Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		hreshold Value	Secondary Malfunction	Enable Conditions	Tim Requi		Mil Illum.
Transmission Control Module (TCM)		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	One Trip
								= 16	Sample Counts	
					Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None			
Transmission Control Module (TCM)	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown	= TRUE	Boolean			Runs Continously		One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold alue		Secondary Malfunction		Enable Conditions				'ime quired	Mil Illum.
						Co	Disable nditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None						
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	e >=	142.1016	°C						>=	5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature Ignition Voltage Note: either fail case can set the	e >=	50 18	°C Volts						>=	2	Fail Time (Sec)	-
			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					
						Co	Disable nditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Ti Req	me uired	Mil Illum.
High Side Driver 1		Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	- TRUE Booloan			>=	4	Fail Counts	One Trij
							out of	6	Sample Counts	
					P0658 Status is not	Test Failed This Key On or Fault Active				
					High Side Driver 1 On	= True Boolean				
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp $\Delta$	Refer to Table > 19 in °C supporting documents						Two Trips
			If TCM substrate temp to power up temp $\Delta$	Refer to Table 20 in °C supporting documents						
			Both conditions above required to increment fail counter				>=	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)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
			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 Accelerator Position Signal	=	TRUE	Boolean				
					Valid	=	TRUE	Boolean				
					Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.59961 31.99902	Volts Volts				
					Engine Speed Lo Engine Speed Hi	>=	400 7500	RPM RPM				
					Engine Speed is within the	<=	5	Sec				
					allowable limits for Brake torque active	=	FALSE	300				
					Below describes the brake		THEOL					
					torque entry criteria Engine Torque	>=	90	N*m				
					Throttle Transmission Input Speed	>=	30.0003	Pct RPM				
					Vehicle Speed	<= <=	200 8	KPIN				
					Transmission Range Transmission Range	≠ ≠	Park 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 Air Purge Event					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Gitteria	Value	Clutch used to exit brake torque active	CeTFTD_e = _C3_RatlE nbl	Required	
					The above clutch pressure is greater than this value for one loop			
					Set Brake Torque Active FALSE if above conditions are met for:	>= 20 Sec		
					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 If TCM Substrate Temperature Sensor = Direct Proportional and Temp	р <= -249 °С				Two Trips

Component/	Fault	Monitor Strategy	Malfunction	Thresho		Secondary Malfunction		Enable				me	Mil
System	Code	Description	Criteria	Value		Malfunction		Conditions		-	Requ	uired	Illum.
			If TCM Substrate Temperature										
			Sensor = Indirect Proportional and	>= -249 °C									
			Temp										
			Either condition above will satisfy							>=	60	Fail Timer (Sec)	
			the fail conditions							~ -	00		
						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	JEC				
								Test Failed					
						P0668 Status is	¥	This Key					
						F 0000 Status IS	+	On or Fault					
								Active					
					Disable	MIL not Illuminated for DTC's:	TCM: None						
					Conditions:								
							ECM: None						
ransmission Control Module		TCM internal temperature (substrate)		CeTFTI_e_Vol									Two
	P0669	thermistor failed at a high voltage	Type of Sensor Used	<ul> <li>tageDirectPro</li> </ul>									Trip
TCM)		inermisior ralled at a high voltage		р									
			If TCM Substrate Temperature										
			Sensor = Direct Proportional and	>= 249 °C									
			Temp										
	1		If TCM Substrate Temperature										
	1		Sensor = Indirect Proportional and	<= 249 °C									
	1		Temp	2 0									
	1		Either condition above will satisfy							1			
	1		the fail conditions							>=	60	Fail Timer (Sec)	
						Ignition Voltage Lo	>=	8.59961	Volts	1			
	1					Ignition Voltage Hi	<=	31.99902	Volts				
	1					Engine Speed Lo	>=	400	RPM				
	1	1				Engine Speed Lo	>=	400	IX F IVI	1			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Engine Speed Hi Engine Speed is within the allowable limits for	N-	7500 5	RPM Sec		
					P0669 Status is	¥	Test Failed This Key On or Fault Active			
					For Hybrids, below conditions must also be met					
					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			
				Disab Condition		TCM: P0716 ECM: None	, P0717, P0722,	P0723		
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp $\Delta$							Two Trips
			If transmission oil temp to power up temp $\Delta$							

Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
		Both conditions above required to							2000	Fail Counts	-
		increment fail counter						>=	3000	(100ms loop)	
								Out	3750		
		substrate temp and power up temp.						of	0,00	(100ms loop)	
		Non-continuous (intermittent) fail							700	Pass Counts	1
		conditions will delay resetting fail counter until						>=	700	(100ms loop)	
								Out	875	Sample Counts	
								of	0/0	(100ms loop)	
				Engine Torque Signal Valid	=	TRUE	Boolean				-
				Accelerator Position Signal	=	TRUE	Boolean				
				Ignition Voltage Lo	>=	8.59961	Volts				
				Engine Speed Hi	<=	7500	RPM				
				Engine Speed is within the allowable limits for	>=	5	Sec				
				Brake torque active	=	FALSE					-
				torque entry criteria							
				Engine Torque	>=	90 20.0002	N*m				
				Transmission Input Speed	>= <=	200	RPM				
				Vehicle Speed	<= ≠	8 Dark	Kph				
				Transmission Range	≁ ≠	Neutral					
					=	Not Active					
				Set Brake Torque Active TRUE if above conditions are met for:	>=	7	sec				
			Code         Description         Criteria           Both conditions above required to increment fail counter         Both conditions above required to increment fail counter           Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.         Non-continuous (intermittent) fail conditions will delay resetting fail	Code         Description         Criteria         Value           Code         Description         Criteria         Value           Both conditions above required to increment fail counter         Both conditions above required to increment fail counter         Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.           Non-continuous (intermittent) fail conditions will delay resetting fail         Code         Non-continuous	Code         Description         Criteria         Value         Matfunction           Code         Description         Both conditions above required to increment fail counter         Increment fail counter         Increment fail counter           Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp         Increment fail counter until         Increment fail counter until         Increment fail counter until           Non-continuous (intermittent) fail conditions will delay resetting fail counter until         Engine Torque Signal Valid Accelerator Position Signal         Value           Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp         Value           Image: State temp and power up temp           Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp           Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp           Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp         Image: State temp and power up temp           Image: State temp and power up temp	Code         Description         Criteria         Value         Matfunction           Both conditions above required to increment fail counter         Both conditions above required to increment fail counter         Image: Conditions above required to increment a	Code         Description         Criteria         Value         Matfunction         Conditions           Both conditions above required to increment fail counter         Both conditions above required to increment fail counter         Image: Conditions         Image: Conditions         Image: Conditions           Note: table reference temp = to the medical temp of trans oil temp, substrate temp and power up temp.         Image: Conditions         Image: Conditions         Image: Conditions           Non-continuous (intermittent) fail counter until         Image: Conditions will dely resetting fail counter until         Image: Conditions Vill dely resetting fail conditions Vill dely resetting fail conditins t	Code         Description         Criteria         Value         Mathunction         Conditions           Image: Condition above required to increment fail counter increment fail counter increment fail counter median temp of trans oil temp, substrate temp and power up temp. Substrate te	Code         Description         Criteria         Value         Mathunction         Conditions	Ocde     Description     Criteria     Value     Matuncition     Conditions     Conditions       Image: Second Se	Ocde     Description <sup>**</sup> Criteria     Value     Malfunction     Conditions     Conditions     Required       Both conditions above required to increment fail counter median targe of trans of temp.     Both conditions above required to increment fail counter median targe of trans of temp.     Image: Status of temp.     Image: St

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Below describes the brake			
					torque exit criteria			
					Brake torque entry criteria			
						Clutch		
					Clutch hydraulic pressure	Air Purge		
						Event		
					Clutch used to exit brake torque active	- C3 Patte		
					active	nbl		
					The above clutch pressure is			
					greater than this value for one loop			
					Set Brake Torque Active			
					FALSE if above conditions are met for:	>= 20 Sec		
						Test Failed		
					P06AC Status is	fest railed ≠ This Key On or Fault		
						Active		
					MIL not Illuminated for DTC's:	TCM: P0658, P0668, P0669, P06AD,		
				Conditions:		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,		
	1					P0306, P0307, P0308, P0401, P042E		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction		Enable Conditions				ime uired	Mil Illum.
Transmission Control Module (TCM)	P06AD	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -5	9 °C						>=	60	Fail Time (Sec)	Two Trips
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.99902	Volts			I	1
							Engine Speed Lo	>=	400	RPM			I	
							Engine Speed Hi	<=	7500	RPM			I	
							Engine Speed is within the allowable limits for	>=	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				
							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					
					Co	Disable nditions:	MIL not Illuminated for DTC's:	TCM: P0716 ECM: None	, P0717, P0722,	P0723				
Transmission Control Module (TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= 16	4 °C						>=	60	Fail Time (Sec)	Two Trips
(· -···)		· · · · · · · · · · · · · · · · · · ·					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	>= <= >=	8.59961 31.99902 400	Volts Volts RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Ti Req		Mil Illum.
					Engine Speed Hi Engine Speed is within the allowable limits for		7500 5	RPM Sec				
					P06AE Status is	¥	Test Failed This Key On or Fault Active					
				Disal Condition		TCM: None ECM: None						
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp $\Delta$	Refer to Table 19 in °C supporting documents								Two Trips
			If transmission oil temp to power up temp $\Delta$	Refer to Table 18 in °C supporting documents								
			Both conditions above required to increment fail counter						>=	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)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime uired	Mi Illur
									Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid Accelerator Position Signal	=	TRUE	Boolean				-
					Valid	=	TRUE	Boolean				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.99902	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi Engine Speed is within the	<=	7500	RPM				
					allowable limits for	>=	5	Sec				
					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	¥	Park					
					Transmission Range	≠	Neutral					
					PTO	=	Not Active					
					Set Brake Torque Active TRUE		7					
					if above conditions are met for:	>=	1	Sec				
					Below describes the brake							
					torque exit criteria							
					Brake torque entry criteria	=	Not Met					
							Clutch					
					Clutch hydraulic pressure	≠	Hydraulic					
					oracen rijardane pressure	,	Air Purge					1
							Event					1
					Clutch used to exit brake torque		CeTFTD_e					1
					active	=	_C3_RatIE					
	1			1	I I		nbl		1			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are	>= 600 kpa		
					met for P0711 Status is	Test Failed This Key On or Fault Active		
				Disa Conditio		TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	р <= -74 °С >= -74 °С				Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime juired	Mil Illum.
			Either condition above will satisfy the fail conditions						>=	60	Fail Time (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	>=	5	Sec				
					allowable limits for	2=	J	Jec				
					P0712 Status is	¥	Test Failed This Key On or Fault Active					
					For Hybrids, below conditions must also be met							
					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:	TCM: P0716 ECM: None	ı, P0717, P0722, I	P0723				
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	CeTFTI_e_Vol = tageDirectPro p								Two Trips

