COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	/ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME	E REQ	UIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum		TRUE		None		>	5	Rom Test Fail Counter	One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Control Module (TCM)	P0603	Transmission Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure	=	TRUE		None					One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	=	TRUE		None		>=	5	Count	One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Control Module (TCM)	P062F	Transmission Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag		TRUE		None					One Trip
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None				
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0706	NSBU Performance	NSBU state	=	CeTRGR_PRN DL_Neutral				>=	3	Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			or NSBU state	CeTRGR_PRN = DL_Transitional 2						
			or NSBU state	CeTRGR_PRN = DL_Transitional 11						
					Ignition Voltage Ignition Voltage		8 18	volts volts		
I					Engine Speed		500	RPM		
					Engine Speed Engine speed between min/max		6500	RPM		
					for	>=	5	Sec		
					Output speed Throttle position		50 10.001	RPM PCT		
					Engine Torque		45	Nm		
					Engine Torque	<=	1492	Nm		
					Trans Temp	>=	20	Deg C		
					Ratio	>=	2.184	Ratio		
					Ratio	<=	2.4041	Ratio		
					PSM state	=	Reverse			
					Engine Torque Signal Valid		TRUE			
					Throttle Position Signal Valid		TRUE			
					Engine Speed Status Valid	=	TRUE			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0788, P0973, P0974, P0976, P0977, P1810, P1815,	P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205,	P0308, P0335, P0336, P0340, P0345, P0365, P0366, P0390, P0391, P0401,		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQU	IRED	MIL ILLUM.
						P1817, P1818, P1759, P175A, P175B, P175C,	P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,					
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail_ Case 1 TFT Delta from Startup	<= 2 C°					>=		Fail Time (Sec)	Special No Trip
					Vehicle Speed	>=	8	Kph			. ,	
					Vehicle Speed Above min for		300	Sec				
					TCC Slip		120	RPM				
					TCC Slip above min for		300	Sec				
					Transmission Fluid Temperature Lo	>=	-39	C°				
					Transmission Fluid Temperature High	<=	20	C°				
					Engine Coolant Temp	>=	70	C°				
					Engine Coolant Temp Delta	>=	55	C°				
			Fail Case 2 TFT Delta from startup	< 2 C°					>=		Fail Time (Sec)	
					Vehicle Speed	>=	8	Kph				
					Vehicle Speed Above min for		300	Sec				
					TCC Slip		-20	RPM				
					TCC Slip above min for	>=	0	Sec				
					Transmission Fluid Temperature	>=	129	C°				
					Transmission Fluid Temperature	<=	149	C°				
					Engine Coolant Temp		70	C°				
					Engine Coolant Temp Delta from startup	>=	55	C°				

FAULT MONITOR STRATEGY CODE DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
	Fail Case 3 TFT Delta	a >= 20 C°			Fail Counts (100ms loop) Sample 7 Time (Sec)	
	Fail Transmission Fluid Case 4 Temperature	<= 20 C°			>= Refer to Table 1 Time (Sec)	
			Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Lo Vehicle Speed Hi Engine Speed Hi Engine Coolant Lo Engine Coolant Hi Engine Torque Signal Valid Throttle Position Signal Valid	<pre><= 1492 N*m >= 8.0002 Pct <= 89.999 Pct >= 8 Kph <= 511.99 Kph >= 500 RPM <= 6500 RPM >= -39 C° <= 149 C° = TRUE = TRUE</pre>	(Sec)	
			P0711 Common Enable Conditions Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi	>= -39 C° <= 149 C°		
			Ignition Voltage Ignition Voltage Engine speed	<= 18 V Refer		
			Engine speed above min for	Table 5		
			Engine speed above min for	>= 5 Sec		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIM	E REQL	IIRED	MIL ILLUM.
					Engine Speed Engine Speed		500 6500	RPM RPM				
					Engine speed between min/max	>=	5	Sec				
					for Engine Speed Status Valid	=	TRUE	000				
					Engine Coolant Sensor Signal							
					Valid	=	TRUE	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	P0716, P0717, P0722, P0723, P0742 ECM: P0101, P0102, P0108, P0116, P0117, P0118, P0118, P0174, P0174, P0174, P0174, P0174, P0175, P0201,	P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0340, P0340, P0346,					
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48 Ω					>=	12	Fail Time (Sec)	Special No Trip
					Ignition Voltage	>=	8	V				
					Ignition Voltage		18	V				
					Engine Speed Engine Speed		500 6500	RPM RPM				
					Engine Speed Engine speed between min/max							
					for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIME	: REQI	UIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	Disable Conditions: >= 97292 Ω Disable Conditions:	Output Speed Output Speed above min for TCC Slip speed TCC Slip Speed above min for Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine Speed Engine Speed Status Valid	None ECM: P0335, P0340, P0345, P0346, P0365, P0366, P0390, P0391 >=	200 200 120 200 8 18 500 6500 5 TRUE	RPM Sec RPM sec V RPM RPM Sec	>=	80	Fail Time (Sec)	Special No Trip
						P0366, P0390, P0391						

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	-	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	E REQU	IIRED	MIL ILLUM.
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop ∆	>=	1000	RPM					>=	3.25	sec	Two Trips
						Disable Conditions:		<= >= <= >= <= >= <= = >= <= > = < >= TCM: P0717, P0722, P0723, P0752, P0973, P09744 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P01771, P01725, P01071, P01725, P0174, P0175, P0201,	P0207, P0208 P0300, P0301, P0302, P0303, P0306, P0306, P0307, P0308, P0336, P0340, P0346, P0346, P0366, P0366,	volts volts RPM RPM Sec N*m N*m KPH RPM Sec RPM Sec Pct				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHO	LD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME REC	UIRED	MIL ILLUM.
								P0204, P0205,	P0401, P042E				
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	<	50	RPM					>= 4.5	Sec	Two Trips
							Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= >=	8 18 500 6500	volts volts RPM RPM			
							Engine speed between min/max for Engine Speed Status Valid	>=	5 TRUE	Sec			
							Engine Torque	>=	50	N*m			
							Engine Torque	<=	1492	N*m			
							Engine Torque Signal Valid	=	TRUE				
							Vehicle Speed	>=	16	Kph			
						Disable Conditions		TCM: P0722, P0723 ECM: P0101,					
								P0102, P0103, P0106, P0107, P0108,					
								P0171, P0172, P0174, P0175, P0201,					
								P0202, P0203, P0204, P0205, P0206,					
								P0207, P0208, P0300, P0301, P0302,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	ТІ	HRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	E REQI	JIRED	MIL ILLUM.
								P0304, P0305, P0306, P0307, P0308, P0335, P0346, P0345, P0346, P0366, P0390, P0391, P0401, P042E						
Tow Haul Switch	P071A	Tow Haul switch circuit low	Tow Haul switch circuit low (switch closed)	п	TRUE	Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	>= <= >= <= >= =	8 18 500 6500 5 TRUE	volts volts RPM RPM Sec	>=	600	sec	Special No Trip
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<=	50	rpm	Ignition Voltage Ignition Voltage		8 18	volts volts	>=	4.5	Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Engine Speed	>=	500	RPM		
					Engine Speed	<=	6500	RPM		
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Torque min & Range= R or D	>=	50	N*m		
					Engine Torque max & Range= R or D	<=	1492	N*m		
					Engine Torque min & Range= P/N	>=	1492	N*m		
					Engine Torque max & Range= P/N	<=	1492	N*m		
					Engine Torque Signal Valid		TRUE			
					Throttle Position		8.0002	%		
					Throttle Position Signal Valid		TRUE			
					Input Speed		1500	RPM		
					Input Speed		6500	RPM		
					TCC Slip Trans Temp		-20 -40	RPM C		
				Disable			-40	C		
				Conditions:	MIL HOT MUMMACCA FOR DIO 3.	P0716,				
						P0717,				
						P0722				
						ECM:				
						P0101, P0102,				
						P0103,				
						P0106, P0107,				
						P0108,				
						P0171,				
						P0172, P0174,				
						P0175,				
						P0201, P0202,				
						P0203,				
						P0204,				
						P0205, P0206,				
						P0207,				

