Soumatrix speakers installation guide

Preface

- Soumatrix coaxial speakers combine bass and treble loundspeaker in one unit.
 Just replace the car original bass loudspeakers in each of the front and rear doors.
- ◆ Please disconnect the car original treble loundspeaker to disable it.
- If the car equipped the amplifier and subwoofer originally, please keep them and work together with Soumatrix speakers. You just adjust the balance or equalizer to fit your own preference. Soumatrix speakers will give you better room-acoustic feeling.
- ◆ This manual quoted some part of VW repair manual group "Communication" and "General body repairs, interior".

 Please ignore some iirrelevant sentences.

2.1.1 Overview of fitting locations- sound system; 6 loudspeaker system

i Note

- ◆ In combination with all radios/RNS -RX1- the front loudspeaker system is a 2-way system. The bass loudspeakers are built into each of the front doors. The treble loudspeakers are built into the dash panel.
- Depending on the vehicle equipment, a bass loudspeaker or a two-way system with a bass loudspeaker and a treble loudspeaker are installed in each of the rear doors.
- ◆ Depending on vehicle equipment, a subwoofer may be installed under the rear shelf.
- ◆ All loudspeakers are passive loudspeakers.

Note

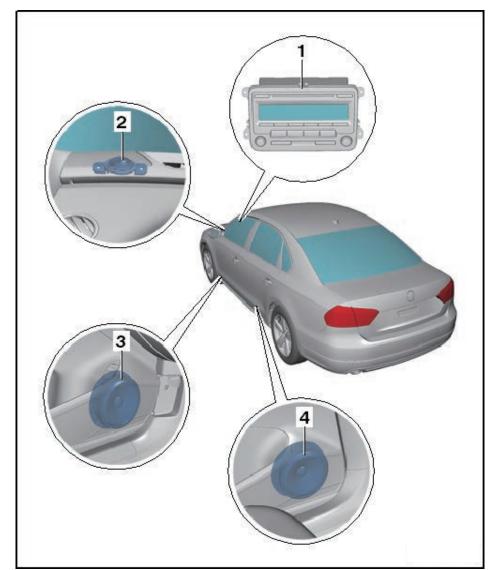
- ◆ When dealing with complaints, it is absolutely necessary to understand the functions and the operation.
- ◆ For additional information refer to ⇒ Operating manual, ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Use ⇒Vehicle diagnostic tester for repairs and troubleshooting.
- ◆ After the battery has been connected, check the operation of electrical equipment (clock, convenience electronics and so on) according to the workshop manual ⇒Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting battery and/or to the ⇒ Operating manual.

Note

- The diagram shows the loudspeakers on the left-hand side.
- ◆ The right loudspeakers are installed as a mirror image.

1 - Radio/RNS -RX1-

- ☐ For further information, refer to chapter
- 2 Front left treble loudspeaker -R20-/front right treble loudspeaker -R22-
 - ☐ Installed in dash panel.
 - □ Removing and installing
- 3 Front left bass loudspeaker -R21-/front right bass loudspeaker -R23-
 - ☐ Installed in front doors
 - ☐ Removing and installing
- 4 Rear left bass loudspeaker -R15-/rear right bass loudspeaker -R17-
 - ☐ Installed in rear doors
 - □ Removing and installing



2.1.2 Overview of fitting locations- sound system; 8 loudspeaker system

i Note

- ◆ In combination with all radios/RNS -RX1- the front loudspeaker system is a 2-way system. The bass loudspeakers are built into each of the front doors. The treble loudspeakers are built into the dash panel.
- Depending on the vehicle equipment, a bass loudspeaker or a two-way system with a bass loudspeaker and a treble loudspeaker are installed in each of the rear doors.
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- ◆ All loudspeakers are passive loudspeakers.

