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:

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,

		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.)

1231	Battery Voltage/DME Main Relay	Either the battery was disconnected or the voltage of the battery is too low or too high. Check the battery and charging system.
1232	Throttle Idle Switch	
1233	Throttle WOT Switch	
1234	Vehicle Speed Sensor (Speedometer A Signal)	This code is stored when no plausible speed signal is detected while driving. The requirements are an engine speed >2500 rpm and under load for more than 10 seconds. Check the speedometer function and the wire to the DME . Also check for codes in the Combi Unit (Instrument Cluster).
1237	A/C Compressor cut off	This code is stored if there is a short to B+ or Ground. In the case of a short to ground, the A/C compressor is not switched off at a speed below 5 mph (8 km/h) when accelerating under full load. The A/C compressor does not operate when shorted to B+. Check the A/C compressor cut-out relay and its wiring.
1241	Air Mass Sensor (See note 1)	
1242	A/C Compressor	Check A/C compressor signal wire to the DME control unit for a short-circuit to power, ground or for disconnection. Check refrigerant level and condition of A/C pulley drive belt.
1243	Crankshaft Pulse Sensor	This code is stored when signal from the Crankshaft Pulse Generator is implausible (absent or out of range). Check the Crankshaft Pulse Generator and the wiring.
1244	Camshaft Sensor	This code is stored when the Camshaft Pulse Generator signal is interrupted or defective. Also check the spark plugs and the ignition coil(s) output. Check the pulse signal with an oscilloscope (50Hz, 25ms sweep). Measure with a break-out box. If a coil is found to be defective the DME control unit may also be damaged. Failure of the injector side of the output stage is the most common symptom.
1245	Intervention EGS	This code is stored when a short to ground occurs on the wire from the EGS to the DME control unit, for more than 2.5 seconds. The on-board computer should display the message TRANSMISSION EMERGENCY PROGRAM. Ignition timing will be retarded only once and then the DME will substitute the original value until this code is cleared. Check the wire and connection to the EGS.
1247	Ignition Secondary Monitor	
1251	Fuel Injector 1 (or group 1)	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1252	Fuel Injector 2 (or group 2)	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1253	Fuel Injector 3	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is

		intermittent.
1254	Fuel Injector 4	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1255	Fuel Injector 5	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1256	Fuel Injector 6	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1257	Fuel Injector 7	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1258	Fuel Injector 8	Check the injector valve for coking and proper spray pattern. Check the wiring from the DME and the output stage of the DME. Code 1283 may also be stored when the defect is intermittent.
1261	Fuel Pump Relay Control	There is a break or short circuit in the wiring to the Fuel Pump Relay, pin 3, of the DME or the output stage in the DME is damaged (M1.3 only).
1262	Idle Speed Actuator	There is a break or short circuit in the wiring to the idle actuator or the wire from the DME is defective or the output stage in the of the DME is damaged. This code will also be stored if the engine stalls at over 600 rpm.
1263	Purge Valve	This code is stored if there is a break or short-circuit at: Evaporative control valve, wire from the DME control unit or the output stage of the DME control unit is defective (M1.3 only).
1264	Lambda (O2) Sensor Heater	This code is stored if there is a break or short-circuit at:, - Oxygen Sensor Heater, - Sensor heating relay, - Wire from the DME control unit. Check the Oxygen Sensor Heater Relay and Air Pump Relay and the supply wires.
1265	Fault Lamp (check engine)	This code is stored if a break or short-circuit occurs in the wiring to the Malfunction Indicator Lamp (MIL) or the lamp is burned out.
1266	VANOS Relay	Check the wires and the connections of the VANOS relay (Variable camshaft adjustment). The relay could also be defective.
1267	Air Pump Relay Control	
1271	Ignition Coil 1	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1272	Ignition Coil 2	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.

1273	Ignition Coil 3	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1274	Ignition Coil 4	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1275	Ignition Coil 5	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1276	Ignition Coil 6	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1277	Ignition Coil 7	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1278	Ignition Coil 8	A break or short in the Ignition Final Stage wiring has occurred. Check primary ignition signal pattern.
1281	Control Unit Memory Supply	This code is stored when a defect is detected in the RAM or in the ROM/EPROM. This is most often the result of low battery voltage. Delete the stored codes and disconnect the DME for at least 5 minutes in order to trigger a reset. Reconnect the DME and run the engine at idle for 3 minutes then drive the car at over 30 mph for more than 5 minutes. If the code recurs the DME must be replaced.
1282	Fault Code Memory	This code is set if there is illogical data stored in the trouble code memory. Delete the stored codes. Simulate a defect (i.e. start engine and then disconnect the Idle Actuator) If the code recurs, the DME control unit must be replaced!
1283	Fuel Injector Output Stage	This code is stored when a break or short-circuit occurs temporarily at: an injector valve, wiring from the DME to an injector or the injector stage of the DME is damaged.
1286	Knock Control test Pulse	The ECU internally generated pulse was not detected. It is used to verify electrical integrity (shorts or disconnection) of the knock control circuitry both internally and externally. Check wiring and Knock Sensors.
1444	No Failures	

*In the 12 cylinder model the Injection system is treated as two 6 cylinder systems joined at the crank. This means there are two ECUs in the system. To access the second ECU depress the gas pedal to the floor 6 times.Some models will return implausible blink codes if the ECU has failed or if the power is interrupted during operation. Removal of the control units harness and reconnection after 10 minutes seems to resolve most of these problems.

Note 1) Code 41, 1241 and 2241 can be false Air Mass Flow Meter codes on 1992 and later models. The actual cause of the code is a faulty Idle Air Valve and the need for an updated EPROM. See all applicable service bulletines for further information.