Component/	Fault	Monitor Strategy	Malfunction		reshold	Secondary Malfunction		Enable				me	Mil
System	Code	Description	Criteria	١	/alue	Malfunction		Conditions			Req	uired	Illum.
			If Transmission Fluid Temperature										
			Sensor = Direct Proportional and >=	= 174	°C								
			Temp										
			If Transmission Fluid Temperature										
			Sensor = Indirect Proportional and <=	= 174	°C								
			Temp										
			Either condition above will satisfy							>=	60	Fail Time (Sec)	
			the fail conditions					0.500/4				. ,	
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.99902	Volts				
						Engine Speed Lo Engine Speed Hi	>=	400 7500	RPM RPM				
						Engine Speed is within the	<=						
						allowable limits for	>=	5	Sec				
						allowable littlis for							
								Test Failed					
								This Key					
						P0713 Status is	¥	On or Fault					
								Active					
								neuve					
					Disable	MIL not Illuminated for DTC's:	TCM: P0713	. P0716. P0717. I	P0722.				
					Conditions:		P0723	,					
							ECM: None						
ransmission Input Speed	D0716	Input Speed Sensor Performance	Transmission Input Speed Sensor	= 900	RPM					>=	0.8	Fail Time (Sec)	One Tri
Sensor (TISS)	F0/10	Input Speed Sensor Fenormance	Drops 🗧	= 900	KE IVI					>=	0.0	Fail Time (Sec)	
						Engine Torque is	>=	0	N*m				
						Engine Torque is	<=	8191.88	N*m				
						Engine Speed	>=	400	RPM				
						Engine Speed	<=	7500	RPM				
						Engine Speed is within the	>=	5	Sec				
						allowable limits for							
	1					Vehicle Speed is	>=	10	Kph	1			

Component/ System	Fault Code	Monitor Strategy Description		Malfunction Criteria	1	hreshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
							Throttle Position is	>=	0	Pct				
							Transmission Input Speed is	>=	0	RPM				
							The previous requirement has been satisfied for	>=	0	Sec				
							The change (loop to loop) in transmission input speed is	<	8191.88	RPM/Loop				
							The previous requirement has been satisfied for	>=	0	Sec				
							Throttle Position Signal Valid	=	TRUE	Boolean				
							Engine Torque Signal Valid Ignition Voltage Ignition Voltage	= >= <=	TRUE 8.59961 31.99902	Boolean Volts Volts				
							P0716 Status is not	=	Test Failed This Key On or Fault Active					
						Disable Conditions:			, P0102, P0103					
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1	Transmission Input Speed is	< 33	RPM					>=	4.5	Fail Time (Sec)	One Trij
				Vhen P0722 DTC Status equal to st Failed and Transmission Input Speed is	< 653.13	3 RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean				
							Engine Torque is Engine Torque is Vehicle Speed	>= <= >=	80 8191.88 10	N*m N*m Kph				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Time Require		Mil Illum.
					Engine Torque Signal Valid		TRUE	Boolean				
					Ignition Voltage		8.59961	Volts				
					Ignition Voltage		31.99902	Volts				
					Engine Speed		400	RPM				
					Engine Speed		7500	RPM				
					Engine Speed is within the allowable limits for		5	Sec				
					P0717 Status is not	=	Test Failed This Key On or Fault Active					
				Disable Conditions:	MIL not Illuminated for DTC's:		e, P0723 , P0102, P0103					
Fransmission 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		TRUE	Boolean				
					Throttle Position	>=	8.0002	Pct				
					Transmission Fluid		10	00				
					Temperature	>=	-40	°C				1
					Disable this DTC if the PTO is		1	Boolean				
					active							1
		I			Engine Torque Signal Valid	=	TRUE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Ignition Voltage is	>=	8.59961	Volts		
					Ignition Voltage is	<=	31.99902	Volts		
					Engine Speed is	>=	400	RPM		
					Engine Speed is Engine Speed is within the	<=	7500	RPM		
					allowable limits for	>=	5	Sec		
										_
					Enable_Flags Defined Below					
					The Engine Torque Check is					
					TRUE, if either of the two					
					following conditions are TRUE					
					Engine Torque Condition 1					
							Denne shift			
					Range Shift Status	≠	Range shift completed	ENUM		
					OR					
					Transmission Range is	=	Park or Neutral			
					Engine Torque is	>=	8191.75	N*m		
					Engine Torque is	<=	8191.75	N*m		
					Engine Torque Condition 2		50			
					Engine Torque is Engine Torque is	>=	50 8191.75	N*m N*m		
					Engine Torque is	<=	0191.75	IN ITI		
					The Transmission Input Speed					
					(TIS) Check is TRUE, if either					
					of the two following conditions					
					are TRUE					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
						TIS Check Condition 1 Transmission Input Speed is Transmission Input Speed is	>= <=	653.13 5350	RPM RPM				
						TIS Check Condition 2 Engine Speed without the brake applied is Engine Speed with the brake applied is	>= >=	3200 3200	RPM RPM				
						Engine Speed is Controller uses a single power supply for the speed sensors	<=	8191.88 1	RPM Boolean				
						Powertrain Brake Pedal is Valid	=	TRUE	Boolean				
					Disable Conditions:		TCM: P0716, I ECM: P0101, I P0122, P0123	P0102, P0103,	P0121,				
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	Drivon rango									
						Range_Disable	=	FALSE	See Below				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	E Co	Enable Inditions		Time Required	Mil Illum.
					OR Neutral_Range_Enable And Neutral_Speed_Enable are TRUE concurrently			e Below e Below		
					Transmission_Range_Enable Transmission_Input_Speed_En able			e Below e Below		
					No Change in Transfer Case Range (High <-> Low) for	>=	5 Se	conds		
					P0723 Status is not	= 7 Oi	est Failed This Key n or Fault Active			
					Disable this DTC if the PTO is active	=	1 Bo	olean		
					Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is Engine Speed is within the allowable limits for	<= 3 >=	31.99902 \ 400 F 7500 F	/olts /olts RPM RPM Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Speed_En able is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>=	0	Enable Time (Sec)		
					Input Speed Delta Raw Input Speed	<= >=	4095.88 500	RPM RPM		
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied Input Speed A Single Power Supply is used for all speed sensors	= =	0 TRUE	RPM Boolean		
					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE Transmission Range is	=	Neutral	ENUM		_
					Transmission Range is	=	Reverse/N eutral Transitonal	ENUM		
					Transmission Range is	=	Neutral/Dri ve Transitional	ENUM		
					And when a drop occurs Loop to Loop Drop of Transmission Output Speed is	>	650	RPM		
					Range_Disable is TRUE when					_
					any of the next three conditions are TRUE Transmission Range is	=	Park	ENUM		

Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
				Transmission Range is	=	Park/Rever se Transitonal	ENUM		
				Input Clutch is not	=	ON (Fully Applied)	ENUM		
				Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	1.5	Seconds		
				Transmission Output Speed	>	130	RPM		
				The loop to loop change of the Transmission Output Speed is		20	RPM		
				The loop to loop change of the Transmission Output Speed is 	>	-10	RPM		
				Transmission_Range_Enable is TRUE when one of the next six conditions is TRUE					-
				Transmission Range is	=	Neutral	ENUM		
				Transmission Range is	=	Reverse/N eutral Transitional	ENUM		
				Transmission Range is	=	Neutral/Dri ve Transitional	ENUM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Ti Reg	ime uired	Mil Illum.
System	Code	Description	Citteria	Value	Time since a driven range (R,D) has been selected	Table Based Time Please Soc		Ney	uneu	
					Transmission Output Speed Sensor Raw Speed Output Speed when a fault was detected	>= 500 RPM				
				Disabl	:	TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123				
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure Either Condition (A) or (B) Must be Met				>=	2	Enable Time (Sec)	Two Trips
			(A) TCC Slip Error @ TCC On Mode				>=	5	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode				>=	5	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>=	2	TCC Stuck Off Fail Counter	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					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		-	C		
					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	>=	-6.6563	°C		
					Temperature Lo	/-	-0.0505	0		
					Transmission Fluid	<=	130	°C		
					Temperature Hi	-				
					PTO Not Active	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Dynamic Mode	=	FALSE	Boolean		1
					P0741 Status is	≠	Test Failed This Key On or Fault Active			
I					I				l	1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thr V	eshold alue		Secondary Malfunction		Enable Conditions			Tiı Requ		Mil Illum.
	rque Converter Clutch (TCC) P0742 TCC System Stuck ON					Co	Disable nditions:		P0742, P276 ECM: P010 P0107, P010 P0175, P020 P0205, P020 P0301, P030		, P0106, 2, P0174, 3, P0204, 8, P0300, 4, P0305,				
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed		-50 13	RPM RPM									One Trip
				~=	15							>=	1.5	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter									>=	6	Fail Counter	
								TCC Mode Enable test if Cmnd Gear = 1stFW and value true	=	Off 1	Boolean				
								Enable test if Cmnd Gear = 2nd and value true	=	0	Boolean				
								Engine Speed Hi Engine Speed Lo	<= >=	6000 500	RPM RPM				
								Vehicle Speed HI Vehicle Speed Lo	<= >=	511 1	KPH KPH				
								Engine Torque Hi Engine Torque Lo	<= >=	8191.88 80	Nm Nm				
								Current Range Current Range Transmission Sump	≠ ≠	Neutral Reverse	Range Range				
								Transmission Sump Temperature Transmission Sump	<=	130	°C				
ł								Temperature	>=	18	٥C				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Throttle Position Hyst High	>=	5.0003	Pct		
					AND					
					Max Vehicle Speed to Meet	<=	8	KPH		
					Throttle Enable		0			
					Once Hyst High has been met,					
					the enable will remain while	>=	2.0004	Pct		
					Throttle Position		75	D.I		
					Disable for Throttle Position Disable if PTO active and value	>=	75	Pct		
						=	1	Boolean		
					true					
					Disable if in D1 and value true	=	1	Boolean		
					Disable if in D2 and value true	=	1	Boolean		
					Disable if in D3 and value true	=	1	Boolean		
					Disable if in D4 and value true	=	1	Boolean		
					Disable if in D5 and value true	=	1	Boolean		
					Disable if in MUMD and value					
					true	=	1	Boolean		
					Disable if in TUTD and value					
					true	=	I	Boolean		
					4 Wheel Drive Low Active	=	FALSE	Boolean		
					Disable if Air Purge active and	=	0	Boolean		
					value false	=				
					RVT Diagnostic Active	=	FALSE	Boolean		
					Ignition Voltage	>=	8.59961	V		
					Ignition Voltage	<=	31.99902	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the	>=	5	Sec		
					allowable limits for					
I		I		1	Engine Torque Signal Valid	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
						Throttle Position Signal Valid	=	TRUE	Boolean				
						P0742 Status is	¥	Test Failed This Key On or Fault Active					
					Disable Conditions:	MIL not Illuminated for DTC's:	P0741, P276	3, P2764					
							P0107, P010 P0175, P020 P0205, P020 P0301, P030	I, P0102, P0103, 8, P0171, P0172 1, P0202, P0203 6, P0207, P0208 2, P0303, P0304	2, P0174, 3, P0204, 3, P0300, 4, P0305,				
							P0306, P030	7, P0308, P0401	I, P042E				
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 400	RPM								Two Trips
			Commanded Gear Gear Ratio Gear Ratio	<= 1.20959						>= =	0.2 5	Fail Tmr Fail Counts	
			If the above parameters are true							¥	0	Neutral Timer (Sec)	
										>=	0.3	Fail Timer (Sec)	
						Ignition Voltage Lo		8.59961	Volts	>=	8	Counts	
						Ignition Voltage Lo	>= <=	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		Thres Val		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
		2000.1910.1					Transmission Fluid Temperature	>=	-6.6563	٥C		
							Range Shift State	=	Range Shift Completed	ENUM		
							TPS		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 Output Speed Sensor fault		FALSE FALSE	Boolean Boolean		
							Default Gear Option is not present	_	TRUE	DUOIEAII		
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716 P182E	, P0717, P0722,	P0723,		
								P0107, P010 P0175, P020	, P0102, P0103, 8, P0171, P0172 1, P0202, P0203	2, P0174, 3, P0204,		
								P0301, P030	6, P0207, P0208 2, P0303, P0304 7, P0308, P0407	4, P0305,		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	RPM						One Trip
			Commanded Gear	=	3rd	Gear						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mi
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illur
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR					
			2nd with Mode 2 Sol. Commanded	= TRUE Boolean				
			2nd with wode 2 Sol. Commanded On					
			If the above parameters are true					
			in the above parameters are true				Please Refer	
							to Table 16 in Neutral Timer	
							>= Supporting (Sec)	
							Documents	
			Command 4th Gear once Output	<= 400 RPM				
			Shaft Speed					
			If Gear Ratio					
			And Gear Ratio	<= 4.22839				1
							>= 1.5 Fail Timer (Sec)	)
							>= 5 Counts	
					Ignition Voltage Lo	>= 8.59961 Volts	2- 0 000m3	
					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			
					High-Side Driver is Enabled	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					from ECM			
					Output Speed OR	>= 67 RPM		
					TPS	>= 0.5005 %		
					IF3			
						Range		
					Range Shift State	= Shift ENUM		
						Completed		
					Transmission Fluid	>= -6.6563 °C		
					Temperature			
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		

Component/	Fault Code	Monitor Strategy	Malfunction Criteria		Threshold Value	Secondary Malfunction		Enable Conditions			'ime quired	Mil Illum.
System	Code	Description	Criteria		value	Default Gear Option is not				Ket	lanea	indin.
						present	=	TRUE				
						e MIL not Illuminated for DTC's:	TCM: P0716	, P0717, P0722,	P0723,			
					Conditions		P182E					
								, P0102, P0103,				
								8, P0171, P0172				
								1, P0202, P0203 6, P0207, P0208				
							P0301, P030	2, P0303, P0304	, P0305,			
							P0306, P030	7, P0308, P0401	, P042E			
lode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1 Commanded Gear	= 1st Lo	cked							One Tri
										Please Ref		
			Gear Box Slip	>= 40	0 RPM					>= to Table 5 i Supporting		
										Document		
			Intrusive Shift to 2nd									
			Commanded Gear Previous Gear Ratio		cked Gear							
			Gear Ratio									
			If the above parameters are true									
										>= 1 >= 3	sec counts	
						Ignition Voltage Lo	>=	8.59961	Volts	>= 3	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			
						Output Speed	>=	67	RPM			
						OR TPS	>=	0.5005	%			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction	Enable Conditions		Time Required	N	Mil lum.
	oode	Description				Range Shift State	Range	ENUM			
						Transmission Fluid Temperature		°C			
						High-Side Driver is Enabled Throttle Position Signal Valid		Boolean			
						from ECM Input Speed Sensor fault	= IRUE	Boolean Boolean			
						Output Speed Sensor fault	= FALSE	Boolean			
						Default Gear Option is not present	= TRUE				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, F P182E	20723,			
							ECM: P0101, P0102, P0103, F P0107, P0108, P0171, P0172, P0175, P0201, P0202, P0203, P0205, P0206, P0207, P0208, P0301, P0302, P0303, P0304, P0306, P0307, P0308, P0401,	P0174, P0204, P0300, P0305,			
Variable Bleed Solenoid (VBS)	P0776		Fail Case 1 Case: Steady State 3rd G	ar						One	ie Trip
		Stuck Off [C35R]	Commanded Ge Gearbox S	ar = 3rd	Gear RPM				Please Refer to Table 16 in Ne		
			Command 4th Gear once Out Shaft Spe If Gear Ra	20	RPM				Supporting Documents	(Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
			And Gear Ratio	<= 1.20959								
									>=	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	ease Refer Table 5 in Supporting locuments		
			Intrusive Test: Command 6th Gear									
			If attained Gear=6th gear Time	Please refer to Table 3 in supporting documents								
			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				
					INDIT RVI IMS fault pending indication	=	FALSE	Boolean Boolean				
					TPS validity flag	=	TRUE	Boolean				
					Hydraulic System Pressurized	=	TRUE	Boolean				
					Minimum output speed for RVT	>=	67	RPM				
					A OR B							

