Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Control Module (TCM)	C1252	The longitudinal accleration sensor signal failed at a low voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>= 30	Sec		>= 75	Sec		Special No MIL
			longitudinal accleration sensor raw signal	<= -3.849999905 g's					out of 120	Sec		
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			longitudinal accleration sensor raw signal	>= -3.849999905 g's								
					longitudinal acceleration low voltage diagnostic enable calibration	= 1						
					Battery Voltage	<= 31.9990234	Volts					
					Battery Voltage	>= 9	Volts					
					Battery voltage is within the allowable limits for	>= 0.1	Sec					
					Ignition Voltage	<= 31.9990234	Volts					
					Ignition Voltage	>= 9	Volts					
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE	Boolean					
					Ignition voltage and SFL conditions met for	>= 0.1	Sec					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1253	The longitudinal accleration sensor signal failed at a high voltge	hardware configuration	= CeLATR_e_VoltageDirectPrOp	transient delay timer	>= 30	Sec		>= 75	Sec		Special No MIL
			longitudinal accleration sensor raw signal	>= 3.849999905 g's					out of 120	Sec		
			hardware configuration	= CeLATR_e_VoltageDirectPrOp								
			longitudinal accleration sensor raw signal	<= 3.849999905 g's								
					longitudinal acceleration high voltage diagnostic enable calibration	= 1						
					Battery Voltage	<= 31.9990234	Volts					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Transmission Control Module (TCM)	C1254	The longitudinal accleration signal is stuck at a high magnitude in range	absolute value (longitudinal accleration)	>= 0.529999971 g's	absolute value (longitudinal accleration) for stablity	>=	0.52999997	g's	>=	75	Sec	Special No MIL
			absolute value (longitudinal accleration)	<= 3.849999905 g's	absolute value (longitudinal accleration) for stablity	<=	3.8499999	g's	out of	120	Sec	
					stability time	>=	30	Sec				
					Diagnostic shifting override command	=	FALSE	Boolean				
					Attained Gear State	=	1st through 8th					
					Attained Gear Slip	<=	100	RPM				
					Transmission Type	=	Clutch to Clutch Transmission					
					High Side Drivers enabled	=	TRUE	Boolean				
					transmssion output speed acceleration	>=	0.52999997	meter/second /second				
					Vehicle Speed	>=	15	kph				
					longitudinal acceleration stuck in range diagnostic enable calibration	=	1					
					Battery Voltage	<=	31.9990234	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0721, P0722, P0723, P07BF, P07C0, P077B, P077C, P077D, P215C, U0073 ECM: None		
Transmission Control Module (TCM)	P0561	Battery to ignition voltage performance error at the TCM for an extended period of time.	delta = ABS(TCM battery voltage - TCM ignition voltage)	>= 3 Volts			= 40 Fail counts (100ms loop) Out of 50 Sample Counts (100ms loop)	One Trip
					battery to ignition voltage performance diagnostic enable calibration	= 1		
					TCM has battery voltage circuit	= 1 Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P0601	Transmission Electro-Hydraulic Control Module Read Only Memory	Incorrect program/calibrations checksum	= TRUE Boolean			>= 5 Fail Counts (background task continuous)	One Trip
					NVM write error diagnotic enable	= 1 Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0601 ECM: None		
Transmission Control Module (TCM)	P0603	Transmission Electro-Hydraulic Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure at controller initialization	= TRUE Boolean			Runs Continously	One Trip
					not programmed diagnotic enable	= 1 Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0603 ECM: None		
Transmission Control Module (TCM)	P0604	Transmission Electro-Hydraulic Control Module Random Access Memory	secondary micro processor RAM error	= TRUE Boolean			1000 ms cont.	One Trip
			OR					
			dual store RAM write time out error	= TRUE Boolean			> 175 seconds (interrupt driven based on calling functions)	
			OR					
			system RAM fault	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					
			cashe RAM fault	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			secondary micro processor micro code error	= TRUE Boolean			>= 3 counts (controller initialization and background task continuous)	
			OR					
					Service mode $04 active or end of trip processing active	= FALSE Boolean		
			write attempt occurred during RAM lock	= TRUE Boolean			> 65534 counts (background task continuous)	
			main processor RAM circuit hardware failure	= TRUE Boolean	RAM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR					
			main processor flash EPROM circuit hardware failure	= TRUE Boolean	flash EPROM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR					
			main processor memory stack failure	= TRUE Boolean	Service mode $04 active and end of trip pocessing active	= FALSE Boolean	>= 5 counts (100 msec continuous)	
					main processor memory stack test enable	= 1 Boolean		
			OR					
			secondary processor memory stack failure	= TRUE Boolean	secondary processor memory stack test enable	= 1 Boolean	>= 5 counts (12.5 msec continuous)	
			OR					
			secondary micro processor remedial action active on request	= FALSE Boolean			>= 1 counts (controller power up, 12.5 ms continuous)	
			OR					
			main processor ROM first test complete	= FALSE Boolean			>= 35 counts (12.5 msec continuous)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			OR					
			secondary processor to main processor seed sequence fault	= TRUE Boolean			>= 0.5 seconds	
			OR					
			seed sequence error	≠ FALSE Boolean	program sequence watch communication fault	= FALSE Boolean	>= 3 counts (12.5 msec continuous)	
					main processor to secondary processor serial peripheral interface error	= FALSE Boolean	>= 17 counts (12.5 msec continuous)	
					seed sequence test enable	= see table 50 in supporting documents Boolean		
					battery voltage	> 11 Volts		
					ignition voltage	>= 11 volts		
			OR					
			seed key fault current loop	= TRUE Boolean	seed key test enable	= see table 50 in supporting documents Boolean		
					seed key fault previous loop	= TRUE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
			OR					
			normalize 0-5 volt (absolute value (analog to digital test voltage commanded - actual analog to digital voltage feedback))	> 3.298950195 percent	analog to digital voltage test enabled	= 1 Boolean	>= 3 counts (50 msec continuous)	
					ignition voltage	>= 7 Volts	>= 8 counts (50 msec continuous)	
					analog to digital voltage channel enabled	= see Table 46 in supporting documents Boolean		
					analog to digital test voltage command	= see Table 47 in supporting documents Volts	>= 0.2 seconds	
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
			OR					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction		Enable Conditions		Time Required	Mil Illum.
			arithmatic logic unit 1 test pass	=	FALSE	Boolean	arithmatic logic unit test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.	
							arithmatic logic unit 1 test pass previous loop	=	FALSE	Boolean		
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
							A and B and C must occur					
							A: starter motor engaged	=	TRUE	Boolean		
							B: ignition voltage	<=	11	Volts		
							C: starter motor engaged time	<	0.025	sec		
							A and B must occur					
							A: ignition voltage	<=	6.40917969	Volts		
							B: ignition low voltage time	>=	2.50E-02	sec		
			arithmatic logic unit 2 test pass	=	FALSE	Boolean	arithmatic logic unit test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.	
							arithmatic logic unit 1 test pass previous loop	=	FALSE	Boolean		
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
							A and B and C must occur					
							A: starter motor engaged	=	TRUE	Boolean		
							B: ignition voltage	<=	11	Volts		
							C: starter motor engaged time	<	0.025	sec		
			OR									
			secondary processor arithmatic logic unit fault	=	TRUE	Boolean						
			OR									
			clock test fail current loop	=	TRUE	Boolean	clock test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.	
							clock test fail previous loop	=	TRUE	Boolean		
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
							A and B and C must occur					
							A: starter motor engaged	=	TRUE	Boolean		
							B: ignition voltage	<=	11	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					C: starter motor engaged time < 0.025 sec			
					A and B must occur			
					A: ignition voltage <= 6.40917969 Volts			
					B: ignition low voltage time >= 2.50E-02 sec			
			OR					
			configuration register test fail current loop	= TRUE Boolean	configuration register test enable = 1 Boolean		at controller initialization, then 12.5 ms cont.	
					configuration register test fail previous loop = TRUE Boolean			
					Service mode $04 active and end of trip processing active = FALSE Boolean			
					A and B and C must occur			
					A: starter motor engaged = TRUE Boolean			
					B: ignition voltage <= 11 Volts			
					C: starter motor engaged time < 0.025 sec			
					A and B must occur			
					A: ignition voltage <= 6.40917969 Volts			
					B: ignition low voltage time >= 2.50E-02 sec			
			OR					
			secondary processor configuration register fault	= TRUE Boolean				
			OR					
			A or B occur					
			A: direct memeory access (DMA) read/write test result	≠ FALSE Boolean	flash data transfer test enable = 1 Boolean		normal controller initialization	
			B: direct memeory access (DMA) read/write value	≠ $5AA5A55A hexadecimal value	flash data transfer test enable = 1 Boolean		normal controller initialization	
			software uses DMA peripheral function to write and read $5AA5A55A to flash memory locations to verify each flash memory location		running reset = FALSE Boolean			
					normal power up reset = TRUE Boolean			
			OR					
			secondary micro processor detects main micor processor SPI fault	= TRUE Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			OR					
			A or B or C or D occur		seed and key store fault test enable = 0 Boolean			
			A: last 6.25 msec seed and key time	> see Table 48 in supporting documents sec				
			B: last 12.5 msec seed and key time	> see Table 48 in supporting documents sec				
			C: last 50 msec seed and key time	> see Table 48 in supporting documents sec				
			D: last lores engine interrupt seed and key time	> see Table 48 in supporting documents sec				
			OR					
			A or B or C or D occur		prgram sequence watch test enable = see 3D_Table 1 in supporting documents Boolean			
			A: 6.25 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 6.25 msec time interrupt)				
			B: 12.5 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 12.5 msec time interrupt)				
			C: 50 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous)				
			D: engine lores interrupt program sequence fault fail count	>= see Table 49 in supporting documents counts (on execution of engine lores interrupts ECM only)				
			OR					
			secondary processor reports SPI communication fault	= TRUE Boolean	Service mode $04 active and end of trip processing active = FALSE Boolean			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					secondary processor reports SPI communication fault previous loop	= TRUE Boolean		
			OR SPI valid messsage received by main micro processor	= FALSE Boolean			= previous SPI message type	
					A and B and C must occur A: starter motor engaged B: ignition voltage C: starter motor engaged time SPI message checksum fault	= TRUE Boolean <= 11 Volts < 0.025 sec ≠ FASLE Boolean		
					Disable Conditions: MIL not Illuminated for DTC's:			
Internal TCM Processor Integrity Fault	P0606	Transmission Electro-Hydraulic Control Module Processor Integrity	main processor RAM circuit hardware failure	= TRUE Boolean	RAM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	One Trip
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR main processor flash EPROM circuit hardware failure	= TRUE Boolean	flash EPROM diagnotic test enable	= 1 Boolean	>= 5 counts (controller initialization)	
					hardware reset source is controller power up reset	= TRUE Boolean		
			OR main processor memory stack failure	= TRUE Boolean	Service mode $04 active and end of trip pocessing active	= FALSE Boolean	>= 5 counts (100 msec continuous)	
					main processor memory stack test enable	= 1 Boolean		
			OR secondary processor memory stack failure	= TRUE Boolean	secondary processor memory stack test enable	= 1 Boolean	>= 5 counts (12.5 msec continuous)	
			OR					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			secondary micro processor remedial action active on request	= FALSE Boolean			>= 1 counts (controller power up, 12.5 ms continuous)	
			OR					
			main processor ROM first test complete	= FALSE Boolean			>= 35 counts (12.5 msec continuous)	
			OR					
			secondary processor to main processor seed sequence fault	= TRUE Boolean			>= 0.5 seconds	
			OR					
			seed sequence error	≠ FALSE Boolean	program sequence watch communication fault	= FALSE Boolean	>= 3 counts (12.5 msec continuous)	
					main processor to secondary processor serial peripheral interface error	= FALSE Boolean	>= 17 counts (12.5 msec continuous)	
					seed sequence test enable	= see table 50 in supporting documents Boolean		
					battery voltage	> 11 Volts		
					ignition voltage	>= 11 volts		
			OR					
			seed key fault current loop	= TRUE Boolean	seed key test enable	= see table 50 in supporting documents Boolean		
					seed key fault previous loop	= TRUE Boolean		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
			OR					
			normalize 0-5 volt (absolute value (analog to digital test voltage commanded - actual analog to digital voltage feedback))	> 3.298950195 percent	analog to digital voltage test enabled	= 1 Boolean	>= 3 counts (50 msec continuous)	
					ignition voltage	>= 7 Volts	>= 8 counts (50 msec continuous)	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
							analog to digital voltage channel enabled	=	see Table 46 in supporting documents	Boolean				
							analog to digital test voltage command	=	see Table 47 in supporting documents	Volts	>=	0.2	seconds	
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean				
			OR											
			arithmatic logic unit 1 test pass	=	FALSE	Boolean	arithmatic logic unit test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.			
							arithmatic logic unit 1 test pass previous loop	=	FALSE	Boolean				
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean				
							A and B and C must occur							
							A: starter motor engaged	=	TRUE	Boolean				
							B: ignition voltage	<=	11	Volts				
							C: starter motor engaged time	<	0.025	sec				
							A and B must occur							
							A: ignition voltage	<=	6.40917969	Volts				
							B: ignition low voltage time	>=	2.50E-02	sec				
			arithmatic logic unit 2 test pass	=	FALSE	Boolean	arithmatic logic unit test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.			
							arithmatic logic unit 1 test pass previous loop	=	FALSE	Boolean				
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean				
							A and B and C must occur							
							A: starter motor engaged	=	TRUE	Boolean				
							B: ignition voltage	<=	11	Volts				
							C: starter motor engaged time	<	0.025	sec				
			OR											
			secondary processor arithmatic logic unit fault	=	TRUE	Boolean								

