

BMW

DIAGNOSTIC TROUBLE CODES

(DTC)

All 1989-94 BMW vehicles are equipped with a self diagnostic system for the detection of injection faults. When a fault is detected by the system the Electronic Control Unit (ECU) records the code corresponding to the defect in the ECU's memory until either:

MOTRONIC 'PEDAL' FAULT CODES (CARB)

MOTRONIC INTERNAL TROUBLE CODES

[DME 1.1, 1.2, 1.3](#)

[DME 1.7, 1.7.1 & 3.1](#)

[DME1.7.2](#)

[DME 3.3](#)

[DME 3.3.1](#)

[DME MS40](#)

[DDE 1](#)

[DDE 2](#)

SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAG) CODES

[SRS 1](#)

[SRS 2](#)

[SRS 3](#)

[SPECIAL NOTE ON E24 & E30 SRS SYSTEMS](#)

ELECTRONIC TRANSMISSION CODES

[EGS 1.XX](#)

[EGS 1.XX Late Model](#)

[EGS 2.28](#)

[EGS 4.XX](#)

[EGS 7.XX](#)

[EGS 9.XX](#)

BMW MOTRONIC 'PEDAL' FAULT CODES

(Models 1989-94)

All 1989-94 BMW vehicles are equipped with a self diagnostic system for the detection of injection faults. When a fault is detected by the system the Electronic Control Unit (ECU) records the code corresponding to the defect in the ECU's memory until either:

- 1) The vehicle battery or the ECU is disconnected.
- 2) The engine is started 60 times with no recurrence of the fault.
- 3) The ECU memory is cleared using the Bosch KTS300, CARSOFT BMW software or the CS1000 BMW hand scanner.

To review the FAULT CODES from the ECU memory use the following procedure:

- 1) Turn the ignition switch to the 'engine run' position.
- 2) Depress the gas pedal to the floor 5 times.

The CHECK ENGINE light will blink out the FAULT CODES starting with the lowest number first. These FAULT CODES consist of 4 digits each separated by a short pause (ie. blink pause blink blink pause blink pause blink translates as 1 2 1 1).

CODE	MALFUNCTIONING SYSTEM	EXPLANATION
1211	DME Control Unit	This code is stored when the DME self test fails. Delete any stored codes. Start and run the car for 30 seconds. Turn off the ignition for 30 seconds. Rerun the diagnosis. If the same fault recurs, the DME control unit must be replaced.
1212	Lambda (O2) Sensor 2	This code is stored when the engine temperature is >70C and the Oxygen Sensor value is out of range or not present. Check the Oxygen Sensor wiring and the operation of the sensor. The value should fluctuate between 0.02 and 0.85V. Slow fluctuation indicates a polluted Oxygen sensor and negative values indicate a damaged sensor. Note: Cars without Catalytic Convertors will incorrectly store this code.
1213	Lambda Control 2	This code is stored when the DME detects excessive deviations in the air-fuel mixture (too rich or too lean) for longer than 10 seconds. Possible causes: Fuel tank ran empty, Incorrect Fuel Pressure, Injector valve defective or coked, Engine Temperature Sensor defective, Secondary air leak, Fuel evaporation control system defective, Air Flow Meter defective and/or the combustion is being disturbed by mechanical failure (Spark plugs,, compression, intake/exhaust valves, ...etc.)
1215	Air Mass/Volume Sensor	This code is stored if there is a break or short-circuit at: Air Mass Flow Meter or its supply wires or the voltage supply to Air Mass Flow Meter insufficient. Cable damage is the most common cause of this trouble code.
1216	Throttle Potentiometer	This code is stored if a break or short-circuit occurs in the wiring to the Throttle Potentiometer or the potentiometer is defective. Damage at the throttle potentiometer connection is the most common cause of this fault.
1218	Output Stage, Group 1	This code is stored if there is a short to B+ or Ground at the Output Amplifier Stage (Bank 1). Generally this code occurs with other defects. Causes may be a faulty Idle Speed Actuator, Injector Valves, Ignition Coil on Plug, Oxygen Sensor Heating Relay, Fuel Evaporation, Control Valve, Malfunction Indicator Lamp (MIL) and/or EKP Relay. Delete the code after examining for other faults. If the code recurs, delete code, then disconnect the DME for a minimum of 5 minutes to initiate a reset. Rerun car. If code recurs and no other defects are found the DME is most likely damaged and must be replaced. If the code does not recur and the engine runs properly, ignore.
1219	Output Stage, Group 2	This code is stored if there is a short to B+ or Ground at the Output Amplifier Stage (Bank 2). Generally this code occurs with other defects. Causes may be a faulty Idle Speed Actuator, Injector Valves, Ignition Coil on Plug, Oxygen Sensor Heating Relay, Fuel Evaporation, Control Valve, Malfunction Indicator Lamp (MIL) and/or EKP Relay. Delete the code after examining for other faults. If the code recurs,