Component/ System	Fault Code	Monitor Strategy Description	Malfuncti Criteria		Thres Valu		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
							(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	N-	5	Sec		
							allowable limits for	>=	5	Sec		
							Throttle Position Signal valid	=	TRUE	Boolean		
							HSD Enabled	=	TRUE	Boolean		
							Transmission Fluid		-6.6563	°C		
							Temperature	>=	-0.0003	-C		
							Input Speed Sensor fault	=	FALSE	Boolean		
							Output Speed Sensor fault	=	FALSE	Boolean		
							Default Gear Option is not		TRUE			
							present	=	IRUE			
						Disable	MIL not Illuminated for DTC's:	TCM: P0716	, P0717, P0722,	P0723,		
						Conditions:		P182E				
								ECM: P0101	, P0102, P0103,	P0106,		
								P0107, P010	8, P0171, P017	2, P0174,		
								P0175, P020	1, P0202, P020	3, P0204,		
								P0205, P020	6, P0207, P020	8, P0300,		
								P0301, P030	2, P0303, P030	4, P0305,		
									7, P0308, P040			
		Pressure Control (PC) Solinoid B	Fail Case 1									One Ti
iable Bleed Solenoid (VBS	) P0777	Stuck On [C35R] (Steady State)	C	Case: Steady State 1st								One n
		statistics (second (state)		Attained Gear slip	>= 400	RPM						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
			If the Above is True for Time Intrusive test:	Table Based Time Please Refer to Table Enable Time →= 4 in (Sec) supporting documents					
			(CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	>= 1.45544					
							>=	1.1 Fail Timer (Sec)	)
							>=	2 Fail Count in 1s Gear or	t
			Fail Case 2 Case: Steady State 2nd gear				>=	3 Total Fail Counts	_
			Max Delta Output Speed Hysteresis	Table Based value Please					
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to Table 23 in supporting					
			If the Above is True for Time	documents Table Based Time Please Refer to Table 17 in 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) Gear Ratio Gear Ratio If the above parameters are true					
							>= 1.1 Fail Timer (Se	c)
							>= 3 Fail Count in 2nd Gear	
							>= 3 Counts	
			Fail Case 3 Case: Steady State 4th gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table 22 in rpm/sec supporting documents Table Based				
			Min Delta Output Speed Hysteresis	supporting documents Table Based				
			If the Above is True for Time	supporting				
			Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		T Rec	ime quired	Mil Illum.
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 4th Gear	
							>=	3	or Total Fail Counts	
			Fail Case 4 Case: Steady State 6th gear							
				Table Based value Please						
			Max Delta Output Speed Hysteresis	Defer to Table						
				supporting						1
				documents						
				Table Based value Please						
			Min Delta Output Speed Hysteresis	Defer to Table						
				supporting						
				documents Table Based						
				Time Please						
			If the Above is True for Time	Defer to Table						
				supporting						
			Intrusive test:	documents						
			(CB26 clutch exhausted)							
			Gear Ratio	<= 0.89465			>=	1.1	Fail Timer (Sec)	ĺ
			Gear Ratio	>= 0.80945			>=	3	counts	
			If the above parameters are true							1
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 6th Gear	
									or	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Time Requir		Mil Illum.
									>=	3	Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean				1
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	>=	0	RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pressurized	=	TRUE	Boolean				
					A OR B							
					(A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.5005	Nm				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.99902	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the	>=	5	Sec				
					allowable limits for	>=	J	Jec				
					if Attained Gear=1st FW	>=	5.0003	Pct				
					Accelerator Pedal enable		0.0000					
					if Attained Gear=1st FW Engine	>=	5	Nm				
					Torque Enable		0					
					if Attained Gear=1st FW Engine	<=	8191.88	Nm				
					Torque Enable							
					Transmission Fluid	>=	-6.6563	°C				
					Temperature							
					Input Speed Sensor fault	=	FALSE	Boolean Boolean				
					Output Speed Sensor fault	=	FALSE	Reling				
I	1 1	I		1	1				I			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE Maximum pressurize					One Trip
			Primary Offgoing Clutch Pressure Command Status	= Clutch exha					
			Range Shift Status Attained Gear Slip	Control	h RPM				
			If the above conditions are true run appropriate Fail 1 Timers Below:						
			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)	>= 0.2998	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thre Va	shold Ilue	Secondary Malfunction	Enable Conditions	Time Required	1	Mil Illum.
			(3-4snitting with Closed Throttle) fail timer 1		0.5 .2998	Fail Time (Sec) Fail Time (Sec)					
			fail timer 1	>=	0.5	Fail Time (Sec)					
			fail timer 1 (5-3 shifting with Throttle)	>= 0.	.2998	Fail Time (Sec)					
			fail timer 1 (5-3 shifting with Closed Throttle)	>=	0.5	Fail Time (Sec)					
			fail timer 1 (5-4 shifting with Throttle)	>= 0.	.2998	Fail Time (Sec)					
			fail timer 1 (5-4 shifting with Closed Throttle)	>=	0.5	Fail Time (Sec)					
			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						Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer 1, and Reference Supporting Table 15 for Fail Timer 2	Sec	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Tir Requ		Mil Illum.
Oystem	Code	Description	3rd gear fail counter					>=	3	3rd gear fail counts	
			5th gear fail counter					>=	3	OR 5th gear fail counts	
			Total fail counter					>=	5	OR total fail counts	
				Disable Conditions:		= FALSE = FALSE ≠ 1st = TRUE >= 100 >= 150 = FALSE = FALSE = FALSE = TRUE = TRUE	3, P0106, 72, P0174, 03, P0204, 08, P0300, 04, P0305,				
ariable Bleed Solenoid (VBS)	) P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case 1 Case: Steady State 4th Gear								One Tr

