Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Control Module (TCM)	Code P0601	Description Transmission Electro- Hydraulic Control Module Read Only Memory	Criteria Incorrect program/calib rations checksum	- TRUE Peoleon	Walluffelion	Conditions	>= 5 Fail Counts	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0603	Transmission Electro- Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	= TRUE Boolean			Runs Continously	One Trip
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0604	Transmission Electro- Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE Boolean			>= 5 Fail Counts = 16 Sample Counts	

Component/	Fault	Monitor Strategy	Malfunction			eshold alue	Secondary Malfunction	Enable Conditior			Time Require	d	Mil Illum.
System	Code	Description	Criteria	_	V	Disable	MIL not Illuminated		15		Require	u	mum.
						Conditions:	for DTC's:						
Transmission Control Module	P062F	Transmission Electro- Hydraulic Control Module Long Term Memory	TCM Non- Volatile Memory bit Incorrect flag		TRUE	Boolean					Runs Continously		One Trip
(TCM)		Performance	at Powerdown								Continiously		
						Disable Conditions:	MIL not Illuminated for DTC's:						
Transmission Control Module (TCM)	P0634	Transmission Electro- Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	>=	144	°C				>=	5	Fail Time (Sec)	One Trip
			Fail Case Substrate 2 Temperature		50	°C				>=	2	Fail Time (Sec)	
			Ignition Voltage	>=	18	Volts							
			Note: either fail case can set the DTC										
							Ignition Voltage Lo	>= 9	Volts				
							Ignition Voltage Hi	<= 31.9902	Volts				
							Substrate Temp Lo	>= 0	°C				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cystein	- 5546	Boodilption	Ontona		Substrate Temp Hi			
					Substrate Temp Between Temp Range for Time	>= 0.25 Sec		
					P0634 Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:			
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	= TRUE Boolean			>= 3 Fail Counts	One Trip
							out 5 Sample of Counts	
					P0658 Status is not	Test Failed This Key On or Fault Active		
					High Side Driver 1 On	= True Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> support				Two Trips
			If TCM substrate temp to power up temp Δ	20 in °C support				
			Both conditions above required to increment fail counter				Fail Counts (100ms loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enab Conditi			Time Requir		Mil Illum.
.,		233	Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Out of	3750	Sample Counts (100ms loop)	
			Non- continuous (intermittent) fail conditions will delay resetting fail counter until					>=	700	Pass Counts (100ms loop)	
								Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE	Boolean				
					Accelerator Position Signal Valid		Boolean				
					Ignition Voltage Lo	>= 9	Volts				
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400	Volts RPM RPM				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	Value	Malfunction	(Condition	าร	Required	Illum.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque Throttle	>= >= (90 30.0003	N*m Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed		8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	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	= 1	Not Met			
					Clutch hydraulic pressure		Clutch Hydrauli c Air Purge Event			
					Clutch used to exit brake torque active	(= F	CeTFTD _e_C3_ RatlEnbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Citteria	Value	Set Brake Torque Active FALSE if above conditions are met for:		required	
					P0667 Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used	CeTFTI _e_Volt = ageInv ersePr op				Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
,			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	<= 254 °C			·	
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	>= 254 °C				
			Either condition above will satisfy the fail conditions				Fail >= 60 Timer (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	<= 31.9902 Volts >= 400 RPM <= 7500 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
						P0668 Status is	Test Failed This Key ≠ On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0669	TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used	CeTFTI _e_Volt = ageInv ersePr op					Two Trips
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= -254	°C				
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= -254	°C				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable Condition	16		Time Requii	e rod	Mil Illum
System	Code	Description	Criteria	value	wanuncuon	_	Condition	15		Requii	eu	mum
			Either condition above will satisfy the fail conditions						>=	60	Fail Timer (Sec)	
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>=	31.9902 400 7500	Volts RPM RPM				
					Engine Speed is within the allowable limits for	>=	5	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					

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723 ECM: None	Required	illum.
Transmission Control Module (TCM)	P06AC	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power up temp to substrate temp Δ	> 20 in > support				Two Trips
			If transmission oil temp to power up temp Δ	> support °C				
			Both conditions above required to increment fail counter				Fail >= 3000 Counts (100ms loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enab Conditi			Time Requir		Mil Illum.
.,		233	Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Out of	3750	Sample Counts (100ms loop)	
			Non- continuous (intermittent) fail conditions will delay resetting fail counter until					>=	700	Pass Counts (100ms loop)	
								Out of	875	Sample Counts (100ms loop)	
					Engine Torque Signal Valid	= TRUE	Boolean				
					Accelerator Position Signal Valid		Boolean				
					Ignition Voltage Lo	>= 9	Volts				
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400	Volts RPM RPM				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary		Enable		Time	Mil
System	Code	Description	Criteria	Value	Malfunction	(Condition	าร	Required	Illum.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque Throttle	>= >= (90 30.0003	N*m Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed		8	Kph		
					Transmission Range	≠	Park			
					Transmission Range	≠	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	= 1	Not Met			
					Clutch hydraulic pressure		Clutch Hydrauli c Air Purge Event			
					Clutch used to exit brake torque active	(= F	CeTFTD _e_C3_ RatlEnbl			
					The above clutch pressure is greater than this value for one loop	>=	600	kpa		

Component/	Fault Code	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value			Nequileu	muni.
					Set Brake Torque Active FALSE if above	>= 20 Sec		
					conditions are met for:			
						Toot		
						Test Failed		
					P06AC Status is	≠ This Key		
						On or Fault		
						Active		
				Disable	MIL not Illuminated	TCM: P0658, P0668,		
				Conditions:		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		
ransmission	DOCAD	TCM power-up	Power Up	r= 054 00			Fail Time	Two
Control Module TCM)	PUGAD	thermistor circuit voltage low	Temp	<= 254 °C			>= 60 Fall Tille (Sec)	Trips
•					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi			
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Require		Mil Illum.
					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		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						
				Disable Conditions:		TCM: P0716, P07 P0722, P0723	17,				
						ECM: None					
ransmission Control Module TCM)	P06AE	TCM power-up thermistor circuit voltage high	Power Up Temp	>= -254 °C				>=	60	Fail Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi	<= 31.9902 \	Volts Volts				
					Engine Speed Lo Engine Speed Hi		RPM RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Engine Speed is within the allowable limits for	5 000	Required	mum.
					P06AE Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Fluid Temperature Sensor (TFT)		Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> support °C				Two Trips
			If transmission oil temp to power up temp Δ	> support				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
System	code	Безсприоп	Both conditions above required to increment fail counter	value		Conditions	Fail >= 3000 Count (100m loop)	s s
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Samp Out 3750 Count of 3750 (100m loop)	s s
			Non- continuous (intermittent) fail conditions will delay resetting fail counter until				Pass >= 700 Count (100m loop)	s s
					Engine Torque Signal Valid	= TRUE Boolean	Samp Out 875 Count of (100m loop)	s s

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction		Enable Conditio	ne	Time Required	Mil Illun
System	Code	Description	Criteria	value	Wanuffelion		Conditio	115	requirea	illuli
					Accelerator Position Signal Valid		TRUE	Boolean		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>=	31.9902 400 7500	Volts RPM RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque Throttle	>=	90 30.0003	N*m Pct		
					Transmission Input Speed		200	RPM		
					Vehicle Speed Transmission Range		8 Park	Kph		
					Transmission Range		Neutral Not			L
					РТО	=	Active			L
					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 hydraulic pressure	≠	Clutch Hydrauli c Air Purge Event			

