



Parking Aid System

General information

The optional parking aid system is an 8-channel system using 4 ultrasonic sensors (parking aid sensors) located in both the front and rear bumper covers.

The parking aid system monitors the areas in the proximity of the front and rear bumpers by use of the parking aid sensors. An acoustic distance warning is given by two warning buzzers located in the interior.

Should a trailer be used (that is compatible with the factory-installed trailer wiring), the rear parking aid sensors are disabled. The front sensors remain active.

The 8-channel parking aid system consists of:

- Parking Aid Control Module J446
- Left Front Parking Aid Sensor G255
- Left Front Center Parking Aid Sensor G254
- Right Front Center Parking Aid Sensor G253
- Right Front Parking Aid Sensor G252
- Left Rear Parking Aid Sensor G203
- Left Rear Center Parking Aid Sensor G204
- Right Rear Center Parking Aid Sensor G205
- Right Rear Parking Aid Sensor G206
- Front Parking Aid Warning Buzzer H22
- Rear Parking Aid Warning Buzzer H15
- Parking Aid Button E266

- Parking Aid Switch Illumination L117
- Parking Aid Indicator Lamp K136

Function:

After switching on the ignition, a system self test (that lasts less than a second) is performed. The control module and proximity monitoring is now activate.

When parking aid system is ready, a short audio signal is heard and the system indicator lights up. Should a system malfunction be detected, a longer audio signal is heard (5 seconds) and the system indicator flashes.

The delays between the tone impulses become shorter in proportion to a decrease in object proximity. At an object proximity of less than 30 cm, a continuous tone is heard. Exception: Driving parallel with a wall = no warning

Before troubleshooting or servicing, technicians must be familiar with the functions and operation specifics of the parking aid system. Always read the owners manual and review applicable system functions.

Note:

- *Additional information:*

⇒ *Owners Manual*

⇒ *Self Study Program - Course Number 891503 "The 2006 Passat Introduction"*

⇒ *Self Study Program - Course Number 871503 "The 2006 Passat Electrical Systems Design and Function"*

⇒ *Electrical Wiring Diagrams, Troubleshooting and Component Locations binder*

CAN-Bus wire repairs ⇒ [97-8, Repairing CAN-Bus wires](#)

On Board Diagnostic (OBD), function

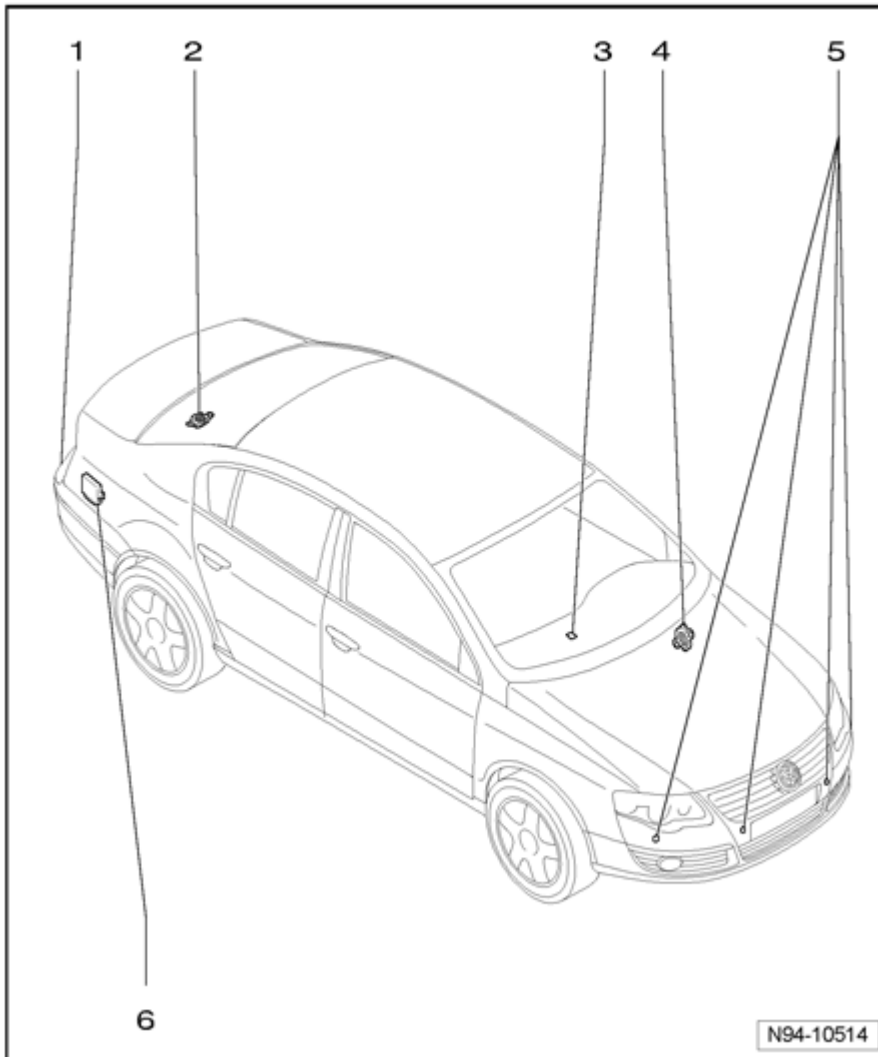
The parking aid system is equipped with On Board Diagnostic (OBD) capabilities which assists in troubleshooting.