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Timer Neutral Time (Sec) Cal	
			Intrusive test: commanded 5th gear	Please refer to				
			If attained Gear ≠5th for time	Documents				
			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	
			Fail Case 2 Case: Steady State 5th Gear Gear slip				Please See Table 5 For Neutral Timer Neutral Time (Sec)	
			Intrusive test: commanded 6th gear	Please Refer			Cal	
			If attained Gear ≠ 6th for time	Documents				
			if the above conditions have been met				5th Gear Fail	
			Increment 5th Gear Fail Counter				>= 3 Stil Geal Pail Count OR	
			and C456 Fail Counters				>= 14 C456 Fail Counts	
	1	I	Fail Case 3 Case: Steady State 6th Gear	1	l			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
			Gear slip	>= 400 RPM					Ta	ease See able 5 For eutral Time Cal	Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear If attained Gear ≠ 5th for time	Please refer to Table 3 in >= Sumerting Shift Time (Sec)						<u>u</u>		
			if the above conditions have been met	Supporting Documents							(# 0 5-*	
			Increment 6th Gear Fail Counter and C456 Fail Counter						>=	3	6th Gear Fail Count OR	
			and C456 Fail Counter						>=	14	C456 Fail Counts	
					PRNDL State defaulted inhibit RVT	=	FALSE FALSE	Boolean Boolean				
					IMS fault pending indication TPS validity flag	=	FALSE TRUE	Boolean Boolean				
					Hydraulic System Pressurized	=	TRUE	Boolean				
					Minimum output speed for RVT	>=	67	RPM				
					A OR B (A) Output speed enable	>=	67	RPM				
					(B) Accelerator Pedal enable	>=	0.5005	Pct				
					Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed Hi	>= <= >= <=	8.59961 31.99902 400 7500	Volts Volts RPM RPM				
					Engine Speed is within the allowable limits for Throttle Position Signal valid	>= =	5 TRUE	Sec Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault OutputSpeed Sensor fault Default Gear Option is not present	= TRUE Boolean >= -6.6563 °C = FALSE Boolean = FALSE Boolean = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip	>= 400 RPM Table Based		1 0300, 1 0307, 1 0300, 1 0401, 1 0422		One Trip
			If the Above is True for Time	Time Please Pofor to Tablo, Enable Time				
			Intrusive test: (CBR1 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true					
							>= 1.1 Fail Timer (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Ti Req	me uired	Mil Illum.
							>=	2	Fail Count in 1st Gear	
							>=	3	or Total Fail Counts	
			Fail Case 2 Case Steady State 2nd							1
				Table Based value Please						
			Max Delta Output Speed Hysteresis							
				supporting documents						
				Table Based value Please						
			Min Delta Output Speed Hysteresis	23 10						
				supporting documents						
				Table Based Time Please						
			If the Above is True for Time	17 in						
			Intrusive test:	supporting documents						
			(CB26 clutch exhausted)							
			Gear Ratio							
			Gear Ratio If the above parameters are true	>= 1.09436						
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 2nd Gear or	
							>=	3	Total fail counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		able ditions		T	me uired	Mil Illum.
System	Coue	Description	Fail Case 3 Case Steady State 3rd			0011			nee	uncu	
				Table Based							
				uslus Disess							
			Max Delta Output Speed Hysteresis	>= Refer to Table 22 in rpm/sec							
			Max Delta Output Speed Hysteresis	>= 22 in rpm/sec							
				supporting							
				documents							
				Table Based							
				value Please							
			Min Delta Output Speed Hysteresis	>= Refer to Table rpm/sec							
				23 IN '							
				supporting							
				documents Table Based							
				Time Please							
				Defer to Table							
			If the Above is True for Time	>= 17 in Sec							
				supporting							
				documents							
			Intrusive test:								
			(C35R clutch exhausted)								
			Gear Ratio	<= 1.20959							
			Gear Ratio	>= 1.09436							
			If the above parameters are true								
								>=	1.1	Fail Timer (Sec)	
								/-	1.1		
								>=	3	Fail Count in 3rd	
										Gear	
									OR		
								>=	3	Total Fail	
					DDNDL Claire de/	-	N.C. Dealers	-		Counts	
					PRNDL State defaulted inhibit RVT		ALSE Boolean ALSE Boolean				
					IMS fault pending indication		ALSE Boolean				
					output speed		0 RPM				
					TPS validity flag		RUE Boolean				
					HSD Enabled		RUE Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					Hydraulic_System_Pressurized	=	TRUE	Boolean		
					A OR B					
					(A) Output speed enable		67	Nm		
					(B) Accelerator Pedal enable	>=	0.5005	Nm		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.99902	Volts		
					Engine Speed Lo		400	RPM		
					Engine Speed Hi		7500	RPM		
					Engine Speed is within the					
					allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW					
					Accelerator Pedal enable	>=	5.0003	Pct		
					if Attained Gear=1st FW Engine					
					Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine					
					Torque Enable		8191.88	Nm		
					Transmission Fluid					
					Temperature	>=	-6.6563	°C		
					Input Speed Sensor fault		FALSE	Boolean		
						=	FALSE			
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not	=	TRUE			
					present					
					MIL not Illuminated for DTC's:		, P0/17, P0/22,	P0723,		
				Conditions:		P182E				
							, P0102, P0103,			
							08, P0171, P0172		1	1
							01, P0202, P0203		1	1
							6, P0207, P020			
							2, P0303, P030			
						P0306, P030	7, P0308, P040	1, P042E		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	r	hreshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)		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 Command Status	= TRUE	m				One Trip
			Primary Offgoing Clutch Pressure Command Status	= Clutch ext					
			Range Shift Status Attained Gear Slip	Contro					
			If the above conditions are true increment appropriate Fail 1 Timers Below: fail timer 1						
			(4-1 shifting with throttle) fail timer 1	>= 0.2998	3 Fail Time (Sec) Fail Time (Sec)				
			(4-1 shifting without throttle) fail timer 1 (4-2 shifting with throttle)	>= 0.2998					
			fail timer 1 (4-2 shifting without throttle) fail timer 1	>= 0.5	Fail Time (Sec)				
			(4-3 shifting with throttle) fail timer 1 (4-3 shifting without throttle)	>= 0.2998	B Fail Time (Sec) Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.2998	3 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle) fail timer 1	>= 0.5	Fail Time (Sec)				
			(6-2 shifting with throttle) fail timer 1	>= 0.2998					
			(6-2 shifting without throttle)	>= 0.5	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Tin Requ	ne ired	Mil Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers					= ( 2) Tir >= Ti F S	tal Fail Time Fail 1 + Fai See Enable ners for Fai mer 1, and Reference Supporting able 15 for ail Timer 2	1	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter								
			4th gear fail counter					>=	3	Fail Counter From 4th Gear OR	
			5th gear fail counter					>=	3	Fail Counter From 5th Gear OR	
			6th gear fail counter					>=	3	Fail Counter From 6th Gear OR	
			Total fail counter					>=	5	Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled	>= -6.6563 = FALSE = FALSE ≠ 1st = TRUE >= 100 >= 150 = FALSE = FALSE = FALSE = TRUE	°C Boolean Boolean Boolean RPM RPM Boolean Boolean Boolean Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			eshold /alue	Secondary Malfunction	Enable Conditions	Tir Requ		Mil Illum.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E			
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in Position in Range 1 E	nabled =	0	Boolean					Special No MIL
			Tap Up Switch Stuck in Position in Range 2 E		0	Boolean					
			Tap Up Switch Stuck in Position in Range 3 E		0	Boolean					
			Tap Up Switch Stuck in Position in Range 4 E		0	Boolean					
			Tap Up Switch Stuck in Position in Range 5 E	he Up	0	Boolean					
			Tap Up Switch Stuck in Position in Range 6 E	he Up	0	Boolean					
			Tap Up Switch Stuck in Position in Neutral E	he Up	1	Boolean					
			Tap Up Switch Stuck in Position in Park E	he Up	1	Boolean					
			Tap Up Switch Stuck in Position in Reverse E	he Up	0	Boolean					1
			Tap Up Swi		TRUE	Boolean			>= 1	Fail Time (Sec)	
			Fail Case 2 Tap Up Switch Stuck in Position in Range 1 E		1	Boolean					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Th	reshold /alue	Secondary Malfunction		Enable Conditions			Time equired	Mil Illum.
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1	Boolean							
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1	Boolean							
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1	Boolean							
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1	Boolean							
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1	Boolean							
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0	Boolean							
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0	Boolean							
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0	Boolean							
			Tap Up Switch ON NOTE: Both Failcase1 and Failcase	= TRUE	Boolean					>= 600	Fail Time (Sec)	
			2 Must Be Met							>= 000	Tall Time (Sec)	-
						Time Since Last Range Change	>=	1	Enable Time (Sec)			1
						Ignition Voltage Lo Ignition Voltage Hi	>= <=	8.59961 31.99902	Volts Volts			
						Engine Speed Lo Engine Speed Hi	>= <=	400 7500	RPM RPM			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
						Engine Speed is within the allowable limits for	>=	5	Sec		
						P0815 Status is	¥	Test Failed This Key On or Fault Active			
					Disable Conditions:		TCM: P0816 P1877, P191 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		Boolean						Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled		Boolean						
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled		Boolean						
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled		Boolean						
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1	Boolean						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Park Enabled Tap Down Switch Stuck in the	= 1	Boolean					
			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/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
System	Code	Description	Criteria	value	Manufiction	Conditions	Required	inum
						Enable Time		_
					Time Since Last Range Change	>= 1 (Sec)		
					Ignition Voltage Lo			
					Ignition Voltage Hi Engine Speed Lo			
					Engine Speed Hi			
					Engine Speed is within the			
					allowable limits for			
						Test Failed		
					P0816 Status is	≠ This Key		
						✓ On or Fault Active		
						Active		
				Disabl	e MIL not Illuminated for DTC's	TCM: P0815, P0826, P182E, P1876,		
				Conditions		P1877, P1915, P1761		
						FOM Need		
ap Up Tap Down Switch						ECM: None		, Spec
TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec	;) No M
					Ignition Voltage Lo	>= 8.59961 Volts <= 31.99902 Volts		
					Ignition Voltage Hi Engine Speed Lo			
					Engine Speed Hi			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
						Engine Speed is within the allowable limits for	>=	5	Sec				
						P0826 Status is	¥	Test Failed This Key On or Fault Active					
					Disable I nditions:	MIL not Illuminated for DTC's:	TCM: P1761 ECM: None						
Variable Bleed Solenoid (VBS)	P0961	Pressure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS)	The HWIO reports an invalid voltage (out of range) error flag	= TRUE Boolean						>=	4.4	Fail Time (Sec)	Two Trips
										out of	5	Sample Time (Sec)	
						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 I nditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
/ariable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag							>=	1.5	Fail Time (Sec)	One Tr
		LUIR FIESSULE VDS)								out of	1.875	Sample Time (Sec)	
	l					Ignition Voltage	>=	8.59961	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions			Tir Requ		Mil Illum.
						Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	>= <=	31.99902 400 7500 5	Volts RPM RPM Sec				
					Disable Conditions:		TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0963	Pressure Control (PC) Solenoid A Control Circuit High Voltage (Line Pressure VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	4.4	Fail Time (Sec)	Two Trips
						Ignition Voltage Ignition Voltage Engine Speed	<= >=	8.59961 31.99902 400	Volts Volts RPM	out of	5	Sample Time (Sec)	
					<b>D</b> ivite	Engine Speed Engine Speed is within the allowable limits for	>=	7500 5	RPM Sec				
		Pressure Control (PC) Solenoid B			Disable Conditions:		ICM: None ECM: None						One Tri
Variable Bleed Solenoid (VBS)	P0966	Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag		Boolean					>=	0.3	Fail Time (Sec)	One Tri
										out of	0.375	Sample Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			Ti Req	ne Jired	Mil Illum.
					Ignition Voltage	>=	8.59961	Volts				1
					Ignition Voltage	<=	31.99902	Volts				
					Engine Speed	>=	400 7500	RPM RPM				
					Engine Speed Engine Speed is within the	<=		RPIVI				
					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)		Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Tri
									out of	0.375	Sample Time (Sec)	
					Ignition Voltage	>=	8.59961	Volts	01		(000)	-
					Ignition Voltage	<=	31.99902	Volts				
					Engine Speed	>=	400	RPM				
					Engine Speed	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					anowable infins for							
					P0967 Status is not	=	Test Failed This Key On or Fault Active					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions			Tiı Requ		Mil Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>= out of	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Tri
						P0970 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	>= <= <= >=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One Tr
		(								out of	0.375	Sample Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions				ime juired	Mil Illum.
					P0971 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		TCM: None ECM: None						
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean					>= out	1.2 1.5	Fail Time (Sec) Sample Time	One Trip
					P0973 Status is not	=	Test Failed This Key On or Fault Active		of	1.0	(Sec)	-
					Ignition Vollage Ignition Vollage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= >= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions			Tiı Requ		Mil Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>= out of	1.2 1.5	Fail Time (Sec) Sample Time (Sec)	Two Trips
						P0974 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed is within the allowable limits for	<= >= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
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 of	1.5	Sec	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	reshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
					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	<= >= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	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	Boolean					>=	3	Fail Counter Sample Timer	Special No MIL
					Tap Up Tap Down Message Health	=	TRUE	Boolean	>	10	(Sec)	-
					Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >=	400 7500 5	RPM RPM Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		ime quired	Mil Illum.
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case 1 Current range	Transition 1 = (bit state Range 1110)				C	One Trip
			Previous range	e ≠ CeTRGR_e_P RNDL_Drive6 Range					
			Previous range	e ≠ CeTRGR_e_P RNDL_Drive4 Range					
			Range Shift State	e = Range Shift Completed ENUM					
			Absolute Attained Gear Slip Attained Gear	o <= 50 rpm r <= Sixth					
			Attained Gear Throttle Position Available						
			Throttle Position	n >= 8.0002 pct					
			Output Speed						
			Engine Torque						
			Engine Torque	e <= 8191.75 Nm					
			If the above conditions are met then				>= 1	Fail Seconds	
			Increment Fail Timer If Fail Timer has Expired then						
			Increment Fail Counter				>= 5	Fail Counts	
			Fail Case 2 Output Speed						
			The following PRNDL sequence events occur in this exact order:						
			PRNDL state	e = Drive 6 (bit state 0110) Range					
	1		PRNDL state = Drive 6 for						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			shold lue	Secondary Malfunction		Enable Conditions			Tin Requ		N IIIu
oystem	Code	Description	ontena	Tr	ansition 8				Contantionio		1	noqu		-
			PRNDL state		(bit state	Range								
					0111)	rungo								
				D	rive 6 (bit	_								
			PRNDL state		ate 0110)	Range								
				Tr	ansition 1									
			PRNDL state	= (	(bit state	Range								
					1110)	-								
			Above sequencing occurs in		1	Sec								
			Neutral Idle Mode	=	Inactive									
			If all conditions above are met											
			Increment delay Timer											
			If the below two conditions are met								>=	3	Fail Seconds	
			Increment Fail Timer									0		
			delay timer		1	Sec								
			Input Speed	>=	400	Sec								
			If Fail Timer has Expired then								>=	2	Fail Counts	
			Increment Fail Counter Fail Case 3	Tee	ansition 13				CeTRGR_					-
			Current range			Range	Previous range	≠	e_PRNDL_					
			Curentrange		0010)	Range	r revious range	7	Drive1					
					0010)				CeTRGR					
			Engine Torque	>=	-8192	Nm	Previous range	≠	e_PRNDL_					
			Engline Forque	-	0172		r to though that igo	,	Drive2					
			Engine Torque	<= 8	8191.75	Nm	IMS is 7 position configuration	=	1	Boolean				
							If the "IMS 7 Position config" =							
			If the above conditions are met				1 then the "previous range"					0.225	Seconds	
			then, Increment Fail Timer				criteria above must also be				>=	0.225	Seconds	
							satsified when the "current							
			If Fail Timer has Expired then								>=	15	Fail Counts	
			Increment Fail Counter									15	i an counts	
			Fail Case 4	Tr	ransition 8		Disable Fail Case 4 if last							
			Current range		(bit state	Range	positive range was Drive 6 and							1
			Guron rango		0111)		current range is transition 8							
	1 1				,		carron range is a anomore o				1			1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
			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		Nm Nm	ioo (park)		>=	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	state 1100)	Range					
			PRNDL State	Transition 11 = (bit state 0100)	Range					
			PRNDL State	= Neutral (bit state 0101)	Range					
			PRNDL State	Transition 11 = (bit state 0100)	Range					
			Above sequencing occurs in Then delay timer increments	<= 1	Sec					
			Delay timer Range Shift State	Dongo Chift	Sec					
			Absolute Attained Gear Slip Attained Gear Attained Gear	<= 50 <= Sixth >= First	rpm					
			Throttle Position Output Speed		pct rpm					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Ti Req	me uired	Mil Illum.
			If the above conditions are met Increment Fail Timer				>=	20	Seconds	
			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 0111)				
			If the above Condtions are met then, Increment Fail timer		Fail case 5 delay timer	= 0 sec	>=	6.25	Seconds	
			Fail Case 7 Current PRNDL State	= PRNDL circuit ABCP = 1101 Range						
			and Previous PRNDL state	DDNDL circuit						
			Input Speed Reverse Trans Ratio Reverse Trans Ratio	>= 150 RPM <= 2.84583 ratio						
			If the above Condtions are met then, Increment Fail timer				>=	6.25	Seconds	-