Note

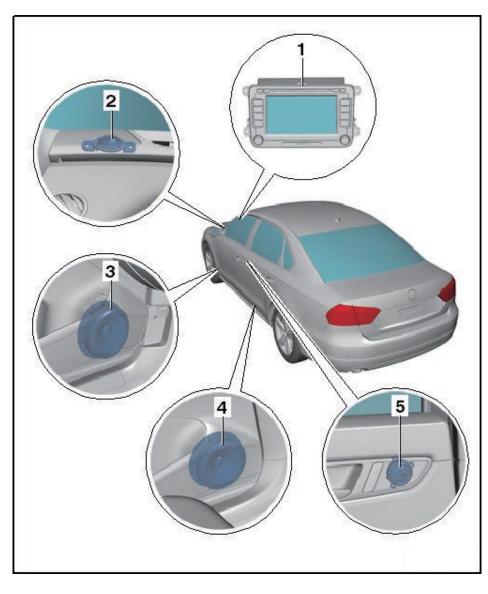
- ♦ When dealing with complaints, it is absolutely necessary to understand the functions and the operation.
- ◆ For additional information refer to ⇒ Operating manual, ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Use ⇒Vehicle diagnostic tester for repairs and troubleshooting.
- ◆ After the battery has been connected, check the operation of electrical equipment (clock, convenience electronics and so on) according to the workshop manual ⇒Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting battery and/or to the ⇒ Operating manual.

Note

- ◆ The diagram shows the loudspeakers on the left-hand side.
- ◆ The right loudspeakers are installed as a mirror image.

1 - Radio/RNS -RX1-

- ☐ For further information, refer to chapter
- 2 Front left treble loudspeaker -R20-/front right treble loudspeaker -R22-
 - ☐ Installed in dash panel.
 - □ Removing and installing
- 3 Front left bass loudspeaker -R21-/front right bass loudspeaker -R23-
 - ☐ Installed in front doors
 - □ Removing and installing
- 4 Rear left bass loudspeaker -R15-/rear right bass loudspeaker -R17-
 - ☐ Installed in rear doors
 - ☐ Removing and installing
- 5 Rear left treble loudspeaker -R14-/rear right treble loudspeaker -R16-
 - ☐ Installed in rear door trims
 - □ Removing and installing
 - ☐ Specified torque for securing bolts on loudspeaker: 2 Nm.



2.1.3 Overview of fitting locations- sound system; Sound system with subwoofer

i Note

- ◆ In combination with all radios/RNS -RX1- the front loudspeaker system is a 2-way system. The bass loudspeakers are built into each of the front doors. The treble loudspeakers are built into the dash panel.
- Depending on the vehicle equipment, a bass loudspeaker or a two-way system with a bass loudspeaker and a treble loudspeaker are installed in each of the rear doors.
- Depending on vehicle equipment, a subwoofer may be installed under the rear shelf.
- ◆ All loudspeakers are passive loudspeakers.

Note

- ♦ When dealing with complaints, it is absolutely necessary to understand the functions and the operation.
- ◆ For additional information refer to ⇒ Operating manual, ⇒ Current flow diagrams, Electrical fault finding and Fitting locations.
- Use ⇒ Vehicle diagnostic tester for repairs and troubleshooting.
- ◆ After the battery has been connected, check the operation of electrical equipment (clock, convenience electronics and so on) according to the workshop manual ⇒Electrical system; Rep. gr. 27; Battery; Disconnecting and connecting battery and/or to the ⇒ Operating manual.

Note

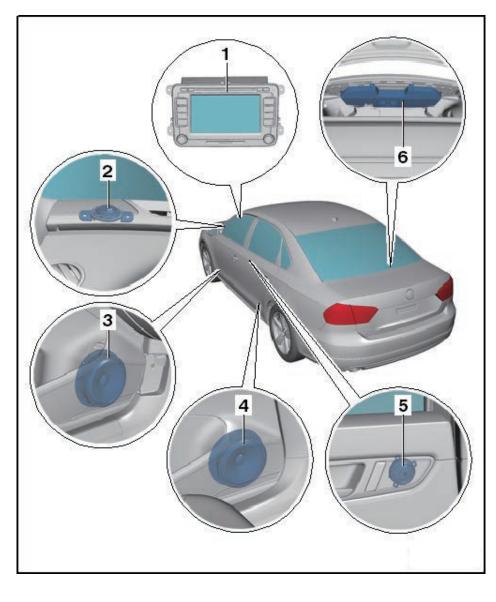
- ◆ The diagram shows the loudspeakers on the left-hand side.
- The right loudspeakers are installed as a mirror image.

