

66 20 508 Removing and installing control unit (Park Distance Control)



RISK OF DAMAGE



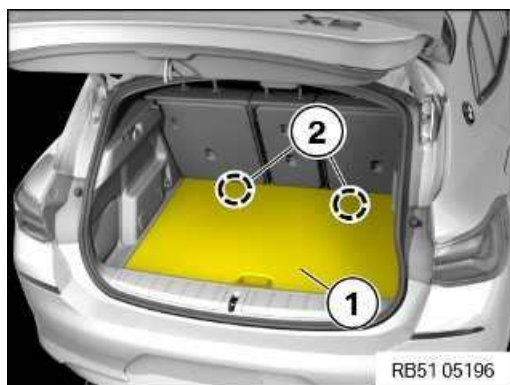
Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave electrical components in original packaging until just before they are installed. Use the original packaging only for any return shipments. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only touch the housings of electrical components. Do not touch pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 Information on electrostatic discharge (ESD) protection.

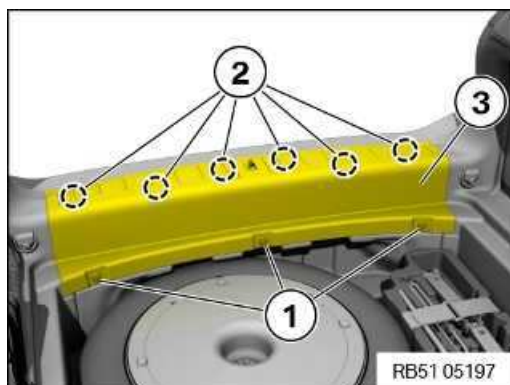
PRELIMINARY WORK

1 – Removing the luggage compartment removable panel



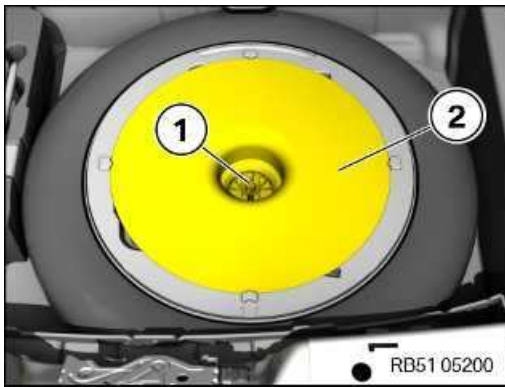
- Raise the luggage compartment removable panel (1) slightly at the handle, detach it from the latch mechanisms (2) and remove it toward the back.

2 – Removing the loading edge trim

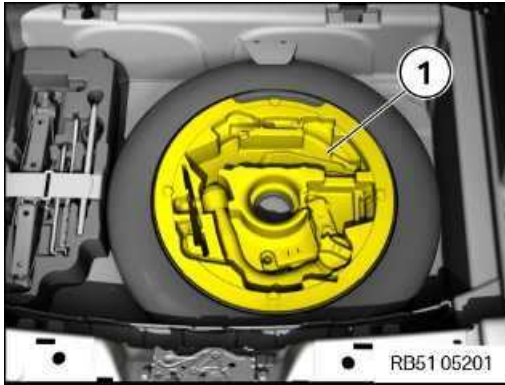


- Loosen the expanding rivet (1).
- Unclip the loading edge trim (3) from the clamps (2) toward the top and remove.

3 – Removing the compact spare wheel



- Loosen screw (1).
- Remove the cover (2).

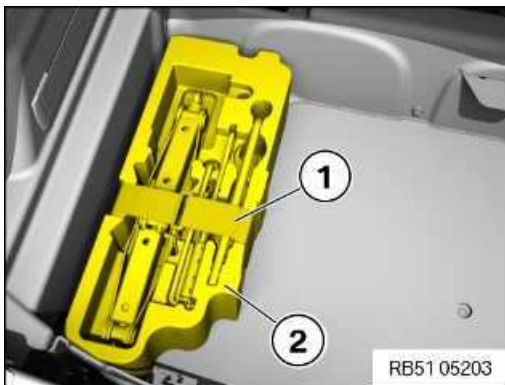


- Remove the oddments tray from the emergency wheel (1).



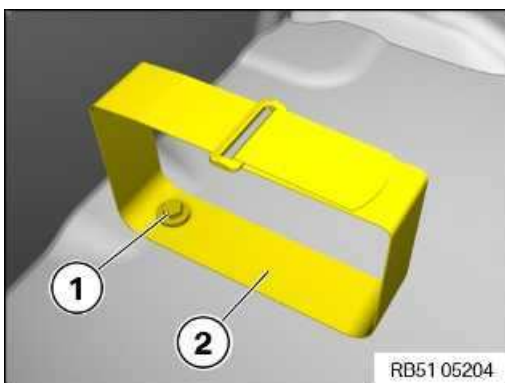
- Remove the emergency wheel (1).

4 – Remove the tool kit



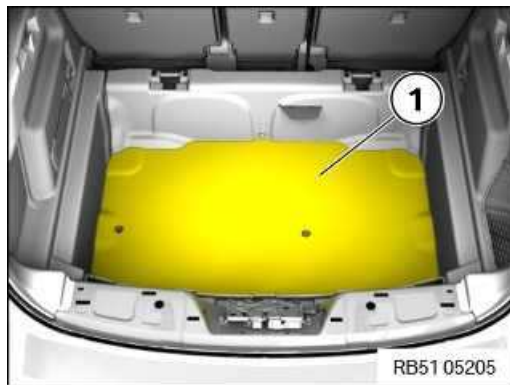
- Open the hook and loop tape (1).
- Remove the tool kit (2).

5 – Remove the hook and loop tape for the tool kit



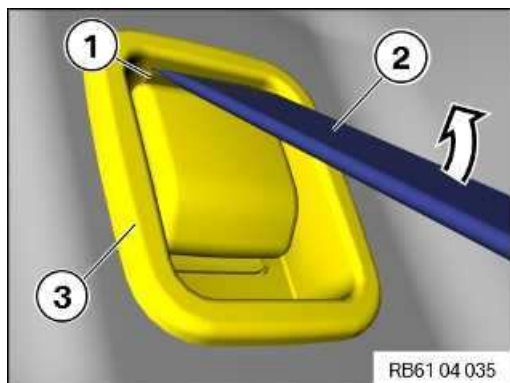
- Loosen screw (1).
- Remove the hook and loop tape (2).

6 – Removing the luggage compartment floor trim panel

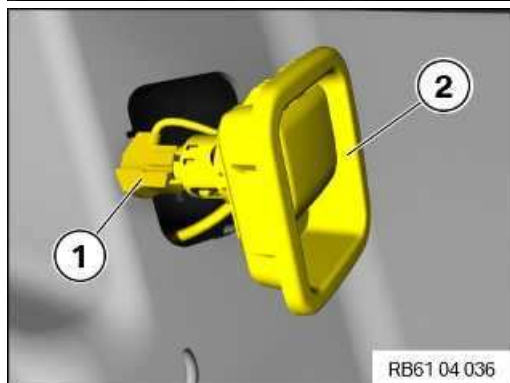


- Remove the luggage compartment floor trim panel (1) upwards.

7 – Remove the fixture of the 12 V power socket

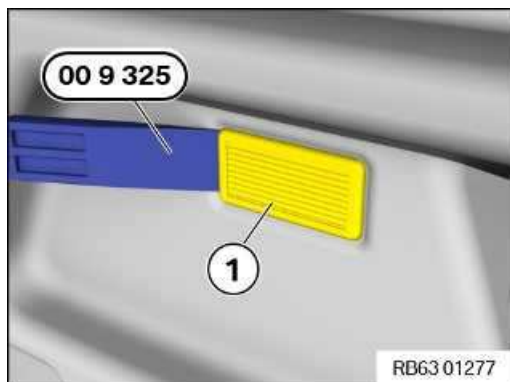


- Push the lock on top (1) with a suitable tool (2) in the direction of the arrow and unlock.
- Remove the fixture (3) of the 12 V power socket in the rear from the luggage compartment wheel arch trim panel.

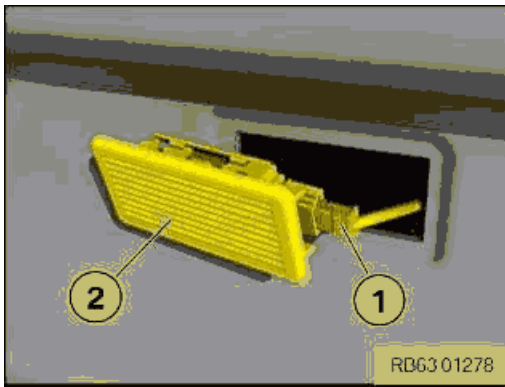


- Unlock the plug connection (1), disconnect it and remove the fixture (2) of the 12 V power socket.

8 – Removing the luggage compartment light

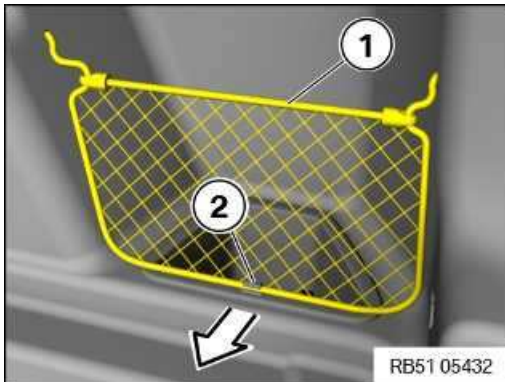


- Lever out the luggage compartment light (1) with the special tool 0 496 569 (00 9 325).

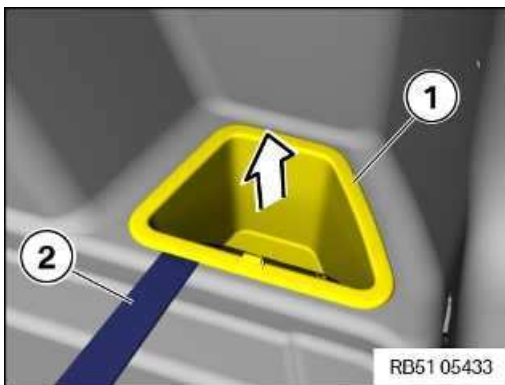


- Disconnect plug connection (1) and remove luggage compartment light (2).

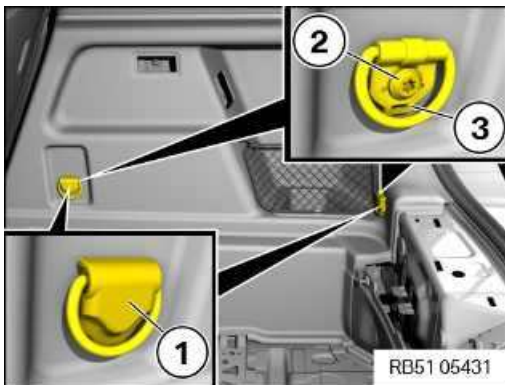
9 – Removing right luggage compartment wheel arch trim panel



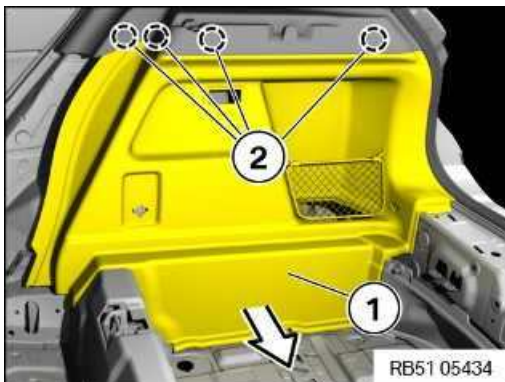
- Release the storage net (1) from the latch mechanism (2) in the direction of arrow and fold up.



- Remove storage compartment (1) out of the luggage compartment wheel arch trim panel in the direction of arrow using a suitable tool (2).



- Unclip covers (1).
- Unscrew the bolts (2) and remove the lashing points (3).



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

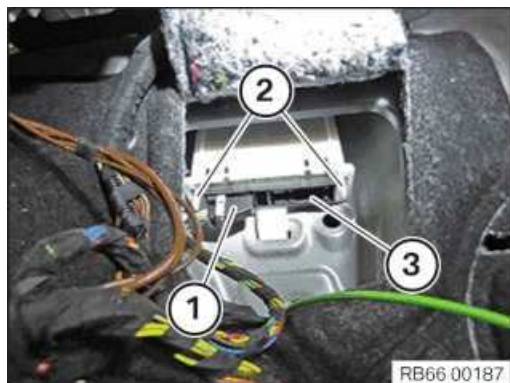
- Pull the luggage compartment wheel arch trim panel (1) on the bottom in the direction of the arrow and guide it out of the guides (2) and the C-pillar trim panel and remove.

MAIN WORK

10 – Remove the control unit for park distance control (PDC)

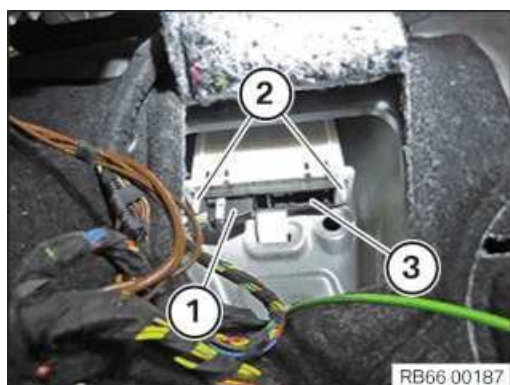


- Open flap (1).



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Pull out the control unit for the PDC (3) in a downwards direction.

11 – Install control unit for Park Distance Control (PDC)



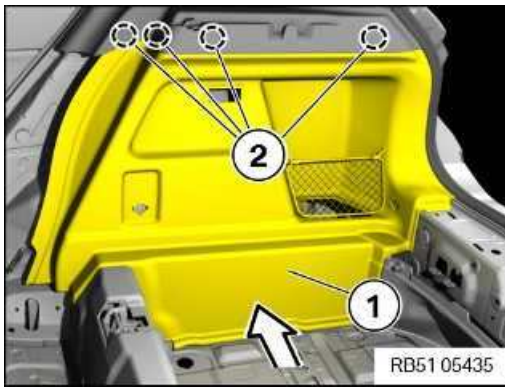
- Slide the control unit for PDC (3) up.
- Lock the latch mechanisms (2) correctly.
- Connect connectors (1) and lock.



- Close flap (1).

POSTPROCESSES

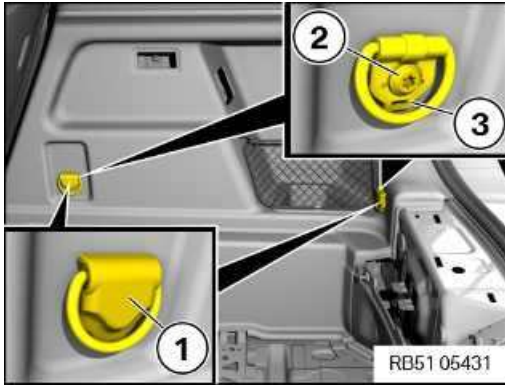
12 – Installing the luggage compartment wheel arch trim panel on the right



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

- Press luggage compartment wheel arch trim panel (1) down in direction of arrow and feed into the guides (2) and under the bottom C-pillar trim panel.



- Position the lashing eyes (3) and tighten the screws (2).

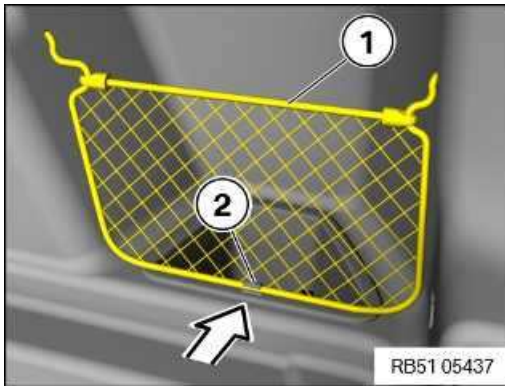
Lashing eye in luggage compartment

Bolt M8 x 22		Tightening torque	21 Nm
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- Clip in the covers (1).

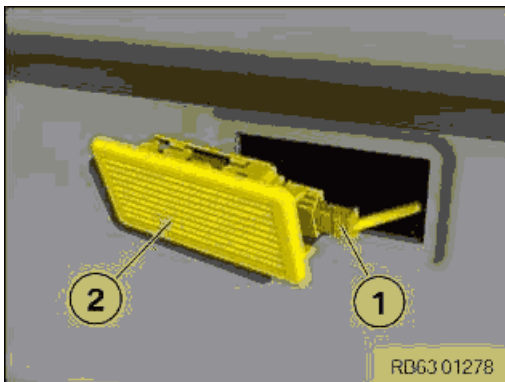


- Install the storage compartment (1) in the luggage compartment wheel arch trim panel in direction of arrow.

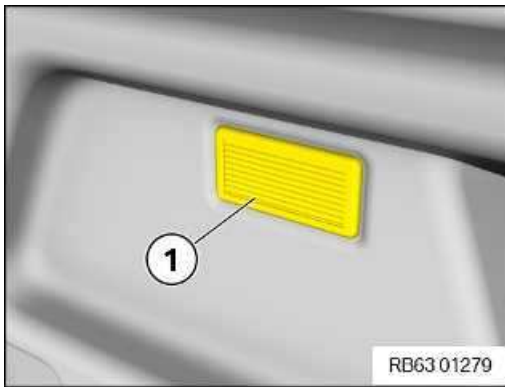


- Clip storage net (1) into latch mechanisms (2) in direction of arrow.

13 – Installing the luggage compartment light

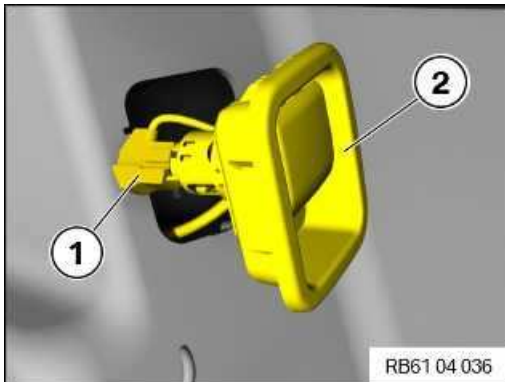


- Connect the connector (1) to the luggage compartment light (2).

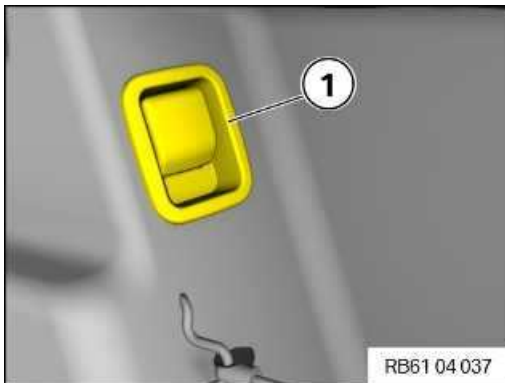


- Install the luggage compartment light (1).