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Citteria	value	Clutch used to exit	CeTFTD	пецинеи	
					brake torque active			
					The above clutch pressure is greater than this value for one loop	>= 600 kpa		
					Set Brake Torque Active FALSE if above conditions are met for:			
					P0711 Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions:	for DTC's:	TCM: P0658, P0668, P0669, P06AD, P06AE, P0716, P0712, P0713, P0717, P0722, P0723, P0962, P0963, P0966, P0967, P0970, P0971, P215C, P2720, P2721, P2729, P2730		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
						1 0000, 1 0401, F042E		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mi
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illu
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used	CeTFTI _e_Volt = ageInv ersePr op				Tw Tri _l
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	<= 254 °C				
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	>= 254 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	?
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.9902 Volts >= 400 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold Ilue	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
						Engine Speed is within the allowable limits for	>=	5	Sec		
						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:		P072	: P0716, P0 2, P0723 : None)717,		
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used	CeTFTI _e_Volt = ageInv ersePr op				-			Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= -254 °C			·	
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= -254 °C				
			Either condition above will satisfy the fail conditions				>= 60 Fail Time (Sec)	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.9902 Volts >= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thres Val		Secondary Malfunction		Enable Conditio			Tim Requi	ired	Mil Illum.
		·				P0713 Status is	≠	Test Failed This Key On or Fault Active					
				(Disable Conditions:	MIL not Illuminated for DTC's:	P071	: P0713, P0 7, P0722, F : None)716, P0723				
													One Trip
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	350 F	RPM					>=	0.8	Fail Time (Sec)	
						Engine Torque is Engine Torque is Engine Speed Engine Speed	<= >=	0 8191.88 400 7500	N*m N*m RPM RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						Vehicle Speed is	>=	10	Kph				
						Throttle Position is	>=	0	Pct				
						Transmission Input Speed is The previous requirement has been satisfied for	/-	0	RPM Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enable Conditions			Time Requi		Mil Illum.
Oystem	Jour	Bescription	Ontona			The change (loop to loop) in transmission input speed is	<	8191 75 RPI	M/Lo op			<u> </u>	
						The previous requirement has been satisfied for	>=	0 S	ec				
						Throttle Position Signal Valid		TRUE Boo	lean				
						Engine Torque Signal Valid		TRUE Boo	lean				
						Ignition Voltage Ignition Voltage		31.9902 Vo	olts olts				
						P0716 Status is not	=	Test Failed This Key On or Fault Active					
					Disable Conditions:	MIL not Illuminated for DTC's:	P0973 ECM:	8, P0974 P0101, P0102 8, P0121, P012	,				
Transmission		Input Speed Sensor	Fail_ Case Transmission									Fail Time	One Trip
Input Speed Sensor (TISS)	P0717	Circuit Low Voltage	1 Input Speed is	< 50	RPM					>=	4.5	(Sec)	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Mairunction	Conditions	Required	Illum.
			Fail Case 2 When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	< 1000 RPM	Controller uses a single power supply for the speed sensors	= 1 Boolean		
					Engine Torque is Engine Torque is Vehicle Speed Engine Torque Signal Valid Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 8191.88 N*m >= 16 Kph = TRUE Boolean >= 9 Volts <= 31.9902 Volts >= 400 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:	TCM: P0722, P0723 ECM: P0101, P0102, P0103		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold 'alue	Secondary Malfunction		Enable Condition			Tim Requi		Mil Illum.
Mode Switch	P071D	Transmission Made	Sport Mode Switch state	TRUE	Boolean					>=	600	Fail Time (Sec)	Specia No MIL
						Ignition Voltage Lo Ignition Voltage Hi		9 31.9902	Volts Volts				
						Engine Speed Lo Engine Speed Hi	>=	400 7500	RPM RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disable			: P1762					
					Conditions:			: None					
T			Transmission										One Tri
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Output Speed Sensor Raw Speed	35	RPM					>=	4.5	Fail Time (Sec)	
						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	>=	8.00018	Pct				
						Transmission Fluid Temperature	>=	-40	°C				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
0,000					Disable this DTC if the PTO is active	- 1 Roologn	·	
					Engine Torque Signal Valid	= TRUE Boolean		
					Throttle Position Signal Valid	= TRUE Boolean		
					Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is	<= 31.9902 Volts >= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Enable_Flags Defined Below			
					The Engine Torque Check is TRUE, if either of the two following conditions are TRUE			
					Engine Torque Condition 1			
					Range Shift Status	Range ≠ shift ENUM complet ed		
					OR			
					Transmission Range is	= Park or Neutral		
					Engine Torque is Engine Torque is			
					Engine Torque Condition 2 Engine Torque is			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enab Conditi		Time Required	Mil Illum.
Cystem	Oouc	Beschiption	Omeria	7	Engine Torque is				
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE				
					TIS Check Condition 1 Transmission Input Speed is Transmission Input Speed is	>= 1000	RPM RPM		
					TIS Check Condition 2 Engine Speed without the brake applied is	>= 3200	RPM		
					Engine Speed with the brake applied is	3200	RPM		
					Engine Speed is Controller uses a single power supply for the speed sensors	= 1	RPM Boolean		
					Powertrain Brake Pedal is Valid		Boolean		
				Disable Conditions:			P0717,		
						ECM: P0101, I P0103, P0121, P0123			

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Walluffction	Conditions	Kequirea	One Trip
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed	>= 105 RPM			Enable >= 0 Time (Sec)	
			Output Speed Delta	<= 8191.8 RPM			Enable >= 0 Time (Sec) Output Speed	t
			Output Speed Drop	> 1000 RPM			>= 3 Recovery Fail Time (Sec)	er
1		İ	AND					
			Transmission Range is					
					Range_Disable	Delow		
					Neutral_Range_Enable And	Delow		
					Neutral_Speed_Enable	Coo		
					are TRUE concurrently			
					Transmission_Range_E nable	= TRUE See Below		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Oystem	Jour	Везоприон	Ontona	34.40	Transmission_Input_Sp eed_Enable	- TRUE S	ee low	
					No Change in Transfer Case Range (High <-> Low) for	>= 5 Sec	onds	
					P0723 Status is not	Test Failed This Key On or Fault Active		
					Disable this DTC if the PTO is active		lean	
					Ignition Voltage is Ignition Voltage is Engine Speed is Engine Speed is	<= 31.9902 Vo >= 400 RF	olts olts PM	
					Engine Speed is within the allowable limits for	>= 5 S	ec	
					Enable_Flags Defined Below			
					Transmission_Input_Sp eed_Enable is TRUE when either TIS Condition 1 or TIS Condition 2 is TRUE:			
					TIS Condition 1 is TRUE when both of the following conditions are satsified for	>= 0 Tii	able me ec)	
					Input Speed Delta Raw Input Speed		PM	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	9	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditio	ons	Required	Illum
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied				
					Input Speed	= 0	RPM		
					A Single Power Supply is used for all speed sensors	= TRUE	Boolean		
									1
					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE				
					Transmission Range is	= Neutral	ENUM		
					Transmission Range is	Reverse/ = Neutral Transito nal	ENUM		
					Transmission Range is	nal	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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
,	7		,551.52		Transmission Range is	Park/Re	·	
					Input Clutch is not	ON = (Fully ENUM Applied)		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	> 1.5 Seconds		
					Transmission Output Speed			
					The loop to loop change of the Transmission Output Speed is	< 125 RPM		
					The loop to loop change of the Transmission Output Speed is	> -10 RPM		
					Transmission_Range_E nable is TRUE when one of the next six conditions is TRUE			
					Transmission Range is	= Neutral ENUM		
					Transmission Range is	Reverse/ = Neutral Transitio nal		
					Transmission Range is	Neutral/ = Drive ENUM Transitio nal		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Безсприон	Ontend	value	Time since a driven range (R,D) has been selected	Table Based Time Please Refer to >= Table 21 Sec	точиней	
					Transmission Output Speed Sensor Raw Speed	>= 500 RPM		
					Output Speed when a fault was detected	>= 500 RPM		
				Disable Conditions:	for DTC's:	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	>= 500 Kpa			= 2 Enable >= 2 Time (Sec)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			me uired	Mi Illur
әуѕіет	Code	Description	(A) TCC Slip Error @ TCC On Mode	Refer to Table 1 >= in RPM	mananon	Continuons	>=	-	Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>=	5	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>=	2	TCC Stuck Off Fail Counter	
					TCC Mode	= On or Lock				
					Ignition Voltage Lo	>= 9 Vo	Its			
					Ignition Voltage Hi Engine Speed Engine Speed	>= 400 RF	PM			
					Engine Speed is within the allowable limits for	>= 5 S	ес			
					Engine Torque Lo Engine Torque Hi		m m			
					Throttle Position Lo	>= 8.00018 P	ct			
					Throttle Position Hi	<= 99.9985 P	ct			
					2nd Gear Ratio Lo	>= 2.75281 Ra	tio			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enal Condi		Time Required	Mil Illum.
					2nd Gear Ratio High	<= 3.1672	4 Ratio		
					3rd Gear Ratio Lo	>= 1.7762	5 Ratio		
					3rd Gear Ratio High	<= 2.0437	' Ratio		
					4th Gear Ratio Lo	>= 1.3485	1 Ratio		
					4th Gear Ratio High	<= 1.5515	1 Ratio		
					5th Gear Ratio Lo	>= 0.9300	5 Ratio		
					5th Gear Ratio Hi	<= 1.0699	5 Ratio		
					6th Gear Ratio Lo	>= 0.6975	1 Ratio		
					6th Gear Ratio High	<= 0.8024	9 Ratio		
					Transmission Fluid Temperature Lo		3°C		
					Transmission Fluid Temperature Hi	<= 130	°C		
					PTO Not Active	= TRUE	Boolean		
					Engine Torque Signal Valid		Boolean		
					Throttle Position Signal Valid		Boolean		
					Dynamic Mode	= FALSE	Boolean		
					P0741 Status is	Test Failed This Ke ≠ On or Fault Active	ey		

