Component/ System	Fault Code		Malfunction Criteria		shold lue	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
Transmission Control Module (TCM)		The lateral accleration signal is stuck at a high magnitude in range	Lateral accleration magnitude	<= 3.8				Condition	,	rtoquilou	Special No MIL
			Lateral accleration magnitude	>= 0.5	63 g's						
			Lateral accleration magnitude is within the range above for	>= 75	5 Sec						
						Lateral accleration magnitude		3.85	g's		
						Lateral accleration magnitude		0.53	g's		
						Lateral accleration magnitude is within the range above for	>=	60	Sec		
						Diagnostic shifting override command	=	FALSE	Boolean		
						Attained Gear State	=	1st through 6th			
						Attained Gear Slip	<=	100	RPM		
						Transmission Type	=	Clutch to Clutch Transmis sion			
						High Side Driver 1 On	=	TRUE	Boolean		
						Vehicle Speed	>=	15	kph		
						Battery Voltage	<=	31.999	Volts		
						Battery Voltage	>=	9	Volts		
						Battery voltage is within the allowable limits for	>=	0.1	Sec		

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	t	Secondary Malfunction		Enabl Condition		Time Require		Mil Illum.
						Ignition Voltage	<=	31.999	Volts			
						Ignition Voltage	>=	9	Volts			
						Service Fast Learn (SFL) Mode	=	FALSE	Boolean			
						Ignition voltage and SFL conditions met for	>=	0.1	Sec			
					Disa ble Cond ition s:		illumi P071 P072 P077 P215	If calibrate nate the M 7, P0721, 3, P07BF, B, P077C, C, U0073)	IL (P0716, P0722, P07C0, P077D,			
Transmission Control Module (TCM)	P0601	Transmission Electro- Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE	Boole an					>= 5	Fail Count s	One Trip
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:		P0601 : None				
Transmission Control Module (TCM)	P0603	Transmission Electro- Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at Powerup	= TRUE	Boole an					Runs Contin ously		One Trip

Component/	Fault Code		Malfunction Criteria	Threshol Value	d	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Disa ble Cond ition s:	MIL not Illuminated for DTC's:		Requireu	mum.
Transmission Control Module (TCM)	P0604	Transmission Electro- Hydraulic Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	Boole an			>= 5 Count s Sampl = 16 Count s	
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: P0604 ECM: None		
Transmission Control Module (TCM)	P062F	Transmission Electro- Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag at Powerdown	= TRUE	Boole an			Runs Contin ously	One Trip
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None		
Transmission Control Module (TCM)	P0634	Transmission Electro- Hydraulic Control Module Internal Temperature Too High	<u>Fail</u> <u>Cas</u> Substrate <u>e 1</u> Temperature		°C			Fail >= 5 Time (Sec)	One Trip
			Fail Substrate Cas Substrate E 2 Temperature		°C			Fail >= 2 Time (Sec)	

Component/	Fault Code		Malfunction Criteria		Thresho Value		Secondary Malfunction		Enable Condition			Time quire	d	Mil Illum.
System	Code	Description	Ignition Voltage	<u> </u>	18	Volts	mananonon		Condition	7113	IXC	quire	u	mam.
			Note: either fail case can set the DTC		10	VOICS								
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.999	Volts				
							Substrate Temp Lo	>=	0	°C				
							Substrate Temp Hi	<=	170	°C				
							Substrate Temp Between Temp Range for Time	>=	0.25	Sec				
							P0634 Status is	≠	Test Failed This Key On or Fault Active					
						Disa ble Cond ition s:	MIL not Illuminated for DTC's:		: None : None					
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (open or ground short) error flag	=	TRUE	Boole an					>=	4	Fail Count s	One Trip
											out of	6	Sampl e Count s	
							P0658 Status is not		Test Failed This Key On or Fault Active					
		I					High Side Driver 1 On	=	True	Boolean				

Component/	Fault		Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disa ble Cond ition s:	MIL not Illuminated for DTC's:			
Transmission Control Module (TCM)	P0667	TCM Internal Temp (substrate) Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> supportin ⁰C				Two Trips
			If TCM substrate temp to power up temp Δ	in > supportin ⁰C			Fail	
			Both conditions above required to increment fail counter				Count >= 3000	
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.				Sample Count Out 3750 s of (100m s loop)	

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition			me uired	Mil Illum.
System	Code	респриоп	Non-continuous (intermittent) fail conditions will delay resetting fail counter until	value			Sonution	, iii	>= 70	Pass Count s (100m s loop) Sampl e Count	
					Engine Torque Signal Valid	=	TRUE	Boolean			
					Accelerator Position Signal Valid	=	TRUE	Boolean			
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi	<=	7500	RPM			
					Engine Speed is within the allowable limits for	>=	5	Sec			
					Brake torque active	=	FALSE				
					Below describes the brake torque entry criteria						
					Engine Torque	>=	90	N*m			
					Throttle	>=	30.0003	Pct			
					Transmission Input Speed	<=	200	RPM			
					Vehicle Speed	<=	8	Kph			
					Transmission Range		Park				
					Transmission Range		Neutral				
					PTO		Not Active				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 Hydraulic ≠ Air Purge Event		
					Clutch used to exit 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:	>= 20 Sec		
					P0667 Status is	Test Failed This Key ≠ On or Fault Active		

Component/	Fault		Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disa ble Cond ition s:	MIL not Illuminated 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, P0108, P0171, P0172, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Control Module (TCM)	P0668	TCM internal temperature (substrate) thermistor failed at a low voltge	Type of Sensor Used If TCM Substrate	d = eDirectPr op		1 0000, 1 0401, 1 0422		Two Trips
			Temperature Sensor = Direct Proportional and Temp If TCM Substrate Temperature Sensor = Indirect Proportional and	er t >= -249 °C				
			Either condition above will satisfy the fail conditions		Ignition Voltage Lo	>= 8.59961 Volts	Fail >= 60 Timer (Sec)	
					Ignition Voltage Hi	<= 31.999 Volts		

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition	s	Time Required	Mi I Illui
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
					P0668 Status is	≠	Test Failed This Key On or Fault Active			
				Dis b Con itio	e DTC's: d		l: None l: None			
Transmission Control Module (TCM)		TCM internal temperature (substrate) thermistor failed at a high voltage	Type of Sensor Used							Tw Trip
			If TCM Substrate Temperature Sensor = Direct Proportional and Temp	>= 249 °C						
			If TCM Substrate Temperature Sensor = Indirect Proportional and Temp	<= 249 °C						
			Either condition above will satisfy the fail conditions						>= 60	Fail Timer (Sec)
					Ignition Voltage Lo		8.59961 31.999	Volts Volts		
				I	ignition voltage Hi	<=	31.999	VOILS		

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
					Engine Speed Hi	<=	7500	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			
				Disa ble Cond	DTC's:	TCM: P072	: P0716, P0 2, P0723	717,		
				ition s:		ECM	: None			
Transmission Control Module (TCM)	P06A C	TCM Power-up Temp Sensor Circuit Range/Performance	If TCM power-up temp to substrate temp Δ	> supportin °C						Two Trips

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Condition		Time Required	Mil Illum
System	Code	резсприоп	If transmission oil temp to power up temp Δ	Refer to Table 18 in > supportin °C		Condition		required	
			Both conditions above required to increment fail counter					Fail Count >= 3000 s (100m s loop)	n
			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Sample Count of 3750 s (100m s loop)	t 1
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until					Pass Count >= 700	t N
								Out 875 s (100m s loop)	1
					Engine Torque Signal Valid	= TRUE	Boolean		
					Accelerator Position Signal Valid	= TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Brake torque active	=	FALSE			
					Below describes the brake torque entry criteria					
					Engine Torque	>=	90	N*m		
					Throttle	>=	30.0003	Pct		
					Transmission Input Speed	<=	200	RPM		
					Vehicle Speed	<=	8	Kph		
					Transmission Range		Park	- 4		
					Transmission Range		Neutral			
					РТО	=	Not Active			
					Set Brake Torque Active TRUE if above conditions are met for:		7	sec		
					Below describes the brake torque exit criteria					
					Brake torque entry criteria	=	Not Met			
					Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
					Clutch used to exit brake torque active	=	CeTFTD _e_C3_R atlEnbl			
					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.
					Set Brake Torque Active FALSE if above conditions are met for:			
					P06AC Status is	Test Failed This Key ≠ On or Fault Active		
				Disa ble Cond ition 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)	P06A D	TCM power-up thermistor circuit voltage low	Power Up Temp	<= -59 °C			Fail >= 60 Time (Sec)	Two Trips
					Ignition Voltage Lo Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo Engine Speed Hi			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Engine Speed is within the allowable limits for			
					P06AD Status is	Test Failed This Key ≠ On or Fault Active		
					For Hybrids, below conditions must also be met			
					Estimated Motor Power Loss	>= () KVV		
					Estimated Motor Power Loss greater than limit for time	>= 0 Sec		
					Lost Communication with Hybrid Processor Control Module	= FALSE		
					Estimated Motor Power Loss Fault			
				Dis bl Con itio	e DTC's: d	TCM: P0716, P0717, P0722, P0723 ECM: None		
Transmission Control Module (TCM)		TCM power-up thermistor circuit voltage high	Power Up Temp	>= 164 °C			Fail >= 60 Time (Sec)	Two Trips
					Ignition Voltage Lo			
					Ignition Voltage Hi			
					Engine Speed Lo			
1	1				Engine Speed Hi	<= 7500 RPM	l	l

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cycle	0000	2000			Engine Speed is within the allowable limits for	>= 5 Sec	·	
					P06AE Status is	Test Failed This Key ≠ On or Fault Active		
				Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	If transmission oil temp to substrate temp Δ	> supportin °C				Two Trips
			If transmission oil temp to power up temp Δ	Refer to Table 18 in > supportin ⁰C g document s				
			Both conditions above required to increment fail counter				Fail Count s >= 3000 (100m s loop)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		able litions	Time Required	Mil Illum
<u> </u>			Note: table reference temp = to the median temp of trans oil temp, substrate temp and power up temp.					Sar Cor Out 3750 s of (100	ınt Om
			Non-continuous (intermittent) fail conditions will delay resetting fail counter until					Pa Col >= 700	ınt Om
								Sar Cor Out 875 s of (10 s	ınt Om
					Engine Torque Signal Valid	= TRU	E Boolean		
					Accelerator Position Signal Valid	= TRU	E Boolean		
					Ignition Voltage Lo	>= 8.599	31 Volts		
					Ignition Voltage Hi	<= 31.99	9 Volts		
					Engine Speed Lo	>= 400	RPM		
					Engine Speed Hi	<= 750) RPM		
					Engine Speed is within the allowable limits for	>= 5	Sec		
					Brake torque active	= FALS	E		
					Below describes the brake torque entry criteria				
					Engine Torque	>= 90	N*m		
					Throttle	>= 30.00	03 Pct		

Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illun
				Transmission Input Speed	<=	200	RPM		
				Vehicle Speed	<=	8	Kph		
				Transmission Range	¥	Park			
				Transmission Range	≠	Neutral			
				РТО	=	Not Active			
						7	sec		
				Brake torque entry criteria	=	Not Met			
				Clutch hydraulic pressure	≠	Clutch Hydraulic Air Purge Event			
						CeTFTD _e_C3_R atlEnbl			
				pressure is greater than	>=	600	kpa		
						20	Sec		
				P0711 Status is	≠	Test Failed This Key On or Fault Active			
					Code Description Criteria Value Malfunction Transmission Input Speed Vehicle Speed Transmission Range Transmission Range PTO Set Brake Torque Active TRUE if above conditions are met for: Below describes the brake torque exit criteria Brake torque entry criteria Clutch hydraulic pressure Clutch used to exit brake torque active The above clutch pressure is greater than this value for noe loop Set Brake Torque Active FALSE if above conditions are met for:	Code Description Criteria Value Malfunction Transmission Input Speed <= Vehicle Speed <= Transmission Range ≠ Transmission Range ≠ Transmission Range ≠ PTO = Set Brake Torque Active TRUE if above conditions are met for: Below describes the brake torque exit criteria Brake torque entry criteria = Clutch hydraulic pressure ≠ Clutch used to exit brake torque active The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are met for:	Code Description Criteria Value Malfunction Condition Transmission Input Speed <= 200 Vehicle Speed <= 8 Transmission Range ≠ Park Transmission Range ≠ Neutral PTO = Not Active Set Brake Torque Active TRUE if above conditions are met for: Below describes the brake torque exit criteria Brake torque entry criteria = Not Met Clutch hydraulic pressure Clutch used to exit brake torque active The above clutch pressure is greater than this value for one loop Set Brake Torque Active FALSE if above conditions are met for: Test Failed This Key On or Fault	Code Description Criteria Value Malfunction Conditions	Code Description Criteria Value Malfunction Conditions Required Transmission Input Speed Vehicle Speed Transmission Range Tr

Component/	Fault		Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disa ble Cond ition s:	MIL not Illuminated 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 Fluid Temperature Sensor (TFT)		Transmission fluid temperature thermistor failed at a low voltage	Type of Sensor Used If Transmission Fluid Temperature Sensor = Direct Proportional and Temp If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	= eDirectPr op <= -74 °C >= -74 °C				Two Trips
			Either condition above will satisfy the fail conditions		Ignition Voltage Lo		Fail >= 60 Time (Sec)	
					Ignition Voltage Hi Engine Speed Lo			

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
					Engine Speed Hi	<=	7500	RPM		
					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			
				Dis bl Con itio	e DTC's: d	P072	: P0716, P0 22, P0723 : None	0717,		
Transmission Fluid Temperature Sensor (TFT)		Transmission fluid temperature thermistor failed at a high voltage	Type of Sensor Used							Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction		Enable onditio			Time equire		Mil Illum
			If Transmission Fluid Temperature Sensor = Direct Proportional and Temp	>= 174	°C								
			If Transmission Fluid Temperature Sensor = Indirect Proportional and Temp	<= 174	°C								
			Either condition above will satisfy the fail conditions							>=	60	Fail Time (Sec)	
						Ignition Voltage Lo	>= 8.	59961	Volts				
						Ignition Voltage Hi	<= 3	1.999	Volts				
						Engine Speed Lo		400	RPM				
						Engine Speed Hi		7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
						P0713 Status is	F Th ≠ (I	Test Failed Fails Key On or Fault Active					
					Disa ble Cond ition s:		TCM: P0 P0717, F ECM: No	0722, P					
ransmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Transmission Input Speed Sensor Drops	>= 900	RPM					>=	0.8	Fail Time (Sec)	One Trip
						Engine Torque is	>=	0	N*m				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
-				ĺ	Engine Torque is	<=	8191.88	N*m		
					Engine Speed	>=	400	RPM		
					Engine Speed	<=	7500	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	>=	0	RPM		
					The previous requirement has been satisfied for	>=	0	Sec		
					The change (loop to loop) in transmission input speed is	<	8191.88	RPM/Loo p		
					The previous requirement has been satisfied for	>=	0	Sec		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Ignition Voltage	>=	8.59961	Volts		
					Ignition Voltage	<=	31.999	Volts		
					P0716 Status is not	=	Test Failed This Key On or Fault Active			

Description Description Input Speed Sensor Circuit Low Voltage	Fail Cas e 1	Criteria Transmission Input		Value	Disa ble Cond ition s:	Malfunction MIL not Illuminated for DTC's:	P097:	3, P0974 : P0101, P0 3, P0121, F	0752,	Requ		Illum.
	Cas											
	1	Speed is		33	RPM					>= 4.5	Fail Time (Sec)	
	Fail Cas e 2	When P0722 DTC Status equal to Test Failed and Transmission Input Speed is	<	653.125	RPM	Controller uses a single power supply for the speed sensors	=	1	Boolean			
						Engine Torque is	>=	80	N*m			
						Engine Torque is	<=	8191.88	N*m			
							>=	10	Kph			
						Engine Torque Signal Valid	=	TRUE	Boolean			
						Ignition Voltage	>=	8.59961	Volts			
						Ignition Voltage	<=	31.999	Volts			
						Engine Speed	>=	400	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
						P0717 Status is not	=	Test Failed This Key On or Fault Active				
			e 2 Failed and Transmission Input	e 2 Failed and < Transmission Input	Failed and < 653.125 Transmission Input	Failed and < 653.125 RPM Transmission Input Speed is	Failed and Transmission Input Speed is Failed and Transmission Input Speed is Fagine Torque is Engine Torque is Vehicle Speed Engine Torque Signal Valid Ignition Voltage Ignition Voltage Engine Speed Engine Spee	Failed and Transmission Input Speed is Failed and Transmission Input Speed is Failed and Speed Input Speed In	Failed and Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Failed Transmission Input Speed is Power supply for the speed sensors Power supply for the speed sensor Power supply for the speed sensor Power supply for the speed sensor Power sup	Failed and Transmission Input Speed is Failed and Transmission Input Speed is Power supply for the speed sensors Speed is Power supply for the speed is speed	Failed and Transmission Input Speed is Failed and Transmission Input Speed is	Failed and Transmission Input Speed is Failed and Transmission Input Speed is Engine Torque is Speed

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Condition		Time Requir		Mil Illum.
- Cystom		2000			Dis bl Con itio	e DTC's: I		: P0101, P0				
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 3	35 RPM					>= 4.5	Fail Time (Sec)	One Trip
						P0722 Status is not	=	Test Failed This Key On or Fault Active				
						Transmission Input Speed Check	_	TRUE	Boolean			
						Engine Torque Check	=	TRUE	Boolean			
						Throttle Position	>=	8.00018	Pct			
						Transmission Fluid Temperature		-40	°C			
						Disable this DTC if the PTO is active		1	Boolean			
						Engine Torque Signal Valid		TRUE	Boolean			
						Throttle Position Signal Valid	=	TRUE	Boolean			
						Ignition Voltage is	>=	8.59961	Volts			
						Ignition Voltage is	<=	31.999	Volts			
						Engine Speed is	>=	400	RPM			
						Engine Speed is	<=	7500	RPM			
						Engine Speed is within the allowable limits for		5	Sec			

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
System	Code	Description	Criteria	value	Enable_Flags Defined		Required	illuli
					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 complete d		
					OR	ď		
					Transmission Range is	= Park or Neutral		
					Engine Torque is	>= 8191.75 N*m		
					Engine Torque is	<= 8191.75 N*m		
					Engine Torque Condition 2			
					Engine Torque is	>= 50 N*m		
					Engine Torque is	<= 8191.75 N*m		
					The Transmission Input Speed (TIS) Check is TRUE, if either of the two following conditions are TRUE			
					TIS Check Condition 1			
					Transmission Input Speed is	>= 653.125 RPM		
					Transmission Input Speed is	<= 5350 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·				TIS Check Condition 2			\Box
						Engine Speed without the brake applied is			
						Engine Speed with the brake applied is	>= 3200 RPM		
						Engine Speed is	<= 8191.88 RPM		
						Controller uses a single power supply for the speed sensors	= 1 Boolean		
						Powertrain Brake Pedal is Valid			
					Disa ble Cond ition s:		TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Transmission Output Speed Sensor Raw Speed	>= 10	5 RPM			= 0 Enab >= 0 Enab Time (Sec)	l rip
			Output Speed Delta	<= 819	2 RPM			Enab >= 0 e Time (Sec)	
			Output Speed Drop	> 650	0 RPM			Outpu t Speed Drop >= 1.5 Recov ery Fail Time (Sec)	d v

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		able ditions	Time Required	Mil Illum
•		·	AND Transmission Range is	Drivon					
					Range_Disable	= FAL	SE See Below		
					Neutral_Range_Enable And	= TRI	JE See Below		
					Neutral_Speed_Enable are TRUE concurrently		JE See Below		
					Transmission_Range_Ena	= TRI	Below		
					Transmission_Input_Spee d_Enable	= TRI	JE See Below		
					No Change in Transfer Case Range (High <-> Low) for	>= 5	Seconds		
					P0723 Status is not	Te Fail This = On Fau Acti	ed Key or ılt		
					Disable this DTC if the PTO is active		Boolean		
					Ignition Voltage is	>= 8.59	961 Volts		
					Ignition Voltage is	<= 31.9	99 Volts		
					Engine Speed is	>= 40	O RPM		
					Engine Speed is	<= 750	0 RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
					Engine Speed is within the allowable limits for	>=	5	Sec		
					Enable_Flags Defined Below					
					Transmission_Input_Spee d_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	Enable Time (Sec)		
					Input Speed Delta	<=	4095.88	RPM		
					Raw Input Speed	>=	500	RPM		
					TIS Condition 2 is TRUE when ALL of the next two conditions are satisfied					
					Input Speed	=	0	RPM		
					A Single Power Supply is used for all speed sensors	=	TRUE	Boolean		
					Neutral_Range_Enable is TRUE when any of the next 3 conditions are TRUE					_
					Transmission Range is	=	Neutral	ENUM		
					Transmission Range is	=	Reverse/ Neutral Transiton al	ENUM		
					Transmission Range is		Neutral/D rive Transitio nal	ENUM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					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 Transmission Range is	Park/Rev _ erse		
					Input Clutch is not	al		
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	> 1.5 Seconds		
					Transmission Output Speed	> 130 RPM		
					The loop to loop change of the Transmission Output Speed is	< 20 RPM		
					The loop to loop change of the Transmission Output Speed is	> -10 RPM		
					Transmission_Range_Ena ble is TRUE when one of the next six conditions is TRUE			
					Transmission Range is	= Neutral ENUM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
						Transmission Range is	Reverse/ Neutral Transitio nal		
						Transmission Range is	Neutral/D rive ENUM Transitio nal		
						Time since a driven range (R,D) has been selected	Table Based Time Please Refer to >= Table 21 Sec in supportin g documen ts		
						Transmission Output Speed Sensor Raw Speed	>= 500 RPM		
						Output Speed when a fault was detected	>= 500 RPM		
					Disa ble Cond ition s:		TCM: P0973, P0974, P0976, P0977 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Pressure	>= 500	Кра			Enabl >= 2 e Time (Sec)	Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable onditions	3		Time equir		Mil Illum.
			Either Condition (A) or (B) Must be Met									
			(A) TCC Slip Error @ TCC On Mode	Refer to Table 1 in >= Supportin RPM g Documen ts					>=	5	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 Count er	
					TCC Mode		n or ock					
					Ignition Voltage Lo			Volts				
					Ignition Voltage Hi	<= 31	1.999	Volts				
					Engine Speed	>= 4	400	RPM				
					Engine Speed	<= 7	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
					Engine Torque Lo	>=	50	N*m				
					Engine Torque Hi	<= 81	91.88	N*m				
					Throttle Position Lo	>= 8.0	00018	Pct				
					Throttle Position Hi	<= 99	.9985	Pct				
					2nd Gear Ratio Lo			Ratio				
					2nd Gear Ratio High			Ratio				
					3rd Gear Ratio Lo			Ratio				
					3rd Gear Ratio High	<= 1.6	63708	Ratio				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					4th Gear Ratio Lo	>=	1.06946	Ratio	-	\Box
					4th Gear Ratio High	<=	1.23047	Ratio		
					5th Gear Ratio Lo	>=	0.79053	Ratio		
					5th Gear Ratio Hi	<=	0.90955	Ratio		
					6th Gear Ratio Lo	>=	0.62305	Ratio		
					6th Gear Ratio High	<=	0.71692	Ratio		
					Transmission Fluid Temperature Lo	>=	-6.65625	°C		
					Transmission Fluid Temperature Hi		130	°C		
					PTO Not Active	=	TRUE	Boolean		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					Dynamic Mode	=	FALSE	Boolean		
					P0741 Status is	≠	Test Failed This Key On or Fault Active			

