

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
Transmission Control Module (TCM)	P0601	Transmission Control Module Read Only Memory (ROM)	Incorrect program/calibrations checksum	= TRUE	None	TCM: None ECM: None	> 5 Rom Test Fail Counter	One Trip
Transmission Control Module (TCM)	P0602	Transmission Control Module Not Programmed	Non-Programmed TECHM Failure	= TRUE	None	TCM: None ECM: None		One Trip
Transmission Control Module (TCM)	P0603	Transmission Control Module Long-Term Memory Reset	Non-volatile memory (static or dynamic) checksum failure	= TRUE	None	TCM: None ECM: None		One Trip
Transmission Control Module (TCM)	P0604	Transmission Control Module Random Access Memory	RAM Read/Write Failure (Single Word)	= TRUE	None	TCM: None ECM: None	>= 5 Count	One Trip
Transmission Control Module (TCM)	P062F	Transmission Control Module Long Term Memory Performance	TCM Non-Volatile Memory bit Incorrect flag	= TRUE	None			One Trip

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					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None			
Transmission Range Switch (Neutral Safety Back Up Switch NSBU)	P0705	NSBU ABCP inputs indicate illegal position	ABCP Inputs =	0000 or 0001	Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for Engine Speed Status Valid >= 5 Sec = TRUE	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	>= 60 sec	Two Trips	
Transmission Fluid Temperature Sensor (TFT)	P0711	Trans Fluid Temp Sensor Circuit Range/Performance	Fail Case 1	TFT Delta from Startup	<= 2 C°	Vehicle Speed >= 8 Kph Vehicle Speed Above min for >= 300 Sec TCC Slip >= 120 RPM TCC Slip above min for >= 300 Sec Transmission Fluid Temperature Lo >= -39 C° Transmission Fluid Temperature High <= 20 C° Engine Coolant Temp >= 70 C° Engine Coolant Temp Delta >= 55 C°	>= 80	Fail Time (Sec)	Special No Trip
			Fail Case 2	TFT Delta from startup	< 2 C°	Vehicle Speed >= 8 Kph Vehicle Speed Above min for >= 300 Sec TCC Slip >= -20 RPM	>= 80	Fail Time (Sec)	

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					TCC Slip above min for Transmission Fluid Temperature Transmission Fluid Temperature Engine Coolant Temp Engine Coolant Temp Delta from startup	>= 0 Sec >= 129 C° <= 149 C° >= 70 C° >= 55 C°		
			<u>Fail Case 3</u> TFT Delta	>= 20 C°			>= 14 < 7	Fail Counts (100ms loop) Sample Time (Sec)
			<u>Fail Case 4</u> Transmission Fluid Temperature	<= 20 C°	Engine Torque Lo Engine Torque Hi Throttle Position Lo Throttle Position Hi Vehicle Speed Lo Vehicle Speed Hi Engine Speed Lo Engine Speed Hi Engine Coolant Lo Engine Coolant Hi Engine Torque Signal Valid Throttle Position Signal Valid Engine Speed Status Valid	>= 50 N*m <= 1492 N*m >= 8.0002 Pct <= 89.999 Pct >= 8 Kph <= 511 Kph >= 500 RPM <= 6500 RPM >= -39 C° <= 149 C° = TRUE = TRUE = TRUE	>= Refer to Table 1	Fail Time (Sec)
					P0711 Common Enable Conditions Transmission Fluid Temperature Lo Transmission Fluid Temperature Hi Ignition Voltage Ignition Voltage Engine speed	>= -39 C° <= 149 C° >= 8 V <= 18 V >= Refer to Table 4 RPM		

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					Engine speed above min for Engine speed above min for Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Coolant Sensor Signal Valid	Refer to Table 5 >= 5 Sec >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE = TRUE Boolean		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0116, P0117, P0118, P0125, P0128, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302,		

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						P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Transmission Fluid Temperature Sensor (TFT)	P0712	Transmission fluid temperature thermistor failed at a high temperature (short to ground).	TFT resistance	<= 48 Ω			>= 12	Fail Time (Sec)	Special No Trip
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391				
Transmission Fluid Temperature Sensor (TFT)	P0713	Transmission fluid temperature thermistor failed at a low temperature (open or short to power).	TFT resistance	>= 97292 Ω			>= 80	Fail Time (Sec)	Special No Trip
					Output Speed >= 65.625 RPM Output Speed above min for >= 200 Sec TCC Slip speed >= 120 RPM				