P0200, P0201 P0202 P02	COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS		E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.
	Transmission Output Speed Sensor (TOSS)	P0723		Output Speed Drop Δ	> 1200		Ignition Voltage Engine Speed Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Range Change Timer 4WD Range Timer Input Speed Δ Input Speed Δ <max for="" min="" output="" raw="" speed=""> min for Positive Output Speed Δ</max>	P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0306, P0340, P0345, P0346, P0366, P0390, P0391, P0401, P042E	18 500 6500 5 TRUE 6 6 500 2 1000 2 500	volts RPM RPM Sec Sec RPM Sec RPM Sec RPM	>= 3.25	Sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	E REQ	UIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0974						
						ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366,						
Torque Converter Clutch						P0390, P0391						Two Trips
(TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM					>=	5 3	Sec Count	
					Ignition Voltage	>=	8	V				
					Ignition Voltage		18	V				
					Engine Speed		500	RPM				
					Engine Speed Engine speed between min/max for		6500 5	RPM Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque		80	N*m				
					Engine Torque		400	N*m				
					Throttle Position		10.001	%				
					Throttle Position 2nd Gear Ratio		89.999 1.511	% Ratio				
					2nd Gear Ratio		1.739	Ratio				
					3rd Gear Ratio		0.9301	Ratio				
					3rd Gear Ratio		1.0699					
					4th Gear Ratio		0.647	Ratio				
					4th Gear Ratio		0.745	Ratio				
					TFT	>=	20	С				
					TFT		130	С				
					TCC Capacity	>=	64.999	%				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	T⊦	IRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	TIONS	TIME	E REQL	JIRED	MIL ILLUM.
						Disable Conditions:	TCC Capacity Timer TCC Mode PTO Active Engine Torque Status Valid Throttle Position Signal Valid If 4L80E Cmd Gear MIL not Illuminated for DTC's:	= = = = = # TCM: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763,	P0204, P0205, P0206, P0207, P0208, P0300, P0301					
								P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202,	P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0336, P0340, P0346, P0366, P0390, P0391, P0401, P042E					
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed		-20 20	RPM RPM	Ignition Voltage Ignition Voltage		8 18	> >	>=	6 5	Sec Count	Two Trips
							Engine Speed Engine Speed		500 6500	RPM RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Engine speed between min/max for	>=	5	Sec		
					Engine Speed Status Valid	=	TRUE			
					Engine Torque	>=	90	N*m		
					Engine Torque	<=	1492	N*m		
					TFT	>=	20	С		
					TFT		130	С		
					Throttle Position		10.001	%		
					Throttle Position		89.998	%		
					Vehicle Speed		16	KPH		
					Vehicle Speed		511	KPH		
					Engine Speed		500	RPM		
					Engine Speed Gear Ratio		6500 0.642	RPM Ratio		
					Gear Ratio		1.787	Ratio		
					Commanded Gear		1st	ratio		
							Gear			
					TCC Mode		Off			
					Engine Torque Status Valid		TRUE			
					Throttle Position Signal Valid		TRUE			
					PTO Active	=	FALSE			
				Disable Conditions:	MIL not Illuminated for DTC's:	P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108,	ECM: P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0336, P0346, P0346,			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ITIONS	TIME	E REQ	UIRED	MIL ILLUM.
							P0174, P0175, P0201, P0202,	P0365, P0366, P0390, P0391, P0401, P042E					
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail 1st gear low ratio Case 1 nultiplier 1st gear high ratio	_	0.949951172 Pct					=	2	Sec	Two Trips
			multiplier Fail 4th gear low ratio Case 2 multiplier 4th gear high ratio	>=	1.050048828 Pct 0.949951172 Pct					=	2	Sec	
			multiplier	<=	1.050048828 Pct	Ignition Voltage	>=	8	volts	=	2	counts	
						Ignition Voltage Ignition Voltage Engine Speed	<=	18 500	volts				
						Engine Speed Engine speed between min/max	<=	6500 5	RPM Sec				
						Engine Speed Status Valid	=	TRUE					
						Gear Slip Gear Slip Fail Time Throttle	>=	150 0.5 8.0002	RPM Sec Pct				
						Engine Torque Output Speed	>=	50 50	N*m RPM				
						Input Speed 4WD Range Timer		50 6	RPM Sec				
						Range Change Timer PTO Active	=	6 FALSE					
						Trans Temp Trans Temp	<=	20 130	C C				
						Engine Torque Signal Valid Throttle Position Signal Valid	=	TRUE					
					Disabl Conditions		P0716,	ECM: P0108, P0171,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	TIONS	TIME	E REQ	JIRED	MIL ILLUM.
						P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182B, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107,	P0174, F P0175, F P0201, F P0201, F P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0307, P0308, P0307, P0308, P0308, P0308, P0336, P0336, P0336, P0340, P0340,	⊃0390, ⊃0391, ⊃0401,				
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	Fail Case 1 2nd gear low ratio multiplier 2nd gear high ratio multiplier	<= 1.050048828 Pct					=	2	Sec	Two Trips
			Fail 3rd gear low ratio Case 2 multiplier 3rd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct					=	2	Sec	
					Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time	<= >= <= >= = >=	18 500 6500 5 TRUE 150	volts volts RPM RPM Sec	=	2	counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	Throttle Engine Torque Output Speed Input Speed 4WD Range Timer Range Change Timer PTO Active Trans Temp Trans Temp Engine Torque Signal Valid Throttle Position Signal Valid MIL not Illuminated for DTC's:	>= 50 >= 50 >= 50 >= 6 >= 6 = FALSE >= 20 <= 130 = TRUE = TRUE	P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401,		
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	<u>Fail</u> 1st gear low ratio <u>Case 1</u> multiplier	>= 0.949951172 Pct				= 2 Sec	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	: REQUIRED	MIL ILLUN
			1st gear high ratio multiplier	<= 1.050048828	Pct							
			<u>Fail</u> 2nd gear low ratio <u>Case 2</u> multiplier	>= 0.949951172	Pct					=	2 Sec	
			2nd gear high ratio multiplier	<= 1.050048828	Pct							
						Ignition Voltage	>=	8	volts	=	2 count	s
						Ignition Voltage		18	volts			
						Engine Speed		500	RPM			
						Engine Speed	<=	6500	RPM			
						Engine speed between min/max for	>=	5	Sec			
						Engine Speed Status Valid	=	TRUE				
						Gear Slip		150	RPM			
						Gear Slip Fail Time		0.5	Sec			
						Throttle		8.0002	Pct			
						Engine Torque		50	N*m			
						Output Speed Input Speed		50	RPM RPM			
						4WD Range Timer		50 6	Sec			
						Range Change Timer		6	Sec			
						PTO Active		FALSE	000			
						Trans Temp		20	С			
						Trans Temp		130	С			
						Engine Torque Signal Valid		TRUE				
						Throttle Position Signal Valid	=	TRUE				
					Disable Conditions:	MIL not Illuminated for DTC's:	P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C,	ECM: P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208,				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	EREQUIRED	MIL ILLUM.
						P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101,	P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340,	P0345, P0346, P0365, P0366, P0390, P0391, P0401,			
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Eail 3rd gear low ratio Case 1 multiplier 3rd gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct					=	2 Sec	One Trip
			Fail 4th gear low ratio Case 2 multiplier 4th gear high ratio multiplier	>= 0.949951172 Pct <= 1.050048828 Pct					=	2 Sec	
					Ignition Voltage Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Gear Slip Gear Slip Fail Time Throttle Engine Torque Output Speed Input Speed 4WD Range Timer Range Change Timer	<= >= <= >=	8 18 500 6500 5 TRUE 150 0.5 8.0002 50 50 6 6	volts volts RPM RPM Sec RPM Sec Pct N*m RPM RPM RPM Sec Sec	=	2 counts	5

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	Trans Temp Trans Temp Engine Torque Signal Valid Throttle Position Signal Valid MIL not Illuminated for DTC's:	<= 130 C = TRUE = TRUE		
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground		Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= 18 volts >= 500 RPM	>= 44	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	ΓIONS	TIMI	E REQ	UIRED	MIL ILLUM.
				Disable Conditions			5 TRUE	Sec				Tuo Trino
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE Disable Conditions		<= >= <= >= =		volts volts RPM RPM Sec	>= Out of	50	Fail Count (100ms loop) Sample Counts (100ms loop)	Two Trips

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE (CONDI	TIONS	TIM	IE REQ	UIRED	MIL ILLUM.
Shift Solenoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground						>=	44	Fail Count (100ms loop)	One Trip
									Out of	50	Sample Counts (100ms loop)	
					Ignition Voltage	<=	8 18	volts volts				
					Engine Speed Engine Speed Engine speed between min/max	<=	500 6500	RPM RPM				
					for Engine Speed Status Valid	· -	5 TRUE	Sec				
				Disa Conditio		TCM: None						
						ECM: P0335, P0336, P0340,						
						P0345, P0346, P0365, P0366, P0390,						
Shift Solenoid	P0977	Shift Solenoid B Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE		P0391			>=	44	Fail Count (100ms loop)	One Trip
									Out of	50	Sample Counts (100ms loop)	
					Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= >=	8 18 500 6500	volts volts RPM RPM				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQ	UIRED	MIL ILLUM.
				Disable Conditions:	Engine speed between min/max for Engine Speed Status Valid MIL not Illuminated for DTC's:	=	5 TRUE	Sec				
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175A	NSBU-Circuit A Low	NSBU circuit A low	= TRUE	Engine Torque	P0390, P0391	50	N*m	>= >=	8	sec	Two Trips
					Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= >= <= >= <=	1492 8 18 500 6500	N*m volts volts RPM RPM				
					Engine speed between min/max for Engine Speed Status Valid Engine Torque Signal Valid Range = Park for	= = >=	5 TRUE TRUE 1	Sec				
				Disable Conditions:		None ECM: P0101, P0102, P0103, P0106, P0107, P0108,	ECM: P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390,					

