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# Diagnostic Report

Created by OBD Fusion - OCTech, LLC

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**Date:** 8/9/2020 3:45:20 PM



**Manufacturer:** BMW

**Model:** X5

**Year:** 2007

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## Monitor Status Report

Name	Continuous	Available	Complete
Misfire	Yes	Yes	Yes
Fuel System	Yes	Yes	Yes
Components	Yes	Yes	Yes
Catalyst	No	Yes	Yes
Heated Catalyst	No	No	No
Evap System	No	Yes	Yes
Secondary Air System	No	No	No
AC Refrigerant	No	No	No
Oxygen Sensor	No	Yes	Yes
Oxygen Sensor Heater	No	Yes	Yes
EGR System	No	Yes	Yes

### MIL On

Number of Confirmed Codes: 4

Readiness Standard: None

**This vehicle is not ready for emissions testing.**

### Reason

- MIL On
  - Confirmed trouble codes have been detected
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## Trouble Code Report

ECU	Code	Type	Status	Description
ECM-EngineControl (\$7E0)	P0420	PowerTrain	Confirmed	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0430	PowerTrain	Confirmed	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0301	PowerTrain	Confirmed	Cylinder 1 Misfire Detected
ECM-EngineControl (\$7E0)	P0302	PowerTrain	Confirmed	Cylinder 2 Misfire Detected
ECM-EngineControl (\$7E0)	P0420	PowerTrain	Pending	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0430	PowerTrain	Pending	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0301	PowerTrain	Pending	Cylinder 1 Misfire Detected
ECM-EngineControl (\$7E0)	P0302	PowerTrain	Pending	Cylinder 2 Misfire Detected
ECM-EngineControl (\$7E0)	P0300	PowerTrain	Pending	Random/Multiple Cylinder Misfire Detected
ECM-EngineControl (\$7E0)	P0420	PowerTrain	Permanent	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0430	PowerTrain	Permanent	Catalyst System Efficiency Below Threshold
ECM-EngineControl (\$7E0)	P0301	PowerTrain	Permanent	Cylinder 1 Misfire Detected
ECM-EngineControl (\$7E0)	P0302	PowerTrain	Permanent	Cylinder 2 Misfire Detected

### Additional Information

PID	Description	Value	Units
SAE 0x21	Distance traveled while MIL is activated	157.83	miles
SAE 0x30	Number of warm-ups since DTCs cleared	55	
SAE 0x31	Distance traveled since DTCs cleared	532.52	miles

### Mode \$01 - Powertrain Diagnostic Data

PID	Description	Value	Units
SAE 0x03	Fuel system 1 status	4	
SAE 0x03	Fuel system 2 status	4	

SAE 0x04	Calculated load value	27.84	%
SAE 0x05	Engine coolant temperature	215.6	F
SAE 0x06	Short term fuel % trim - Bank 1	0	%
SAE 0x07	Long term fuel % trim - Bank 1	2.34	%
SAE 0x08	Short term fuel % trim - Bank 2	0	%
SAE 0x09	Long term fuel % trim - Bank 2	1.56	%
SAE 0x0C	Engine RPM	703	RPM
SAE 0x0D	Vehicle speed	0	MPH
SAE 0x0E	Ignition timing advance for #1 cylinder	-4	deg
SAE 0x0F	Intake air temperature	123.8	F
SAE 0x10	Mass air flow rate	0.64	lb/min
SAE 0x11	Absolute throttle position	14.51	%
SAE 0x13	Location of oxygen sensors	51	
SAE 0x15	O2 voltage (Bank 1, Sensor 2)	0.01	V
SAE 0x15	Short term fuel trim (Bank 1, Sensor 2)	99.219	%
SAE 0x19	O2 voltage (Bank 2, Sensor 2)	0.81	V
SAE 0x19	Short term fuel trim (Bank 2, Sensor 2)	99.219	%
SAE 0x1C	OBD requirements to which vehicle or engine is certified	1	
SAE 0x1F	Time since engine start	254	sec
SAE 0x21	Distance traveled while MIL is activated	157.83	miles
SAE 0x2E	Commanded evaporative purge	0	%
SAE 0x2F	Fuel level input	7.45	%
SAE 0x30	Number of warm-ups since DTCs cleared	55	
SAE 0x31	Distance traveled since DTCs cleared	532.52	miles
SAE 0x33	Barometric pressure	29.23	inHg
SAE 0x34	O2 sensor lambda wide range (current probe) (Bank 1, Sensor 1)	1.246	
SAE 0x34	O2 sensor current wide range (Bank 1, Sensor 1)	0.453	mA
SAE 0x38	O2 sensor lambda wide range (current probe) (Bank 2, Sensor 1)	0.936	
SAE 0x38	O2 sensor current wide range (Bank 2, Sensor 1)	-0.309	mA
SAE 0x3C	Catalyst temperature (Bank 1 Sensor 1)	743.9	F
SAE 0x3D	Catalyst temperature (Bank 2 Sensor 1)	686.3	F
SAE 0x42	Control module voltage	13.91	V
SAE 0x43	Absolute load value	25.1	%
SAE 0x44	Fuel/Air commanded equivalence ratio	1.08	
SAE 0x45	Relative throttle position	5.1	%
SAE 0x46	Ambient air temperature	95	F
SAE 0x47	Absolute throttle position B	14.9	%
SAE 0x49	Accelerator pedal position D	13.73	%
SAE 0x4A	Accelerator pedal position E	13.73	%

