

Position

You can switch between the individual faults with the UP and DOWN buttons.
The order of the faults can change depending on the sort criterion.

Sort method

Standard

Fault display in ascending address word order.

Static/sporadic

Faults are separated according to their status.
Static (higher priority) are displayed at the top with a dark blue background, sporadic below them with a light blue background.

Inside the status (colour), the fault frequency is taken as the second sort criterion (high counter figures first).

Kilometres

Sort method according to the km reading when the fault first occurred. The low readings first.

Time

Faults are listed chronologically according to when they first occurred. To allow better assignment, the fault that happened within the same minute are combined in coloured groups (alternately light and dark blue).



Ambient conditions

In the “Guided Fault Finding”, ambient conditions can be displayed using the “Fault Memory Contents” mask from basic CD 7.0. The vehicle system does need to support this function, however. After selecting the ambient conditions, the mask background colour changes depending on the type of fault, the sort method and the type of ambient conditions (standard or specific).

Guided Fault Finding		VW	V6.55.00.14/01/2004
Fault memory content		IT - Touran 2003 > 2004 (4)	
		Saloon	
		BKC 1.9l TDI-PD / 77kW	
01 - Engine electronics			
16622	P0239	00	
Charge air pressure signal too large			
Measured values			
Value 1	1020 rpm		
Value 2	28 Nm		
Value 3	15 km/h		
Value 4	0.0 %		
Value 5	13.9 V		
Value 6	0001100		
Value 7	355 mg/H		
Value 8	0 mg/H		

Position

1

UP and DOWN buttons

Sort Method

Standard

Kilometres

Static/Sporadic

Time

Position of the fault in the complete fault memory print out

“UP and DOWN” buttons

“Sort” buttons

A violet background means that no standard, but only specific ambient conditions are stored. Mask with standard conditions see page 27.

S295_140

Guided Fault Finding

Test plan

If you continue, you can access the system test plan that is created by the VAS 5051 or by the VAS 5052.
You can select a function check from the system test plans.

The selected function test has a black background.
The function check is started with the “Continue” button. The order is freely selectable if there are several function checks.



Fault memory entries that are processed with this test plan

Selected function test

Guided Fault Finding	VW	V6.55.00.14/01/2004
Test plan	1T - Touran 2003 > 2004 (4) Saloon	BKC 1.9l TDI-PD / 77 kW
System test plan		
17 - Dash panel insert - Ambient temperature sensor - G17		
- Ambient temperature sensor - G17		
Own test plan		
OK read measured values		
- G - Ambient temperature sensor - G17		
Mode	Go to	Print
?	!	▶

S295_061

Own test plan

“Continue” button
Start function test

System test plan

The “System Test Plan” is created automatically using the fault memory entries and/or complaint.

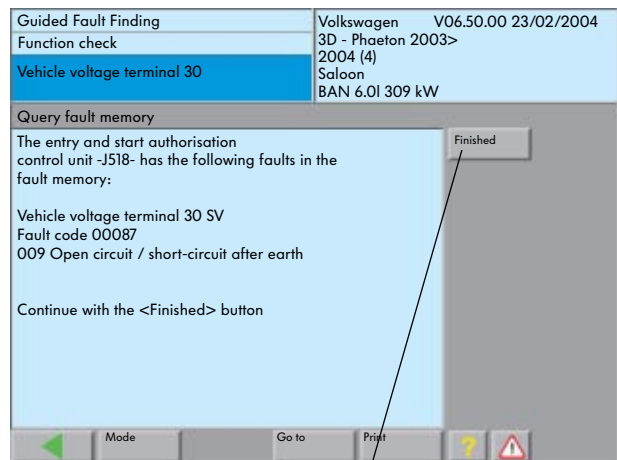
User-defined test plan

The “User-Defined Test Plan” can be created by the user via the function and component selection dialog.

Function test procedure

The information and instructions required to rectify the fault are displayed to the operator in the form of message windows.

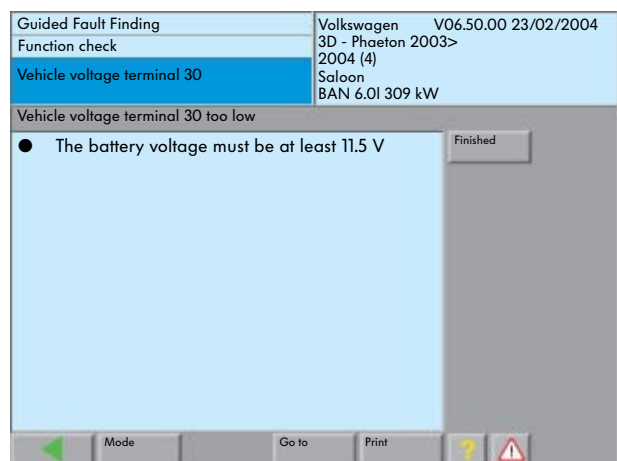
The operator will be informed if he needs to continue manually.



S295_062

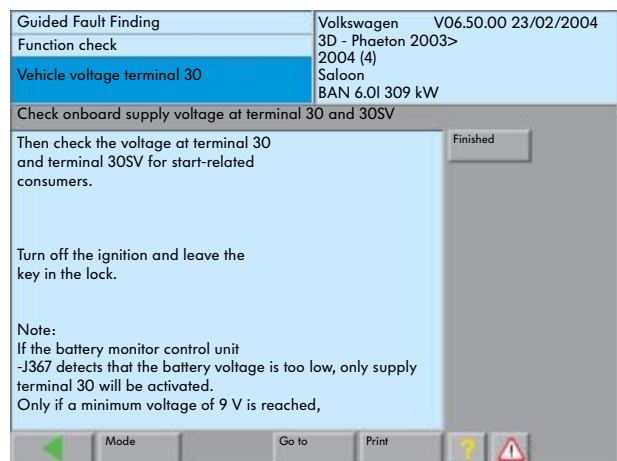
"Finished" button

The remaining test procedure is function-guided.



S295_063

It contains instructions and information on the activities to be performed.



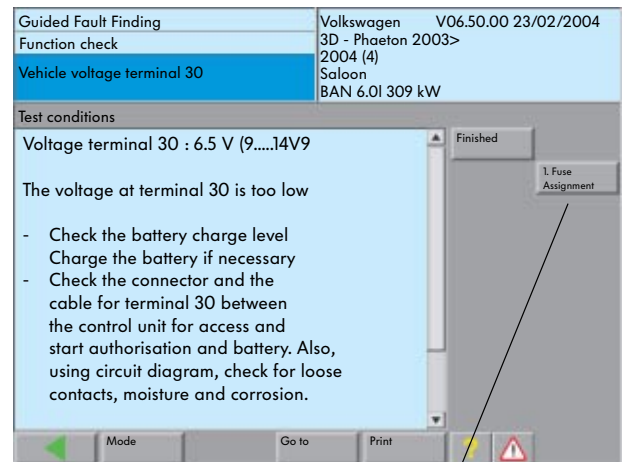
S295_064



Guided Fault Finding

In the function checks, the necessary control unit information is incorporated in the “Guided Fault Finding”.

This can be depicted on the display or also in the background by incorporating the basic conditions (e.g. measured values, state terminal 15 etc.).



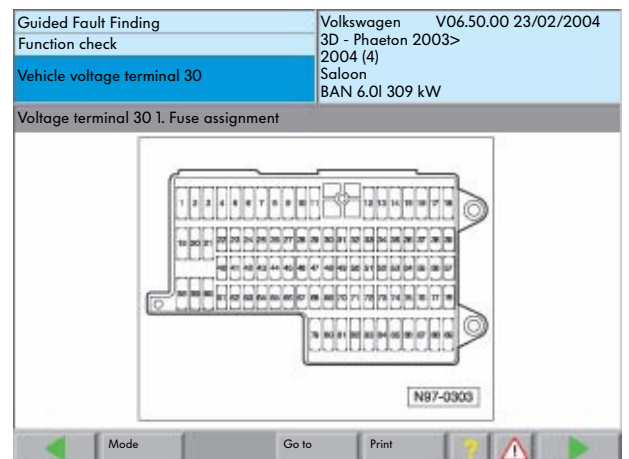
S295_065

Additional button

Supporting literature

Using an additional button that is only displayed when required, supporting information is displayed.

The title of the documentation type is the same as the button label (e.g. Fuse Assignment).



S295_066



For further information on “Guided Fault Finding”, use the CD “Guided Fault Finding with the Vehicle Diagnosis, Testing and Information System VAS 5051” and the operating manuals.

Diagnosis protocol

A diagnosis protocol is created during each fault memory query or fault search in “Guided Fault Finding” mode.

This protocol can be stored on the diagnosis system or sent online to the manufacturer database.

Stored diagnosis protocols are sent automatically if the diagnosis system is connected to the network.

Protocols that are older than forty days are deleted.

The sent protocols are evaluated and frequently occurring fault memory entries can thus be recognised.

This process provides feedback information for the research and development department as well as for quality assurance

To send the protocol, the diagnosis system needs to be connected to the network.

Various vehicle and operating data as well as information on the repair then need to be entered.

Menus guide you through these entries.

The screenshot shows the 'Guided Fault Finding' menu with the following options: Function/component selection, Vehicle Identification, Immobilizer, Engine control unit 1 Motronic, Engine control unit 2 Motronic, Automatic 5-speed gearbox, Automatic 6-speed gearbox, ABS/EDS/ASR/ESP - 8, Brake servo, Adaptive cruise control, Adaptive suspension, Tyre pressure monitoring, Airbag, Battery regulation, Climatronic, Rear air-conditioning, Roof electronics, Data bus diagnostic interface, and Parking aid. A 'Choice' dialog box is open, asking 'Should the diagnosis protocol for the finished diagnosis session be printed out?' with 'Yes' and 'No' buttons. On the right, there are checkboxes for 'Fault' and 'Print' for several components.

S295_177/S295_179

The screenshot shows the 'Send diagnosis protocol' screen. It includes a 'Test conditions' section with the text: 'This application sends the diagnosis protocol or stores it on the tester. If the tester is not connected to the network, the diagnosis protocol will be stored and then sent as soon as the tester is connected to the network. Protocols, which have been stored and are older than forty days, will be deleted automatically.' Below this, it asks 'Do you want to send the diagnosis protocol(s) now?' with 'Yes' and 'No' buttons. The bottom of the screen has navigation buttons: Mode, Go to, Print, and a warning icon.

S295_160



The screenshot shows the 'Vehicle voltage terminal 30' screen. It includes a 'Test conditions' section with the text: '- Connect your tester to the corresponding hardware on your online network: Finished' and '- Then press the -FINISHED- button'. The bottom of the screen has navigation buttons: Mode, Go to, Print, and a warning icon.

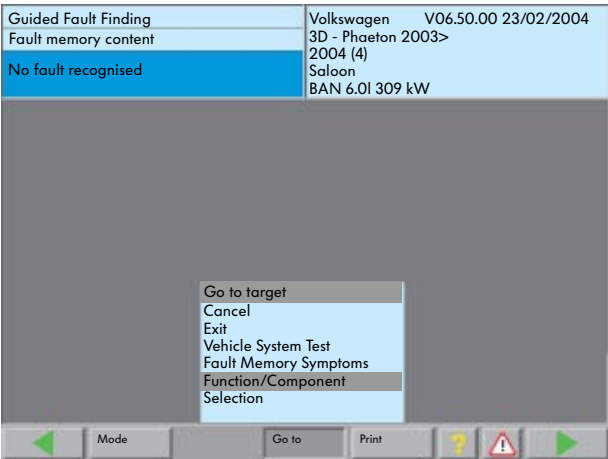
S295_161

Guided Fault Finding

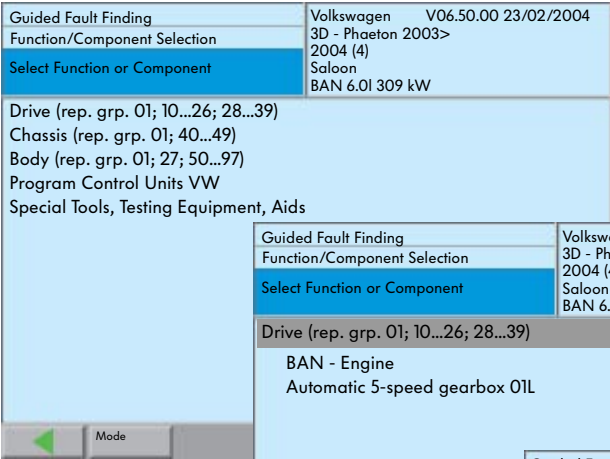
Function/component selection

In “Guided Fault Finding” mode, user-defined function or component checks can be selected via the “Go to” button and “Function/Component Selection”.

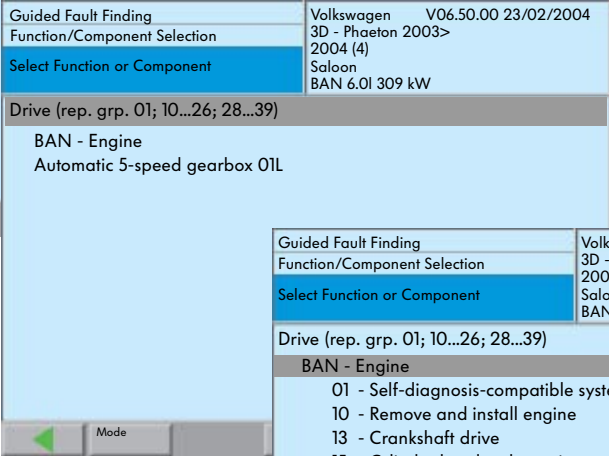
The selected functions or components are sorted according to repair group. After selecting the repair group, the individual systems for which function and component checks can be carried out are displayed.