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria		resho Value		Secondary Malfunction		Enable Condition		R	Time equir		Mil Illum.
System	Code	Description	Cinteria		Value	Disa ble Cond ition s:	MIL not Illuminated for DTC's:	P0722 P2763 ECM: P0103 P0108 P0174 P0202 P0208 P0208 P0302 P0302		20102, P0102, P0107, P0107, P0201, P0204, P0207, P0301, P0304, P0307,		equii	5 u	
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed If Above Conditions Have been Met, and	<=	-50 13	RPM RPM					>=		Fail Time (Sec)	One Trip
			Fail Timer Expired, Increment Fail Counter				TCC Mode Enable test if Cmnd Gear		Off	Dealess	>=	6	Count er	
							= 1stFW and value true Enable test if Cmnd Gear = 2nd and value true Engine Speed Hi	=	0 6000	Boolean Boolean RPM				
							Engine Speed Lo Vehicle Speed HI Vehicle Speed Lo	>= <=	500 511 1	RPM RPH KPH				
							Engine Torque Hi Engine Torque Lo		8191.88 80	Nm Nm				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					Current Range	≠	Neutral	Range		
					Current Range	≠	Reverse	Range		
					Transmission Sump Temperature	<=	130	°C		
					Transmission Sump Temperature	>=	18	°C		
					Throttle Position Hyst High	>=	5.00031	Pct		
					AND					
					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		
					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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enabl Condition		Time Required	Mil Illum.
Oystein	Ooue	Безсприон	Ontena	7	Disable if Air Purge active and value false		0	Boolean	noquiro	
					RVT Diagnostic Active		FALSE	Boolean		
					Ignition Voltage	>=	8.59961	V		
					Ignition Voltage	<=	31.999	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			
				Disa ble Cond ition s:		P072 P276 ECM P010 P017 P020 P020 P020 P030 P030	: P0716, P1 2, P0723, 3, P2764 : P0101, F 3, P0106, 8, P0171, 4, P0175, 2, P0203, 5, P0206, 8, P0300, 2, P0303, 5, P0306, 8, P0401,	P0741, P0102, P0107, P0172, P0201, P0204, P0207, P0301, P0304, P0307,		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresh Value		Secondary Malfunction		Enable Condition		R	Time equir		Mil Illum.
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	<=	1.20959						>=	0.2	Fail Tmr	
			Gear Ratio	>=	1.09436						=	5	Fail Count s	
			If the above parameters are true											
											≠	0	Neutr al Timer (Sec)	
											>=	0.3	Fail Timer (Sec)	
											>=	8	Count s	
							Ignition Voltage Lo	>=	8.59961	Volts				
							Ignition Voltage Hi	<=	31.999	Volts				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							Transmission Fluid Temperature	>=	-6.65625	°С				
							Range Shift State	=	Range Shift Complete d	ENUM				
							TPS OR	>=	0.50049	%				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Valu		Secondary Malfunction		Enabl Condition		Time Required	Mil Illum.
						Output Speed	>=	67	RPM		
						Throttle Position Signal Valid from ECM		TRUE	Boolean		
						Engine Torque Signal Valid from ECM, High side driver is enabled	=	TRUE	Boolean		
						High-Side Driver is Enabled		TRUE	Boolean		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not present		TRUE			
					Disa ble Cond	MIL not Illuminated for DTC's:	TCM: P072	P0716, P02, P0723,	0717, P182E		
					ition s:		P010 P017 P017 P020 P020 P020 P030 P030	P0101, P 3, P0106, 8, P0171, 4, P0175, 2, P0203, 5, P0206, 8, P0300, 2, P0303, 5, P0306, 8, P0401,	P0107, P0172, P0201, P0204, P0207, P0301, P0304, P0307,		
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>= 400	RPM						One Trip
			Commanded Gear	= 3rd	Gear						

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary		nable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Coi	nditions	Required	Illum.
			Commanded Gear has Achieved 1st Locked OR 1st Free Wheel OR 2nd with Mode 2 Sol. Commanded On	= TRUE Boole an					
			If the above parameters are true						
								Pleas e Refer to Neutr Table al 16 in Timer Suppo (Sec) rting Docu ments	,
			Command 4th Gear once Output Shaft Speed	<= 400 RPM					
			If Gear Ratio And Gear Ratio	>= 3.82568					
			And Geal Natio	- 4.22009				Fail >= 1.5 Time (Sec)	
								>= 5 Coun	t
					Ignition Voltage Lo	>= 8.59	961 Volts		
					Ignition Voltage Hi				
					Engine Speed Lo				
					Engine Speed Hi		00 RPM		
					Engine Speed is within the allowable limits for	>= 5	Sec Sec		
					High-Side Driver is Enabled	= TR	UE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Throttle Position Signal Valid from ECM	= TRUE Boolean		
					Output Speed	>= 67 RPM		
					OR			
					TPS			
					Range Shift State	Range Shift ENUM Complete d		
					Transmission Fluid Temperature	>= -6.65625 °C		
					Input Speed Sensor fault	= FALSE Boolean		
					Output Speed Sensor fault	= FALSE Boolean		
					Default Gear Option is not present	= TRUE		
				Disa ble Cond	e DTC's:	TCM: P0716, P0717, P0722, P0723, P182E		
				itior s		ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Cas Commanded Gear e 1	= 1st Locked				One Trip

Component/	Fault	Monitor Strategy	Malfunction	Threshold	\Box	Secondary Malfunction		Enable		Tim		Mil
System	Code	Description	Criteria	Value	-	Waitunction		Conditio	ns	Requi	red	Illum.
			Gear Box Slip	>= 400 R	PM					Pleas e Refel to Table >= 5 in Supporting Documents	Neutr al Timer o (Sec)	
			Intrusive Shift to 2nd									
			Commanded Gear Previous	= 1st G Locked G	ear							
			Gear Ratio	<= 2.48218								
			Gear Ratio	>= 2.24585								
			If the above									
			parameters are true									
										>= 1	sec	
										>= 3	count s	
						Ignition Voltage Lo	>=	8.59961	Volts			
						Ignition Voltage Hi		31.999	Volts			
						Engine Speed Lo		400	RPM			
						Engine Speed Hi	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
						Output Speed	>=	67	RPM			
						OR						
						TPS	>=	0.50049	%			
						Range Shift State	=	Range Shift Complete d	ENUM			

Component/ System	Fault Code		Malfunction Criteria	Thresh Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
						Transmission Fluid Temperature			
						High-Side Driver is Enabled	= TRUE Boolean		
						Throttle Position Signal Valid from ECM	= TRUE Boolean		
						Input Speed Sensor fault	= FALSE Boolean		
						Output Speed Sensor fault	= FALSE Boolean		
						Default Gear Option is not present	= TRUE		
					Disa ble Cond ition 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)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Cas Case: Steady State e 1 3rd Gear						One Trip
			Commanded Gear	= 3rd	Gear				
			Gearbox Slip	>= 400	RPM			l	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mi Illur
System	Code	Description	Criteria	Value	Waitunction	Conditions	Required	IIIur
							Pleas	
							е	
							Refer	
							to Neutr Table al	
							>= 16 in Timer	
							Suppo (Sec)	
							rting	
							Docu	
							ments	
			Command 4th Gear					
			once Output Shaft					
			Speed					
			If Gear Ratio	>= 1.09436				
			And Gear Ratio	<= 1.20959				
							Fail	
							>= 3 Timer	
							(Sec)	
			It the above				3rd Gear	
			condiations are true,				>= 3 Fail	
			Increment 3rd gear				Count	
			fail counter				s	
							or	
							3-5R	
							Clutch	
			and C35R Fail				>= 14 Fail	
			counter				Count	
							S	
			Fail Cook Stoods Stood					
			Cas Case: Steady State e 2 5th Gear					
			<u>e 2</u> 5th Gear					
			Commanded Gear	= 5th Gear				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable		Time	N III.
System	Code	Description	Criteria	Value	Malfunction	Conditio	ns	Require	d IIIu
			Gearbox Slip	>= 400 Rpm				Table	Neutr al Timer (Sec)
			Intrusive Test: Command 6th Gear						
			If attained Gear=6th gear Time						
			It the above condiations are true, Increment 5th gear fail counter					>= 3	5th Gear Fail Count s
			and C35R Fail counter					>= 14	or 3-5R Clutch Fail Count s
					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		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
					Minimum output speed for RVT	>=	67	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	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	>=	-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			

Component/	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Citteria	Disa ble Cond ition s:	MIL not Illuminated for DTC's:		required	
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solinoid B Stuck On [C35R] (Steady State)	Fail Cas Case: Steady State e 1 1st Attained Gear slip	>= 400 RPM				One Trip
			If the Above is True for Time					
			Intrusive test: (CBR1 clutch exhausted)					
				<= 1.60864 >= 1.45544				
							Fail >= 1.1 Timer (Sec)	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
							Fail Count in 1st Gear	
							or Total >= 3 Fail Count s	
			Fail Cas Case: Steady State e 2 2nd gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Coue	Безсприон	If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document			rtoquirea	
			Intrusive test: (CB26 clutch exhausted)					
				<= 1.60864				
			Gear Ratio If the above parameters are true				E-il	
							Fail >= 1.1 Timer (Sec)	
							Fail Count >= 3 in 2nd Gear	ı
							or Total >= 3 Fail Count s	
			Fail Cas Case: Steady State 4th gear					

