Fault Code Manual

for

Mercedes-Benz

Analog Systems	**1988-1997**
Digital Systems	**1993-2000**

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Fault Codes

Body Control

Climate Control

This book is designed to help you in the basic diagnostic procedures for Mercedes Benz.
It is intended to be a starting point in the diagnostic process and is not intended to be a complete resource.

THE DIAGNOSTIC PROCESS

The diagnostic process divides itself into several levels; Information Gathering, Analysis of Codes, Testing and then Repair. We will cover Information Gathering and Analysis of codes in this book.

For those experienced in diagnostics jump to page

INFORMATION GATHERING

The information gathering stage always starts with the Customer.

Step 1
The Customer Interview

This is truly an art.
It consists of getting the Customer to tell you what the complaint is and under what conditions it occurs.
The customer of course is, as always, the “MOST HELPFUL” source of information. Their concise insight into the problem is a valuable step in getting the problem solved and the car back on the road. Also it’s the most fun part of the diagnostic process. Watching the customer use body gestures, make funny faces and funny sounds in an attempt to imitate vehicle noises can really brighten your day.
Actually the process of getting the information out of the customer can be relatively painless if you ask the correct questions.

Here are some suggestions:

1) What is the problem/symptom(s)?
2) When did it start?
3) Under what conditions did the problem/symptom occur (if intermittent)? Wet, dry, hot, cold or changing weather, rough road,...etc.
4) Has there been any work done on the car recently? New radio, shocks, tires...etc?
5) Any jump starts or hard starts with long crank times.
6) Did you run out of gas recently?
7) Are you sure this hasn’t happened before, even for a short time?

Next the exact nature of the complaint must be addressed.

Step 2
The Test Drive

Go on a test drive with the Customer so you can/cannot experience the problem/symptom. This ensures that the malfunction you try to diagnose and fix is the one with that the customer is concerned about and that it is a real malfunction and not just a lack of understanding of normal vehicle operation.

Few things are more frustrating for you and the customer than repairing a suspension noise in the front of the car (even if it did need new shocks, thrust bushings, brakes and a set of tires) when it was an engine noise that the customer wanted fixed.

It is also a good idea to let the customer drive on the outbound leg so you can watch the customers driving technique. The customer is more likely to be able to make the car “do it” then you will.

Sometimes a customer can mistake normal vehicle operation for a problem. An example of this is a customer whose vehicle has an Anti-Lock Brake System (ABS), and is concerned because of a pulsating brake pedal when braking hard. Since many people are unaware of this characteristic of normal ABS operation, they mistake this for a malfunction.

Also if you start diagnosing a vehicle for a problem when the vehicle is operating normally, you can be in for a long frustrating day.

Step 3
Visually Inspect the Vehicle

Don't leave out this step. You can save lots of time with this.

Engine - Look under the hood. Check for missing covers, oil and water splash, burn marks, nesting materials, mis-routed wiring and anything else that looks out of place.

ABS/ASC/DSC/ASR - Lift hood and inspect the fluid level. Raise the car and inspect the brakes/wheels for excess dust and corrosion. Check that all static charge grounding straps are in place.

Transmission - Look for beverage spillage on the center console area. Look for problems in the operation of the instrument cluster and on-board computer. These systems share data with the engine, transmission and traction systems. Inspect the transmission housing and connection cables.

SRS/Airbag - Has the car been in a collision, jumped a curb, been to the body shop (welded) or jump started.

Any or all of these can be signs of something amiss.

Remember you're gathering information at this point so don;'t ignore anything at this step.

Step 4
Check the Battery

Visually inspect the battery for corroded cables and terminals. Also old batteries are pure trouble in a late model car.

If you see any problem clean it up and grab your DMM (Fluke 88, Vantage, or whatever volt meter you use) and ...

Check voltage Key Off Engine Off, KOEO and KOER.

Key Off Engine Off >11.4Volts
KOEO >11.4Volts
KOER >13.2 but not higher than 14.2volts

Step 5
Recall Fault Codes

Even without a "Check this or that Light" illuminated, **pull the codes from all systems, not just the suspect system.**

Late model cars have highly integrated controls and faults can cascade from one system to another. Simple things like and wrong size tire can turn on the Transmission Failure message, yet not turn on the ABS or ASR light. Both systems, though, may register codes.

Record and then Clear the codes.
Write them down. Write them down. Write them down.

There is nothing more fun then the call to tech support that starts.

Technician: "I got this code. Something about the O2 sensor. I replaced it but the code came back the next day. Why?"

Tech Support: "What is the type and year of the car and what was the fault code number?"

Technician: "It was a '94 C220, but I don't remember the code number. It came in last week."

Tech Support: (Knocking back another bottle of Mallox) "Could it have been a Lambda Control code?"

Technician: "Ya! I think that was it. Why'd the new plugs make it go away and not the new O2 sensor?"

Test drive the car then pull the codes again. For some codes you will need to perform 2 test drives to get a code.

Diagnostic Codes & Adaptation

Diagnostic Trouble Code (DTC) Readout:

The engine control module (N3/4) for the LH-SFI, HFM-SFI and ME-SFI systems are equipped with diagnostic trouble code (DTC) memory. Malfunctions are recognized and stored as trouble codes and are distinguished as follows:

- ✳ Malfunctions which are constantly present,
- ✳ Malfunctions which occur longer than a pre determined number of seconds,
- ✳ Intermittent contact malfunctions which have occurred 5x during a trip.

The DTC memory remains active even if the vehicle's battery is disconnected.

Malfunctions which are no longer present, are automatically erased again after a maximum of 19 trips.

Under HFM-SFI a **TRIP** has occurred if:

- ✳ Engine running more than 5 minutes
- ✳ Vehicle speed >4 km/h (2.5 mph),
- ✳ Engine speed >700 rpm,
- ✳ Engine shut off for 30 seconds.

Under ME-SFI a **TRIP** is

- ✳ Engine running for more than 20 minutes,
- ✳ Engine temperature is greater than -7 degrees C,
- ✳ Engine speed is greater than 500 RPM,

The stored diagnostic trouble codes (DTCs) can be read at the 16 (124 E-class) or 38 pin data link connector (X11/4) with the ignition switched "ON" or with the "engine running".

Diagnosis via an on-off ratio readout has been eliminated in all models.

About Stored, Registered and Current Faults

Stored or Permanent Faults - These faults generally turn on the MIL (malfunction indicator lamp previously known as the Check Engine Light) and are recorded in the permanent memory of the cars system controller. Clearing these codes most often will extinguish the MIL. (See Registered Faults below.)

Registered or Pending Faults - These faults can keep the MIL on. These faults are recorded in the temporary memory of the of the cars system controller. This temporary memory records the number of times a component fails. When a certain number of failures has occurred the fault is moved to permanent storage and the Check Engine Light (MIL) will be illuminated. On cars equipped with Fault Registers the Check Engine Light may stay on after the Stored or Permanent Fault has been erased if another occurrence of the fault has happened since the original Permanent Fault was stored. To ensure the MIL is extinguished, erase the Stored and Registered faults.

Current or Actual Faults - These faults are detected while the car is running at idle or speed. They represent components currently failing or, in the case of HFM and LH systems, components not present. These codes cannot be erased, and are only meaningful with the ignition on and the engine running. Codes found in this system with the KOEO have no meaning. Components not present on the vehicle may be flagged as failing by the cars internal diagnostics due to the generic nature of the cars software. This is particularly true in C-Class (202) cars.

Fault Code Types

There are basically 2 code types. Component failure codes and System Malfunction or Logic codes.

Component Failure Codes are just that. The ECU specifically targets a “component” as failing. These codes make it easy to spot the problem.

Some of these components are:

Oxygen Sensor
MAP
MAF
TPS
Vehicle Speed Sensor
Coolant Temperature Sensor
Intake Air Temperature Sensor
Camshaft Position Sensor
Crankshaft Position Sensor
Exhaust Temperature Sensor
Injectors
Ignition (coils)
Idle Air Valve
Pressure Regulator (optional)
EGR Valve
EVAP Purge Valve
Secondary Air Valve
Secondary Air Pump...etc.

System Failure or Logic Codes indicate that, when the “system” operated it did not produce the desire result. Examples of these codes are;

Fuel Trim, O2 Control at Limit (Lambda control)
Possible cause: Fuel tank ran empty, Incorrect Fuel Pressure, Injector valve defective or coked, Engine Temperature Sensor defective, EGR valve leak, Secondary air leak, EVAP control system defective, Air Mass Meter defective, O2 sensor aging (slow response) or inactive, Combustion disturbed by mechanical failure (Spark plugs, compression, intake/exhaust valves, ...etc.)

Ignition Feedback Fault
Possible cause: Coils, Sparkplug Wires, Sparkplugs, ECU, Low or high battery voltage.

ASR CAN Signal to Another Controller Lost.
Possible cause: ABS/ASR Control Unit Fault, ABS/ASR Component Fault, CAN Bus Communications Fault, Faulty Electronic Accelerator (EA) controller, Faulty EA Actuator, Low or high battery voltage.

Electronic Accelerator Fuel Cutoff Signal to Engine Control
Possible cause: Faulty EA Actuator System, Faulty EA Actuator, Low or high battery voltage

ECU Faults
Internal Control Module, internal communication fault
Internal Control Module, Keep Alive Memory (CMOS)
Internal Control Module, Memory check sum (ROM/RAM)
Internal Control Module, RAM
Internal Control Module, EEPROM.

Load Calculation Cross Check, Range/Perf....etc.

These types of codes are more difficult to diagnose, but generally there will be other conditions that can give you a clue. Other fault codes will be present, physical engine condition (wear and tear), nature of the complaint itself, and information from the datastream can help refine your analysis.

Check Engine Light (MIL) Diagnosis

Mercedes S(140), SL(129), E(124, 210) and C(202) class have multiple systems which can turn on an Check Engine Light. All related systems must be tested for codes and repaired before the light will extinguish.

Injection System	Diagnostic Socket Pin and CS1000 System to Use
129 LH (1992-95)	LH (pin 4 & 5), EA/CC/ISC (pin 7), BM (pin 8), DI (pin 17 & 18) and DM (pin 19 check stored and registered codes only)
140 LH (1992-95)	LH (pin 4), EA/CC/ISC (pin 7), BM (pin 8), DI (pin 17) and DM (pin 19 check stored and registered codes only)
124 HFM (1993-95)	HFM (pin 8), EA/CC/ISC (pin 14), and DM (pin 3 check stored and registered codes only)
140 HFM (1993-96)	HFM (pin 4), EA/CC/ISC (pin 7) and DM (pin 19 check stored and registered codes only)
202 HFM (1995-96)	HFM (pin 4), EA/CC/ISC (pin 7) (except C220) and DM (pin 19 check stored and registered codes only)
210 HFM (1996-97)	HFM (pin 4), EA/CC/ISC (pin 7) and DM (pin 19 check stored and registered codes only)

Note: ME-SFI injected vehicles integrate Injection, Ignition, Electronic Accelerator, Diagnostic Module and Base module into the ME controller module.

Mixture Adaptation:

The Lambda control system precisely determines fuel injection duration so that the fuel/air ratio is consistently kept at Lambda equal 1 (Lambda=1 is 14.7 kg air per 1 kg fuel) under all operating conditions.

Should a malfunction occur in the form of:

- Intake air leaks
- Injector defects or carbon build-up,
- Air Flow Sensor defects
- Pressure regulator defects, such as a blown diaphragm.
- Fuel tank purge control valve defects or EVAP system leaks.]
- EGR defects
- Vacuum leaks of any kind.
- Mechanical engine wear, such as, chipped valves or leaking rings.

The engine control module automatically performs a mixture adjustment. The degree of correction is calculated constantly and stored in KAM (Keep Alive Memory) RAM. The self-adaptation is performed at idle and under partial load. Maximum correction towards rich or lean is 25%. After repair work is performed, the engine control module will automatically adapt itself again after approx. 10 trips. After eliminating a malfunction or after trial installation of an engine control module from another vehicle, the self-adaptation feature must be reset to its mean value.

"Resetting and Reactivating for BOSCH Engine Control Module Memory"

For LH & HFM systems only.

To reset and reactivate the module :

1. Read and clear all fault codes
2. After display of 1 (No faults present) short the diagnostic plug (pin 8 for 16 pin diagnostic socket, pin 4 for 38 pin diagnostic socket) to ground for 6 to 8 seconds
3. Switch ignition off and wait at least 5 seconds
4. Turn ignition on, wait minimum of 10 seconds then restart engine.

Long Term Adaptation (Additive) - Engine at idle.
Short Term Adaptation (Multiplicative) - Engine at partial load

The correction towards rich or lean is + - 1.0 msec (Injection Duration) at idle and the factor of 0.68-1.32 at partial load. After repair work is performed the engine control will automatically adapt itself again (ME injection) over the course of **10 TRIPS**.

Codes Present in the Absent of Trouble Light

Not all control systems will trigger codes or turn on malfunction lights when codes are stored.

INJECTION/IGNITION system problems will trigger trouble codes, but may not turn on the MIL unless the fault results in a change in the exhaust gases or can damage the engine in the short term. Also some mechanical problems in earlier cars (pre 1988-96) can cause poor drivability without ever tripping a code or turning on the light. On later models that is much less likely.

BRAKING/TRACTION systems will only turn on their check light when the system has become inactive. It does not mean there isn't a problem and codes haven't been stored.

TRANSMISSION systems will turn on the "Check Engine" light if any shared system is detected as failing test.

AIRBAG and RESTRAINT SYSTEMS will turn on the light and record codes if incorrectly coded for the car. A good example is the 1995 C280 and the 1995 S320. The same controller is used in both vehicles, however the S-class has more features in the Airbag system such as side bags and baby seat detection. The coding of the controller for the C280 masks the features not present so the controller doesn't register a code. The controllers generally come off the parts dept. shelf coded for maximum features.

In **All Systems** low or high battery voltages can trigger invalid or multiple codes without real failures of the indicated components. **Always check the battery condition before starting analysis.**

Using the Data Stream to Diagnose/Confirm Faults

The Serial Data Information Stream of the ECU is a "window" into the operation of the system under test. By looking at the values of the suspect components in operation and the computed values of the ECU, we can build a picture of the operation of the system and what is causing the fault. The interpretation of the Data Stream is beyond the scope of this book. Please refer to the Diagnostic Manuals from Mercedes Benz for complete discussion of the topic.

The nominal values for all Mercedes vehicles 1990-2000 can be found in the Mercedes Engine Diagnostic Manual Volume 1 Section A.

A listing of these manuals can be found at the end of this document.

Multiple system and component faults can almost always be traced to faulty wiring harnesses or water damage.

Connection Table

Test Lead of Cable	Connection source
Red	Power -To power supply socket or vehicle battery
Black	Ground - To socket 1
Yellow	To diagnostic test socket

Power supply (B+) socket on the vehicle Diagnostic Connectors

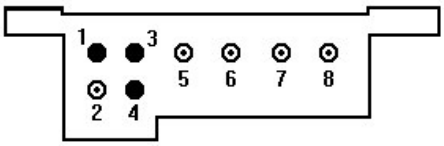
8-pole connector	Use with the battery extension cable to the vehicle battery
16-pole connector	Socket 16 (circuit 15 - ignition ON)*
	Not present in some models. Use battery +.
38-pole connector	Socket 3 (circuit 30 - Battery+)

*Must be performed with the ignition ON to power up the scanner

Ground (-) socket on the vehicle Diagnostic Connectors

8-pole connector	socket 1
16-pole connector	socket 1
38-pole connector	socket 1

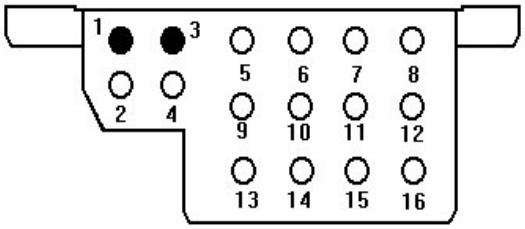
Connector Layout of Vehicle Diagnostic Connector



8-pole Diagnostic Connector

Models 201, 124, 126

1		Ground
2		Not used
3	CIS-E	Continuous fuel injection system (CFI)
4	ELR	Diesel injection system - Electronic idle speed control system
	EDS	Electronic diesel system
5	ASD	Automatic locking differential
	4MATIC	Automatic-engaged four wheel drive (124 only)
6	SRS	Supplemental Restraint System
7	A/C	Air Conditioning
8		Not used



16-pole Diagnostic Connector

Models 124, 129

1		Ground
2	OBD	Push-button for On Board Diagnostic (California only)
3	CIS-E	Continuous Fuel injection system (CFI)
	DM	Diagnostic Module - LED (California only)
4	EDS	Electronic diesel system
5	ASD	Automatic locking differential
	4MATIC	Automatic-engaged four wheel drive
6	SRS / AB	Supplemental Restraint System / Air Bag
7	A/C	Air Conditioning (Model 124)
	RB	Roll Bar (Model 129)
8	DI	Distributor ignition
	HFM-SFI	HFM Sequential multi-port Fuel Injection/Ignition system
	PEC	Pressurized engine control
9	ADS	Adaptive Damping System
	RB	Roll Bar (Model 124)
10	RST	Roadster Soft Top (Model 129)
		TN-signal (Gasoline)
11	ATA	Anti Theft Alarm system
12	IRCL	Infrared Remote Central Locking
13	ETC	Electronic automatic Transmission Control
14	EA	Electronic Accelerator (Model 124)
	CC / ISC	Cruise Control / Idle Speed Control (Model 124)
	ESCM	Engine System Control Module (MAS), (Model 129)

15	Not used
16	Voltage, Ignition ON (Circuit 15) (Not equipped on all models.)

38-Pin Diagnostic Connector

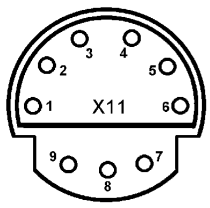
Models 124.034/036, 129.058/063/067/076, 140, 170, 202, 208, 210, 215, 220

The Mercedes Diagnostic “Mushroom” #140-1463 available from Baum Tools Unltd. is recommended to allow easy access to the diagnostic connector. Call **800-848-6657** or **941-927-1414** for more information.

Pin	System	Description
1	Ground (Terminal 31)	W12 (Chassis Ground), W15 (Electronics Ground)
2	Voltage, terminal 87	Ignition Switch 12volts +
3	Voltage, terminal 30	Battery 12volts +
4	EDS	Electronic Diesel System
	IFI	In-line Fuel Injection
	DFI	Electronic Distributor-type Fuel Injection (Diesel)
	HFM-SFI	Hot-Film Engine Management Sequential Multiport Fuel Injection/ignition
	LH-SFI	LH Sequential Multiport Fuel Injection System Engines 104, 119 Engine 120 Right Bank
	ME-SFI	Motor Electronics with Sequential Multiport Fuel Injection/ignition System Engine 119 Engine 120, Right Bank
5	LH-SFI	LH Sequential Multiport Fuel Injection, Engine 120 Left Bank
	ME-SFI	Motor Electronics with Sequential Multiport Fuel Injection/ignition System Engine 120 Left Bank
6	ABS	Anti-lock Brake System
	ETS	Electronic Traction System
	ASR	Acceleration Slip Regulation
	ESP	Electronic Stability Program
7	EA	Electronic Accelerator+
	ISC	Idle Speed Control
	CC	Cruise Control/idle Speed Control
8	BM	Base Module
	BAS	Brake Assist
9	ASD	Automatic Locking Differential, Models 124, 129, 140
10	EATC	Electronic Automatic Transmission Control (5-speed AT) (722.6)
	ETC	Electronic Transmission Control (722.6)
11	ADS	Adaptive Damping System
12	SPS	Speed-sensitive Power Steering
13	TD	Speed Signal (Time Division) (Di) (Diesel) Models 202, 210

	TNA	Signal (Gasoline) on LH-SFI
	TN	Speed Signal (DI/KSS) (Gasoline) on HFM-SFI, ME-SFI
14	Lambda on/off ratio	LH-SFI Engine 119, LH-SFI Engine 120 LH-SFI, Right Bank
15	Lambda on/off ratio	LH-SFI Engine 120 Left Bank
	IC	Instrument Cluster
16	HEAT	Automatic Heater
	TA/C	Air Conditioning (Tempmatic)
	AA/C	Air Conditioning (Automatic)
17	DI	Distributor Ignition, Engines 104, 119, Engine 120, Right
	TD	Speed Signal (Time Division) (Di) (Diesel) Model 140
	TN	Speed Signal (DI/KSS) (Gasoline) on LH-SFI / model 202 HFM-SFI
18	DI	Distributor Ignition, Engine 120, Left
19	DM	Diagnostic Module
20	PSE	Pneumatic System Equipment, Model 140
	MFCM	Multi-function Control Module, Model 210
21	CF	Convenience Feature, Model 140
	RST	Roadster Soft Top, Model 129
22	RB	Roll Bar, Model 129
23	ATA	Anti-theft Alarm
24-25	-	
26	ASD	Automatic Locking Differential, Model 202
27	-	
28	PTS	Parktronic System, Model 140
29	-	
30	AB	Airbag/emergency Tensioning Retractor
31	RCL	Remote Central Locking
32-33	-	
34	CNS	Communication and Navigation System
35	-	
36	STH	Stationary Heater
36	ZUH	Heater Booster
37-38	-	

The following connector is not for use with the CS1000 or CS2000 scanners



9-Pole Diagnostic Connector (1980-94)

The 9-pole Diagnostic Connector is used on earlier model vehicles. It can display on-off ratio fault codes (1986-1992), RPM and Lambda sensor values. Various on-off ratio Meters are available that provide access to this type of diagnostic connector. Call Baum Tools at 800-848-6657 or 941-927-1414 for more information on these meters.

ELECTRONIC IDLE SPEED CONTROL (ELR)

Model	Model Year
201.126	1989

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Speed sensor signal
3	Coolant temperature sensor signal
4	ELR control unit or Idle speed control (ISC) system

ELECTRONIC DIESEL SYSTEM (EDS)

Model	Model Year
124.128	1990-93
126.134 126.135	1990-91
140.134	1992-93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Fuel rack position sensor (L7)
3	Air flow sensor signal (B2/1)
4	Electronic diesel system (EDS) control unit (N39) or atmospheric pressure sensor
5	Exhaust gas recirculation (EGR) valve vacuum transducer (Y31/1) or fault in exhaust gas recirculation (EGR) control circuit
6	Electronic diesel system (EDS) control unit (N39), internal voltage supply
7	Starter ring gear speed sensor (L3)
8	Engine coolant temperature sensor (B11/4)
9	Intake air temperature sensor (B2/1a)
10	Voltage supply insufficient
11	Electronic idle speed control actuator (Y22) or exhaust gas recirculation (EGR) valve vacuum transducer (Y31/1) or Boost pressure cut-out switchover valve
12	Not used
13	Electronic diesel system control unit (N39), faulty (internal fault memory)
14	Electronic diesel system pressure sensor (B5/1), defective
15	Boost pressure control/ pressure control flap vacuum transducer (Y31/5) , or defect in Boost pressure control circuit. Or Intake manifold air pressure control valve vacuum transducer (Y31/2), wastage vacuum transducer (Y31/3), or malfunction Intake manifold air pressure circuit

CONTINUOUS FUEL INJECTION SYSTEM (CFI)

Models	Model Years
107.048	1988-91 (California version only)
124.026 124.030 124.050 124.090	1988-89 (California version only)
126.024 126.025	1988-89 (California version only)
126.035 126.039 126.045	1988-91 (California version only)
201.028 (1988-93) 201.029	1988-89 (California version only)
124.026 124.030 124.051 124.090 124.230 124.290	1990-93
126.024 126.025	1990-93
129.061 129.066	1990-92
201.029	1990-93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Throttle position switch - wide open throttle (WOT), signal faulty
3	Engine coolant temperature sensor faulty
4	Air flow sensor position potentiometer voltage illogical
5	Oxygen sensor signal illogical
6	Not used
7	TNA/TD signal (RPM) read by CFI control module
8	Altitude pressure signal from ignition control module illogical
9	Electronic hydraulic actuator (EHA) current faulty.
10	Throttle position switch - closed throttle position fault (idle)
11	Air injection system, open or short circuit
12	Absolute pressure values from EZL ignition control module are illogical or Exhaust gas recirculation temperature sensor
13	Intake air temperature reading is illogical
14	Vehicle speed signal read by CFI control module is illogical
15	Not used
16	Exhaust gas recirculation switchover valve, open or short circuit
17	Oxygen sensor is shorted to positive or ground
18	Current to idle control valve is illogical
19	Not used
20	Not used
21	Not used
22	Oxygen sensor heater voltage illogical
23	Short circuit to positive in purge switchover valve circuit
24	Not used
25	Short circuit to positive in start valve circuit
26	Short circuit to positive in upshift delay solenoid valve circuit
27	Data exchange between CFI control module and ignition control module interrupted
28	Intermittent contact in engine coolant temperature sensor circuit
29	CFI and ignition control module reading different engine coolant temperatures - Faulty sensor or wires
30	Not used
31	Intermittent contact in engine coolant temperature sensor circuit
32	Not used
33	Not used
34	Engine coolant temperature read from ignition control module illogical

Continuous Fuel Injection System (MAS Controller)

Models	Model Years
124.026 124.030 124.090 124.230 124.290 129.066 201.029	1990-92

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Fuel pump relay (circuit 87) not functioning
3	TN/TD signal (RPM) interrupted
4	Output for oxygen sensor heater control defective
5	Output for air injection pump control defective
6	Output for kickdown switch control defective
7	Not used
8	Engine coolant temperature sensor signal out of range
9	Circuit 50 failure
10	Output failure of the start valve
11	A/C compressor engagement signal missing (87Z)
12	Output for A/C compressor control defective
13	Excessive A/C compressor clutch slippage
14	Vehicle speed signal illogical
15	Short circuit detected in fuel primp circuit

LH Sequential Multiport Fuel Injection - Analog

Models	Model Years
140.032 140.057 140.076	1992-93
124.034 124.036	1992-93
129.067	1992-93
140.042 140.043 140.051	1992-93

See digital LH injection page 18 for models 3/93 and later.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Engine coolant temperature sensor circuit 1, open or short circuit.
3	Engine coolant temperature sensor circuit 2, open or short circuit.
4	Voltage at mass air sensor (MAF) with hot wire circuit insufficient or too high. Open or short circuit in ground wire.
5	Not used
6	Not used
7	TNA-signal (rpm signal) incorrect or open or short circuit.
8	Camshaft position sensor signal. Open or short circuit.
9	Starter signal (circuit 50) missing, open or short circuit.
10	Closed throttle position recognition from electronic accelerator control unit, short circuit.
11	Secondary air injection system, open or short circuit.
12	Burn-off control for mass air sensor with hot-wire, open or short circuit.
13	Intake air temperature sensor, open or short circuit.
14	Not used
15	Not used
16	Exhaust gas recirculation (EGR) switchover valve, open or short circuit.
17	CAN data: Electronic accelerator control module - no data transmission
18	CAN data: Ignition control module - no data transmission from DI module
19	Left LH-SFI control module no data transmission to right LH-SFI control module
20	LH-SFI control module - no data transmission
21	Oxygen sensor open circuit.
22	Oxygen sensor heater, open or short circuit.
23	Purge switchover valve, open or short circuit.
24	Left adjustable camshaft timing solenoid (Y49/1), open or short circuit
25	Adjustable camshaft timing solenoid, open or short circuit.
27	Injectors, open or short circuit.
29	I GR Start relay module (K29/1), open or short circuit

LH Sequential Multiport Fuel Injection - Digital

Engines	Model Years
104 119 120	1992-1995

Also check for codes in the Diagnostic Module (DM page 43), Electronic Accelerator/Cruise Control (EA/CC/ISC pages 50 and 49), Distributor Ignition (DI page 48) and the Base Module (BM page 47).
(These fault codes numbers are only for the CS1000 Code Scanner. They are different from those found in the Mercedes Benz original Diagnostic Manual fault code tables.)

LH-SFI "Stored" Fault Codes

DTC Readout	Possible Cause of Failure
002	Engine coolant temperature sensor circuit 1, short or open circuit
003	Engine coolant temperature sensor circuit 2, short or open circuit
004	Voltage of Hot Wire MAF sensor too low or too high or ground wire has open circuit.
005	Not used.
006	Japan only Exhaust temperature sensor, circuit short or open
007	TNA-signal (rpm signal) incorrect or open or short circuit.
008	Camshaft position sensor signal. Open or short circuit.
009	Starter signal (circuit 50) missing, open or short circuit.
010	Closed throttle position recognition from electronic accelerator control unit, short circuit.
011	Secondary air injection system, open or short circuit.
012	Burn-off control for mass air sensor with hot-wire, open or short circuit.
013	Intake air temperature sensor, open or short circuit.
014	Not used.
015	Not used.
016	EGR switchover valve, circuit open or short
017	CAN data: Electronic accelerator control module - no data transmission
018	CAN data: Ignition control module - no data transmission from DI module
019	Left LH-SFI control module no data transmission to right LH-SFI control module
020	LH-SFI control module - no data transmission (Left or Right)
021	Oxygen sensor open circuit.
022	Oxygen sensor heater, open or short circuit.
023	Purge switchover valve, open or short circuit.
024	Left adjustable camshaft timing solenoid (Y49/1), open or short circuit (119 only)
025	Adjustable camshaft timing solenoid, open or short circuit.
026	Upshift Delay Switchover Valve, open or short circuit
027	Injectors, open or short circuit.
028	LH Control Module incorrectly coded or open circuit.
029	1GR Start relay module (K29/1), open or short circuit

These codes require special scanners to access.