DME 1.1, 1.2, 1.3 M20, M30, M40, M70, S38	
FAULT	**MALFUNCTION**
1	Fault in the DME control Unit - Reset and run vehicle if code returns replace DME.
3	Electrical Fuel Pump Relay (EKP)
4	Idle-speed Actuator - Open
5	Tank Ventilation Valve
7	Air-flow Sensor
10	Lambda Regulation
15	Check Engine Failure Light
16	Injection Valve(s)
17	Injection Valve(s)
22	Idle Speed Controller
23	Lambda Sensor - Heater/Air Pump
28	Lambda Sensor
29	Speed Signal
33	Magnetic Valve Hydraulic Automatic Transmission
37	Power Supply
38	ASC/DWA
40	Air Conditioner Compressor
43	Idle-speed Co-potentiometer
44	Temperature-sensor - Air Intake
45	Temperature-sensor - Coolant
50	Engine Towing Moment Regulation
51	Ignition Angle Engagement
52	Idle-speed Switch
53	Wide-open-throttle Switch
54	Torque Converter Lockup Clutch
100	DME Control Unit Final Stage

DME 1.7, 1.7.1 & 3.1 M40, M42, M50, S70	
FAULT	**MALFUNCTION**
0	Undefined Fault
1	Fuel Pump Relay (EKP) / RPM Signal
2	Idle Speed Controller
3	Fuel Injector on Cylinder # 2+4+6 or # 8+10+12
8	Fault Lamp (US Model only)
12	Throttle Valve Potentiometer
15	Knock Sensor 1
16	Ignition, #6 or #12 Cylinder Spark Signal
18	Control Unit, Pin 18 Stage (when short)
29	Idle Actuator
32	Fuel Injector, Cylinder 1+3+5 or Cylinder 7+9+11
36	Tank Ventilation Valve
37	Oxygen Sensor Heater
41	Air Flow Sensor (See note 1 page 14.)
42	Knock Sensor 2
48	Air Conditioner Compressor Cutoff
54	Control Unit Power Supply B+
55	Ignition, #1 & #4 cylinder
63	Transmission Road Signal (in P or N)
64	Ignition Timing Intervention (signal from EGS)
70	Oxygen Sensor
73	Vehicle Speed Sensor Signal
76	Idle CO Potentiometer
77	Temperature Sensor - Air Intake
78	Temperature Sensor - Engine Coolant
82	Intervention, Engine Drag Torque Control (MSR)
83	Intervention, Automatic Stability Control (ASC)
85	Air Condition Compressor
100	This Code Pinpointed Elsewhere
153	Control Voltage of Knock Control
200	Control Unit (RAM, ROM/EPROM)
201	Oxygen Sensor Control
255	Control Unit Internal Fault

DME1.7.2 M42, M43 Engine	
FAULT	**MALFUNCTION**
0	Undefined fault
1	Fuel pump relay (EKP)
2	Idle Speed Controller
3	Fuel Injector #1 & #3 cylinder
8	Fault Lamp (US model only)
12	Throttle Valve Potentiometer
15	Knock Sensor 1
16	Camshaft Sensor
18	Changeover Valve, DISA Butterfly
29	Idle Actuator
32	Fuel Injector, #2 & #4 cylinder
36	Tank Ventilation Valve
37	Oxygen-Sensor Heater
41	Air Mass Flow Sensor (See note 1 page 14.)
42	Knock Sensor 2
48	Air-Conditioner Compressor Cutoff
54	Control-Unit Power Supply B+
55	Ignition, #1 & #4 cylinder
64	Ignition Timing Intervention (signal from EGS)
70	Oxygen Sensor
73	Vehicle Speed Sensor Signal
76	Idle CO Potentiometer
77	Temperature Sensor - Air Intake
78	Temperature Sensor - Engine Coolant
85	Air Condition Compressor
100	This code pinpointed elsewhere
153	Control Voltage of Knock Control
201	Oxygen Sensor Control
255	Control Unit Internal Fault

DME 3.3 M60, S38, S50	
FAULT	**MALFUNCTION**
0	Undefined Fault
1	Fuel Pump Relay (EKP)
2	Idle Actuator Closing Winding
3	Fuel Injector, #1 Cylinder
4	Fuel Injector, #4 Cylinder
5	Fuel Injector, #6 Cylinder
6	Fuel Injector Output Stage without Cylinder

	Assignment
7	Fuel Injector, #7 Cylinder
8	Fault Lamp (US Model only)
12	Oxygen Sensor #2
13	Oxygen Sensor #1
15	Ignition Circuit Monitoring
16	Crankshaft Pulse Generator
17	Camshaft Sensor
18	Fault to test storage - No actual fault
22	Ignition #7 Cylinder
23	Ignition #6 Cylinder
24	Ignition #4 Cylinder
25	Ignition #1 Cylinder
26	Control Unit Supply B+
29	Idle Actuator Opening Winding
31	Fuel Injector, #5 Cylinder
32	Fuel Injector, #8 Cylinder
33	Fuel Injector, #3 Cylinder
35	Fuel Injector, #2 Cylinder
36	Tank Ventilation
37	Oxygen-Sensor Heater #2
38	Oxygen-Sensor Heater #1
41	Air Mass Flow Sensor (See note 1 page 14.)
42	Road Speed Sensor
46	Free SG Output Stage
48	Air Conditioner Compressor Cutoff
49	Ignition, #2 Cylinder
50	Ignition, #3 Cylinder
51	Ignition, #8 Cylinder
52	Ignition, #5 Cylinder
54	DME Control Unit Power Supply via Main Relay
55	Ignition Final Stage
62	Signal, Electronic Engine Power Control (EML)
63	Torque Convertor Lockup Clutch
64	Engagement in the Ignition Control Unit
65	Air Conditioner Compressor
66	Signal, Burglar Alarm System (DWA)
67	Knock Sensor Cylinder #4
68	Knock Sensor Cylinder #3
69	Knock Sensor Cylinder #2
70	Knock Sensor Cylinder #1
73	Throttle Valve Potentiometer
76	Idle CO Potentiometer
77	Temperature Sensor - Air Intake

78	Temperature Sensor - Engine Coolant
82	Intervention, Engine Drag Torque Control (MSR)
83	Intervention, Automatic Stability Control (ASC)
85	Air Conditioner Compressor Relay
100	Output Amplifier Stage - Group 1
101	Output Amplifier Stage - Group 2
200	DME control Unit
201	Oxygen Sensor Control #1
202	Fault Memory in Control Unit Fault
203	Oxygen Sensor Control #2
204	Idle Speed Increase During MSR Operation
205	Transmission Intervention during Gear-Shifts (EGS only)
206	Knock Regulation
210	CAN Interface, Trans. Intervention Version DME