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
			OR									
			clock test fail current loop	=	TRUE	Boolean	clock test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.	
							clock test fail previous loop	=	TRUE	Boolean		
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
							A and B and C must occur					
							A: starter motor engaged	=	TRUE	Boolean		
							B: ignition voltage	<=	11	Volts		
							C: starter motor engaged time	<	0.025	sec		
							A and B must occur					
							A: ignition voltage	<=	6.40917969	Volts		
							B: ignition low voltage time	>=	2.50E-02	sec		
			OR									
			configuration register test fail current loop	=	TRUE	Boolean	configuration register test enable	=	1	Boolean	at controller initialization, then 12.5 ms cont.	
							configuration register test fail previous loop	=	TRUE	Boolean		
							Service mode $04 active and end of trip processing active	=	FALSE	Boolean		
							A and B and C must occur					
							A: starter motor engaged	=	TRUE	Boolean		
							B: ignition voltage	<=	11	Volts		
							C: starter motor engaged time	<	0.025	sec		
							A and B must occur					
							A: ignition voltage	<=	6.40917969	Volts		
							B: ignition low voltage time	>=	2.50E-02	sec		
			OR									
			secondary processor configuration register fault	=	TRUE	Boolean						
			OR									
			A or B occur									
			A: direct memeory access (DMA) read/write test result	≠	FALSE	Boolean	flash data transfer test enable	=	1	Boolean	normal controller initialization	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B: direct memeory access (DMA) read/write value	≠ $5AA5A55A hexadecimal value	flash data transfer test enable	= 1 Boolean	normal controller initialization	
			software uses DMA peripheral function to write and read $5AA5A55A to flash memory locations to verify each flash memory location		running reset	= FALSE Boolean		
					normal power up reset	= TRUE Boolean		
			OR					
			secondary micro processor detects main micor processor SPI fault	= TRUE Boolean				
			OR					
			A or B or C or D occur		seed and key store fault test enable	= 0 Boolean		
			A: last 6.25 msec seed and key time	> see Table 48 in supporting documents sec				
			B: last 12.5 msec seed and key time	> see Table 48 in supporting documents sec				
			C: last 50 msec seed and key time	> see Table 48 in supporting documents sec				
			D: last lores engine interrupt seed and key time	> see Table 48 in supporting documents sec				
			OR					
			A or B or C or D occur		prgram sequence watch test enable	= see 3D_Table 1 in supporting documents Boolean		
			A: 6.25 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 6.25 msec time interrupt)				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B: 12.5 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous on 12.5 msec time interrupt)				
			C: 50 msec program sequence fault fail count	>= see Table 49 in supporting documents counts (50 msec continuous)				
			D: engine lores interrupt program sequence fault fail count	>= see Table 49 in supporting documents counts (on execution of engine lores interrupts ECM only)				
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					secondary processor reports SPI communication fault previous loop	= TRUE Boolean		
					A and B and C must occur			
					A: starter motor engaged	= TRUE Boolean		
					B: ignition voltage	<= 11 Volts		
					C: starter motor engaged time	< 0.025 sec		
					SPI message checksum fault	≠ FASLE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Indicates that the TCM has detected an internal processor integrity fault	P062F	Transmission Electro-Hydraulic Control Module Long Term Memory Performance	TCM Non-Volatile Memory read or write error	= TRUE Boolean			every controller initialization	One Trip
					NVM write error diagnotic enable	= 1 Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P062F ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
High Side Driver 1	P0658	Actuator Supply Voltage Circuit Low	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 6 Fail Counts (6.25 msec continuous) out of 2395 Sample Counts (6.25 msec continuous)	One Trip
					actuator supply voltage circuit low enable calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					P0658 Status is not	= Test Failed This Key On or Fault Active		
					P0658 Status is not	= Test Failed This Key On or Fault Active		
					Service Fast Learn (SFL) Mode	= FALSE Boolean		
					VBS Failsafe			
					High Side Driver 1 On	= True Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Fluid Temperature Sensor (TFT)	P0711	transmission fluid temperature sensor rationality	Fail Case 1 transmission fluid temperature warm up test transmission fluid temperature raw	<= 15 ºC			>= see Table 26 in supporting documents seconds	Two Trips
					transmission fluid temperature sensor performance diagnsotic enable calibration	= 1 Boolean		
					P0712 and P0713	≠ Fault Active		
					Battery Voltage	<= 31.9990234 Volts		
					Battery Voltage	>= 9 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
					transmission fluid temperature warm up test calibration enable	=	1	Boolean				
					driver accelerator pedal position valid	=	TRUE	Boolean				
					driver accelerator pedal position	>=	5	%				
					engine torque valid	=	TRUE	Boolean				
					engine torque steady state raw	>=	50	N*m				
					engine speed valid	=	TRUE	Boolean				
					engine speed	>=	500	RPM				
					P0722, P0723, P077C, P077D	≠	Fault Active					
					Vehicle Speed	>=	10	KPH				
					P2809 TCC stuck on fault fault status	≠	Test Failed This Key On or Fault Active					
					transmission fluid temperature	>=	-40	ºC				
					transmission fluid temperature	<=	150	ºC				
					engine coolant temperature valid	=	TRUE	Boolean				
					engine coolant temperature	>=	-40	ºC				
					engine coolant temperature	<=	150	ºC				
			Fail Case 2 transmission fluid temperature intermittent delta temperature test transmission fluid temperature delta (100 ms loop to loop)	>= 10 ºC					>= 8	seconds (100 ms cont.)		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
									>= 12 seconds (100 ms cont.)	
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean		
					P0712 and P0713	≠	Fault Active			
					Battery Voltage	<=	31.9990234	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					transmission fluid temperature intermittent delta temperature test calibration enable	=	1	Boolean		
					propulsion system active	=	TRUE	Boolean		
			Fail Case 3 transmission fluid temperature stuck in range test transmission fluid temperature delta (100 ms loop to loop)	<= 0 ºC					>= 300 seconds (100 ms cont.)	
					transmission fluid temperature sensor performance diagnsotic enable calibration	=	1	Boolean		
					P0712 and P0713	≠	Fault Active			
					Battery Voltage	<=	31.9990234	Volts		
					Battery Voltage	>=	9	Volts		
					Battery voltage is within the allowable limits for	>=	0.1	Sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					transmission fluid temperature stuck in range test calibration enable	=	1	Boolean				
					propulsion system active	=	TRUE	Boolean				
					transmission fluid temperature	<=	150	ºC				
					transmission fluid temperature	>=	-40	ºC				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0712, P0713, P0717, P0722, P0723, P077C, P077D, P02809 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E						
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature sensor failed at a low voltage	If Transmission Fluid Temperature Sensor Raw Resistance	<= 47.45000076 Ohms					>=	10	Fail Time (Sec)	Two Trips
									out of	12	Sample Time (Sec)	
					trans fluid temp sensor low voltage diagnostic enable	=	1	Boolean				
					Battery Voltage	<=	31.9990234	Volts				
					Battery Voltage	>=	9	Volts				
					Battery voltage is within the allowable limits for	>=	0.1	Sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature sensor failed at a high voltage	If Transmission Fluid Temperature Sensor Raw Resistance	>= 105445 Ohms			>= 10 Fail Time (Sec) out of 12 Sample Time (Sec)	Two Trips
					trans fluid temp sensor high voltage diagnostic enable	= 1 Boolean		
					Battery Voltage	<= 31.9990234 Volts		
					Battery Voltage	>= 9 Volts		
					Battery voltage is within the allowable limits for	>= 0.1 Sec		
					Ignition Voltage	<= 31.9990234 Volts		
					Ignition Voltage	>= 9 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Abolute Value Of Transmission Input Speed Sensor Delta (loop to loop)	>= 850 RPM			>= 1.5 seconds >= 5 fail events	One Trip
					speed sensor processing	= time based		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					transmission input speed sensor performance diagnostic enable	= 1 Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.9990234 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		
					P0717 Status is not	=	Test Failed This Key On			
					P07BF Status is not	=	Test Failed This Key On			
					P07C0 Status is not	=	Test Failed This Key On			
					last valid transmission input speed	>	148	RPM		
					OR					
					transmission input speed raw	>=	148	RPM		
					transmssion input speed last valid or raw timer	>=	2	Seconds		
					transmission input speed sensor performance test complete (initialized to FALSE set to TRUE when P0716 fails)	=	FALSE	Boolean		
					transmission hydraulic system pressurized	=	TRUE	Boolean		
					driver accelerator pedal position available	=	TRUE	Boolean		
					EngineTorqueEstInaccurate	=	FALSE	Boolean		
					Transmission Output Speed Sensor Raw Speed	>=	230	RPM		
					driver accelerator pedal position	>=	5.00030518	Pct		
					engine actual torque steady state raw	<=	8191.875	N*m		
					engine actual torque steady state raw	>=	30	N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0716 Status is not	= Test Failed This Key On or Fault Active		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0 ECM: P0101, P0102, P0103, P0121, P0122, P0123		
Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	Fail Case 1 Transmission Input Speed is	< 100 RPM			>= 4 Fail Time (Sec)	One Trip
			OR					
			Fail Case 2 P0722 DTC Status is Test Failed This Key On and and controller uses single power feed Transmission Input Speed is	< 175 RPM				
					Controller uses a single power supply for the speed sensors	= 0 Boolean		
					speed sensor processing	= time based		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					transmission input speed sensor low diagnostic enable	= 1 Boolean		
					transmission hydraulic system pressurized	= TRUE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					speed sensor connected to controller	= 1 Boolean		
					P0722 Status is not	= fault active		
					P0723 Status is not	= fault active		
					P077C Status is not	= fault active		
					P077D Status is no	= fault active		
					brake pedal position is no	>= 69.9996948 Pct		
					EngineTorqueEstInaccurate	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P0716 Status is not	=	Test Failed This Key On			
					P07BF Status is not	=	Test Failed This Key On			
					P07C0 Status is not	=	Test Failed This Key On			
					driver accelerator pedal position	>=	5	Pct		
					engine actual torque steady state raw	<=	8191.875	N*m		
					engine actual torque steady state raw	>=	30	N*m		
					attained gear low	<	CeCGSR_e _CR_Sixth			
					Transmission Output Speed Sensor Raw Speed when attained gear low	>=	72	RPM		
					attained gear high	>=	CeCGSR_e _CR_Sixth			
					Transmission Output Speed Sensor Raw Speed when attained gear high	>=	230	RPM		
					P0717 Status is not	=	Test Failed This Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0722, P0723, P077C, P077D, P07BF, P07C0 ECM: P0101, P0102, P0103				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	Transmission Output Speed Sensor Raw Speed	<= 30 RPM	attained gear high	>	CeCGSR_e_CR_Fourth	ENUM	>=	5	Fail Time (Sec)	One Trip
					attained gear low	<=	CeCGSR_e_CR_Fourth	ENUM	>=	3.5	Fail Time (Sec)	
					P0722 Status is not	=	Test Failed This Key On or Fault Active					
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean				
					----------							
					transmission output speed sensor low diagnostic enable	=	1	Boolean				
					power flow not active (garage shift not complete, PRNDL = P or PRNDL = N, transmission range control in progress)	=	TRUE	Boolean				
					engine actual torque steady state raw power flow not active	>=	8192	N*m				
					driver accelerator position	>=	99.9984741	Pct				
					----------							
					power flow not active (garage shift not complete, PRNDL = P or PRNDL = N, transmission range control in progress)	=	FALSE	Boolean				
					attained gear high	>	CeCGSR_e_CR_Fourth	ENUM				
					high gear engine actual torque steady state raw power flow active hysteresis high	>=	50	N*m				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					high gear engine actual torque steady state raw power flow active hysteresis low not	<=	30	N*m		
					high gear accelerator pedal position power flow active hysteresis high	>=	4.9987793	Pct		
					high gear accelerator pedal position power flow active hysteresis low not	<=	2.99987793	Pct		
					attained gear low	<=	CeCGSR_e_CR_Fourth	ENUM		
					low gear engine actual torque steady state raw power flow active hysteresis high	>=	80	N*m		
					low gear engine actual torque steady state raw power flow active hysteresis low not	<=	50	N*m		
					low gear accelerator pedal position power flow active hysteresis high	>=	7.99865723	Pct		
					low gear accelerator pedal position power flow active hysteresis low not	<=	4.9987793	Pct		
					---					
					use transmission input speed sensor	=	TRUE	Boolean		
					speed sensors have single power feed	=	0	Boolean		
					transmission input speed sensor signal raw	<=	8191.875	RPM		
					transmission input speed sensor signal raw	>=	175	RPM		
					---					
					use transmission input speed sensor	=	FALSE	Boolean		
					speed sensors have single power feed	=	0	Boolean		
					engine speed sensor signal	<=	8191.875	RPM		
					engine speed sensor signal	>=	3500	RPM		

