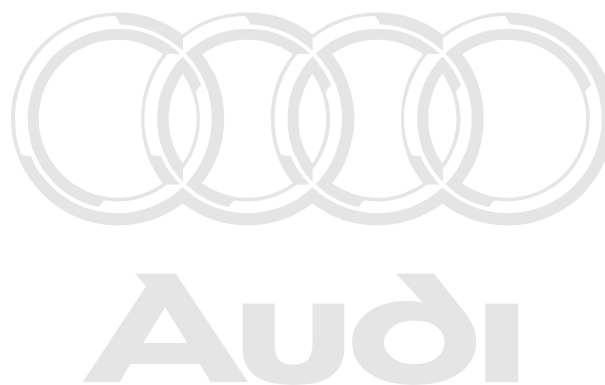


Workshop Manual Audi A8 2003 ➤

Installation manual for digital TV tuner

Edition 03.2004



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List of Workshop Manual Repair GroupsList of Workshop Manual Repair GroupsList of Workshop Manual Repair Groups

Repair Group

91 - Communication



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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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91 – Communication

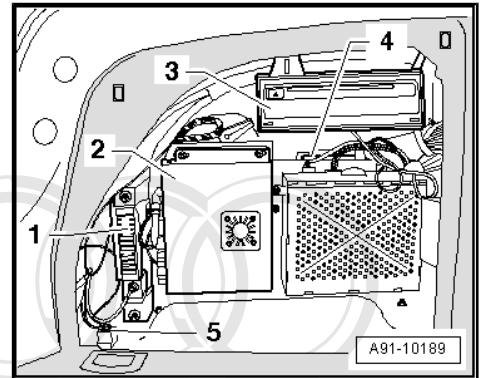
1 Retrofitting DVB-T Set-Top box

The DVB-T Set-Top box will be referred to as digital TV tuner - R171- in this manual.

1.1 Overview

The digital TV tuner -R171- is retrofitted in the luggage compartment behind the left-side storage compartment.

- 1 - Fuse carrier with fuse holder
- 2 - Digital TV tuner -R171-
- 3 - Control unit for navigation system with CD drive -J401-
- 4 - TV tuner -R78-
- 5 - Earth connection, luggage compartment (left-side)



1.2 Components for retrofitting

All parts required for installation are included in the retrofit kit.

The retrofit kit contains the following:

- ◆ Mounting plate -4E0 035 517-
- ◆ Adapter wiring harness -4E0.088.935.C-
- ◆ Digital TV tuner -R171- -4F0.919.142-
- ◆ Remote control -4F0 035 207-
- ◆ -Muttern, M5- Nuts, M5 (6x) -N 100 173 03-
- ◆ Cable tie (5x) -N 020 904 8-

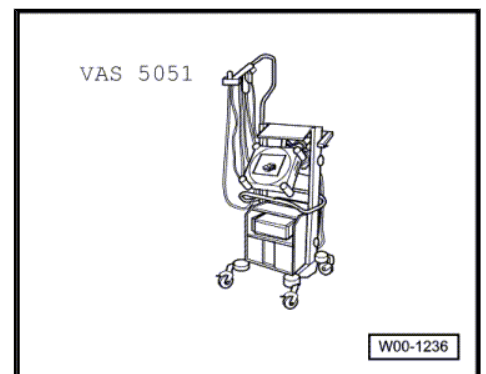
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All components of the retrofit kit can also be ordered separately as replacement parts: ⇒ Electronic parts catalogue "ETKA" .

1.3 Procedure

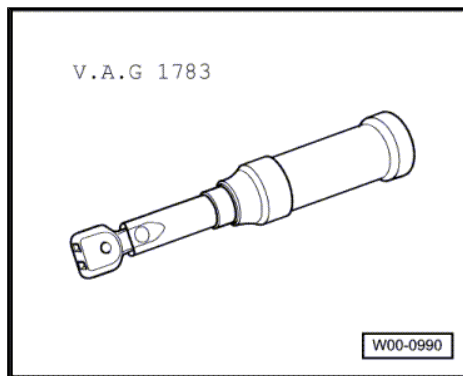
Special tools and workshop equipment required

- ◆ Vehicle diagnosis, testing and information system -VAS 5051 A-

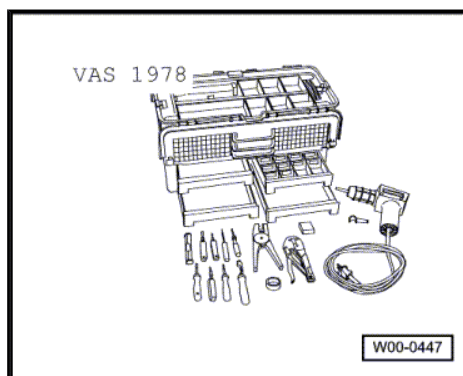




- ◆ Torque wrench -V.A.G 1783-



- ◆ Wiring harness repair set -VAS 1978-



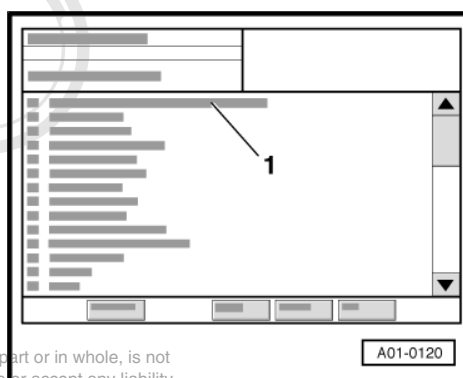
1.3.1 Reading out fault memory for TV tuner - R78-

- Connect up the vehicle diagnosis, testing and information system -VAS 5051 A- or the vehicle diagnosis, testing and information system -VAS 5052- and switch it on.
- Switch on ignition.
- Touch "Self-diagnosis" key on tester display.

