

Workshop Manual Audi A3 1997 ➤

Radio, telephone and navigation system

Edition 06.2003



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List of Workshop Manual Repair Groups

Repair Group

91 - Radio, telephone, navigation



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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.

Contents

91 - Radio, telephone, navigation	1
1 Radio system	1
1.1 General	1
1.2 Block diagram of radio systems (up to MY 97)	2
1.3 Block diagram of radio systems (as of MY 98)	8
1.4 Pre-fitted components for radio installation	18
1.5 Connectors on back of "chorus" radio	19
1.6 Connectors on back of "concert" radio	19
1.7 Connectors on back of "symphony" radio	21
1.8 Connector at CD changer	21
1.9 Connector at BOSE amplifier	22
1.10 Overall layout of radio systems	22
1.11 Overall layout of "symphony" and (as of MY 02) "concert" radio system	24
1.12 Removing and installing "chorus" and "concert" radios	25
1.13 Removing and installing "symphony" radio	25
1.14 Removing and installing loudspeakers	26
1.15 Removing and installing CD changer (up to MY 98)	27
1.16 Removing and installing CD changer (as of MY 99)	29
1.17 Removing and installing BOSE amplifier (up to MY 98)	30
1.18 Removing and installing BOSE amplifier (as of MY 99)	30
1.19 Removing and installing bass loudspeaker	31
1.20 Removing and installing tailgate aerial amplifiers	32
1.21 Removing and installing aerial selection control unit J515 (up to MY 00)	33
1.22 Removing and installing aerial selection control unit J515 (as of MY 01)	34
1.23 Removing and installing roof aerial	34
2 Servicing telephone system	37
2.1 General	37
2.2 General description	37
2.3 Permanently installed telephone	37
2.4 Mobile phone and, as of MY 02, pre-fitted components for mobile phone installation	39
2.5 Pre-fitted components for telephone installation (up to MY 01)	39
2.6 Pre-fitted components for mobile phone installation (up to MY 01)	40
2.7 Connector at mobile telephone operating electronics control unit J412	41
2.8 Connector at telephone transmitter and receiver unit R36 (Nokia)	41
2.9 Connectors at mobile telephone aerial amplifier R86	42
2.10 Removing and installing handset with holder	42
2.11 Removing and installing handset cradle with holder	43
2.12 Removing and installing telephone transmitter and receiver unit R36 (up to MY 99)	44
2.13 Removing and installing telephone transmitter and receiver unit R36 (Nokia) (up to MY 00)	44
2.14 Removing and installing mobile telephone aerial amplifier R86	45
2.15 Removing and installing mobile telephone operating electronics control unit J412	45
2.16 Removing and installing hands-free microphone (up to MY 99)	46
2.17 Removing and installing hands-free microphone (as of MY 00)	46
2.18 Removing and installing hands-free loudspeaker (up to MY 98)	47
2.19 Removing and installing hands-free loudspeaker (as of MY 99)	48
3 Navigation system I (up to week 28/99)	49
3.1 General	49
3.2 General description	49
3.3 Block diagram	50
3.4 Connectors at navigation system with CD drive control unit J401	51
3.5 Connectors at operating electronics control unit, navigation J402	52
3.6 Exploded view of navigation system I	53



3.7	Service information on navigation system I	55
3.8	Information required from customer in the event of complaints	55
3.9	Action to be taken following service work or tyre change	57
3.10	Calling up technical service software	58
3.11	Automatic checking of current parameters	60
3.12	Wheel calibration after changing tyre or replacing control unit	61
3.13	Wiring test procedure	67
3.14	Test drive (basic calibration) procedure	72
3.15	System test procedure	77
3.16	Starting navigation	86
3.17	Entering location	88
3.18	Interrogating software version	90
3.19	Notes on replacing navigation system components	90
3.20	Removing and installing navigation system with CD drive control unit J401	90
3.21	Removing and installing navigation system operating unit E199	91
3.22	Removing and installing operating electronics control unit, navigation J402	92
3.23	Removing and installing magnetic field sender (compass) G197	92
4	Navigation system II-D (navigation system Plus RNS 4.1) (as of week 36/00)	94
4.1	General	94
4.2	General description	94
4.3	Fault message display	94
4.4	Block diagram of navigation system II-D	96
4.5	Block diagram of navigation system II-D with BOSE sound system	98
4.6	Connectors at operating electronics control unit, navigation J402	99
4.7	Connectors at navigation interface R94	101
4.8	Connectors at aerial selection control unit J515	102
4.9	Connectors at TV tuner J415 (up to MY 01)	103
4.10	Connectors at TV tuner J415 (as of MY 01)	104
4.11	Overall layout of navigation system II-D	106
4.12	Removing and installing operating electronics control unit, navigation J402	108
4.13	Removing and installing TV tuner J415	109
4.14	Removing and installing TV aerial amplifiers	109
4.15	Removing and installing navigation interface R94	109
5	Navigation system III (as of week 29/99)	111
5.1	General	111
5.2	General description	111
5.3	Block diagram of navigation system III	111
5.4	Connectors at navigation system with CD drive control unit J401	112
5.5	Overall layout of navigation system III	113
5.6	Removing and installing function selection switch II	114
5.7	Removing and installing navigation system with CD drive control unit	115
6	Navigation system IV (BNS 4.0) as of week 04/01	116
6.1	General	116
6.2	General description	116
6.3	Design of navigation system BNS 4.0	116
6.4	Connectors and contact assignments	116
6.5	Overall layout of BNS 4.0	116
7	Multi-function steering wheel	117
7.1	General	117
7.2	General description	117
7.3	Block diagram of multi-function steering wheel (up to MY 01)	117
7.4	Block diagram of multi-function steering wheel (as of MY 02)	119
7.5	Assignment of buttons on multi-function steering wheels	120
7.6	Removing and installing multi-function buttons	124
7.7	Removing and installing Tiptronic buttons	125

7.8	Removing and installing multi-function steering wheel control unit J453 (up to MY 01) . . .	125
7.9	Removing and installing multi-function steering wheel control unit J453 (as of MY 02)	126
8	Telematics system	127
8.1	General	127
8.2	General description	127
8.3	Block diagram of telematics system	127
8.4	Connectors at telephone/telematics control unit J526	128
8.5	Overall layout of telematics system	131
8.6	Removing and installing telephone/telematics control unit J526	132
8.7	Activating/deactivating service mode	133
8.8	Telematics SIM card replacement	134
8.9	Removing and installing emergency battery for telematics	134
8.10	Initialising telephone/telematics control unit J526	135
8.11	Removing and installing aerial filter R87 for GPS aerial	136
8.12	Removing and installing emergency call button E276 and breakdown help button E275	137
8.13	Removing and installing hands-free microphone	137
8.14	Removing and installing additional loudspeaker for telematics R91 (emergency loudspeaker)	138
8.15	Removing and installing additional aerial for telematics R90 (emergency aerial)	138



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91 – Radio, telephone, navigation

1 Radio system

1.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



Note!

- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*
- ◆ *To be able to deal with problems, it is essential to be familiar with functioning and operation of the radio system ⇒ Operating instructions.*
- ◆ *For service installation, servicing work or fault-finding, refer to ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.*
- ◆ *For detailed fitting instructions, refer to ⇒ General body repairs, Interior; Rep. Gr. 70.*
- ◆ *Always use radio sets and fitting components from the Audi range so as to ensure trouble-free installation and optimum reception.*
- ◆ *All radio systems feature anti-theft encoding.*

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1.1.1 Notes on radio service installation

The connectors on the factory-fitted wiring harness for radio installation are designed for genuine Audi radios.

Adapter cables are required for connection of radios with different types of connector.

When connecting vehicle speed signal wire (radios with GALA function), take particular care to avoid short circuits as otherwise malfunctions could occur (e.g. engine management system).

The use of other radios (vehicles 1998 >) could affect the aerial amplifier, as genuine Audi radios have a "remotely powered aerial", i.e. aerial amplifier is supplied with power via neutral conductor of HF cable. Use is therefore to be made of remote power supply adapter from the Audi range.

1.1.2 Notes on CD service installation

Vehicles with pre-fitted components for CD installation are provided with a CD changer wiring harness. Connecting cable can only be used with genuine Audi CD changers.

1.1.3 Aerial system with diversity function

“symphony” and (as of MY 02) “concert” radios feature an aerial system with diversity function. This is designed to enhance and optimise reception quality.

In addition to the roof aerial with amplifier, use is made of extra aerials with amplifier in the rear window.

The individual aerials with amplifier are connected via the aerial selection control unit -J515- (diversity box).

The signal received by the radio via the aerial wire (HF) is checked and the result output again by way of an additional aerial connection (IF).

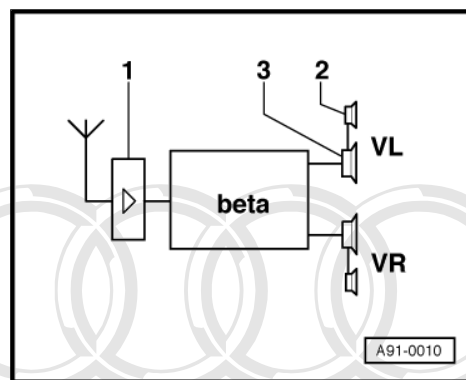
Information on the test result is then passed to the aerial selection control unit -J515-. If the aerial signal is too weak, the control unit switches to a different aerial (diversity function).

There are no visible or audible signs of this switching process.

1.2 Block diagram of radio systems (up to MY 97)

1.2.1 “beta” radio system

- 1 - Roof aerial with amplifier
- 2 - Front treble/mid-range loudspeaker in upper door trim
- 3 - Front bass loudspeaker in lower door trim



1.2.2 Contact assignment of multi-pin connectors II, III



Note!

Contacts not listed are not used.

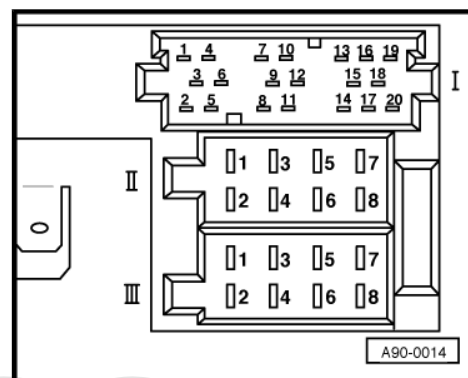
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Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

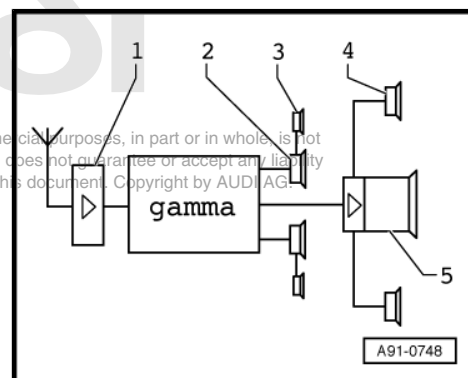
Black 8-pin connector III

- 1 - GALA (vehicle speed signal)
- 2 - AF mute (from telephone)
- 3 - Battery + (terminal 30)
- 4 - S-contact (terminal 86s)
- 5 - Switched positive (aerial amplifier)
- 6 - Switch illumination (terminal 58s)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)



1.2.3 “gamma” radio system

- 1 - Roof aerial with amplifier
- 2 - Front bass loudspeaker in lower door trim
- 3 - Front treble/mid-range loudspeaker in upper door trim
- 4 - Rear broadband loudspeaker in side trim
- 5 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim



1.2.4 Contact assignment of multi-pin connectors I, II, III

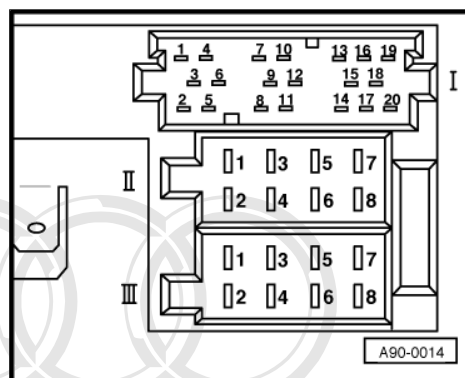


Note!

Contacts not listed are not used.

20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 6 - Switched positive (amplifier with bass loudspeaker)
- 8 - Clock signal (dash panel insert)
- 9 - Data signal (dash panel insert)
- 10 - Enable signal (dash panel insert)



Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

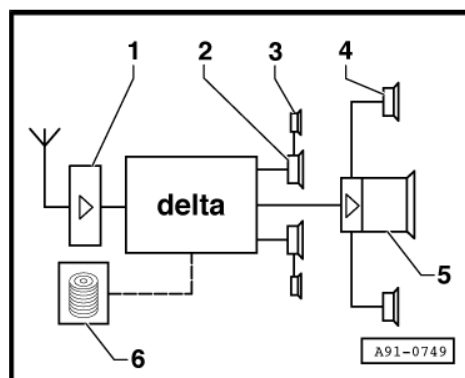
Black 8-pin connector III

- 1 - GALA (vehicle speed signal)
- 2 - AF mute (from telephone)
- 3 - Battery + (terminal 30)
- 4 - S-contact (terminal 86s)
- 5 - Switched positive (aerial amplifier)
- 6 - Switch illumination (terminal 58s)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

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1.2.5 "delta" radio system

- 1 - Roof aerial with amplifier
- 2 - Front bass loudspeaker in lower door trim
- 3 - Front treble/mid-range loudspeaker in upper door trim
- 4 - Rear broadband loudspeaker in side trim
- 5 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim
- 6 - CD changer (optional) at rear left of luggage compartment behind side trim



1.2.6 Contact assignment of multi-pin connectors I, II, III

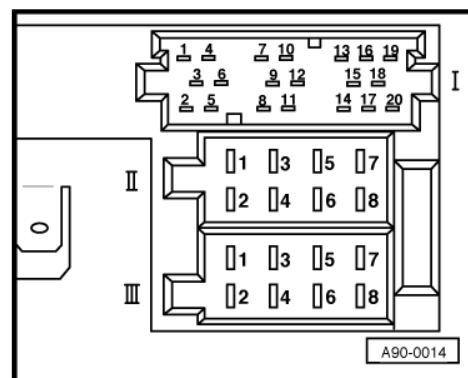


Note!

Contacts not listed are not used.

20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 6 - Switched positive (amplifier with bass loudspeaker)
- 8 - Clock signal (dash panel insert)
- 9 - Data signal (dash panel insert)
- 10 - Enable signal (dash panel insert)
- 13 - CD bus data (CD changer)
- 14 - CD clock (CD changer)
- 15 - Earth (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

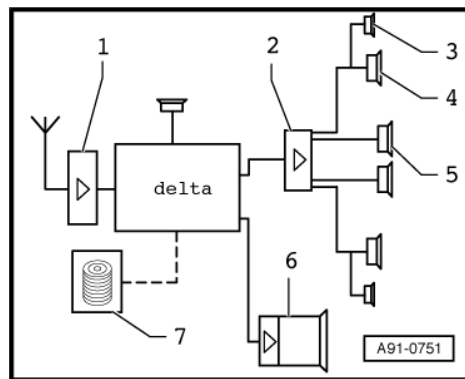
Black 8-pin connector III

- 1 - GALA (vehicle speed signal)
- 2 - AF mute (from telephone)
- 3 - Battery + (terminal 30)
- 4 - S-contact (terminal 86s)
- 5 - Switched positive (aerial amplifier)
- 6 - Switch illumination (terminal 58s)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

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1.2.7 “delta” radio system with BOSE sound system

- 1 - Roof aerial with amplifier
- 2 - BOSE amplifier at rear right of luggage compartment behind side trim
- 3 - Front treble/mid-range loudspeaker in upper door trim
- 4 - Front bass loudspeaker in lower door trim
- 5 - Rear broadband loudspeaker in side trim
- 6 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim
- 7 - CD changer (optional) at rear left of luggage compartment behind side trim



1.2.8 Contact assignment of multi-pin connectors I, II, III



Note!

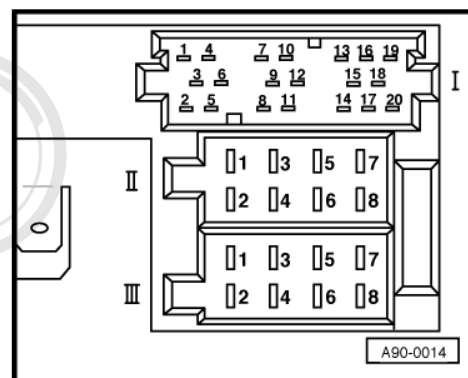
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20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 4 - Front left signal
- 5 - Front right signal
- 6 - Switched positive (BOSE amplifier)
- 7 - BOSE identifier
- 8 - Clock signal (dash panel insert)
- 9 - Data signal (dash panel insert)
- 10 - Enable signal (dash panel insert)
- 13 - CD bus data (CD changer)
- 14 - CD clock (CD changer)
- 15 - Earth (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



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Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

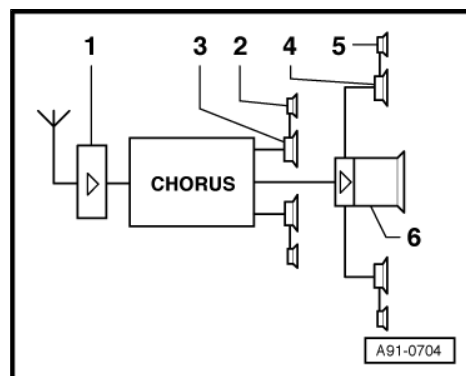
Black 8-pin connector III

- 1 - GALA (vehicle speed signal)
- 2 - AF mute (from telephone)
- 3 - Battery + (terminal 30)
- 4 - S-contact (terminal 86s)
- 5 - Switched positive (aerial amplifier)
- 6 - Switch illumination (terminal 58s)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

1.3 Block diagram of radio systems (as of MY 98)

1.3.1 “chorus” radio system

- 1 - Roof aerial with amplifier
- 2 - Front treble/mid-range loudspeaker in upper door trim
- 3 - Front bass loudspeaker in lower door trim
- 4 - Rear bass loudspeaker in side trim
- 5 - Rear treble/mid-range loudspeaker in side trim
- 6 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim



1.3.2 Contact assignment of multi-pin connectors I, II, III, IV



Note!

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20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 6 - Switched positive (amplifier with bass loudspeaker)
- 7 - CAN bus High (infotainment) (as of MY 02)
- 8 - Clock signal (up to MY 01)
- 9 - Data signal (up to MY 01)
- 10 - Enable signal (up to MY 01)
- 12 - CAN bus Low (infotainment) (as of MY 02)

Brown 8-pin connector II

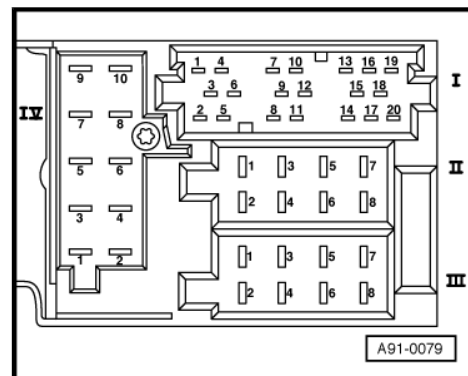
- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

Black 8-pin connector III

- 1 - GALA (vehicle-speed signal) (up to MY 01)
- 2 - Anti-theft alarm earth (as of MY 02)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s) (up to MY 01)
- 6 - Switch illumination (terminal 58s) (up to MY 01)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

Red 10-pin connector IV

- 1 - AF mute (from telephone)
- 2 - Terminal 15 (navigation system only) (up to MY 01)
- 3 - Telephone (AF +) (not with navigation system)
- 4 - Telephone (AF -) (not with navigation system)
- 5 - Navigation (AF+) (navigation system only)
- 6 - Navigation (AF-) (navigation system only)
- 7 - Navigation system (control wire)
- 9 - Display illumination (terminal 58d) (up to MY 01)



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1.3.3 “concert” radio system

1 - Roof aerial with amplifier (up to MY 01)

1 - Roof aerial and rear window aerial with diversity box (as of MY 02)

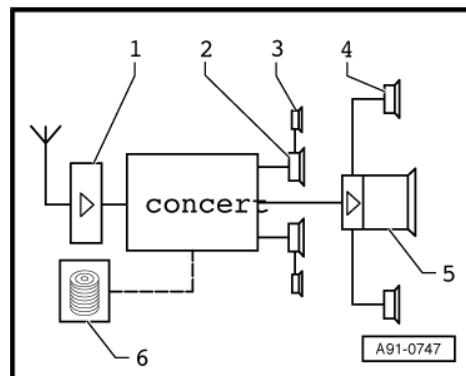
2 - Front bass loudspeaker in lower door trim

3 - Front treble/mid-range loudspeaker in upper door trim

4 - Rear broadband loudspeaker in side trim

5 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim

6 - CD changer (optional) at rear left of luggage compartment behind side trim



1.3.4 Contact assignment of multi-pin connectors I, II, III, IV



Note!

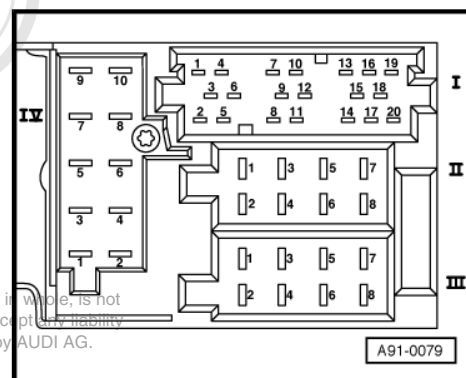
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20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 6 - Switched positive (amplifier with bass loudspeaker)
- 7 - CAN bus High (infotainment) (as of MY 02)
- 8 - Clock signal (up to MY 01)
- 9 - Data signal (up to MY 01)
- 10 - Enable signal (up to MY 01)
- 12 - CAN bus Low (infotainment) (as of MY 02)
- 13 - CD bus data in (CD changer)
- 14 - CD bus data out (CD changer)
- 15 - CD clock (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

Black 8-pin connector III

- 1 - GALA (vehicle speed signal) (up to MY 01)
- 2 - Anti-theft alarm earth (as of MY 02)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s) (up to MY 01)
- 6 - Switch illumination (terminal 58s) (up to MY 01)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

Red 10-pin connector IV

- 1 - AF mute (from telephone)
- 2 - Terminal 15 (navigation system only) (up to MY 01)
- 3 - Telephone (AF +) (not with navigation system)
- 4 - Telephone (AF -) (not with navigation system)
- 5 - Navigation (AF+) (navigation system only)
- 6 - Navigation (AF-) (navigation system only)
- 7 - Navigation system (control wire)
- 9 - Display illumination (terminal 58d) (up to MY 01)
- 10 - Earth (CD changer) (up to MY 01)

1.3.5 “concert” radio system with BOSE sound system

1 - Roof aerial with amplifier (up to MY 01)

1 - Roof aerial and rear window aerial with diversity box (as of MY 02)

2 - Hands-free loudspeaker in door trim or driver's storage compartment (up to MY 01)

3 - BOSE amplifier at rear right of luggage compartment behind side trim

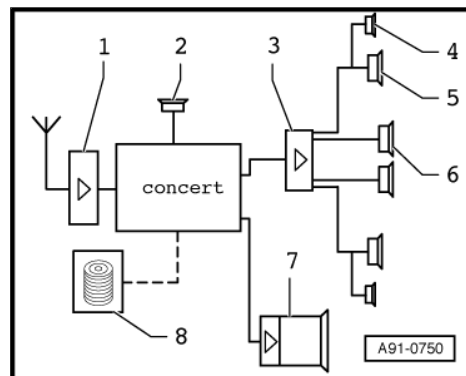
4 - Front treble/mid-range loudspeaker in upper door trim

5 - Front bass loudspeaker in lower door trim

6 - Rear broadband loudspeaker in side trim

7 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim

8 - CD changer (optional) at rear left of luggage compartment behind side trim



1.3.6 Contact assignment of multi-pin connectors I, II, III, IV



Note!

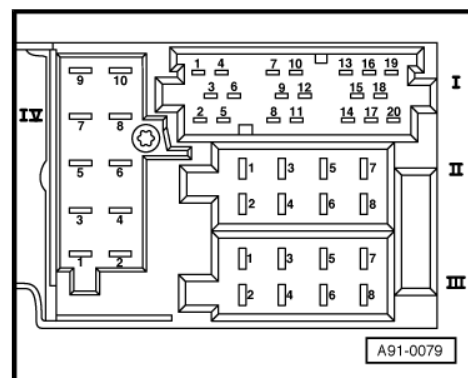
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20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 4 - Front left signal
- 5 - Front right signal
- 6 - Switched positive (BOSE amplifier)
- 7 - CAN bus High (infotainment) (as of MY 02)
- 8 - Clock signal (up to MY 01)
- 9 - Data signal (up to MY 01)
- 10 - Enable signal (up to MY 01)
- 12 - CAN bus Low (infotainment) (as of MY 02)
- 13 - CD bus data in (CD changer)
- 14 - CD bus data out (CD changer)
- 15 - CD clock (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



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Brown 8-pin connector II

- 5 - Hands-free loudspeaker (+) (up to MY 01)
- 6 - Hands-free loudspeaker (-) (up to MY 01)

Black 8-pin connector III

- 1 - GALA (vehicle speed signal) (up to MY 01)
- 1 - BOSE code (as of MY 02)
- 2 - Anti-theft alarm earth (as of MY 02)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s) (up to MY 01)
- 6 - Switch illumination (terminal 58s) (up to MY 01)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

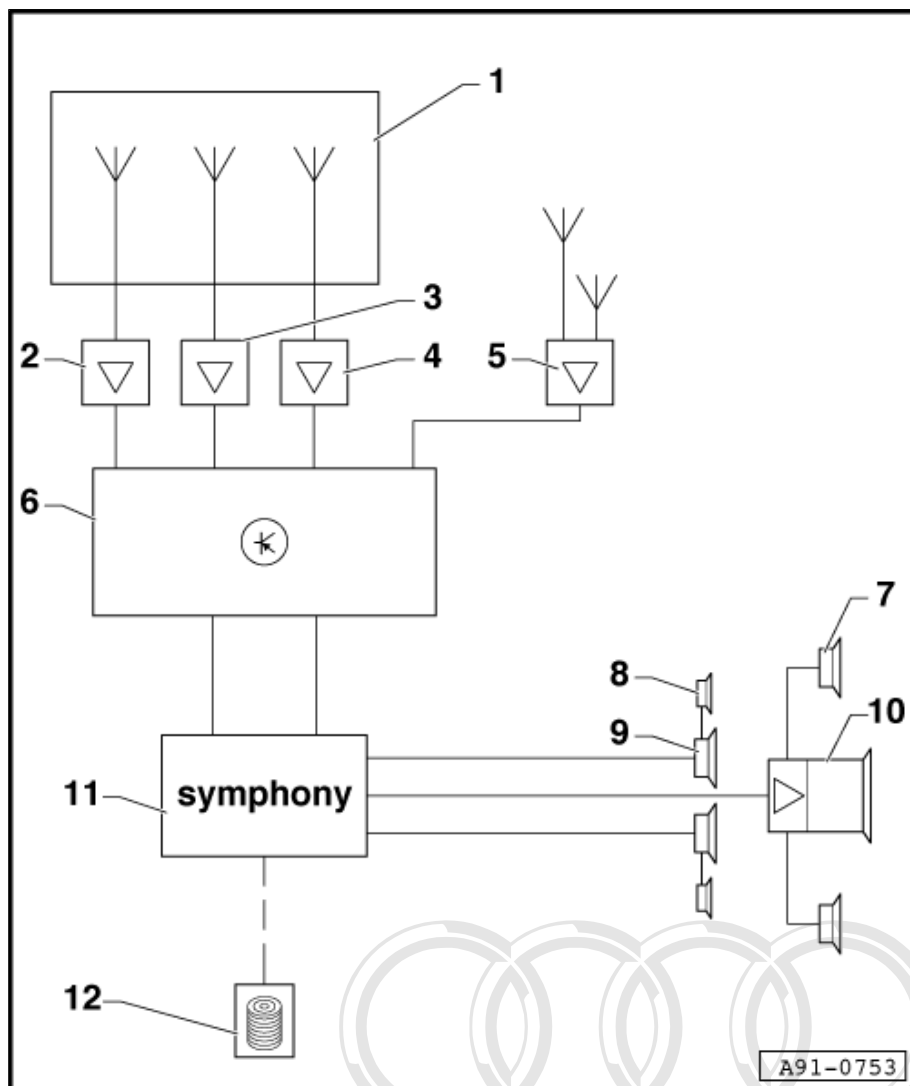
Red 10-pin connector IV

- 1 - AF mute (from telephone)
- 2 - Terminal 15 (navigation system only) (up to MY 01)
- 3 - Telephone (AF +) (not with navigation system)
- 4 - Telephone (AF -) (not with navigation system)
- 5 - Navigation (AF+) (navigation system only)
- 6 - Navigation (AF-) (navigation system only)
- 7 - Navigation system (control wire)
- 9 - Display illumination (terminal 58d) (up to MY 01)

10 - Earth (CD changer) (up to MY 01)

1.3.7 “symphony” radio system

- 1 - Rear window aerials
- 2 - Aerial amplifier at bottom left behind tailgate trim
- 3 - Aerial amplifier at top left behind tailgate trim
- 4 - Aerial amplifier at top right behind tailgate trim
- 5 - Roof aerial with amplifier
- 6 - Aerial selection control unit at rear left of luggage compartment behind side trim
- 7 - Rear broadband loudspeaker in side trim
- 8 - Front treble/mid-range loudspeaker in upper door trim
- 9 - Front bass loudspeaker in lower door trim
- 10 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim
- 11 - “symphony” radio
- 12 - CD changer (optional) at rear left of luggage compartment behind side trim



1.3.8 Contact assignment of multi-pin connectors I, II, III, IV



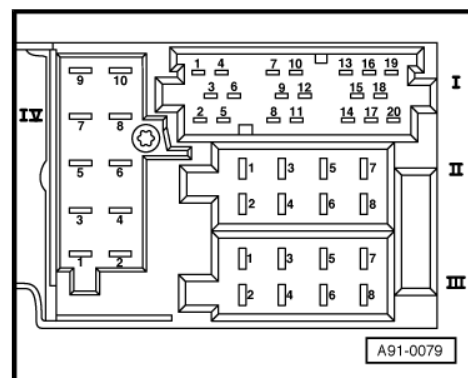
Note!

Contacts not listed are not used.

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20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 4 - Front left signal
- 5 - Front right signal
- 6 - Switched positive (amplifier with bass loudspeaker)
- 7 - CAN bus High (infotainment) (as of MY 02)
- 8 - Clock signal (up to MY 01)
- 9 - Data signal (up to MY 01)
- 10 - Enable signal (up to MY 01)
- 11 - Remote control/steering wheel (up to MY 01)
- 12 - CAN bus Low (infotainment) (as of MY 02)
- 13 - CD bus data in (CD changer)
- 14 - CD bus data out (CD changer)
- 15 - CD clock (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



Brown 8-pin connector II

- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+)
- 6 - Front left loudspeaker (-)

Black 8-pin connector III

- 1 - GALA (vehicle speed signal) (up to MY 01)
- 2 - Anti-theft alarm earth (as of MY 02)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s) (up to MY 01)
- 6 - Switch illumination (terminal 58s) (up to MY 01)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

Red 10-pin connector IV

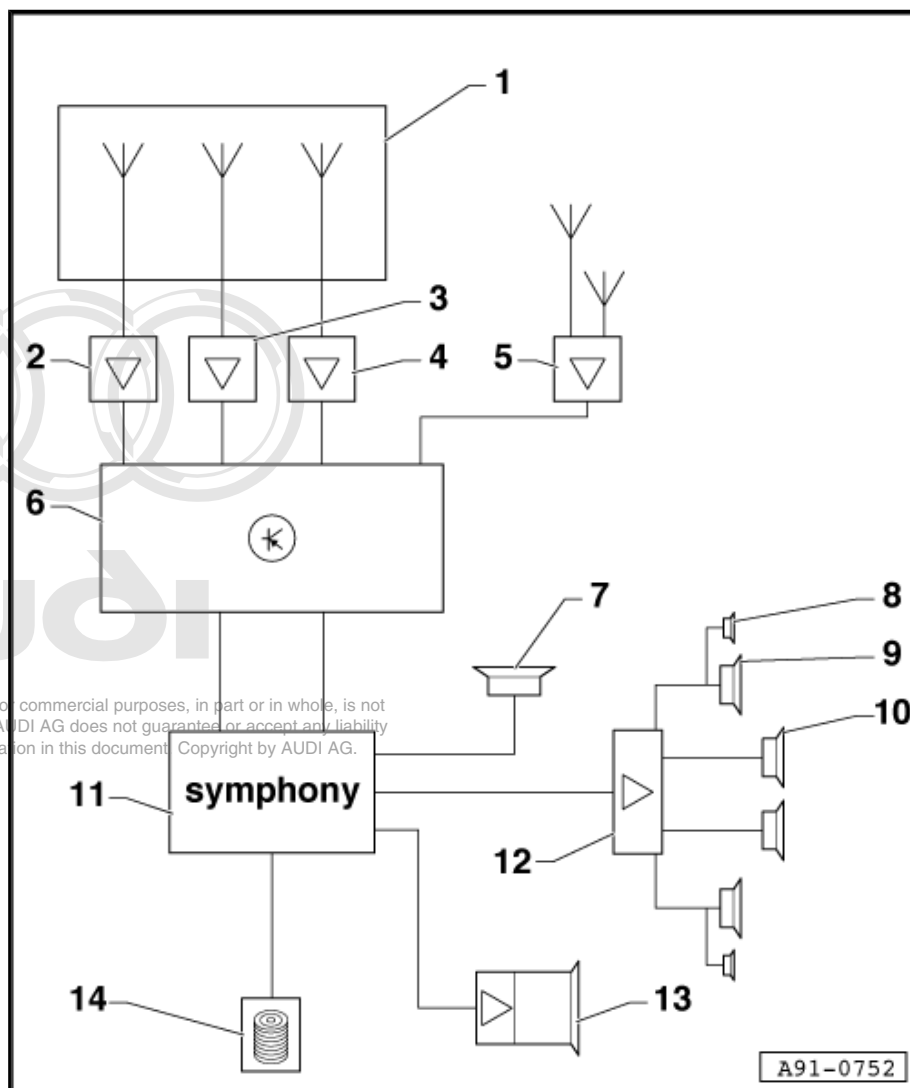
- 1 - AF mute (from telephone)
- 2 - Terminal 15 (navigation system only) (up to MY 01)
- 3 - Telephone (AF +) (not with navigation system)
- 4 - Telephone (AF -) (not with navigation system)
- 5 - Navigation (AF+) (navigation system only)
- 6 - Navigation (AF-) (navigation system only)

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- 7 - Navigation system (control wire)
- 9 - Display illumination (terminal 58d) (up to MY 01)
- 10 - Earth (CD changer) (up to MY 01)

1.3.9 "symphony" radio system with BOSE sound system

- 1 - Rear window aerials
- 2 - Aerial amplifier at bottom left behind tailgate trim
- 3 - Aerial amplifier at top left behind tailgate trim
- 4 - Aerial amplifier at top right behind tailgate trim
- 5 - Roof aerial with amplifier
- 6 - Aerial selection control unit at rear left of luggage compartment behind side trim
- 7 - Hands-free loudspeaker in driver's storage compartment (up to MY 01)
- 8 - Front treble/mid-range loudspeaker in upper door trim
- 9 - Front bass loudspeaker in lower door trim
- 10 - Rear broadband loudspeaker in side trim
- 11 - "symphony" radio
- 12 - BOSE amplifier at rear right of luggage compartment behind side trim
- 13 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim
- 14 - CD changer (optional) at rear left of luggage compartment behind side trim



1.3.10 Contact assignment of multi-pin connectors I, II, III, IV

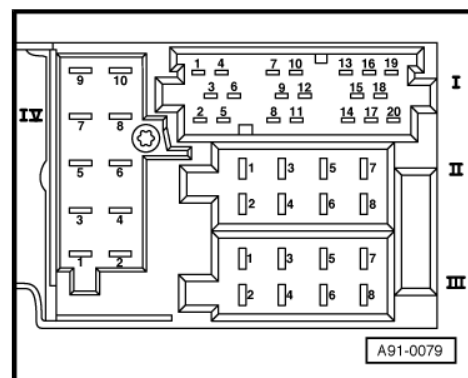


Note!

Contacts not listed are not used.

20-pin connector I

- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 4 - Front left signal
- 5 - Front right signal
- 6 - Switched positive (BOSE amplifier)
- 7 - CAN bus High (infotainment) (as of MY 02)
- 8 - Clock signal (up to MY 01)
- 9 - Data signal (up to MY 01)
- 10 - Enable signal (up to MY 01)
- 11 - Remote control/steering wheel (up to MY 01)
- 12 - CAN bus Low (infotainment) (as of MY 02)
- 13 - CD bus data in (CD changer)
- 14 - CD bus data out (CD changer)
- 15 - CD clock (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - AF earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



Brown 8-pin connector II

- 5 - Hands-free loudspeaker (+) (up to MY 01)
- 6 - Hands-free loudspeaker (-) (up to MY 01)

Black 8-pin connector III

- 1 - GALA (vehicle speed signal) (up to MY 01)
- 1 - BOSE code (as of MY 02)
- 2 - Anti-theft alarm earth (as of MY 02)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s) (up to MY 01)
- 6 - Switch illumination (terminal 58s) (up to MY 01)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)

Red 10-pin connector IV

- 1 - AF mute (from telephone)
- 2 - Terminal 15 (navigation system only) (up to MY 01)
- 3 - Telephone (AF +) (not with navigation system)
- 4 - Telephone (AF -) (not with navigation system)
- 5 - Navigation (AF+) (navigation system only)
- 6 - Navigation (AF-) (navigation system only)
- 7 - Navigation system (control wire)



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9 - Display illumination (terminal 58d) (up to MY 01)

10 - Earth (CD changer) (up to MY 01)

1.4 Pre-fitted components for radio installation

1.4.1 Block diagram

1 - Roof aerial with amplifier

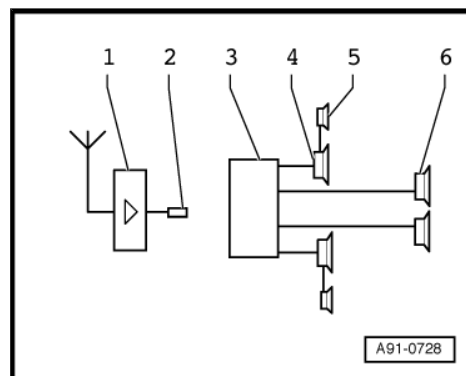
2 - Aerial cable

3 - Connector II (8-pin) and connector III (8-pin)

4 - Front bass loudspeaker in lower door trim

5 - Front treble/mid-range loudspeaker in upper door trim

6 - Rear broadband loudspeaker in side trim



1.4.2 Contact assignment of multi-pin connectors II and III



Note!

Contacts not listed are not used.