For troubleshooting, use Vehicle Diagnostic, Testing and Information System VAS 5051/5052 in operating mode

"Guided Fault Finding" .

Check parking aid system by performing Output Diagnostic Test Mode (DTM) ⇒ [94-11, Parking Aid Control Module J446 , performing Output Diagnostic Test Mode \(DTM\)](#) .

Parking Aid System, component overview



- **Rear parking aid sensor array**
 - Left Rear Parking Aid Sensor G203 in rear bumper cover
 - Left Rear Center Parking Aid Sensor G204 in rear bumper cover
 - Right Rear Center Parking Aid Sensor G205 in rear bumper cover
 - Right Rear Parking Aid

Sensor G206 in rear bumper cover

- Removing and installing ⇒ [94-11, Rear parking aid sensors - Sedan, removing and installing](#)
- Parking aid sensor retainers, servicing ⇒ [94-11, Parking aid sensor retainers, servicing](#)

- **Rear Parking Aid Warning Buzzer H15**
 - Sedan, removing and installing ⇒ [94-11, Rear Parking Aid Warning Buzzer H15 - Sedan, removing and installing](#)
 - Wagon, removing and installing ⇒ [94-11, Rear Parking Aid Warning Buzzer H15 - Wagon, removing and installing](#)
 - Checking ⇒ [94-11, Parking Aid Control Module J446 , performing Output Diagnostic Test Mode \(DTM\)](#)

- **Parking Aid Button E266**
 - in center console near selector lever
 - Removing and installing ⇒ [94-11, Parking Aid Button E266 , removing and installing](#)

- **Front Parking Aid Warning Buzzer H22**
 - Removing and installing ⇒ [94-11, Front Parking Aid Warning Buzzer H22 , removing and installing](#)
 - Checking ⇒ [94-11, Parking](#)

[Aid Control Module J446 ,
performing Output
Diagnostic Test Mode
\(DTM\)](#)

■ **Front parking aid sensor array**

- Left Front Parking Aid Sensor G255
- Left Front Center Parking Aid Sensor G254 (in front bumper cover/radiator trim)
- Right Front Center Parking Aid Sensor G253 (in front bumper cover/radiator trim)
- Right Front Parking Aid Sensor G252
- Removing and installing ⇒ [94-11, Front parking aid sensors, removing and installing](#)
- Parking aid sensor retainers, servicing ⇒ [94-11, Parking aid sensor retainers, servicing](#)

■ **Parking Aid Control Module J446**

- Behind side panel trim in luggage compartment, right.
- Sedan, removing and installing ⇒ [94-11, Parking Aid Control Module J446 - Sedan, removing and installing](#)
- Wagon, removing and installing ⇒ [94-11, Parking Aid Control Module J446 - Wagon, removing and installing](#)
- Output Diagnostic Test Mode (DTM) ⇒ [94-11, Parking Aid Control Module J446 , performing Output Diagnostic Test Mode](#)

(DTM)

Parking Aid Control Module J446 , servicing

Parking Aid Control Module J446 - Sedan, removing and installing

The Parking Aid Control Module J446 is located behind side panel trim in luggage compartment, right.