1 - Radio/RNS -RX1-

- ☐ For further information, refer to chapter
- 2 Front left treble loudspeaker -R20-/front right treble loudspeaker -R22-
 - ☐ Installed in dash panel.
 - □ Removing and installing
- 3 Front left bass loudspeaker -R21-/front right bass loudspeaker -R23-
 - ☐ Installed in front doors
 - □ Removing and installing
- 4 Rear left bass loudspeaker -R15-/rear right bass loudspeaker -R17-
 - ☐ Installed in rear doors
 - □ Removing and installing
- 5 Rear left treble loudspeaker -R14-/rear right treble loudspeaker -R16-
 - ☐ Installed in rear door trims
 - □ Removing and installing
 - ☐ Specified torque for securing bolts on loudspeaker: 2 Nm.

6 - Subwoofer in rear shelf -R157-

- ☐ installed in the luggage compartment under the rear shelf
- Removing and installing
- ☐ Amplifier -R12- under left front seat



2.3 Removing the car original bass loudspeakers and installing Soumatrix speakers

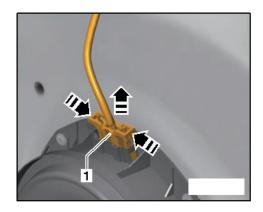
Note

- ◆ Removal and installation are described and illustrated for left bass loudspeaker.
- ◆ Removal and installation of the right bass loudspeaker are similar (mirror image of left-hand side).

Removing

Carry out following work before starting reinstallation:

- Switch off ignition and all electrical loads, and pull out ignition key.
- Remove door trim ⇒ General body repairs, interior; Rep. gr.
 70; Door trims; Removing and installing front door trim.
- Release connector catch on loudspeaker in -direction of arrow- and disconnect connector -1-.

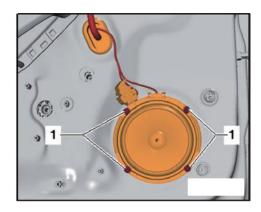


- Drill out rivets -1- with a suitable drill bit and remove loudspeaker.

(!) Caution

It is essential that all swarf be removed from the door because otherwise corrosion damage will occur.

Immediately rectify any damage to paintwork caused when drilling out rivets.



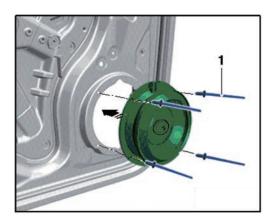
Installing

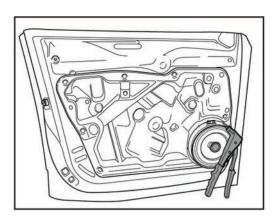


When installing Soumtarix speakers, secure it with the attached rivets.

- Insert loudspeaker in -direction of arrow- and secure with 4 rivets -1-.
- Push connector back onto speaker.

Remainder of installation is carried out in reverse order of removal.





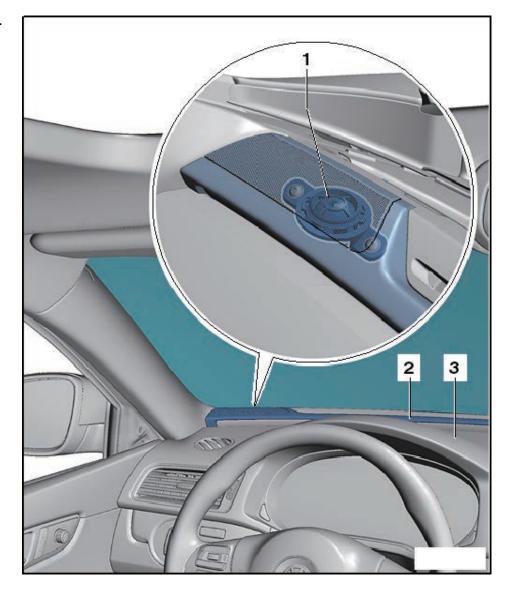
2.5 Removing and installing front treble loudspeakers -R22-/ -R20-

The front left treble loudspeaker -R20- and front right treble loudspeaker -R22- are installed in dash panel.

i Note

- ◆ Removal is described and illustrated for front left treble loudspeaker -R20-.
- Removal of the front right treble loudspeaker
 -R22- are similar (mirror image of left-hand side).