					P0716 Status is not	=	Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					P0717 Status is not	=	Fault Active			
					P07BF Status is not	=	Fault Active			
					P07C0 Status is not	=	Fault Active			
					PTO disable	=	1	Boolean		
					PTO engaged	=	FALSE	Boolean		
					driver accelerator pedal position available	=	TRUE	Boolean		
					EngineTorqueEstInaccurate	=	FALSE	Boolean		
					transmission hydraulic system pressurized	=	TRUE	Boolean		
					Ignition Voltage Hyst H (enabled above this value)	>	5	Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Ignition Voltage Min (enabled above this value) transmssion	>=	9	Volts		
					fluid temperature sensor	>=	-40	ºC		
					P0723 Status is not	=	Test Failed This Key On			
					P077C Status is not	=	Test Failed This Key On			
					P077D Status is not	=	Test Failed This Key On			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0723 ECM: P0101, P0102, P0103, P0121, P0122, P0123				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	transmission output speed delta	>= see "set fail RPM threshold" RPM					>=	1.5	Fail Time (Sec)	One Trip
									>=	5	fail events	
					transmission output speed OR	>=	36	RPM				
					transmission output speed last valid output speed before drop	>=	36	RPM				
					for TOSS output speed raw, TOSS last valid output speed, time	>=	2	seconds				
					set fail RPM threshold							
					4WD low state valid	=	TRUE	Boolean				
					4WD low state	=	TRUE	Boolean				
					2WD delta transmission output speed fail threshold	=	500	RPM				
					4WD gear ratio	=	2.71					
					final delta transmission output speed fail threshold	=	1355	RPM				
					OR							
					4WD low state valid	=	TRUE	Boolean				
					4WD low state	=	FALSE	Boolean				
					OR							
					4WD low state valid	=	FALSE	Boolean				
					2WD delta transmission output speed fail threshold	=	500	RPM				
					final delta transmission output speed fail threshold	=	500	RPM				

					Range_Disable OR	=	FALSE	See Below				

					Neutral_Range_Enable And	=	TRUE	See Below				
					Neutral_Speed_Enable are TRUE concurrently	=	TRUE	See Below				

					Transmission_Range_Enable	=	TRUE	See Below				
					Transmission_Input_Speed_Enable	=	TRUE	See Below				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					transmission output speed sensor performance diagnostic enable	=	1	Boolean		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					No Change in Transfer Case Range (High <-> Low) for	>=	5	Seconds		
					P0723 Status is not	=	Test Failed This Key On or Fault Active			
					Disable this DTC if the PTO is active	=	1	Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		
					P077C Status is not	=	Test Failed This Key On			
					P077D Status is not	=	Test Failed This Key On			
					Enable_Flags Defined Below					
					Transmission_Input_Speed_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	>=	2	Enable Time (Sec)		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Input Speed Delta	<=	4095.875	RPM		
					Raw Input Speed	>=	148	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 Transitonal	ENUM		
					Transmission Range is	=	Neutral/Drive Transitional	ENUM		
					KeTOSI_n_OutSpdInNeutNoiseMaxLim	<	50	RPM		
					and when Loop to Loop Drop of Transmission Output Speed is	>	500	RPM		

					Range_Disable is TRUE when any of the next three conditions are TRUE					
					Transmission Range is	=	Park	ENUM		
					Transmission Range is	=	Park/Reverse Transitonal	ENUM		
					Input Clutch is not	=	ON (Fully Applied)	ENUM		

					Neutral_Speed_Enable is TRUE when All of the next three conditions are satsified for	>	2	Seconds		
					Transmission Output Speed	>=	50	RPM		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					The loop to loop change of the Transmission Output Speed is	< 20 RPM		
					The loop to loop change of the Transmission Output Speed is	> -140 RPM		

					Transmission_Range_Enable is TRUE when one of the next six conditions is TRUE			
					Transmission Range is	= Neutral ENUM		
					Transmission Range is	= Reverse/Neutral Transitional ENUM		
					Transmission Range is	= Neutral/Drive Transitional ENUM		
					Time since a driven range (R,D) has been selected	>= see Table 21 in supporting documents Sec		
					Transmission Output Speed Sensor Raw Speed	>= 250 RPM		
					Output Speed when a fault was detected	>= 250 RPM		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P077C, P077D ECM: P2771, P279A, P279B, P279C		
Variable Force Solenoid (VFS)	P0746	Pressure Control Solenoid A Stuck Off (clutch1/CB1278R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	=	TRUE	boolean		
					PRNDL State not	=	park	enumeration		
					PRNDL State not	=	neutral	enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P0747	Pressure Control Solenoid A Stuck On (clutch1/CB1278R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down increment fail time when slip criteria met, fail time during shift deceleration limited increment fail time when slip criteria met, fail time during shift no deceleration	>= 70 RPM			when fail time reaches fail limit increment fail event count above >= see Table 35 in supporting documents seconds >= see Table 36 in supporting documents seconds when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio inertia phase test measured gear ratio inertia phase test measured gear ratio time clutch test enabled post torque phase test engine torque hysteresis high enable for upshift or power on down shift post torque phase test engine torque hysteresis low disable for upshift or power on down shift post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= 0.55800003 <= 4.71500015 >= 0.15 seconds = see Table 10 in supporting documents boolean >= see Table 11 in supporting documents N*m > see Table 12 in supporting documents N*m >= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 2 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 38 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 59 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P0776	Pressure Control Solenoid B Stuck Off (clutch2/CB12345R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	= TRUE boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	= TRUE boolean		
					PRNDL State not	= park enumeration		
					PRNDL State not	= neutral enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds			
					delay time calibration	= 0.5 seconds		
					A) neutral condition fault pending	= FALSE boolean		
					B) intrusive shift active	= FALSE boolean		
					C) range shift state	= shift complete enumeration		
					intrusive shift allowed	= TRUE boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P0777	Pressure Control Solenoid B Stuck On (clutch2/CB12345R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							when fail time reaches fail limit increment fail event count above	
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM				
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	> see Table 12 in supporting documents N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 3 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 39 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 60 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P077C	Output Speed Sensor Circuit Low	TOSS Analog Signal Voltage	<= 0.25 Volts			>= 5.00E-02 sec	One Trip
			P077C Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P077C Fail Counter					
			DTC P077C Sets when the Fail Counter	>= 16 Counts (6.25 msec continuous)	P077C Enable Calibration	= 1		
					Service mode $04 active and end of trip processing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Battery Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Battery Voltage Min (disabled below this value)	<= 10 Volts		
					Ignition Voltage Min (disabled below this value)	>= 10 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077D		
Transmission Output Speed Sensor (TOSS)	P077D	Output Speed Sensor Circuit High	TOSS Analog Signal Voltage	>= 4.75 Volts			>= 5.00E-02 sec	One Trip
			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	>= 16 Counts (12.5 msec continuous)				
					P077D Enable Calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Battery Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Battery Voltage Min (disabled below this value)	<= 10 Volts		
					Ignition Voltage Min (disabled below this value)	>= 10 Volts		
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P077C		
Variable Force Solenoid (VFS)	P0796	Pressure Control Solenoid C Stuck Off (clutch3/C13567)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
									when fail time reaches fail limit increment fail event count >= 3 event counts	
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	=	TRUE	boolean		
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	=	TRUE	boolean		
					PRNDL State not	=	park	enumeration		
					PRNDL State not	=	neutral	enumeration		
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
						G) Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean VBS Failsafe Ignition voltage and SFL conditions met for >= 0.1 Sec Hydraulic System Pressurized = TRUE Boolean high side driver 1 enabled = TRUE Boolean high side driver 2 enabled = TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P0797	Pressure Control Solenoid C Stuck On (clutch3/C13567)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs increment fail time when slip criteria met, fail time for power down shift	>= see Table 32 in supporting documents fail event counts >= see Table 33 in supporting documents fail event counts <= 40 RPM			>= see Table 29 in supporting documents seconds	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM				
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		
					inertia phase test measured gear ratio	<= 4.71500015		
					inertia phase test measured gear ratio time	>= 0.15 seconds		
					clutch test enabled	= see Table 10 in supporting documents boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>= see Table 11 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 12 in supporting documents	N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 13 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 4 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 40 in supporting documents	seconds		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					off going clutch pressure up shift delay time	>=	see Table 61 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition voltage and SFL conditions met for	>= 0.1 Sec		
					Hydraulic System Pressurized	= TRUE Boolean		
					high side driver 1 enabled	= TRUE Boolean		
					high side driver 2 enabled	= TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Input Speed Sensor (TISS)	P07BF	Input/Turbine Speed Sensor A Circuit Low	TISS Analog Signal Voltage	<= 0.25 Volts			>= 5.00E-02 sec	One Trip
			P07BF Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P07BF Fail Counter					
			DTC P07BF Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)				
					speed sensor processing	= time based		
					P07BF Enable Calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Battery Voltage Max (disabled above this value) <= 31.9990234 Volts Battery Voltage Min (disabled below this value) <= 10 Volts Ignition Voltage Min (disabled below this value) >= 10 Volts for voltage stablity time >= 5 seconds			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P07C0		
Transmission Input Speed Sensor (TISS)	P07C0	Input/Turbine Speed Sensor A Circuit High	TISS Analog Signal Voltage	>= 4.75 Volts			>= 5.00E-02 sec	One Trip
			P07C0 Status is not	= Test Failed This Key On or Fault Active				
			If the above conditons have been met, increment the P07C0 Fail Counter					
			DTC P07C0 Sets when the Fail Counter	>= 16 Counts (12.5 msec continuous)				
					speed sensor processing = time based P07C0 Enable Calibration = 1 Service mode $04 active and end of trip pocessing active = FALSE Boolean Ignition Voltage Hyst Hi (enabled above this value) > 5 Volts Ignition Voltage Hyst Lo disabled below this value) <= 2 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Battery Voltage Max (disabled above this value) <= 31.9990234 Volts Battery Voltage Min (disabled below this value) <= 10 Volts Ignition Voltage Min (disabled below this value) >= 10 Volts			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					for voltage stablity time	>= 5 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P07BF		
Tap Up Tap Down Switch (TUTD)	P0815	Upshift Switch Circuit	Fail Case 1 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 7 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 8 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean			>= 1 Fail Time (Sec)	
			Fail Case 2 Tap Up Switch Stuck in the Up Position in Range 1 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 2 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 3 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 4 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 5 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 6 Enabled	= 1 Boolean				