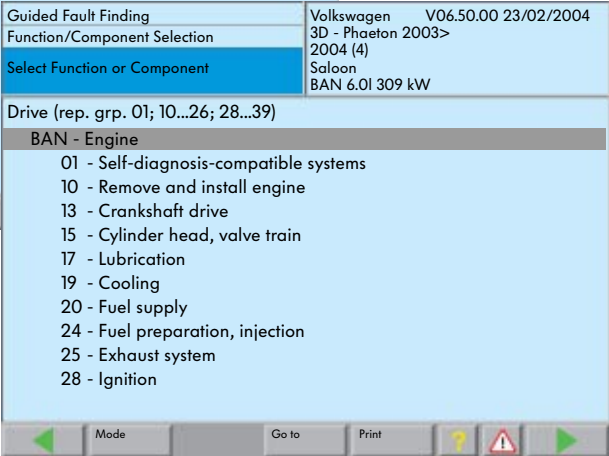
S295_067



S295_068



S295_069



S295_070

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	3D - Phaeton 2003>
Select Function or Component	2004 (4)
	Saloon
	BAN 6.0l 309 kW

Drive (rep. grp. 01; 10...26; 28...39)
BAN - Engine

20 - Fuel Supply

Electrical Components - Fuel Supply
Mechanical Components - Fuel Supply
Subsystems, Basic Conditions - Fuel Supply

S295_071

After selecting a component or a function, the corresponding check is entered in the user-defined test plan once you press the "Continue" button. If you press the "Continue" button again, the test will be started.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	3D - Phaeton 2003>
Select Function or Component	2004 (4)
	Saloon
	BAN 6.0l 309 kW

Drive (rep. grp. 01; 10...26; 28...39)
BAN - Engine

20 - Fuel Supply

Electrical Components - Fuel Supply
Mechanical Components - Fuel Supply
Subsystems, Basic Conditions - Fuel Supply

S295_072

The system is then opened. The remaining procedure is menu-guided. All necessary instructions appear as a mask on the diagnosis system.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	3D - Phaeton 2003>
Select Function or Component	2004 (4)
	Saloon
	BAN 6.0l 309 kW

Drive (rep. grp. 01; 10...26; 28...39)
BAN - Engine

20 - Fuel Supply

Electrical Components - Fuel Supply
+ G6 - Fuel Pump
+ G23 - Fuel Pump 2
+ G79 - Accelerator Position Sender
+ G185 - Accelerator Position Sender 2
+ J17 - Fuel Pump Relay

S295_073

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	3D - Phaeton 2003>
G75/G185 - Accelerator Position Senders	2004 (4)
	Saloon
	BAN 6.0l 309 kW

Check idle values

This check tests the accelerator position sender - G79 and the accelerator position sender 2 - G185.

- Press the finished button to check the idle values of both senders.

! Note:
The accelerator pedal may not be pressed during the test.

Finished

Function Description

Mode Go to Print

S295_074

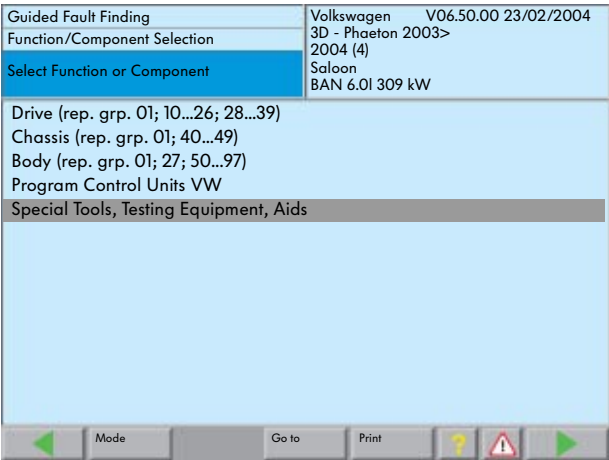


Components marked with a "+" have further submenu items that can be selected.

Guided Fault Finding

Access to tools

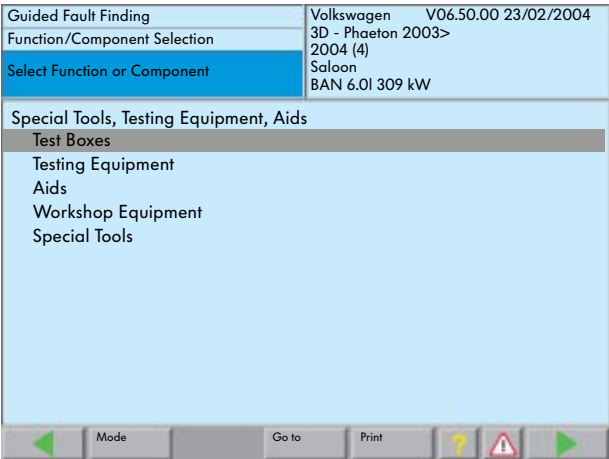
You select tools using “Special Tools, Testing Equipment, Aids” and then selecting the required tool group.



S295_081

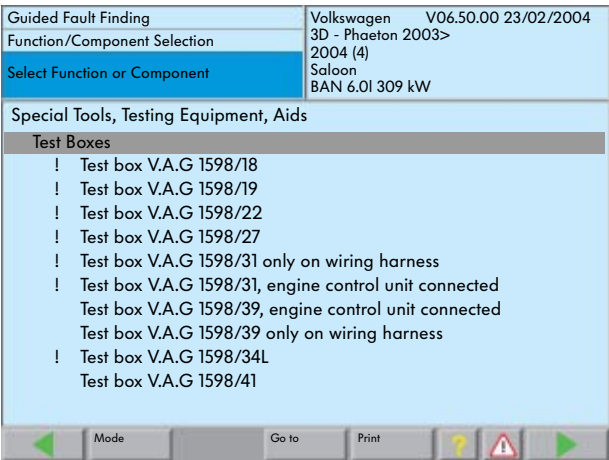


The required tool group is selected by touching the mask.



S295_082

The required special tool, testing equipment or aids can then be selected.

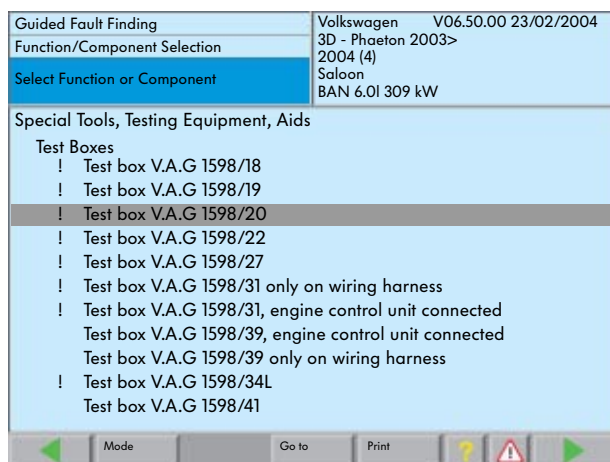


S295_083



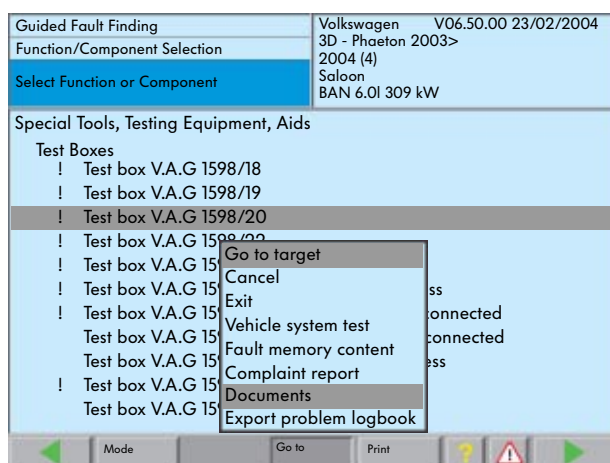
In the function checks of the “Guided Fault Finding”, this information is provided whenever necessary.

The selected object has a black background.



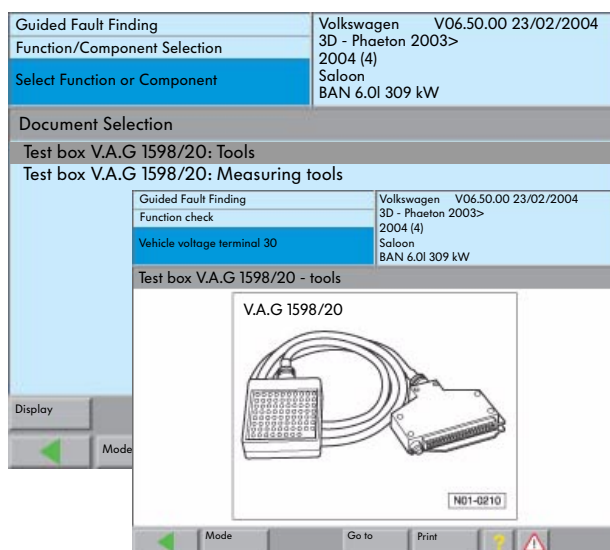
S295_084

If you press the “Go to” button and then select “Documents”, the document selection dialog will appear.



S295_085/S295_110

After selecting the document and pressing the “Display” button, the graphic for the selected special tool, testing equipment or aid is displayed on the screen.



S295_087/S295_088



Guided Fault Finding

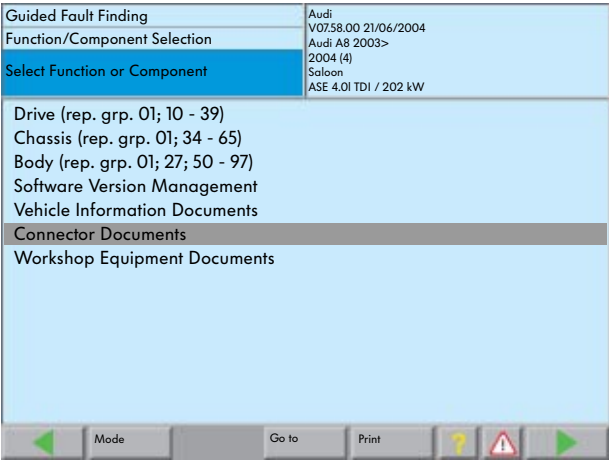
Accessing documents for Audi vehicles

A range of documents are stored in the VAS 5051 and VAS 5052 as user information.

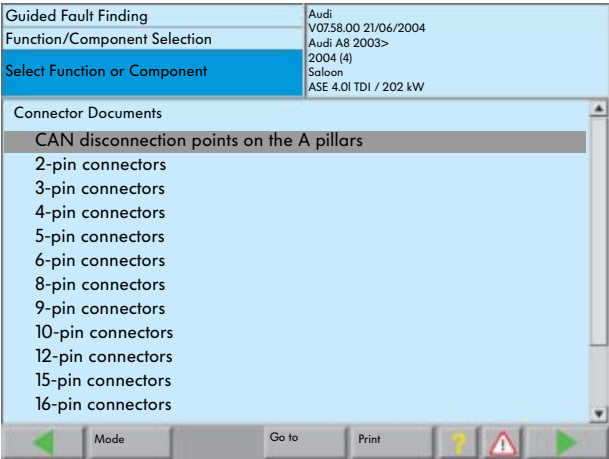
All documents are accessed in the same way. Access to the documents for the connectors is used as an example here.



This is opened by touching the selected document group.

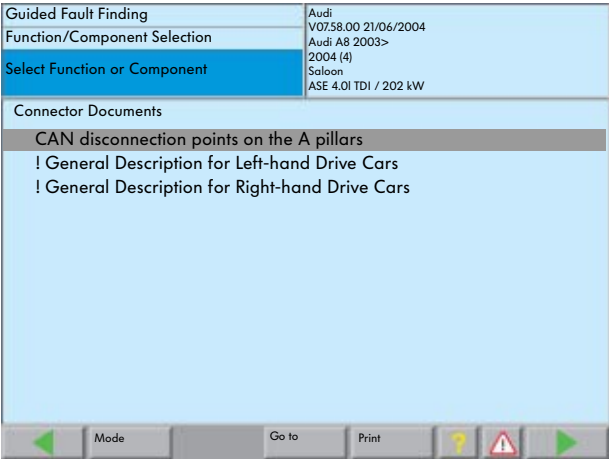


S295_103



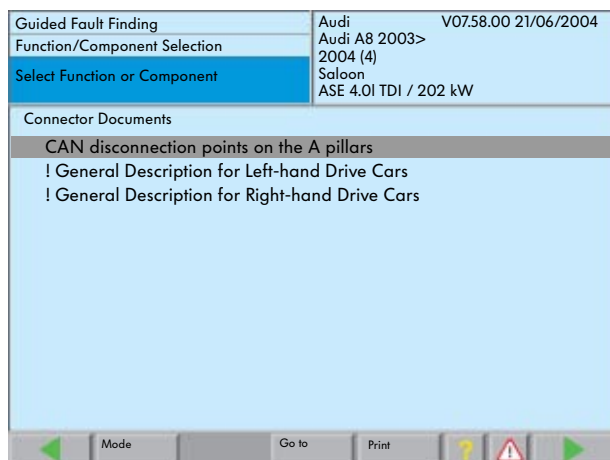
S295_104

The subgroups are displayed after you select the document group.