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil
System	Code	Description	Criteria	Value	Maitunction	Conditions	Required	Illum.
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				
			If the Above is True for Time	Table Based Time Please Refer to				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.89465				
				>= 0.80945				
			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.
System	Code	Description	Cinteria	Value		Containons	Fail >= 1.1 Timer (Sec) Fail Count in 4th Gear or Total >= 3 Total >= 3 Count S	
			Fail Cas Case: Steady State e 4 6th gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mi
System	Code	Description	Criteria	Value	Mairunction	Conditions	Required	Illui
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin				
				g document s				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 0.89465			Fail >= 1.1 Timer (Sec)	
				>= 0.80945			>= 3 count s	
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail >= 3 Count in 6th Gear	
							or Total >= 3 Fail Count s	
					PRNDL State defaulted	= FALSE Boolea	n	
					inhibit RVT	= FALSE Boolea	n	
					IMS fault pending indication	= FALSE Boolea	n	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					output speed	>=	0	RPM		
					TPS validity flag	=	TRUE	Boolean		
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pressu rized	=	TRUE	Boolean		
					A OR B					
					(A) Output speed enable	>=	67	Nm		
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		1
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Безсприон	Onteria	Disa ble Cond ition s:	MIL not Illuminated for	<u> </u>	rioquilou	
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R] (Dymanic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers)	= TRUE Boole an				One Trip
			Primary Oncoming Clutch Pressure Command Status	= pressuriz				
			Primary Offgoing Clutch Pressure Command Status	= exhaust				
			Range Shift Status	Initial ≠ Clutch Control				
			Attained Gear Slip If the above conditions are true run appropriate Fail 1 Timers Below:					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (3-1 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (3-4 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Throttle)	>= 0.2998	Fail Time (Sec)				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria	Value	Manufiction	Conditions	Required	mum.
			fail timer 1 (5-6 shifting with Closed Throttle)					
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	
			If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			3rd gear fail counter				3rd gear >= 3 fail count s	:

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition			Γime quired		Mil Ilum.
			5th gear fail counter						>=	3 f	ith ear ail ount s	
			Total fail counter						>=	to f	DR otal ail ount s	
					TUT Enable temperature	>=	-6.65625	°C				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	≠	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT	>=	100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted		FALSE	Boolean				
					IMS Fault Pending		FALSE	Boolean				
					Service Fast Learn Mode		FALSE	Boolean				
					HSD Enabled		TRUE	Boolean				
					Default Gear Option is not present	=	TRUE					

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Onteria	Disa ble Cond ition s:	MIL not Illuminated for DTC's:		required	
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	Fail Cas Case: Steady State e 1 4th Gear Gear slip				Pleas e See Table Neutr 5 For al Neutr Timer al (Sec) Time Cal	One Trip
			commanded 5th gear If attained Gear ≠5th for time if the above conditions have been met	Please refer to Table 3 in Shift >= Supportin Time g (Sec) Documen ts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		2000.1941011	Increment 4th Gear Fail Counter				4th Gear >= 3 Fail Count	
			and C456 Fail Counters				OR C456 >= 14 Fail Count s	l
			Fail Cas Case: Steady State e 2 5th Gear					
			Gear slip	>= 400 RPM			Pleas e See Table Neutr 5 For al Neutr Timer al (Sec) Time Cal	l
			Intrusive test: commanded 6th gear					
			If attained Gear ≠ 6th for time					
			if the above conditions have been met					
			Increment 5th Gear Fail Counter				5th Sear Sear Fail Count	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	Manunction	Conditions	Required	Illum.
			and C456 Fail Counters				OR C456 >= 14 Fail Count s	
			Fail Cas Case: Steady State 6th Gear					
			Gear slip	>= 400 RPM			Pleas e See Table Neutr 5 For al >= Neutr Timer al (Sec) Time Cal	
			Intrusive test: commanded 5th gear					
			If attained Gear ≠ 5th for time					
			if the above conditions have been met					
			Increment 6th Gear Fail Counter and C456 Fail Counter				6th Gear >= 3 Fail Count	
			and C456 Fail Counter				OR C456 >= 14 Fail Count s	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					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	>=	67	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	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	>=	-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					OutputSpeed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			

Component/	Fault		Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disa ble	MIL not Illuminated for	TCM: P0716, P0717, P0722, P0723, P182E		
				Cond	DICS.	1 0722,1 0723,1 1026		
				ition				
				s:		ECM: P0101, P0102, P0103, P0106, P0107,		
						P0108, P0171, P0172,		
						P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207, P0208, P0300, P0301,		
						P0302, P0303, P0304,		
						P0305, P0306, P0307,		
						P0308, P0401, P042E		
			E-0					0
Variable Bleed		Pressure Control (PC)	<u>Fail</u> <u>Cas</u> Case: Steady State					One Trip
Solenoid (VBS)	P0797	Solenoid C Stuck On [C456] (Steady State)	<u>e 1</u> 1st					
			Attained Coor alin	. 400 DDM				
			Attained Gear slip	>= 400 RPM				
				Table				
				Based				
				Time Please Enabl				
			If the Above is True	Refer to e				
			for Time					
				supportin (Sec)				
				g document				
				S				
			Intrucius tost					
			Intrusive test: (CBR1 clutch					
			exhausted)					
			Gear Ratio	<= 1.20959				
				>= 1.09436				
			If the above					
			parameters are true					
							Fail	
							>= 1.1 Timer	
							(Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
- Cycloni		Эссентриси					Fail Count in 1st Gear	
							or Total >= 3 Fail Count s	
			Fail Cas Case Steady State e 2 2nd					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illun
System	Code	Description	Criteria	value	Walturiction	Conditions	Requirea	IIIui
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document s				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.20959				
			Gear Ratio	>= 1.09436				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail Count >= 3 in 2nd Gear	
							or Total >= 3 fail count s	
			Fail Case Steady State e 3					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
-		·	Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				
			If the Above is True for Time					
			If the above parameters are true					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		F	Time Requir		Mil Illum.
Gystein	Couc	Безеприон	Ontona							1.1	Fail Timer (Sec)	
									>=	3	Fail Count in 3rd Gear	
									>=	OR 3	Total Fail Count s	
					PRNDL State defaulted	=	FALSE	Boolean				
					inhibit RVT		FALSE	Boolean				
					IMS fault pending indication	=	FALSE	Boolean				
					output speed	>=	0	RPM				
					TPS validity flag	=	TRUE	Boolean				
					HSD Enabled		TRUE	Boolean				
					Hydraulic_System_Pressu rized	=	TRUE	Boolean				
					A OR B							
					(A) Output speed enable	>=	67	Nm				
					(B) Accelerator Pedal enable	>=	0.50049	Nm				
					Ignition Voltage Lo	>=	8.59961	Volts				
					Ignition Voltage Hi	<=	31.999	Volts				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi		7500	RPM				
					Engine Speed is within the allowable limits for		5	Sec				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
						if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
						if Attained Gear=1st FW Engine Torque Enable		5	Nm		
						if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
						Transmission Fluid Temperature	>=	-6.65625	°C		
						Input Speed Sensor fault	=	FALSE	Boolean		
						Output Speed Sensor fault	=	FALSE	Boolean		
						Default Gear Option is not present		TRUE			
					Disa ble Cond ition s:	DTC's:	P072: ECM: P010: P010: P017: P020: P020: P020: P030:	P0101, P0 3, P0106, 13, P0171, 14, P0175, 2, P0203, 5, P0206, 13, P0300, 12, P0303, 1	P182E 0102, P0107, P0172, P0201, P0204, P0207, P0301, P0304,		
								5, P0306, I 3, P0401, I			
/ariable 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)		Boole an						One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Primary Oncoming Clutch Pressure Command Status	=	Maximun pressuriz ed					
			Primary Offgoing Clutch Pressure Command Status	=	Clutch exhaust command					
			Range Shift Status	≠	Initial Clutch Control					
			Attained Gear Slip	<=	40	RPM				
			If the above conditions are true increment appropriate Fail 1 Timers Below:							
			fail timer 1 (4-1 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (4-1 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=	0.5	Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=	0.2998	Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=	0.5	Fail Time (Sec)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
			fail timer 1 (5-3 shifting with throttle)	Fail >= 0.2998 Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>= 0.5 Fail >= (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>= 0.2998 Fail >= (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>= 0.5 Fail (Sec)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enabl e Timer s for >= Fail sec Timer 1, and Refer ence Suppo rting Table 15 for Fail Timer 2	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
-		·	If fail timer is greater than threshold increment corresponding gear fail counter and total fail counter					
			4th gear fail counter				Fail Count >= 3 er From 4th Gear	
			5th gear fail counter				OR Fail Count er From 5th Gear	
			6th gear fail counter				OR Fail Count >= 3 er From 6th Gear	
			Total fail counter				OR Total >= 5 Fail Count er	
					TUT Enable temperature Input Speed Sensor fault			
					Output Speed Sensor fault			
					Command / Attained Gear			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Valu		Secondary Malfunction		Enabl Conditi		Time Required	Mil Illum.
						High Side Driver ON	=	TRUE	Boolean		
						output speed limit for TUT	>=	100	RPM		
						input speed limit for TUT	>=	150	RPM		
						PRNDL state defaulted	=	FALSE	Boolean		
						IMS Fault Pending	=	FALSE	Boolean		
						Service Fast Learn Mode	=	FALSE	Boolean		
						HSD Enabled	=	TRUE	Boolean		
					Disa ble Cond ition s:		P072 ECM P010 P017 P020 P020 P020 P030 P030	: P0716, P 2, P0723, : P0101, P 3, P0106, 8, P0171, 4, P0175, 2, P0203, 5, P0206, 8, P0300, 2, P0303, 5, P0306, 8, P0401,	P182E 0102, P0107, P0172, P0201, P0204, P0207, P0301, P0304, P0307,		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Tap Up Switch Cas Stuck in the Up e 1 Position in Range 1 Enabled	= 1	Boole an						Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1	Boole an						
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1	Boole an						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Valu		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 1	Boole an				
			Tap Up Switch ON	= TRUE	Boole an			Fail >= 1 Time (Sec)	
			Fail Tap Up Switch Cas Stuck in the Up e 2 Position in Range 1 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1	Boole an				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illun
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 1	Boole an				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 1	Boole an				
			Tap Up Switch ON	= TRUE	Boole an				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met					Fail >= 600 Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	d	Secondary Malfunction		Enable Conditio		Time Required	Mil Illum.
,		·									
						Time Since Last Range Change		1	Enable Time (Sec)		
						Ignition Voltage Lo	>=	8.59961	Volts		
						Ignition Voltage Hi	<=	31.999	Volts		
						Engine Speed Lo	>=	400	RPM		
						Engine Speed Hi	<=	7500	RPM		
						Engine Speed is within the allowable limits for	>=	5	Sec		
						P0815 Status is	≠	Test Failed This Key On or Fault Active			
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	P182	E, P1876, F 5, P1761	9826, P1877,		
ap Up Tap Down witch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Cas Stuck in the Down e 1 Position in Range 1 Enabled	= 1	Boole an						Speci No M
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	Boole an						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	= 1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	= 1	Boole an				
			Tap Down Switch ON	= TRUE	Boole an			>= 1 sec	
			Fail Tap Down Switch Cas Stuck in the Down e 2 Position in Range 1 Enabled	= 1	Boole an				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	1	Boole an				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	1	Boole an				
l			Tap Down Switch ON	=	TRUE	Boole an				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value	ld	Secondary Malfunction		Enable Conditio		F	Time Requir		Mil Illum.
-			NOTE: Both Failcase1 and Failcase 2 Must Be Met							>=	600	sec	
						Time Since Last Range Change	>=	1	Enable Time (Sec)				
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.999	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						P0816 Status is	≠	Test Failed This Key On or Fault Active					
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	P182 P191	: P0815, P0 PE, P1876, F 5, P1761 : None	826, P1877,				
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boole an					>=	60	Fail Time (Sec)	Special No MIL
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.999	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				