14 – Install the fixture of the 12 V power socket

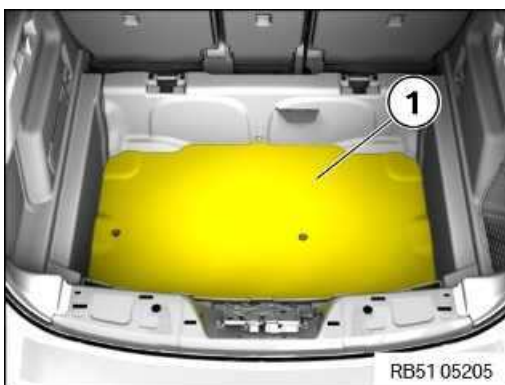


- Connect the connector (1) to the fixture (2) of the 12 V power socket and lock.



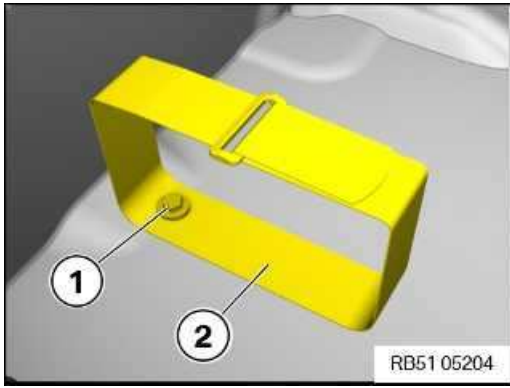
- Insert the fixture (1) of the 12 V power socket in the luggage compartment wheel arch trim panel and engage.

15 – Installing the luggage compartment floor trim panel



- Position the luggage compartment floor trim panel (1).

16 – Inserting the Velcro fastener for the toolkit

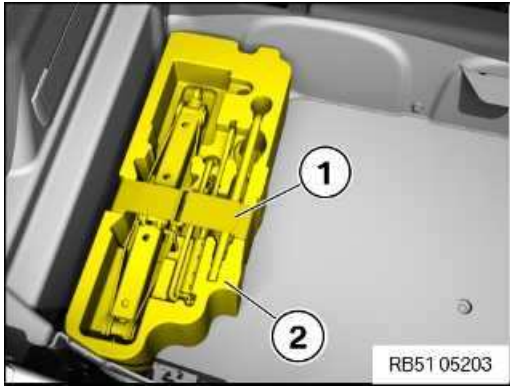


- Insert Velcro fastener (2).
- Tighten down screw (1).

Toolkit hook and loop tape to body

Bolt M6 x 20		Tightening torque	4 Nm
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17 – Install the tool kit

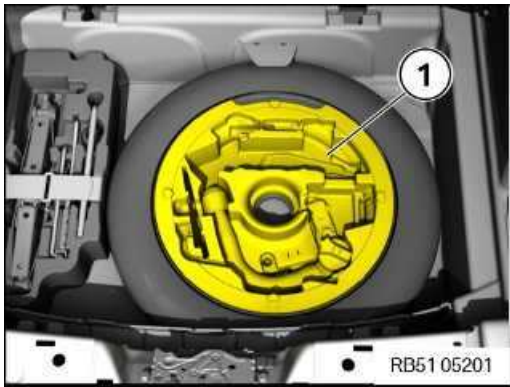


- Install the tool kit (2).
- Close the hook and loop tape (1).

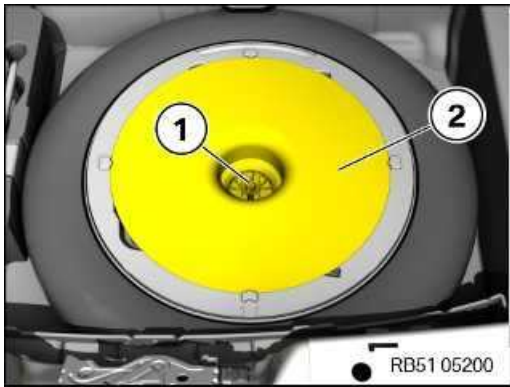
18 – Install the emergency wheel



- Insert compact spare wheel(1).

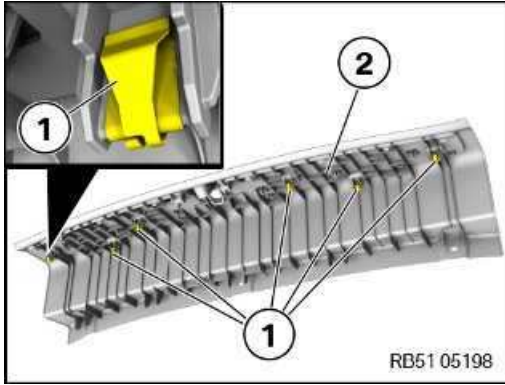


- Insert oddments tray into the compact spare wheel (1).

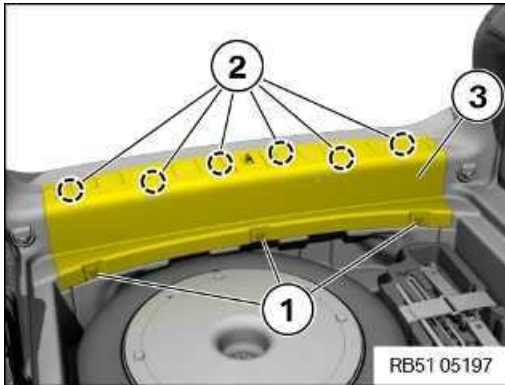


- Insert the lid (2).
- Hand-tighten the bolt (1).

19 – Installing loading edge trim

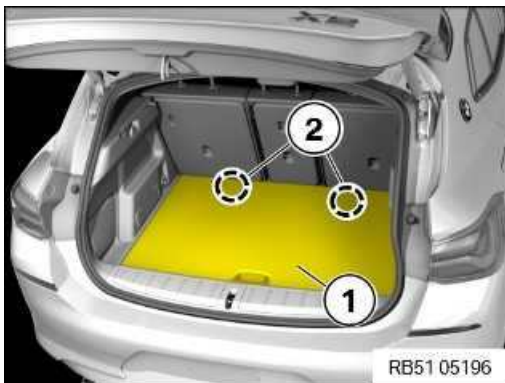


- Check the clamps (1) at the loading edge trim (2) for damage and renew if necessary.



- Insert the loading edge trim (3) in the area of the expanding rivets (1) into the underlying rear luggage compartment trim panel.
- Guide in the loading edge trim (3) under the sealing lip of the seal for the tailgate and clip it in with the clamps (2).
- Secure expanding rivet (1).

20 – Installing the luggage compartment removable panel



- Clip luggage compartment removable panel (1) into latch mechanisms (2) and set down.

21 – Encode/program control unit(s)

Prerequisite

Replacement of the control unit.



TECHNICAL INFORMATION

Use the most recent software version to prevent faults during programming/encoding.
The battery voltage must not fall below 13.0 V during programming.
Use only chargers for a low volt-vehicle electrical system that are recommended by BMW.



TECHNICAL INFORMATION

No high-voltage switch off is required in electric vehicles or hybrid vehicles for programming/encoding.
The high-voltage system will be automatically switched off by the programming system.

Exception:

BMW I01: Note Product and Measures Management Aftersales measure 55176388.

- Connect the battery charger to the vehicle.
- Connect the programming system with the vehicle.
- Determine the action plan.
- Accept and fully process the measures plan.
- If applicable, connect the workshop system to the vehicle, depending on the reworking list.
- Carry out vehicle test.
- Delete the fault memory.
- The information about programming the workshop system and the corresponding notes in the user documentation must be observed.
- Wait until programming/encoding has been completed.
- Disconnect the programming system from the vehicle.
- Disconnect the battery charger from the vehicle.

Additional Information

Overview of Tightening Torques

Lashing eye in luggage compartment

Used in step [12](#)

Bolt M8 x 22		Tightening torque	21 Nm
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Toolkit hook and loop tape to body

Used in step [16](#)

Bolt M6 x 20		Tightening torque	4 Nm
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Overview of Special Tools

0 496 569 (00 9 325) Wedge



Common

Used in step [8](#)

Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

Links

Repair instructions

Used in step

[61 35 ... Notes on ESD protection \(Electro Static Discharge\)](#)

66 20 515 Removing and installing/replacing a front left ultrasonic sensor (outer) (Park Distance Control) (after vehicle diagnosis)

PRELIMINARY WORK

1 – Partially remove the front right wheel arch trim

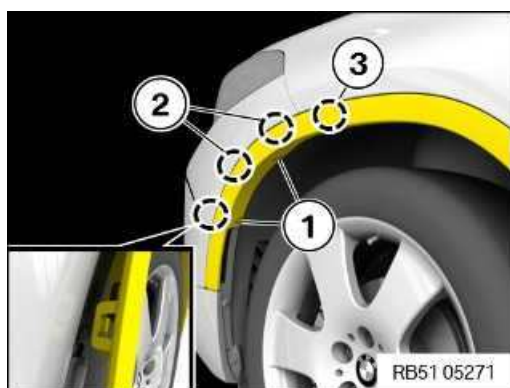


NOTICE

Description is for left component only. Procedure on the right side is identical.

► Partially removing the front wheel arch trim

- Loosen blind rivet (1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).



2 – Partially remove the front wheel arch cover



NOTICE

Description is for left component only. Procedure on the right side is identical.

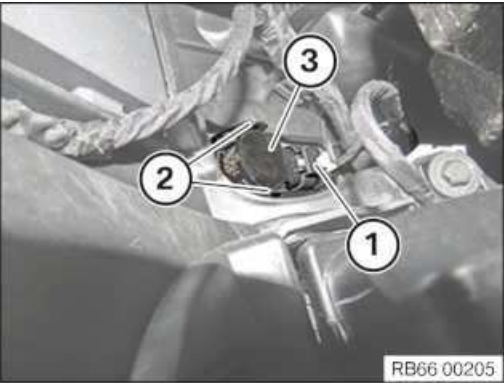
► Partially remove the front wheel arch cover

- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).



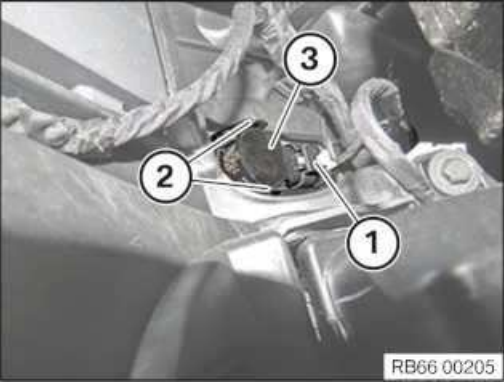
MAIN WORK

3 – Removing the ultrasonic sensor at the front left



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Remove the ultrasonic sensor (3).

4 – Installing the ultrasonic sensor at the front left



- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (2).
- Connect connectors (1) and lock.

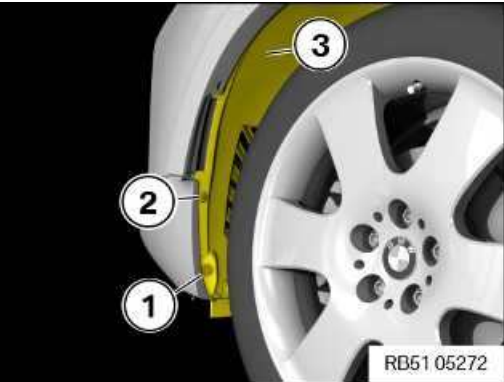
POSTPROCESSES

5 – Partially installing the front right wheel arch cover



NOTICE

Description is for left component only. Procedure on the right side is identical.



► Partially install the front wheel arch cover

- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

Front wheel arch cover to front bumper panel

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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6 – Partially installing the front right wheel arch trim

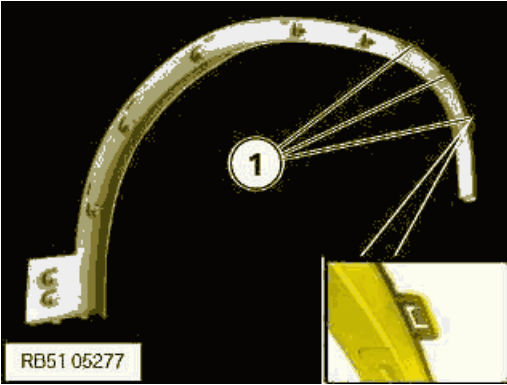


NOTICE

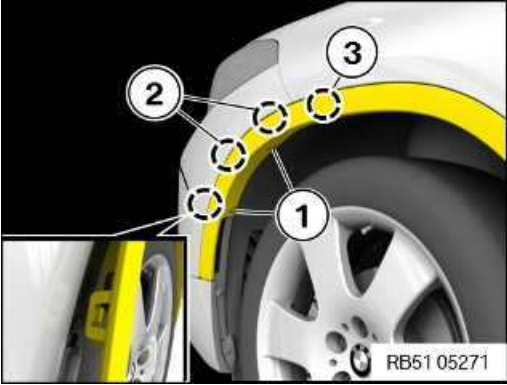
Description is for left component only. Procedure on the right side is identical.

► Partly install the front wheel arch trim

- Check clips (1) for damage, and replace if necessary.



- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.

Additional Information

Overview of Tightening Torques

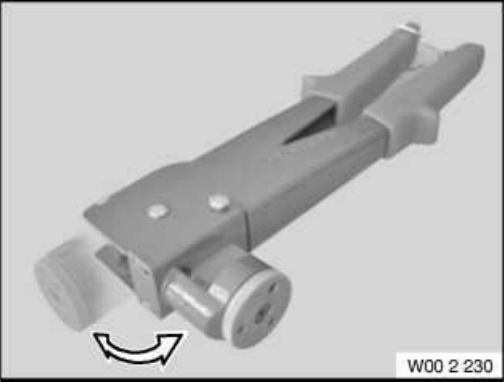
Front wheel arch cover to front bumper panel

Used in step 5

Hexagon screw for thermoplastic plastic	Tightening torque	2,6 Nm
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Overview of Special Tools

0 496 521 (00 2 230) Pliers



Common

Used in step 5 6

Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm
Included in the tool or work	
Storage location	C25
Replaced by	
In connection with	
SI-Number	01 17 08 (478)

66 20 516 Removing and installing/replacing a front right ultrasonic sensor (outer) (Park Distance Control) (after vehicle diagnosis)

PRELIMINARY WORK

1 – Partially remove the front right wheel arch trim

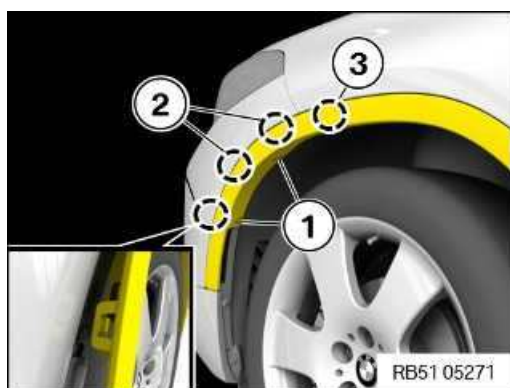


NOTICE

Description is for left component only. Procedure on the right side is identical.

► Partially removing the front wheel arch trim

- Loosen blind rivet (1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).



2 – Partially remove the front wheel arch cover



NOTICE

Description is for left component only. Procedure on the right side is identical.

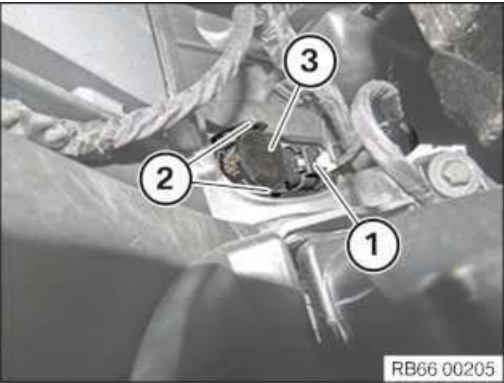
► Partially remove the front wheel arch cover

- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).



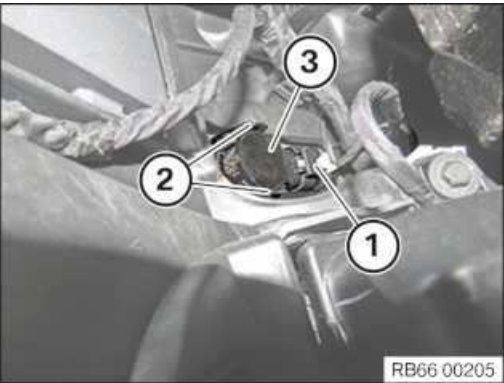
MAIN WORK

3 – Removing the ultrasonic sensor at the front left



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Remove the ultrasonic sensor (3).

4 – Installing the ultrasonic sensor at the front left



- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (2).
- Connect connectors (1) and lock.

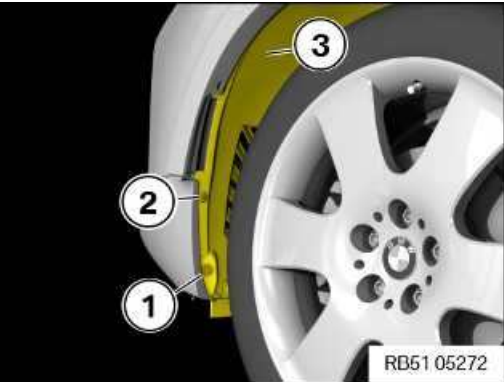
POSTPROCESSES

5 – Partially installing the front right wheel arch cover



NOTICE

Description is for left component only. Procedure on the right side is identical.



► Partially install the front wheel arch cover

- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

Front wheel arch cover to front bumper panel

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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6 – Partially installing the front right wheel arch trim



NOTICE

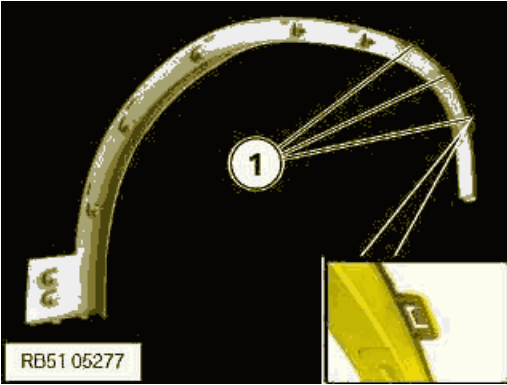
Description is for left component only. Procedure on the right side is identical.

► Partly install the front wheel arch trim

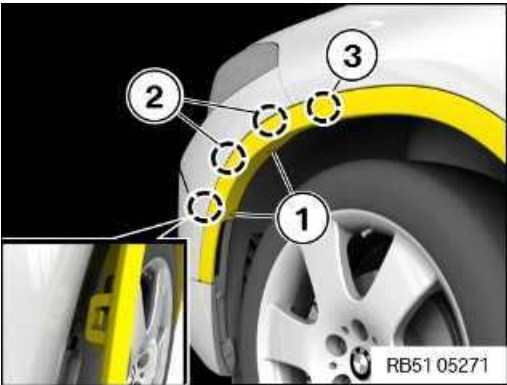
- Check clips (1) for damage, and replace if necessary.



- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.