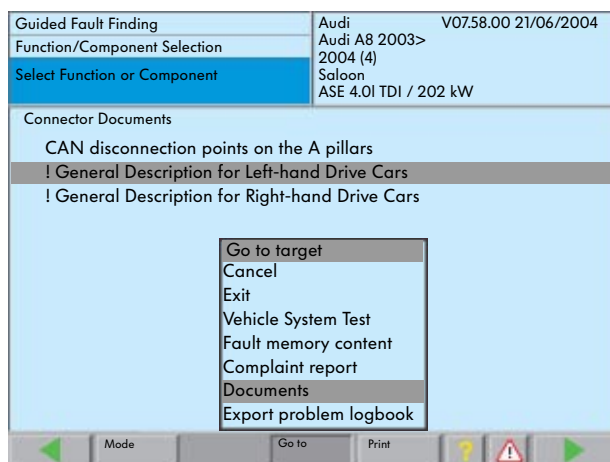
S295_105

The required subgroup can then be selected.



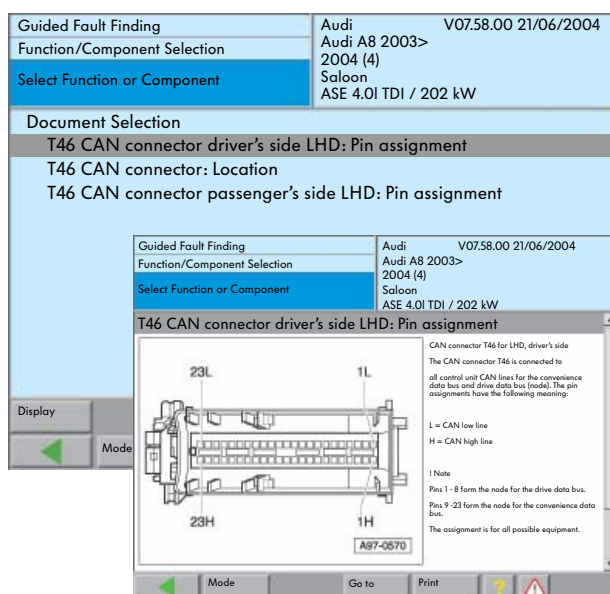
S295_106

After selection, a further subgroup is displayed with the “Go to” and “Documents” button.



S295_107/S295_110

The document will appear after you touch the component for which you require information and press the “Display” button.



S295_107/S295_110



Measured values can be read in the “Guided Fault Finding” and “Guided Functions” modes at Volkswagen and Audi using the basic CD 7.0. The measured values can be compiled from different display groups and the target and actual values are then displayed. The selection can be made by the user or, if necessary, by the function check.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW
Drive (rep. grp. 01; 10...26; 28...39)	
Chassis (rep. grp. 01; 40...49)	
Body (rep. grp. 01; 27; 50.97)	
Program Control Units	
Special Tools, Testing Equipment, Aids	

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW
Body (rep. grp. 01; 27; 50.97)	
Body assembly work (rep. grp. 01; 27; 50.77)	
Heating, Ventilation, Air Conditioning	
Electrical System (rep. grp. 01; 27; 90...97)	

62

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW

Body (rep. grp. 01; 27; 50.97)
Electrical System (rep. grp. 01; 27; 90...97)
01 - Self-diagnosis-compatible systems
27 - Starter, power supply
94 - Lights, lamps, switches - exterior
96 - Lights, lamps, switches - interior, theft protection
97 - Cables

Mode
Go to
Print
?
!
▶

S295_143

After opening the mask, the vehicle system, from which the measured values should be read, can be selected.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW

Body (rep. grp. 01; 27; 50.97)
Electrical System (rep. grp. 01; 27; 90...97)
01 - Self-diagnosis-compatible systems
Dash panel insert
Electrical components
Dash panel insert functions
+ Voltage supply

Mode
Go to
Print
?
!
▶

S295_144

The available vehicle system functions can then be selected.



The available functions depend on the vehicle system and may therefore differ.

Next select the “01 - Self-diagnosis-compatible systems” function.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW

Body (rep. grp. 01; 27; 50...97)
Electrical System (rep. grp. 01; 27; 90...97)
01 - Self-diagnosis-compatible systems
Automatic headlight range control
Car phone
Data bus diagnostic interface
Steering wheel electronics
Radio system
Dash panel insert
Onboard supply control unit
Multifunction control unit
Immobilizer
Wiper electronics

Mode
Go to
Print
?
!
▶

S295_145



The “Read Measured Value” function is a submenu of the “Functions” selection dialog for the respective system.

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function/Component Selection	IT - Touran 2003> 2004 (4)
Select Function or Component	Saloon AXW 2.0l Motronic / 110kW

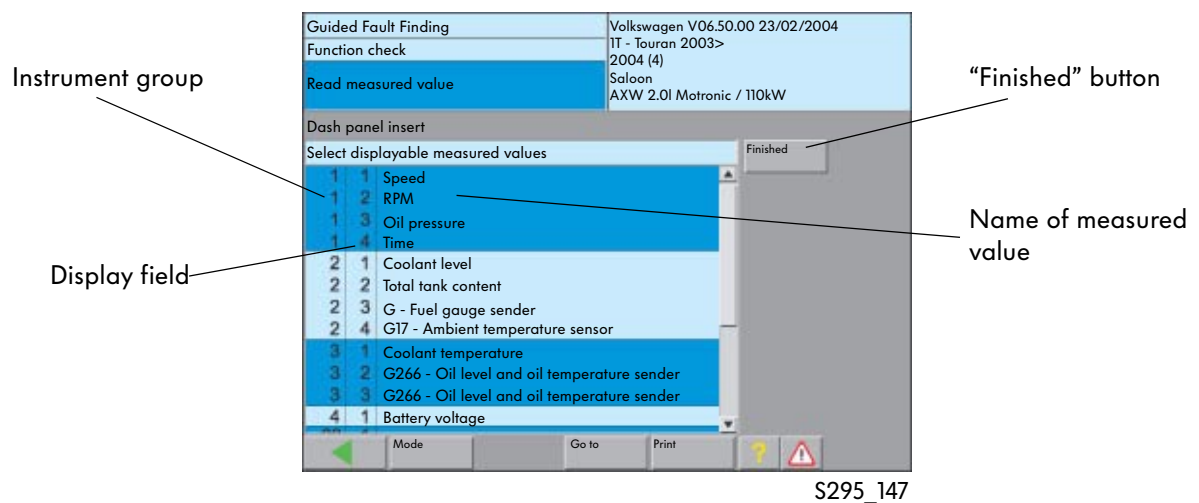
Body (rep. grp. 01; 27; 50...97)
Electrical System (rep. grp. 01; 27; 90...97)
01 - Self-diagnosis-compatible systems
Dash panel insert
Dash panel insert functions
- Adjust fuel gauge
- Adjust/replace dash panel insert
- Encode dash panel insert
Read Measured Values
- Reset service interval display
- Adapt language versions
- Dash panel insert control element diagnosis
- Adjust consumption indicator
- Adjust maintenance interval extension

Mode
Go to
Print
?
!
▶

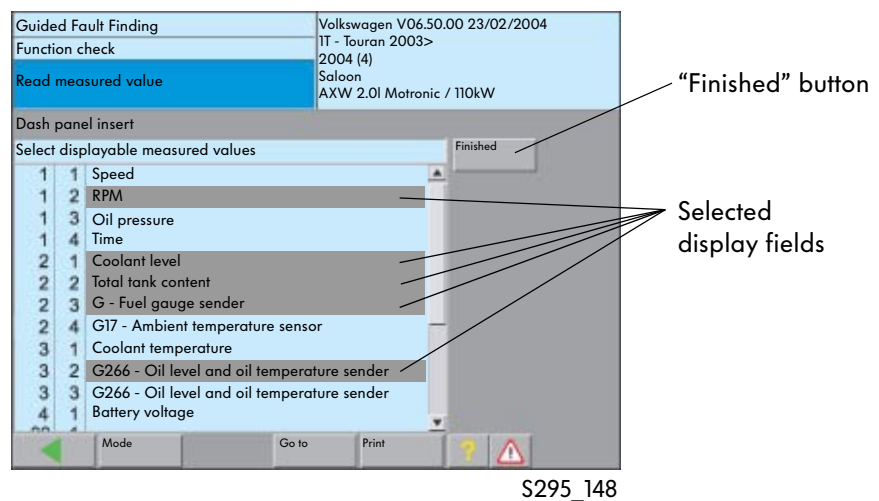
S295_146

Guided Fault Finding

After selecting the “Read Measured Values” function, an overview of the available measured values (data blocks) is displayed.



Press the individual display fields to select the measured values that are to be read.



The next mask shows the selected display fields with the measured value names as well as the accompanying target values, if available.

Selected display fields with measured value name

Target values

Guided Fault Finding		Volkswagen V06.50.00 23/02/2004
Function check		1T - Touran 2003> 2004 (4)
Read measured value		Saloon AXW 2.0l Motronic / 110kW
Dash panel insert		
Measured value	Result	Target value
RPM		>= 0 rpm
Kilometre reading		>= 0 km
Total tank content		>= 0 l
G-Fuel gauge sender		70 - 270 Ohm
G266 Oil level		OK

Read

Mode Go to Print ? !

S295_149

"Read" button



The current measured values are only displayed parallel when the "Read" button is pressed.

Selected display fields with measured value name

Message window

The message window only appear when basic conditions need to be observed (e.g. battery voltage has to be greater than 11.7 V).

Guided Fault Finding		Volkswagen V06.50.00 23/02/2004
Function check		1T - Touran 2003> 2004 (4)
Read measured value		Saloon AXW 2.0l Motronic / 110 kW
Dash panel insert		
RPM	1200 rpm	>= 0 rpm
Kilometre reading	30 km/h	>= 0 km
Total tank content	6 l	>= 0 l
G-Fuel gauge sender	245 Ohm	70 - 270 Ohm
G266 Oil level	OK	OK

Message text

Test Program

Read

Mode Go to Print ? !

S295_150

Operating buttons

- Message text
- Test program
- Read

Actual values



If a display field/measured value is selected, message texts can, if possible, be displayed using the "Message Text" button and stored test programs using the "Test Programs" button.

Guided Fault Finding

Software Version Management VW (SVM-VW)

The SVM-VW manages information and data about the control units that are in the field.

It compares the vehicle data with the current software and hardware versions and, if necessary, sends an update instruction or requests a hardware exchange.

The guided fault finding procedure automatically takes you through the control unit programming.

Next the current equipment state is returned to the SVM-VW.

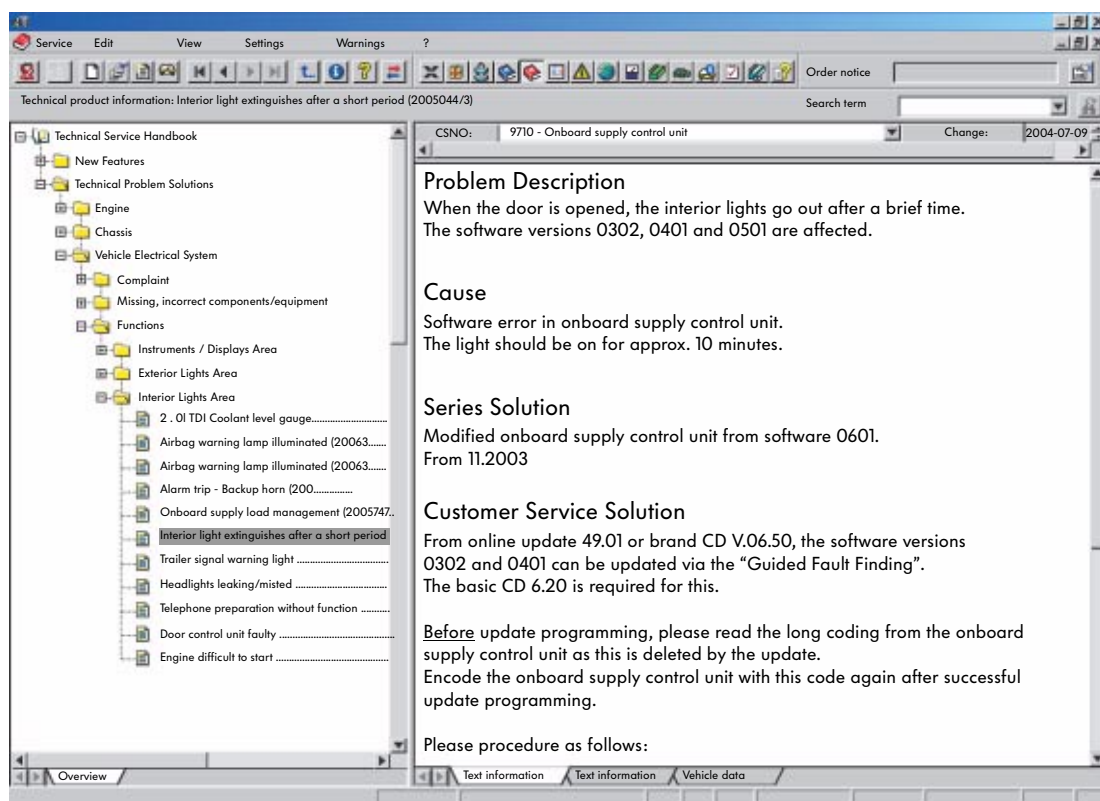
Control unit update process

If a software update is required for a control unit, the problem is indicated in the “Technical Problem Solution” section of the ELSA along with a note about the fault search and the necessary update as a customer service solution.



Software version management may only be carried out as a customer service solution if an instruction is available in the ELSA, in the HST, in the TPL or from the TSC.