Brown 8-pin connector II (-C-)

1 - Rear right loudspeaker (+)

2 - Rear right loudspeaker (-)

3 - Front right loudspeaker (+)

4 - Front right loudspeaker (-)

5 - Front left loudspeaker (+)

6 - Front left loudspeaker (-)

7 - Rear left loudspeaker (+)

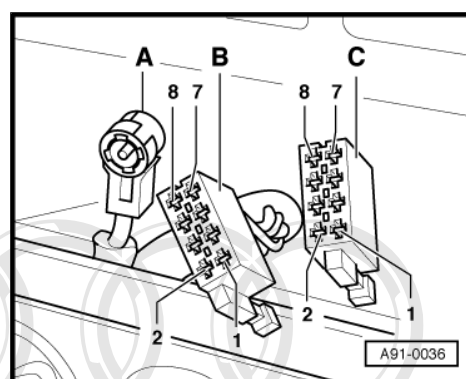
8 - Rear left loudspeaker (-)

Black 8-pin connector III (-B-)

6 - Illumination (terminal 58d)

7 - Battery + (terminal 30)

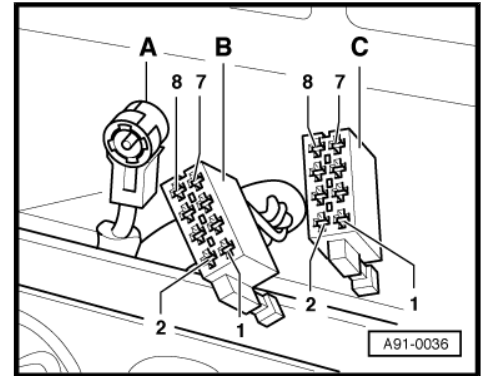
8 - Earth (terminal 31)



1.4.3 Connecting radio with pre-fitted components for radio installation

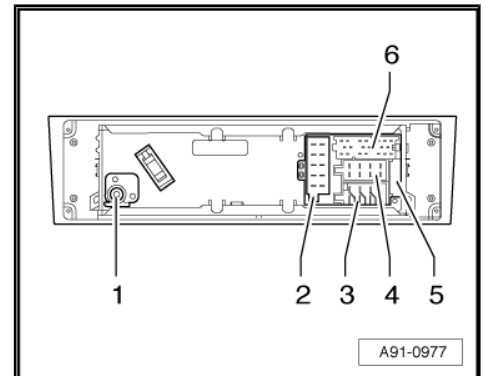
- Carefully prise cover panel out of centre console and detach.

- Connect aerial wire -A-.
- Plug in black connector -B- and brown connector -C- at radio.
- Carefully insert radio in dash panel and engage in mounting frame.
- If applicable, activate anti-theft encoding in line with radio operating instructions.



1.5 Connectors on back of "chorus" radio

- 1 - Aerial connection
- 2 - Red 10-pin connector IV
- 3 - Black 8-pin connector III
- 4 - Brown 8-pin connector II
- 5 - Unit fuse
- 6 - 20-pin connector I



1.6 Connectors on back of "concert" radio



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1 - Red 10-pin connector IV

2 - 20-pin connector I, comprising

- ☐ Yellow 6-pin connector
- ☐ Green 6-pin connector
- ☐ Blue 8-pin connector

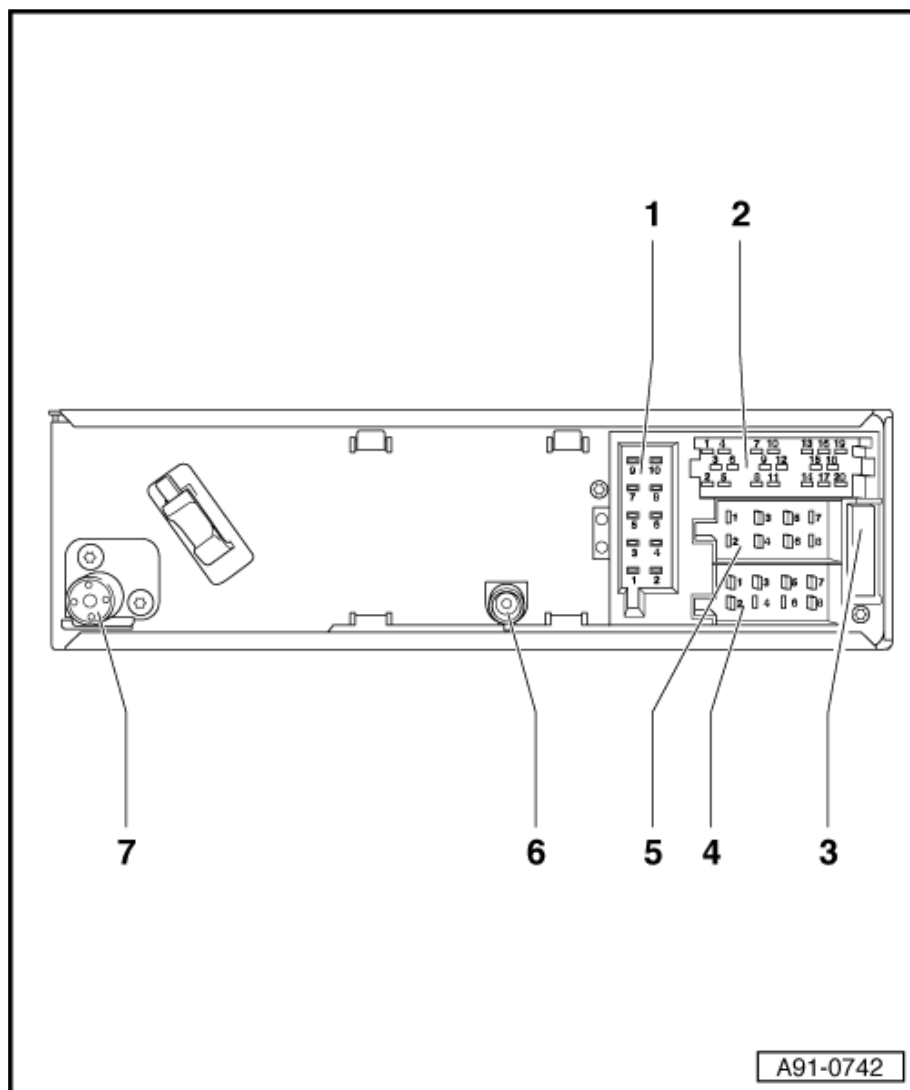
3 - Unit fuse

4 - Black 8-pin connector III

5 - Brown 8-pin connector II

6 - Aerial connection (IF) to aerial selection control unit - J515- (as of MY 02)

7 - Aerial connection (HF) from aerial selection control unit - J515-



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1.7 Connectors on back of "symphony" radio

1 - Aerial connection (HF) from aerial selection control unit - J515-

2 - Aerial connection (IF) to aerial selection control unit - J515-

3 - Radio connector block

4 - 20-pin connector I, comprising

- ☐ Yellow 6-pin connector
- ☐ Green 6-pin connector
- ☐ Blue 8-pin connector

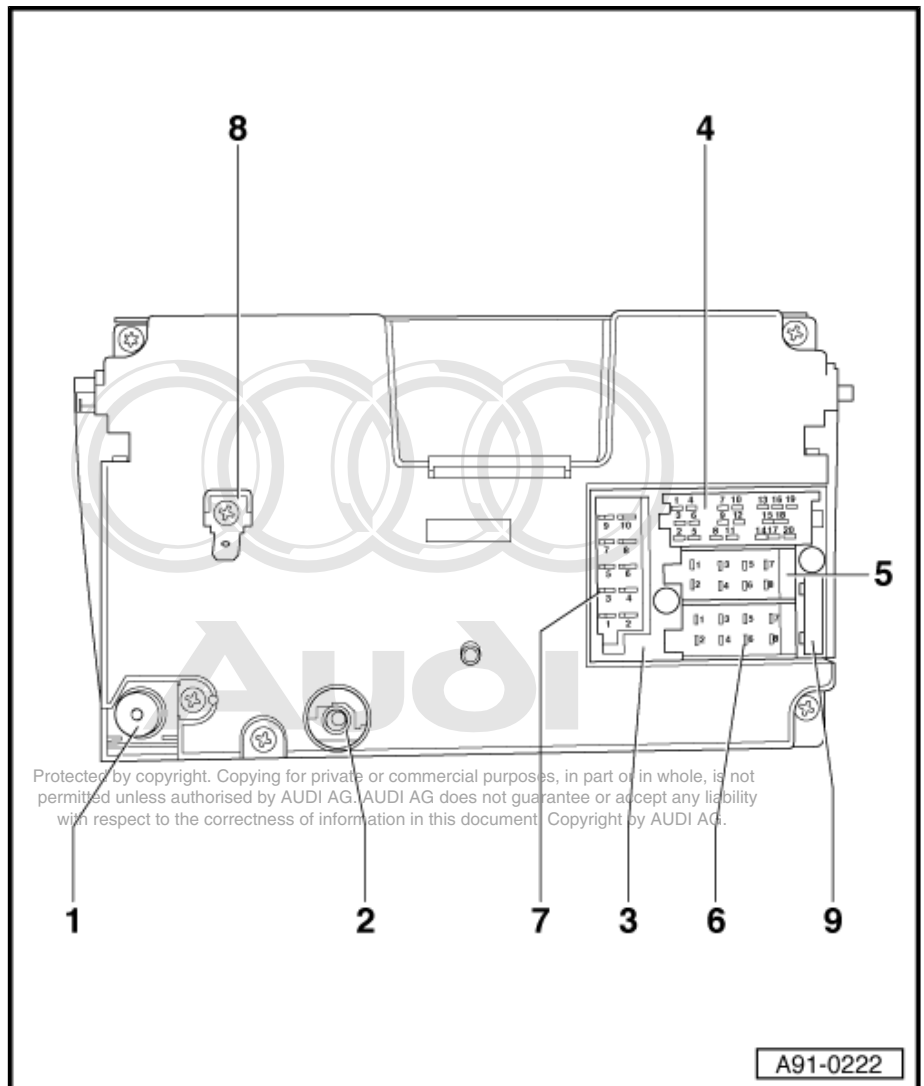
5 - Brown 8-pin connector II

6 - Black 8-pin connector III

7 - Red 10-pin connector IV

8 - Anti-theft alarm earth (up to MY 01)

9 - Unit fuse



1.8 Connector at CD changer

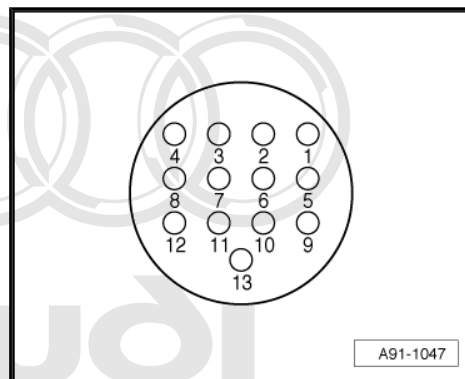


Note!

Contacts not listed are not used.

13-pin connector, coupling DIN 45326

- 1 - Right signal
- 2 - Signal earth
- 3 - Left signal
- 4 - Signal earth
- 5 - Earth (terminal 31)
- 7 - Switched positive
- 9 - CD clock
- 10 - Battery + (terminal 30)
- 11 - CD data out
- 13 - CD data in



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1.9 Connector at BOSE amplifier

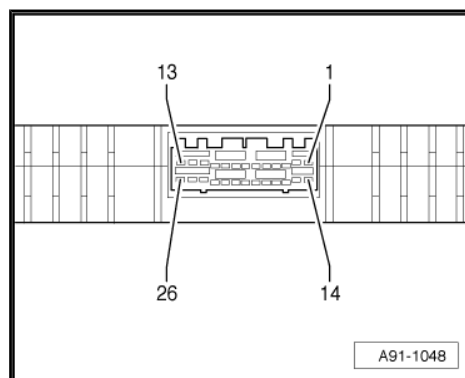


Note!

Contacts not listed are not used.

26-pin connector

- 1 - Rear left loudspeaker (-)
- 2 - Rear left loudspeaker (+)
- 4 - AF earth
- 5 - AF earth
- 6 - AF earth
- 7 - AF earth
- 9 - Switched positive
- 11 - Battery + (terminal 30)
- 12 - Front right loudspeaker (+)
- 13 - Front right loudspeaker (-)
- 14 - Front left loudspeaker (+)
- 15 - Front left loudspeaker (-)
- 17 - Front left signal (+)
- 18 - Rear left signal (+)
- 19 - Front right signal (+)
- 20 - Rear right signal (+)
- 24 - Earth (terminal 31)
- 25 - Rear right loudspeaker (+)
- 26 - Rear right loudspeaker (-)



1.10 Overall layout of radio systems

1 - Radio -R-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 25](#)

2 - Front left -R21- / front right -R23- bass loudspeaker

- ☐ In bottom of front door trim
- ☐ Removing and installing
⇒ [page 26](#)

3 - Front left -R26- / front right -R27- mid-range/treble loudspeaker

- ☐ In top of front door trim
- ☐ Removing and installing
⇒ [page 27](#)

4 - Rear left -R15- / rear right -R17- bass loudspeaker

- ☐ In rear side trim
- ☐ Removing and installing
⇒ [page 27](#)

5 - BOSE amplifier -R12-

- ☐ With BOSE sound system only
- ☐ At rear right of luggage compartment behind side trim
- ☐ Removing and installing
⇒ [page 30](#)

6 - Roof aerial -R11-

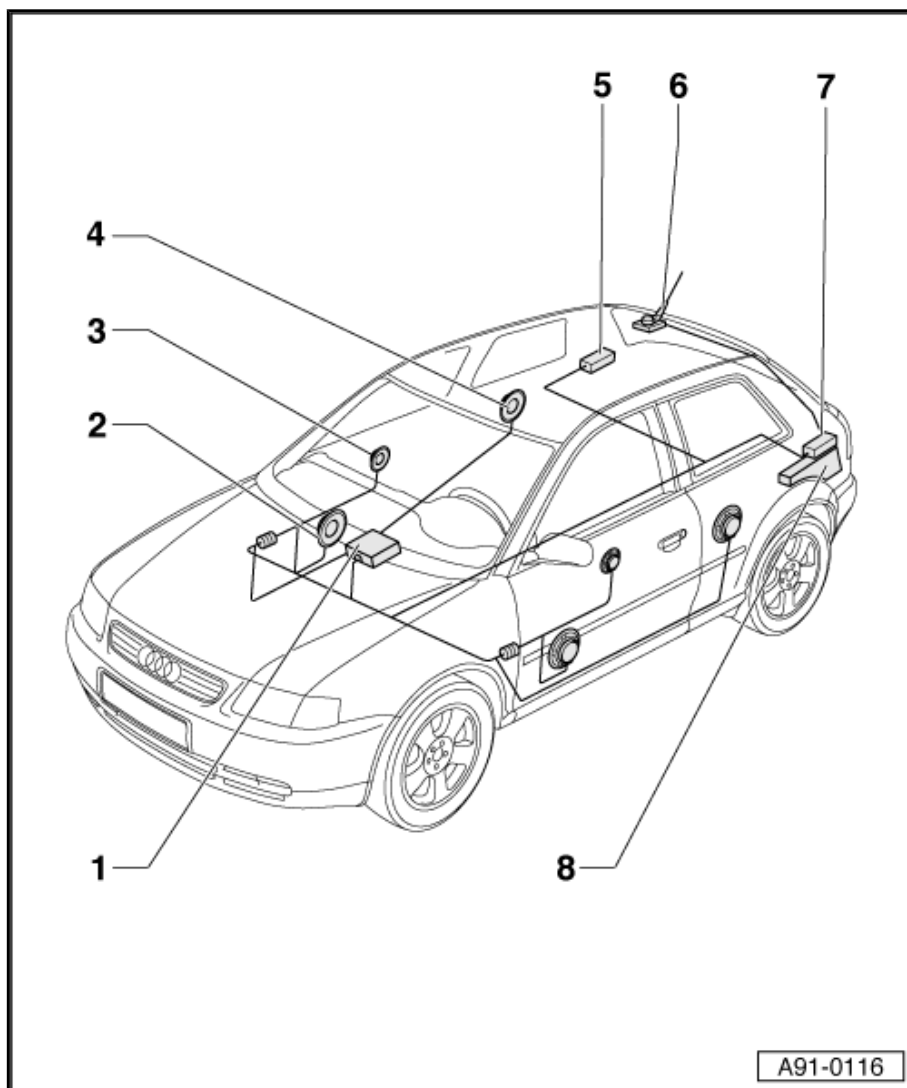
- ☐ Roof aerial with amplifier
- ☐ Removing and installing
⇒ [page 34](#)

7 - CD changer -R41-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 27](#)
- ☐ Checking wiring ⇒ [page 29](#)

8 - Amplifier with bass loudspeaker (on left in luggage compartment) -R44-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 31](#)



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1.11 Overall layout of “symphony” and (as of MY 02) “concert” radio system

1 - Radio -R-

- ☐ In centre console
- ☐ Removing and installing “symphony”
⇒ [page 25](#)
- ☐ Removing and installing “concert” ⇒ [page 25](#)

2 - BOSE amplifier -R12-

- ☐ With BOSE sound system only
- ☐ At rear right of luggage compartment behind side trim
- ☐ Removing and installing
⇒ [page 30](#)

3 - Aerial amplifier -R24-

- ☐ At top right behind tail-gate trim
- ☐ Removing and installing
⇒ [page 32](#)

4 - Roof aerial -R11-

- ☐ Roof aerial with amplifier
- ☐ Removing and installing
⇒ [page 34](#)

5 - Aerial amplifier -R82-

- ☐ At bottom behind tail-gate trim
- ☐ Removing and installing
⇒ [page 32](#)

6 - Aerial amplifier -R83-

- ☐ At top left behind tail-gate trim
- ☐ Removing and installing ⇒ [page 32](#)

7 - CD changer -R41-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing (up to MY 98) ⇒ [page 27](#)
- ☐ Removing and installing (as of MY 99) ⇒ [page 29](#)

8 - Aerial selection control unit -J515-

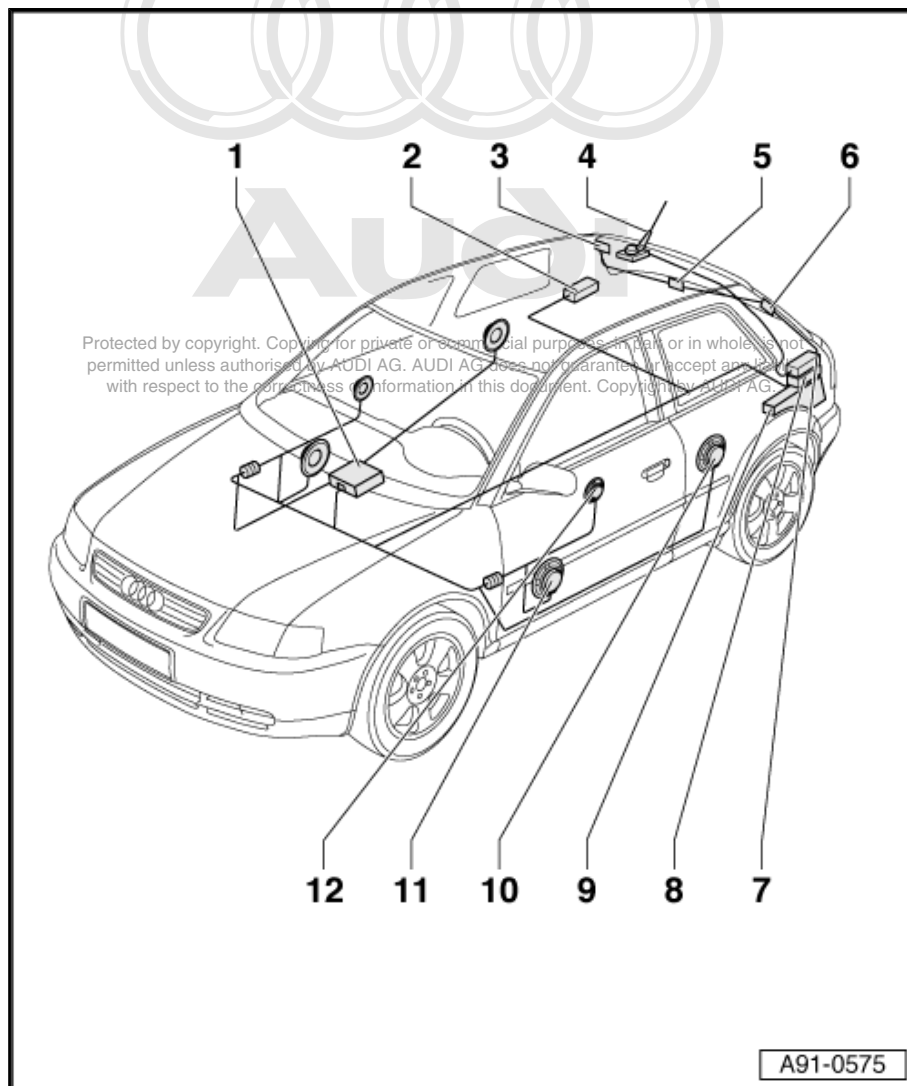
- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing (up to MY 00) ⇒ [page 33](#)
- ☐ Removing and installing (as of MY 01) ⇒ [page 34](#)

9 - Amplifier with bass loudspeaker (on left in luggage compartment) -R44-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 31](#)

10 - Rear left -R15- / rear right -R17- bass loudspeaker

- ☐ In rear side trim
- ☐ Removing and installing ⇒ [page 26](#)



11 - Front left -R21- / front right -R23- bass loudspeaker

- ☐ In bottom of front door trim
- ☐ Removing and installing ⇒ [page 26](#)

12 - Front left -R26- / front right -R27- mid-range/treble loudspeaker

- ☐ In top of front door trim
- ☐ Removing and installing ⇒ [page 27](#)

1.12 Removing and installing “chorus” and “concert” radios

Special tools and workshop equipment required

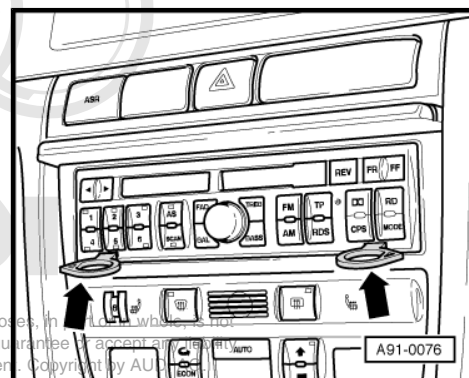
- ◆ Radio release keys -3344-
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Request anti-theft encoding from customer.
- Insert radio release keys -3344- in release slots as shown -arrows- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release keys -3344- and pull radio out of dash panel.
- Release and unplug connectors at radio.
- Press tabs on radio and pull out release keys.

Installing:

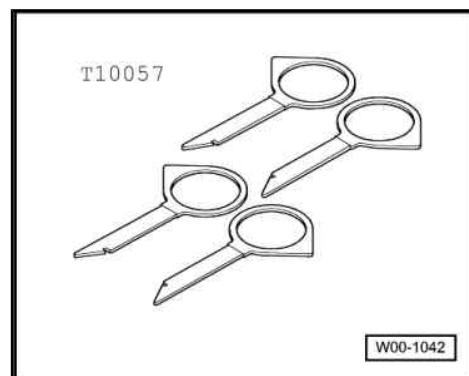
- Plug in all connectors.
- Carefully slide radio into dash panel and engage it in mounting frame.
- Activate anti-theft encoding.



1.13 Removing and installing “symphony” radio

Special tools and workshop equipment required

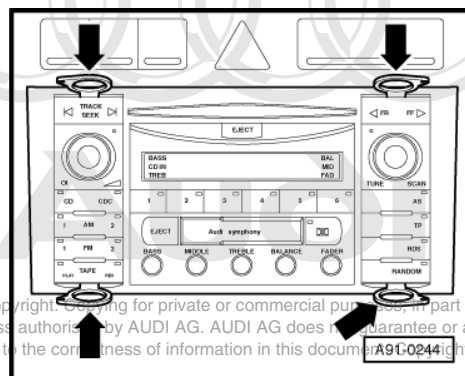
- ◆ Release keys -T10057-



- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Request anti-theft encoding from customer.
- Insert radio release keys -T10057- in release slots as shown -arrows- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release keys -T10057- and pull radio out of dash panel.
- Release and unplug connectors at radio.

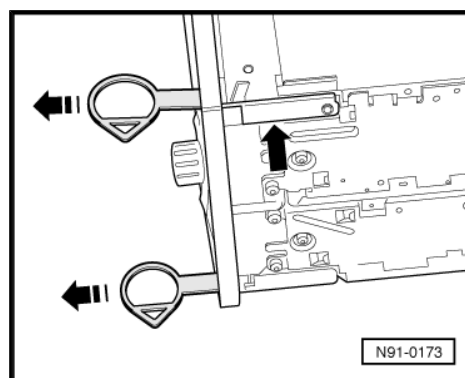


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- Press tab -arrow- and pull out release keys to front.

Installing:

- Plug in all connectors.
- Carefully slide radio into dash panel and engage it in mounting frame.
- Activate anti-theft encoding.



1.14 Removing and installing loudspeakers

1.14.1 Removing and installing bass loudspeakers in doors

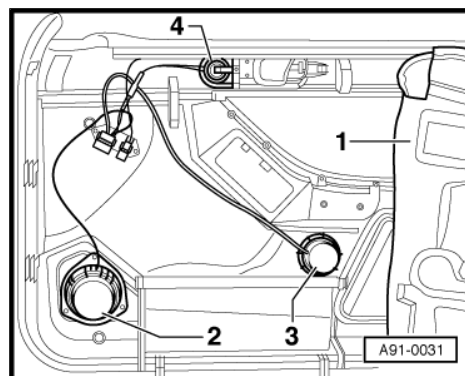
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove door trim ⇒ General body repairs, Interior; Rep. Gr. 70.
- On back of door trim, carefully unfasten sound absorber -1- from trim in area of bass loudspeaker.
- Unplug connector at loudspeaker -2-.
- Unscrew bolts (2 Nm) at bass loudspeaker -2- and detach loudspeaker from trim.

Installing:

- Install accordingly in reverse order of removal.



1.14.2 Removing and installing treble/mid-range loudspeakers in doors

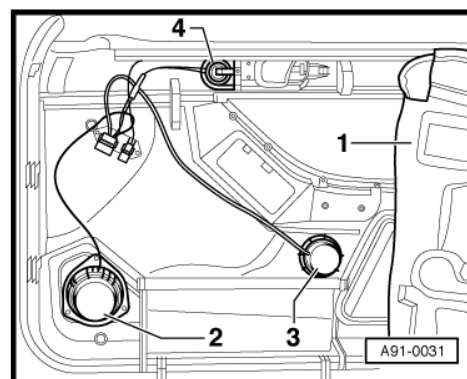
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove door trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- On back of door trim, carefully unfasten sound absorber 1 from trim.
- Unplug connector at loudspeaker -4-.
- Unscrew bolt (2 Nm) at loudspeaker -4- and detach mount.
- Detach loudspeaker from trim.

Installing:

- Install accordingly in reverse order of removal.



1.14.3 Removing and installing loudspeaker in rear side trim

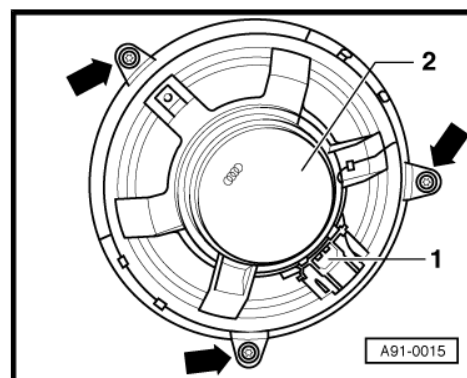
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove rear side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unplug connector -1-.
- Screw out bolts -arrows- (2 Nm) at loudspeaker -2- and detach loudspeaker from trim.

Installing:

- Install accordingly in reverse order of removal.



1.15 Removing and installing CD changer (up to MY 98)

1.15.1 Exploded view

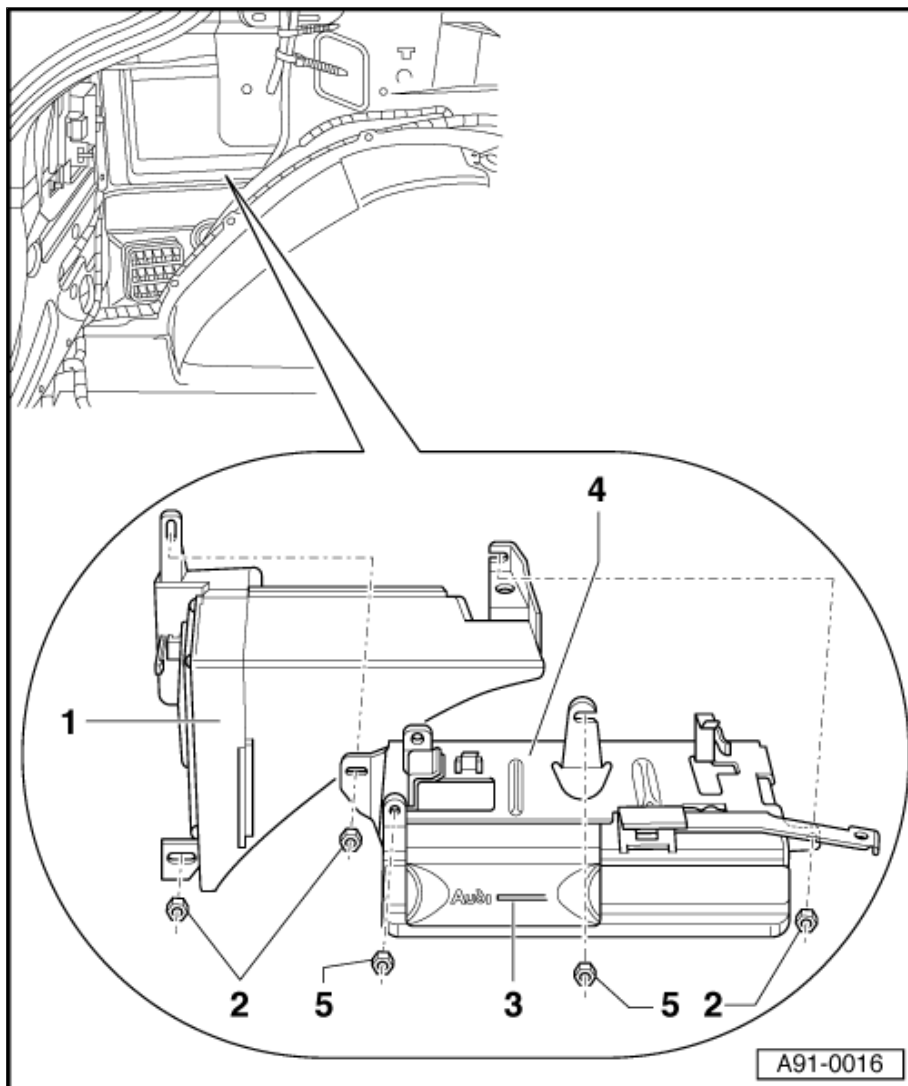
1 - Amplifier with bass loud-speaker

2 - 3 Nm

3 - CD changer -R41-

4 - CD/telephone mounting frame

5 - 3 Nm



1.15.2 Removing and installing

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

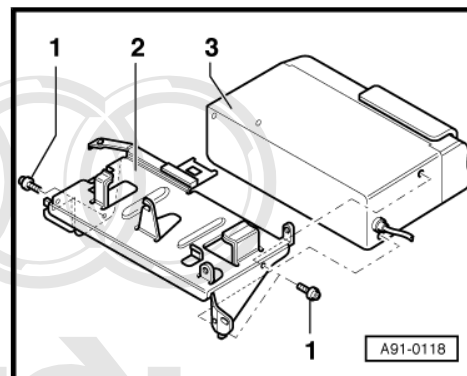
- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Remove CD changer with mounting frame ⇒ [page 31](#) .
- Unplug connector and take out CD changer with mounting frame.

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- Screw out bolts -1- (2 Nm) and take CD changer -3- out of mounting frame -2-.

Installing:

- Install accordingly in reverse order of removal.
- After installation check wiring to radio ⇒ [page 29](#) .



1.16 Removing and installing CD changer (as of MY 99)

- Switch off all electrical equipment.
- Remove ignition key.

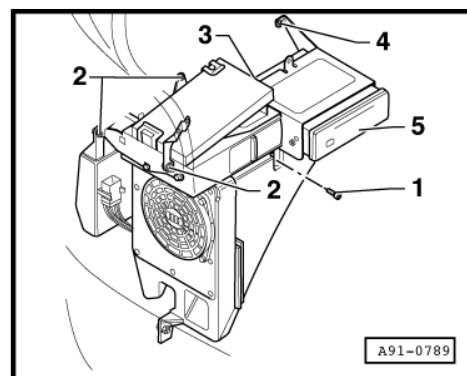
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Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .

If navigation unit or TV tuner is fitted, this must be removed first together with mounting frame.

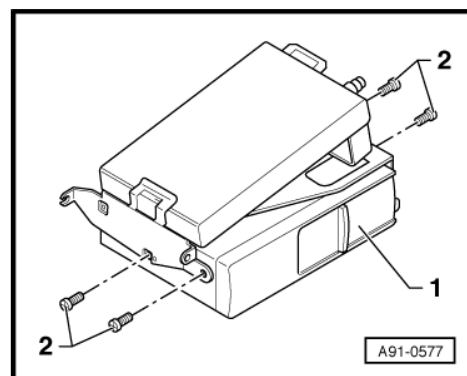
- Unfasten nut -4- (3 Nm) and slacken off bolt -3- (3.5 Nm).
- Pull out navigation unit -5- with holder and unplug connectors.
- Slacken off bolt -1- (2 Nm) and unfasten nuts -2- (3 Nm).
- Pull out CD changer with holder and unplug all connectors.



- Slacken off bolts -2- (2 Nm) and detach CD changer -1- from holder.

Installing:

- Install accordingly in reverse order of removal.
- After installation check wiring to radio ⇒ [page 29](#) .



1.16.1 Checking wiring between radio and CD changer

- Switch off radio.

"chorus" radio:

- Press **CC/CD** button on radio and simultaneously switch on radio.

"concert" radio:

- Press **CC** button on radio and simultaneously switch on radio.

"symphony" radio:

- Press station button **4** on radio, simultaneously switch on radio and keep "on" button pressed.

All models:



Note!

Signal wire between radio and CD changer is not checked.

Wiring OK

Indicated on display:

"CDC CONNECTED"

Wiring not OK

Indicated on display:

"NO CDC"

- Check connector at CD changer.
- Repeat wiring check and if result is not OK, use current flow diagram to check wiring ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.

1.17 Removing and installing BOSE amplifier (up to MY 98)

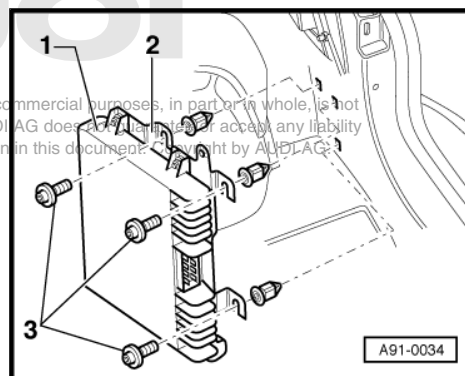
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove right luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unplug connector at amplifier.
- Screw out bolts -3- (1.5 Nm).
- Take out amplifier -1- together with mounting frame -2-.

Installing:

- Install accordingly in reverse order of removal.



1.18 Removing and installing BOSE amplifier (as of MY 99)

- Switch off all electrical equipment.

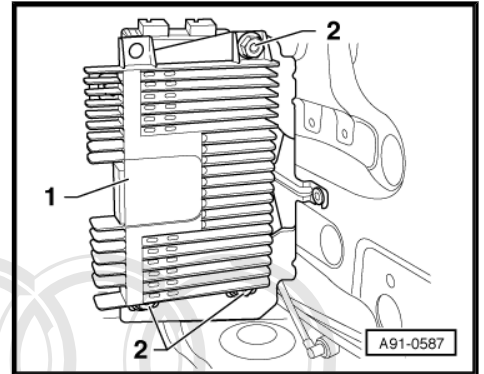
- Remove ignition key.

Removing:

- Remove right luggage compartment side trim → General body repairs, Interior; Rep. Gr. 70 .
- Unplug connector at amplifier.
- Unfasten nuts -2- (2.5 Nm) and detach amplifier -1- from holder.

Installing:

- Install accordingly in reverse order of removal.



1.19 Removing and installing bass loudspeaker



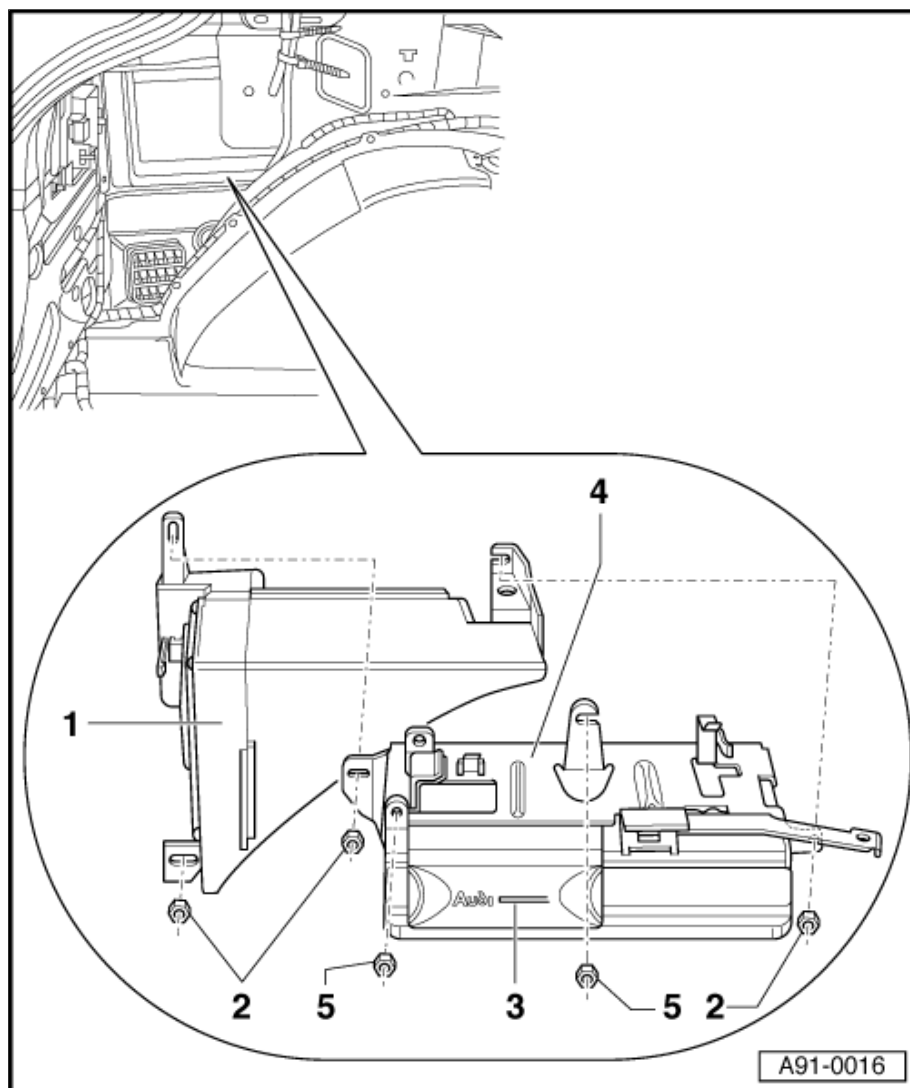
Note!