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME	E REQI	UIRED	MIL ILLUM.
						P0174,	P0391, P0401, P042E					
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175B	NSBU-Circuit B High	NSBU circuit B High	= TRUE		P0306,			>=	8	sec	Two Trips
					Engine Torque	>=	50	N*m	>=	1	count	
					Engine Torque		1492	N*m				
					Ignition Voltage		8	volts				
					Ignition Voltage		18	volts				
					Engine Speed		500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max		5	Sec				
					for Engine Speed Status Valid		TRUE					
					Engine Torque Signal Valid		TRUE					
					Range = Park for		1	sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	None ECM: P0101, P0102, P0103, P0106, P0107,	P0304, P0305, P0306, P0307, P0308,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	: REQI	JIRED	MIL ILLUM.
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206,	P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E					
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P175C	NSBU-Circuit C High	NSBU circuit C High	= TRUE					>=	8	sec	Two Trips
					Engine Torque	>=	50	N*m	>=	1	count	
					Engine Torque Signal Valid		TRUE					
					Ignition Voltage		8	volts				
					Ignition Voltage		18	volts				
					Vehicle Speed	>=	16	kph				
					1st gear ratio low	>=	2.8448	Ratio				
					1st gear ratio High		3.274	Ratio				
					2nd gear ratio low		1.511	Ratio				
					2nd gear ratio High		1.74	Ratio				
					3rd gear ratio low		0.9301	Ratio				
					3rd gear ratio High		1.0699	Ratio				
					4th gear ratio low		0.65	Ratio				
					4th gear ratio High	<=	0.7469	Ratio				
				Disable Conditions:		P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171,	P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDIT	TIONS	TIM	E REQ	UIRED	MIL ILLUM.
						P0175, P0201, P0202, P0203, P0204,	P0401, P042E					
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P1759	NSBU-Circuit P Low	NSBU circuit P Low	= TRUE Disable Conditions:		>= <= >= <= >= = = TCM: None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171,	1492 8 18 500 6500 5 TRUE TRUE 1 ECM: P0300, P0301, P0302, P0303, P0304, P0306, P0306, P0307, P0308, P0308, P0308, P0308,	N*m volts volts RPM RPM Sec	>= >=	8 1	sec	Two Trips
						P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208,	P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIM	E REQI	UIRED	MIL ILLUM.
Transmission Mode Switch	P1762	Trans mode switch signal circuit (BCM to TCM Rolling Count check)	Rolling count value received from BCM does not match expected value	= TRUE						>=	3	cont	Special No Trip
										=	10	sec	
						Engine Speed	>=	500	RPM				
						Engine Speed	<=	6500	RPM				
						Engine speed between min/max for	>=	5	Sec				
						Engine Speed Status Valid	=	TRUE					
					Disable Conditions:		TCM: None						
							ECM:						
							P0335,						
							P0336, P0340,						
							P0345,						
							P0346, P0365,						
							P0366,						
							P0390, P0391						
Transmission Range Switch													Two Trips
(Neutral Safety Back Up Switch NSBU)	P1815	Transmission Range Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE						>=	2	sec	Two Trips
						Ignition Voltage	>=	8	volts				
						Ignition Voltage	<=	18	volts				
						Engine Speed	>=	560	RPM				
						Power Mode	=	Crank					
						Crank request	<=	409	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None						
					Conditions.								
							ECM: None						
Internal Mode Switch (IMS)	P182A	Internal Mode Switch-Circuit A	IMS circuit A low	= TRUE						>=	8	sec	Two Trips
										>=	1	count	
						Engine Torque	>=	50	N*m				
						Engine Torque	<=	1492	N*m				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQUI	RED	MIL ILLUM.
				Disable Conditions:	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Signal Valid Range = Park for MIL not Illuminated for DTC's:	<= >= <= >= TCM: None ECM: P0101, P0102, P0103, P0106, P01071, P0108, P0171, P0108, P0201, P0202, P0203, P0204, P0205, P0206, P0206, P0206, P0206,	8 18 500 6500 5 TRUE TRUE 1 ECM: P0300, P0301, P0302, P0303, P0306, P0307, P0306, P0307, P0308, P0346, P034	volts volts RPM RPM Sec				
Internal Mode Switch (IMS)	P182C	Internal Mode Switch-Circuit B	IMS circuit B High	= TRUE	Engine Torque Engine Torque Ignition Voltage Ignition Voltage Engine Speed Engine Speed	<= >= <= >=	50 1492 8 18 500 6500	N*m N*m volts volts RPM	>= >=	8	sec	Two Trips

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	REQU	IRED	MIL ILLUM.
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					Engine Torque Signal Valid	=	TRUE					
					Range = Park for	>=	1	sec				
				Disable Conditions:		None ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0206, P0207, P0208,	ECM: , P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0346, P0346, P0366, P0390, P0391, P0401, P042E					
						P0300						
Internal Mode Switch (IMS)	P182D	Internal Mode Switch-Circuit P	IMS circuit P Low	= TRUE					>=	8	sec	Two Trips
									>=	1	count	
					Engine Torque	>=	50	N*m				
					Engine Torque		1492	N*m				
					Ignition Voltage	>=	8	volts				
					Ignition Voltage	<=	18	volts				
					Engine Speed		500	RPM				
					Engine Speed		6500	RPM				
					Engine speed between min/max for	/-	5	Sec				
					Engine Speed Status Valid		TRUE					
					Engine Torque Signal Valid		TRUE					
					Range = Park for	>=	1	sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE C	ONDITIONS	ті	ME REC	QUIRED	MIL ILLUM.
				Disabl Conditions		None PO	0302, 0303, 0304, 0305, 0306, 0307, 0308, 0335, 0336, 0340, 0345, 0366, 0366, 0390,				
Internal Mode Switch (IMS)	P182E	Internal Mode Switch-Invalid	IMS Range Illegal	= TRUE				>=	8	sec	Two Trips
				Disabl Conditions		<=	8 volts 18 volts 500 RPM 5 Sec RUE				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQL	JIRED	MIL ILLUM.
Internal Mode Switch (IMS)	P182F	Internal Mode Switch-Circuit C	IMS circuit C High	= TRUE						>=	8	sec count	Two Trips
					Disable Conditions:	Engine Torque Engine Torque Signal Valid Ignition Voltage Ignition Voltage Vehicle Speed 1st gear ratio low 1st gear ratio High 2nd gear ratio High 3rd gear ratio High 3rd gear ratio High 4th gear ratio High 4th gear ratio High MIL not Illuminated for DTC's:	<= >= >= <= >= <= >= <= >= <= >= <= TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175,	P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308,	Ratio Ratio Ratio Ratio Ratio				
Internal Mode Switch (IMS)	P1915	Internal Mode Switch-Start in Wrong Range	Range= Park or Neutral	= FALSE	TRUE	Ignition Voltage	>=	8	volts	>=	2	sec	Two Trips
						Ignition Voltage	<=	18	volts				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME	REQUIRE	MIL ILLUM.
				Disable	Engine Speed Power Mode Crank request	>= = <= TCM:	560 Crank 409	RPM Sec			
				Disabl Conditions		None ECM: None					
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt					0.1	Fai Cou (25n loop Samp Cou (25n	nt s)) le nt s
					Engine running state from ECM	=	Runnin g Acc or Run			Іоор)
				Disabl Conditions		TCM: None ECM: None					
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE					>= '	Fai Cou (100r loop	nt ns)
									Out of	Samp Cour 50 (100r loop	ts ns
					Ignition Voltage Ignition Voltage	>= <=	8 18	V V			
					Engine Speed	>=	500	RPM			
					Engine Speed	<=	6500	RPM			
					Engine speed between min/max for	>=	5	Sec			
					Engine Speed Status Valid TCC PWM command	=	TRUE ON				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	COND	ITIONS	TIM	E REQ	UIRED	MIL ILLUM.
				Disable								
				Conditions:		None						
						ECM:						
						P0335, P0336,						
						P0340,						
						P0345, P0346,						
						P0365,						
						P0366, P0390,						
						P0391						
		TCC PWM Solenoid circuit low	Hardware circuitry								Fail Count	Two Trips
TCC PWM Solenoid	P2764	voltage	detects open or short to	= TRUE					>=	44	(100ms	
			ground								loop)	
									Out		Sample Counts	
									of	50	(100ms	
					landikian Malkana		0	V			loop)	
					Ignition Voltage Ignition Voltage		8 18	V				
					Engine Speed		500	RPM				
					Engine Speed		6500	RPM				
					Engine speed between min/max for		5	Sec				
					Engine Speed Status Valid	=	TRUE					
					TCC PWM command	=	OFF					
				Disable	MIL not Illuminated for DTC's:	TCM:						
				Conditions:		None						
						ECM:						
						P0335, P0336,						
						P0340,						
						P0345,						
						P0346, P0365,						
						P0366,						
						P0390, P0391						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIM	E REC	UIRED	MIL ILLUM.
TCC Enable Solenoid	P2769	TCC enable solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE					>=	44	Fail Count (100ms loop)	Two Trips
									Out of	50	Sample Counts (100ms loop)	
					Ignition Voltage	>=	8	V				
					Ignition Voltage		18	V				
					Engine Speed		500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				
					Engine Speed Status Valid	=	TRUE					
					TCC Enable solenoid command	=	OFF					
				Disable	MIL not Illuminated for DTC's:	TCM:						
				Conditions:		None						
						ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391						
TCC Enable Solenoid	P2770	TCC enable solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE					>=	44	Fail Count (100ms loop)	Two Trips
									Out of	50	Sample Counts (100ms loop)	
					Ignition Voltage	>=	8	V			.,	
					Ignition Voltage	<=	18	V				
					Engine Speed		500	RPM				
					Engine Speed	<=	6500	RPM				
					Engine speed between min/max for	>=	5	Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	NS -	ΓIME RE	QUIRED	MIL ILLUM.
				Disable Conditions		= ON			Fail	Two Trips
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE Boolean	Ignition On		0	= 5 ut 5 of 5	Count (1000m s loop) Sample Counts (1000m s loop)	
				Disable Conditions		TCM: None ECM: None				
Communication	U0100	Lost Communications with Engine Control System	Comm. Message Invalid Between ECU and TCM	= TRUE Boolean			0	= 12 ut 12 of 12	s loop) Sample	
					Ignition Voltage Lo Ignition Voltage Hi Power Mode	<= 18 V			67	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:		TCM: U0073 ECM: None		

T42 Supporting Tables

55

0.2

102.5

0.3

Table 5

Axis

Curve

0.1

0.15

Table 1							Units											
	Axis	-40	-25	-10	5	20	Sec											
	Curve	1900	1000	800	520	200	Sec											
		"		<u> </u>	<u> </u>													
Table 2																		Units
	Axis	0	6.248474	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559 PCT
	Curve	0	60	120	180	280	392	480	552	600	624	624	624	624	624	624	624	624 Kpa
		"		<u> </u>	<u> </u>	<u> </u>		•							•			•
Table 3											Units							
	Axis	0	64	128	192	256	320	384	448	512	Nm							
	Curve	100	100	100	100	100	100	150	150	150	RPM							
	-							•										
Table 4											Units							
	Axis	-40	-16.25	7.5	31.25	55	78.75	102.5	126.25	150	Deg C							
	Curve	600	400	400	400	400	400	400	400		RPM							