This is very important as control unit programming cannot be reversed. Old software cannot be reloaded.



S295_075

Start the control unit update process

The complete update programming is carried out in the “Guided Fault Finding” procedure. It starts with vehicle identification.

The screenshot shows the 'Guided Fault Finding' interface. At the top, it displays 'Volkswagen V06.50.00 23/02/2004'. Below this, there's a 'Select type' section with a list of vehicle models: 1C- New Beetle 2003 >, 1C- New Beetle USA/Canada 1999 - 2002, 1J- Bora 1999 >, 1J- Golf 1998 >, 1J- Golf 1998 > USA/Canada only, 1K- Golf 2004 >, and 1T- Touran 2003 >. The '1T- Touran 2003 >' option is selected. Below this, there's a 'Vehicle System Test' section with a list of components: 2K- Guided Fault Finding, 2K- Vehicle System Test, 3B- Control units have been queried, 3B- Motronic engine control unit, 3D- Direct shift gearbox 02E, 3D- Automatic 6-speed gearbox 09G, 3D- ABS/EDS/ASR/ESP Mark 60, 3D- Power steering - electro-mechanical, 3D- Airbag, 3D- Climatronic, 3D- Climatic, and 3D- Data bus diagnostic interface. The '3B- Control units have been queried' option is selected. Below this, there's a 'Fault memory content' section with a list of faults: 01 - Engine electronics, 2 Fault / notice recognised, 16497 P0113 000 Intake air temperature sender G42 Signal too large Fault not stored, 16622 P0239 Charge air pressure sensor 09 - Electronic central 3 Fault / notices recognised. The '16622 P0239' fault is selected. A 'Go to target' dialog box is open, showing options: Go to target, Cancel, Exit, Vehicle system test, Fault memory content, Complaint report, Function/Component Selection, and Selection. The 'Function/Component Selection' option is selected. At the bottom, there are buttons for 'Mode', 'Go to', and 'Print'.

Using the vehicle component list or the vehicle system test, all installed vehicle systems are determined.

S295_076



It is important that this process is run through completely. It may not be cancelled.

S295_077

Use the “Go to” button to select the “Function/Component Selection” go-to target.



S295_078/S295_079

The screenshot shows the 'Guided Fault Finding' interface. At the top, it displays 'Volkswagen V06.50.00 23/02/2004'. Below this, there's a 'Function/Component Selection' section with a list of functions/components: Drive (rep. grp. 01; 10...26; 28...39), Chassis (rep. grp. 01; 40...49), Body (rep. grp. 01; 27; 50...97), Software Version Management, and Special Tools, Testing Equipment, Aids. The 'Function/Component Selection' option is selected. Below this, there's a 'Select Function or Component' section with a list of functions/components: Drive (rep. grp. 01; 10...26; 28...39), Chassis (rep. grp. 01; 40...49), Body (rep. grp. 01; 27; 50...97), Software Version Management, and Special Tools, Testing Equipment, Aids. The 'Software Version Management' option is selected. At the bottom, there are buttons for 'Mode', 'Go to', and 'Print'.

S295_080

The software version management is started in the “Function/Component Selection” mask.

The screenshot shows the 'Guided Fault Finding' interface. At the top, it displays 'Volkswagen V06.50.00 23/02/2004'. Below this, there's a 'Test plan' section with a list of test plans: 1T - Touran 2003>, 2004 (4), Saloon, and BNG 1.6l Motronic / 85kW. The '1T - Touran 2003>' test plan is selected. Below this, there's a 'Software Version Management' section with a list of software versions: Program Control Units. At the bottom, there are buttons for 'Mode', 'Go to', 'Print', and a green arrow button.

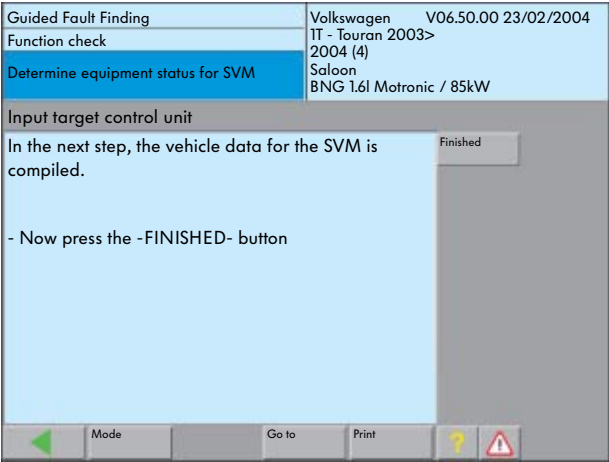
S295_151



You will find the latest information on the SVM-VW in the VW-ServiceNet®.

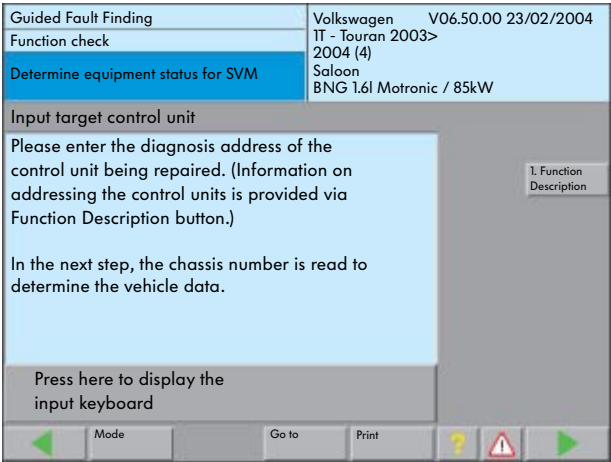
Guided Fault Finding

The vehicle data for the SVM is compiled first.



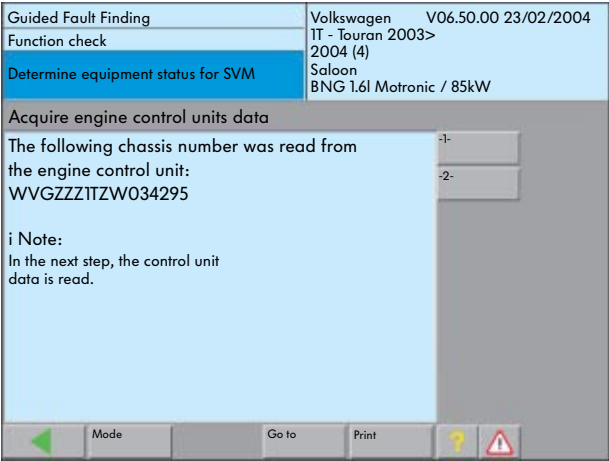
S295_152

Next the diagnostic address of the control unit to be repaired needs to be entered.



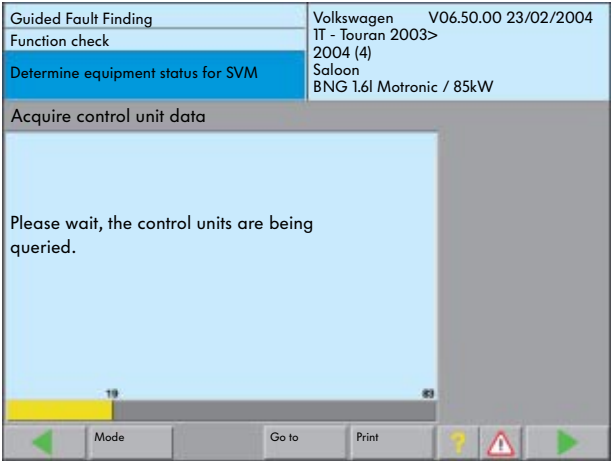
S295_153

The diagnosis system then records the vehicle system data (control unit) and reads the chassis number.



S295_154

Once the chassis number has been confirmed, the data of the systems installed in the vehicle is queried and sent to the manufacturer.



S295_155

Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function check	IT - Touran 2003>
Determine equipment status for SVM	2004 (4) Saloon BNG 1.6l Motronic / 85kW

Online connection setup

Next the data is transferred online.
A connection has to be set up for this.

- Please connect your tester to the corresponding hardware on your online network.

Finished

Mode Go to Print ? !

S295_157

A login and a password is required to send the extracted data to the SVM.



The password and login are issued by the system administrator at the respective dealership and can only be used there.

The diagnosis system then sends the data via an online connection to the vehicle manufacturer database.

The diagnostic system needs to have a connection to the dealership network.

Login

Enter login

Login

Password

0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Ö	R	S	T
C	U	V	W	X	Y	Z	_	.	Q

Cancel OK

Mode Go to Print ? !

S295_156



Guided Fault Finding	Volkswagen V06.50.00 23/02/2004
Function check	IT - Touran 2003>
Evaluate SVM flash sequence instruction	2004 (4) Saloon BNG 1.6l Motronic / 85kW

Result

1 The control unit has been updated to the latest software version.

Finished

Mode Go to Print ? !

S295_158

The final message indicates whether the process was successful. After a update, the updated equipment status is sent to and confirmed by the SVM.

The manufacturer database checks the incoming data and sends the latest control unit software to the vehicle system via the online connection.

Guided Fault Finding	
Function check	
Evaluate SVM flash sequence instruction	

Flash control unit

The requirement for flashing the control unit eze_09 have been met.
Control unit software version: 0601
Software version after flash: 0701
The programming lasts approx. 5 min.

! Important
Switching off the ignition or removing the diagnostic connector during programming can lead to a malfunction and thus replacement of the control unit.

Yes No

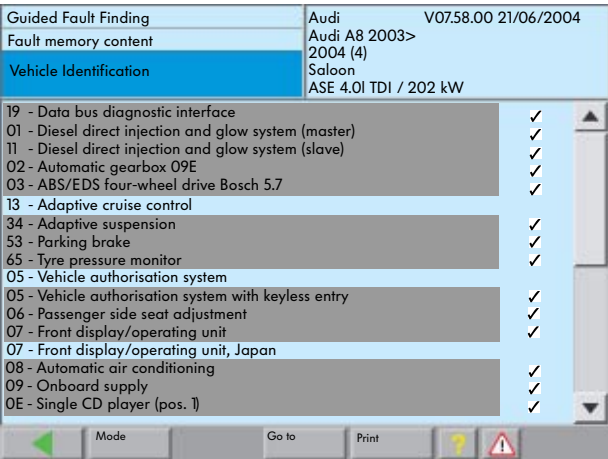
Mode Go to Print ? !

S295_159

Guided Fault Finding

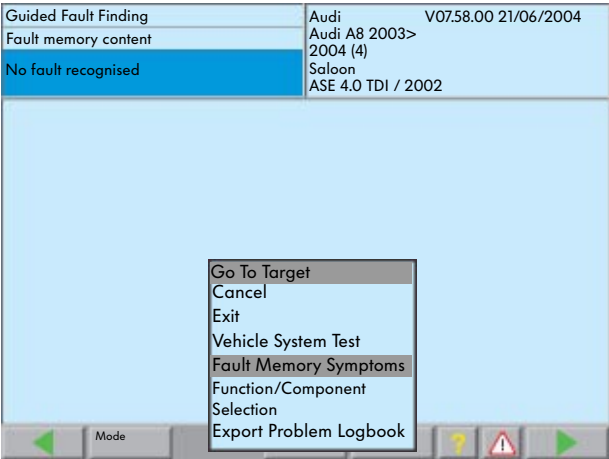
Audi software version management

Audi software version management is possible via an online connection to the diagnosis with Audi vehicles from model year 2003.



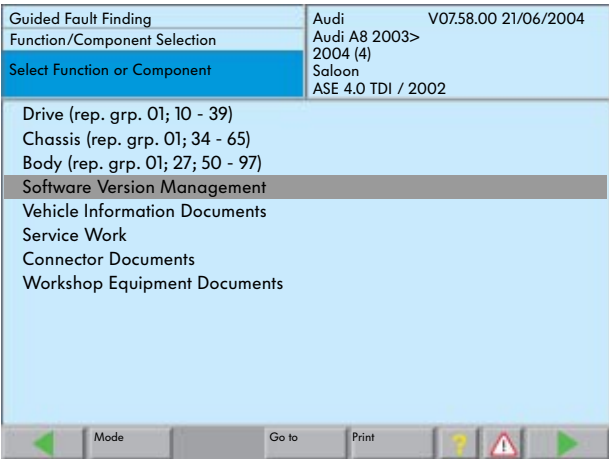
S295_089

From the “Fault Memory Content” mask, you can select the “Function/Component Selection” mask with the “Go to” button.



S295_090/S295_079

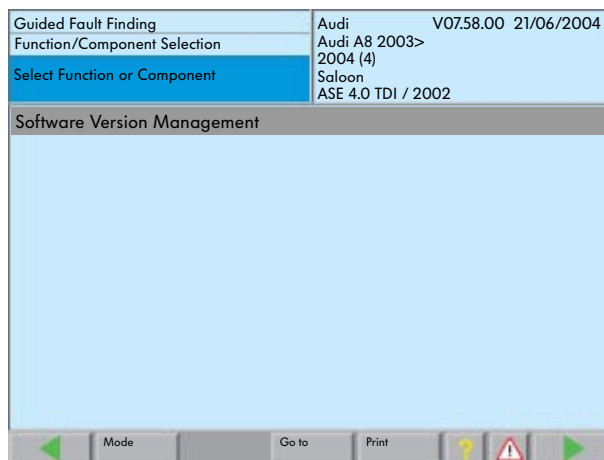
The “Software Version Management” function can be selected in the “Function/Component Selection” mask.



