iSCAN

Automotive Diagnostic Scanner

Volkswagen, Audi, Seat, Skoda

INSTRUCTION MANUAL

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*NOTICE

The specifications, information, and illustrations contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

This instruction manual tells you how to use the Scanner to perform diagnostic tests and find possible locations of vehicle problems. It does NOT tell you how to correct the problems. Consult the manufacturer vehicle service manual or other publication for repair instructions.

To take full advantage of the Scanner, you should be knowledgeable and well trained in each of the vehicle computer control systems described in this manual.

Service data that appear to be non-functional on some vehicles may be due to vehicle manufacturing design changes. Always refer to the manufacturers specification for the month and year of production of the model in question.

SCANNER FEATURES

INDICATOR LIGHTS

Power indicator (Red LED light)

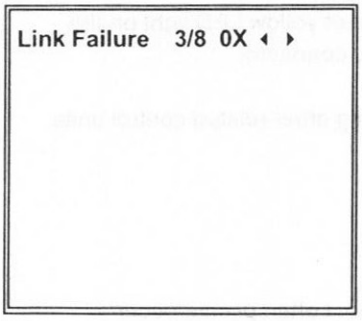
Data link indicator (Green LED light)

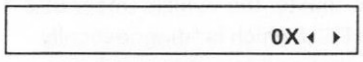
Data link indicator (Yellow LED light)

!!! If the diagnostic link circuit is shorted to ground or a control unit is faulty, the green or yellow LED light will turn on steadily when the scanner is connected to the vehicle diagnostic connector.

4. ICONS

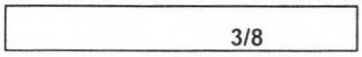
Some displays include icons on top line of the screen that give you extra information.



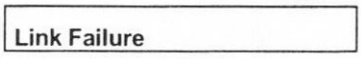


Page keys

When either of these icons ◂ ▸ appears in the top line of the screen, there is more information available. Press the ◂ (left) or ▸ (right) arrow key to view this additional information.
0 indicates you may press the ENTER key.
X indicates that you may press the EXIT key.



Page information
Display current page number and total number of pages.



Link Failure and No Connection messages

- Check that the Ignition key is on (KOEO) or the Engine is running (KOER).
- Check power supply to the Scanner (10.5 to 14.5 Volts).
- Check for correct connection to the vehicle diagnostic connector.
- Check for short circuit in the vehicle diagnostic connector.
- Check that this function is available for this vehicle system.
- Check that the vehicle is equipped with the system under test.

Communication Troubleshooting

If the scanner can't communicate with the control unit, please check the following:

1. Does the car have this system installed? Does the CS2000 software module version cover this system and year. See page ?.
2. Is the ignition in the RUN position? The accessories position does not supply power to all control units.
3. Attempt communication with another control unit. If communication is possible go to step 5.
4. Is the diagnostic connection okay? Check for a damage to the connector, pin drop outs, broken wires or corrosion.
5. Check power supply at control unit in accordance with the factory circuit diagram.
6. Is the control unit installed properly?
7. If the control unit is new, check to see that the control unit was coded properly.
8. If the car has been jumped or had a power failure, disconnect the control unit and reconnect after 5 minute to reinitialize the controller.

If the diagnostic circuit is shorted to ground or a faulty control unit is in vehicle, the green or yellow LED light on the scanner will remain on steadily when the scanner is connected to the vehicle diagnostic connector.

A faulty or dead control unit can interrupt the diagnosis of other control units. Try removing other related control units from the CAN bus until the control unit under test responds.

CS2000 Internal Error Codes

10006 **Communication received from ECU is not understandable.** This error most often occurs occur when the diagnostic line is held at a voltage different than that which is normal for the vehicle under test or when the information is distorted. This can caused by a faulty ECU, an ECU which is "diagnostically locked" or when the contacts to the diagnostic connector are dirty or corroded causing an incomplete connection.
Recommendation: Clean contacts, disconnect ECU from power and reconnect.

Link Failure - Communications received from ECU suddenly ceased or did not meet CRC checksum. See above.

After checking all of the above and communications is still not established call please check the software version of the module

Baum Tools Technical Support hotline

800-804-1002

or

email: tech@baumtools.com

Volkswagen/Audi/Seat/Skoda Operation of OB91-4 Memory Module

1. Setting Up:

Module Insertion

Insert the OB91-4 memory module into the base of the scanner. Make sure the arrow on the module is facing up as it is inserted. Push the module until the module snaps into place completely. If the module is inserted correctly, you will feel it click into place.

Cable Hook up

WARNING!* for *VW & Audi

Installation of aftermarket radios or Volkswagen radios not produced for use in 1997 m.y. and newer vehicles:

- ***Affect various vehicle systems connected to the CAN BUS.***
- ***Cause severe damage to the CS1000, CS2000, VAG1551 and VAG1552 scan tools!***

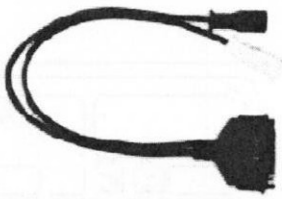
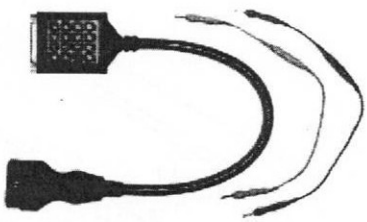
DO NOT attempt to connect a scan tool to any vehicle in which an incorrect radio has been installed UNLESS the radio wiring harness has been modified!

Please see VW technical bulletin #91-99-01 of February 5, 1999

All VW/Audi bulletins are available at:

http://tech.vw.com

Attach DB25-pin of the diagnostic cable to the Scanner adapter port. Attach the other end of the diagnostic cable to the vehicle diagnostic connector.

		
OB91-C0 25 pin to 25 pin extension cable	**OB91-C3** Diagnostic Cable VW (1988-93), AUDI, SEAT, SKODA (1988-95)	**OB91-C4-16H** OBD-II Diagnostic Cable (VW 1994-2000, AUDI, SEAT SKODA (1996-2000)

VW (1988-93), AUDI, SEAT, SKODA (1988-95) - Connect the OB91-C3 adapters black terminal to the matching black terminal in the vehicle and the white terminal to the white (engine/transmission), tan/brown (engine), red (SRS/Airbag) or yellow (transmission) connector. Do not use the blue connector.

VW (1994-2000), Audi (1996-2000) - Connect the OB91-C4-15H connector to the OBD-II socket in the vehicle and use the GREEN jumper from the GREEN spot to pin #7, Jumper the YELLOW wire from the YELLOW dot to pin #15..

Vehicle Diagnostic Connector Location

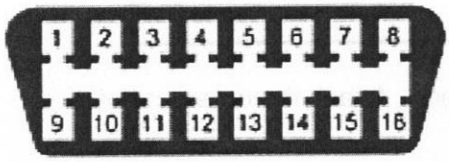
The diagnostic connector can be located in the engine compartment, under the dash, in the center console or near the parking brake.