LH-SFI "Current" Fault Codes

DTC Readout	Possible Cause of Failure
001	Injector, cylinder 1 circuit short to positive
002	Injector, cylinder 5 circuit short to positive
003	Injector, cylinder 4 circuit short to positive
004	Injector, cylinder 8 circuit short to positive
005	Injector, cylinder 6 circuit short to positive
006	Injector, cylinder 3 circuit short to positive
007	Injector, cylinder 7 circuit short to positive
008	Injector, cylinder 2 circuit short to positive
009	Injector, cylinder 1 open circuit or short to ground
010	Injector, cylinder 5 open circuit or short to ground
011	Injector, cylinder 4 open circuit or short to ground

DTC Readout	Possible Cause of Failure
012	Injector, cylinder 8 open circuit or short to ground
013	Injector, cylinder 6 open circuit or short to ground
014	Injector, cylinder 3 open circuit or short to ground
015	Injector, cylinder 7 open circuit or short to ground
016	Injector, cylinder 2 open circuit or short to ground
017	HFM sensor Voltage too high or too low, may open circuit
018	Engine coolant temperature sensor short or open circuit
019	Engine coolant temperature sensor short or open circuit
020	Engine coolant temperature sensor signal questionable
021	Intake air temperature sensor short or open circuit
022	Exhaust temperature sensor short or open circuit (Japan version only)
023	CO potentiometer open circuit (non KAT)
024	LH-SFI control unit coding plug open circuit (not USA version)
025	Starter signal missing (circuit 50), may short or open circuit
026	Idle speed recognition from Cruise control/Electronic accelerator (CC/EA), circuit short to ground
027	Not used
028	O2S 1 signal, short or open circuit
029-030	Not used
031	O2S 2 signal, short or open circuit
032	Not used
033	CAN communication problem, No communication from LH control unit
034	CAN communication problem, No communication from ASR control unit
035	CAN communication problem, No communication from LH control unit
036	CAN communication problem, No communication from LH control unit
037	CAN communication problem, No communication from EZL/AKR ignition control unit
038	CAN communication problem, No communication from EZL/AKR ignition control unit
038	CAN communication problem, No communication from Cruise control/Electronic accelerator
040	Not used
041	Air injection system short or open circuit
042	Fuel purge switchover valve open or short circuit
043	Transmission switchover valve, circuit open or short
044	EGR switchover valve, circuit open or short
045	Camshaft timing adjust solenoid, circuit open or short
046	Camshaft timing adjust solenoid, circuit open or short
047	First gear start relay, circuit open or short
048	Not used
049	Air injection system circuit short or open
050	Fuel purge switchover valve circuit short or open
051	Transmission switchover valve relay or solenoid, circuit short or open
052	EGR switchover valve circuit short or open
053	camshaft timing Adjust solenoid circuit short or open
054	camshaft timing Adjust solenoid circuit short or open
055	First gear start relay circuit short or open
056	Not used

HFM Sequential Multiport Fuel Injection - Analog

Engines	Model Year
104 111	1993

See digital HFM injection section page 22 for models 3/93 and later.

Also check for codes in the Diagnostic Module (DM page 41 and 43) and the Electronic Accelerator/Cruise Control (EA/CC/ISC pages 50 and 49).

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Engine Coolant temperature sensor
3	Intake air temperature sensor
4	Hot film mass air flow sensor
5	CTP switch
6-7	Not used
8	Idle speed control (ISC) system at upper or lower control stop or CC or EA indicates "limp home" mode.
9	O2S 1 (before TWC) - voltage too high, circuit open or voltage implausible
10	O2S 2 (after TWC)voltage too high, circuit open or voltage implausible
11	O2S 1 heater (before TWC) - Current too high/low or short circuit.
12	O2S 2 heater (after TWC) - Current too high/low or short circuit.
13	O2S (Lambda) control system operating at rich or lean limit
14	Injector, cylinder 1
15	Injector, cylinder 2
16	Injector, cylinder 3
17	Injector, cylinder 4
18	Injector, cylinder 5
19	Injector, cylinder 6
20	Self-adaptation at idle speed or upper/lower partial load at rich or lean limit
21	Ignition output 3 or ignition coil for cylinder 1 and 6
22	Ignition output 1 or ignition coil for cylinder 2 and 5 (Engine 111, cylinder 1 and 4)
23	Ignition output 2 or ignition coil for cylinder 3 and 4 (Engine 111, cylinder 2 and 3)
24	CKP sensor or magnet for position sensor not recognized
25	CMP sensor not recognized or implausible
26	Not used
27	TN-signal (rpm signal) - open or short to ground
28	VSS - open circuit
29	Not used
30	Fuel pump relay module - open or short circuit
31	Not used
32	Knock sensors 1 and /or 2
33	Maximum retard setting on at least one cylinder has been reached or the ignition angle deviation between the individual cylinders is greater than 6 degrees crankshaft angle
34	Knock control-output switch in engine control module faulty Momentary fault in self-adaptation closed throttle speed/partial load
35	Model 124,129 and 140 AIR pump switchover valve and/or electromagnetic AIR pump clutch. Model 202 AIR pump switchover valve and/or AIR relay module
36	Purge control valve - open/short to ground or B+
37	Transmission Upshift delay switchover valve (Y3/3) without function (Logic Chain) - Check vacuum and adjust Bowden cable.
38	Adjustable camshaft timing solenoid - open/short to ground or B+
39	Exhaust gas recirculation switchover valve - open/short to ground or B+
40	Transmission overload protection switch - open/short to ground or B+ or open or closed or implausible
41	CAN communication from engine control module faulty

DTC Readout	Possible Cause of Failure
42	CAN communication from ASR, EA/CC/ISC module or diagnostic module (OBD II) faulty
43	Starter signal (circuit 50) not present
44	Not used
45	Fuel safety shut-off of electronic accelerator or cruise control active
46	Resonance intake manifold switchover valve - open/short to ground or B+
48	O2S 2 (after TWC) heating circuit relay module - open/short to ground or B+
49	Voltage supply at engine control module implausible/low volts.
50	Engine control module faulty or not coded.

HFM Sequential Multiport Fuel Injection - Digital

Engines	Model Years
111 (4 cylinder, 2.2/2.3L engine)	1994-97
104 (6 cylinder, 2.8/3.2L engine)	1994-97

Also check for codes in the Diagnostic Module (DM page 43) and the Electronic Accelerator/Cruise Control (EA/CC/ISC pages 50 and 49).

HFM-SFI Stored Fault Codes

Only Stored Fault Codes illuminate the Check Engine Light. (Code Scanner will display the fault code numbers listed under OB15, Mercedes factory numbers are listed under MB for referral to factory literature.)

OB15	MB	Description
0		No Fault Found
1	(002)	Engine Coolant Temperature Sensor - Short Circuit
2	(003)	Engine Coolant Temperature Sensor - Open Circuit
3	(004)	Engine Coolant Temperature Sensor - Signal Incorrect
	(005)	Engine Coolant Temperature Sensor - Intermittent Contact
4	(006)	Intake Air Temperature Sensor, Short Circuit
5	(007)	Intake Air Temperature Sensor, Open Circuit
	(008)	Intake Air Temperature Sensor - Intermittent Contact
6	(009)	Hot Film Air Mass Sensor - Signal Too High
7	(010)	Hot Film Air Mass Sensor - Open Circuit
8	(011)	Engine idle speed contact Throttle valve position too large
9		Not used
10	(012)	Engine idle speed contact air mass too large
11	(113)	HFM-SFI control unit not coded
12	(014)	Throttle valve potentiometer actual value too high.
13	(015)	Throttle valve potentiometer actual value too low.
14	(017)	Throttle valve potentiometer drive value implausibly high.
15	(018)	Throttle valve potentiometer drive value implausibly low.
16	(020)	ISC (Idle speed control) at lower control stop area, malfunction.
17	(021)	ISC (Idle speed control) at upper control stop area, malfunction.
18	(022)	CC,EFP actuator signals in limp home mode (emergency mode).
19	(023)	O2 sensor (before/upstream of Cat. Conv.), voltage too large.
20	(024)	O2 sensor (before/upstream of Cat. Conv.), open circuit
21	(025)	O2 sensor (before/upstream of Cat. Conv.), signal incorrect
22	(026)	O2 sensor (after/downstream of Cat. Conv.), voltage too large
23	(027)	O2 sensor (after/downstream of Cat. Conv.), open circuit
24	(028)	O2 sensor (after/downstream of Cat. Conv.), signal incorrect
25	(029)	O2 sensor heater (before/upstream of Cat. Conv.), heater current (amp) too small
26	(030)	O2 sensor heater (before/upstream of Cat. Conv.), heater current (amp) too large
27	(031)	O2 sensor heater (before/upstream of Cat. Conv.), heater current, short circuit
28	(032)	O2 sensor heater (after/downstream of Cat. Conv.), heating current (amp) too small
29	(033)	O2 sensor heater (after/downstream of Cat. Conv.), heating current (amp) too large
30	(034)	O2 sensor heater (after/downstream of Cat. Conv.), heating current, short circuit
31	(035)	Fuel adaptation (lambda) control, mixture too lean (rich stop) (Intake air leak, fuel injectors, diaphragm pressure regulator)
32	(036)	Fuel adaptation (lambda) control, mixture too rich (lean stop) (Intake air leak, fuel injectors, diaphragm pressure regulator)
33	(037)	Injection valve cylinder 1, short to positive
34	(038)	Injection valve cylinder 1, open circuit or short to ground
35	(039)	Injection valve cylinder 2, short to positive
36	(040)	Injection valve cylinder 2, open circuit or short to ground
37	(041)	Injection valve cylinder 3, short to positive
38	(042)	Injection valve cylinder 3, open circuit or short to ground

OB15	MB	Description
39	(043)	Injection valve cylinder 4, short to positive
40	(044)	Injection valve cylinder 4, open circuit or short to ground
41	(045)	Injection valve cylinder 5, short to positive
42	(046)	Injection valve cylinder 5, open circuit or short to ground
43	(047)	Injection valve cylinder 6, short to positive
44	(048)	Injection valve cylinder 6, open circuit or short to ground
45	(049)	Self-adjustment too rich at Idle (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
46	(050)	Self-adjustment too lean at Idle (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
47	(051)	Self-adjustment too rich at Lower part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
48	(052)	Self-adjustment too lean at Lower part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
49	(053)	Self-adjustment too rich at Upper part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
50	(054)	Self-adjustment too lean at Upper part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
51	(061)	Ignition system output stage 3, Cylinder 1 misfires
52	(062)	Ignition system output stage 3, Cylinder 6 misfires
53	(063)	Ignition system output stage 3, Current value not reached
54	(055)	Ignition system output stage 1, Cylinder 2 misfires
55	(056)	Ignition system output stage 1, Cylinder 5 misfires
56	(057)	Ignition system output stage 1, Current value not reached
57	(058)	Ignition system output stage 2, Cylinder 3 misfires
58	(059)	Ignition system output stage 2, Cylinder 4 misfires
59	(060)	Ignition system output stage 2, Current value not reached
60	(064)	Crankshaft signal incorrect
61	(065)	Crankshaft signal Magnet missing or Number of teeth incorrect
62	(066)	Crankshaft signal Speed incorrect, too high
63	(067)	Camshaft signal incorrect/not recognized
64	(068)	HFM circuit/trimming plug short to ground
65	(069)	HFM circuit/trimming plug open circuit or short to positive
66	(070)	TN speed signal (rpm) Output short to ground
67	(071)	TN speed signal (rpm) Output short to positive
68	(072)	Vehicle speed signal not recognized, short circuit
69	(073)	Vehicle speed signal implausibly high, short circuit
70	(074)	PSV relay K3/1 circuit short to positive
71		Not used
72	(076)	Fuel pump relay open circuit or short circuit
73		Not used
74	(077)	CO potentiometer Input short to positive
75	(079)	Knock sensor 1 signal open circuit
76	(080)	Knock sensor 2 signal open circuit
77	(081)	Ignition timing max retardation reached at least one cylinder
78	(082)	Ignition angle deviation between the individual cylinders too high
79	(083)	Knock control analysis, HFM control unit defective
80	(084)	Short-term self-adjustment Idle/Part-load fault
81	(085)	Air pump relay-module/switch-valve output, open circuit or short circuit
82-83		Not used
84	(086)	Fuel purge switch-valve, open circuit/short circuit
85	(087)	Fuel purge switch-valve, short to positive
86	(088)	Transmission Upshift delay switchover valve (Y3/3) without function (Logic Chain)
87-88		Not used
89	(089)	Camshaft timing adjust actuator circuit short to positive
90	(090)	Camshaft timing adjust actuator open circuit or short to ground

OB15	MB	Description
91	(091)	EGR switch-valve short to positive
92	(092)	EGR switch-valve open circuit or short to ground
93	(093)	Transmission overload protection switch short to ground
94	(094)	Transmission overload protection switch, circuit short or open
95	(095)	Transmission overload protection switch, circuit short or open
96	(096)	Transmission overload protection switch signal implausible
97	(097)	CAN problem Transmission communication from HFM control system faulty
98	(098)	CAN problem No data reception from ASR
99	(116)	CAN problem No data reception from IRCL. (if equip with IRCL) Voltage supply at Circuit 87M, low voltage or implausible (Starting 06/93)
100		Not used
101	(099)	CAN problem No data reception from EFP,TPM
102	(100)	CAN problem No data reception from Diagnosis Module
103		Not used
104	(117)	Attempt to start with IRCL locked
105	(101)	No starter signal (Terminal 50), open or short circuit
106	(102)	Thermocouple CAT B16/6 Temperature too high
107	(103)	Thermocouple CAT B16/6 Temperature too low
108	(104)	Fuel safety cut-off settled
109		Not used
110	(105)	Resonance intake manifold switchover valve, short to positive
111	(106)	Resonance intake manifold switchover valve, open circuit/short to ground
112	(107)	Ignition dwell angle control output stage, short to ground
113	(114)	HFM control unit identification illogical
114	(108)	Oxygen sensor heater (after/downstream of Cat. Conv.), short to positive
115	(109)	Oxygen sensor heater (after/downstream of Cat. Conv.), open circuit or short to ground
116	(115)	HFM-SFI control unit N3/4 coding bytes illogical
117		Not used
118	(110)	Voltage supply to HFM-SFI control unit, incorrect
119	(111)	Voltage supply at HFM-SFI control unit, voltage too low
120	(112)	HFM control unit faulty
121	(005)	Coolant temperature sensor, Loose contact
122	(008)	Intake air temperature sensor, Loose contact
123	(013)	Idle speed contact, Loose contact
124	(016)	Potentiometer throttle valve, Loose contact
125	(019)	Potentiometer throttle valve drive, Loose contact
126	(078)	CO potentiometer R33 Loose contact
127-128		Not used

PMS (PEC) Fuel Injection - Digital

Engines	Model Years
111 (4 cylinders, 1.8/2.0L engine)	1994-97

PMS Stored Fault Codes

Only Stored Fault Codes illuminate the Check Engine Light.(Code Scanner will display the fault code numbers listed under OB15, Mercedes factory numbers are listed under MB.)

OB15	MB	Description
001	(002)	Coolant temperature sensor, short circuit
002	(003)	Coolant temperature sensor, open circuit
003	(004)	Coolant temperature sensor, incorrect
004	(006)	Intake air temperature sensor, short circuit
005	(007)	Intake air temperature sensor, open circuit
006	(009)	PMS Control unit, Intake manifold pressure implausible
007	(010)	PMS Control unit, No Intake manifold pressure
008	(011)	Idle speed contact closed signal incorrect
009	(068)	Idle speed contact open circuit
010-011		Not used
012	(013)	Potentiometer throttle valve, value too high
013	(014)	Potentiometer throttle valve, value too low
014	(016)	Potentiometer throttle valve drive value too high/incorrect
015	(017)	Potentiometer throttle valve drive value too low/incorrect
016	(019)	Idle speed control at lower control stop area, malfunction
017	(020)	Idle speed control at upper control stop area, malfunction
018	(021)	Idle speed control in limp home-mode (emergency operation)
019	(022)	O2 sensor voltage too large
020	(023)	O2 sensor, open circuit
021	(024)	O2 sensor signal illogical
022	(069)	Exhaust flap short to positive
023	(070)	Exhaust flap open circuit or short to ground
024		Not used
025	(025)	O2 sensor heater current (amps) too small
026	(026)	O2 sensor heater current (amps) too large
027	(027)	O2 sensor heater, short circuit
028-030		Not used
031	(028)	Fuel adaptation (lambda) control mixture too lean (Intake air leak, fuel injectors, diaphragm pressure regulator)
032	(029)	Fuel adaptation (lambda) control mixture too rich (Intake air leak, fuel injectors, diaphragm pressure regulator)
033	(030)	Injection valve cylinder 1/4 short to positive
034	(031)	Injection valve cylinder 1/4 open circuit or short to ground
035	(032)	Injection valve cylinder 2/3 short to positive
036	(033)	Injection valve cylinder 2/3 open circuit or short to ground
037	(064)	Input signal from IFZ, open circuit or short to positive
038	(065)	Input signal from IFZ, short to ground
039	(066)	IFZ system unresponsive
040	(067)	Input signal from IFZ incorrect
041-044		Not used
045	(034)	Self-adjustment too rich at Idle (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
046	(035)	Self-adjustment too lean at Idle (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
047	(036)	Self-adjustment too rich at Part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)

OB15	MB	Description
048	(037)	Self-adjustment too lean at Part load (Intake air leak, fuel injectors, diaphragm pressure regulator, wear engine)
049-050		Not used
051	(038)	Ignition system output stage 1, short to positive
052	(039)	Ignition system output stage 1, Cylinder 1/4 misfires
053	(040)	Ignition system output stage 1, Amperage not achieved
054	(041)	Ignition system output stage 2, short to positive
055	(042)	Ignition system output stage 2, Cylinder 2/3 misfires
056	(043)	Ignition system output stage 2, Amperage not achieved
057-059		Not used
060	(044)	Crankshaft signal incorrect
061	(045)	Crankshaft signal Magnet missing or Numbers of teeth incorrect
062	(046)	Crankshaft signal Speed incorrect, too high
063		Not used
064	(047)	PMS circuit/trimming plug short to ground
065	(048)	PMS circuit/trimming plug open circuit or short to positive
066	(049)	TN speed signal (rpm) Output short to ground
067	(050)	TN speed signal (rpm) Output short to positive
068	(051)	Vehicle speed signal not recognized, short circuit
069	(052)	Vehicle speed signal too high, short circuit
070	(053)	PSV relay open circuit or short to positive
071	(054)	PSV relay short to ground
072	(055)	Fuel pump relay open circuit or short to positive
073	(056)	Fuel pump relay short to ground
074	(057)	CO potentiometer Input circuit short to positive
075 ~079		Not used
080	(061)	Short-term self-adjustment faulty at idle speed or part load
081	(071)	Rear axle ratio was changed
082	(072)	Rear axle ratio signal incorrect
083		Not used
084	(059)	Fuel purge switch-valve open circuit or short to positive
085	(060)	Fuel purge switch-valve short to ground
086	(062)	Transmission shifting delay/smooth switch-valve, open circuit or short circuit
087 ~092		Not used
093	(073)	Transmission protection short to ground or active too long
094-095		Not used
096	(074)	Transmission protection open circuit or short to positive
097 ~ 118		Not used
119	(063)	PMS control unit voltage supply too low
120		Not used
121	(005)	Coolant temperature sensor, Loose contact
122	(008)	Intake air temperature sensor, Loose contact
123	(012)	Idle speed contact, Loose contact
124	(015)	Potentiometer throttle valve, Loose contact
125	(018)	potentiometer throttle valve drive value, Loose contact
126	(058)	CO potentiometer circuit, Loose contact
127-128		Not used

ME Sequential Multiport Fuel Injection (ME-SFI)

Engines	Model Years
104 (6 cylinders, 2.8/3.2L engine)	8/96-
111 (4 cylinder 2.0, 2.2, 2.3L)	8/96-
112 (V6 engine, 2.4/2.8/3.2L)	8/97-
113 (V8 engine, 4.3, 5.0L)	8/98-
119 (V8 engine 4.2/5.0L)	8/95-1998
120 (12 cylinder engine)	8/95-2000

ME-SFI ME Injection incorporates EA/CC/ISC, DM, DI and BM codes.

MB	ME Code Description
P00XX	**Fuel and Air Metering and Auxiliary Emission Controls**
P0010	A Camshaft Position Actuator Circuit (Bank 1)
P0011	A Camshaft Position - Timing Over-Advanced or System Performance (Bank 1)
P0012	A Camshaft Position - Timing Over-Retarded (Bank 1)
P0013	B Camshaft Position - Actuator Circuit (Bank 1)
P0014	B Camshaft Position - Timing Over-Advanced or System Performance (Bank 1)
P0015	B Camshaft Position - Timing Over-Retarded (Bank 1)
P0020	A Camshaft Position Actuator Circuit (Bank 2)
P0021	A Camshaft Position - Timing Over-Advanced or System Performance (Bank 2)
P0022	A Camshaft Position - Timing Over-Retarded (Bank 2)
P0023	B Camshaft Position - Actuator Circuit (Bank 2)
P0024	B Camshaft Position - Timing Over-Advanced or System Performance (Bank 2)
P0025	B Camshaft Position - Timing Over-Retarded (Bank 2)
P0030	H02S Heater Control Circuit (Bank 1) Sensor 1)
P0031	H02S Heater Control Circuit Low (Bank 1 Sensor 1)
P0032	H02S Heater Control Circuit High (Bank 1 Sensor 1)
P0033	Turbo Charger Bypass Valve Control Circuit
P0034	Turbo Charger Bypass Valve Control Circuit Low
P0035	Turbo Charger Bypass Valve Control Circuit High
P0036	H02S Heater Control Circuit (Bank 1 Sensor 2)
P0037	H02S Heater Control Circuit Low (Bank 1 Sensor 2)
P0038	H02S Heater Control Circuit High (Bank 1 Sensor 2)
P0042	H02S Heater Control Circuit (Bank 1 Sensor 3)
P0043	H02S Heater Control Circuit Low (Bank 1 Sensor 3)
P0044	H02S Heater Control Circuit High (Bank 1 Sensor 3)
P0050	H02S Heater Control Circuit (Bank 2 Sensor 1)
P0051	H02S Heater Control Circuit Low (Bank 2 Sensor 1)
P0052	H02S Heater Control Circuit High (Bank 2 Sensor 1)
P0056	H02S Heater Control Circuit (Bank 2 Sensor 2)
P0057	H02S Heater Control Circuit Low (Bank 2 Sensor 2)
P0058	H02S Heater Control Circuit High (Bank 2 Sensor 2)
P0062	H02S Heater Control Circuit (Bank 2 Sensor 3)
P0063	H02S Heater Control Circuit Low (Bank 2 Sensor 3)
P0064	H02S Heater Control Circuit High (Bank 2 Sensor 3)
P0065	Air Assisted Injector Control Range/Performance
P0066	Air Assisted Injector Control Circuit or Circuit Low
P0067	Air Assisted Injector Control Circuit High
P0070	Ambient Air Temperature Sensor Circuit
P0071	Ambient Air Temperature Sensor Range/Performance
P0072	Ambient Air Temperature Sensor Circuit Low Input
P0073	Ambient Air Temperature Sensor Circuit High Input
P0074	Ambient Air Temperature Sensor Circuit Intermittent
P0075	Intake Valve Control Solenoid Circuit (Bank 1)

MB	ME Code Description
P0076	Intake Valve Control Solenoid Circuit Low (Bank 1)
P0077	Intake Valve Control Solenoid Circuit High (Bank 1)
P0078	Exhaust Valve Control Solenoid Circuit (Bank 1)
P0079	Exhaust Valve Control Solenoid Circuit Low (Bank 1)
P0080	Exhaust Valve Control Solenoid Circuit High (Bank 1)
P0081	Intake valve Control Solenoid Circuit (Bank 2)
P0082	Intake Valve Control Solenoid Circuit Low (Bank 2)
P0083	Intake Valve Control Solenoid Circuit High (Bank 2)
P0084	Exhaust Valve Control Solenoid Circuit (Bank 2)
P0085	Exhaust Valve Control Solenoid Circuit Low (Bank 2)
P0086	Exhaust Valve Control Solenoid Circuit High (Bank 2)
P01XX	**Fuel and Air Metering**
P0100	Mass or Volume Air Flow Circuit
P0101	Mass or Volume Air Flow Circuit Range/Performance Problem
P0102	Mass or Volume Air Flow Circuit Low Input
P0103	Mass or Volume Air Flow Circuit High Input
P0104	Mass or Volume Air Flow Circuit Intermittent
P0105	Manifold Absolute Pressure/Barometric Pressure Circuit
P0106	Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance Problem
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High Input
P0109	Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent
P0110	Intake Air Temperature Circuit
P0111	Intake Air Temperature Circuit Range/Performance Problem
P0112	Intake Air Temperature Circuit Low Input
P0113	Intake Air Temperature Circuit High Input
P0114	Intake Air Temperature Circuit Intermittent
P0115	Engine Coolant Temperature Circuit
P0116	Engine Coolant Temperature Circuit Range/Performance Problem
P0117	Engine Coolant Temperature Circuit Low Input
P0118	Engine Coolant Temperature Circuit High Input
P0119	Engine Coolant Temperature Circuit Intermittent
P0120	Throttle/Pedal Position Sensor/Switch A Circuit, EA/CC/ISC Actuator
P0121	Throttle/Pedal Position Sensor/Switch A Circuit Range/Performance Problem
P0122	Throttle/Pedal Position Sensor/Switch A Circuit Low Input
P0123	Throttle/Pedal Position Sensor/Switch A Circuit High Input
P0124	Throttle/Pedal Position Sensor/Switch A Circuit Intermittent
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
P0126	Insufficient Coolant Temperature for Stable Operation
P0127	Intake Air Temperature Too High
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)
P0130	02 Sensor Circuit (Bank 1 Sensor 1)
P0131	02 Sensor Circuit Low Voltage (Bank 1 Sensor 1)
P0132	02 Sensor Circuit High Voltage (Bank 1 Sensor 1)
P0133	02 Sensor Circuit Slow Response (Bank 1 Sensor 1)
P0134	02 Sensor Circuit No Activity Detected (Bank 1 Sensor 1)
P0135	02 Sensor Heater Circuit (Bank 1 Sensor 1)
P0136	02 Sensor Circuit Malfunction (Bank 1 Sensor 2)
P0137	02 Sensor Circuit Low Voltage (Bank 1 Sensor 2)
P0138	02 Sensor Circuit High Voltage (Bank 1 Sensor 2)
P0139	02 Sensor Circuit Slow Response (Bank 1 Sensor 2)
P0140	02 Sensor Circuit No Activity Detected (Bank 1 Sensor 2)
P0141	02 Sensor Heater Circuit (Bank 1 Sensor 2)
P0142	02 Sensor Circuit Malfunction (Bank 1 Sensor 3)
P0143	02 Sensor Circuit Low Voltage (Bank 1 Sensor 3)