DME 3.3.1 (VANOS) M50	
FAULT	**MALFUNCTION**
0	Undefined Fault
1	Fuel Pump Relay (EKP)
2	Idle-Actuator Closing Winding
3	Fuel Injector, #5 Cylinder
4	Fuel Injector, #6 Cylinder
5	Fuel Injector, #4 Cylinder
6	Fuel Injector output stage without cylinder assignment
7	VANOS Solenoid Valve
8	Fault Lamp (US Model Only)
12	Oxygen Sensor #2
13	Oxygen Sensor #1
15	Ignition-Circuit Monitoring
16	Crankshaft Pulse Generator
17	Camshaft Sensor
23	Ignition, #4 Cylinder
24	Ignition, #6 Cylinder
25	Ignition, #5 Cylinder
26	Control-Unit Supply B+
29	Idle-Actuator Opening Winding
31	Fuel Injector, #3 Cylinder
32	Fuel Injector, #2 Cylinder
33	Fuel Injector, #1 Cylinder
36	Tank Ventilation

37	Oxygen-Sensor Heater
41	Air-Mass Flow Sensor (See note 1 page 14.)
42	Vehicle Speed Sensor
48	Air-Conditioner Compressor Cutoff
50	Ignition, #1 Cylinder
51	Ignition, #2 Cylinder
52	Ignition, #3 Cylinder
54	DME Control-Unit Power Supply via Main Relay
57	Ignition Timing Intervention (signal from EGS)
62	Signal, Electronic Engine Power Control (EML)
66	Signal, Burglar Alarm System (DWA)
69	Knock Sensor 2
70	Knock Sensor 1
73	Throttle Valve Potentiometer
77	Intake Air Temp Sensor
78	Engine Temp Sensor (coolant)
82	Intervention, Engine-Drag-Torque Control (MSR)
83	Intervention, Automatic Stability Control (ASC)
100	Output Stage, Group 1
101	Output Stage, Group 2
200	DME Control Unit (RAM, ROM/EPROM)
201	Oxygen Sensor Control
202	Fault Memory in Control Unit
204	Idle Speed Increase during MSR Operation
206	Knock Control Test Pulse

DME MS40 (Siemens)	
FAULT	**MALFUNCTION**
1	Ignition Fault - Cylinder #1
2	Ignition Fault - Cylinder #3
3	Ignition Fault - Cylinder #5
5	Injection Valve Fault - Cylinder #6
6	Injection Valve Fault - Cylinder #4
10	Air-conditioner Compressor
12	Speed Signal
14	Transmission Engagement
22	Injection Valve Fault - Cylinder #3
23	Injection Valve Fault - Cylinder #1
24	Air Conditioner Compressor
27	Idle-speed-controller
29	Ignition Fault - Cylinder #2
30	Ignition Fault - Cylinder #4
31	Injection Valve Fault - Cylinder #6
33	Injection Valve Fault - Cylinder #5
49	Power Supply Control Unit
50	Injection Valve Fault - Cylinder #2
51	Tank Ventilation
52	Fuel Pump
53	Lambda Sensor - Heater
62	Ignition Signal Information
63	Knock Sensor Fault - Cylinder #4, 5 and 6
64	Knock Sensor Fault - Cylinder #1, 2 and 3
68	Air-flow Sensor (Hot Film)
75	Voltage at the Lambda Sensor
77	Throttle Potentiometer
79	Camshaft Angle Pulse Generator
81	Temperature Sensor - Engine Coolant
84	Camshaft Angle Pulse Generator
85	Temperature Sensor - Air Intake
97	Tank Ventilation Valve
98	Idle Speed Controller
99	Lambda Control
100	Control Unit Fault

DDE 1 Digital Diesel Electronics Version 1	
FAULT	**MALFUNCTION**
1	RPM Transmitter
2	Temperature Sensor - Fuel
3	Temperature Sensor - Engine Coolant
4	Pedal Position Transmitter
5	Boost Pressure Sensor
6	Throttle Position Potentiometer
7	Boost Pressure Regulator
8	Air Mass Position
10	Speed Regulator
11	Compute Coupling
12	Temperature Sensor - Air
13	RPM Data Line
14	Start of Injection Transmitter
15	Exhaust Gas Recirculation
16	Start of Injection Regulator
17	Brake Test Switch
36	Water Level Sensor

Transfer interrupted!

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DDE 2 Digital Diesel Electronics Version 2	
FAULT	**MALFUNCTION**
0	Undefined Fault
1	Air Mass Positioner
3	Electronic Turn off Unit
5	Start of Injection Transmitter
6	Glow Period Regulator
10	Start of Injection Regulator
15	Voltage Supply DDE Control Unit
20	Speed Regulator
21	Throttle Position Potentiometer
28	Clutch Switch
29	Speed Signal
31	Brake Switch
35	Temperature Sensor - Fuel
36	Water in Fuel Sensor
37	Pedal Position Transmitter
41	Glow Period Regulator
Theft Protection System	
47	RPM Transmitter
52	Temperature Sensor - Charge Air
53	Temperature Sensor - Engine Coolant
54	Boost Pressure Sensor
56	Internal Control Unit Fault
58	Disturbance of the High-level Stage
59	Deviation of the Boost Pressure

Supplemental Restraint System Codes

(SRS/Airbag)

******* BEFORE STARTING TO WORK ON THE SRS SYSTEM *******
DISCONNECT THE BATTERY

SRS 1 (1988-91)	
CODE	**DESCRIPTION OF MALFUNCTION**
1	AIRBAG IGNITION CAPACITOR DEFECT. - Please replace the Ignition Capacitor. The airbag system will not function if this is not corrected.
2	DIAGNOSTIC UNIT MALFUNCTION - Examine all faults and delete them from the fault memory. If this fault recurs you must replace the SRS Control Unit.
3	AIRBAG SUPPLY WIRE- DRIVERS SIDE -Resistance Too High - Please check the wire resistance. If necessary replace the cable set.
4	AIRBAG SUPPLY WIRE - DRIVER SIDE - POWER SUPPLY DEFECT -