Address word: "57 - TV tuner"

Display -VAS 5051 A- :

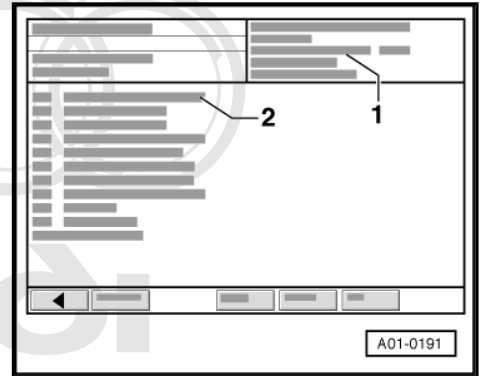
- Touch "57-TV tuner" key on tester display.
- Wait until next display screen appears.



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Display -VAS 5051 A- :

- 1 - Control unit identification
 - 2 - List of diagnosis functions
- From list -2- select diagnosis function "02 - Interrogating fault memory".



Display -VAS 5051 A- :

- 1 - Content of fault memory

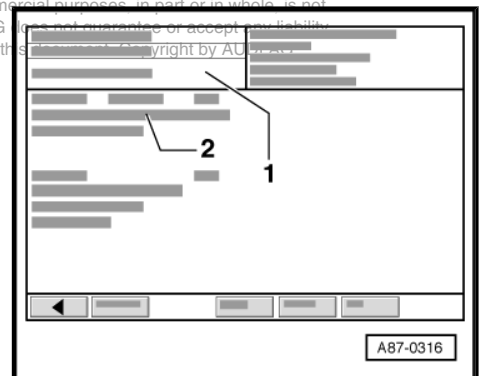
Either: 0 faults detected

Or: X fault(s) detected

- 2 - Fault list


According to: Fault code, fault location, type of fault

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If sporadic faults occur after installing the digital TV tuner -R171- and initializing the remote control => [page 12](#), delete the fault memory and interrogate it again after approx. 10 seconds.

A - If faults are detected:

- Print out information on screen or self-diagnosis log.
- Terminate function "02 - Interrogate fault memory" by touching  key.
- Correct the fault.
- Select diagnosis function "02 - Interrogate fault memory" again from list and erase fault memory => [page 3](#).
- Select diagnosis function "06 - End of output" from list => [page 4](#).

B - No faults detected:

- Select diagnosis function "06 - End of output" from list => [page 4](#).

Erasing fault memory



- ◆ *If it is not possible to erase the fault memory, interrogate the fault memory once again and rectify faults.*
- ◆ *Once the fault memory has been erased, the faults are only updated after the ignition is switched off and on again.*

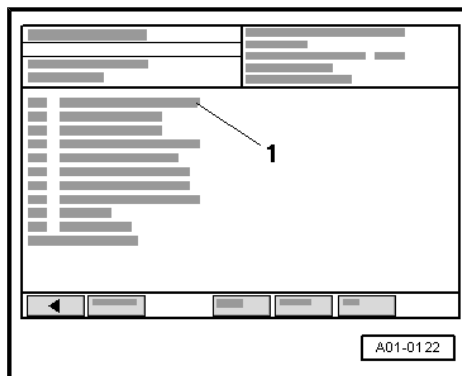
Conditions:

- Fault memory interrogated.
- All faults rectified.

After fault memory interrogation:

Display -VAS 5051 A- :

- Select diagnosis function "05 - Erase fault memory" .



Display -VAS 5051 A- :

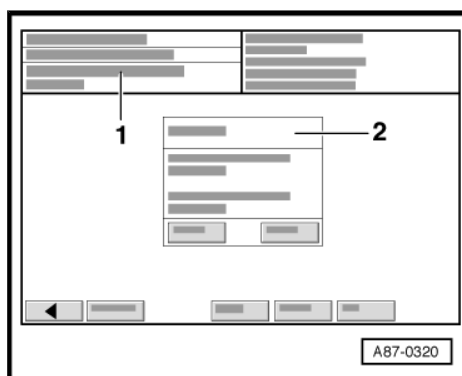
If the message "Fault memory not yet interrogated" appears in display zone -1- , the procedure was not correctly followed. Fault memory cannot be erased until it has been interrogated.

Display zone -1- :

- ◆ No display (not yet erased)
- ◆ Fault memory erased (after erasing)

Display zone -2- :