Removing:

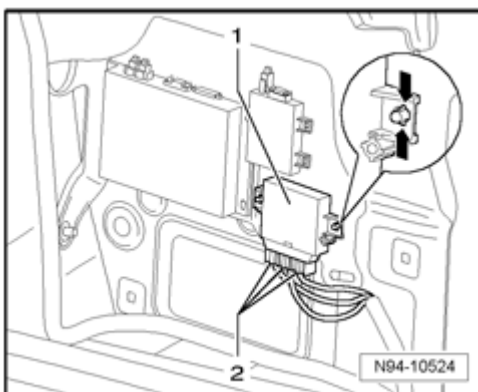
Caution!

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Open cover of right luggage compartment side panel trim.

Note:

- *For clearer illustration, component location of Parking Aid Control Module J446 is depicted with the side panel trim removed.*



- Release and disconnect electrical connections - **2** - .

- On both sides of Parking Aid Control Module J446 depress locking tabs - **arrows** - and pull Parking Aid Control Module J446 - **1** - out of retainers.

Installing:

Install in reverse order of removal.

Parking Aid Control Module J446 - Wagon, removing and

installing

The Parking Aid Control Module J446 is located behind side panel trim in luggage compartment, right.

Removing:

Caution!

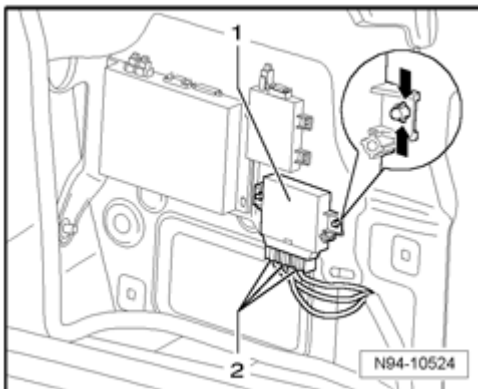
- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Open cover of right luggage compartment side panel trim

⇒ [Repair Manual, Body Interior, Repair Group 70, trim panels in luggage compartment](#)

Note:

- *For clearer illustration, component location of Parking Aid Control Module J446 is depicted with the side panel trim removed.*



- Release and disconnect electrical connections - **2** - .

- On both sides of Parking Aid Control Module J446 depress locking tabs - **arrows** - and pull Parking Aid Control Module J446 - **1** - out of retainers.

Installing:

Install in reverse order of removal.

Parking Aid Control Module J446 , performing Output Diagnostic Test Mode (DTM)

The following components can be checked with Output DTM:

- Front Parking Aid Warning Buzzer H22
- Rear Parking Aid Warning Buzzer H15
- Parking Aid Indicator Lamp K136

- Connect Vehicle Diagnostic, Testing and Information System VAS 5051/5052 ⇒ [97-1, Vehicle Diagnostic, Testing and Information System VAS 5051/5052 , connecting and selecting functions](#) .

- In Vehicle Diagnostic, Testing and Information System VAS 5051/5052 , select operating mode "Guided Fault Finding" .

- Using the "Go To" button, select "Functions/Component selection" and the following menu options in sequence:

- Body
- Body repair procedures
- 01 - On Board Diagnostic (OBD) capable systems
- Parking Aid System
- Parking assistance functions
- Parking aid system Output Diagnostic Test Mode (DTM)

Parking Aid Control Module J446 , coding

Coding of Parking Aid Control Module J446 configures the system according to the specific vehicle.

- Connect Vehicle Diagnostic, Testing and Information System VAS 5051/5052 ⇒ [97-1, Vehicle Diagnostic, Testing and Information System VAS 5051/5052 , connecting and selecting functions](#) .

- In Vehicle Diagnostic, Testing and Information System VAS 5051/5052 , select operating mode "Guided Fault Finding" .

- Using the "Go To" button, select "Functions/Component selection" and the following menu options in sequence:

- Body
- Body repair procedures
- 01 - On Board Diagnostic (OBD) capable systems
- Parking Aid System
- Parking assistance functions
- Parking aid system, coding

Front parking aid sensors, servicing

Front parking aid sensors, removing and installing

Front parking aid sensor removal and installation procedure is the same for all sensors.

Removing:

Caution!