S295_091

The Audi software version management comprises:

- Target/actual comparison
- Problem-related hardware and software update
- Vehicle modification

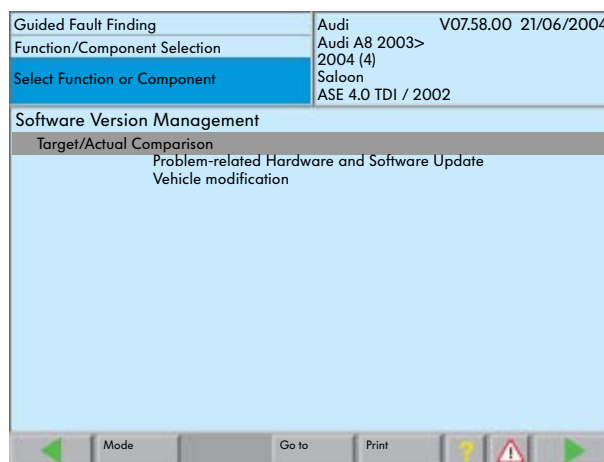


S295_094

Target/Actual Comparison

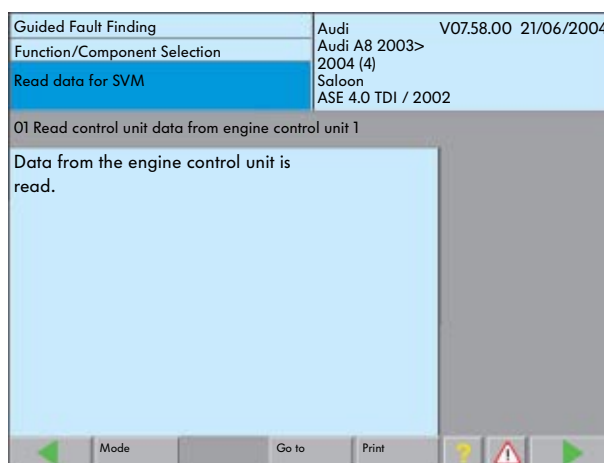
The target actual comparison is used to check the control unit configuration before a repair is started.

The current control unit configuration is documented in the SVM database at Audi in Ingolstadt.



S295_095

The VAS 5051/VAS 5052 reads the software versions, the hardware and software parts numbers, the serial number as well as the coding of the control units installed in the vehicle and transfers it to the SVM database via the online connections.



S295_096



Guided Fault Finding

Problem-related hardware and software update

The problem-related hardware and software update is used to control problems that are described in the TPL and do not generally lead to recalls.

Before the repair is started, the hardware needed according to the TPL needs to be ordered through spare parts. If a software problem is involved that can be rectified with an update, a control unit does not need to be ordered.

At the end of the repairs, the current control unit configuration is documented in the SVM database.



Guided Fault Finding	Audi	V07.58.00	21/06/2004
Function/Component Selection	Audi A8 2003>2004 (4) Saloon ASE 4.0 TDI / 2002		
Select Function or Component			
Software Version Management			
Problem-related hardware and software update			
Direct input of action code for a problem-related update			
ModeGo toPrint?!			

S295_097

Guided Fault Finding	Audi	V07.58.00	21/06/2004
Test plan	Audi A8 2003>2004 (4) Saloon ASE 4.0 TDI / 2002		
- Direct input of action code for a problem-related update			
ModeGo toPrint?!			

S295_098

Before the update is started, the action code needs to be entered according to the instruction in the TPL. The further procedure is displayed as a mask on the screen.

Guided Fault Finding	Audi	V07.58.00	21/06/2004
Function check	Audi A8 2003>2004 (4) Saloon ASE 4.0 TDI / 2002		
Read data for SVM			
Read head data			
Please enter the required action code:			
Press here to display the input keyboard			
ModeGo toPrint?!			

S295_099

Vehicle modification

If modules have been retrofitted (e.g. auxiliary heating, tow bar), the modified control unit configuration will be sent to the SVM database and documented.

Guided Fault Finding	Audi	V07.58.00 21/06/2004
Function/Component Selection	Audi A8 2003>	
Select Function or Component	2004 (4)	
	Saloon	
	ASE 4.0 TDI / 2002	
Software Version Management		
Vehicle modification		
Direct input of action code for vehicle modification		
◀ Mode Go to Print ? ⚠ ▶		

S295_100

Pressing the “Continue” button twice will open the screen for inputting the action code.

Guided Fault Finding	Audi	V07.58.00 21/06/2004
Test plan	Audi A8 2003>	
	2004 (4)	
	Saloon	
	ASE 4.0 TDI / 2002	
- Direct input of action code for vehicle modification		
◀ Mode Go to Print ? ⚠ ▶		

S295_101

So that the necessary configuration can be carried out, the action code given in the installation or modification description needs to be entered.

Guided Fault Finding	Audi	V07.58.00 21/06/2004
Test plan	Audi A8 2003>	
Read data for SVM	2004 (4)	
	Saloon	
	ASE 4.0 TDI / 2002	
Read head data		
Please enter the required action code:		
Press here to display the input keyboard		
◀ Mode Go to Print ? ⚠ ▶		

S295_102



You will find the latest information on the SVM-Audi in the Audi-ServiceNet®.



Guided Functions

**The contents of the guided functions
in the vehicle diagnosis, testing and information system VAS 5051,
in the vehicle diagnosis and service information system VAS 5052
as well as in the vehicle diagnosis system VAS 5053**

Advantages of the “Guided Functions”

- Fast access to functions used on a daily basis
- Complete vehicle system test not needed
- Available throughout the VAS diagnosis systems
- Usage date with the basis CD V06.00.00 and the Volkswagen brand CD V06.42.00 or the Audi brand CD V06.47.00

Overview

Among other things, the “Guided Functions” allow

- vehicle keys to be adapted,
- the service interval display to be reset,
- help to be provided with the replacement of control units,
- the coding and adjustment of control units,
- control element diagnosis to be performed,
- data blocks to be read,
- general system descriptions to be called up,
- component tests to be carried out on electronic systems and
- fault memory entries to be read. If there is a fault entry, direct entry into the guided fault finding is possible using the “Mode” button.



Entry

Entry is via the vehicle selection as with the “Guided Fault Finding”.

S295_162

S295_163

S295_164

S295_165

S295_166

Once the vehicle and the engine variant has been selected, you can select the required system by touching the screen.

- A fault memory query is possible during the maintenance is possible using the “Vehicle System Test” button. If a fault has been stored, direct entry into the guided fault finding is possible using the “Mode” button.

S295_115

Press the “Mode” button to switch to the “Guided Fault Finding”. When you return, the fault memory is not erased.

Activation of vehicle system test, query only of the systems that are possible in this vehicle type.



Guided Functions

The possible testing and diagnosis steps are then shown for the selected system.

Guided Functions	Audi	V07.58.00 21/06/2004
Functions	Audi A3 2004 > 2005 (5)	
Select vehicle system or function	Saloon, 5-door (Sportback) AXX 2.0l Motronic / 147kW	
03 - Brake electronics ABS/ESP Mark 20		
General System Description		
J104 -	Read data block	
J104 -	Control element diagnosis	
J104 -	Location of control unit component sensors	
G85 -	Calibration of steering angle sender	
G200-	Calibration of lateral acceleration sender	
G201-	Calibration of brake pressure sender	
G251-	Calibration of longitudinal acceleration sender	
Check tyre pressure monitor		
K155 -	ESP warning lamp illuminated	
Mode	Vehicle System Test	Go to Print ? ! ▶

S295_116

Pressing the “Continue” button twice opens the test program.



Guided Functions	Audi	V07.58.00 21/06/2004
Function check	Audi A3 2004 > 2005 (5)	
Calibration of steering angle sender -G85	Saloon, 5-door (Sportback) AXX 2.0l Motronic / 147kW	
Test requirement		
In this test program, the steering angle sender is calibrated.		Finished
! For the final initialisation of the steering angle sender, the car needs to be driven briefly on a straight and then the steering needs to be trained.		
◀	Mode	Go to Print ? ! ▶

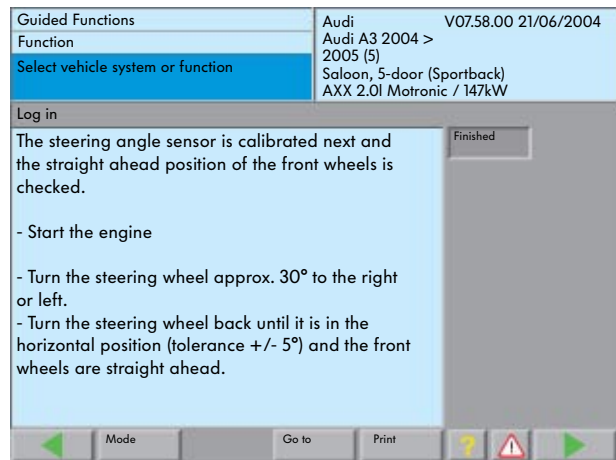
S295_172

The further procedure for the function test is menu-guided.

Guided Functions	Audi	V07.58.00 21/06/2004
Function check	Audi A3 2004 > 2005 (5)	
Calibration of steering angle sender -G85	Saloon, 5-door (Sportback) AXX 2.0l Motronic / 147kW	
Test requirement		
The following requirements need to be met.		Yes No
- The fault memory needs to be erased. Only the fault 778 steering angle sender -G85/ no or incorrect basic setting should entered.		
- The control unit needs to be coded.		
Are these requirements met?		
◀	Mode	Go to Print ? ! ▶

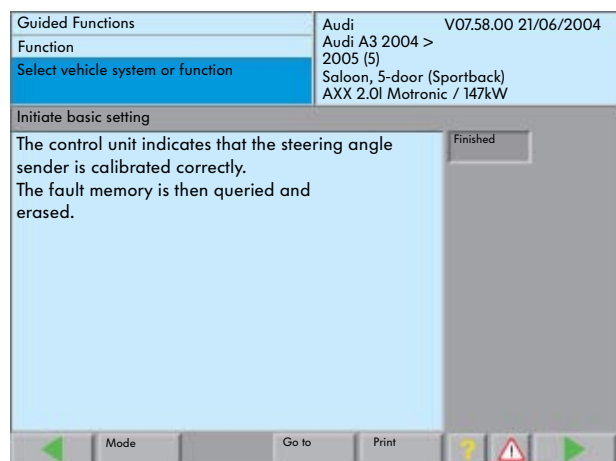
S295_171

Instructions for carrying out operating steps on the vehicle are provided for the user on screen in the mask.

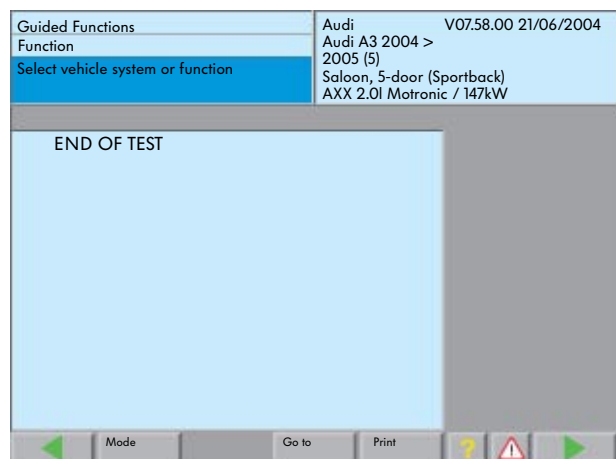


S295_173

The mask shows the respective latest progress of the function test.



S295_174



S295_175

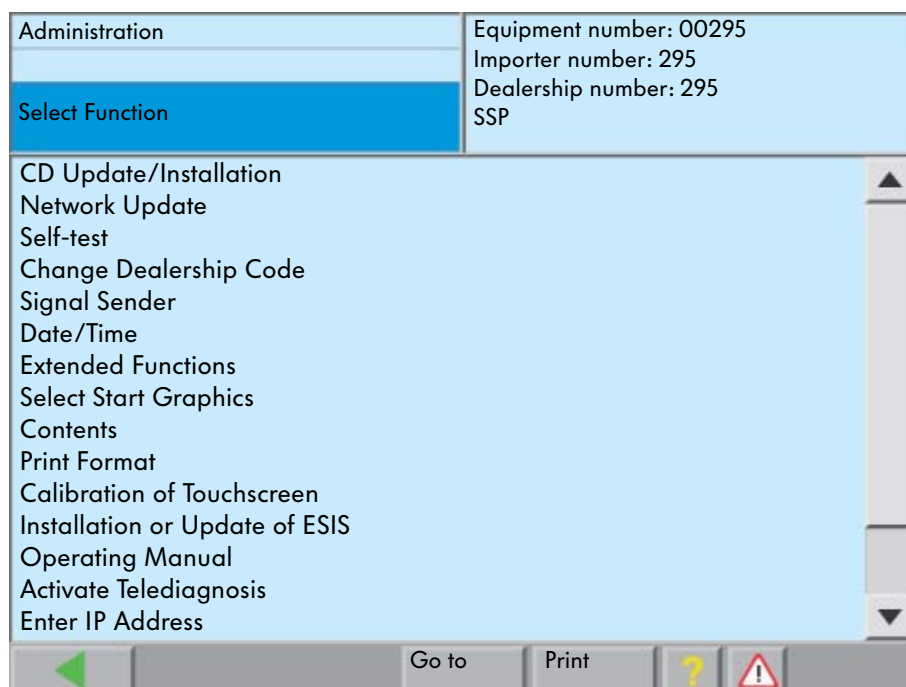
Administration

**The contents of the administration
in the vehicle diagnosis, testing and information system VAS 5051
as well as
in the vehicle diagnosis and service information system VAS 5052**

Starting Administration

The Administration is started from the start mask by pressing the “Administration” button.