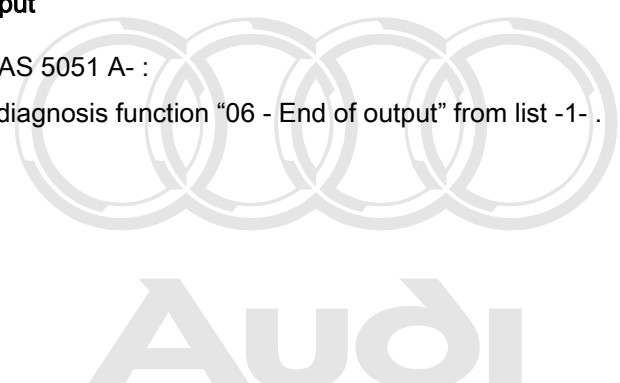
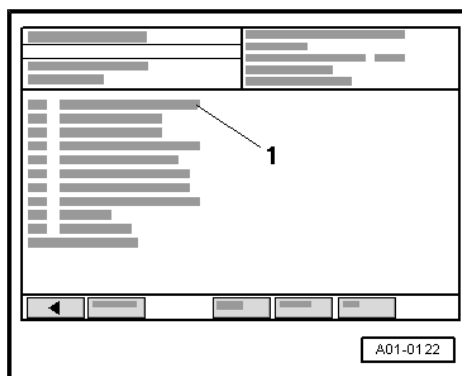
- ◆ Note: Is function to be implemented ?
- ◆ Note: Data will be erased !
- Touch the button in display -2- .
- Terminate function "05 - Erase fault memory" by touching the button.
- Interrogate fault memory again on completion of repair work.



End of output

Display -VAS 5051 A- :

- Select diagnosis function "06 - End of output" from list -1- .



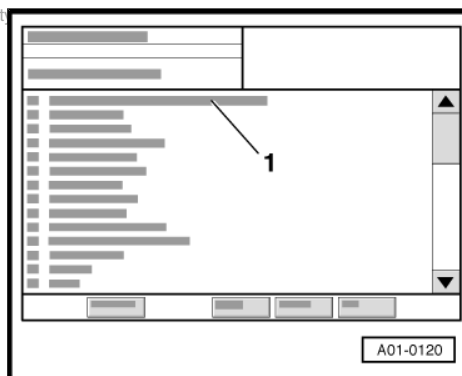
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Display -VAS 5051 A- :

- Switch off ignition and unplug diagnostic connector when this display appears.

Note

If it is necessary to read out the measured value block during initialisation of remote control ⇒ page 13 , the ignition must NOT be switched off and the diagnostic lead must NOT be disconnected.



1.3.2 Connecting the adapter wiring harness at TV tuner -R78-

- Switch on ignition.
- Switch the multimedia operating unit -E380- (MMI) to the "radio" function.
- Switch off ignition.
- Remove ignition key.

Disconnecting voltage supply to fuse carrier

- Open luggage compartment storage area (right-side).
- Disconnect the cable at fuse 2 -S132- -arrow- on fuse carrier in luggage compartment (rear right).

This will cut off the voltage supply for fuse carrier in luggage compartment (rear left).

- Open luggage compartment storage area (left-side).
- Pull out fuse in fuse carrier -S7- .

Removing navigation system with CD drive control unit -J401-

- Remove navigation system with CD drive control unit -J401- -1- together with mounting frame -2- .
- Loosen bolt -4- , but do not remove.
- Unscrew nut -3- .



Note

For better clarity the illustration does not show the complete luggage compartment side trim or other components located near the navigation system with CD drive control unit -J401- .

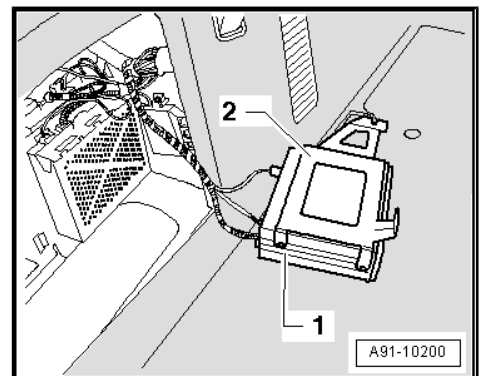
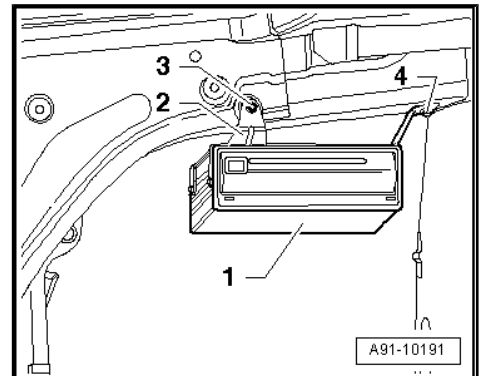
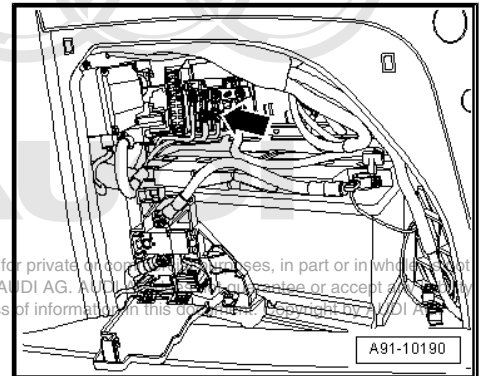
- Remove navigation system with CD drive control unit -J401- -1- together with mounting frame -2- and place aside.



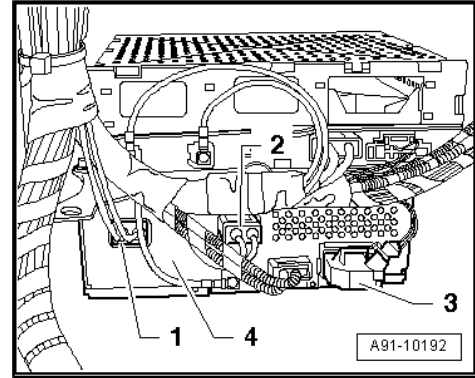
Note

Do NOT unplug connectors on navigation system with CD drive control unit -J401- .

