description	Criteria	Value			Conditions			Requ	iired	Illum.
					Engine Speed is within the allowable limits for		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						>=	0.3	Fail Time (Sec)	One Trip
									out of	0.375	Sample Time (Sec)	
					Ignition Voltage Ignition Voltage Engine Speed	<= >=	8.59961 31.99902 400	Volts Volts RPM				
					Engine Speed Engine Speed is within the allowable limits for		7500 5	RPM Sec				
					P0967 Status is not	=	Test Failed This Key On or Fault Active					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/	Fault	Monitor Strategy	Malfunction		Thre	eshold	Secondary		Enable		Т	Tii	me	Mil
System	Code	Description	Criteria			alue	Secondary Malfunction		Conditions			Requ	uired	Illum.
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	Sample 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	>= <= >= <= >=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	=	TRUE	Boolean					>= out	0.3	Fail Time (Sec) Sample Time	One Trip
											of	0.375	(Sec)	
							P0971 Status is not	=	Test Failed This Key On or Fault Active					
							Ignition Voltage Ignition Voltage Engine Speed Engine Speed	>= <= >= <=	8.59961 31.99902 400 7500	Volts Volts RPM RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
System	Code	Description	Citteria	value	Engine Speed is within the allowable limits for	>=	5	Sec		Keq	uneu	illulii.
				Disable Conditions		TCM: None ECM: None						
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag						>= out of	1.2	Fail Time (Sec) Sample Time (Sec)	One Trip
					P0973 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	>= <= >= <= >=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
				Disabl Conditions		TCM: None ECM: None						
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean					>= out of	1.2 1.5	Fail Time (Sec) Sample Time (Sec)	Two Trips

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Secondary Malfunction	Conditions	Required	Illum.
					P0974 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed	<= 31.99902 Volts >= 400 RPM		
					Engine Speed Engine Speed is within the allowable limits for	5 Soc		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High (Mode 3 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Sec	One Trip
							out 1.5 Sec	
					P0977 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	<= 31.99902 Volts >= 400 RPM <= 7500 RPM		
					allowable lifflits for			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			T Req	ime quired	Mil Illum.
				Disable Conditions:		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	= TRUE Boolean					>=	3	Fail Counter	Special No MIL
									>	10	Sample Timer (Sec)	
					Tap Up Tap Down Message Health Engine Speed Lo Engine Speed Hi	= >= <=	TRUE 400 7500	Boolean RPM RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
				Disable Conditions:		TCM: None ECM: None						
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case 1 Current range	= Transition 1 = (bit state 1110) Range								One Trip
			Previous range	≠ CeTRGR_e_P ≠ RNDL_Drive6 Range								
			Previous range	RNDL_DIIVE4								
			Range Shift State Absolute Attained Gear Slip	Completed								
			Attained Gear Attained Gear Throttle Position Available	>= First								
			Throttle Position Output Speed Engine Torque	>= 8.0002 pct >= 200 rpm								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Engine Torque	<= 8191.75 Nm				
			If the above conditions are met then Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter				>= 1 Fail Secon >= 5 Fail Count	
			Fail Case 2 Output Speed The following PRNDL sequence events occur in this exact order:  PRNDL state	Drive 6 (bit				
			PRNDL state = Drive 6 for PRNDL state	>= 1 Sec  Transition 8 (bit state 0111) Range				
			PRNDL state PRNDL state	Transition 1 (bit state 1110) Range				
			Above sequencing occurs in Neutral Idle Mode If all conditions above are met Increment delay Timer If the below two conditions are met Increment Fail Timer delay timer Input Speed	= Inactive >= 1 Sec			>= 3 Fail Secon	ds
			If Fail Timer has Expired then Increment Fail Counter Fail Case 3  Current range	Transition 12	Previous range	CeTRGR_ ≠ e_PRNDL_ Drive1	>= 2 Fail Count	S