If fitted, CD changer must be removed ⇒ [page 27](#) .

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

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- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unfasten nuts -2- (3 Nm).
- Unplug connector at bass loudspeaker -1-.
- Take out bass loudspeaker -1-.

Installing:

- Install accordingly in reverse order of removal.

1.20 Removing and installing tailgate aerial amplifiers

Aerial amplifiers are located behind upper (2x) and lower (1x) tailgate trim.

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

1. Aerial amplifiers behind upper trim:

- Remove upper tailgate trim ⇒ General body repairs, Interior; Rep. Gr. 70 .

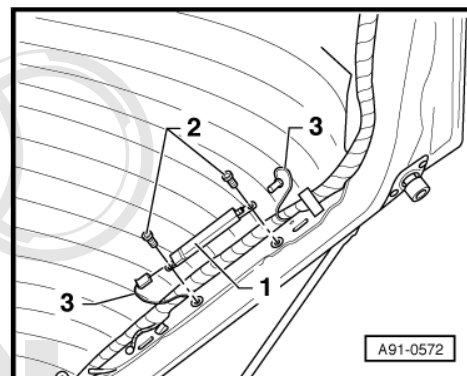
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- Slacken off bolts -2- (4.5 Nm), unplug connectors -3- and detach aerial amplifier -1-.

Left aerial amplifier is removed in similar manner.

2. Aerial amplifier behind lower trim:

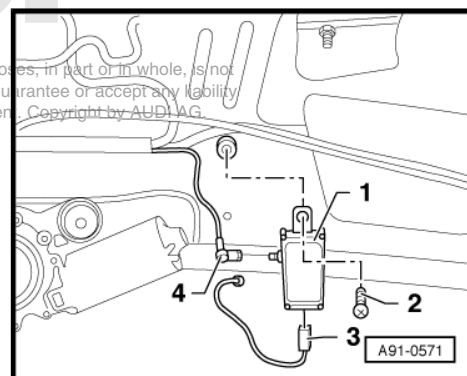
- Remove lower tailgate trim ⇒ General body repairs, Interior; Rep. Gr. 70 .



- Slacken off bolt -2- (4.5 Nm), unplug connectors -3- and -4- and detach aerial amplifier -1-.

Installing:

- Install accordingly in reverse order of removal.

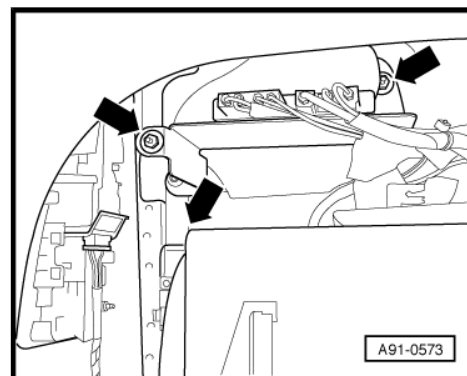


1.21 Removing and installing aerial selection control unit -J515- (up to MY 00)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unfasten nuts -arrows- (3 Nm) and take out holder with control unit.



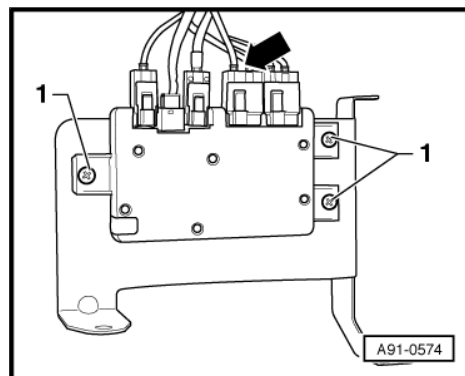
- Unplug connectors -arrow- and slacken off bolts -1- (2 Nm).


Note!

On vehicles with CD changer and/or telephone, remove holder with CD changer ⇒ [page 29](#).

Installing:

- Install accordingly in reverse order of removal.



1.22 Removing and installing aerial selection control unit -J515- (as of MY 01)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70.

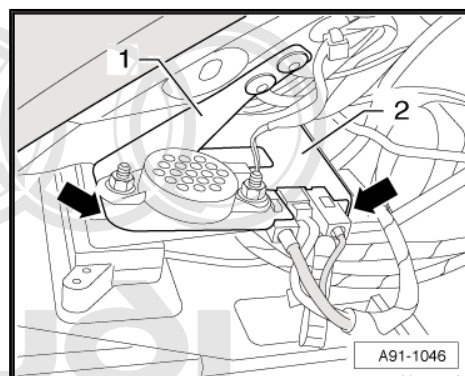
Control unit is only clipped in.

Parking aid warning buzzer with holder may have to be removed.

- Unscrew warning buzzer with holder -1- (3 Nm).
- Use screwdriver to press down retainer tabs -arrows- and pull control unit -2- out of holder.
- Unplug connectors at control unit -2-.

Installing:

- Install accordingly in reverse order of removal.

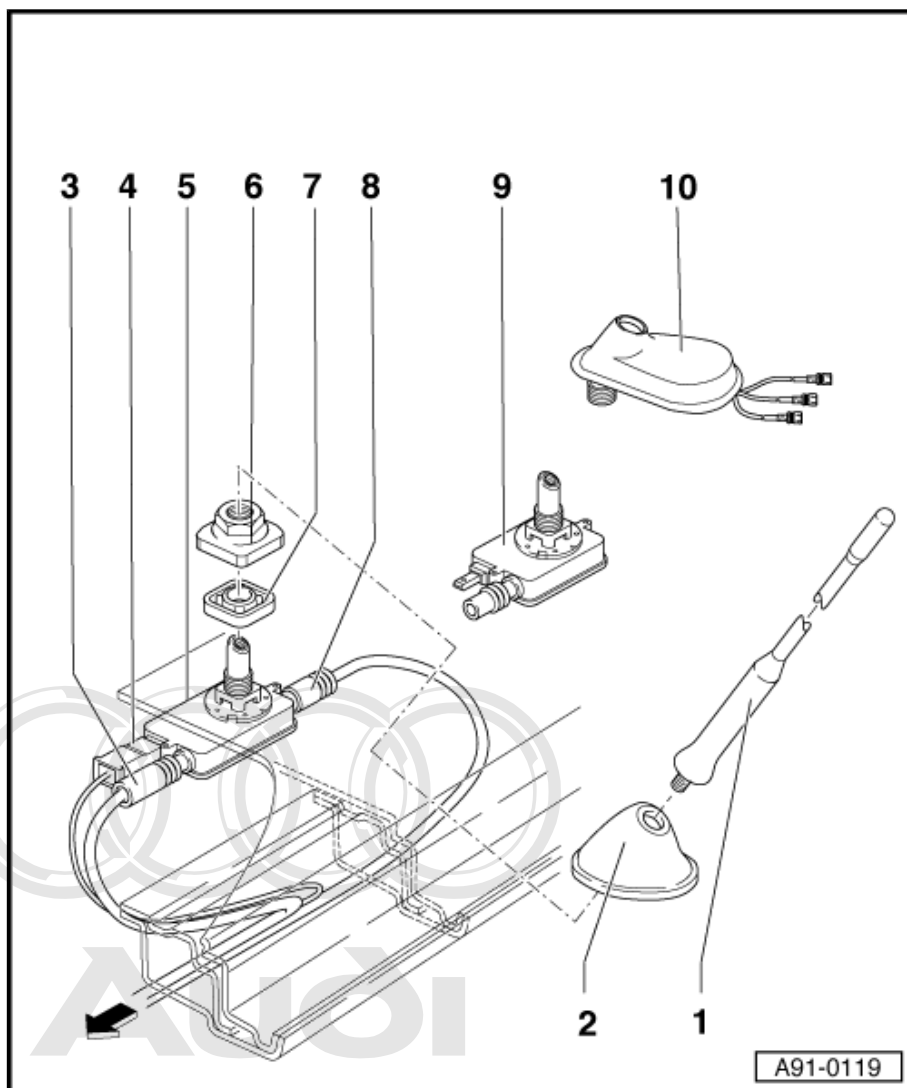


1.23 Removing and installing roof aerial

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1.23.1 Exploded view

- 1 - Aerial -R11-
- 2 - Aerial base cap
- 3 - Connector for radio aerial wire
- 4 - Connector for switched positive supply (up to MY 97)
- 5 - Base for radio/telephone aerial
- 6 - 3.5 Nm
- 7 - Gasket
- 8 - Connector for telephone aerial wire
- 9 - Base for radio aerial
- 10 - Radio/telephone/navigation aerial (GPS) -R52-



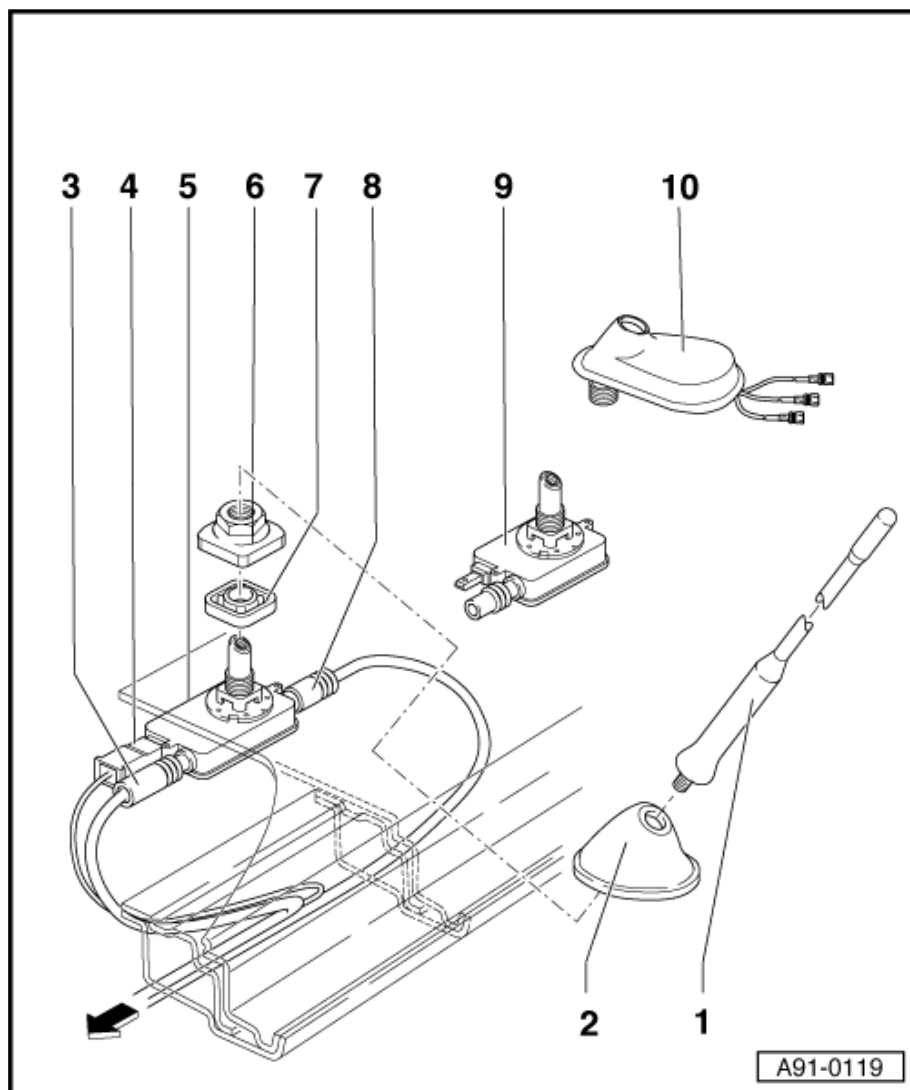
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1.23.2 Removing and installing

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove interior light ⇒ Electrical system; Rep. Gr. 96 .
- Remove rear end trim of headliner ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unscrew aerial -1-.
- Lift off cap -2-.
- Unfasten nut -6- (3.5 Nm).



- Take out aerial base -5- or -9- inwards.
- Lift off aerial base -10-.
- Unplug connectors -3-, -4- and if applicable -8-.

Installing:

- Install accordingly in reverse order of removal.



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2 Servicing telephone system

2.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



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- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

2.2 General description

The telephone systems in the A3 comprise:

- ◆ Pre-fitted components for telephone installation with radio/telephone aerial, fitted wiring harness, hands-free unit
- ◆ Pre-fitted components for mobile phone installation with radio/telephone aerial, fitted wiring harness with control unit, hands-free unit
- ◆ Permanently installed telephone with radio/telephone aerial, transmitter/receiver, handset, hands-free unit
- ◆ Fitted mobile phone with radio/telephone aerial, interface, cradle, amplifier, hands-free unit

Refer to fitting instructions no. 23 for service installation version.

2.3 Permanently installed telephone

1 - Telephone handset -R37-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 42](#)

2 - Telephone/navigation system loudspeaker -R39- (up to MY 01)

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing
⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing
⇒ [page 48](#)

3 - Radio -R-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 25](#)

4 - Loudspeakers in doors

- ☐ In front door trim
- ☐ Removing and installing
⇒ [page 26](#)

5 - Telephone transmitter and receiver unit -R36-

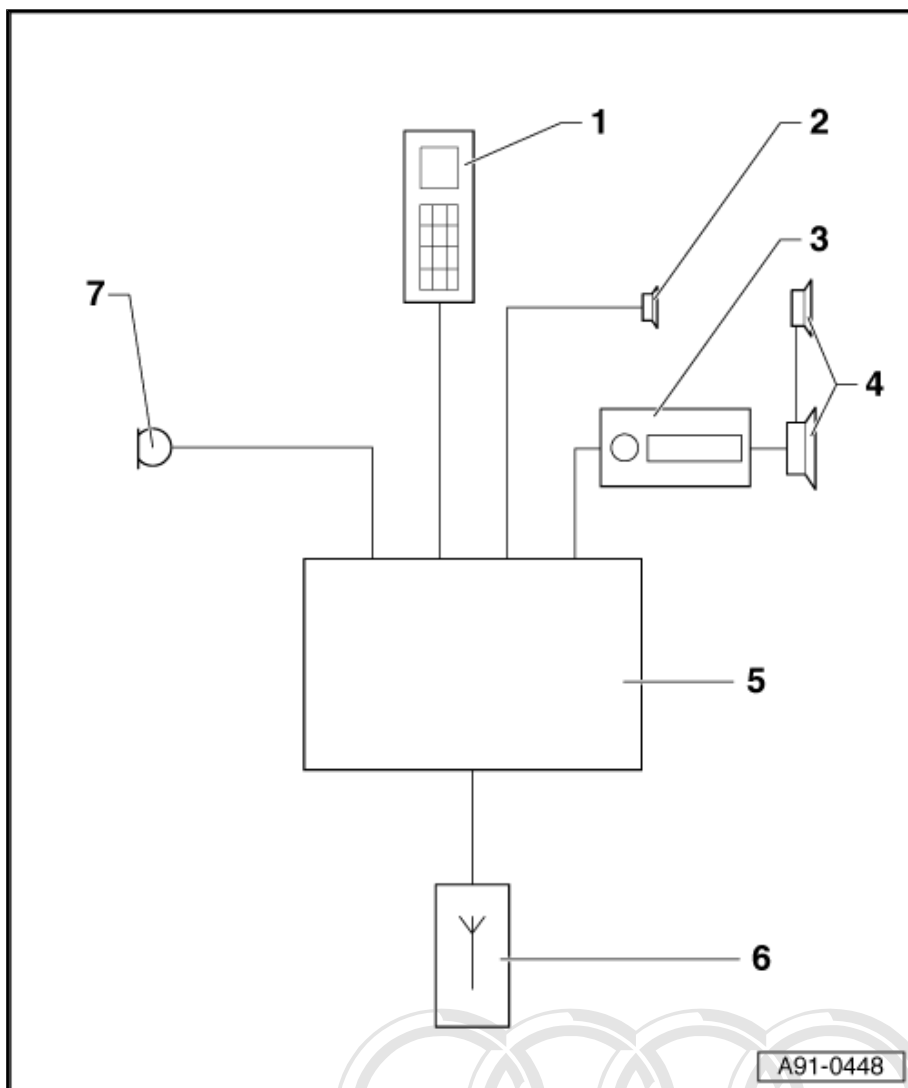
- ☐ At rear left of luggage compartment behind side trim (up to MY 99)
- ☐ Removing and installing
⇒ [page 44](#)
- ☐ Nokia, at rear left of luggage compartment behind side trim (up to MY 00)
- ☐ Removing and installing ⇒ [page 44](#)
- ☐ Telephone/telematics control unit at rear right of luggage compartment behind side trim (as of MY 01)
- ☐ Removing and installing ⇒ [page 132](#)

6 - Radio/telephone aerial -R51-

- ☐ Roof aerial
- ☐ Removing and installing ⇒ [page 34](#)

7 - Telephone microphone -R38-

- ☐ In driver's A-pillar (up to MY 99)
- ☐ Removing and installing ⇒ [page 46](#)
- ☐ In interior light cover panel (as of MY 00)
- ☐ Removing and installing ⇒ [page 46](#)



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2.4 Mobile phone and, as of MY 02, pre-fitted components for mobile phone installation

1 - Mobile telephone -R54-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 43](#)

2 - Telephone/navigation system loudspeaker -R39- (up to MY 01)

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing
⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing
⇒ [page 48](#)

3 - Radio -R-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 25](#)

4 - Loudspeakers in doors

- ☐ In front door trim
- ☐ Removing and installing
⇒ [page 26](#)

5 - Mobile telephone operating electronics control unit -J412-

- ☐ Beneath rear centre console, next to hand-brake lever
- ☐ Removing and installing
⇒ [page 45](#)

6 - Telephone microphone -R38-

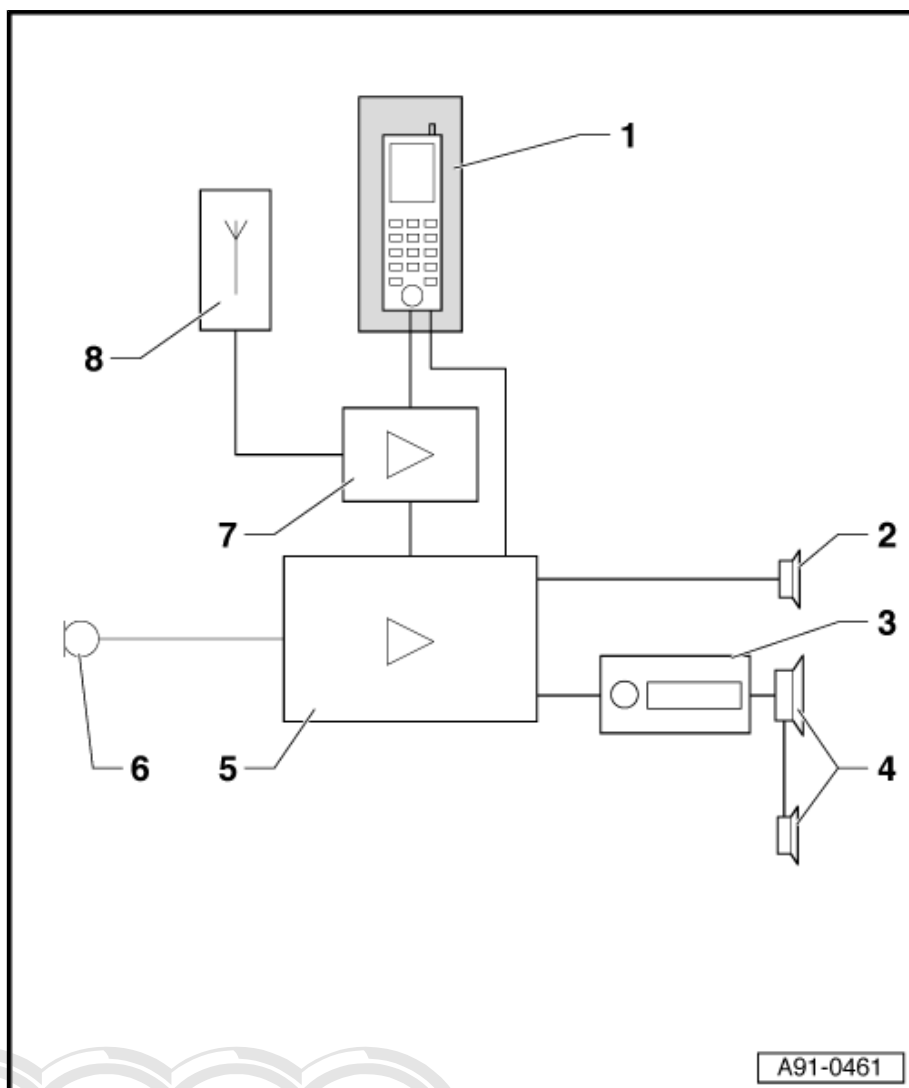
- ☐ In driver's A-pillar (up to MY 99)
- ☐ Removing and installing ⇒ [page 46](#)
- ☐ In interior light cover panel (as of MY 00)
- ☐ Removing and installing ⇒ [page 46](#)

7 - Aerial amplifier for mobile telephone -R86-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 45](#)

8 - Radio/telephone aerial -R51-

- ☐ Roof aerial
- ☐ Removing and installing ⇒ [page 34](#)



2.5 Pre-fitted components for telephone installation (up to MY 01)

- ◆ Roof aerial for radio/telephone

- ◆ Wiring harness for telephone system
- ◆ Standard radio equipment: Front loudspeakers used as hands-free loudspeakers
- ◆ Radio with BOSE sound system and navigation system: Separate hands-free loudspeaker fitted
- ◆ Hands-free microphone in driver's A-pillar or interior light cover panel

2.6 Pre-fitted components for mobile phone installation (up to MY 01)

1 - Special safety cradle for mobile phone

2 - System cable (helical cable)



Note!

System cable and special cradle are retrofit components.

3 - Telephone/navigation system loudspeaker -R39-

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing ⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing ⇒ [page 48](#)

4 - Radio -R-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 25](#)

5 - Loudspeakers in doors

- ☐ In front door trim
- ☐ Removing and installing ⇒ [page 26](#)

6 - Radio/telephone aerial - R51-

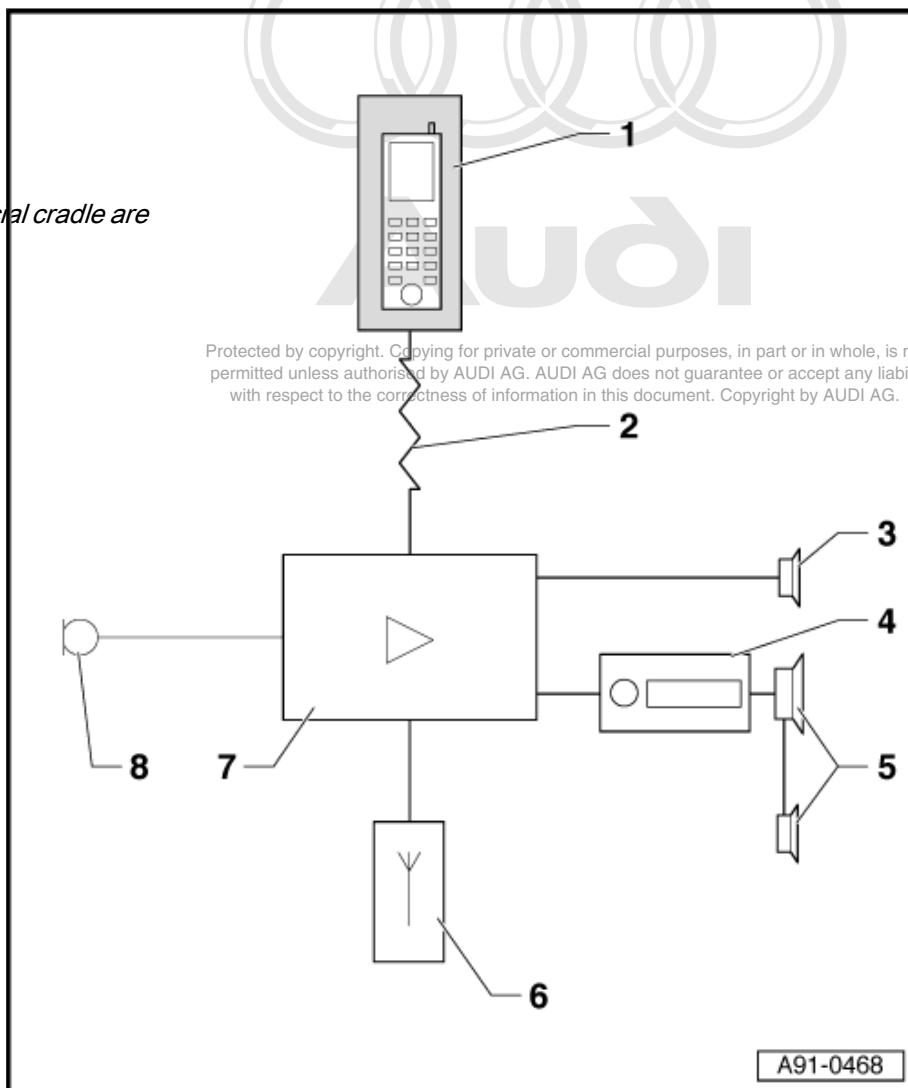
- ☐ Roof aerial
- ☐ Removing and installing ⇒ [page 34](#)

7 - Mobile telephone operating electronics control unit -J412-

- ☐ Beneath rear centre console, next to handbrake lever
- ☐ Removing and installing ⇒ [page 45](#)

8 - Telephone microphone -R38-

- ☐ In driver's A-pillar (up to MY 99)
- ☐ Removing and installing ⇒ [page 46](#)
- ☐ In interior light cover panel (as of MY 00)
- ☐ Removing and installing ⇒ [page 46](#)



2.7 Connector at mobile telephone operating electronics control unit -J412-

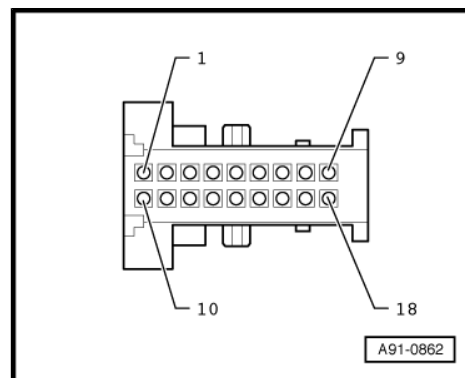


Note!

Contacts not listed are not used.

18-pin connector

- 1 - Earth (terminal 31)
- 3 - GALA (vehicle speed signal)
- 4 - AF mute (to radio)
- 7 - Hands-free loudspeaker (-) (up to MY 01)
- 9 - Hands-free microphone (-)
- 10 - Terminal 15
- 11 - Battery + (terminal 30)
- 12 - Switch illumination (terminal 58s)
- 13 - Mobile phone ON signal (to mobile phone amplifier)
- 16 - Hands-free loudspeaker (+) (up to MY 01)
- 18 - Hands-free microphone (+)



2.8 Connector at telephone transmitter and receiver unit -R36- (Nokia)



Note!

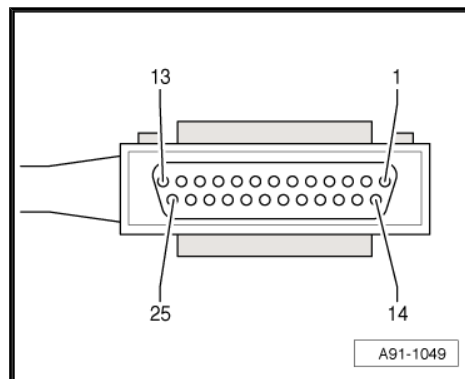
Contacts not listed are not used.



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25-pin connector

- 1 - Handset PIN 8
- 3 - Earth (terminal 31)
- 4 - Battery + (terminal 30)
- 5 - Terminal 15
- 6 - Handset PIN 9
- 8 - Handset PIN 3
- 10 - AF mute (to radio)
- 11 - Handset PIN 4
- 12 - Handset PIN 5
- 14 - Hands-free microphone (-)
- 15 - Hands-free microphone (+)
- 16 - Battery + (terminal 30)
- 17 - Earth (terminal 31)
- 18 - Handset PIN 6
- 19 - AF(+) (to navigation system)
- 23 - Handset PIN 2
- 24 - Handset PIN 7
- 25 - AF(-) (to navigation system)

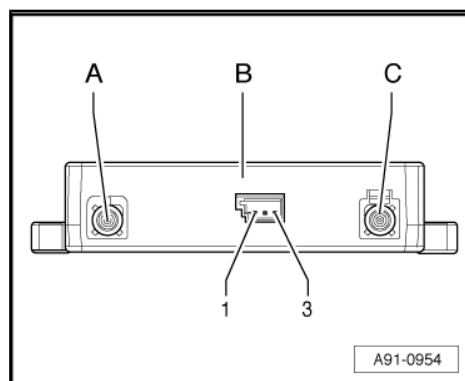


2.9 Connectors at mobile telephone aerial amplifier -R86-

- A - Telephone aerial connection
- B - 3-pin connector
- C - Mobile phone aerial connection

3-pin connector

- 1 - Battery + (terminal 30)
- 2 - Earth (terminal 31)
- 3 - Mobile phone ON signal (from control unit)



2.10 Removing and installing handset with holder

- Switch off all electrical equipment.
- Remove ignition key.



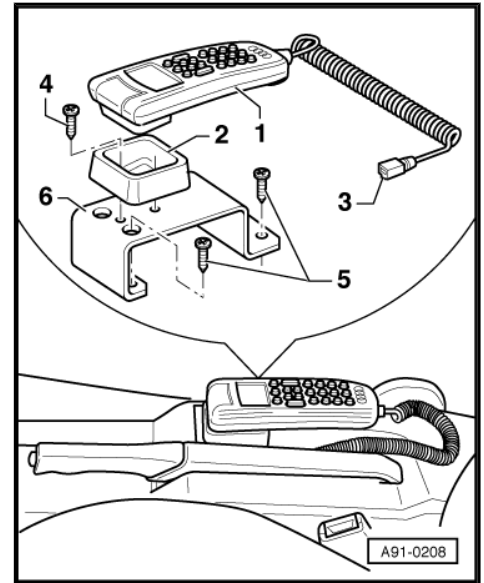
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Removing:

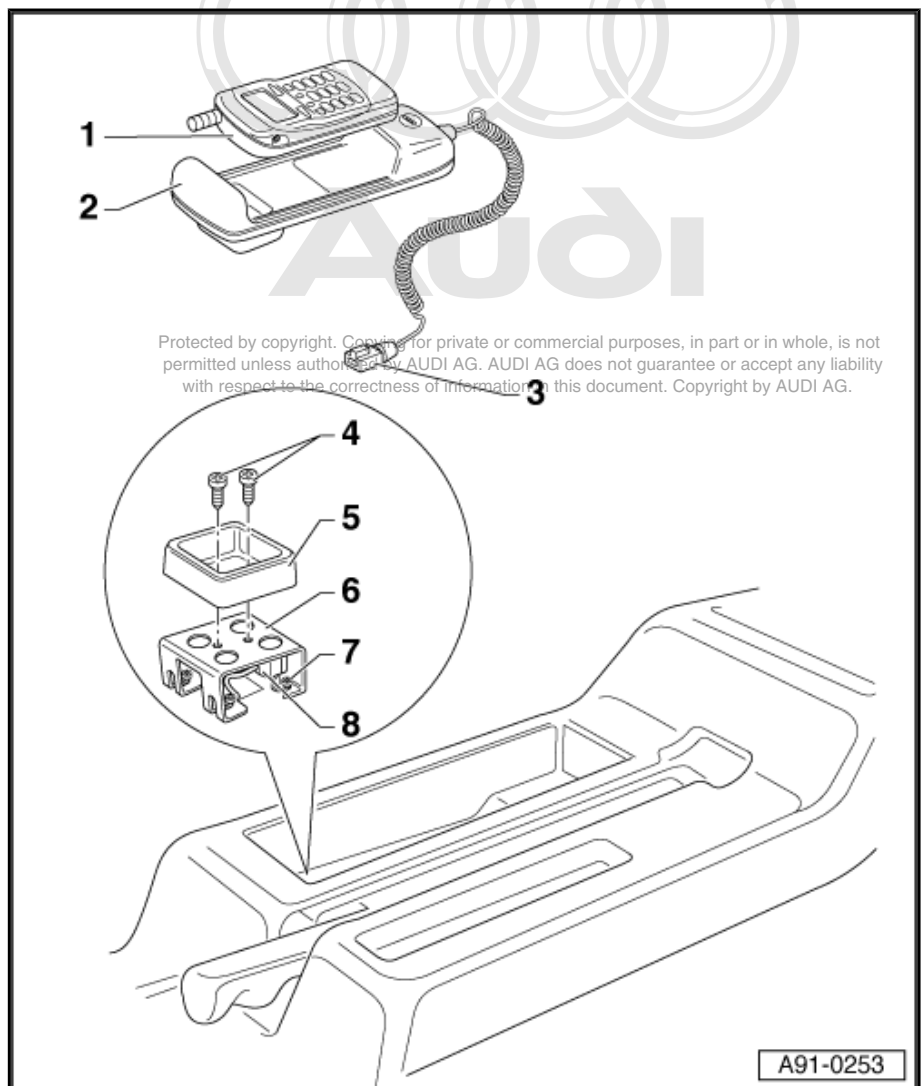
- Detach handset -1- from handset holder -2- and unplug connector -3-.
- Screw out bolts -4- (2 Nm) and detach handset holder -2-.
- Screw out bolts -5- (4 Nm), detach holder -6- and unclip connector of telephone wiring harness.

Installing:

- Install accordingly in reverse order of removal.



2.11 Removing and installing handset cradle with holder



- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Detach mobile phone -1- from handset cradle -2-.
- Detach handset cradle -2- from adapter cradle -5- and unplug connector -3- at holder -6-.
- Screw out bolts -4- (2 Nm) and detach adapter cradle -5-.
- Screw out bolts -7- (2.5 Nm), detach holder -6- and unclip connector of telephone wiring harness -8-.

Installing:

- Install accordingly in reverse order of removal.

2.12 Removing and installing telephone transmitter and receiver unit -R36- (up to MY 99)

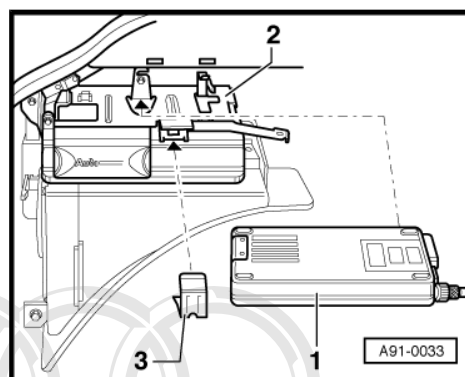
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Prise clip -3- off mounting frame -2-.
- Unplug connectors at transmitter and receiver unit.
- Slide transmitter and receiver unit -1- sideways out of mounting frame -2-.

Installing:

- Install accordingly in reverse order of removal.



2.13 Removing and installing telephone transmitter and receiver unit -R36- (Nokia) (up to MY 00)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .

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Note!

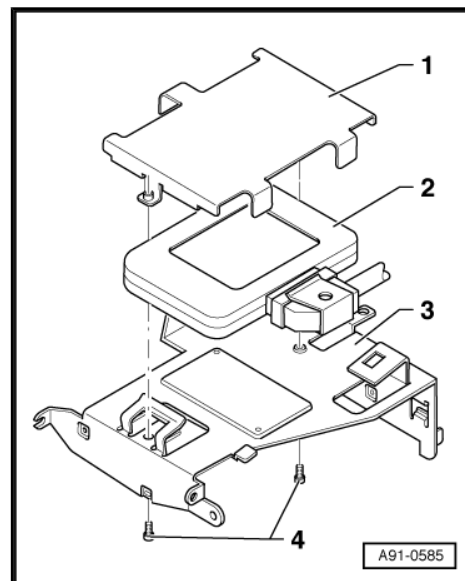
*If vehicle is equipped with CD changer, this must be removed first
⇒ [page 29](#) .*

- Remove holder -3- and unplug connectors at transmitter and receiver unit -2-.
- Screw bolts -4- (2 Nm) out of holder -1- and take out transmitter and receiver unit.

Installing:

- Install accordingly in reverse order of removal.

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2.14 Removing and installing mobile telephone aerial amplifier -R86-

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .



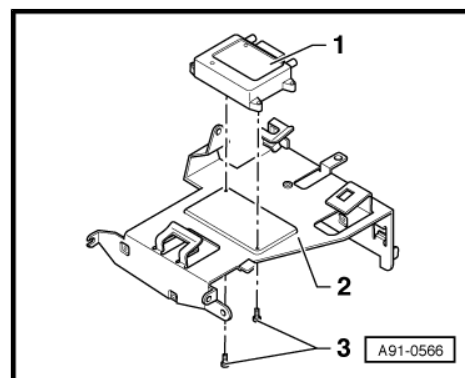
Note!

If vehicle is equipped with CD changer, this must be removed first ⇒ [page 29](#) .

- Remove holder -2- and unplug connectors at amplifier -1-.
- Screw bolts -3- (2 Nm) out of holder -1- and take out amplifier.

Installing:

- Install accordingly in reverse order of removal.



2.15 Removing and installing mobile telephone operating electronics control unit -J412-

- Switch off all electrical equipment.
- Remove ignition key.

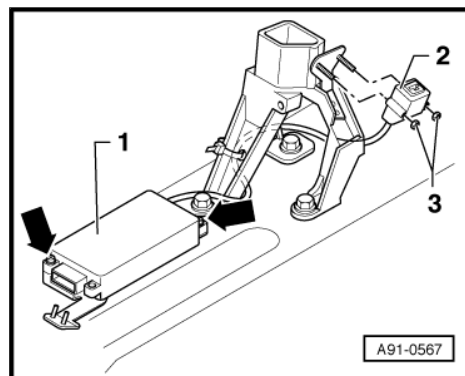
Removing:

- Remove rear centre console ⇒ General body repairs, Interior; Rep. Gr. 68 .

- Unplug connector -2- and disconnect aerial cable.
- Unscrew nuts -3- (0.6 Nm).
- Screw out bolts -arrows- (0.6 Nm) at control unit -1-.

Installing:

- Install accordingly in reverse order of removal.