	P182E will report test fail when any of the above 7 fail cases are met								
									1
				Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Engine Torque Signal Valid	<= 31.99902 >= 400 <= 7500 >= 5	Volts Volts RPM RPM Sec Boolean			
			Disable Conditions:		P07C0, P07BF, P077C, P077D ECM: P0101, P0102, P0103, P0 P0107, P0108, P0171, P0172, P P0175, P0201, P0202, P0203, P P0205, P0206, P0207, P0208, P	0106, 0174, 0204, 0300,			
Internal Mode Switch Does Not									One Trip
P15 Indicate Park/Neutral (P/N) During Start	The following events must occur	≠ Park or Neutral	Enumeration						one mp
		<= 50	RPM			>	>= 0.25	Enable Time (Sec)	
	Then Engine Speed Between Following Cals							. /	
	о ,		RPM RPM			>	>= 0.06875	Enable Time (Sec)	
		5 Indicate Park/Neutral (P/N) During Start The following events must occur Sequentially Initial Engine speed Then Engine Speed Between Following Cals Engine Speed Lo Hist	5       Indicate Park/Neutral (P/N) During       PRNDL State is       ≠       Park or Neutral         Start       The following events must occur       Sequentially           Initial Engine speed       <=	Internal Mode Switch Does Not       Fark or       Conditions:         Indicate Park/Neutral (P/N) During       PRNDL State is       Park or       Enumeration         Start       The following events must occur Sequentially       Enumeration       Enumeration         Initial Engine Speed Between Following Calis       <=	Internal Mode Switch Does Not       Internal Mode Switch Does Not       MIL not Illuminated for DTC's:         Indicate Park/Neutral (P/N) During       PRNDL State is       ≠       Park or Neutral         Indicate Park/Neutral (P/N) During       PRNDL State is       ≠       Park or Neutral         Initial Engine speed       <=	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start       Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start       PRNDL State is Engine Speed Lo Hist Sequentially       # Park or Neutral       Enumeration Enumeration       Enumeration Enumeration         Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During       PRNDL State is Engine Speed Lo Hist Sequentially       # Park or Neutral       Enumeration	Internal Mode Switch Does Not       Internal Mode Switch Does Not       PRNDL State is       #       Park or Sequentially       Enumeration       Enumer	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start       Internal Mode Switch Does Not Internation       Internation       Internatin       Internation       I	Internal Mode Switch Does Not       Internal Mode Switch Does Not