Units 150 Deg C

0.3 **Sec**

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIMI	E REQ	UIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0634	Transmission Electro-Hydraulic Control Module Internal Temperature Too High	Fail Case 1 Substrate Temperature	· >=	142.1015625	°C					>=	5	Fail Time (Sec)	One Trip
			Fail Case 2 Substrate Temperature Ignition Voltage		50	°C Volts					>=	2	Fail Time (Sec)	
			<u> </u>				Substrate Temp Lo	>=	0	°C				
							Substrate Temp Hi		170	°C				
							Substrate Temp Between Temp Range for Time	>=	0.25	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0634						
								ECM: None						
HWIO	P0658	Actuator Supply Voltage Circuit Low	Open or ground short is detected by hardware circuitry		TRUE	Boolean					>=	3	Fail Counts	One Trip
											=	5	Sample Counts	
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo Engine Speed Hi		500 7500	RPM RPM				
							Engine Speed is within the		5	Sec				
							allowable limits for HSD #1 Enabled			Boolean				
						Disable Conditions:	MIL not Illuminated for DTC's:		nuc	200,001				
								ECM: None						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	LD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIM	IE REQ	UIRED	MIL ILLUM.
Transmission Fluid Temperature Sensor (TFT)	P0667	TCM internal temperature thermistor failed at a constant value or toggling at high frequency.	Fail Case 1 Enable Vehicle Speed	>=	8	Kph			>=	300	Vehicle Speed Enable Time (Sec)	Special No Trip
			Enable TCC Slip	>	150	RPM			>=	150	TCC Slip Enable Time (Sec)	
			Enable Transmission Fluid Temperature Enable Transmission Fluid Temperature Delta from startup	>=	70 55	°C						
			Enable Substrate Temp Delta	<	2	°C			>=	100	Temp Delta Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>=	-55	°C						
			Startup Substrate Temperature HI Enable When Above FC1	<=	21	°C						
			Enable Conditions have been Met, Increment Fail Timer						>	100	Fail Timer (Sec)	
			<u>Fail</u> <u>Case 2</u> Vehicle Speed	>=	8	RPM			>=	300	Vehicle Speed Enable Time (Sec)	
			TCC Slip	>	-12	RPM			>=	-12	TCC Slip Enable Time	
			Transmission Fluid Temperature	>=	70	°C					(Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME	E REQ	UIRED	MIL ILLUM.
			Transmission Fluid Temperature Delta from startup	>=	55	°C							Temp	
			Enable Substrate Temp Delta	<	2	°C					>=	100	Delta Enable Time (Sec)	
			Startup Substrate Temperature Lo Enable	>=	120	°C								
			Startup Substrate Temperature HI Enable	\-	150	°C								
			When Above FC2 Enable Conditions have been Met, Increment Fail Timer								>	100	Fail Timer (Sec)	
			FailTCM Internal temp delta	>=	20	°C						14	Fail Counts Sample	
											>=	7	Time (Sec)	
							TCM Internal Temp Lo		-55	°C				
							TCM Internal Temp Hi		150	°C				
							lgnition Voltage Lo Ignition Voltage Hi		8.5996 18	Volts Volts				
							Engine Speed Lo		500	RPM				
							Engine Speed Hi		7500	RPM				
							Engine Speed is within the allowable limits for		5	Sec				
						Disable Conditions:		TCM: P0667, P0716, P0717, P0722, P0723						
								ECM: None						

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA		THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIM	E REQI	UIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0668	TCM internal temperature thermistor failed at a high temperature (short to Ground).	TCM Substrate Temp	>=	-249	ပ					>=	12.75	Fail Timer (Sec)	Special No Trip
							Ignition Voltage Lo	>=	8.5996	Volts				
							Ignition Voltage Hi	<=	18	Volts				
							Engine Speed Lo	>=	500	RPM				
							Engine Speed Hi	<=	7500	RPM				
							Engine Speed is within the allowable limits for		5	Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0668						
								ECM: None						
Transmission Control Module (TCM)	P0669	TCM internal temperature thermistor failed at a low temperature (open or short to power).	TCM Substrate Temp	<=	249	°C					>=	4	Fail Timer (Sec)	Special No Trip
							TOSS Speed	>=	200	RPM				
							Toss Speed greater than above cal for	>=	200	Sec				
							TCC Slip	>=	-12	RPM				
							TCC Slip greater than above cal for	>=	0	Sec				
							Ignition Voltage Lo		8.5996					
							Ignition Voltage Hi		18	Volts				
							Engine Speed Lo		500	RPM				
							Engine Speed Hi Engine Speed is within the allowable limits for	>=	7500 5	RPM Sec				
						Disable Conditions:	MIL not Illuminated for DTC's:							

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA		THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIM	E REG	QUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0751	Shift Solenoid Valve A Stuck Off	Commanded Gear Slip Commanded Gear Closest Gear Ratio	=	200 1st Lock 4th	RPM rpm Gear Disable Conditions:		<= >= <= >=	18 500 7500 5 0.5005 0 TRUE TRUE	Boolean		1.1	Neutral Timer (Sec) Fail Timer (Sec)	Two Trips
								ECM: P0121 P0122 P0123	,					

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLE) VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	ITIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0752	Shift Solenoid Valve A Stuck On	Gear Box Slip	>=	200	Rpm					Please Refer to Table 7 In Timer Support ing Docum ents	One Trip
			Attained Gear	≠	3rd	Gear						
			Commanded Gear		3rd	Gear						
			Commanded Gear has Achieved 1st Locked OR 1st Free-Wheel OR 2nd	=	TRUE	Boolean						
			C456/CBR1 Pressure Switch Error	II	TRUE	Boolean						
							Ignition Voltage Lo	>=	8.5996			
							Ignition Voltage Hi		18	Volts		
							Engine Speed Lo		500	RPM		
							Engine Speed Hi		7500	RPM		
							Engine Speed is within the allowable limits for	/-	5	Sec		
							High-Side Driver is Enabled Throttle Position Signal Valid from	=		Boolean		
							ECM	=		Boolean		
							Output Speed OR	>=	0	RPM		
							TPS	>=	0.5005	%		
							Shift is Complete					
							Transmission Fluid Temperature	>=	0	°C		
						Disable	MIL not Illuminated for DTC's:	TCM:				
						Conditions:	wile not intulminated for DTC s.	P0716,				
								P0717, P0722,				
								P0722, P0723,				
								P182E				
								ECM:				
								P0121,				
								P0122, P0123				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTI	ON CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
Mode 2 Multiplex Valve	P0756	Shift Solenoid Valve B Stuck Off	Fail Case 1	Commanded Gear Gear Box Slip	_	1st Locked or 1st FW 200	RPM					Please Refer to Table 7 Support ing Docum ents	One Trip
			Fail Case 2	Commanded Gear	=	2nd	Gear						
				Gear Box Slip		200	RPM						
			(Closest Gear Ratio	=	2nd	Gear						
								Ignition Voltage Lo		8.5996	Volts		
								Ignition Voltage Hi Engine Speed Lo		18 500	Volts RPM		
								Engine Speed Hi		7500	RPM		
								Engine Speed is within the allowable limits for		5	Sec		
								Output Speed OR		0	RPM		
								TPS Shift is Complete	>=	0.5005	%		
								Transmission Fluid Temperature	>=	0	°C		
								High-Side Driver is Enabled	=	TRUE	Boolean		
								Throttle Position Signal Valid from ECM	=	TRUE	Boolean		
							Disable Conditions:		TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121, P0122, P0123				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0776	Pressure Control (PC) Solenoid B Stuck Off [C35R]	Fail Case 1 Case: Steady State 3rd Geal						One Trip
			Commanded Gear	r = 3rd	Gear			Please Refer to Table 7	
			Gearbox Slip	>= 200	Rpm			>= in Timer Support ing Docum	
			Intrusive Test Command 4th Geal	1				ents	
			If attained Gear=4th gear for Time	Table Based Time Please >= Refer to Table in supporting documents	Enable Time (Sec)				
			It the above conditions are true, Increment Sum and Fail counters	1				3rd >= 2 Gear Fail Counts	
								3-5R Clutch >= 14 Fail Counts	
			Fail Case: Steady State 5th Case 2 Geal	П	0				
			Commanded Gear	r = 5th	Gear			Please Refer to Table 7	
			Gearbox Slip	>= 200	Rpm			>= in Timer Support ing Docum ents	
			Intrusive Test Command 6th Geal					Citto	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	CONDI	TIONS	TIMI	E REQ	UIRED	MIL ILLUM.
			If attained Gear=6th gear Time	Table Based Time Please >= Refer to Table 4 in supporting documents								
			It the above conditions are true, Increment Sum and Fail counters						>=	2	5th Gear Fail Counts 3-5R	
									>=	14	Clutch Fail Counts	
					PRNDL State defaulted	=	FALSE	Boolean			Counts	
					inhibit RVT		FALSE					
					IMS fault pending indication		FALSE					
					TPS validity flag		TRUE					
					Hydraulic System Pressurized		TRUE					
					Minimum output speed for RVT		0	RPM				
					A OR B							
					(A) Output speed enable	>=	16	RPM				
					(B) Accelerator Pedal enable	>=	0.5005	Pct				
					Ignition Voltage Lo		8.5996					
					Ignition Voltage Hi		18	Volts				
					Engine Speed Lo		500	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				
				Disable Conditions:		P0716, P0717, P0722, P0723,P 182E						
						ECM: P0121,						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD) VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							P0122, P0123		
/ariable Bleed Solenoid VBS)	P0777	Pressure Control (PC) Solenoid B Stuck On [C35R] (Steady State)	<u>Fail</u> <u>Case 1</u> Case: Steady State 1st						One Trip
			Commanded Gear slip	<= 33	RPM				
			If the Above is True for Time		6 Enable Time (Sec)				
			Intrusive test (CBR1 clutch exhausted)						
			3rd closest gear	= TRUE				Fail >= 1.1 Timer (Sec)	
			Fail Case: Steady State 2nd Case 2 gear Closest Gear Ratio		Gear			(2.2.2)	
			Neutral Time Intrusive test (CB26 clutch exhausted)	. ≠ 0 :	Sec				
			3rd closest gear					Fail >= 1.1 Timer (Sec)	
			Fail Case: Steady State 4th Case 3 gear	1	Coor				
			Closest Gear Ratio Neutral Time		Gear Sec				
			Intrusive test (C456 clutch exhausted)						
			3rd closest gear					Fail >= 1.1 Timer (Sec)	
			Fail Case: Steady State 6th Case 4 gear		Coor				
			Closest Gear Ratio Neutral Time		Gear Sec				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME F	REQUIRED	MIL ILLUM.
			Intrusive test: (CB26 clutch exhausted)								Fail	
			5th closest gear	= TRUE		PRNDL State defaulted	=	FALSE		>= 1.	1 Timer (Sec)	
						inhibit RVT		FALSE				
						IMS fault pending indication	=	FALSE				
						output speed		0	RPM			
						TPS validity flag Hydraulic_System_Pressurized		TRUE TRUE				
						Minimum output speed for RVT		0	Nm			
						A OR B		Ü				
						(A) Output speed enable		16	Nm			
						(B) Accelerator Pedal enable	>=	0.5005	Nm			
						Ignition Voltage Lo	>=	8.5996	Volts			
						Ignition Voltage Hi	<=	18	Volts			
						Engine Speed Lo		500	RPM			
						Engine Speed Hi Engine Speed is within the		7500	RPM			
						allowable limits for	>=	5	Sec			
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E					
							ECM: None					
Variable Bleed Solenoid (VBS)	P0777	Pressure Control (PC) Solenoid B StuckOn [C35R]	Primary Offgoing Clutch is exhausted (See Table 14 in Supporting Documents for Exhaust Delay Timers)		Boolean							One Trip
			Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Range Shift Status	= Clutch exhaust command								