MB	ME Code Description
P0144	02 Sensor Circuit High Voltage (Bank 1 Sensor 3)
P0145	02 Sensor Circuit Slow Response (Bank 1 Sensor 3)
P0146	02 Sensor Circuit No Activity Detected (Bank 1 Sensor 3)
P0147	02 Sensor Heater Circuit (Bank 1 Sensor 3)
P0148	Fuel Delivery Error
P0149	Fuel Timing Error
P0150	02 Sensor Circuit (Bank 2 Sensor 1)
P0151	02 Sensor Circuit Low Voltage (Bank 2 Sensor 1)
P0152	02 Sensor Circuit High Voltage (Bank 2 Sensor 1)
P0153	02 Sensor Circuit Slow Response (Bank 2 Sensor 1)
P0154	02 Sensor Circuit No Activity Detected (Bank 2 Sensor 1)
P0155	02 Sensor Heater Circuit (Bank 2 Sensor 1)
P0156	02 Sensor Circuit Malfunction (Bank 2 Sensor 2)
P0157	02 Sensor Circuit Low Voltage (Bank 2 Sensor 2)
P0158	02 Sensor Circuit High Voltage (Bank 2 Sensor 2)
P0159	02 Sensor Circuit Slow Response (Bank 2 Sensor 2)
P0160	02 Sensor Circuit No Activity Detected (Bank 2 Sensor 2)
P0161	02 Sensor Heater Circuit (Bank 2 Sensor 2)
P0162	02 Sensor Circuit Malfunction (Bank 2 Sensor 3)
P0163	02 Sensor Circuit Low Voltage (Bank 2 Sensor 3)
P0164	02 Sensor Circuit High Voltage (Bank 2 Sensor 3)
P0165	02 Sensor Circuit Slow Response (Bank 2 Sensor 3)
P0166	02 Sensor Circuit No Activity Detected (Bank 2 Sensor 3)
P0167	02 Sensor Heater Circuit (Bank 2 Sensor 3)
P0168	Fuel Temperature Too High
P0169	Incorrect Fuel Composition
P0170	Fuel Trim (Bank 1)
P0171	System too Lean (Bank 1)
P0172	System too Rich (Bank 1)
P0173	Fuel Trim Malfunction (Bank 2)
P0174	System too Lean (Bank 2)
P0175	System too Rich (Bank 2)
P0176	Fuel Composition Sensor Circuit
P0177	Fuel Composition Sensor Circuit Range/Performance
P0178	Fuel Composition Sensor Circuit Low Input
P0179	Fuel Composition Sensor Circuit High Input
P0180	Fuel Temperature Sensor A Circuit
P0181	Fuel Temperature Sensor A Circuit Range/Performance
P0182	Fuel Temperature Sensor A Circuit Low Input
P0183	Fuel Temperature Sensor A Circuit High Input
P0184	Fuel Temperature Sensor A Circuit Intermittent
P0185	Fuel Temperature Sensor B Circuit
P0186	Fuel Temperature Sensor B Circuit Range/Performance
P0187	Fuel Temperature Sensor B Circuit Low Input
P0188	Fuel Temperature Sensor B Circuit High Input
P0189	Fuel Temperature Sensor B Circuit Intermittent
P0190	Fuel Rail Pressure Sensor Circuit
P0191	Fuel Rail Pressure Sensor Circuit Range/Performance
P0192	Fuel Rail Pressure Sensor Circuit Low Input
P0193	Fuel Rail Pressure Sensor Circuit High Input
P0194	Fuel Rail Pressure Sensor Circuit Intermittent
P0195	Engine Oil Temperature Sensor
P0196	Engine Oil Temperature Sensor Range/Performance
P0197	Engine Oil Temperature Sensor Low
P0198	Engine Oil Temperature Sensor High

MB	ME Code Description
P0199	Engine Oil Temperature Sensor Intermittent
P02XX	**Fuel and Air Metering**
P0200	Injector Circuit
P0201	Injector Circuit - Cylinder 1
P0202	Injector Circuit - Cylinder 2
P0203	Injector Circuit - Cylinder 3
P0204	Injector Circuit - Cylinder 4
P0205	Injector Circuit - Cylinder 5
P0206	Injector Circuit - Cylinder 6
P0207	Injector Circuit - Cylinder 7
P0208	Injector Circuit - Cylinder 8
P0209	Injector Circuit - Cylinder 9
P0210	Injector Circuit - Cylinder 10
P0211	Injector Circuit - Cylinder 11
P0212	Injector Circuit - Cylinder 12
P0213	Cold Start Injector 1
P0214	Cold Start Injector 2
P0215	Engine Shutoff Solenoid
P0216	Injector/Injection Timing Control Circuit
P0217	Engine Coolant Over Temperature Condition
P0218	Transmission Fluid Over Temperature Condition
P0219	Engine Overspeed Condition
P0220	Throttle/Pedal Position Sensor/Switch "B" Circuit
P0221	Throttle/Pedal Position Sensor/Switch "B" Circuit Range/Performance Problem
P0222	Throttle/Pedal Position Sensor/Switch "B" Circuit Low Input
P0223	Throttle/Pedal Position Sensor/Switch "B" Circuit High Input
P0224	Throttle/Pedal Position Sensor/Switch "B" Circuit Intermittent
P0225	Throttle/Pedal Position Sensor/Switch "C" Circuit
P0226	Throttle/Pedal Position Sensor/Switch "C" Circuit Range/Performance Problem
P0227	Throttle/Pedal Position Sensor/Switch "C" Circuit Low Input
P0228	Throttle/Pedal Position Sensor/Switch "C" Circuit High Input
P0229	Throttle/Pedal Position Sensor/Switch "C" Circuit Intermittent
P0230	Fuel Pump Primary Circuit
P0231	Fuel Pump Secondary Circuit Low
P0232	Fuel Pump Secondary Circuit High
P0233	Fuel Pump Secondary Circuit Intermittent
P0234	Turbo/Super Charger Overboost Condition
P0235	Turbo/Super Charger Boost Sensor "A" Circuit
P0236	Turbo/Super Charger Boost Sensor "A" Circuit Range/Performance
P0237	Turbo/Super Charger Boost Sensor "A" Circuit Low
P0238	Turbo/Super Charger Boost Sensor "A" Circuit High
P0239	Turbo/Super Charger Boost Sensor "B" Circuit
P0240	Turbo/Super Charger Boost Sensor "B" Circuit Range/Performance
P0241	Turbo/Super Charger Boost Sensor "B" Circuit Low
P0242	Turbo/Super Charger Boost Sensor "B" Circuit High
P0243	Turbo/Super Charger Wastegate Solenoid "A"
P0244	Turbo/Super Charger Wastegate Solenoid "A" Range/Performance
P0245	Turbo/Super Charger Wastegate Solenoid "A" Low
P0246	Turbo/Super Charger Wastegate Solenoid "A" High
P0247	Turbo/Super Charger Wastegate Solenoid "B"
P0248	Turbo/Super Charger Wastegate Solenoid "B" Range/Performance
P0249	Turbo/Super Charger Wastegate Solenoid "B" Low
P0250	Turbo/Super Charger Wastegate Solenoid "B" High
P0251	Injection Pump Fuel Metering Control "A" (Cam/Rotor/injector)
P0252	Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector)

MB	ME Code Description
P0253	Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)
P0254	Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)
P0255	Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)
P0256	Injection Pump Fuel Metering Control "B" (Cam/Rotor/Injector)
P0257	Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)
P0258	Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)
P0259	Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)
P0260	Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)
P0261	Cylinder 1 Injector Circuit Low
P0262	Cylinder 1 Injector Circuit High
P0263	Cylinder 1 Contribution/Balance
P0264	Cylinder 2 Injector Circuit Low
P0265	Cylinder 2 Injector Circuit High
P0266	Cylinder 2 Contribution/Balance
P0267	Cylinder 3 Injector Circuit Low
P0268	Cylinder 3 Injector Circuit High
P0269	Cylinder 3 Contribution/Balance
P0270	Cylinder 4 Injector Circuit Low
P0271	Cylinder 4 Injector Circuit High
P0272	Cylinder 4 Contribution/Balance
P0273	Cylinder 5 Injector Circuit Low
P0274	Cylinder 5 Injector Circuit High
P0275	Cylinder 5 Contribution/Balance
P0276	Cylinder 6 Injector Circuit Low
P0277	Cylinder 6 Injector Circuit High
P0278	Cylinder 6 Contribution/Balance
P0279	Cylinder 7 Injector Circuit Low
P0280	Cylinder 7 Injector Circuit High
P0281	Cylinder 7 Contribution/Balance
P0282	Cylinder 8 Injector Circuit Low
P0283	Cylinder 8 Injector Circuit High
P0284	Cylinder 8 Contribution/Balance
P0285	Cylinder 9 Injector Circuit Low
P0286	Cylinder 9 Injector Circuit High
P0287	Cylinder 9 Contribution/Balance
P0288	Cylinder 10 Injector Circuit Low
P0289	Cylinder 10 Injector Circuit High
P0290	Cylinder 10 Contribution/Balance
P0291	Cylinder 11 Injector Circuit Low
P0292	Cylinder 11 Injector Circuit High
P0293	Cylinder 11 Contribution/Balance
P0294	Cylinder 12 Injector Circuit Low
P0295	Cylinder 12 Injector Circuit High
P0296	Cylinder 12 Contribution/Balance
P0298	Engine Oil Over Temperature
P03XX	**Ignition System or Misfire**
P0300	Random/Multiple Cylinder Misfire Detected - Mechanical, Ignition or Injection Malfunction
P0301	Cylinder 1 Misfire Detected
P0302	Cylinder 2 Misfire Detected
P0303	Cylinder 3 Misfire Detected
P0304	Cylinder 4 Misfire Detected
P0305	Cylinder 5 Misfire Detected
P0306	Cylinder 6 Misfire Detected
P0307	Cylinder 7 Misfire Detected
P0308	Cylinder 8 Misfire Detected

MB	ME Code Description
P0309	Cylinder 9 Misfire Detected
P0310	Cylinder 10 Misfire Detected
P0311	Cylinder 11 Misfire Detected
P0312	Cylinder 12 Misfire Detected
P0313	Misfire Detected with Low Fuel
P0314	Single Cylinder Misfire (Cylinder not Specified)
P0320	Ignition/Distributor Engine Speed Input Circuit
P0321	Ignition/Distributor Engine Speed Input Circuit Range/Performance
P0322	Ignition/Distributor Engine Speed Input Circuit No Signal
P0323	Ignition/Distributor Engine Speed Input Circuit Intermittent
P0324	Knock Control System Error
P0325	Knock Sensor 1 Circuit (Bank 1 or Single Sensor
P0326	Knock Sensor 1 Circuit Range/Performance (Bank 1 or Single Sensor
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor
P0329	Knock Sensor 1 Circuit Input Intermittent (Bank 1 or Single Sensor
P0330	Knock Sensor 2 Circuit (Bank 2)
P0331	Knock Sensor 2 Circuit Range/Performance (Bank 2)
P0332	Knock Sensor 2 Circuit Low Input (Bank 2)
P0333	Knock Sensor 2 Circuit High Input (Bank 2)
P0334	Knock Sensor 2 Circuit Input Intermittent (Bank 2)
P0335	Crankshaft Position Sensor A Circuit
P0336	Crankshaft Position Sensor A Circuit Range/Performance
P0337	Crankshaft Position Sensor A Circuit Low Input
P0338	Crankshaft Position Sensor A Circuit High Input
P0339	Crankshaft Position Sensor A Circuit Intermittent
P0340	Camshaft Position Sensor "A" Circuit (Bank 1 or Single Sensor)
P0341	Camshaft Position Sensor "A" Circuit Range/Performance (Bank 1 or Single Sensor
P0342	Camshaft Position Sensor "A" Circuit Low Input (Bank 1 or Single Sensor
P0343	Camshaft Position Sensor "A" Circuit High Input (Bank 1 or Single Sensor)
P0344	Camshaft Position Sensor "A" Circuit Intermittent (Bank 1 or Single Sensor
P0345	Camshaft Position Sensor "A" Circuit (Bank 2)
P0346	Camshaft Position Sensor "A" Circuit Range/Performance (Bank 2)
P0347	Camshaft Position Sensor "A" Circuit Low Input (Bank 2)
P0348	Camshaft Position Sensor "A" Circuit High Input (Bank 2)
P0349	Camshaft Position Sensor "A" Circuit Intermittent (Bank 2)
P0350	Ignition Coil Primary/Secondary Circuit
P0351	Ignition Coil "A" Primary/Secondary Circuit
P0352	Ignition Coil "B" Primary/Secondary Circuit
P0353	Ignition Coil "C" Primary/Secondary Circuit
P0354	Ignition Coil "D" Primary/Secondary Circuit
P0355	Ignition Coil "E" Primary/Secondary Circuit
P0356	Ignition Coil “F" Primary/Secondary Circuit
P0357	Ignition Coil "G" Primary/Secondary Circuit
P0358	Ignition Coil "H" Primary/Secondary Circuit
P0359	Ignition Coil "I" Primary/Secondary Circuit
P0360	Ignition Coil "J" Primary/Secondary Circuit
P0361	Ignition Coil "K" Primary/Secondary Circuit
P0362	Ignition Coil "L" Primary/Secondary Circuit
P0365	Camshaft Position Sensor "B" Circuit (Bank 1)
P0366	Camshaft Position Sensor "B" Circuit Range/Performance (Bank 1)
P0367	Camshaft Position Sensor "B" Circuit Low Input (Bank 1)
P0368	Camshaft Position Sensor "B" Circuit High Input (Bank 1)
P0369	Camshaft Position Sensor "B" Circuit Intermittent (Bank 1)
P0370	Timing Reference High Resolution Signal "A" (Camshaft to Crankshaft Angle)

MB	ME Code Description
P0371	Timing Reference High Resolution Signal "A" Too Many Pulses
P0372	Timing Reference High Resolution Signal "A" Too Few Pulses
P0373	Timing Reference High Resolution Signal "A" Intermittent/Erratic Pulses
P0374	Timing Reference High Resolution Signal "A" No Pulse
P0375	Timing Reference High Resolution Signal "B"
P0376	Timing Reference High Resolution Signal "B" Too Many Pulses
P0377	Timing Reference High Resolution Signal "B" Too Few Pulses
P0378	Timing Reference High Resolution Signal "B" Intermittent/Erratic Pulses
P0379	Timing Reference High Resolution Signal "B" No Pulses
P0380	Glow Plug/Heater Circuit "A"
P0381	Glow Plug/Heater Indicator Circuit
P0382	Glow Plug/Heater Circuit "B"
P0385	Crankshaft Position Sensor "B" Circuit
P0386	Crankshaft Position Sensor "B" Circuit Range/Performance
P0387	Crankshaft Position Sensor "B" Circuit Low Input
P0388	Crankshaft Position Sensor "B" Circuit High Input
P0389	Crankshaft Position Sensor "B" Circuit Intermittent
P0390	Camshaft Position Sensor "B" Circuit (Bank 2)
P0391	Camshaft Position Sensor "B" Circuit Range/Performance (Bank 2)
P0392	Camshaft Position Sensor "B" Circuit Low Input (Bank 2)
P0393	Camshaft Position Sensor "B" Circuit High Input (Bank 2)
P0394	Camshaft Position Sensor "B" Circuit Intermittent (Bank 2)
P04XX	**Auxiliary Emission Controls**
P0400	Exhaust Gas Recirculation Flow
P0401	Exhaust Gas Recirculation Flow Insufficient Detected
P0402	Exhaust Gas Recirculation Flow Excessive Detected
P0403	Exhaust Gas Recirculation Control Circuit
P0404	Exhaust Gas Recirculation Control Circuit Range/Performance
P0405	Exhaust Gas Recirculation Sensor "A" Circuit Low
P0406	Exhaust Gas Recirculation Sensor "A" Circuit High
P0407	Exhaust Gas Recirculation Sensor "B" Circuit Low
P0408	Exhaust Gas Recirculation Sensor "B" Circuit High
P0409	Exhaust Gas Recirculation Sensor "A" Circuit
P0410	Secondary Air Injection System
P0411	Secondary Air Injection System Incorrect Flow Detected
P0412	Secondary Air Injection System Switching Valve "A" Circuit
P0413	Secondary Air Injection System Switching Valve "A" Circuit Open
P0414	Secondary Air Injection System Switching Valve "A" Circuit Shorted
P0415	Secondary Air Injection System Switching Valve "B" Circuit
P0416	Secondary Air Injection System Switching Valve "B" Circuit Open
P0417	Secondary Air Injection System Switching Valve "B" Circuit Shorted
P0418	Secondary Air Injection System Relay "A" Circuit
P0419	Secondary Air Injection System Relay "B" Circuit
P0420	Catalyst System Efficiency Below Threshold (Bank 1)
P0421	Warm Up Catalyst Efficiency Below Threshold (Bank 1)
P0422	Main Catalyst Efficiency Below Threshold (Bank 1)
P0423	Heated Catalyst Efficiency Below Threshold (Bank 1)
P0424	Heated Catalyst Temperature Below Threshold (Bank 1)
P0425	Catalyst Temperature Sensor (Bank 1)
P0426	Catalyst Temperature Sensor Range/Performance (Bank 1)
P0427	Catalyst Temperature Sensor Low Input (Bank 1)
P0428	Catalyst Temperature Sensor High Input (Bank 1)
P0429	Catalyst Heater Control Circuit (Bank 1)
P0430	Catalyst System Efficiency Below Threshold (Bank 2)
P0431	Warm Up Catalyst Efficiency Below Threshold (Bank 2)

MB	ME Code Description
P0432	Main Catalyst Efficiency Below Threshold (Bank 2)
P0433	Heated Catalyst Efficiency Below Threshold (Bank 2)
P0434	Heated Catalyst Temperature Below Threshold (Bank 2)
P0435	Catalyst Temperature Sensor (Bank 2)
P0436	Catalyst Temperature Sensor Range/Performance (Bank 2)
P0437	Catalyst Temperature Sensor Low Input (Bank 2)
P0438	Catalyst Temperature Sensor High Input (Bank 2)
P0439	Catalyst Heater Control Circuit (Bank 2)
P0440	Evaporative Emission Control System
P0441	Evaporative Emission Control System Incorrect Purge Flow
P0442	Evaporative Emission Control System Leak Detected (small leak)
P0443	Evaporative Emission Control System Purge Control Valve Circuit
P0444	Evaporative Emission Control System Purge Control Valve Circuit Open
P0445	Evaporative Emission Control System Purge Control Valve Circuit Shorted
P0446	Evaporative Emission Control System Vent Control Circuit
P0447	Evaporative Emission Control System Vent Control Circuit Open
P0448	Evaporative Emission Control System Vent Control Circuit Shorted
P0449	Evaporative Emission Control System Vent Valve/Solenoid Circuit
P0450	Evaporative Emission Control System Pressure Sensor
P0451	Evaporative Emission Control System Pressure Sensor Range/Performance
P0452	Evaporative Emission Control System Pressure Sensor Low Input
P0453	Evaporative Emission Control System Pressure Sensor High Input
P0454	Evaporative Emission Control System Pressure Sensor Intermittent
P0455	Evaporative Emission Control System Leak Detected (gross leak)
P0456	Evaporative Emission Control System Leak Detected (very small leak)
P0457	Evaporative Emission Control System Leak Detected (fuel cap loose/off)
P0460	Fuel Level Sensor Circuit
P0461	Fuel Level Sensor Circuit Range/Performance
P0462	Fuel Level Sensor Circuit Low Input
P0463	Fuel Level Sensor Circuit High Input
P0464	Fuel Level Sensor Circuit Intermittent
P0465	EVAP Purge Flow Sensor Circuit
P0466	EVAP Purge Flow Sensor Circuit Range/Performance
P0467	EVAP Purge Flow Sensor Circuit Low Input
P0468	EVAP Purge Flow Sensor Circuit High Input
P0469	EVAP Purge Flow Sensor Circuit Intermittent
P0470	Exhaust Pressure Sensor
P0471	Exhaust Pressure Sensor Range/Performance
P0472	Exhaust Pressure Sensor Low
P0473	Exhaust Pressure Sensor High
P0474	Exhaust Pressure Sensor Intermittent
P0475	Exhaust Pressure Control Valve
P0476	Exhaust Pressure Control Valve Range/Performance
P0477	Exhaust Pressure Control Valve Low
P0478	Exhaust Pressure Control Valve High
P0479	Exhaust Pressure Control Valve Intermittent
P0480	Cooling Fan 1 Control Circuit
P0481	Cooling Fan 2 Control Circuit
P0482	Cooling Fan 3 Control Circuit
P0483	Cooling Fan Rationality Check
P0484	Cooling Fan Circuit Over Current
P0485	Cooling Fan Power/Ground Circuit
P0486	Exhaust Gas Recirculation Sensor "B" Circuit
P0487	Exhaust Gas Recirculation Throttle Position Control Circuit
P0488	Exhaust Gas Recirculation Throttle Position Control Range/Performance

MB	ME Code Description
P0491	Secondary Air Injection System (Bank 1)
P0492	Secondary Air Injection System (Bank 2)
P05XX	**Vehicle Speed, Idle Control, and Auxiliary Inputs**
P0500	Vehicle Speed Sensor
P0501	Vehicle Speed Sensor Range/Performance
P0502	Vehicle Speed Sensor Circuit Low Input
P0503	Vehicle Speed Sensor Intermittent/Erratic/High
P0505	Idle Control System
P0506	Idle Control System RPM Lower Than Expected
P0507	Idle Control System RPM Higher Than Expected
P0508	Idle Control System Circuit Low
P0509	Idle Control System Circuit High
P0510	Closed Throttle Position Switch
P0512	Starter Request Circuit
P0513	Incorrect Immobilizer Key ("Immobilizer" pending SAE J1930 approval) See P1570
P0515	Battery Temperature Sensor Circuit
P0516	Battery Temperature Sensor Circuit Low
P0517	Battery Temperature Sensor Circuit High
P0520	Engine Oil Pressure Sensor/Switch Circuit
P0521	Engine Oil Pressure Sensor/Switch Range/Performance
P0522	Engine Oil Pressure Sensor/Switch Low Voltage
P0523	Engine Oil Pressure Sensor/Switch High Voltage
P0524	Engine Oil Pressure Too Low
P0530	A/C Refrigerant Pressure Sensor Circuit
P0531	A/C Refrigerant Pressure Sensor Circuit Range/Performance
P0532	A/C Refrigerant Pressure Sensor Circuit Low Input
P0533	A/C Refrigerant Pressure Sensor Circuit High Input
P0534	Air Conditioner Refrigerant Charge Loss
P0540	Intake Air Heater Circuit
P0541	Intake Air Heater Circuit Low
P0542	Intake Air Heater Circuit High
P0544	Exhaust Gas Temperature Sensor Circuit (Bank 1)
P0545	Exhaust Gas Temperature Sensor Circuit Low (Bank 1)
P0546	Exhaust Gas Temperature Sensor Circuit High (Bank 1)
P0547	Exhaust Gas Temperature Sensor Circuit (Bank 2)
P0548	Exhaust Gas Temperature Sensor Circuit Low (Bank 2)
P0549	Exhaust Gas Temperature Sensor Circuit High (Bank 2)
P0550	Power Steering Pressure Sensor Circuit
P0551	Power Steering Pressure Sensor Circuit Range/Performance
P0552	Power Steering Pressure Sensor Circuit Low Input
P0553	Power Steering Pressure Sensor Circuit High Input
P0554	Power Steering Pressure Sensor Circuit Intermittent
P0560	System Voltage
P0561	System Voltage Unstable
P0562	System Voltage Low
P0563	System Voltage High
P0564	Cruise Control Multi-Function Input Signal
P0565	Cruise Control On Signal
P0566	Cruise Control Off Signal
P0567	Cruise Control Resume Signal
P0568	Cruise Control Set Signal
P0569	Cruise Control Coast Signal
P0570	Cruise Control Acceleration Signal
P0571	Cruise Control/Brake Switch A Circuit
P0572	Cruise Control/Brake Switch A Circuit Low

MB	ME Code Description
P0573	Cruise Control/Brake Switch A Circuit High
P0574	Cruise Control System - Vehicle Speed Too High
P0575	Cruise Control Input Circuit
P0576	Cruise Control Input Circuit Low
P0577	Cruise Control Input Circuit High
	P0578 through P0580 Reserved for Future Cruise Control Codes
P06XX	**Computer and Auxiliary Outputs**
P0600	Serial Communication Link - General
P0601	Internal Control Module Memory Check Sum Error
P0602	Control Module Programming Error
P0603	Internal Control Module Keep Alive Memory (KAM) Error
P0604	Internal Control Module Random Access Memory (RAM) Error
P0605	Internal Control Module Read Only Memory (ROM) Error
P0606	ECM/PCM Processor
P0607	Control Module Performance
P0608	Control Module VSS Output "A"
P0609	Control Module VSS Output "B"
P0610	Control Module Vehicle Options Error
P0615	Starter Relay Circuit
P0616	Starter Relay Circuit Low
P0617	Starter Relay Circuit High
P0618	Alternative Fuel Control Module KAM Error
P0619	Alternative Fuel Control Module RAM/ROM Error
P0620	Generator Control Circuit
P0621	Generator Lamp "L" Terminal Control Circuit
P0622	Generator Field "F" Terminal Control Circuit
P0623	Generator Lamp Control Circuit
P0624	Fuel Cap Lamp Control Circuit
P0630	VIN Not Programmed or Mismatch - ECM/PCM
P0631	VIN Not Programmed or Mismatch - TCM
P0635	Power Steering Control Circuit
P0636	Power Steering Control Circuit Low
P0637	Power Steering Control Circuit High
P0638	Throttle Actuator Control Range/Performance (Bank 1)
P0639	Throttle Actuator Control Range/Performance (Bank 2)
P0640	Intake Air Heater Control Circuit
P0645	A/C Clutch Relay Control Circuit
P0646	A/C Clutch Relay Control Circuit Low
P0647	A/C Clutch Relay Control Circuit High
P0648	Immobilizer Lamp Control Circuit ("Immobilizer" pending SAE J1930 approval)
P0649	Speed Control Lamp Control Circuit
P0650	Malfunction Indicator Lamp (MIL) Control Circuit
P0654	Engine RPM Output Circuit
P0655	Engine Hot Lamp Output Control Circuit
P0656	Fuel Level Output Circuit
P0660	Intake Manifold Tuning Valve Control Circuit (Bank 1)
P0661	Intake Manifold Tuning Valve Control Circuit Low (Bank 1)
P0662	Intake Manifold Tuning Valve Control Circuit High (Bank 1)
P0663	Intake Manifold Tuning Valve Control Circuit (Bank 2)
P0664	Intake Manifold Tuning Valve Control Circuit Low (Bank 2)
P0665	Intake Manifold Tuning Valve Control Circuit High (Bank 2)
P07XX	**Transmission**
P0700	Transmission Control System (MIL Request)
P0701	Transmission Control System Range/Performance
P0702	Transmission Control System Electrical

MB	ME Code Description
P0703	Torque Converter/Brake Switch B Circuit
P0704	Clutch Switch Input Circuit Malfunction
P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input)
P0706	Transmission Range Sensor Circuit Range/Performance
P0707	Transmission Range Sensor Circuit Low Input
P0708	Transmission Range Sensor Circuit High Input
P0709	Transmission Range Sensor Circuit Intermittent
P0710	Transmission Fluid Temperature Sensor Circuit
P0711	Transmission Fluid Temperature Sensor Circuit Range/Performance
P0712	Transmission Fluid Temperature Sensor Circuit Low Input
P0713	Transmission Fluid Temperature Sensor Circuit High Input
P0714	Transmission Fluid Temperature Sensor Circuit Intermittent
P0715	Input/Turbine Speed Sensor Circuit
P0716	Input/Turbine Speed Sensor Circuit Range/Performance
P0717	Input/Turbine Speed Sensor Circuit No Signal
P0718	Input/Turbine Speed Sensor Circuit Intermittent
P0719	Torque Converter/Brake Switch B Circuit Low
P0720	Output Speed Sensor Circuit
P0721	Output Speed Sensor Circuit Range/Performance
P0722	Output Speed Sensor Circuit No Signal
P0723	Output Speed Sensor Circuit Intermittent
P0724	Torque Converter/Brake Switch B Circuit High
P0725	Engine Speed Input Circuit
P0726	Engine Speed Input Circuit Range/Performance
P0727	Engine Speed Input Circuit No Signal
P0728	Engine Speed Input Circuit Intermittent
P0730	Incorrect Gear Ratio
P0731	Gear 1 Incorrect Ratio
P0732	Gear 2 Incorrect Ratio
P0733	Gear 3 Incorrect Ratio
P0734	Gear 4 Incorrect Ratio
P0735	Gear 5 Incorrect Ratio
P0736	Reverse Incorrect Ratio
P0737	TCM Engine Speed Output Circuit
P0739	TCM Engine Speed Output Circuit Low
P0739	TCM Engine Speed Output Circuit High
P0740	Torque Converter Clutch Circuit
P0741	Torque Converter Clutch Circuit Performance or Stuck Off
P0742	Torque Converter Clutch Circuit Stuck On
P0743	Torque Converter Clutch Circuit Electrical
P0744	Torque Converter Clutch Circuit Intermittent
P0745	Pressure Control Solenoid "A"
P0746	Pressure Control Solenoid "A" Performance or Stuck Off
P0747	Pressure Control Solenoid "A" Stuck On
P0748	Pressure Control Solenoid "A" Electrical
P0749	Pressure Control Solenoid "A" Intermittent
P0750	Shift Solenoid "A"
P0751	Shift Solenoid "A" Performance or Stuck Off
P0752	Shift Solenoid "A" Stuck On
P0753	Shift Solenoid "A" Electrical
P0754	Shift Solenoid "A" Intermittent
P0755	Shift Solenoid "B"
P0756	Shift Solenoid "B" Performance or Stuck Off
P0757	Shift Solenoid "B" Stuck On
P0758	Shift Solenoid "B" Electrical