	Please check the wire resistance. If necessary replace the cable set.
5	SEAT BELT TENSIONER SUPPLY WIRE RESISTANCE TOO HIGH - Please check the wire resistance. If necessary replace the cable set.
6	SEAT BELT TENSIONER SUPPLY WIRE - POWER SUPPLY DEFECT - Check the sensor wire for breaks or shorts. Check the connectors for corrosion and breakage.
7	CRASH SENSOR TRIGGERED - FRONT LEFT - Check the sensor, wires and connections for breaks, shorts or defects Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
8	CRASH SENSOR FAULT - FRONT LEFT - Check the sensor, wires and connections for breaks, shorts or defects Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis. Replace the Crash Sensor if the fault recurs.
9	CRASH SENSOR GROUND CONTACT FAULT - FRONT LEFT - Check the sensor ground contact. Check the battery ground contacts. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis. Replace the Crash Sensor if the fault recurs.
10	CRASH SENSOR TRIGGERED - FRONT RIGHT - Check the sensor, wires and connections for breaks, shorts or defects. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
11	CRASH SENSOR FAULT - FRONT RIGHT - Check the sensor, wires and connections for breaks, shorts or defects. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis. Replace the Crash Sensor if the fault recurs.
12	CRASH SENSOR GROUND CONTACT FAULT - FRONT RIGHT - Check the sensor ground contact. Check the battery ground contacts. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis. Replace the Crash Sensor if the fault recurs.
13	CRASH SENSOR SUPPLY RESISTANCE TOO HIGH - FRONT LEFT - Check the sensor, wires and connections for breaks, shorts or defects. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
14	CRASH SENSOR SUPPLY WIRE FAULT - FRONT LEFT - Check the sensor, wires and connections for breaks, shorts or defects Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
15	CRASH SENSOR SUPPLY RESISTANCE TOO HIGH - FRONT RIGHT - Check the sensor, wires and connections for breaks, shorts or defects. Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
16	CRASH SENSOR SUPPLY WIRE FAULT - FRONT LEFT - Check the sensor, wires and connections for breaks, shorts or defects Delete faults in memory, drive vehicle over 15 mph, then rerun diagnosis.
17	WARNING LAMP SHORT CIRCUIT - A short-circuit exists in the instrument panel or in the supple wire from the control unit to the instrument panel. Please check whether the SRS warning light either lights up permanently or not at all.
18	WARNING LAMP DEFECT - Please check the airbag signal bulb in the instrument panel and replace it if necessary.
19	CRASH DETECTION ACCUMULATOR ACTIVATED - The detection accumulator is activated by the operation of the SRS system. * ATTENTION! THIS ACCUMULATOR CAN ONLY BE DIAGNOSED AND RESET BY THE BMW DEALER.
20	SRS CONTROL UNIT DEFECT - DEALER REPLACEMENT ONLY -Delete fault stored in memory. Operate vehicle for 5 minutes. If the fault re-occurs, the SRS Control Unit will need replacement.

21	AIRBAG SUPPLY WIRE RESISTANCE TOO HIGH - PASSENGER SIDE - Please check the wire resistance. If necessary replace the cable set.
22	AIRBAG SUPPLY WIRE - DRIVER SIDE WIRE DEFECT - Please check the wire resistance. If necessary replace the cable set.

SRS 2 (1991-93)

CODE	DESCRIPTION OF MALFUNCTION
1	FRONT SENSOR TRIGGERED - ONE TIME
2	FRONT SENSOR TRIGGERED - MULTIPLE TIMES
5	FRONT SENSOR TRIGGERED - PERMANENT
13	TWO FIRING CIRCUITS ARE SHORT CIRCUITED
19	FRONT SENSOR SUPPLY VOLTAGE - LEFT FAULT
20	FRONT SENSOR SUPPLY VOLTAGE - RIGHT FAULT
27	PRIMARY AIRBAG FIRING CIRCUIT IS SHORTED TO + BATTERY - Check wiring for short.
33	PRIMARY AIRBAG FIRING CIRCUIT IS SHORTED GROUND - Check wiring for shorts or breaks.
42	AIRBAG IGNITION CIRCUIT - DIVERS SIDE - Resistance too low
43	SEATBELT PRE-TENSIONING SYSTEM - PASSENGER AIRBAG - Resistance in circuit II is too low.
44	PASSENGER AIRBAG - Resistance in circuit III (or spare resistor) is too low.
45	AIRBAG IGNITION CIRCUIT - DIVERS SIDE - Resistance in supply wire is too high
46	SEATBELT PRE-TENSIONING SYSTEM - PASSENGER AIRBAG - Resistance in circuit II is too high.
47	PASSENGER AIRBAG - Resistance in circuit III (for spare resistance) is too high.
49	SRS WARNING LAMP FAULTY
50	SRS CONTROL UNIT DEFECT - DEALER REPLACEMENT ONLY -Delete fault stored in memory. Operate vehicle for 5 minutes. If the fault re-occurs, the SRS Control Unit will need replacement.
52	CRASH ACCUMULATOR TRIGGERED - DEALER REPLACEMENT ONLY