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue	Secondary Malfunction		Enable Conditions			Tin Requ		Mil Illum.
System	Code	Description	Engine Torque	>=	-8192	Nm	Previous range	<b>≠</b>	CeTRGR_ e_PRNDL_ Drive2					
			Engine Torque	<=	8191.75	Nm	IMS is 7 position configuration	=	1	Boolean				1
			If the above conditions are met then, Increment Fail Timer				then the "previous range" criteria above must also be satsified when the "current range" =				>=	0.225	Seconds	
			If Fail Timer has Expired then Increment Fail Counter								>=	15	Fail Counts	
			Fail Case 4  Current range	=	Transition 8 (bit state 0111	) Range	Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8							
			Inhibit bit (see definition)	=	FALSE		Set inhibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transition 11) Set inhibit bit false if PRNDL = 1001 (park)							
			Steady State Engine Torque Steady State Engine Torque If the above conditions are met then Increment Fail Timer		100 8191.75	Nm Nm					>=	0.225	Seconds	
			If the above Condtions have been met, Increment Fail Counter								>=	15	Fail Counts	
			Fail Case 5 Throttle Position Available	=	TRUE	Boolean								
			The following PRNDL sequence events occur in this exact order:											
			PRNDL State	=	Reverse (bit state 1100)	Range								
			PRNDL State	=	Transition 11 (bit state 0100	) Range								
			PRNDL State		Neutral (bit state 0101)	Range								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Cystem	Jour	Bessingtion	PRNDL State	Translition 11				
			Above sequencing occurs in Then delay timer increments	<= 1 Sec				
			Delay timer					
			Range Shift State	Dames Child				
			Absolute Attained Gear Slip	<= 50 rpm				
			Attained Gear Attained Gear					
			Throttle Position					
			Output Speed	>= 200 rpm				
			If the above conditions are met				>= 20 Seconds	
			Increment Fail Timer Fail Case 6					-
			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			
					Previous transition state	Transition ≠ 8 (bit state		
					Fail case 5 delay timer	0111) = 0 sec		
			If the above Condtions are met then,		raii case s delay lililei	= 0 Sec		
			Increment Fail timer				>= 6.25 Seconds	]
			Fail Case 7  Current PRNDL State	= PRNDL circuit = ABCP = 1101 Range				
			and					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Previous PRNDL state	= PRNDL circuit Range				
			Input Speed Reverse Trans Ratio Reverse Trans Ratio If the above Condtions are met then, Increment Fall timer	>= 150 RPM <= 2.84583 ratio >= 3.27417 ratio			>= 6.25 Seconds	
			D1005 will constitute fail when any					_
			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 the allowable limits for Engine Torque Signal Valid	>= 8.59961 Volts <= 31.99902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec = 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)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	≠ Park or Neutral Enumeration				One Trip
			The following events must occur Sequentially					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			reshold /alue	Secondary Malfunction		Enable Conditions			Tii Requ		Mil Illum.
			Initial Engine speed	<=	50	RPM					>=	0.25	Enable Time (Sec)	
			Then Engine Speed Between Following Cals											
			Engine Speed Lo Hist	>=	50	RPM							Fachle Theor	
			Engine Speed Hi Hist	<=	480	RPM					>=	0.06875	Enable Time (Sec)	
			Then Final Engine Speed	>=	525	RPM								
			Final Transmission Input Speed	>=	100	RPM					>=	1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE	Boolean				
							Ignition Voltage Lo Ignition Voltage Hi	>= <=	6 31.99902	V V				
							Ignition Voltage Hyst High (enables above this value)		5	V				
							Ignition Voltage Hyst Low (disabled below this value) Transmission Output Speed	<=	2 90	V rpm				
							P1915 Status is		Test Failed This Key On or Fault Active	ipiii				
						Disabl Conditions		TCM: P0722 ECM: None	, P0723					
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	=	FALSE	Boolean								One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	1	Threshold Value		Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
			Ignition Voltage High Hyst (run crank goes true when above this value)	5	Volts						>=	280	Fail Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2	Volts						Out of	280	Sample Counts (25ms loop)	
							ECM run/crank active status available	=	TRUE	Boolean				
							ECM run/crank active status	=	TRUE	Boolean				
					Co	Disable onditions:	MIL not Illuminated for DTC's:							
								ECM: None						
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	= TRUE	Boolear	1								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	=	TRUE	Boolean				
							ECM run/crank active status	=	FALSE	Boolean				
					C	Disable onditions:	MIL not Illuminated for DTC's:	TCM: None						
						manions.		ECM: None						
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear											One Trip
			Gear slip	>= 400	RPM							Please See Table 5 For leutral Time Cal	Neutral Timer (Sec)	