Additional Information

Overview of Tightening Torques

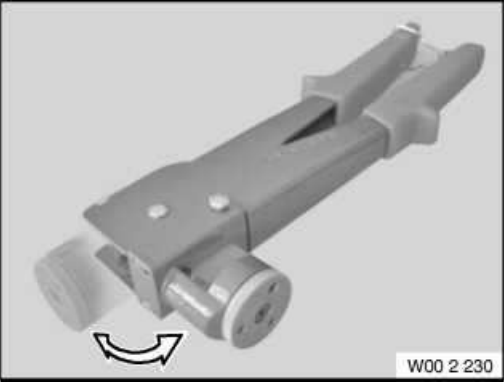
Front wheel arch cover to front bumper panel

Used in step 5

Hexagon screw for thermoplastic plastic	Tightening torque	2,6 Nm
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Overview of Special Tools

0 496 521 (00 2 230) Pliers



Common

Used in step 5 6

Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm
Included in the tool or work	
Storage location	C25
Replaced by	
In connection with	
SI-Number	01 17 08 (478)

66 20 517 Removing and installing/replacing one ultrasonic sensor at the front, centre, left

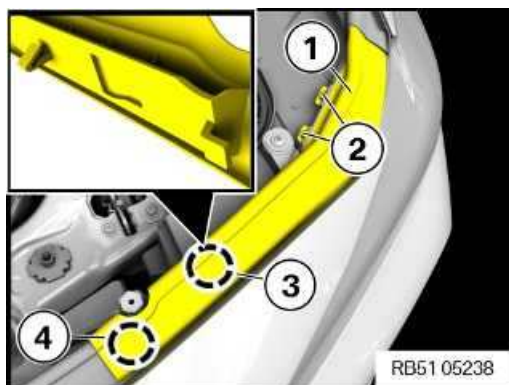
PRELIMINARY WORK

1 – Remove both bonnet seals on the side



NOTICE

Description is for left component only. Procedure on the right side is identical.



► Remove the bonnet seal on the side

- Unclip the side bonnet seal (1) from the outer latch mechanisms (2) and the inner latch mechanism (3).
- Feed out the side bonnet seal (1) from the guide (4) and remove.

2 – Removing the seal for the front centre bonnet



- Remove the seal for the front centre bonnet (1) towards the top.

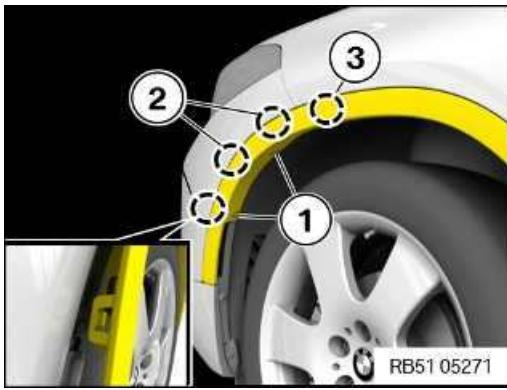
3 – Partially remove both front wheel arch trims



NOTICE

Description is for left component only. Procedure on the right side is identical.

► Partially removing the front wheel arch trim



- Loosen blind rivet(1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).

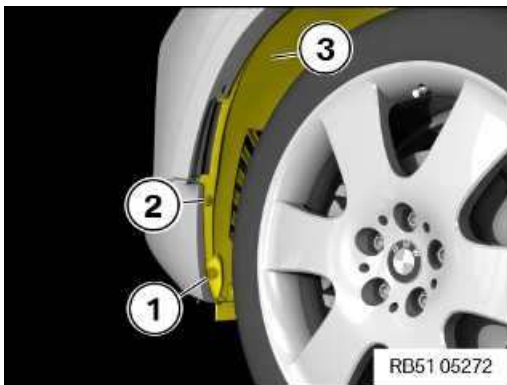
4 – Partially remove both front wheel arch covers



NOTICE

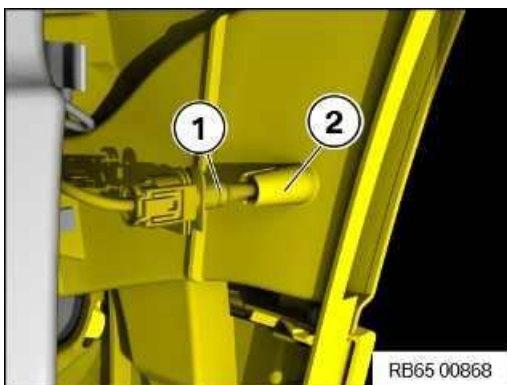
Description is for left component only. Procedure on the right side is identical.

► Partially remove the front wheel arch cover



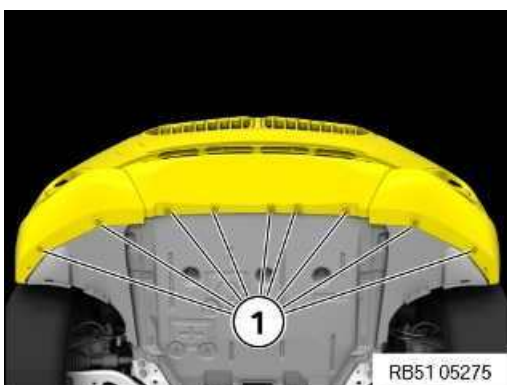
- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).

5 – Remove temperature sensor

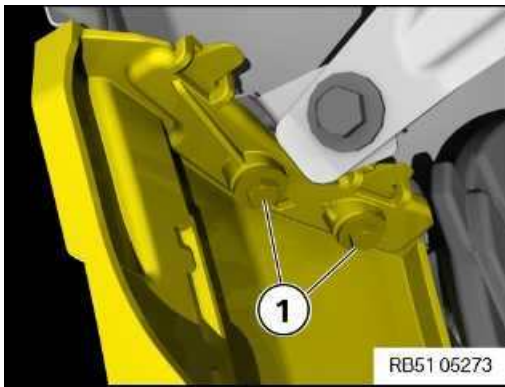


- Unclip temperature sensor (1) from front bumper panel (2).

6 – Remove front bumper panel



- Loosen screws (1).



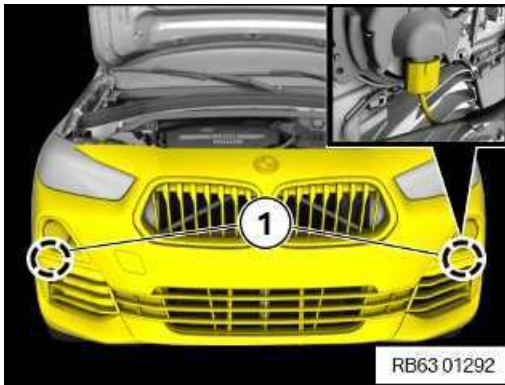
NOTICE

Description is for left component only. Procedure on the right side is identical.

- Loosen screws (1).



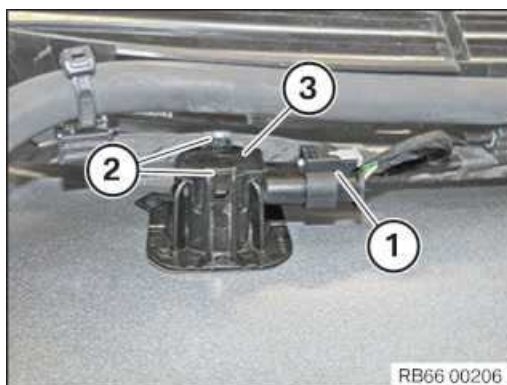
- Loosen screws (1).
- Loosen screws (2).



- Pull the front bumper panel slightly forward with the help of another person.
- Unlock and disconnect the plug connections (1) on the fog lights.
- Remove the front bumper panel.

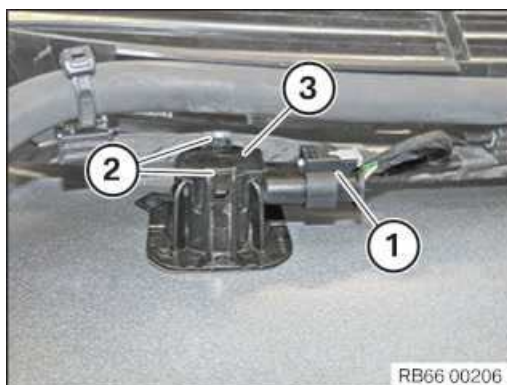
MAIN WORK

7 – Removing the ultrasonic sensor at the front left in the centre



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Remove the ultrasonic sensor (3).

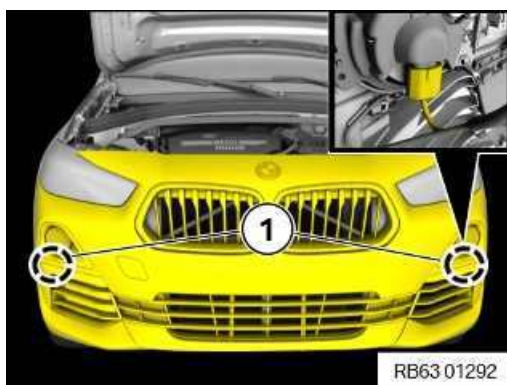
8 – Installing the ultrasonic sensor at the front, in the centre on the left



- Connect connectors (1) and lock.
- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (2).

POSTPROCESSES

9 – Install bumper panel, front



- Connect the connectors (1) on the fog lights and lock.
- Join the front bumper panel and position.



- Tighten the screws (1).

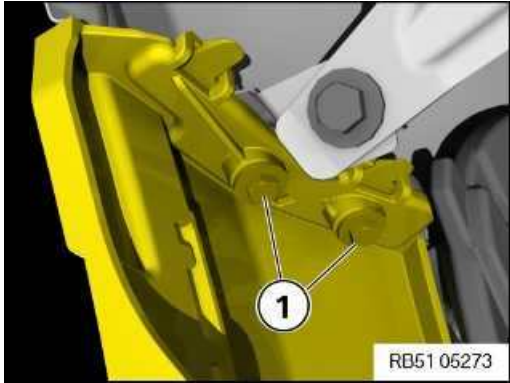
Bumper panel to headlight

Thermoplastic multi-purpose bolt		Tightening torque	2,5 Nm
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- Tighten down screws (2).

Bumper panel to air duct

Screw M6		Tightening torque	4,6 Nm
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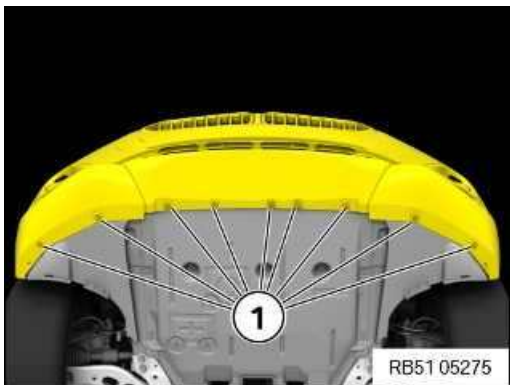
NOTICE

Description is for left component only. Procedure on the right side is identical.

- Tighten the screws (1).

Front bumper panel to front side panel

Screw TS5X35		Tightening torque	3 Nm
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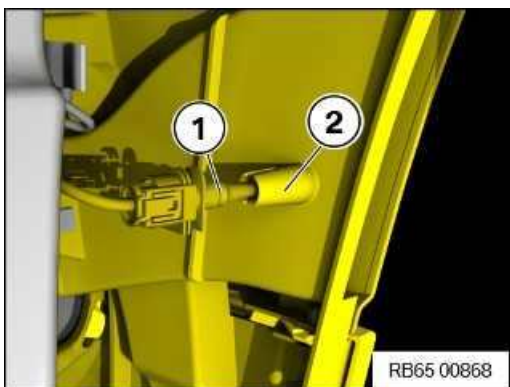


- Tighten the screws (1).

Front bumper panel to underbody panelling

Thermoplastic hexagon screw		Tightening torque	2,5 Nm
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10 – Install temperature sensor



- Clip temperature sensor (1) into the front bumper panel (2).

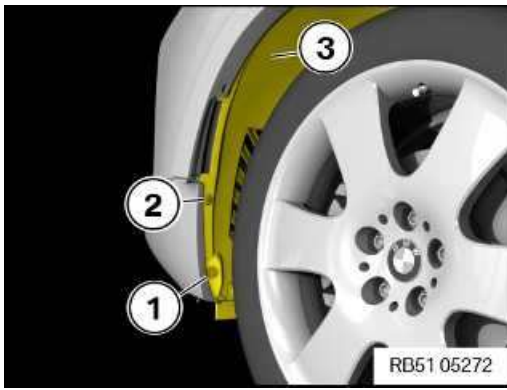
11 – Partially install both front wheel arch covers



NOTICE

Description is for left component only. Procedure on the right side is identical.

- Partially install the front wheel arch cover



- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

Front wheel arch cover to front bumper panel

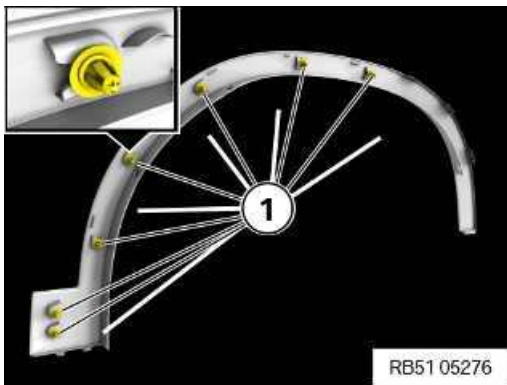
Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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12 – Partially install both front wheel arch trims



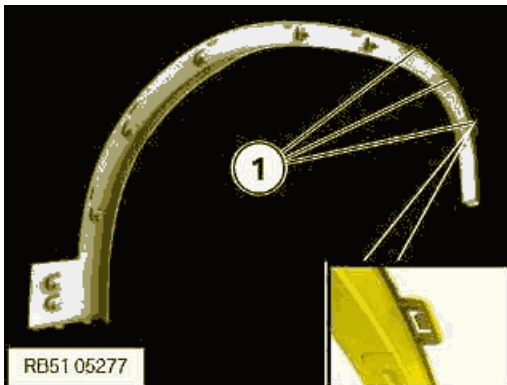
NOTICE

Description is for left component only. Procedure on the right side is identical.



► Partly install the front wheel arch trim

- Check clips (1) for damage, and replace if necessary.

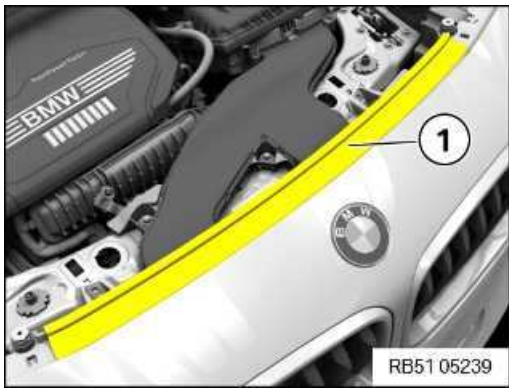


- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.

13 – Install the center front bonnet seal



- Press the centre front bonnet seal (1) down into the guide.
- Make sure the centre front bonnet seal (1) is fitted correctly.

14 – Install both bonnet seals on the side



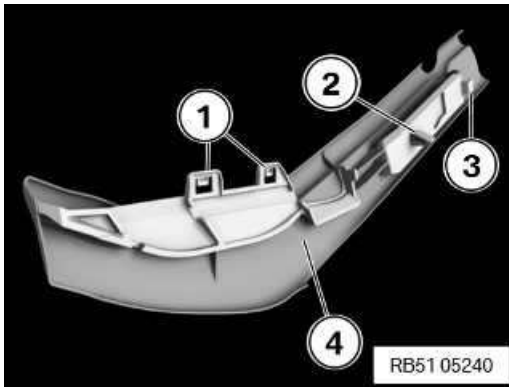
NOTICE

Description is for left component only. Procedure on the right side is identical.

► Installing seal for side bonnet

Check

- Check latch mechanisms (1) and (2) and also the guide (3) on the bonnet seal on the side (4) for damage.

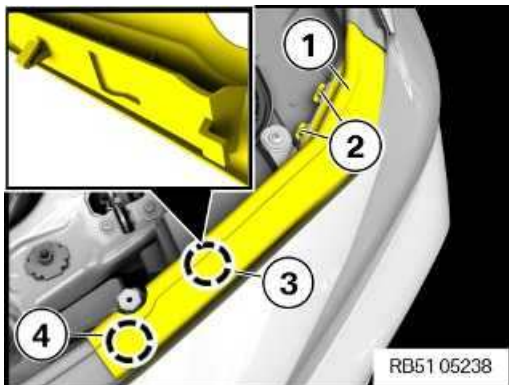


Result

» Latch mechanisms (1), (2) or the guide (3) are damaged.

Measure

- Renew the bonnet seal on the side (4).
- Insert the bonnet seal on the side (1) in the guide (4).
- Clip in the bonnet seal on the side (1) in the inner latch mechanism (3) and the outer latch mechanisms (2).



Additional Information

Overview of Tightening Torques

Bumper panel to headlight

Used in step 9

Thermoplastic multi-purpose bolt	Tightening torque	2,5 Nm
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Bumper panel to air duct		Used in step 9	
Screw M6		Tightening torque	4,6 Nm

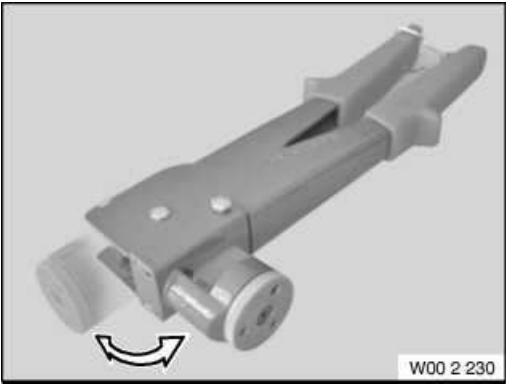
Front bumper panel to front side panel		Used in step 9	
Screw TS5X35		Tightening torque	3 Nm

Front bumper panel to underbody panelling		Used in step 9	
Thermoplastic hexagon screw		Tightening torque	2,5 Nm

Front wheel arch cover to front bumper panel		Used in step 11	
Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm

Overview of Special Tools

0 496 521 (00 2 230) Pliers



Common		Used in step	11	12
Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm			
Included in the tool or work				
Storage location	C25			
Replaced by				
In connection with				
SI-Number	01 17 08 (478)			

66 20 519 Removing and installing/replacing one ultrasonic sensor at the front, centre, right

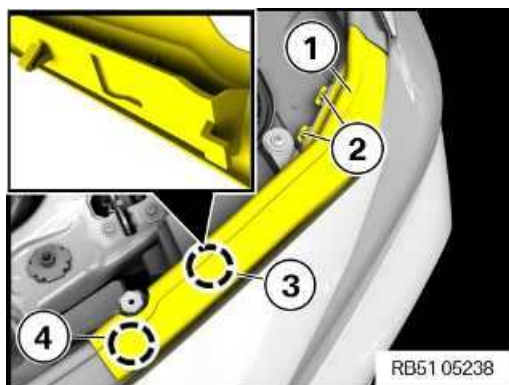
PRELIMINARY WORK

1 – Remove both bonnet seals on the side



NOTICE

Description is for left component only. Procedure on the right side is identical.



► Remove the bonnet seal on the side

- Unclip the side bonnet seal (1) from the outer latch mechanisms (2) and the inner latch mechanism (3).
- Feed out the side bonnet seal (1) from the guide (4) and remove.

2 – Removing the seal for the front centre bonnet



- Remove the seal for the front centre bonnet (1) towards the top.