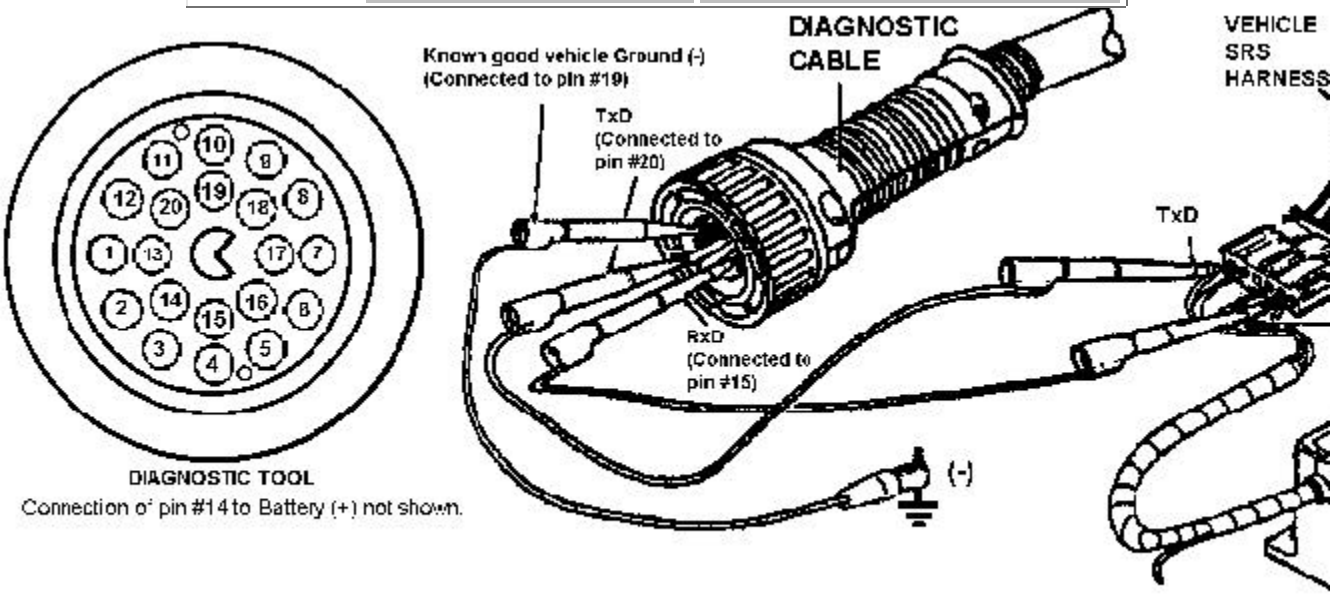
SRS 3 (1993-98)	
CODE	**DESCRIPTION OF MALFUNCTION**
1	SRS CONTROL UNIT DEFECT - DEALER REPLACEMENT ONLY - Delete fault stored in memory. Operate vehicle for 5 minutes. If the fault recurs, the SRS Control Unit will need replacement. This code is also associated with low battery voltage.
2	AIRBAG IGNITION CIRCUIT - DRIVERS SIDE - DEFECTIVE
3	SEATBELT PRE-TENSIONING SYSTEM FIRING CIRCUIT - DRIVER SIDE
4	SEATBELT PRE-TENSIONING SYSTEM FIRING CIRCUIT - PASSENGER SIDE
5	AIRBAG IGNITION CIRCUIT - PASSENGER SIDE - DEFECTIVE
6-7	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
12-16	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
17	POWER SUPPLY - Check battery and charging system.
18	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
19	SRS WARNING LAMP FAULT
20	SEAT OCCUPANCY DETECTION CIRCUIT - PASSENGER SIDE
21	PRESSURE SENSOR - DRIVER SIDE
22	PRESSURE SENSOR - PASSENGER SIDE
23	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
24	SEAT BELT LOCK - DRIVER SIDE
25	SEAT BELT LOCK - PASSENGER SIDE
48-63	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
65	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.)
67-72	SRS CONTROL UNIT INTERNAL DEFECT (See fault code 76-77.).
73	TWO FIRING CIRCUITS ARE SHORT CIRCUITED
76-77	SRS CONTROL UNIT INTERNAL DEFECT - DEALER REPLACEMENT ONLY - Delete fault stored in memory. Operate vehicle for 5 minutes. If the fault re-occurs, the SRS Control Unit will need replacement. This code is also associated with low battery voltage.

*** SPECIAL NOTE REGARDING SRS SYSTEMS ON *** E24 AND E30 CHASSIS

(For use with Baum Tools CS1000, Carsoft Software or BMW MODIC.)

On some E24 and E30 model BMWs, the RxD and TxD lines from the SRS control unit are not integrated into the 20 pin diagnostic socket found under the hood. In order to diagnose and reset SRS lights on these vehicles, you must tap directly into the harness coming from the SRS control unit.

	Diagnostic Tool Plug Pin	SRS Control Unit Connector
E24 models	Pin #14 Battery (+)	Battery (+) Terminal
	Pin #15 (RxD)	Pin #6 (WT/YL)
	Pin #19 Ground	Good Vehicle Ground
	Pin #20 (TxD)	Pin #2 (WT/VI)
E30	Pin #14 Battery (+)	Battery (+) Terminal
	Pin #15 (RxD)	Pin #6 (WT/YL)
	Pin #19 Ground	Good Vehicle Ground
	Pin #20 (TxD)	Pin #2 (WT/VI)
E30 1992	Pin #14 Battery (+)	Battery (+) Terminal
Convertible	Pin #15 (RxD)	Pin #6 (WT/BLK)
	Pin #19 Ground	Good Vehicle Ground
	Pin #20 (TxD)	Pin #7 (WT/VI)



ELECTRONIC TRANSMISSION CODES

4HP22/4HP24 (EARLY MODEL THROUGH 10/89) - EGS 1.XX				
CODE	**DEFINITION OF FAULT**	**EGS PIN OUT**	**TRANS. CABLE (8 PIN)**	**POSSIBLE CAUSES**
01	Transmission relay			Relay not switching
02	EPROM checksum error			Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
03	Kickdown switch	2		Short to ground
04	Program switch	2		Break in wiring Short in wiring Defective switch
05	Throttle valve signal or accelerator pedal position - (EML pin 32)	7 9		Break in wiring Short in wiring Defective switch
06	Solenoid valve 1	16	5	Break in wiring Short in wiring Defective valve winding
07	Solenoid valve 2	17	6	Break in wiring Short in wiring Defective valve winding
08	Solenoid valves 1 & 2	16, 17	5, 6	Short in wiring Defective valve winding
09	Solenoid valve - Reverse lock	20	2	Break in wiring Short in wiring Defective valve winding
10	Solenoid valve 1 - Reverse lock	16, 20	5, 2	Short in wiring Defective valve winding
11	Solenoid valve 2 - Reverse lock	17, 20	6, 2	Short in wiring Defective valve winding
12	Solenoid valves	25	7	Short in wiring Defective valve winding
13	Solenoid valve - Converter lockup clutch	25	7	Break in wiring Short in wiring Defective valve winding
14	Solenoid valve 1 - Converter lockup clutch	16, 25	5, 7	Short in wiring Defective valve winding
15	Solenoid valve 2 - Converter lockup clutch	17, 25	6, 7	Short in wiring Defective valve winding
16	Solenoid valves - Converter lockup clutch	20	2	Short in wiring Defective valve winding
17	Reverse lock solenoid valve - Converter lockup clutch	20, 25	2, 7	Short in wiring Defective valve winding
19	Solenoid valve - MV2	17	6	Short in wiring Defective valve winding