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 Range 7 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Range 8 Enabled	= 1 Boolean				
			Tap Up Switch Stuck in the Up Position in Neutral Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Park Enabled	= 0 Boolean				
			Tap Up Switch Stuck in the Up Position in Reverse Enabled	= 0 Boolean				
			Tap Up Switch ON	= TRUE Boolean				
			NOTE: Both Failcase1 and Failcase 2 Must Be Met				>= 120 Fail Time (Sec)	
					upshift switch diagnostic monitor enable calibration	= 1		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					Time Since Last Range Change	>= 1 Enable Time (Sec)		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					P0815 Status is	≠ Test Failed This Key On or Fault Active		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0826, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P1761 ECM: None		
Tap Up Tap Down Switch (TUTD)	P0816	Downshift Switch Circuit	Fail Case 1 Tap Down Switch Stuck in the Down Position in Range 1 Enabled	= 1 Boolean				Special No MIL
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 7 Enabled	= 1 Boolean				
			Tap Down Switch Stuck in the Down Position in Range 8 Enabled	= 1 Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria		Threshold Value		Secondary Malfunction	Enable Conditions	Time Required		Mil Illum.
			Tap Down Switch Stuck in the Down Position in Range Neutral Enabled	=	0	Boolean					
			Tap Down Switch Stuck in the Down Position in Range Park Enabled	=	0	Boolean					
			Tap Down Switch Stuck in the Down Position in Range Reverse Enabled	=	0	Boolean					
			Tap Down Switch ON	=	TRUE	Boolean			>= 1	sec	
			Fail Case 2								
			Tap Down Switch Stuck in the Down Position in Range 1 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 2 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 3 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 4 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 5 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 6 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 7 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Range 8 Enabled	=	1	Boolean					
			Tap Down Switch Stuck in the Down Position in Neutral Enabled	=	0	Boolean					
			Tap Down Switch Stuck in the Down Position in Park Enabled	=	0	Boolean					
			Tap Down Switch Stuck in the Down Position in Reverse Enabled	=	0	Boolean					
			Tap Down Switch ON	=	TRUE	Boolean					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
			NOTE: Both Failcase1 and Failcase 2 Must Be Met						>= 120 sec	
					downshift switch diagnostic monitor enable calibration	=	1			
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					Ignition Voltage Hyst Hi (enabled above this value)	>	5	Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<=	2	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Ignition Voltage Min (enabled above this value)	>=	9	Volts		
					Time Since Last Range Change	>=	1	Enable Time (Sec)		
					P0816 Status is	≠	Test Failed This Key On or Fault Active			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0826, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P1761 ECM: 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 MIL
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					upshift downshift switch circuit diagnostic monitor enable calibration	= 1		
					Ignition Voltage Hyst Hi (enabled above this value)	> 5 Volts		
					Ignition Voltage Hyst Lo disabled below this value)	<= 2 Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	= FALSE Boolean		
					Ignition Voltage Max (disabled above this value)	<= 31.9990234 Volts		
					Ignition Voltage Min (enabled above this value)	>= 9 Volts		
					P0826 Status is	≠ Test Failed This Key On or Fault Active		
				Disable Conditions:	MIL not Illuminated for DTC's:			
Variable Force Solenoid (VFS)	P0960	Pressure Control Solenoid A Control Circuit Open (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0962	Pressure Control Solenoid A Control Circuit Low (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0963	Pressure Control Solenoid A Control Circuit High (clutch1/CB1278R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0964	Pressure Control Solenoid B Control Circuit Open (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is	= TRUE Boolean = CeTSCR_e_HSD2 enumeration		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0966	Pressure Control Solenoid B Control Circuit Low (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Force Solenoid (VFS)	P0967	Pressure Control Solenoid B Control Circuit High (clutch2/CB12345R VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P0968	Pressure Control Solenoid C Control Circuit Open (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0970	Pressure Control Solenoid C Control Circuit Low (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P0971	Pressure Control Solenoid C Control Circuit High (clutch3/C13567 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16E9	Transmission Control Module	secondary micro processor hardware serial peripheral device fault active	= TRUE Boolean				One Trip
			secondary micro processor hardware serial peripheral device fault active previous loop	= TRUE Boolean				
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16F0	Transmission Control Module	secondary micro processor serial peripheral device message valid detected by primary micro processor since controller initialization	= FALSE Boolean			>= 5 counts (12.5 ms) cont	One Trip
			OR				>= 8 counts (12.5 ms) cont	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			secondary micro processor serial peripheral device message valid detected by primary micro processor after controller initialization	= FALSE Boolean			>= 5 counts (12.5 ms) cont	
			OR				>= 8 counts (12.5 ms) cont	
			secondary micro processor serial peripheral device message valid detected by primary micro processor after controller initialization	= FALSE Boolean			>= 5 counts (12.5 ms) NON continuous	
							>= 8 counts (12.5 ms) NON continuous	
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time			
					low voltage mode time	>= 2.50E-02 seconds		
					A) low voltage mode hysteresis time	<= 0.1 seconds		
					B) ignition voltage, set low voltage mode	<= 6.40917969 volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P16F3	Transmission Control Module	diagnostic monitor fails when any of the following conditions occur A or B or C					One Trip
			A) command pressure and its dual store do not equal	= TRUE Boolean	redundant memory command pressure disable calibration not	= TRUE Boolean		
					OR			
					redundant memory command pressure enable calibration	= TRUE Boolean		
			OR					