Audi

- 100, A6 (88-93) Diagnostic connector is located in the engine compartment or under driver side fuse box.
- 100, A6 (94-99) Diagnostic connector is located in the center console next to the parking brake.
- 200 Diagnostic connector for SRS, below the climate control head and the ash tray housing.
- A8 (90-93) Diagnostic connector is located in the passenger footwell, under carpet.
- 80, 90 (89-93) Diagnostic connector is located in the engine compartment, under driver side fuse box, in drivers footwell near pedal cluster or behind stereo.
- A3, A4 (88-96) Vehicle diagnostic connector is located in center console toward rear seat beside the ashtray.
- A4, A8, Cabriolet (97-00) Diagnostic connector is located under dash, left of the steering column.

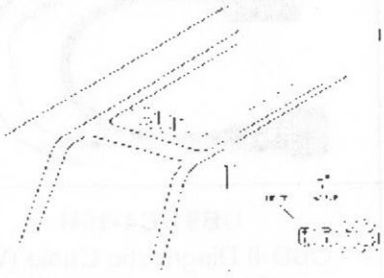
VW

- Golf, Jetta, Corrado,(88-93) Diagnostic connector is located in the gear-lever box.
- Passat, Cabriolet (88-93) Diagnostic connector is located in the gear-lever box.
- Golf, Jetta, Cabrio, GTI (94-99) Diagnostic connector is located on center of the dashboard, beside the ashtray.
- Passat (94-99) Diagnostic connector is located on right side of the instrument panel.
- T4 Diagnostic connector is located in the fuse box under driver side dashboard.
- Beetle Diagnostic connector is located under dash, left lower side above the clutch pedal.

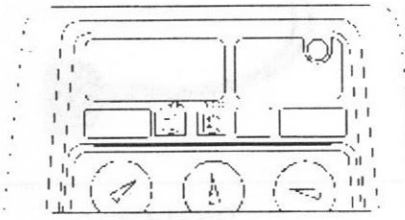


OBD-II Connector

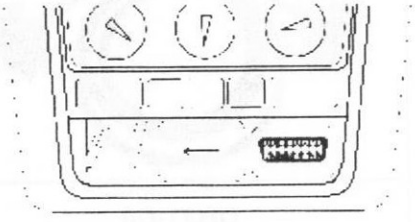
The diagnostic connector is located in the passenger compartment, within 3 feet of the steering column or in the center console. The most common location is the center console of the dash, near the parking brake or transmission lever or under the dash on the left or right side of steering column.



VW 1988-93



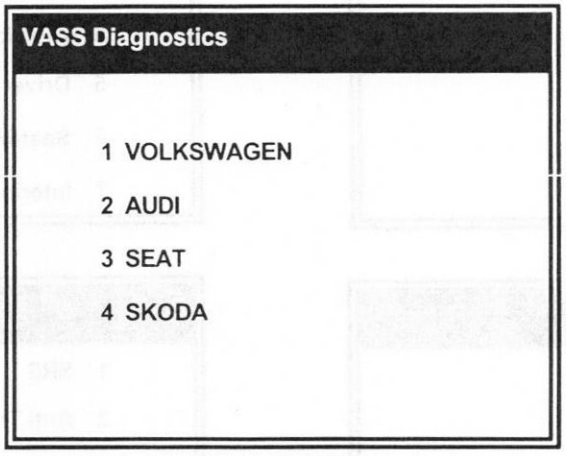
VW 1994-95



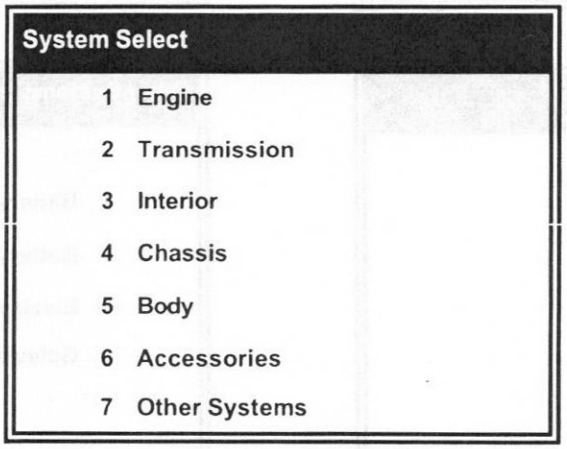
VW 1996-2000
except T4 & Beetle

2. Starting Diagnosis

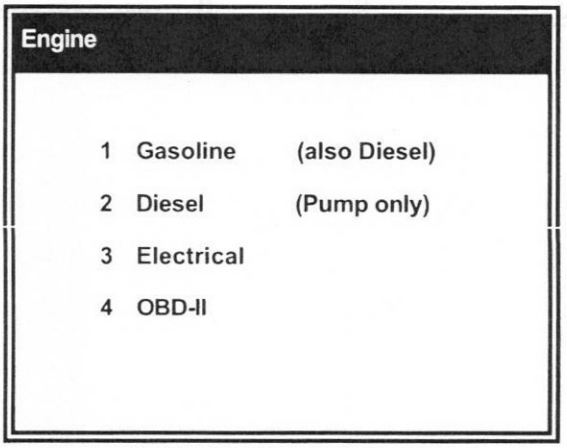
A) Ignition ON or Engine at idle
B) System Selection



If more than one page of choices is available there will be a or ▶ (right) arrow in the upper right corner of the display. Press the ▶ (right) arrow key and the next page will be displayed. Press the ◀ (left) key to return to the previous page. Press ▲ (up) or ▼ (down) arrow keys until the system you wish to test is selected, then press ENTER or press the number of the system that you want to test, then press ENTER.



Subsequent Screens



Transmission

1 Automatic Transmission

2 Electronic Clutch

Interior

1 Instrument Panel

2 AC/Heater

3 AC Control Module

4 Auxiliary Heater

5 Drivers Seat

6 Seat/Mirror Adjustment

7 Interior Monitoring

Chassis

1 ABS

2 Electronic Suspension

3 Traction Control

4 Tire Pressure Monitor

5 Steering Wheel

6 4-Wheel Drive

7 Level Control

Body

1 SRS

2 Anti Theft

3 Central Locking

4 Sun Roof

5 Headlights

Accessories

1 Parking Aid

2 Emergency Call

3 Radio

4 Sound

5 Navigation, GPS

Other Systems

1 Battery Control

2 Battery Charger

3 Electronic Control

4 Gateway Data Bus

3. Diagnostics

Data Stream or Measuring Block Values (VAG1551 mode 08)

Displays the sensor signals and output information to and from the electronic control unit (ECU). This information is output in the form of **DATA BLOCKS**. Each Data Block is generally associated with a component and supplies the appropriate information on the condition of that component. We have included some example Data Blocks on page ?.

Specific Data Block definitions can be found in the Official Factory Repair Manuals for VW and Audi published by **Bentley Publishing Inc**., and available from Baum Tools, the dealer parts department, or Robert Bentley Publishing direct. A listing of available manuals is on page 13.

Read Fault Code (VAG1551 mode 02)

The scanner reads fault codes directly from the electronic control unit's memory and displays a short description of each code. When there is no fault in the system, the message "No fault stored" will be displayed on the screen. Refer to the factory manuals listed on page 13 for specific interpretation and troubleshooting.

Clear Fault Code (VAG1551 mode 05)

After repairs have been carried out. Select the **CLEAR CODE** function to erase all of the fault codes from the electronic control unit memory under test.