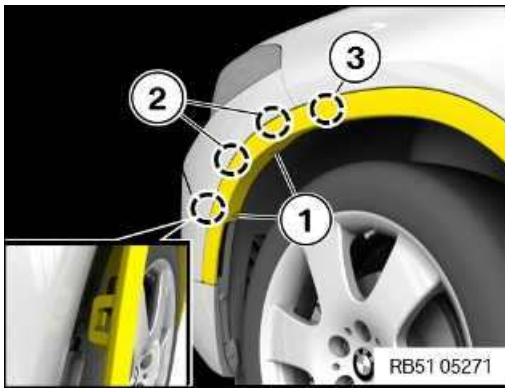
3 – Partially remove both front wheel arch trims



NOTICE

Description is for left component only. Procedure on the right side is identical.

► Partially removing the front wheel arch trim



- Loosen blind rivet(1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).

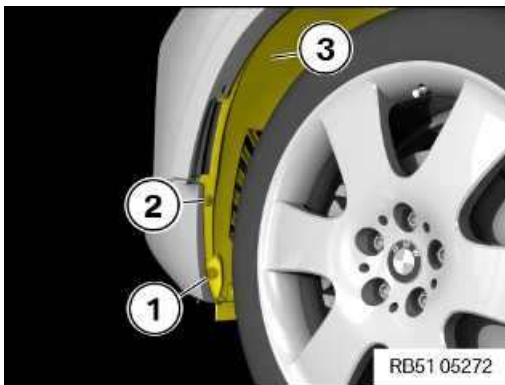
4 – Partially remove both front wheel arch covers



NOTICE

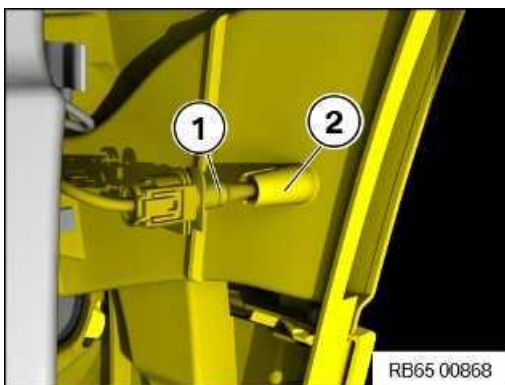
Description is for left component only. Procedure on the right side is identical.

► Partially remove the front wheel arch cover



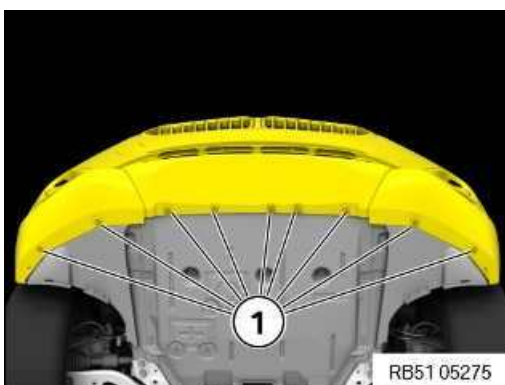
- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).

5 – Remove temperature sensor

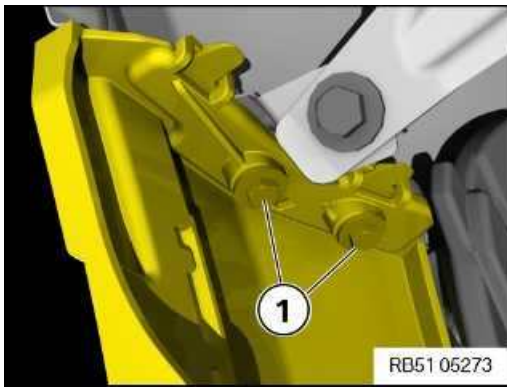


- Unclip temperature sensor (1) from front bumper panel (2).

6 – Remove front bumper panel



- Loosen screws (1).



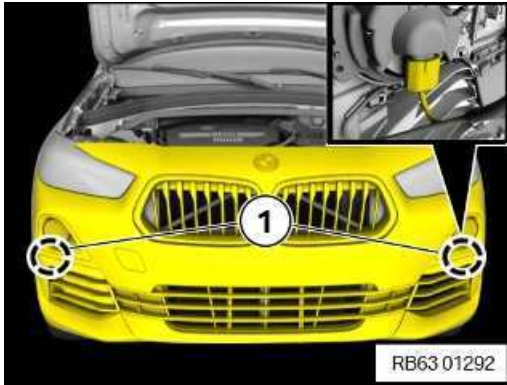
NOTICE

Description is for left component only. Procedure on the right side is identical.

- Loosen screws (1).



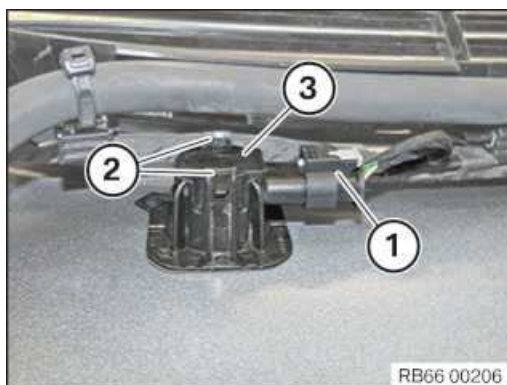
- Loosen screws (1).
- Loosen screws (2).



- Pull the front bumper panel slightly forward with the help of another person.
- Unlock and disconnect the plug connections (1) on the fog lights.
- Remove the front bumper panel.

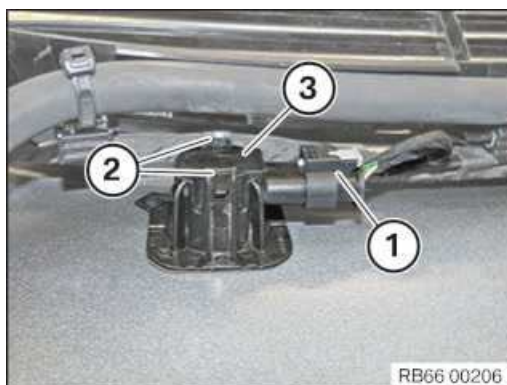
MAIN WORK

7 – Removing the ultrasonic sensor at the front right in the centre



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Remove the ultrasonic sensor (3).

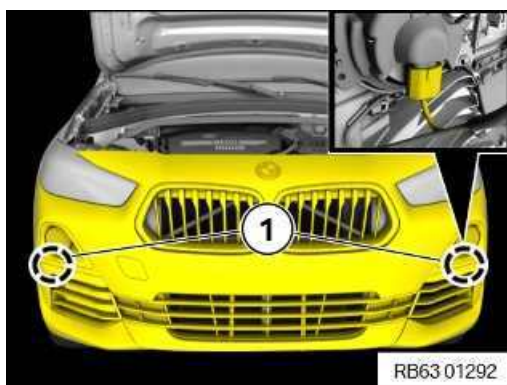
8 – Installing the ultrasonic sensor at the front right in the centre



- Connect connectors (1) and lock.
- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (2).

POSTPROCESSES

9 – Install bumper panel, front



- Connect the connectors (1) on the fog lights and lock.
- Join the front bumper panel and position.



- Tighten the screws (1).

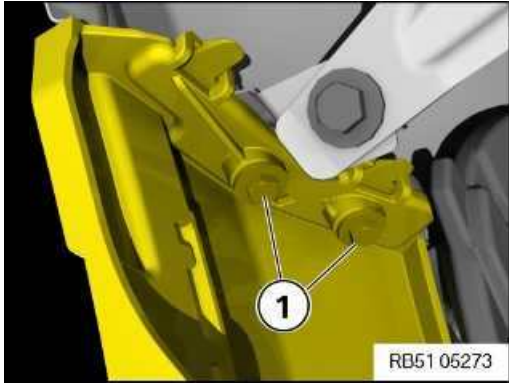
Bumper panel to headlight

Thermoplastic multi-purpose bolt		Tightening torque	2,5 Nm
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- Tighten down screws (2).

Bumper panel to air duct

Screw M6		Tightening torque	4,6 Nm
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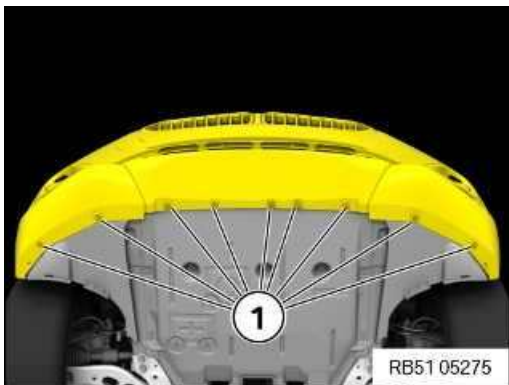
NOTICE

Description is for left component only. Procedure on the right side is identical.

- Tighten the screws (1).

Front bumper panel to front side panel

Screw TS5X35		Tightening torque	3 Nm
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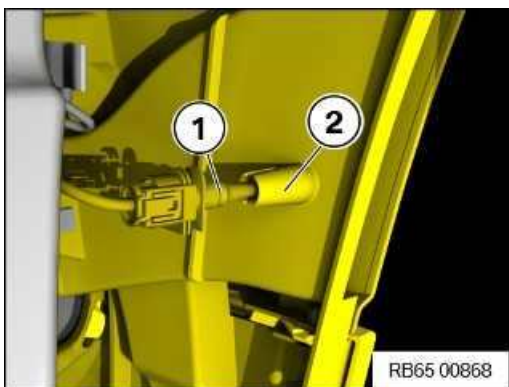


- Tighten the screws (1).

Front bumper panel to underbody panelling

Thermoplastic hexagon screw		Tightening torque	2,5 Nm
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10 – Install temperature sensor



- Clip temperature sensor (1) into the front bumper panel (2).

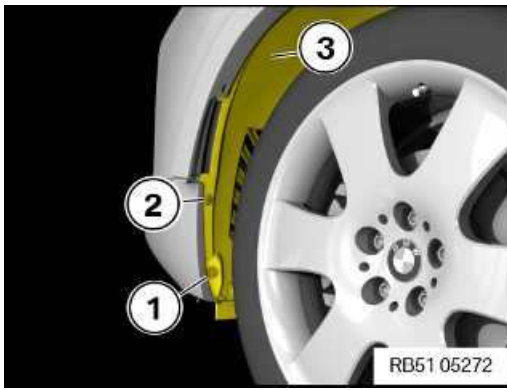
11 – Partially install both front wheel arch covers



NOTICE

Description is for left component only. Procedure on the right side is identical.

- Partially install the front wheel arch cover



- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

Front wheel arch cover to front bumper panel

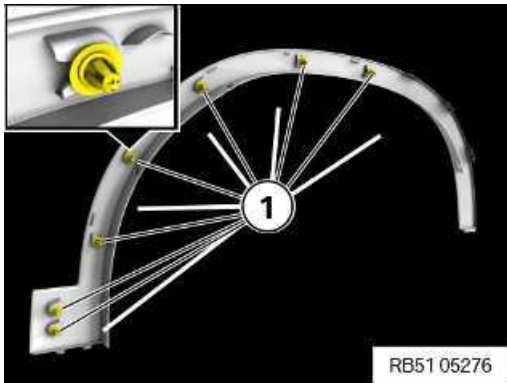
Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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12 – Partially install both front wheel arch trims



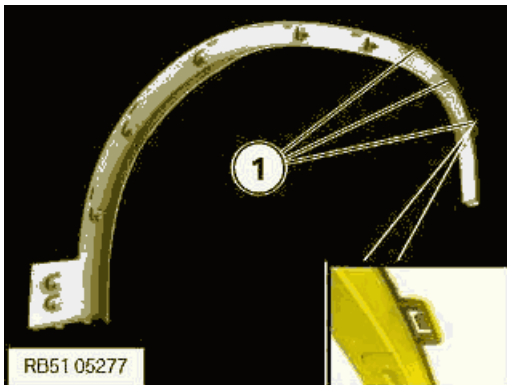
NOTICE

Description is for left component only. Procedure on the right side is identical.



► Partly install the front wheel arch trim

- Check clips (1) for damage, and replace if necessary.

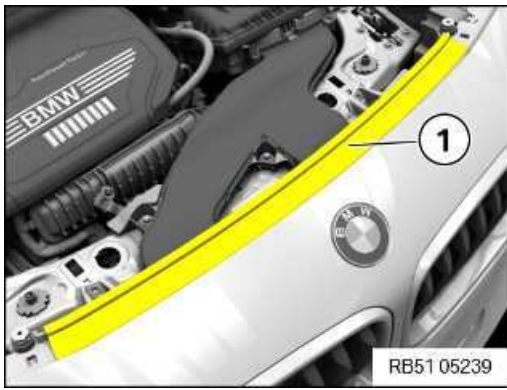


- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.

13 – Install the center front bonnet seal



- Press the centre front bonnet seal (1) down into the guide.
- Make sure the centre front bonnet seal (1) is fitted correctly.

14 – Install both bonnet seals on the side



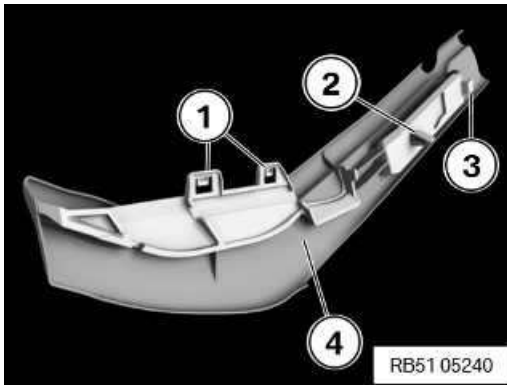
NOTICE

Description is for left component only. Procedure on the right side is identical.

► Installing seal for side bonnet

Check

- Check latch mechanisms (1) and (2) and also the guide (3) on the bonnet seal on the side (4) for damage.

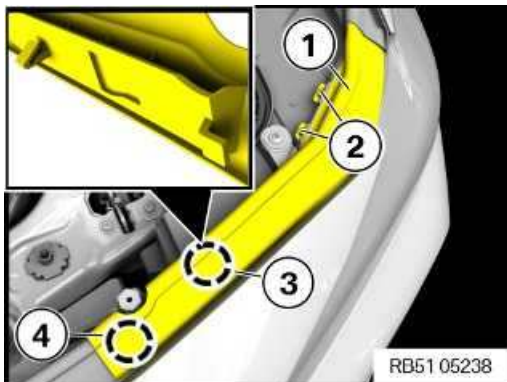


Result

» Latch mechanisms (1), (2) or the guide (3) are damaged.

Measure

- Renew the bonnet seal on the side (4).
- Insert the bonnet seal on the side (1) in the guide (4).
- Clip in the bonnet seal on the side (1) in the inner latch mechanism (3) and the outer latch mechanisms (2).



Additional Information

Overview of Tightening Torques

Bumper panel to headlight

Used in step 9

Thermoplastic multi-purpose bolt	Tightening torque	2,5 Nm
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Bumper panel to air duct			Used in step 9
Screw M6		Tightening torque	4,6 Nm

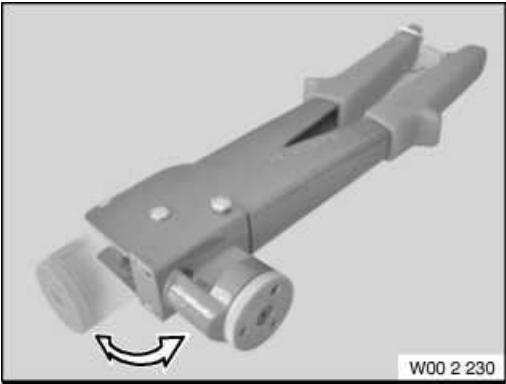
Front bumper panel to front side panel			Used in step 9
Screw TS5X35		Tightening torque	3 Nm

Front bumper panel to underbody panelling			Used in step 9
Thermoplastic hexagon screw		Tightening torque	2,5 Nm

Front wheel arch cover to front bumper panel			Used in step 11
Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm

Overview of Special Tools

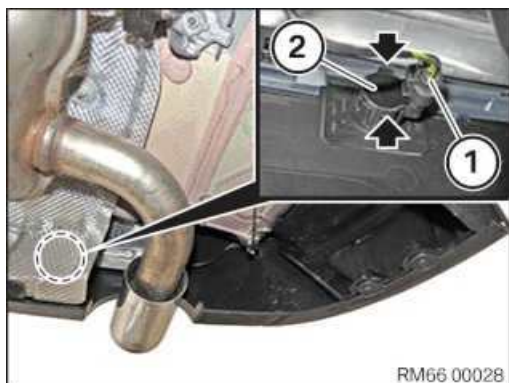
0 496 521 (00 2 230) Pliers



Common		Used in step 11 12
Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm	
Included in the tool or work		
Storage location	C25	
Replaced by		
In connection with		
SI-Number	01 17 08 (478)	

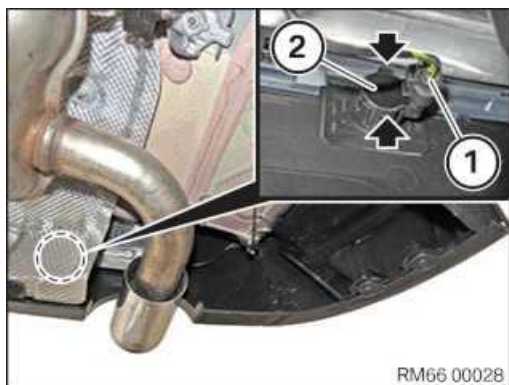
66 20 536 Removing and installing/replacing the rear centre left ultrasonic sensor (Park Distance Control) (after vehicle diagnosis)

1 – Removing the ultrasonic sensor at the rear left in the centre



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (arrows).
- Remove the ultrasonic sensor (2).

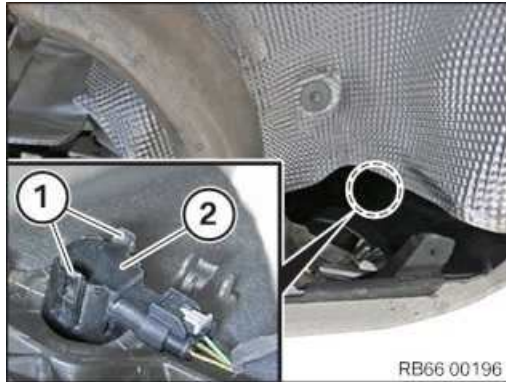
2 – Installing the ultrasonic sensor at the rear left in the centre



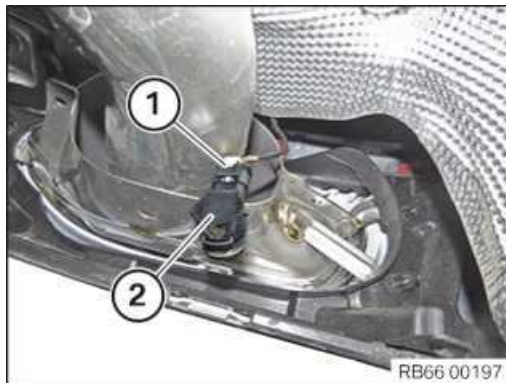
- Correctly position ultrasonic sensor (2).
- Lock the latch mechanisms (arrows).
- Connect connectors (1) and lock.