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) command shift and its dual store do not equal	= TRUE Boolean	redundent memory command shift disable calibration not	= FALSE Boolean		
					OR	Boolean		
					redundent memory command shift enable calibration	= TRUE Boolean		
			OR					
			C) rate limited vehicle speed and its dual store do not equal	= TRUE Boolean	rate limited vehicle speed dual store enable calibration	= TRUE Boolean	>= 10 counts (25 msec continuous)	
							>= 20 counts (25 msec continuous)	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Transmission Control Module (TCM)	P16F4	Transmission Control Module	redundent path calculation of driver selected transmission range error	= TRUE Boolean			>= 6 counts (25 msec continuous)	One Trip
							>= 8 counts (25 msec continuous)	
					secureed controller or emission critical ignition voltage	>= 11 volts		
					P16F4 status is not	= test pass this key on Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None		
						ECM: None		
Transmission Control Module (TCM)	P16FB	Transmission Control Module	transmission output speed raw (25 ms loop value) - transmission output speed raw (6.25 ms loop value)	>= 60 RPM			>= 8 seconds	One Trip
							>= 10 seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts				
					Battery Voltage Min (disabled below this value)	<=	10	Volts				
					Ignition Voltage Min (disabled below this value)	>=	10	Volts				
					for voltage stablity time	>=	5	seconds				
					transmission output speed raw (6.25 ms loop value)	>=	150	RPM				
					transmission output speed raw (25 ms loop value)	>=	150	RPM				
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean				
					diagnostic monitor enable calibration	=	1	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Lateral acceleration signal	P175F	Lateral acceleration signal circuit (rolling count or checksum)	P175F will fail when A: message alive rolling count erroror or B: message checksum error									Special No MIL
			A: Rolling count value received from EBCM and expected TCM calculated value not	= TRUE Boolean					>=	9	Fail Counter (50 msec continuous)	
									>	54	Fail Timer (Sec)	
					Lateral acceleration message health (message receive occur)	=	TRUE	Boolean				
					Lateral acceleration signal circuit rolling count diagnostic monitor enable calibration	=	1	Boolean				
					battery voltage	<=	31.9990234	volts				
					battery voltage	>=	9	volts				
					battery voltage time	>=	0.1	sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
			B: checksum of lateral acceleration message value error	= TRUE Boolean					>=	54	Fail Timer (Sec)	
					Lateral acceleration message health (message receive occur)	=	TRUE	Boolean				
					Lateral acceleration signal circuit checksum diagnostic monitor enable calibration	=	1	Boolean				
					battery voltage	<=	31.9990234	volts				
					battery voltage	>=	9	volts				
					battery voltage time	>=	0.1	sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
					normal serial data communication enabled	=	TRUE	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Tap Up Tap Down Switch (TUTD)	P1761	Tap Up and Down switch signal circuit (rolling count)	Rolling count value received from BCM and expected TCM calculated value not	= TRUE Boolean					>=	3	Fail Counter (100 msec continuous)	Special No MIL
									>	10	Fail Timer (Sec)	
					Tap up/down message health (message receive occur)	=	TRUE	Boolean				
					Tap up/downswitch signal circuit (rolling count) diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:					
Transmission Intermediate Speed Sensor	P176B	Transmission Intermediate Speed Sensor Performance	attained gear is Reverse or 1st or 2nd		fail time	>=	4	seconds	>= 4 counts (25 msec continuous)	Two Trips
			transmssion intermediate speed attained gear is 3rd or 4th or 5th or 6th or 7th or 8th	> 60 PRM						
			calculated intermediate gear slip = absolute value (transmission input speed - (transmission intermediate speed * command gear intermediate ratio))	> 60 PRM						
					calculated gear slip = absolute value (transmission input speed - (transmission output speed * command gear ratio))	<=	60	RPM		
					calculated gear slip stablity time when all of the conditions below are met	>=	1	seconds		
					diagnostic monitor enable calibration	=	1	Boolean		
					transmission output speed	>=	190	RPM		
					transmission input speed	>=	395	RPM		
					neutral idle mode requesting holding clutch disable	=	FALSE	Boolean		
					range shift state is	=	shift complete			
					Hydraulic System Pressurized	=	TRUE	Boolean		
					battery voltage	<=	31.9990234	volts		
					battery voltage	>=	9	volts		
					battery voltage time	>=	0.1	sec		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D				
Transmission Intermediate Speed Sensor	P176C	Intermediate Speed Sensor Circuit Low	speed sensor1 voltage	<= see Table 51 in supporting documents volts	speed sensor1 fail time	>=	see Table 53 in supporting documents	seconds	>= see Table 52 in supporting documents counts (12.5 msec continuous)	Two Trips
					speed sensor1 circuit low diagnostic monitor enable calibration	=	see Table 54 in supporting documents	Boolean		
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts		
					Battery Voltage Min (disabled below this value)	<=	10	Volts		
					Ignition Voltage Min (disabled below this value)	>=	10	Volts		
					for voltage stablity time	>=	5	seconds		
					P176C Status is not	=	Test Failed This Key On or Fault Active			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P176D				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Transmission Intermediate Speed Sensor	P176D	Intermediate Speed Sensor Circuit High	speed sensor1 voltage	>= see Table 55 in supporting documents volts	speed sensor1 fail time	>=	see Table 57 in supporting documents	seconds	>= see Table 56 in supporting documents	counts (12.5 msec continuous)		Two Trips
					speed sensor1 circuit high diagnostic monitor enable calibration	=	see Table 58 in supporting documents	Boolean				
					Service mode $04 active and end of trip processing active	=	FALSE	Boolean				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Battery Voltage Max (disabled above this value)	<=	31.9990234	Volts				
					Battery Voltage Min (disabled below this value)	<=	10	Volts				
					Ignition Voltage Min (disabled below this value)	>=	10	Volts				
					for voltage stablity time	>=	5	seconds				
					P176D Status is not	=	Test Failed This Key On or Fault Active					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P176C						
Internal Mode Switch (IMS)	P1824	Internal Mode Switch P Circuit High Voltage	IMS switch P voltage	> 2.380000114 volts					>= 70 out of 80	Fail Counts (25ms loop) Sample Counts (25ms loop)		Two Trips
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182A	Internal Mode Switch A Circuit Low Voltage	IMS switch A voltage	< 0.699999988 volts					>= 70 out of 80		Fail Counts (25ms loop) Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
Internal Mode Switch (IMS)	P182B	Internal Mode Switch B Circuit Low Voltage	IMS switch B voltage	< 0.699999988 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182C	Internal Mode Switch B Circuit High Voltage	IMS switch B voltage	> 2.380000114 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182D	Internal Mode Switch P Circuit Low Voltage	IMS switch P voltage	< 0.699999988 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P182E	Internal Mode Switch Illegal Range	Range	= Illegal (SABCP= 00000 or SABCP= 10000) enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P182F	Internal Mode Switch C Circuit High Voltage	IMS switch C voltage	> 2.380000114 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P1838	Internal Mode Switch A Circuit High Voltage	IMS switch A voltage	> 2.380000114 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P1839	Internal Mode Switch C Circuit Low Voltage	IMS switch C voltage	< 0.699999988 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1840	Internal Mode Switch S Circuit Low Voltage	IMS switch S voltage	< 0.699999988 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P1841	Internal Mode Switch S Circuit High Voltage	IMS switch S voltage	> 2.380000114 volts					>=	70	Fail Counts (25ms loop)	Two Trips
									out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P18B5	Internal Mode Switch A Circuit Shorted	IMS switch A voltage	< 1.679999948 volts					>=	70	Fail Counts (25ms loop)	Two Trips
			IMS switch A voltage	> 0.966000021 volts					out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18B6	Internal Mode Switch B Circuit Shorted	IMS switch B voltage IMS switch B voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo Ignition Voltage Hi Ignition Voltage within the above low / high thresholds for	= 1 Boolean >= 9 Volts <= 31.9990234 Volts >= 7 Volts < 9 Volts <= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18B7	Internal Mode Switch C Circuit Shorted	IMS switch C voltage IMS switch C voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi	= 1 Boolean >= 9 Volts <= 31.9990234 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P18B8	Internal Mode Switch P Circuit Shorted	IMS switch P voltage	< 1.679999948 volts					>=	70	Fail Counts (25ms loop)	Two Trips
			IMS switch P voltage	> 0.966000021 volts					out of	80	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Internal Mode Switch (IMS)	P18B9	Internal Mode Switch S Circuit Shorted	IMS switch S voltage IMS switch S voltage	< 1.679999948 volts > 0.966000021 volts			>= 70 Fail Counts (25ms loop) out of 80 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo Ignition Voltage Hi Ignition Voltage within the above low / high thresholds for	= 1 Boolean >= 9 Volts <= 31.9990234 Volts >= 7 Volts < 9 Volts <= 7.50E-02 seconds		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BA	Internal Mode Switch A Stuck Off	Range Switch A	= Transition 30 (SABCP= 00001) enumeration ≠ True (this key cycle) boolean			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration Ignition Voltage Lo Ignition Voltage Hi If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo	= 1 Boolean >= 9 Volts <= 31.9990234 Volts >= 7 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Internal Mode Switch (IMS)	P18BB	Internal Mode Switch B Stuck Off	Range = Transition 29 (SABCP= 00010) enumeration Prev Range = Transition 14 (SABCP= 10001)				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Internal Mode Switch (IMS)	P18BC	Internal Mode Switch C Stuck Off	Range = Transition 27 (SABCP= 00100) enumeration				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				
					Ignition Voltage within the above low / high thresholds for	<=	7.50E-02	seconds				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Internal Mode Switch (IMS)	P18BD	Internal Mode Switch P Stuck Off	Range	= Transition 23 (SABCP= 01000) enumeration					>=	108	Fail Counts (25ms loop)	Two Trips
			Prev Range	= Transition 11 (SABCP= 10100)					out of	125	Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration	=	1	Boolean				
					Ignition Voltage Lo	>=	9	Volts				
					Ignition Voltage Hi	<=	31.9990234	Volts				
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event							
					Ignition Voltage Lo	>=	7	Volts				
					Ignition Voltage Hi	<	9	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18BE	Internal Mode Switch S Stuck Off	Range = Drive 8 enumeration Prev Range = Transition 26 (SABCP= 00101) Switch A = True (this key cycle) boolean Switch S ≠ True (this key cycle) boolean				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C0	Internal Mode Switch B Stuck On	Range = Drive 8 enumeration Prev Range = Park for >= 80 counts (25ms loop)				>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			Switch B	≠ False (this key cycle) boolean				
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C1	Internal Mode Switch C Stuck On	Range	= Transition 20 (SABCP= 01011) enumeration			>= 108 Fail Counts (25ms loop)	Two Trips
			Switch C	≠ False (this key cycle) boolean			out of 125 Sample Counts (25ms loop)	
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C2	Internal Mode Switch P Stuck On	Range	= Transition 24 (SABCP= 00111) enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
					Diagnostic monitor enable calibration	= 1 Boolean		
					Ignition Voltage Lo	>= 9 Volts		
					Ignition Voltage Hi	<= 31.9990234 Volts		
					If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event			
					Ignition Voltage Lo	>= 7 Volts		
					Ignition Voltage Hi	< 9 Volts		
					Ignition Voltage within the above low / high thresholds for	<= 7.50E-02 seconds		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Internal Mode Switch (IMS)	P18C3	Internal Mode Switch S Stuck On	Range	= Drive 7 enumeration			>= 108 Fail Counts (25ms loop) out of 125 Sample Counts (25ms loop)	Two Trips
			Prev Range = Park for	>= 80 counts (25ms loop)				
			Switch S	≠ False (this key cycle) boolean				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Diagnostic monitor enable calibration = 1 Boolean Ignition Voltage Lo >= 9 Volts Ignition Voltage Hi <= 31.9990234 Volts If ignition voltage was previously between the above low / high thresholds, then the following conditions apply once per auto start event Ignition Voltage Lo >= 7 Volts Ignition Voltage Hi < 9 Volts Ignition Voltage within the above low / high thresholds for <= 7.50E-02 seconds Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Internal Mode Switch (IMS)	P1915	Internal Mode Switch Does Not Indicate Park/Neutral (P/N) During Start	Range	≠ Park Neutral Transition 1 (SABCP= 11110) Transition 2 (SABCP= 11101) Transition 4 (SABCP= 11011) Transition 17 (SABCP= 01110) Transition 18 (SABCP= 01101) Transition 21 (SABCP= 01010) Enumeration			Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			The following events must occur Sequentially					
			Initial Engine speed	<= 50 RPM			>= 0.475 Enable Time (Sec)	
			Then Engine Speed Between Following Cals					
			Engine Speed Lo Hist	>= 50 RPM				
			Engine Speed Hi Hist	<= 480 RPM			>= 0.06875 Enable Time (Sec)	
			Then					
			Final Engine Speed	>= 550 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 <= 31.9003906 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			
					P1915 Status is ≠ Test Failed This Key On or Fault Active			
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: P0722, P0723 ECM: None		
Transmission Control Module (TCM)	P2534	Ignition Switch Run/Start Position Circuit Low	TCM Run crank active (based on voltage thresholds below)	= FALSE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	> 5 Volts			>= 280 one fail count per 25 ms loop	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	< 2 Volts			Out of 280 one sample count per 25 ms loop	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Ignition Switch Run/Start Position Circuit Low diagnaotic enable calibration	= 1 Boolean		
					ECM run/crank active status available from serial data	= TRUE Boolean		
					ECM run/crank active status	= TRUE Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Transmission Control Module (TCM)	P2535	Ignition Switch Run/Start Position Circuit High	TCM Run crank active (based on voltage thresholds below)	= TRUE Boolean				One Trip
			Ignition Voltage High Hyst (run crank goes true when above this value)	> 5 Volts			>= 280 one fail count per 25 ms loop	
			Ignition Voltage Low Hyst (run crank goes false when below this value)	< 2 Volts			Out of 280 one sample count per 25 ms loop	
					Ignition Switch Run/Start Position Circuit High diagnaotic enable calibration	= 1 Boolean		
					ECM run/crank active status available from serial data	= TRUE Boolean		
					ECM run/crank active status	= FALSE Boolean		
					Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
High Side Driver 2	P2670	Actuator Supply Voltage B Circuit Low	The HWIO reports a low voltage (ground short) error flag	= TRUE Boolean			>= 6 Fail Counts (6.25 msec continuous) out of 2395 Sample Counts (6.25 msec continuous)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					actuator supply voltage circuit low enable calibration	=	1					
					Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean				
					P2670 Status is not	=	Test Failed This Key On or Fault Active					
					P2670 Status is not	=	Test Failed This Key On or Fault Active					
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean				
					VBS Failsafe							
					High Side Driver 2 On	=	True	Boolean				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P2714	Pressure Control Solenoid D Stuck Off (clutch4/C23468)	absolute value (attained gear slip)	>= 400 RPM					>= 3	seconds	when fail time reaches fail limit increment fail event count	One Trip
									>= 3	event counts		
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not	=	TRUE	boolean				
					clutch solenoid stuck on performance diagnostic monitor test return to previous range not	=	TRUE	boolean				
					PRNDL State not	=	park	enumeration				
					PRNDL State not	=	neutral	enumeration				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds					
					delay time calibration	=	0.5	seconds		
					A) neutral condition fault pending	=	FALSE	boolean		
					B) intrusive shift active	=	FALSE	boolean		
					C) range shift state	=	shift complete	enumeration		
					intrusive shift allowed	=	TRUE	boolean		
					intrusive shift active	=	FALSE	boolean		
					steady state pressure adapt in progress	=	FALSE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position	>=	0.50048828	%		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode	=	FALSE	Boolean		
					VBS Failsafe					
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P2715	Pressure Control Solenoid D Stuck On (clutch4/C23468)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents fail event counts				One Trip
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down increment fail time when slip criteria met, fail time during shift deceleration limited increment fail time when slip criteria met, fail time during shift no deceleration	>= 70 RPM			when fail time reaches fail limit increment fail event count above >= see Table 35 in supporting documents seconds >= see Table 36 in supporting documents seconds when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio inertia phase test measured gear ratio inertia phase test measured gear ratio time clutch test enabled post torque phase test engine torque hysteresis high enable for upshift or power on down shift post torque phase test engine torque hysteresis low disable for upshift or power on down shift post torque phase test engine torque hysteresis high enable for closed throttle down shift	>= 0.55800003 <= 4.71500015 >= 0.15 seconds = see Table 10 in supporting documents boolean >= see Table 11 in supporting documents N*m > see Table 12 in supporting documents N*m >= see Table 13 in supporting documents N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 5 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 41 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 62 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid	=	TRUE	Boolean		
					D or E					
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P2718	Pressure Control Solenoid D Control Circuit Open (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
Variable Force Solenoid (VFS)	P2720	Pressure Control Solenoid D Control Circuit Low (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2721	Pressure Control Solenoid D Control Circuit High (clutch4/C23468 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
					Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: None			
Variable Force Solenoid (VFS)	P2723	Pressure Control Solenoid E Stuck Off (clutch5/C45678R)	absolute value (attained gear slip)	>= 400 RPM			>= 3 seconds when fail time reaches fail limit increment fail event count >= 3 event counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not = TRUE boolean clutch solenoid stuck on performance diagnostic monitor test return to previous range not = TRUE boolean PRNDL State not = park enumeration PRNDL State not = neutral enumeration while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds delay time calibration = 0.5 seconds A) neutral condition fault pending = FALSE boolean B) intrusive shift active = FALSE boolean C) range shift state = shift complete enumeration intrusive shift allowed = TRUE boolean intrusive shift active = FALSE boolean steady state pressure adapt in progress = FALSE boolean transmission output speed >= 100 RPM accelerator pedal position >= 0.50048828 % accelerator pedal position valid = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					engine speed valid D or E	=	TRUE	Boolean		
					D) select battery voltage to enable diagnsotic monitor	=	0	Boolean		
					E) battery voltage	<=	31.9990234	volts		
					E) battery voltage	>=	9	volts		
					E) battery voltage time	>=	0.1	sec		
					F or G					
					F) select ignition voltage to enable diagnsotic monitor	=	0	Boolean		
					G) Ignition Voltage	<=	31.9990234	Volts		
					G) Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Hydraulic System Pressurized	=	TRUE	Boolean		
					high side driver 1 enabled	=	TRUE	Boolean		
					high side driver 2 enabled	=	TRUE	Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P2724	Pressure Control Solenoid E Stuck On (clutch5/C45678R)	automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count deceleration limited	>= see Table 32 in supporting documents		fail event counts				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
			automatic transmission shift torque phase test (A) or inertia phase test (B) fail event count no deceleration	>= see Table 33 in supporting documents fail event counts				
			A) absolute value (attained gear slip), fail during post torque phase of transmission automatic shift, before engine speed change, pull up or pull down occurs	<= 40 RPM				
			increment fail time when slip criteria met, fail time for power down shift				>= see Table 29 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift deceleration limited				>= see Table 30 in supporting documents seconds	
			increment fail time when slip criteria met, fail time for up shift or closed throttle down shift no deceleration				>= see Table 31 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
			B) absolute value (command gear slip), fail during inertia phase of transmission automatic shift, engine speed change begins, pull up or pull down	>= 70 RPM				
			increment fail time when slip criteria met, fail time during shift deceleration limited				>= see Table 35 in supporting documents seconds	
			increment fail time when slip criteria met, fail time during shift no deceleration				>= see Table 36 in supporting documents seconds	
							when fail time reaches fail limit increment fail event count above	
					inertia phase test measured gear ratio	>= 0.55800003		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					inertia phase test measured gear ratio	<=	4.71500015			
					inertia phase test measured gear ratio time	>=	0.15	seconds		
					clutch test enabled	=	see Table 10 in supporting documents	boolean		
					post torque phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 11 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 12 in supporting documents	N*m		
					post torque phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 13 in supporting documents	N*m		
					post torque phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 14 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for upshift or power on down shift	>=	see Table 15 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for upshift or power on down shift	>	see Table 16 in supporting documents	N*m		
					inertia phase test engine torque hysteresis high enable for closed throttle down shift	>=	see Table 17 in supporting documents	N*m		
					inertia phase test engine torque hysteresis low disable for closed throttle down shift	>	see Table 18 in supporting documents	N*m		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					off going clutch pressure	<=	see Table 37 in supporting documents	kPa		
					off going clutch pressure closed throttle down shift delay time	>=	see Table 6 in supporting documents	seconds		
					off going clutch pressure closed power down shift delay time	>=	see Table 42 in supporting documents	seconds		
					off going clutch pressure up shift delay time	>=	see Table 63 in supporting documents	seconds		
					on coming clutch pressure for up shift	>=	see Table 8 in supporting documents	kPa		
					on coming clutch pressure for down shift	>=	see Table 7 in supporting documents	kPa		
					brake pedal position hysteresis high disable	>=	27.0004272	%		
					brake pedal position hysteresis low enable	<=	25	%		
					absolute value (attained gear slip)	<=	40	RPM		
					shift type enable	=	see Table 45 in supporting documents	boolean		
					clucth solenoid stuck off intrusive shift request not	=	TRUE	boolean		
					traction control event test suspend not	=	TRUE	boolean		
					transmission output speed	>=	100	RPM		
					accelerator pedal position valid	=	TRUE	Boolean		
					engine speed valid D or E	=	TRUE	Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					D) select battery voltage to enable diagnsotic monitor = 0 Boolean E) battery voltage <= 31.9990234 volts E) battery voltage >= 9 volts E) battery voltage time >= 0.1 sec F or G F) select ignition voltage to enable diagnsotic monitor = 0 Boolean G) Ignition Voltage <= 31.9990234 Volts G) Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean VBS Failsafe Ignition voltage and SFL conditions met for >= 0.1 Sec Hydraulic System Pressurized = TRUE Boolean high side driver 1 enabled = TRUE Boolean high side driver 2 enabled = TRUE Boolean			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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 Force Solenoid (VFS)	P2727	Pressure Control Solenoid E Control Circuit Open (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD1	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P2729	Pressure Control Solenoid E Control Circuit Low (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD1	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2730	Pressure Control Solenoid E Control Circuit High (clutch5/C45678 VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD1 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2736	Pressure Control Solenoid F Control Circuit Open (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2738	Pressure Control Solenoid F Control Circuit Low (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration	= TRUE Boolean		
					VFS source must be high side driver 1 or 2 or 3			
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time			
					battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2739	Pressure Control Solenoid F Control Circuit High (line pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
							out of 0.5 Sample Time (Sec)	
					diagnostic monitor enable calibration = TRUE Boolean VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is = CeTSCR_e_HSD2 enumeration high side driver VFS source enabled = TRUE Boolean controller power mode state is ignition or accessory = TRUE Boolean battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A7	VFS characterization	clutch1/CB1278R pressure control solenoid characterization not programmed = TRUE Boolean					One Trip
					manufacture enable counter = 0 counts memory type updated = non-volatile memory			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A8	VFS characterization	clutch2/CB12345R pressure control solenoid characterization not programmed = TRUE Boolean					One Trip
					manufacture enable counter = 0 counts memory type updated = non-volatile memory			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27A9	VFS characterization	clutch3/C13567 pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AA	VFS characterization	clutch4/C23468 pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AB	VFS characterization	clutch5/C45678R pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter memory type updated	= 0 counts = non-volatile memory		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AC	VFS characterization	line pressure control solenoid characterization not programmed	= TRUE Boolean				One Trip
					manufacture enable counter	= 0 counts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					memory type updated = non-volatile memory			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
VFS characterization	P27AD	VFS characterization	TCC pressure control solenoid characterization not programmed = TRUE Boolean					One Trip
					manufacture enable counter = 0 counts memory type updated = non-volatile memory			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Torque Converter Clutch (TCC)	P2808	TCC System Stuck OFF	TCC Pressure	>= 750 Kpa			>= 2 Enable Time (Sec)	Two Trips
			TCC capacity	>= 0 %			>= 0 Enable Time (Sec)	
			Either Condition (A) or (B) Must be Met					
			(A) TCC Slip Error @ TCC On Mode	>= see Table 1 in Supporting Documents RPM			>= 4 Fail Time (Sec)	
			(B) TCC Slip @ Lock On Mode	>= 130 RPM			>= 4 Fail Time (Sec)	
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter				>= 3 TCC Stuck Off Fail Counter	
					TCC Mode = On or Lock			
					TCC system stuck off diagnostic monitor enable c = 1			
					default valve state = high (active)			
					absolute value of attained gear slip >= 25 RPM			
					attained gear >= CeCGSR_e _CR_Fourth			
					range shift state = shift complete			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					Hydraulic System Pressurized = TRUE Boolean battery voltage <= 31.9990234 volts battery voltage >= 9 volts battery voltage time >= 0.1 sec Ignition Voltage <= 31.9990234 Volts Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode VBS Failsafe = FALSE Boolean Ignition voltage and SFL conditions met for >= 0.1 Sec Engine Torque >= 50 N*m Engine Torque <= 8191.75 N*m Throttle Position >= 8.00018311 Pct Throttle Position <= 99.9984741 Pct Transmission Fluid Temperature >= -6.65625 ºC Transmission Fluid Temperature <= 130 ºC PTO Not Active = TRUE Boolean Engine Torque Signal Valid = TRUE Boolean Accelerator Pedal Position Signal Valid = TRUE Boolean P2808 Status is ≠ Test Failed This Key On		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D, P2808, P2812, P2814, P2815 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		
Torque Converter Clutch (TCC)	P2809	TCC System Stuck ON	TCC Slip Speed TCC Slip Speed	>= -50 RPM <= 30 RPM				One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
			If Above Conditions Have been Met, and Fail Timer Expired, Increment Fail Counter						>=	1.5	Fail Time (Sec)	
									>=	6	Fail Counter	
					TCC Mode	=	Off					
					default valve state	=	high (active)					
					default valve state previous	=	low to high					
					set default valve state timer	=	see Table 24 in Supporting Documents	seconds				
					default valve state timer times down to zero (0.0) when default valve state not	=	high (active)					
					default valve state timer times down to zero (0.0) when default valve state previous not	=	low to high					
					either A or B ro C must be met							
					A) default valve state	=	low to high					
					B) default valve state timer	>	0	seconds				
					C) low TCC slip fail timer	>	0	seconds				
					clutch solenoid stuck off performance (neutral) test active	=	FALSE	Boolean				
					clutch solenoid stuck on performance (tie-up) test active	=	FALSE	Boolean				
					TCC Slip Speed	<=	300	RPM				
					derivative TCC slip speed	<=	see Table 25 in Supporting Documents	RPM/sec				
					TCC system stuck on diagnostic monitor enable c	=	1					
					Engine Speed	<=	5500	RPM				
					Engine Speed	>=	400	RPM				
					Vehicle Speed HI	<=	45	KPH				
					Engine Torque	<=	800	Nm				
					Engine Torque	>=	55	Nm				
					Current Range	≠	Neutral	Range				
					Current Range	≠	Reverse	Range				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Transmission Fluid Temperature	<=	130	ºC		
					Transmission Fluid Temperature	>=	-6.65625	ºC		
					Throttle Position Hyst High AND	>=	3.99932861	Pct		
					Max Vehicle Speed to Meet Throttle Enable	<=	8	KPH		
					Once Hyst High has been met, the enable will remain while Throttle Position	>=	0.99945068	Pct		
					Disable for Throttle Position	>=	94.9996948	Pct		
					Disable if PTO active and value true	=	1			
					enable if tap up/down mode is false or tap up/down TCC calibration value is false	=	0	Boolean		
					enable if manual up/down mode is false or manual up/down TCC calibration value is false	=	0	Boolean		
					enable if misfire disengage TCC is false or value TCC misfire calibration value is false	=	0	Boolean		
					4 Wheel Drive Low Active	=	FALSE	Boolean		
					battery voltage	<=	31.9990234	volts		
					battery voltage	>=	9	volts		
					battery voltage time	>=	0.1	sec		
					Ignition Voltage	<=	31.9990234	Volts		
					Ignition Voltage	>=	9	Volts		
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean		
					Ignition voltage and SFL conditions met for	>=	0.1	Sec		
					Engine Torque Signal Valid	=	TRUE	Boolean		
					Throttle Position Signal Valid	=	TRUE	Boolean		
					P0742 Status is	≠	Test Failed This Key On			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P0722, P0723, P077C, P077D, P2809, P2812, P2814, P2815 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 Force Solenoid (VFS)	P2812	Pressure Control Solenoid G Control Circuit Open (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Variable Force Solenoid (VFS)	P2814	Pressure Control Solenoid G Control Circuit Low (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
Variable Force Solenoid (VFS)	P2815	Pressure Control Solenoid G Control Circuit High (TCC pressure VFS)	The HWIO reports open crcuit error flag	= TRUE Boolean					>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)			One Trip
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD2	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
default valve on/off valve solenoid	P2817	Hydraulic on/off Control Solenoid H Stuck Off (default valve on/off solenoid)	absolute value (attained gear slip) 4th gear commanded	>= 400 RPM	6th gear intrusive shift command when fail time reaches fail limit attained gear when intrusive 6th gear command = 3rd attained gear slip 3rd gear <= 75 RPM 3rd gear attained time >= 0.5 seconds intrusive 6th gear commanded event count >= 2 counts	>= 3 seconds >= 2 counts	One Trip
					clutch solenoid stuck on performance diagnostic monitor test deceleration limit not = TRUE boolean clutch solenoid stuck on performance diagnostic monitor test return to previous range not = TRUE boolean PRNDL State not = park enumeration PRNDL State not = neutral enumeration while conditinos A and B and C are met, time down delay from clibration to 0.0 seconds delay time calibration = 0.5 seconds A) neutral condition fault pending = FALSE boolean B) intrusive shift active = FALSE boolean C) range shift state = shift complete enumeration intrusive shift allowed = TRUE boolean intrusive shift active = FALSE boolean steady state pressure adapt in progress = FALSE boolean transmission output speed >= 100 RPM accelerator pedal position >= 0.50048828 % accelerator pedal position valid = TRUE Boolean engine speed valid = TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					D or E D) select battery voltage to enable diagnsotic monitor = 0 Boolean E) battery voltage <= 31.9990234 volts E) battery voltage >= 9 volts E) battery voltage time >= 0.1 sec F or G F) select ignition voltage to enable diagnsotic monitor = 0 Boolean G) Ignition Voltage <= 31.9990234 Volts G) Ignition Voltage >= 9 Volts Service Fast Learn (SFL) Mode = FALSE Boolean VBS Failsafe Ignition voltage and SFL conditions met for >= 0.1 Sec Hydraulic System Pressurized = TRUE Boolean high side driver 1 enabled = TRUE Boolean high side driver 2 enabled = TRUE Boolean Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P1824, P182A, P182B, P182C, P182D, P182E, P182F, P1838, P1839, P1840, P1841, P18B5, P18B6, P18B7, P18B8, P18B9, P18BA, P18BB, P18BC, P18BD, P18BE, P18BF, P18C0, P18C1, P18C2, P18C3, P1915, P2534 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		
default valve on/off valve solenoid	P2818	Hydraulic on/off Control Solenoid H Stuck On (default valve on/off solenoid)	TCC slip speed	<= 6 RPM			>= 0.5 seconds >= 3 counts >= 5 counts	Two Trips