Component/	Fault	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tim Requi		Mil Illum.
System	Code	Description	Intrusive test:	value	mananonon	Conditions		Kequi	iled	1
			commanded 3rd gear							İ
				Table Based						l
				T: DI						İ
			If attained Gear = 3rd for Time	>= see Table 2 in (C)						l
				Supporting (Sec) Documents						l
				Documents						l
			If Above Conditions have been met							l
									2nd Gear Fail	l
			Increment 2nd gear fail count					>= 3	Count	l
									or	l
			and CB26 Fail Count					>= 14	CB26 Fail Count	l
			Fail Case 2 Case: Steady State 6th Gear							l
								Please See		ı
			Gear slip	>= 400 RPM				>= Table 5 For Neutral Time	Neutral Timer (Sec)	l
								Cal	(000)	l
			Intrusive test:							l
			commanded 5th gear							l
				Table Based						ı
			If attained Gear = 5th For Time	Time Please Enable Time						ı
			ii attailed Gear – Stiff of Tillie	Supporting (Sec)						l
				Documents						l
			If Above Conditions have been met,						5th Gear Fail	l
			Increment 5th gear fail counter					>= 3	Count	l
			Ĭ						or	l
			and CD2/ Fall Count					14		l
			and CB26 Fail Count		20101 01 1 1 1 1	5117-		>= 14	CB26 Fail Count	l
					PRNDL State defaulted inhibit RVT	= FALSE = FALSE	Boolean Boolean			l
					IMS fault pending indication	= FALSE = FALSE	Boolean			l
					TPS validity flag	= TRUE	Boolean			

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria	value	i	ŀ			Required	illulli.
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.5005	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo		8.59961	Volts		
					Ignition Voltage Hi		31.99902	Volts		
					Engine Speed Lo		400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the		5	Sec		
					allowable limits for	>=	5	Sec		
					Throttle Position Signal valid	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Transmission Fluid Temperature	>=	-6.6563	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not	=	TRUE			
					present	=	TRUE			
				Disable	MIL not Illuminated for DTC's:	TCM: P0716	. P0717. P0722.	P0723.		
				Conditions		P182E		,		
							, P0102, P0103,			
							8, P0171, P0172			
							1, P0202, P0203			
							6, P0207, P0208			
							2, P0303, P0304			
						P0306, P030	7, P0308, P0401	, P042E		
					<u> </u>					

Component/ System	Fault Code	Monitor Strategy  Description	Malfunction Criteria			eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure	=	TRUE Maximum	Boolean				One Trip
			Command Status	=	pressurized	l				
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhau command	st				
			Range Shift Status		Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If above coditons are true, increment appropriate Fail 1 Timers Below:							
			fail timer 1 (2-1 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>=	0.5	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 1, and sec Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			2nd gear fail counter				>= 3 Fail Counter From 2nd Gear	r
			6th gear fail counter				OR  >= 3 Fail Counter  From 6th Gear  OR	
			total fail counter				>= 5 Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.6563 °C = FALSE Boolean = FALSE Boolean ≠ 1st Boolean = TRUE Boolean >= 100 RPM >= 150 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean = TRUE Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable		Time	Mil
System	Code	Description	Criteria	Value		Conditions	Re	quired	Illum.
				Disable	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723,			
				Conditions:		P182E			
						ECM: P0101, P0102, P0103, P0106,			
						P0107, P0108, P0171, P0172, P0174,			
						P0175, P0201, P0202, P0203, P0204,			
						P0205, P0206, P0207, P0208, P0300,			
						P0301, P0302, P0303, P0304, P0305,			
						P0306, P0307, P0308, P0401, P042E			
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D	Fail Case 1 Case: Steady State 1st						One Trip
Vallagio Bioca Golonola (VBG)	1 27 10	Stuck On [CB26] (Steady State)							
			Attained Gear slip	>= 400 RPM Table Based					
				Time Please					
				Pofor to Table Enable Time					
			If the Above is True for Time	>= 4 in (Sec)					
				supporting					
				documents					
			Intrusive test:						
			(CBR1 clutch exhausted)						
			Gear Ratio						
			Gear Ratio	>= 2.24585					
			If the above parameters are true						
							>= 1.1	Fail Timer (Sec)	
							>= 5	Fail Count in 1st	
							>= 5	Gear	
								or	
							>= 5	Total Fail	
			5 10 0 0 0 10 10 10					Counts	
			Fail Case 2 Case: Steady State 3rd Gear	Table Based					
				value Please					
				Pofor to 2D					
			Max Delta Output Speed Hysteresis	>= Table 1 in rpm/sec					
				supporting					
				documents					