66 20 534 Removing and installing/replacing the rear left ultrasonic sensor (outer) (Park Distance Control) (after vehicle diagnosis)

1 – Removing the ultrasonic sensor at the rear left

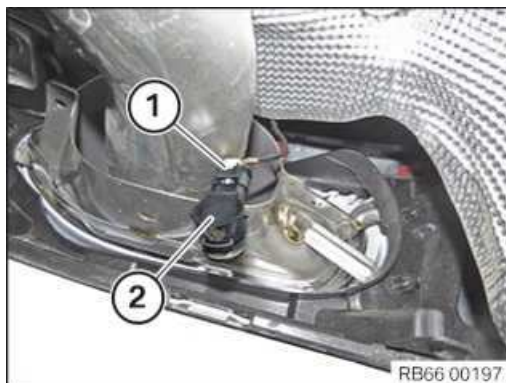


- Unlock the latch mechanisms (1).
- Remove the ultrasonic sensor (2) towards the bottom.



- Unlock plug connection (1) and disconnect.
- Remove the ultrasonic sensor (2).

2 – Installing the ultrasonic sensor at the rear left



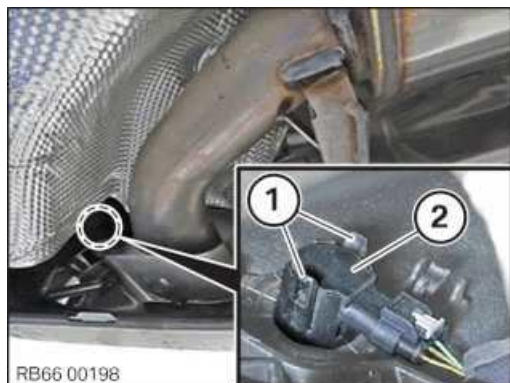
- Position ultrasonic sensor (2).
- Connect connectors (1) and lock.



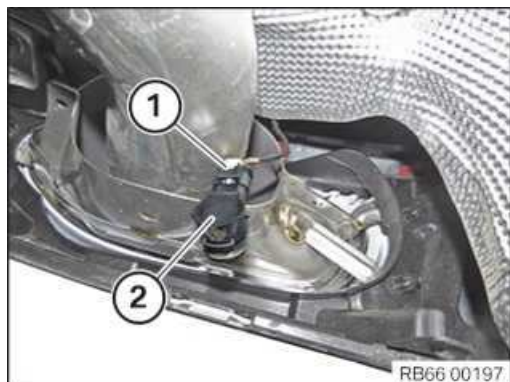
- Position the ultrasonic sensor (2) correctly and engage it in the latch mechanisms (1).

66 20 535 Removing and installing/replacing the rear right ultrasonic sensor (outer) (Park Distance Control) (after vehicle diagnosis)

1 – Removing the ultrasonic sensor at the rear right

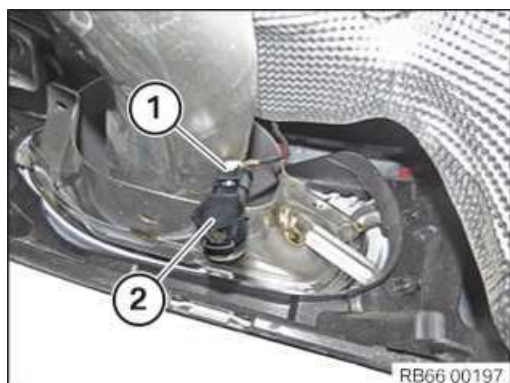


- Unlock the latch mechanisms (1).
- Remove the ultrasonic sensor (2) towards the bottom.

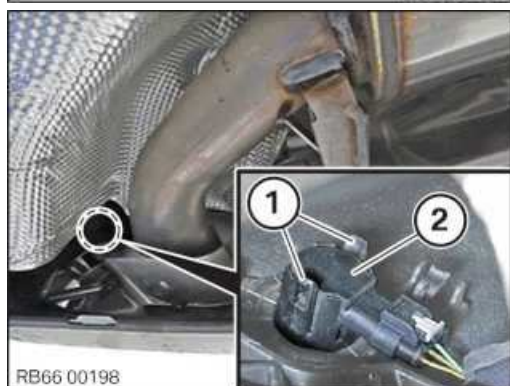


- Unlock and disconnect plug connections (1).
- Remove the ultrasonic sensor (2).

2 – Installing the rear right ultrasonic sensor



- Connect and lock the connectors (1) on the ultrasonic sensor (2).



- Position the ultrasonic sensor (2) correctly and engage it in the latch mechanisms (1).

66 20 537 Removing and installing/replacing the rear, centre, right ultrasonic sensor (Park Distance Control) (after vehicle diagnosis)

1 – Removing the rear right ultrasonic sensor in the centre



- Loosen screws (1).



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (arrows).
- Remove the ultrasonic sensor (2).

2 – Installing the rear right ultrasonic sensor in the centre



- Correctly position ultrasonic sensor (2).
- Engage the latch mechanisms (arrows).
- Connect connectors (1) and lock.



- Tighten the screws (1).

Rear bumper panel to guides

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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Additional Information

Overview of Tightening Torques

Rear bumper panel to guides

Used in step [2](#)

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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66 33 008 Remove & install control unit for Parking Manoeuvring Assistant



RISK OF DAMAGE



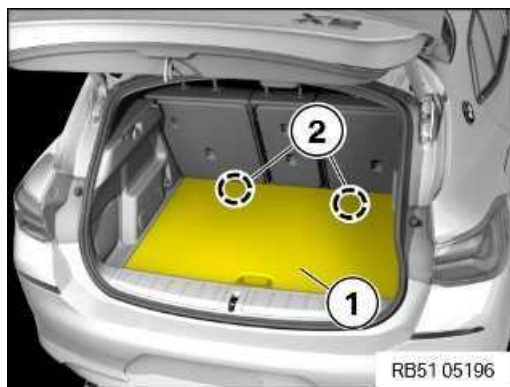
Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave electrical components in original packaging until just before they are installed. Use the original packaging only for any return shipments. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only touch the housings of electrical components. Do not touch pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 Information on electrostatic discharge (ESD) protection.

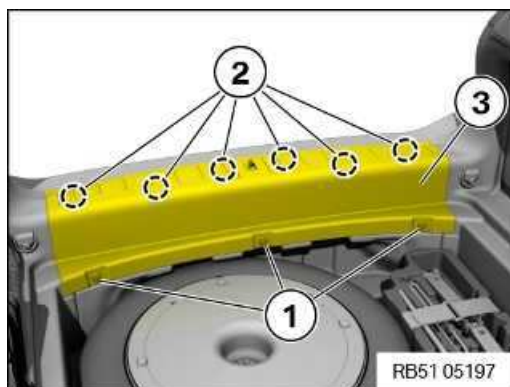
PRELIMINARY WORK

1 – Removing the luggage compartment removable panel



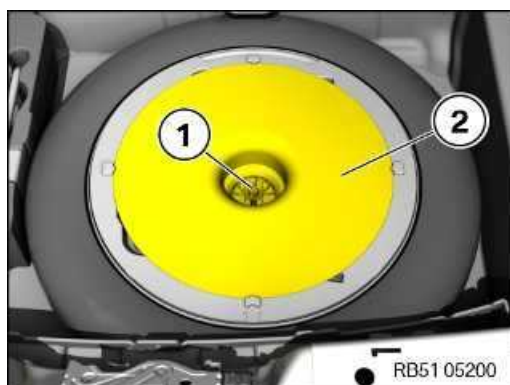
- Raise the luggage compartment removable panel (1) slightly at the handle, detach it from the latch mechanisms (2) and remove it toward the back.

2 – Removing the loading edge trim

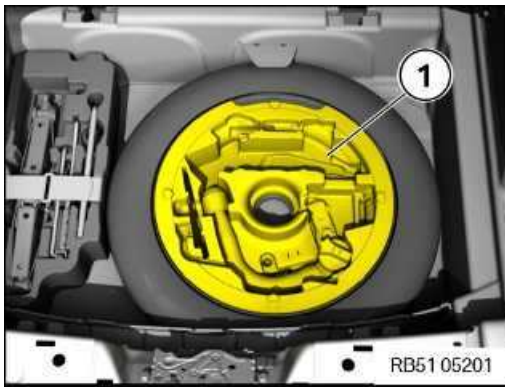


- Loosen the expanding rivet (1).
- Unclip the loading edge trim (3) from the clamps (2) toward the top and remove.

3 – Removing the compact spare wheel



- Loosen screw (1).
- Remove the cover (2).

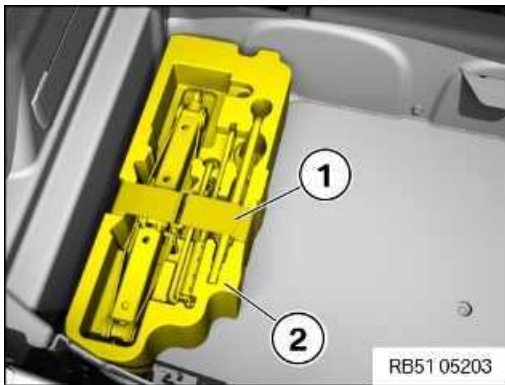


- Remove the oddments tray from the emergency wheel (1).



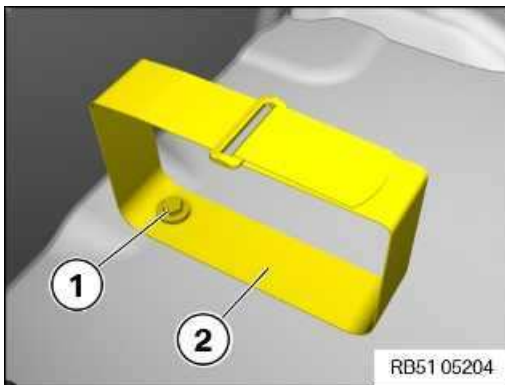
- Remove the emergency wheel (1).

4 – Remove the tool kit



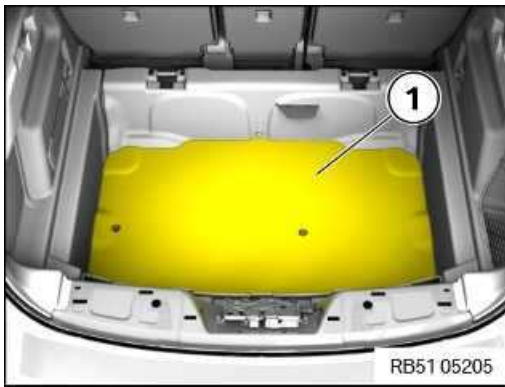
- Open the hook and loop tape (1).
- Remove the tool kit (2).

5 – Remove the hook and loop tape for the tool kit



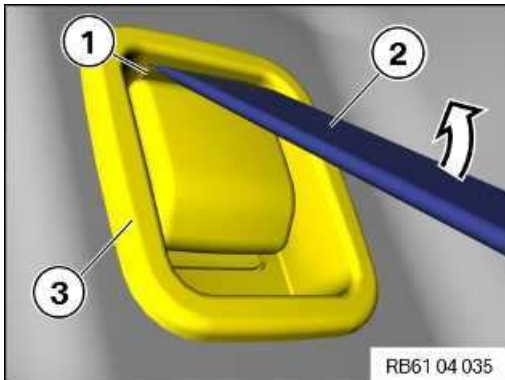
- Loosen screw (1).
- Remove the hook and loop tape (2).

6 – Removing the luggage compartment floor trim panel

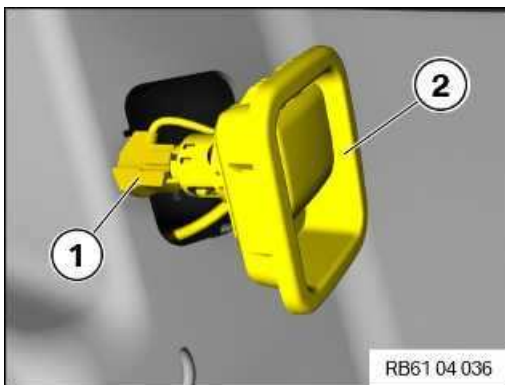


- Remove the luggage compartment floor trim panel (1) upwards.

7 – Remove the fixture of the 12 V power socket

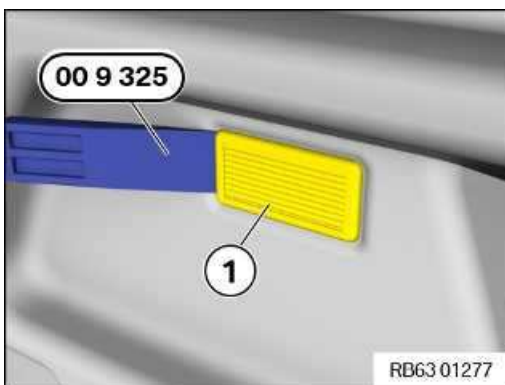


- Push the lock on top (1) with a suitable tool (2) in the direction of the arrow and unlock.
- Remove the fixture (3) of the 12 V power socket in the rear from the luggage compartment wheel arch trim panel.

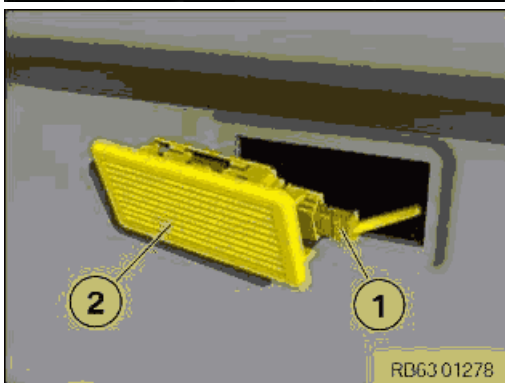


- Unlock the plug connection (1), disconnect it and remove the fixture (2) of the 12 V power socket.

8 – Removing the luggage compartment light

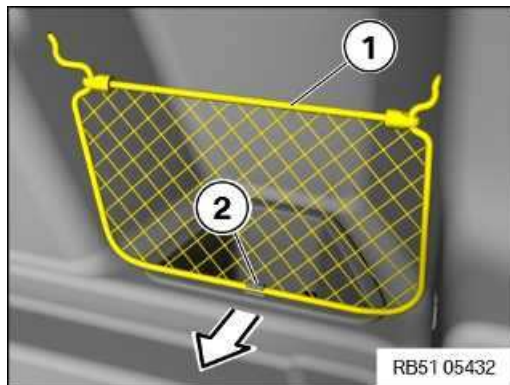


- Lever out the luggage compartment light (1) with the special tool 0 496 569 (00 9 325).

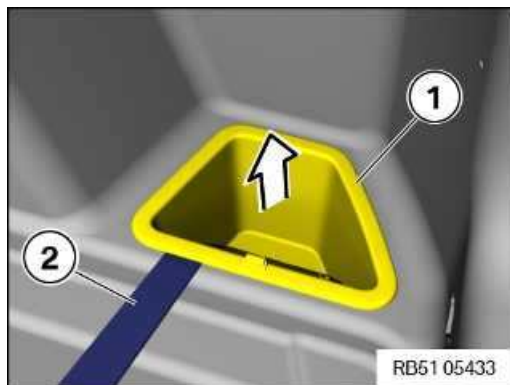


- Disconnect plug connection (1) and remove luggage compartment light (2).

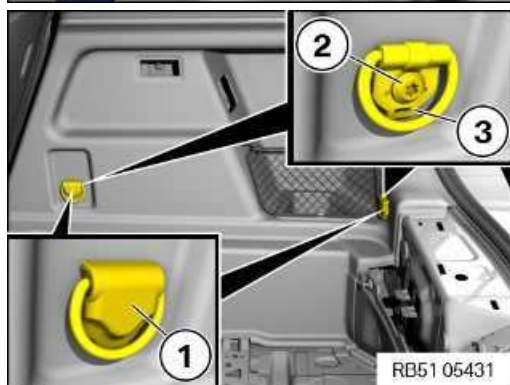
9 – Removing right luggage compartment wheel arch trim panel



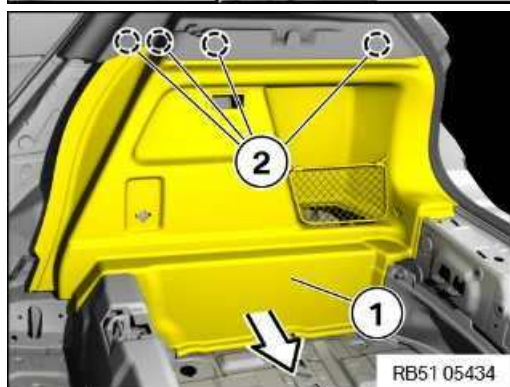
- Release the storage net (1) from the latch mechanism (2) in the direction of arrow and fold up.



- Remove storage compartment (1) out of the luggage compartment wheel arch trim panel in the direction of arrow using a suitable tool (2).



- Unclip covers (1).
- Unscrew the bolts (2) and remove the lashing points (3).



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

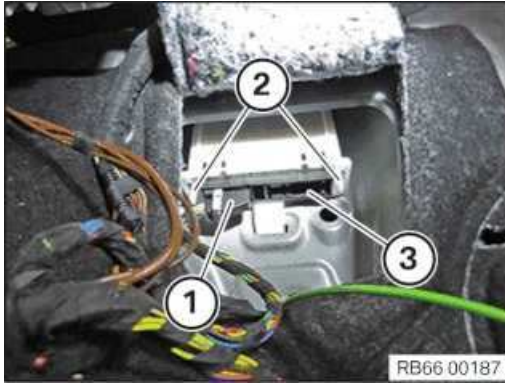
- Pull the luggage compartment wheel arch trim panel (1) on the bottom in the direction of the arrow and guide it out of the guides (2) and the C-pillar trim panel and remove.

MAIN WORK

10 – Removing the control unit for Parking Manoeuvring Assistant (PMA)

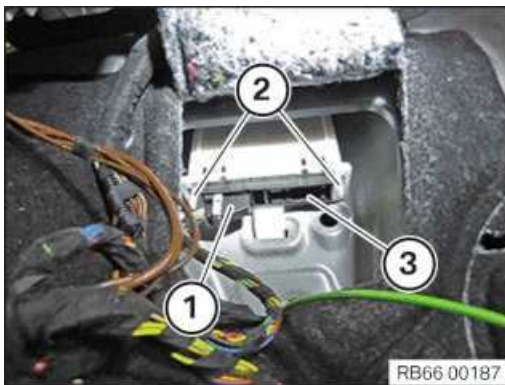


- Open flap (1).



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Pull the control unit for PMA (3) out to the bottom.

11 – Install the control unit for the Parking Manoeuvring Assistant (PMA)



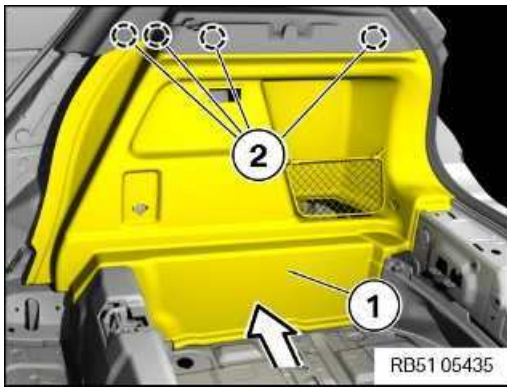
- Slide in the control unit for the PMA (3) in an upward direction.
- Lock the latch mechanisms (2) correctly.
- Connect connectors (1) and lock.