Component/	Fault	Monitor Strategy	Malfunction			eshold	Secondary Molfunction	Enable			Tim		Mil
System	Code	Description	Criteria		V	alue Disable Conditions:	Malfunction MIL not Illuminated for DTC's:	Condition TCM: P0716, P0 P0722, P0723, F P2763, P2764 ECM: P0101, P0 P0103, P0106, F P0108, P0171, F P0174, P0175, F P0202, P0203, F P0205, P0206, F P0208, P0300, F P0302, P0303, F P0305, P0306, F P0308, P0401, F	717, 20742, 20102, 20107, 20172, 20201, 20204, 20207, 20301, 20304, 20307,		Requ	ired	Illum.
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>=	-50	RPM							One Trip
			TCC Slip Speed	<=	13	RPM							
										>=	1	Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter							>=	8	Fail Counter	
							TCC Mode Enable test if Cmnd Gear = 1stFW and value true	= 1	Boolean				
							Enable test if Cmnd Gear = 2nd and value true	= 0	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
System	code	Description	Спіена	value	Engine Speed Hi Engine Speed Lo	<= >=	6000 500	RPM RPM	Nequileu	aiii.
					Vehicle Speed HI		511	KPH		
					Vehicle Speed Lo	>=	1	KPH		
					Engine Torque Hi	<=	8191.88	Nm		
					Engine Torque Lo	>=	60	Nm		
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	15	°C		
					Throttle Position Hyst High AND	>=	10.0006	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position		2.00043	Pct		
					Disable for Throttle Position	>=	75	Pct		
					Disable if PTO active and value true	=	1	Boolean		
					Disable if in D1 and value true	=	1	Boolean		
					Disable if in D2 and value true	=	1	Boolean		
					Disable if in D3 and value true	=	1	Boolean		
					Disable if in D4 and value true	=	1	Boolean		
					Disable if in D5 and value true	=	1	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					Disable if in MUMD and value true	=	1	Boolean		
					Disable if in TUTD and value true	=	1	Boolean		
					4 Wheel Drive Low Active	=	FALSE	Boolean		
					Disable if Air Purge active and value false	=	0	Boolean		
					RVT Diagnostic Active	=	FALSE	Boolean		
					Ignition Voltage	>=	9	V		
					Ignition Voltage	<=	31.9902	V		
					Vehicle Speed	<=	511	KPH		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0742 Status is	≠	Test Failed This Key On or Fault Active			

Component/	Fault	Monitor Strategy	Malfunction		reshold	Secondary	Enable		Tim		Mil
System	Code	Description	Criteria	\	/alue	Malfunction	Conditions		Requi	red	Illum.
					Disable Conditions:	for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P2763, P2764 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E				
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commaned Gear Slip	>= 400	RPM						Two Trips
			Commanded Gear	= 1st Lock	rpm						
			Gear Ratio	<= 1.5183	3			>=	0.3	Fail Tmr	
			Gear Ratio	>= 1.373	7			=	5	Fail Counts	
			If the above parameters are true								
								≠	0	Neutral Timer (Sec)	
								>=	0.3	Fail Timer (Sec)	
						Ignition Voltage Lo	>= 9 Volts	>=	8	Counts	
						Ignition Voltage Lo					
						Engine Speed Lo Engine Speed Hi	>= 400 RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Transmission Fluid Temperature	>=	-6.6563	°C		
					Range Shift State	=	Range Shift Complet ed	ENUM		
					TPS OR		0.50049	%		
					Output Speed		100	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	l _	FALSE	Boolean		
					Output Speed Sensor fault	_	FALSE	Boolean		
					Default Gear Option is not present		TRUE			

Component/	Fault	Monitor Strategy	Malfunction			eshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria		V	'alue	Malfunction	Conditions	Required	Illum.
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
								ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	400	RPM				One Tri
			Commanded Gear	=	3rd	Gear				
			Commanded Gear has Achieved 1st Locked OR 1st Free- Wheel OR 2nd with Mode 2 Sol. Commanded On	=	TRUE	Boolean				
			If the above parameters are true							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
o your	5545	2000117011	5110110				Please Refer to Neutral >= Table 16 in Timer Supporting (Sec) Documents	
			Command 4th Gear once Output Shaft Speed	<= 1000 RPM				
			If Gear Ratio And Gear Ratio					
							Fail >= 1.5 Timer (Sec) >= 5 Counts	
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.9902 Volts >= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High-Side Driver is Enabled	= TRUE Boolea	n	
					Throttle Position Signal Valid from ECM	= TRUE Boolea	าก	
					Output Speed OR TPS			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold /alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
						Range Shift State	Range Shift		
						Transmission Fluid Temperature			
						Input Speed Sensor fault	= FALSE Boolean		
						Output Speed Sensor fault			
						Default Gear Option is not present			
					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)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case: Steady 1 State 3rd Gear						One Tri
			Commanded Gear	= 3rd	Gear				
			Gearbox Slip	>= 400	RPM				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cyclom	9940	Bossiipaon	Ontona				Please Refer to Neutral >= Table 16 in Timer Supporting (Sec) Documents	
			Command 4th Gear once Output Shaft Speed	<= 1000 RPM				
			If Gear Ratio	>= 1.3737				
			And Gear Ratio	<= 1.5183				
							Fail >= 3 Timer (Sec)	
			It the above condiations are true, Increment 3rd gear fail counter				3rd Gear >= 2 Fail Counts	
			and C35R Fail counter				or 3-5R Slutch Fail Counts	
			Fail Case: Steady 2 State 5th Gear					

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	value	Maitunction	Conditions	Required	illum.
			Commanded Gear	= 5th Gear				
			Gearbox Slip	>= 400 Rpm			Please Refer to Neutral >= Table 5 in Timer Supporting (Sec) Documents	
			Intrusive Test: Command 6th Gear					
			If attained Gear=6th gear Time	>=				
			It the above condiations are true, Increment 5th gear fail counter				5th Gear >= 3 Fail Counts	
			and C35R Fail counter		PRNDL State defaulted	= FALSE Boolean	or 3-5R Clutch Fail Counts	-

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
,		,			inhibit RVT	=	FALSE	Boolean		
					IMS fault pending indication	=	FALSE	Boolean		
					TPS validity flag	=	TRUE	Boolean		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B (A) Output speed enable	>=	100	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	9	Volts		
					lgnition Voltage Hi Engine Speed Lo Engine Speed Hi	>=	31.9902 400 7500	Volts RPM 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			