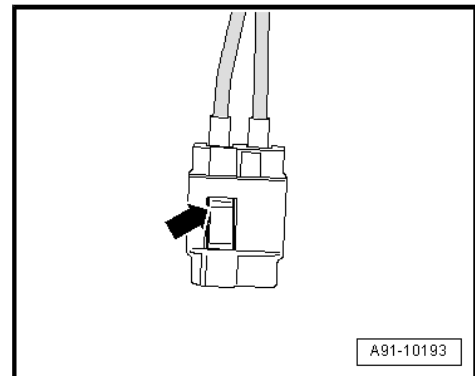
Detaching connectors on TV tuner -R78-



- Release the 2-pin aerial connectors -1- (brown) and -2- (green) at TV tuner -R78- -4- .

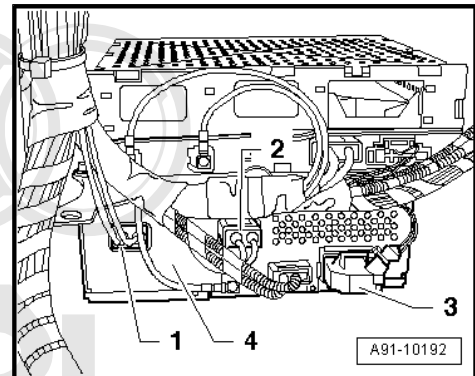


- To release the aerial connectors, press the retaining clip -arrow- .



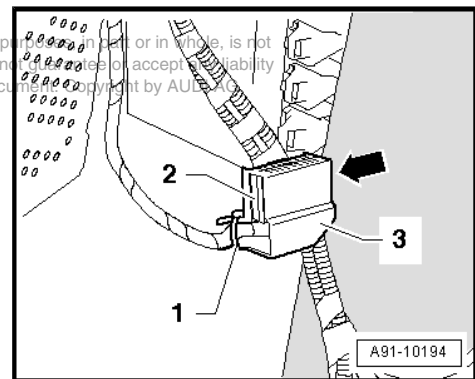
- Unplug aerial connectors -1- and -2- at TV tuner -R78- .
- Release the multi-pin connector (20-pin) -3- (red) by pressing the retainer tab.
- Unplug multi-pin connector -3- at TV tuner -R78- .

Retrofitting wires (audio, video) from adapter wiring harness to multi-pin connector (20-pin, red)

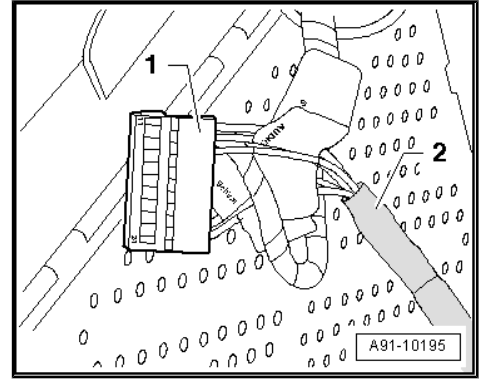


- Remove cable tie -1- .
- Insert a small screwdriver into the opening in the housing -arrow- .
- Press screwdriver to the side to release the contact carrier -2- .
- Pull contact carrier -2- out of connector housing -3- .

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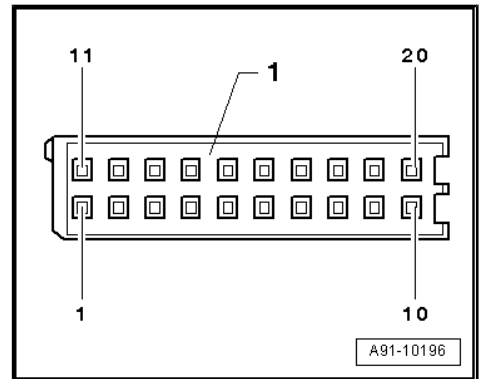


- Fit wires (audio, video) from adapter wiring harness -2- into contact carrier -1- according to correct pin assignment.



Pin assignment on contact carrier -1- :

- 9 - Screened audio (L + R together), green/black
- 10 - Audio L, light green
- 11 - Audio R, black
- 12 - Video (signal), red
- 13 - Screened video, red/black



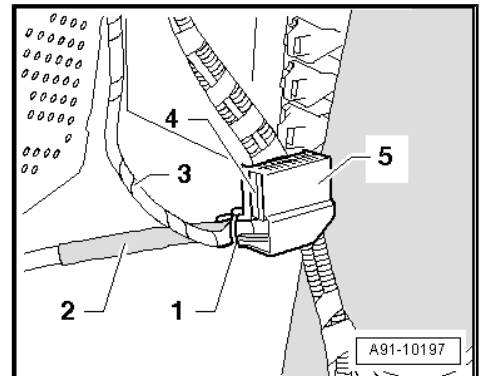
i Note

- ◆ *Be sure to adhere to the correct pin assignment.*
- ◆ *Also note the labels with the identification of the individual wires of adapter wiring harness for the pin assignment on multi-pin contact carrier (20-pin, red).*

- Insert contact carrier -4- into connector housing -5- .
- Make sure that contact carrier -4- is correctly engaged in connector housing -5- .
- Secure the adapter wiring harness -2- and original wiring harness -3- at the connector housing -5- using a new cable tie