- Close flap (1).

POSTPROCESSES

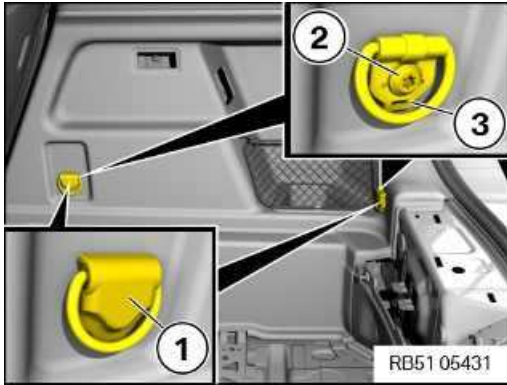
12 – Installing the luggage compartment wheel arch trim panel on the right



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

- Press luggage compartment wheel arch trim panel (1) down in direction of arrow and feed into the guides (2) and under the bottom C-pillar trim panel.



- Position the lashing eyes (3) and tighten the screws (2).

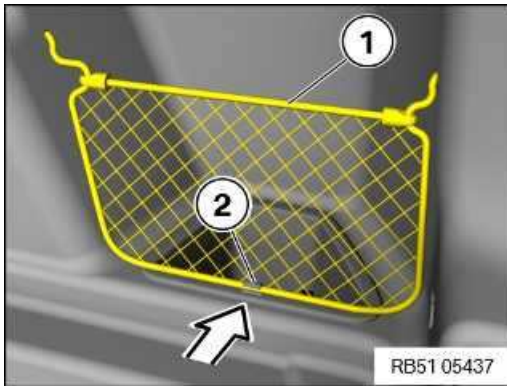
Lashing eye in luggage compartment

Bolt M8 x 22		Tightening torque	21 Nm
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- Clip in the covers (1).

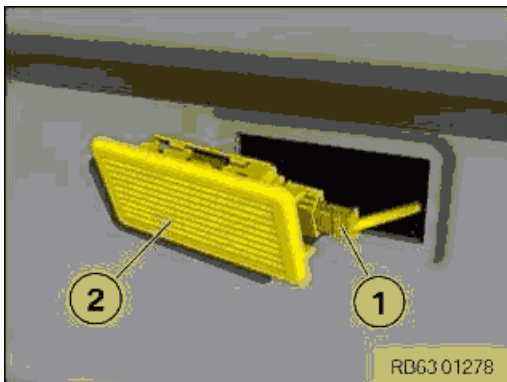


- Install the storage compartment (1) in the luggage compartment wheel arch trim panel in direction of arrow.

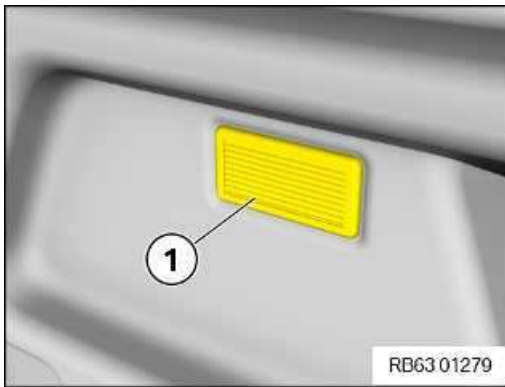


- Clip storage net (1) into latch mechanisms (2) in direction of arrow.

13 – Installing the luggage compartment light

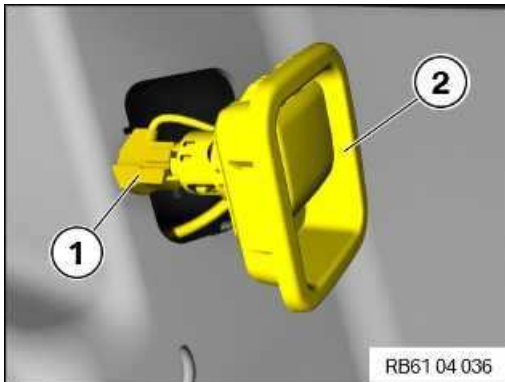


- Connect the connector (1) to the luggage compartment light (2).

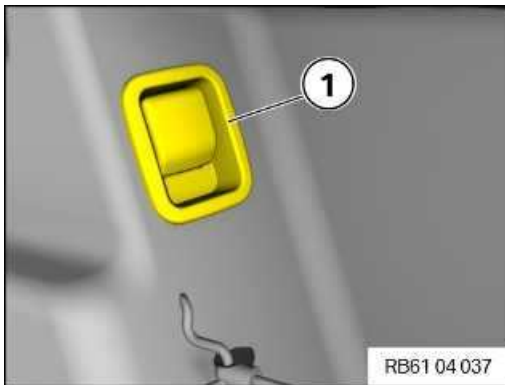


- Install the luggage compartment light (1).

14 – Install the fixture of the 12 V power socket

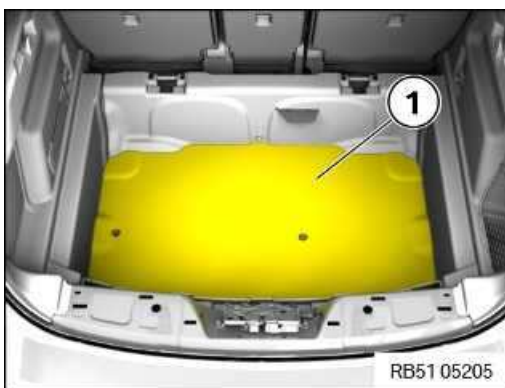


- Connect the connector (1) to the fixture (2) of the 12 V power socket and lock.



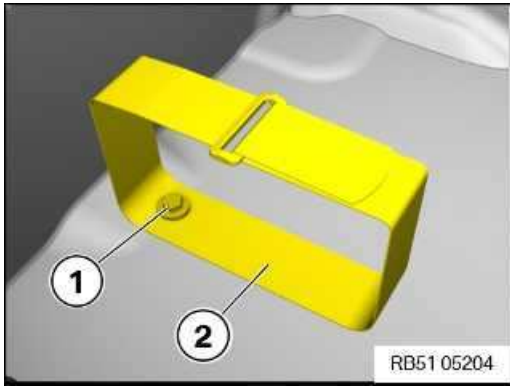
- Insert the fixture (1) of the 12 V power socket in the luggage compartment wheel arch trim panel and engage.

15 – Installing the luggage compartment floor trim panel



- Position the luggage compartment floor trim panel (1).

16 – Inserting the Velcro fastener for the toolkit

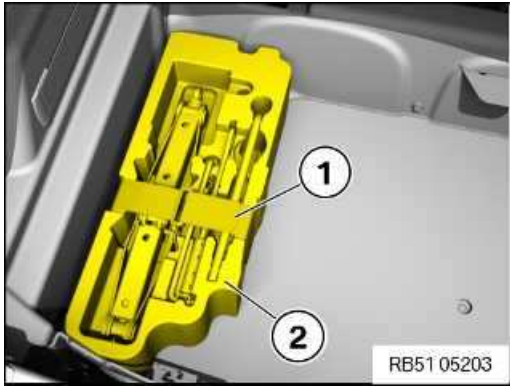


- Insert Velcro fastener (2).
- Tighten down screw (1).

Toolkit hook and loop tape to body

Bolt M6 x 20		Tightening torque	4 Nm
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17 – Install the tool kit

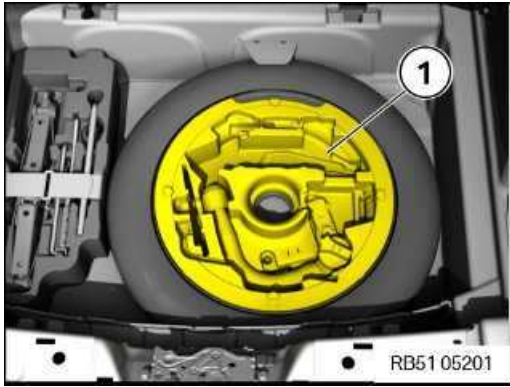


- Install the tool kit (2).
- Close the hook and loop tape (1).

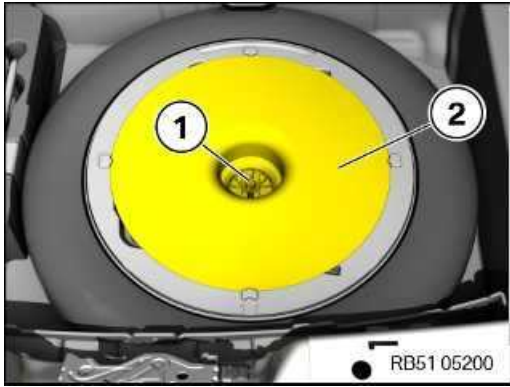
18 – Install the emergency wheel



- Insert compact spare wheel(1).

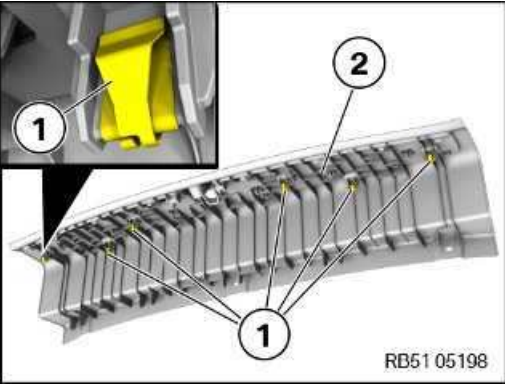


- Insert oddments tray into the compact spare wheel (1).

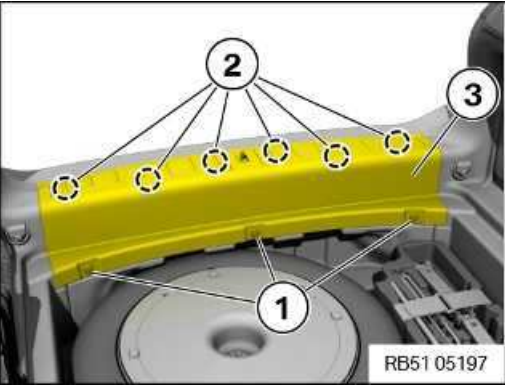


- Insert the lid (2).
- Hand-tighten the bolt (1).

19 – Installing loading edge trim

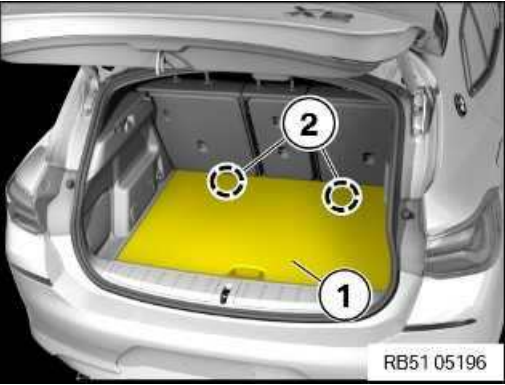


- Check the clamps (1) at the loading edge trim (2) for damage and renew if necessary.



- Insert the loading edge trim (3) in the area of the expanding rivets (1) into the underlying rear luggage compartment trim panel.
- Guide in the loading edge trim (3) under the sealing lip of the seal for the tailgate and clip it in with the clamps (2).
- Secure expanding rivet (1).

20 – Installing the luggage compartment removable panel



- Clip luggage compartment removable panel (1) into latch mechanisms (2) and set down.

Additional Information

Overview of Tightening Torques

Lashing eye in luggage compartment

Used in step 12

Bolt M8 x 22	Tightening torque	21 Nm
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Toolkit hook and loop tape to body

Used in step 16

Bolt M6 x 20	Tightening torque	4 Nm
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Overview of Special Tools

0 496 569 (00 9 325) Wedge



Common		Used in step	8
Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)		
Included in the tool or work	0 490 527		
Storage location	Individual		
Replaced by			
In connection with			
SI-Number	41 01 09 (507)		

Links

Repair instructions	Used in step
61 35 ... Notes on ESD protection (Electro Static Discharge)	

66 33 010 Remove and install ultrasonic sensor for Parking Manoeuvring Assistant, left or right

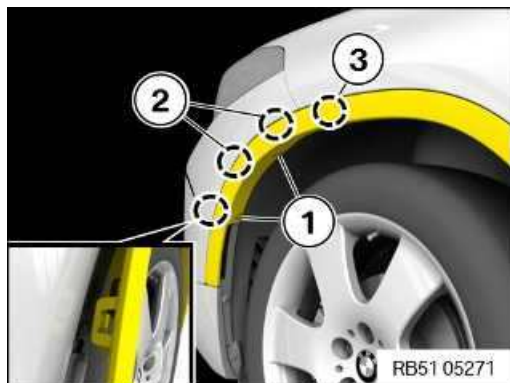


NOTICE

Description is for left component only. Procedure on the right side is identical.

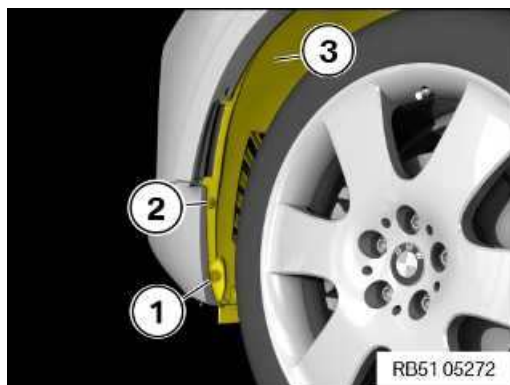
PRELIMINARY WORK

1 – Partially removing the front wheel arch trim



- Loosen blind rivet (1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).

2 – Partially remove the front wheel arch cover



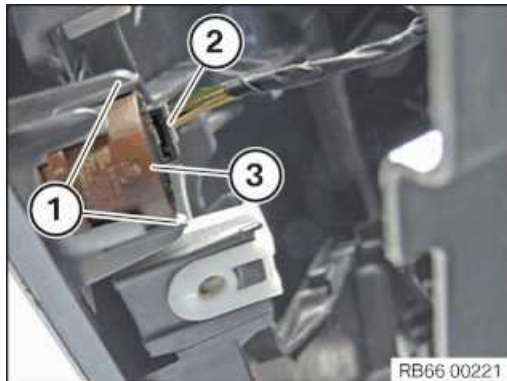
- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).

3 – Removing the ultrasonic sensor for the front Parking Manoeuvring Assistant (PMA)



NOTICE

Description is for left component only. Procedure on the right side is identical.



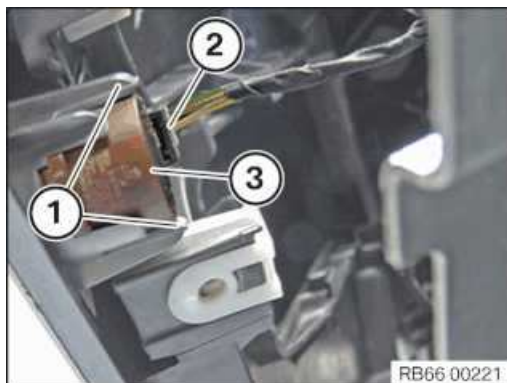
- Unlock the latch mechanisms (1).
- Unlock plug connection (2) and disconnect.
- Remove the ultrasonic sensor (3).

4 – Installing the ultrasonic sensor for the front Parking Manoeuvring Assistant (PMA)



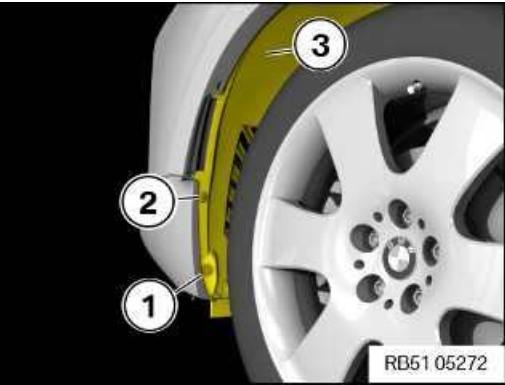
NOTICE

Description is for left component only. Procedure on the right side is identical.



- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (1).
- Connect connectors (2) and lock.

5 – Partially install the front wheel arch cover



- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

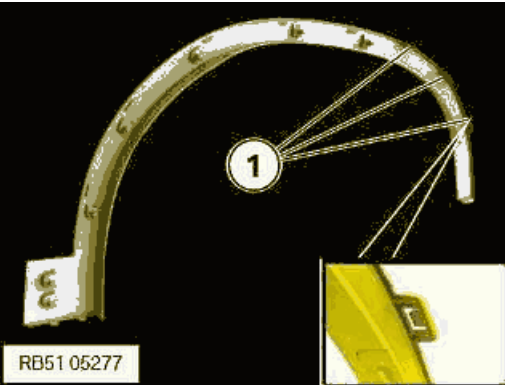
Front wheel arch cover to front bumper panel

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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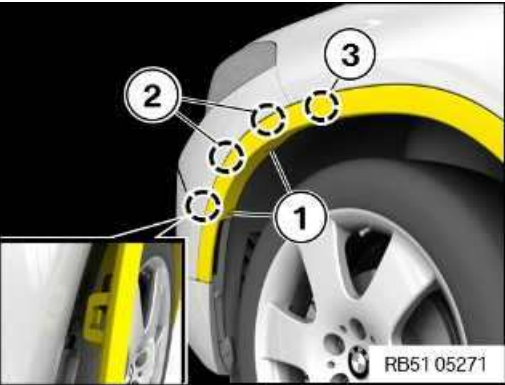
6 – Partly install the front wheel arch trim



- Check clips (1) for damage, and replace if necessary.



- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.

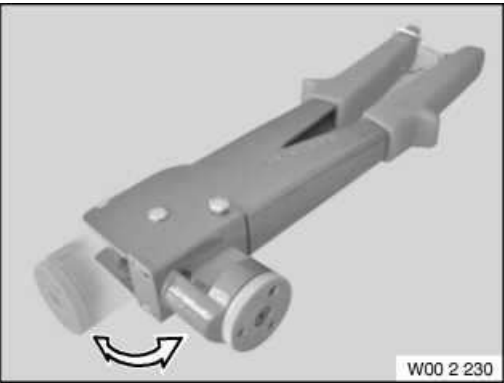
Additional Information

Overview of Tightening Torques

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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Overview of Special Tools

0 496 521 (00 2 230) Pliers



Common		Used in step 5 6
Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm	
Included in the tool or work		
Storage location	C25	
Replaced by		
In connection with		
SI-Number	01 17 08 (478)	

66 33 519 Replace the control unit for the parking assist (after vehicle diagnosis) (flat rate specification without programming/encoding, see 61 00 ...)



RISK OF DAMAGE



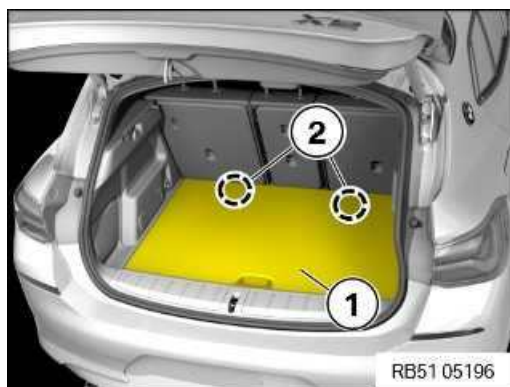
Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave electrical components in original packaging until just before they are installed. Use the original packaging only for any return shipments. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only touch the housings of electrical components. Do not touch pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 Information on electrostatic discharge (ESD) protection.