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	Value		TCM: P0716, P0717,	Required	mum.
				Conditions:	for DTC's:	P0722, P0723, P182E		
						ECM: P0101, P0102,		
						P0103, P0106, P0107, P0108, P0171, P0172,		
						P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207,		
						P0208, P0300, P0301, P0302, P0303, P0304,		
						P0305, P0306, P0307,		
						P0308, P0401, P042E		
ariable Bleed		Pressure Control (PC)	Fail Case: Steady					One T
olenoid (VBS)		Solinoid B Stuck On [C35R] (Steady State)	Case Steady State 1st					
		[Goort] (Gleddy Glate)	_					
			Attained Gear slip	>= 400 RPM				
			Ocai siip					
				Table				
				Based				
				Time				
				Please Refer				
			If the Above	to Enable Time				
			is True for Time	Table 4 (Sec)				
			1	in				
				support ing				
				docum				
				ents				
			Internativa to st					
			Intrusive test: (CBR1 clutch					
			exhausted)					
			Coor Botio	<- 2.0073				
			Gear Ratio	<= 2.0073				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above parameters are true				Fail >= 1.1 Timer (Sec) Fail >= 2 Count in 1st Gear or	
			Fail Case Case: Steady State 2nd gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1			Counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2		Containe	rtoquilou	
			If the Above is True for Time	>= to Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 2.0073				
			Gear Ratio	>= 1.7446				
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tim Requi	ne ired	Mil Illum
							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 2nd Gear	
									or	
							>=	3	Total Fail Counts	
			Fail Case: Steady 3 State 4th gear							
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in support ing docum ents						
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in support ing docum ents						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	7	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Re	quired	Illum
			If the Above is True for Time	>= to Sec					
			Intrusive test: (C1234 clutch exhausted)						
			Gear Ratio	<= 1.0699					
			Gear Ratio	>= 0.9301					
			If the above parameters are true						
							>= 1.1	Fail I Timer (Sec)	
							>= 3	Fail Count in 4th Gear	
							>= 3	or Total Fail Counts	
			Fail Case: Steady 4 State 6th gear						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cystem	0000	Бооправи	Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1				
			Min Delta Output Speed Hysteresis	>= to 3D Table 2 rpm/sec				
			If the Above is True for Time	>= to Sec				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary		able		Tim		Mil
System	Code	Description	Criteria	Value	Malfunction	Con	ditions		Requi	red	Illum.
			Intrusive test: (CB26 clutch exhausted)								
			Gear Ratio	<= 1.0699				>=	1.1	Fail Timer (Sec)	
			Gear Ratio	>= 0.9301				>=	3	counts	
			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	= FAL	SE Boolean				
					inhibit RVT	= FAL	SE Boolean				
					IMS fault pending indication	= FAL	SE Boolean				
					output speed		RPM				
					TPS validity flag	= TRI	JE Boolean				
					HSD Enabled	= TRU	JE Boolean				
					Hydraulic_System_Pres surized A OR B	11.00	JE Boolean				
					(A) Output speed enable) Nm				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.9902	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	>=	10.0006	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	45	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature		-6.6563	°C		
					Input Speed Sensor fault		FALSE	Boolean		
					Output Speed Sensor fault		FALSE	Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value		Conditions	Required	illum
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E		
				Conditions.	101 10 3.	0122,10120,11022		
						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		
								One
			Primary					
			Offgoing Clutch is					
			exhausted					
ariable Bleed		Pressure Control (PC)	(See Table					
olenoid (VBS)		Solenoid B StuckOn	12 in	= TRUE Boolean				
0.01.0.0 (120)		[C35R] (Dymanic)	Supporting					
			Documents for Exhaust					
			Delay					
			Timers)					
			Primary					
			Oncoming	Maximu				
			Clutch	_ m				
			Pressure	pressur				
			Command Status	ized				
			Glatus					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Offgoing Clutch Pressure Command Status	exhaus = t comma				
			Range Shift Status	Initial ≠ Clutch Control				
			Attained Gear Slip					
			If the above conditions are true run appropriate Fail 1 Timers Below:					
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>= 0.7002 Fall Time				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (3-2 shifting with Closed Throttle)	>= 0.9004 Fail Time (Sec)			·	
			fail timer 1 (3-4 shifting with Throttle)	>= 0.7002 Fall Tille				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>= 0.7002 Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·	fail timer 1	>= 0.9004 Fail Time (Sec)			·	
			fail timer 1 (5-4 shifting with Throttle)	>= 0.7002 (Cas)				
			fail timer 1 (5-4 shifting with Closed Throttle)	Fail Time				
			fail timer 1 (5-6 shifting with Throttle)	>= 0.7002 Fall Tille				
			fail timer 1 (5-6 shifting with Closed Throttle)	>= 0.9004 Fail Time (Sec)				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for >= Fail Timer sec 1, and Reference Supporting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment correspondin g gear fail counter and total fail counter					
			3rd gear fail counter				3rd gear >= 3 fail counts OR	
			5th gear fail counter				5th gear >= 3 fail counts	
			Total fail counter				OR >= 5 total fail counts	
					TUT Enable temperature Input Speed Sensor fault	- FALSE Basisan		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cyolom	5040	Doddiption	Official	3.5.5	Output Speed Sensor fault	= FALSE Boolean		
					Command / Attained Gear	≠ 1st Boolean		
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT			
					input speed limit for TUT			
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	EALSE BOOLEAN		
					HSD Enabled	= TRUE Boolean		
					Default Gear Option is not present			
				Disab Condition		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		
Transmission Output Speed Sensor (TOSS)		Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25 Volts			>= 5.00E-02 sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction	Enab Condit			Time Required		Mil Illum.
	3340	2333.,p.131	P077C Status is not	Test Failed _ This	ı t			-				
			If the above conditons have been met, increment the P077C Fail Counter									
			DTC P077C Sets when the Fail Counter	>= 75	Counts							
						P077C Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	= 1 >= 9	Boolean Volts Volts				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077D					
Transmission Output Speed Sensor (TOSS)	P077D	Output Speed Sensor Circuit High	TOSS Analog Signal Voltage	>= 4.75	Volts				>=	5.00E-02	sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Gyotom	-	Возоприон	P077D Status is not	Test Failed _ This			7.0 4.00	
			If the above conditons have been met, increment the P077D Fail Counter					
			DTC P077D Sets when the Fail Counter	>= 75 Counts				-
					P077D Enable Calibration			
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9902 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077C		
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Case Case: Steady State 4th Gear					One Trip

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					
			If attained Gear ≠5th for time	>= (11 Silit lille				
			if the above conditions have been met					
			Increment 4th Gear Fail Counter				4th Gear >= 2 Fail Count OR	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case: Steady Case State 5th Gear					

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
System	Code	Description	Criteria Gear slip	>= 400 RPM	Manunction	Conditions	Please See Table 5 For Neutral Timer (Sec)	inui
			Intrusive test: commanded 6th gear					
			If attained Gear ≠ 6th for time	>= in (\$00)				
			if the above conditions have been met					
			Increment 5th Gear Fail Counter				5th Gear >= 2 Fail Count OR	
			and C456 Fail Counters				C456 >= 14 Fail Counts	
			Fail Case: Steady Case State 6th Gear					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil Illum.
System	Code	Description	Criteria	Value	Maitunction	Conditions	Required	illum
			Gear slip	>= 400 RPM			>= Please See Table 5 For Neutral Time Cal Neutral Timer (Sec)	
			Intrusive test: commanded 5th gear					
			If attained Gear ≠ 5th for time	>= (Coo)				
			if the above conditions have been met					
			Increment 6th Gear Fail Counter and C456 Fail Counter				6th Gear >= 2 Fail Count	
			and C456 Fail Counter				OR C456 >= 14 Fail	
			. an esumer		PRNDL State defaulted	= FALSE Boolean	Counts	-

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio	e ons	Time Required	Mil Illun
- , - 3 - - 3					inhibit RVT	=		Boolean		
					IMS fault pending indication	=	FALSE	Boolean		
					TPS validity flag	=	TRUE	Boolean		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B (A) Output speed enable	>=	100	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= >= <=	31.9902 400 7500	Volts RPM 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		
					OutputSpeed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			

System	Code	Description	• • • •		NA = 16 = 4! =	O 1141		1111
		·	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable	MIL not Illuminated	TCM: P0716, P0717, P0722, P0723, P182E		
				Conditions:	for DIC's:	P0722, P0723, P102E		
						ECM: P0101, P0102,		
						P0103, P0106, P0107,		
						P0108, P0171, P0172, P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207,		
						P0208, P0300, P0301,		
						P0302, P0303, P0304, P0305, P0306, P0307,		
						P0308, P0401, P042E		
						, , ,		
Variable Bleed		Pressure Control (PC)	Fail Case: Steady					One Tri
Solenoid (VBS)	P0/9/	Solenoid C Stuck On [C456] (Steady State)	Case Case: Steady State 1st					
		[0400] (Oldady Oldic)	<u> </u>					
			Attained Gear slip	>= 400 RPM				
			Gear Siip					
				Table				
				Based				
				Time				
				Please				
			If the Above	Referto Enable Time				
			is True for	>= Table 4 (Sec)				
			Time	in				
				support				
				ing				
				docum ents				
				Onto				
			Intrusive test:					
			(CBR1 clutch					
			exhausted)					
			Gear Ratio	<= 1.5291				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Jystem	Code	Description		>= 1.329			Fail >= 1.1 Timer (Sec) Fail >= 2 Count in 1st Gear or >= 3 Total Fail Counts	
			Fail Case Case Steady State 2nd Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1			Counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Oystom	9045	Boompalon	Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in support ing docum				
			If the Above is True for Time	>= Table Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.5291				
			Gear Ratio	>= 1.329				
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tim Requi	e red	Mil Illum.
- ,							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 2nd Gear	
									or	
							>=	3	Total fail counts	
			Fail Case Case Steady 3 State 3rd							
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1 in support ing docum ents						
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in support ing docum ents						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum
			If the Above is True for Time	>= to Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.5291				
			Gear Ratio	>= 1.329				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail >= 3 Count in 3rd Gea	
							OR Tatal 5	:1
							>= 3 Total Fa	
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum
System	Code	Description	Criteria	¥ diuc	IMS fault pending indication	=		Boolean	Подинеи	
					output speed	>=	0	RPM		
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pres surized A OR B	-	TRUE	Boolean		
					(A) Output speed enable	\	100	Nm		
					(B) Accelerator Pedal enable	\	0.50049	Nm		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>=	31.9902 400 7500	Volts RPM RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.0006	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	45	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.6563	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:	Default Gear Option is not present MIL not Illuminated for DTC's:	= TRUE TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107,		
						P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 11 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status	Maximu = m pressur ized				
			Primary Offgoing Clutch Pressure Command Status	Clutch exhaus = t comma nd				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Range Shift Status	Initial ≠ Clutch Control				
			Attained Gear Slip	<= 25 RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (4-1 shifting with throttle)	>= 0.7002 (Sec.)				
			fail timer 1 (4-1 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>= 0.7002 Fall Tille (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>= 0.9004 Fail Time (Sec)				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Manufiction	Collultions	Required	mun.
			fail timer 1 (4-3 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>= 0.9004 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 sec 1, and Reference Supporting Table 15 for Fail Timer 2	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable		Tim		Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions		Requi	red	Illum.
			If fail timer is greater than threshold increment correspondin g gear fail counter and total fail counter							
			4th gear fail counter				>=	3	Fail Counter From 4th Gear	
			5th gear fail counter				>=	3	OR Fail Counter From 5th Gear	
			6th gear fail counter				>=	3	OR Fail Counter From 6th Gear	
			Total fail counter				>=	5	OR Total Fail Counter	
					TUT Enable temperature Input Speed Sensor fault Output Speed Sensor fault	= FALSE Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	1	Mil Illum.
System	Code	Description	Cinteria	Value	Command / Attained Gear		1st	Boolean	Requirec	•	
					High Side Driver ON	=	TRUE	Boolean			
					output speed limit for TUT	>=	200	RPM			
					input speed limit for TUT	>=	200	RPM			
					PRNDL state defaulted	=	FALSE	Boolean			
					IMS Fault Pending	=	FALSE	Boolean			
					Service Fast Learn Mode		FALSE	Boolean			
					HSD Enabled	=	TRUE	Boolean			
				Disable Conditions:	for DTC's:	P0722, ECM: F P0103, P0108, P0174, P0202, P0205, P0208, P0302, P0305,		P182E 0102, P0107, P0172, P0201, P0204, P0207, P0301, P0304, P0307,			
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage	<= 0.25 Volts					>= 5.00E-02	sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditio	ns		Time Required	1	Mil Illum.
System	odde	Description	P07BF Status is not	Test Failed _ This	n t						Roquirec	•	
			If the above conditons have been met, increment the P07BF Fail Counter										
			DTC P07BF Sets when the Fail Counter		Counts								
						P07BF Enable Calibration Ignition Voltage Lo Ignition Voltage Hi	>=	1 9 31.9902	Boolean Volts Volts				
					Disable Conditions:	MIL not Illuminated for DTC's:							
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage	>= 4.75	Volts					>=	5.00E-02	sec	One Trip