MB	ME Code Description
P0759	Shift Solenoid "B" Intermittent
P0760	Shift Solenoid "C"
P0761	Shift Solenoid "C" Performance or Stuck Off
P0762	Shift Solenoid "C" Stuck On
P0763	Shift Solenoid "C" Electrical
P0764	Shift Solenoid "C" Intermittent
P0765	Shift Solenoid "D"
P0766	Shift Solenoid "D" Performance or Stuck Off
P0767	Shift Solenoid "D" Stuck On
P0768	Shift Solenoid "D" Electrical
P0769	Shift Solenoid "D" Intermittent
P0770	Shift Solenoid "E"
P0771	Shift Solenoid "E" Performance or Stuck Off
P0772	Shift Solenoid "E" Stuck On
P0773	Shift Solenoid "E" Electrical
P0774	Shift Solenoid "E" Intermittent
P0775	Pressure Control Solenoid "B"
P0776	Pressure Control Solenoid "B" Performance or Stuck off
P0777	Pressure Control Solenoid "B" Stuck On
P0778	Pressure Control Solenoid "B" Electrical
P0779	Pressure Control Solenoid "B" Intermittent
P0780	Shift
P0781	1-2 Shift
P0782	2-3 Shift
P0783	3-4 Shift
P0784	4-5 Shift
P0785	Shift/Timing Solenoid
P0786	Shift/Timing Solenoid Range/Performance
P0787	Shift/Timing Solenoid Low
P0788	Shift/Timing Solenoid High
P0789	Shift/Timing Solenoid Intermittent
P0790	Normal/Performance Switch Circuit
P0791	Intermediate Shaft Speed Sensor Circuit
P0792	Intermediate Shaft Speed Sensor Circuit Range/Performance
P0793	Intermediate Shaft Speed Sensor Circuit No Signal
P0794	Intermediate Shaft Speed Sensor Circuit Intermittent
P0795	Pressure Control Solenoid "C"
P0796	Pressure Control Solenoid "C" Performance or Stuck off
P0797	Pressure Control Solenoid "C" Stuck On
P0798	Pressure Control Solenoid "C" Electrical
P0799	Pressure Control Solenoid "C" Intermittent
P08XX	**Transmission**
P0801	Reverse Inhibit Control Circuit/**Electric-Suction type fan (engine AAC) connector M4/3.**
P0802	**Resonance Intake Manifold Switchover Valve Circuit**
P0803	1-4 Upshift (Skip Shift) Solenoid Control Circuit
P0804	1-4 Upshift (Skip Shift) Lamp Control Circuit
P0805	Clutch Position Sensor Circuit
P0805	**Air-flap recirculation signal output stage incorrect**
P0806	Clutch Position Sensor Circuit Range/Performance
P0806	**A/C compressor output stage, magnetic combination**
P0807	Clutch Position Sensor Circuit Low
P0808	Clutch Position Sensor Circuit High
P0809	Clutch Position Sensor Circuit Intermittent/**Angular deviation between cam and crankshaft**
P0809	**Variation in angle of camshaft to crankshaft incorrect**

MB	ME Code Description
P0810	Clutch Position Control Error
P0811	Excessive Clutch Slippage
P0811	**CAN problem - No reception from EZS (Ignition Lock)**
P0812	Reverse Input Circuit
P0813	Reverse Output Circuit
P0814	Transmission Range Display Circuit
P0815	Upshift Switch Circuit
P0816	Downshift Switch Circuit
P0816	**Oil pressure sensor open circuit or short circuit, malfunction**
P0817	Starter Disable Circuit
P0818	Driveline Disconnect Switch Input Circuit
P0820	Gear Lever X-Y Position Sensor Circuit
P0821	Gear Lever X Position Circuit
P0822	Gear Lever Y Position Circuit
P0823	Gear Lever X Position Circuit Intermittent
P0824	Gear Lever Y Position Circuit Intermittent
P0825	Gear Lever Push-Pull Switch (Shift Anticipate)
P0830	Clutch Pedal Switch "A" Circuit
P0831	Clutch Pedal Switch "A" Circuit Low
P0832	Clutch Pedal Switch "A" Circuit High
P0833	Clutch Pedal Switch "B" Circuit
P0834	Clutch Pedal Switch "B" Circuit Low
P0835	Clutch Pedal Switch "B" Circuit High
P0836	Four Wheel Drive (4WD) Switch Circuit
P0837	Four Wheel Drive (4WD) Switch Circuit Range/Performance
P0838	Four Wheel Drive (4WD) Switch Circuit Low
P0839	Four Wheel Drive (4WD) Switch Circuit High
P0840	Transmission Fluid Pressure Sensor/Switch "A" Circuit
P0841	Transmission Fluid Pressure Sensor/Switch "A" Circuit Range/Performance
P0842	Transmission Fluid Pressure Sensor/Switch "A" Circuit Low
P0843	Transmission Fluid Pressure Sensor/Switch "A" Circuit High
P0844	Transmission Fluid Pressure Sensor/Switch "A" Circuit Intermittent
P0845	Transmission Fluid Pressure Sensor/Switch "B" Circuit
P0846	Transmission Fluid Pressure Sensor/Switch "B" Circuit Range/Performance
P0847	Transmission Fluid Pressure Sensor/Switch "B" Circuit Low
P0848	Transmission Fluid Pressure Sensor/Switch "B" Circuit High
P0849	Transmission Fluid Pressure Sensor/Switch "B" Circuit Intermittent
P09XX	**Transmission**
	None defined at this time.
P1XXX	**Mercedes Benz Manufacturer Specific Codes**
P10XX	**Fuel and Air Metering and Auxiliary Emission Controls**
P1031	O2 sensor (G3/3 and G3/4) connections reversed
P11XX	**Fuel and Air Metering**
P1146	Mass air flow circuit malfunction - Bank 2 (left)
P1147	ECT circuit malfunction - Bank 2 (left)
P1148	IAT circuit malfunction - Bank 2 (left)
P1149	MAP circuit malfunction - Bank 2 (left)
P1162	Throttle position sensor circuit failure - Bank 2 (left)
P1163	Oil level switch.
P1176	Oil pressure sensor open circuit or short circuit, malfunction.
P1177	Oil sensor, temperature incorrect.
P1178	Oil sensor, engine oil level incorrect.
P1179	Oil sensor, engine oil quality incorrect.

MB	ME Code Description
P1180	Oil sensor, engine oil temperature too high
P1181	Engine electric-fan /Air conditioning malfunction
P1182	Starting system relay in fuse and relay module box
P1183	Right cylinders bank cut-off output stage malfunction
P1184	Left cylinders bank cut-off output stage malfunction
P1185	Water in engine oil, Oil sensor
P1186	Fuel safety shut-off recognized.
P12XX	**Fuel and Air Metering**
P1225	Resonance intake manifold switchover valve circuit
P1233	Throttle Valve Actuator - Mechanically jammed
P1235	Air-flap recirculated signal output stage faulty
P1236	A/C compressor output stage, magnetic combination incorrect
P13XX	**Ignition System or Misfire**
P1300	CKP sensor circuit failure - Bank 2 (left)
P1384	Knock sensor circuit malfunction - Left front.
P1385	Knock sensor circuit malfunction - Left rear.
P1386	Knock sensor control from electronic control module - at limit
P1397	CMP sensor circuit range/performance - Bank 2 (left)
P14XX	**Auxiliary Emission Controls**
P1400	EGR (exhaust gas recirculation) output stage faulty
P1420	Air-pump switchover valve circuit
P1443	EVAP system malfunction - Bank 2 (left)
P1453	Air-pump relay, relay module, fuse or circuit
P1463	Left AIR system malfunction
P1490	EVAP system purge control valve circuit malfunction - Bank 2 (left)
P1491	A/C system refrigerant pressure too high
P1492	Exhaust-flap faulty
P15XX	**Vehicle Speed, Idle Control, and Auxiliary Inputs**
P1519	Right or sole adjustable camshaft timing solenoid mechanically faulty.
P1522	Left adjustable camshaft timing solenoid mechanically faulty.
P1525	Right or sole adjustable camshaft timing solenoid electrically faulty
P1533	Left adjustable camshaft timing solenoid electrically faulty
P1542	Pedal position sensor signal
P1570	CAN bus signal from DAS to the ME-SFI control unit - DAS locked, signal interrupted, mismatched ECMs.
P1580	Right or sole EA/CC/ISC Actuator circuit faulty
P1581	Left EA/CC/ISC Actuator circuit faulty
P1584	Stop lamp switch/Brake switch signal
P1587	Left engine control module voltage supply faulty.
P1588	CAN bus signal from the RCL controller to the Left engine controller faulty.
P1589	Knock sensor control from the left engine controller at limit.
P16XX	**Computer and Auxiliary Outputs**
P1603	CAN bus problem. No data reception from EIS
P1605	CAN fault. ABS speed sensor error vs. VSS (RPM)
P1632	Left engine control module faulty.
P1641	Right of left CTP signal to the engine control module faulty or CAN bus communication by the left engine control has been interrupted.
P1642	Engine control module incorrect coding (MT coded has AT)
P1643	Engine control module incorrect coding or CAN signal from Transmission system faulty.
P1644	Transmission control module, voltage too low. Transmission control system version cannot be checked.
P17XX	**Transmission**
P1747	CAN signal from ETC. CAN signal failure from ETC or instrument cluster faulty.

Diagnostic Module (DM) - Analog

Models	Model Years
124.034 124.036	1992-1993
124.028 124.032 124.052 124.092	1994-95
119.067	1992-1994
140.032 140.042 140.043 140.051	1992-1994
140.057 140.076	1992-1995

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Oxygen sensor faulty - Bank 1 Sensor 1
3	Lambda control out of range - Bank 1 - Air, fuel metering or ignition problem.
4	Air injection faulty - Bank 1
5	Exhaust gas recirculation (EGR) of control module faulty - Bank 1
6	Idle speed control faulty
7	Ignition system faulty - Bank 1
8	Engine coolant temperature sensor, circuit open or circuit short - Bank 1
9	Intake air temperature sensor, circuit open or circuit short - Bank 1
10	Voltage at mass air sensor too high/low - Bank 1
11	Tn-signal (rpm signal) at control module faulty - Bank 1
12	Oxygen sensor heater, circuit open or circuit short - Bank 1
13	Camshaft position sensor signal ignition control module faulty - Bank 1
14	Intake manifold pressure at startup too low or too high - Bank 1
15	Wide open throttle (WOT) position information faulty
16	Closed throttle position (CTP) information faulty
17	Data exchange (CAN) fault between engine control module, ignition control module or electronic accelerator/cruise control module. Bank 1
18	Adjustable camshaft timing solenoid circuit open or circuit short - Bank 1
19	Injector circuit open or circuit short or emission control system adaptation at limit - Bank 1
20	Vehicle speed signal missing
21	Purge switchover valve, circuit open or circuit short - Bank 1
22	Camshaft position sensor signal faulty - Bank 1
23	Intake manifold pressure with engine running, too low/high - Bank 1
24	Starter ring gear segments faulty or crankshaft position sensor faulty - Bank 1
25	Knock sensors or ignition control module faulty - Bank 1
26	Upshift delay switchover valve, circuit open or circuit short
27	Engine coolant temperature sensor deviation between circuit 1, and sensor circuit 2 - Bank 1
28	Engine coolant temperature sensor (engine coolant temperature change monitor) - Bank 1
34	Oxygen sensor faulty - Bank 2 Sensor 1
35	Lambda control out of range - Bank 2 - Air, fuel metering or ignition problem.
36	Air injection faulty - Bank 2
37	Exhaust gas recirculation (EGR) of control module faulty - Bank 2
38	Not used
39	Ignition system faulty - Bank 2
40	Engine coolant temperature sensor, circuit open or circuit short - Bank 2
41	Intake air temperature sensor, circuit open or circuit short - Bank 2
42	Voltage at mass air sensor too high/low - Bank 2
43	Tn-signal (rpm signal) at control module faulty - Bank 2
44	Oxygen sensor heater, circuit open or circuit short - Bank 2
45	Camshaft position sensor signal ignition control module faulty - Bank 2 or Fuel safety shut-off electronic accelerator or cruise control active (HFM only)
46	Intake manifold pressure at startup too low or too high - Bank 2 or Resonance intake manifold switchover valve (HFM only)

DTC Readout	Possible Cause of Failure
47-48	Not used
49	Data exchange (CAN) fault between engine control module, ignition control module or electronic accelerator/cruise control module. - Bank 2 or Voltage supply at engine control module <8V (HFM only)
50	Adjustable camshaft timing solenoid circuit open or circuit short - Bank 2 or Engine control module (HFM only)
51	Injector circuit open or circuit short or emission control system adaptation at limit - Bank 2
52	Not used
53	Purge switchover valve, circuit open or circuit short - Bank 2
54	Camshaft position sensor signal faulty - Bank 2
55	Intake manifold pressure with engine running, too low/high - Bank 2
56	Starter ring gear segments faulty or crankshaft position sensor faulty - Bank 2
57	Knock sensors or ignition control module faulty - Bnak 2
58	Not used
59	Engine coolant temperature sensor deviation between circuit 1, and sensor circuit 2 - Bank 2
60	Engine coolant temperature sensor (engine coolant temperature change monitor) - Bank 2

Diagnostic Module (DM) - Digital LH

SEE ME-SFI INJECTION FOR ALL DIAGNOSTIC CODES FROM 8/96 PRODUCTION AND LATER FOR ALL MODELS.

Engines	Model Years
104 (LH-SFI)	1992
104 (124 only)	1992-95
119 120	1991-96

Stored Codes turn on the Check Engine Light (MIL)
Registered or Pending Codes will keep the light on.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
0	No fault found
2	Oxygen sensor. No signal (right bank in 120)
3	Fuel adaptation (lambda control), inoperative. Engine control module (right bank in 120)
4	Air injection defective, fault from Fuel control system (right bank in 120)
5	EGR exhaust gas recirculation incorrect, fault. Engine control module (right bank in 120)
6	Idle speed control incorrect, fault from EA/CC/ISC
7	Ignition system defective, fault from Fuel/Ignition control system (right bank in 120)
8	Coolant temperature sensor signal. Open or short circuit (right bank in 120)
9	Intake air temperature sensor signal. Open or short circuit (right bank in 120)
10	Air mass sensor voltage signal too high /low. (right bank in 120)
11	Engine speed signal TN (RPM) or Engine control module (right bank in 120) defective
12	Oxygen sensor heater circuit. Open or short circuit (right bank in 120)
13	Camshaft position sensor (CMP) signal, fault from Fuel/Ignition control system (right bank in 120)
14	Intake manifold pressure value at start too high/low, fault from Fuel/Ignition control system (right bank in 120)
15	Wide open throttle (WOT) signal incorrect/implausible.
16	Closed throttle position (CTP) sensor signal incorrect/implausible.
17	CAN communication faulty in between control units (right bank in 120).
18	Camshaft timing adjust solenoid, open or short circuit (right bank in 120)
19	Fuel injector circuit, open or short circuit or self adaptation at limit. (right bank in 120)
20	Speed signal missing
21	Fuel purge control valve, open or short circuit (right bank in 120)
22	Camshaft position sensor (CMP) signal defective (right bank in 120)
23	Intake manifold pressure sensor signal incorrect, too high/low. (right bank in 120)
24	Crankshaft position sensor (CKP) signal incorrect or starter ring gear segment damaged.
25	Knock sensors circuit or Ignition control module defective (right bank in 120)
26	Transmission Upshift delay switchover valve (Y3/3) without function (Logic Chain)
27	Engine coolant temperature (ECT) sensors circuit 1 and 2 have difference values. (right bank in 120)
28	Engine coolant sensor/Operating temperature error. (right bank in 120)
34	Oxygen sensor. No signal (left bank in 120)
35	Fuel adaptation (lambda control), inoperative. Engine control module (left bank in 120)
36	Air injection defective, fault from Fuel control system (left bank in 120)
37	EGR exhaust gas recirculation incorrect, fault. Engine control module (left bank in 120)
38	Not used
39	Ignition system defective, fault from Fuel/Ignition control system (left bank in 120)
40	Coolant temperature sensor signal. Open or short circuit (left bank in 120)
41	Intake air temperature sensor signal. Open or short circuit (left bank in 120)
42	Air mass sensor voltage signal too high /low. (left bank in 120)
43	Engine speed signal TN (RPM) or Engine control module (left bank in 120) defective
44	Oxygen sensor heater circuit. Open or short circuit (left bank in 120)
45	Camshaft position sensor (CMP) signal, fault from Fuel/Ignition control system (left bank in 120)
46	Intake manifold pressure value at start too high/low, fault from Fuel/Ignition control system (left bank in 120)
47-48	Not used.
49	CAN communication faulty in between control units (left bank in 120).

DTC Readout	Possible Cause of Failure
50	Camshaft timing adjust solenoid, open or short circuit (left bank in 120)
51	Fuel injector circuit, open or short circuit or self adaptation at limit. (left bank in 120)
52	Not used.
53	Fuel purge control valve, open or short circuit (left bank in 120)
54	Camshaft position sensor (CMP) signal defective (left bank in 120)
55	Intake manifold pressure sensor signal incorrect, too high/low. (left bank in 120)
56	Crankshaft position sensor (CKP) signal incorrect or starter ring gear segment damaged.
57	Knock sensors circuit or Ignition control module defective (left bank in 120)
58	Not used.
59	Engine coolant temperature (ECT) sensors circuit 1 and 2 have difference values. (left bank in 120)
60	Engine coolant sensor/Operating temperature error. (left bank in 120)
63	Anomalous Code (Battery Jump most likely Caused)
65	EVAP Purge Valve

Be sure to reset adaptation once the codes have been cleared from the Diagnostic Module (see page 8).

Diagnostic Module (DM) - Digital HFM

SEE ME-SFI INJECTION FOR ALL DIAGNOSTIC CODES FROM 8/96 PRODUCTION AND LATER FOR ALL MODELS.

Engines	Model Years
104, 111 (HFM)	1994-96

Stored Codes turn on the Check Engine Light (MIL).
Registered or Pending Codes will keep the light on.

Fault Code Table

OB15	MB/SAE	ME Code Description
002	P0132	Oxygen sensor (G3/2) circuit high voltage
003	P0134	Oxygen sensor (G3/2) circuit no activity detected
004	P0131	Oxygen sensor (G3/2) circuit low voltage
005	P1131	Oxygen sensor (G3/2) circuit short circuit
006	P0133	Oxygen sensor (G3/2) circuit slow response
007	P0135	Oxygen sensor (G3/2) heater circuit malfunction
008	P1132	Oxygen sensor (G3/2) circuit "rich" stop
009	P0138	Oxygen sensor (G3/1) circuit high voltage
010	P0412	Secondary air injection (AIR) system switching valve/circuit malfunction Model 202: AIR pump switchover valve (Y32) and AIR relay module (K17) Models 129, 140: AIR pump switchover valve (Y32) and electromagnetic AIR pump clutch (Y33)
011	P0141	Oxygen sensor (G3/1) heater circuit malfunction
012	P1137	Oxygen sensor (G3/1) circuit short circuit
013	P1138	Oxygen sensor (G3/1) operating condition
015	P0411	Secondary air injection system incorrect flow detected
016	P1400	Electrical activation of the EGR switchover valve (Y27)
017	P0400	Exhaust gas recirculation flow malfunction
018	P0507	Idle control system RPM higher than expected
019	P0505	Idle control system malfunction
020	P030X	Cylinder X misfire detected
021	P1342	Electrical activation of adjustable camshaft timing solenoid (Y49)
021	P0300	Random misfire detected
022	P030X	Cylinder X misfire detected
023	P0300	Random misfire detected
024	P030X	Cylinder X misfire detected
025	P0300	Random misfire detected
026	P0420	Catalyst system efficiency below threshold
028	P1341	Adjustable camshaft timing solenoid (Y49) without function (Logic chain)
029	P0200	Injector circuit malfunction
030	P1170	Short term fuel trim (self-adaptation of fuel mixture)
031	P0170	Fuel trim malfunction
032	P0443	Evaporative emission control system (EVAP) purge control valve circuit malfunction (Purge switchover valve [Y58/1])
032	P1701	Electrical activation of upshift delay switchover valve (Y3/3)
034	P1700	Transmission upshift delay switchover valve (Y3/3) without function (Logic chain)
035	P030X	Cylinder X misfire detected
036	P0300	Random misfire detected
037	P030X	Cylinder X misfire detected
038	P0300	Random misfire detected
039	P030X	Cylinder X misfire detected
040	P0300	Random misfire detected
042	P1340	Camshaft position sensor monitoring signal from engine control module (N3/4)
043	P1335	Engine speed signal TNA to diagnostic module (OBD II) not received
044	P1711	Engine 104 only: Electrical activation of resonance intake manifold switchover valve (Y22/6)

OB15	MB/SAE	ME Code Description
045	P0116	Engine coolant temperature circuit range/performance problem (Engine coolant temperature sensor [B11/3])
046	P0125	Insufficient coolant temperature for closed loop fuel control
047	P0111	Intake air temperature circuit range/performance problem (Intake air temperature sensor [B17])
048	P0101	Mass or volume air flow circuit range/performance problem (Hot film mass air flow sensor [B2/5])
049	P0335	Crankshaft position sensor circuit malfunction
050	P1336	Crankshaft sensor signal: Magnet coding on segment
051	P0501	Vehicle speed sensor range/performance
051	P1337	Engine speed signal TNA transmitted from engine control module
052	P1740	Full load information: Load implausible
053	P1741	Full load information: Throttle valve position implausible
054	P0510	Closed throttle position switch malfunction
055	P0600	Serial communication link malfunction (CAN)
056	P0500	Vehicle speed sensor malfunction
058	P0341	Camshaft position sensor circuit range/performance (Camshaft position sensor [L5/1])
059	P0105	Manifold absolute pressure/barometric pressure circuit malfunction
060	P0327	Knock sensor 1 circuit low input
061	P0326	Knock sensor 1 circuit range/performance
062	P0325	Knock sensor 1 circuit malfunction
063	P1750	Battery voltage too low
064	P1443	Electrical activation of purge flow switchover valve (Y27/6)
065	P0441	EVAP incorrect purge flow
066	P1444	Pressure switchover without function (Logic chain)

Be sure to reset adaptation once the codes have been cleared from the Diagnostic Module (see page 8).

Base Module (BM)

Models	Model Years
124.034 124.036	1992-93
129.067	1992-95
140.032 140.042 140.043 140.051 140.057 140.076	1992-95

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2, 3, 4	Not used
5	Maximum permissible temperature in module box exceeded
6	Electromagnetic a/c compressor clutch blocked
7	Poly v-belt slipping
8	Voltage supply for LH-SFI control module interrupted
9	Voltage supply for LH-SFI control module interrupted
10	Voltage supply for LH-SFI control module interrupted Voltage supply for fuel injectors interrupted
11	Voltage supply for accessory equipment control module interrupted
12	Voltage supply for ABS control module, ABS/ASR control module or ASD control module interrupted
13, 14	Not used
15	Voltage supply for kickdown valve interrupted
16	Voltage supply for electromagnetic a/c compressor clutch interrupted
17	Voltage supply for module box blower motor interrupted

Distributor Ignition (DI)

Model	Model Years
124.051	1990-1995
124.034 124.036	1992-1995
129.061 129.066	1990-1995
129.067 129.076	1992-1995
140.032	1992-1993
140.042 140.043 140.051 140.057 140.070 140.076	1992-1995

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Maximum retard setting on at least one cylinder has been reached
3	Engine coolant temperature sensor faulty
4	Load sensor in EAL/AKR control module faulty
5	Knock sensors 1 and/or 2 faulty
6	Camshaft position sensor faulty
7	Knock output switch in EAL/AKR ignition control module faulty
8	Transmission overload switch does not close
9	Transmission overload switch does not open
10	Data exchange from EAL/AKR engine control module to CFI control module faulty.
11	Preference resistor faulty
12	Tn-signal is outside the tolerance range
13	Full load contact does not open.
14	Idle speed contact does not open.
15	Ignition coil 1 output from EAL/AKR ignition control module faulty
16	Ignition coil 2 output from EAL/AKR ignition control module faulty
17	Crankshaft position sensor faulty
18	Magnets for crankshaft position sensor (CKP) not recognized.
19	Ground, coding from left EZL/AKR ignition control module not present.
20	Ignition control module DTC memory faulty.
21	Load sensor in control module faulty. (Recognized with engine running)
22 -25	Not used
26	Ignition control module data exchange fault
27	LH-SFI control module data exchange fault
28	Electronic accelerator control module/idle speed control data exchange fault
34	Ignition misfire detected at cylinder 1 (104) / cylinder 1 (119)
35	Ignition misfire detected at cylinder 5 (104) / cylinder 5 (119)
36	Ignition misfire detected at cylinder 3 (104) / cylinder 4 (119)
37	Ignition misfire detected at cylinder 6 (104) / cylinder 8 (119)
38	Ignition misfire detected at cylinder 2 (104) / cylinder 6 (119)
39	Ignition misfire detected at cylinder 4 (104) / cylinder 3 (119)
40	Ignition misfire detected at cylinder 7 (119)
41	Ignition misfire detected at cylinder 2 (119)

Cruise Control/Idle Speed Control (CC/ISC) w/o ASR

Models	Model Years
124 129 140 202	1992-97

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Cruise control/idle speed control module
3	Cruise control/idle speed control actuator
4	Cruise control switch
5	Stop lamp switch
6	Starter lock-out/backup lamp switch
7	Data bus (CAN)
8	Left front axle vehicle speed sensor
9	Left rear axle vehicle speed sensor or Hall-effect speed sensor Rear axle vehicle speed sensor from ABS control module Rear axle vehicle speed sensor from ETS/SPS control module Incorrect CC/ISC control module installed ETS signal
10	Engine speed (RPM) signal (TNA)
11	Fuel safety shut-off to LH-SFI control module
12	Cruise control/idle speed control voltage supply

Electronic Accelerator / Cruise Control / Idle Speed Control (EA/CC/ISC) w/ASR

Models	Model Year
124 129 140 202	1992-96

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	EA/CC/ISC control module (N4/1) or Safety contact switch (M16/1s1) or Stop lamp switch or Cruise control switch or Actual value potentiometer or Starter lock-out/back-up lamp switch or Engine speed signal or Vehicle speed signal or Closed throttle position switch or Safety relay in EA/CC/ISC control module
3	Right EA/CC/ISC actuator (left cylinder bank) (M16/1)
4	Cruise control switch (S40)
5	Stop lamp switch (S9/1)
6	Starter lock-out/backup lamp switch
7	CAN data bus signal from EA/CC/ISC, ABS/ASR, HFM-SFI or LH-SFI (right or left) control module faulty.
8	Left front axle vehicle speed sensor from ABS/ASR control module
9	Left rear axle vehicle speed sensor from ABS/ASR control module or in 124 chassis Hall-effect speed sensor.
10	Engine speed signal (TN) from base module (LH-SFI) or engine control module (HFM-SFI)
11	Closed throttle recognition signal to engine control module (HFM-SFI or Left LH-SFI) Fuel safety shut-off to engine control module (HFM-SFI or left or right LH-SFI)
12	EA/CC/ISC control module voltage supply
13	Left EA/CC/ISC actuator (right cylinder bank) or actual value potentiometer (M16/4r1 or M16/4r2) or actuator motor (M16/4m1)or magnetic clutch (M16/4k1).
14	Closed throttle position contact switch
15	CAN data exchange with ABS/ASR control module illogical

Electronic Automatic Transmission Control (ETC) with CFI (722.5)

Models	Model Years
129	1990-1993

See 4matic and digital transmission control diagnosis beginning on page ?.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Not used
3	Engine load signal interrupted
4	Throttle valve switch (potentiometer) interrupted
5	Engine speed (RPM) signal interrupted
6	Vehicle speed signal interrupted
7	Output fault in 5-speed automatic transmission control module or fault in control valve.
8	5-speed automatic transmission control module
9	Control valve
10	Control valve short circuit

Electronic Transmission Control 5-speed (722.5)

Models	Model Years
129, 140	1990-1996

Fault Code Table

DTC Readout	Possible Cause of Failure
1	No fault found
2	Engine control module (N3/4) does not match TCM
3	Transmission overload protection switch 4th/5th gear defective
4	CAN data line from EA/CC/ISC control module (N4/1) signal distorted
5	CAN data line from DI control module (N1/3) or HFM control module signal distorted
6	CAN data line signal distorted, Short or open circuit
7	Control valve block (Y3/1y2), open circuit or TCM (N15/1) defective
8	Automatic Transmission Control Module (TCM) (N15/1) defective
9	Control valve block (Y3/1y2)
10	Control valve block (Y3/1y2), short circuit

Automatic-Engaged Four-wheel Drive (4MATIC)

Models	Model Years
124.230 124.290	1990-1993

NOTE: Engine must be at **idle** to read and clear 4MATIC fault codes.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	4MATIC control module
3	Brake light switch
4	Left front axle vehicle speed sensor
5	Right front axle vehicle speed sensor
6	Rear speed sensor signal
7	All 3 vehicle speed sensors
8	Over volts protection relay, front axle train valve
9	Over volts protection relay, central differential lock valve
10	Over volts protection relay, stop lamp switch, Rear axle differential lock valve
11	Steering angle sensor signal

The following faults cannot be detected by the 4MATIC controller:

- 4MATIC function indicator lamp defective.
- 4MATIC MIL defective.
- Oil Pressure Switch defective.