18	Solenoid valve - Mv1	16	5	Short in wiring Defective valve winding
20	Power supply - MV's and Pressure regulators	1	8	Short in wiring Defective valve winding
21	Engine speed sensor signal	21		Engine speed too high > 6800 rpm
22	Pressure regulator	22	1	Break in wiring Short in wiring Defective valve winding
23	Ignition timing intervention	24		Break in wiring Short to ground
24	Speed sensor n-ab - Downshift prevention	8, 27	3, 4	Break or short in wiring from control unit pin 8 to speed sensor Engine speed sensor defective
25	Engine over-rev lock			Engine speed exceeds output speed
26	KVA signal (ti)	11		Fuel consumption indicator (KVA signal)
27	Speed sensor n-ab			Engine speed sensor or torque converter Stall speed exceeded
28	Breakdown display			Transmission failure detected
29	Incorrect checksum in EGS program memory			Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
30	Battery voltage			Battery voltage too low >9 volts Check battery Check charging system
31	Shift lever position	28		
200	Kickdown switch not working			
201	Kickdown switch fault			
202	Sport car transmission feature not selectable			
203	Manual shift program feature not selectable			
204	Program cannot be converted	6		
205	No engine deceleration detected	24		
206	False code set			
207	No EML detected			
300	Diagnostic circuit fault			
301	Voltage to control			No voltage to EGS control unit Check wiring harness
302	Shift lever position sensor			Break in wiring Short in wiring Defective switch
303	Shift lever position sensor signal			Break in wiring Short in wiring Defective switch

4HP22, 4HP24 (LATE MODEL 11/89 AND NEWER)- EGS 1.XX				
CODE	**DEFINITION OF FAULT**	**EGS PIN OUT**	**TRANS. CABLE (8 PIN)**	**POSSIBLE CAUSES**
01	Transmission relay			Relay in EGS not switching
02	EPROM checksum error			Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
03	Kickdown switch	2		Short to ground
04	Program switch E=pin 14, M=pin 15, S=pin 4			Break in wiring Short in wiring Defective switch
05	Throttle valve signal or accelerator pedal position - (EML pin 32)	7, 9		Break in wiring Short in wiring Defective switch
06	Solenoid valve 1	16	5	Break in wiring Short in wiring Defective valve winding
07	Solenoid valve 2	17	6	Break in wiring Short in wiring Defective valve winding
08	Solenoid valves 1 & 2	16, 17	5, 6	Short in wiring Defective valve winding
09	Solenoid valve -Park/neutral lock	20	2	Break in wiring Short in wiring Defective valve winding
10	Solenoid valve 1 - Park/neutral lock	16, 20	5, 2	Short in wiring Defective valve winding
11	Solenoid valve 2 - Park/neutral lock	17, 20	6, 2	Short in wiring Defective valve winding
12	Solenoid valves	25	7	Short in wiring Defective valve winding
13	Solenoid valve - Converter lockup clutch	25	7	Break in wiring Short in wiring Defective valve winding
14	Solenoid valve 1 - Converter lockup clutch	16, 25	5, 7	Short in wiring Defective valve winding
15	Solenoid valve 2 - Converter lockup clutch	17, 25	6, 7	Short in wiring Defective valve winding
16	Solenoid valves - Converter lockup clutch	20	2	Short in wiring Defective valve winding
17	Reverse lock solenoid valve - Converter lockup clutch	20, 25	2, 7	Short in wiring Defective valve winding
19	Solenoid valve - Magnetic valve 2	17	6	Short in wiring Defective valve winding
18	Solenoid valve - Magnetic valve 1	16	5	Short in wiring

				Defective valve winding
20	Power supply - Solenoid valves (MV's) and Pressure regulators	1	8	Break in wiring Short in wiring Defective valve winding
21	Engine speed sensor signal	21		Engine speed too high > 6800 rpm
22	Pressure regulator	22	1	Break in wiring Short in wiring Defective valve winding
23	Ignition timing intervention	24		Break in wiring Short to ground
24	Speed sensor n-ab - Downshift prevention	8, 27	3. 4	Break or short in wiring from control unit pin 8 to speed sensor Engine speed sensor defective Engine speed too high for intended gearshift
25	Engine over-rev lock			Engine speed exceeds output speed
26	KVA signal (ti)	11		Fuel consumption indicator (KVA signal)
27	Speed sensor n-ab	8, 27	3, 4	Engine speed sensor Torque convertor Stall speed exceeded
28	Breakdown display			Transmission failure detected
29	Incorrect checksum in EGS program memory			Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
30	Battery voltage			Low battery voltage Check battery and charging system
31	Shift lever position	28		Break in wiring Short in wiring Short in sensor
200	Kickdown switch not working			
201	Kickdown switch fault			
202	Sport car transmission feature not selectable			
203	Manual shift program feature not selectable			
204	Program cannot be converted	6		
205	No engine deceleration detected	24		
206	False code set			
207	No EML detected			
300	Diagnostic circuit fault			
301	Voltage to control			No voltage to EGS control unit Check wiring harness
302	Shift lever position sensor			
303	Shift lever position sensor signal			Break in wiring Short in wiring Defective switch

4HP24 - EGS 2.28			
CODE	**DEFINITION OF FAULT**	**EGS PIN OUT**	**POSSIBLE CAUSES**
01	Battery voltage +	1	Battery voltage too low >9 volts Check battery Check charging system
02	Output speed sensor (tr)	2, 28	Anomalous signal Not normal signal Signal not in allowable range
03	Engine speed signal	3	Break in wiring Short in wiring Engine speed too high >6800 rpm
05	Solenoid valve 1	5	Break in wiring Short in wiring Defective valve winding
06	Pressure actuator	6	Break in wiring Short in wiring
(11)	Wheel speed - rear left	11	Anomalous signal Not normal signal Signal not in allowable range
(12)	Wheel Speed - Rear Right	12	Anomalous signal Not normal signal Signal not in allowable range
13	Solenoid - Park/neutral Lock	13	Break in wiring Short in wiring Defective valve winding
14	Selector lever position L2	14	Vehicle accelerated while shift lever in park or neutral position Engine was started and the EGS control has not detected park or neutral position signal
19	Power Supply - Solenoid Valves and Eds's	19	Break in wiring Short in wiring Defective valve winding
21	Load signal (KVA signal)	21	Break in wiring Short in wiring
24	Solenoid valve 2	2	Break in wiring Short in wiring Defective valve winding
29	Shift Lever Position L3/l4	33, 39	Break in wiring Short in wiring
(30)	Wheel Speed - Front Right	30	Anomalous signal Not normal signal Signal not in allowable range
32	Engine Intervention	32	Break in wiring Short in wiring
39	Continuous Voltage +	39	Anomalous signal