Table Based	Conditions	Required Illum.
value Please		
Min Delta Output Speed Hysteresis >= Refer to 3D rpm/sec		
Table 2 III		
supporting documents		
Table Based		
Time Please		
If the Above is True for Time  >= Refer to Table   17 in Sec		
supporting		
documents		
Intrusive test:		
(C35R clutch exhausted)  Gear Ratio <= 2.48218		
Gear Ratio >= 2.24585		
If the above parameters are true		
in the days of parameters are the		
	>=	1.1 Fail Timer (Sec)
	>=	Fail Count in 3rd
	)= 	Gear
		or Total Fail
	>=	5 Counts
Fail Case 3 Case: Steady State 4rd Gear		
Table Based value Please		
Pofor to 2D		
Max Delta Output Speed Hysteresis >= Table 1 in rpm/sec		
supporting		
documents Table Based		
value Please		
Min Date Cutaut Speed Hydrogeig		
i able z in		
supporting documents		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Re	Time M
System	Code	Description	If the Above is True for Time	Table Based Time Please Refer to Table 17 in supporting		Solidadia	, ive	4
			Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio					
			If the above parameters are true					
							>= 1.1	Fail Timer (Sec)
							>= 3	Fail Count in 4th Gear or
							>= 5	Total Fail Counts
			Fail Case 4 Case: Steady State 5th Gear	T-M- Dd				
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please				
			If the Above is True for Time	Table Based Time Please				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			T Req	ime quired	Mil Illum.
		·	Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true									i I
			·						>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 5th Gear	
									>=	5	or Total Fail Counts	
					PRNDL State defaulted inhibit RVT IMS fault pending indication output speed TPS validity flag HSD Enabled	= = = >= =	FALSE FALSE FALSE 0 TRUE TRUE	Boolean Boolean Boolean RPM Boolean Boolean				
					Hydraulic_System_Pressurized	=	TRUE	Boolean				
					A OR B (A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.5005	Nm				
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for if Attained Gear=1st FW	>= <= >= <= >=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
					Accelerator Pedal enable if Attained Gear=1st FW Engine Torque Enable	>=	5.0003	Nm				
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm				
					Transmission Fluid Temperature	>=	-6.6563	°C				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value		Conditions	Required	Illum.
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not	= TRUE		
					present	= IKUL		
					MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723,		
				Conditions:		P182E		
						ECM: P0101, P0102, P0103, P0106,		
						P0107, P0108, P0171, P0172, P0174,		
						P0175, P0201, P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305,		
						P0306, P0307, P0308, P0401, P042E		
		0 1 1/00/01 110						On a Tala
Variable Bleed Coloneid (VBC)		Pressure Control (PC) Solenoid D Control Circuit Low	The HWIO reports a low voltage	= TRUE Boolean				One Trip
Variable Bleed Solenoid (VBS)	P2720		(ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	
		(CB26 VBS)					out Comple Time	
							out 0.375 Sample Time (Sec)	
							oi (Sec)	
						Test Failed		
						This Key		
					P2770 Status is not	= On or Fault		
						Active		
						Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.99902 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed Engine Speed	<= 7500 RPM		
					Engine Speed is within the			
					allowable limits for	>= 5 Sec		
					allowable littles for			
L								

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value		Conditions	Required	Illum.
					MIL not Illuminated for DTC's:	TCM: None		
				Conditions:		ECM: None		
						ECIVI. NOTIE		
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				>= 0.3 Fail Time (Sec)	One Trip
							out 0.375 Sample Time (Sec)	
					P2721 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	<= 31.9902 Volls >= 400 RPM <= 7500 RPM		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1 Case: Steady State 1st Gear					One Trip
		Study On	Gear slip	>= 400 RPM			Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	
			Intrusive test: commanded 2nd gear	Please refer to				
			If attained Gear ≠ 2nd for Time	>= Table 3 in Supporting Documents Shift Time (Sec)				