It provides the functions for internal administration of the tester.



Administration	Equipment number: 00295 Importer number: 295 Dealership number: 295 SSP
Select Function	
CD Update/Installation	
Network Update	
Self-test	
Change Dealership Code	
Signal Sender	
Date/Time	
Extended Functions	
Select Start Graphics	
Contents	
Print Format	
Calibration of Touchscreen	
Installation or Update of ESIS	
Operating Manual	
Activate Telediagnosis	
Enter IP Address	

Go to Print ? !

S295_118



This selection provides just an overview of the functions in the Administration mode. You will find a detailed description in the operating manual for the vehicle diagnosis, testing and information system VAS 5051 and in the operating manual for the vehicle diagnosis and service information system VAS 5052.

Functions	
CD Update/Installation	Basic and brand CDs can be installed using this function.
Network Update	When this menu item is selected, the test unit searches for a software update under the corresponding URL address.
Self-test	This function carries out a self-test of the vehicle diagnosis connector in the test unit including the diagnostic cable and the internal test instrument unit (only VAS 5051).
With first installation: Enter workshop code then: Change dealership code	This function is used to enter the sales/importer number, dealership number and dealership code. After confirming the entry, this data is blocked. Next only the name and the address of the dealership can be changed.
Signal Sender	This function allows you to change the duration and pitch of the acoustic signal.
Date/Time	After selection, the date and the time can be adjusted. The date can, however, only be changed with first installations or when a new basic CD is installed.
Extended Functions	This can only be used with a special key CD.
Select Start Graphics	The function allows you to select the start graphics.
Contents	After selecting this item, the installed basic and brand CDs are displayed with their respective version number. After selecting a CD, its contents appear.
Print Format	This function allows you to set different paper formats with the accompanying software printer drivers for screenshots and print styles.
Screen Calibration	This function allows the touch screen to be calibrated. (VAS 5051 only after first installation or after installation of a new basic CD)
Installation or Update of ESIS	This function allows you to install "Electronic Service Information System". (US market only)
Operating Manual	This function displays the operating manual.
Activate or Deactivate Telediagnosis	This function allows remote access to the test unit via a network.
ELSA Installation	This function allows you to install the procedure system for the "Electronic Service Information System". (Not VAS 5051 and VAS 5053)
Application Statistics	The selection shows statistics on how often and how long the individual modes have been used.
Application Installation	Other applications can be installed with this function, for example, data CD for update programming and multimedia training CDs from service training.
Network Settings	After selecting this function, another mask appears where you can make network settings.



Time Management

Time Recording

Calculation of diagnosis times

The group has been using the VAS 5051 since 1996, the VAS 5052 since 2001 and the VAS 5053 since 2004.

In these systems, the test steps are added in the “Guided Fault Finding” and the “Guided Functions” using specially developed parameters.

The labour items (AP) with times for the single reading (01 29 00 00) and repeated reading (01 29 00 50) of error memories have the following content structure:

- 1 Query fault memory before repair (including connecting and disconnecting diagnostic system)
- 2 Erase fault memory (01 29 00 00)
- 3 Carry out any repairs
- 4 Query fault memory again after repairs and then erase (01 29 00 50)

New customer service number for vehicles from model year 2003

From model year 2003, the customer service number 01 50 00 00 for the “Guided Fault Finding” and the “Guided Functions” is available. The customer service number is initially without time.

The time from the diagnosis protocol is entered in the DMS.

All required work, for example, reading the fault memory or programming control units are covered by the labour item AP 01 50 00 00.

The diagnosis protocol, which is included with the order, provides proof. The time that is given on the print out is only the time that the mechanic spent on the vehicle with the diagnosis system. In addition, all removal and installation work, fetching special tools and other work have to be added to this.

This is then invoiced together.



Diagnosis protocol

After diagnosis, the necessary times are calculated and can therefore be checked.

These times are displayed in the diagnosis protocol and can be invoiced together with the times for removal and fitting of the faulty part.

VAS 5051	Diagnosis Protocol	15/06/2004 13:37
Workshop code: 12345678		Version: V07.58.00 21/06/2004
Dealership code Jones Cars		Car registration SSP 295
		Vehicle ID no. WVWZZZSSP295

Diagnosis	time: 85 time units
------------------	----------------------------

S295_119



Online Connection

Networked Workshops

Changing services

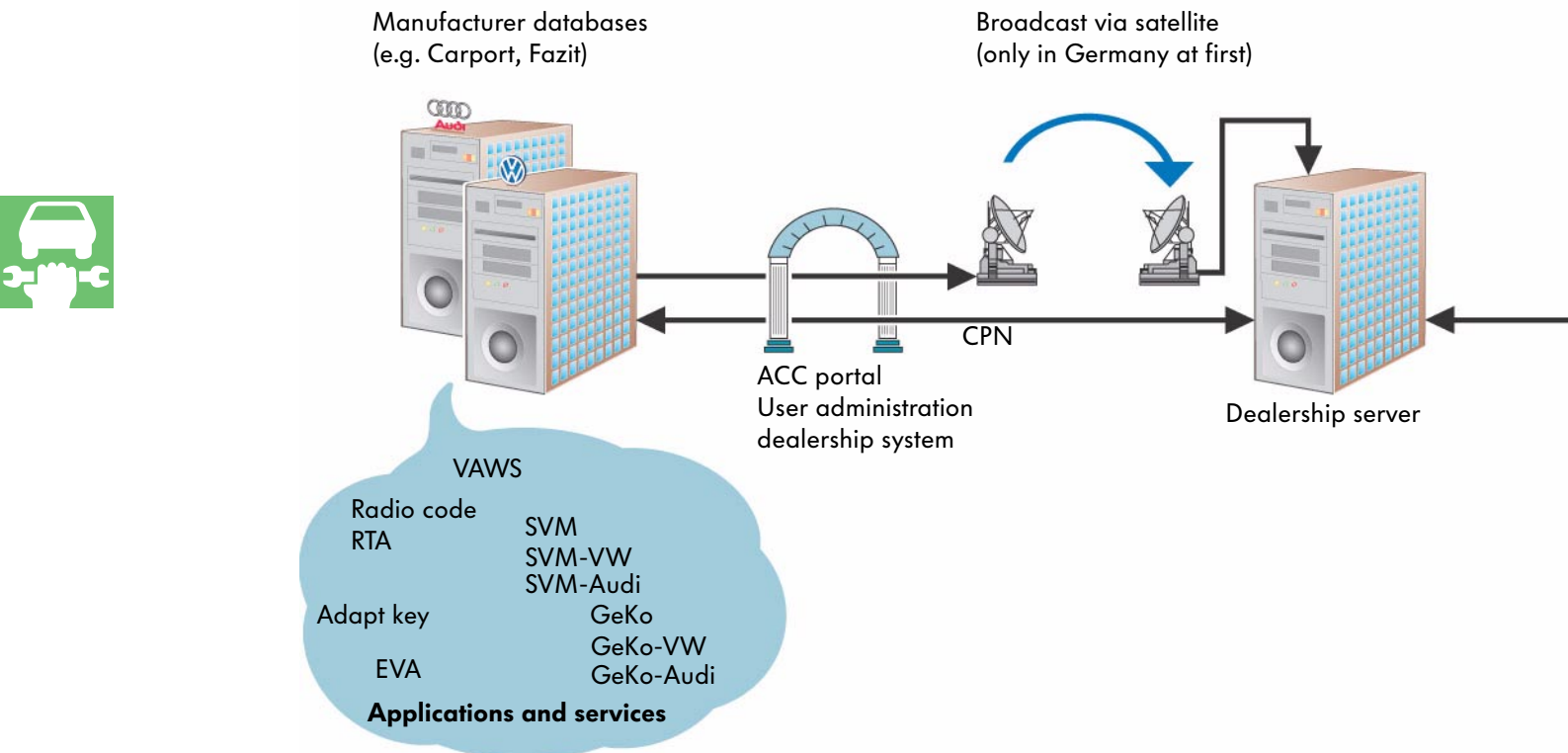
As in many other industries, the use of networked diagnosis systems is also inevitable in vehicle services.

Service and diagnosis work

The following service and diagnosis work is only possible in a network:

- Software version management
- Secret and component protection
- Software updates for control units
- Telediagnosis
- Software-supported performance of actions
- Adapt key (GeKo)
- Enable radio code

Data transfer via online connection



The Standard

Required hardware

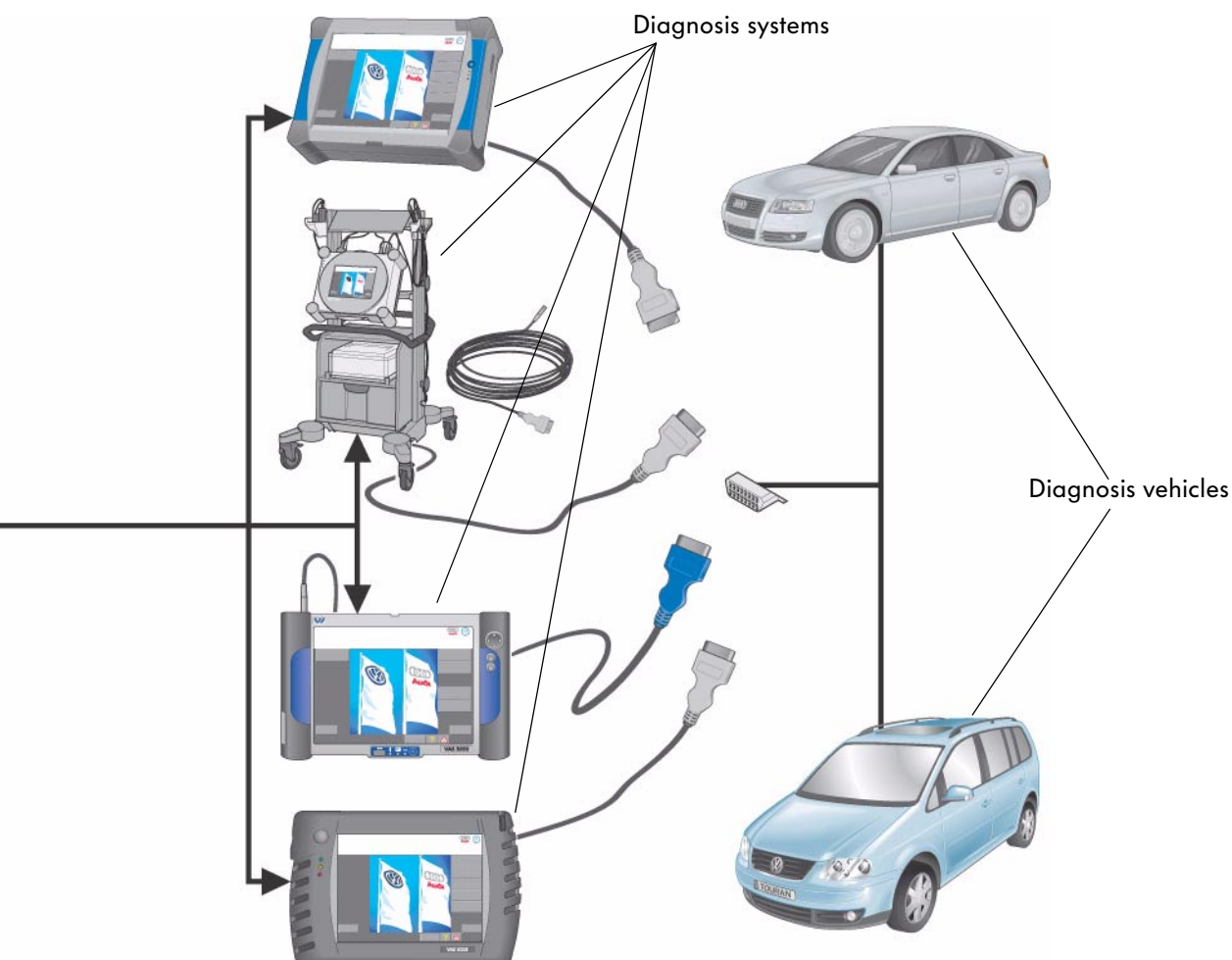
To use network communication, the VAS diagnosis systems require a network card and a network connection in the workshop.
The VAS 5051B, VAS 5052 and VAS 5053 systems have an internal network card. An Ethernet PCMCIA can be added to the VAS 5051.
An IP address is also required for each diagnosis system (see page 89).

Data transfer

The data transfer occurs via the CPN partner network.



- Radio code and immobilizer code query no longer via dealership online access
- Vehicle keys are supplied pre-coded
- Online connection may not be interrupted during any GeKo adjustments and coding



S295_120

Online Connection

Accessories for connection to a network

VAS 5051 network connection

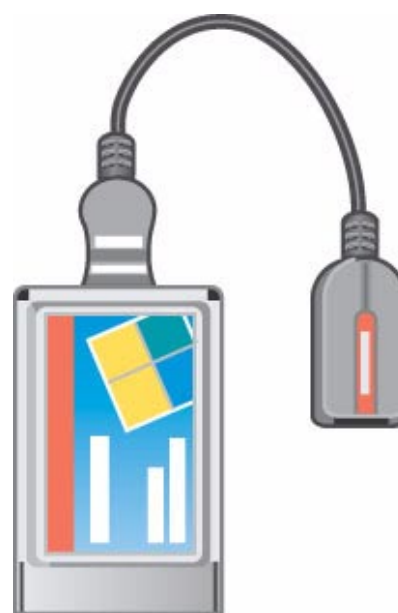
The VAS 5051 also requires an Ethernet PCMCIA card for network communication.