Electronic Transmission Control (ETC) for ME-SFI 5-speed (722.6)

Models	Engines	Model Years
129 140 163 170 202 208 210	104 111 112 113 119 120 606	1995-99

Fault Code Table

DTC Readout	Possible cause of Failure
1	No fault stored
2	1-2/4-5 shift solenoid valve circuit fault (Y3/6y3)
3	2-3 shift solenoid valve circuit fault (Y3/6y5)
4	3-4 shift solenoid valve circuit fault (Y3/6y4)
5	PWM solenoid valve (torque converter lock-up) circuit fault (Y3/6y6)
6	Pressure regulating solenoid valve circuit fault (Y3/6y1)
7	Shift pressure regulating solenoid valve circuit fault (Y3/6y2)
8	R/P lock solenoid, function defective (Y66/1)
9	Cable to starter lock-out relay module, function defective (K38/3)
10	Voltage supply to solenoid valves
11	Voltage supply to RPM sensors
12	RPM sensor 2 (Y3/6n2), signal defective
13	RPM sensor 3 (Y3/6n3), signal defective
16	Transmission output sensor (B49) defective
17	Transmission selector lever coding invalid
18	Selector lever signal incorrect (This code can be ignored.) or between ranges
19	Transmission fluid temperature sensor (Y3/6b1) signal defective
20	Starter lock-out contact (Y3/6s1) not functioning
20	Transmission oil temperature sensor defective/Starter lock-out contact not functioning
21	Supply voltage (terminal 87) too low or overvoltage.
22	CAN data: Right rear wheel speed (VSS) from traction system incorrect/implausible
23	CAN data: Left rear wheel speed (VSS) from traction system incorrect/implausible
24	CAN data: Pedal value from ME-SFI controller incorrect/implausible
24	CAN data: Right front wheel speed (VSS) from traction system incorrect/implausible
25	CAN data: Engine RPM from ME-SFI controller system incorrect/implausible
25	CAN data: Left front wheel speed (VSS) from traction system incorrect/implausible
26	CAN data: Right engine torque from ME-SFI controller system incorrect/implausible
26	CAN data: Pedal value from ME-SFI controller incorrect/implausible
27	CAN data: Altitude adjustment factor from the ME-SFI controller incorrect/implausible (This fault code can be ignored if no relative faults stored in the ME-SFI
27	CAN data: Adjusted engine torque incorrect/implausible
28	CAN data: Left engine torque from ME-SFI controller system incorrect/implausible
28	CAN data: Engine RPM from ME-SFI controller system incorrect/implausible
29	CAN data: Right engine torque from ME-SFI controller system incorrect/implausible
30	CAN data: Communication with traction system faulty
30	CAN data: Altitude adjustment factor from the ME-SFI controller incorrect/implausible (This fault code can be ignored if no relative faults stored in the ME-SFI
31	CAN data: Communication to the ME-SFI controller is faulty
31	CAN data: Maximum induced engine torque from ME-SFI controller incorrect/implausible
32	CAN data: Communication to/from the ME-SFI controller is faulty
32	CAN data: Left engine torque from ME-SFI controller system incorrect/implausible
33	CAN data: Communication to/from the ME-SFI controller is faulty
33	CAN data: Throttle valve actuator actual value from ME-SFI incorrect/implausible
34	CAN data: Communication to/from the ME-SFI controller is faulty
35	CAN data: Communication to/from the ME-SFI controller is faulty
36	CAN data: Communication to/from the ME-SFI controller is faulty or the engine temperature is implausible.

DTC Readout	Possible cause of Failure
37	CAN data: All communications are faulty
38	CAN data: Communication to/from the Traction system controller is faulty
39	CAN data: Communication to/from the ME-SFI controller is faulty
40	CAN data: Communication to/from the Instrument Cluster is faulty
50	Speed sensor n3 or clutch K1 are faulty
51	Gear implausible or transmission slips.
52	Command valve (6, 14, or 25) sticking under pressure.
52	Unauthorized locking of Torque Converter lock-up clutch. Replace Torque Converter.
53	Torque converter lock-up clutch, not functioning. Replace Torque Converter.
53	Torque converter lock-up clutch, input (RPM) too high. Replace Torque Converter.
54	No feedback signal from transmission overload protection.
55	Gear comparison incorrect or target gear selection not achieved.
56-65	Transmission control unit (N15/3) faulty .
98-155	**These codes are intermittent. To establish their meaning, subtract 96 from the code number given and look in the table above for the definition of the intermittent fault.**

Adaptive Damping System (ADS)

Models	Model Years
129.061 129.066 129.067 129.076	1991-1995
140.032 140.042 140.051 140.057 140.070 140.076 140.134	1991-1994

FAULT CODE TABLE

DTC Readout	Possible Cause of Faults
1	No fault found
2	Adaptive damping system control module
3	Body acceleration sensor
4	Wheel acceleration sensor
5	Steering angle sensor
6	Front axle solenoid valves 1
7	Front axle solenoid valves 2
8	Rear axle solenoid valves 1
9	Rear axle solenoid valves 2
12	Right front axle vehicle speed signal or ABS Signal
13	Oil level switch (ADS)
14	Steering angle sensor not activated/initialized
15	Comfort or sport switch (ADS) short circuit
17	Vehicle load sensor
18	Adaptive damping system warning lamp
19	Volts supply too low
20	Steering angle sensor
21	Volts supply too high
22	Comfort or sport switch (ADS)

Automatic Locking Differential (ASD)

Models	Model Years
124.128	1991-1995
126.134 126.135	1991
129.061	1991-1995
140.134	1991-1995
201.028	1991-1993

FAULT CODE TABLE

DTC Readout	Possible cause of faults
1	No fault found
2	Adaptive damping system control module
3	Stop lamp switch
4	Left front axle vehicle speed sensor signal
5	Right front axle vehicle speed sensor signal
6	Rear speed sensor signal
7	No speed signal from any sensor, missing ground
8	Adaptive damping system valve or stop lamp switch

Anti-lock Brake System (ABS)

Models	Model Years
140.032 140.042 140.043 140.134	1992-1993
202	1994-1995
210	1995

FAULT CODE TABLE

DTC Readout	Possible Cause of Faults
1	No faults found
2	Left front axle vehicle speed sensor, open circuit
3	Right front axle vehicle speed sensor, open circuit
4	Rear axle speed sensor signal
6	Solenoid valve, Left front axle
7	Solenoid valve, Right front axle
8	Solenoid valve, Rear axle
10	Return/pressure pump motor or return/pressure pump relay
11	Solenoid valves relay
12	Master cylinder switchover valve
13	Stop lamp switch
14	ABS Lateral acceleration sensor
15	ABS control module
16	Vehicle speed sensors incorrect, dirty or damaged toothed rotor
17	Low voltage at solenoid valves relay
25	Left front vehicle speed sensors signal Illogical
26	Right front vehicle speed sensors signal Illogical
27	Rear axle vehicle speed sensors signal Illogical

Anti-lock Brake System (ABS & ABS w/ASR)

Models	Model Years
124.034 124.036	1992-1995
129	1994-95
140	1994-95

FAULT CODE TABLE

DTC Readout	Possible Cause of Faults
1	No fault found
2	Left front axle vehicle speed sensor, open circuit
3	Right front axle vehicle speed sensor, open circuit
4	Left rear axle vehicle speed sensor signal or Rear axle speed sensor, open circuit
5	Right rear axle vehicle speed sensor signal
6	Left front axle solenoid valve
7	Right front axle solenoid valve
8	Left rear axle solenoid valve or rear axle solenoid valve
9	Right rear axle solenoid valve
10	Return/pressure pump motor or return/pressure pump relay
11	Solenoid valves relay
12	Master cylinder switchover valve - Models 140.04/05
13	Brake lamp switch (ASD/ASR)
14	Lateral acceleration sensor - Models 140.04/05
15	ABS/ASR control module
16	Vehicle speed sensors incorrect, dirty or damaged toothed rotor
17	Low volts at solenoid valves relay
20	Switchover or solenoid valve
21	Pressure switch charge
22	Pressure switch charge
23	Pressure switch hydraulic system
24	ASR charging pump
25	Left front vehicle speed sensors signal, Illogical
26	Right front vehicle speed sensors signal, Illogical
27	Rear axle vehicle speed sensors signal, Illogical
29	Lateral acceleration sensor signal, Illogical - Models140.04/05
30	CAN data line to electronic accelerator/cruise control/idle speed control module
31	CAN data line to LH-SFI control module left LH-SFI control module Right LH-SFI control module
32	CAN data line to left ignition control module right ignition control module Ignition control module, LH-SFI
33	CAN data line, short or open circuit

Electronic Traction Systems (ASR, ETS)

Models	Model Years
129 140 202	1995
210	1995-96

FAULT CODE TABLE

DTC Readout	Possible Cause of Faults
1	No fault found
2	ASR/SPS or ETS/SPS control module
3	Left front axle VSS sensor, open circuit
4	Right front axle VSS sensor, open circuit
5	Left rear axle VSS sensor, open circuit
6	Right rear axle VSS sensor, open circuit
7	Left front axle VSS valves, illogical
8	Right front axle VSS valves illogical
9	Left rear axle VSS valve illogical
10	Right rear axle VSS valve illogical
11	VSS signal illogical
12	ASR/ETS hydraulic unit, solenoid valves relay
13	ASR/ETS hydraulic unit, Left front axle solenoid valves(hold)
14	ASR/ETS hydraulic unit, Left front axle solenoid valve(hold)
15	ASR/ETS hydraulic unit, right front axle solenoid valve (release)
16	ASR/ETS hydraulic unit, right front axle solenoid valve (release)
17	ASR/ETS hydraulic unit, left rear axle solenoid valve(hold)
18	ASR/ETS hydraulic unit, left rear axle solenoid valve (release)
19	ASR/ETS hydraulic unit, right rear axle solenoid valve(hold)
20	ASR/ETS hydraulic unit, right rear axle solenoid valve (release)
21	ASR/ETS hydraulic unit, switchover/solenoid valve
22	ASR/ETS hydraulic unit, inlet solenoid valve
23	ASR only: ASR system pressure too low
24	ASR/ETS hydraulic unit, high-pressure/return pump relay
27	Stop lamp switch
28	Battery voltage too low, circuit 87
29	ETS only Circuit 30, volts supply
30	ASR only CAN date bus to EA/CC/ISC control module, interrupted
31	ASR only CAN communication with LH-SFI control module Left LH-SFI control module right LH-SFI control module faulty CAN communication with engine control module faulty
32	ASR only CAN communication with DI or left and right DI control module, faulty
33	ASR only CAN communication faulty in general
34	ETS only Brakes overheated
35	Model 129.076,140.04/05/07 Master brake cylinder switchover valve
36	Model 129.076,140.04/05/07 ASR lateral acceleration sensor, open circuit
37	Model 129.076,140.04/05/07 ASR lateral acceleration sensor, illogical
38	ETS only EST/SPS control module not identify the software (not coded)
39	Model 140/210 ETS/SPS or ASR/SPS control module
40	Model 140 SPS P-valve
41	Model 140/210 ASR/SPS or ETS/SPS control module

Speed Sensitive Power Steering (SPS)

Models	Model Years
140.032 140.042 140.051 140.057 140.070 140.076 140.134	1992-5/93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Speed sensitive power steering control module
3	Left/center rear axle speed sensor signal
4	Right rear axle vehicle speed sensor signal
5	Diffident vehicle speed signals from right and left rear axle sensor
6	No vehicle speed sensor signal
7	Inductive speed sensor, transmission faulty
8	Short circuit between positive connection of speed sensitive power steering valve and ground (-)
9	Short circuit at speed sensitive power steering valve
10	Open circuit at speed sensitive power steering valve
11	Volts supply at speed sensitive power steering control module

Speed Sensitive Power Steering (SPS)

Model	Model Years
140	6/93-8/95

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Speed sensitive power steering control module
3	Comparison of axle vehicle speed signal attars/left front axle vehicle speed signal faulty
4	Axle vehicle speed signal status missing
5	Speed-sensitive power steering control module
6	Speed-sensitive power steering P-valve; short circuit
7	Speed-sensitive power steering P-valve; open circuit
8	Short circuit between speed sensitive power steering P-valve (+) and ground (-)

Electronic Traction Systems (ABS, ASR, ETS, SPS)

Model	Model Years
129, 140, 202	9/95-2000
210	6/96-2000

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
C1000	ESP/SPS/Traction control module (N47-5)
C1010	Battery voltage too low, circuit 87
C1011	ASR/ETS/ESP hydraulic unit solenoid valve voltage supply, open/short circuit, Voltage supply
C1012	Battery voltage too high, circuit 87
C1020	CAN communication faulty, general.
C1021	CAN communication with EA/CC/ISC control module, interrupted.
C1022	CAN communication with engine control module (right)(ME-SFI, N3/12), interrupted.
C1023	CAN communication with engine control module (left)(ME-SFI, N3/11), interrupted.
C1024	CAN communication with transmission control module (N15/3), interrupted
C1100	Left front axle VSS sensor (L6/1), open circuit, loose contact or signal out of range
C1101	Right front axle VSS sensor (L6/2), open circuit, loose contact or signal out of range
C1102	Left rear axle VSS sensor (ETS/EPS/SPS/ASR L6/3, ABS L6), open circuit, loose contact or signal out of range
C1103	Right rear axle VSS sensor (L6/4), open circuit, loose contact or signal out of range
C1104	Left front axle VSS sensor (L6/1), signal out of range.
C1105	Right front axle VSS sensor (L6/2), signal out of range.
C1106	Left rear or rear axle VSS sensor (ETS/ASR L6/3, ABS L6), signal out of range.
C1107	Right rear axle VSS sensor (L6/4), signal out of range.
C1120	ESP yaw sensor (N64) signal wire or reference wire, open/short circuit
C1140	Steering angle sensor (N49), open/short circuit or initialization not performed.
C1141	ESP brake pressure sensor (B34)
C1142	ABS lateral acceleration sensor (B24/2), open/short circuit
C1143	ABS lateral acceleration sensor (B24/2), signal out of range.
C1200	Stop lamp switch (S9/1), open/short circuit or Stop lamp switch (S9/1), signal out of range.
C1300	ASR/ETS/ESP hydraulic unit, left front axle solenoid valve (hold) (A7/3y6), short/open sircuit.
C1301	ASR/ETS/ESP hydraulic unit, left front axle solenoid valve (release) (A7/3y7), short/open sircuit.
C1302	ASR/ETS/ESP hydraulic unit, right front axle solenoid valve (hold) (A7/3y8), short/open sircuit.
C1303	ASR/ETS/ESP hydraulic unit, right front axle solenoid valve (release) (A7/3y9), short/open sircuit.
C1304	ASR/ETS/ESP hydraulic unit, left rear axle solenoid valve (hold) (A7/3y10), short/open sircuit.
C1305	ASR/ETS/ESP hydraulic unit, left rear axle solenoid valve (release) (A7/3y11), short/open sircuit.
C1306	ASR/ETS/ESP hydraulic unit, right rear axle solenoid valve (hold) (A7/3y12), short/open sircuit.
C1307	ASR/ETS/ESP hydraulic unit, right rear axle solenoid valve (release) (A7/3y13), short/open sircuit.
C1308	ASR/ETS/ESP hydraulic unit, front axle precharge solenoid valve (A7/3y16), short/open sircuit.
C1309	ASR/ETS/ESP hydraulic unit, rear axle precharge solenoid valve (A7/3y17), short/open sircuit.
C1310	ASR/ETS/ESP hydraulic unit, front axle switchover valve (A7/3y18), short/open sircuit.
C1311	ASR/ETS/ESP hydraulic unit, rear axle switchover valve (A7/3y19) or ASR/ETS Switchover solenoid (A7/3y5), short/open sircuit.
C1312	Master brake cylinder switchover valve (Y61).
C1313	ASR/ETS/ESP hydraulic unit, solenoid valve relay (A7/3k1).
C1314	ASR/ETS hydraulic unit, solenoid valve relay (A7/3k1), voltage supply.
C1315	ASR/ETS hydraulic unit, inlet solenoid valve (A7/3y15), voltage supply.
C1400	ASR/ESP charging pump (M15), open/short circuit.

DTC Readout	Possible Cause of Failure
C1401	ASR/ETS/ESP hydraulic unit, high-pressure/return pump (A7/3m1), open/short circuit or does not turn off.
C1500	Vehicle Speed Sensor (VSS) (L6/1, L6/2, L6/3, L6/4) signal out of range.
C1501	SPS P-valve (Y10)
C1503	Pressure transfer piston unit. - Check condition of rear brake pads and Pressure transfer piston unit.
C1504	System turned off, Steering angle sensor (N49) not initialized or Low voltage to ESP yaw rate sensor (N64)
C1511	ETS/SPS control module (N47-2), not version coded
C1512	Brakes overheated - Brakes were momentarily overloaded, erase DTC.
C1513	ASR/SPS (N47-1) or ME-SFI (N3/10) engine control module, version coding incorrect.
C1514	SPS P-valve (Y10) adjustment data
C1515	Version coding SPS
C1600	Temperature after engine turned off, too high.

Cabriolet Soft Top (CST)

Model	Model Years
124.066	1993-95

Connect wires of Scanner as follows

Scanner	Data Link Connector
Yellow	Power Soft top test connection (4 pole) at Socket 2. The connection is located at the right front passenger footwell. To avoid the need for an extension cable, connect the black lead of code scanner to any good ground and red lead to a battery + source inside vehicle.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Volts low
3	Normal operating time exceeded
4	Limit switch signals Illogical
5	Soft top compartment cover "locked", limit switch,
6	Soft top compartment cover "closed", limit switch,
7	Soft top compartment cover "open", limit switch
8	Soft top fabric bow "locked", limit switch
9	Soft top fabric bow "down", limit switch
10	Soft top fabric bow "raised", limit switch
11	Left front soft top "locked", limit switch
12	Right front soft top "locked", limit switch
13	Soft top "open" switch (soft top in storage compartment), limit switch ,
14	Soft top "overhead", limit switch
15	Soft top "retracted", limit switch
16	Roll bar "extended", limit switch,
17	Automatic deployment of roll bar has occurred
18	Power soft top switch
19	Vehicle speed signal
20	Circuit in power soft top control module, solenoid valve, roll bar retracted
21	Circuit hydraulic unit, circuit solenoid valve, roll bar retracted
22	Circuit in power soft top control module, solenoid valve, roll bar extended
23	Circuit solenoid valve, roll bar extended
24	Circuit in power soft top control module, Power windows

Roll Bar (RB) for CST

Model	Model Year
124.066	1993-95

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No faults found
2	Roll bar control module
3	Roll bar control module volts supply
6	Roll bar deployment solenoid, open circuit, short circuit to Battery + or ground (-).
7	Rear axle switch, short circuit to Battery + or ground (-).
8	Roll bar indicator lamp faulty

Roadster Soft Top (RST)

Models	Model Years
129.061 129.066 129.067 129.076	1990-12/93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No faults stored
2	Limit switch, left locked, soft top storage compartment cover
3	Limit switch, right locked, soft top storage compartment cover
4	Limit switch, left closed, soft top storage compartment cover
5	Limit switch, right closed, soft top storage compartment cover
6	Limit switch, left locked, soft top fabric bow
7	Limit switch, right locked, soft top fabric bow
8	Limit switch, left closed, soft top fabric bow
9	Limit switch, right closed, soft top fabric bow
10	Limit switch, left front locked, soft top
11	Limit switch, right front locked, soft top
12	Limit switch soft top storage compartment cover open
13	Limit switch soft top fabric bow raised
14	Limit switch soft top down (in storage compartment)
15	Limit switch soft top up (secondary closing speed)
16	Limit switch roll bar retracted
17	Limit switch left side window down Circuit in power soft top control module, solenoid valve, roll bar retracted
18	Limit switch right side window down Circuit hydraulic unit, circuit solenoid valve, roll bar retracted
19	Axle vehicle speed signal illogical Circuit in power soft top control module, solenoid valve, roll bar extended
20	Hardtop installed recognition Circuit solenoid valve, roll bar extended
21	Power soft top switch Circuit in power soft top control module, Power windows
22	Roll bar switch
23	Roll bar control module
24	Roll bar crash deployment
25	Limit switch signals illogical
26	Operation time exceeded
27	Insufficient volts
28	No speedometer signal
29	No axle vehicle wheel speed sensor signal
30	Soft top operation blocked

Roadster Soft Top (RST)

Model	Model Years
129	1/94-6/96

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No faults stored
2	Low voltage
3	RST/RB hydraulic unit locked up.
4	Vehicle speed sensor fault
5	RST/RB hydraulic unit
6	Right or left power window activation
7	Right or left front soft top “locked” switch fault, Soft top open/closed switch, Fabric bow locked switch,
8	Power soft top control module defective
9	Roll bar crash deployment has occurred
10	Power soft top switch or Roll bar switch.
11	Power soft top switch indicator lamp or Roll bar switch indicator lamp or Warning buzzer.

Roll Bar (RB) for RST

Models	Model Years
129.061 129.066 129.067 129.076	1990-12/93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No faults found
2	Roll bar control module
3	Volts supply
4	Driver seat belt lock relay open circuit or short circuit to Battery + or ground (-).
5	Passenger seat belt lock relay open circuit or short circuit to Battery + or ground (-).
6	Roll bar deployment solenoid, open circuit or short circuit to Battery + or ground (-).
7	Left and/or right axle switch, roll bar, short circuit to 30 or 31
8	Roll bar warning lamp
9	SRS warning lamp and/or code scanner button held to erase faulty
10	SRS control unit

Infrared Remote Control for Central Locking (IRCL)

Models	Model Years
129.061 129.066 129.067 129.076	1990-1993

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Infrared remote control module
3	Supply pump, central locking system short to ground
4	Infrared remote control receiver, Left front door/Right front door/Trunk lid Red indicator lamps, short to ground
5	Infrared remote control receiver, Left front door/Right front door/Trunk lid Green indicator lamps, short to ground
6	Supply pump, central locking system, short to circuit 30
7	Infrared remote control receiver, Left front door/Right front door/Trunk lid Red indicator lamps, short to circuit 30 or open circuit
8	Infrared remote control receiver, Left front door/Right front door/Trunk lid Green indicator lamps, in receiver have short to short to circuit 30 or open circuit
9	Driver door switch group wiring, short to circuit 30 ATA/convenience microswitch wiring short to circuit 30 ATA/convenience microswitch wiring short to circuit 30
10	Ignition/starter switch-position recognition switch, open circuit
11	Ignition/starter switch-position recognition switch, open circuit 31
12	Left front door actuator, open circuit
13	Right door actuator, open circuit
14	Trunk lid lock actuator, open circuit

Infrared Remote Control for Central Locking (IRCL)

Model	Model Years
140	1992-96

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Left front door actuator, open circuit
3	Warning buzzer -open circuit
4	Warning buzzer -open circuit to ground
5	Red indicator lamps, short to ground
6	Green indicator lamps, short to ground
7	Short to positive, lock circuit 1
8	Short to positive, lock circuit 2
9	Red indicator lamps, short to positive
10	Green indicator lamps, short to positive
11	Infrared remote control module faulty
12	Immobilization output, short to circuit 30 (Battery +)

Infrared Remote Control for Central Locking (IRCL)

Model	Model Years
129	1993-96

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	IRCL control module
3	Supply pump, central locking system short to ground
4	Infrared remote control receiver, Left front door/Right front door/Trunk lid Red indicator lamps, short to ground
5	Infrared remote control receiver, Left front door/Right front door/Trunk lid Green indicator lamps, short to ground
6	Supply pump, central locking system, short to B (+)
7	Infrared remote control receiver, Left front door/Right front door/Trunk lid Red indicator lamps , short to B (+) or open circuit
8	Infrared remote control receiver, Left front door/Right front door/Trunk lid Green indicator lamps, short to B (+) or open circuit
9	Driver door switch group wiring, short to B (+) ATA/CF microswitch wiring short to B (+) ATA/CF microswitch wiring short to B (+)
10	Ignition/starter switch-position recognition switch, open circuit
11	Ignition/starter switch-position recognition switch, open circuit 31
12	Left front door actuator, open circuit
13	Right door actuator, open circuit
14	Trunk lid lock actuator, open circuit
15	Immobilization output, short to B (+)

Pneumatic Systems Equipment (PSE)

Models	Model Years
129 140	1992-94

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Central locking system, air demand too high, leakage
3	Retractable trunk lid grip, air demand too high, leakage
4	Backup assist, air demand too high, leakage
5	Orthopedic backrest pressure, air demand too high, leakage
6	Manifold vacuum assist, air demand too high, leakage
7	Short to positive, lock circuit 1
8	Short to positive, lock circuit 2
9	Signal fault, Rear head restraint retraction
10	Signal fault, Central locking interior control switch
11	Signal fault, Front door
12	Signal from lock circuit 1 is present for longer than 2 minutes
13	Signal from lock circuit 2 is present for longer than 2 minutes,
14	Central locking interior control switch signal is present for longer than 2 minutes
15	Rear head restraint retraction signal is present for longer than 2 minutes
16	Not used

17	Pneumatic control module faulty

Anti-theft Alarm System(ATA)

Models	Model Years
129.061 129.066 129.067 129.076	1990-93
140.032 140.042 140.051 140.057 140.070 140.076 140.134	1990-93
129 140 202	1994-96

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	Alarm activated, trunk sensor circuit
3	Alarm activated, engine hood circuit
4	Alarm triggered, glove compartment
5	Alarm activated, rear door circuit Console compartment circuit
6	Alarm activated, front door circuit
10	Alarm activated, radio circuit
12	Alarm activated, ignition circuit
14	Alarm activated, brake circuit
19	AT Control module faulty
20	Left front door actuator, No ground connection
21	ATA disarmed, Starter lock-out relay module. short to circuit 30
23	ATA armed, Open to circuit 30

Cellular Telephone (CT)

Models	Model Years
129.061 129.066 129.067 129.076	1992-95
140.032 140.042 140.051 140.057 140.070 140.076 140.134	1992-95

If a fault code is set, the code is shown on the in-car telephones display and the phone goes off-line.