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Attained Gear Slip	<=	40	RPM				
			Fail 1 Timers Below:							
			fail timer 1 (3-1 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-2 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-4 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-4shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (3-5 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-3 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-4 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (5-6 shifting with Closed Throttle)	>=	1.200195313	Fail Time (Sec)				

COMPONENT/ SYSTEM FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
		If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total Fail Time = (Fail 1 + Fail 2) See Enable Timers for Fail >= Timer sec 1, and Referen ce Support ing Table 17 for Fail Timer 2	
			Disable Conditions:	Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled MIL not Illuminated for DTC's:	= FALSE Boolean = FALSE Boolean ≠ 1st FW Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P0796	Pressure Control (PC) Solenoid C Stuck Off [C456] (Steady State)	<u>Fail</u> Case: Steady State 4th <u>Case 1</u> Gear				Please	One Trip
			Gear slip	>= 200 RPM			See Table 7 Neutral >= For Timer Neutral (Sec) Time	
			Intrusive test: commanded 5th gear				Cal	
			lf attained Gear ≠5th for time					
			Increment 4th Gear Fail Counter and C456 Fail Counters				>= 2 4th Gear Fail Count C456	
			<u>Fail</u> Case: Steady State 5th <u>Case 2</u> Gear				>= 14 Fail Counts	
			Gear slip	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 6th gear				Gui	
			If attained Gear ≠ 6th for time					
			Increment 5th Gear Fail Counter and C456 Fail Counters				>= 2 Sth Sear Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABL	E CONDITIONS	TIME RE	QUIRED	MIL ILLUM.
								>= 14	C456 Fail Counts	
			Fail Case: Steady State 6th Case 3 Gear Gear slip	>= 200 RPM				Pleas See Table >= For	7 Neutral	
			Intrusive test: commanded 5th gear					Neutra Time Cal	al (Sec)	
			If attained Gear ≠ 5th for time	Table Based Time Please >= Refer to Table 4 in supporting documents Table Based Enable Time (Sec)						
			Increment 6th Gear Fail Counter and C456 Fail Counters					>= 2	6th Gear Fail Count C456	
								>= 14	Fail Counts	
					PRNDL State defaulted	=	FALSE Boolea			
					inhibit RVT		FALSE Boolea			
					IMS fault pending indication		FALSE Boolea			
					TPS validity flag Hydraulic System Pressurized		TRUE Boolea			
					Minimum output speed for RVT		0 RPM			
					A OR B		V IXIIVI			
					(A) Output speed enable		16 RPM			
					(B) Accelerator Pedal enable		0.5005 Pct			
					Common Enable Criteria					
					Ignition Voltage Lo	>=	8.5996 Volts			
					Ignition Voltage Hi		18 Volts			
					Engine Speed Lo		500 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	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE C	CONDITIONS	TIME REQUIR	ED	MIL ILLUM.
					Disable Conditions:		= T	RUE Boolean			
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456] (Steady State)	Fail Case: Steady State 1st Case 1 Lock Commanded Gear slip	<= 33 Table Based	RPM		P0123				One Trip
			If the Above is True for Time Intrusive test: (CBR1 clutch exhausted)	in supporting documents	Enable Time (Sec)					-ail	
			4th closest gear Fail Case 2 Case Steady State 2nd 4th closest gear		Boolean				>= 1.1 Ti	mer Sec)	
			Neutral Time Intrusive test: (CB26 clutch exhausted) 4th closest gear	≠ 0	Sec Boolean				>= 1.1 Ti	Fail mer Sec)	
			Fail Case Steady State 3rd Case 3 4th closest gear Closest Gear Ratio	= TRUE	Boolean Gear						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Neutral Time Intrusive test: (C35R clutch exhausted)		Sec				
			4th closest gear	= TRUE	Boolean			Fail >= 1.1 Timer (Sec)	
						PRNDL State defaulted inhibit RVT	= FALSE Boolea		
						IMS fault pending indication output speed	>= 0 RPM		
						Crank Enable Criteria is met TPS validity flag Hydraulic_System_Pressurized	= TRUE Boolea	n	
						Minimum output speed for RVT	>= 0 RPM		
						(A) Output speed enable (B) Accelerator Pedal enable			
					Disable Conditions:		TCM: P182E		
							ECM: None		
Variable Bleed Solenoid (VBS)	P0797	Pressure Control (PC) Solenoid C Stuck On [C456]	Primary Offgoing Clutch is exhausted (See Table 13 in Supporting Documents for Exhaust Delay Timers)		Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command	= pressurized	ı				
			Status Range Shift Status Attained Gear Slip	≠ Initial Clutch Control	RPM				
			Fail 1 Timers Below:						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD V	/ALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			fail timer 1 (4-1 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (4-1 shifting with throttle)	>=		Fail Time (Sec)				
			fail timer 1 (4-2 shifting without throttle)	>=		Fail Time (Sec)				
			fail timer 1 (4-2 shifting with throttle)	>=		Fail Time (Sec)				
			fail timer 1 (4-3 shifting without throttle)	>=		Fail Time (Sec)				
			fail timer 1 (4-3 shifting with throttle)	>=		Fail Time (Sec)				
			fail timer 1 (5-3 shifting without throttle)	>=		Fail Time (Sec)				
			fail timer 1 (5-3 shifting with throttle)	>=		Fail Time (Sec)				
			fail timer 1 (6-2 shifting without throttle)	>=	1 200145313	Fail Time (Sec)				
			fail timer 1 (6-2 shifting with throttle)	>=		Fail Time (Sec)				
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers						Total Fail Time = (Fail Timer 1 + Fail Timer 2) See >= Below Enable Timers for Fail Timer 1, and Referen ce	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
										Support ing Table 17 for Fail Timer 2	
						Trans oil temperature		0	°C		
						Input Speed Sensor FA or TFTKO			Boolean		
						output speed sensor fault			Boolean		
						Command / Attained Gear High Side Driver ON			Boolean Boolean		
						output speed limit for TUT		350	RPM		
						input speed limit for TUT		200	RPM		
						TUT Enable temperature		0	°C		
						PRNDL state defaulted		FALSE	Boolean		
						IMS Fault Pending	=	FALSE	Boolean		
						Service Fast Learn Mode	=	FALSE	Boolean		
						HSD Enabled	=	TRUE	Boolean		
					Disable Conditions:		TCM: P182E				
							ECM: None				
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Tap Up Switch Stuck in Case 1 the Up Position in Gear 1 Enabled	= 0	Boolean	Time Since Last Range Change	>=	1	Enable Time (Sec)		Special No Trip
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled	= 0	Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 3 Enabled		Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 4 Enabled	= 0	Boolean						
			Tap Up Switch Stuck in the Up Position in Gear 5 Enabled	= 0	Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	.D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Up Switch Stuck in the Up Position in Gear 6 Enabled	= 0	Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 1	Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled Tap Up Switch Stuck in		Boolean				
			tap up Switch Stuck in the Up Position in Reverse Enabled		Boolean			Fail	
			Tap Down Switch ON	= TRUE	Boolean			>= 1 Time (Sec)	
			Fail Tap Up Switch Stuck in Case 2 the Up Position in Gear 1 Enabled	= 1	Boolean	Time Since Last Range Change	Enable >= 1 Time (Sec)		
			Tap Up Switch Stuck in the Up Position in Gear 2 Enabled Tap Up Switch Stuck in	= 1	Boolean				
			the Up Position in Gear 3 Enabled Tap Up Switch Stuck in	= 1	Boolean				
			the Up Position in Gear 4 Enabled Tap Up Switch Stuck in		Boolean				
			the Up Position in Gear 5 Enabled Tap Up Switch Stuck in		Boolean				
			the Up Position in Gear 6 Enabled Tap Up Switch Stuck in the Up Position in		Boolean Boolean				
			Neutral Enabled Tap Up Switch Stuck in the Up Position in Park		Boolean				
			Enabled Tap Up Switch Stuck in the Up Position in		Boolean				
			Reverse Enabled Tap Down Switch ON		Boolean			Fail	
			rap Down Switch ON	- INOL	DoolGail			(Sec)	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met								
						Ignition Voltage Lo	>=	8.5996	Volts		
						Ignition Voltage Hi	<=	18	Volts		
						Engine Speed Lo		500	RPM		
						Engine Speed Hi	<=	7500	RPM		
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0815, P182E, P1761				
							ECM: None				
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Tap Down Switch Stuck in the Down Position in Gear 1 Enabled	= 0	Boolean	Time Since Last Range Change	>=	1	Sec		Special No Trip
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled	= 0	Boolean						
			Tap Down Switch Stuck in the Down Position in Gear Neutral Enabled	= 1	Boolean						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOL	D VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Tap Down Switch Stuck in the Down Position in Gear Park Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Gear Reverse Enabled	= 0	Boolean				
			Tap Down Switch ON	= TRUE	Boolean			>= 1 sec	
			Fail Case 2 Tap Down Switch Stuck in the Down Position in Gear 1 Enabled		Boolean	Time Since Last Range Change	>= 1 Sec		