Basic Setting (VAG1551 mode 04)

This feature is for setting the Base Values for a variety of components when replacing the ECM, throttle valve controller, engine, transmission,...etc. This gives the controllers basic shared parameters for working in concert and to give a standard for learned values. Refer to the factory manuals listed on page 13 for specific use and interpretation.

Adaptation (VAG1551 mode 10)

Allows the resetting values, such as, service interval time and distance lengths, fuel gauge display, coding of language versions, odometer setting, anti-theft detector sensitivity, Long Term Mixture Adaptation, Short Term Mixture Adaptation,...etc. Refer to the factory manuals listed on page 13 for specific interpretation and troubleshooting.

Activation or Output Diagnostic Test (VAG1551 mode 03)

Allows activation of control components, such as, injectors, solenoid valves (EVAP, EGR, ABS...etc) and relays.

Single Data Reading (VAG1551 mode 09)

Output the value of a single component for maximum sampling resolution during diagnosis. This feature is only available on a few early models.

Login ECU (VAG1551 mode 11)

Needed for all 1996 and later control units. Use WSC# 01283 for basic coding. Some control units, such as Climatronic A/C and Instrument Cluster replacement units. need specific numbers used during the login procedure. Refer to the factory manuals listed on page 13 for specific use and interpretation.

Coding ECU (VAG1551 mode 07)

Allows the programming of ECUs for the vehicle type in which it is installed.

Example: Passat VR6 Manual transmission 1996 is coded 00000.
Passat VR6 Automatic transmission 1996 is coded 00001.

Later control modules have more complex coding for country and emissions variants. Refer to the factory manuals listed on page 13 for specific use and interpretation. See Appendix C page 26.

Identification of ECU (VAG1551 mode 01)

Reads out the hardware numbers, software numbers, ECU type, coding and last workshop to code or work on the control unit. Necessary when replacing control modules. Refer to the factory manuals listed on page 13 for specific codes.

4. Identification/Rectification of Faults

Record the fault codes and pertinent information from the Data Stream for these components. Clear all fault codes. Perform a test drive to reproduce the fault and rerun the diagnosis with the scanner. Verify all codes and carry out the repair procedures as outlined in the factory service and repair literature.

Repair Manuals for VW and Audi

*** Indicates best suited for use with CS2000**

CD-ROMs

***Audi 100, A6 Official Factory Repair Manual 1992-1997** **EAC4**

***Audi A4, S4 Official Factory Repair Manual 1996-2000** - Includes 1.8L turbo, 2.7L biturbo, 1.8L (2-valve and 5-valve) including wagon & Quattro.
..... **EAB5**

***Audi TT Official Factory Repair Manual, Model Year 2000 - Includes Quattro**
..... **EATT**

***Audi 90 Official Factory Repair Manual, 1993-1995**
..... **EA90**

***Audi 80, 90 Coupe Official Factory Repair Manual, 1988-1992**
..... **EA80**

***Volkswagen New Beetle Official Factory Repair Manual 1998-2000** - Including 1.8L Turbo, 2.0L Gasoline, 1.9L TDI Diesel.
..... **EVNB**

***Volkswagen Passat Official Factory Repair Manual 1998-2000 -** 2.8L gasoline, 1.9L TDI diesel, 1.8L turbo including wagon and all wheel drive.
..... **EVB5**

***Volkswagen Passat Official Factory Repair Manual 1995-97** - 2.8L gasoline, 2.0L 1.9L TDI diesel, and all wheel drive.
..... **EVB4**

***Volkswagen Passat Official Factory Repair Manual 1990-94** - 4-cylinder (16V, G60, and Diesel), 6-cylinder (VR6), wagon and Syncro models.
..... **EVB3**

***Volkswagen Corrado Official Factory Repair Manual 1990-94**
..... **EVCR**

***Volkswagen Jetta, Golf, GTI Official Factory Repair Manual 1999-2000** - Including 2.8L VR6, 1.8L Turbo, 2.0L Gasoline, 1.9L TDI Diesel
..... **EVA4**

***Volkswagen Jetta, Golf, GTI Official Factory Repair Manual 1993-1998** - Including 2.8L VR6, 1.8L Turbo, 2.0L Gasoline, 1.9L TDI Diesel
..... **EVA3**

Volkswagen Jetta, Golf, GTI Official Factory Repair Manual 1985-92
..... **EVA2**

***VW EuroVan Official Factory Repair Manual 1992-2001 -** Includes:Gasoline, Diesel, TDI, 5-cylinder, VR6, Multivan and CV Camper models.
..... **EVT4**

VW Vanagon Official Factory Repair Manual 1980-1991
..... **EVT3**

PRINTED MATERIAL

AUDI

*100, 100 Quattro, A6, A6 Quattro, S4, S6 Quattro 1992-97 Repair Manual	**A697**
*100, 200 1989-91 Repair Manual	**A191**
5000 1983-88 Service Manual	**A588**
5000 1977-83 Service Manual	**A583**
*80, 90 Coupe Quattro & ETM 1988-92 Repair Manual	**A892**
4000S, CS & Coupe GT 1984-87 Service Manual	**A487**
4000 Coupe 1980-83 Service Manual	**A483**
Fox 1973-79 Service Manual	**AF79**
Audi - History of Progress	**GAHP**

VOLKSWAGEN - WATER COOLED MODELS

*Volkswagen Jetta, Golf, GTI Service Manual: 1999-2000 Including 1.8 turbo, 2.0, 2.8L VR6, and 1.9L, TDI.	**VG00**
*BEETLE 1998-99 Service Manual	**VB99**
*PASSAT 1995-97 Repair Manual	**VP97**
*EUROVAN 1992-99 Repair Manual	**VV99**
PASSAT 1990-93 Service Manual	**VP93**
*GOLF 1993-99 Service Manual	**VG99**
*GOLF 1985-92 Service Manual	**VG92**
SCIROCCO 1985-93 Service Manual	**VS93**
FOX 1987-93 Service Manual	**VF93**

*CORRADO 1990-94 Repair Manual	VC94
VANAGON 1980-91	VV91
QUANTUM 1982-88	VM88
RABBIT, SCIROCCO, JETTA 1980-84	VRG4
RABBIT, JETTA DIESEL 1980-84	VRD4
RABBIT, SCIROCCO, JETTA 1975-79	VRG9
DASHER 1974-81	VD81
Volkswagen Emission Inspection Manual	VIM7

VW/Audi/Seat/Skoda Application Guide for OB91-4 Module version 2

This table shows the models and systems that are supported for use with the scanner module OB91-4..