2.16 Removing and installing hands-free microphone (up to MY 99)

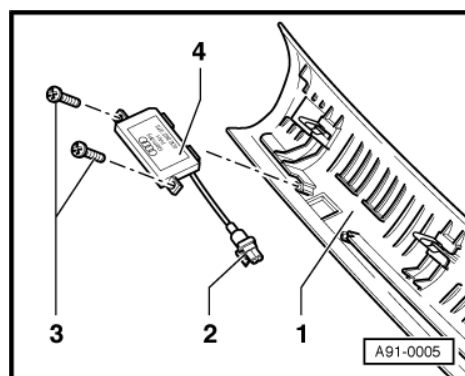
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove A-pillar trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unplug connector -2- and take trim -1- with hands-free microphone -4- out of vehicle.
- Slacken off bolts -3- and take microphone -4- out of trim -1-.

Installing:

- Install accordingly in reverse order of removal.



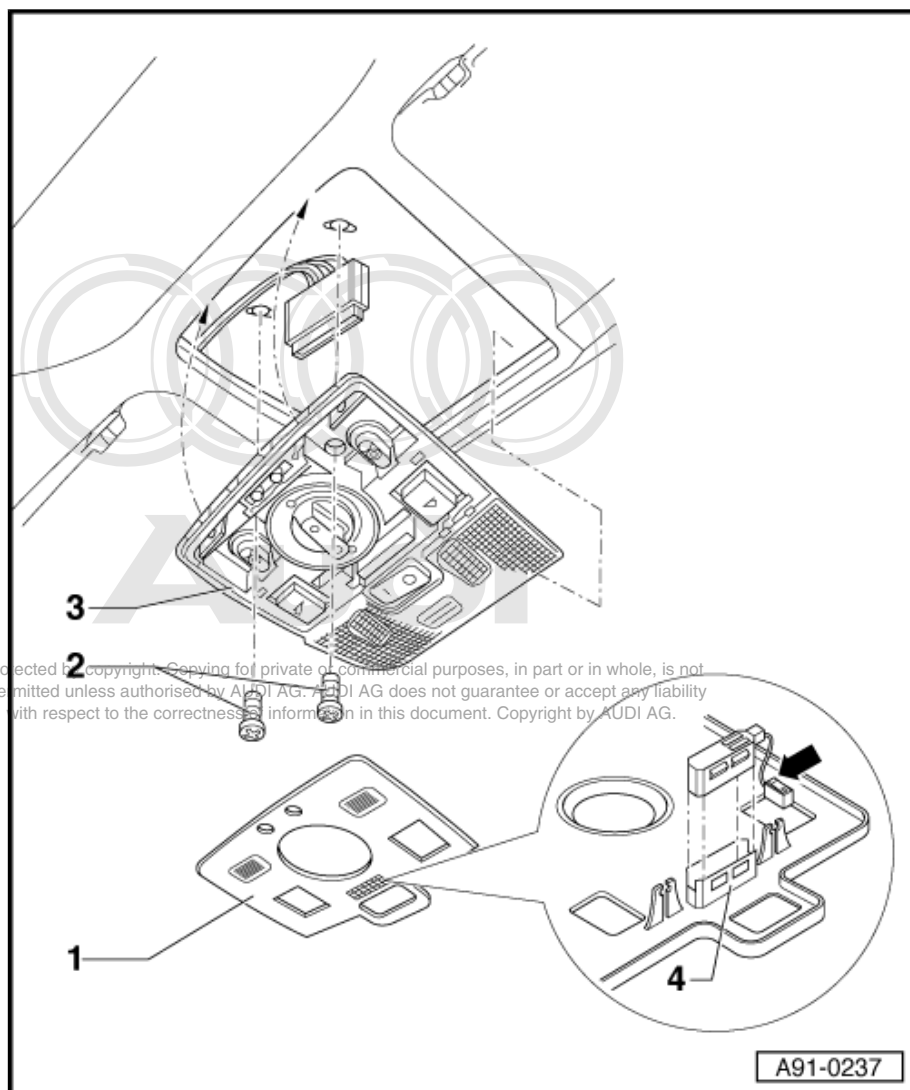
2.17 Removing and installing hands-free microphone (as of MY 00)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:



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- Carefully prise out interior light cover panel -1-.
- Screw out both bolts -2- of operating unit -3-.
- Carefully tilt out operating unit -3- downwards and unplug connector -arrow- at hands-free microphone.
- Carefully release microphone from cover -4- and detach.

Installing:

- Install accordingly in reverse order of removal.



Note!

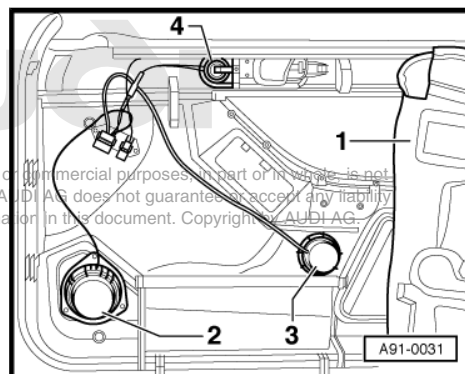
Make sure hands-free microphone is inserted properly. Section of hands-free microphone with connecting cable must be on right in LHD vehicle -arrow- and on left in RHD vehicle.

2.18 Removing and installing hands-free loudspeaker (up to MY 98)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove front door trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Carefully unfasten insulating mat -1- from trim on back.
- Unplug connector.
- Unscrew securing ring at loudspeaker -3- and take loudspeaker trim forwards out of door trim.
- Detach loudspeaker to rear from door trim.



Installing:

- Install accordingly in reverse order of removal.

2.19 Removing and installing hands-free loudspeaker (as of MY 99)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

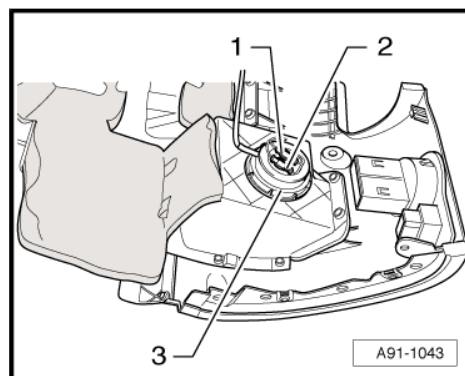
- Remove driver's storage compartment ⇒ General body repairs, Interior; Rep. Gr. 68 .

Vehicles with telematics system have 2 connectors on loudspeaker.

- Unplug connectors -1- and -2-.
- Unscrew securing ring -3- at loudspeaker and take loudspeaker downwards out of storage compartment.

Installing:

- Install accordingly in reverse order of removal.



3 Navigation system I (up to week 28/99)

3.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

3.2 General description

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3.2.1 Equipment features

- ◆ Dead reckoning using satellite navigation data
- ◆ User prompting for destination input and function selection via display in dash panel insert
- ◆ Active navigation with recommendations in the form of arrow symbols on dash panel insert display
- ◆ Spoken recommendations
- ◆ Display of current road/street name
- ◆ Display of distance between current location and destination

3.2.2 Description of operation

Under certain conditions, the Audi navigation system I processes signals from the worldwide satellite navigation system GPS (Global Positioning System).

Following initial commissioning, vehicle location is determined with the aid of GPS signals or specified by way of manual input of new location.

The navigation system is then operational and works on the dead reckoning principle.

The location of the vehicle is continuously updated by means of a magnetic field sender (compass) and information from the rear wheel sensors of the ABS control unit.

The system uses these measured values to establish the direction of and distance covered by the vehicle. These values are compared to the road network stored on the navigation system CD, i.e. the vehicle location is determined by comparison of the measured values with the stored information.

Corrections are made in the navigation system control unit if there are discrepancies between the measured position (magnetic field sender measured values and ABS data) and the theoretical position (position on stored road network).

If the vehicle is located in an area (country, town or road) which is not stored on the navigation CD, "OFF ROAD" or "OFF MAP" will appear on the display in the dash panel insert. In such cases only the direct straight line distance and the direction of the destination are indicated, as the navigation system cannot compare the GPS signals and the vehicle measured values with the information stored.

3.3 Block diagram

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Basic components

1 - Navigation system operating unit -E199-

2 - Operating electronics control unit, navigation -J402-

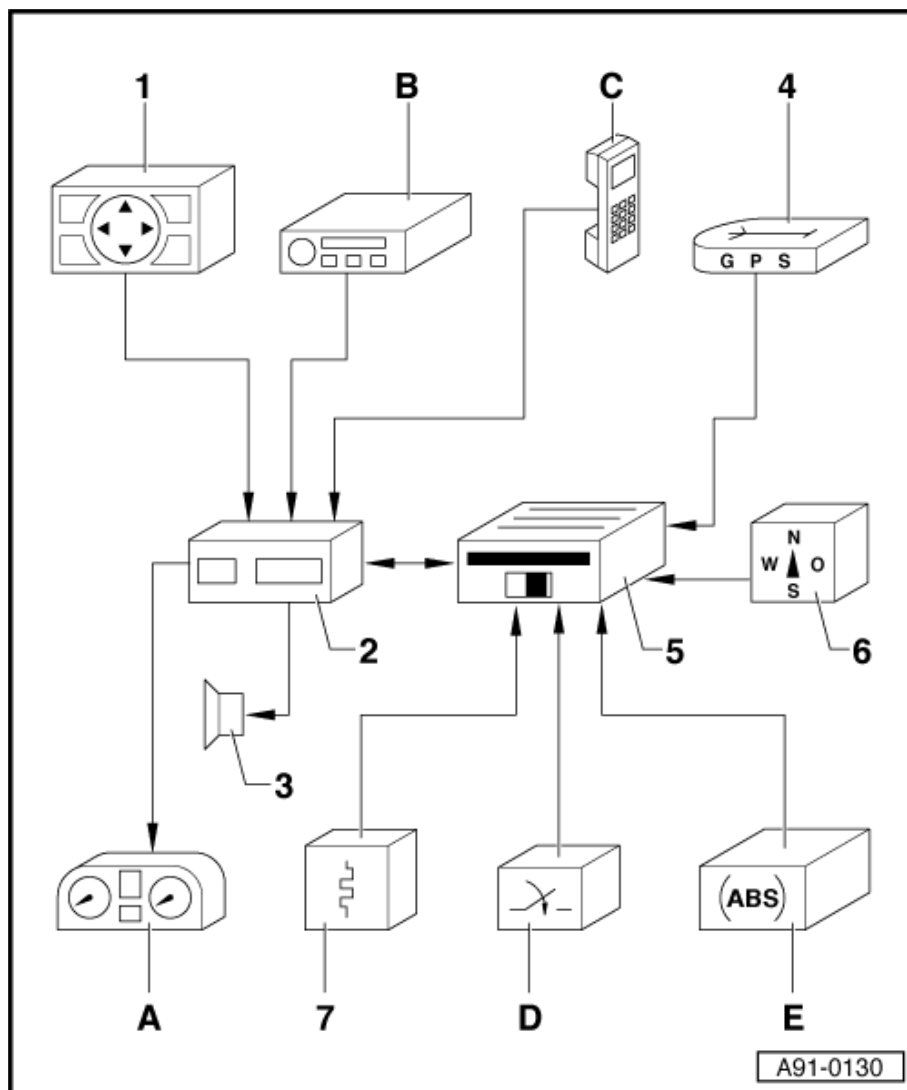
3 - Telephone/navigation system loudspeaker -R39-

4 - Navigation aerial (GPS) -R50-

5 - Navigation system with CD drive control unit -J401-

6 - Magnetic field sender (compass) -G197-

7 - Heated rear window -Z1-



Additional components

A - Display in dash panel insert

Indication of recommended direction

B - Radio system

Supplies radio frequency data for display

C - Telephone system

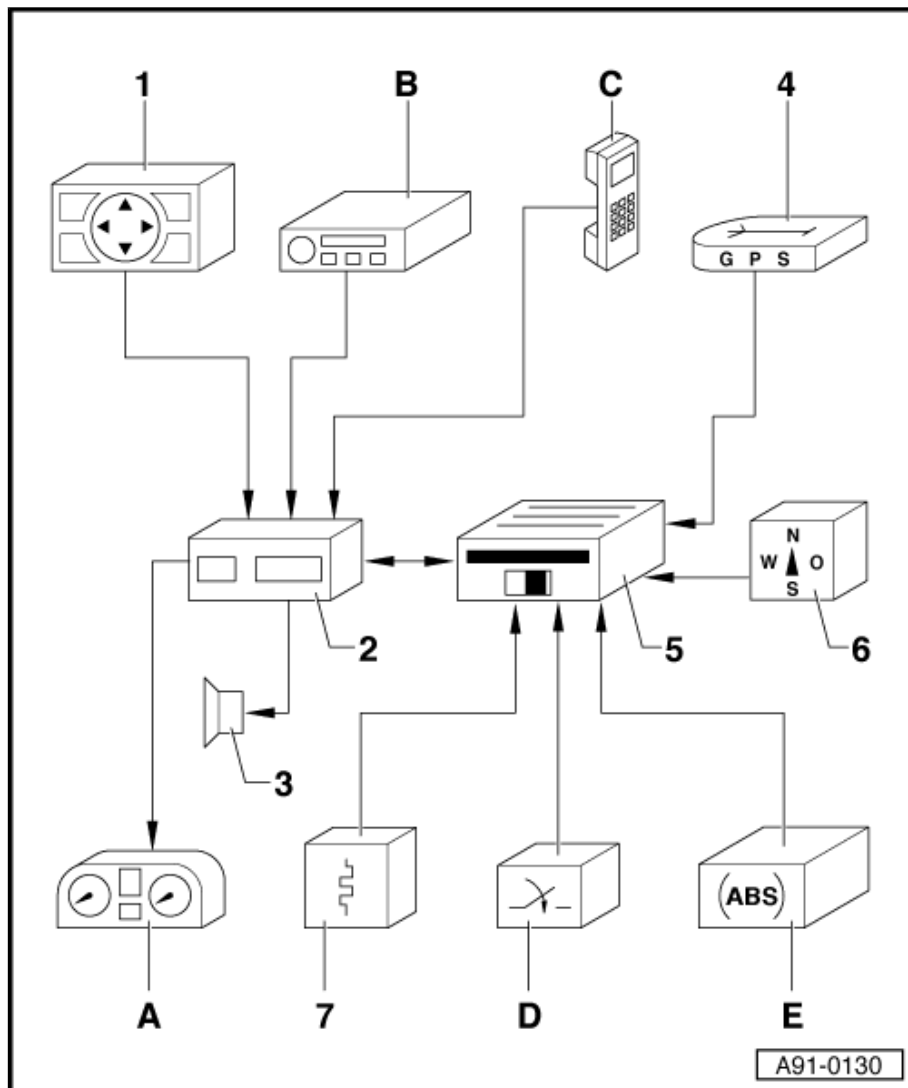
Hands-free function via joint loudspeaker

D - Reversing light switch -F4-

Supplies reversing signal

E - ABS control unit -J104-

Supplies rear wheel sensor signals



3.4 Connectors at navigation system with CD drive control unit -J401-



Note!

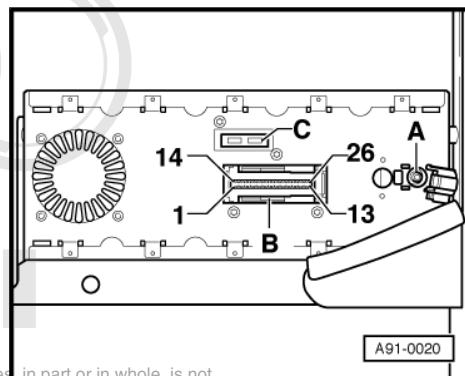
Contacts not listed are not used.

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-A- Connection for navigation system aerial (GPS)

-B- 26-pin connector

- 1 - Earth (terminal 31)
- 2 - Screen
- 3 - Screen
- 4 - Heated rear window
- 5 - Signal from magnetic field sender
- 6 - Signal earth from magnetic field sender
- 7 - Signal from left ABS speed sensor
- 8 - Signal from reversing light switch
- 9 - Data signal (RxD)
- 10 - Control signal (RTS)
- 12 - Mute signal
- 13 - Voice output signal (AF+)
- 14 - Battery + (terminal 30)
- 15 - Terminal 15
- 16 - Heated rear window
- 18 - Signal from magnetic field sender
- 19 - Magnetic field sender power supply
- 20 - Signal from right ABS speed sensor
- 21 - Screen
- 22 - Data signal (TxD)
- 23 - Control signal (CTS)
- 24 - Screen
- 25 - AF screen
- 26 - Voice output signal (AF-)

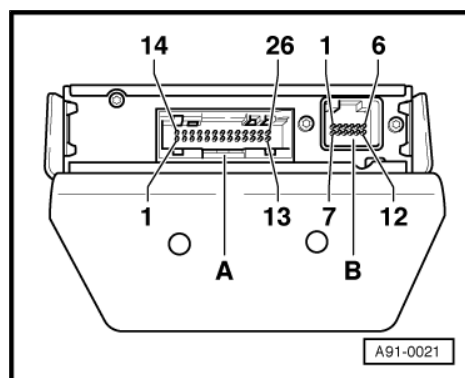


3.5 Connectors at operating electronics control unit, navigation -J402-



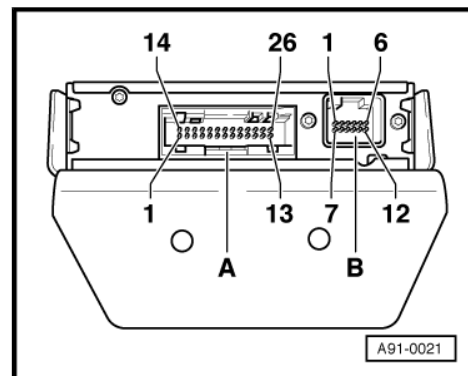
Note!

Contacts not listed are not used.



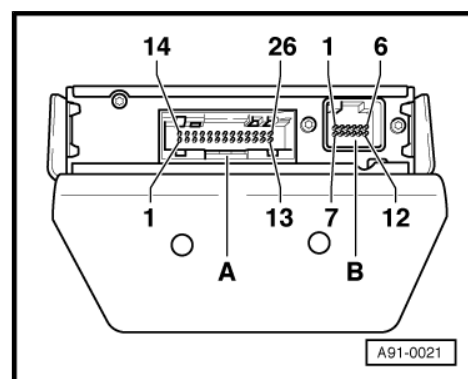
-A- 26-pin connector

- 1 - Earth (terminal 31)
- 2 - Hands-free loudspeaker (-)
- 3 - Hands-free loudspeaker (+)
- 5 - Earth (operating unit)
- 6 - Control group 1 (operating unit)
- 7 - Control group 2 (operating unit)
- 8 - Illumination (operating unit)
- 12 - AF screen (telephone)
- 13 - AF (-) (telephone)
- 14 - Battery + (terminal 30)
- 15 - Terminal 15
- 16 - Illumination (terminal 58d)
- 17 - GALA (vehicle speed signal)
- 18 - Enable signal (to dash panel insert)
- 19 - Clock signal (to dash panel insert)
- 20 - Data signal (to dash panel insert)
- 21 - AF mute (telephone)
- 22 - Enable signal (from radio)
- 23 - Clock signal (from radio)
- 24 - Data signal (from radio)
- 25 - Mute signal (telephone)
- 26 - AF (+) (telephone)



-B- 12-pin connector

- 1 - Screen
- 2 - Data signal (RxD)
- 3 - Data signal (TxD)
- 4 - Control signal (RTS)
- 5 - Control signal (CTS)
- 7 - Voice output signal (AF+)
- 8 - Voice output signal (AF-)
- 9 - AF screen
- 10 - Mute signal



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3.6 Exploded view of navigation system I

1 - Operating electronics control unit, navigation -J402-

- ☐ Beneath driver's storage compartment at centre console bracket
- ☐ Removing and installing ⇒ [page 92](#)

2 - Display in dash panel insert

- ☐ In dash panel
- ☐ Removing and installing ⇒ Electrical system; Rep. Gr. 90

3 - Telephone/navigation system loudspeaker -R39-

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing ⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing ⇒ [page 48](#)

4 - Navigation system with CD drive control unit -J401-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 90](#)

5 - Navigation aerial (GPS) -R50-

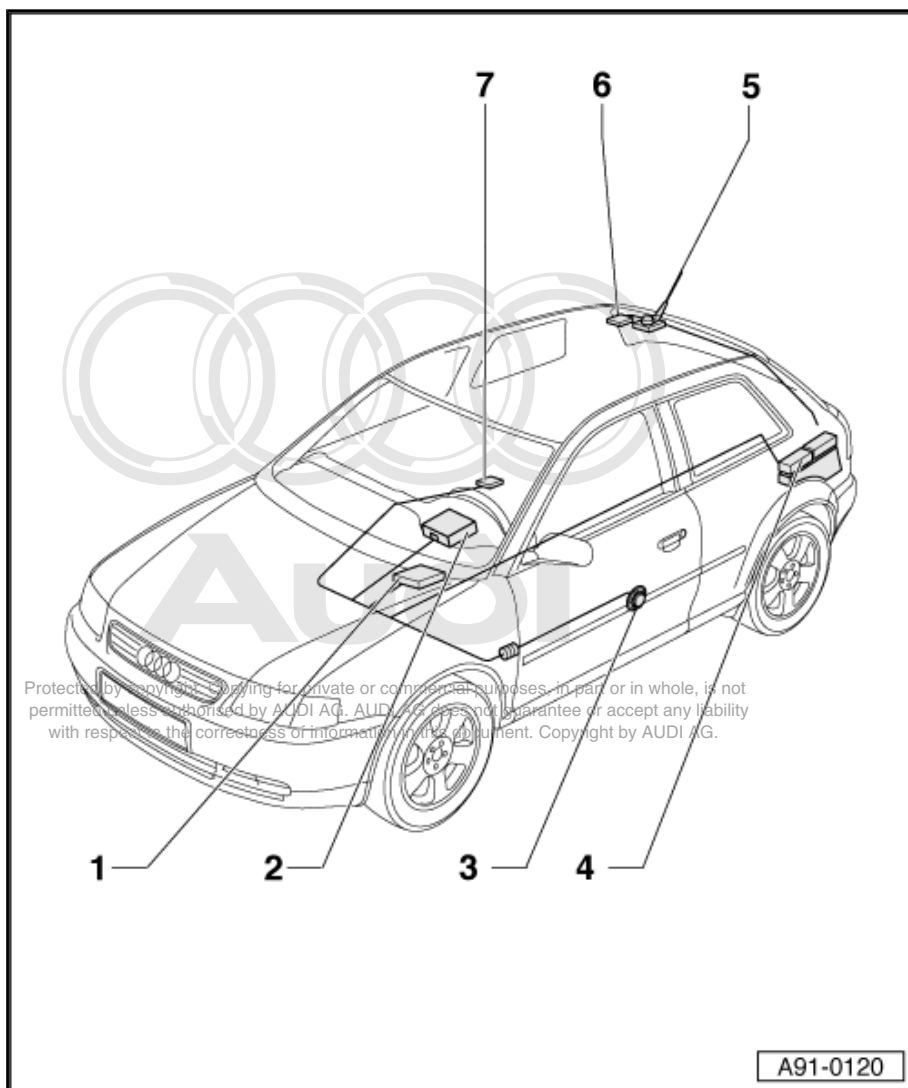
- ☐ Roof aerial for radio/telephone/navigation system
- ☐ Removing and installing ⇒ [page 34](#)

6 - Magnetic field sender (compass) -G197-

- ☐ On right next to roof aerial
- ☐ Removing and installing ⇒ [page 92](#)

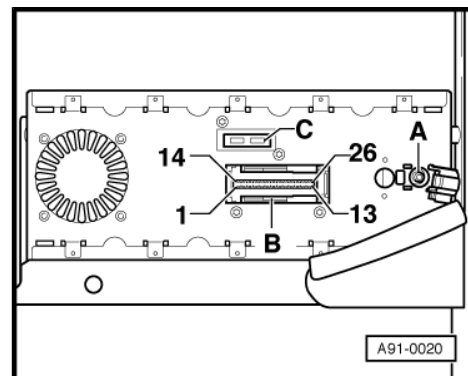
7 - Navigation system operating unit -E199-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 91](#)



3.7 Service information on navigation system I

- Check navigation system power supply and fuse -C- on back of navigation system with CD drive control unit -J401- .
- Check that navigation CD is correctly inserted and loaded, i.e. with label facing upwards.
- Check horizontal installation and firm attachment of navigation system with CD drive control unit -J401- .
- ◆ In the event of customer complaints, ask for specific information to narrow down possible causes ⇒ [page 55](#) .
- ◆ In the event of non-specific complaints, attempt to reconstruct the problem.
- ◆ If the nature of the problem is not clear, always perform a complete system test using service software ⇒ [page 77](#) .
- ◆ Always take the necessary action following servicing work on navigation system components ⇒ [page 57](#) .
- ◆ After replacing navigation system components, complete "Annex to navigation system complaints report" and submit together with defective component in original wrapping in line with warranty/component exchange procedures ⇒ [page 90](#) .
- ◆ Whenever navigation system has been serviced, always perform appropriate test drive and enter location ⇒ [page 88](#) .



3.8 Information required from customer in the event of complaints

- ◆ Which navigation system function is causing problems?
- ◆ Has customer complied with navigation system operating instructions? Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
- ◆ Which messages appeared on display? Evaluation of messages ⇒ [page 55](#)
- ◆ Have objects possibly been transported on roof? Possible sources of interference in or on vehicle ⇒ [page 57](#)
- ◆ Are magnetic/metallic components regularly transported in the vehicle? Possible sources of interference in or on vehicle ⇒ [page 57](#)
- ◆ Possible exposure to external sources of interference? ⇒ [page 57](#) .

3.8.1 Important display messages

Display message 1:

SYSTEM
FAULT:
PLEASE
INSERT
CD-ROM

- ◆ No navigation CD in drive
- Insert navigation CD in drive.

Display message 2:

SYSTEM
FAULT:
PLEASE
CHECK
CD-ROM

- ◆ Navigation CD in drive cannot be read
 - Check that navigation CD is inserted correctly. Label must face upwards and ignition must be on when inserting CD.
 - Check that CD is not dirty, clean carefully with a soft cloth if necessary. Use another CD if CD is scratched.
 - Check that sliding switch on CD drive is in “ON” position when CD is inserted.
- ◆ Intermittent failure of CD drive
 - Check horizontal installation and firm attachment of navigation system with CD drive control unit -J401- .
 - Check for normal CD drive running noise with CD inserted and navigation system activated. In the event of rubbing or scratching noise, replace navigation system with CD drive control unit -J401- ⇒ [page 90](#) .

Display message 3:

PLEASE
ENTER
NEW
LOCATION

- ◆ No useful location information available to navigation system
 - Enter location at a suitable road junction ⇒ [page 88](#) .

Display message 4:

PLEASE
CONSULT
WORKSHOP

- ◆ Wheel sensor signals supplied by ABS control unit not OK
 - Perform system test (wheel pulse test) ⇒ [page 77](#) and rectify any faults.
- ◆ No/incorrect calibration values in navigation system
 - Perform the following calibration operations: Wheel calibration ⇒ [page 61](#) , system test (complete) ⇒ [page 77](#) , test drive (basic calibration) ⇒ [page 72](#)
- ◆ Fault in magnetic field sender (compass) and/or wiring
 - Perform system test (compass test) ⇒ [page 77](#) and rectify any faults.
- ◆ Fault in navigation system aerial and/or wiring
 - Perform system test (internal control unit test) ⇒ [page 77](#) and rectify any faults.
- ◆ No transmission of GPS signals by satellites

 Note!

In certain crisis situations satellite signals may not always be available.

3.8.2 Possible sources of interference affecting magnetic field sender (compass)

Sources of interference in or on vehicle:

- ◆ Magnetic/metallic items (e.g. bicycle, tool box, ladder, steel rims, etc.) in vehicle
- ◆ Magnetic/metallic items on roof or roof rack
- ◆ Signs, number plates, aerials and other items with magnetic bases
- ◆ Seat backrest folded down

Sources of interference outside vehicle:

- ◆ High-tension wires
- ◆ Steel bridges
- ◆ Industrial facilities (e.g. electroplating factories)
- ◆ Goods vehicles with metallic load
- ◆ High-rise buildings
- ◆ Wire fences
- ◆ Overhead tram wires
- ◆ Railway tracks

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3.9 Action to be taken following service work or tyre change

 Note!

- ◆ *Always perform the necessary measures in the sequence described.*
- ◆ *If required, navigation system loads language automatically. It is however also possible to load language directly using navigation system basic menu at any time. ⇒ Operating instructions*

3.9.1 Following replacement of navigation system with CD drive control unit -J401-

- Perform wheel calibration ⇒ [page 61](#) .
- Perform wiring test ⇒ [page 67](#) .
- Perform system test (complete) ⇒ [page 77](#) .
- Perform test drive (basic calibration) ⇒ [page 72](#) .
- Reload language ⇒ Operating instructions .

3.9.2 Following replacement of magnetic field sender (compass) -G197-

- Perform system test (compass test) ⇒ [page 77](#) .

- Perform test drive (basic calibration) ⇒ [page 72](#) .

3.9.3 Following replacement of operating electronics control unit, navigation - J402-

- Reload language ⇒ Operating instructions .

3.9.4 Following replacement of navigation system operating unit -E199-

- Reload language ⇒ Operating instructions .

3.9.5 Following replacement of navigation aerial -R50-

- Perform system test (internal control unit test) ⇒ [page 77](#) .

3.9.6 Following replacement of rear window

- Perform test drive (basic calibration) ⇒ [page 72](#) .

3.9.7 Following replacement of ABS control unit

- Perform system test (wheel pulse test) ⇒ [page 77](#) .

3.9.8 Following replacement of dash panel insert

- No action required.

3.9.9 Following disconnection of battery

- Reload language ⇒ Operating instructions .
- New location may have to be entered.

3.9.10 Following use of navigation CD with new/modified software version

- Reload language ⇒ Operating instructions .

3.9.11 Following tyre change

- Perform wheel calibration ⇒ [page 61](#) .

3.10 Calling up technical service software

Technical service software is called up as follows:

- Switch off ignition and wait approx. 5 seconds.

- Simultaneously press **[0I]** key and **[INFO]** key of operating unit and switch ignition to “On” position, then release both keys again.

Indicated on display:

```
NAV.
4D0919887D
-----
>   AUDI
      VW
```

- Select menu item “AUDI” with **[Cursor]** keys.
- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

```
>   DEUTSCH
      ENGLISH
      ESPANOL
      FRANCAIS
      ITALIANO
      NEDERLAND
```

- Select required language with **[Cursor]** keys.
- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

```
AUDI NAVI
CALIBRATION
PROGRAM
-----
>   FACTORY
      SERVICE
```

- Select menu item “SERVICE” with **[Cursor]** keys.
- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

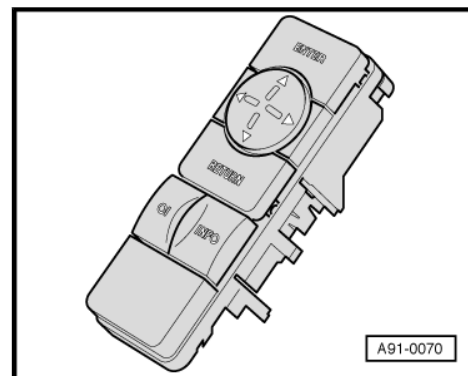
```
HEATED
REAR
WINDOW
OFF
>   OK
```

Technical service software functions must be implemented with heated rear window switched off.

- Switch off heated rear window.
- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

```
SERVICE MENU:
>   WHEEL CALIB.
      WIRING
      TEST DRIVE
      SYS. TEST
      END
```



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**Note!**

- ◆ *Terminate technical service software by way of menu item "END".*
- ◆ *It is also possible to terminate technical service software at any time by switching ignition "Off", however calibration settings already made are not saved.*

3.11 Automatic checking of current parameters

Each time the main service menu is called up, a check is first made on the vehicle values on selecting the menu items "WIRING, TEST DRIVE, SYS. TEST, END".

Indicated on display:

```
CHECK:
A3 - AB
TYRES:
205/60 15
>     YES
      NO
```

- Pressing **[ENTER]** key to confirm "YES" option results in continuation of the corresponding menu item.
- The following message appears if selection is not confirmed with **[ENTER]** key:

Indicated on display:

```
PERFORM
WHEEL
CALIBRATION
>     OK
```

- Press **[ENTER]** key to confirm "OK" display and then perform wheel calibration ⇒ [page 61](#) .

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**Note!**

*If the parameters required for a menu item are not available, this menu item is deactivated and marked with a * symbol. In this case the cursor is positioned at the menu item which will set the missing parameters when implemented.*

Indicated on display:

```
SERVICE MENU:
>     WHEEL CALIB.
      * WIRING
      * TEST DRIVE
      SYS. TEST
      * END
```

- Confirm selection with **[ENTER]** key to permit implementation of wheel calibration ⇒ [page 61](#) .

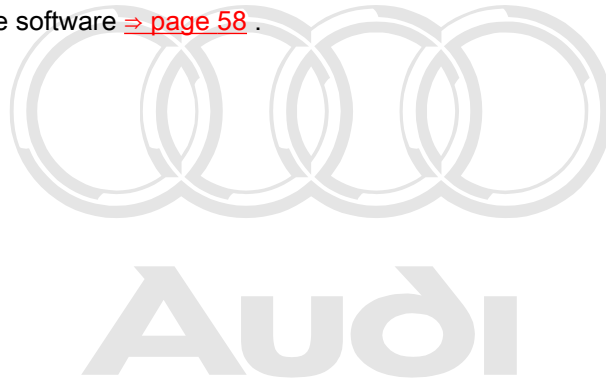
3.12 Wheel calibration after changing tyre or replacing control unit

Navigation system must be recalibrated whenever tyres are changed or if navigation system with CD drive control unit -J401- is replaced. Otherwise operation of the navigation system will be based on an inaccurate distance measurement for roughly 100 km before the control unit can rectify this.

If standard tyres are fitted, recalibration can be performed by means of a simple selection procedure.

Used tyres and special tyres are recalibrated by driving a certain distance.

- Call up technical service software ➔ [page 58](#) .



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- Select menu item “WHEEL CALIB.” with **Cursor** keys.

Indicated on display:

```
SERVICE MENU:
>  WHEEL CALIB.
    WIRING
    TEST DRIVE
    SYS. TEST
    END
```

- Confirm selection by pressing **ENTER** key.

Indicated on display:

```
SELECT
VEHICLE
MODEL:
>  CONTINUE
```

- Press **ENTER** key to continue.

Indicated on display:

```
>  A3 - AB
    A4 - SAL - B5
    A4 - AVT - B5
    A6 - SAL - C5
    A6 - AVT - C5
    A8 - D2
```

- Use **Cursor** keys to select vehicle model (in this case A3–AB).
- Confirm selection by pressing **ENTER** key.

Indicated on display:

```
VEHICLE:
A3 - AB
>  YES
    NO
```

- Following correct vehicle selection, press **ENTER** key to confirm “YES” option.

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Indicated on display:

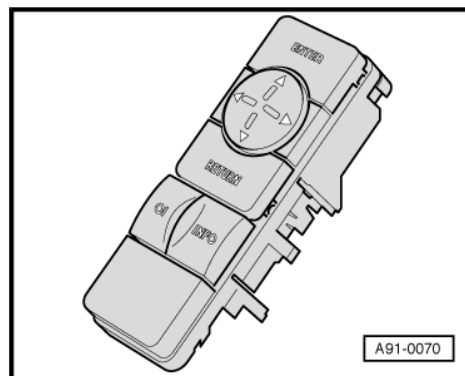
```
DETERMINE
TYRE
VALUES:
T. CONDITION
>  NEW
    USED
```

- Use **Cursor** keys to select tyre condition.
- Select menu item “NEW” for new tyres and confirm option with **ENTER** key.

Indicated on display ⇒ [page 63](#) :

- Select menu item “USED” for used tyres and confirm option with **ENTER** key.

Indicated on display ⇒ [page 63](#) :



A91-0070

3.12.1 New tyres

Indicated on display:

```
SELECT TYRE
TYPE
> CONTINUE
```

- Press **[ENTER]** key to continue.

Indicated on display:

```
> 195/65 15
  205/60 15
  205/55 16
  225/50 16
  225/45 17
  SPECIAL
```

- Use **[Cursor]** keys to select tyre type for current vehicle in menu and press **[ENTER]** key to confirm option.

Possible tyre sizes ⇒ Tyre table ⇒ [page 63](#)

3.12.2 Tyre table

Tyre size	Circumference (mm)
185/65 R15	1895
195/65 R15	1935
205/60 R15	1910
205/55 R16	1930
225/45 R17	1930
225/40 ZR 18	1943



Note!

For special tyre types select menu item "SPECIAL"
⇒ [page 63](#).

Indicated on display (example):

```
TYRE TYPE:
  205/60 15
> YES
  NO
```

- Once correct tyre type has been selected, use **[ENTER]** key to confirm "YES" option and terminate wheel calibration.
- If wrong type of tyre is selected, select menu item "NO", confirm with **[ENTER]** key and select tyre type again.

3.12.3 Used tyres or special tyres

Calibration requirements:

- ◆ Specify a stretch of surfaced road with a length of between 100 and 120 m. Measure starting and end point beforehand using steel tape measure and mark out. Use should be made of permanent markings (e.g. paint) to permit re-use.

- ◆ Drive over set distance in a straight line and as slowly as possible. Do not allow wheels to spin.
- ◆ Aim mark on vehicle at end point mark and stop vehicle.

Indicated on display:

CHANGE
TRACK
WIDTH?
> YES
NO



Note!

- ◆ Used standard tyres do not cause change in track width.
- ◆ Special tyres may change track width. If change is greater than 1%, altered track width must be entered.
- ◆ If no new track width is entered, specified track width for vehicle model selected will be retained ⇒ [page 64](#).

- If there is no change in track width, select menu item “NO” and confirm with **[ENTER]** key.
- If track width has changed, select menu item “YES” and confirm with **[ENTER]** key.

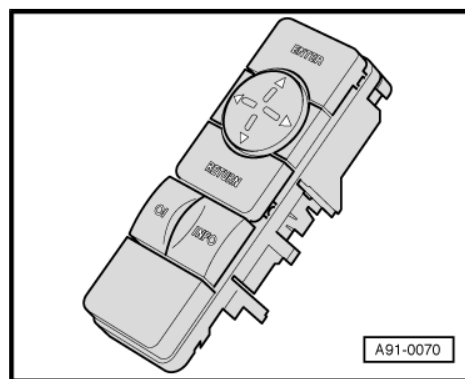
Indicated on display:

REAR TRACK
WIDTH:
 MM
 ^
0123456789
^

- Enter track width using **[Cursor]** and **[ENTER]** keys.
- After entering track width (e.g. 1495 mm), confirm by pressing **[ENTER]** key for approx. 2 seconds.

Indicated on display (example):

REAR TRACK
WIDTH:
 1495 MM
> YES
NO



3.12.4 Track width table

Vehicle model	Rear track width (mm)
A3	1495

The following display appears if an implausible track width is entered (e.g. track width for selected vehicle model ± 100 mm):

INVALID
ENTRY
x
> CONTINUE

- Press **[ENTER]** key to continue and enter track width again.

Indicated on display:

DETERMINE
TYRE
VALUES
BY
> CONTINUE

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- Press **[ENTER]** key to continue.