Component/	Fault	Monitor Strategy	Malfunction		reshold	Secondary	Enable		Time	Mil
System	Code	Description	Criteria		/alue	Malfunction	Conditio		Required	Illum.
			P07C0 Status is not		d n ilt					
			If the above conditons have been met, increment the P07C0 Fail Counter							
			DTC P07C0 Sets when the Fail Counter	>= 75	Counts					_
						P07C0 Enable Calibration		Boolean		
						Ignition Voltage Lo	>= 9	Volts		
						Ignition Voltage Hi	<= 31.9902	Volts		
					Disable Conditions:					
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1	Boolean					Specia No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshol Value	ld S	Secondary Ialfunction	Enable Conditions	Time Required	Mil Illum.
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boo	olean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boo	olean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boo	olean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boo	olean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boo	olean				

Component/	Fault	Monitor Strategy	Malfunction	Threshol	d Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1 Bool	lean			
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1 Bool	lean			
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 1 Bool	ean			
			Tap Up Switch ON	= TRUE Bool	ean		>= 1 Fail Time (Sec)	
			Fail Case Switch Stuck in the Up Position in Range 1 Enabled	= 1 Bool	lean			
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Bool	ean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Oystelli	Oue	Безоприон	Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= ^	1 Boolean		Conditions	rioquiiou	
			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	= ^	l Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= ′	l Boolean				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 1 Boolean				
			Tap Up Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 Fail Time (Sec)	
					Time Since Last Range Change			_
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9902 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
.,		, , ,				Engine Speed Lo Engine Speed Hi	>= 400 RPM		
						Engine Speed is within the allowable limits for	>= 5 Sec		
						P0815 Status is	Test Failed This Key ≠ On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0816, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
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	= 1	Boolean				Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thr V	eshold 'alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Gystom	9546	Возоприон	Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON	= TRUE Boolean			>= 1 sec	

Component/	Fault	Monitor Strategy	Malfunction		Thi	reshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria			/alue	IVIAIIUNCTION	Conditions	Required	Illum
			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				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thr V	eshold /alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			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	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	1	Boolean				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 1 Boolean				
			Tap Down Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 600 sec	
					Time Since Last Range Change	Enable >= 1 Time (Sec)		-
					Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	<= 31.9902 Volts >= 400 RPM		

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Manunction	Conditions	Kequirea	illum.
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0816 Status is	Test Failed This Key ≠ On or Fault Active		
				Disable Conditions	MIL not Illuminated for DTC's:	TCM: P0815, P0826, P182E, P1876, P1877, P1915, P1761 ECM: None		
						LOW. NOTIC		Special
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE Boolean			>= 60 Fail Time (Sec)	No MII
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					P0826 Status is	Test Failed This Key ≠ On or Fault Active		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value Disable Conditions:			Required	Illum.
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
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.9902 Volts >= 400 RPM <= 7500 RPM	out Sample out 5 Time of (Sec)	
				Disable Conditions:				
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage (Line Pressure VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 1.5 Fail Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Require	d	Mil Illum.
System	Code	Description	Citteria	Value			out of	1.875	Sample Time (Sec)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volts >= 400 RPM				
					Engine Speed is within the allowable limits for	>= 5 Sec				
				Disable Conditions:	for DTC's:					
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				>=	4.4	Fail Time (Sec)	Two Trips
							out of	5	Sample Time (Sec)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volts >= 400 RPM				
					Engine Speed is within the allowable limits for	>= 5 Sec				

Component/	Fault Code	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None	Required	mum.
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage (C35R VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip
					Ignition Voltage	>= 9 Volts	out Sample out 0.375 Time of (Sec)	
					Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volts >= 400 RPM		
					Engine Speed is within the allowable limits for			
					P0966 Status is not	Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Tir Requ		Mil Illum.
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage (C35R VBS)	The HWIO reports a high voltage (open or power short) error flag	- TRUE Roolean			>= 0.3	Fail Time (Sec)	One Trip
							out of 0.375	Sample Time (Sec)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volts >= 400 RPM			
					Engine Speed is within the allowable limits for	>= 5 Sec			
					P0967 Status is not	Test Failed This Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	value	Manunction	Conditions	Required	One Trip
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage (C456/CBR1 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Tir (Sec)	ne
							out Sampl out 0.375 Time of (Sec)	
					P0970 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.9902 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	for DTC's:	TCM: None ECM: None		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable			Time		Mil
System	Code	Description	Criteria	Value	Malfunction	Conditio	ns		Requi	ed	Illum.
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage (C456/CBR1 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean				>=	0.3	Fail Time (Sec)	One Trip
								out of	0.375	Sample Time (Sec)	
					P0971 Status is not	Test Failed This Key On or Fault Active					
					Ignition Voltage	>= 9	Volts				
					Ignition Voltage	<= 31.9902	Volts				
					Engine Speed	>= 400	RPM				
					Engine Speed	<= 7500	RPM				
					Engine Speed is within the allowable limits for	>= 5	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Requir	ed red	Mil Illum.
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean				>=	1.2	Fail Time (Sec)	One Trip
								out of	1.5	Sample Time (Sec)	
					P0973 Status is not	Test Failed This Key On or Fault Active					
					Ignition Voltage	>= 9 \	Volts				
					Ignition Voltage	<= 31.9902 \	Volts				
					Engine Speed	>= 400 F	RPM				
					Engine Speed	<= 7500 F	RPM				
					Engine Speed is within the allowable limits for	>= 5	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:						

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	value	Walluffction	Conditions	Required	Two
Shift Solinoid		Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE Boolean			>= 1.2 Fail Time (Sec)	Trips
							out Sample out 1.5 Time of (Sec)	
					P0974 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volts		
					Ignition Voltage	<= 31.9902 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:			

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable		Tim		Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions		Requi	red	Illum
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>=	3	Fail Counter	Specia No MI
							>	10	Sample Timer (Sec)	
					Tap Up Tap Down Message Health Engine Speed Lo	= 1ROE Boolean >= 400 RPM				
					Engine Speed Hi Engine Speed is within the allowable limits for					
				Disable Conditions:	MIL not Illuminated for DTC's:					
Mode Switch	P1762	Transmission Mode Switch Signal Circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUE Boolean			>=	3	Fail Counter	Specia No MII
							>	10	Sample Timer (Sec)	
					Pattern Switch Message Health					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			shold lue	Secondary Malfunction		Enal Condi		Time Required	Mil Illum.
							Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	<=	400 7500 5	RPM		
						Disable Conditions:			None None			
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Case Current range	=	Transiti on 1 (bit state 1110)	Range						One Trip
			Previous range	≠	CeTRG R_e_P RNDL_ Drive6	Range						
			Previous range	≠	CeTRG R_e_P RNDL_ Drive5							
			Range Shift State	= (Range Shift Comple ted	ENUM						
			Absolute Attained Gear Slip	<=	50	rpm						
			Attained Gear Attained Gear		Sixth First							