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	٦	hreshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
			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	>=	6	V				
						Ignition Voltage Hi	<=	31.99902	V				
						Ignition Voltage Hyst High		-	V				
						(enables above this value)	>=	5	V				
						Ignition Voltage Hyst Low		2					
						(disabled below this value)	<=	2	V				
						Transmission Output Speed	<=	90	rpm				
								Test Failed					
						P1915 Status is	≠	This Key					
							,	On or Fault Active					
					Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0722	, P0723					
					Conditions		ECM: None						
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALS	Boolean								One Trip
			Ignition Voltage High Hyst (run	_								Fail Counts	
			crank goes true when above this value)	5	Volts					>=	280	(25ms loop)	
			Ignition Voltage Low Hyst (run							Out		Sample Counts	
			crank goes false when below this value)	2	Volts					of	280	(25ms loop)	
			value)			ECM run/crank active status	=	TRUE	Boolean	-			
						available	=	INUE	DODIEGI				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	r	hreshold Value	Secondary Malfunction		Enable Conditions			Tim Requi		Mil Illum.
					Disable Conditions:	ECM run/crank active status MIL not Illuminated for DTC's:	= TCM: None ECM: None	TRUE	Boolean				
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below) Ignition Voltage High Hyst (run crank goes true when above this value) Ignition Voltage Low Hyst (run crank goes false when below this value)	= IRUE 5	Boolean Volts Volts					>= Out of	280 280	Fail Counts (25ms loop) Sample Counts (25ms loop)	One Trip
			value,		Disable Conditions:	ECM run/crank active status available ECM run/crank active status MIL not Illuminated for DTC's:	= = TCM: None ECM: None	TRUE FALSE	Boolean Boolean				
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case 1 Case: Steady State 2nd Gear slip Gear slip Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time	>= 400 Table Ba Time Ple	ase Enable Time 2 in (Sec)					Ta	lease See able 5 For eutral Time Cal	Neutral Timer (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable onditions			Tir Requ		Mil Illum.
			If Above Conditions have been met Increment 2nd gear fail count						>=	3	2nd Gear Fail Count	
			and CB26 Fail Count						>=	14	or CB26 Fail Count	
			Fail Case 2 Case: Steady State 6th Gear Gear slip Intrusive test: commanded 5th gear						, Ta	lease See able 5 For eutral Time Cal	Neutral Timer	
			If attained Gear = 5th For Time	Table Based Time Please see Table 2 in Supporting Documents								
			If Above Conditions have been met, Increment 5th gear fail counter						>=	3	5th Gear Fail Count	
			and CB26 Fail Count						>=	14	or CB26 Fail Count	
					PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag	= =	FALSE FALSE FALSE TRUE	Boolean Boolean Boolean Boolean				
					Hydraulic System Pressurized	=	TRUE	Boolean				
					Minimum output speed for RVT A OR B	>=	0	RPM				
					(A) Output speed enable (B) Accelerator Pedal enable	>= >=	67 0.5005	RPM Pct				
1	I		1		(b) Accelerator Fedal eriable	/-	0.0000	rul	l			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria		Disable MI ditions:	Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi engine Speed Is within the allowable limits for Throttle Position Signal valid HSD Enabled Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	P182E ECM: P010 P0107, P01 P0175, P02 P0205, P02 P0301, P03	8.59961 31.99902 400 7500 5 TRUE TRUE -6.6563 FALSE FALSE TRUE	, P0106, /2, P0174, /3, P0204, /8, P0300, /4, P0305,	Kequired	
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status	<ul> <li>TRUE Boolean</li> <li>Maximum pressurized</li> <li>Clutch exhaust</li> </ul>							One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thre	eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Range Shift Status Attained Gear Slip	₹ (	ial Clutch Control 40					
			If above coditons are true, increment appropriate Fail 1 Timers Below:							
			(2-1 shifting with throttle)	>= (	0.2998	Fail Time (Sec)				
			(2-1 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			(2-3 shifting with throttle)	>= (	0.2998	Fail Time (Sec)				
			(2-3 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			(2-4 shifting with throttle)	>= (	0.2998	Fail Time (Sec)				
			(2-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			(6-4 shifting with throttle)	>= (	).2998	Fail Time (Sec)				
			(6-4 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			(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				>= 3 OR 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	<ul> <li>&gt;= -6.6563 °C</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>≠ 1st Boolean</li> <li>= TRUE Boolean</li> <li>&gt;= 100 RPM</li> <li>&gt;= 150 RPM</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= FALSE Boolean</li> <li>= TRUE Boolean</li> </ul>		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Required	Mil Illum.
System	Code	Description	Criteria		Mill not Illuminated for DTC's:			Kequirea	illum.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case 1 Case: Steady State 1st Attained Gear slip If the Above is True for Time Intrusive test: (CBR1 clutch exhausted)	>= 400 RPM Table Based Time Please Refer to Table Enable Time 4 in (Sec) supporting documents		1 0300, 1 0307, 1 0300, 1 0401, 1 042L			One Trip
			Gear Ratio Gear Ratio If the above parameters are true Fail Case 2 Case: Steady State 3rd Gear	>= 2.24585			>= 1.1 >= 5 >= 5	Fail Count in 1st Gear or Total Fail	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Ti	me uired
System	Code	Description	Criteria	Value	Malfunction	Conditions	Req	uired
				Table Based				
				value Please				
			Max Delta Output Speed Hysteresis	>= Refer to Table rpm/sec				
				22 111				
				supporting documents				
				Table Based				
				value Please				
			Min Delta Output Speed Hysteresis	>= Refer to Table 23 in rpm/sec				
				supporting				
				documents				
				Table Based				
				Time Please				
			If the Alexandria Transford Theorem	Defer to Table				
			If the Above is True for Time	>= 17 in Sec				
				supporting				
				documents				
			Intrusive test:					
			(C35R clutch exhausted)					
			Gear Ratio					
			Gear Ratio	>= 2.24585				
			If the above parameters are true					
							>= 1.1	Fail Timer (Sec)
							>= 3	Fail Count in 3rd
								Gear
								or Total Fail
							>= 5	Counts
			Fail Case 3 Case: Steady State 4rd Gear		1 1		+	Coullis
			Lan Case 3 Case. Steady State 410 Gea	Table Based				
				value Please				
				Defeate Table				
			Max Delta Output Speed Hysteresis	>= 22 in rpm/sec				
				supporting				
				documents	1			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to Table 23 in supporting documents				
			If the Above is True for Time	Table Based Time Please				
			Intrusive test: (C1234 clutch exhausted) Gear Ratio Gear Ratio If the above parameters are true	documents <= 0.70032 >= 0.63367				
			in the above parameters are true				>= 1.1 Fail Timer (Sec)	)
							>= 3 Fail Count in 4th Gear or	1
							>= 5 Total Fail Counts	_
			Fail Case 4 Case: Steady State 5th Gear Max Delta Output Speed Hysteresis	Table Based value Please Bofer to Tablo				
				supporting documents Table Based value Please				
			Min Delta Output Speed Hysteresis	Defer to Table				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable				me	М
System	Code	Description	Criteria	Value	Mairunction		Conditions		<u> </u>	Req	uired	lllu
				Table Based								
	1 1			Time Please								
	1 1		If the Above is True for Time	>= Refer to Table Sec								
	1 1			17 111								
	1 1			supporting documents								
	1 1		Intrusive test:	documents								
	1 1		(C35R clutch exhausted)									
	1 1		Gear Ratio	<= 0.70032								
	1 1		Gear Ratio									
			If the above parameters are true									
									1			
									>=	1.1	Fail Timer (Sec)	
	1 1									0	Fail Count in 5th	
	1 1								>=	3	Gear	
	1 1										or	
	1 1									5	Total Fail	
									>=	5	Counts	
	1 1				PRNDL State defaulted	=	FALSE	Boolean				
	1 1				inhibit RVT	=	FALSE	Boolean				
	1 1				IMS fault pending indication	=	FALSE	Boolean				
	1 1				output speed	>=	0	RPM				
	1 1				TPS validity flag	=	TRUE	Boolean				
	1 1				HSD Enabled	=	TRUE	Boolean				
	1 1				Hydraulic_System_Pressurized	=	TRUE	Boolean				
	1 1											
	1 1				A OR B		67	Nm				
	1 1				(A) Output speed enable	>=	0/	INITI				
					(B) Accelerator Pedal enable	>=	0.5005	Nm	1			1
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.99902	Volts				
					Engine Speed Lo	>=	400	RPM	1			
					Engine Speed Hi	<=	7500	RPM	1			
					Engine Speed is within the							
					allowable limits for	>=	5	Sec				1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction		Enable Conditions			Tiı Requ		Mil Illum.
						if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003	Pct				
						if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm				
						if Attained Gear=1st FW Engine Torque Enable		8191.88	Nm				
						Transmission Fluid Temperature	>=	-6.6563	°C				
						Input Speed Sensor fault Output Speed Sensor fault		FALSE FALSE	Boolean Boolean				
						Default Gear Option is not present	=	TRUE					
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P182E	P0717, P0722,	P0723,				
					conditions.								
							P0107, P010	, P0102, P0103, 8, P0171, P017 1, P0202, P020	2, P0174,				
							P0301, P030	6, P0207, P020 2, P0303, P030 7, P0308, P040	4, P0305,				
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One Trip
		(CD20 VDS)								out of	0.375	Sample Time (Sec)	
						P2770 Status is not	i =	Test Failed This Key On or Fault Active					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= >= <=	8.59961 31.99902 400 7500 5	Volts Volts RPM RPM Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
ariable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boolean					>=	0.3	Fail Time (Sec)	One T
										out of	0.375	Sample Time (Sec)	
						P2721 Status is not	=	Test Failed This Key On or Fault Active					
						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				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
riable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case 1         Case: Steady State 1st Gear										One <sup>-</sup>

Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Timer Neutral Time (Sec)	
		Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time	Please refer to Table 3 in Supporting Documents			Cui	
		If Above Conditions have been met, Increment 1st gear fail counter				>= 3 1st Gear Fail Count	
		and C1234 fail counter				>= 14 C1234 Clutch Fail Count	
						Please See Table 5 For Neutral Timer >= Neutral Time (Sec) Cal	
		Intrusive test: commanded 3rd gear	Please refer to				
		If attained Gear ≠ 3rd for Time	>= Table 3 in Supporting Documents				
		If Above Conditions have been met, Increment 2nd gear fail counter				>= 3 2nd Gear Fail Count	
		and C1234 fail counter				>= 14 Or Fail Count	
			Code       Description       Criteria         Gear slip       Intrusive test: commanded 2nd gear       Intrusive test: commanded 2nd gear         If attained Gear ≠ 2nd for Time       If Above Conditions have been met, Increment 1st gear fail counter         and C1234 fail counter       and C1234 fail counter         Fail Case 2       Case: Steady State 2nd Gear slip         Intrusive test: commanded 3rd gear       If attained Gear ≠ 3rd for Time         If attained Gear ≠ 3rd for Time       If attained Gear ≠ 3rd for Time         If Above Conditions have been met, Increment 2nd gear fail counter       If Above Conditions have been met, Increment 2nd gear fail counter	Code       Description       Criteria       Value         Code       Description       Criteria       Code       RPM         Gear slip       >=       400       RPM         Intrusive test:       Intrusive test:       Please refer to         Table 3 in       Supporting       Documents       Shift Time (Sec)         Documents       If Above Conditions have been met.       Intrusive test:       Supporting         If Above Conditions have been met.       Intrusive test:       Case: Steady State 2nd Gear         Gear slip       >=       400       RPM         Intrusive test:       Commanded 3rd gear       Supporting         Intrusive test:       Commanded 3rd gear       Supporting         If attained Gear ≠ 3rd for Time       >=       400         RPM       Intrusive test:       Commanded 3rd gear         If attained Gear ≠ 3rd for Time       >=       400         If Above Conditions have been met.       Supporting       Supporting         If Above Conditions have bee	Gear slip       >=       400       RPM         Intrusive test: commanded 2nd gear       Please refer to Table 3 in Documents       Please refer to Table 3 in Documents         If Above Conditions have been met, increment 1st gear fail counter       >=       400       RPM         Eall Case 2       Case: Steady State 2nd Gear Gear slip       >=       400       RPM         If attained Gear ≠ 3rd for Time       >=       400       RPM         Intrusive test: commanded 3rd gear If attained Gear ≠ 3rd for Time       >=       400       RPM         If attained Gear ≠ 3rd for Time       >=       Table 3 in Suporting Documents       Please refer to Table 3 in Suporting Documents         If Above Conditions have been met, Increment 2nd gear fail counter       Please refer to Table 3 in Documents       Please refer to Table 3 in Documents	Gear slip     >=     400     RPM       Intrusive test commanded 2nd gear     Please refer to Table 3 in Supporting Documents     Please refer to Supporting Documents       If Above Conditions have been met, Increment 1st gear fail counter     =       Fail Case 2     Case: Steady State 2nd Gear       Gear slip     >=     400       RPM     Intrusive test: commanded 3rd gear       Intrusive test: commanded 3rd gear       If Atained Gear ≠ 3rd for Time       If Above Conditions have been met, Increment 2nd gear fail counter	Gear slip       >=       400       RPM         Influsive test commanded 2nd gear If Above Conditions have been met, increment 1st gear fail counter       Please refer to Table 3 in Documents       Please refer to Table 3 in Documents       >=       3       1st Gear Fail Count         Eail Case 2       Case: Steady State 2nd Gear If Above Conditions have been met, increment 1st gear fail counter       >=       400       RPM         Eail Case 2       Case: Steady State 2nd Gear If Above Conditions have been met, increment 3 gear fail counter       >=       400       RPM         Eail Case 2       Case: Steady State 2nd Gear If Above Conditions have been met, increment 2nd gear fail counter       >=       400       RPM         If Above Conditions have been met, increment 2nd gear fail counter       Please Fefre to Table 3 in Supporting       >=       400       RPM         If Above Conditions have been met, increment 2nd gear fail counter       >=       400       RPM       >=       3       2nd Gear Fail Count         If Above Conditions have been met, increment 2nd gear fail counter       >=       3       2nd Gear Fail Count       >=       3       2nd Gear Fail Count         If Above Conditions have been met, increment 2nd gear fail counter       >=       3       2nd Gear Fail Count       >=       3       2nd Gear Fail Count