System Code Description Criteria Value Malfunction Conditions Required Illum. Engine Speed is within the allowable limits for Fault Active Figure Speed is within the allowable limits for Fault Active Figure Speed is within the allowable limits for Fault Active Figure Speed is within the allowable limits for Fault Active Figure Speed is within the allowable limits for Sec Test Failed This Key On or Fault Active Figure Speed is within the allowable limits for Sec Test Failed This Key On or Fault Active Figure Speed is within the allowable limits for Sec Test Test Failed This Key On or Fault Active Figure Speed Indicate Sec In the second Second Sec In the second Second Second Sec In the second Sec	Component/	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
P0826 Status is P184 This Key On or Fault Active Cond ition S: WIL not Illuminated for DTC's: ECM: None P0826 Status is P184 This Key On or Fault Active Fall Two Trips Trips Trips Samplout Samp	System	Code	Description	Cinteria	value	Engine Speed is within the	5 Soo	rtequiled	
Variable Bleed Solenoid (VBS) Possure Control (PC) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) The HWIO reports an invalid voltage (out of range) error flag TRUE Boole an Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed Engine Speed ECM: None CM: None Two Trips Two Trips Two Trips Tri						P0826 Status is	Failed		
Variable Bleed Solenoid (VBS) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) Trips Solenoid A Control Circuit Rationality Test (Line Pressure VBS) Solenoid A Control Circuit Rationality Test (Line Pressure VBS) Solenoid A Control Circuit Rationality Test (out of range) error flag Ignition Voltage >= 8.59961 Volts Ignition Voltage <= 31.999 Volts Engine Speed <= 7500 RPM Engine Speed <= 7500 RPM Engine Speed is within the Engine Speed is w					ble Cond ition	DTC's:			
Ignition Voltage >= 8.59961 Volts Ignition Voltage <= 31.999 Volts Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the Foundation Foundation Constitution Foundation Constitution Foundation Constitution Foundation Constitution Foundation Constitution Constitution Foundation Constitution Foundation Constitution Constitu		P0961	Solenoid A Control Circuit Rationality Test	an invalid voltage (out of range) error	I — IRIIE			>= 4.4 Time (Sec) Sampl out _ e	Trips
Engine Speed >= 400 RPM Engine Speed <= 7500 RPM Engine Speed is within the						Ignition Voltage	>= 8.59961 Volts		
Engine Speed <= 7500 RPM Engine Speed is within the						Ignition Voltage	<= 31.999 Volts		
Engine Speed is within the						Engine Speed	>= 400 RPM		
Engine Speed is within the allowable limits for >= 5 Sec						Engine Speed	<= 7500 RPM		
						Engine Speed is within the allowable limits for	>= 5 Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Condition	ıs	Time Required	,	Mil Illum.
Gystem	Code	Description	Ontena		Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: None	-	T.O.quino.		<u> </u>
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	Boole an				out of 1.875	Fail Time (Sec) Sampl e Time (Sec)	One Trip
						Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed is within the allowable limits for	<= 31.999 >= 400 <= 7500	Volts Volts RPM RPM Sec			
					Disa ble Cond ition s:	MIL not Illuminated 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	= TRUE	Boole an				out 5	Fail Time (Sec) Sampl e Time (Sec)	Two Trips
						Ignition Voltage	>= 8.59961	Volts		,	

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for			
				Disa ble Cond ition s	DTC's:			
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 Boole an			Fail >= 0.3 Time (Sec) Sampl	One Trip
							out 0.375 e of Time (Sec)	
					Ignition Voltage			
					Ignition Voltage			
					Engine Speed			
					Engine Speed Engine Speed is within the allowable limits for	. F Coo		
					P0966 Status is not	Test Failed		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Conditions		Time Require		Mil Illum.
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
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	= IRUE	Boole an				>= 0.3	Fail Time (Sec)	One Trip
									out of 0.375	Sampl e Time (Sec)	
						Ignition Voltage	>= 8.59961 \	√olts			
						Ignition Voltage	<= 31.999 \	√olts			
						Engine Speed	>= 400 F	RPM			
						Engine Speed	<= 7500 F	RPM			
						Engine Speed is within the allowable limits for		Sec			
						P0967 Status is not	Test Failed This Key On or Fault Active				
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
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	Boole an				>= 0.3	Fail Time (Sec)	One Trip

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
eyelen.		3 333p					Sampl out 0.375 e of Time (Sec)	
					P0970 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volts		
					Ignition Voltage	<= 31.999 Volts		
					Engine Speed	>= 400 RPM		
					Engine Speed	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Disa blo Cond ition s	e DTC's: I			
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 Boole an	;		Fail >= 0.3 Time (Sec) Sampl out 0.375 e	One Trip
							out 0.375 e of Time (Sec)	
					P0971 Status is not	Test Failed This Key On or Fault Active		

Component/ System	Fault Code		Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Condition		Time Required	Mil Illum.
					Ignition Voltage	>= 8.59961	Volts	1	
					Ignition Voltage	<= 31.999	Volts		
					Engine Speed	>= 400	RPM		
					Engine Speed	<= 7500	RPM		
					Engine Speed is within the allowable limits for	>= 5	Sec		
				Disa ble Cond itior s	e DTC's: I				
Shift Solinoid	P0973	Shift Solenoid A Control Circuit Low (Mode 2 Solenoid)	The HWIO reports a low voltage (ground short) error flag	= TRUE				>= 1.2 Ti (S Sa out of 1.5 Ti	one Trip me ec) mpl e me ec)
					P0973 Status is not	Test Failed This Key On or Fault Active			
					Ignition Voltage	>= 8.59961	Volts		
					Ignition Voltage	<= 31.999	Volts		
					Engine Speed	>= 400	RPM		
					Engine Speed	<= 7500	RPM		
					Engine Speed is within the allowable limits for		Sec		
					Engine Speed Engine Speed is within the	<= 7500	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Condition	ıs	F	Time Requir		Mil Illum.
		·			Disa ble Cond ition s:	MIL not Illuminated for DTC's:						
Shift Solinoid	P0974	Shift Solenoid A Control Circuit High (Mode 2 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boole an				>= out of	1.2	Fail Time (Sec) Sampl e Time (Sec)	
						P0974 Status is not	Test Failed This Key On or Fault Active					
						Ignition Voltage	>= 8.59961	Volts				
						Ignition Voltage	<= 31.999	Volts				
						Engine Speed	>= 400	RPM				
						Engine Speed Engine Speed is within the allowable limits for		RPM Sec				
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:						

Component/ System	Fault Code		Malfunction Criteria	Thres Valu		Secondary Malfunction		Enabl Condition		R	Time equir		Mil Illum.
Mode 3 Multiplex Valve	P0977	Shift Solenoid B Control Circuit High (Mode 3 Solenoid)	The HWIO reports a high voltage (open or power short) error flag	= TRUI	Boole an					>=	1.2	Sec	One Trip
										of	1.5	Sec	
						P0977 Status is not	ш	Test Failed This Key On or Fault Active					
i						Ignition Voltage	>=	8.59961	Volts				
						Ignition Voltage	<=	31.999	Volts				
						Engine Speed		400	RPM				
						Engine Speed		7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
					Disa ble Cond ition s:	DTC's:		None None					
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM does not match expected value	= TRUI	Boole an					>=	3	Fail Count er	Specia No MIL
										>	10	Sampl e Timer (Sec)	
						Tap Up Tap Down Message Health	=	TRUE	Boolean				
1		1				Engine Speed Lo	>=	400	RPM				

Component/ System	Fault Code		Malfunction Criteria		Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Cyclem	0000	Decempation				Engine Speed Hi			
						Engine Speed is within the allowable limits for	F 900		
					Disa ble Cond ition	DTC's:			
Internal Mode Switch (IMS)	P182E	Internal Mode Switch - Invalid Range	Fail Cas e 1 Current range		Transition 1 (bit Rang state e 1110)				One Trip
			Previous range	≠	CeTRGR _e_PRN Rang DL_Drive e 6				
			Previous range	≠	CeTRGR _e_PRN Rang DL_Drive e 5				
			Range Shift State	=	Range Shift ENU Complete M d				
			Absolute Attained Gear Slip		50 rpm				
			Attained Gear	<=	Sixth				
			Attained Gear	>=	First				
			Throttle Position Available		TRUE				
			Throttle Position	>=	8.00018 pct				
			Output Speed	>=	200 rpm				
			Engine Torque	>=	50 Nm				
			Engine Torque	<=	8191.75 Nm				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the above conditions are met then Increment Fail Timer					Fail >= 1 Secon ds	
			If Fail Timer has Expired then Increment Fail Counter					Fail >= 5 Count s	
			Fail Cas Output Speed e 2	<= 70 rp	om				
			The following PRNDL sequence events occur in this exact order:						
			PRNDL state	Drive 6 R (bit state e 0110)	Rang				
			PRNDL state = Drive 6 for	>= 1 S	Sec				
			PRNDL state	Transition = 8 (bit R state e 0111)					
			PRNDL state	Drive 6 R (bit state e 0110)	Rang				
			PRNDL state	Transition 1 (bit R state e 1110)					
			Above sequencing occurs in	<= 1 S	Sec				
			Neutral Idle Mode	= Inactive					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction	Enable Condition		Time Required	Mil Illum.
2,000		- Joseph Grand	If all conditions above are met Increment delay Timer						·	
			If the below two conditions are met Increment Fail Timer						>= 3 S	Fail econ ds
			delay timer		Sec					
			Input Speed If Fail Timer has Expired then Increment Fail Counter	>= 400 S	Sec					Fail ount s
			Fail Cas e 3 Current range	Transition = 13 (bit F state e 0010)		Previous range	CeTRGR ≠ _e_PRN DL_Drive 5			
			Engine Torque	>= -8192 N	Nm	Previous range	CeTRGR ≠ _e_PRN DL_Drive 5			
			Engine Torque	<= 8191.75 N	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 "previous range" criteria above must also be satsified when the "current range" = "Transition 13"			>= 0.225 S	econ ds
			If Fail Timer has Expired then Increment Fail Counter							Fail ount s