			Tap Down Switch Stuck in the Down Position in Gear 2 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 3 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 4 Enabled	= 1	Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 5 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Gear 6 Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Neutral Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Park Enabled		Boolean				
			Tap Down Switch Stuck in the Down Position in Reverse Enabled		Boolean				
•			Tap Down Switch ON	= TRUE	Boolean			>= 600 sec	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME	E REQU	IIRED	MIL ILLUM.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met										
						Ignition Voltage Lo	>=	8.5996	Volts				
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo	>=	500	RPM				
						Engine Speed Hi		7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P0816, P182E, P1761						
							None						
Tap Up Tap Down Switch (TUTD)	P0826	Up and Down Shift Switch Circuit	TUTD Circuit Reads Invalid Voltage	= TRUE	Boolean					>=	60	Fail Time (Sec)	Special No Trip
						Ignition Voltage Lo	>=	8.5996	Volts			` '	
						Ignition Voltage Hi	<=	18	Volts				
						Engine Speed Lo		500	RPM				
						Engine Speed Hi		7500	RPM				
						Engine Speed is within the allowable limits for		5	Sec				
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P1761						
							ECM: None						
Transmission Fluid Pressure Switch	P0872	Transmission Fluid Pressure (TFP) Sensor C Circuit Low Voltage	CB26 Hydraulic pressure	<= 50	KPa								Special No Trip
			Hydraulic Delay Timer (Table Based)	>= See Table 9 for Delay Timer Cal	Sec								
			Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter							>=	18	Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= 8.5996 <= 18 >= 500 <= 7500	°C °C Volts Volts RPM RPM Sec		
				Disable Conditions:		TCM: P0711, P0712, P0713, P0973, P0974, P0976, P0977, P1915, P182E ECM: None			
Transmission Fluid Pressure Switch	P0877	Transmission Fluid Pressure (TFP) Sensor D Circuit Low Voltage	C1234 Hydraulic pressure Hydraulic Delay Timer (Table Based) Check for Switch to be in Exhausted Position after delay, If so then Increment Fail Counter	~= 50 KFa	Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi	>= 8.5996 <= 18 >= 500	°C °C Volts Volts RPM RPM	>= 5 Fail Counts	Special No Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE		SECONDARY PARAMETERS	ENABLE	E CONDIT	TIONS	TIME REC	QUIRED	MIL ILLUM.
				D Condi	isable itions:	Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	>= TCM: P0711, P0712, P0713, P0973, P0974, P0976, P0977, P1915, P182E	5	Sec			
Variable Bleed Solenoid (VBS)	P0962	Pressure Control (PC) Solenoid A Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolea	n		ECM: None			>= 0.3	Fail Time (Sec) Sample Time (Sec)	One Trip
						P0962 Test Enabled Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed Hi Engine Speed is within the allowable limits for Line Pressure Control Solenoid	= >= <= >= >= ==	18 500 7500 5	Volts Volts RPM RPM Sec			
				D Condi	isable itions:	Enabled MIL not Illuminated for DTC's:	TCM: P0962 ECM: None	TROL	n			
Variable Bleed Solenoid (VBS)	P0966	Pressure Control (PC) Solenoid B Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE Boolea	n	P0966 Test Enabled	=	TRUE E	Boolean	>= 0.3 = 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE		MALFUNCTION CRITERIA	THRESHOLI) VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME REC	QUIRED	MIL ILLUM.
					Disable Conditions:	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Line Pressure Control Solenoid Enabled MIL not Illuminated for DTC's:	>= <= >= <= >= TCM: P0966 ECM: None	8.5996 18 500 7500 5 TRUE	Volts Volts RPM RPM Sec Boolean			
Variable Bleed Solenoid (VBS)	P0967	Pressure Control (PC) Solenoid B Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE	Disable Conditions:	P0967 Test Enabled Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= >= <= >= <= >= TCM: P0967 ECM: None	TRUE 8.5996 18 500 7500 5	Boolean Volts Volts RPM RPM Sec	>= 0.3 = 0.375	Fail Time (Sec) Sample Time (Sec)	One Trip
Variable Bleed Solenoid (VBS)	P0970	Pressure Control (PC) Solenoid C Control Circuit Low Voltage	Hardware circuitry detects ground short	= TRUE	Boolean	P0970 Test Enabled Ignition Voltage Lo	=		Boolean Volts		Fail Time (Sec) Sample Time (Sec)	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESH	OLD VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME	REQU	JIRED	MIL ILLUM.
					Disable	Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	<= >= <= >= TCM:	18 500 7500 5	Volts RPM RPM Sec				
					Conditions:		P0970 ECM: None					.	
Variable Bleed Solenoid (VBS)	P0971	Pressure Control (PC) Solenoid C Control Circuit High Voltage	Hardware circuitry detects open circuit or power short	= TRUE	Boolean					>= (Fail Time (Sec) Sample Time (Sec)	One Trip
						P0971 Test Enabled Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	= >= <= >= <= >=	TRUE 8.5996 18 500 7500	Boolean Volts Volts RPM RPM			(360)	
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0971 ECM: None						
Mode 2 Multiplex Valve	P1751	Shift valve 1 performance	Attained Gear Slip is If Slip is Greater than the Above Cal Increment Fail Counter If Slip is Greater than the Above Cal Increment Fail Sample		RPM							Fail Counts Fail Sample s	Two Trips
			·			Once this evaluation is complete the system will allow the valve to get back into position by delaying the next test for	=	1	Seconds				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABI	LE CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Attained Gear Slip		100			
					M2 Solenoid is Commanded On	=	TRUE	Boolean		
					Current Gear ≠ 2nd Gear	≠	2nd Gear	Gear		
					Calculated line pressure is	>=	1300	kPa		
					The test can begin when the M2 valve is verified to be in place because absolute value of attained gear slip and commanded gear slip is	<=	110	RPM		
					Test is delayed by a calibrated amount of time to allow the M2 valve to get into position	=	0.5	Sec		
					Upshift is In Progress		FALSE			
					Input Speed Sensor Signal		1175	RPM		
					The torque converter clutch has transition from Locked to Unlocked.		TRUE	Boolean		
					TCC Stuck On Enable Criteria:					
					Gear Ratio	<=	1.6393	Ratio		
					Gear Ratio		0.6204			
					Engine Speed Hi		6500	RPM		
					Engine Speed Lo		500	RPM		
					Vehicle Speed HI		511	KPH		
					Vehicle Speed Lo	>=	16	KPH		
					Stuck On During Upshift Enabled	=	0	Boolean		
					If Stuck On During Upshift is enabled (See Above), Engine Torque Must be Down Shift In Progress	>=	8191 FALSE	Nm		
					Current Gear ≠ 1st Gear Locked		1st Gear	Boolean		
					Engine Torque Hi	<=	Locked 1492	Nm		
					Engine Torque Lo		115	Nm		
					Current Range ≠ Reverse		Reverse			
					Transmission Sump Temperature	<=	130	°C		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	O VALUE	SECONDARY PARAMETERS	ENABLE	E CONDI	TIONS	TIME R	EQUIRED	MIL ILLUM.
						Transmission Sump Temperature	>=	20	°C			
						PTO Active	=	FALSE	Boolean			
						Ossessa Fraklasi						
						Common Enables: Vehicle Speed Calculated from						
						TOSS	<=	511	KPH			
						Ignition Voltage		8.5996	V			
						Ignition Voltage	<=	18	V			
						Vehicle Speed	<=	511	KPH			
						Engine Speed	>=	500	RPM			
						Engine Speed Engine Speed is within the	<=	7500	RPM			
						allowable limits for	>=	5	Sec			
						Engine Torque Signal Valid		TRUE	Boolean			
						Throttle Position Signal Valid	=	TRUE	Boolean			
Top Up Top Down Switch		Tan Un and Down quitab signal	Social Data Signal in		Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P0742, P1751, P2763, P2764 ECM: P0101, P0102, P0103, P0122, P0123				Foil	Special No
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit	Serial Data Signal is Corrupted or Missing	= TRUE	Boolean					>= 3	Sample	Special No Trip
											(Sec)	
						Rolling Count Diagnostic Enabled	=	TRUE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLI	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
							Tap Up Tap Down Message Health	=	TRUE	Boolean		
							Ignition Voltage Lo	>=	8.5996	Volts		
							Ignition Voltage Hi	<=	18	Volts		
							Engine Speed Lo	>=	500	RPM		
							Engine Speed Hi	<=	7500	RPM		
							Engine Speed is within the allowable limits for		5	Sec		
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None				
								ECM: None				
		Internal Mode Switch - Circuit A	<u>Fail</u>									One Trip
Internal Mode Switch (IMS)	P182E	Low Reported as Internal Mode Switch-Invalid Range	<u>Case 1</u> Current range	=	"Transitional 1"	Range State						
		range	Previous range		DL_DIIVeo							
			Previous range	!=	CeTRGR_PRN DL_Drive4	Range State						
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean						
			Steady State Engine Torque		-50	Nm						
			Steady State Engine Torque	<=	1492	Nm						
			If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail	>=	0.225	Seconds					>= 15 Fail	
			Constant Paris Counter Fail Constant Paris Counter C	=	"Transitional 1"	Range State					Counts	
			S3 Pressure Switch indicates "Pressure Present"		FALSE	Boolean						
			Commanded Gear	=	1st Locked	Gear						