AUDI 80, 90, 100, A3, A4, A6, A8 (Sedan, Coupe and Quattro)
VW Passat, Golf, Jetta, GTI, Vento, Corrado, Beetle, T4 Eurovan
SEAT Leon, Barcelona
SKODA Favorit, Felicia, Forman

Model Years: 1988 - 1998*

Control Systems	Read/Clear Codes	Code ECU	ID ECU	Data Stream	Adaptation	Basic Settings	Activation	Login ECU
Engine	√	√	√	√	√	√	√	√
Electronic Diesel Pump	√	√	√	√	√	√	√	√
OBD-II Diagnostic System	√	√	√	√	√	√	√	√
Transmission	√	√	√	√	√	√	√	√
Electronic Clutch	√	√	√	√	√	√	√	√
4 Wheel Drive Control	√	√	√	√	√	√	√	√
Anti-lock Brake System (ABS 3 and later)	√	√	√	√				√
ASC (Anti-Slip Control)	√	√	√	√	√	√	√	√
Suspension Control	√	√	√	√	√	√	√	√
Leveling Control	√	√	√	√	√	√	√	√
Instrument Cluster (Service Intervals)	√	√	√	√	√			√
Air Bag (SRS 2 and Later)	√	√	√	√				√
Anti-Theft System	√	√	√	√	√	√	√	√
Automatic Roof Control System	√	√	√	√	√	√	√	√
Central Locking System	√	√	√	√	√	√	√	√
AC/Heating Control Module	√	√	√	√		√	√	√
Auxiliary Heater	√	√	√	√	√	√	√	√
Power Seat Adjustment Control	√	√	√	√	√	√	√	√
Seat/mirror Adjustment	√	√	√	√	√	√	√	√
Interior Monitor	√	√	√	√	√	√	√	√
Headlight Range Control	√	√	√	√	√	√	√	√
Steering Wheel Control	√	√	√	√	√	√	√	√
Radio	√	√	√	√	√	√	√	√
Sound System	√	√	√	√	√	√	√	√
Parking Aid	√	√	√	√	√	√	√	√
Tire Pressure Monitor	√	√	√	√	√	√	√	√
Emergency Call System	√	√	√	√	√	√	√	√
Navigation (GPS)	√	√	√	√	√	√	√	√
Battery Control	√	√	√	√	√	√	√	√
Gateway Data Bus	√	√	√	√	√	√	√	√

* Not all models are equipped with diagnostic systems in all years.

APPENDIX A

VW/Audi Controllers Ability Cross reference

Note:
X or date represent feature is available
Dash (-) represents not available
L indicates that LOGIN necessary to access feature.
Chart is still under development .

ENGINE TYPE (Code can be found on vehicle data plate)	ECU Identification	Fault Codes	Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
1Z (diesel) 11/93-	X	X	X	X	X	-	-	-	-
2H DIGIFANT II (49 state)	-	-	-	-	-	-	-	-	-
2H (Digifant I) 10/90-9/92	-	X	-	-	X	-	-	-	-
3A CIS-Motronic 1989-90	-	Blink Only	-	-	-	-	-	-	-
3B Motronic MPI 3/90-	X	X	-	-	X	-	-	-	-
7A Motronic MPI 3/90-	X	X	-	-	X	-	-	-	-
9A (CIS-E Motronic) 1/90-9/92	X	X	-	-	X	-	-	-	-
AAA (M2.9) 1993-94	X	X	X	X	X	-	-	-	-
AAA (M5.9) 1995-97	X	X	X	X	X		X	X	X
AAB (diesel)	-	-	-	-	-	-	-	-	-
AAF	X	X	10/91-	10/91-	X	-	-	10/91-	-

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
AAH Motronic MPI 11/91-	X	X	X	X	X	MMS 300 and higher	-	MMS 100, 200, 300 only	MMS 300, 411 only
AAN Motronic MPI 1992-	X	X	X	X	X	-	-	-	-
AAZ (diesel) 10/93-	-	-	-	-	-	-	-	-	-
ABA (M5.9)	X	X	X	X	X	-	-	X	X
ABA (M2.9) 1994-95	X	X	X	X	X	-	-	-	-
ABG (Digifant I) 10/90-9/92	?	X	-	-	X	-	-	-	-
ABH	?	X	X	X					
ABH Motronic MPI 1991	?	X	-	-	X	-	-	-	-
ACC (Mono Motronic) 10/92-95	X	X	?	?	X	-	-	-	-
ACU	X	X	X	X	X		-	X	
AEB (M3.8.2) 8/97-8/99	X	X	X	X	X	X	-	-	L
AEG ( )	X	X	X	X	X	X	-	-	L
AES (M5.9)	X	X	X	X	X		-	X	X
AFC Motronic MPI 11/91-		X	-	-	X	-	-	-	-
AFC Motronic MPI 11/91-		X	-	-	X	-	-	-	-
AHA (M5.9) 8/97-	X	X	X	X	X	X	X	-	X

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
AHH (Diesel) 10/97-2000	X	X	X	X	X	-	X	-	X
ALH (Diesel)	X	X	X	X	X	-	-	-	X
ALL 1988 CIS-E MODELS	-	Blink Only Use fuel pump relay jumper to pull codes	-	-	-	-	-	-	-
APH (ME7.5) 2/99-	X	X	X	X	X	X	X	-	X
ATQ (ME7.1)	X	X	X	X	X	X	X	-	X
ATW (ME7.5) 9/99-	X	X	X	X	X	X	X	-	X
CS (Diesel)	-	-	-	-	-	-	-	-	-
CV AFC	-	-	-	-	-	-	-	-	-
DH (Digijet)	-	-	-	-	-	-	-	-	-
GX (CIS/CIS-E)	-	-	-	-	-	-	-	-	-
HT (CIS-E)	-	-	-	-	-	-	-	-	-
JH (CIS)	-	-	-	-	-	-	-	-	-
JN (CIS/CIS-E)	-	-	-	-	-	-	-	-	-
MC CIS-E (1 KNOCK) 1988-7/90	-	Blink Only	-	-	-	-	-	-	-
MC CIS-E (2-knock) 7/90-	X	X	X	-	-	-	-	-	-
MV (Digifant II)	-	-	-	-	-	-	-	-	-
MZ (CIS)	-	-	-	-	-	-	-	-	-
NF CIS-E III (CALIF)	-	Blink Only	-	-	-	-	-	-	-
NF CIS-E III (49 STATE)	-	NO	-	-	-	-	-	-	-

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
NG CIS-III 1988-90	-	Blink Only	-	-	-	-	-	-	-
PG (Digifant II)	-	-	-	-	-	-	-	-	-
PG (Digifant I) 10/90-9/92	?	X	-	-	X	-	-	-	-
PL CIS-E	-	-	-	-	-	-	-	-	-
PT	?	X	X	X	-	-	-	-	-
PT Motronic MPI 1990-		X	-	-	X	-	-	-	-
RD CIS-E	-	-	-	-	-	-	-	-	-
RV Digifant II	-	-	-	-	-	-	-	-	-
RV Digifant I 10/90-9/92	-	X	-	-	X	-	-	-	-
UM CIS/CIS-E	-	-	-	-	-	-	-	-	-
TRANSMISSION									
096	X	X	-	X	X	-	-	-	-
097	X	X	-	X		-	-	-	-
098	X	X	-	X	X	-	-	-	-
01M	X	X	-	X	X	-	-	-	-
01N	X	X	-	X	X	-	-	-	-
01P	X	X	-	X	X	-	-	-	-
01V	X	X	-	X	X	-	-	-	-
ABS									
Teves 02 ABS Grey or Blue Plug (1990-94)	-	Blink Only	-	-	-	-	-	-	-