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Throttle	= TRUE		Sonations	roquilou	
			Throttle Position Output Speed Engine Torque Engine Torque	>= 8.0002 pct >= 200 rpm >= 50 Nm				
			If the above conditions are met then Increment Fail Timer				>= 1 Fail Seconds	
			If Fail Timer has Expired then Increment Fail Counter				>= 5 Fail Counts	
			Fail Output Case Speed The following PRNDL sequence events occur in this exact order:	ν - 70 τριπ				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- System	Oddo	Description	PRNDL state	Drive 6			ж	
			PRNDL state = Drive 6 for	>= 1 Sec				
			PRNDL state	state 0111)				
			PRNDL state	0110)				
			PRNDL state	Transiti on 1 = (bit Range state 1110)				
			Above sequencing occurs in	<= 1 Sec				
			Neutral Idle Mode	= Inactive				
			If all conditions above are met Increment delay Timer					

Component/	Fault	Monitor Strategy	Malfunction			eshold alue		Secondary Malfunction		Enable Condition			Time Requi		Mil Illum.
System	Code	Description	Criteria		V	aiue	_	Walluffction		Conditio	ons		Requi	rea	mum.
			If the below two conditions are met Increment Fail Timer									>=	3	Fail Seconds	
			delay timer Input Speed		1 400	Sec Sec									
			If Fail Timer has Expired then Increment Fail Counter									>=	2	Fail Counts	
			Fail Case Current 3 range		Transit on 13 (bit state 0010)	Range		Previous range	≠	CeTRG R_e_PR NDL_Dri ve5					
			Engine Torque	>=	-8192	Nm		Previous range	≠	CeTRG R_e_PR NDL_Dri ve5					
			Engine Torque	<=	8191.8	Nm		IMS is 7 position configuration	=	0	Boolean				
			If the above conditions are met then, Increment Fail Timer					If the "IMS 7 Position config" = 1 then the revious range" criteria above must also be satsified when the "current range" = "Transition 13"				>=	0.225	Seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If Fail Timer has Expired then Increment Fail Counter				>= 15 Fail Counts	
			Fail Case 4 Current range		Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8			
			Inhibit bit (see definition)	= FALSE	Set inhibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transition 11) Set inhibit bit false if PRNDL = 1001 (park)			
			Steady State Engine Torque	>= 20 Nm				
			Steady State Engine Torque	<= 8191.8 Nm				
			If the above conditions are met then Increment Fail Timer				>= 0.225 Seconds	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			If the above Condtions have been met, Increment Fail Counter				>= 15 Fail Counts	
			Fail Throttle Case Position 5 Available	= TRUE Boolean				
			The following PRNDL sequence events occur in this exact order:					
			PRNDL State	Revers = e (bit state 1100) Transiti				
			PRNDL State	on 11 = (bit Range state 0100)				
			PRNDL State	0101)				
			PRNDL State	Transiti on 11 = (bit Range state 0100)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	d Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Above sequencing occurs in	<= 1 Sec				
			Then delay timer increments					
			Delay timer	>= 5 sec				
			Range Shift State	Range Shift Comple te				
			Absolute Attained Gear Slip					
			Attained Gear	<= Sixth				
			Attained Gear	>= First				
			Throttle Position	>= 8.0002 pct				
			Output Speed	>= 200 rpm				
			If the above conditions are met Increment Fail Timer				>= 20 Seconds	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Maitunction	Conditions	Required	Illun
			Fail Case 6 Current range		A Open Circuit Definition (flag set false if the following conditions are met):			
			and		Current Range	Transitio n 11 (bit ≠ state 0100)		
			A Open Circuit (See Definition)	= FALSE Boolean	or			
					Last positive state	Neutral ≠ (bit state 0101)		
					Previous transition state	Transitio ≠ n 8 (bit state 0111)		
					Fail case 5 delay timer	= 0 sec		
			If the above Condtions are met then, Increment Fail timer				>= 6.25 Seconds	5

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Fail Case 7 Current PRNDL State	PRNDL circuit ABCP = 1101				
			and					
			Previous PRNDL state	PRNDL = circuit ABCP Range =1111				
			Input Speed	>= 150 RPM				
			Reverse Trans Ratio	<= 2.7369 ratio				
			Reverse Trans Ratio	>= 3.149 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					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	for DTC's:	<= 31.9902 Volts >= 400 RPM <= 7500 RPM >= 5 Sec		
Tap Up Tap Down Switch (TUTD)	P1876	Tap Up and Down Enable Switch Circuit	Current range	e or Neutral				Special No MIL
			TUTD Enable Switch is Active				>= 3 Fail Time (Sec)	<u>;</u>

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition	ns		Tin Requ		Mil Illum
- Cyotom	0000	Dooripaon	Ontona						>=	5	Fail Counts	
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi Vehicle Speed Lo Engine Speed Lo Engine Speed Hi	<= >=	31.9902 511 400 7500	Volts KPH RPM RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					P1876 Status is	≠	Test Failed This Key On or Fault Active					
				Disabl Conditions	for DTC's:	P082 P187	P0815, P0 6, P1761, F 7, P1915, U	P1825,				
							110110					
iternal Mode witch (IMS)		Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is	t	ו							One T
			The following events must occur Sequentially									
			Initial Engine speed	<= 50 RPM					>=	0.1	Enable Time (Sec)	

Component/	Fault	Monitor Strategy	Malfunction			eshold	Secondary		Enable			Time		Mil
System	Code	Description	Criteria		V	'alue	 Malfunction		Conditio	ns		Requir	ed	Illum
			Engine Speed Between Following											
			Cals											
			Engine Speed Lo Hist	>=	50	RPM								
			Engine Speed Hi Hist	<=	480	RPM					>=	0.06875	Enable Time (Sec)	
			Then										()	
			Final Engine Speed	>=	500	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	<=	31.9902	V				
							lgnition Voltage Hyst High (enables above this value)		5	V				
							Ignition Voltage Hyst Low (disabled below this value)		2	V				
							Transmission Output Speed	<=	90	rpm				
							P1915 Status is	≠	Test Failed This Key On or Fault Active					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALSE Boolean				One Trip
			lgnition Voltage High Hyst (run crank goes true when above this value)	5 Volts			Fail >= 280 Counts (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2 Volts			Sample Out 280 Counts of 25ms loop)	
					ECM run/crank active status available			1

Component/	Fault Code	Monitor Strategy	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	Disable Conditions:	ECM run/crank active status MIL not Illuminated for DTC's:	= TRUE Boolean TCM: None	Required	
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Case: Steady 1 State 2nd Gear					One Trip
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Time Cal Neutral (Sec)	
			Intrusive test: commanded 3rd gear					
			If attained Gear = 3rd for Time	>= Table 2 Enable Time				
			If Above Conditions have been met					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·	Increment 2nd gear fail count				2nd (>= 3 Fa	il
			and CB26 Fail Count				o CB >= 14 Fa Cou	26 il
			Fail Case: Steady Case State 6th Gear					
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Time Cal Neutral (Se	er
			Intrusive test: commanded 5th gear					
			If attained Gear = 5th For Time	>= Table 2 Enable Time				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction		Enable			Tin		Mil Illum
System	Code	Description	Criteria	Value	waitunction		Condition	ons		Requ	ıırea	iiium
			If Above Conditions have been met, Increment 5th gear fail counter						>=	3	5th Gear Fail Count	
			and CB26 Fail Count						>=	14	or CB26 Fail Count	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT	=	FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					TPS validity flag	=	TRUE	Boolean				
					Hydraulic System Pressurized		TRUE	Boolean				
					Minimum output speed for RVT	/-	0	RPM				
					A OR B (A) Output speed enable		100	RPM				
					(B) Accelerator Pedal enable Common Enable Criteria	>=	0.50049	Pct				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>=	31.9902 400 7500	Volts RPM RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Throttle Position Signal valid			
					HSD Enabled	= TRUE Boolean		
					Transmission Fluid Temperature			
					Input Speed Sensor fault	E FALSE BOOLEAN		
					Output Speed Sensor fault	E FALSE BOOLEAN		
					Default Gear Option is not present			
				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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)					One Trip
			Primary Oncoming Clutch Pressure Command Status	Maximu = m pressur ized				
			Primary Offgoing Clutch Pressure Command Status	exhaus				
			Range Shift Status Attained Gear Slip	Control				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If above coditons are true, increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-1 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	Fail Time				
			fail timer 1 (2-3 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>= 0.7002 Fail Time (Sec)				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	ivialiunction	Conditions	Required	Illum.
			fail timer 1 (2-4 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.9004 Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.7002 Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>= 0.9004 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 sec 1, and Reference Supporting Table 15 for Fail Timer 2	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Molfunction	Enable	Time	Mil Illum.
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	iiium
			If fail timer is greater than threshold increment correspondin g gear fail counter and total fail counter					
			2nd gear fail counter				Fail Counter From 2nd Gear	
			6th gear fail counter				OR Fail Counter From 6th Gear	
			total fail counter				OR >= 5 Total Fail Counter	
					TUT Enable temperature Input Speed Sensor	>= -6.6563 °C = FALSE Boolean		
					fault Output Speed Sensor fault	- FALSE Boologn		
					Command / Attained Gear	≠ 1st Boolean		
					High Side Driver ON	= TRUE Boolean		
					output speed limit for TUT	>= 200 RPM		