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	TR memory defect (ROM)
2	TR memory defect (RAM)
3	NAM defect
4	ESN defect
5	TR memory defect (EE PROM)
6	TR output power defect
7	IDCM defect
8	TR output power control defect

Convenience Features (CF)

Model	Model Year
140	1992-96

FAULT CODE TABLE

DTC	Possible Cause of Failure
1	No fault found
2	Control module, Close circuit for left front power window motor
3	Control module, Open circuit for left front power window motor
4	Control module, Close circuit for right front power window motor
5	Control module, Open circuit for right front power window motor
6	Control module, Close circuit for left rear power window motor
7	Control module, Open circuit for left rear front power window motor
8	Control module, Close circuit for right rear power window motor
9	Control module, Open circuit for right rear power window motor
10	Switch for left front power window Closing time exceeded
11	Switch for left front power window Opening time exceeded
12	Switch for right front power window Closing time exceeded
13	Switch for right front power window Opening time exceeded
14	Left rear power window circuit and left rear power window switch front console closing time exceeded
15	Left rear power window circuit and left rear power window switch front console opening time exceeded
16	Right rear power window circuit and right rear power window switch front console closing time exceeded
17	Right rear power window circuit and right rear power window switch front console opening time exceeded
18	Circuit for left front lock switch, right front, trunk lid lock switch closing time exceeded, lock switch circuit 2
19	Circuit for left front lock switch, right front, trunk lid lock switch opening time exceeded, lock switch circuit 1
20	Left front power window switch short to ground or wires reversed
21	Right front power window switch short to ground or wires reversed
22	Left rear window circuit and left rear power window switch front console short to ground or wires reversed
23	Right rear power window circuit and right rear power window switch front console short to ground or wires reversed
24	Left front power window motor , wiring or speed sensor
25	Right front power window motor, wiring or speed sensor
26	Left rear power window motor, wiring or speed sensor
27	Right rear power window motor, wiring or speed sensor
28	Left front power window motor, sensor wiring reversed
29	Right front power window motor, sensor wiring reversed
30	Left rear power window motor, sensor wiring reversed
31	Right rear power window motor, sensor wiring reversed
32	Left front power window motor, Speed sensor signal faulty
33	Right front power window motor, Speed sensor signal faulty
34	Left rear power window motor, Speed sensor signal faulty
35	Right rear power window motor, Speed sensor signal faulty
36	Convenience control module faulty
37	Volts too low(9V), circuit 30E fuse F4-11
38	Sliding/pop-up roof switch circuit short, check wiring harness
39	Volts supply circuit 30 A, control module
40	Volts supply circuit 30 B, control module

Supplemental Restraint System (SRS) - Analog-

Models	Model Years
107 124 126 129 201 140	1988-1993

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	SRS Control unit self test failure
3	Driver Airbag squib (Firing charge circuit)
4	Front passenger Airbag squib
5	Driver seat beat buckle switch (ETR,)
6	Front passenger seat belt buckle switch (ETR)
7	Front passenger Airbag resistor
8	Voltage supply interrupted (Circuit 15R)
9	SRS Warning Lamp (with flashing SRS warning lamp Impulse counter scan tool button held too little time to read out the DTC memory or too long to erase DTC codes. Reread codes.)
10	SRS Control unit activated - Replace (1990 and later switch to next circuit if used 3 times replace)

Supplemental Restraint System (SRS) BAE, ZAE - Digital

Models	Model Years
129 140 124	1994-95
202 210	From beginning of manufacture -1995

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	SRS Control unit
2	SRS Driver air bag squib
3	Left front ETR squib
4	Right front ETR squib
5	Model 140R12/8Front passenger airbag squib 1
17	Low volts, Voltage supply circuit 15R
19	SRS indicator lamp. failure
20	Front passenger seat occupation signal (currently not used)
24	Driver seat belt buckle switch (Airbag/ETR)
25	Front passenger seat belt buckle switch (ETR)
73	Squib short circuit

Supplemental Restraint System (SRS) w/Side Airbags - Digital

Models	Model Years
129 (R) 140 (S) 202 (C) 210 (E)	1996-99

FAULT CODE TABLE

000 DTC 1	001 DTC 2	Possible cause	Test step/Remedy (See Diag Man. B&A V5.1)
1	1	SRS control module failed self test (N2/2)	2.0
2	4	Driver Airbag ignitor (R12/3)	3.0, 4.0
3	5	Left front seat belt ignitor (ETR) (R12/1)	5.0, 6.0
4	6	Right front seat belt ignitor (ETR) (12/2)	7.0, 8.0
5	7	Front passenger Airbag ignitor (R12/8)	9. 0, 10. 0
8	8	Left side door Airbag ignitor (R12/9)	15.0, 16.0
9	9	Right side door Airbag ignitor (R12/10)	17.0, 18.0
10	4-9, 16, 17, 26, 29, 34	Programming does not comply with vehicle version	31.0, verify vehicle version, repeat programming.
17	3	Voltage supply (low voltage) Circuit 15R	1.0
19	2	SRS indicator lamp circuit failure (A1e15)	11.0
20	25	Front passenger seat occupied recognition sensor (B41/1) or (B48)	19.0
10	26	Programming does not comply with vehicle version	31.0, verify vehicle version, repeat programming.
24 (USA)	16	Left front seat belt buckle micro-switch	12.0
25 (USA)	17	Right front seat belt buckle micro-switch	13.0
73		Ignitors are short circuited to each other.	14.0
	18	Left side Airbag harness fault. (A53)	16.0
	19	Left side Airbag sensor defective. (A53)	Replace sensor
	20	Left side Airbag sensor defective. (A53)	Replace sensor
	21	Right side Airbag harness fault. (A54)	18.0
	22	Right side Airbag sensor defective. (A54)	Replace sensor
	23	Right side Airbag sensor defective. (A54)	Replace sensor
	27	Front passenger seat occupied recognition with automatic child seat recognition (ACSR), communication. (B48)	20.0
	28	Front passenger seat occupied recognition with automatic child seat recognition (ACSR) Improperly positioned child seat or faulty. Connection between passenger seat and child seat faulty. Metallic objects on passenger seat or child seat. Short term electromagnetic interference in immediate area such as electronic transmitters, telephones etc. (B48).	Position child seat properly or replace, Replace B48
	31	Front passenger seat occupied recognition with automatic child seat recognition (ACSR) (B48)	Replace B48
	32	Left side Airbag communication interference (A53)	Electromagnetic interference, check harness routing if accessories installed.
	33	Right side Airbag communication interference (A54)	Electromagnetic interference, check harness routing if accessories installed.
	34	Digital crash output, harness fault (ARTHUR - Model 170)	
	35	Analog crash output, harness fault (Model 170 Kompressor)	

BODY CONTROL SYSTEMS (SRS, IRCL, PSE, ATA. RST, MSC, CF)

Models	Model Years
129 140 124	1996-2000
202 210	1997-2000

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
B1000	Control module faulty, fails self test.
B1001	Left/right front ESA control module (N32/1, N32/2) (with memory)
B1001	Switch illumination, circuit 58d, wiring (short circuit)
B1010	Low supply voltage, less than 9/10 Volts
B1011	High supply voltage, greater than 15.5 Volts
B1013	Circuit 15R voltage supply missing at circuit 15.
B1014	Circuit 49 travel direction, has no voltage at circuit 15.
B1015	Circuit 30C, fuse F4-7
B1017	Circuit 31B
B1021	CAN data line, communication with PSE control module (A37) interrupted.
B1022	Driver's seat does not communicate via CAN data line.
B1023	Passenger's seat does not communicate via CAN data line.
B1024	CAN data line LOW or Combination Control Module (N10-1 or N10-3), open circuit or short to B+ or ground.
B1025	CAN data line HIGH or Combination Control Module (N10-1 or N10-3), open circuit or short to B+ or ground.
B1054	CAN LOW (CAN-L) communications fault with front door module.
B1055	CAN HIGH (CAN-H) communications fault with front door module.
B1100	Lock Switch circuit SN1/SN2 from RCL control module (N54) to CCVM (N10-1 or N10-3), open circuit or short to B+ or ground.
B1100	Control line deactivation, (PSE/CL, CF, ATA), short to B+ or Ground
B1101	Control line for Lock nut 2/Panic alarm from RCL control module (N54) to CCM (N10)
B1101	Control line activation, (PSE/CL, CF, ATA), short to B+ or Ground
B1102	Left Front Door IR receiver or Drive Authorization System (DAS) control line, short to B+ or Ground
B1103	Right Front door IR receiver or Red indicator lamp, short to B+ or Ground
B1104	Green indicator lamp, short to B+ or Ground
B1111	Backrest switch harness or Short to ground.
B1112	Front head restraint adjustment and height adjustment harness or Short to ground.
B1113	Rear fore/aft adjustment and height adjustment harness or Short to ground.
B1114	Steering column up/down switch (S91/2s11) or Steering column in/out switch (S91/2s12) stuck/binding, or wiring fl (short circuit)
B1115	Rear window defroster switch > 25 s, f l +
B1116	RHR unlock switch (S6/1s3), signal greater than 25 sec.
B1117	Interior switch (CL) (S6/1s2), signal greater than 25 sec.
B1119	Outside rearview mirror vertical/horizontal/left/right adjustment (S21 s6/s7/s8) > 25 seconds.
B1124	Remote trunk release switch (S15), signal > 25 sec., short to ground.
B1132	Alarm triggered via glove box.
B1148	Circuit 50 output, open circuit or short to B+ or ground.
B1156	Left front seatback release microswitch (S91/3) or Left front hibernation microswitch (S91/1s2), circuit short
B1157	ESC Control Module (N26/5), open circuit or short to B+ or ground.
B1200	Hall-sensor for fore/aft motor (M27m1)
B1201	Hall-sensor for front raise/lower motor (M27m3)
B1202	Hall-sensor for rear raise/lower motor (M27m2)
B1203	Left front ESA motor group (with memory), head restraint raise/lower motor (M27m4) (Hall sensor defective) or open circuit.
B1204	Left front ESA motor group (with memory), backrest fore/aft motor (M27m5) (Hall sensor defective) or open

	circuit.
B1213	Electrically adjustable and heated driver-side outside rearview mirror (with memory) (M21/4) >25 seconds
B1214	Electrically adjustable and heated driver-side outside rearview mirror (with memory) (M21/4) >2 seconds.
B1217	Non-USA vehicles only, continue to next test step.
B1220	Not applicable for U.S. A. vehicles.
B1221	Not applicable for U.S. A. vehicles.
B1276	Not applicable for U.S. A. vehicles.
B1277	Not applicable for U.S. A. vehicles.
B1278	Not applicable for U.S. A. vehicles.
B1279	Not applicable for U.S. A. vehicles.
B1310	Left side airbag sensor (A53/1)
B1311	Right side airbag sensor (A54/1)
B1315	Front passenger seat occupied recognition with automatic child seat recognition (ACSR (B48))
B1321	Left front seat belt buckle switch (AB/ETR) (S68/3)
B1322	Right front seat belt buckle switch (AB/ETR) (S68/4)
B1406	Dome lamp control wire short to B+ from combination control module. (N10-1 or N10-3).
B1407	Entrance/exit lamp wiring short to B+ or combination control module (N10-1) I
B1407	Faulty signal from mirror postion memory (M21/7n1) (up/down) to right outside rearview mirror (M21/7)
B1407	Faulty signal from mirror postion memory (M21/7n1) (right/left) to right outside rearview mirror (M21/7)
B1408	Verticle adjustment motor (M21/5m1) (up/down) or Horizontal adjustment motor (M21/5m2) (in/out).
B1409	Verticle adjustment motor (M21/4m1) (up/down) or Horizontal adjustment motor (M21/4m2) (in/out).
B1410	Combination control module (N10-1) does not switch
B1411	Combination control module (N10-1) does not switch
B1435	Short circuit to ATA tow sensor.
B1436	Central locking - Pneumatic demand too high or CL pneumatic system leak. Door or Fuel Door.
B1437	Retractable head restraint - Pneumatic demand too high.
B1438	Multi-contour seat, air pressure or safety time - Pneumatic demand too high.
B1439	Manifold vacuum assist, Time > maximum - Pneumatic demand too high.
B1440	Remote trunk lid release (RTR), Time > maximum - Pneumatic demand too high.
B1470	
B1471	
B1476	SRS MIL (Lamp) (A1e15)
B1497	Not applicable for U.S. A. vehicles.
B1507	CAN - Communication fault with Roof Control Module (N70)
B1508	CAN - Communication fault with Signal pick-up and activation module (SAM) (N10/1).
B1510	Left front ESA control module (N32/1)
B1521	Mirror-Horizontal adjustment motor (M21/7m2) (short circuit wiring or motor)
B1521	Mirror-Vertical adjustment motor (M21/7m1) (short circuit wiring or motor)
B1521	Mirror-adjustment motor (M21/7m1, M21/7m2) (short circuit wiring or motor)
B1521	Mirror heater (M21/7r1) (short circuit) or Front passenger-side door control module (N69/2)
B1701	Incorrect authorization code, right cylinder bank, (4 or 6 cylinder) (CAN)
B1702	Incorrect authorization code, left cylinder bank, (8 or 12 cylinder) (CAN)
B1703	Attempt was made to start vehicle locked via RCL or invalid transponder code.
B1704	Coil for transponder (coil will not saturate), faulty coil.
B1705	Activation of locking confirmation relay module (K54), turn signal system, short to B+ or Ground.
B1706	Activation of locking confirmation relay module (K54) or combination relay module or turn signal system, short to B+ or Ground.
B1707	Not applicable for U.S. A. vehicles.
B1708	Not applicable for U.S. A. vehicles.
B1709	Alarm siren with auxilliary battery (H3/1) not installed, not version coded or defective.

B1710	Alarm (ATA) triggered via trunk lamp switch (S17/8)
B1711	Alarm (ATA) triggered via engine hood switch (S62)
B1712	Alarm (ATA) triggered via left front door switch (S17/3)
B1713	Alarm (ATA) triggered via right front door switch (S17/4)
B1714	Alarm (ATA) triggered via left rear door switch (S17/5) I
B1715	Alarm (ATA) triggered via right rear door switch (S17/6)
B1716	Reserve Alarm Input.
B1718	Alarm (ATA) triggered via radio (running change during M. Y. 1996)
B1719	Alarm (ATA) triggered via telephone
B1720	Alarm (ATA) triggered via FAX equipment
B1721	Alarm (ATA) triggered via ignition system
B1722	Alarm (ATA) triggered via stop lamp switch (S9/1)
B1723	Not applicable for U.S. A. vehicles.
B1724	Not applicable for U.S. A. vehicles.
B1725	Alarm (ATA) triggered via anti-tow protection.
B1726	Circuit 30 interupted while in armed state
B1727	Not applicable for U.S. A. vehicles.
B1728	Not applicable for U.S. A. vehicles.
B1729	PSE Control Module combined functions, (A37)
B1748	
B1755	Serial interface from K2 control module interupted.
B1850	Left front ESA control module (N32/1) does not communicate with front driverside door control module (N69/1)
B1851	Left front ESA control module (N32/1) does not communicate with front driverside door control module (N69/1)
B1852	Left front ESA control module (N32/1) does not communicate with electronic ignition lock control module (N73)
B1853	Left front ESA control module (N32/1) does not communicate with PSE control module (A37)
B1854	Left front ESA control module (N32/1) does not communicate with electronic ignition lock control module (N73)
B1859	Driver airbag squib (R12/3)
B1861	Front passenger AB squib (R12/8)
B1863	Driver ETR squib (R12/1)
B1864	Front passenger ETR squib (R12/2)
B1865	LR ETR squib (R12/6)
B1866	RR ETR squib (R12/7)
B1867	Left front side airbag squib (R12/20)
B1868	Left rear windowbag squib (R12/22)
B1869	RR side airbag squib (R12/12)
B1871	Right front side airbag squib (R12/21)
B1872	Right rear side airbag squib (R12/23)
B1873	RR side airbag squib (R12/12)
B1875	Digital crash output
B1876	Analoge crash output
B1878	Automatic child seat recognition warning lamp (N72e1) (AIRBAG OFF)

Tempmatic A/C

Models	Model Year
201.028 201.029 201.034 201.126 201.128	1988-93

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	In car temperature sensor, short circuit
3	In car temperature sensor, open circuit
4	Outside temperature sensor, short circuit
5	Outside temperature sensor, open circuit
6	Evaporator temperature sensor, short circuit
7	Evaporator temperature sensor, open circuit
12	Coolant temperature gauge sensor, short circuit
13	Coolant temperature gauge sensor, open circuit
14	Feedback potentiometer, short circuit
15	Feedback potentiometer, open circuit
30	Coolant pump, short circuit
33	A/C compressor control module, short circuit
34	Auxiliary fan relay short circuit
50	Switchover valve unit (5 connections) between pins 5 and 4 faulty
51	Switchover valve unit (5 connections) between pins 5 and 6 faulty
52	Switchover valve unit (5 connections) between pins 5 and 2 faulty
54	Switchover valve unit (5 connections) between pins 5 and 3 faulty
55	Switchover valve unit (4 connections) between pins 5 and 1 faulty
56	Switchover valve unit (4 connections) between pins 5 and 2 faulty
57	Switchover valve unit (4 connections) between pins 5 and 1 faulty
58	Switchover valve blend air flaps (warm) short circuit
59	Switchover valve blend air flaps (cold) short circuit
60	Switchover valve blend air flaps (closes) short circuit
61	Blower switch, low speed faulty
62	Blower switch, high speed faulty

Automatic A/C

Models	Model Years
124.026 124.030 124.034 124.036 124.050 124.090 124.051 124.230 124.290	1988-95
126.024 126.025 126.035 126.039 126.045 126.134 126.135	1988-91

FAULT CODE TABLE

DTC Readout	Possible Cause of Failure
1	No fault found
2	In car temperature sensor - Short circuit
3	In car temperature sensor - Open circuit
4	Outside temperature sensor - Short circuit
5	Outside temperature sensor - Open circuit
6	Evaporator temperature sensor - Short circuit
7	Evaporator temperature sensor - Open circuit
8	Left heat exchanger temperature sensor - Short circuit or Heater core temperature sensor - Short circuit
9	Left heat exchanger sensor - Open circuit or Heater core sensor - Open circuit
10	Right heat exchanger temperature sensor - Short circuit
11	Right heat exchanger temperature sensor - Open circuit
12	Engine coolant temperature sensor - Short circuit
13	Engine coolant temperature sensor - Open circuit
30	Coolant circulation pump - Short or open circuit
31/32	Duo valve - Short or open circuit
33	A/C compressor cut-out control module - Short or open circuit
34	Auxiliary fan 2nd stage (actuation) - Short circuit
50	Switchover valve unit, faulty at between pins 5 and 8 (7 connections)
51	Switchover valve unit, faulty between pins 8 and 7 (7 connections)
52	Switchover valve unit, faulty between pins 8 and 3 (7 connections)
54	Switchover valve unit, faulty between pins 8 and 4 (7 connections)
55	Switchover valve unit, faulty between pins 8 and 6 (7 connections)
56	Switchover valve fresh air/recirculated air flaps, long stroke - Short circuit or Switchover valve unit, faulty between pins 8 and 2 (7 connections)
57	Switchover valve fresh air/recalculated air flaps, long stroke - Short circuit or Switchover valve unit, faulty between pins 8 and 1 (7 connections)

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

TAU 2.1

READING ACTUAL VALUES

1. Remove the operating console from the TAU
2. At the upper side of the operating consol there is a display.
3. Ignition ON : Position 1
4. The fan speed selector NOT on position 1
5. The display alternates between the sensor/component number and the value of that sensor/component. Example: "OP E" : Open circuit or "CL O" : Closed circuit.

COMPONENT UNDER TEST

Number	Component
02	Interior Temperature Sensor
04	Exterior Temperature Sensor
06	Evaporator Temperature Sensor
08	Left Heater Core Temperature Sensor
10	Right Heater Core Temperature Sensor
12	Engine Coolant Temperature Sensor (ECT)
14	Left Temperature Selector Wheel Setting (Degree C)
16	Right Temperature Selector Wheel Setting (Degree C)
18	Vehicle Speed Signal(km/h)
20	Soft Top OPEN : "U", Soft Top CLOSED : "O"
22	Power Supply Voltage
83	OFF/ON (Not Used)
84	Blower Motor Voltage "050" (0.5v) - "600" (6.0v)

TAU 2.1

FAULT DIAGNOSIS

1 Turn temperature selector wheel into the white area.
2 Place the air speed selector at position 0 and the air direction to "DOWN"
3 IGNITION = ON : Position 1
4 Within the next 10 sec., press the "RECIRCULATE AIR" and "REST" button simultaneously for 3 sec.
5 Press the AUTO button until all error numbers are read and recorded.

FAULT CODES - TAU 2.1		
DTC Readout	**Description**	**Cause**
1	No DTC's Stored in System Memory.	No faults
2	In-Car Temperature Sensor (B10/4)	Short Circuit
3	In-Car Temperature Sensor (B10/4)	Open Circuit
4	Outside Temperature Sensor (B10/5)	Short Circuit
5	Outside Temperature Sensor (B10/5)	Open Circuit
6	Evaporator Temperature Sensor (B10/6)	Short Circuit
7	Evaporator Temperature Sensor (B10/6)	Open Circuit
8	Heater Core Temperature Sensor (B10/1))	Short Circuit
9	Heater Core Temperature Sensor (B10/1)	Open Circuit

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - TAU 2.1		
DTC Readout	**Description**	**Cause**
10	Heater Core Temperature Sensor (Right)	Short Circuit
11	Heater Core Temperature Sensor(Right)	Open Circuit
12	Engine Coolant Temperature Sensor (B10/8)	Short Circuit
13	Engine Coolant Temperature Sensor (B10/8)	Open Circuit
16	Center Air Vent Control Module (N18/2r2)	Short Circuit
17	Center Air Vent Control Module (N18/2r2)	Open Circuit
18	Center Air Vent Feedback Potentiometer (R23/3)	Short Circuit
19	Center Air Vent Feedback Potentiometer (R23/3)	Open Circuit
20	Left Air Vent Control Module (N18/2r1)	Short Circuit
21	Left Air Vent Control Module (N18/2r1)	Open Circuit
22	Left Air Vent Feedback Potentiometer (R23/1)	Short Circuit
23	Left Air Vent Feedback Potentiometer (R23/1)	Open Circuit
24	Right Air Vent Control Module (N18/2r3)	Short Circuit
25	Right Air Vent Control Module (N18/2r3)	Open Circuit
26	Right Air Vent Feedback Potentiometer (R23/2)	Short Circuit
27	Right Air Vent Feedback Potentiometer (R23/2)	Open Circuit
30	Auxiliary Coolant Pump	Short Circuit
31	Automatic A/C Monovalve (Left)	Short Circuit
32	Automatic A/C Monovalve (Right)	Short Circuit
33	A/C Compressor Signal	Short Circuit
34	Auxiliary Fan Signal 2 Stage	Short Circuit
35	Auxiliary Fan Signal 1 Stage	Short Circuit
50	Switchover Valve Block Signal	Short Circuit
70	Auxiliary Coolant Pump	Open Circuit
71	Automatic A/C Monovalve (Left)	Open Circuit
72	Automatic A/C Monovalve (Right)	Open Circuit
73	A/C Compressor Signal	Open Circuit
74	Auxiliary Fan Signal 2nd Stage	Open Circuit
75	Auxiliary Fan Signal 1st Stage	Open Circuit

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

129 Chassis to 8/95

READING ACTUAL VALUES

1. IGNITION ON : Position 1
2. Press the REST button and within 1 second press blower speed button 4.
3. The temperature window (upper left) will alternately display the test step number (ex. "02" In-car Temp) or "0P E" for Open Circuit or "Cl 0" for Closed Circuit.
4. Press "F" button to go to higher test.
5. Press "C" button to go to a lower test.
6. To end this test mode turn IGNITION OFF : Position 0 for longer then 5 seconds.

COMPONENT UNDER TEST

Number	Component
02	In-Car Temperature Sensor
04	Outside Temperature Sensor
06	Evaporator Temperature Sensor
08	Heater Core Temperature Sensor
12	Engine Coolant Temperature (ETC) Sensor
14	Temperature Selector Wheel Setting
18	Vehicle Speed Signal(km/h)
20	Soft Top OPEN : "U" ; Soft Top CLOSED : "O"
22	Power Supply Voltage
83	OFF/ON (Not Used)
84	Blower motor voltage "050" (0,5V) - "600" (6,0V)

129 Chassis to 8/95

FAULT DIAGNOSIS

1. Turn temperature selector wheel into the white area.
2. IGNITION ON : Position 1
3. Within the next 10 sec., press the "F", "RECIRCULATE AIR" and "REST" buttons simultaneously for 2 to 4 seconds.
4. The display will show the permanent DTC's stored. press the "RECIRCULATE AIR" button after each is displayed until the display reads "END"
5. Press "RECIRCULATE AIR" button again and the intermittent DTC's will be shown. A SQUARE is shown after each DTC to indicate that it is intermittent. Press the "RECIRCULATE AIR" button again to see the next DTC. Until "END" is shown.
6. To erase the DTC's : IGNITION ON : Position 1 Press the "RECIRCULATE AIR", "REST" and "UP" buttons simultaneously until --- is displayed in the window.

FAULT CODES - 129 Chassis to 8/95		
DTC Readout	**Description**	**Cause**
1	No DTC's Stored in System Memory.	No Faults
2	In-Car Temperature Sensor (B10/4)	Short Circuit
3	In-Car Temperature Sensor (B10/4)	Open Circuit
4	Outside Temperature Sensor (B10/5)	Short Circuit
5	Outside Temperature Sensor (B10/5)	Open Circuit
6	Evaporator Temperature Sensor (B10/6)	Short Circuit
7	Evaporator Temperature Sensor (B10/6)	Open Circuit

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 129 Chassis to 8/95		
DTC Readout	**Description**	**Cause**
8	Heater Core Temperature Sensor (B10/1)(Left)	Short Circuit
9	Heater Core Temperature Sensor (B10/1)(Left)	Open Circuit
10	Heater Core Temperature Sensor (Right)	Short Circuit
11	Heater Core Temperature Sensor(Right)	Open Circuit
12	Engine Coolant Temperature Sensor (B10/8)	Short Circuit
13	Engine Coolant Temperature Sensor (B10/8)	Open Circuit
16	Center Air Vent Control Module (N18/2r2)	Short Circuit
17	Center Air Vent Control Module (N18/2r2)	Open Circuit
18	Center Air Vent Feedback Potentiometer (R23/3)	Short Circuit
19	Center Air Vent Feedback Potentiometer (R23/3)	Open Circuit
20	Left Air Vent Control Module (N18/2r1)	Short Circuit
21	Left Air Vent Control Module (N18/2r1)	Open Circuit
22	Left Air Vent Feedback Potentiometer (R23/1)	Short Circuit
23	Left Air Vent Feedback Potentiometer (R23/1)	Open Circuit
24	Right Air Vent Control Module (N18/2r3)	Short Circuit
25	Right Air Vent Control Module (N18/2r3)	Open Circuit
26	Right Air Vent Feedback Potentiometer (R23/2)	Short Circuit
27	Right Air Vent Feedback Potentiometer (R23/2)	Open Circuit
30	Auxiliary Coolant Pump (M13)	Short Circuit
31	Automatic A/C Monovalve (Y19)	Short Circuit
32	Automatic A/C Monovalve (Right)	Short Circuit
33	A/C Compressor Signal	Short Circuit
34	Auxiliary Fan Signal, 2nd Stage	Short Circuit
35	Auxiliary Fan Signal, 1st Stage	Short Circuit
50	Switchover Valve Block Signal (Y11)	Short Circuit
70	Auxiliary Coolant Pump (M13)	Open Circuit
71	Automatic A/C Monovalve (Y19)	Open Circuit
72	Automatic A/C Monovalve (Right)	Open Circuit
73	A/C Compressor Signal	Open Circuit
74	Auxiliary Fan Signal, 2nd Stage	Open Circuit
75	Auxiliary Fan Signal, 1st Stage	Open Circuit

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

129 Chassis from 9/95

READING ACTUAL VALUES

1. IGNITION : Position 1
2. Set temperature selector to 72 degrees F.
3. Press the REST button for more than 6 seconds.
4. The left display will alternately show the number "01" and the in-car temperature.
5. Press the FAN button and the next component number and its value will be displayed.
6. Press the REST button to end the test program.

COMPONENT UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B14)
03	Left Heater Core Temperature Sensor (B10/2)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature Sensor (ECT) (B11/4)
07	Refrigerant Pressure in Bar
08	Refrigerant Temperature Sensor (B12/1)
09	Not Used
10	Blower Control Voltage
20	Control Current for Auxiliary Fan exp. : 7 = 7 mA
21	Engine RPM. example 00..99 (x100) = 9900
22	Vehicle Speed
23	PIN 58D exp. 99.0 = 99% of Battery Voltage
24	Battery Voltage : 12.8 = 12,8 Volt
40	A/C Controller Software Version Coding
41	A/C Controller Hardware Version
42	Variant code 1
43	Variant code 2
50	Not Used
51	Not Used
52	Not Used
54	ON/OFF A/C Compressor emergency off signal from engine control module.
60	Roof "OPE" = OPEN, "CLO" = CLOSED
61	Left Air Outlet, Potentiometer Voltage
62	Vacuum Actuator 46, Feedback Potentiometer Voltage
63	Center Air Outlet, Potentiometer Voltage
64	Vacuum Actuator 47, Feedback Potentiometer Voltage
65	Right Air Outlet, Potentiometer Voltage
66	Vacuum Actuator 47, Feedback Potentiometer Voltage

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

129 Chassis from 9/95

FAULT DIAGNOSIS

1. IGNITION : Position 1
2. Temperature selector wheel : "LO"
3. Within 20 seconds press the REST and DEFROST buttons simultaneously for more than 5 seconds.
4. The LED in the RECIRCULATE button flashes and "dI A" appears on the display.
5. Press the AUTO button until all DTC's are displayed and recorded.
6. The current faults are displayed first, then the intermittent faults. "END'" is displayed when all codes have been displayed.
7. To erase codes press AUTO again, "dEL" will be displayed. Press v and ^ simultaneously for more than 5 seconds. The display will then show "---". Press AUTO to cancel the erase.
8. IGNITION : OFF to end the test program.