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
Teves 02 ABS/EDL White Plug (1990-94)	X	From 8/91	-	-	-	-	-	-	-
ABS (1992-96)	X	X	-	-	X	-	-	X	-
ABS/EDL (1996-99)	X	X	X	X	X	-	-	-	X
ITT MARK 20 IE 1998-2000	X	X	-	EDL only	X	-	-	-	X
ABS/EDL (Bosch 5.0) 1996-97	X	X	-	-	X	-	-	-	-
ABS/EDL (Bosch 5.3) 1998-2000	X	X	X	-	X	-	-	-	-
ABS/EDL/ASR (Bosch 5.3) 1998-2000	X	X	-	-	X	-	-	-	X
AIRBAG									
SRS 1994-1997	X	X	-	-	X	-	-	-	X
SRS (ZAE)	X	X	-	-	-	-	-	-	X
SRS (VW) 1998-2000	X	X	-	-	X	X	-	-	X
SRS (Audi) 1997-1999	X	X	X	-	X	-	-	-	X
SRS (Airbag 8) 1999-2000	X	X	X	-	X	-	-	-	X
CLIMATE CONTROL									
A/C	X	X	X	-	X	-	-	-	X

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
A/C (Audi) 1997-	X	X	X	X	X	-	-	-	X
A/C Climatronic	X	X	X	X	-	-	X	-	X
BODY DIAGNOSTIC									
COMFORT SYSTEM w/Power Windows	X	X	X	-	X	X	-	-	X
COMFORT SYSTEM wo/Power Windows	X	X	X	-	X	X	-	-	X
Central Locking (Audi) 1996-2000	X	X	X	-	X	-	-	-	X
Ultrasonic Monitor (1997-2000)	X	X	X	-	X	X	-	-	X
ELECTRICAL EQUIPMENT									
Instrument Cluster (VW) 1998-2000	X	X	X	-	X	X	-	-	X
Instrument Cluster (Audi) 1996-99	-	X	X	-	X	X	-	-	X
Radio (VW)	X	X	X	-	X	-	-	-	X
Radio (Audi) 1998-2000	X	X	X	-	X	-	-	-	X
Anti-Theft Ignition Keys	X	X	-	-	X	X	-	-	L
Cruise Control	-	-	-	-	X	-	-	-	-
Headlight Position	X	X	X	X	X	-	-	-	X

	ECU Identification	Fault Codes Red & Clear	Output Diagnostic Test Mode	Basic Setting	Read Data Blocks	Adaptation	Readiness Code	Individual Component	Code ECM
Seat/Mirror Adjustment	X	X	-	-	X	-	-	-	-
Gateway Databus	X	X	-	-	X	-	-	-	-

APPENDIX B

VW Data Blocks for Engine

Data Block Group: 000

Display Field:	1	2	3	4	5
Indicated	ECT	Engine Load	RPM	O2 Factor	LTFT
Specification (digital)	182-224	26-44	80-88	92-164	83-241
Corresponding Value	80-110C	1.3-2.2ms	800-880rpm	0.7-1.3	0.87-1.22

Display Field:	6	7	8	9	10
Indicated	STFT (Part Load)	STFT (Full Load)	Air Correction	Not Used	Ignition Angle
Specification (digital)	NA	92-164	114-154		93-76
Corresponding Value	NA	0.7-1.3	2.8-5.2Kg/h		2.25-15°

Data Block Group: 001

Display:	RPM	Engine Temperature (C)	O2	Ignition Timing
Indicated	Engine Speed	Engine coolant temperature	O2 sensor factor	Ignition (degrees)
Specifications	800-880 RPM	80-110C	0.7-1.3v	2.25-15

Data Block Group: 002

Display:	RPM	Injector timing	Charging System	Exhaust Temperature
Indicated	Engine Speed	Injection timing period	Battery voltage	Exhaust temperature in Celsius
Specifications	800-880 RPM	2.8-5.2ms	12.5-15 volts	127.4 C (lowest figure displayed)

Data Block Group: 003

Display:	RPM	Load Signal	Throttle angle	Intake Temperature
Indicated	Engine Speed	Engine load signal	Throttle valve angle	Intake manifold temperature
Specifications:	800-880 RPM	0-5%	5-19 Degrees	Approximate ambient temperature

Data Block Group: 004

Display:	RPM	Load Signal	Km/h	xxxxx
Indicated	Engine Speed	Engine load signal	Road speed signal	Operating mode (5 digit number)*
Specifications:	800-880 RPM	0-5%	0 Km/h	See footnotes

Data Block Group: 005

Display:	RPM	Kg/h	Duty cycle	Adjustment conditions
Indicated	Engine Speed	Learned value for idle stabilization	Idle control valve	Not determined as of present
Specifications:	800-880 RPM	2.8-5.2 kg/h	50-60%	N/A

Data Block Group: 006

Display:	O2	x.x	x.x	x.x
Indicated	O2 factor	Idle adaptation	Part load adaptation	Full load adaptation
Specifications:	0.7-1.3 volts	0.87-1.22 volts	N/A	0.7-1.3 volts

VW - PASSAT CIS/MOTRONIC 9A

The engine controller of the 9A 16-valve found in the 1992 Passat has very little real time data available in it's native data stream.

The one available data block, 000, contains the following in decimal 0-255;

Field	Description	Nominal Values	Value Range
1	Engine coolant temperature		0-255
2	Engine load		0-255
3	Engine speed		0-255
4	Idle stabilizer adaptive		0-255
5	Idle stabilizer working		0-255
6	Differential pressure regulator working		0-255
7	Differential pressure regulator adaptive		0-255
8	Vehicle speed		0-255
9	Switching values		0-255
10	Engine timing		0-255

Nominal values will be found in the Passat Official Factory Repair Manual for 1990-93.

Reading Individual Measuring Values Channel Numbers

Note: Disconnect EVAP canister purge regulator valve connector before checking channels 00 and 01.

Audi

Channel	Component	Range
00	Oxygen Sensor (02S) control factor for Cyl. 1-3	120-136
01	Oxygen Sensor (02S) control factor for Cyl. 4-6	120-136
02	02S 1 output voltage	300-600mv
03	02S 2 output voltage	300-600mv
04	Injection time, Cyl. 1-3	~2.3ms@idle
05	Mass Air Flow (MAF) sensor ground voltage loss	0-40mv
06	Duty cycle (control) for EVAP canister purge regulator valve -N80	0 (open)-255 (closed)
07	Duty cycle (control) for Idle Air Control (IAC) valve -N71	~128
08	Current regulation for IAC valve -N71	
09	Throttle valve angle	0 at Idle
10	EGR temperature (via EGR temperature sensor -G98-)	C
11	Throttle Position (TPS) sensor -G69- output voltage	12-25 ~19 at Idle
12	Ignition Map Switching	<128 Map 1 (Base) >128 Map 2 (Retarded Timing)
13	Ignition Timing with Knock Regulation and ISC	Ign. Timing in Crank Degree
14	ECM battery positive voltage supply (B+)	10.56-14.56 Volts
15	Current road speed	Km/h