- 1 Front left treble loudspeaker -R20-
- 2 Dash panel cover
- 3 Dash panel



Removing

Switch off ignition and all electrical loads, and pull out ignition key.

i Note

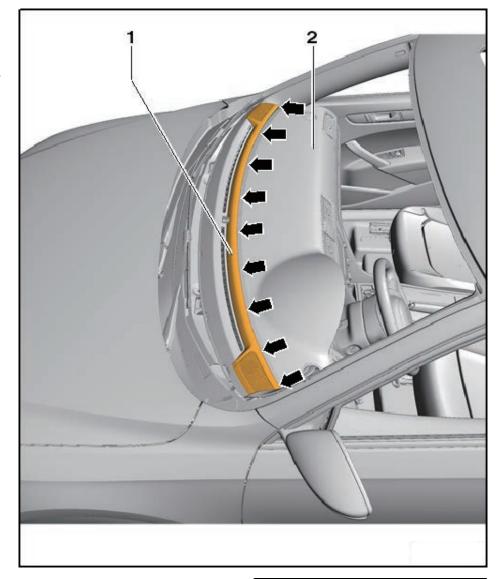
As of 12.2011, a new installation method will be introduced gradually. From then on, the dash panel does not need to be removed anymore. It will then be sufficient to remove the cover.

 Remove dash panel in order to gain access to the connector of the front left treble loudspeaker -R20- ⇒ General body repairs, interior; Rep. gr. 70; Dash panel; Removing and installing dash panel.

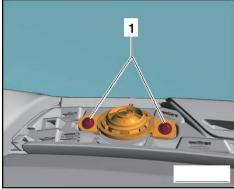
i Note

During removal, carefully pull out cover -1- from underneath sunlight penetration photosensor -G107-.

- Working from outside to inside on left and right, lever out cover
 -1- in area of -arrowsusing wedges
 -T10383-.
- Remove cover -1- from dash panel -2-.



- Unscrew bolts -1-.
- Release and separate connector.
- Remove treble loudspeaker.



Nomarlly, the connector can be pull out patiently and carefully.





 Sometime, it may be difficult. Use the tool, eg. curved tweezers, to disconnet the connector under the panel, and then pull out another part patiently and carefully.







curved tweezers









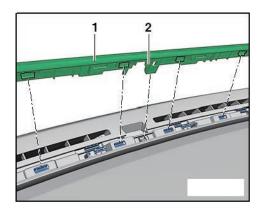
Installing

Installation is carried out in the reverse order. When installing observe the following:

- Tighten bolts on front left treble loudspeaker -R20- to specified torque (2 Nm).
- If necessary, engage clips for cover in mountings in dash panel.

Note

- ◆ Position centring pin -2- centrally in installation position.
- Guide locking lugs into clips.
- Guide cover -1- under sunlight penetration photosensor -G107-.
- Engage cover -1- working from the inside to the outside.



2.6 Removing and installing rear treble loudspeakers -R14-/ -R16-

The rear left treble loudspeaker -R14- and rear right treble loudspeaker -R16- are secured to the door trims from the rear.

The treble loudspeaker and the inner door handle form one component.

The rear left interior locking switch -E273- and rear right interior locking switch -E274- are secured to the inner door handles.

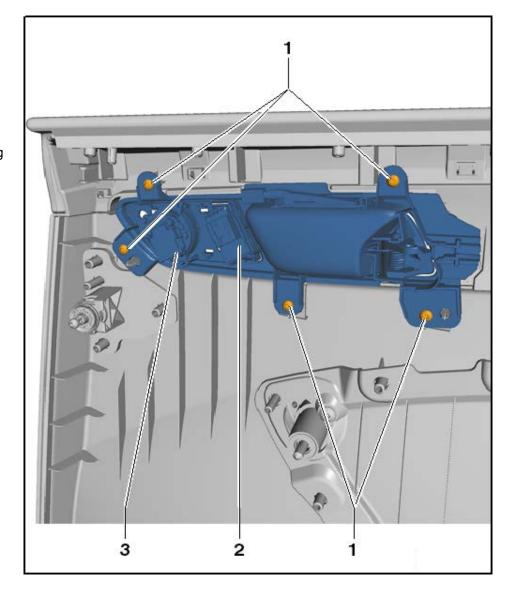
i Note

- ◆ Removal and installation are described and illustrated for rear left treble loudspeaker -R14-.
- ◆ Removal and installation of the rear right treble loudspeaker
 -R16- are similar (mirror image of left-hand side).

Removing

- Switch off ignition and all electrical loads, and pull out ignition key.
- Remove rear door trim ⇒ General body repairs, interior; Rep. gr. 70; Door trims; Removing and installing rear door trim.

- Unscrew bolts -1-.
- Remove inner door handle with rear left treble loudspeaker
 -R14- -3- from door trim.
- If necessary, remove rear left interior locking switch -E273- -2-.