Component/	Fault Code	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	input speed limit for		Required	mum.
					TUT	>= 200 RPM		
					PRNDL state defaulted	= FALSE Boolean		
					IMS Fault Pending	= FALSE Boolean		
					Service Fast Learn Mode	• EALSE BOOLGAN		
					HSD Enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)		Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Case Case: Steady State 1st					One Trip
			Attained Gear slip	>= 400 RPM				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable		me	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Req	uired II	Illum.
			If the Above is True for Time						
			Intrusive test: (CBR1 clutch exhausted)						
			Gear Ratio	<= 3.1127					
			Gear Ratio	>= 2.7053					
			If the above parameters are true						
							>= 1.1	Fail Timer (Sec)	
							>= 8	Fail Count in 1st Gear	
							>= 8	or Total Fail Counts	
			Fail Case: Steady State 3rd Gear						

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Wallunction	Conditions	Required	mum.
			Max Delta Output Speed Hysteresis	>= to 3D rpm/sec				
			Min Delta Output Speed Hysteresis	>= to 3D rpm/sec				
			If the Above is True for Time	>= Toble Sec				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 3.1127				
			Gear Ratio	>= 2.7053				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail >= 3 Count in 3rd Gear	
							or >= 8 Total Fai Counts	I
			Fail Case: Steady Case State 4rd Gear					
			Max Delta Output Speed Hysteresis	>= to 3D rpm/sec				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Manufiction	Conditions	Kequirea	- IIIuIII.
			Min Delta Output Speed Hysteresis	>= to 3D Table 2 rpm/sec				
			If the Above is True for Time					
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.7982				
			Gear Ratio	>= 0.6937				
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Tim Requi	e red	Mil Illum.
•							>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 4th Gear	
									or	
							>=	8	Total Fail Counts	
			Fail Case: Steady Case State 5th Gear							
			Max Delta Output Speed Hysteresis	>= to 3D Table 1 rpm/sec						
			Min Delta Output Speed Hysteresis	>= to 3D Table 2 rpm/sec						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable		me
System	Code	Description	Criteria	Value	Malfunction	Conditions	Requ	uired II
			If the Above is True for Time					
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 0.7982				
			Gear Ratio	>= 0.6937				
			If the above parameters are true					
							>= 1.1	Fail Timer (Sec)
							>= 3	Fail Count in 5th Gear
								or
							>= 8	Total Fail Counts
					PRNDL State defaulted	= FALSE Boolean		
					inhibit RVT	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
		·			IMS fault pending indication	=		Boolean		
					output speed TPS validity flag		0 TRUE	RPM Boolean		
					HSD Enabled		TRUE	Boolean		
					Hydraulic_System_Pres surized A OR B	-	TRUE	Boolean		
					(A) Output speed enable	\ <u>-</u>	100	Nm		
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi		31.9902	Volts		
					Engine Speed Lo Engine Speed Hi		400 7500	RPM RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	10.0006	Pct		
					if Attained Gear=1st FW Engine Torque Enable		45	Nm		
					if Attained Gear=1st FW Engine Torque Enable		8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.6563	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable		Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions		Required	Illum.
					Default Gear Option is not present	= TRUE			
				Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102,			
						P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E			
/ariable 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 (S	
							out of	0.375 Tir	nple ne ec)
					P2770 Status is not	Test Failed This Key On or Fault Active			
					Ignition Voltage Ignition Voltage Engine Speed	<= 31.9902 Volts			

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Engine Speed Engine Speed is within the allowable limits for			
				Disable Conditions:	MIL not Illuminated for DTC's:			
								One Trip
Variable Bleed Solenoid (VBS)		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)	
							out Sample of 0.375 Time (Sec)	
					P2721 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volts >= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		

Code		Criteria	Value	Malfunction	Conditions	Required	Mil Illum.
	Description	Ontona	Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
P2723	Pressure Control (PC) Solenoid E Stuck Off	Fail Case: Steady Case State 1st Gear					One Tri
		Gear slip	>= 400 RPM			Please See Table 5 For Neutral Time Cal Neutral (Sec)	
		Intrusive test: commanded 2nd gear					
		Gear ≠ 2nd	>= III SIIII IIIIIE				
		If Above Conditions have been met, Increment 1st gear fail counter				1st Gear >= 2 Fail Count	
	P2723		P2723 Pressure Control (PC) Solenoid E Stuck Off Gear slip Intrusive test: commanded 2nd gear If attained Gear ≠ 2nd for Time If Above Conditions have been met, Increment 1st gear fail	P2723 Pressure Control (PC) Solenoid E Stuck Off Case State 1st Gear	P2723 Pressure Control (PC) Solenoid E Stuck Off Case	P2723 Pressure Control (PC) Solenoid E Stuck Off Case State 1st Gear	P2723 Pressure Control (PC) Solenoid E Stuck Off Fail Case Steady State 1st Gear

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil Illum.
System	Code	Description	Criteria	Value	IVIAIIUNCTION	Conditions	Required	mum.
			and C1234 fail counter				>= 14 C1234 Clutch Fail Count	
			Fail Case Case: Steady State 2nd Gear					
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Time Cal Neutral (Sec)	
			Intrusive test: commanded 3rd gear					
			If attained Gear ≠ 3rd for Time					
			If Above Conditions have been met, Increment 2nd gear fail counter				2nd Gear >= 2 Fail Count	
			and C1234 fail counter				or C1234 >= 14 Clutch Fail Count	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum
1			Fail Case: Steady Case State 3rd Gear					
			Gear slip	>= 400 RPM			Please See Table 5 For Neutral Timer (Sec)	
l			Intrusive test: commanded 4th gear					
			lf attained Gear ≠ 4th for time	>= In Shill time				
			If Above Conditions have been met, Increment 3rd gear fail counter				3rd Gear >= 2 Fail Count	
İ			and C1234 fail counter				or C1234 Clutch Fail Count	
ļ			Fail Case: Steady Case State 4th Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value	ld	Secondary Malfunction		Enable Condition	ens		Time Require		Mil Illum.
System	Code	Безсприоп		>= 400 RPI				Sonuito	113	>= Ta	lease See able 5 For Neutral Time Cal	Noutral	
			Intrusive test: commanded 5th gear										
			If attained Gear = 5th For Time	>=	ft Time c)								
			If Above Conditions have been met, Increment 4th gear fail counter							>=	3	4th Gear Fail Count	
			and C1234 fail counter							>=	14	or C1234 Clutch Fail Count	
						PRNDL State defaulted inhibit RVT			Boolean Boolean				
						IMS fault pending indication	=	FALSE	Boolean				
						TPS validity flag	=	TRUE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition	e ons	Time Required	Mi Illun
- Jotom	3340	Bootipuon	omoriu		Hydraulic System Pressurized	=		Boolean		
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	100	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	9	Volts		
					Ignition Voltage Hi	<=	31.9902	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			