Indicated on display:

DRIVING
OVER
CALIBRATION
DISTANCE
> CONTINUE

- Press **[ENTER]** key to continue.

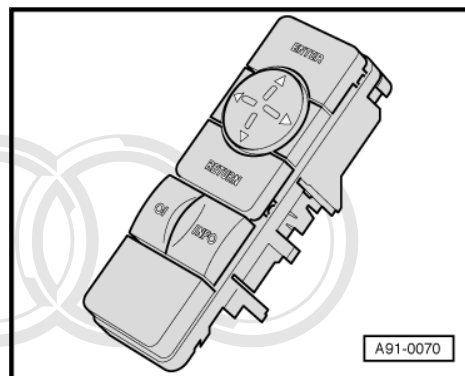
Indicated on display:

TEST
DISTANCE:
... M
^
0123456789
^

- Enter length of prepared track using **[Cursor]** and **[ENTER]** keys.
- Following entry of full distance (e.g. 105 m), confirm by pressing **[ENTER]** key for approx. 2 seconds.

Indicated on display (example):

DISTANCE
ENTERED:
105.0 M
> YES
NO



- Use **[ENTER]** key to confirm “YES” option if OK or select “NO”, confirm with **[ENTER]** key and repeat distance entry.

Indicated on display:

DRIVE
TO
CALIBRATION
TRACK
> CONTINUE

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- Drive vehicle to exact starting point of calibration track and press **[ENTER]** key to continue.

Indicated on display:

START
THE
CALIBRATION
RUN
> START

- Press **[ENTER]** key to start and drive over calibration distance exactly as specified.

Indicated on display:

DRIVE AS
STRAIGHT AS
POSSIBLE
END REACHED?
> OK

- On completing distance, use **[ENTER]** key to confirm “OK” display.

If calibration is OK, wheel calibration process is over
⇒ [page 67](#).

If faults occur during wheel calibration, one of the following causes will be displayed:

1. Cause: “Wheel pulses not OK”

ERROR:
CHECK
WHEEL
PULSES
> CONTINUE

- Use **[ENTER]** key to continue and check wheel pulse signals ⇒ Running gear; Rep. Gr. 45 .
- Repeat wheel calibration ⇒ [page 61](#) .

2. Cause: "Distance too short"

```
ERROR:
DISTANCE
TOO
SHORT
>      CONTINUE
```

- Press **[ENTER]** key to continue and re-enter calibration distance ⇒ [page 66](#) .

3. Cause: "Invalid vehicle values"

```
VEHICLE
VALUES
NOT
VALID
>      CONTINUE
```

- Press **[ENTER]** key to continue and repeat wheel calibration in correct manner ⇒ [page 61](#) .

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3.12.5 Termination of wheel calibration

Indicated on display:

```
SERVICE MENU:
>      WHEEL CALIB.
        WIRING
        TEST DRIVE
        SYS. TEST
        END
```

- Use **[ENTER]** key to confirm selection and thus terminate wheel calibration.

3.13 Wiring test procedure

- ◆ Menu item "Wiring" is deactivated if vehicle parameters are not available.
- ◆ A list is made of any faults detected during wiring test. Fault detection results in deactivation of next start-up step ">Test drive".
- ◆ After taking the appropriate action (e.g. checking in line with current flow diagram), repeat wiring test until it can be completed without any faults.

If vehicle values are available, wiring test checks electrical connections to the following components:

- ◆ GPS aerial
- ◆ Magnetic field probe
- ◆ Voltage tap (heated rear window)
- ◆ ABS control unit
- ◆ Reversing light switch signal

Wiring test is to be performed on commissioning and following customer complaints.



- Call up technical service software ⇒ [page 58](#) .



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- Select menu item “WIRING” with **[Cursor]** keys.

Indicated on display:

```
SERVICE MENU:
>  WHEEL CALIB.
    WIRING
    TEST DRIVE
    SYS. TEST
    END
```

- Press **[ENTER]** key to start checking of electrical connections.

Indicated on display:

```
CHECK:
A3 - AB
TYRES:
205/60 15
>  YES
    NO
```

- Pressing **[ENTER]** key to confirm “YES” option results in continuation of the corresponding menu item.
- The following message appears if selection is not confirmed with **[ENTER]** key:

Indicated on display:

```
PERFORM
WHEEL
CALIBRATION
>  OK
```

- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

```
PLEASE
WAIT
```

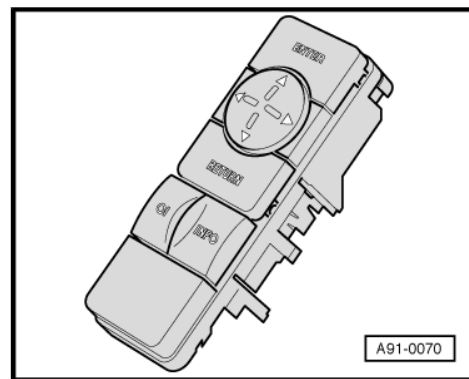
“PLEASE WAIT” is displayed while GPS aerial and compass are being tested and checked.

The following display appears in the event of a GPS aerial fault:

```
NO
SIGNALS
FROM GPS
AERIAL
>  CONTINUE
```

- Press **[ENTER]** key to continue.
- Either immediately check and if necessary repair fault in wiring or fault caused by incorrect location selection or wait until end of wiring test, when all faults occurring are displayed again
⇒ [page 72](#) .

The following display appears in the event of a compass fault:



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NO
COMPASS
SIGNALS
> CONTINUE

- Press **[ENTER]** key to continue.
- Either immediately check and if necessary repair fault in wiring or fault caused by incorrect location selection or wait until end of wiring test, when all faults occurring are displayed again [⇒ page 72](#).

Indicated on display:

HEATED
REAR
WINDOW
ON
> OK

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- Switch on heated rear window and use **[ENTER]** key to confirm “OK” display.

Indicated on display:

HEATED
REAR
WINDOW
OFF
> OK

- Switch off heated rear window and use **[ENTER]** key to confirm “OK” display.

The following display appears in the event of a voltage tap fault being detected:

NO REAR
WINDOW
READING
CHECK
CONNECTOR
> CONTINUE

Heated rear window switch not actuated or

- ◆ Wiring to heated rear window not OK
- Press **[ENTER]** key to continue.
- Either immediately check and if necessary repair fault in wiring/connectors or wait until end of wiring test, when all faults occurring are displayed again [⇒ page 72](#).



Note!

The A3 is not fitted with a shunt. Voltage is picked off at heated rear window (approx. battery voltage).

Indicated on display:

DRIVE AT
CONSTANT
SPEED AND
COMPARE
> CONTINUE

- Press **[ENTER]** key to continue.

Indicated on display:

BOTH
WHEEL SPEEDS
WITH
SPEEDOMETER
> OK

- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

L: 0.0
R: 0.0
> YES
NO

- Start engine and drive forwards in a straight line. Whilst doing so, compare displays for left (L) and right (R) wheel sensors.
- Bring vehicle to a halt.
- If difference between values in lower speed range does not exceed 5 km/h, press **[ENTER]** key to confirm “>YES” display, otherwise select and confirm “>NO”.
- Either immediately check and if necessary repair fault in wiring or wheel calibration fault or wait until end of wiring test, when all faults occurring are displayed again ⇒ [page 72](#).

Indicated on display:

REVERSE
SHORT
DISTANCE
> OK

- Engage reverse gear.
- Reverse for about 3 metres and stop the vehicle.
- Use **[ENTER]** key to confirm “OK” display.
- Either immediately check and if necessary repair fault in wiring or wheel calibration fault or wait until end of wiring test, when all faults occurring are displayed again ⇒ [page 72](#).

The following display appears if wiring test does not reveal any faults:

Indicated on display:

WIRING
OK
> MAIN MENU

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- Press **[ENTER]** key to confirm display to switch to main menu.
Next commissioning step “TEST DRIVE” is then activated.

Indicated on display:

SERVICE MENU:
> WHEEL CALIB.
WIRING
TEST DRIVE
SYS. TEST
END

- Use **[ENTER]** key to start “TEST DRIVE” ⇒ [page 72](#) .

3.13.1 Fault detection in wiring test

- ◆ Fault detection is based on evaluation of signals from corresponding sensors. As well as a wiring problem, a defective sensor may also be the cause of the fault. This possibility should however only be considered after ensuring that wiring is OK (refer to current flow diagram).
- ◆ Fault locations can also be checked individually by way of menu item “SYS. TEST” before implementing entire wiring test to release menu item “TEST DRIVE” (e.g. following repair work).

Possible display:

FAULT:
GPS
COMPASS
REAR VOLT.
WH. SENSOR
REV. GEAR

- Eliminate faults by taking the appropriate action.
- Press **[ENTER]** key to confirm display to switch to main menu.

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Indicated on display:

SERVICE MENU:
> WHEEL CALIB.
WIRING
TEST DRIVE
SYS. TEST
END

- Select menu item “WIRING” again with **[Cursor]** keys.
- Press **[ENTER]** key to confirm display. This causes checking of electrical connections to be repeated.

3.14 Test drive (basic calibration) procedure

The test drive is performed in three stages:

- ◆ Determination of location ⇒ [page 73](#)
- ◆ Calibration of voltage tap ⇒ [page 74](#)
- ◆ Compass calibration ⇒ [page 76](#)
- Call up technical service software ⇒ [page 58](#) .

- Select menu item “TEST DRIVE” with **[Cursor]** keys.

Indicated on display:

```
SERVICE MENU:
>   WHEEL CALIB.
      WIRING
      TEST DRIVE
      SYS. TEST
      END
```

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

```
CHECK:
A3 - AB
TYRES: 205/60 15
>   YES
      NO
```

- Pressing **[ENTER]** key to confirm “YES” option results in continuation of the corresponding menu item.
- The following message appears if selection is not confirmed with **[ENTER]** key:

Indicated on display:

```
PERFORM
WHEEL
CALIBRATION
>   OK
```

- Use **[ENTER]** key to confirm “OK” display.

Current location is determined first.

3.14.1 Determination of location

Indicated on display:

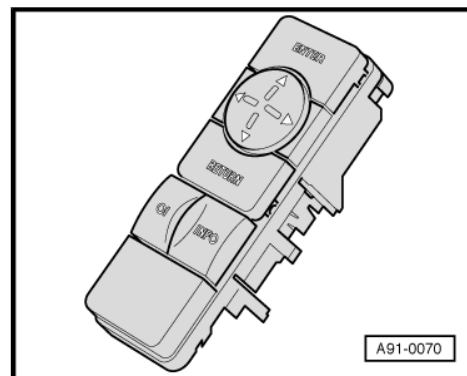
```
CHECKING
GPS
VALUES
PLEASE
WAIT...
```

- ◆ The test is implemented internally in the navigation unit.
- ◆ GPS signals can only be received outdoors and as far as possible in an open space, i.e. not in tunnels, under bridges or trees, between tall buildings or in enclosed areas (workshop).
- ◆ If reception is poor move to a different location.

The following is displayed if a GPS signal is received for location determination:

Indicated on display:

```
GPS
SIGNAL
RECEIVED
>   CONTINUE
```





- Press **[ENTER]** key to continue.

Test drive continues with calibration of voltage tap ⇒ [page 74](#) .

The following is displayed if no GPS signal is received for location determination:

Indicated on display:

NO GPS
SIGNAL
RECEIVED
> CONTINUE

- Press **[ENTER]** key to continue.
- ◆ Normally the location of the vehicle is determined within one minute of switching on ignition. If battery has been disconnected and re-connected, GPS receiver is re-initialised when ignition is switched on. During this phase, initial determination of vehicle location may take up to 15 minutes.

Indicated on display:

MOVE
VEHICLE
TO ANOTHER
LOCATION
> OK

- Move vehicle to an area with better reception, i.e. outdoors in as open a space as possible.
- Use **[ENTER]** key to confirm “OK” display.
- Keep repeating this procedure until GPS signal reception display appears.

Indicated on display:

GPS
SIGNAL
RECEIVED
> CONTINUE

- Press **[ENTER]** key to continue.

Test drive continues with calibration of voltage tap ⇒ [page 74](#) .

3.14.2 Calibration of voltage tap

Influence of rear window on magnetic field sender is determined with heated rear window switched on and off.

- ◆ The A3 is not fitted with a shunt. Voltage is picked off at heated rear window.
- ◆ Vehicle is not to be moved during calibration (heated rear window on/off), as otherwise incorrect calibration values could be recorded.

Indicated on display:

HEATED
REAR
WINDOW
ON

> OK

- Switch on heated rear window.
- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

PLEASE
WAIT

The test is implemented internally in the navigation unit. Wait for next display.

Indicated on display:

HEATED
REAR
WINDOW
OFF
> OK

- Switch off heated rear window.
- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

PLEASE
WAIT

The test is implemented internally in the navigation unit. Wait for next display.

If calibration is OK, process continues with compass calibration
⇒ [page 76](#).

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If however the following appears:

Indicated on display:

NO REAR
WINDOW
READING
CHECK
CONNECTOR
> CONTINUE

Heated rear window switch not actuated or heated rear window wiring not OK

- ◆ Use current flow diagram to check connectors at switch or heated rear window and repair if necessary.
- Press **[ENTER]** key to continue and repeat voltage tap calibration ⇒ [page 74](#).

Indicated on display if vehicle moved during calibration:

DO NOT
MOVE
VEHICLE
BETWEEN
ON/OFF
> CONTINUE

- Do not move vehicle again.



- Press **[ENTER]** key to continue and repeat voltage tap calibration ➔ [page 74](#).

3.14.3 Compass calibration

Calibration requirements:

- ◆ Open flat area (maximum gradient 4°)
- ◆ Avoid magnetic or electromagnetic fields, i.e. do not drive alongside power lines, past a line of trucks or close to reinforced-concrete structures and not where there is a lot of iron in the vicinity (e.g. scrap, steel scaffolding, etc.)
- ◆ Speed approx. 20 ... 30 km/h
- ◆ Test track should ideally take the form of a circle with a diameter of at least 30 m; the route may also be rectangular, provided starting and end points are the same

Indicated on display:

DRIVE
SLOWLY
IN CIRCLE
> 30 M
> START

- Press **[ENTER]** key to start circular run.

Indicated on display:

END OF
CIRCLE
REACHED?
> OK

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- Drive over test distance in line with calibration requirements and, on completion, press **[ENTER]** key to confirm “OK” display.

Successful compass calibration concludes navigation system test drive.

Indicated on display:

CALIBRATION
TEST
DRIVE
OVER
> CONTINUE

- Press **[ENTER]** key to continue.

Indicated on display:

SERVICE MENU:
> WHEEL CALIB.
WIRING
TEST DRIVE
SYS. TEST
END

- Use **[Cursor]** keys to select menu item “END”.
- Confirm selection by pressing **[ENTER]** key.

The following fault message appears if compass could not be calibrated:

Indicated on display:

COMPASS
CANNOT
BE
CALIBRATED
> CONTINUE

A more detailed description of the calibration error is given on the display. Compass calibration is then always to be repeated
⇒ [page 76](#).

- Press **[ENTER]** key to continue.

One of the three following fault messages appears on the display

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1. Cause of fault:

DISTANCE
TOO
SHORT
> CONTINUE

- Press **[ENTER]** key to continue and repeat compass calibration
⇒ [page 76](#).

2. Cause of fault:

INTERFERENCE
DURING
CIRCULAR
RUN
> CONTINUE

- Press **[ENTER]** key to continue and repeat compass calibration
⇒ [page 76](#).

3. Cause of fault:

CIRCLE
NOT
COMPLETE
> CONTINUE

- Press **[ENTER]** key to continue and repeat compass calibration
⇒ [page 76](#).

3.15 System test procedure

The system test permits internal system diagnosis and consists of five steps:

- ◆ Call-up of current parameters ⇒ [page 78](#)
- ◆ Wheel pulse test ⇒ [page 80](#)
- ◆ Compass test ⇒ [page 82](#)
- ◆ Voltage tap test ⇒ [page 84](#)
- ◆ Internal control unit test ⇒ [page 85](#)
- Call up technical service software ⇒ [page 58](#).

- Select menu item “SYS. TEST” with **Cursor** keys.

Indicated on display:

```
SERVICE MENU:
>  WHEEL CALIB.
    WIRING
    TEST DRIVE
    SYS. TEST
    END
```

- Confirm selection by pressing **ENTER** key.

Indicated on display:

```
CHECK:
A3 - AB
TYRES:
205/60 15
>  YES
    NO
```

- Pressing **ENTER** key to confirm “YES” option results in continuation of the corresponding menu item.
- The following message appears if selection is not confirmed with **ENTER** key:

Indicated on display:

```
PERFORM
WHEEL
CALIBRATION
>  OK
```

- Use **ENTER** key to confirm “OK” display.

Indicated on display:

```
SYSTEM TEST
>  PARAMETERS
    WHEEL SENSOR
    COMPASS
    REAR VOLTAGE
    INTERNAL
```



Note!

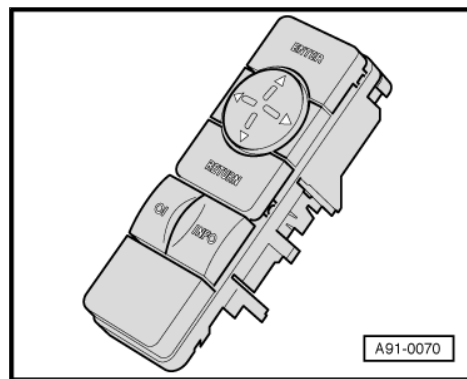
- ◆ *Either complete system test or individual test steps can be implemented.*
- ◆ *Exit from “SYSTEM TEST” menu by pressing **RETURN** key.*

3.15.1 Call-up of current parameters

Test requirements:

- Vehicle model, track width and tyre type displays must coincide with actual situation.
- Calibration values from test drive must be available, i.e. test drive must have been performed beforehand.
- Select menu item “PARAMETERS” with **Cursor** keys.

Indicated on display:



SYSTEM TEST

> PARAMETERS
WHEEL SENSOR
COMPASS
REAR VOLTAGE
INTERNAL

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

VEHICLE

A3 - AB

> CONTINUE

- If there are no faults, press **[ENTER]** key to continue.

In the event of a fault, i.e. information on display does not coincide with actual vehicle model:

- Perform wheel calibration ➔ [page 61](#) .

Indicated on display:

REAR TRACK
WIDTH

1495 MM
> CONTINUE

- If there are no faults, press **[ENTER]** key to continue.

In the event of a fault, i.e. displayed track width does not coincide with vehicle model (deviations > 1%):

Possible track widths ➔ Track width table ➔ [page 64](#)

- Perform wheel calibration ➔ [page 61](#) .

For special tyre types select menu item “SPECIAL” ➔ [page 63](#) .



Note!

- ◆ *The circumference of new tyres is subject to a tolerance of roughly $\pm 1\%$ and is adapted to the greatest possible extent during navigation system operation.*
- ◆ *Deviations from specified new tyre circumferences are therefore normal and reflect the adaption process.*
- ◆ *Major deviations between indicated tyre circumference and normal circumferences only occur in the case of serious mis-calibration (driving over an incorrectly entered distance). The tyre circumference should only be corrected by means of wheel calibration in the above situation or if customers report constant distance discrepancies. For typical tyre circumferences, refer to ➔ [page 79](#) .*

3.15.2 Table of typical tyre circumferences

Tyre type for	Typical new tyre circumferences (following wheel calibration)
A3	1900 - 1940

**Note!**

If tyres are not new, typical circumferences may deviate from specified values.

Indicated on display:

```
TYRE TYPE
-----
205/60 15
-----
C: 1910 MM
> CONTINUE
```

- Press **[ENTER]** key to continue.

Possible tyre sizes and circumferences ⇒ Tyre table ⇒ [page 63](#)

In the event of a fault, i.e. displayed tyre type does not coincide with actual tyres:

- Perform wheel calibration ⇒ [page 61](#).

For special tyre types select menu item “SPECIAL” ⇒ [page 63](#).

Indicated on display:

```
TEST DRIVE
-----
HAS BEEN
PERFORMED
> OK
```

- If there are no faults, use **[ENTER]** key to confirm “OK” display.

In the event of a fault (display “MISSING”), i.e. test drive not performed:

- Perform test drive ⇒ [page 72](#).

3.15.3 Wheel pulse test

Speeds of left and right wheel are displayed during wheel pulse test. Detection of change in direction (forwards/backwards) is also checked.

Test requirements:

- Driving straight ahead at a speed of > 20 km/h
- Reverse for about 3 metres for reverse gear detection
- Select menu item “WHEEL SENSOR” with **[Cursor]** keys.

Indicated on display:

```
SYSTEM TEST
>   PARAMETERS
    WHEEL SENSOR
    COMPASS
    REAR VOLTAGE
    INTERNAL
```

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

DRIVE AT
CONSTANT
SPEED AND
COMPARE
> CONTINUE

- Press **[ENTER]** key to continue.

Indicated on display:

BOTH
WHEEL
SPEEDS
> OK

- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

L: 0.0
R: 0.0
> YES
NO

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- Start engine and drive forwards in a straight line. Whilst doing so, compare displays for left (L) and right (R) wheel sensors.



Note!

- ◆ *Difference between speed of left (L) and right (R) wheel in lower speed range must not exceed 5 km/h.*
- ◆ *If difference exceeds 5 km/h, check output signals of ABS control unit ⇒ Running gear; Rep. Gr. 45.*
- ◆ *Wheel pulse test must be repeated ⇒ [page 80](#).*
- Bring vehicle to a halt.
- If values are within permitted range, press **[ENTER]** key to confirm “YES” display.

Indicated on display:

REVERSE
SHORT
DISTANCE
> OK

- Engage reverse gear.
- Reverse for about 3 metres and stop the vehicle.
- Use **[ENTER]** key to confirm “OK” display.

If test is OK, process continues with compass test ⇒ [page 82](#).

In the event of a reverse gear detection fault:

Indicated on display:

REVERSE
TRAVEL
NOT
DETECTED

> OK

- Use **[ENTER]** key to confirm "OK" display.
- Use current flow diagram to check reversing light switch signal and repeat wheel pulse test [⇒ page 80](#) .

3.15.4 Compass test

The first step in the compass test is an internal check on the compass wiring. The compass directions are then checked whilst driving in a circle.

Test requirements:

- Open flat area (maximum gradient 4°)
- Avoid magnetic or electromagnetic fields, i.e. do not drive alongside power lines, past a line of trucks or close to reinforced-concrete structures and not where there is a lot of iron in the vicinity (e.g. scrap, steel scaffolding, etc.).
- Speed approx. 20 ... 30 km/h
- The test circuit ideally takes the form of a circle with a minimum diameter of 30 m; the route may also be rectangular
- Select menu item "COMPASS" with **[Cursor]** keys.

Indicated on display:

SYSTEM TEST

> PARAMETERS
WHEEL SENSOR
COMPASS
REAR VOLTAGE
INTERNAL

- Confirm selection by pressing **[ENTER]** key.

The internal wiring test is now performed.

If there are no faults, compass test continues automatically.

The following appears in the event of a fault, i.e. no compass data detected:

Fault message on display:

NO
COMPASS
DATA
AVAILABLE

> CONTINUE

- Press **[ENTER]** key to continue.

Indicated on display:

CHECK
COMPASS
AND
WIRING

> OK

- Use **[ENTER]** key to confirm "OK" display.
- Use current flow diagram to check compass wiring and repair if necessary. Re-start compass test [⇒ page 82](#) .

Compass test continues automatically if wiring is OK.

Indicated on display:

DRIVE
SLOWLY
IN A
CIRCLE
> START

- Use **[ENTER]** key to confirm “START” display.

Indicated on display:

END OF
CIRCLE
REACHED?
> OK

- Drive over test distance, observing test requirements
⇒ [page 82](#).
- Use **[ENTER]** key to confirm “OK” display.

The following appears on successful completion of compass test:

Indicated on display:

COMPASS
OK
> CONTINUE

- Press **[ENTER]** key to continue.

If compass test is OK, process continues with testing of heated rear window voltage tap ⇒ [page 84](#).

If compass data are not OK, one of the three following causes will be displayed:

1. Cause: “Compass unusable”

COMPASS
NOT OK
> CONTINUE

Recorded compass ellipse unusable (possible causes: magnetic interference and/or defective magnetic field probe)

- Press **[ENTER]** key to continue.

2. Cause: “Distance too short”

ERROR:
DISTANCE
TOO
SHORT
> CONTINUE

Diameter of circle too small and/or vehicle driven at too high a speed

- Press **[ENTER]** key to continue and repeat compass test in correct manner ⇒ [page 82](#).

3. Cause: “Circle incomplete”



ERROR:
CIRCLE
NOT
COMPLETE
> CONTINUE

Full circle not detected

- Press **[ENTER]** key to continue and repeat compass test in correct manner ⇒ [page 82](#).

3.15.5 Voltage tap test

Voltage tap test involves checking of wiring with heated rear window both on and off.

- Select menu item “REAR VOLTAGE” with **[Cursor]** keys.

Indicated on display:

SYSTEM TEST
> PARAMETERS
WHEEL SENSOR
COMPASS
REAR VOLTAGE
INTERNAL

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- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

HEATED
REAR
WINDOW
ON
> OK

- Switch on heated rear window.
- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

HEATED
REAR
WINDOW
OFF
> OK

- Switch off heated rear window.

If voltage tap test is OK, system test selection menu reappears.

- Use **[ENTER]** key to confirm “OK” display.

If however the following display appears:

NO REAR
WINDOW
READING
CHECK
CONNECTOR
> CONTINUE

Heated rear window switch not actuated or heated rear window wiring not OK

- ◆ Use current flow diagram to check connectors at switch or heated rear window and repair if necessary.
- Press **[ENTER]** key to continue and repeat voltage tap test
⇒ [page 84](#) .

3.15.6 Internal control unit test

This test checks the internal control unit components and the GPS aerial signals.

- Select menu item “INTERNAL” with **[Cursor]** keys.

Indicated on display:

```
SYSTEM TEST
>  PARAMETERS
    WHEEL SENSOR
    COMPASS
    REAR VOLTAGE
    INTERNAL
```

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

```
INTERNAL
HARDWARE
TEST...
(1 - 4 MIN.)
>  START
```

- Press **[ENTER]** key to start test.

Indicated on display:

```
INTERNAL
TESTS IN
PROGRESS
PLEASE
WAIT
```

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Wait for next display.

The following display appears after successful completion of control unit test:

```
SELF-TEST
OK
>  CONTINUE
```

- Press **[ENTER]** key to continue and conclude system test
⇒ [page 86](#) .

If, however, faults occur in the control unit test, one of the following fault messages will be displayed:

1. Cause: “No signals from GPS aerial”

```
NO
SIGNALS
FROM GPS
AERIAL
>  CONTINUE
```

- Use current flow diagram to check connector and wiring of GPS aerial and repair if necessary.
- If there are no wiring faults, check GPS aerial and replace if necessary.
- Press **[ENTER]** key to continue and repeat internal control unit test ⇒ [page 85](#) .

2. Cause: “Navigation unit defective”

NAVIGATION
UNIT
DEFECTIVE
> PLEASE
REPLACE
CONTINUE

- Replace navigation system control unit ⇒ [page 90](#) .



Note!

Observe action to be taken if navigation system control unit is replaced ⇒ [page 57](#) .

- Press **[ENTER]** key to continue and repeat internal control unit test ⇒ [page 85](#) .

3.15.7 End of system test

Indicated on display:

SYSTEM TEST
> PARAMETERS
WHEEL SENSOR
COMPASS
REAR VOLTAGE
INTERNAL

- Use **[RETURN]** key to conclude system test.

Indicated on display:

SERVICE MENU:
> WHEEL CALIB.
WIRING
TEST DRIVE
SYS. TEST
END

3.16 Starting navigation

Navigation system can be started on completion of calibration program.

Indicated on display:

SERVICE MENU:
> WHEEL CALIB.
WIRING
TEST DRIVE
SYS. TEST
END

- Use **[Cursor]** key to select menu item “END” and confirm selection with **[ENTER]** key.

Indicated on display:

```
CHECK:
A3 - AB
TYRES:
205/60 15
>     YES
      NO
```

- Pressing **[ENTER]** key to confirm “YES” option results in continuation of the corresponding menu item.
- The following message appears if selection is not confirmed with **[ENTER]** key:

Indicated on display:

```
PERFORM
WHEEL
CALIBRATION
>     OK
```

- Press **[ENTER]** key to confirm “OK” display and then perform wheel calibration ➔ [page 61](#) .

Indicated on display:

```
PLEASE
INSERT
NAVIGATION
CD
NOW
>     OK
```

- If this has not already been done, insert navigation CD in CD drive.
- Use **[ENTER]** key to confirm “OK” display.

Indicated on display:

```
PLEASE
WAIT
```

The navigation programme is loaded and started automatically.

Indicated on display:

```
NAV. MENU:
NO
DESTINATION
>     START
      SELECTION
```

Location can be entered manually during navigation test drive ➔ [page 88](#) .

Navigation system can however also be allowed to determine location. This involves driving for a few kilometres on a route with as many bends or junctions as possible.

Navigation system then determines location automatically.

3.17 Entering location

Employ the following procedure to enter location during navigation test drive.



Note!

Select the nearest suitable junction in a place stored in digitised form on the navigation CD. At present only towns with a population of more than 50,000 have been fully digitised. In smaller towns, use can be made of a major road junction or the like.

- Start navigation system ➔ [page 86](#) .

Indicated on display:

NAV. MENU:
NO
DESTINATION
> START
SELECTION

- Press **[OFF]** key for approx. 3 s.

Indicated on display:

LOCATION
ENTRY
> DIRECT
MEMORY
CURR. DEST.

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

TOWN:
–
ABCDEFGH
IJKLMNOP
OPQRSTU
VWXYZ . -
ÄÖÜ _ 012
3456789

- Use **[Cursor]** and **[ENTER]** keys to select corresponding town.

Indicated on display (example “INGOLSTADT”):

TOWN:
INGOLSTADT
ABCDEFGH
IJKLMNOP
OPQRSTU
VWXYZ . -
ÄÖÜ _ 012
3456789

- Confirm selection by pressing **[ENTER]** key.

Indicated on display:

ROAD:
–

```

ABCDEFGH
IJKLMNOP
OPQRSTU
VWXYZ . -
ÄÖÜ _ 012
3456789
    
```

- Use **Cursor** and **ENTER** keys to select corresponding road.

Indicated on display (example “ETTINGERSTRASSE”):

```

ROAD:
ETTINGERSTR
ABCDEFGH
IJKLMNOP
OPQRSTU
VWXYZ . -
ÄÖÜ _ 012
3456789
    
```

- Confirm selection by pressing **ENTER** key.

Indicated on display:

```

JUNCTION:
>   AUTO-UNION
      B13
      B16
    
```

- Use **Cursor** keys to select junction, e.g. “B16” and confirm selection with **ENTER** key.

Indicated on display:

```

DIRECT
ENTRY:
      ETTINGERSTR
      i B16
      DISTANCE APPROX.
      > 0 M
      AHEAD ↑ ↓
    
```

- Enter location of vehicle relative to centre point of junction as accurately as possible using **Cursor** keys.

Example: Vehicle is located in Ettingerstrasse approx. 75 m beyond junction with B16.

Indicated on display:

```

DIRECT
ENTRY:
      ETTINGERSTR
      i B16
      DISTANCE APPROX.
      > 75 M
      BACK ↑ ↓
    
```

- Press **ENTER** key to confirm selection and return to navigation menu.

Indicated on display:

```

NAV. MENU:
NO
DESTINATION
>   START
      SELECTION
    
```

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**Note!**

- ◆ *This function cannot be implemented if there is no suitable junction for location entry on navigation CD in town selected.*
- ◆ *The following display then appears after selection of town:*

LOCATION
ENTRY
UNSUITABLE
POSITION
ENTRY

- Repeat location entry in the next larger town for which the navigation CD contains a suitable junction.

3.18 Interrogating software version

Software version is interrogated by implementing the following steps:

- Simultaneously press **RETURN** key and **INFO** key on operating unit and switch ignition to "On" position.

The following then appears for example on the display:

SOFTWARE
VERSION
MMI: 7901A
BIOS: 76502
CD: 76529

- Note down display and keep to hand for enquiries.
- Switching off ignition terminates this function.

3.19 Notes on replacing navigation system components

- ◆ After replacing navigation system components, complete "Annex to navigation system complaints report" and submit it together with defective component in original wrapping in line with warranty/component exchange procedures.
- ◆ This applies to the following components: - Navigation system with CD drive control unit -J401- , - Operating electronics control unit, navigation -J402- , - Navigation aerial (GPS) -R50- , - Magnetic field sender (compass) -G197-
- ◆ "Annex to navigation system complaints report" can be found in binder "Technical Service Handbook - Illust. Catalogue".

3.20 Removing and installing navigation system with CD drive control unit -J401-

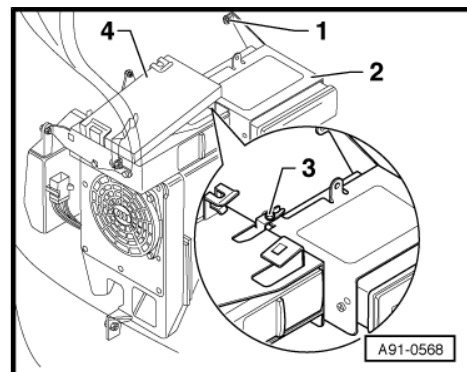
**Note!**

- ◆ *Observe action to be taken if navigation system control unit is replaced ⇒ [page 57](#) .*
- ◆ *Following control unit replacement, always submit completed "Annex to navigation system complaints report" together with defective component ⇒ [page 90](#) .*
- Switch off all electrical equipment.

- Remove ignition key.

Removing:

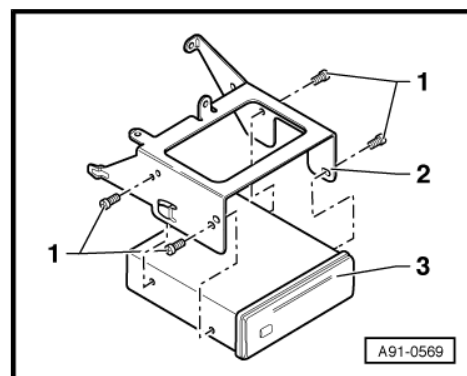
- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Slacken off bolt -3- (3.5 Nm) and unfasten nut -1- (3 Nm) and remove holder -2- together with navigation system control unit.
- Unplug connectors on back of control unit.



- Slacken off bolts -1- (3.5 Nm) and detach control unit -3- from holder -2-.

Installing:

- Install accordingly in reverse order of removal.



3.21 Removing and installing navigation system operating unit -E199-

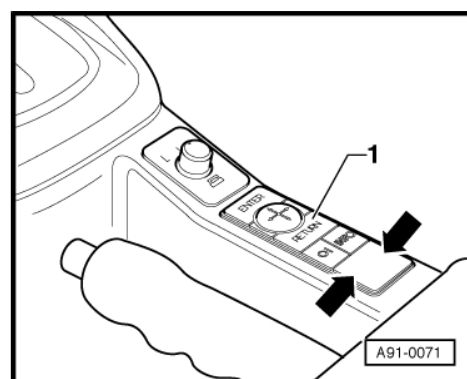
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Apply two screwdrivers to cover -arrows-, raise operating unit -1- carefully and lift it out of compartment.
- Unplug connector at operating unit.

Installing:

- Install accordingly in reverse order of removal.



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3.22 Removing and installing operating electronics control unit, navigation -J402-

**Note!**

Following control unit replacement, always submit completed "Annex to navigation system complaints report" together with defective component ⇒ [page 90](#).

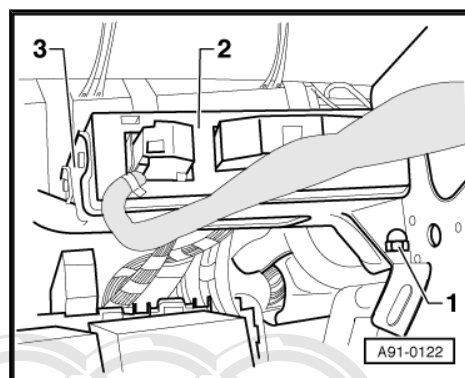
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove driver's storage compartment ⇒ General body repairs, Interior; Rep. Gr. 68.
- Unplug connectors at control unit -2-.
- Unfasten nut -1- (5 Nm) and detach control unit -2- together with holder -3-.

Installing:

- Install accordingly in reverse order of removal.



3.23 Removing and installing magnetic field sender (compass) -G197-

**Note!**

Observe action to be taken if magnetic field sender (compass) is replaced ⇒ [page 57](#).

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove interior light ⇒ Electrical system; Rep. Gr. 96.
- Remove rear end trim of headliner ⇒ General body repairs, Interior; Rep. Gr. 70.
- Carefully fold back moulded headliner slightly to front.

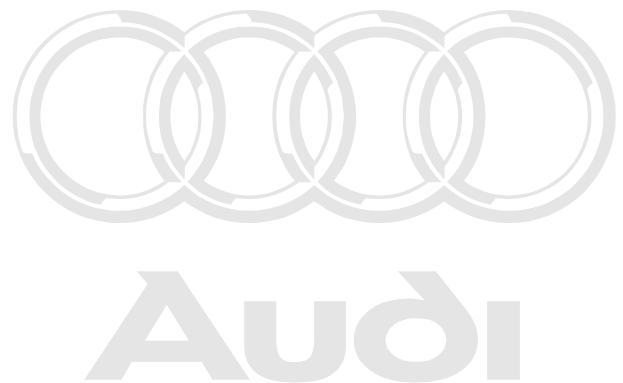
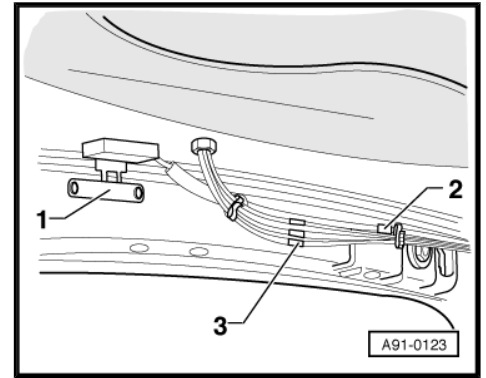
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Connector -2- of magnetic field sender -1- is located on right next to connector point for roof aerial -3-.

- Unfasten expanding clips and detach magnetic field sender -1- with retaining plate.

Installing:

- Install accordingly in reverse order of removal.
- Ensure horizontal attachment of magnetic field sender with retaining plate.



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4 Navigation system II-D (navigation system Plus RNS 4.1) (as of week 36/00)

4.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#) .*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

4.2 General description

Navigation System Plus RNS 4.1 is an enhanced version of navigation system II (Navigation System Plus). Key innovations include aerial selection control unit, extended self-diagnosis, link with data bus (infotainment) and dynamic navigation.

The navigation system interface forms part of the system.

The interface transfers the internal bus system (Bosch CAN) to the CAN bus (infotainment). In addition, the navigation system interface features a TMC (Traffic Message Channel) tuner, which relays traffic information to the navigation system control unit and permits dynamic navigation.