VAS 5015/45 Ethernet

The Ethernet PCMCIA card allows communication with other computer systems via an online connection.

Required software

The necessary software components are supplied with the update CDs for the VAS 5051.



S295_121

VAS 5052, VAS 5051B and VAS 5053 network connection

The diagnosis systems have an internal network card and therefore required a network cable to network communication.



S295_122



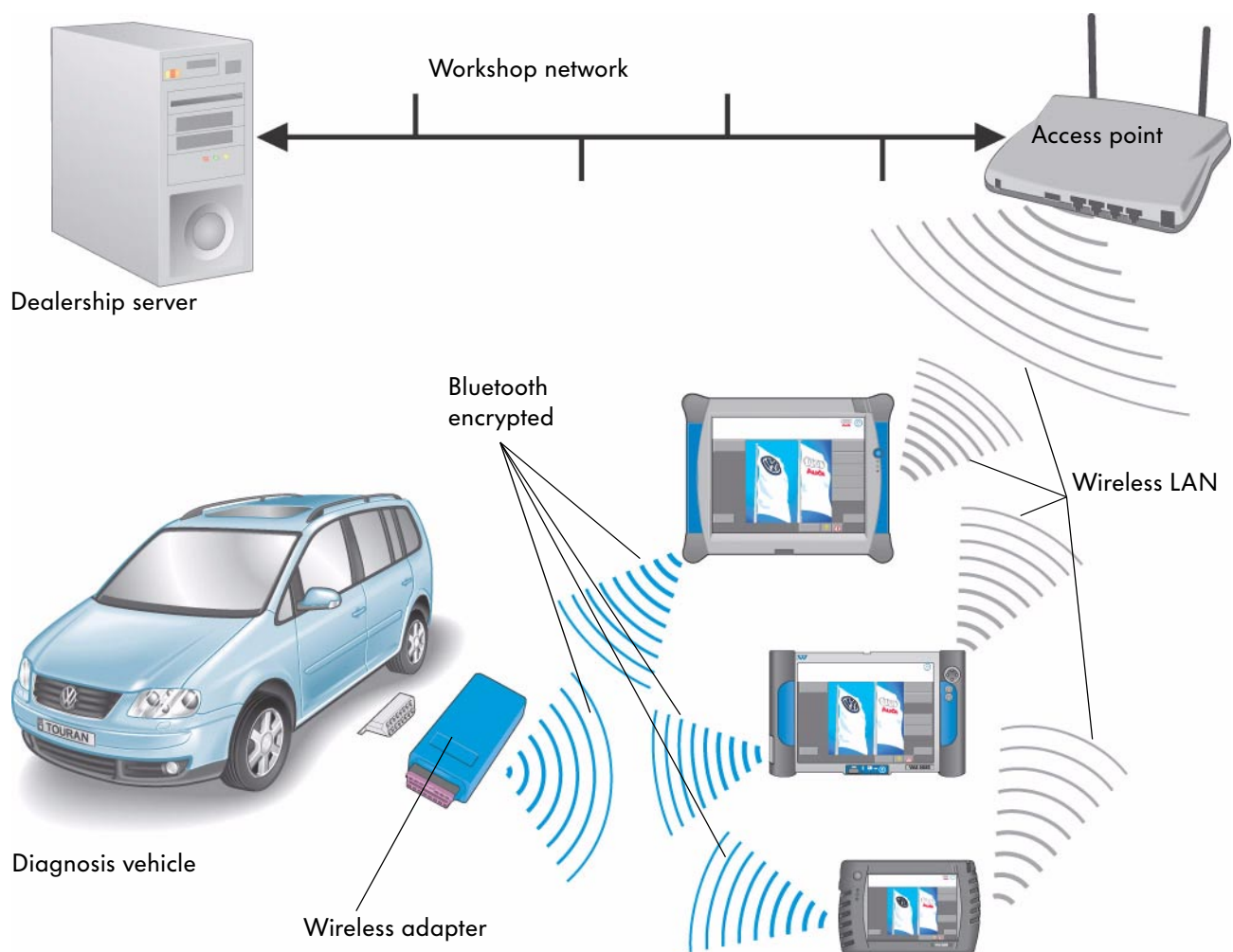
Further information on the installation of network, the network and on the versions of the basic and brand CDs for the diagnosis systems are available in ServiceNet®.

Diagnosis wireless adapter 5054

In future, to meet the increasing demands for convenience, the data transfer between the vehicle and the diagnosis systems will also be possible via a wireless connection in addition to the diagnosis lead.

A wireless adapter that can be used as an intermediate storage medium is connected to the diagnosis socket.

Data Transfer



S295_124

Telediagnosis

Diagnosis with Support

General description

To support diagnosis on the vehicle, the VAS diagnosis systems can be operated from a central point (e.g. experts at the TSC, at the importer, in the factory) via an online connection.

The expert can see the data read from the vehicle on his screen and can support the mechanic.

The mechanic and the expert communicate by telephone.

Telediagnosis



Expert at TSC



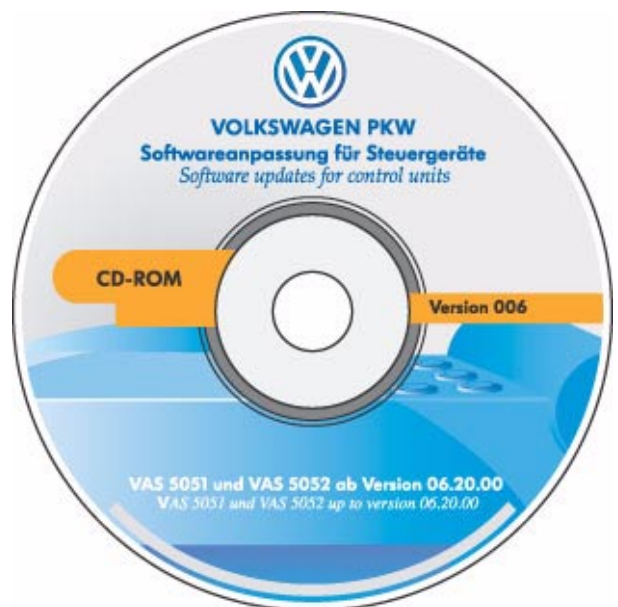
Mechanic in the workshop



S295_125

Software requirements for workshop

All VAS 5051s with the basic CD version 2.10 and all VAS 5052s with the basic CD V06.00.00 and higher have the telediagnosis function.



S295_126

VAS 5015/45 Ethernet telediagnosis

When used in a workshop or dealership network, the Ethernet PCMCIA card is required.

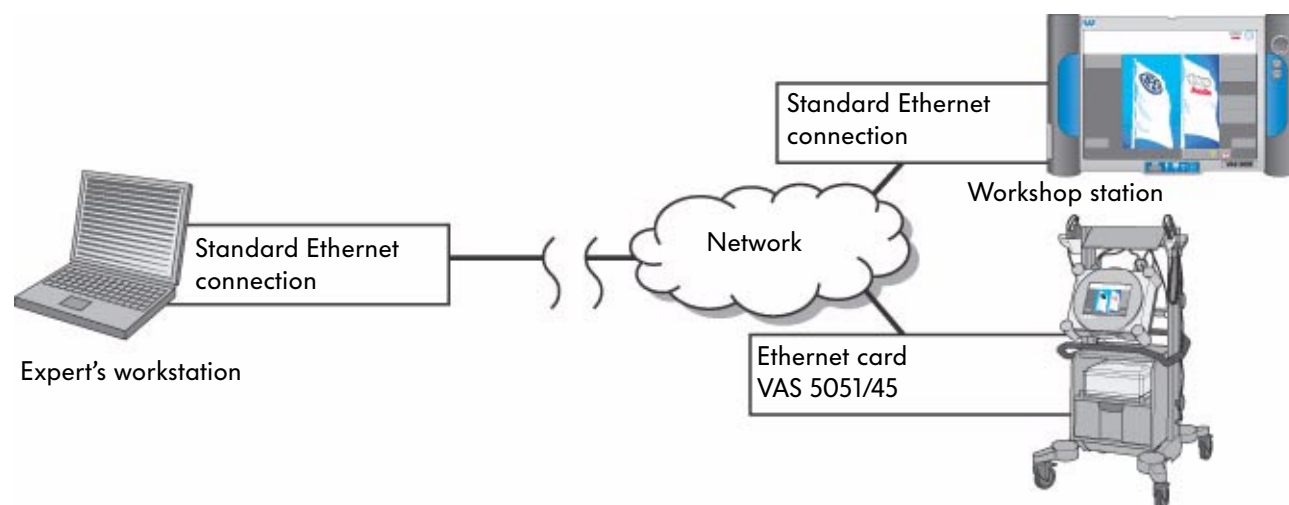
Contents:

- EMC plate with cable holder
- PCMCIA Ethernet card with connection lead
- Trim
- 10 m connection lead
- Protective cap
- Installation instructions



S295_127

Ethernet Connection



S295_128

The VAS 5051 as well as the VAS 5052 are networked within the workshop and can communicate with the expert's workstation via an online connection.

The administrator on site or at the sales centre assigns an IP address and subnet mask to the VAS 5051 and VAS 5052.



The "Telediagnosis" function can only be used with the VAS 5051 diagnosis systems in a workshop or dealership network with the original VAS 5051/45 package for technical and licensing reasons.

Telediagnosis

VAS 5015/38 ISDN telediagnosis

If the system is not used in a workshop or dealership network, an ISDN card is required for telediagnosis.

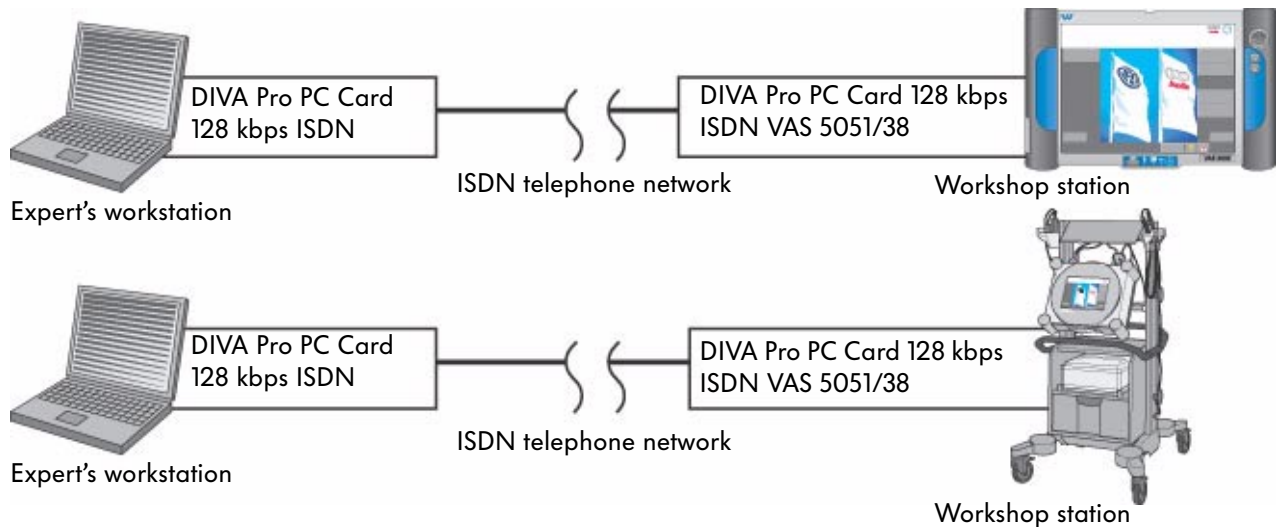
Contents:

- EMC plate with cable holder
- ISDN card with connection lead
- Trim
- 10 m connection lead
- Protective cap
- Installation instructions
- An ISDN connection on site



S295_129

ISDN Connection



S295_130

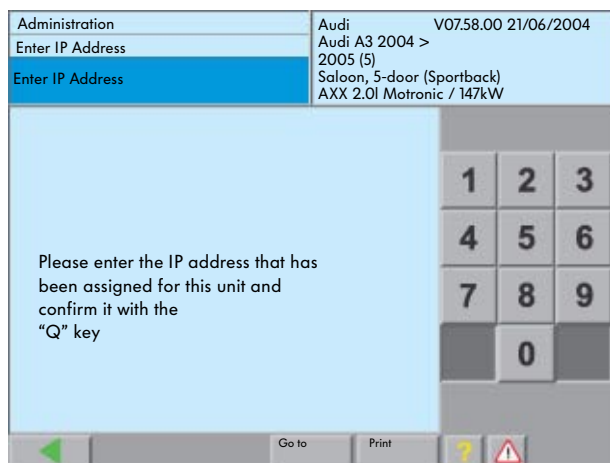
The "Telediagnosis" function can only be used with the ISDN card from the original VAS 501/38 package for technical and licensing reasons.

The retail dealership concept prevents simultaneous use of an ISDN connection on systems that are connected to a workshop or dealership network.

In markets with standardised workshop networking, only the Ethernet card VAS 501/45 may be used.

Function

Before a data connection to the TSC, importer or factory (expert workstation) can be set up with the VAS 5051 or the VAS 5052, you should make sure that the network card or the standard Ethernet connection in the diagnosis system is connected.