Volkswagen/Audi
SRS (Airbag)
Data Block Definitions

Display Group No.	Display Field	Designation	Display Content	Definition of display content	Correction
001	1	Driver's Side Airbag Igniter - VW N95	1111	Resistance OK	Check wiring by visual inspection. Check circuit connections for correct and secure fit while simultaneously watching display. If display content changes to 1111 (resistance OK), then erase DTC Memory. If wiring and connections are OK and a malfunction is still indicated (1111 is not displayed), erase DTC Memory conduct test drive and check DTC Memory again If display content still indicates a malfunction, replace igniter. If necessary, replace Airbag Control Module - J234.
			0111	Resistance value too high	
			1011	Resistance value too low	
			1101	Short to Ground (GND)	
			1110	Short to positive (B+)	
	2	Passenger's Side Airbag Igniter - VW N131	1111	Resistance OK	
			0111	Resistance value too high	
			1011	Resistance value too low	
			1101	Short to Ground (GND)	
			1110	Short to positive (B+)	
	3	Left Seat Belt Tensioner Igniter - VW N153	1111	Resistance OK	
			0111	Resistance value too high	
			1011	Resistance value too low	
			1101	Short to Ground (GND)	
			1110	Short to positive (B+)	
	4	Right Seat Belt Tensioner Igniter - VW N154	1111	Resistance OK	
			0111	Resistance value too high	
			1011	Resistance value too low	
			1101	Short to Ground (GND)	
			1110	Short to positive (B+)	

Display Group No.	Display Field	Designation	Display Content	Definition of display content	Correction
002	1	Voltage supply (B+)	0	Voltage too low	Check Battery Positive Voltage (B+), Check Generator (GEN), Wiring Diagrams. Check wiring by visual inspection only
			1		

Volkswagen/Audi
ABS
Data Block Definitions

Volkswagen

Display Group No.	Display Field	Designation	Display Content	Value Not Moving	Units	Correction
001	1	Wheel speed - Left Front	0-255	2-6	Km/h	Check for variations in wheel speed between all sensors. Variation indicates damaged or polluted sensors or high wire resistance.
	2	Wheel speed - Right Front	0-255	2-6	Km/h	
	3	Wheel speed - Left Rear	0-255	0-2	Km/h	
	4	Wheel speed - Right Rear	0-255	0-2	Km/h	
002	1	Wheel speed - Left Front	2-255	255	Km/h	This is the speed at which the ABS controller detected activity in the pulse transmitters. This is a good indicator of properly functioning wheel sensors. Nominal values are 1-6 Km/h. High values indicate low voltage.
	2	Wheel speed - Right Front	2-255	255	Km/h	
	3	Wheel speed - Left Rear	0-255	255	Km/h	
	4	Wheel speed - Right Rear	0-255	255	Km/h	
003	1	Brake Pedal Not Depressed	0			This tests the brake pedal stop lamp switch and lamp circuit.
		Brake Pedal Depressed	1			

Audi

Display Group No.	Display Field	Designation	Condition	Display Content	Value Not Moving	Units	Correction
001	1	Wheel speed - Left Front		1-19	1	Km/h	Check for variations in wheel speed between all sensors. Variation indicates damaged or polluted sensors or high wire resistance.
	2	Wheel speed - Right Front		1-19	1	Km/h	
	3	Wheel speed - Left Rear		1-19	1	Km/h	
	4	Wheel speed - Right Rear		1-19	1	Km/h	
	5	Brake Pedal	Not Depressed	0			This tests the brake pedal stop lamp switch and lamp circuit.
		Brake Pedal	Depressed	1			
	6	Brake Pedal	Not Depressed	0			
		Brake Pedal	Depressed	1			
	7	Voltage at ABS return flow pump -V39-	Not Running	0			
			Running	1			No permissible
	8	ABS solenoid valve relay	Relay Open				
			Relay Closed	1			

In all Audi's, above 19Km/h (12mph) the OBD function of the ABS controller is terminated.

APPENDIX C

Basic Coding Numbers and Procedures

ENGINE CODING NUMBERS

PASSAT 2.8L VR6 WITHOUT OBD-II

1	Manual Transmission without EGR
2	Automatic Transmission without EGR
3	Manual Transmission with EGR
4	Automatic Transmission with EGR

PASSAT 2.0L WITHOUT OBD-II

1 HS	Manual Transmission with EGR and EVAP
2 AG	Automatic Transmission with EGR and EVAP

PASSAT 2.8L VR6 WITH OBD-II

00000	Manual Transmission
00001	Automatic Transmission

PASSAT 2.0L WITH OBD-II

00006	Manual Transmission
00007	Automatic Transmission

JETTA/GOLF/GTI 2.0L WITH OBD-II

00000	Manual Transmission
00001	Automatic Transmission

EUROVAN 2.5L 5 cylinder

Not necessary to 1999.

EUROVAN 2.8L VR6 WITH OBD-II

00000	Manual Transmission
00001	Automatic Transmission

Golf, Jetta, Beetle 1999-2000

Vehicle Type	ECM Part # / EPROM Level	Vehicle Engine ECM Coding			
		5 Speed Transmission		AG4 Automatic Transmission	
		ABS	No ABS	ABS	No ABS
Tier1 w/cruise	06A 906 018 BG 06A 906 018 P / V07	00000	00040	00001	00041
Tier1 w/o cruise	06A 906 018 BH 06A 906 018 AE / V06	00000	00040	00001	00041
LEV w/cruise	06A 906 018 J 06A 906 018 CR / V03	00000	00040	00001	00041
LEV w/o cruise	06A 906 018 J 06A 906 018 CQ / V03	00000	00040	00001	00041

Tier 1 = Federal
LEV = 50 State

ECM codes for model year 2000 and later.

Engine	Manual	Automatic	ABS	Airbag	Code
1. 9 Liter TDI	No	Yes	Yes	Yes	00001
1. 9 Liter TDI	No	Yes	Yes	No	00001
1. 9 Liter TDI	Yes	No	Yes	Yes	00002
1. 9 Liter TDI	Yes	No	No	Yes	00002
1. 9 Liter TDI	Yes	No	Yes	No	00002
1. 9 Liter TDI	No	Yes	No	Yes	00004
1. 9 Liter TDI	No	Yes	No	No	00004
2.0 Liter	Yes	No	No	No	00001
2.0 Liter	Yes	No	Yes	No	00011
2.0 Liter	Yes	No	No	Yes	00021
2.0 Liter	Yes	No	Yes	Yes	00031
2.0 Liter	No	Yes	No	No	00003
2.0 Liter	No	Yes	Yes	No	00013
2.0 Liter	No	Yes	No	Yes	00023
2.0 Liter	No	Yes	Yes	Yes	00033

AUDI 2.8L V6 MMS 300

CODING	TRANSMISSION TYPE	EQUIPPED WITH	NOT EQUIPPED
00000	Manual	Heated O2 Sensor, EVAP	EGR
00001	Automatic (AG4)		
00002	Automatic (HP18)		
00003	Manual	USA and California versions: Heated O2 Sensor, EVAP, EGR, EGR Temp. Sensor, Speed Limiter	
00004	Automatic (AG4)		
00005	Automatic (HP18)		

00006			
00007			
00008			
00009	Manual		O2 Sensor, EVAP, EGR
00010	Automatic (AG4)		
00011	Automatic (HP18)		

AUDI 2.8L V6 MMS 311

1ST AND 2ND DIGIT	3RD DIGIT	4TH DIGIT	5TH DIGIT
Exhaust Gas Standard/Country	**Special Functions**	**Transmission Type**	**Vehicle Type**
00 = -	0 = Front Wheel Drive without ATC	0 = 5-Speed	0 = -
01 = USA with EGR	1 = Front Wheel Drive with ATC	1 = -	1 = 90, 90 Quattro
02 = Sweden and all countries not 01, 03, 04, 06	2 = All Wheel Drive without ATC	2 = Automatic (097)	2 = A6, A6 Quattro Sedan A6 Wagon A6 Quattro Wagon
03 = South Africa no O2 sensor	3 = -	3 = Automatic 097 (Phase 2)	3 = -
04 = European Union (EU) and Norway	4 = -	4 = Automatic (01K/01F)	4 = Cabriolet
05 = -	5 = -	5 = -	5 = -
06 = California (Frt. Wheel drive and Automatic trans. With EGR and EVAP	6 = -	6 = -	6 = -

ex. 01042 - USA, Frt. Wheel Drive w/o ATC, Auto Trans (01K/01F), Audi A6

AUDI 2.8L V6 MMS 400 WITH OBD-II

Not required. Coding of 01002 cannot be changed.