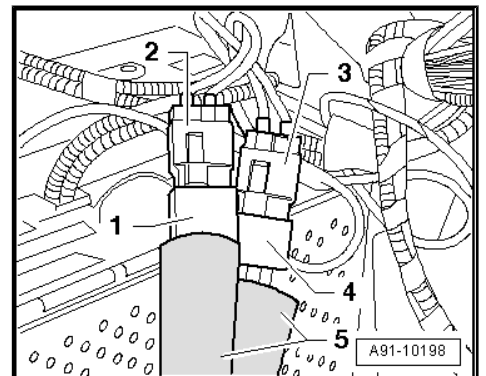
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Connecting aerial connectors (original wiring harness / adapter wiring harness)



- Connect the aerial connector -2- (brown) to the adapter wiring harness connector -1- (same colour).
- Connect the aerial connector -3- (green) to the adapter wiring harness connector -4- (same colour).
- Make sure the aerial connectors -2- and -3- are securely engaged to the connectors -1- and -4- .

5 - Foam sheath (2x)



- Fit foam sheaths -1- and -2- over the aerial connections.

Connecting aerial connectors to TV tuner -R78-

- Plug in both 2-pin aerial connectors (green and brown) of adapter wiring harness and multi-pin connector (red, 20-pin) at TV tuner -R78- .
- Make sure the aerial connectors and multi-pin connector are correctly engaged at TV tuner -R78- .

Routing and securing adapter wiring harness

- Route the adapter wiring harness behind the original wiring harness -2- going towards fuse carrier.
- Use cable ties -1- and -3- to secure adapter wiring harness to original wiring harness -2- .
- Route the aerial connections covered with foam sheathing to right, over / next to the TV tuner -R78- and behind the original wiring harness.

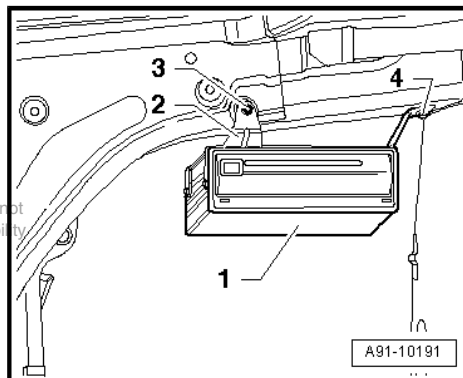
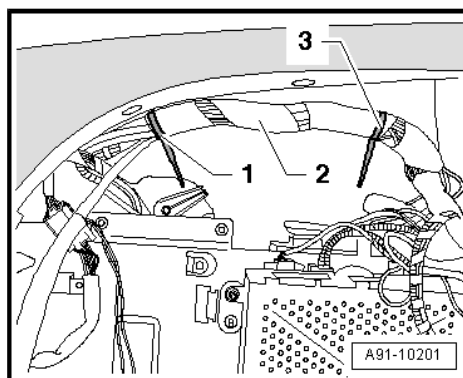
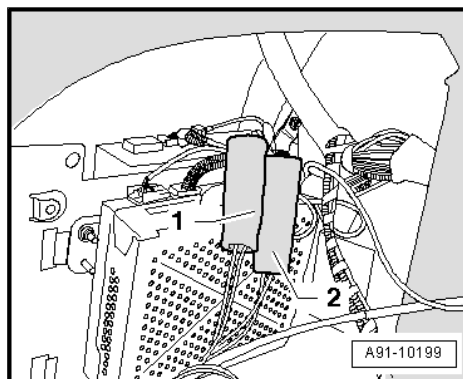


Note

- ◆ *When routing the adapter wiring harness, make sure the wiring harness or individual wires will not become chafed over time (by contact with sharp edges, etc.).*
- ◆ *The adapter wiring harness and the individual wires must be laid "loosely" and not be pinched anywhere.*

Installing navigation system with CD drive control unit -J401-

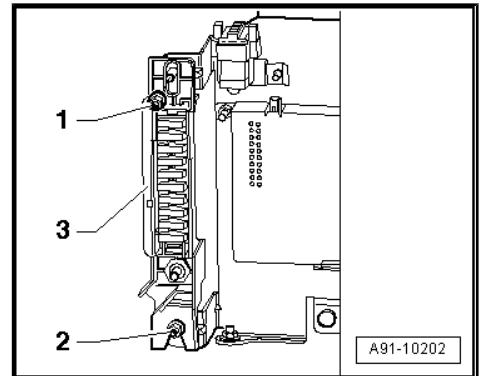
- Install navigation system with CD drive control unit -J401- -1- together with mounting frame -2- .
- First push the mounting frame -2- between bolt -4- and body.
- Then fit mounting frame -2- on threaded stud for nut -3- .
- Make sure mounting frame -2- does not chafe or pinch wiring.
- Tighten nut -3- and bolt -4- to 8 Nm.



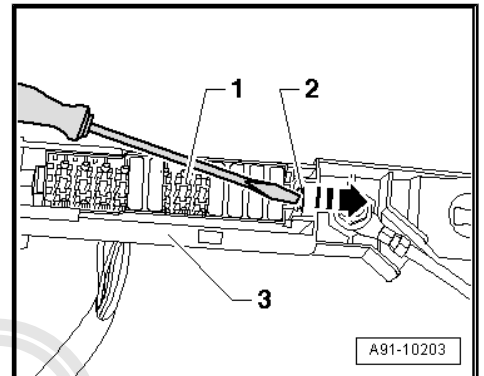
1.3.3 Connecting adapter wiring harness to fuse carrier

Removing fuse holder

- Remove fuse carrier -3- .
- Loosen nut -2- , but do not remove.
- Unscrew nut -1- .
- Detach fuse carrier -3- .