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable	Time Required	Mil Illum.
System	Code	Description	Criteria			Conditions	Requirea	IIIum.
				Disable Conditions:	for DTC's	TCM: P0716, P0717, P0722, P0723, P182E		
				Conditions.	101 210 3.	0.22, 0.20, 0.20		
						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		
								One Tr
			Primary					
			Offgoing					
			Clutch is exhausted					
		Pressure Control (PC)	(See Table					
/ariable Bleed Solenoid (VBS)	P2724	Solenoid E Stuck On	10 in					l .
oleriola (VBS)		(Dynamic)	Supporting					l .
			Documents for Exhaust					
			Delay					
			Timers)					
			B.10					
			Primary Oncoming					
			Clutch					
			Pressure	= pressur				
			Command	ized				
			Status					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Offgoing Clutch Pressure Command Status	exhaus = t comma				
			Range Shift Status	Initial ≠ Clutch Control				
			Attained Gear Slip					
			If the above conditions are true increment appropriate Fail 1 Timers Below:					
			fail timer 1 (2-6 shifting with throttle)	>= 0.7002 sec				
			fail timer 1 (2-6 shifting without throttle)	>= 0.9004 sec				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value	IVIAIIUNCTION	Conditions	Required	illum.
			fail timer 1 (3-5 shifting with throttle)	>= 0.7002 sec				
			fail timer 1 (3-5 shifting without throttle)					
			fail timer 1 (4-5 shifting with throttle)	>= 0.7002 sec				
			fail timer 1 (4-5 shifting without throttle)	>= 0.9004 sec				
			fail timer 1 (4-6 shifting with throttle)	>= 0.7002 sec				
			fail timer 1 (4-6 shifting without throttle)	>= 0.9004 sec				

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	(Enable Condition			Tim Requ		Mil Illum.
			4th gear fail counter						>=	3	Fail Counter From 4th Gear	
			total fail counter						>=	5	Total Fail Counter	
					TUT Enable temperature	>= -	-6.6563	°C				
					Input Speed Sensor fault	_	FALSE	Boolean				
					Output Speed Sensor fault	_	FALSE	Boolean				
					Command / Attained Gear	→	1st	Boolean				
					High Side Driver ON		TRUE	Boolean				
					output speed limit for TUT	>=	200	RPM				
					input speed limit for TUT	>=	200	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode		FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				
												1

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum
				Disable	MIL not Illuminated	TCM: P0716, P0717,		
				Conditions:	for DTC's:	P0722, P0723, P182E		
						FOM D0404 D0400		
						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		
			<u>Fail</u>					One 7
			Case					
		Pressure Control (PC)	<u>1</u>					
ariable Bleed		Solenoid E Stuck On	Case: 5th					
olenoid (VBS)		(Steady State)	Gear					
				Table				
				Based				
				value				
			Max Delta	Please Refer				
			O. 14m. 14					
			Speed	>= to 3D Table 1 rpm/sec				
			Hysteresis	in				
			<u> </u>	support				
				ing				
				docum				
				ents				
		_						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Gystom		2000.p.ion	Min Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 2 in support ing docum				
			If the Above is True for Time	>= Table Sec				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.5291				
			Gear Ratio	>= 1.329				
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions		Time Requi	e red	Mil Illum.
·		•					>=	1.1	Fail Timer (Sec)	
							>=	3	Fail Count in 5th Gear	
							>=	3	OR Total Fail Counts	
			Fail Case: 6th Case Gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to 3D Table 1						
			Min Delta Output Speed Hysteresis	>= to 3D rpm/sec Table 2						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illun
			If the Above is True for Time	>= to Sec				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.5291				
			Gear Ratio	>= 1.329				
			If the above parameters are true					
							Fail >= 1.1 Time (Sec)	
							Fail >= 3 Count 6th Ge	in ar
							OR	
							>= 3 Total F Count	
					PRNDL State defaulted	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enal Condit		Time Required	Mil Illum
System	Code	Description	Cinteria	Value	inhibit RVT		Boolean	rtoquirou	
					IMS fault pending indication		Boolean		
					output speed	>= 0	RPM		
					TPS validity flag		Boolean		
					HSD Enabled	= TRUE	Boolean		
					Hydraulic_System_Pres surized	- IRUE	Boolean		
					A OR B (A) Output speed enable	>= 100	Nm		
					(B) Accelerator Pedal enable	>= 0.5004	9 Nm		
					Ignition Voltage Lo	>= 9	Volts		
					Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 400	2 Volts RPM RPM		
					Engine Speed is within the allowable limits for	>= 5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>= 10.000	6 Pct		
					if Attained Gear=1st FW Engine Torque Enable	>= 45	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<= 8191.8	8 Nm		
					Transmission Fluid Temperature	>= -6.6563	3 ℃		
					Input Speed Sensor fault	= FALSE	Boolean		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Output Speed Sensor fault Default Gear Option is not present			
				Disable Conditions:	MIL not Illuminated	TCM: P0716, P0717, P0722, P0723, P182E		
						ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit Low (C1234 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Tri
							out Sample of 0.375 Time (Sec)	
					P2729 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 9 Volt		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
					Ignition Voltage			1
					Engine Speed			
					Engine Speed	<= 7500 RPM		
					Engine Speed is within			
					the allowable limits for	>= 5 Sec		
								l
				D	NAME OF A SECOND OF THE OWNER.	TOM: No		l
				Disable	MIL not Illuminated			
				Conditions:	for DTC's:	ECM: None		
						LOW. NOTIO		
								0 7
								One T
			The HWIO					
		Pressure Control (PC)	reports a high					
ariable Bleed	D2720	Solenoid E Control	voltage (open	= TRUE Boolean			>= 0.3 Fail Time)
olenoid (VBS)	F2/30	Circuit riigii	or power	- TRUE BUUIEAIT)= 0.3 (Sec)	
		(C1234 VBS)	short) error					
			flag					
							Sample	
							001 0.375 Time	
							of (Sec)	
						Test		
						Failed		
					D0700 01-1 - 11	This Koy		
					P2730 Status is not	= On or		
						Fault		
						Active		
					Ignition Voltage	>= 9 Volt		
					Ignition Voltage			
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within			
					the allowable limits for	0 000		1

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	M Illu
System	Code	Description	Criteria	Disable Conditions:	MIL not Illuminated	TCM: None	Required	
Variable Bleed Solenoid (VBS)	P2763	Torque Converter Clutch Pressure High	The HWIO reports a low pressure/high voltage (open or power short) error flag	= TRUE Boolean			>= 4.4	Tw Tri Fail Time (Sec)
							out 5	Sample Time (Sec)
					P2763 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volt >= 400 RPM		
					Engine Speed is within the allowable limits for High Side Driver Enabled	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Oystoni	Gode	Безеприоп	Ontena	Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0659		
Variable Bleed Solenoid (VBS)	P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low	The HWIO reports a high pressure/low voltage (ground short) error flag	= TRUE Boolean			>= 4.4 MPH	One Trip
							out 5 MPH	
					P2764 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 31.9902 Volt >= 400 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					High Side Driver Enabled			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0658, P0659 ECM: None		

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	= TRUE Boolean			>= 62 ^{COU}	One Trip Fail nts (≈ 10 onds)
			Delay timer	>= 0.1125 sec			Out 70 Co	mple ounts = 11 onds)
					Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= 9 Volt <= 31.9902 Volt		
				Disable Conditions:				
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM	= TRUE Boolean			>= 12 :	One Trip
					Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= 9 Volt <= 31.9902 Volt		
				Disable Conditions:				

2D Support Tables

Т	้ล	h	le	1
	а	v	ıc	

Axis	0.00	64.00	128.00	192.00	256.00	320.00	384.00	448.00	512.00 N*	m
Curve	100.00	120.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00 RF	PМ

Table 2

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

Table 3

Axis	-6.67	-6.66	40.00	°С
Curve	409.59	3.50	3.50	Sec

Table 4

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	2.99	2.00	Sec

Table 5

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

Table 6

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

Table 7

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

Table 8

Axis	-6.67	-6.66	40.00	80.00	120.00	٥С
Curve	409.00	3.60	1.60	1.50	1.40	Sec

2D Support Tables

Tab	le	9
-----	----	---

Axis	-6.67	-6.66	40.00	80.00	120.00	°C
Curve	409.00	3.30	1.30	1.20	1.10	Sec

Table 10

Axis	-40.00	-20.00	0.00	30.00	110.00	٥С
Curve	8.85	3.75	1.31	0.28	0.28	Sec

Table 11

Axis	-40.00	-20.00	0.00	30.00	110.00	٥С
Curve	5.00	1.70	0.40	0.25	0.25	Sec

Table 12

Axis	-40.00	-20.00	0.00	30.00	110.00	°С
Curve	8.00	2.20	0.70	0.25	0.25	Sec

Table 13

Axis	-40.00	-20.00	0.00	30.00	110.00	°С
Curve	5.20	1.60	0.50	0.27	0.16	Sec

<u>Table 14</u>

Axis	-40.00	-20.00	0.00	30.00	110.00 °C
Curve	5.00	1.50	0.70	0.25	0.25 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

2D Support Tables

Table 16

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

Table 17

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

<u>Table 18</u>

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

<u>Table 19</u>

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

Table 20

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	٥С
Curve	256.00	10.00	8.00	8.00	8.00	8.00	8.00	8.00	256.00	٥С

Table 21

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

3D Support Tables

3D_Table 1

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

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

3D_Table 2

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

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