FAULT CODES - 129 Chassis from 9/95	
DTC Readout	**Description**
026	CAN Bus Communication
226	In-Car Air Temperature Sensor (B10/4)
227	Outside Air Temperature Sensor (B14)
228	Heater Core Temperature Sensor (B10/2)
230	Evaporator Temperature Sensor (B10/6)
231	Engine Coolant Temperature Sensor (B11/4)
232	Refrigerant Pressure Sensor (B12)
233	Refrigerant Temperature Sensor (B12/1)
241	Refrigerant Level
416	Coolant Circulation Pump (A31m1)
417	Automatic A/C Monovalve (Y19)
419	A/C Compressor Electromagnetic Clutch (A9k1)
420	Closed (Idle) Throttle Speed Increase
421	Auxiliary Fan Control Module (N65/1)
422	Serial Interface Connection (K1) to Instrument Cluster (IC)
423	Switchover Valve Block (15 connection multiplex) (Y11)
459	Serial Interface Connection (K2) to Instrument Cluster (IC)

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

140 Chassis to 8/95

READING ACTUAL VALUES

1. Turn temperature selector wheel into the white area.
2. IGNITION = ON : Position 1
3. Press the left and right "AUTO" buttons.
4. Within 20 seconds press the "REST" button for more than 5 sec.
5. LEFT DISPLAY = Component Number
   RIGHT DISPLAY = Actual Component Value or "HI" for a short circuit or "LO" for an open circuit
6. Press the left "AUTO" button to monitor the next component.
7. Press the "REST" button to end the test mode.

COMPONENTS UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B10/5)
03	Left Heater Core Temperature Sensor (B10/2)
04	Right Heater Core Temperature Sensor (B10/3)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature (ECT) Sensor (A/C) (B10/8)
07	Refrigerant Pressure in Bar : Ex. 06'4 = 6.4 Bar
08	Blower Control Voltage from 8(min) - 60(max)
09	Software Status, A/C Pushbutton Control Module(N22) Mfg.
10	Left rear heater core temperature sensor (B10/9)
11	Right rear heater core temperature sensor (B10/10)
12	Rear Evaporator Temperature Sensor (B10/11)
13	Software Status, Rear A/C Pushbutton Control Module(N22) Mfg.
16	Control Module Applicable for Charcoal Filter : "A"=YES "0 "=NO

140 Chassis to 8/95

FAULT DIAGNOSIS

1. Turn the left selector wheel into the red area.
2. Turn the right selector wheel into the blue area.
3. IGNITION = ON : Position 1.
4. Press the "AUTO" button.
5. Within 20 seconds, press the "REST" and "O" button for more than 2 seconds.
6. The display will show the permanent DTC's stored. Left window "E0" or "E1", right window "01", "02"...etc. Record each DTC and press the right "AUTO" button to display the next code. Continue until "END" is displayed.
7. To erase the DTC's : Turn IGNITION OFF, Then turn IGNITION ON : Position 1. Press the left "AUTO" button. A "d" (delete) is displayed in the left window. By pressing the right "AUTO" button the DTC will be deleted. Alternate left and right "AUTO" buttons until all DTCs are erased and "E0 00" is displayed.

Go to next page for Fault Codes

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 140 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
001	No DTC's Stored in System Memory.		
002	A/C Pushbutton Control Module (N22)		
003	Rear A/C Pushbutton Control Module (N22/3)		
006	Connection to the Switchover Valve Block (Y11)		
007	Data Exchange (CAN B)	Short Circuit.	
008	Data Exchange (CAN A)	Short Circuit.	
009	Data Exchange (CAN A and CAN B)	Short Circuit.	
010	Make the Diagnosis Again.		
011	Data Exchange (CAN B)	Open Circuit.	
012	Data Exchange (CAN A)	Open Circuit.	
013	Connection with the Rear A/C Pushbutton Control Module		
014	Data Exchange (CAN B) : Rear A/C Control Module	Open Circuit.	
015	Data Exchange (CAN A) : Rear A/C Control Module	Open Circuit.	
016	In-Car Air Temperature Sensor (B10/4)	Short Circuit	Continuous
017	In-Car Air Temperature Sensor (B10/4)	Short Circuit	Intermittent
018	In-Car Air Temperature Sensor (B10/4)	Short or Open Circuit	Continuous
019	In-Car Air Temperature Sensor (B10/4)	Short or Open Circuit	Intermittent
024	Left Heater Core Temperature Sensor (B10/2)	Short Circuit	Continuous
025	Left Heater Core Temperature Sensor (B10/2)	Short Circuit	Intermittent
026	Left Heater Core Temperature Sensor (B10/2)	Short or Open Circuit	Continuous
027	Left Heater Core Temperature Sensor (B10/2)	Short or Open Circuit	Intermittent
028	Right Heater Core Temperature Sensor (B10/3)	Short Circuit	Continuous
029	Right Heater Core Temperature Sensor (B10/3)	Short Circuit	Intermittent
030	Right Heater Core Temperature Sensor (B10/3)	Short or Open Circuit	Continuous
031	Right Heater Core Temperature Sensor (B10/3)	Short or Open Circuit	Intermittent
032	Outside Air Temperature Sensor (B10/5)	Short Circuit	Continuous
033	Outside Air Temperature Sensor (B10/5)	Short Circuit	Intermittent
034	Outside Air Temperature Sensor (B10/5)	Short or Open Circuit	Continuous
035	Outside Air Temperature Sensor (B10/5)	Short or Open Circuit	Intermittent
036	Evaporator Temperature Sensor (B10/6)	Short Circuit	Continuous
037	Evaporator Temperature Sensor (B10/6)	Short Circuit	Intermittent
038	Evaporator Temperature Sensor (B10/6)	Short or Open Circuit	Continuous
039	Evaporator Temperature Sensor (B10/6)	Short or Open Circuit	Intermittent
040	Engine Coolant Temperature Sensor (B10/8)	Short Circuit	Continuous
041	Engine Coolant Temperature Sensor (B10/8)	Short Circuit	Intermittent
042	Engine Coolant Temperature Sensor (B10/8)	Short or Open Circuit	Continuous

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 140 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
043	Engine Coolant Temperature Sensor (B10/8)	Short or Open Circuit	Intermittent
044	Refrigerant Pressure Sensor (B12)	Short Circuit	Continuous
045	Refrigerant Pressure Sensor (B12)	Short Circuit	Intermittent
046	Refrigerant Pressure Sensor (B12)	Short or Open Circuit	Continuous
047	Refrigerant Pressure Sensor (B12)	Short or Open Circuit	Intermittent
048	Left Temperature Wheel	Short Circuit	Continuous
049	Left Temperature Wheel	Short Circuit	Intermittent
050	Left Temperature Wheel	Short or Open Circuit	Continuous
051	Left Temperature Wheel	Short or Open Circuit	Intermittent
052	Right Temperature Wheel	Short Circuit	Continuous
053	Right Temperature Wheel	Short Circuit	Intermittent
054	Right Temperature Wheel	Short or Open Circuit	Continuous
055	Right Temperature Wheel	Short or Open Circuit	Intermittent
072	Heater Supply Unit Coolant Circulation Pump (A31m1)	Short Circuit	Continuous
073	Heater Supply Unit Coolant Circulation Pump (A31m1)	Short Circuit	Intermittent
074	Coolant Circulation Pump (A31m1)	Short or Open Circuit	Continuous
075	Coolant Circulation Pump (A31m1)	Short or Open Circuit	Intermittent
076	Coolant Circulation Pump (A31m1)	Overload	Continuous
077	Coolant Circulation Pump (A31m1)	Overload	Intermittent
080	Left Duovalve (Water Valve) (A31y1)	Short Circuit	Continuous
081	Left Duovalve (Water Valve) (A31y1)	Short Circuit	Intermittent
082	Left Duovalve (Water Valve) (A31y1)	Short or Open Circuit	Continuous
083	Left Duovalve (Water Valve) (A31y1)	Short or Open Circuit	Intermittent
084	Right Duovalve (Water Valve) (A31y2)	Short Circuit	Continuous
085	Right Duovalve (Water Valve) (A31y2)	Short Circuit	Intermittent
086	Right Duovalve (Water Valve) (A31y2)	Short or Open Circuit	Continuous
087	Right Duovalve (Water Valve) (A31y2)	Short or Open Circuit	Intermittent
088	A/C Compressor Ground Activation		Continuous
089	A/C Compressor Ground Activation		Intermittent
090	A/C Compressor Ground Activation	Short or Open Circuit	Continuous
091	A/C Compressor Ground Activation	Short or Open Circuit	Intermittent
096	Auxiliary Fan, 1ST Stage Activation	Short Circuit	Continuous
097	Auxiliary Fan, 1ST Stage Activation	Short Circuit	Intermittent
098	Auxiliary Fan, 1ST Stage Activation	Short or Open Circuit	Continuous
099	Auxiliary Fan, 1ST Stage Activation	Short or Open Circuit	Intermittent
100	Auxiliary Fan, 2ND Stage Activation	Short Circuit	Continuous

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 140 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
101	Auxiliary Fan, 2ND Stage Activation	Short Circuit	Intermittent
102	Auxiliary Fan, 2ND Stage Activation	Short or Open Circuit	Continuous
103	Auxiliary Fan, 2ND Stage Activation	Short or Open Circuit	Intermittent
104	Auxiliary Fan, 3RD Stage Activation	Short Circuit	Continuous
105	Auxiliary Fan, 3RD Stage Activation	Short Circuit	Intermittent
106	Auxiliary Fan, 3RD Stage Activation	Short or Open Circuit	Continuous
107	Auxiliary Fan, 3RD Stage Activation	Short or Open Circuit	Intermittent
108	Auxiliary Coolant Pump Control Relay Module (K30), Power Supply	Short Circuit	Continuous
109	Auxiliary Coolant Pump Control Relay Module (K30), Power Supply	Short Circuit	Intermittent
110	Auxiliary Coolant Pump Control Relay Module (K30), Power Supply	Short or Open Circuit	Continuous
111	Auxiliary Coolant Pump Control Relay Module (K30), Power Supply	Short or Open Circuit	Intermittent
112	Engine RPM Increase Diode Matrix (V2)	Short Circuit	Continuous
113	Engine RPM Increase Diode Matrix (V2)	Short Circuit	Intermittent
114	Engine RPM Increase Diode Matrix (V2)	Short or Open Circuit	Continuous
115	Engine RPM Increase Diode Matrix (V2)	Short or Open Circuit	Intermittent
116	Activated Charcoal Filter Actuator (A32m2) : (OPEN)	Short Circuit	Continuous
117	Activated Charcoal Filter Actuator (A32m2) : (OPEN)	Short Circuit	Intermittent
118	Activated Charcoal Filter Actuator (A32m2) : (OPEN)	Short or Open Circuit	Continuous
119	Activated Charcoal Filter Actuator (A32m2) : (OPEN)	Short or Open Circuit	Intermittent
120	Activated Charcoal Filter Actuator (A32m2) : (CLOSED)	Short Circuit	Continuous
121	Activated Charcoal Filter Actuator (A32m2) : (CLOSED)	Short Circuit	Intermittent
122	Activated Charcoal Filter Actuator (A32m2) : (CLOSED)	Short or Open Circuit	Continuous
123	Activated Charcoal Filter Actuator (A32m2) : (CLOSED)	Short or Open Circuit	Intermittent
128	Left Rear Heater Core Temperature Sensor (B10/9)	Short Circuit	Continuous
129	Left Rear Heater Core Temperature Sensor (B10/9)	Short Circuit	Intermittent
130	Left Rear Heater Core Temperature Sensor (B10/9)	Short or Open Circuit	Continuous
131	Left Rear Heater Core Temperature Sensor (B10/9)	Short or Open Circuit	Intermittent
132	Right Rear Heater Core Temperature Sensor (B10/10)	Short Circuit	Continuous
133	Right Rear Heater Core Temperature Sensor (B10/10)	Short Circuit	Intermittent
134	Right Rear Heater Core Temperature Sensor (B10/10)	Short or Open Circuit	Continuous
135	Right Rear Heater Core Temperature Sensor (B10/10)	Short or Open Circuit	Intermittent
136	Left Temperature Selector wheel	Short Circuit	Continuous
137	Left Temperature Selector wheel	Short Circuit	Intermittent
138	Left Temperature Selector wheel	Short or Open Circuit	Continuous

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 140 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
139	Left Temperature Selector wheel	Short or Open Circuit	Intermittent
140	Right Temperature Selector wheel	Short Circuit	Continuous
141	Right Temperature Selector wheel	Short Circuit	Intermittent
142	Right Temperature Selector wheel	Short or Open Circuit	Continuous
143	Right Temperature Selector wheel	Short or Open Circuit	Intermittent
144	Rear Evaporator Temperature Sensor (B10/11)	Short Circuit	Continuous
145	Rear Evaporator Temperature Sensor (B10/11)	Short Circuit	Intermittent
146	Rear Evaporator Temperature Sensor (B10/11)	Short or Open Circuit	Continuous
147	Rear Evaporator Temperature Sensor (B10/11)	Short or Open Circuit	Intermittent
148	Coolant Circulation Pump (A31/1m1)	Short Circuit	Continuous
149	Coolant Circulation Pump (A31/1m1)	Short Circuit	Intermittent
150	Coolant Circulation Pump (A31/1m1)	Short or Open Circuit	Continuous
151	Coolant Circulation Pump (A31/1m1)	Short or Open Circuit	Intermittent
152	Coolant Circulation Pump (A31/1m1)	Overload	Continuous
153	Coolant Circulation Pump (A31/1m1)	Overload	Intermittent
156	Left Duovalve (Water Valve) (A31/1y1)	Short Circuit	Continuous
157	Left Duovalve (Water Valve) (A31/1y1)	Short Circuit	Intermittent
158	Left Duovalve (Water Valve) (A31/1y1)	Short or Open Circuit	Continuous
159	Left Duovalve (Water Valve) (A31/1y1)	Short or Open Circuit	Intermittent
160	Right Duovalve (Water Valve) (A31/1y2)	Short Circuit	Continuous
161	Right Duovalve (Water Valve) (A31/1y2)	Short Circuit	Intermittent
162	Right Duovalve (Water Valve) (A31/1y2)	Short or Open Circuit	Continuous
163	Right Duovalve (Water Valve) (A31/1y2)	Short or Open Circuit	Intermittent
164	Rear Refrigerant Shut-Off Valve (Y67)	Short Circuit	Continuous
165	Rear Refrigerant Shut-Off Valve (Y67)	Short Circuit	Intermittent
166	Rear Refrigerant Shut-Off Valve (Y67)	Short or Open Circuit	Continuous
167	Rear Refrigerant Shut-Off Valve (Y67)	Short or Open Circuit	Intermittent
168	Rear Tunnel Flap Vacuum Valve (Y67/1)	Short Circuit	Continuous
169	Rear Tunnel Flap Vacuum Valve (Y67/1)	Short Circuit	Intermittent
170	Rear Tunnel Flap Vacuum Valve (Y67/1)	Short or Open Circuit	Continuous
171	Rear Tunnel Flap Vacuum Valve (Y67/1)	Short or Open Circuit	Intermittent

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

140 Chassis from 9/95

READING ACTUAL VALUES

1. IGNITION : Position 1
2. Press the AUTO button
3. Set both temperature selectors to 72 degrees F.
4. Press the REST button for more than 5 seconds.
5. The left display will alternately show the number "1" and the in-car temperature.
6. Press the AUTO button and the next component number and its value will be displayed.
7. Press the REST button to end the test program.

COMPONENT UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B10/5) 1996, (B14) as of 1997
03	Left Heater Core Temperature Sensor (B10/2)
04	Right Heater Core Temperature Sensor (B10/3)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature (ECT) Sensor (A/C) (B11/4)
07	Refrigerant Pressure in Bar
08	Refrigerant Temperature Sensor (B12/1)
10	Blower Control Voltage
11	Emissions (Refrigerant Leak) Sensor (B31)
12	Sun (Excessive Heat) Sensor (B32)
20	Control Current for Auxiliary Fan example : 7 = 7 mA
21	Engine RPM. example 00..99 (x100) = 9900
22	Vehicle Speed
23	PIN 58D example. 99.0 = 99% of Battery Voltage
24	Battery Voltage : 12.8 = 12,8 Volt
30	Left Rear Heater Core Temperature Sensor (B10/9)
31	Right Rear Heater Core Temperature sensor (B10/10)
32	Rear Evaporator Temperature Sensor (B10/11)
33	Rear Blower Control Voltage
34	Left Rear Temperature Sensor version
35	Right Rear Temperature Sensor
38	Rear A/C Controller Software Version Coding
39	Rear A/C Controller Hardware Version
40	Front A/C Controller Software Version Coding
41	Front A/C Controller Hardware Version
42	Variant code 1
43	Variant code 2

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

140 Chassis from 9/95

FAULT DIAGNOSIS

1. IGNITION : Position 1
2. Left Temperature selector wheel : HI
   Right Temperature selector wheel : LO
3. Within 20 seconds press the REST and EC buttons simultaneously for more than 5 seconds.
4. The LED in the RECIRCULATE button flashes and "OFF" appears on the display.
5. Press the right AUTO button until all DTC's are displayed and recorded.
6. To erase all codes must be read out. Press both AUTO buttons simultaneously for more than 2 seconds. "d" will be displayed on the left and "FF" is displayed on the right. The erase can be canceled by pressing the AUTO button.
7. Reset temperature selector to normal setting.
8. IGNITION : OFF to end the test program.

FAULT CODES - 140 Chassis from 9/95	
DTC Readout	**Description**
026	CAN Bus Communication
226	In-Car Air Temperature Sensor (B10/4)
227	Outside Air Temperature Sensor (B10/5) to 1996, (B14) as of 1997
228	Left Heater Core Temperature Sensor (B10/2)
229	Right Heater Core Temperature Sensor (B10/3)
230	Evaporator Temperature Sensor (B10/6)
231	Engine Coolant Temperature Sensor (B11/4) or DFI or IFI models Right Engine Coolant Temperature Sensor (B11/10) to 1996
232	Refrigerant Pressure Sensor (B12)
233	Refrigerant Temperature Sensor (B12/1)
234	Sun Sensor (B32)
235	Emissions (Refrigerant Leak) Sensor (B31)
241	Refrigerant Level
416	Coolant Circulation Pump (A31m1)
417	Left Duovalve (Water Valve) (Y21y1)
418	Right Duovalve (Water Valve) (Y21y2)
419	A/C Compressor Electromagnetic Clutch (A9k1)
420	Closed (Idle) Throttle Speed Increase
421	Pulse Module (N65)
422	Serial Interface Connection (K1) to Instrument Cluster (IC)
423	Switchover Valve Block (Y11)
424	Activated Charcoal Filter Actuator (A32m2) : OPEN
425	Activated Charcoal Filter Actuator (A32m2) : CLOSE

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 140 Chassis from 9/95	
DTC Readout	**Description**
432	Maximum Heat
459	Serial Interface Connection (K2) to Instrument Cluster (IC)
460	LED - Center Air Outlet "Warm"
461	LED - Center Air Outlet "Cold"
462	Wide Open Throttle (WOT) Position Signal - Diesel Engine Only

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

202 Chassis to 8/95

READING ACTUAL VALUES

1. IGNITION : Position 2 (ON)
2. Set temperature selection to 72 degrees F (Press v and ^ simultaneously).
3. Press the AUTO button.
4. Press the REST button for more than 5 seconds.
5. The display will alternately show the number "01" and the in-car temperature or "LO" if there is an open circuit or "HI" if there is a short circuit.
6. Press the "Top Air Outlet" button to increase the component tested and the "Bottom Air Outlet" button to decrease the component number tested.
7. Press the REST button to end the test program.

COMPONENT UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B10/5)
03	Heater Core Temperature Sensor (B10/1)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature (ECT) Sensor (A/C) (B10/8)
07	Refrigerant Pressure in Bar
08	Blower Control Voltage
09	Software Status of A/C Pushbutton Control Module
15	Selected In-Car Temperature
20	Version Code
21	Engine Speed in RPM
22	A/C Compressor Speed in RPM
23	Vehicle Speed in km/h
50	Not Used
51	Number of Current Poly-V Belt Slip Recognitions
52	Number of Stored Poly-V Belt Slip Recognitions

202 Chassis to 8/95

FAULT DIAGNOSIS

1 IGNITION : Position 2 (ON)
2 Press the V button until "LO" appears on the display.
3 Within 20 seconds press the REST and DEFROST buttons simultaneously for more then 2 seconds.
4 The LED in the RECIRCULATE button flashes and "dI R" appears on the display
5 Press the AUTO button until all DTC's are displayed and recorded. Continuous faults are displayed first. if no faults are stored, "En d" is displayed. Press AUTO again to retrieve intermittent faults. If no intermittent faults are stored, "En d" is displayed.
6 Press the AUTO button until "dE L" is displayed. To erase codes press both V and ^ simultaneously for at least 5 seconds. The display will show "---"
7 IGNITION : OFF to end the test program.

Go to next page for Fault Codes.

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 202 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
01	No ERROR Stored	No Faults	
02	A/C Pushbutton Control Module (N22).	Power failure or damaged computer	
03	In-Car Temperature Sensor with Aspirator Blower (B10/4)	Short circuit	Continuous
04	In Car Temperature Sensor with Aspirator Blower (B10/4)	Short circuit	Intermittent
05	In-Car Temperature Sensor with Aspirator Blower (B10/4)	Short or Open circuit	Continuous
06	In-Car Temperature Sensor with Aspirator Blower (B10/4)	Short or Open circuit	Intermittent
07	Outside Air Temperature Sensor (B10/5)	Short circuit	Continuous
08	Outside Air Temperature Sensor (B10/5)	Short circuit	Intermittent
09	Outside air Temperature Sensor (B10/5)	Short or Open circuit	Continuous
10	Outside air Temperature Sensor (B10/5)	Short or Open circuit	Intermittent
11	Heater Core Temperature Sensor (B10/1)	Short circuit	Continuous
12	Heater Core Temperature Sensor (B10/1)	Short circuit	Intermittent
13	Heater Core Temperature Sensor (B10/1)	Short or Open circuit	Continuous
14	Heater Core Temperature Sensor (B10/1)	Short or Open circuit	Intermittent
19	Evaporator Temperature Sensor (B10/6)	Short circuit	Continuous
20	Evaporator Temperature Sensor (B10/6)	Short circuit	Intermittent
21	Evaporator Temperature Sensor (B10/6)	Short or Open circuit	Continuous
22	Evaporator Temperature Sensor (B10/6)	Short or Open circuit	Intermittent
23	Engine Coolant Temperature Sensor (ETC) (B10/8)	Short circuit	Continuous
24	Engine Coolant Temperature Sensor (ETC) (B10/8)	Short circuit	Intermittent
25	Engine Coolant Temperature Sensor (ETC) (B10/8)	Short or Open circuit	Continuous
26	Engine Coolant Temperature Sensor (ETC) (B10/8)	Short or Open circuit	Intermittent
27	Refrigerant Pressure Sensor (B12)	Short circuit	Continuous
28	Refrigerant Pressure Sensor (B12)	Short circuit	Intermittent
29	Refrigerant Pressure Sensor (B12)	Short or Open circuit	Continuous
30	Refrigerant Pressure Sensor (B12)	Short or Open circuit	Intermittent
31	A/C Compressor RPM Sensor (A9l1)	Bad Sensor	
32	Poly-V Belt Slip Recognition	Slipping Belt	
47	Auxiliary Coolant Pump (M13)	Unknown	
48	Auxiliary Coolant Pump (M13)	Short circuit	Intermittent
49	Auxiliary Coolant Pump (M13)	Short or Open circuit	Continuous
50	Auxiliary Coolant Pump (M13)	Short or Open circuit	Intermittent
51	Duovalve (Water Valve) (Y21)	Short circuit	Continuous
52	Duovalve (Water Valve) (Y21)	Short circuit	Intermittent
53	Duovalve (Water Valve) (Y21)	Short or Open circuit	Continuous
54	Duovalve (Water Valve) (Y21)	Short or Open circuit	Intermittent

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 202 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
59	A/C Compressor Electromagnetic Clutch (A9k1)	Short circuit	Continuous
60	A/C Compressor Electromagnetic Clutch (A9k1)	Short circuit	Intermittent
61	A/C Compressor Electromagnetic Clutch (A9k1)	Short or Open circuit	Continuous
62	A/C Compressor Electromagnetic Clutch (A9k1)	Short or Open circuit	Intermittent
63	Activation of Auxiliary Fan Stage 1	Short circuit	Continuous
64	Activation of Auxiliary Fan Stage 1	Short circuit	Intermittent
65	Activation of Auxiliary Fan Stage 1	Short or Open circuit	Continuous
66	Activation of Auxiliary Fan Stage 1	Short or Open circuit	Intermittent
67	Activation of Auxiliary Fan Stage 2	Short circuit	Continuous
68	Activation of Auxiliary Fan Stage 2	Short circuit	Intermittent
69	Activation of Auxiliary Fan Stage 2	Short or Open circuit	Continuous
70	Activation of Auxiliary Fan Stage 2	Short or Open circuit	Intermittent
71	Closed (Idle) Throttle Speed Increase	Short or Open circuit	Continuous
72	Closed (Idle) Throttle Speed Increase	Short or Open circuit	Intermittent
73	Closed (Idle) Throttle Speed Increase	Short circuit	Continuous
74	Closed (Idle) Throttle Speed Increase	Short circuit	Intermittent
75	Switchover Valve Block (Y11/3), Diverter Flap		Continuous
76	Switchover Valve Block (Y11/3), Diverter Flap		Intermittent
77	Switchover Valve Block (Y11/3), Diverter Flap	Short or Open circuit	Continuous
78	Switchover Valve Block (Y11/3), Diverter Flap	Short or Open circuit	Intermittent
79	Switchover Valve Block (Y11/3), Tempering Flap		Continuous
80	Switchover Valve Block (Y11/3), Tempering Flap		Intermittent
81	Switchover Valve Block (Y11/3), Tempering Flap	Short or Open circuit	Continuous
82	Switchover Valve Block (Y11/3), Tempering Flap	Short or Open circuit	Intermittent
83	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Long Stroke (80%)		Continuous
84	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Long Stroke (80%)		Intermittent
85	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Long Stroke (80%)	Short or Open circuit	Continuous
86	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap	Short or Open circuit	Intermittent
87	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Short Stroke (20%)		Continuous
88	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Short Stroke (20%)		Intermittent
89	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Short Stroke (20%)	Short or Open circuit	Continuous
90	Switchover Valve Block (Y11/3), Fresh/Recirculating Air Flap Short Stroke (20%)	Short or Open circuit	Intermittent

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

FAULT CODES - 202 Chassis to 8/95			
DTC Readout	**Description**	**Cause**	**Fault Type**
91	Switchover Valve Block (Y11/3), Defroster Flap Long Stroke (80%)		Continuous
92	Switchover Valve Block (Y11/3), Defroster Flap Long Stroke (80%)		Intermittent
93	Switchover Valve Block (Y11/3), Defroster Flap Long Stroke (80%)	Short or Open circuit	Continuous
94	Switchover Valve Block (Y11/3), Defroster Flap Long Stroke (80%)	Short or Open circuit	Intermittent
95	Switchover Valve Block (Y11/3), Defroster Flap Short Stroke (20%)		Continuous
96	Switchover Valve Block (Y11/3), Defroster Flap Short Stroke (20%)		Intermittent
97	Switchover Valve Block (Y11/3), Defroster Flap Short Stroke (20%)	Short or Open circuit	Continuous
98	Switchover Valve Block (Y11/3), Defroster Flap Short Stroke (20%)	Short or Open circuit	Intermittent
99	Switchover Valve Block (Y11/3), Footwell Flap Long Stroke (80%)		Continuous
100	Switchover Valve Block (Y11/3), Footwell Flap Long Stroke (80%)		Intermittent
101	Switchover Valve Block (Y11/3), Footwell Flap Long Stroke (80%)	Short or Open circuit	Continuous
102	Switchover Valve Block (Y11/3), Footwell Flap Long Stroke (80%)	Short or Open circuit	Intermittent
103	Switchover Valve Block (Y11/3), Footwell Flap Short Stroke (20%)		Continuous
104	Switchover Valve Block (Y11/3), Footwell Flap Short Stroke (20%)		Intermittent
105	Switchover Valve Block (Y11/3), Footwell Flap Short Stroke (20%)	Short or Open circuit	Continuous
106	Switchover Valve Block (Y11/3), Footwell Flap Short Stroke (20%)	Short or Open circuit	Intermittent

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

202 Chassis from 9/95

READING ACTUAL VALUES

1. IGNITION : Position 1
2. Set temperature selector to 72 degrees F.
3. Press the REST button for more than 6 seconds.
4. The left display will alternately show the number "01" and the in-car temperature.
5. Press the FAN button and the next component number and its value will be displayed.
6. Press the REST button to end the test program.