			Not normal signal Signal not in allowable range
41	KD switch	41	Short to ground
42	Solenoid Valve - Converter Lockup Clutch	42	Break in wiring Short in wiring Defective valve winding
43	Program Selector Switch	43	Anomalous signal Break in wiring Short in wiring
47	Accelerator Pedal Position	47	Break in wiring Short in wiring
(48)	Wheel Speed - Front Left	48	Anomalous signal Not normal signal Signal not in allowable range
50	Shift Lever Position l1	50	Break in wiring Short in wiring
100	EPROM checksum		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
101	Incorrect Checksum in Program		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
102	Relay - EGS Control Unit		Relay in EGS not switching in time
103	Wheel Speed Not Plausible		Anomalous signal Not normal signal Signal not in allowable range
104	Stall Speed Monitoring		Anomalous signal Not normal signal Signal not in allowable range
105	Wheel Speed - Lateral Slip		Lateral slip for longer than 2.5 minutes Wheels out of alignment Suspension not level You've been racing on a circular track

A4S 310R (THM-R1), A4S 270R (THM-R1) - EGS 4.XX

CODE	DEFINITION OF FAULT	EGS PIN OUT	POSSIBLE CAUSES
01	Solenoid Parking/neutral lock		Break in wiring Short in wiring Defective valve winding
02	Program SWITCH E=pin 2, M=pin 31, S=pin 34		Break in wiring Short in wiring Defective switch
04	Engine Intervention	4	Break in wiring Short in wiring
09	KVA Signal (ti)	9	Break in wiring

			Short in wiring
11	Engine Speed Signal (n-mot)	11	Break in wiring Short in wiring
20	Transmission rotation speed signal (n-ab) - Stall speed signal	14, 20	No signal Anomalous engine speed signal
22	Transmission fluid temperature sensor	17, 22	Transmission temperature too high (>165c)
23	Shift Lever Position	26	Break in wiring Short in wiring Short in sensor
28	Battery Voltage + (Terminal 30)	28	Break in wiring Check battery contacts and wiring integrity
30	Kickdown Switch	30	Short to ground
35	Stop Light Switch	35	Break in wiring
37	Battery voltage +	37	Voltage out of range
38	Solenoid valve - Converter lockup clutch	38	Break in wiring Short in wiring Defective valve winding
39	Stop light switch	39	Break in wiring
40	Pressure regulator	40, 41	Break in wiring Short in wiring Defective valve winding
43	Solenoid valve 2	43	Break in wiring Short in wiring Defective valve winding
45	Solenoid valve - Band	45	Break in wiring Short in wiring Defective valve winding
48	Solenoid valve 1	48	Break in wiring Short in wiring Defective valve winding
54	Ground - Solenoid valves	54	Break in wiring Short in wiring Defective valve winding
55	Throttle valve signal (DKT)	55	Anomalous throttle valve signal Break in wiring Short in wiring
100	Speed monitoring		Speed ratio n-ab/n-mot not correct for gear selected
101	Downshift lock		Speed too high for downshift intended
102	Engine over-rev lock in 1st and 2nd gear		Engine sped 300 rpm above output speed
103	EPROM error		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
104	DKT engine temperature signal	35	
105	DKT throttle valve signal	35	Break in wiring Short in wiring Anomalous signal

107	False code set		
110	EGS control unit not programmed		Have EGS control unit programmed
105	DKT throttle valve signal	35	Break in wiring short in wiring Anomalous throttle valve signal
106	MUX injection rate		DDE sending faulty injection rate signal
110	EGS control unit not programmed		Have EGS control unit programmed
(150)	Can timeout 1		Can signal not sent during engine start (ignition on)
(151)	Can timeout 2		Can signal not detected (engine running)
(152)	Can bus monitor		Values in can ram storage not updated
(153)	Can status fault		Control units with different can status' are installed on the same bus Replace with correct units
(154)	Can throttle valve signal		Anomalous throttle valve signal detected by DME
(155)	Can load signal		Anomalous load signal detected by DME
(156)	Can engine intervention		DME cannot alter engine torque to match EGS signal DME does not match other can control units
(157)	Can engine temperature		Anomalous engine temperature signal detected by DME
(158)	Can engine speed signal		Anomalous engine speed signal detected by DME
200	Kickdown not working		
201	Sport car transmission feature not selectable		
202	Manual shift program feature not selectable		
203	Program cannot be converted	6	
204	No engine deceleration detected	24	
205	Brake light Brake light test switch		
206	False code set		
300	Diagnostic circuit fault		
301	EGS voltage supply		No voltage to EGS control unit Check wiring harness

A5S 310Z (5HP-18) - EGS 7.XX			
CODE	**DEFINITION OF FAULT**	**EGS PIN OUT**	**POSSIBLE CAUSES**
02	Solenoid Parking/Neutral lock	2	Break in wiring Short in wiring Defective valve winding
03	Solenoid valve 5		Break in wiring Short in wiring Defective valve winding

04	Solenoid valve 6 - Convertor lockup clutch		Break in wiring Short in wiring Defective valve winding
05	Pressure regulator		Break in wiring Short in wiring Defective valve winding
08	Shift Lever Position L2	8	Vehicle accelerated while shift lever in park or neutral position Engine was started and the EGS control has not detected park or neutral position signal
09	Shift lever position L3/L4	37, 9	Break in wiring Short in wiring Short in sensor
12	Program selector switch	12, 13, 45	Short to ground
16	Turbocharger speed sensor	16, 44	No signal Anomalous engine speed signal
18	Kickdown switch	18	Short to ground Anomalous signal
19	ASC monitoring	19	Break in wiring Short in wiring EGS detected anomalous ASC signal ASC operation detected while shift lever in park or neutral
22	ATF sump temperature sensor	21, 22	Break in wiring Short in wiring
26	Battery voltage +	26	Break in wiring Check battery Check charging system
30	Solenoid valve 1	30	Break in wiring Short in wiring Defective valve winding
31	Solenoid valve 4	31	Break in wiring Short in wiring Defective valve winding
32	Solenoid valve 3	32	Break in wiring Short in wiring Defective valve winding
33	Solenoid valve 2	33	Break in wiring Short in wiring Defective valve winding
35	Throttle valve signal (dtk)	35	Break in wiring Short in wiring Anamolous throttle valve signal
36	Shift lever position l1	36	Break in wiring Short in wiring Short in sensor
40	Engine intervention	40	Break in wiring Short in wiring
41	Kva signal	41	Break in wiring