Installing

Installation is carried out in the reverse order. When installing observe the following:

Tighten bolts on rear left treble loudspeaker -R14- to specified torque.

1.1 Assembly overview - front door trim

1 - Warning lamp

- □ Warning lamp for SAFE function of central locking -K133-
- □ Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in front doors; Removing and installing central locking deadlock function warning lamp -SAFE-.

2 - Interior door handle

Removing and installing

3 - Front door trim

□ Removing and installing

4 - Switch mounting

- Mounting for rear lid release switch -E165-
- □ Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in front doors; Removing and instal-

ling rear lid remote release button.

5 - Speaker damping

■ Removing and installing

6 - Lining for door storage compartment

- ☐ Lining for storage compartment in front door including removal aid
- □ Removing and installing

7 - Door warning lamp

- ☐ Left door warning lamp -M27-
- □ Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in front doors; Removing and installing door warning lamps.

8 - Trim

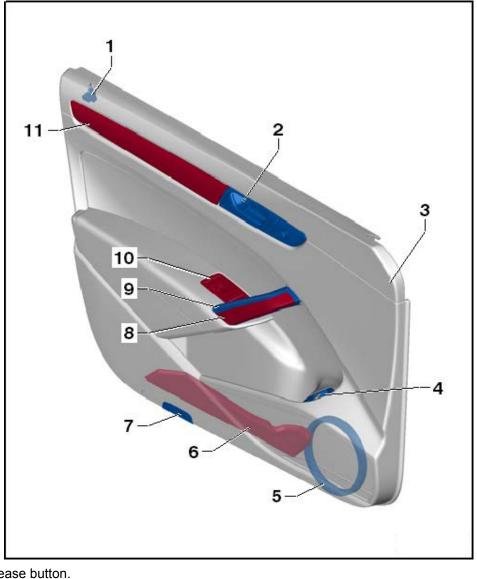
- Different styles
- □ Removing

9 - Handle

□ Removing and installing

10 - Switch mounting

☐ Mounting for operating unit for window regulator in driver door -E512-



	Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in front doors; Removing and installing driver side button module.
11 - Trim	
	Different styles
	Removing and installing .

1.3 Removing and installing door trim at front

1.3.1 Removing and installing door trim

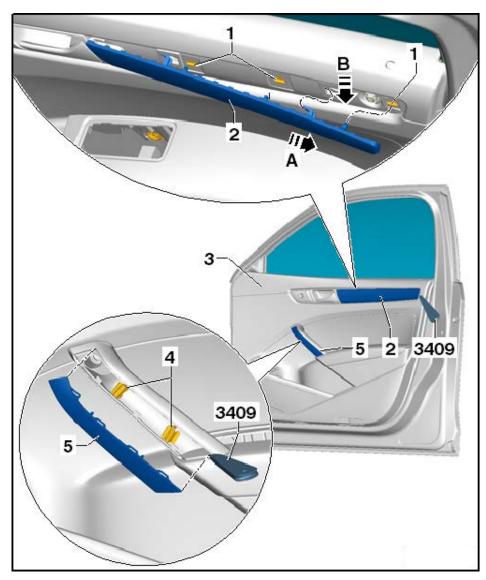
Removing



Removal and installation of trim are described for the right doo Removal and installation of trim for the left door are similar.

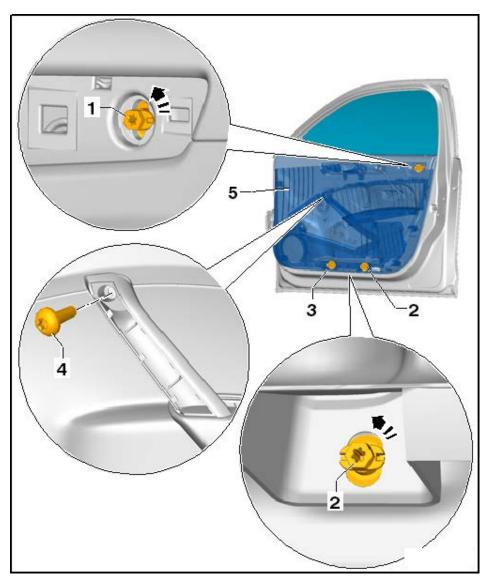
- Switch off ignition.
- Carefully lever decorative strip -2- out of retaining clips -1- using removing wedg
- Push decorative strip -2- in -direction of arrow A- and remove it from front door trim -3- in -direction of arrow B- .