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- ◆ *To be able to deal with problems, it is essential to be familiar with functioning and operation of the radio navigation system
⇒ *Operating instructions* .*
- ◆ *For service installation, servicing work or fault-finding, refer to
⇒ *Current flow diagrams, Electrical fault finding and Fitting locations*.*
- ◆ *For detailed fitting instructions, refer to ⇒ *General body repairs, Interior; Rep. Gr. 70* .*
- ◆ *Vehicles with pre-fitted components for CD installation are provided with a CD changer wiring harness. Connecting cable can only be used with genuine Audi CD changers.*

4.3 Fault message display

In the event of a system fault, fault is stored in fault memory and/or fault message is output on display of operating electronics control unit, navigation -J402- .

At present the following fault messages can be displayed:

Indicated on display of navigation system II-D:

RDS TMC tuner:
Problem with RDS TMC
tuner link or link could
not be established

This fault message occurs in the following situations:

- ◆ No CAN communication or communication problems between operating electronics control unit, navigation -J402- and navigation interface -R94- (open circuit in wiring or wire not connected)
- ◆ Navigation interface -R94- defective

If this fault occurs, RDS TMC traffic information cannot be received and "traffic jam function" setting menu cannot be called up.

Fault message is displayed until fault has been rectified or confirmation provided by pressing **RETURN** key.

Indicated on display of navigation system II-D:

Dynamic navigation:
No telephone response
Dynamic function only with
ignition switched on

This fault message occurs in the following situations:

- ◆ No CAN communication or communication problems between operating electronics control unit, navigation -J402- and telephone/telematics control unit -J526- (open circuit in wiring or wire not connected)
- ◆ Telephone/telematics control unit -J256- defective
- ◆ Terminal 15 OFF (ignition switched off)

If this fault occurs, TMC traffic information cannot be received via telephone. Dynamic navigation is not possible and "traffic jam function" setting menu cannot be called up.

Fault message is displayed until fault has been rectified or confirmation provided by pressing **RETURN** key.

Indicated on display of navigation system II-D:

Problem with log book link
Journeys not being stored
Record journeys manually
Confirm with RETURN

This fault message occurs in the following situations:

- ◆ No CAN communication or communication problems between operating electronics control unit, navigation -J402- and electronic log book
- ◆ Electronic log book not connected or defective

If this fault occurs, data from electronic log book can neither be read into navigation system nor stored on chip card.

No fault is entered in fault memory.

Indicated on display of navigation system II-D:

LOGBOOK

Log book not active

Activate on PC

Record journeys manually

This message occurs in the following situations:

- ◆ Electronic log book chip card has not yet been activated on PC following delivery of vehicle
- ◆ This message on navigation system display does not indicate a fault

Inform customer accordingly.

Indicated on display of navigation system II-D:

Unsuitable CD

Insert CD-ROM

for TravelPilot DX

This message occurs in the following situations:

- ◆ No version DX navigation CD inserted
- Insert navigation CD with DX logo.
- Inform customer accordingly.

Fault messages are displayed until fault has been rectified or confirmation provided by pressing **RETURN** key.

4.4 Block diagram of navigation system II-D



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1 - TV tuner at rear left of luggage compartment behind side trim

2 - CD changer (optional) at rear left of luggage compartment behind side trim

3 - Hands-free loudspeaker in driver's storage compartment (up to MY 01)

4 - Operating electronics control unit, navigation

5 - Front treble/mid-range loudspeaker in upper door trim

6 - Front bass loudspeaker in lower door trim

7 - Rear broadband loudspeaker in left side trim

8 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim

9 - Rear broadband loudspeaker in right side trim

10 - Rear window with four integrated aerals

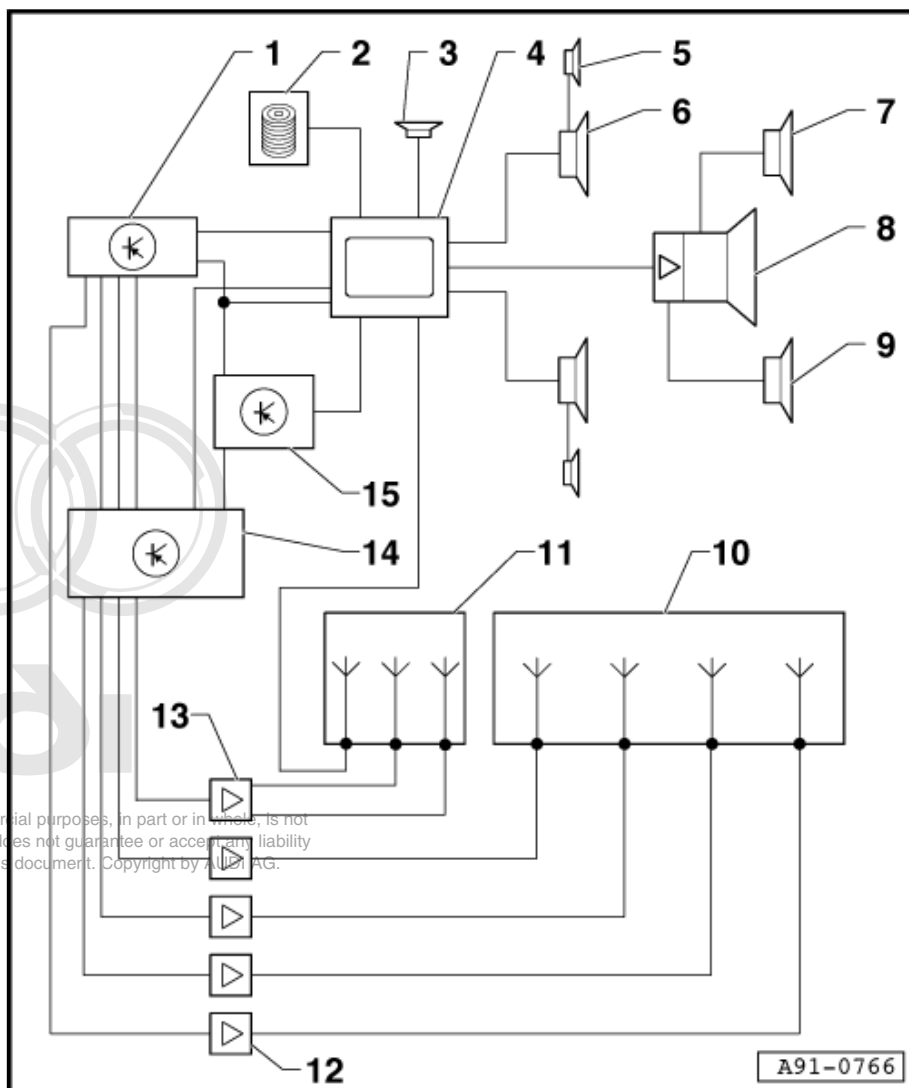
11 - Roof aerial (radio/telephone/navigation system)

12 - Four amplifiers for aerals in rear window

13 - Amplifier in roof aerial

14 - Aerial selection control unit at rear left of luggage compartment behind side trim

15 - Navigation system interface beneath driver's storage compartment



4.5 Block diagram of navigation system II-D with BOSE sound system

1 - TV tuner at rear left of luggage compartment behind side trim

2 - CD changer (optional) at rear left of luggage compartment behind side trim

3 - Hands-free loudspeaker in driver's storage compartment (up to MY 01)

4 - Operating electronics control unit, navigation

5 - BOSE amplifier at rear right of luggage compartment behind side trim

6 - Front treble/mid-range loudspeaker in upper door trim

7 - Front bass loudspeaker in lower door trim

8 - Rear broadband loudspeaker in side trim

9 - Amplifier with bass loudspeaker at rear left of luggage compartment behind side trim

10 - Rear window with four integrated aerials

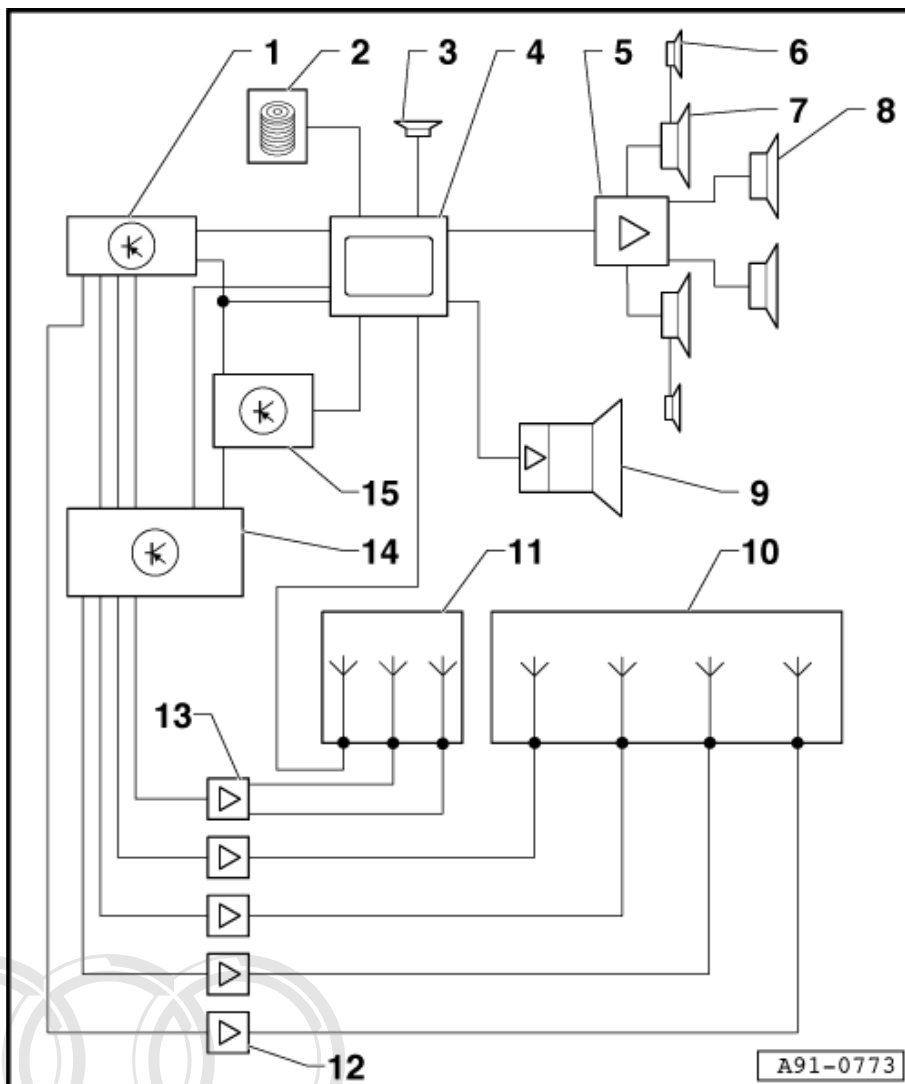
11 - Roof aerial (radio/telephone/navigation system)

12 - Four amplifiers for aerials in rear window

13 - Amplifier in roof aerial

14 - Aerial selection control unit at rear left of luggage compartment behind side trim

15 - Navigation system interface beneath driver's storage compartment



A91-0773

4.6 Connectors at operating electronics control unit, navigation -J402-

1 - Aerial connection (HF) from navigation interface -R94-

2 - Cooling fan

3 - Aerial connection (IF) to aerial selection control unit - J515-

4 - 11-pin connector from TV tuner -J415-

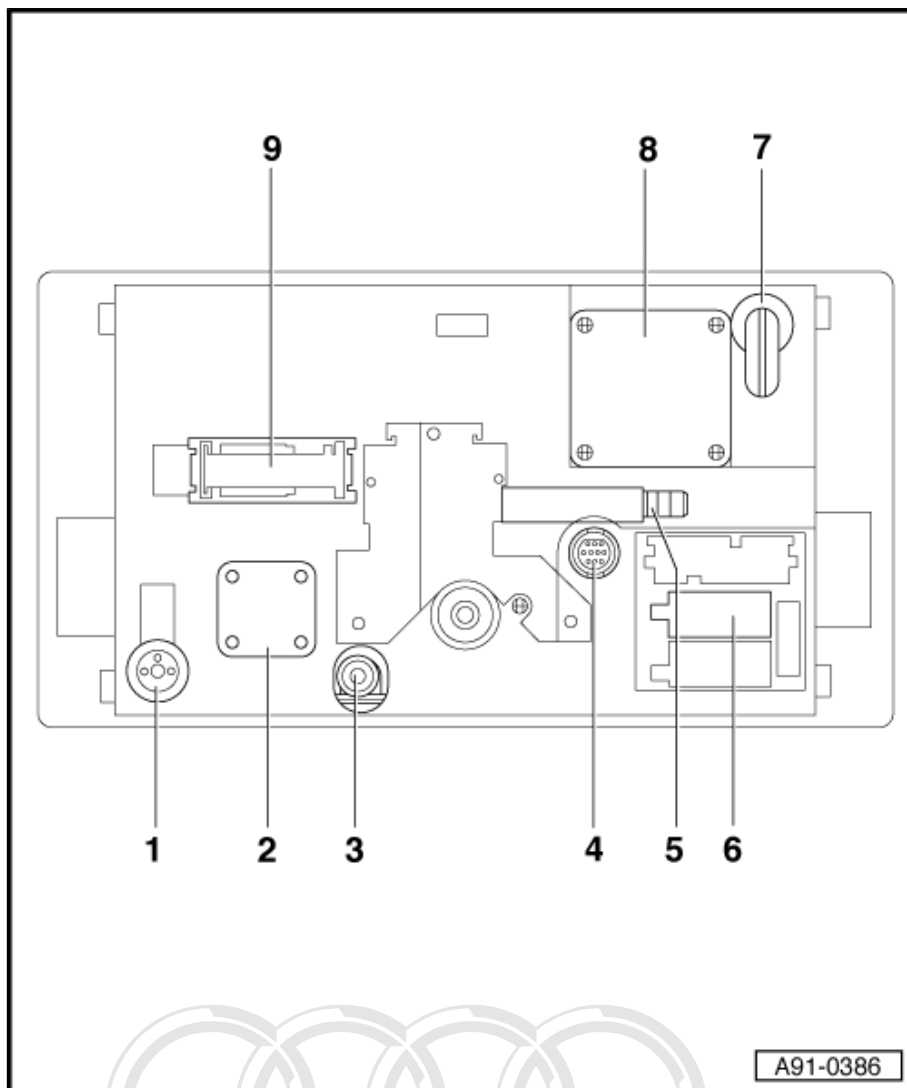
5 - Earth connection

6 - Connection block with three multi-pin connectors and one fuse

7 - Navigation aerial (GPS) connection

8 - Cooling fan

9 - 26-pin connector for navigation system sensors



4.6.1 Contact assignment of multi-pin connectors



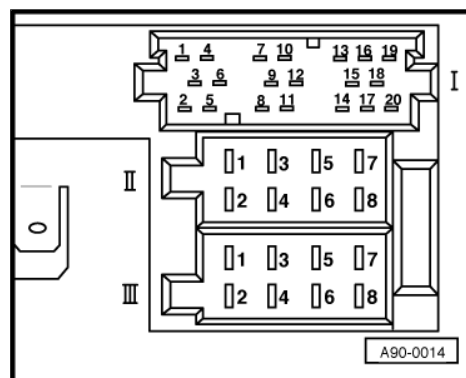
Note!

Contacts not listed are not used.

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20-pin connector I

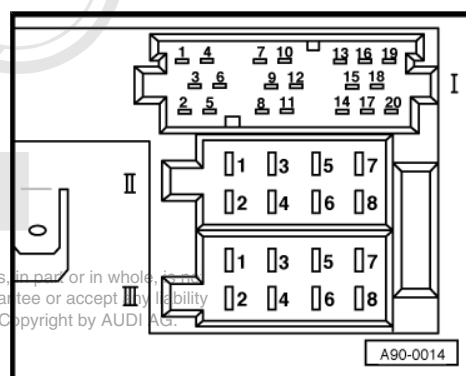
- 1 - Rear left signal
- 2 - Rear right signal
- 3 - Signal earth
- 4 - Front left signal
- 5 - Front right signal
- 6 - Switched positive (amplifier/BOSE amplifier)
- 7 - Telephone (AF +)
- 11 - Remote control/steering wheel (up to MY 01)
- 12 - Telephone (AF -)
- 13 - CD bus data in (CD changer)
- 14 - CD bus data out (CD changer)
- 15 - CD bus clock (CD changer)
- 16 - Permanent positive (CD changer)
- 17 - Switched positive (CD changer)
- 18 - Earth (CD changer)
- 19 - Left signal (CD changer)
- 20 - Right signal (CD changer)



8-pin connector II

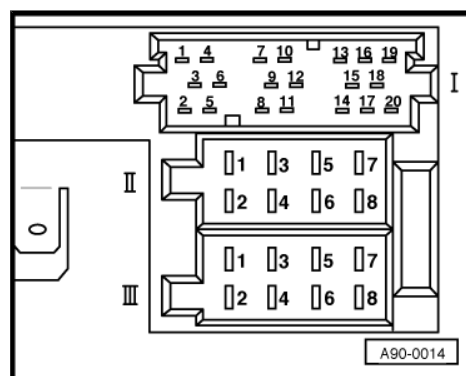
- 3 - Front right loudspeaker (+)
- 4 - Front right loudspeaker (-)
- 5 - Front left loudspeaker (+) (with BOSE hands-free loudspeaker +)
- 6 - Front left loudspeaker (-) (with BOSE hands-free loudspeaker -)

Connections with BOSE sound system up to MY 01



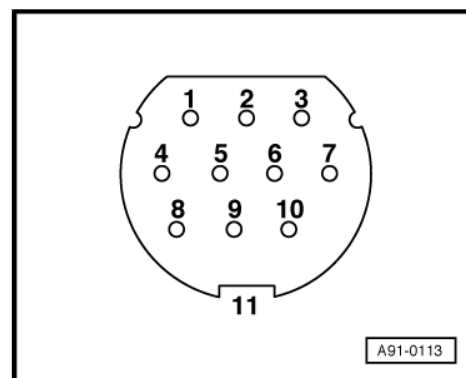
8-pin connector III

- 1 - GALA (vehicle speed signal)
- 2 - AF mute (from telephone)
- 3 - K-wire (diagnosis)
- 4 - S-contact (terminal 86s)
- 5 - SAFE (permanent positive; anti-theft protection) (up to MY 01)
- 6 - Switch illumination (terminal 58s)
- 7 - Battery + (terminal 30)
- 8 - Earth (terminal 31)



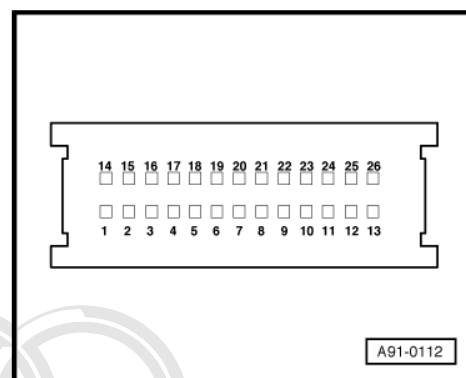
11-pin connector (TV tuner)

- 1 - AF earth
- 2 - AF left
- 3 - AF right
- 4 - Video signal
- 5 - Video earth
- 6 - PAL /NTSC
- 7 - Monitor on
- 8 - B in
- 9 - G in
- 10 - R in
- 11 - Screen earth



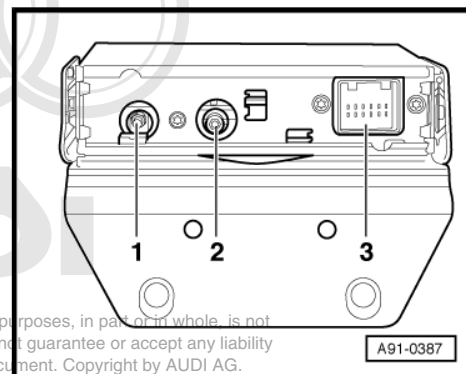
26-pin connector (navigation system connection)

- 1 - Anti-theft alarm earth
- 4 - Terminal 15
- 5 - Left speed sensor input (ABS)
- 13 - CAN bus High (Bosch)
- 17 - Reversing light switch
- 18 - Right speed sensor input (ABS) (up to MY 01)
- 26 - CAN bus Low (Bosch)



4.7 Connectors at navigation interface - R94-

- 1 - Aerial connection (HF) to operating electronics control unit, navigation
- 2 - Aerial connection (HF) from aerial selection control unit
- 3 - 12-pin connector for power supply/CAN bus



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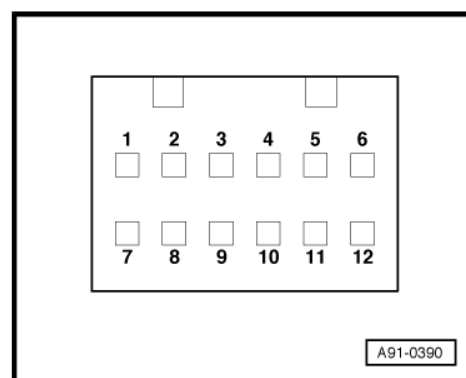
12-pin connector



Note!

Contacts not listed are not used.

- 2 - CAN bus Low (infotainment)
- 3 - CAN bus High (infotainment)
- 6 - Battery + (terminal 30)
- 8 - CAN bus Low (Bosch)
- 9 - CAN bus High (Bosch)
- 12 - Earth (terminal 31)



4.8 Connectors at aerial selection control unit -J515-

1 - Aerial connection FM1 from window aerial amplifier

2 - Aerial connection FM2 from window aerial amplifier

3 - Aerial connection FM3 from window aerial amplifier

4 - Aerial connection FM4/AM from roof aerial with amplifier

5 - Connection (HF) to navigation interface

6 - 2-pin connector (power supply)

□ Pin 1: Battery + (terminal 30)

□ Pin 2: Earth (terminal 31)

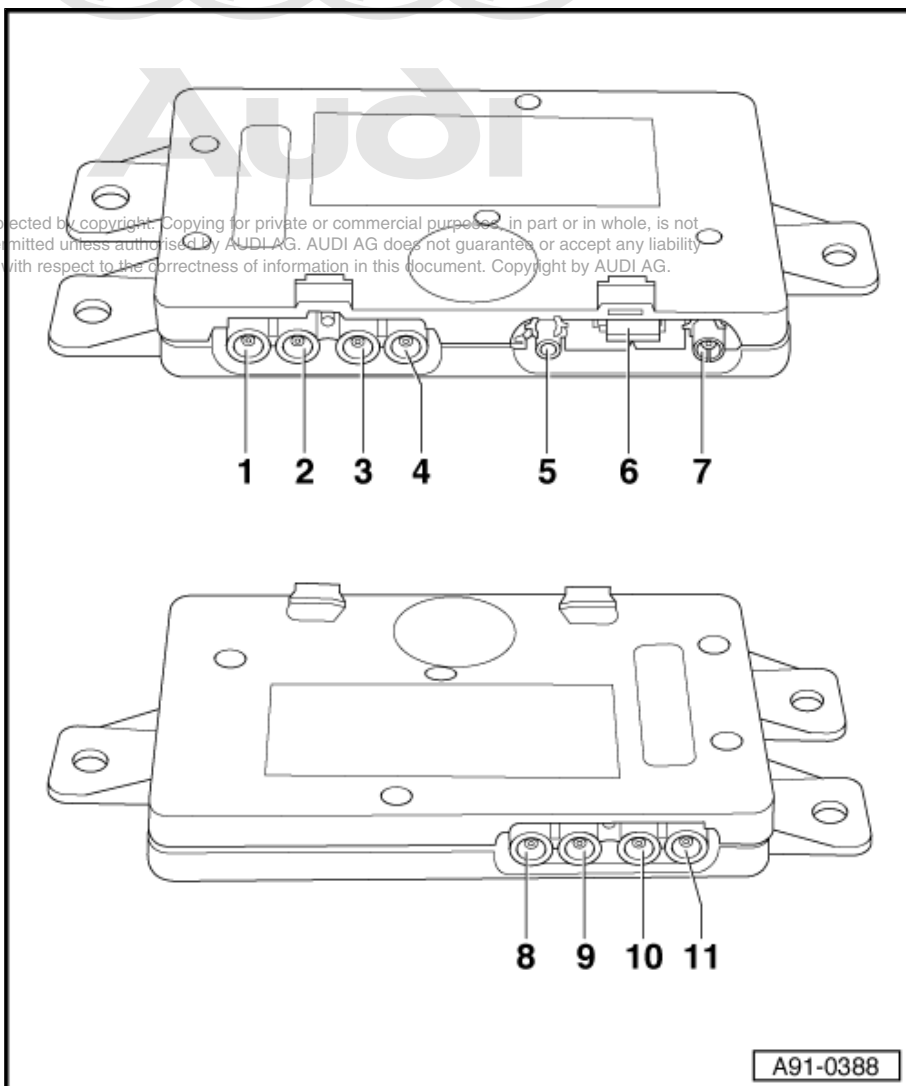
7 - Connection (IF) from operating electronics control unit, navigation

8 - Not used

9 - Aerial connection FM3 to TV tuner

10 - Aerial connection FM2 to TV tuner

11 - Aerial connection FM1 to TV tuner



4.9 Connectors at TV tuner -J415- (up to MY 01)

1 - 11-pin connector to operating electronics control unit, navigation

2 - 4-pin video input (SVHS)

☐ Not used

3 - 2-pin video input (SVHS-Y)

☐ Not used

4 - 2-pin video input (audio)

☐ Not used

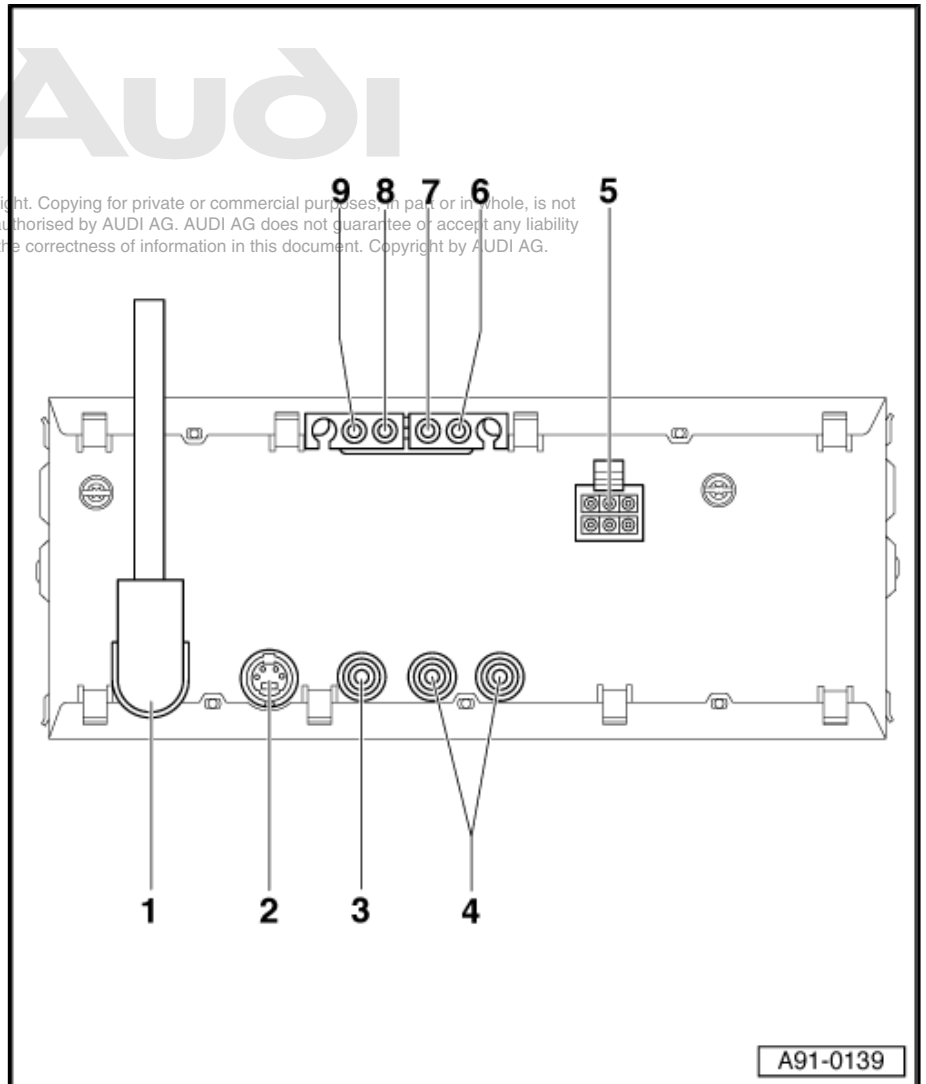
5 - 6-pin connector (power supply/CAN bus)

6 - TV aerial connection to TV aerial amplifier 4 at rear window

7 - TV aerial connection to TV aerial amplifier 3 at rear window

8 - TV aerial connection to TV aerial amplifier 2 at rear window

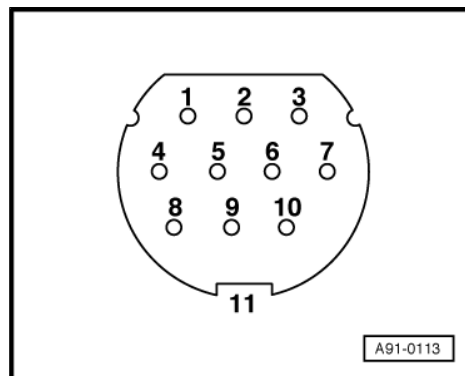
9 - TV aerial connection to TV aerial amplifier 1 at rear window



4.9.1 Contact assignment of multi-pin connectors

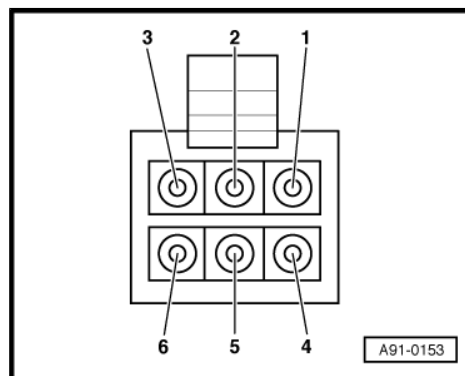
11-pin connector

- 1 - AF earth
- 2 - AF left
- 3 - AF right
- 4 - Video signal
- 5 - Video earth
- 6 - PAL /NTSC
- 7 - Monitor on
- 8 - B in
- 9 - G in
- 10 - R in
- 11 - Screen earth



6-pin connector

- 1 - Earth (terminal 31)
- 2 - Battery + (terminal 30)
- 3 - CAN bus High (Bosch)
- 4 - Terminal 15
- 5 - Earth (terminal 31)
- 6 - CAN bus Low (Bosch)

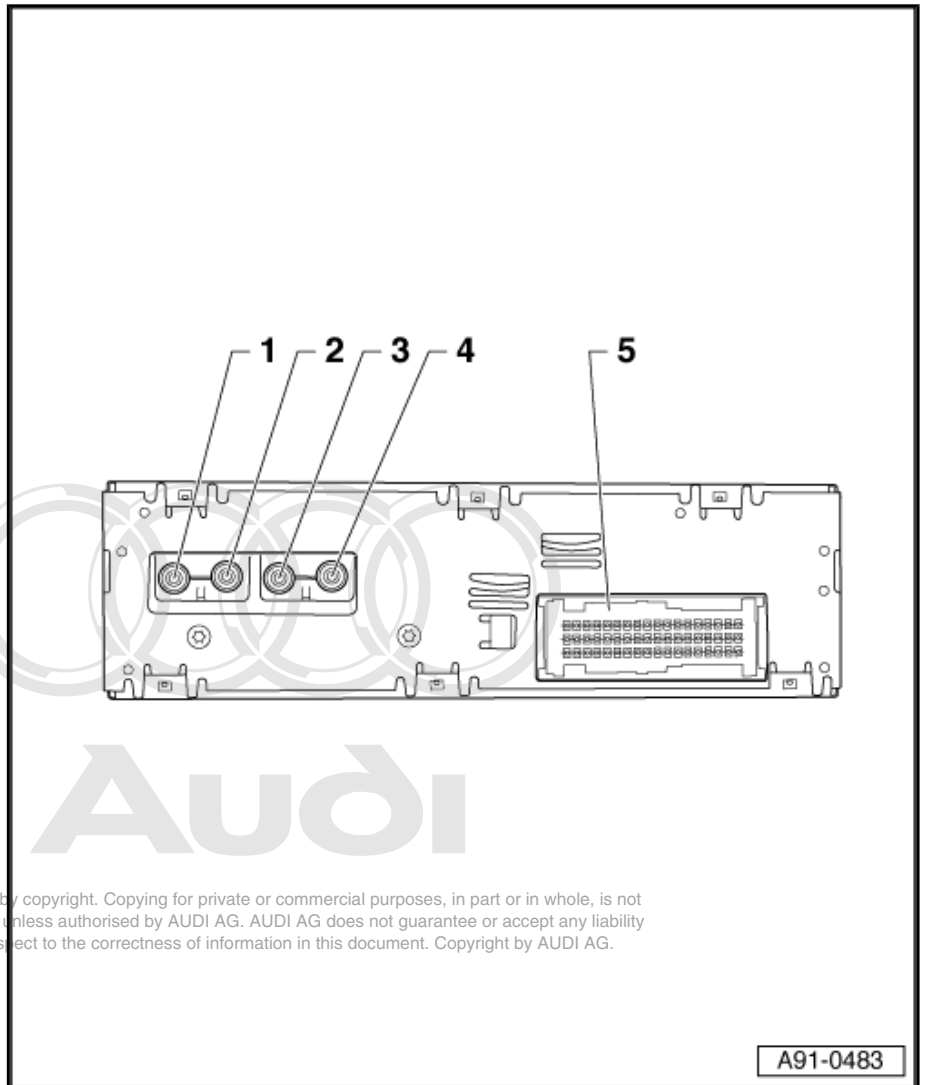


4.10 Connectors at TV tuner -J415- (as of MY 01)



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- 1 - TV aerial connection from aerial selection control unit
- 2 - TV aerial connection from aerial selection control unit
- 3 - TV aerial connection from aerial selection control unit
- 4 - TV aerial connection from TV aerial amplifier 4 at rear window
- 5 - 54-pin connector to operating electronics control unit, navigation/navigation interface



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A91-0483

4.10.1 Contact assignment of multi-pin connector

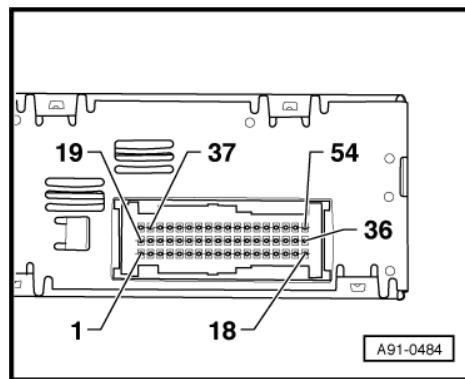


Note!

Contacts not listed are not used.

54-pin connector

- 2 - CAN bus Low (Bosch)
- 3 - CAN bus High (Bosch)
- 5 - AF right, front
- 7 - AF left, front
- 8 - AF earth
- 9 - Common screen earth, front
- 10 - Video screen, front
- 11 - Video signal, front
- 12 - Video earth
- 13 - Video B, front
- 14 - Video earth
- 15 - Video G, front
- 16 - Video earth
- 17 - Video R, front
- 19 - Earth (terminal 31)
- 20 - Battery + (terminal 30)
- 21 - K-wire (diagnosis)

**4.11 Overall layout of navigation system II-D**

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1 - Operating electronics control unit, navigation -J402-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 108](#)

2 - BOSE amplifier -R12-

- ☐ With BOSE sound system only
- ☐ At rear right of luggage compartment behind side trim
- ☐ Removing and installing
⇒ [page 30](#)

3 - Aerial amplifier TV/FM 1 - R82-

- ☐ Behind tailgate trim at top right
- ☐ Removing and installing
⇒ [page 109](#)

4 - Radio/telephone/navigation aerial (GPS) -R52-

- ☐ Radio/telephone/navigation aerial (FM4, AM, GPS)
- ☐ Removing and installing
⇒ [page 34](#)

5 - Aerial amplifier TV/FM 3 - R84-

- ☐ Behind tailgate trim at bottom right
- ☐ Removing and installing
⇒ [page 109](#)

6 - Aerial amplifier TV/FM 2 - R83-

- ☐ Behind tailgate trim at top left
- ☐ Removing and installing ⇒ [page 109](#)

7 - Aerial amplifier TV 4 -R85-

- ☐ Behind tailgate trim at bottom left
- ☐ Removing and installing ⇒ [page 109](#)

8 - Amplifier with bass loudspeaker (on left in luggage compartment) -R44-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 31](#)

9 - CD changer -R41-

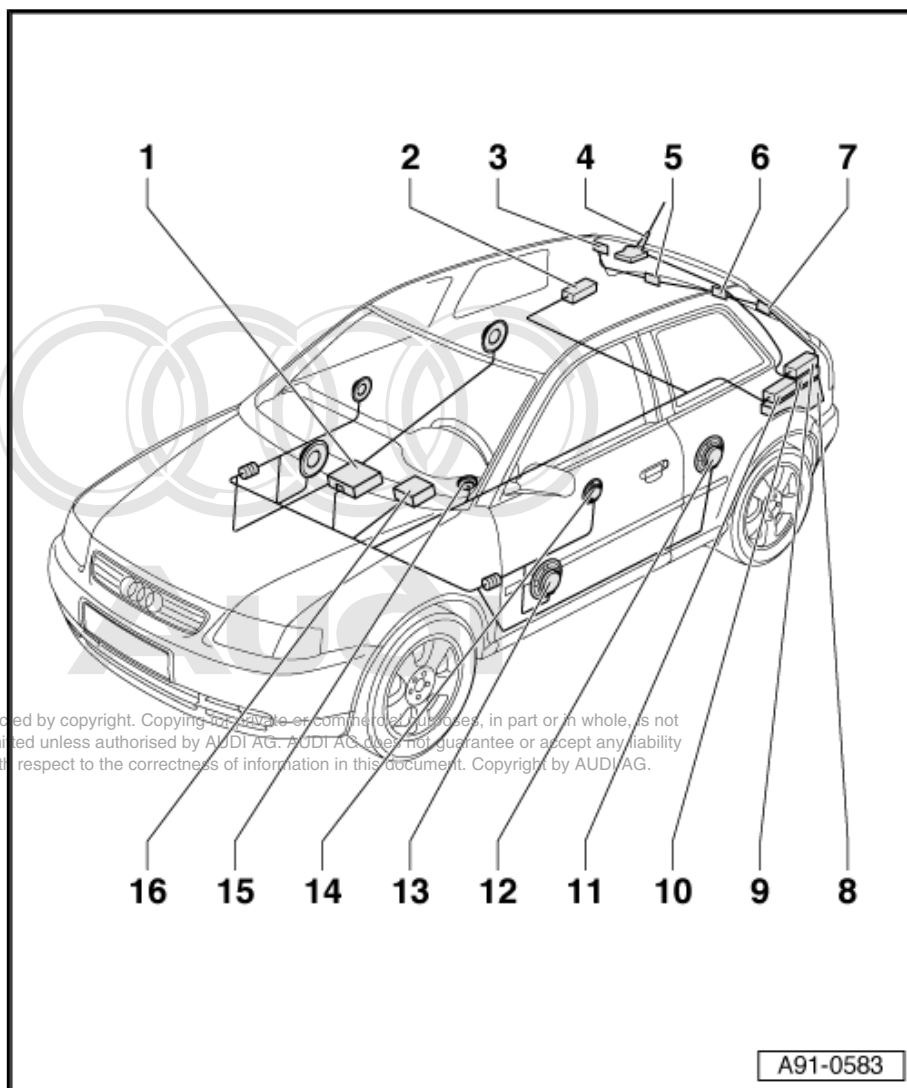
- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 29](#)

10 - Aerial selection control unit -J515-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 33](#)

11 - TV tuner -J415-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 109](#)



12 - Rear left -R15- / rear right -R17- bass loudspeaker

- ☐ In rear side trim
- ☐ Removing and installing ⇒ [page 26](#)

13 - Front left -R21- / front right -R23- bass loudspeaker

- ☐ In bottom of front door trim
- ☐ Removing and installing ⇒ [page 26](#)

14 - Front left -R26- / front right -R27- mid-range/treble loudspeaker

- ☐ In top of front door trim
- ☐ Removing and installing ⇒ [page 27](#)

15 - Hands-free loudspeaker -R39- (up to MY 01)

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing ⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing ⇒ [page 48](#)

16 - Navigation interface -R94-

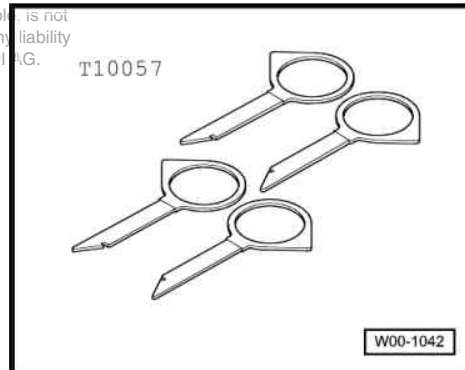
- ☐ Beneath driver's storage compartment at centre console bracket
- ☐ Removing and installing ⇒ [page 109](#)

4.12 Removing and installing operating electronics control unit, navigation -J402-

Special tools and workshop equipment required

◆ Radio release keys -T10057-

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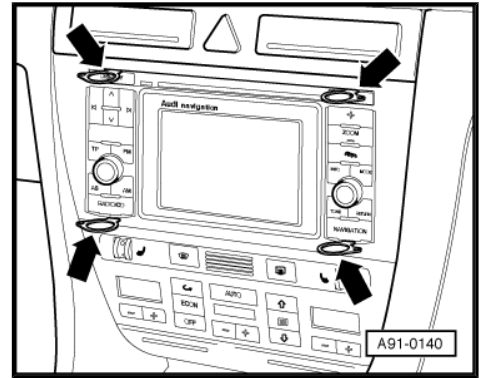


- Switch off all electrical equipment.
- Remove ignition key.