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIONS	TIME R	EQUIRED	MIL ILLUM
			If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail Counter	>=	0.225	Seconds				>= 15	Fail Counts	
			<u>Fail</u> <u>Case 3</u> Current range	= '	"Transitional 13"		Previous range	!= F	CeTR GR_P RNDL_ Drive2			
			Either the S1 or S3 Pressure Switch indicates "Pressure Present"	=	TRUE	Boolean	Previous range	!= F	CeTR GR_P RNDL_ Drive1			
			Engine Torque Engine Torque			Nm Nm	If the "IMS 7 Position" = 1 then the "previous range" criteria above must also be satisfied when the "current range" = "Transitional 13"					
			If the above conditions are present Increment Fail Timer If Fail Timer has Expired then Increment Fail		0.225	Seconds	Tulouviu 10			>= 15	Fail Counts	
			Counter Fail Case 4 Current range Either the S1 or S3	=	"Transitional 2" or "Transitional 8"						Counts	
			Pressure Switch indicates "Pressure Present" Steady State Engine Torque	=	TRUE	Boolean Nm						
			Steady State Engine Torque The above conditions are present for	<= >=	1492 0.225	Nm Seconds						
			If the above Conditions have been met, Increment Fail Counter Fail Case 5 Case 5	_	"Illegal"		A Open Circuit Definition:			>= 15	Fail Counts	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	CONDITIO	IS TIM	E REQI	JIRED	MIL ILLUM.
			or			Last Valid Range State	- ≠ ("Neutr al, Transiti onal 8, or Transiti onal				
			ECM Park/Neutral Message	= "Park/Neutral"		and						
			and			Previous transitional state	≠ "	'Illegal"				
			Current Range	≠ Park or Neutral		and		0				
			or			PRNDL Circuit A	_	Open Circuit				
			ECM Park/Neutral Message	≠ "Park/Neutral"		PRNDL Circuit B	_	Closed Circuit				
			and			PRNDL Circuit C		Open Circuit				
			Current range	Park, Neutral, Reverse, = Transitional 8, or Transitional 11		PRNDL Circuit P	=	Open Circuit				
			and A Open Circuit (See Definition)	= FALSE	Boolean							
			If the above Conditions are present, Increment Fail timer						>=	2	Second s	
			Fail Current PRNDL State	= "Reverse"								
			and	= "Drive 4"	Dange							
			Last Previous valid state If the above Conditions are present, Increment Fail timer	- Drive 4°	Range				>=	2	Second s	
						Ignition Voltage Lo		8.5996 Vo				
						Ignition Voltage Hi Vehicle Speed Lo	<=	18 Vo 511 KF				
						venicie Speed Lo Engine Speed Lo		500 RF				
						Engine Speed Hi		7500 RF				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	Engine Speed is within the allowable limits for MIL not Illuminated for DTC's:	TCM: P182E, P0722, P0723 ECM: P0101,		
Variable Bleed Solenoid	D2744	Pressure Control (PC) Solenoid D	Fail Case: Steady State 2nd			P0102, P0103, P0121, P0122, P0123		One Trip
(VBS)	P2714	Stuck Off [CB26]	<u>Gear</u> Gear Gear slip	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 3rd gear If attained Gear = 3rd for Time If Above Conditions have	Table Based Time Please see >= Table 4 in (Sec) Supporting Documents			2nd	
			been met, Increment Fail Counter and Sum Counters Fail Case: Steady State 6th				>= 2	
			<u>Case 2</u> Gear Gear slip	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITION	S TIME REQUIRED	MIL ILLUM.
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	Table Based Time Please see >= Table 4 in Supporting Documents	PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid	= FALSE Booke = FALSE Booke = TRUE Booke = TRUE Booke >= 0 RPI >= 0.5005 Pc >= 8.5996 Volt <= 18 Volt >= 500 RPI >= 5 Set = TRUE Booke TCM: P0716, P0717, P0722, P0723, P182E ECM: P0121,	an an an 1 1 1 3 5 5	
						P0122, P0123		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 15 in Supporting Documents for Exhaust Delay Timers)	=	TRUE	Boolean				One Trip
			Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status	=	Maximum pressurized Clutch exhaust command Initial Clutch	:				
			Range Shift Status Attained Gear Slip Fail 1 Timers Below:		Control 40	RPM				
			fail timer 1 (2-1 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (2-1 shifting without throttle) fail timer 1		1.200195313	Fail Time (Sec) Fail Time				
			(2-3 shifting with throttle) fail timer 1 (2-3 shifting without throttle)		1.200195313 1.200195313	(Sec)				
			fail timer 1 (2-4 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (2-4 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-4 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-4 shifting without throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-5 shifting with throttle)	>=	1.200195313	Fail Time (Sec)				
			fail timer 1 (6-5 shifting without throttle)		1.200195313	Fail Time (Sec)				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			If Attained Gear Slip is Less than Above Cal Increment Fail Timers				Total fail timer (fail timer1 + fail timer2) See Below Enable Timers for Fail Timer 1, and Referen ce Support ing Table 17 for Fail Timer 2	
				Disable Conditions:	Trans oil temperature Input Speed Sensor FA or TFTKO output speed sensor fault Command / Attained Gear High Side Driver ON output speed limit for TUT input speed limit for TUT TUT Enable temperature PRNDL state defaulted IMS Fault Pending Service Fast Learn Mode HSD Enabled MIL not Illuminated for DTC's:	= FALSE Boolean = FALSE Boolean ≠ 1st FW Boolean = TRUE Boolean >= 350 RPM >= 200 RPM >= 0 °C = FALSE Boolean = FALSE Boolean = FALSE Boolean = TRUE Boolean		

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALF	UNCTION CRITERIA	THE	RESHOLD	VALUE	SECONDARY PARAMETERS	ENABL	E COND	ITIONS	TIM	E REQI	JIRED	MIL ILLUM.
Variable Bleed Solenoid (VBS)	P2715	Pressure Control (PC) Solenoid D Stuck On [CB26] (Steady State)	<u>Fail</u> Case 1	Case: Steady State 1st											One Trip
				Commanded Gear slip	<=	33	MPH								
				If Above is True for Time	Time I >= Ta Su	le Based Please see able 6 in pporting cuments	Enable Time (Sec)								
				Intrusive test:											
				(Exhaust CBR1) If closest gear	=	2nd	Gear					>=	11	sec	
			<u>Fail</u> Case 2	Case: Steady State 3rd Gear											
				If Closet gear	=	2nd	gear								
				Intrusive test: (Exhaust C35R)											
			E-ii	If Closet gear	=	2nd	gear					>=	1.1	sec	
			Fail Case 3	Case: Steady State 4rd Gear		011									
				If Closet gear Intrusive test: (Exhaust C1234)	=	6th	gear								
				If Closet gear	=	6th	gear					>=	1.1	sec	
			<u>Fail</u> Case 4	Case: Steady State 5th Gear			5								
				If Closet gear	=	6th	gear								
				Neutral Time	≠	0	sec								
				Intrusive test: (Exhaust C35R)											
				If Closet gear	=	6th	gear	Trans oil temperature		0	°C	>=	1.1	sec	
									>						
								Input Speed Sensor FA or TFTKO	=		Boolean				
								output speed sensor fault	=		Boolean				
								Command / Attained Gear	≠		Boolean				
								High Side Driver ON	=		Boolean				
								output speed limit for TUT	>=	350	RPM RPM				
								input speed limit for TUT TUT Enable temperature	>=	200 0	°С				