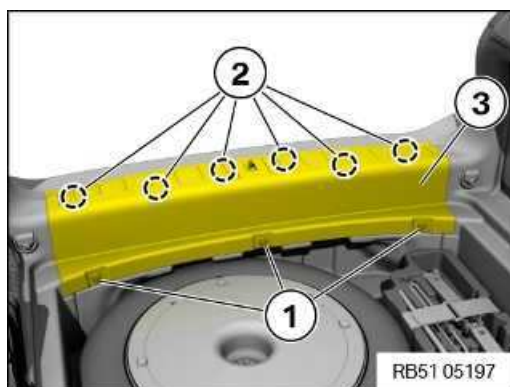
PRELIMINARY WORK

1 – Removing the luggage compartment removable panel



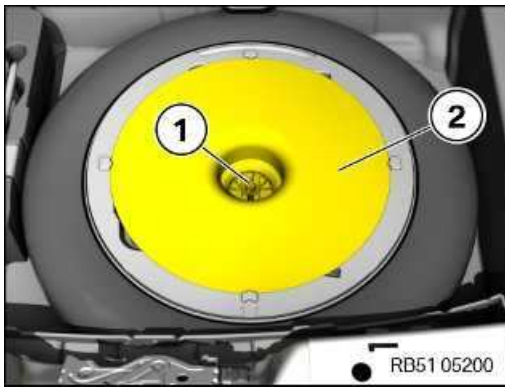
- Raise the luggage compartment removable panel (1) slightly at the handle, detach it from the latch mechanisms (2) and remove it toward the back.

2 – Removing the loading edge trim

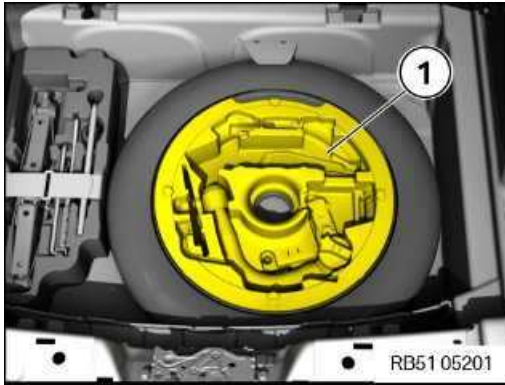


- Loosen the expanding rivet (1).
- Unclip the loading edge trim (3) from the clamps (2) toward the top and remove.

3 – Removing the compact spare wheel



- Loosen screw (1).
- Remove the cover (2).

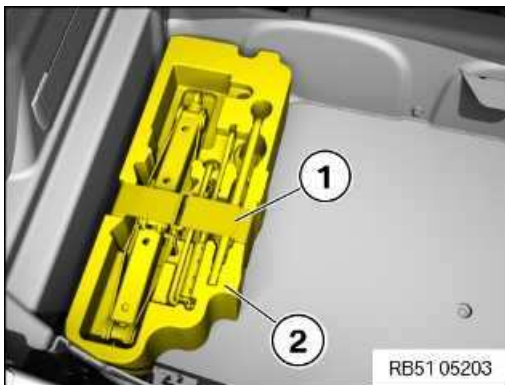


- Remove the oddments tray from the emergency wheel (1).



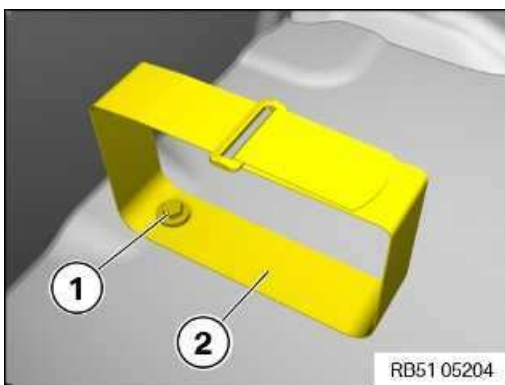
- Remove the emergency wheel (1).

4 – Remove the tool kit



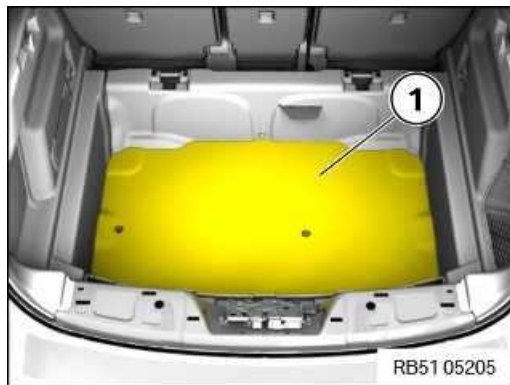
- Open the hook and loop tape (1).
- Remove the tool kit (2).

5 – Remove the hook and loop tape for the tool kit



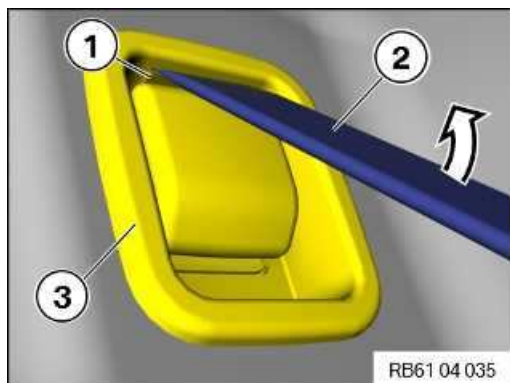
- Loosen screw (1).
- Remove the hook and loop tape (2).

6 – Removing the luggage compartment floor trim panel

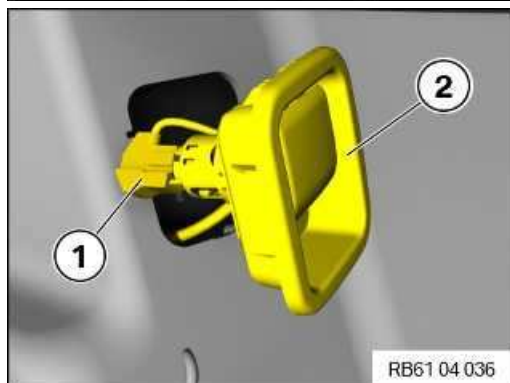


- Remove the luggage compartment floor trim panel (1) upwards.

7 – Remove the fixture of the 12 V power socket

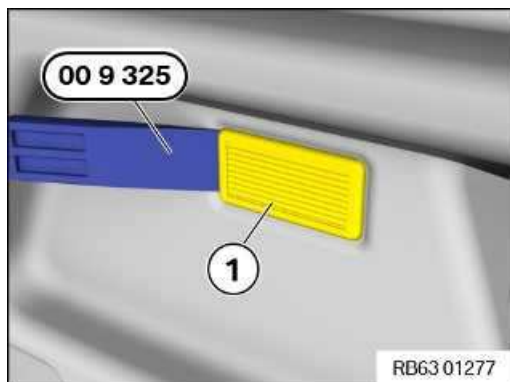


- Push the lock on top (1) with a suitable tool (2) in the direction of the arrow and unlock.
- Remove the fixture (3) of the 12 V power socket in the rear from the luggage compartment wheel arch trim panel.

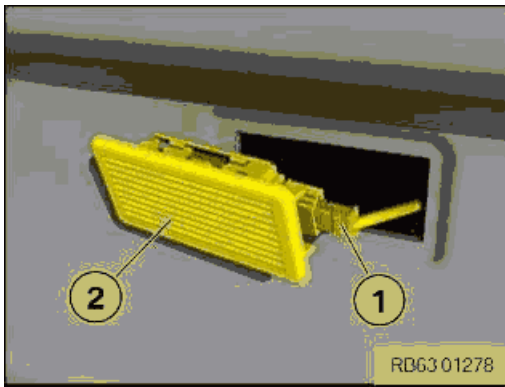


- Unlock the plug connection (1), disconnect it and remove the fixture (2) of the 12 V power socket.

8 – Removing the luggage compartment light

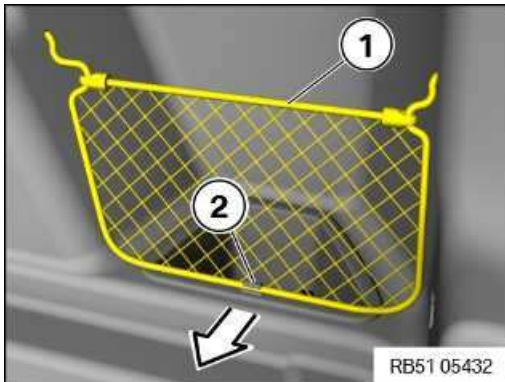


- Lever out the luggage compartment light (1) with the special tool **0 496 569 (00 9 325)**.

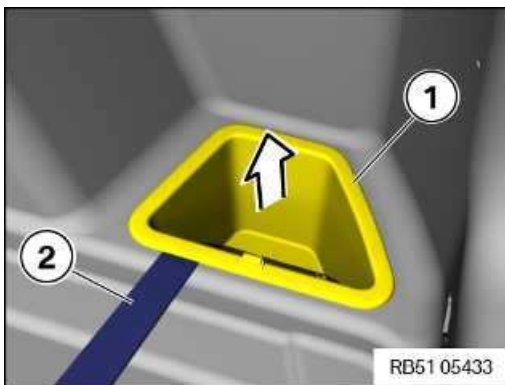


- Disconnect plug connection (1) and remove luggage compartment light (2).

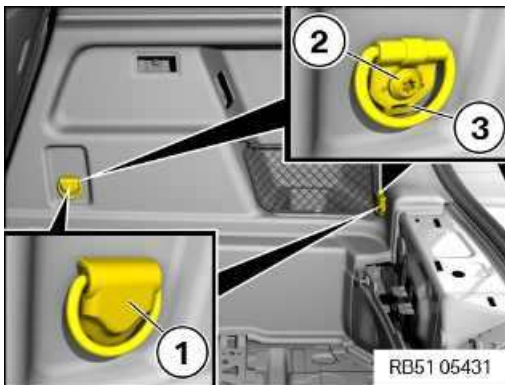
9 – Removing right luggage compartment wheel arch trim panel



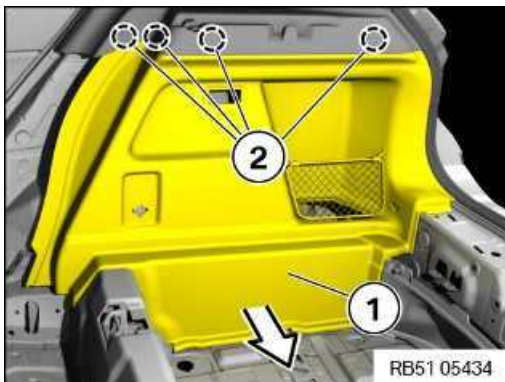
- Release the storage net (1) from the latch mechanism (2) in the direction of arrow and fold up.



- Remove storage compartment (1) out of the luggage compartment wheel arch trim panel in the direction of arrow using a suitable tool (2).



- Unclip covers (1).
- Unscrew the bolts (2) and remove the lashing points (3).



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

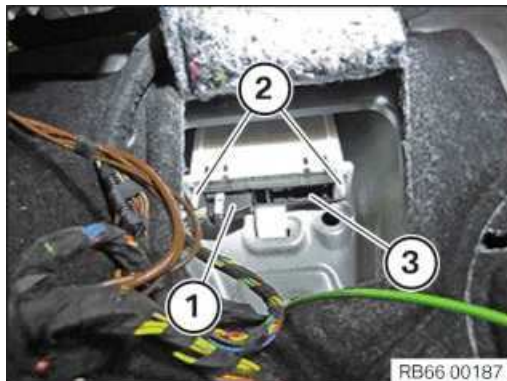
- Pull the luggage compartment wheel arch trim panel (1) on the bottom in the direction of the arrow and guide it out of the guides (2) and the C-pillar trim panel and remove.

MAIN WORK

10 – Removing the control unit for Parking Manoeuvring Assistant (PMA)

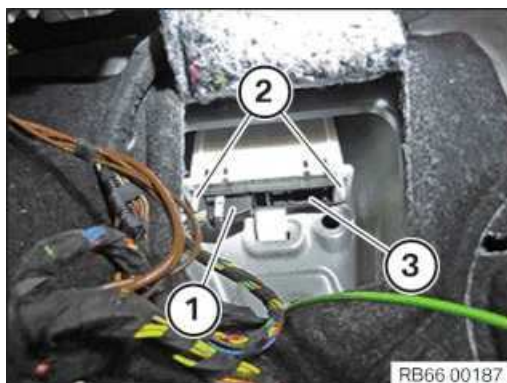


- Open flap (1).



- Unlock and disconnect connector (1).
- Unlock the latch mechanisms (2).
- Pull the control unit for PMA (3) out to the bottom.

11 – Install the control unit for the Parking Manoeuvring Assistant (PMA)



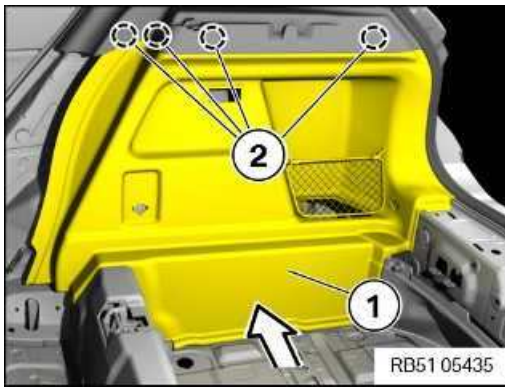
- Slide in the control unit for the PMA (3) in an upward direction.
- Lock the latch mechanisms (2) correctly.
- Connect connectors (1) and lock.



- Close flap (1).

POSTPROCESSES

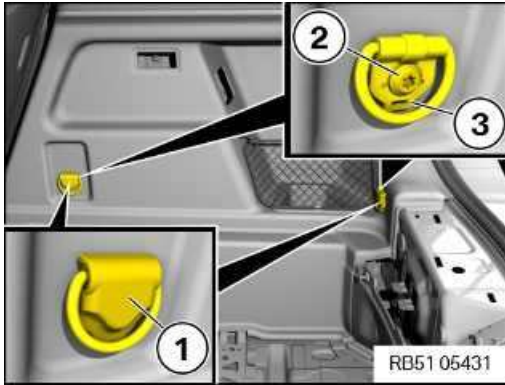
12 – Installing the luggage compartment wheel arch trim panel on the right



NOTICE

Schematic diagram is for example purposes. Some parts may differ in certain details.

- Press luggage compartment wheel arch trim panel (1) down in direction of arrow and feed into the guides (2) and under the bottom C-pillar trim panel.



- Position the lashing eyes (3) and tighten the screws (2).

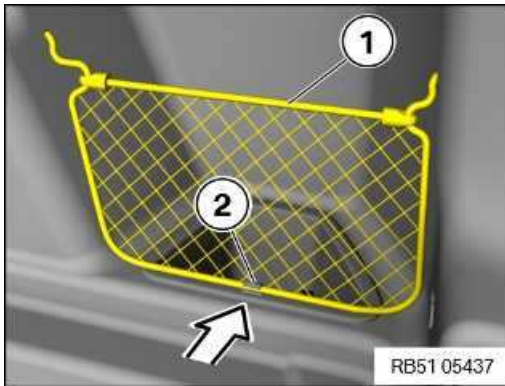
Lashing eye in luggage compartment

Bolt M8 x 22		Tightening torque	21 Nm
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- Clip in the covers (1).

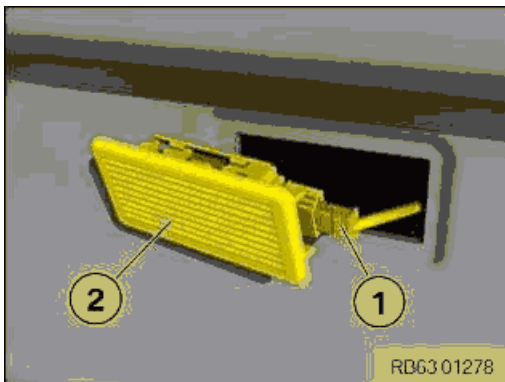


- Install the storage compartment (1) in the luggage compartment wheel arch trim panel in direction of arrow.

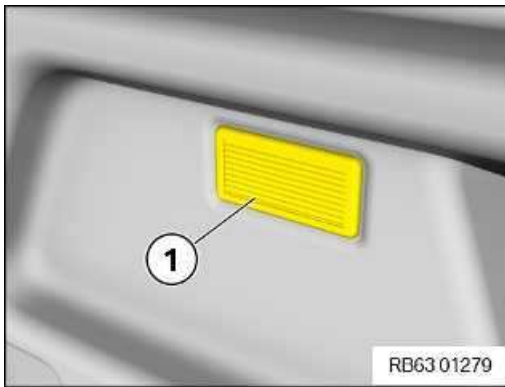


- Clip storage net (1) into latch mechanisms (2) in direction of arrow.

13 – Installing the luggage compartment light

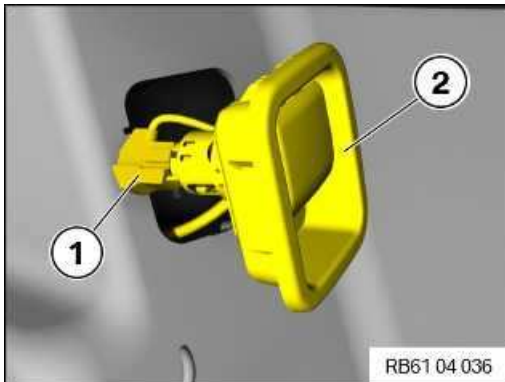


- Connect the connector (1) to the luggage compartment light (2).

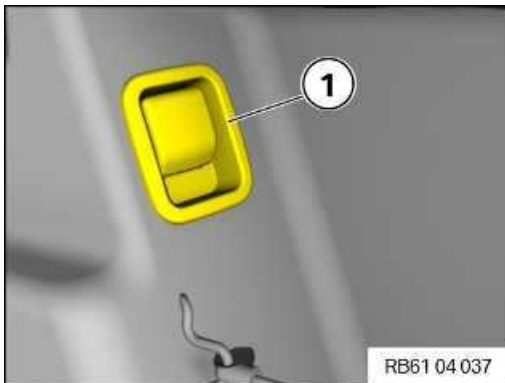


- Install the luggage compartment light (1).

14 – Install the fixture of the 12 V power socket

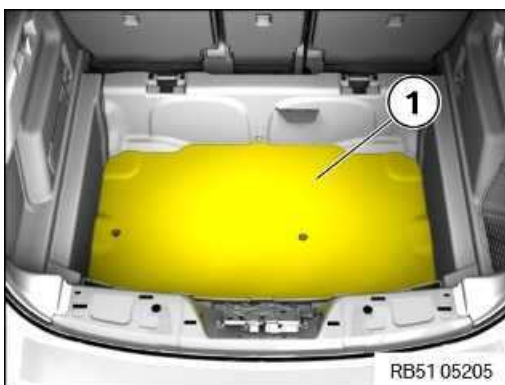


- Connect the connector (1) to the fixture (2) of the 12 V power socket and lock.