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					delay time after TCC intrusive command pressure reaches intrusive value	>=	see Table 28 in supporting documents	seconds				
					TCC intrusive command pressure	>=	600	kPa				
					test delay timer calibration	=	0.5	seconds				
					test delay timer times down from calibration to zero (0.0) when all of the following conditinos are met							
					engine speed	>=	400	RPM				
					engine speed	<=	900	RPM				
					transmission temperature	>=	0	ºC				
					transmission temperature	<=	40	ºC				
					PRNDL state	=	park	enumeration				
					Hydraulic System Pressurized	=	TRUE	Boolean				
					battery voltage	<=	31.9990234	volts				
					battery voltage	>=	9	volts				
					battery voltage time	>=	0.1	sec				
					Ignition Voltage	<=	31.9990234	Volts				
					Ignition Voltage	>=	9	Volts				
					Service Fast Learn (SFL) Mode VBS Failsafe	=	FALSE	Boolean				
					Ignition voltage and SFL conditions met for	>=	0.1	Sec				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P07BF, P07C0, P2812, P2814, P2815 ECM: none						
default valve on/off solenoid	P281D	Pressure Control Solenoid H Control Circuit Low (default valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD1	enumeration				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						
default valve on/off solenoid	P281E	Pressure Control Solenoid H Control Circuit High (default valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean					>=	0.3	Fail Time (Sec)	One Trip
									out of	0.5	Sample Time (Sec)	
					diagnostic monitor enable calibration	=	TRUE	Boolean				
					VFS source must be high side driver 1 or 2 or 3							
					high side driver VFS source is	=	CeTSCR_e_HSD1	enumeration				
					high side driver VFS source enabled	=	TRUE	Boolean				
					controller power mode state is ignition or accessory	=	TRUE	Boolean				
					battery voltage in range for stability time							
					battery voltage stability time	>=	1	seconds				
					battery voltage	>=	8	volts				
					battery voltage	<=	32	Volts				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None						