1ST AND 2ND DIGIT	3RD DIGIT	4TH DIGIT	5TH DIGIT
Exhaust Gas Standard/Country	**Special Functions**	**Transmission**	**Vehicle Type**
00 = With EVAP	0 = Front Wheel Drive without ASR	0 = 5-Speed Manual	0 = -
01 = With EVAP and Differential Pressure Sensor	1 = Front Wheel Drive with Traction Control (ASR)	1 = 6-Speed Manual	1 = A4, TT
02 = -	2 = All Wheel Drive without Traction Control (ASR)	2 = -	2 = A6
03 = -	3 = All Wheel Drive with Traction Control (ASR)	3 = -	3 = A8
04 = -	4 = -	4 = 4-Speed Automatic	4 = -
05 = -	5 = Front wheel drive w/ASR, ESP, CAN Bus	5 = 5-Speed Automatic	5 = -
06 = USA; TLEV With EGR and Secondary Air (AIR) EVAP LDP	6 = All wheel drive without ASR, ESP, CAN Bus	6 = -	6 = -
07 = -	7 = All wheel drive with ASR, ESP, CAN Bus	7 = -	7 = -
08 = -	8 = -	8 = -	8 = -
09 = EGR	9 = -	9 = -	9 = -
10 = With EVAP, Differential Pressure Sensor, EGR and Secondary Air Injection (OBD-II)			

TRANSMISSION CODING

VW

Not required to 1998.

AUDI

Not required to 1996.

Audi

Trans.	Code	Description

01V	00010	Dynamic Shift Program (DSP) - Not Active (Not applicable for US or Canadian vehicles)
	00000	Dynamic Shift Program (DSP) - Active

ABS CODING

VW
Passat 04505

AUDI A6 Front Wheel Drive to 1997
000 Manual
001 Automatic

AUDI A6 All Wheel Drive
Not required to 1997.

Model	Transmission	Code
2.8L V6 5V	Automatic - 01V	00003
	Manual	00000

SRS CODING

VW Airbags to 2000

VW Chassis	Model	Index (ECU Part # suffix)	Coding
A3	Golf/Jetta	D J T	00068 00074 00084
A3	Cabrio	D J T ZF	00068 00074 00084 23110
A4	Golf/Jetta	C J	00067 00074
B4	Passat	G	00071
B5	Passat	B	00066
NB	New Beetle	F AQ A	00070 16721 12597
T4	Eurovan	M AJ	00077 16714
A2	Corrado (Canada)	C	00067

Audi Airbag III, V - 1995-97
00127

Audi Airbag up to week 35.98 for use with Control Modules "**4B0959655D**" or "**4B0959655K** only.

Code	Airbag Features
00004	Vehicles with Front Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00006	Vehicles with Front Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00104	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00106	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00115	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners, 2 Rear Seat Belt Tensioners, Belt Inquiry and Front Seat Occupied Sensor
00117	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners, 3 Rear Seat Belt Tensioners, Belt Inquiry and Front Seat Occupied Sensor
00204	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00205	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 2 Rear Seat Belt Tensioners and Seat belt Fastened Sensor
00206	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00207	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 3 Rear Seat Belt Tensioners and Seat belt Fastened Sensor

Controller Numbers to week 35/98

4B0959655D Front and Side Airbags
4B0959655K Front and Side Airbags
4B0959655A Front Airbags Only (Code as 00127)

Audi Airbag 8 , week 36/98 to 2000

Code	Airbag Features
00004	Vehicles with Front Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00006	Vehicles with Front Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00104	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00106	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00204	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners and 2 Rear Seat Belt Tensioners
00205	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 2 Rear Seat Belt Tensioners and Seat belt Fastened Sensor
00206	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners and 3 Rear Seat Belt Tensioners
00207	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 3 Rear Seat Belt Tensioners and Seat belt Fastened Sensor

00304	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners, 2 Rear Seat Belt Tensioners and Head-level Airbags
00306	Vehicles with Front Airbags, Front Side Airbags, Front Seat Belt Tensioners, 3 Rear Seat Belt Tensioners and Head-level Airbags
00404	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 2 Rear Seat Belt Tensioners and Head-level Airbags
00406	Vehicles with Front Airbags, Front Side Airbags, Rear Side Airbags, Front Seat Belt Tensioners, 3 Rear Seat Belt Tensioners and Head-level Airbags

Controller Numbers from week 36/98

4B0959655H Front and Side Airbags
4B0959655F Front and Head-level Airbags

ANTI-THEFT IMMOBILIZER

VW - See http://tech.vw.com/pdf/v019911.pdf

CENTRAL LOCKING

VW See http://tech.vw.com/pdf/01-98-15.pdf and http://tech.vw.com/pdf/01-98-16.pdf

Audi Type	Central Locking Version	Lock Options	Coding
A4 to 1997 (Delta radio)	Central Locking and Anti-Theft System	Standard	03468
		Lock at 15 km/h	03500
	Central Locking, Anti-Theft System and Keyless Entry	Standard	12172
		Lock at 15 km/h	12204
A4 1998-2001 (Concert Radio)	Central Locking and Anti-Theft System	Standard	03340
		Lock at 15 km/h	03372
	Central Locking, Anti-Theft System and Keyless Entry	Standard	16140
		Lock at 15 km/h	16172

Heating and Air Conditioning

Model	Year	Compressor	Code
A4 - 6 cyl.	1996	Zexel	00062
		Nippondenso	00162
A4 - 4 cyl.	1997	Zexel	04142
A4 - 6 cyl.	1997	Nippondenso	04162

Audi A4 1998-2001

1ST and 2ND digit	3rd = Country	4TH = # of Cylinders	5TH = Driver Side
00 = All	0 = USA	0 = 0	0 = Left
		4 = 4 cylinder	1 = Right
		6 = 6 cylinder	
		8 = 8 cylinder	

Basic Setting must be performed after coding. Basic setting is 0 0 0 0.
On 1996 models delete 00799 code if stored after basic setting.