- Unclip fuse holder -1- from fuse carrier -3- .
- To do so, press retaining tab -2- in direction of -arrow- using a small screwdriver.
- Remove fuse holder -1- from fuse carrier -3- .

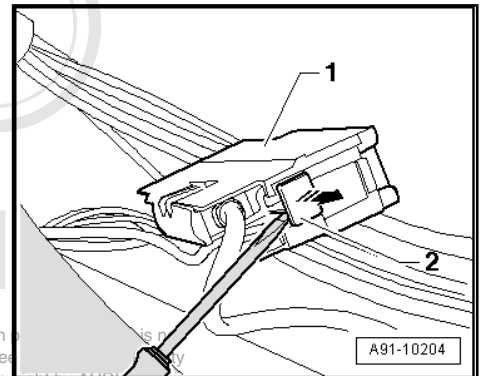


Connecting red wire from adapter wiring harness to fuse carrier

- Release contacts of fuse holder -1- .
- To do so, press release tab -2- in direction of -arrow- using a small screwdriver.
- Disconnect red/yellow wire with contact (fuse 7, 10 A).

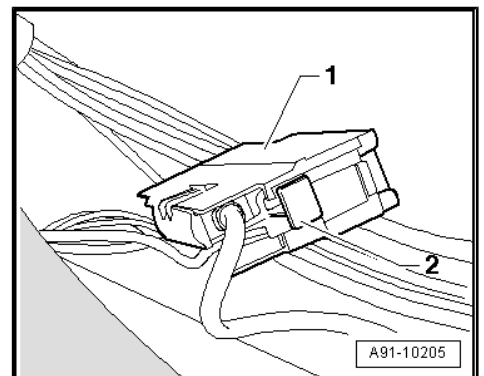
To do so, use appropriate removal tool from wiring harness repair set -VAS 1978- .

- Insert red wire from adapter wiring harness into empty connector slot (for red/yellow wire).

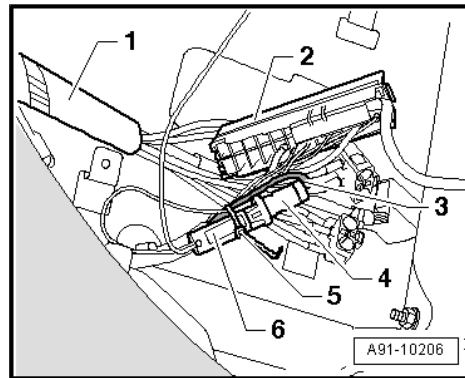


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- Lock contacts of fuse holder -1- .
- To do so, press the release tab -2- towards fuse holder -1- .
- Be sure that the contacts are properly engaged.

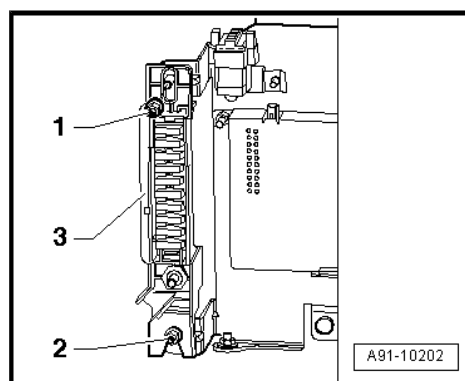


- Insert the red/yellow wire with contact -3- (which was removed from the fuse holder -2-) into the connector housing -4- (white).
- Attach connector -4- (white) to connector -6- (black) from adapter wiring harness -1- .
- Be sure that connectors are properly engaged.
- Secure wires at connector -6- (black) using a cable tie -5- .
- Insert fuse holder into fuse carrier.
- Connect fuse holder to fuse carrier (should engage).



Installing fuse carrier

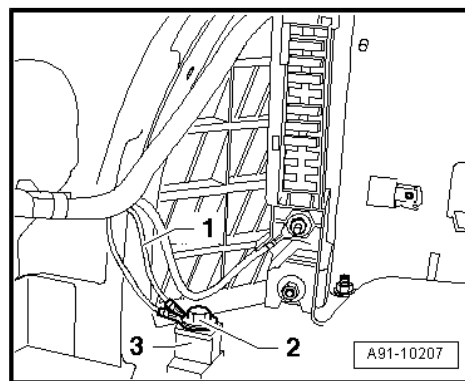
- Install fuse carrier -3- .
- Tighten nuts -1- and -2- to 3 Nm.
- Secure red wire (leading to black connector) and earth wire (brown) at wiring harness using a cable tie.



Connecting earth wire from adapter wiring harness

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- Connect the earth wire (brown) -1- from adapter wiring harness at earth connection -3- (luggage compartment, left-side).
- Tighten bolt -2- to 10 Nm.