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disabl Conditions		= FALSE Booles = FALSE Booles = TRUE Booles TCM: P182E ECM:	an an	
Variable Bleed Solenoid (VBS)	P2720	Pressure Control (PC) Solenoid D Control Circuit High	Hardware Circuitry Detects a High Pressure Error		Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo	i <= 18 Volts	;	One Trip
				Disabl Conditions				
Variable Bleed Solenoid (VBS)	P2721	Pressure Control (PC) Solenoid D Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE Boolean	Ignition Voltage Lo			One Trip
				Disabl Conditions		>= 500 RPM i <= 7500 RPM	1	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM
ariable Bleed Solenoid /BS)	P2723	Pressure Control (PC) Solenoid E Stuck Off	<u>Fail</u> Case: Steady State 1st <u>Case 1</u> Gear					One Trip
20)		Clack on	<u> </u>				Please	
							See Table 7 Neutral	
			Gear slip	>= 200 RPM			>= For Timer Neutral (Sec)	
							Time	
			Intrusive test:				Cal	
			commanded 2nd gear	Table based				
			If attained Gear ≠ 2nd for	Timer, Please				
			Time	Supporting (Sec)				
			If Above Conditions have	Documents			1st	
			been met, Increment Fail				Gear	
			Counter and Sum Counters				Fail Count	
							C1234 Clutch	
							>= 14 Fail	
			Fail Case: Steady State 2nd				Count	
			Case 2 Gear				Please	
							See Table 7 Neutral	
			Gear slip	>= 200 RPM			>= For Timer	
							Neutral (Sec) Time	
			Intrusive test:				Cal	
			commanded 3rd gear					
			15 - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Table based Timer, Please				
			If attained Gear ≠ 3rd for Time	>= See Table 4 in Ellable Hille				
				Documents				
			If Above Conditions have been met, Increment Fail				2nd Gear	
			Counter and Sum Counters				>= 2 Geal Fail Count	
			Counters				Total	
							>= 14 Fail Count	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Fail Case: Steady State 3rd Case 3 Gear Gear slip Intrusive test: commanded 4th gear	>= 200 RPM			Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			If attained Gear ≠ 4th for time If Above Conditions have been met, Increment Fail Counter and Sum Counters	Supporting Documents			>= 2 Gear Fail Count C1234 Total >= 14 Fail	
			Fail Case: Steady State 4th Case 4 Gear Gear slip				Please See Table 7 Neutral >= For Timer Neutral (Sec) Time Cal	
			Intrusive test: commanded 5th gear If attained Gear = 5th For Time If Above Conditions have been met, Increment Fail Counter and Sum Counters	Table based Timer, Please >= See Table 4 in Supporting Documents Enable Time (Sec)			4th >= 2 Gear Fail Count Total	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD	VALUE	SECONDARY PARAMETERS	ENABLE	: CONDI	TIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	PRNDL State defaulted inhibit RVT IMS fault pending indication TPS validity flag Hydraulic System Pressurized Minimum output speed for RVT A OR B (A) Output speed enable (B) Accelerator Pedal enable Common Enable Criteria Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for Throttle Position Signal Valid MIL not Illuminated for DTC's:		FALSE FALSE TRUE 0 16 0.5005 8.5996 18 500 7500 5 TRUE	Boolean Boolean Boolean RPM RPM Pct Volts Volts RPM RPM RPM Sec		
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On (Dynamic)	Primary Offgoing Clutch is exhausted (See Table 12 in Supporting Documents for Exhaust Delay Timers) Primary Oncoming Clutch Pressure Command Status Primary Offgoing Clutch Pressure Command Status Status	= TRUE = Maximum pressurized = Clutch exhaust	Boolean						One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA		THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
			Range Shift Status	≠	Initial Clutch Control				
			Attained Gear Slip	<=	40 RPM				
			fail timer 1 (2-6 shifting with throttle)	>=	1.200195313 sec				
			fail timer 1 (2-6 shifting without throttle)	>=	1.200195313 sec				
			fail timer 1 (3-5 shifting with throttle)	>=	1.200195313 sec				
			fail timer 1 (3-5 shifting without throttle)	>=	1.200195313 sec				
			fail timer 1 (4-5 shifting with throttle)	>=	1.200195313 sec				
			fail timer 1 (4-5 shifting without throttle)	>=	1.200195313 sec				
			fail timer 1 (4-6 shifting with throttle)	>=	1.200195313 sec				
			fail timer 1 (4-6 shifting without throttle)	>=	1.200195313 sec				
			If attained gear has been met then increment fail timers					Total fail timer (fail timer1 + fail timer2) See Below >= Enable Timers for Fail Timer 1, and Referen ce Support ing Table	

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	TI	HRESHOL	.D VALUE	SECONDARY PARAMETERS	ENABL	E CONDI	TIONS	TIME RE	QUIRED	MIL ILLUM.
											19 fo Fail Timer		
							Trans oil temperature	>	0	°C			
							Input Speed Sensor FA or TFTKO	=	FALSE				
							output speed sensor fault	=	FALSE				
							Command / Attained Gear	≠	1st FW				
							High Side Driver ON	=	TRUE				
							output speed limit for TUT	>=	350	RPM			
							input speed limit for TUT	>=	200	RPM			
							TUT Enable temperature	>=	0	°C			
							PRNDL state defaulted		FALSE				
							IMS Fault Pending		FALSE				
							Service Fast Learn Mode	=	FALSE				
						Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P182E					
								ECM: None					
Variable Bleed Solenoid (VBS)	P2724	Pressure Control (PC) Solenoid E Stuck On	Case: 5th Gear										One Trip
			Closest Gear	=	4th	gear							
			Neutral Time	≠	0	Sec							
			Fail Intrusive test: Case 1 (C35R clutch exhausted)										
			If closest gear	=	4th	Gear					>= 1.1	sec	
			Case: 6th Gear										
			Closest Gear	=	4th	gear							
			Neutral Time	≠	0	Sec							
			Fail Intrusive test: Case 2 (CB26 clutch exhausted)										
			If closest gear	=	4th	Gear					>= 1.1	sec	
							output speed	>=	0	RPM			
							PRNDL State defaulted	=	FALSE	Boolean			

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLI	D VALUE	SECONDARY PARAMETERS	ENABLI	E CONDI	TIONS	TIME R	EQUIRED	MIL ILLUM.
					Disable Conditions:	inhibit RVT IMS fault pending indication TPS validity flag output speed Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed Hi Engine Speed is within the allowable limits for	TCM: P182E	FALSE FALSE TRUE 0 8.5996 18 500 7500 5	Boolean			
Variable Bleed Solenoid (VBS)	P2729	Pressure Control (PC) Solenoid E Control Circuit High	Hardware Circuitry Detects a High Pressure Error	= TRUE	Boolean	Ignition Voltage Lo Ignition Voltage Hi Engine Speed Lo Engine Speed Hi Engine Speed is within the allowable limits for	>= <= >= <= >=	8.5996 18 500 7500 5	Volt Volt RPM RPM Sec	>= 0.37	(Sec) Sample	One Trip
					Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P2729 ECM: None					
Variable Bleed Solenoid (VBS)	P2730	Pressure Control (PC) Solenoid E Control Circuit Low	Hardware Circuitry Detects a Low Pressure Error	= TRUE	Boolean	Ignition Voltage Lo	>=	8.5996	Volt	>= 0.37	(Sec) Sample	One Trip

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE	E COND	ITIONS	TIME REQUIRED	MIL ILLUM.
					Ignition Voltage Hi	<=	18	Volt		
					Engine Speed Lo	>=	500	RPM		
					Engine Speed Hi	<=	7500	RPM		
					Engine Speed is within the allowable limits for		5	Sec		
				Disable Conditions:		TCM: P2730 ECM: None				

T43 Supporting Tables

	- 10 Capperting Tubics	
Table 1	Units Axis	
<u>Table 2</u>	Uni Axis 0 6.249905 12.49981 18.74971 24.99962 31.24952 37.49943 43.74933 49.99924 56.24914 62.49905 68.74895 74.99886 81.24876 87.49866 93.74857 99.99847 PC Curve 800 800 800 800 800 800 800 800 800 80	T
Table 3	Axis 0 64 128 192 256 320 384 448 512 Nm Curve 50 50 50 50 50 50 50 50 50 8PM	
Table 4	Units Axis -0.00781	
Table 5	Units Axis -0.00781 0 40 °C Curve 409.5938 5.5 5.5 Sec	
<u>Table 6</u>	Units Axis -0.00781 0 40 °C Curve 409.5938 2 2 Sec	
Table 7	Units Axis -0.00781 0 40 °C Curve 409.5938 5 5 Sec	
<u>Table 8</u>	Axis -40 -0.00781 40 80 120 °C Curve 409 409 1.6 1.4 1.4 Sec	
Table 9	Units Axis	

Tubic To	Axis -40 -0.00781 40 8	80 120 °C
		1.5 1.4 Sec
<u>Table 11</u>		Units
		80 120 ℃
	Curve 409 409 1.3 1	1.2 1.1 Sec
Table 12		Units
	Axis -40 -20 0 Curve 3.029297 1.857422 1.00293 0.75488	30 110 ℃ 83 0.583984 Sec
	0.000000 1.00000 0.0000 0.0000	30 0.00000
Table 13		Units
Table 13	Axis -40 -20 0	30 110 °C
	Curve 1.720703 1.108398 0.595703 0.3593	75 0.21582 Sec
Table 14		Units
	Axis -40 -20 0 Curve 2.121094 1.393555 0.841797 0.6425	30 110 ℃ 78 0.332031 Sec
	Curve 2.121094 1.393333 0.641797 0.6423	76 0.332031 Sec
T-1-1- 45		He We
<u>Table 15</u>	Axis -40 -20 0	Units 30 110 ⁰C
	Curve 2.507813 0.952148 0.499023 0.29296	
Table 16		Units
		30 110 °C
	Curve 2.972656 0.818359 0.47168 0.20410	02 0.132813 Sec
Table 17	Axis -40 -30 -20 -	10 0 10 20 30
	Curve 0 0 0	10 0 10 20 30 0 0 0 0 0 0

Units

Table 10