 Carefully lever decorative strip -5- on door puller out of retaining clips -4- using removing wedge -3409and remove it.



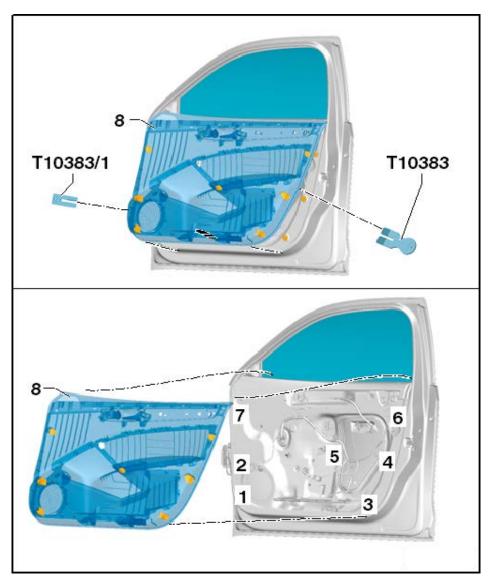
Turn rotary clips -1-, -2- and -3- 90° in -direction of arrow- to release them.

- Unscrew bolts -4- from front door trim -5- (4.5 Nm).



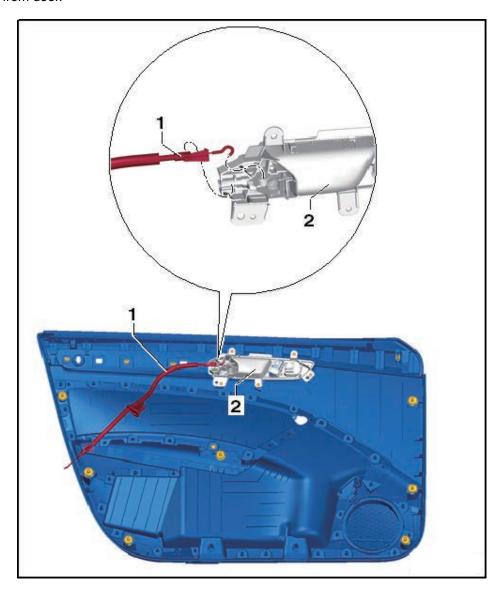
- Release retaining clips of front door trim -8- in lower area out of mountings -1-, -2- and -3- using wedge -T10383/1-.
- Release retaining clips of front door trim -8- in upper area out of mountings -4-, -5-, -6- and -7- using wedge -T10383-.

Remove front door trim -8- upwards vertically out of window slot seal.



- Remove front door trim from door slightly.
- Detach Bowden cable -2- from inner door handle -1-.
- Disconnect the connectors from front door trim, depending on vehicle equipment.

Remove front door trim from door.



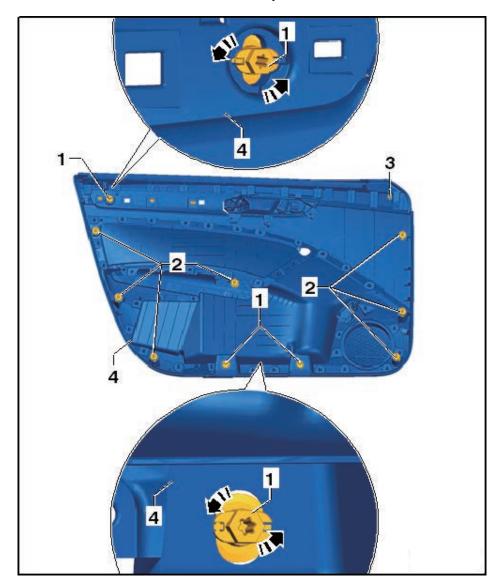
Installing



Before installing, check all fasteners for damage and renew if necessary.

- Insert rotary clips -1- into front door trim -4- and turn them 90° in -direction of arrow-.
- Insert retaining clips -2- into door trim at front -4- and check the locking mechanism

Check retaining clip -3- and insert it into front door trim -4- if necessary.



(!) Caution

Before installing door trim, ensure that the locking mechanisms of all clips are in -position 1-.

It is not possible to install the door trim without problem if clips are in -position 2-!