COMPONENT UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B14)
03	Heater Core Temperature Sensor (B10/1)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature Sensor (ECT) (B11/4)
07	Refrigerant Pressure in Bar
08	Refrigerant Temperature Sensor (B12/1)
09	Not Used
10	Blower Control Voltage
20	Control Current for Auxiliary Fan exp. : 7 = 7 mA
21	Engine RPM. example 00..99 (x100) = 9900
22	Vehicle Speed
23	PIN 58D exp. 99.0 = 99% of Battery Voltage
24	Battery Voltage : 12.8 = 12,8 Volt
40	A/C Controller Software Version Coding
41	A/C Controller Hardware Version
42	Variant code 1
43	Variant code 2
50	Not Used
51	Not Used
52	Not Used
54	ON/OFF A/C Compressor emergency off signal from engine control module.

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

202 Chassis from 9/95

FAULT DIAGNOSIS

1. IGNITION : Position 1
2. Temperature selector wheel : "LO"
3. Within 20 seconds press the REST and DEFROST buttons simultaneously for more than 5 seconds.
4. The LED in the RECIRCULATE button flashes and "dI A" appears on the display.
5. Press the AUTO button until all DTC's are displayed and recorded.
6. The current faults are displayed first, then the intermittent faults. "END'" is displayed when all codes have been displayed.
7. To erase codes press v and ^ simultaneously for more than 5 seconds. The display will then show "---". Press AUTO to cancel the erase.
8. IGNITION : OFF to end the test program.

FAULT CODES - 202 Chassis from 9/95	
DTC Readout	**Description**
026	CAN Bus Communication
226	In-Car Air Temperature Sensor (B10/4)
227	Outside Air Temperature Sensor (B14)
228	Heater Core Temperature Sensor (B10/1)
230	Evaporator Temperature Sensor (B10/6)
231	Engine Coolant Temperature Sensor (B11/4)
232	Refrigerant Pressure Sensor (B12)
233	Refrigerant Temperature Sensor (B12/1)
241	Refrigerant Level
416	Coolant Circulation Pump (A31m1)
417	Left Duovalve (Water Valve) (Y21y1)
418	Right Duovalve (Water Valve) (Y21y2)
419	A/C Compressor Electromagnetic Clutch (A9k1)
420	Closed (Idle) Throttle Speed Increase
421	Pulse Module (N65)
422	Serial Interface Connection (K1) to Instrument Cluster (IC)
451	Diverter Flap (Y11/3)
452	Blend Air Flap (Y11/3)
453	Fresh/Recirculated Air Flap (Y11/3) Long Stroke
454	Fresh/Recirculated Air Flap (Y11/3) Short Stroke
455	Defroster Outlet Flap (Y11/3) Long Stroke
456	Defroster Outlet Flap (Y11/3) Short Stroke
457	Footwell Flap (Y11/3) Long Stroke
458	Footwell Flap (Y11/3) Short Stroke
459	Serial Interface Connection (K2) to Instrument Cluster (IC)
462	Wide Open Throttle (WOT) Position Signal - Diesel Engine Only

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

210 Chassis from 9/95

READING ACTUAL VALUES

1. IGNITION : Position 1
2. Press the AUTO button
3. Set both temperature selectors to 72 degrees F.
4. Press the REST button for more than 5 seconds.
5. The left display will alternately show the number "1" and the in-car temperature.
6. Press the AUTO button and the next component number and its value will be displayed.
7. Press the REST button to end the test program.

COMPONENT UNDER TEST

Number	Component
01	In-Car Temperature Sensor with Aspirator Blower (B10/4)
02	Outside Temperature Sensor (B14)
03	Left Heater Core Temperature Sensor (B10/1)
04	Right Heater Core Temperature Sensor (B10/1)
05	Evaporator Temperature Sensor (B10/6)
06	Engine Coolant Temperature (ECT) Sensor (A/C) (B1/4)
07	Refrigerant Pressure in Bar
08	Refrigerant Temperature Sensor (B12/1)
10	Blower Control Voltage
11	Emissions (Refrigerant Leak) Sensor (B31)
12	Sun (Excessive Heat) Sensor (B32)
20	Control Current for Auxiliary Fan exp. : 7 = 7 mA
21	Engine RPM. example 00..99 (x100) = 9900
22	Vehicle Speed
23	PIN 58D exp. 99.0 = 99% of Battery Voltage
24	Battery Voltage : 12.8 = 12,8 Volt
40	Software Version Encoded
41	Hardware Version

A/C SELF DIAGNOSTIC SYSTEMS - 1990-97

210 Chassis from 9/95

FAULT DIAGNOSIS

1. IGNITION : Position 1
2. Left Temperature selector wheel : HI
   Right Temperature selector wheel : LO
3. Within 20 seconds press the REST and EC buttons simultaneously for more than 5 seconds.
4. The LED in the RECIRCULATE button flashes and "dI R" appears on the display
5. Press the right AUTO button until all DTC's are displayed and recorded.
6. To erase, all codes must be read out. Press both AUTO buttons simultaneously for more than 2 seconds. "d" will be displayed on the left and "FF" is displayed on the right. The erase can be canceled by pressing the AUTO.
7. Reset temperature selector to normal setting.
8. IGNITION : OFF to end the test program.

FAULT CODES - 210 Chassis from 9/95	
DTC Readout	**Description**
026	CAN - Communication
226	In-Car Air Temperature Sensor (B10/4)
227	Outside Air Temperature Sensor (B14)
228	Left Heater Core Temperature Sensor (B10/1)
229	Right Heater Core Temperature Sensor (B10/1)
230	Evaporator Temperature Sensor (B10/6)
231	Engine Coolant Temperature Sensor (B10/8)
232	Refrigerant Pressure Sensor (B12)
233	Refrigerant Temperature Sensor (B12/1)
234	Sun Sensor (B32)
235	Emissions (Refrigerant Leak) Sensor (B31)
241	Refrigerant Level
416	Coolant Circulation Pump (M13)
417	Left Duovalve (Water Valve) (Y21y1)
418	Right Duovalve (Water Valve) (Y21y2)
419	A/C Compressor Electromagnetic Clutch (A9k1)
420	Closed (Idle) Throttle Speed Increase
421	Pulse Module
422	Serial Interface Connection (K1) to Instrument Cluster (IC)
423	Switchover Valve Block (Y11)
424	Activated Charcoal Filter Actuator (A32m2) : OPEN
425	Activated Charcoal Filter Actuator (A32m2) : CLOSE
432	Maximum Heat
459	Serial Interface Connection (K2) to Instrument Cluster (IC)
462	Wide Open Throttle (WOT) Position Signal - Diesel Engine Only

MERCEDES-BENZ ACRONYMS

ACRONYM	DESCRIPTION
4MATIC	4 Wheel Drive Transmission Control
A/C (Automatic)*	Air Conditioning (Automatic)
A/C (Tempmatic)*	Air Conditioning (Tempmatic)
AAC	Automatic Air Conditioning
AAM	All Activity Module
AB	Supplemental Restraint System (Airbag)
ABS	Anti-lock Brake System
ACSR	Automatic Child Seat Recognition
ADM	Automatic Dimming Inside Rearview Mirror
ADS	Automatic Damping System (Suspension)
AIR	Secondary Air Injection
AKR	Anti-Knock Regulation
AP	Accelerator Pedal
APS	Auto Pilot System
AS	Antenna System
ASD	Automatic Locking Differential
ASR	Acceleration Slip Regulation
AT	Automatic Transmission
ATA*	Anti-theft Alarm System
BA	Backup Assist
BARO	Barometric Pressure
BCAPC	Barometric Pressure-charge Air Pressure Compensation
BDC	Bottom Dead Center
BM*	Base Module (Master Ecu Controller)
BPC	Barometric Pressure Compensation
CA	Closing Assist
CAN	Controller Area Network
CC*	Cruise Control (Tempomat)
CCM	Combination Control Module
CDC	Cd Changer
CF	Convenience Feature
CFI	Continuous Fuel Injection
CKA	Crank Angle
CKP	Crankshaft Position
CL	Central Locking
CLUS	Instrument Cluster
CMP	Camshaft Position
CNS	Communication and Navigation System
CST*	Cabriolet Soft Top
CTEL	Cellular Telephone
CTP	Closed Throttle Position (Idle)
CTU	Central Triggering Unit
DAS	Driver Authorization System
DFI*	Electronic Distributor-type Fuel Injection
DI*	Distributor Ignition System
DM (USA)	Diagnostic Module (Emissions)
DTC	Diagnostic Trouble Code
EA*	Electronic Accelerator
EAG	Electronic Automatic Transmission Control
EATC*	Electronic Automatic Transmission Control
EBR	Engine Brake Regulation
ECL	Engine Coolant Level
ECT	Engine Coolant Temperature
EDC	Electronic Diesel Control
EDR	Electronic Diesel Regulation
EDS	Electronic Diesel System
EDW*	Anti-theft Alarm System
EFP*	Electronic Accelerator
EGR	Exhaust Gas Recirculation
EGS	Electronic Transmission Control
EI	Electronic Ignition (distributorless)
EIFI	Electronic In-line Fuel Injection

MERCEDES-BENZ ACRONYMS

EL	Exterior Lighting
EMSC	Electric Mirror, Steering Column Adjustment, Heated Mirrors
EPC	Electronic Power Control
ERE*	Electronic In-line Fuel System
ESA	Electric Seat Adjustment
ESC	Electric Steering Column Adjustment
ESCM	Engine System Control Module
ESP	Electronic Stability Program
ETC	Electronic Transmission Control
ETR	Emergency Tensioning Retractor
ETS	Electronic Traction System
EVAP	Evaporative Emission Control System
EVE	Electronic Distributor-type Fuel Injection
EZL	Distributor Ignition System
FAN	Fanfare Horns
FFS	Frame Floor System
FOM	Folding Outside Mirrors
FP	Fuel Pump
GIM	Governor Impulse Method
GM	Base Module (Master Ecu Controller)
HAU	Automatic Heater
HCS	Headlamp Cleaning System
HEAT	Automatic Heater
HFM	Hot Film Engine Management
HFS	Hands Free System
HHT	Hand Held Tester
HM	Heated Mirrors
HORN	Horn Signal System
HS	Heated Seats
IAT	Intake Air Temperature
IC	Instrument Cluster
IDC	In Dash Controller
IFI*	Electronic In-line Fuel System(diesel)
IFZ	Infrared Remote Central Locking
IL	Interior Lighting
IR	Infrared
IRCL*	Infrared Remote Central Locking
IRM	Inside Rearview Mirror
ISC*	Idle Speed Control
KE	Continuous Injection System (Cis)
KFB	Convenience Feature
KI	Instrument Cluster
KLA	Air Conditioning
KS	Knock Sensor
KSS	Knock Sensor System
LH	LH Sequential Fuel Management Bank 1 (1-6 or 1-8 Cylinders)
LH2	LH Sequential Fuel Management Bank 2 (7-12 Cylinders)
LHS	Left Hand Steering
LLR	Cruise Control
LOC	Low Compression
LS	Loudspeaker System
MAF	Mass Air Flow
MAP	Manifold Absolute Pressure
ME	Motor Electronics
MIL	Malfunction Indicator Lamp (Check Engine)
MSC	Mirror, Steering Column Adjustment, Heated Mirrors
MT	Manual Transmission
MVA	Manifold Vacuum Assist
MWH	Main Wiring Harness
NS	Network System (CAN)
O2S	Oxygen (O2) Sensor
OBD	On-board Diagnostics
OC	Oxidation Catalytic Convertor

MERCEDES-BENZ ACRONYMS

OCP	Over-head Control Panel
ORM	Outside Rearview Mirror
OSB	Orthopedic Seat Backrest
PL	Power Lock
PML	Speed-sensitive Power Steering
PMP	Partial Intake Manifold Preheater
PNP	Park/neutral Position
PS	Power Steering
PSE	Pneumatic System Equipment
PTS	Parktronic System
PW	Power Windows
PWM	Pulse Width Modulation
RB*	Roll Bar Control
RCL	Remote Central Locking
RD	Radio
REST	Residual Engine Heat Utilization
RHR	Retractable Rear Head Restraints
RHS	Rear Heated Seats
RPM	Revolutions Per Minute (Engine Speed)
RST*	Roadster Soft Top
RTG	Retractable Trunk Lid Grip
RTR	Remote Trunk Release
RV	Roadster Soft Top
RWD	Rear Window Defroster
SBE	Seat Belt Extender
SLO	Starter Lock-out
SMS	Service Microfiche System
SOR	Seat Occupied recognition
SPS	Speed-sensitive Power Steering
SR	Sliding/Pop-up Roof
SRS	Supplemental Restraint System (Airbag)
STH	Stationary Heater
TB	Throttle Body
TC	Turbo Charger
TCM	Transmission Control Module
TD	Speed Signal (Time Division) (EZL)
TDC	Top Dead Center
TIC	Transistorized Ignition Control
TN	Speed Signal (EZL/AKR)
TPC	Tire Pressure Control
TRAP	Trap Oxidizer
TS	Towing Sensor
TVV	Tank Ventilation Valve
TWC	Three Way Catalytic Convertor
ÜRB	Roll Bar Control
VAF	Volume Air Flow
VSS	Vehicle Speed Signal
WOT	Wide Open Throttle (Full Load)
WS	Wiper System

* USA Acronym only.

MERCEDES BENZ - USA MODEL IDENTIFIER

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
190C	1961-65	110	121.924	GA190C	LO 1
190D 2.2	1984-85	201.122	601.921	717.4/722.4	LO75Z/68
190D 2.5	1986-89	201.126	602.911	717.4/722.4	LS68
190D 2.5 TURBO	1987-	201.128	602.961	722.4	LS68
190DC	1961-65	110	621.912	GA190DC	LO 1
190E 2.3	1982-86	201.024	102.961 K	717.4/722.4	LS68
190E 2.3	1982-86	201.024	102.985 KE	717.4/722.4	LS68
190E 2.3	1987-93	201.028	102.985 KE	717.413/722.408	765.903
190E 2.3-16v	1984-87	201.034	102.983 KE	717.4/722.4	765.9
190E 2.5-16v	1988-93	201E25	102.983 KE	717.4/722.4	765.9
190E 2.6	1986-93	201.029	103.942 KE	717.432/722.409	765.903
200	1965-68	110	121.940	GA190C	LO 1
200CE	1990-93	124.021	102 KE	717.4/722.400	765.905
200D	1965-68	110	621.918	GA190DC	LO 1
200E	1993	124.021	102.963 KE	717.4/722.400	765.905
200TE	1988-92	124.021	102. KE	717.4/722.400	765.905
220	1967-72	115.010	115.920	722.1	L1Z/LS75/765.706
220B	1959-65	111	180.940	GA220B	LO 1
220D	1967-72	115.110	615.912	722.2	L1Z/LS75/765.706
220SB	1959-65	111	180.941	GA220SB	LO 1
220SE Cabriolet	1951-65	111.023	127.984	GA220SEB	LO 1
220SE Coupe	1959-65	111.021	127.984	GA220SEB	LO 1
220SEB	1959-65	111	127.982	GA220SEB	LO 1
220SEB/C	1951-65	111	127.984	GA220SEB	LO 1
230		123.023	115.954	722.1	765.706
230	1965-66	110	180.945	GA230	LO 1
230	1967-72	114.015	180.954	722.2	L1Z/LS75/765.706
230	1973-78	115.017	115.951	716/722.1	L1Z/765.706
230S	1965-68	111	180.945	GA220B,SB	LO 1
230SL	1963-68	113.042	127.981	GA230SL	LO 1
240D	1973-75	115.117	616.916	716/722.1	L1Z
240D	1976-85	123.123	616.912	716.0,.2/722.1	L1Z/765.706
250	1967-69	114.010	114.920	722.2	L1Z/LS75/765.706
250	1970-75	114.011	130.923	722.2	L1Z/LS75/765.706
250C	1969-75	114.023	130.923	722.2	L1Z/LS75/765.706
250D	1986-93	124.125	602.912	722.414	765.904
250S	1963-68	108	108.920	GA230SL	LO 1
250SE	1965-68	108	129.980	GA230SL	LO 1
250SE Cabriolet	1965-68	111.023	129.980	GA230SL	LO 1
250SE Coupe	1965-68	111.021	129.980	GA230SL	LO 1

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
250SL		113.043	129.982		LO 1
260E	1985-88	124.026	103.940 KE	717.4/722.4	LSC068/O068
280	1972-76	114.060	110.921	722.1	L1Z/LS75/765.706
280C	1972-76	114.073	110.921	716/717/722.1	L1Z/LS75/765.706
280CE	1977-85	123.053	110.984 K	716.0/722.1	765.706
280E	1976-85	123.033	110.984 K	716.0/722.1	765.706
280S	1967-72	108.016	130.920	722.2	L1K/LS75
280S	1972-80	116.020	110.922	716/722.1	765.706
280SE	1967-72	108.018	130.980	722.2	L1K/LS75
280SE	1972-80	116.024	110.985	716.0/722.1	765.706
280SE 3.5 Cabriolet		111.025	116.980		LO 1
280SE 3.5 Coupe		111.024	116.980		LO 1
280SE 4.5	1971-72	108.067	117.984	722.0	LS75
280SE Cabriolet		111.025	130.980		LO 1
280SE Coupe		111.024	130.980		LO 1
280SEL		108.019	130.980	722.2	L1K/LS75
280SEL 4.5	1971-72	108.068	117.984	722.0	LS75
280SL		113.044	130.983		LO 1
300CD	1977-80	123.150	617.912	722.1	765.706
300CD Turbo	1982-85	123.153	617.952	722.3/.4	765.706
300CE	1987-89	124.050	103.983 KE	717.4/722.3	LS68
300CE	1990-92	124.051	104.980 KE	717.4/722.3	LSH068/C068
300CE	1993-96	124.052	104.992 HFM	717.4/722.369	765.908
300CE Cabriolet	1993-96	124.066	104.992 HFM	717.4/722.369	765.904
300D	1975	115.114	617.910	716/722.1	L1Z
300D	1976-85	123.130	617.912	716.0/722.1	765.706
300D 2.5Turbo	1988-93	124.128	602.962	717.4/722.4	765
300D Turbo	1982-85	123.130	617.952	722.3/.4	765.706
300D Turbo	1985-	124.133	603.960	722.3	LS68
300E	1985-92	124.030	103.983 KE	717.4/722.3	765
300E	1993-96	124.032	104.992 HFM	722.369	765.904
300E 2.6	1985-92	124.026	103.940 KE	717.4/722.4	765
300E 2.8	1985-93	124.028	103.942 KE	717.4/722.4	765.904
300E 4MATIC	1987-93	124.230	103.985 KE	717.4/722.342	765.906
300SD Turbo	1978-80	116.120	617.950	722.1	765.706
300SD Turbo	1981-85	126.120	617.951	722.3	765.706
300SD Turbo	1992-93	140.134	603.971	722.367	765.940
300SDL Turbo	1985-88	126.125	603.961	722.3	765.706
300SE	1961-65	112	189	GA300SE,-E,-EH	DB
300SE	1985-92	126.024	103.981 KE	717.4/722.351	765.706
300SE	1992-93	140.032	104.990 LH	722.502	765.940
300SE/C	1961-67	112	189	GA300SE,-E,-EH	DB

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
300SEB	1965-72	108	189	GA300SE-EH	DB
300SEL		109.016	130.981		
300SEL	1966-68	109	189	GA300SE-EH	DB
300SEL	1985-92	126.025	103.981 KE	717.431/722.319	765.706
300SEL 3.5	1969-72	109.056	116.981	722.2	LS75
300SEL 4.5	1971-72	109.057	117.981	722.0	LS75
300SEL 6.3	1967-72	109.018	100.981	K4A050	LS75
300SL	1988-93	129.061	103 KE	722.500	765.907
300SL-24	1990-92	129.061	104.981 KE	722.500	765.907
300TD	1978-85	123.190	617.912	716.0/722.1	765.706
300TD Turbo	1981-84	123.193	617.952	722.3/.4	765.706
300TD Turbo	1985-	124.193	603.960	722.3	LS68
300TE	1985-93	124.090/.092	103.983 KE	717.4/722.369	765.904
300TE 4MATIC	1987-93	124.290	103.985 KE	717.4/722.342	765.906
350SD Turbo	1989-6/91	126.134	603.970	722.361	765.706
350SDL Turbo	1989-6/91	126.135	603.970	722.361	765.706
380SE	1985-89	126.032	116.963	722.3	765.706
380SEC	1985-	126.043	116.983	722.3	765.706
380SEL	1980-84	126.033	116.961	722.3	765.706
380SEL	1985-89	126.033	116.963	722.3	765.706
380SL	1980-89	107.045	116.960	722.3	765.706
380SLC	1980-89	107.025	116.960	722.3	765.706
400E	1990-93	124.034	119.975 LH	722.354	765.921
400SE	1992-93	140.042	119.971 LH	722.3	
400SEL	1992-93	140.043	119.971 LH	722.366	765.940
420SEL	1985-6/91	126.035	116.965 KE	722.351	765.706
450SE	1972-73	116.032	117.983	722.0	765.706
450SE	1974-80	116.032	117.986	722.0	765.706
450SEL	1972-73	116.033	117.983	722.0	765.706
450SEL	1974-80	116.033	117.986	722.0	765.706
450SL	1971-74	107.044	117.982	722.0	765.706
450SL	1975-80	107.044	117.985	722.0	765.706
450SLC	1971-74	107.024	117.982	722.0	765.706
450SLC	1975-80	107.024	117.985	722.0	765.706
500E	1993	124.036	119.974 LH	722.365	765.921
500SEC	-1992	126.044	117.965 KE	722.356	765.706
500SEC	1992-93	140.070	119.970 LH	722.370	765.940
500SEL	1985-91	126.037	117.963 KA	722.311	765.706
500SEL	1992-93	140.051	119.970 LH	722.370	765.940
500SL	1990-92	129.066	119.960 KE	722.3	LSG068
500SL	1992-93	129.067	119.972 LH	722.364	765.907
560SEC	1985-	126.045	117.968 KE	722.350	765.706

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
560SEL	1985-	126.039	117.968 KE	722.350	765.706
6.9	1975	116.036	100.985	722.0	765.706
600	1964-	100.012	100.980	K4A050	LS75
600	1964-	100	100	GA600	DB
600	1990-93	129.076	120.981 LH	722.3	LSG068
600 Long 4 Door	1964-	100.014	100.980	K4A050	LS75
600 Long 6 Door	1964-	100.016	100.980	K4A050	LS75
600SEC	1992-93	140.076	120.980 LH	722.362	765.940
600SEL	1992-93	140.057	120.980 LH	722.362	765.940
600SL	1990-93	129.076	120.981 LH	722.362	765.907
C180	1994-	202.018	111.920 PMS	717.416/722.421	765.950
C200D	1994-	202.120	601.913	717.416/722.425	765.950
C220	1994-96	202.022	111.961 HFM	722.423	765.950
C220D	1994	202.121	604.910 EVE	717.416/722.426	765.950
C230	1997-98	202.023	111.974 ME 2.1	722.600	765.950
C230	1999-2000	202.024	111.975 ME 2.1	722.600	765.950
C240	2001	203.061	112.912 ME 2.8	716.6 / 722.6	-
C250D	1994	202.125	605.910 ERE	717.417/722.427	765.950
C280	1994-96	202.028	104.941 HFM	722.424	765.950
C280	1997-	202.028	104.941 HFM	722.604	765.950/765.922
C280	1998-99	202.029	112.920 ME-2.0	722.606	765.950
C320	2001	203.064	112.946 ME 2.8	722.6	-
C36AMG	1996-97	202.028	104.941 HFM	722.604	765.922
C36AMG	1996-96	202.028	104.941 HFM	722.424	765.922
C43 AMG	1998-99	202.033	113.944 ME 2.0	722.631	765.950
CL500 (Coupe)	1996-99	140.070	119.980 ME 1.0	722.620	765.940
CL500 (Coupe)	2000	215.375	113.960 ME 2.0	722.6	765.9
CL500 (Coupe)	2001-	215.375	113.960 ME 2.8	722.633	768.012
CL500 AMG	2001-	215.373	113.982 ME 2.8	-	-
CL600 S600	1996-98	140.076	120.982 ME 1	722.621	765.940
CLK320 (Coupe/Cabrio)	1998-01	208.365/465	112.940 ME 2.0	722.607	765.952
CLK430 (Coupe)	1999-01	208.370/.470	113.944/943 ME 2.0	722.6	765.952
CLK55	2001	208.374	113.984 ME 2.8	722.6	-
E250D	1992-94	124.025	602		
E250D Turbo	1988-95	124.025	602		
E280	1994-95	124.028	104.942 HFM	722.433/722.504	765.904
E300	1994-95	124.230	103.985 KE	722.342	765.906
E300 Turbo Diesel	1998-99	210.025	606.962 IFI	722.608	768.002
E300D	1994-95	124.131	606.910	722.4/722.435	765.904
E300D TURBO	1994-95	124.133	603.960	722.4/722.317	765.904
E300D	1997	210.020	606.912 IFI	722.600	768.003
E300TD TURBO	1994-95	124.193	603.960	722.4/722.317	765.904

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
E320	1994-95	124.032/052	104.992 HFM	722.369	765.904
E320	1996	210.055	104.995 HFM	722.605	768.903
E320	1997	210.055	104.995 ME 2.1	722.605	768.903
E320 Sedan/4-matic	1998-99	210.065/082	112.995 ME 2.0	722.607/664	768.002
E320 Wagon/4-matic	1998-99	210.265/282	112.995 ME 2.0	722.607/664	768.006
E320 Sedan/4-matic	2001	210.065/082	112.941 ME 2.8	722.607/664	768.002
E320 Wagon/4-matic	2001	210.265/282	112.941 ME 2.8	722.607/664	768.006
E420	1994-95	124.034	119.975 LH	722.366	765.921
E420	1996-97	210.072	119.985 ME 1.0	722.625	768.003
E430	1998-99	210.070	113.940 ME 2.0	722.623	768.002
E430 Sedan/4-matic	2001	210.070/083	113.940 ME 2.8	722.623	768.002/-
E500	1994-95	124.036	119.974 LH	722.370	765.921
E55 AMG	1999	210	113? ME 2.0	722.6	
E55 AMG	2001	210.074	113.980 ME 2.8	722.6	
ML320	1998-99	163.154	112.942	722.662	ZF.970.402
ML430	1999	163.1	113. ME 2.0	722.6	ZF.970.402
ML55	2000	163	113 M 2.0	722.6	
S320	1994-96	140.032	104.994 HFM	722.508	765.940
S320	1997-99	140.032	104.99? ME 2.1	722.605	765.940
S320	1996	140.033 (Long)	104.994 HFM	722.508	765.940
S320	1997-99	140.033 (Long)	104.99? ME 2.1	722.605	765.940
S350 Turbo Diesel	1994-95	140.134	603.971	722.367	765.940
S420	1994-95	140.043	119.971 LH	722.366	765.940
S420	1996-99	140.043	119.981 ME 1.0	722.622	765.940
S430	1998-99	140.0	113. ME 2.0	722.6	
S430	2000	220.170	113.941 ME 2.0	722.6	
S430	2001	220.170	113.941 ME 2.8	722.632	
S500 (Coupe)	1994-95	140.070	119.970 LH	722.3	765.940
S500 (Coupe)	1996-98	140.070	119.970 ME 1.0	722.620	765.940
S500	1994-95	140.051	119.970 LH	722.370	765.940
S500	1996-99	140.051	119.980 ME 1.0	722.620	765.940
S500	2000	220.175	113.960 ME 2.0	722.6	
S500	2001	220.175	113.960 ME 2.8	722.6	
S600	1994-95	140.057	120.980 LH	722.362	765.940
S600	1996-99	140.057	120.982 ME 1.0	722.621	765.940
S600	2000	220.178	120.982 ME 1.0	722.621	765.940
S600	2001	220.178	137.970	722.628	-
SL320	1994-96	129.063	104.991 HFM	722.507	765.907
SL320	1997	129.063	104.991 HFM	722.605	765.907
SL500	1994-95	129.067	119.972 LH	722.364	765.907
SL500	1996-98	129.067	119.982 ME 1.0	722.620	765.907
SL500	1999-01	129.068	113.961 ME 2.0	722.620/.624	765.907

MODEL	YEARS	CHASSIS	ENGINE	TRANSMISSION	STEERING
SL600	1994-95	129.076	120.981 LH	722.362	765.907
SL600	1996-01	129.076	120.983 ME 1.0	722.621	765.907
SLK230	1998-99	170.447	111.973 ME 2.1	722.605	765.951
SLK230	2000	170.449	111.983 ME 2.1	716.662 / 722.616	
SLK230	2001	170.449	111.983 ME 2.8	716.662 / 722.616	
SLK320	2000	170.465	112.973 ME 2.0	716.660 / 722.618	
SLK320	2001	170.465	112.947 ME 2.8	716.660 / 722.618	
SLK430	1999	170.4	113. ME 2.0	722.6	

Mercedes production is generally from July to June. This means that the 1994 model year has production dates 7/93-6/94.