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
clutch2/CB12345R boost valve on/off solenoid	P2824	Pressure Control Solenoid J Control Circuit High (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3	= TRUE Boolean		
					high side driver VFS source is	= CeTSCR_e_HSD1 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		
					battery voltage in range for stability time battery voltage stability time	>= 1 seconds		
					battery voltage	>= 8 volts		
					battery voltage	<= 32 Volts		
			Disable Conditions:		MIL not Illuminated for DTC's:	TCM: None ECM: None		
clutch2/CB12345R boost valve on/off solenoid	P2826	Pressure Control Solenoid J Control Circuit Low (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3	= TRUE Boolean		
					high side driver VFS source is	= CeTSCR_e_HSD2 enumeration		
					high side driver VFS source enabled	= TRUE Boolean		
					controller power mode state is ignition or accessory	= TRUE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
					battery voltage in range for stability time battery voltage stability time >= 1 seconds battery voltage >= 8 volts battery voltage <= 32 Volts			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
clutch2/CB12345R boost valve on/off solenoid	P2827	Pressure Control Solenoid J Control Circuit High (clutch2/CB12345R boost valve on/off solenoid)	The HWIO reports open crcuit error flag	= TRUE Boolean			>= 0.3 Fail Time (Sec) out of 0.5 Sample Time (Sec)	One Trip
					diagnostic monitor enable calibration VFS source must be high side driver 1 or 2 or 3 high side driver VFS source is high side driver VFS source enabled controller power mode state is ignition or accessory battery voltage in range for stability time battery voltage stability time battery voltage battery voltage	= TRUE Boolean = CeTSCR_e_HSD2 enumeration = TRUE Boolean = TRUE Boolean >= 1 seconds >= 8 volts <= 32 Volts		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Hardware Circuitry Detects a Bus Voltage Error (CAN bus off)	= TRUE Boolean			>= 62 counts	One Trip
			Bus off delay time	>= 0.1125 sec			>= 70 counts	

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					all conditions A and B and C below must occur for stabilization time					
					Bus Stabilization time	>=	3	seconds		
					A) Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					A) normal serial data communication enabled	=	TRUE	Boolean		
					A) P0073 status not	=	fault active			
					B) secured controller or emission critical then use ignition voltage	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) secureed controller or emission critical Ignition Voltage	>=	11	volts		
					B) Power Mode	=	Run			
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) Power Mode	=	Run			
					C) ignition off enable	=	1	Boolean		
					C) Power Mode	=	accessory			
					C) battery voltage	>=	11	volts		
					all conditions A and B below must occur					
					A) post clear code timer	>=	0.15	seconds		
					B) when Propulsion System Active use low voltage check NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time	=	FALSE	Boolean		
					low voltage mode time	>=	2.50E-02	seconds		
					A) low voltage mode hysteresis time	<=	0.1	seconds		
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions	Time Required	Mil Illum.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0100	Lost Communications with ECM (Engine Control Module)	TCM Rx message missed frame		fail times are caculated based on Rx message enable calibration set to CeCANR_e_BusA_ECM	Tx controller		One Trip
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠ see Table 64 in supporting documents enumeration	>= see Table 65 in supporting documents seconds	
					Frame recovery stabilization delay all conditions A and B and C below must occur for stabilization time	>= 0.5 seconds		
					Bus Stabilization time	>= 3 seconds		
					A) Service mode $04 active and end of trip pocessing active	= FALSE Boolean		
					A) normal serial data communication enabled	= TRUE Boolean		
					A) P0073 status not	= fault active		
					B) secured controller or emission critical then use ignition voltage	= CeCANR_e_ OBDII_Dsbl Boolean		
					B) secureed controller or emission critical Ignition Voltage	>= 11 volts		
					B) Power Mode	= Run		
					B) secured controller or emission critical then use controller power mode	= CeCANR_e_ OBDII_Dsbl Boolean		
					B) Power Mode	= Run		
					C) ignition off enable	= 1 Boolean		
					C) Power Mode	= accessory		
					C) battery voltage all conditions A and B below must occur	>= 11 volts		
					A) post clear code timer	>= 0.15 seconds		
					B) when Propulsion System Active use low voltage check	= FALSE Boolean		

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required		Mil Illum.
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time						
					low voltage mode time	>=	2.50E-02	seconds			
					A) low voltage mode hysteresis time	<=	0.1	seconds			
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts			
					U0100 fault status is not	=	fault active				
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None					
Communication	U0121	Loss Communications with ABS (Anti-lock Brake System)	TCM Rx message missed frame		fail times are caculated based on the following Rx messages enable calibration set to CeCANR_e_BusA_ABS		Tx controller				Special No MIL
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠	see Table 64 in supporting documents	enumeration	>= see Table 65 in supporting documents	seconds	
					Frame recovery stabilization delay	>=	0.5	seconds			
					all conditions A and B and C below must occur for stabilization time						
					Bus Stabilization time	>=	3	seconds			
					A) Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean			
					A) normal serial data communication enabled	=	TRUE	Boolean			
					A) P0073 status not	=	fault active				
					B) secured controller or emission critical then use ignition voltage	=	CeCANR_e_ OBDII_Dsbl	Boolean			
					B) secureed controller or emission critical Ignition Voltage	>=	11	volts			