Instrument Cluster

1ST and 2ND = Options	3rd = Country	4TH = # of Cylinders	5TH = Engine
00 = No Options	0 = Germany		0 = TDI
01 = Break pad wear indicator active	1 = Europe RdW Left Hand Drive		1 = -
02 = Seat belt warning system active	2 = USA		2 = Gasoline
04 = Washer fluid level indicator active	3 = Canada		
16 = Navigation I and II	4 = Great Britain	4 = 4 cylinder	4 = Turbo
	5 = Japan	6 = 6 cylinder	
	6 = Saudi Arabia	8 = 8 cylinder	
	7 = Australia		
	8 = RdW Right Hand Drive		
	9 = JP Right hand Drive		

Example: For models with Washer fluid level indicator and Break pad wear indicator would be coded as"
04 + 01 = 05
USA 4 cyl Gas would then code as 05242

Headlight Aiming System

Audi

Code	Vehicle/Drive Layout
00001	A3 Front Wheel Drive
00002	A3/S3 All Wheel Drive
00003	A4 Sedan/Avant - Front Wheel Drive
00004	A4/S4 Sedan/Avant - All Wheel Drive

00005	A6 Sedan/Avant - Front Wheel Drive
00006	A6/S6 Sedan/Avant - All Wheel Drive
00007	A8 - Front Wheel Drive
00008	A8/S8 - All Wheel Drive

Radio

FACTORY SERVICE DEALER CODE (LOGIN)

WSC NUMBER 01283, 06432, 04362

APPENDIX D

AUDI

Resetting Instrument Cluster Service Lights using Adaptation

On some instrument clusters the one button reset of oil service may cause a "Link Failure" message on the CS2000. If this occurs use this standard reset procedure using the Adaptation Channels.

1. Choose Vehicle (VW, Audi, Seat or Skoda) and press ENTER.
2. Choose INTERIOR and press ENTER
3. Choose INSTRUMENT PANEL and press ENTER
4. At the Identification Screen press ENTER
5. For late model vehicles go to LOGIN and press ENTER
6. Enter your WSC number (01283) on the keypad. If this is not accepted, then Login is not necessary for this controller.
7. Press EXIT.
8. Choose ADAPTATION and press ENTER
9. Now you are asked for a CHANNEL number. These Channel numbers correspond to different Service Interval functions.
10. Enter the CHANNEL NUMBER on the keypad and press ENTER.
11. Enter the ADAPTION VALUE and press ENTER.

CHANNEL	FUNCTION	ADAPTION VALUE Standard	ADAPTION* RANGE	INTERPRETATION
02	**Reset Oil and Inspection** **Reset Oil Service** **Reset Inspection 1** **Reset Inspection 2**	**00000** **00010** **00001** **00001 twice**		
05	Oil Service (New)	00012	00000-00015	12,000km (7,500miles)
06	Inspection 1 (New Distance)	00024	00000-00030	24,000km (15,000miles)
07	Inspection 1 (New Time)	00036	00000-00036	360 days
08	Inspection 2 (New Time)	00073	00000-00073	730 days

*Adaption values can be changed to other values as follows:
Distance can be changed per 1000km. 6,000km = 00006
Time can be changed per 10 days. 200 days = 00020

PDI reset all channels.
Oil Inspection, reset channel 05.
Inspection 1, reset channels, 05, 06 and 07.
Inspection 2, reset channels, 05, 06, 07 and 08.

For vehicles with Mechanical SRI resets (1995-2000)

- Switch ignition On.
- Press and hold the odometer reset button located below the speedometer.
- Switch ignition OFF and release odometer reset button. OEL will appear in the SRI display.
- Press and hold the lower digital clock reset button or the analog clock reset button until 5 dashes (- - - - -) appear in the display. OEL SRI is now reset to 7500 miles (12,000 km) or 6 months, whichever comes first.

Once the OEL is reset, the other displays can be reset in the same way without switching the engine on or off again.

- Press the odometer reset button to perform the inspection 01. The IN 01 should be displayed. Reset using the clock reset button.
- If necessary, repeat the procedure for inspection 02.
- To end turn ignition on. When the IN 01 appears switch off ignition.

APPENDIX E

VW/Audi

Engine/Transmission Initiating Basic Setting

The basic setting should be initiated after performing the following repairs:

* Exchanging engine
* Replacing Engine Control Module (ECM)
* Replacing/altering throttle valve
* Adjusting throttle valve (setting idling speed).
* Replacing Throttle Position (TP) Sensor
* Altering Throttle Position (TP) Sensor setting
* Replacing Transmission Control Module (TCM)

For Transmissions 096, 097, 01M, 01N (1988-1997)

1. Connect CS2000 Scan Tool and choose "TRANSMISSION", then "Automatic Transmission" then choose the function "Basic Setting".
2. The Accelerator Pedal must remain in Closed Throttle Position.
3. Now enter "000" as the block number. Choose to accept with ENTER. The CS2000 will then verify.
4. The system is now in basic setting mode.
5. Depress Accelerator Pedal as far as kickdown and hold in this position for at least 5 seconds.
6. Release and press EXIT. The Basic Alignment of Engine and Transmission is now complete.

Engines AEB, AEG, ATW, AHA, APH - ALL Transmission Types (1998-)

1. Connect CS2000 Scan Tool and choose "ENGINE", then "GASOLINE" then choose the function "Basic Setting".
2. The Accelerator Pedal must remain in Closed Throttle Position.
3. Now enter "060" as the block number. Choose to accept with ENTER. The CS2000 will then verify.
4. The vehicle will then perform the basic setting of the throttle. wait at least 30 seconds.
5. The display should now show the correct values in fields 1, 2 and 3 and ADP, OK in the 4th field.. If the 4th field displays ADP, ERROR the adaptation has not been successful. Check for error code 17967 and refer to the appropriate factory repair manual.

Engines ATW (Diesel) Automatic Transmissions with KICK DOWN Learning

1. Connect CS2000 Scan Tool and choose "ENGINE", then "GASOLINE" then choose the function "Basic Setting".
2. The Accelerator Pedal must remain in Closed Throttle Position.
3. Now enter "0630" as the block number. Choose to accept with ENTER. The CS2000 will then verify.
4. The system is now in basic setting mode.
5. Depress Accelerator Pedal as far as kickdown and hold in this position for at least 5 seconds.
6. Release and press EXIT. The Basic Alignment of Engine and Transmission is now complete.

APPENDIX F

Procedure After Restoring Electrical Power

1999 and later vehicles.

z *The following procedures are abbreviated. if necessary, complete instructions can be found in the appropriate Repair Manuals.*

z *For vehicles equipped with Immobilizer, the Key code is maintained when power is interrupted for any reason. Therefore, recoding the key/instrument cluster is not required.*

-- Check all systems for stored DTC's.
-- Make appropriate repairs, if necessary.
-- Clear DTC memory, if DTC's were found.
-- Set engine basic settings (Electronic Throttle Control Adaptation).
-- Set transmission basic settings.
-- Set Climatronic, power window, and power seat adaptation.
-- Check Readiness code and set.
-- Reset clock and radio anti--theft code.

Contact Information

A catalog of tools and repair and service manuals and CD-ROMs for all models are available by calling

Baum Tools Unlimited Inc.
800-848-6657 USA/Canada
941-927-1414 International
941-927-1612 Fax

Visit our website.

http://www.baumtools.com

Email:

For sales information

sales@baumtools.com

or for technical help

tech@baumtools.com