Component/	Fault	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Griteria	value	Manunction	Conditions	Kequirea	IIIuiii.
			If Above Conditions have been met,				>= 3 1st Gear Fail	
			Increment 1st gear fail counter				>= 3 Count	
							or	
							C1234 Clutch	
			and C1234 fail counter				>= 14 C1234 Clutch	
			Fail Case 2 Case: Steady State 2nd Gear				Fall Courit	-
			Tall Case 2 Case. Steady State 211d Geal				Please See	
							Table 5 For Neutral Timer	
			Gear slip	>= 400 RPM			>= Neutral Time (Sec)	
							Cal	
			Intrusive test:					
			commanded 3rd gear					
			commanded ord gear	Please refer to				
			15 11 10 10 16 7	Table Office				
			If attained Gear ≠ 3rd for Time	>= Supporting Shift Time (Sec)				
				Documents				
			If Al. O. I'll I				0.10 5.11	
			If Above Conditions have been met,				>= 3 2nd Gear Fail	
			Increment 2nd gear fail counter				Count	
							or	
			and C1234 fail counter				>= 14 C1234 Clutch	
							>= 14 Fail Count	
			Fail Case 3 Case: Steady State 3rd Gear					1
							Please See	
			Gear slip	>= 400 RPM			Table 5 For Neutral Timer	
			Geal Silp	/- 400 KFWI			Neutral Lime (Sec)	
							Cal	
			Intrusive test:					
			commanded 4th gear					
				Please refer to				
			If attained Gear ≠ 4th for time	>= Table 3 in Shift Time (Sec)				
			" attained Soal , Till for time	Supporting				
				Documents				
			If Above Conditions have been met,				3rd Gear Fail	
			Increment 3rd gear fail counter				>= 3 Count	
			3-2 g-21 idii oodiiloi					
							or	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tim Requi	red	Mil Illum.
			and C1234 fail counter						>=	14	C1234 Clutch Fail Count	
			Fail Case 4 Case: Steady State 4th Gear  Gear slip	>= 400 RPM					T	lease See able 5 For eutral Time	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear	Please refer to						Cal		
			If attained Gear = 5th For Time	Table 3 in								
			If Above Conditions have been met, Increment 4th gear fail counter						>=	3	4th Gear Fail Count	
			and C1234 fail counter						>=	14	or C1234 Clutch Fail Count	
					PRNDL State defaulted inhibit RVT IMS fault pending indication	= =	FALSE FALSE FALSE	Boolean Boolean Boolean				
					TPS validity flag	=	TRUE	Boolean				
					Hydraulic System Pressurized  Minimum output speed for RVT	=	TRUE 0	Boolean RPM				
					A OR B	>=						
					(A) Output speed enable (B) Accelerator Pedal enable	>= >=	67 0.5005	RPM Pct				
					Common Enable Criteria Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= >= <=	31.99902 400 7500	Volts RPM RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Throttle Position Signal valid	=	TRUE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
	1				HSD Enabled	= TRUE Boolean	·	
					Transmission Fluid Temperature	>= -6.6563 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Dicable	MIL not Illuminated for DTC's.	TCM: P0716, P0717, P0722, P0723,		
				Conditions:	WILL HOL HIGHINATED FOR DTC 5:	P182E		
						ECM: P0101, P0102, P0103, P0106,		
						P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300,		
						P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
						1 0300, 1 0307, 1 0300, 1 0401, 1 042L		
		Pressure Control (PC) Solenoid E	Primary Offgoing Clutch is exhausted (See Table 10 in					One Trip
Variable Bleed Solenoid (VBS)	P2724	Stuck On (Dynamic)	Supporting Documents for Exhaust	= TRUE Boolean				
			Delay Timers) Primary Oncoming Clutch Pressure					
			Command Status					
			Primary Offgoing Clutch Pressure					
			Command Status	command				
			Range Shift Status	≠ Initial Clutch Control				
			Attained Gear Slip					
			If the above conditions are true increment appropriate Fail 1 Timers					
			increment appropriate Fair 1 timers Below:					
			fail timer 1 (2-6 shifting with throttle)	>= 0.2998 sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Th:	eshold /alue	Secondary Malfunction	Enable Conditions	Tim Requi	e red	Mil Illum.
5,515	_		fail timer 1	>=	0.5	sec					
			(3-5 shifting with throttle)	>=	0.2998	sec					
			(3-5 shifting without throttle)	>=	0.5	sec					
			(4-5 shifting with throttle)	>=	0.2998	sec					
			fail timer 1 (4-5 shifting without throttle) fail timer 1	>=	0.5	sec					
			(4-6 shifting with throttle) fail timer 1	>=	0.2998	sec					
			(4-6 shifting without throttle)	>=	0.5	sec					
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers						Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 1, and Reference Supporting Table 15 for Fail Timer 2		
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter								
			2nd gear fail counter						>= 3	Fail Counter From 2nd Gear	
			3rd gear fail counter						>= 3	Fail Counter From 3rd Gear	
			4th gear fail counter						>= 3	Fail Counter From 4th Gear	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tii Regu	me uired	Mil Illum.
.,			total fail counter				>=	5	Total Fail Counter	
					TUT Enable temperature	>= -6.6563 °C				
					Input Speed Sensor fault					
					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				
				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)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear							One Trip
				Table Based						
			Max Delta Output Speed Hysteresis	Table I in .						
				supporting documents						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System		<i>Description</i>	Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting				
			If the Above is True for Time	documents Table Based Time Please  Refer to Table 17 in supporting				
			Intrusive test: (C35R clutch exhausted) Gear Ratio Gear Ratio	documents <= 1.20959				
			If the above parameters are true					
							>= 1.1 Fail Time	(Sec)
							>= 3 Fail Coun Gea OR	r
							>= 3 Total Cour	ail
			Fail Case 2 Case: 6th Gear	Table Based value Please				
			Max Delta Output Speed Hysteresis	supporting documents				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in supporting documents				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime juired	Mil Illum.
- System	Code	Description	If the Above is True for Time	Table Based Time Please							,	
			Intrusive test: (CB26 clutch exhausted)									
			Gear Ratio Gear Ratio									
			If the above parameters are true									
									>=	1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 6th Gear OR	
									>=	3	Total Fail Counts	
					PRNDL State defaulted inhibit RVT IMS fault pending indication	= = =	FALSE FALSE FALSE	Boolean Boolean Boolean				
					output speed TPS validity flag HSD Enabled	>= = =	0 TRUE TRUE	RPM Boolean Boolean				
					Hydraulic_System_Pressurized	=	TRUE	Boolean				
					A OR B (A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.5005	Nm				
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.59961 31.99902 400	Volts Volts RPM				
					Engine Speed Hi Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003	Pct				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable			Tir Regu		Mil Illum.
System	Code	Description	Criteria	Value	if Attained Gear=1st FW Engine Torque Enable		Nm		Requ	iired	ilium.
					if Attained Gear=1st FW Engine Torque Enable	- 0101 00	Nm				
					Transmission Fluid Temperature	>= -6.6563	°C				
					Input Speed Sensor fault Output Speed Sensor fault		Boolean Boolean				
					Default Gear Option is not present						
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P072: P182E	2, P0723,				
						ECM: P0101, P0102, P010: P0107, P0108, P0171, P01 P0175, P0201, P0202, P02 P0205, P0206, P0207, P02 P0301, P0302, P0303, P03 P0306, P0307, P0308, P04	72, P0174, 03, P0204, 08, P0300, 04, P0305,				
Variable Bleed Solenoid (VBS)	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	Fail Time (Sec) Sample Time	One Trip
								out of	0.375	(Sec)	
					P2729 Status is not	Test Failed This Key On or Faul Active					
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.99902 >= 400	Volt Volt RPM RPM				