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Remove radiator grille

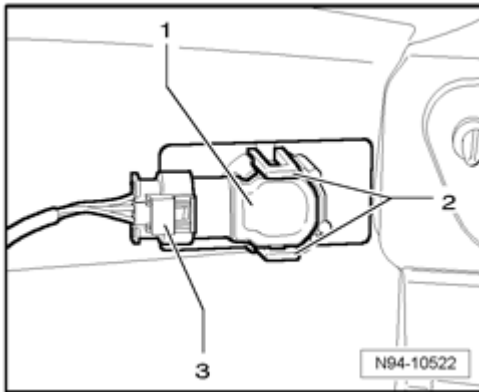
⇒ [Repair Manual, Body Exterior, Repair Group 66, Radiator grille, removing and installing](#)

.

- Remove front bumper cover

⇒ [Repair Manual, Body Exterior, Repair Group 63, Front bumper](#)

.



- Release and disconnect electrical connection - **3** - .
- Depress both tabs - **2** - on sensor retainer and pull sensor - **1** - towards rear out of sensor retainer.

Note:

- *When removing sensor, ensure the coupling ring (black silicone ring) does not remain in the sensor retainer.*

Installing:

Install in reverse order of removal, noting the following:

Note:

- *When installing sensor in sensor retainer, ensure proper seating of coupling ring (black silicone ring) on the sensor head.*
- *Both locking tabs of sensor retainer must engage audibly.*

Rear parking aid sensors, servicing

Rear parking aid sensors - Sedan, removing and installing

Removing:

Caution!

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Remove rear bumper cover

⇒ [Repair Manual, Body Exterior, Repair Group 63, Rear bumper cover - Sedan, removing and installing](#)

Removal of rear parking aid sensors is identical to front sensors ⇒ [94-11, Front parking aid sensors, removing and installing](#) .

Installing:

Install in reverse order of removal, noting the following:

Note:

- *When installing sensor in sensor retainer, ensure proper seating of coupling ring (black silicone ring) on the sensor head.*

- *Both locking tabs of sensor retainer must engage audibly.*

Rear parking aid sensors - Wagon, removing and installing

Removing:

Caution!

- **Switch off all electrical consumers.**

- **Switch ignition off and remove ignition key.**

- Remove rear bumper cover

⇒ [Repair Manual, Body Exterior, Repair Group 63, Rear bumper cover - Wagon, removing and installing](#)

Removal of rear parking aid sensors is identical to front sensors ⇒ [94-11, Front parking aid sensors, removing and installing](#) .

Installing:

Install in reverse order of removal, noting the following:

Note:

- *When installing sensor in sensor retainer, ensure proper seating of coupling ring (black silicone ring) on the sensor head.*
- *Both locking tabs of sensor retainer must engage audibly.*

Parking aid warning buzzers, servicing

Front Parking Aid Warning Buzzer H22 , removing and installing

The Front Parking Aid Warning Buzzer H22 is located under the instrument panel in the left footwell and is fastened to the relay carrier mounting.

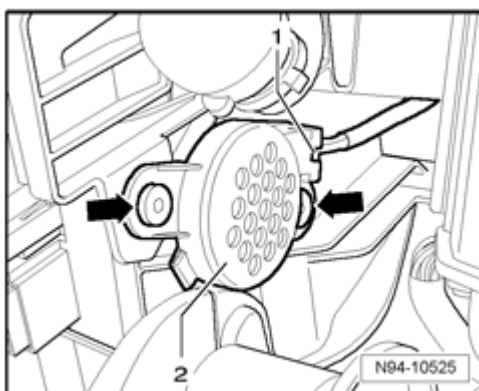
Removing:

Caution!

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Remove drivers footwell trim

⇒ [Repair Manual, Body Interior, Repair Group 68, Covers: drivers footwell, removing](#)



- Remove both rivets - **arrows** - .
- Release and disconnect electrical connection - **1** - and remove Front Parking Aid Warning Buzzer H22 - **2** - from vehicle.

Installing:

Install in reverse order of removal.