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable	Time	Mil
System	Code	Description	Criteria	Value	waiiunction	Conditions	Required	Illum.
			Fail Cas e 4 Current range	Transition Rang = 8 (bit e state 0111)	Disable Fail Case 4 if last positive range was Drive 6 and current range is transition 8			
			Inhibit bit (see definition)	= FALSE	Set inhibit bit true if PRNDL = 1100 (rev) or 0100 (Rev-Neu transition 11) Set inhibit bit false if PRNDL = 1001 (park)			
			Steady State Engine Torque					
			Steady State Engine Torque	<= 8191.75 Nm				
			If the above conditions are met then Increment Fail Timer				>= 0.225 Secon ds	
			If the above Condtions have been met, Increment Fail Counter				Fail >= 15 Count s	
			Fail Cas Throttle Position e 5 Available					
			The following PRNDL sequence events occur in this exact order:					
			PRNDL State	Reverse Rang (bit state 1100)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Thresho Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
			PRNDL State		Transition 11 (bit state 0100)					
			PRNDL State	=	Neutral (bit state 0101)	Rang e				
			PRNDL State		Transition 11 (bit state 0100)					
			Above sequencing occurs in	<=	1	Sec				
			Then delay timer increments							
			Delay timer	>=	5	sec				
			Range Shift State		Range Shift Complete					
			Absolute Attained Gear Slip		50	rpm				
			Attained Gear	<=	Sixth					
			Attained Gear	>=	First					
			Throttle Position	>=	8.00018	pct				
			Output Speed	>=	200	rpm				
			If the above conditions are met Increment Fail Timer						>= 20 Sec ds	
			Fail Cas e 6 Current range	=	Illegal (bit state 0000 or 1000 or 0001)		A Open Circuit Definition (flag set false if the following conditions are met):			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
бузіені	Coue	Безоприон	and	- 13100	Current Range	Transitio		
			A Open Circuit (See Definition)	= FALSE Boole an	or			
					Last positive state	Neutral ≠ (bit state 0101)		
					or			
					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 Secon ds	1
			Fail Cas Current PRNDL e 7 State					
			and					
			Previous PRNDL state					
			Input Speed	>= 150 RPM				
			Reverse Trans Ratio	<= 2.97595 ratio				
			Reverse Trans Ratio	>= 3.42395 ratio				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Cyclom	Journal	Dodonpulen	If the above Condtions are met then, Increment Fail timer				>= 6.25 Secon	
			P182E will report test fail when any of the above 7 fail cases are met					
					Ignition Voltage Lo	>= 8.59961 Volts		
					Ignition Voltage Hi	<= 31.999 Volts		
					Engine Speed Lo	>= 400 RPM		
					Engine Speed Hi	<= 7500 RPM		
					Engine Speed is within the allowable limits for	>= 5 Sec		
					Engine Torque Signal Valid	= TRUE Boolean		
				Disa	MIL not Illuminated for	TCM: P0716, P0717,		
				ble	DTC's:	P0722, P0723, P07C0, P07BF, P077C, P077D		
				Cond ition				
				s:		ECM: P0101, P0102, P0103, P0106, P0107,		
						P0108, P0171, P0172, P0174, P0175, P0201,		
						P0202, P0203, P0204, P0205, P0206, P0207,		
						P0208, P0300, P0301, P0302, P0303, P0304,		
						P0305, P0306, P0307, P0308, P0401, P042E		
						11 0300, F0401, F042E		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	I	Secondary Malfunction		Enable Condition			Time quire	ed	Mil Illum.
Tap Up Tap Down Switch (TUTD)	P1876	Tan Ha and Davis	Current range	Park or F = Reverse e or Neutral S	Э								Special No MIL
			TUTD Enable Switch is Active	I = IKUE	Boole an								
										>=	3	Fail Time (Sec)	
										>=	5	Fail Count s	
						Ignition Voltage Lo	>=	8.59961	Volts				
						Ignition Voltage Hi	<=	31.999	Volts				
						Vehicle Speed Lo	<=	511	KPH				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						P1876 Status is	≠	Test Failed This Key On or Fault Active					
				(Disa ble Cond ition s:		P0826	s, P1761, P 7, P1915, U	1825,				
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	PRNDL State is		Enum eratio								One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		hresho Value		Secondary Malfunction		Enable Condition		Time Require		Mil Illum.
			The following events must occur Sequentially										
			Initial Engine speed	<=	50	RPM					>= 0.25	e Time (Sec)	
			Then										
			Engine Speed Between Following Cals										
			Engine Speed Lo Hist	>=	50	RPM							
			Engine Speed Hi Hist	<=	480	RPM					>= 0.069	e Time (Sec)	
			Then										
			Final Engine Speed	>=	525	RPM							
			Final Transmission Input Speed	>=	100	RPM					>= 1.25	Fail Time (Sec)	
							DTC has Ran this Key Cycle?	=	FALSE	Boolean			
							Ignition Voltage Lo	>=	6	V			
							Ignition Voltage Hi	<=	31.999	V			
							Ignition Voltage Hyst High (enables above this value)	>=	5	V			
							Ignition Voltage Hyst Low (disabled below this value)	<=	2	V			
							Transmission Output Speed	<=	90	rpm			

Component/ System	Fault Code		Malfunction Criteria	Thresho Value		Secondary Malfunction	Enable Conditio		Tin Requ		Mil Illum.
·		·				P1915 Status is	Test Failed This Key On or Fault Active				
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: P0722, P0 ECM: None	723			
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALSE	Boole an						One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	5	Volts				>= 280	Fail Count s (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	2	Volts				Out 280	Sampl e Count s (25ms loop)	
						ECM run/crank active status available	= TRUE	Boolean			
						ECM run/crank active status	= TRUE	Boolean			

Component/ System	Fault Code		Malfunction Criteria		Thresho Value		Secondary Malfunction		nable nditions	Time Requir		Mil Illum.
System.		3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -				Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	=	TRUE	Boole an						One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)		5	Volts				>= 280	Fail Count s (25ms loop)	
			Ignition Voltage Low Hyst (run crank goes false when below this value)		2	Volts				Out 280	Sampl e Count s (25ms loop)	
							ECM run/crank active status available ECM run/crank active status	= IR				
						Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
Variable Bleed Solenoid (VBS)	P2714	Pressure Control (PC) Solenoid D Stuck Off [CB26]	Fail Cas Case: Steady State e 1 2nd Gear									One Trip

Component/	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Gear slip			Conditions	Pleas e See Table Neutr 5 For al Neutr Timer al (Sec) Time	
			Intrusive test: commanded 3rd gear				Cal	
			If attained Gear = 3rd for Time	Table Based Time Please Enabl see Table e 2 in Time Supportin (Sec) g Documen ts				
			If Above Conditions have been met					
			Increment 2nd gear fail count				2nd Gear >= 3 Fail Count or	
			and CB26 Fail Count				CB26 >= 14 Fail Count	
			Fail Cas Case: Steady State e 2 6th Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Require		Mil Illum.
Зузіені	Coue	Description	Gear slip				Contain		Pleas e See Table 5 For	Neutr al Timer (Sec)	
			Intrusive test: commanded 5th gear						Gai		
			If attained Gear = 5th For Time	Table Based Time Please Enabl see Table e >= 2 in Time Supportin (Sec) g Documen ts							
			If Above Conditions have been met, Increment 5th gear fail counter						>= 3	5th Gear Fail Count	
			and CB26 Fail Count						>= 14	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			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	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		-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
I										

Component/	Fault		Malfunction	Threshold Value	Secondary Malfunction	Enable	Time	Mil Illum.
System	Code	Description	Criteria			Conditions	Required	illum.
				Disa ble		P0722, P0723, P182E		
				Cond		1 0722,1 0720,1 1022		
				ition				
				s		ECM: P0101, P0102,		
						P0103, P0106, P0107, P0108, P0171, P0172,		
						P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207,		
						P0208, P0300, P0301,		
						P0302, P0303, P0304, P0305, P0306, P0307,		
						P0308, P0401, P042E		
	+		Primary Offgoing				 	One
			Clutch is exhausted					Trip
Variable Dlace		Pressure Control (PC)	(See Table 13 in	Deele				
Variable Bleed Solenoid (VBS)	P2715	Solenoid D Stuck On	Supporting	= TRUE Boole an				
Colchold (VBC)		[CB26] (Dynamic)	Documents for					
			Exhaust Delay Timers)					
			Primary Oncoming					
			Clutch Pressure	•				
			Command Status	ed				
			Primary Offgoing	Clutch				
			Clutch Pressure	= exhaust				
			Command Status					
				Initial				
			Range Shift Status					
				Control				
			Attained Gear Slip	<= 40 RPM				
			If above coditons					
			are true, increment					
	1		appropriate Fail 1 Timers Below:					
			Timers below:					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Value		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			fail timer 1 (2-1 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (2-3 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (2-3 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (2-4 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>= 0.5	Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>= 0.2998	Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)	>= 0.5	Fail Time (Sec)				

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

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

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
				Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	Fail Cas Case: Steady State e 1 1st					One Trip
			Attained Gear slip	>= 400 RPM				
			If the Above is True for Time	Table Based Time Please Enabl Refer to e Table 4 in Time supportin (Sec) g document s				
			Intrusive test: (CBR1 clutch exhausted)					
			Gear Ratio	<= 2.48218				
			Gear Ratio	>= 2.24585				
			If the above parameters are true				F=0	
							Fail >= 1.1 Time (Sec)	

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enable	Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Conditions	Required	Illum.
							Fail Count >= 5 in 1st Gear	
							or Total >= 5 Fail Count	
			<u>Fail</u>				S	=
			Cas Case: Steady State e 2 3rd Gear					
			Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	Waltuffction	Conditions	Required	mum.
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document s				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 2.48218				
			Gear Ratio	>= 2.24585				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail Count >= 3 in 3rd Gear	
							or Total >= 5 Fail Count s	
			<u>Fail</u> <u>Cas</u> Case: Steady State <u>e 3</u> 4rd Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum
-,			Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document s				
			Intrusive test: (C1234 clutch exhausted)					
			Gear Ratio	<= 0.70032				
			Gear Ratio	>= 0.63367				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary Malfunction	Enable Conditions	Time	Mil
System	Code	Description	Criteria If the above parameters are true	Value	Malfunction	Conditions	Required Fail >= 1.1 Timer (Sec) Fail Count in 4th	
			<u>Fail</u> <u>Cas</u> Case: Steady State e 4 5th Gear				or Total >= 5 Count S	
			<u>e 4</u> 5th Gear Max Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 1 in supportin g document s				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				

Component/	Fault	Monitor Strategy	Malfunction	Threshold	Secondary	Enal		Time	Mil
System	Code	Description	Criteria	Value	Malfunction	Condi	ions	Required	Illum
			If the Above is True for Time						
				s					
			Intrusive test: (C35R clutch exhausted)						
			Gear Ratio	<= 0.70032					
			Gear Ratio	>= 0.63367					
			If the above parameters are true						
								Fail >= 1.1 Time (Sec	er)
								Fail Cour >= 3 in 5tl Gea	nt n
								or Tota	
								>= 5 Fail Cour s	
					PRNDL State defaulted	= FALSE	Boolean		
					inhibit RVT	= FALSE	Boolean		
					IMS fault pending indication	= FALSE	Boolean		
					output speed	>= 0	RPM		
					TPS validity flag	= TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum
					HSD Enabled	=	TRUE	Boolean		
					Hydraulic_System_Pressu rized	=	TRUE	Boolean		
					A OR B					
					(A) Output speed enable	>=	67	Nm		
					(B) Accelerator Pedal enable	>=	0.50049	Nm		
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for	>=	5	Sec		
					if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct		
					if Attained Gear=1st FW Engine Torque Enable	>=	5	Nm		
					if Attained Gear=1st FW Engine Torque Enable	<=	8191.88	Nm		
					Transmission Fluid Temperature	>=	-6.65625	°C		
					Input Speed Sensor fault	=	FALSE	Boolean		
					Output Speed Sensor fault	=	FALSE	Boolean		
					Default Gear Option is not present	=	TRUE			
	1									