Removing:

Request anti-theft encoding from customer.

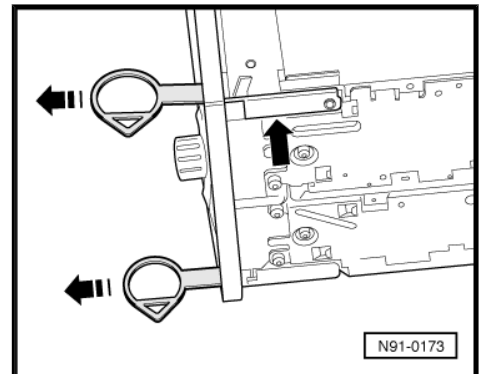
- Insert radio release keys -T10057- in release slots as shown -arrows- until they engage. Pointed ends of grips must face outwards.
- Grasp hold of grips on radio release keys -T10057- and pull operating electronics control unit, navigation out of dash panel.
- Release and unplug connectors.



- Press tab -arrow- and pull out release keys to front.

Installing:

- Plug in all connectors.
- Hold control unit straight and slide it into dash panel until it engages in mounting frame.
- Activate anti-theft encoding.
- Check operation.



4.13 Removing and installing TV tuner -J415-

Removal/installation operations for TV tuner -J415- correspond to those for navigation system with CD drive control unit -J401- .

Removing and installing ⇒ [page 115](#)

4.14 Removing and installing TV aerial amplifiers

Removal and installation operations for TV aerial amplifiers correspond to those for radio aerial amplifiers.

Removing and installing radio aerial amplifiers ⇒ [page 32](#)

4.15 Removing and installing navigation interface -R94-

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove driver's storage compartment ⇒ General body repairs, Interior; Rep. Gr. 68 .

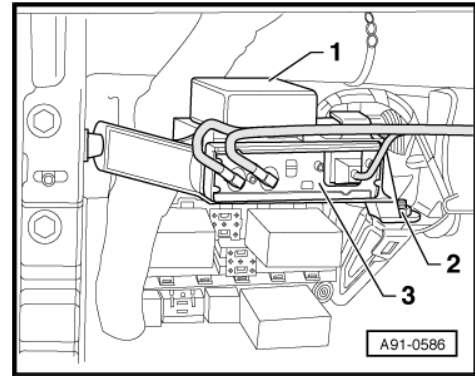
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- Unplug connectors at interface -3-.
- Unscrew nut -2- (3 Nm) and swivel interface -3- to rear together with holder.
- Pull interface out of holder.

Installing:

- Install accordingly in reverse order of removal.



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5 Navigation system III (as of week 29/99)

5.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ **page 133**.*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

5.2 General description

Navigation system III is designed to replace navigation system I and features self-diagnosis capability.

All displays are provided by way of the dash panel insert connected to the CAN bus (infotainment).

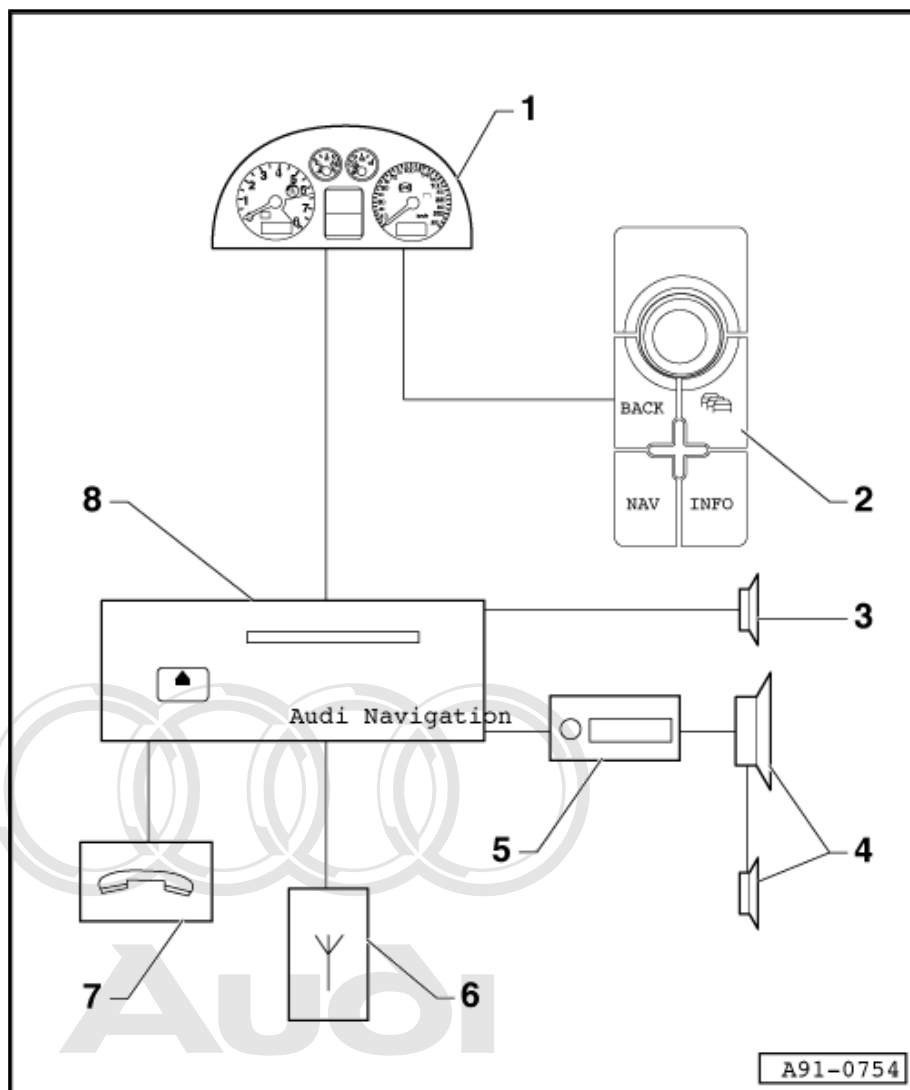
All inputs are made by way of the buttons on the function selection switch.

The system comprises:

- ◆ Function selection switch (operating unit)
- ◆ Dash panel insert (display unit)
- ◆ Navigation system with CD drive control unit (central unit and navigation unit)
- ◆ GPS aerial

5.3 Block diagram of navigation system III

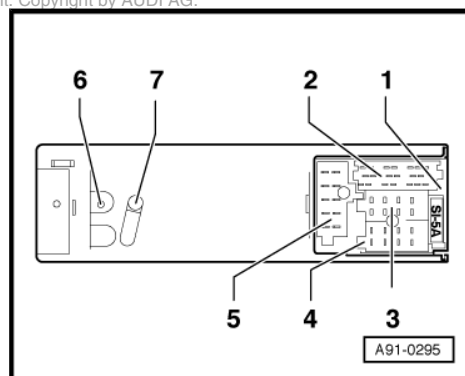
- 1 - Dash panel insert (display unit)
- 2 - Function selection switch (operating unit)
- 3 - Hands-free loudspeaker
- 4 - Loudspeakers in front doors
- 5 - Radio
- 6 - Navigation aerial (GPS)
- 7 - Telephone (pre-fitted components, permanently installed telephone or mobile phone)
- 8 - Navigation system with CD drive control unit (central unit and navigation unit)



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5.4 Connectors at navigation system with CD drive control unit -J401-

- 1 - Connection block with four multi-pin connectors and one fuse
- 2 - 20-pin connector I
- Yellow 6-pin connector
- Green 6-pin connector
- Blue 8-pin connector
- 3 - Brown 8-pin connector II
- 4 - Black 8-pin connector III
- 5 - Red 10-pin connector IV
- 6 - Navigation aerial (GPS) connection
- 7 - Securing clip for aerial connection



5.4.1 Contact assignment of multi-pin connectors



Note!

Contacts not listed are not used.

20-pin connector I

- 2 - CAN bus High (infotainment)
- 5 - CAN bus Low (infotainment)
- 13 - AF + (to radio)
- 14 - AF mute (to radio)
- 15 - AF - (to radio)
- 16 - Telephone (AF +) (from telephone)
- 17 - AF mute (telephone)
- 18 - Telephone AF screen
- 19 - Telephone (AF -) (from telephone)

Black 8-pin connector III

- 1 - GALA (vehicle speed signal)

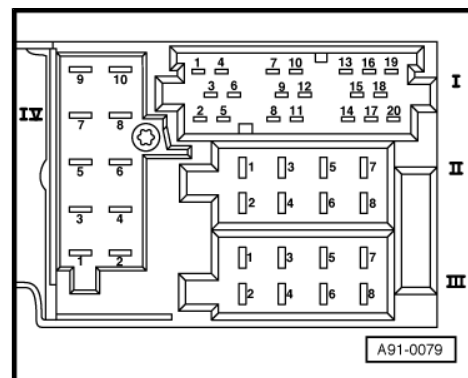
2 - Reversing light switch

3 - K-wire (diagnosis)

- 4 - Terminal 15

- 7 - Battery + (terminal 30)

- 8 - Earth (terminal 31)



5.5 Overall layout of navigation system III

1 - Display in dash panel insert

- ☐ In dash panel
- ☐ Removing and installing
⇒ Electrical system; Repair group 90

2 - Telephone/navigation system loudspeaker -R39- (up to MY 01)

- ☐ With BOSE sound system only
- ☐ In driver's door (up to MY 98)
- ☐ Removing and installing
⇒ [page 47](#)
- ☐ In driver's storage compartment (as of MY 99)
- ☐ Removing and installing
⇒ [page 48](#)

3 - Navigation system with CD drive control unit -J401-

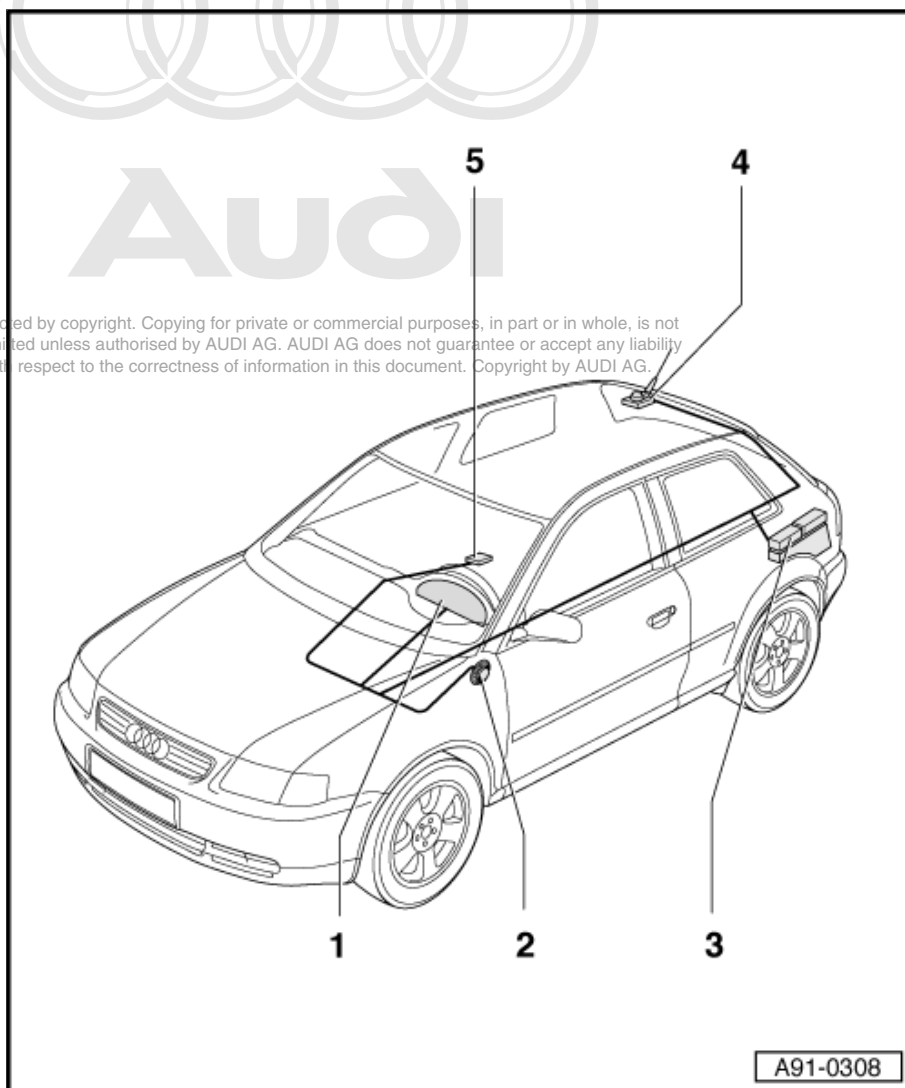
- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing
⇒ [page 90](#)

4 - Radio/telephone/navigation aerial (GPS) -R52-

- ☐ Roof aerial
- ☐ Removing and installing
⇒ [page 34](#)

5 - Function selection switch II -E272-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 114](#)



5.6 Removing and installing function selection switch II

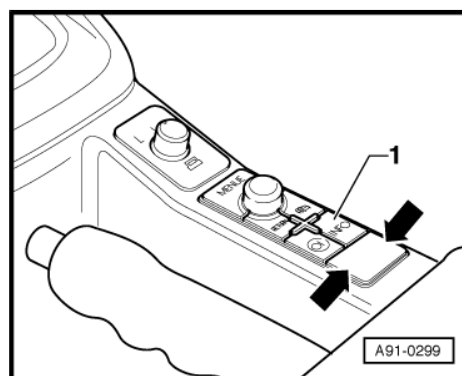
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Apply two screwdrivers to cover -arrows-, raise function selection switch -1- carefully and lift it out of compartment.
- Unplug connector.

Installing:

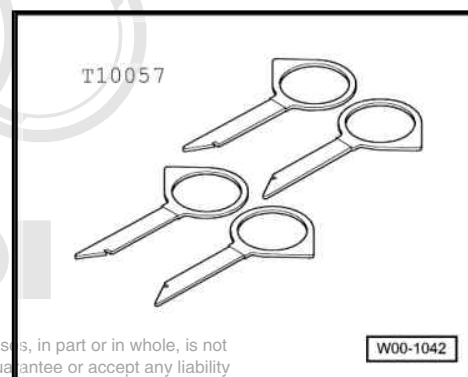
- Install accordingly in reverse order of removal.



5.7 Removing and installing navigation system with CD drive control unit

Special tools and workshop equipment required

- ◆ Radio release keys -T10057-



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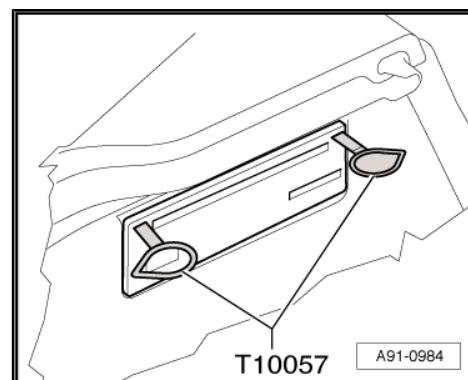
- Take out navigation CD.
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Slide two radio release keys -T10057- into front of control unit as shown until they engage.
- Pull control unit out of mounting frame.
- Unplug connectors.
- Press tabs on control unit and pull out keys.

Installing:

- Plug in connector.
- Slide control unit into mounting frame until it engages.
- Insert navigation CD.
- Check operation.



6 Navigation system IV (BNS 4.0) as of week 04/01

6.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

6.2 General description

Navigation system BNS 4.0 (Nav IV) is an enhanced version of navigation system III.

Key innovations include link with CAN bus (infotainment) and dynamic navigation.

The system obtains dynamic navigation information from the radio TMC function or via the telephone.

The design corresponds to that of navigation system III.

6.3 Design of navigation system BNS 4.0

⇒ [page 111](#)

6.4 Connectors and contact assignments

⇒ [page 112](#)

6.5 Overall layout of BNS 4.0

⇒ [page 113](#)



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7 Multi-function steering wheel

7.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*

7.2 General description

7.2.1 System features

- ◆ Six illuminated function buttons in steering wheel
- ◆ Steering wheel wiring
- ◆ Steering wheel electronics
- ◆ Vehicle control unit
- ◆ Vehicle wiring

7.2.2 Description of operation

Function buttons are integrated into the steering wheel to facilitate operation of radio, telephone and Tiptronic (with automatic gearbox) whilst driving. Electric heating of the multi-function steering wheel is also provided.

The steering wheel electronics are responsible for control of steering wheel heating, transfer of button functions to CAN bus and dimming of function button illumination.

The multi-function steering wheel control unit is responsible for control of radio, telephone system, dash panel insert, steering wheel heating and Tiptronic function.

Centre display in dash panel insert indicates the station selected when radio is in use and the name and telephone number of the caller from the telephone memory when using telephone. If a cassette is inserted in radio mode, "TAPE < >" is displayed and, when using CD changer, the CD number "CD 02" and the current track "TR 09" appear on the centre display.

7.3 Block diagram of multi-function steering wheel (up to MY 01)

1 - Handset for telephone/mobile phone

2 - Multi-function steering wheel

- ☐ With integrated switches
- ☐ With steering wheel electronics
- ☐ Removing and installing multi-function buttons
⇒ [page 124](#)
- ☐ Removing and installing Tiptronic buttons
⇒ [page 125](#)

3 - Dash panel insert

- ☐ In dash panel

4 - Operating electronics control unit, navigation -J402-

- ☐ In centre console

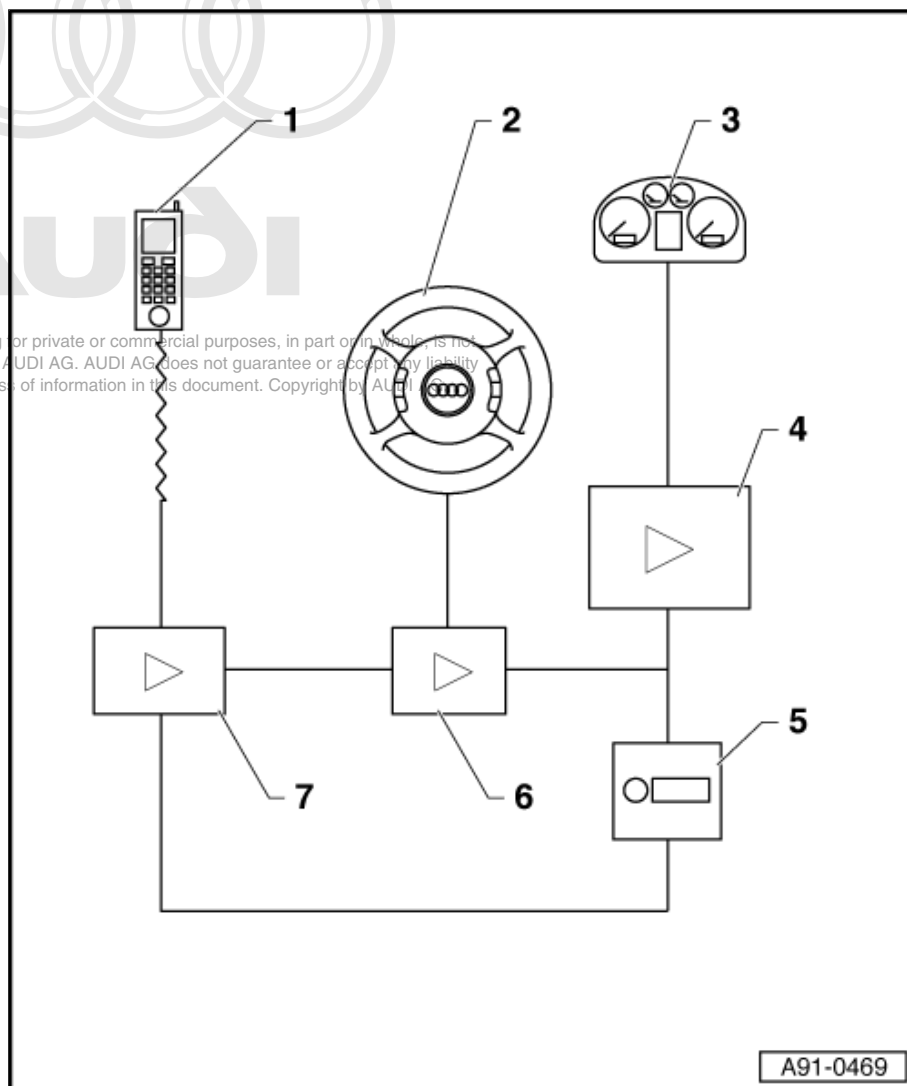
5 - Radio -R-

- ☐ In centre console

6 - Multi-function steering wheel control unit -J453-

- ☐ At 13-position relay carrier beneath driver's storage compartment
- ☐ Removing and installing
⇒ [page 125](#)

7 - Mobile telephone operating electronics control unit -J412- or telephone transmitter and receiver unit -R36-



7.4 Block diagram of multi-function steering wheel (as of MY 02)

1 - CAN bus (infotainment)

2 - Mobile telephone operating electronics control unit -J412- or telephone transmitter and receiver unit -R36-

3 - Multi-function steering wheel control unit -J453-

- ☐ Above relay carrier beneath driver's storage compartment
- ☐ Removing and installing
⇒ [page 125](#)

4 - Multi-function steering wheel

- ☐ With integrated switches
- ☐ With steering wheel electronics
- ☐ Button assignment
⇒ [page 120](#)
- ☐ Removing and installing multi-function buttons
⇒ [page 124](#)
- ☐ Removing and installing Tiptronic buttons
⇒ [page 125](#)

5 - Telephone/telematics control unit -J526-

- ☐ In passenger's footwell

6 - Operating electronics control unit, navigation -J402-

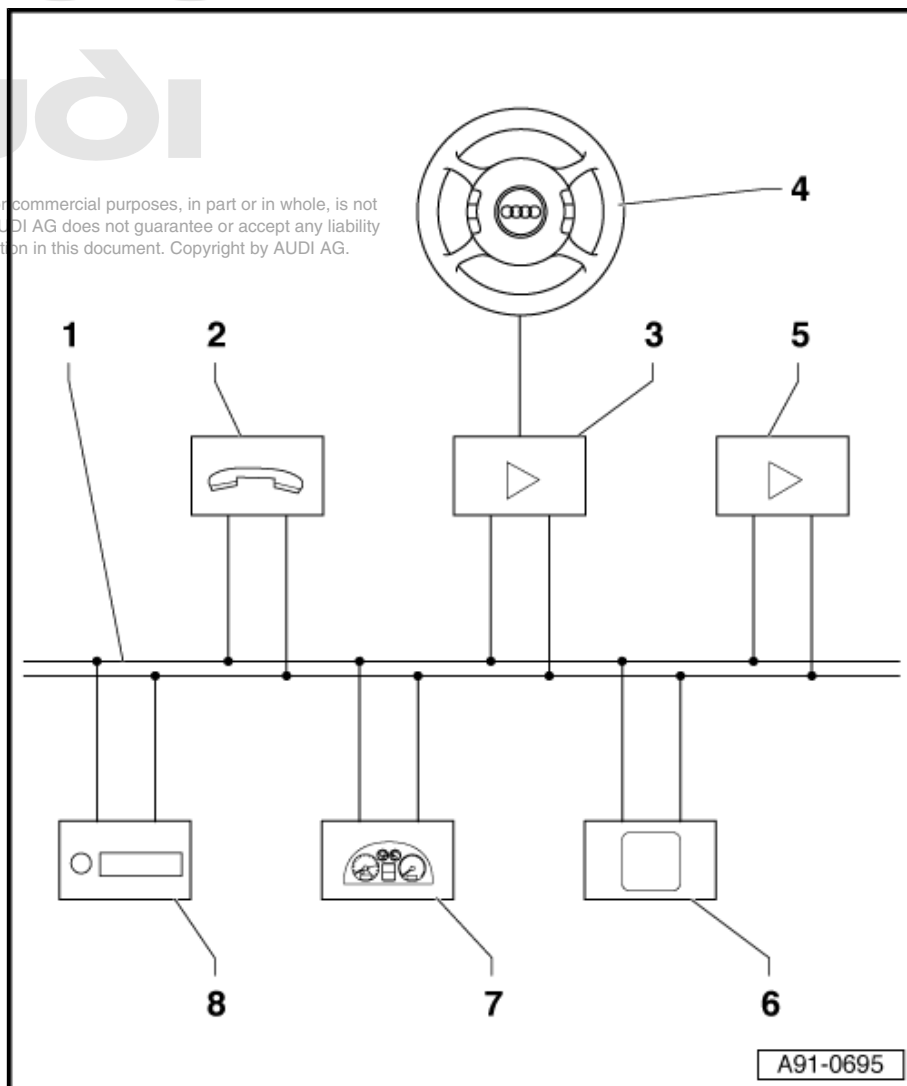
- ☐ In centre console

7 - Dash panel insert

- ☐ In dash panel

8 - Radio -R-

- ☐ In centre console



7.5 Assignment of buttons on multi-function steering wheels

7.5.1 Radio button assignment

1 - Tiptronic

- ☐ "+" change-up
- ☐ "-" change-down

2 - Increase volume

3 - Reduce volume

4 - Telephone call

- ☐ Make call
- ☐ Answer call
- ☐ End call

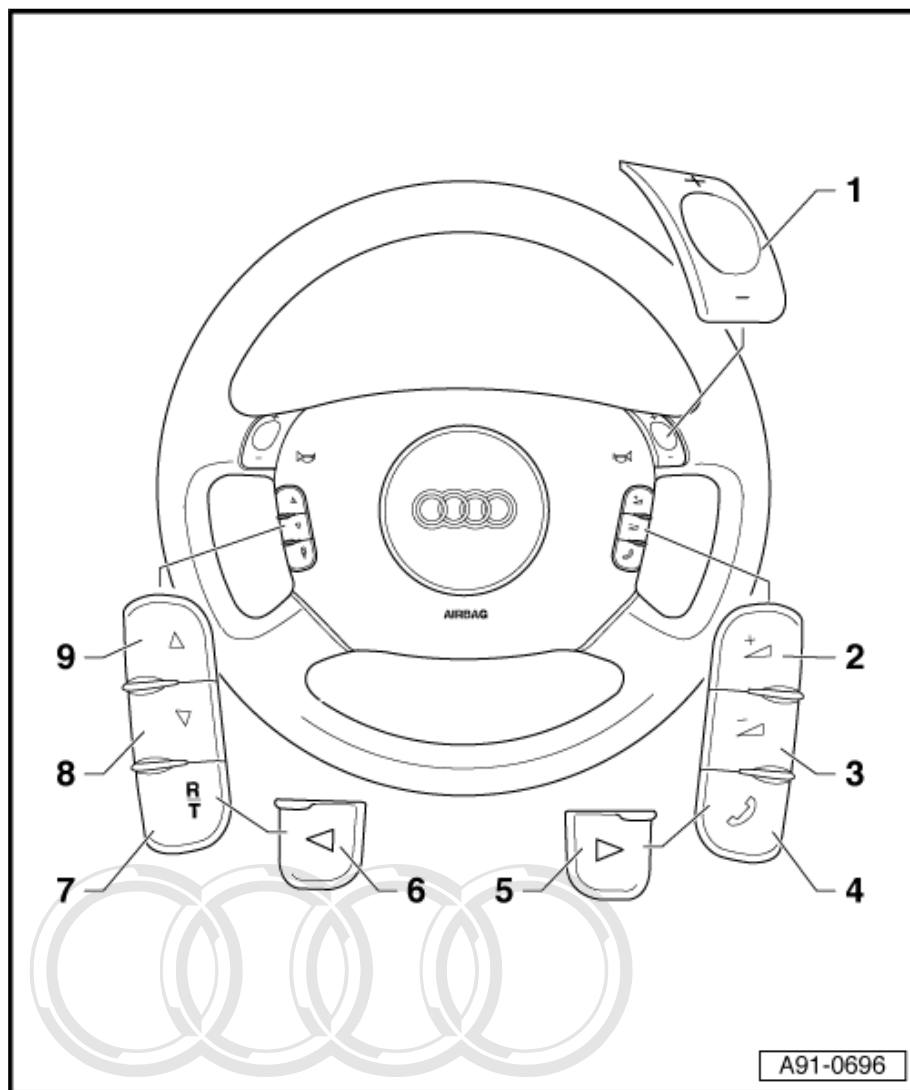
5 - Station button, up

6 - Station button, down

7 - Telephone/radio selection

8 - Search, down

9 - Search, up



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7.5.2 Cassette button assignment

1 - Tiptronic

- ☐ "+" change-up
- ☐ "-" change-down

2 - Increase volume

3 - Reduce volume

4 - Telephone call

- ☐ Make call
- ☐ Answer call
- ☐ End call

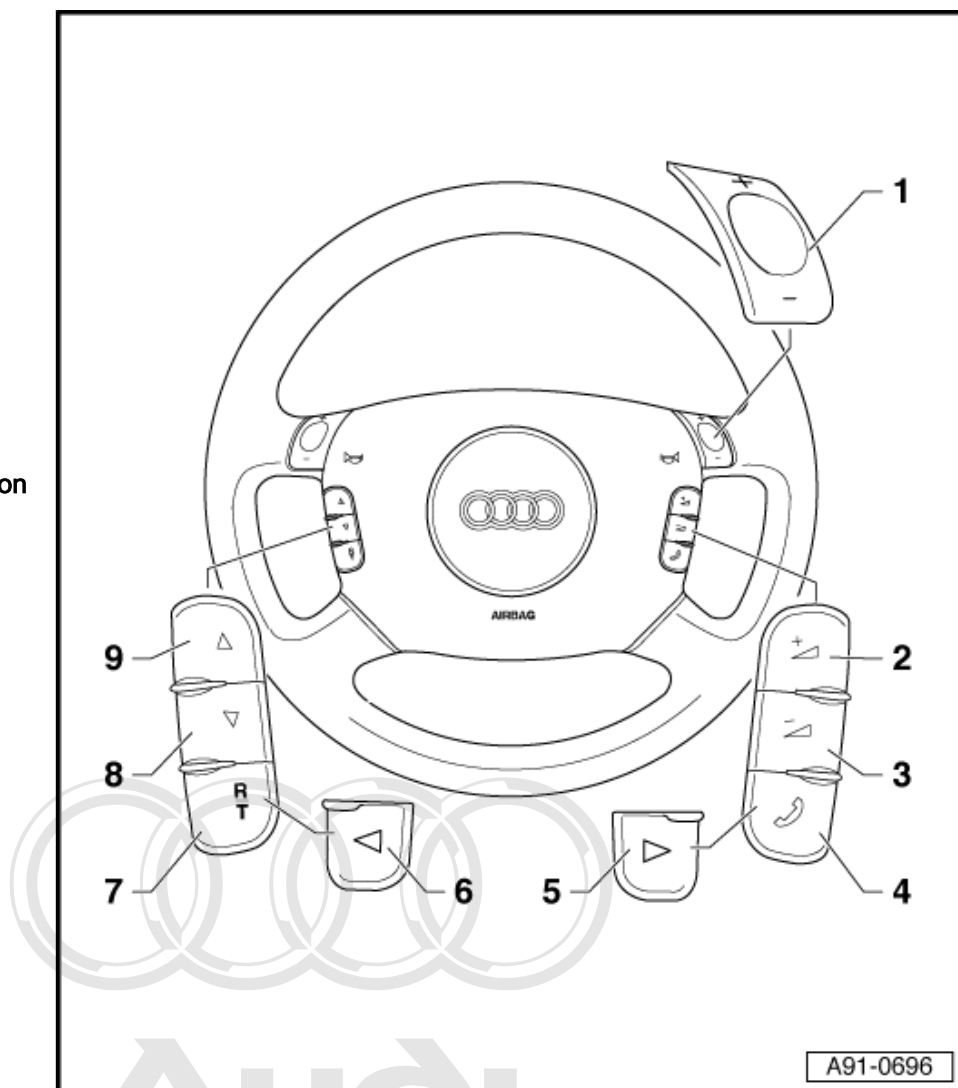
5 - Music search, forwards

6 - Music search, back

7 - Telephone/radio selection

8 - Fast rewind

9 - Fast forward



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7.5.3 CD button assignment

1 - Tiptronic

- ☐ "+" change-up
- ☐ "-" change-down

2 - Increase volume

3 - Reduce volume

4 - Telephone call

- ☐ Make call
- ☐ Answer call
- ☐ End call

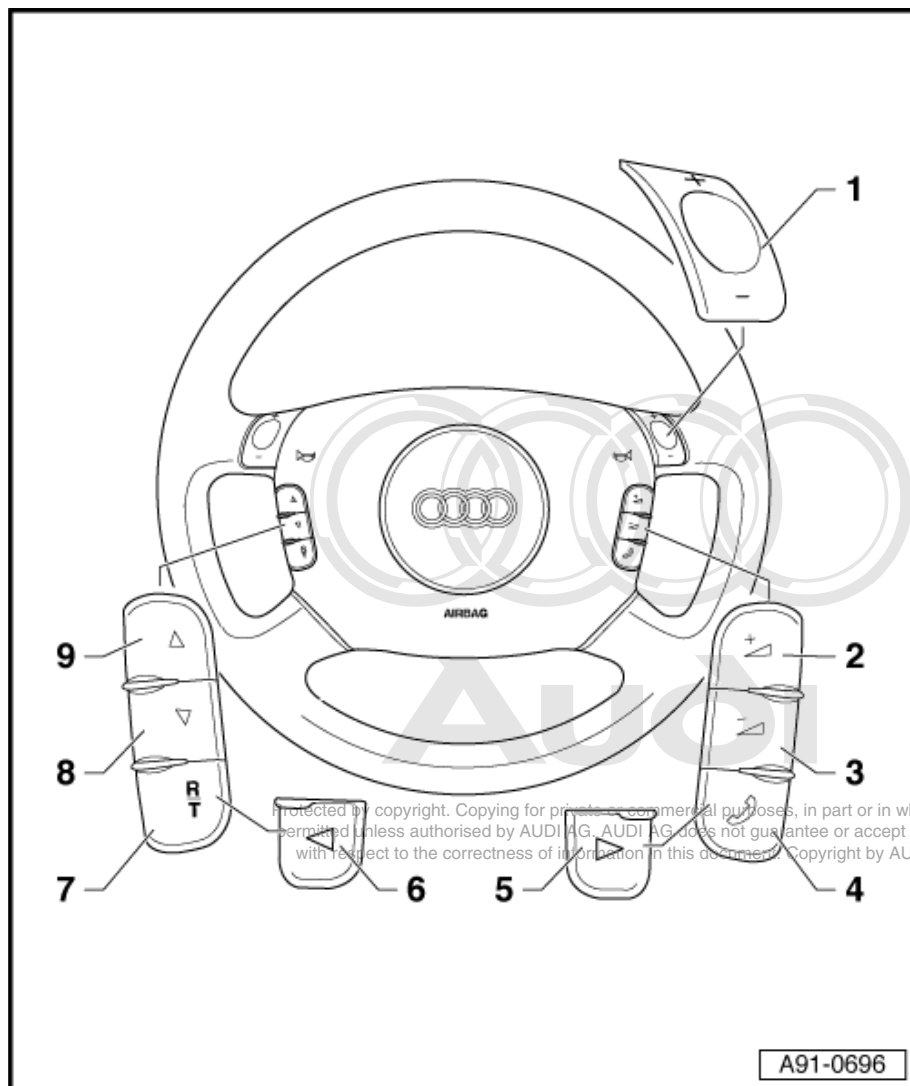
5 - Load next CD

6 - Load previous CD

7 - Telephone/radio selection

8 - Previous track

9 - Next track



7.5.4 TV button assignment

1 - Tiptronic

- ☐ "+" change-up
- ☐ "-" change-down

2 - Increase volume

3 - Reduce volume

4 - Telephone call

- ☐ Make call
- ☐ Answer call
- ☐ End call

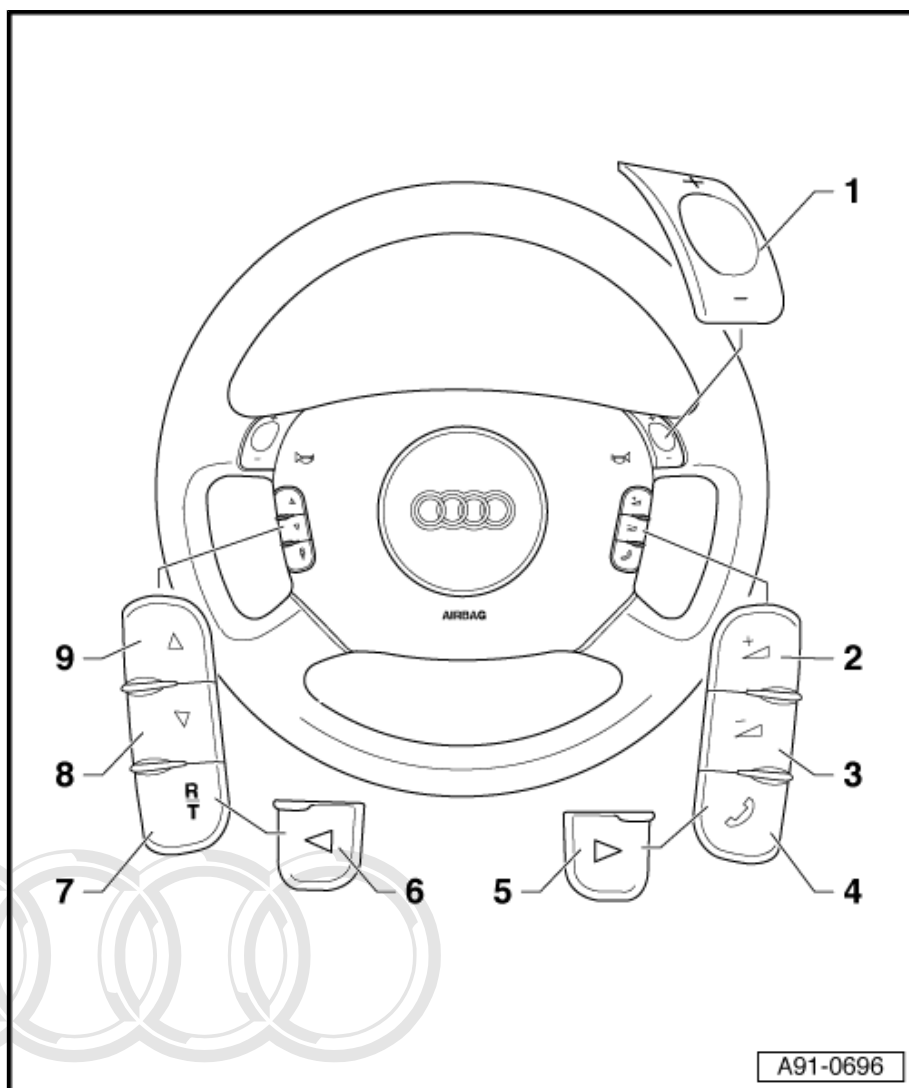
5 - Station display, up

6 - Station button, down

7 - Telephone/radio selection

8 - Search, down

9 - Search, up



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7.5.5 Telephone button assignment