Note:

- *Should a new Front Parking Aid Warning Buzzer H22 be installed, it is not necessary to code, adapt or perform basic setting.*

Rear Parking Aid Warning Buzzer H15 - Sedan, removing and installing

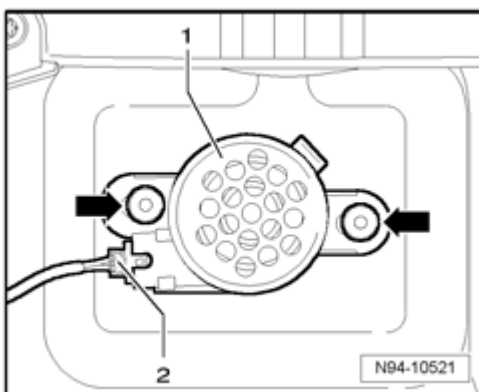
The Rear Parking Aid Warning Buzzer H15 is located under the rear parcel shelf, right.

Removing:**Caution!**

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Remove parcel shelf

⇒ [Repair Manual, Body Interior, Repair Group 70, Pillar and side trim; parcel shelf, removing and installing](#)



- Release and disconnect electrical connection - **2** - .

- Remove rivets - **arrows** - and remove Rear Parking Aid Warning Buzzer H15 - **1** - from vehicle.

Installing:

Install in reverse order of removal.

Note:

- *Should a new Rear Parking Aid Warning Buzzer H15 be installed, it is not necessary to code, adapt or perform basic setting.*

Rear Parking Aid Warning Buzzer H15 - Wagon, removing and installing

The Rear Parking Aid Warning Buzzer H15 is located behind the right rear side panel trim, near the safety belt mounting.

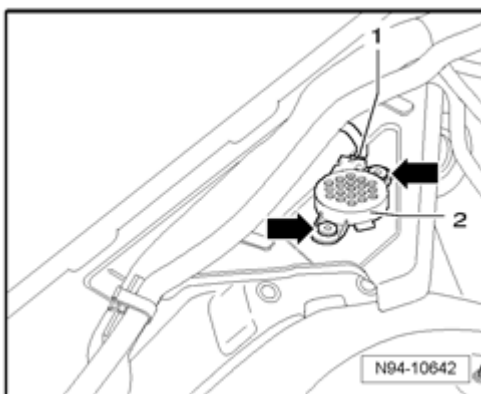
Removing:

Caution!

- **Switch off all electrical consumers.**
- **Switch ignition off and remove ignition key.**

- Remove right side panel trim

⇒ [Repair Manual, Body Interior, Repair Group 70, trim panels in luggage compartment](#)



- Release and disconnect electrical connection - **1** - .
- Remove rivets - **arrows** - and remove Rear Parking Aid Warning Buzzer H15 - **2** - from vehicle.

Installing:

Install in reverse order of removal.

Note:

- *Should a new Rear Parking Aid Warning Buzzer H15 be installed, it is not necessary to code, adapt or perform basic setting.*

Parking Aid Button E266

The Parking Aid Button E266 is located in the center console near the selector lever. Depending on market version, E266 may also contain the following:

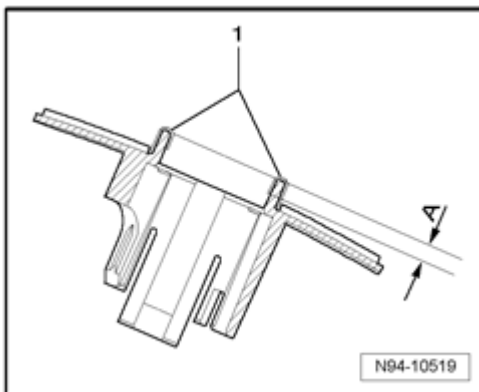
- Parking Aid Switch Illumination L117
- Parking Aid Indicator Lamp K136

Parking Aid Button E266 , removing and installing

- Parking Aid Button E266 , removing and installing ⇒ [96-8, Center console switches, removing and installing](#)

Parking aid sensor retainers, servicing

In the event that the bumper cover is replaced, the sensor retainers must be glued into the appropriately marked locations on the new bumper cover. Before installation, the sensors and retainers must be painted separately to match the color of the bumper cover. When painting sensors and retainers, the following conditions must be met in order to ensure proper sensor and parking aid system function. Preparation of component surfaces for the bonding process depends on the following process steps.

Parking aid sensors and sensor retainers, painting**Sensor retainer, painting**

- Degrease the sensor retainer in the area to be painted -

1 - with isopropyl alcohol.