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					TCC Slip Speed above min for Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid	>= 200 sec >= 8 V <= 18 V >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE		
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0717 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Input Speed Sensor (TISS)	P0716	Input Speed Sensor Performance	Input speed drop Δ	>= 1000 RPM	Ignition Voltage Ignition Voltage Engine Speed Engine Speed Engine speed between min/max for Engine Speed Status Valid Engine Torque Engine Torque Engine Torque Signal Valid Vehicle Speed Input Speed min Input Speed above min for Positive ISS Δ Positive ISS Δ less than min for Throttle Throttle Position Signal Valid	>= 8 volts <= 18 volts >= 500 RPM <= 6500 RPM >= 5 Sec = TRUE >= 50 N*m <= 1492 N*m = TRUE >= 16 KPH > 1050 RPM >= 2 Sec < 500 RPM >= 2 Sec >= 8.0002 Pct = TRUE	>= 3.25 sec	Two Trips

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				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>	<p>TCM: P0717, P0722, P0723, P0752, P0973, P0974</p> <p>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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E</p>		

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Transmission Input Speed Sensor (TISS)	P0717	Input Speed Sensor Circuit Low Voltage	input speed	< 50 RPM	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Engine Torque Signal Valid = TRUE Vehicle Speed >= 16 Kph	>= 4.5 Sec	Two Trips	
					Disable Conditions: MIL not illuminated for DTC's:	TCM: P0722, P0723 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301,		

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COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0722	Output Speed Sensor Circuit Low Voltage	TOSS	<= 50 rpm	Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for Engine Speed Status Valid = TRUE Engine Torque min & Range= R or D >= 50 N*m Engine Torque max & Range= R or D <= 1492 N*m Engine Torque min & Range= P/N >= 1492 N*m Engine Torque max & Range= P/N <= 1492 N*m Engine Torque Signal Valid = TRUE Throttle Position >= 8.0002 % Throttle Position Signal Valid = TRUE Input Speed >= 1500 RPM Input Speed <= 6500 RPM TCC Slip >= -20 RPM Trans Temp >= -40 C	>= 4.5 Sec	Two Trips	

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				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Output Speed Sensor (TOSS)	P0723	Output Speed Sensor Circuit Intermittent	Output Speed Drop Δ	> 393.5 RPM	Ignition Voltage Ignition Voltage	>= 8 volts <= 18 volts	>= 3.25 Sec	Two Trips

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					Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for Engine Speed Status Valid = TRUE Range Change Timer >= 6 Sec 4WD Range Timer >= 6 Sec Input Speed Δ < 500 RPM Input Speed Δ <max for >= 2 Sec Raw Output Speed min > 327.75 RPM Raw Output Speed > min for >= 2 Sec Positive Output Speed Δ <= 163.75 RPM Positive Output Speed Δ <max for >= 2 Sec				
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0974 ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391			
Torque Converter Clutch (TCC)	P0741	TCC System Stuck OFF	TCC Slip Error	>= Refer to table 3 RPM			>= 8 Sec >= 2 Count	Two Trips	
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m Throttle Position >= 8.0002 % Throttle Position <= 89.999 % 2nd Gear Ratio >= 1.5122 Ratio 2nd Gear Ratio <= 1.7397 Ratio 3rd Gear Ratio >= 0.9301 Ratio 3rd Gear Ratio <= 1.0699 Ratio				

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					4th Gear Ratio >= 0.6333 Ratio 4th Gear Ratio <= 0.7288 Ratio TFT >= 20 C TFT <= 130 C TCC Capacity >= 64.999 % TCC Capacity Timer >= 2 sec TCC Mode = On or Lock PTO Active = FALSE Engine Torque Status Valid = TRUE Throttle Position Signal Valid = TRUE If 4L80E Cmd Gear ≠ 4th			
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0742, P0842, P0843, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302,		

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						P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Torque Converter Clutch (TCC)	P0742	TCC System Stuck ON	TCC Slip Speed	>= -20 RPM			>= 6 Sec	Two Trips
			TCC Slip Speed	<= 20 RPM		= 3 Count		
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Engine Torque >= 50 N*m Engine Torque <= 1492 N*m TFT >= 20 C TFT <= 130 C Throttle Position >= 8.0002 % Throttle Position <= 89.999 % Vehicle Speed >= 16 KPH Vehicle Speed <= 511 KPH Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Gear Ratio >= 0.6333 Ratio Gear Ratio <= 1.739 Ratio Commanded Gear ≠ 1st Gear TCC Mode = Off Engine Torque Status Valid = TRUE Throttle Position Signal Valid = TRUE PTO Active = FALSE			

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				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0741, P2762, P2763, P2764, P2769, P2770 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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390.		