1.7 Assembly overview - rear door trim

1 - Rear door trim

Removing and installing

2 - Interior door handle

□ Removing and installing

3 - Trim

- Different styles
- □ Removing and installing

4 - Handle

☐ Removing and installing

5 - Switch mounting

- Mounting for rear right window regulator switch, in door -E54-
- □ Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in rear doors; Removing and installing window regulator switch in rear door.

6 - Trim

- Different styles
- □ Removing

7 - Door warning lamp

- ☐ Right door warning lamp -M28-
- □ Removing and installing ⇒ Electrical system; Rep. gr. 96; Lights and controls in rear doors; Removing and installing left and right door warning lamp.

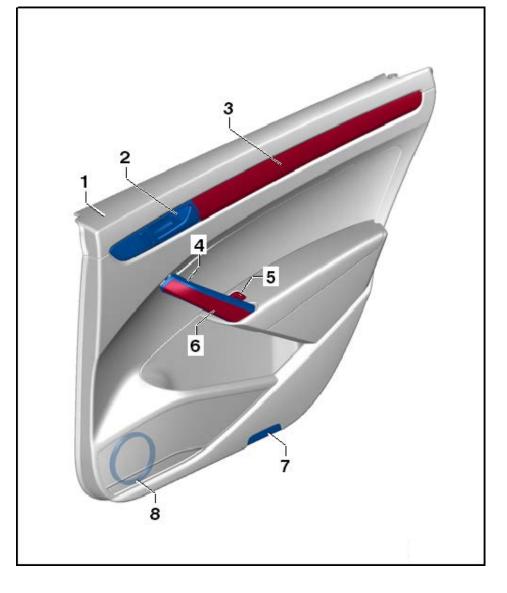
8 - Speaker damping

□ Removing and installing

1.8 Removing and installing rear door trim

1.8.1 Removing and installing door trim

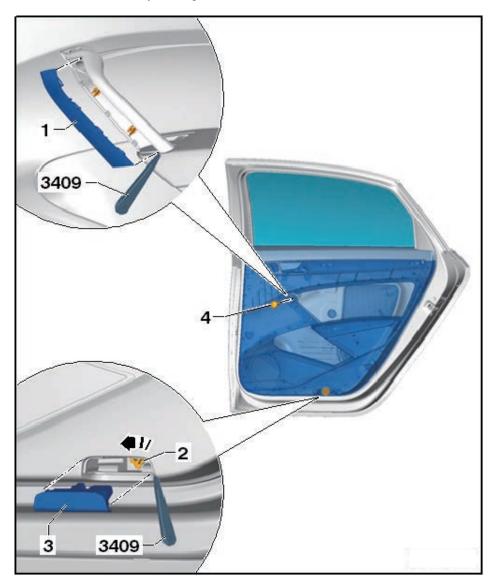
Removing



Note

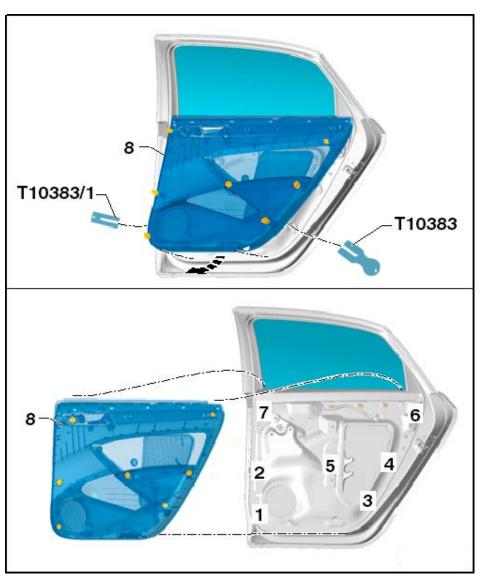
Removal and installation of trim are described for the right door. Removal and installation of trim for the left door are similar.

- Switch off ignition.
- Carefully lever decorative strip -1- on door puller out of retaining clips using removing wedge -3409- and remove it.
- Remove bolt -4- (4.5 Nm).
- Carefully lever right door warning lamp -M28- -3- out of trim using removing wedge -3409- and remove it.
- Disengage retaining clip -2- in -direction arrow- by turning it 90°.