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value		Secondary Malfunction		Enable Conditio		Time Require		Mil Illum.
System	Code	Description	Cinteria	C.	Disa ble cond ition s:	MIL not Illuminated for DTC's:	ECM P010 P010 P017 P020 P020 P020 P030 P030		717, 182E 102, 0107, 0172, 0201, 0204, 0207, 0301, 0304, 0307,	roquii		
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit Low (CB26 VBS)	The HWIO reports a low voltage (ground short) error flag	= TRUE	oole n					>= 0.3 out of 0.375	Fail Time (Sec) Sampl e Time (Sec)	One Trip
						P2770 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.59961	Volts			
						Ignition Voltage	<=	31.999	Volts			
						Engine Speed		400	RPM			
					ı	Engine Speed Engine Speed is within the allowable limits for	<= >=	7500 5	RPM Sec			

Component/ System	Fault Code		Malfunction Criteria	Thresho Value		Secondary Malfunction		Enable Condition		Time Require		Mil Illum.
System	Code	Description	Ontena	7 4140	Disa ble Cond ition s:	MIL not Illuminated for DTC's:				roquii		
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit High (CB26 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boole an					>= 0.3 out 0.375	Fail Time (Sec) Sampl e Time (Sec)	One Trip
						P2721 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.59961	Volts			
						Ignition Voltage		31.999	Volts			
						Engine Speed		400	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:		: None : None				
Variable Bleed Solenoid (VBS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	<u>Fail</u> <u>Cas</u> Case: Steady State <u>e 1</u> 1st Gear									One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Gear slip	>= 400 RPM			Pleas e See Table Neutr 5 For al Neutr Timer al (Sec) Time Cal	
			Intrusive test: commanded 2nd gear				O.S.	
			If attained Gear ≠ 2nd for Time					
			If Above Conditions have been met, Increment 1st gear fail counter				1st >= 3 Gear Fail Count or	
			and C1234 fail counter				C123 4 >= 14 Clutch Fail Count	
			Fail Cas Case: Steady State e 2 2nd Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·	Gear slip	>= 400 RPM			Pleas e See Table Neutr 5 For al Neutr Timer al (Sec) Time Cal	
			Intrusive test: commanded 3rd gear					
			If attained Gear ≠ 3rd for Time					
			If Above Conditions have been met, Increment 2nd gear fail counter				2nd Sear Sear Fail Count or	
			and C1234 fail counter				C123 4 >= 14 Clutch Fail Count	
			Fail Cas Case: Steady State e 3 3rd Gear					

Component/	Fault	Monitor Strategy	Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria	value	wanunction	Conditions	Pleas	mum.
			Gear slip	>= 400 RPM			e See Table Neutr 5 For al Neutr Timer al (Sec) Time Cal	
			Intrusive test: commanded 4th gear					
			If attained Gear ≠ 4th for time					
			If Above Conditions have been met, Increment 3rd gear fail counter				3rd Sear Fail Count or	
			and C1234 fail counter				C123 4 >= 14 Clutch Fail Count	
			Fail Cas Case: Steady State e 4 4th Gear					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enab Condit		Time Requir	
- Cyclem		Doodripsion	Gear slip					Pleas e See Table 5 For	
			Intrusive test: commanded 5th gear						
			If attained Gear = 5th For Time						
			If Above Conditions have been met, Increment 4th gear fail counter					>= 3	4th Gear Fail Count
			and C1234 fail counter					>= 14	or C123 4 Clutch Fail Count
					PRNDL State defaulted				
					inhibit RVT		Boolean		
					IMS fault pending indication	= FALSE	Boolean		
					TPS validity flag	= TRUE	Boolean		
					Hydraulic System Pressurized	= TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
j	П	·			Minimum output speed for RVT	>=	0	RPM		
					A OR B					
					(A) Output speed enable	>=	67	RPM		
					(B) Accelerator Pedal enable	>=	0.50049	Pct		
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.59961	Volts		
					Ignition Voltage Hi	<=	31.999	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	>=	-6.65625	°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				Required	mum.
				Disa ble		P0722, P0723, P182E		
				Cond				
				ition				
				s		ECM: P0101, P0102,		
						P0103, P0106, P0107, P0108, P0171, P0172,		
						P0174, P0175, P0201,		
						P0202, P0203, P0204,		
						P0205, P0206, P0207,		
						P0208, P0300, P0301, P0302, P0303, P0304,		
						P0305, P0306, P0307,		
						P0308, P0401, P042E		
			Primary Offgoing					One
			Clutch is exhausted					Trip
Variable Bleed		Pressure Control (PC)	(See Table 10 in	Roolo				
Solenoid (VBS)	P2724	Solenoid E Stuck On	Supporting	= TRUE an				
		(Dynamic)	Documents for Exhaust Delay					
			Timers)					
			Primary Oncoming Clutch Pressure					
			Command Status					
			Primary Offgoing	Clutch				
			Clutch Pressure	= exhaust				
			Command Status	command				
				1.32.1				
			Range Shift Status	Initial ≠ Clutch				
			Range Shirt Status	Control				
			Attained Gear Slip					
			If the above conditions are true					
			increment					
			appropriate Fail 1					
			Timers Below:					

Component/ System	Fault Code	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		fail timer 1 (2-6 shifting with throttle)	>= 0.2998 sec				
		fail timer 1 (2-6 shifting without throttle)	>= 0.5 sec				
		fail timer 1 (3-5 shifting with throttle)	>= 0.2998 sec				
		fail timer 1 (3-5 shifting without throttle)	>= 0.5 sec				
		fail timer 1 (4-5 shifting with throttle)	>= 0.2998 sec				
		fail timer 1 (4-5 shifting without throttle)	>= 0.5 sec				
		fail timer 1 (4-6 shifting with throttle)	>= 0.2998 sec				
		fail timer 1 (4-6 shifting without throttle)	>= 0.5 sec				

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

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		R	Tim equi		Mil Illum.
-		·	3rd gear fail counter						>=	3	Fail Count er From 3rd Gear	
			4th gear fail counter						>=	3	Fail Count er From 4th Gear	
			total fail counter						>=	5	Total Fail Count er	
					TUT Enable temperature	>=	-6.65625	°C				
					Input Speed Sensor fault	=	FALSE	Boolean				
					Output Speed Sensor fault	=	FALSE	Boolean				
					Command / Attained Gear	¥	1st	Boolean				
					High Side Driver ON	=	TRUE	Boolean				
					output speed limit for TUT		100	RPM				
					input speed limit for TUT	>=	150	RPM				
					PRNDL state defaulted	=	FALSE	Boolean				
					IMS Fault Pending	=	FALSE	Boolean				
					Service Fast Learn Mode	=	FALSE	Boolean				
					HSD Enabled	=	TRUE	Boolean				

Component/	Fault		Malfunction	Threshold Value	Secondary Malfunction	Enable Conditions	Time	Mil Illum.
System	Code	Description	Criteria				Required	IIIum
				Disa ble Cond ition s:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P182E ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Steady State)	Fail Cas Case: 5th Gear e 1	Table Based value Please		1 0000, 1 0401, 1 0422		One Trip
			Max Delta Output Speed Hysteresis					
			Min Delta Output Speed Hysteresis	Based value Please Refer to rpm/s				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document s				
			Intrusive test: (C35R clutch exhausted)					
			Gear Ratio	<= 1.20959				
				>= 1.09436				
			If the above parameters are true					
							Fail >= 1.1 Timer (Sec)	
							Fail Count in 5th Gear OR	
							Total >= 3 Fail Count s	
			<u>Fail</u> <u>Cas</u> Case: 6th Gear <u>e 2</u>					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
бузісні	Joue	Безоприон	Max Delta Output Speed Hysteresis	Table Based value Please				
			Min Delta Output Speed Hysteresis	Table Based value Please Refer to >= 3D Table 2 in supportin g document s				
			If the Above is True for Time	Table Based Time Please Refer to >= Table 17 Sec in supportin g document s				
			Intrusive test: (CB26 clutch exhausted)					
			Gear Ratio	<= 1.20959				
			Gear Ratio	>= 1.09436				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Conditio			ime quired	Mil Illum.
			If the above parameters are true						>= 1	Fail I.1 Timer (Sec)	
									>=	Fail Count in 6th Gear OR	
									> =	Total Fail Count s	
					PRNDL State defaulted	=	FALSE	Boolean			
					inhibit RVT	=	FALSE	Boolean			
					IMS fault pending indication	=	FALSE	Boolean			
					output speed	>=	0	RPM			
					TPS validity flag	=	TRUE	Boolean			
					HSD Enabled	=	TRUE	Boolean			
					Hydraulic_System_Pressu rized	=	TRUE	Boolean			
					A OR B						
					(A) Output speed enable	>=	67	Nm			
					(B) Accelerator Pedal enable	>=	0.50049	Nm			
					Ignition Voltage Lo	>=	8.59961	Volts			
					Ignition Voltage Hi	<=	31.999	Volts			
					Engine Speed Lo	>=	400	RPM			
					Engine Speed Hi		7500	RPM			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresho Value		Secondary Malfunction		Enabl Conditi		Tim Requi		Mil Illum.
-		·				Engine Speed is within the allowable limits for		5	Sec			
						if Attained Gear=1st FW Accelerator Pedal enable	>=	5.00031	Pct			
						if Attained Gear=1st FW Engine Torque Enable		5	Nm			
						if Attained Gear=1st FW Engine Torque Enable		8191.88	Nm			
						Transmission Fluid Temperature		-6.65625	°C			
						Input Speed Sensor fault	=	FALSE	Boolean			
						Output Speed Sensor fault	=	FALSE	Boolean			
						Default Gear Option is not present	=	TRUE				
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:	P0722	P0716, P 2, P0723, P0101, P 3, P0106,	P182E P0102,			
							P0108 P0174 P0208 P0208 P0208 P0308 P0308	3, P0106, 3, P0171, 4, P0175, 2, P0203, 5, P0206, 3, P0300, 2, P0303, 5, P0306, 3, P0401,	P0172, P0201, P0204, P0207, P0301, P0304, P0307,			
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	Boole an					>= 0.3	Fail Time (Sec)	One Trip

Component/ System	Fault Code		Malfunction Criteria	Thresho Value		Secondary Malfunction		Enable Conditio		Time Requir		Mil Illum.
										out of 0.375	Sampl e Time (Sec)	
						P2729 Status is not	=	Test Failed This Key On or Fault Active				
						Ignition Voltage	>=	8.59961	Volt			
						Ignition Voltage	<=	31.999	Volt			
						Engine Speed	>=	400	RPM			
						Engine Speed	<=	7500	RPM			
						Engine Speed is within the allowable limits for	>=	5	Sec			
					Disa ble Cond ition s:	MIL not Illuminated for DTC's:		None				
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit High (C1234 VBS)	The HWIO reports a high voltage (open or power short) error flag	= TRUE	Boole an					>= 0.3	Fail Time (Sec)	One Trip
										out of 0.375	Sampl e Time (Sec)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Oystem	Odde	Description	Ontena		P2730 Status is not	Test Failed	required	
					Ignition Voltage	>= 8.59961 Volt		
					Ignition Voltage	<= 31.999 Volt		
					Engine Speed			
					Engine Speed			
					Engine Speed is within the allowable limits for	>= 5 Sec		
				Dis b Cor itio	le DTC's: d			
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 Boo an	е		Fail >= 4.4 Time (Sec)	Two Trips
							out e of Time (Sec)	
					P2763 Status is not	Test Failed This Key On or Fault Active		
					Ignition Voltage	>= 8.59961 Volt		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enabl Condition		Time Required	Mil Illum.
					Ignition Voltage	<=	31.999	Volt		
1					Engine Speed	>=	400	RPM		
1					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
					High Side Driver Enabled	=	TRUE	Boolean		
				Disa ble Cond ition s	e DTC's: I		: P0658, P0	0659		
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 Boole an					>= 4.4 MPH out 5 MPH	
					P2764 Status is not	=	Test Failed This Key On or Fault Active			
1					Ignition Voltage	>=	8.59961	Volt		
1					Ignition Voltage	<=	31.999	Volt		
1					Engine Speed	>=	400	RPM		
1					Engine Speed	<=	7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
1					High Side Driver Enabled	=	TRUE	Boolean		