Component/	Fault	Monitor Strategy	Malfunction	Thres		Secondary Malfunction		Enable			Tir		Mil
System	Code	Description	Criteria	Val	ue	Engine Speed is within the allowable limits for	>=	Conditions 5	Sec		Requ	uired .	Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= out of	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
						P2730 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	>= <= >= <= >=	8.59961 31.99902 400 7500	Volt Volt RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE	Boolean					>=	4.4	Fail Time (Sec)	Two Trips
										out of	5	Sample Time (Sec)	

Component/	Fault	Monitor Strategy	Malfunction		Threshold	Secondary Malfunction		Enable			Tir		Mil
System	Code	Description	Criteria		Value	Malfunction		Conditions			Requ	iired	Illum.
						P2763 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 High Side Driver Enabled	<= >= <= >=	8.59961 31.99902 400 7500 5 TRUE	Volt Volt RPM RPM Sec Boolean				
					Disable Conditions:		TCM: P0658, ECM: None	P0659					
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRU	JE Boolean					>= out of	4.4 5	Fail Time (Sec) Sample Time (Sec)	One Trip
						P2764 Status is not	=	Test Failed This Key On or Fault Active				, ,	
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for High Side Driver Enabled	<= >= <= >=	8.59961 31.99902 400 7500 5 TRUE	Volt Volt RPM RPM Sec Boolean				