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						P0391, P0401, P042E		
Shift solenoid A Performance	P0751	Shift Solenoid Valve A Stuck Off 2-2-3-3	Fail Case 1	1st gear low ratio multiplier	>= 0.949951172 Pct		= 2 Sec	Two Trips
				1st gear high ratio multiplier	<= 1.050048828 Pct			
			Fail Case 2	4th gear low ratio multiplier	>= 0.949951172 Pct		= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct			
						= 2 counts		
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE			

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				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>	<p>TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770</p> <p>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,</p>		

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						P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Shift solenoid A Performance	P0752	Shift Solenoid Valve A Stuck On 1-1-4-4	Fail Case 1	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	Two Trips
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	= 2 counts			

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				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 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,		

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						P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Shift solenoid B Performance	P0756	Shift Solenoid Valve B Stuck On 4-3-3-4	Fail Case 1	1st gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				1st gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2	2nd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				2nd gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	= 2 counts			

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				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304,		

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						P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E			
Shift solenoid B Performance	P0757	Shift Solenoid Valve B Stuck Off 1-2-2-1	Fail Case 1	3rd gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	One Trip
				3rd gear high ratio multiplier	<= 1.050048828 Pct				
			Fail Case 2	4th gear low ratio multiplier	>= 0.949951172 Pct			= 2 Sec	
				4th gear high ratio multiplier	<= 1.050048828 Pct				
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE Gear Slip >= 150 RPM Gear Slip Fail Time >= 0.5 Sec Throttle >= 8.0002 Pct Engine Torque >= 50 N*m Output Speed >= 50 RPM Input Speed >= 50 RPM 4WD Range Timer >= 6 Sec Range Change Timer >= 6 Sec PTO Active = FALSE Trans Temp >= 20 C Trans Temp <= 130 C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE	= 2 counts			

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				<p>Disable Conditions:</p>	<p>MIL not Illuminated for DTC's:</p>	<p>TCM: P0716, P0717, P0722, P0723, P0973, P0974, P0976, P0977, P1915, P182A, P182C, P182D, P182E, P182F, P0741, P0742, P2763, P2764, P2769, P2770</p> <p>ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304,</p>		

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						P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch	P0842	TCC release switch circuit low voltage	TCC release switch state	=	Closed		>= 8 Sec	Two Trips
							>= 2 count	
					Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for TFT >= 20 C TFT <= 130 C Vehicle Speed >= 16 KPH Vehicle Speed <= 511.99 KPH Engine Torque >= 50 Nm Engine Torque <= 1492 Nm TCC Slip >= 100 RPM TCC Mde = OFF Torque Validity Flag = Valid Engine Speed Status Valid = TRUE			
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P0894, P2763, P2764, P2769, P2770 ECM: P0101, P0102, ---		

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						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, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch	P0843	TCC release switch circuit high voltage	TCC release switch state	=	Open		>= 6 Sec	Two Trips
							>= 2 count	
							Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for TFT >= 5 Sec TFT >= 20 C TFT <= 130 C TCC Pressure >= 90 Kpa TCC Pressure <= 830 Kpa Engine Torque >= 50 Nm Engine Torque <= 1492 Nm	

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COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					TCC Slip TCC Slip TCC Mde Engine Torque Status Valid Engine Speed Status Valid	>= -20 RPM <= 60 RPM = On or Lock = TRUE = TRUE		
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: P0716, P0717, P0741, P0742, P0843, P0894, P2763, P2764, P2769, P2770 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,		

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
						P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401,			
Shift Solenoid	P0973	Shift Solenoid A Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips
							Out of 50	Sample Counts (100ms loop)	
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for Engine Speed Status Valid >= 5 Sec = TRUE	Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
Shift Solenoid	P0974	Shift Solenoid A Control Circuit High Voltage	hardware circuitry detects a short to voltage	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips
							Out of 50	Sample Counts (100ms loop)	
							Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for Engine Speed Status Valid >= 5 Sec = TRUE	Disable Conditions: MIL not Illuminated for DTC's: TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	
Shift Solenoid	P0976	Shift Solenoid B Control Circuit Low Voltage	hardware circuitry detects open or short to ground	= TRUE			>= 44	Fail Count (100ms loop)	One Trip
							Out of 50	Sample Counts (100ms loop)	
							Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts		

09 OBDG08 TRANS Diagnostics

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

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Transmission Fluid Pressure Switch (TFP)	P1810	TFP state is illegal	TFP Illegal (switch B & C low)	= TRUE			>= 60 Sec	Two Trips
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE PTO Active = FALSE			
Transmission Fluid Pressure Switch (TFP)	P1816	TFP indicates Park or Neutral (P/N) with drive ratio	TFP indication	= P/N			>= 12 Sec	Two Trips
			1st gear ratio low >= 2.752807617 Ratio 1st gear ratio High <= 3.167236328 Ratio 2nd gear ratio low >= 1.512207031 Ratio 2nd gear ratio High <= 1.739746094 Ratio 3rd gear ratio low >= 0.930053711 Ratio 3rd gear ratio High <= 1.069946289 Ratio 4th gear ratio low >= 0.633300781 Ratio 4th gear ratio High <= 0.728637695 Ratio					