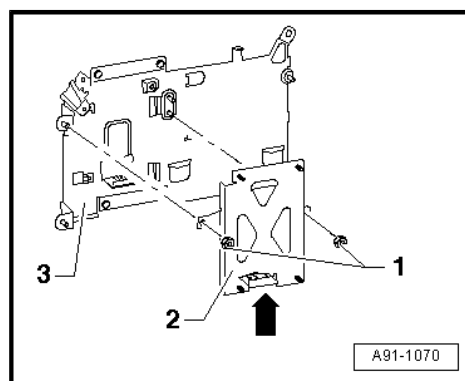


1.3.4 Installing mounting plate

- Install the mounting plate -2- at the retaining plate -3- .
- Be sure that the clip -arrow- properly engages in the retaining plate -3- .
- Tighten nuts -1- (2x) to 3 Nm.

Note

The illustration shows a simplified view for better clarity.



1.3.5 Installing digital TV tuner -R171-

Connectors on digital TV tuner -R171-

A - Connection for SW download cable (not used)

B - Connection for multi-pin connector (20-pin) for voltage supply as well as audio/video outputs

C - Button for activating factory default settings and remote control

TV aerials (outputs):

(to TV tuner -R78-)

D - Aerial connection (light brown)

E - Aerial connection (light brown)

F - Aerial connection (light green)

G - Aerial connection (light green)

TV aerials (inputs):

(from TV aerials)

H - Aerial connection (green)

J - Aerial connection (green)

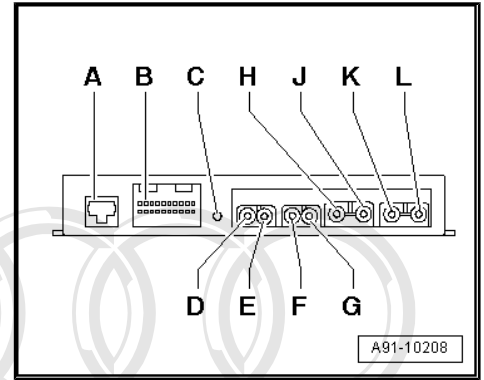
K - Aerial connection (brown)

L - Aerial connection (brown)

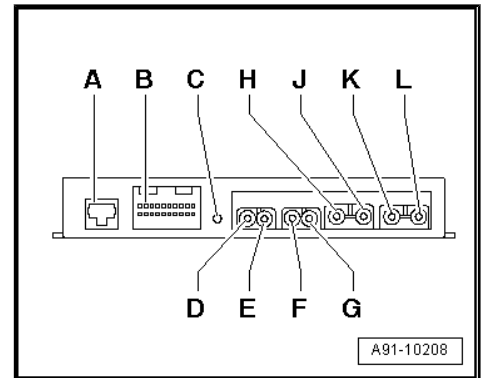
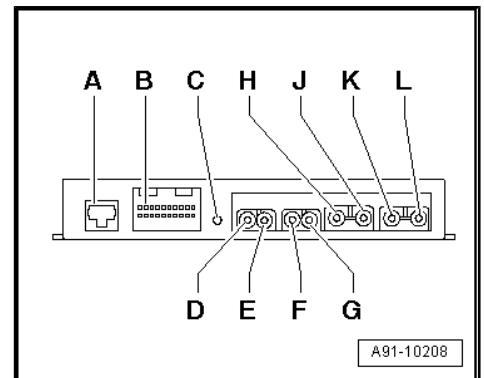
Installing digital TV tuner -R171-

- Plug aerial connectors from adapter wiring harness into aerial connections at digital TV tuner -R171- .
- Observe the colour coding and correct assignment of connectors.

- Plug in red multi-pin connector (20-pin) at connection -B- on digital TV tuner -R171- .



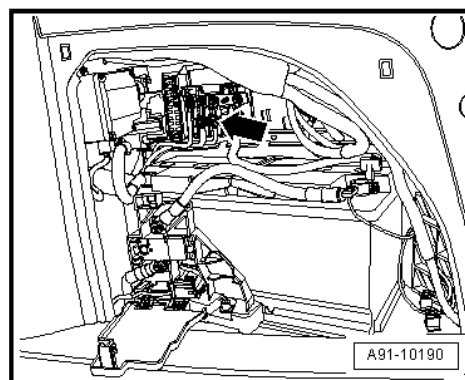
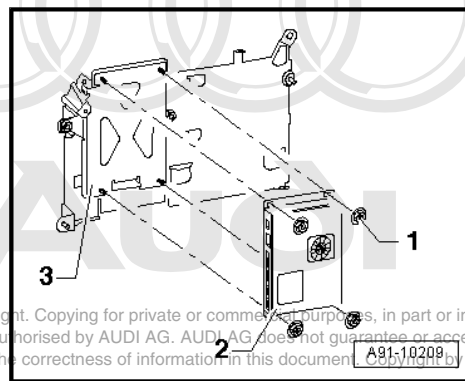
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- Secure digital TV tuner -R171- -2- to mounting plate -3- using nuts -1- (4x).
- Tighten nuts -1- (4x) to 3 Nm.
- Be sure that the wiring harness and/or individual wires do not become pinched when securing the digital TV tuner -R171- .

Reconnecting the voltage supply

- Re-insert fuse in fuse carrier -S7- .
- Close luggage compartment storage area (left-side).
- Connect the cable at fuse 2 -S132- -arrow- on fuse carrier in luggage compartment (rear right).
- Close luggage compartment storage area (right-side).



1.3.6 Remote control: activating, initializing and testing

Activating the remote control

- Insert the correct batteries in the remote control: ⇒ Owner's Manual .
- Press any key on the remote control.