Component/	Fault	Monitor Strategy	Malfunction			eshold	Secondary Malfunction		Enable				me	Mil Illum.
System	Code	Description	Criteria I		Va	alue Disable	MIL not Illuminated for DTC's:	TCM: P0658	Conditions P0659			кеф	uired	illulli.
						Conditions:	INIL HOL III GITIII GICG TOI DTC 3.	1 CIVI. 1 0030	1 0037					
								ECM: None						
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error		TRUE	Boolean					>=	62	Fail counts (≈ 10 seconds)	One Trip
			Delay timer	>=	0.1125	sec					Out of	70	Sample Counts (≈ 11 seconds)	
							Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= >= <= =	3 8.59961 31.99902 Run	sec Volt Volt				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM		TRUE	Boolean					>=	12	sec	One Trip
							Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= >= <= =	3 8.59961 31.99902 Run	sec Volt Volt				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions			Time Requir		Mil Illum.
Transmission Control Module (TCM)		The lateral accleration signal is stuck at a low magnitude out of range because of a low circuit	Lateral accleration magnitude		g's	manarotori		Conditions		>=	105	seconds	Special No MIL
		because of a low circuit	Lateral accleration magnitude is within the range above for	>= 120	Sec					out of	120	sample	
								0.05					
				Lateral accleration magnitude	>=	-3.85	g's						
						Lateral accleration magnitude is within the range above for	>=	105	Sec				
						Sensor Type	=	Voltage Directional Proportiona te					
						Transmission Type	=	Clutch to Clutch Transmissi on					
						Lateral acceleration sensor circuit low diagnostic enable	=	TRUE	Boolean				
						Battery Voltage	<=	31.99902	Volts				
						Battery Voltage Battery voltage is within the	>=	9	Volts				
						allowable limits for	>=	0.1	Sec				
						Ignition Voltage Ignition Voltage	<= >=	31.99902 9	Volts Volts				
						Service Fast Learn (SFL) Mode	=	FALSE	Boolean				
						Ignition voltage and SFL conditions met for	>=	0.1	Sec				

Component/	Fault	Monitor Strategy	Malfunction			eshold		Secondary Malfunction	I	Enable			_ T	ime	Mil Illum.
System	Code	Description	Criteria	_	V	alue	Dibl-		TOM IS III	Conditions			Rec	luired	illum.
							Disable Conditions:	MIL not Illuminated for DTC's:	(U0073, U01	rated to illuminat 00)	e the MIL				
									ECM: None						
Transmission Control Module (TCM)	C1250	The lateral accleration signal is stuck at a high magnitude out of range because of a high circuit	Lateral accleration magnitude	>=	3.85	g's						>=	105	seconds	Special No MIL
		acceded of a riight should	Lateral accleration magnitude is within the range above for		120	Sec						out of	120	sample	
								Lateral accleration magnitude	>=	3.85	g's				
								Lateral accleration magnitude is within the range above for		105	Sec				
								Sensor Type	=	Voltage Directional Proportiona te					
								Transmission Type	=	Clutch to Clutch Transmissi on					
								Lateral acceleration sensor circuit high diagnostic enable		TRUE	Boolean				
								Battery Voltage Battery Voltage	>=	31.99902 9	Volts Volts				
								Battery voltage is within the allowable limits for	>=	0.1	Sec				
								Ignition Voltage Ignition Voltage		31.99902 9	Volts Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresho Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
							Service Fast Learn (SFL) Mode Ignition voltage and SFL conditions met for		FALSE 0.1	Boolean Sec		
						Disable Conditions:	MIL not Illuminated for DTC's:	(U0073, U010		e the MIL		
								ECM: None				
Transmission Control Module (TCM)	C1251	The lateral accleration signal is stuck at a high magnitude in range	Lateral accleration magnitude	<= 3.8	35 g'	5						Special No MIL
			Lateral accleration magnitude Lateral accleration magnitude is within the range above for	s_ 10	Ü							
							Lateral accleration magnitude	<=	3.85	g's		
							Lateral accleration magnitude	>=	0.53	g's		
							Lateral accleration magnitude is within the range above for	>=	90	Sec		
							Diagnostic shifting override command		FALSE	Boolean		
							Attained Gear State	=	1st through 6th			
							Attained Gear Slip	<=	100 Clutch to	RPM		
							Transmission Type	=	Clutch Transmissi on			