SAE 0x4C	Commanded throttle actuator control	5.88	%
SAE 0x56	Long term secondary oxygen sensor trim bank 1	0	%
SAE 0x58	Long term secondary oxygen sensor trim bank 2	-1.56	%
Aux 0x00	Input voltage read by the scan tool	13.9	V

## Mode \$02 - Freeze Frame

PID	Description	Value	Units
0x02	Freeze frame DTC	P0301	
0x03	Fuel system 1 status	2	
0x03	Fuel system 2 status	2	
0x04	Calculated load value	100	%
0x05	Engine coolant temperature	179.6	F
0x06	Short term fuel % trim - Bank 1	18.75	%
0x07	Long term fuel % trim - Bank 1	-2.34	%
0x08	Short term fuel % trim - Bank 2	2.34	%
0x09	Long term fuel % trim - Bank 2	-1.56	%
0x0C	Engine RPM	3235	RPM
0x0D	Vehicle speed	52.82	MPH
0x0E	Ignition timing advance for #1 cylinder	21.5	deg
0x0F	Intake air temperature	80.6	F
0x10	Mass air flow rate	10.48	lb/min
0x11	Absolute throttle position	87.84	%
0x1F	Time since engine start	513	sec
0x2E	Commanded evaporative purge	98.43	%
0x2F	Fuel level input	18.43	%
0x33	Barometric pressure	29.23	inHg
0x42	Control module voltage	13.64	V
0x43	Absolute load value	81.57	%
0x44	Fuel/Air commanded equivalence ratio	1	
0x45	Relative throttle position	89.8	%
0x46	Ambient air temperature	77	F
0x47	Absolute throttle position B	88.63	%
0x49	Accelerator pedal position D	53.33	%
0x4A	Accelerator pedal position E	53.73	%
0x4C	Commanded throttle actuator control	100	%
0x56	Long term secondary oxygen sensor trim bank 1	0	%

0x58	Long term secondary oxygen sensor trim bank 2	-1.56	%
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## Mode \$05 - Oxygen Sensors

Sensor	Available
Bank 1 - Sensor 1	Yes
Bank 1 - Sensor 2	Yes
Bank 1 - Sensor 3	No
Bank 1 - Sensor 4	No
Bank 2 - Sensor 1	Yes
Bank 2 - Sensor 2	Yes
Bank 2 - Sensor 3	No
Bank 2 - Sensor 4	No

## Mode \$06 - On-Board Monitoring

Component	Description	Value	Minimum	Maximum	Units	Result
\$01 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 1	TID \$83 - Manufacturer Defined	0.06	0	0.9		Pass
\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$01 - Rich to lean sensor threshold voltage (constant)	0	0	1.1	V	Pass
\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$02 - Lean to rich sensor threshold voltage (constant)	0	0	1.1	V	Pass
\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$07 - Minimum sensor voltage for test cycle (calculated)	0.4253	0	1.1	V	Pass
\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$08 - Maximum sensor voltage for test cycle (calculated)	0.9191	0	1.1	V	Pass
\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$91 - Manufacturer Defined	0.039	0	0.9999		Pass

\$02 - Exhaust Gas Sensor Monitor Bank 1 – Sensor 2	TID \$86 - Manufacturer Defined	0	0	0.1514	V	Pass
\$05 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 1	TID \$83 - Manufacturer Defined	0.031	0	0.9		Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$01 - Rich to lean sensor threshold voltage (constant)	0	0	1.1	V	Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$02 - Lean to rich sensor threshold voltage (constant)	0	0	1.1	V	Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$07 - Minimum sensor voltage for test cycle (calculated)	0.4253	0	1.1	V	Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$08 - Maximum sensor voltage for test cycle (calculated)	0.8849	0	1.1	V	Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$91 - Manufacturer Defined	0.039	0	0.9999		Pass
\$06 - Exhaust Gas Sensor Monitor Bank 2 – Sensor 2	TID \$86 - Manufacturer Defined	0	0	0.1514	V	Pass
\$21 - Catalyst Monitor Bank 1	TID \$81 - Manufacturer Defined	0.9999	0	0.9218		Fail
\$22 - Catalyst Monitor Bank 2	TID \$81 - Manufacturer Defined	0.9999	0	0.9218		Fail
\$35 - VVT Monitor Bank 1	TID \$84 - Manufacturer Defined	0.3	0	10	deg	Pass
\$36 - VVT Monitor Bank 2	TID \$85 - Manufacturer Defined	2.4	0	10	deg	Pass
\$3B - EVAP Monitor (0.040")	TID \$81 - Manufacturer Defined	255.9961	0	255.9961	mA	Pass
\$3B - EVAP Monitor (0.040")	TID \$82 - Manufacturer Defined	21.5391	21.5391	255.9961	mA	Pass
\$3C - EVAP Monitor (0.020")	TID \$81 - Manufacturer Defined	26.8242	26.8164	255.9961	mA	Pass