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Condition	S	Time Required	Mil Illum.
			Gear slip	>= 400 RPM				Please See Table 5 For Neutral Time >= Neutral Time (Sec) Cal	:Г
			Intrusive test: commanded 4th gear	Please refer to				Cai	
			If attained Gear ≠ 4th for time	>= Table 3 in Supporting Documents Shift Time (Sec)					
			If Above Conditions have been met, Increment 3rd gear fail counter					>= 3 3rd Gear Fa Count or	I
			and C1234 fail counter					>= 14 C1234 Clutc Fail Count	n
			Fail Case 4 Case: Steady State 4th Gear Gear slip	>= 400 RPM				Please See Table 5 For Neutral Time Neutral Time (Sec) Cal	il.
			Intrusive test: commanded 5th gear	Please refer to					
			If attained Gear = 5th For Time	Table 2 in					
			If Above Conditions have been met, Increment 4th gear fail counter					>= 3 4th Gear Fa Count	I
			and C1234 fail counter					>= 14 Or Fail Count	n
					PRNDL State defaulted inhibit RVT IMS fault pending indication	= FALSE = FALSE = FALSE	Boolean Boolean		
	1		I		TPS validity flag	= TRUE	Boolean	1	1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
					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 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					
					present	=	TRUE			
		1		1						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
							ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 10 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status	= TRUE = Maximum pressurized	Boolean				One Trip
			Primary Offgoing Clutch Pressure Command Status	= Clutch exhau command					
			Range Shift Status	Control					
			Attained Gear Slip If the above conditions are true increment appropriate Fail 1 Timers Below:	<= 40	RPM				
			fail timer 1 (2-6 shifting with throttle)	>= 0.2998	sec				
			fail timer 1 (2-6 shifting without throttle) fail timer 1	>= 0.5	sec				
			(3-5 shifting with throttle) fail timer 1	>= 0.2998	sec				
			(3-5 shifting without throttle) fail timer 1 (4-5 shifting with throttle)	>= 0.5 >= 0.2998	sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thi V	reshold /alue	Secondary Malfunction		Enable Conditions			Tir Requ	ne ired	Mil Illum.
			(4-5 shifting without throttle) fail timer 1 (4-6 shifting with throttle) fail timer 1	>=	0.5 0.2998 0.5	sec sec sec								
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers								= ( 2) Tin >= Ti F S Ti	al Fail Time Fail 1 + Fai See Enable ners for Fai 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											
			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	
			total fail counter								>=	5	Total Fail Counter	
							TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault Command / Attained Gear	>= = ≠	-6.6563 FALSE FALSE 1st	°C Boolean Boolean Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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	>= 100 RPM >= 150 RPM = FALSE Boolean = FALSE Boolean = FALSE Boolean		
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174,		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Case 1 Case: 5th Gear	Table Based		P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		One Trip
			Max Delta Output Speed Hysteresis	value Please Refer to Table 22 in supporting documents Table Based value Please				
			Min Delta Output Speed Hysteresis	<pre>&gt;= Refer to Table 23 in rpm/sec supporting documents</pre>				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tir Requ	ne iired	Mil Illum.
			If the Above is True for Time	Table Based Time Please Refer to Table Sec supporting documents						
			Intrusive test: (C35R clutch exhausted) Gear Ratio							
			Gear Ratio If the above parameters are true	>= 1.09436						
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 5th Gear OR	
							>=	3	Total Fail Counts	
			Fail Case 2 Case: 6th Gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to Table 22 in supporting						
			Min Delta Output Speed Hysteresis	supporting						
			If the Above is True for Time	documents Table Based Time Please Refer to Table 17 in supporting						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditions			T Rec	ime Juired	Mil Illum.
			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	
									>=	3	OR Total Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication output speed	= >=	FALSE 0	Boolean RPM				
					TPS validity flag	=	TRUE	Boolean				1
					HSD Enabled	=	TRUE	Boolean				
					Hydraulic_System_Pressurized	=	TRUE	Boolean				
					A OR B							
					(A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.5005	Nm				1
					Ignition 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	>=	5	Sec				
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.0003	Pct				
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm				
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			me uired	Mil Illum.
				Displa	Transmission Fluid Temperature Input Speed Sensor fault Output Speed Sensor fault Default Gear Option is not present	>= -6.6663 °C = FALSE Boolean = FALSE Boolean = 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)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= out of	0.3 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
					P2729 Status is not	Test Failed This Key On or Fault Active				
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.99902 Volt >= 400 RPM <= 7500 RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value	Secondary Malfunction		Enable Conditions				me uired	Mil 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	= T	RUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
		()								out of	0.375	Sample Time (Sec)	
						P2730 Status is not	=	Test Failed This Key On or Fault Active					
						Ignition Voltage Ignition Voltage	>= <=	8.59961 31.99902	Volt Volt				
						Engine Speed Engine Speed	>= <=	400 7500	RPM RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
					contantions.		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	= T	RUE Boolean					>=	4.4	Fail Time (Sec)	Two Trips
										out of	5	Sample Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thres	hold	Secondary Malfunction		Enable Conditions			Ti Requ		Mil Illum.
System	Code	Description	Citeria			P2763 Status is not	=	Test Failed This Key On or Fault Active			neq	incu	
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed 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:	MIL not Illuminated for DTC's:	TCM: P0658 ECM: None	3, P0659					
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE	Boolean					>= out 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 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/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thre V	eshold alue	Secondary Malfunction		Enable Conditions				me uired	Mil Illum.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, ECM: None	P0659					
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						

able 1	Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00 N*m
	Curve	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00 RPN
		00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00	00.00
able 2	A in	0.07	0.00	40.00						
	Axis Curve	-6.67 409.59	-6.66 2.00	40.00 °C 2.00 Se						
	Curve	409.59	2.00	2.00 36	90					
able 3	_									
	Axis	-6.67	-6.66	40.00 °C						
	Curve	409.59	4.00	4.00 Se	ec					
able 4										
	Axis	-6.67	-6.66	40.00 °C	;					
	Curve	409.59	2.00	2.00 Se	€C					
able 5										
	Axis	-6.67	-6.66	40.00 °C	;					
	Curve	409.59	3.00	3.00 Se						
able 6	Axis	-6.67	-6.66	40.00	80.00	120.00 °C				
	Curve	409.00	3.60	1.60	1.40	1.40 Se				
		403.00	0.00	1.00	1.40	1.40 00				

Table 7						
	Axis	-6.67	-6.66	40.00	80.00	120.00 °C
	Curve	409.00	3.40	1.40	1.30	1.20 Sec
Table 8	_					
	Axis	-6.67	-6.66	40.00	80.00	120.00 °C
	Curve	409.00	3.60	1.60	1.50	1.40 Sec
Table 9						
	Axis	-6.67	-6.66	40.00	80.00	120.00 °C
	Curve	409.00	3.30	1.30	1.20	1.10 Sec
Table 10						
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	3.03	1.86	1.00	0.75	0.58 Sec
Table 11						
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	Curve	1.72	1.11	0.60	0.36	0.22 Sec
Table 12	Axis	-40.00	-20.00	0.00	30.00	110.00 °C
	ANIS	-40.00	-20.00	0.00	30.00	110.00

	Curve	2.12	1.39	0.84	0.64	0.33 Sec	:			
Table 13										
	Axis	-40.00	-20.00	0.00	30.00	110.00 °C				
	Curve	2.51	0.95	0.50	0.29	0.13 Sec				
Table 11										
Table 14	Avia	40.00	20.00	0.00	20.00	110.00.00				
	Axis	-40.00	-20.00	0.00	30.00	110.00 ℃				
	Curve	2.97	0.82	0.47	0.20	0.13 Sec				
Table 15										
	Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00 °C
	Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 Sec
		0.000	0.000	0.00	0.00	0.000	0.000	0.000	0.00	0.000
Table 16										
	Axis	-6.67	-6.66	40.00 °C	;					
	Curve	409.59	2.50	2.50 Se						
		•	•							
<u>Table 17</u>										
	Axis	-6.67	-6.66	40.00 °C	;					
	Curve	0.40	0.35	0.30 Se	ec					
Table 18										

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

## Table 19

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

## Table 20

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

## Table 21

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

Table 22

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

Table 23

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