Component/ System	Fault Code		Malfunction Criteria		Thresho Value		Secondary Malfunction	Enable Conditions		Time equire		Mil Illum.
						Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Low Voltage Error	=	TRUE	Boole an			>=		Fail count s (≈ 10 secon ds)	One Trip
			Delay timer	>=	0.1125	sec			Out of	70	e Count s (≈ 11 secon ds)	
							Stabilization delay Ignition Voltage Ignition Voltage Power Mode	>= 8.59961 Volt <= 31.999 Volt				
						Disa ble Cond ition s:	MIL not Illuminated for DTC's:					
Communication	U0100	Lost Communications with ECM (Engine Control Module)	CAN messages from ECM are not received by the TCM	=	TRUE	Boole an			>=	12	sec	One Trip
							Stabilization delay Ignition Voltage					

Component/ System	Fault Code	 Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Ignition Voltage Power Mode			
			Disa ble Cond ition s:	MIL not Illuminated for DTC's:			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enabl Condition			Tin Requ		Mil Illum.
Mode Switch	P071D	Transmission Mode Switch B Circuit	Sport Mode Switch state	= TRUE	Boolean					>=		Fail Time (Sec)	Special No MIL
						Ignition Voltage Lo	>=	9	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
					Disable Condition s:	DTC's:		P1762 None					
Transmission Output Speed Sensor (TOSS)		Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25	Volts					>= (0.05	sec	One Trip
			P077C Status is not	=	d n llt								
			If the above conditons have been met, increment the P077C Fail Counter										
			DTC P077C Sets when the Fail Counter	>= 75	Counts								
						P077C Enable Calibration	=	1	Boolean				
						Ignition Voltage Lo	>=	9	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
		·			Disable Condition s:	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			>= 0.05 sec	One Trip
			P077D Status is not	Test Failed This Key On or Fault Active					
			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 Ignition Voltage Hi	>= 9 Volts		
					Disable Condition s:	MIL not Illuminated for DTC's:	TCM: P077C		
Transmission Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage	<= 0.25	Volts			>= 0.05 sec	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		shold lue	Secondary Malfunction	Enab Condit		Time Requir		Mil Illum.
dystem	Code	Description	P07BF Status is not	Test Failed This							
			If the above conditons have been met, increment the P07BF Fail Counter								
			DTC P07BF Sets when the Fail Counter		Counts						
						P07BF Enable Calibration	= 1	Boolean			
						Ignition Voltage Lo	>= 9	Volts			
						Ignition Voltage Hi	<= 31.99	Volts			
					Disable Condition s:						
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage	>= 4.75	Volts				>= 0.05	sec	One Trip
			P07C0 Status is not	. =							
			If the above conditons have been met, increment the P07C0 Fail Counter								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		reshold /alue	Secondary Malfunction		Enab Conditi			Tir Requ		Mil Illum.
Oystoni	OGUC	Безоприон	DTC P07C0 Sets when the Fail Counter										
						P07C0 Enable Calibration	=	1	Boolean				
						Ignition Voltage Lo	>=	9	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				
					Disable Condition s:								
Mode Switch	P07CE	Transmission Mode Switch D Circuit	Tour Mode Switch state	= TRU	E Boolean					>=	600	Fail Time (Sec)	Special No MIL
						Ignition Voltage Lo	>=	9	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
					Disable Condition s:			: P1762 : None					
Mode Switch	P07D1	Transmission Mode Switch E Circuit	Comfort Mode Switch state	= TRU	E Boolean					>=	600	Fail Time (Sec)	Special No MIL
						Ignition Voltage Lo	>=	9	Volts				
						Ignition Voltage Hi	<=	31.99	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				

mission Mode n F Circuit	Normal Mode Switch state	= -	TRUE	Disable Condition s:	MIL not Illuminated for DTC's:		P1762 None					
		= -	TRUE	Boolean								
				200.00					>=	600	Fail Time (Sec)	Special No MIL
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi		31.99	Volts				
					Engine Speed Lo		400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
				Disable Condition s:	MIL not Illuminated for DTC's:		P1762 None					
mission Mode n Signal Circuit g count)	Rolling count value received from BCM does not match expected value	= -	TRUE	Boolean					>=	3	Fail Counter	Special No MIL
									>	10	Sample Timer (Sec)	
					Pattern Switch Message Health	=	TRUE	Boolean				
					Engine Speed Lo	>=	400	RPM				
					Engine Speed Hi	<=	7500	RPM				
					Engine Speed is within the allowable limits for	>=	5	Sec				
า S	Signal Circuit	Signal Circuit does not match	Signal Circuit received from BCM does not match	Signal Circuit does not match = TRUE	Signal Circuit does not match received from BCM = TRUE Boolean	received from BCM does not match expected value = TRUE Boolean Pattern Switch Message Health Engine Speed Lo Engine Speed is within the	received from BCM does not match expected value = TRUE Boolean Pattern Switch Message Health Engine Speed Lo Engine Speed Hi <= Engine Speed is within the	received from BCM does not match expected value Pattern Switch Message Health Engine Speed Lo Engine Speed Hi Engine Speed Hi	received from BCM does not match expected value Pattern Switch Message Health Engine Speed Lo Engine Speed Hi Engine Speed Is within the Engine Speed Is wit	Pattern Switch Message Health Engine Speed Lo Engine Speed Hi	received from BCM does not match expected value = TRUE Boolean	received from BCM does not match expected value TRUE Boolean TRUE Boolean TRUE Boolean TRUE Boolean Pattern Switch Message Health Engine Speed Lo Engine Speed Hi Engine Speed Hi Engine Speed is within the

Component/	Fault	Monitor Strategy	Malfunction			eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria		V	Disable			Required	mum.
						Condition s:	DTC's:	ECM: None		
Tap Up Tap Down Switch (TUTD)	P1765	Upshift Switch Circuit #2	Fail Tap Up Switch Cas Stuck in the Up e 1 Position in Range 1 Enabled	=	0	Boolean				Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled		0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	=	0	Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	1	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Thresh Valu		Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
	0000	Beschiption	Tap Up Switch Stuck in the Up Position in Park Enabled	4 -	Boolean			.,	
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 E	Boolean				
			Tap Up Switch ON	= TRUE E	Boolean			>= 1 Fail Time (Sec)	
			Fail Tap Up Switch Cas Stuck in the Up e 2 Position in Range 1 Enabled		Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled		Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 E	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 E	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 E	Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= [Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value			Secondary Malfunction		Enable Conditions		Time Required		Mil Illum.	
.,		, , , , , , , , , , , , , , , , , , ,	Tap Up Switch Stuck in the Up Position in Neutral Enabled	=	0	Boolean								
			Tap Up Switch Stuck in the Up Position in Park Enabled	=	0	Boolean								
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	=	0	Boolean								
			Tap Up Switch ON	=	TRUE	Boolean								
			NOTE: Both Failcase1 and Failcase 2 Must Be Met								>=	600	Fail Time (Sec)	
							Time Since Last Range Change	>=	1	Enable Time (Sec)				
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	31.999	Volts				
							Engine Speed Lo	>=	400	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for	>=	5	Sec				
							P1765 Status is	≠	Test Failed This Key On or Fault Active					

Component/	Fault	Monitor Strategy	Malfunction Criteria			eshold alue	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
System	Code	Description	Criteria		Và	Disable Condition s:	MIL not Illuminated for		Required	mani.
Tap Up Tap Down Switch (TUTD)	P1766	Downshift Switch Circuit #2	Fail Tap Down Switch Cas Stuck in the Down e 1 Position in Range 1 Enabled	=	0	Boolean		ECW. Notice		Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	0	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	1	Boolean				
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	1	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria			shold Ilue	Secondary Malfunction	Enable Conditions	Tin Requ		Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean					
			Tap Down Switch ON		TRUE	Boolean			>= 1	sec	
			Fail Tap Down Switch Cas Stuck in the Down e 2 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	3 =	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	1 =	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) S	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Neutral Enabled) 	0	Boolean					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		eshold alue	Secondary Malfunction		Enable Conditio				me uired	Mil Illum.
3,			Tap Down Switch Stuck in the Down Position in Park Enabled	= 0	Boolean								
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	= 0	Boolean								
			Tap Down Switch ON	= TRUE	Boolean								
			NOTE: Both Failcase1 and Failcase 2 Must Be Met							>=	600	sec	
						Time Since Last Range Change		1	Sec				
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	400	RPM				
						Engine Speed Hi	<=	7500	RPM				
						Engine Speed is within the allowable limits for	>=	5	Sec				
						P1766 Status is	≠	Test Failed This Key On or Fault Active					
					Disable Condition s:	DTC's:	P182	: P1767, P E, P1915 : None	1761,				
Tap Up Tap Down Switch (TUTD)		Up and Down Shift Switch Circuit #2	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No MIL

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction		Enable Condition		Time Required	Mil Illum.
					Ignition Voltage Lo	>=	8.5996	Volts		
					Ignition Voltage Hi	<=	31.999	Volts		
					Engine Speed Lo	>=	400	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
					P1767 Status is	≠	Test Failed This Key On or Fault Active			
				Disable Condition s:	DTC's:		1: P1761 1: None			

Supporting Documents

Table 1

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

Table 2

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

Table 3

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

Table 4

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

Table 5

Axis	-6.67	-6.66	40.00	٥С
Curve	409.59	3.00	3.00	Sec

Table 6

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

Table 7

Axis	-6.67	-6.66	40.00	80.00	120.00	٥С
Curve	409.00	3.40	1.40	1.30	1.20	Sec

Supporting Documents

Table 8

Axis	-6.67	-6.66	40.00	80.00	120.00	°C
Curve	409.00	3.60	1.60	1.50	1.40	Sec

Table 9

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

Table 10

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	3.03	1.86	1.00	0.75	0.58	Sec

Table 11

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	1.72	1.11	0.60	0.36	0.22	Sec

Table 12

Axis	-40.00	-20.00	0.00	30.00	110.00	٥С
Curve	2.12	1.39	0.84	0.64	0.33	Sec

Table 13

Axis	-40.00	-20.00	0.00	30.00	110.00	°C
Curve	2.51	0.95	0.50	0.29	0.13	Sec

Table 14

Axis	-40.00	-20.00	0.00	30.00	110.00 °C
Curve	2.97	0.82	0.47	0.20	0.13 Sec

Supporting Documents

Table 15

Axis	-40.00	-30.00	-20.00	-10.00	0.00	10.00	20.00	30.00	40.00	٥С
Curve	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sed

<u>Table 16</u>

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

Table 17

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

Table 18

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

Table 19

Axis	-40.10	-40.00	-20.00	0.00	30.00	60.00	100.00	149.00	149.10	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	°C

Table 21

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

Supporting Documents - 3D 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