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required			Mil Illum.
					B) Power Mode	=	Run					
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean				
					B) Power Mode	=	Run					
					C) ignition off enable	=	1	Boolean				
					C) Power Mode	=	accessory					
					C) battery voltage	>=	11	volts				
					all conditions A and B below must occur							
					A) post clear code timer	>=	0.15	seconds				
					B) when Propulsion System Active use low voltage check NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time	=	FALSE	Boolean				
					low voltage mode time	>=	2.50E-02	seconds				
					A) low voltage mode hysteresis time	<=	0.1	seconds				
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts				
					U0121 fault status is not	=	fault active					
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: U0073 ECM: None						
Communication	U0140	Loss Communications with BCM (Body Control Module)	TCM Rx message missed frame		fail times are caculated based on the following Rx messages enable calibration set to CeCANR_e_BusA_BCM		Tx controller					Special No MIL
			TCM Rx frame message missed frame	= TRUE Boolean	TCM Rx frame calibration enabled	≠	see Table 64 in supporting documents	enumeration	>=	see Table 65 in supporting documents	seconds	
					Frame recovery stabilization delay all conditions A and B and C below must occur for stabilization time	>=	0.5	seconds				

Component/ System	Fault Code	Monitor Strategy Description	Malfunction Criteria	Threshold Value	Secondary Malfunction	Enable Conditions			Time Required	Mil Illum.
					Bus Stabilization time	>=	3	seconds		
					A) Service mode $04 active and end of trip pocessing active	=	FALSE	Boolean		
					A) normal serial data communication enabled	=	TRUE	Boolean		
					A) P0073 status not	=	fault active			
					B) secured controller or emission critical then use ignition voltage	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) secureed controller or emission critical Ignition Voltage	>=	11	volts		
					B) Power Mode	=	Run			
					B) secured controller or emission critical then use controller power mode	=	CeCANR_e_ OBDII_Dsbl	Boolean		
					B) Power Mode	=	Run			
					C) ignition off enable	=	1	Boolean		
					C) Power Mode	=	accessory			
					C) battery voltage	>=	11	volts		
					all conditions A and B below must occur					
					A) post clear code timer	>=	0.15	seconds		
					B) when Propulsion System Active use low voltage check	=	FALSE	Boolean		
					NOT in low voltage engine crank condition defined by A or B below during, for low voltage mode time					
					low voltage mode time	>=	2.50E-02	seconds		
					A) low voltage mode hysteresis time	<=	0.1	seconds		
					B) ignition voltage, set low voltage mode	<=	6.40917969	volts		
					U0140 fault status is not	=	fault active			

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	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.60	1.10	0.95	0.85	0.85	Sec

Table 3

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	0.90	0.80	0.80	Sec

Table 4

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.40	0.90	0.75	0.65	0.65	Sec

Table 5

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	1.00	1.00	1.00	Sec

Table 6

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.55	1.05	0.90	0.80	0.80	Sec

Table 7

Axis	CeRSSR_e_CD_21	CeRSSR_e_CD_31	CeRSSR_e_CD_32	CeRSSR_e_CD_42	CeRSSR_e_CD_43	CeRSSR_e_CD_51	CeRSSR_e_CD_53	CeRSSR_e_CD_54	CeRSSR_e_CD_63
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0
	CeRSSR_e_CD_64	CeRSSR_e_CD_65	CeRSSR_e_CD_71	CeRSSR_e_CD_75	CeRSSR_e_CD_76	CeRSSR_e_CD_82	CeRSSR_e_CD_84	CeRSSR_e_CD_86	
	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	
	CeRSSR_e_CD_87	closed throttle down shift type: 2-1, 3-1, 3-2, 4-2, 4-3, 5-1, 5-3, 5-4, 6-3, 6-4, 6-5, 7-1, 7-,5 7-6, 8-2, 8-4, 8-6, 8-7							
	750.0	kPa							

Supporting Documents

Table 8

Axis	CeRSSR_e_US_12	CeRSSR_e_US_23	CeRSSR_e_US_34	CeRSSR_e_US_45	CeRSSR_e_US_56	CeRSSR_e_US_67	CeRSSR_e_US_78	CeRSSR_e_US_13	CeRSSR_e_US_24
Curve	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0

CeRSSR_e_US_35	CeRSSR_e_US_46	CeRSSR_e_US_57	CeRSSR_e_US_68	up shift type: 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-8, 1-3, 2-4, 3-5, 4-6, 5-7, 6-8
750.0	750.0	750.0	750.0	kPa

Table 9

NOT USED
NOT USED

Table 10

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	1	1	1	1	1	BOOLEAN

Table 11

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	180.0	180.0	180.0	180.0	180.0	N*m

Table 12

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	60.0	60.0	60.0	60.0	60.0	N*m

Table 13

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	10.0	10.0	10.0	10.0	10.0	N*m

Supporting Documents

Table 14

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	-30.0	-30.0	-30.0	-30.0	-30.0	N*m

Table 15

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	100.0	100.0	100.0	100.0	100.0	N*m

Table 16

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	60.0	60.0	60.0	60.0	60.0	N*m

Table 17

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	10.0	10.0	10.0	10.0	10.0	N*m

Table 18

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	-30.0	-30.0	-30.0	-30.0	-30.0	N*m

Table 19

NOT USED
NOT USED

Table 20

NOT USED
NOT USED

Supporting Documents

Table 21

Axis	-40.00	0.00	40.00	ºC
Curve	5.00	5.00	5.00	Sec

Table 22

NOT USED
NOT USED

Table 23

NOT USED
NOT USED

Table 24

Axis	-7.00	10.00	40.00	ºC
Curve	1.50	1.25	1.00	Sec

Table 25

Axis	-7.00	10.00	40.00	ºC
Curve	-2000.00	-2000.00	-2000.00	RPM/Sec

Table 26

Axis	-40.00	-30.00	-20.00	0.00	20.00	ºC
Curve	1800.00	1500.00	1200.00	600.00	60.00	Sec

Table 27

Axis	0.00	20.00	60.00	100.00	120.00	Kph
Curve	-8.00	-8.00	-8.00	-8.00	-8.00	ºC

Table 28

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	5.00	3.00	2.00	1.75	1.00	Sec

Supporting Documents

Table 29

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 30

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 31

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.9000	0.9000	0.9000	0.9000	0.9000	seconds

Table 32

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	4	4	4	4	4	counts

Table 33

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	4	4	4	4	4	counts

Table 34

NOT USED
NOT USED

Table 35

Axis	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

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Table 36

	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	0.5000	0.5000	0.5000	0.5000	0.5000	seconds

Table 37

	RSSR_e_C1_Clutch	RSSR_e_C2_Clutch	RSSR_e_C3_Clutch	RSSR_e_C4_Clutch	RSSR_e_C5_Clutch	clutch1 CB1278R, clutch 2 CB12345R, clutch3 C13567, clutch4 C23468, clutch5 C45678R
Curve	300.0	300.0	300.0	300.0	300.0	kPa

Table 38

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	0.95	0.45	0.30	0.30	0.30	Sec

Table 39

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	0.95	0.45	0.30	0.20	0.20	Sec

Table 40

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	0.95	0.45	0.30	0.20	0.20	Sec

Table 41

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.10	0.60	0.55	0.55	0.55	Sec

Table 42

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	0.95	0.45	0.30	0.20	0.20	Sec

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Table 43

NOT USED
NOT USED

Table 44

NOT USED
NOT USED

Table 45

Axis	eRSCR_e_CC_US	eRSCR_e_CC_CD	eRSCR_e_CC_PD	eRSCR_e_CC_GS	up shift, closed throttle down shift, power down shift, garage shift
Curve	1	1	1	0	BOOLEAN

Table 46

Axis	0	1	2	3	1 ADchannel, 2 AD channels, 3 AD channels, 4 AD channels
Curve	1	0	0	0	BOOLEAN

Table 47

Axis	A2D_TestVoltage1	A2D_TestVoltage2	A2D_TestVoltage3	A2D_TestVoltage4	1 ADchannel, 2 AD channels, 3 AD channels, 4 AD channels
Curve	5.0000	25.0000	75.0000	95.0000	volts

Table 48

Axis	SR_e_6p25msSeq	ISR_e_12.5msSeq	ePISR_e_25msSeq	PISR_e_LORES_C	6.25 msec loop, 12.5 msec loop, 25 msec loop, low res engine
Curve	0.2000	0.2000	0.2000	409.5938	seconds

Table 49

Axis	SR_e_6p25msSeq	ISR_e_12.5msSeq	ePISR_e_25msSeq	PISR_e_LORES_C	6.25 msec loop, 12.5 msec loop, 25 msec loop, low res engine
Curve	16	8	4	16	counts

Table 50

Axis	CeMPMR_i_MontrA	CeMPMR_i_MontrB	CeMPMR_i_MontrC	seed key test enable, seed sequence test enable, seed timeout test enable
Curve	1	0	0	BOOLEAN

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Table 51

Axis	0	1	speed sensor1, speed sensor2
Curve	0.2500	0.0000	volts

Table 52

Axis	0	1	speed sensor1, speed sensor2
Curve	40	65535	counts

Table 53

Axis	0	1	speed sensor1, speed sensor2
Curve	0.0500	409.5938	seconds

Table 54

Axis	0	1	speed sensor1, speed sensor2
Curve	1	0	BOOLEAN

Table 55

Axis	0	1	speed sensor1, speed sensor2
Curve	4.7500	12.0000	volts

Table 56

Axis	0	1	speed sensor1, speed sensor2
Curve	40	65535	counts

Table 57

Axis	0	1	speed sensor1, speed sensor2
Curve	0.0500	409.5938	seconds

Table 58

Axis	0	1	speed sensor circuit low, speed sensor circuit high
Curve	1	0	BOOLEAN

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Table 59

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.9000	0.8500	0.7500	0.7500	seconds

Table 60

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2500	0.7500	0.6000	0.6000	0.6000	seconds

Table 61

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.4500	0.4500	seconds

Table 62

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.5500	0.5500	seconds

Table 63

Axis	-40.00	-20.00	0.00	30.00	110.00	ºC
Curve	1.2000	0.7000	0.5500	0.4500	0.4500	seconds

Table 64

Axis	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
Curve	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_BusA_	CeCANR_e_Invalid	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		CeCANR_e_Invalid	CeCANR_e_BusA_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusB_	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_BusA_	enable or invalid
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame		
		CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	CeCANR_e_Invalid	enable or invalid		

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Table 65

Axis	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
Curve	12.000	12.000	12.000	12.000	0.500	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		0.500	12.000	12.000	12.000	12.000	12.000	0.500	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		0.500	12.000	12.000	12.000	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame
		12.000	12.000	12.000	12.000	12.000	12.000	12.000	12.000	seconds
		CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	CeCANG_e_RcvMs	frame		
		12.000	12.000	12.000	12.000	12.000	0.500	seconds		

Supporting Documents - 3D Tables

3D Table 1										
	CeTSKR_Cnt_MaxCPUs	X-Axis Calibration	CeTSKR_e_CPU				CeTSKR_e_CPU2				CPU
	CePISR_e_NumOfSeqTasks	Y-Axis Calibration	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C	loop test type
	KaPISD_b_ProgSeqWatchEnbl	Table Calibration	1	1	1	0	0	0	0	0	BOOLEAN