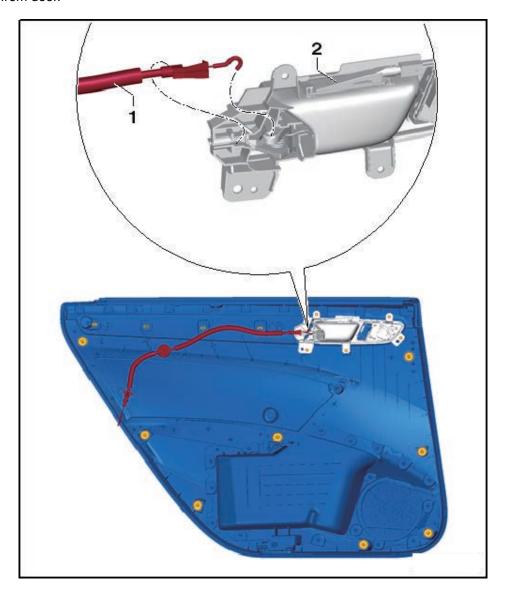
- Release retaining clips of rear door trim -8- in lower area out of mountings -1-, -2- and -3- using wedge -T10383/1-.
- Release retaining clips of rear door trim -8- in upper area out of mountings -4-, -5-, -6- and -7- using wedge -T10383-.

- Remove rear door trim -8- upwards vertically out of window slot seal.



- Remove rear door trim from door slightly.
- Detach Bowden cable -2- from inner door handle -1-.
- Disconnect the connectors from rear door trim, depending on vehicle equipment.

Remove rear door trim from door.



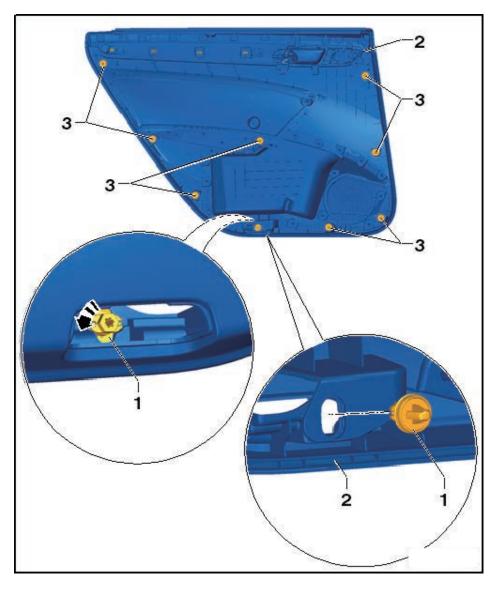
Installing

Note

Before installing, check all fasteners for damage and renew if necessary.

- Insert rotary clips -1- into rear door trim -2- and turn them 90° in -direction of arrow-.

- Insert retaining clips -3- into rear door trim -2- and check the locking mechanism .



(!) Caution

Before installing door trim, ensure that the locking mechanisms of all clips are in -position 1-.

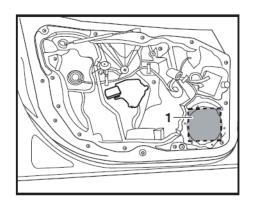
It is not possible to install the door trim without problem if clips are in -position 2-!

Acoustic Improvement on door

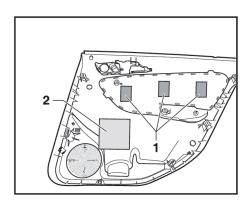
- ◆ The acoustic components can improve the acoustic result in car by key position treatment.
- The real stuff you can see as picture shown.
- The left side are absorber sheet, which can absorber air shock from the speaker back.
- The right side are damping sheet, which can reduce the vibration from the door.



- Paste the absorber sheet - 1 - on the door sheet metal behind the speaker as the pic shown.

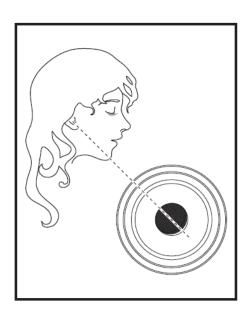


- Paste the damping sheet - 1 - 2 - on the right position. It depends vibration point by touch.



Tweeter angle adjustment

- ◆ Soumatrix speakers tweeter is Bionic wide-angle point source design, which can be rotated 90 degree.
- For your best lintening position, you can adjust the tweeter angle toward your ear.



- Please reverse the detached process to recover the door trim panel and the connectors. Ensure all the funtion is OK.
- To obtain best result, leave Soumatrix speakers to burn-in at least 20 hours below 80% power after installation.