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Output speed >= 82 RPM Throttle position >= 8.0002 PCT Engine Torque >= 50 Nm Engine Torque <= 1492 Nm Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Engine Speed Status Valid = TRUE PTO Active = FALSE	Disable MIL not illuminated for DTC's: Conditions:	TCM: P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0787, P0788, P0973, P0974, P0976, P0977, P1810, P1817, P1818 ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172,		

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Transmission Fluid Pressure Switch (TFP)	P1818	TFP indicates Park or Neutral (P/N) with reverse ratio	TFP indication = P/N Ratio >= 1.993041992 Ratio Ratio <= 2.29284668 Ratio				>= 3 Sec	Two Trips
					Ignition Voltage >= 8 volts Ignition Voltage <= 18 volts Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Output speed >= 50 RPM Throttle position >= 10.001 PCT Engine Torque >= 45 Nm Engine Torque <= 1492 Nm Trans Temp >= 20 Deg C Engine Torque Signal Valid = TRUE Throttle Position Signal Valid = TRUE Engine Speed Status Valid = TRUE			

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions:	MIL not Illuminated for DTC's: TCM: P0716, P0717, P0722, P0723, P0751, P0752, P0756, P0757, P0787, P0788, P0973, P0974, P0976, P0977, P1810, P1815, P1816, P1817, P1825. ECM: P0101, P0102, P0103, P0106, P0107, P0108, P0171, P0172, P0174, P0175, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0300,		

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
						P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308, P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391, P0401, P042E		
Ignition 1 Circuit Low Voltage	P2534	No Ignition Voltage at the TCM	Ignition 1 (run/crank) input	<= 2 volt			>= 200 Out of 220	Fail Count (25ms loop) Sample Count (25ms loop)
					Engine running state from ECM Power Mode	= Running = Acc or Run		One Trip

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COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.	
				Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: None			
TCC PWM Solenoid	P2763	TCC PWM Solenoid circuit high voltage	Hardware circuitry detects a short to voltage	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips
							Out of 50	Sample Counts (100ms loop)	
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE TCC PWM command = ON	Disable Conditions:	MIL not Illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391	
TCC PWM Solenoid	P2764	TCC PWM Solenoid circuit low voltage	Hardware circuitry detects open or short to ground	= TRUE			>= 44	Fail Count (100ms loop)	Two Trips

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
							Out of 50 Sample Counts (100ms loop)	
					Ignition Voltage >= 8 V Ignition Voltage <= 18 V Engine Speed >= 500 RPM Engine Speed <= 6500 RPM Engine speed between min/max for >= 5 Sec Engine Speed Status Valid = TRUE TCC PWM command = OFF			
					Disable Conditions: MIL not illuminated for DTC's:	TCM: None ECM: P0335, P0336, P0340, P0345, P0346, P0365, P0366, P0390, P0391		
Communication	U0073	Controller Area Network Bus Communication Error	CAN Bus Detects Invalid Message Error	= TRUE Boolean			>= 5 Fail Count (1000ms loop) Out of 5 Sample Counts (1000ms loop)	Two Trips
					Ignition On			

09 OBDG08 TRANS Diagnostics

COMPONENT/ SYSTEM	FAULT CODE	MONITOR STRATEGY DESCRIPTION	MALFUNCTION CRITERIA	THRESHOLD VALUE	SECONDARY PARAMETERS	ENABLE CONDITIONS	TIME REQUIRED	MIL ILLUM.
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: None ECM: None		
Communication	U0100	Lost Communications with Engine Control System	Comm. Message Invalid Between ECU and TCM	= TRUE Boolean			>= 12 Out of 12	Fail Count (1000ms loop) Sample Counts (1000ms loop) Two Trips
					Ignition Voltage Lo Ignition Voltage Hi Power Mode	>= 11 Volt <= 18 Volt = Run		
					Disable Conditions: MIL not Illuminated for DTC's:	TCM: U0073 ECM: None		

09 OBDG08 TRANS Diagnostics

Supporting Tables

Table 1

Axis	-40	-25	-10	5	20	Units Deg C
Curve	1900	1000	800	520	200	Sec

Table 2

Axis	0	6.248474	12.49695	18.74542	24.9939	31.24237	37.49084	43.73932	49.98779	56.23627	62.48474	68.73322	74.98169	81.23016	87.47864	93.72711	99.97559	Units PCT
Curve	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	624	Kpa

Table 3

Axis	0	64	128	192	256	320	384	448	512	Units Nm
Curve	150	150	150	150	150	150	150	150	150	RPM

Table 4

Axis	-40	-16.25	7.5	31.25	55	78.75	102.5	126.25	150	Units Deg C
Curve	600	400	400	400	400	400	400	400	400	RPM

Table 5

Axis	-40	7.5	55	102.5	150	Units Deg C
Curve	0.1	0.15	0.2	0.3	0.3	Sec