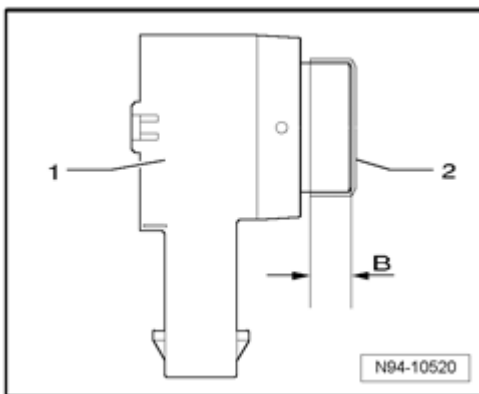
- Paint sensor retainer in area - 1 - to match color of bumper cover.

Note:

- *Do not allow painted area on inside of sensor retainer to exceed 2.5 mm, dimension - A - , as illustrated.*
- *Only apply paint on inside of sensor retainer in the area indicated. Not adhering to the above precautions may result in installation and system operation problems.*

Sensors, painting

- Remove coupling ring (black silicone ring) from sensor head.



- Degrease sensor - 1 - with isopropyl alcohol in the area to be painted - 2 - .

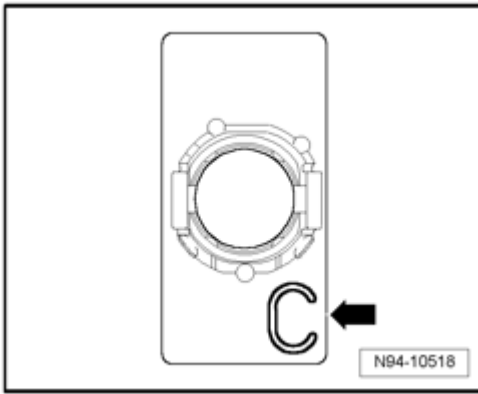
- Paint sensor in area - 2 - to match color of bumper cover.

Note:

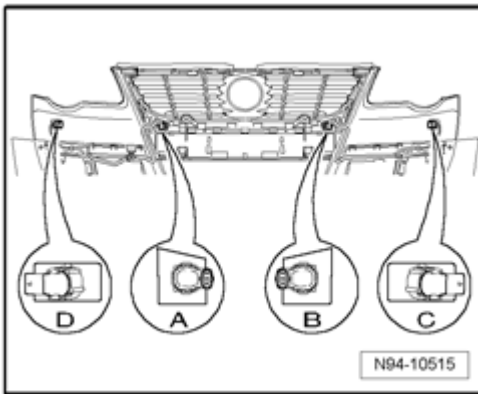
- *Painted area must not exceed 3mm (+2mm max.) dimension - B - .*

- When paint has dried, reinstall coupling ring on sensor.

Sensor retainer allocations, installation positions in bumper covers/radiator grille

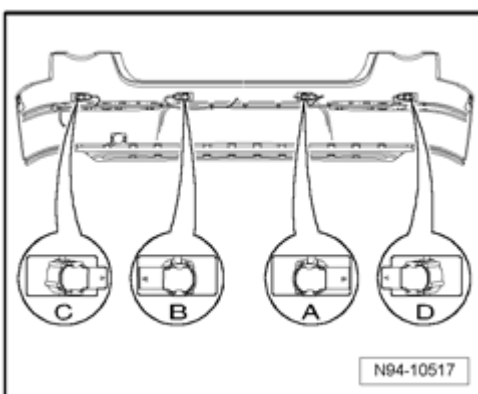


Sensor retainers are configured differently and can only be installed in specific, corresponding locations in the bumper cover/radiator grille. To simply sensor retainer allocations, they are marked with a letter character code - **arrow** - . Observe applicable sensor mounting positions/allocations.



Sensor retainer allocations, front bumper cover/radiator grille:

- Sensor retainer location A - Left center (in radiator grille)
- Sensor retainer location B - Right center (in radiator grille)
- Sensor retainer location C - Right outer
- Sensor retainer location D - Left outer



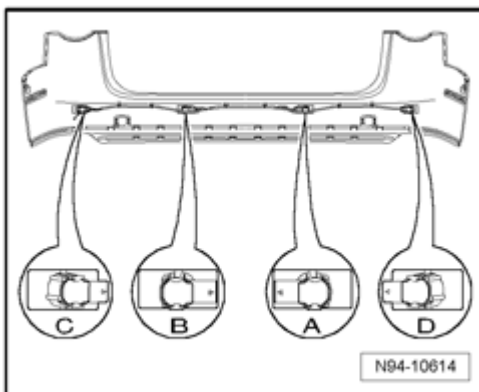
Sensor retainer allocations - Sedan, rear bumper cover:

Sensor retainer location A - Left center

Sensor retainer location B - Right center

Sensor retainer location C - Right outer

Sensor retainer location D - Left outer

**Sensor retainer allocations - Wagon, rear bumper cover:**

Sensor retainer location A - Left center

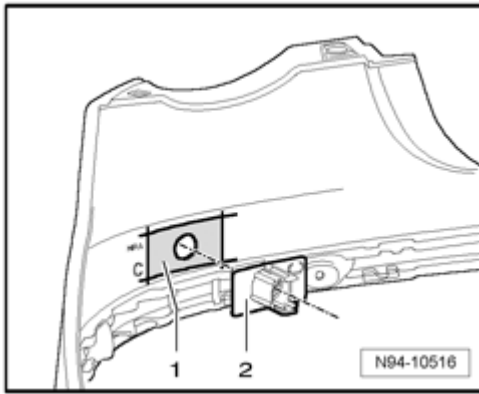
Sensor retainer location B - Right center

Sensor retainer location C - Right outer

Sensor retainer location D - Left outer

Sensor retainers in bumper cover, bonding

The procedure to glue the sensor retainers into the applicable front or rear bumper covers is the same. To assist in bonding the sensor retainers in their proper positions, sensor location punched holes with corresponding retainer bonding areas are marked on the inside of the bumper cover. Before proceeding with bonding procedure, ensure sensor retainer and bumper cover materials are between 15 ° C and 25 ° C (59 ° F and 77 ° F) .



- Thoroughly clean marked bonding area - **1** - on inner bumper cover with isopropyl alcohol.
- Evenly apply adhesive primer "Scotch-Mount 4298" in marked bonding area - **1** - .
- Allow adhesive primer to dry for approximately 5 minutes.
- Observe installation orientation of sensor retainer to be installed ⇒ [94-11, Sensor retainer allocations, installation positions in bumper covers/radiator grille](#) .
- Remove both protection foils from bonding area of sensor retainer - **2** - (a gray surface must be visible).
- Align sensor retainer - **2** - to marked bonding area - **1** - with an equal border/edge of approximately 3 mm.

Note:

- *Ensure the recesses in the sensor retainer (for the sensor mounting) are oriented as per the proper allocation and direction. Should the sensor retainers be installed in the wrong direction, the sensor wiring harnesses will be too short.*

- Firmly press sensor retainer - **2** - in place in bumper cover for approximately 10 seconds.

Note:

- *Proper and durable bonding will only take place when pressing firmly for the time specified!*

Sensor retainers in radiator grille, bonding

When bonding sensor retainer to radiator grill, it is necessary to observe a straight and centered orientation of the sensor retainer relative to the sensor location (punched

hole) as no other visual reference markings may be present. Should the sensor retainer not be perfectly aligned straight and centered relative to the sensor location (punched hole) in the radiator grille, the coupling ring will be stressed upon installation of the sensor, and system function may be adversely affected. Before proceeding with bonding procedure, ensure sensor retainer and radiator grille materials are between 15 ° C and 25 ° C (59 ° F and 77 ° F) .

- Thoroughly clean marked bonding area 1 on inner radiator grille with isopropyl alcohol.
- Evenly apply adhesive primer "Scotch-Mount 4298" in bonding area surrounding sensor location (punched hole).
- Allow adhesive primer to dry for approximately 5 minutes.
- Observe installation orientation of sensor retainer to be installed ⇒ [94-11, Sensor retainer allocations, installation positions in bumper covers/radiator grille](#) .
- Install sensor in sensor retainer so that it engages audibly.
- Remove both protection foils from bonding area of sensor retainer (a gray surface must be visible).
- Align sensor head so that it is centered to the sensor location (punched hole) in the radiator grille.

Note:

- *Should the sensor retainer not be perfectly aligned straight and centered relative to the sensor location (punched hole) in the radiator grille, the coupling ring will be stressed upon installation of the sensor, and system function may be adversely affected.*

- Firmly press sensor retainer 2 in place in radiator grille for approximately 10 seconds.

Note:

- *Proper and durable bonding will only take place when pressing firmly for the time specified!*