Bmw Manufacturer Codes And Description

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		delete code, then disconnect the DME for a minimum of 5 minutes to initiate a reset. Rerun car. If code recurs and no other defects are found the DME is most likely damaged and must be replaced. If the code does not recur and the engine runs properly, ignore.
1221	Lambda (O2) Sensor 1	This code is stored when the engine temperature is >70C and the Oxygen Sensor value is out of range or not present. Check the Oxygen Sensor wiring and the operation of the sensor. The value should fluctuate between 0.02 and 0.85V. Slow fluctuation indicates a polluted Oxygen sensor and negative values indicate a damaged sensor. Note: Cars without Catalytic Convertors will incorrectly store this code.
1222	Lambda Control 1	This code is stored when the DME detects excessive deviations in the air-fuel mixture (too rich or too lean) for longer than 10 seconds. Possible causes: Fuel tank ran empty, Incorrect Fuel Pressure, Injector valve defective or coked, Engine Temperature Sensor defective, Secondary air leak, Fuel evaporation control system defective, Air Flow Meter defective and/or the combustion is being disturbed by mechanical failure (Spark plugs,, compression, intake/exhaust valves, ...etc.)
1223	Coolant Temp. Sensor	This code is stored when a short to plus or a break in the wiring at the Coolant Temperature Sensor or its supply wires may exist. Check the wiring and the value of the sensor. 8.26-10.56 KOhms at -10C, 2.2-2.7 KOhms at 20C, 290-364 Ohms at 80C
1224	Intake Air Temp. Sensor	This code is stored when a short to plus or a break in the wiring at the Intake Air Temperature Sensor or its supply wires exists. Check the value of the sensor. 2.2-2.7 KOhms at 20C, 760-910 Ohms at 50C
1225	Knock Sensor 1	This code is set when Knock Sensor #1 has sent multiple signals or a break or short has occurred in the sensor or it's wiring. Check the Knock Sensor and its wiring for defects. Check with customer about the grade of fuel being used (RON>91). Increase octane if necessary. (Caution customer about carbon build up.)
1226	Knock Sensor 2	This code is set when Knock Sensor #2 has sent multiple signals or a break or short has occurred in the sensor or it's wiring. Check the Knock Sensor and its wiring for defects. Check with customer about the grade of fuel being used (RON>91). Increase octane if necessary. (Caution customer about carbon build up.)
1227	Knock Sensor 3	This code is set when Knock Sensor #3 has sent multiple signals or a break or short has occurred in the sensor or it's wiring. Check the Knock Sensor and its wiring for defects. Check with customer about the grade of fuel being used (RON>91). Increase octane if necessary. (Caution customer about carbon build up.)
1228	Knock Sensor 4	This code is set when Knock Sensor #4 has sent multiple signals or a break or short has occurred in the sensor or it's wiring. Check the Knock Sensor and its wiring for defects. Check with customer about the grade of fuel being used (RON>91). Increase octane if necessary. (Caution customer about carbon build up.)