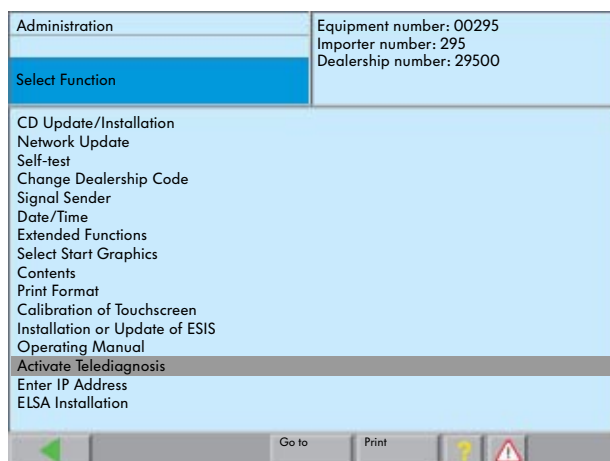
S295_131

Entering the IP address

An IP address needs to be entered for systems that are connected via a workshop or dealership network.

It is entered by pressing the “Administration” button on the start screen and then selecting the “Enter IP Address” function.

The IP address is issued by the system administrator at the dealership in accordance with Volkswagen Group guidelines.



S295_132

Activate Telediagnosis

The “Activate Telediagnosis” function is started from the “Administration” menu item in the VAS 5051 or VAS 5052.

The connection can then be set up from the expert’s workstation.



Once the connection between both stations has been set up, the workshop unit switches to “slave mode”. The expert’s workstation takes on the master function.

Operation can occur on both units as agreed. The screens are identical on both stations.

The mechanic and the expert communicate by telephone.

The data connection is set up from the expert’s workstation.

Emissions Testing Station

VAS 6300 Emissions Testing Station

Emissions testing station control unit

The VAS 5052 vehicle diagnosis and service information system is used as an operating and display unit together with the 6300/2 software/hardware package. It controls the devices connected in concept 1 or 2 via an interface distributor and communicates with the vehicle control units

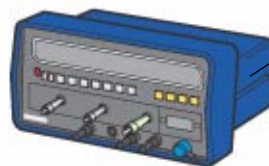
Concept 1

In addition to the control unit, concept 1 uses the ignition tester V.A.G 1767, the exhaust tester V.A.G 1787 or 1788 and the diesel tester V.A.G 1743.

VAS 5052
control unit



Printer



V.A.G 1767
ignition tester



V.A.G 1743
Tester for diesel
engines

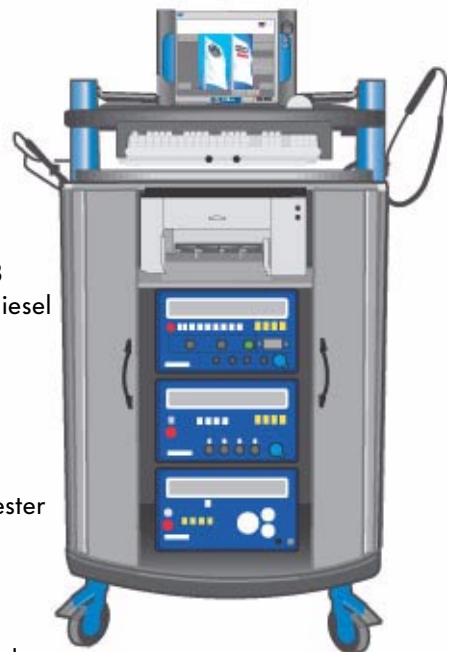


V.A.G 1788
4-gas exhaust tester



Diesel measuring head

VAS 6300
Concept 1

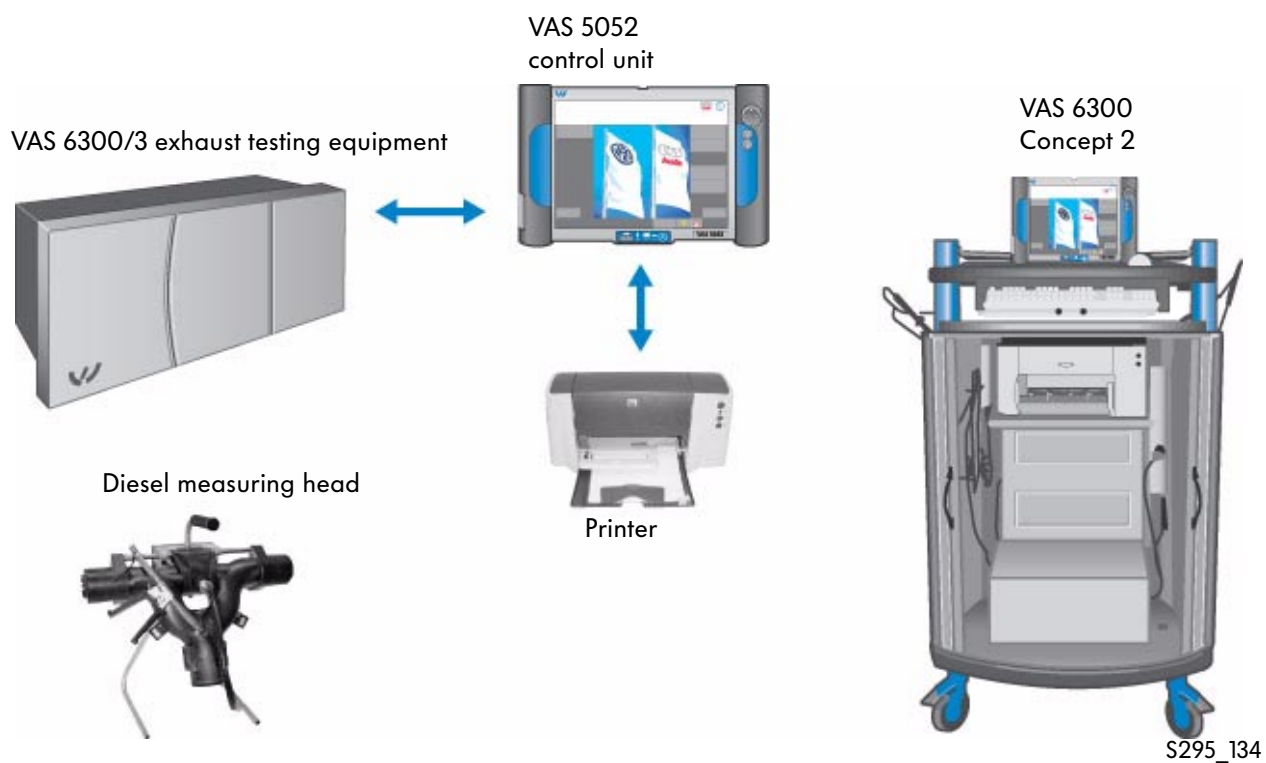


S295_133



Concept 2

In addition to the control unit, concept 2 comprises the exhaust testing equipment VAS 6300/3, a state-of-the-art testing instrument that can be used across the world.



You will find further information on the CD VAS 6300 Multimedia Training supplied with the emission testing station. This CD also contains the emissions testing software required for the VAS 5052.



Glossary

A

API	Current product information	Information on problems, new features (videos etc.)
APOS	Labour position activities, time units	
ASANET	Data exchange protocol	Defined protocol for transfer of information to a wide range of workshop equipment that link the asanetwork
ASC	Audi Service Circle	
AU	German emissions test	
AVUS	Automatic Vaudis Update System	

B

DC	Dealership Concept	The equipment, structure, hardware and software which the dealership can install
Bluetooth		Wireless data transfer

C

CAN	Controller Area Network	Network for control unit communication in the vehicle
CICSA	Mainframe carrier system	Black screen, green font, PESOS runs on this, for example.
CPIS	Central Partner Information System	Hardware and software inventory of all partners, automatic reporting to central system about which components are installed. (Drops/Vaudis/Elsa/ServiceNet®)
CPN	Central Partner Network	Closed network segment, which all Volkswagen and Audi partners can access



D		
DBC	Data Broadcast	Data transfer via satellite
DISS	Direct Information System	Special info tool in Elsa Win from 3.0, can be called up from Service SAGA2. Problems that cannot be solved are coded according to query schemes (which car, which symptom) and sent to the manufacturer.
DMS	Dealer Management System	In Germany mainly VAUDIS DOSYS translation of dealer online access for importers
DMS-BB	Dealer Management System Backbone	Standardised interface for order, customer and vehicle data to the DMS
E		
EA	Expert Advisor	Support system for IS-Handel
ELFI	Electronic vehicle identification	Chassis number is sent, equipment is returned (100% coverage for vehicles from Golf V), integrated in ELSA
ELSA	Electronic service information system	Electronic repair guide
ELSA WIN	Electronic service information system	Electronic repair guide ELSA on Windows basis
ELWIS	Electronic workshop information system	
ERWIN	Electronic repair and workshop information	ELSA for non-VW-Audi dealerships and interested private persons
ESIS	Electronic Service Information System	ELSA-equivalent on North American market
ETKA	Electronic parts catalogue	Follow-up to microfilm
EVA	Electronic sales assistant	multimedia vehicle configuration, Cash sale calculation, leasing, financing



Glossary

F

FAZIT	Vehicle information and central identification tool	Database, in which all theft-related data for the immobilizer and component protection is stored.
FISH	Individual vehicle service notes	Related to vehicle identification. Integrated in ELSA
FISS	Field information high-speed system	Customer complaints, workshop discoveries

G

GW	Guarantee	
GeKo	Secret and component protection	System for adapting the immobilizer, querying the radio code and enabling the component protection with the VAS testers. The user requires system authorisation.

H

HC	Hotline Channel	Knowledge database / problem solutions
Holz	Dealer online access	
HOT server	Server at dealership (via satellite)	HOT = name of company that introduced this technology
HSO	Handbook Service Organisation	Process descriptions within a dealership
HST	Handbook Service Technology	Workshop literature of the dealership, see TPL

K

KD	Customer service	
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L

LIVAS	Literature administration and processing system	Repair guides, text systems
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M

Module		Complex assembly that has a special function and is configured for a specific complete system.
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P

PS	Product Support	
PROFI	Product field information	Further development or improvement of Field information high-speed system (FISS)

R

RESERVE	Repair service results	All repair data for a vehicle
RG	Repair guide	
RSC	Regional Service Centre	
RTA	Radio transponder code query	
RVS	Computer network system	

S

SAM	Service Auto-Mat	Automatic system for dropping off and picking up vehicles
SG	Control unit	
SN(K)	Damage numbers (catalogue)	
SSP	Self-Study Programme	
SVM	Software Version Management	



Glossary

T

TCC	Trade Care Centre	Manufacturer-supported market coordination
TD	Telediagnosis	
TPL	Technical problem solving	Problems known to manufacturer, their solutions and explanations for customers
TPL Archive	Technical problem solution archive	
TSC	Technical Service Centre	

V

VAUDIS	Volkswagen/Audi Diskette System	
VAWS	Volkswagen Audi Workshop System	Starting with appointment management, handles the service core process systematically and supports all parts of the process.
VCS	VAG Computer Service Vesis	
VK	Sales customer service	

W

WFS	Immobilizer	
WIV	Maintenance interval extension	
WT	Maintenance tables	

Z

ZSB	Assembly	
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Test Yourself

1. How can the VAS 5053 software be updated?

- ☐ a) On the network via the workshop server.
- ☐ b) Via the VAS 5051.
- ☐ c) Via the VAS 5051B.

2. What is the standard sort method for the faults immediately after query of the fault memory in “Self-diagnosis” mode?

- ☐ a) According to address words
- ☐ b) In the order that they were stored in the fault memory of the control unit.
- ☐ c) According to the kilometre reading

3. A DSO image can be displayed together with a data block after following which procedure?

- ☐ a) By entering the “Testing Instruments” mode and calling up the data block with the “Measured Value Self-Diagnosis” button.
- ☐ b) By entering the “Vehicle Self-Diagnosis” mode and then switching to the “DSO” function in the “Testing Instruments” mode.
- ☐ c) By entering the “Vehicle Self-Diagnosis” mode, “Read Data Block” function and then switching to the “Testing Instruments” mode and pressing the “Measured Value Self-Diagnosis” button.

4. What are the sort buttons in the “Fault Memory Content” mask of the “Guided Fault Finding” mask used for?

- ☐ a) The system test plans are listed in the order of the sort criterion.
- ☐ b) The sort option organises the faults in order of occurrence for the user.
- ☐ c) User-defined test plans are listed in the order of the selected sort method.



5. How can the sampling rate be set for a long-duration measurement?

- ☐ a) By adjusting the time/div. setting using the buttons.
- ☐ b) In trigger mode, the sampling frequency can be set in kHz steps.
- ☐ c) The sampling rate depends on the set recording time.

6. Does a control unit that is not recognised, but is installed have to be selected later in the vehicle system test?

- ☐ a) Yes, otherwise the system components in the function/component selection cannot be accessed.
- ☐ b) No, if the system was not recognised, it is also not present and any further work on this system is not necessary.
- ☐ c) Yes, as the accessibility of the system is the actual fault and further diagnostic steps are necessary.

7. In what context does the “Note” label appear?

- ☐ a) This is a particularly serious fault that must be solved with top priority.
- ☐ b) The label is an indication to the mechanic for further processing later on.
- ☐ c) The entry is stored in the fault memory, but has low priority and should not be seen as a fault of the reporting system.

8. What does the diagnosis protocol provide information on?

- ☐ a) About the number of installed systems without their sub-bus subscriber.
- ☐ b) It provides information on the processed system and user-defined test plans.
- ☐ c) About the total time required for all steps performed on the diagnostic tester.





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