1 - Tiptronic

- ☐ "+" change-up
- ☐ "-" change-down

2 - Increase hands-free volume

3 - Reduce hands-free volume

4 - Telephone call

- ☐ Make call
- ☐ Answer call
- ☐ End call

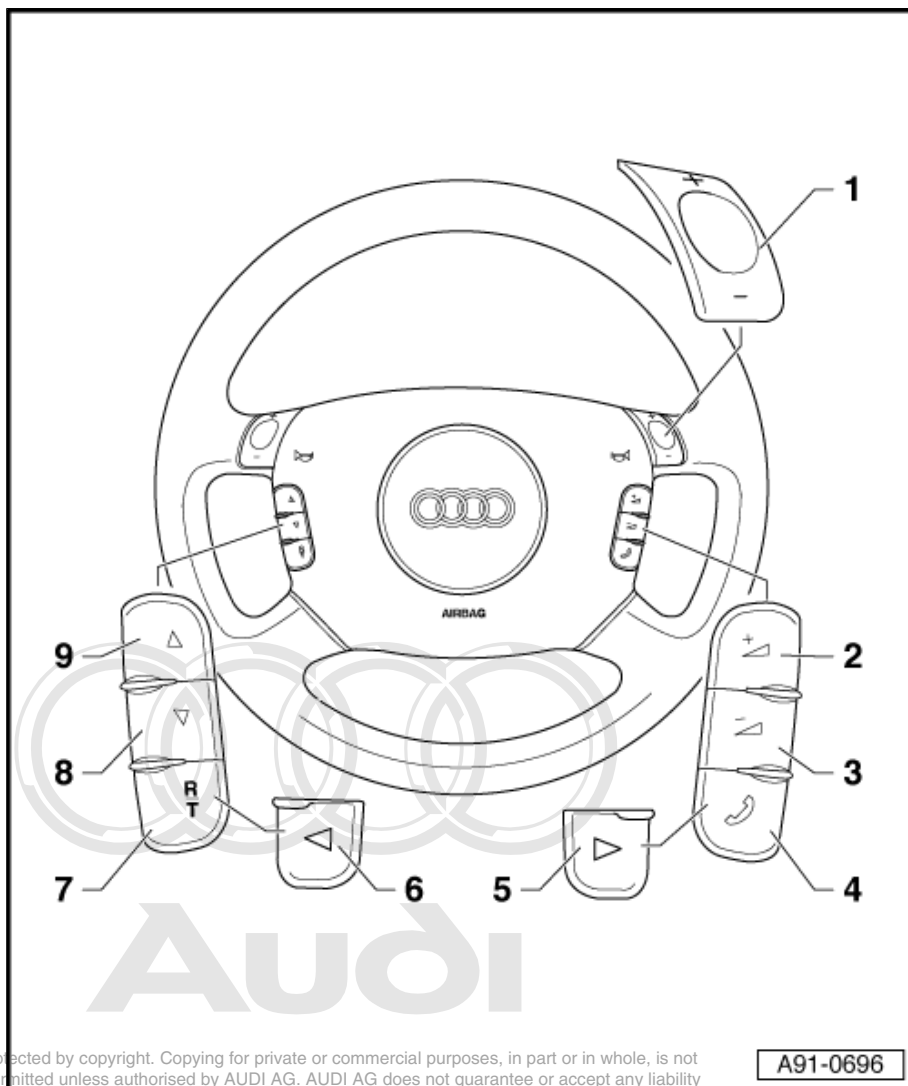
5 - Not used

6 - Not used

7 - Telephone/radio selection

8 - Scroll back in card memory (alphabetical)

9 - Scroll forwards in card memory (alphabetical)



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7.6 Removing and installing multi-function buttons

- Switch off all electrical equipment.
- Remove ignition key.

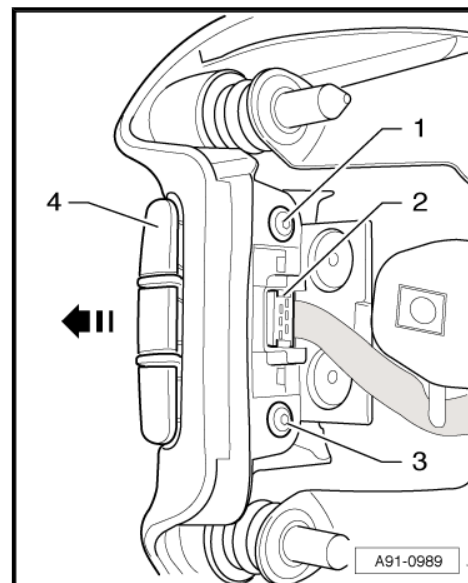
Removing:

- On vehicles fitted with telematics system, activate telematics control unit service mode ⇒ [page 133](#).
- Disconnect battery earth cable.
- Heed safety regulations for airbag systems ⇒ General body repairs, Interior; Rep. Gr. 68.
- Remove driver's airbag ⇒ General body repairs, Interior; Rep. Gr. 68.

- Unplug connector -2-.
- Screw out bolts -1- and -3- (1 Nm).
- Pull switch unit -4- out of airbag unit in direction of arrow.

Installing:

- Install accordingly in reverse order of removal.
- Make sure that all connectors are engaged and that wires are positioned in guides provided.



7.7 Removing and installing Tiptronic buttons

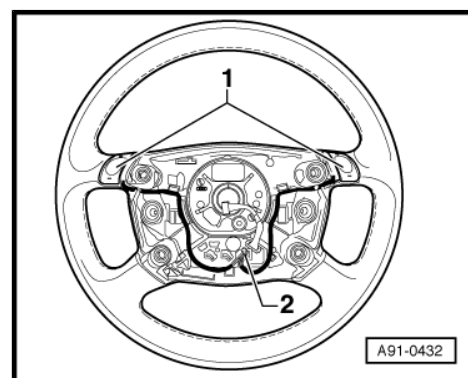
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- On vehicles fitted with telematics system, activate telematics control unit service mode ➔ [page 133](#).
- Disconnect battery earth cable.
- Heed safety regulations for airbag systems ➔ General body repairs, Interior; Rep. Gr. 68.
- Remove driver's airbag ➔ General body repairs, Interior; Rep. Gr. 68.
- Unplug connector -2-.
- Twist out buttons -1- inwards (towards centre of steering wheel).

Installing:

- Install accordingly in reverse order of removal.
- Make sure that all connectors are engaged and that wires are positioned in guides provided.



7.8 Removing and installing multi-function steering wheel control unit -J453- (up to MY 01)

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

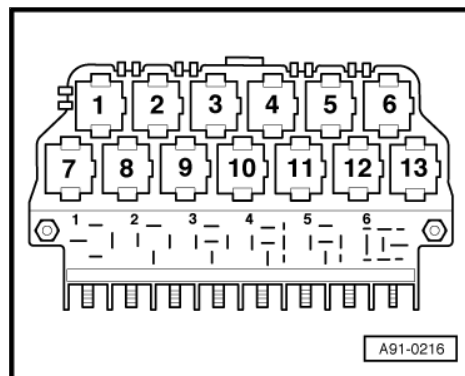
- Remove driver's storage compartment ➔ General body repairs, Interior; Rep. Gr. 68.

Multi-function steering wheel control unit -J453- is installed in a twin relay housing and located at positions -7- and -8- of 13-position relay carrier above central electrics.

- Pull multi-function steering wheel control unit out of relay socket.

Installing:

- Install accordingly in reverse order of removal.



7.9 Removing and installing multi-function steering wheel control unit -J453- (as of MY 02)

Control unit is located above navigation interface -R94- behind driver's storage compartment over relay carrier.

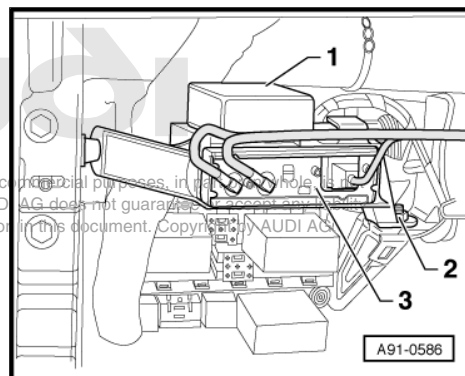
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove driver's storage compartment ⇒ General body repairs, Interior; Rep. Gr. 68 .
- Pull multi-function steering wheel control unit out of relay socket.

Installing:

- Install accordingly in reverse order of removal.



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8 Telematics system

8.1 General



Caution

Disconnect battery earth strap before working on electrical system.

*On vehicles fitted with telematics system, activate telematics control unit service mode before disconnecting battery
⇒ [page 133](#).*



Note!

- ◆ *Establish radio anti-theft code before disconnecting battery.*
- ◆ *On reconnecting battery, remember to activate vehicle equipment (radio, clock, electric window lifters, etc.) in accordance with Owner's Manual and to deactivate service mode of telematics control unit.*
- ◆ *If SIM card is defective, request a new one by fax:*
- ◆ *Hotline no.: 0800/2 83 47 27*
- ◆ *Fax no.: 0800/9 63 96 39*

8.2 General description

The telematics system combines traffic information, service call and emergency call.

The telematics control unit also always includes a mobile phone.

If necessary, an emergency call or breakdown call can be made via a telematics service centre. With Telematics II, it is also possible to call up current traffic information.

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The telematics control unit determines the exact position of the vehicle using GPS data and this is also transmitted to the telematics service centre.

An emergency call is made automatically if the airbag control unit triggers a crash signal.

8.3 Block diagram of telematics system

1 - Handset for telephone/telematics in centre console

2 - Additional loudspeaker for telematics (emergency loudspeaker) in driver's storage compartment

3 - Hands-free microphone in front interior light

4 - Radio in centre console

5 - Front treble/mid-range loudspeaker in upper door trim

6 - Front bass loudspeaker in lower door trim

7 - Hands-free loudspeaker in driver's storage compartment (up to MY 01)

8 - Dash panel insert

9 - Function selection switch in centre console

10 - Multi-function steering wheel control unit at relay carrier beneath driver's storage compartment

11 - Multi-function steering wheel

12 - Telephone/telematics control unit at rear right of luggage compartment behind side trim

13 - Operating electronics control unit, navigation

14 - GPS aerial filter at rear left of luggage compartment behind side trim

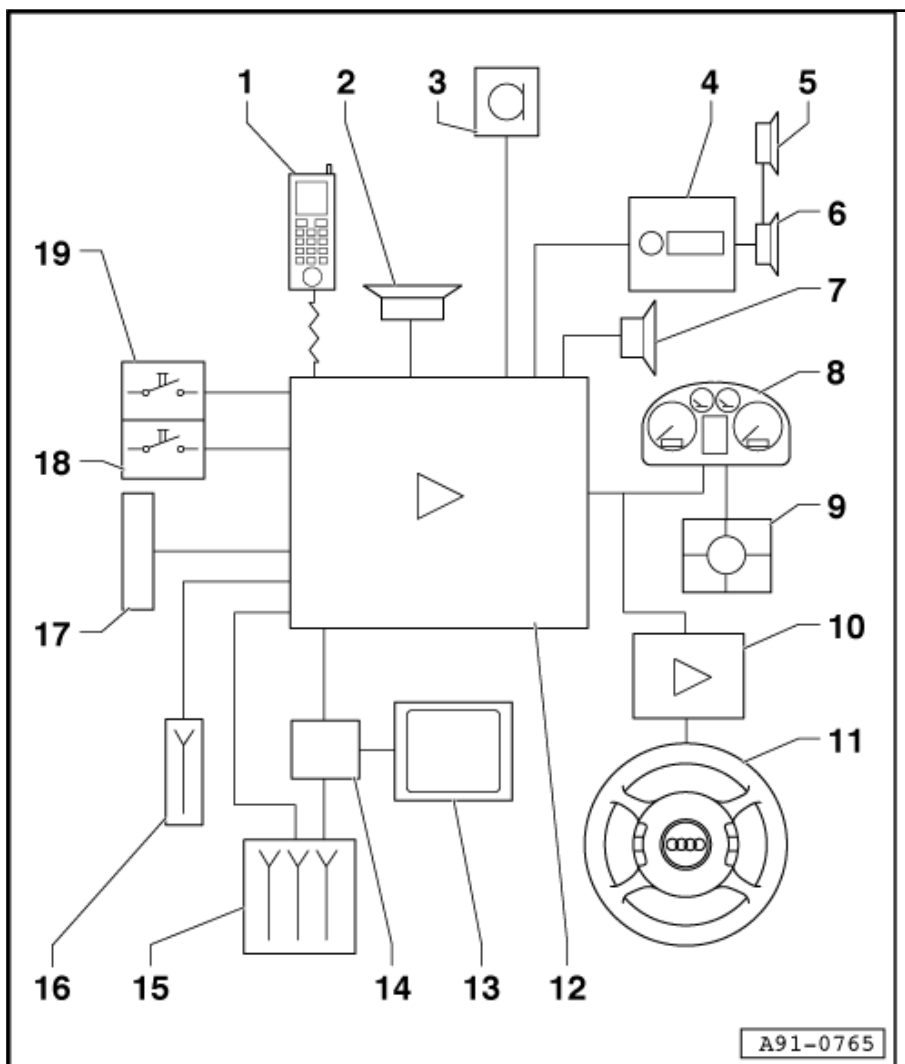
15 - Radio/telephone/navigation aerial on roof

16 - Additional telematics aerial (emergency aerial) in rear bumper

17 - Fax socket/laptop connection in centre console

18 - Emergency call button in front interior light

19 - Breakdown help button in front interior light



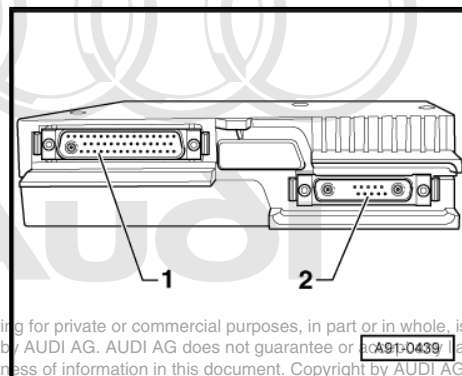
8.4 Connectors at telephone/telematics control unit -J526-

1 - 46-pin connector for:

- GPS aerial
- Handset
- Buttons -E275- and -E276-
- Emergency loudspeaker

2 - 10-pin connector for:

- Power supply
- Telephone and emergency aerials



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8.4.1 Contact assignment of multi-pin connectors



Note!

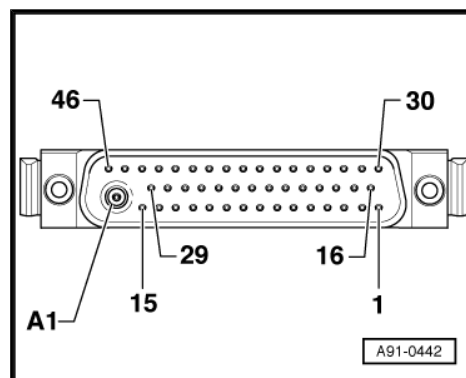
Contacts not listed are not used.



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46-pin connector

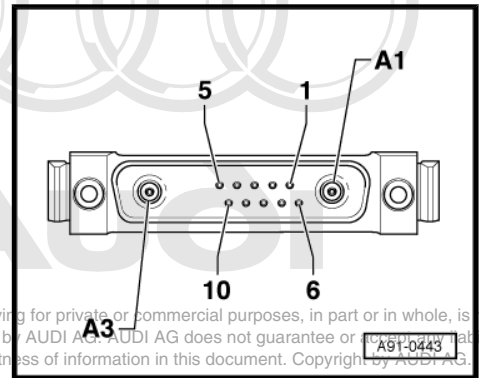
- 1 - Hands-free loudspeaker (-) (up to MY 01)
- 2 - Hands-free loudspeaker (+) (up to MY 01)
- 3 - Handset (-)
- 4 - Handset (+)
- 5 - Handset FCH (+)
- 6 - Handset FCH (-)
- 10 - Breakdown help button -E275- LED
- 11 - Emergency call button -E276- LED
- 12 - Screen earth
- 13 - Fax socket (CTS)
- 14 - Fax socket (TXD)
- 16 - Emergency loudspeaker (-)
- 17 - Emergency loudspeaker (+)
- 18 - Handset microphone (+)
- 19 - Handset earth
- 20 - Handset FHC (-)
- 21 - Breakdown help button -E275-
- 22 - Vehicle speed signal
- 23 - Reverse gear signal
- 27 - Fax socket (RTS)
- 28 - Fax socket (RXD)
- 29 - Fax socket (earth)
- 30 - Hands-free microphone
- 31 - Hands-free microphone
- 32 - Handset microphone (-)
- 33 - Handset power supply (12 V)
- 34 - Handset FHC (+)
- 35 - Handset screen
- 36 - Crash signal
- 37 - Emergency call button -E276-
- 38 - CAN bus High (infotainment)
- 39 - CAN bus Low (infotainment)
- 41 - K-wire (diagnosis)
- 42 - Fax socket (DTR)
- 43 - Fax socket (DCD)
- A1 - GPS aerial filter



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10-pin connector

- 1 - Battery + (terminal 30)
- 2 - Telephone/telematics muting
- 3 - Terminal 15
- 4 - Earth (terminal 31)
- 5 - Earth (terminal 31)
- 6 - Battery + (terminal 30)
- 7 - Battery + (terminal 30)
- 9 - Switch illumination (terminal 58s) (up to MY 01)
- 10 - Earth (terminal 31)
- A1 - Telephone aerial
- A3 - Emergency aerial



8.5 Overall layout of telematics system

1 - Operating electronics control unit, navigation -J402-

- ☐ In centre console
- ☐ Removing and installing
⇒ [page 108](#)

2 - Display in dash panel insert

- ☐ In dash panel
- ☐ Removing and installing
⇒ Electrical system;
Rep. Gr. 90

3 - Front interior light with emergency call button -E276-, breakdown help button -E275-, hands-free microphone

- ☐ In front of roof
- ☐ Removing and installing
⇒ [page 137](#)
- ☐ Removing and installing hands-free microphone
⇒ [page 137](#)

4 - Telephone/telematics control unit -J526-

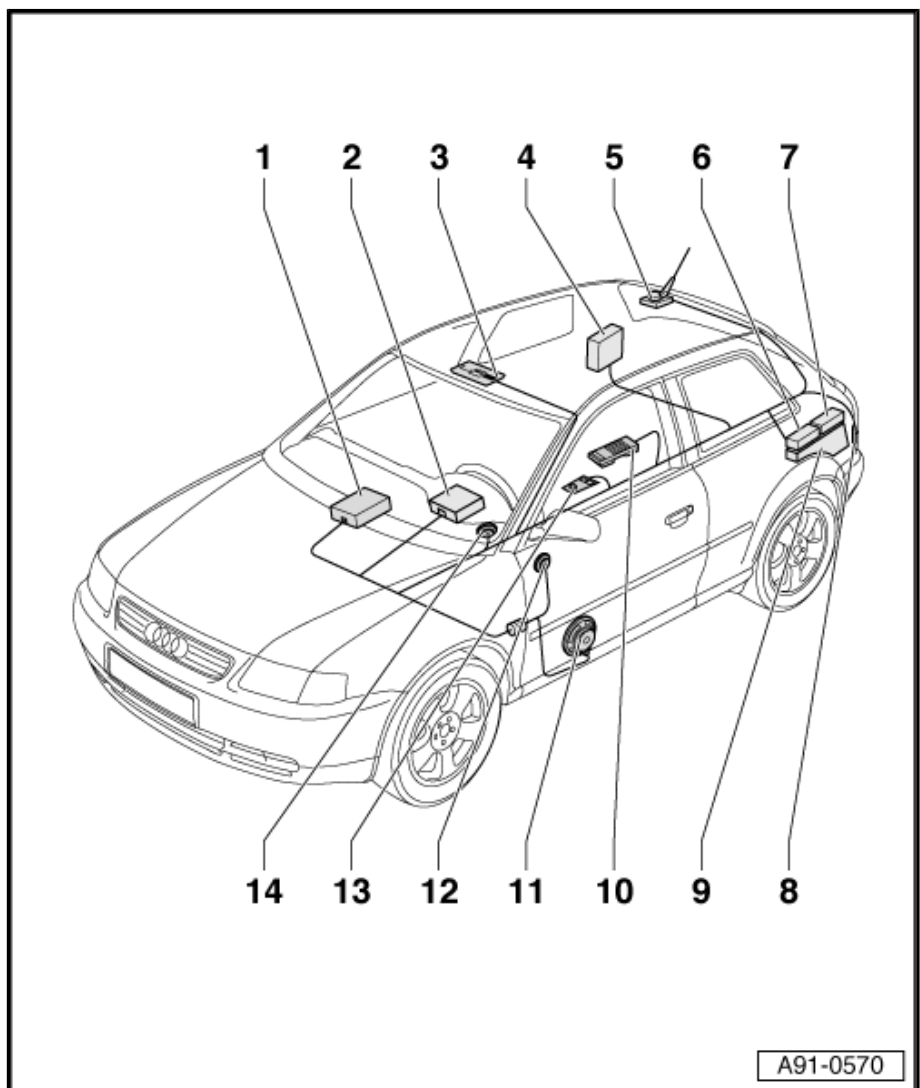
- ☐ At rear right of luggage compartment behind side trim
- ☐ Removing and installing
⇒ [page 132](#)

5 - Radio/telephone/navigation aerial (GPS) -R52-

- ☐ Roof aerial
- ☐ Removing and installing
⇒ [page 34](#)

6 - TV tuner -J415-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 109](#)



7 - Aerial filter -R87- (for GPS aerial)

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 136](#)

8 - Additional aerial for telematics -R90- (emergency aerial)

- ☐ In rear bumper
- ☐ Removing and installing ⇒ [page 138](#)

9 - Amplifier with bass loudspeaker (on left in luggage compartment) -R44-

- ☐ At rear left of luggage compartment behind side trim
- ☐ Removing and installing ⇒ [page 31](#)

10 - Telephone handset -R37-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 42](#)

11 - Front left -R21- / front right -R23- bass loudspeaker

- ☐ In bottom of front door trim
- ☐ Removing and installing ⇒ [page 26](#)

12 - Front left -R26- / front right -R27- mid-range/treble loudspeaker

- ☐ In top of front door trim
- ☐ Removing and installing ⇒ [page 26](#)

13 - Function selection switch II -E272-

- ☐ In centre console
- ☐ Removing and installing ⇒ [page 114](#)

14 - Additional loudspeaker for telematics -R91- (emergency loudspeaker)

- ☐ In driver's storage compartment
- ☐ Removing and installing ⇒ [page 138](#)
- ☐ Double-coil loudspeaker also serving as hands-free loudspeaker

Telephone/navigation system loudspeaker -R39-

- ☐ With BOSE sound system only
- ☐ In driver's storage compartment
- ☐ Removing and installing ⇒ [page 47](#)
- ☐ Double-coil loudspeaker also serving as additional loudspeaker for telematics -R91

8.6 Removing and installing telephone/telematics control unit -J526-

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If control unit is defective (unit replacement), a new emergency battery must be installed together with new unit.

This is not necessary if only the SIM card is replaced.

- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Activate control unit service mode ⇒ [page 133](#) .
- Remove right luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .
- Unplug connectors at control unit.

- Unfasten nuts -1- (5 Nm) and detach control unit from holder.
- Take out telematics SIM card [⇒ page 134](#) .

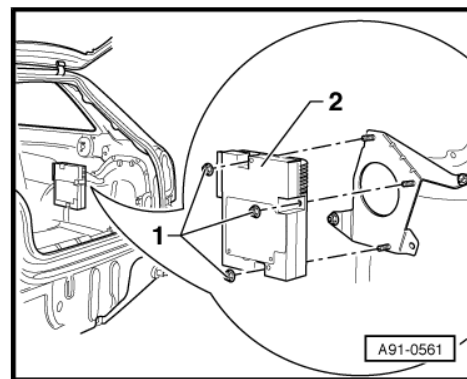


Note!

Leave telematics SIM card in control unit in vehicle.

Installing:

- Install accordingly in reverse order of removal.
- Fit new emergency battery (unit replacement only)
[⇒ page 134](#) .
- Deactivate control unit service mode [⇒ page 133](#) .
- Perform initialisation [⇒ page 135](#) .



8.6.1 Notes on control unit replacement

- Take out telematics SIM card [⇒ page 134](#) .
- Complete and submit fax form “Release of Audi telematics (Fax 1.1)” (enter new unit data and mark unit replacement).



Note!

- ◆ *Leave telematics SIM card in control unit in vehicle.*
- ◆ *Emergency battery must be ordered separately.*

- Insert telematics SIM card [⇒ page 134](#) .
- Install control unit [⇒ page 132](#) .
- Deactivate control unit service mode [⇒ page 133](#) .
- Perform initialisation [⇒ page 135](#) .

8.7 Activating/deactivating service mode



Caution

Telephone/telematics control unit must be set to service mode before disconnecting battery.

Otherwise, emergency battery in telephone/telematics control unit will be drained.

Requirement:

- Telematics system activated

8.7.1 Activating service mode

- Press following sequence of buttons on handset “#4616#”.
- Confirm entry on handset by pressing **Nav1** key.

Indicated on display:

- ◆ Service mode is active, battery can be disconnected

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Service mode exit

8.7.2 Deactivating service mode

Requirement:

- Battery connected
- Telematics system activated

Indicated on display:

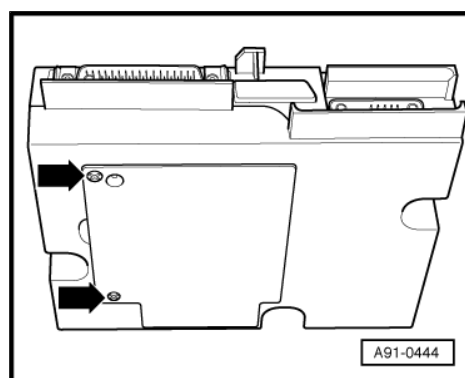
Service mode
exit

- Press **[Navi]** key on handset.
- ◆ Service mode is no longer active

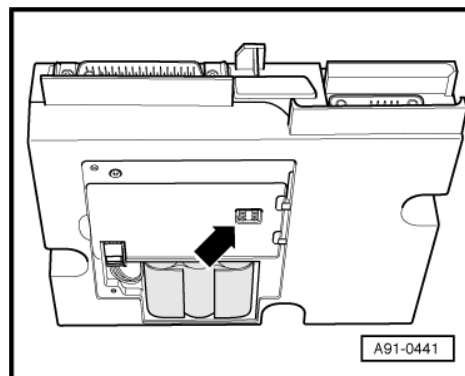
8.8 Telematics SIM card replacement

Proceed as follows if telematics SIM cards are defective:

- Remove telematics control unit ⇒ [page 132](#) .
- Slacken off both bolts -arrows- on underside of telematics control unit and detach cover.



- Take SIM card -arrow- out of telematics control unit.
- Complete and submit fax form “Release of Audi telematics (Fax 1.1)”.
- Insert new, released SIM card received in telematics control unit.
- Telematics control unit
- Destroy old SIM card.
- Perform initialisation ⇒ [page 135](#) .



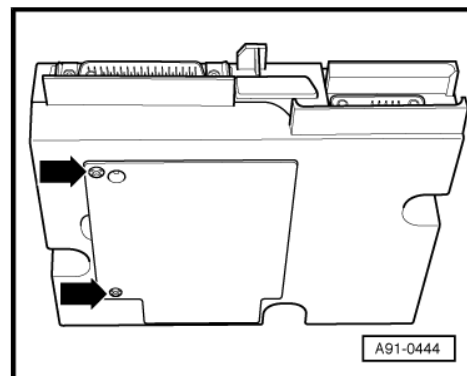
8.9 Removing and installing emergency battery for telematics

- Switch off all electrical equipment.
- **Remove ignition key**

Removing:

- Activate control unit service mode ⇒ [page 133](#) .

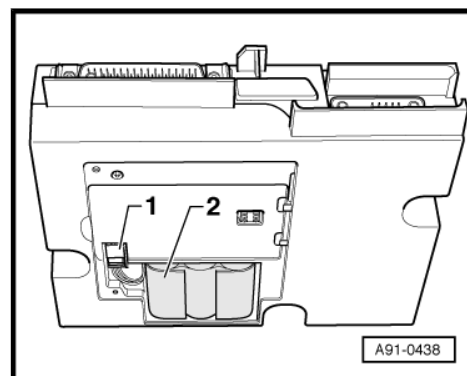
- Slacken off both bolts -arrows- on underside of telematics control unit and detach cover.



- Pull connector -1- apart and pull out emergency battery -2-.

Installing:

- Install accordingly in reverse order of removal.
- Deactivate control unit service mode ⇒ [page 133](#).



8.10 Initialising telephone/telematics control unit -J526-

Initialisation must be performed:

- ◆ On initial commissioning before delivery to customer
- ◆ Following change of vehicle owner
- ◆ After SIM card replacement
- ◆ Following control unit replacement

During initialisation, data is exchanged between the telematics control unit and the service centre.

Initialisation can only be performed following receipt of the reply to the release fax and release of the SIM card.

8.10.1 Requirements

- Adequate reception of D2 mobile radio telephone network
- Reception of at least 4 GPS satellites
- Second mobile radio telephone card not fitted in handset

8.10.2 Initialisation procedure

- Switch on telephone. “Service mode” appears in display.
- Keep pressing **[Navi]** key until “Security code” appears in display.
- Enter security code (always “12345”) via keypad and confirm entry by pressing **[Navi]** key.



Note!

Security code should be stored.

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- Then enter number of telematics centre: 49 172 227 022 0 and confirm entry with **[Navi]** key.
- Enter number of telematics provider: 2002 and confirm entry with **[Navi]** key.

Unit initialisation now commences (approx. 3 to 6 minutes).

“New vehicle data received” then appears in display.

- Confirm display by pressing **[Navi]** key.

“Telematics data received” appears in display.

- Confirm display by pressing **[Navi]** key.

The vehicle data transmitted can then be compared with the entries on the release fax.

- Press arrow keys to scroll through this menu. Press **[C]** key to return to first menu level.

This completes initialisation procedure.

Dynamic navigation must be activated in the case of vehicles with navigation systems RNS 4.1 and BNS 4.0:

- Press **[Stau]** key.
- Under menu item “Alternative route always automatic”

“ON” option

must be pressed.

- Under menu item “Traffic info source”

“Telephone” option

must be pressed.

- Under menu item “Traffic info enquiry rate”

“Always cyclical” option

must be pressed.

The units are now ready for operation.

8.11 Removing and installing aerial filter - R87- for GPS aerial

- Switch off all electrical equipment
 - Remove ignition key
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Removing:

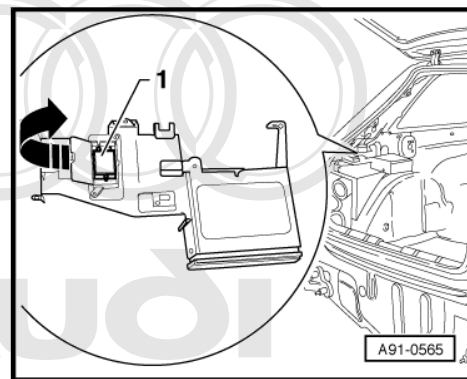
- Remove left luggage compartment side trim ⇒ General body repairs, Interior; Rep. Gr. 70 .

It may first be necessary to remove warning buzzer for parking aid and aerial selection control unit with holder.

- Open housing for aerial filter -arrow-.
- Take aerial filter -1- out of housing.
- Unplug connectors at aerial filter.

Installing:

- Install accordingly in reverse order of removal.



8.12 Removing and installing emergency call button -E276- and breakdown help button -E275-

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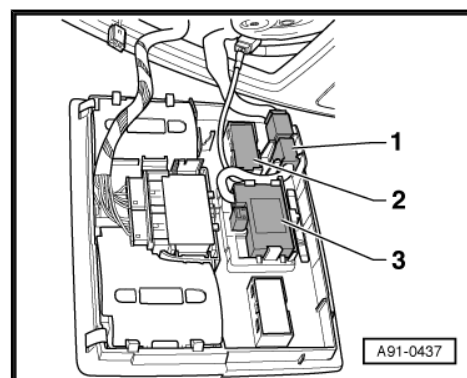
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove front interior light ⇒ Electrical system; Rep. Gr. 96 .
- Use flat screwdriver to carefully unclip buttons -3- and unplug connector -1-.

Installing:

- Install accordingly in reverse order of removal.



8.13 Removing and installing hands-free microphone

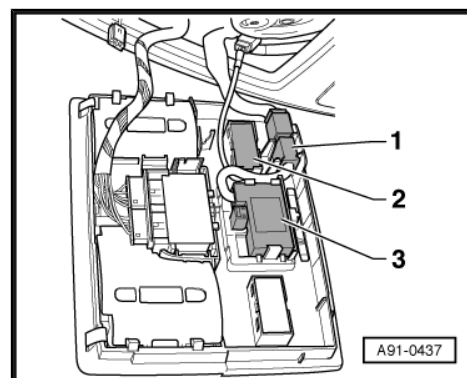
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove front interior light ⇒ Electrical system; Rep. Gr. 96 .
- Use flat screwdriver to carefully unclip hands-free microphone -2- and unplug connector.

Installing:

- Install accordingly in reverse order of removal.



8.14 Removing and installing additional loudspeaker for telematics -R91- (emergency loudspeaker)

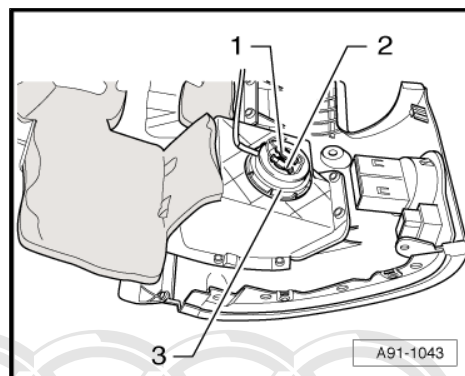
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove driver's storage compartment ⇒ General body repairs, Interior; Rep. Gr. 68 .
- Unplug connectors -1- and -2-.
- Unscrew securing ring -3- at loudspeaker and take loudspeaker downwards out of storage compartment.

Installing:

- Install accordingly in reverse order of removal.



8.15 Removing and installing additional aerial for telematics -R90- (emergency aerial)

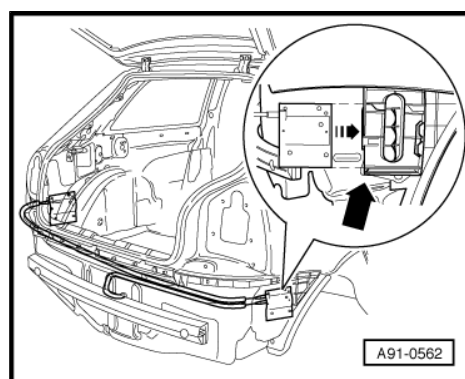
- Switch off all electrical equipment.
- Remove ignition key.

Removing:

- Remove right tail light ⇒ Electrical system; Rep. Gr. 94 .
- Unplug connector.
- Remove rear bumper cover ⇒ General body repairs, Exterior; Rep. Gr. 63 .
- Pull emergency aerial out of mounts -arrow- on left and right, unfasten cable clips and detach entire emergency aerial.

S3 vehicles:

Emergency aerials are not plugged in, but rather secured by means of pop rivets.

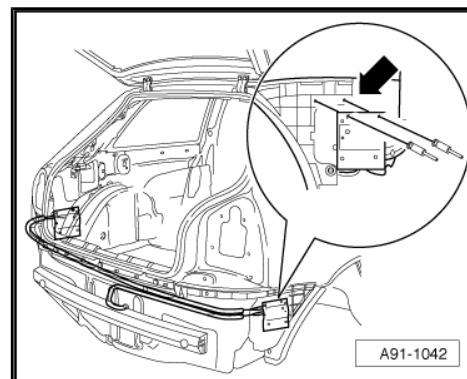


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- Drill out 2 x pop rivets on left and right -arrow-.
- Remove cable clips and detach emergency aerial.

Installing:

- Install accordingly in reverse order of removal.



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