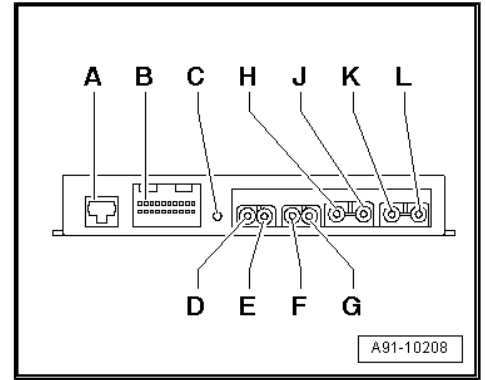
A red LED should light up on the remote control.

- If the red LED does not light up, check the batteries and ensure they are properly inserted.
- After the batteries have been installed, the remote control must be initialized.

Initializing the remote control

- Switch on ignition.

- Press the -C- button on the digital TV tuner -R171- .
 To do so, use a 2.5 mm hexagon key or similar.
 - Simultaneously (or at least within 1 second) press the "MENU" button on the remote control.
 - Switch to "TV" at the multimedia operating unit -E380- .
 "TV" should appear on the front information display unit -J685- .
 - Check if analog TV reception is available.
- Please note that analog TV reception may vary according to your current location.
- Switch to "External AV source" at the multimedia operating unit -E380- .
 "External AV source" should appear on the front information display unit -J685- .
 - Connect up the vehicle diagnosis, testing and information system -VAS 5051 A- .
 - Carry out self-diagnosis for TV tuner -R78- => [page 2](#) .



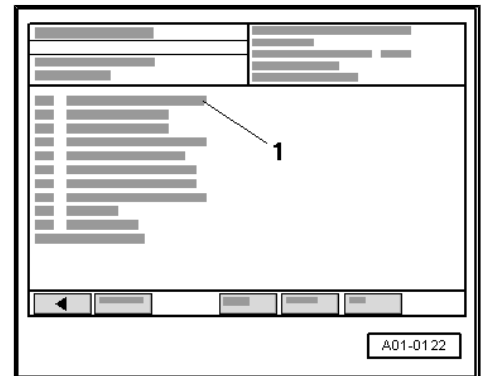
 **Note**

The digital TV tuner -R171- does not have a self-diagnosis function; only a limited diagnosis of the aerial and video connections is available via the factory-fitted TV tuner -R78- .

Reading measured value block


Display -VAS 5051 A- :

- Select diagnosis function "08 - Reading measured value block" from list -1- .

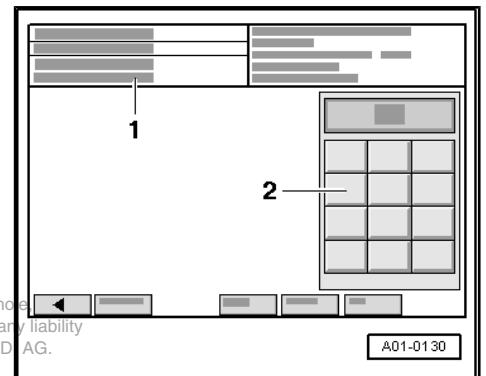


Display -VAS 5051 A- :

1 - "Enter display group number"

- Enter desired 3-digit display group number on keypad -2- and confirm entry by touching  key.

Display group number: 009



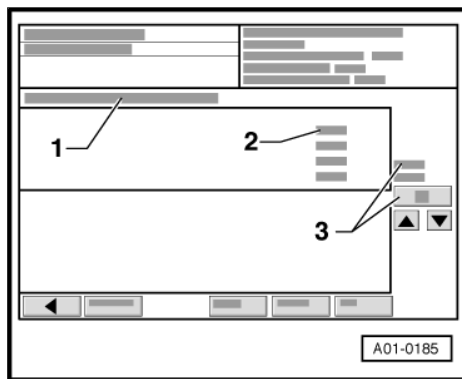
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Display -VAS 5051 A- :

- 1 - "Read measured value block"
- 2 - Display zones 1 to 4 in vertical arrangement
- 3 - Display group X

If the wires for voltage supply and aerials have been properly fitted, the display zones -2- should show "Yes" in the first zone and "NO" in the second zone.

- If not, check wiring and repeat the diagnosis.



Read measured value block 9		→	▾ Indicated on display
YES	No		
			External input AV 2
			External input AV 1

Ending measured value block

Display -VAS 5051 A- :

- Select diagnosis function "06 - End of output" from list -1- .

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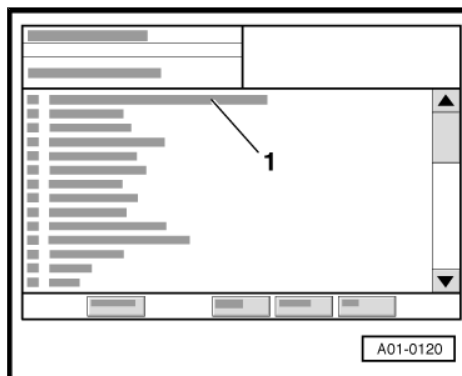
Display -VAS 5051 A- :

- Switch off ignition and unplug diagnostic connector when this display appears.

Testing remote control

After the remote control has been successfully initialized the operating screen for the digital TV tuner -R171- will appear in the front information display unit -J685- ("External AV source" must be activated).

- Check to see if the operating screen for the digital TV tuner - R171- can be operated with the remote control (e.g. scroll up and down in the menu using the arrow buttons).



1.3.7 Digital TV reception

- If digital TV reception is available, initialize the TV to compile the station list: ⇒ Owner's Manual .