Component/	Fault	Monitor Strategy	Malfunction		shold	Secondary Malfunction		Enable			Tir		Mil Illum.
System	Code	Description	Criteria	Va	lue			Conditions	Б. І.		Requ	ured	illum.
						High Side Driver 1 On Vehicle Speed		TRUE 15	Boolean kph				
						Lateral acceleration stuck in	>=	15	крп				
						range diagnostic enable	=	TRUE	Boolean				
						Battery Voltage		31.99902	Volts				
						Battery Voltage	>=	9	Volts				
						Battery voltage is within the							
						allowable limits for	>=	0.1	Sec				
						Ignition Voltage	<=	31.99902	Volts				
						Ignition Voltage		9	Volts				
						Service Fast Learn (SFL) Mode	=	FALSE	Boolean				
						Ignition voltage and SFL	>=	0.1	Sec				
						conditions met for	1	0.1	300				
					Disable	MIL not Illuminated for DTC's:	TCM: If calib	orated to illumina	te the MIL				
					Conditions:			17, P0721, P072					
							P07BF, P07	C0, P077B, P07	7C, P077D,				
							P215C, U00	73)					
							ECM: None						
			Rolling count value received from										Special
Transmission Control Module	P175F	Acceleration sensor signal message	EBCM does not match expected	= TRUE	Boolean					>=	60	seconds	No MIL
(TCM)		counter incorrect (rolling count)	value										
			OR										
			calculated checksum value of raw										1
			data bits does not equal embedded										
			frame checksum value or raw data							>=	60	seconds	
			bits, in fail time window										
			bits, in fair time window										
						cumulative error time	>=	30	seconds				1
						Acceleration Message Health	=	TRUE	Boolean				
						_							
						Battery Voltage	<=	31.99902	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the	>=	0.1	Sec		
					allowable limits for		0.1	360		
					Ignition Voltage		31.99902	Volts		
					Ignition Voltage		9	Volts		
					Ignition voltage conditions met	>=	0.1	Sec		
					for		0	000		
				Dicable	MIL not Illuminated for DTC's:	TCM: None				
				Conditions:		TCIVI: NOTIE				
				Conditions.		ECM: None				
						201111 110110				

## 14 OBDG08 TCM Supporting Tables - 2D

			<u>Supp</u>	orting	<u>Docum</u>	<u>nents</u>				
Table 1	Axis Curve	0.00 50.00	64.00 50.00	128.00 50.00	192.00 50.00	256.00 50.00	320.00 50.00	384.00 50.00	448.00 50.00	512.00 N*m 50.00 RPM
Table 2	Axis Curve	-6.67 409.59	-6.66 2.00	40.00 °C 2.00 S						
Table 3	Axis Curve	-6.67 409.59	-6.66 4.00	40.00 °C 4.00 S						
Table 4	Axis Curve	-6.67 409.59	-6.66 2.00	40.00 °C 2.00 S						
Table 5	Axis Curve	-6.67 409.59	-6.66 3.00	40.00 °C						
Table 6	Axis Curve	-6.67 409.00	-6.66 3.60	40.00 1.60	80.00	120.00 °C				
Table 7	Axis Curve	-6.67 409.00	-6.66 3.40	40.00	80.00	120.00 °C				

## 14 OBDG08 TCM 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 Sed				
Table 9	Avia	6.67	6.66	40.00	90.00	120.00 °C				
	Axis Curve	-6.67 409.00	-6.66 3.30	40.00 1.30	80.00 1.20	1.10 Sec	3			
Table 10	Axis	-40.00	-20.00	0.00	30.00	110.00 °C				
	Curve	3.03	1.86	1.00	0.75	0.58 Sec				
					<u> </u>					
Table 11										
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 Curve	-40.00 2.12	-20.00 1.39	0.00	30.00 0.64	110.00 °C 0.33 Sec				
	Curve	2.12	1.38	0.04	0.04	0.33 360	,			
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										
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 Sed				
Table 15										
10010 10	Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00
	Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

## 14 OBDG08 TCM Supporting Tables - 2D

Table 16	Axis Curve	-6.67 409.59	-6.66 2.50	40.00 °C 2.50 Se								
Table 17	Axis Curve	-6.67 0.40	-6.66 0.35	40.00 °C 0.30 Se								
Table 18	Axis Curve	-40.10 256.00	-40.00 50.00	-20.00 45.00	0.00 40.00	30.00 34.00	60.00 25.00	20.00	149.00	149.10 °C 256.00 °C		
Table 19	Axis Curve	-40.10 256.00	-40.00 50.00	-20.00 45.00	0.00 40.00	30.00 34.00	60.00 25.00	20.00	20.00	149.10 °C 256.00 °C		
	Axis Curve	-40.10 256.00	-40.00 10.00	-20.00 8.00	0.00 8.00	30.00 8.00	8.00	8.00	149.00 8.00	149.10 °C 256.00 °C		
Table 21	Axis Curve	-40.00 5.00	-20.00 3.00	40.00 °C 1.00 Se								