			Short in wiring
42	Transmission output rotation speed signal (n-ab) - Stall speed signal	14, 42	No signal Anomalous engine speed signal
43	Engine speed signal (n-mot)	43	No signal Anomalous engine speed signal
53	Power supply - Solenoid valves	53	Relay in egs not switching
54	Batter voltage +	54	Battery voltage too low (>9 volts) Check battery Check charging system
100	Speed monitoring		Trans/engine speed ratio not correct for gear selected Speed sensor signal faulty Slip in transmission too high
101	EPROM checksum error		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
102	Program checksum error		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
103	Relay - EGS control unit		Relay in EGS not switching in time
104	DKT- Temperature signal	35	Break in wiring short in wiring Anomalous engine temperature signal
105	DKT - Throttle valve signal	35	Break in wiring short in wiring Anomalous throttle valve signal
106	MUX injection rate		DDE sending faulty injection rate signal
110	EGS control unit not programmed		Have EGS control unit programmed
(150)	CAN timeout 1		CAN signal not sent during engine start (ignition on)
(151)	CAN timeout 2		CAN signal not detected (engine running)
(152)	CAN bus monitor		Values in CAN ram storage not updated
(153)	CAN status fault		Control units with different CAN status' are installed on the same bus Replace with correct units
(154)	CAN throttle valve signal		Anomalous throttle valve signal detected by DME
(155)	CAN load signal		Anomalous load signal detected by DME
(156)	CAN engine intervention		DME cannot alter engine torque to match EGS signal DME does not match other CAN control units
(157)	CAN engine temperature		Anomalous engine temperature signal detected by DME
(158)	CAN engine speed signal		Anomalous engine speed signal detected by DME
200	Kickdown not working		
201	Sport car transmission feature not selectable		
202	Manual shift program feature not selectable		
203	Program cannot be converted	6	

204	No engine deceleration detected	24	
205	Brake light Brake light test switch		
206	False code set		
300	Diagnostic circuit fault		
301	EGS voltage supply		No voltage to EGS control unit Check wiring harness

A5S 560Z (5HP-30) - EGS 9.XX

CODE	DEFINITION OF FAULT	EGS PIN OUT	POSSIBLE CAUSES
01	Pressure regulator - EDS 2	1	Anomalous signal Break in wiring Short in wiring
02	Solenoid Parking/Neutral Lock	2	Break in wiring Short in wiring Defective valve winding
04	Pressure regulator - EDS 4	4	Anomalous signal Break in wiring Short in wiring
05	Pressure regulator - EDS 1	5	Anomalous signal Break in wiring Short in wiring
08	Shift lever position L2	8	Vehicle accelerated while shift lever in park or neutral position Engine was started and the EGS control has not detected park or neutral position signal
09	Shift lever position L3/L4	37, 9	Break in wiring Short in wiring Short in sensor More than one program selector switch is applied to ground
12	Program selector switch	12, 13, 45	Short in wiring Short in sensor More than one program selector switch is applied to ground
16	Turbocharger speed sensor	16, 44	No signal Anomalous engine speed signal
18	Kickdown switch	18	Short to ground Anomalous signal
(19)	ASC monitoring	19	Break in wiring Short in wiring EGS detected anomalous ASC signal ASC operation detected while shift lever in park or neutral
22	ATF sump temperature sensor	21, 22	Break in wiring Short in wiring
26	Battery voltage +	26	Break in wiring Check battery

			Check charging system
29	Pressure regulator - EDS 3	29	Anomalous signal Break in wiring Short in wiring
30	Solenoid valve 1	30	Break in wiring Short in wiring Defective valve winding
31	Solenoid valve 4	31	Break in wiring Short in wiring Defective valve winding
32	Solenoid valve 3	32	Break in wiring Short in wiring Defective valve winding
33	Solenoid valve 2	33	Break in wiring Short in wiring Defective valve winding
35	Throttle valve signal (DKT)	35	Break in wiring Short in wiring Anomalous throttle valve signal
36	Shift lever position L1	36	Break in wiring Short in wiring Short in sensor
40	Engine intervention	40	Break in wiring Short in wiring
41	KVA signal	41	Break in wiring Short in wiring
42	Transmission rotation speed signal (n-ab) Stall speed signal	13, 42	No signal Anomalous engine speed signal
43	Engine speed signal (n-mot)	43	No signal Anomalous engine speed signal
(51)	Pressure regulator - EDS 3	51	Anomalous signal Break in wiring Short in wiring
(52)	Power supply - Solenoid valves or EDS'	52	Break in wiring Short in wiring
54	Batter voltage +	54	Battery voltage too low (>9 volts) Check battery Check charging system
100	Speed monitoring		Trans/engine speed ratio not correct for gear selected Speed sensor signal faulty Slip in transmission too high
101	EPROM checksum error		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit Replace control unit
102	Program checksum error		Damaged EPROM Program in memory faulty Reinitialize power to EGS control unit

			Replace control unit
103	Relay - EGS control unit	52	Relay in EGS not switching in time
104	Engine over-rev lock		Engine speed >6800 rpm detected
105	Speed monitoring		Trans/engine speed ratio not correct for gear selected Speed sensor signal faulty Slip in transmission too high
106	Speed monitoring		Trans/engine speed ratio not correct for gear selected Speed sensor signal faulty Slip in transmission too high
(150)	CAN timeout 1		CAN signal not sent during engine start (ignition on)
(151)	CAN timeout 2		CAN signal not detected (engine running)
(152)	CAN bus monitor		Values in CAN ram storage not updated
(153)	CAN status fault		Control units with different CAN status' are installed on the same bus Replace with correct units
(154)	CAN throttle valve signal		Anomalous throttle valve signal detected by DME
(155)	CAN load signal		Anomalous load signal detected by DME
(156)	CAN engine intervention		DME cannot alter engine torque to match EGS signal DME does not match other CAN control units (e.g. ASC)
(157)	CAN engine temperature		Anomalous engine temperature signal detected by DME

Top