\$3D - Purge Flow Monitor	TID \$81 - Manufacturer Defined	0.2169	0.1799	1.9988		<b>Pass</b>
\$3D - Purge Flow Monitor	TID \$82 - Manufacturer Defined	0	0	0		<b>Pass</b>
\$3D - Purge Flow Monitor	TID \$83 - Manufacturer Defined	0	0	0	mg/stroke	<b>Pass</b>
\$41 - Exhaust Gas Sensor Heater Monitor Bank 1 – Sensor 1	TID \$85 - Manufacturer Defined	780	680	2047.9	C	<b>Pass</b>
\$42 - Exhaust Gas Sensor Heater Monitor Bank 1 – Sensor 2	TID \$81 - Manufacturer Defined	186	0	5000		<b>Pass</b>
\$45 - Exhaust Gas Sensor Heater Monitor Bank 2 – Sensor 1	TID \$85 - Manufacturer Defined	781.1	680	2047.9	C	<b>Pass</b>
\$46 - Exhaust Gas Sensor Heater Monitor Bank 2 – Sensor 2	TID \$81 - Manufacturer Defined	264	0	5000		<b>Pass</b>
\$A2 - Misfire Cylinder 1 Data	TID \$0C - Misfire counts for last/current driving cycles (calculated, rounded to an integer value)	278	0	65535	counts	<b>Pass</b>
\$A2 - Misfire Cylinder 1 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	491	0	65535	counts	<b>Pass</b>
\$A3 - Misfire Cylinder 2 Data	TID \$0C - Misfire counts for last/current driving cycles (calculated, rounded to an integer value)	0	0	65535	counts	<b>Pass</b>
\$A3 - Misfire Cylinder 2 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	10	0	65535	counts	<b>Pass</b>
\$A4 - Misfire Cylinder 3 Data	TID \$0C - Misfire counts for last/current driving cycles	0	0	65535	counts	<b>Pass</b>

	(calculated, rounded to an integer value)					
\$A4 - Misfire Cylinder 3 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	0	0	65535	counts	Pass
\$A5 - Misfire Cylinder 4 Data	TID \$0C - Misfire counts for last/current driving cycles (calculated, rounded to an integer value)	0	0	65535	counts	Pass
\$A5 - Misfire Cylinder 4 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	0	0	65535	counts	Pass
\$A6 - Misfire Cylinder 5 Data	TID \$0C - Misfire counts for last/current driving cycles (calculated, rounded to an integer value)	0	0	65535	counts	Pass
\$A6 - Misfire Cylinder 5 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	0	0	65535	counts	Pass
\$A7 - Misfire Cylinder 6 Data	TID \$0C - Misfire counts for last/current driving cycles (calculated, rounded to an integer value)	0	0	65535	counts	Pass
\$A7 - Misfire Cylinder 6 Data	TID \$0B - EWMA (Exponential Weighted Moving Average) misfire counts for last ten (10) driving cycles	0	0	65535	counts	Pass

## Mode \$09 - Vehicle Information

### General Information

Description	Value
Vehicle Identification Number	4USFE43527LY77490
Calibration ID - \$7E0	7602220



Calibration ID - \$7E0	7617313
Calibration ID - \$7E4	7607116
Calibration ID - \$7E4	7572734
Calibration Verification Number - \$7E4	61164542
Calibration Verification Number - \$7E4	0000390D
Calibration Verification Number - \$7E0	F72C8FB0
Calibration Verification Number - \$7E0	4B8684DE

## In-Performance Tracking

Counter	Description	Value
0x00	OBD Monitoring Conditions Encountered Counts	6105
0x01	Ignition Cycle Counter	18948
0x02	Catalyst Monitor Completion Counts Bank 1	4166
0x03	Catalyst Monitor Conditions Encountered Counts Bank 1	5950
0x04	Catalyst Monitor Completion Counts Bank 2	4436
0x05	Catalyst Monitor Conditions Encountered Counts Bank 2	5950
0x06	O2 Sensor Monitor Completion Counts Bank 1	5793
0x07	O2 Sensor Monitor Conditions Encountered Counts Bank 1	5950
0x08	O2 Sensor Monitor Completion Counts Bank 2	5412
0x09	O2 Sensor Monitor Conditions Encountered Counts Bank 2	5950
0x0A	EGR and/or VVT Monitor Completion Condition Counts	16242
0x0B	EGR and/or VVT Monitor Conditions Encountered Counts	6100
0x0E	EVAP Monitor Completion Condition Counts	1139
0x0F	EVAP Monitor Conditions Encountered Counts	1315
0x10	Secondary O2 Sensor Monitor Completion Counts Bank 1	9882
0x11	Secondary O2 Sensor Monitor Conditions Encountered Counts Bank 1	5950
0x12	Secondary O2 Sensor Monitor Completion Counts Bank 2	9593
0x13	Secondary O2 Sensor Monitor Conditions Encountered Counts Bank 2	5950