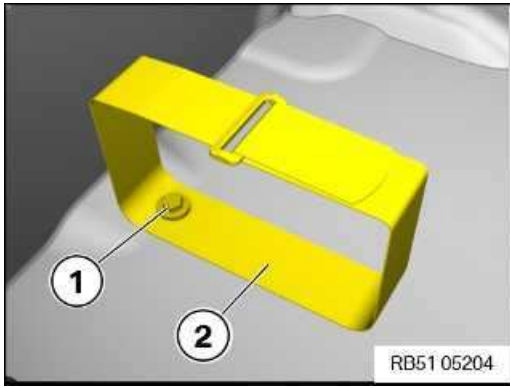
- Insert the fixture (1) of the 12 V power socket in the luggage compartment wheel arch trim panel and engage.

15 – Installing the luggage compartment floor trim panel



- Position the luggage compartment floor trim panel (1).

16 – Inserting the Velcro fastener for the toolkit

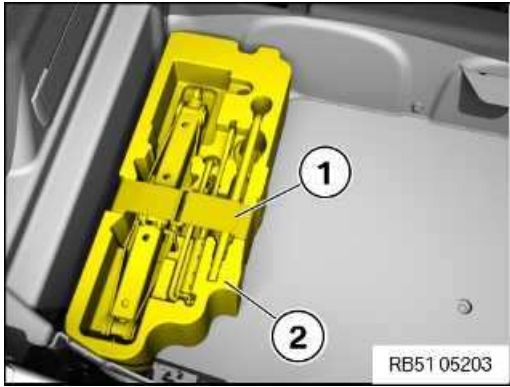


- Insert Velcro fastener (2).
- Tighten down screw (1).

Toolkit hook and loop tape to body

Bolt M6 x 20		Tightening torque	4 Nm
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17 – Install the tool kit

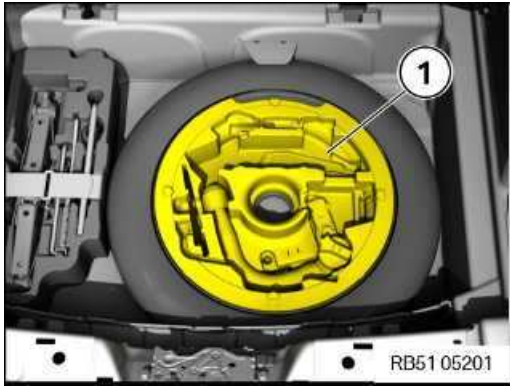


- Install the tool kit (2).
- Close the hook and loop tape (1).

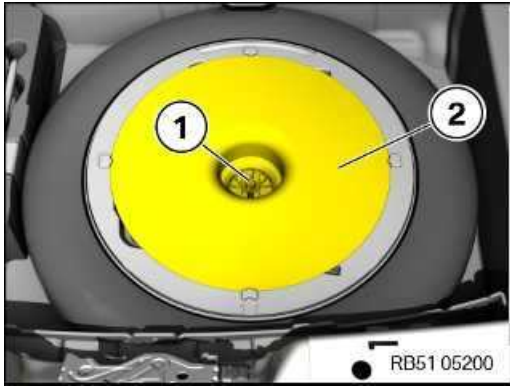
18 – Install the emergency wheel



- Insert compact spare wheel(1).

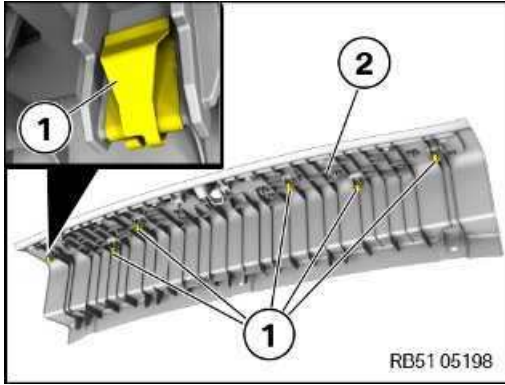


- Insert oddments tray into the compact spare wheel (1).

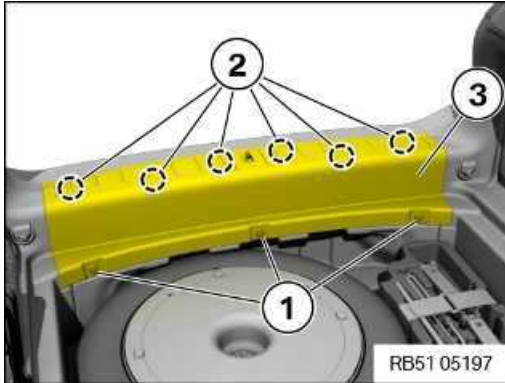


- Insert the lid (2).
- Hand-tighten the bolt (1).

19 – Installing loading edge trim

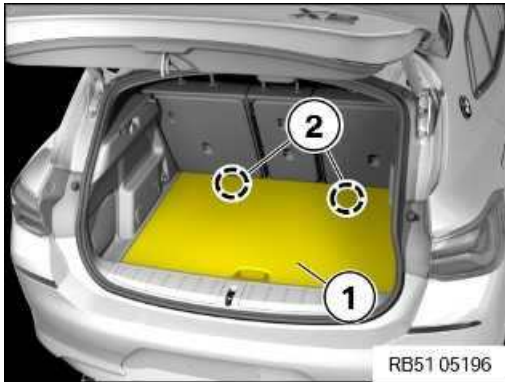


- Check the clamps (1) at the loading edge trim (2) for damage and renew if necessary.



- Insert the loading edge trim (3) in the area of the expanding rivets (1) into the underlying rear luggage compartment trim panel.
- Guide in the loading edge trim (3) under the sealing lip of the seal for the tailgate and clip it in with the clamps (2).
- Secure expanding rivet (1).

20 – Installing the luggage compartment removable panel



- Clip luggage compartment removable panel (1) into latch mechanisms (2) and set down.

21 – Encode/program control unit(s)

Prerequisite

Replacement of the control unit.



TECHNICAL INFORMATION

Use the most recent software version to prevent faults during programming/encoding.
The battery voltage must not fall below 13.0 V during programming.
Use only chargers for a low volt-vehicle electrical system that are recommended by BMW.



TECHNICAL INFORMATION

No high-voltage switch off is required in electric vehicles or hybrid vehicles for programming/encoding.
The high-voltage system will be automatically switched off by the programming system.

Exception:

BMW I01: Note Product and Measures Management Aftersales measure 55176388.

- Connect the battery charger to the vehicle.
- Connect the programming system with the vehicle.
- Determine the action plan.
- Accept and fully process the measures plan.
- If applicable, connect the workshop system to the vehicle, depending on the reworking list.
- Carry out vehicle test.
- Delete the fault memory.
- The information about programming the workshop system and the corresponding notes in the user documentation must be observed.
- Wait until programming/encoding has been completed.
- Disconnect the programming system from the vehicle.
- Disconnect the battery charger from the vehicle.

Additional Information

Overview of Tightening Torques

Lashing eye in luggage compartment

Used in step [12](#)

Bolt M8 x 22		Tightening torque	21 Nm
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Toolkit hook and loop tape to body

Used in step [16](#)

Bolt M6 x 20		Tightening torque	4 Nm
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Overview of Special Tools

0 496 569 (00 9 325) Wedge



Common

Used in step [8](#)

Usage	(Panel wedge) From 11/2008 this special tool replaces panel wedge 00 9 317 (different material)
Included in the tool or work	0 490 527
Storage location	Individual
Replaced by	
In connection with	
SI-Number	41 01 09 (507)

Links

Repair instructions

Used in step

[61 35 ... Notes on ESD protection \(Electro Static Discharge\)](#)

66 33 512 Replace the ultrasonic transducer for the left or right parking assistant

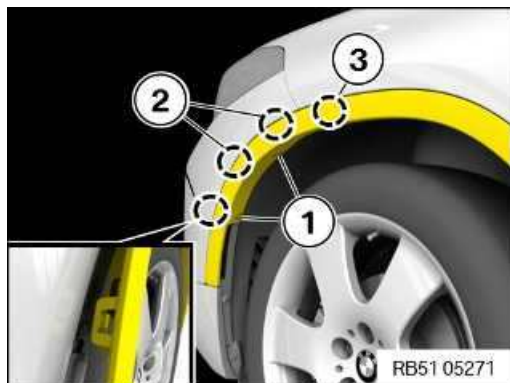


NOTICE

Description is for left component only. Procedure on the right side is identical.

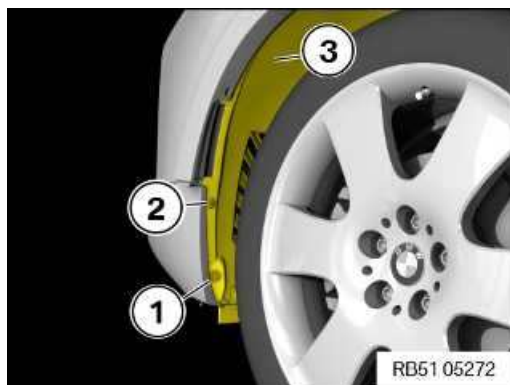
PRELIMINARY WORK

1 – Partially removing the front wheel arch trim



- Loosen blind rivet (1).
- Release front wheel arch trim in the area of the bumper panel from the latch mechanisms (2) and from the clip (3).

2 – Partially remove the front wheel arch cover



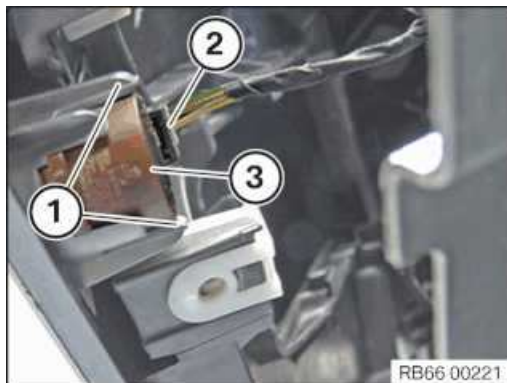
- Loosen screw (1).
- Release the blind rivet (2).
- Fold back the front wheel arch cover (3).

3 – Removing the ultrasonic sensor for the front Parking Manoeuvring Assistant (PMA)



NOTICE

Description is for left component only. Procedure on the right side is identical.



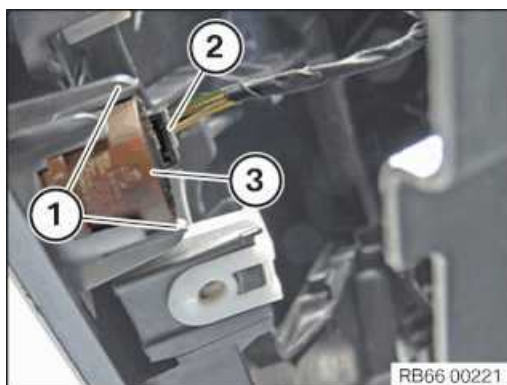
- Unlock the latch mechanisms (1).
- Unlock plug connection (2) and disconnect.
- Remove the ultrasonic sensor (3).

4 – Installing the ultrasonic sensor for the front Parking Manoeuvring Assistant (PMA)



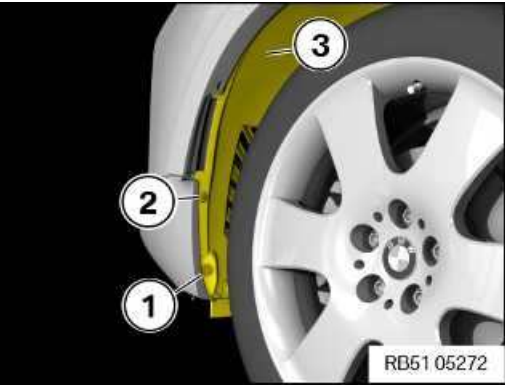
NOTICE

Description is for left component only. Procedure on the right side is identical.



- Position the ultrasonic sensor (3) correctly and engage it in the latch mechanisms (1).
- Connect connectors (2) and lock.

5 – Partially install the front wheel arch cover



- Fold the front wheel arch cover (3) forward.
- Mount the blind rivet (2) with the special tool **0 496 521 (00 2 230)**.
- Tighten down screw (1).

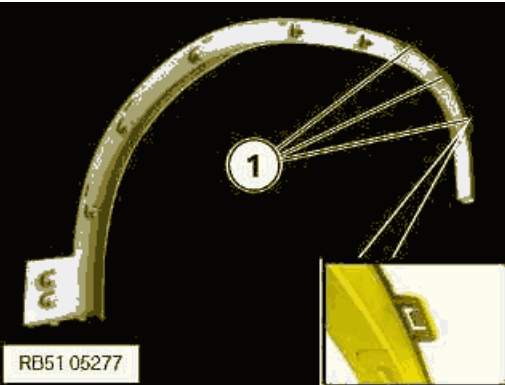
Front wheel arch cover to front bumper panel

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
---	--	-------------------	--------

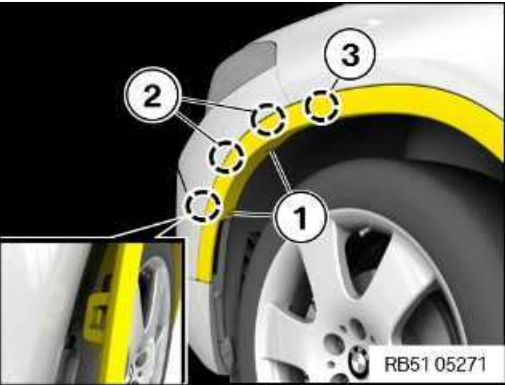
6 – Partly install the front wheel arch trim



- Check clips (1) for damage, and replace if necessary.



- Check the retaining lugs (1) for damage and replace the front wheel arch trim where required.



- Clip the front wheel arch trim into the clip (3) in the area of the bumper panel and into the latch mechanisms (2).
- Mount blind rivet (1) using the special tool **0 496 521 (00 2 230)**.

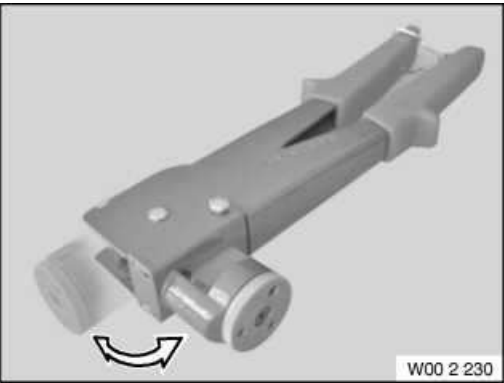
Additional Information

Overview of Tightening Torques

Hexagon screw for thermoplastic plastic		Tightening torque	2,6 Nm
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Overview of Special Tools

0 496 521 (00 2 230) Pliers



Common		Used in step	5	6
Usage	(Blind rivet pliers for plastic rivets) For shaft diameters of 3.5 mm, 3.9 mm and 4.5 mm			
Included in the tool or work				
Storage location	C25			
Replaced by				
In connection with				
SI-Number	01 17 08 (478)			

66 51 530 Install and remove KAFAS camera



RISK OF DAMAGE



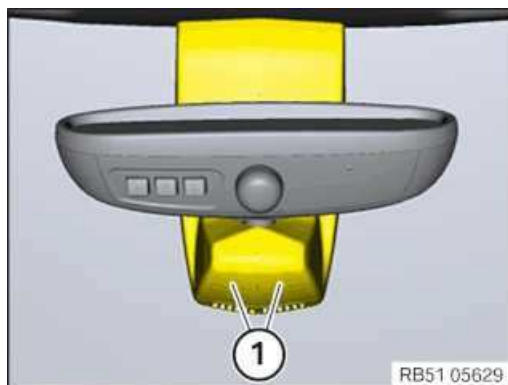
Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave electrical components in original packaging until just before they are installed. Use the original packaging only for any return shipments. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only touch the housings of electrical components. Do not touch pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 Information on electrostatic discharge (ESD) protection.

PRELIMINARY WORK

1 – Remove the cover on the inside mirror



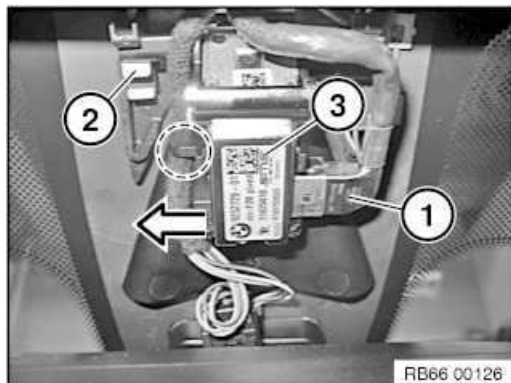
- Unclip the covers on the interior mirror (1) outward with a suitable plastic wedge in the center and remove.

2 – Remove the KAFAS camera



TECHNICAL INFORMATION

The heating of the KAFAS camera is integrated in the windscreen. If the heating is faulty, replace the windscreen.



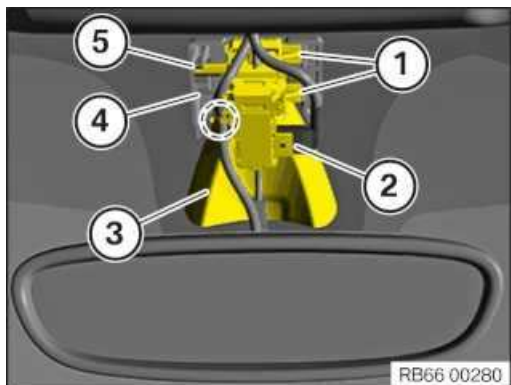
- Disconnect plug connection (1).
- Unclip cable in marked area.
- Unlock the retaining clamp (2) and remove camera (3) in direction of arrow.

3 – Install the KAFAS camera



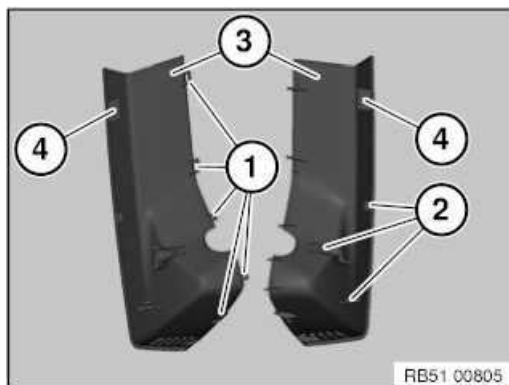
TECHNICAL INFORMATION

The heating of the KAFAS camera is integrated in the windscreen. If the heating is faulty, replace the windscreen.



- Correctly feed in the KAFAS camera (3) with the guides (1) on the holder (4).
- Engage the latch mechanism (5).
- Connect connector (2).
- Attach cable in the marked area.

4 – Install the cover on the inside mirror

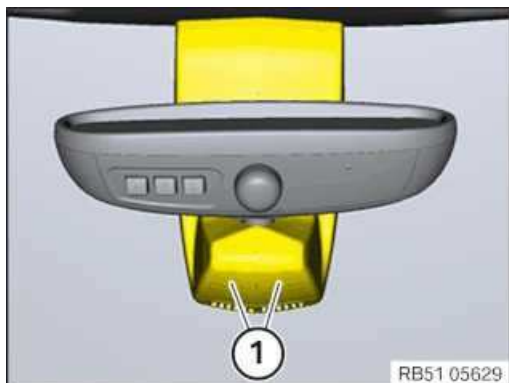


- Check the latch mechanisms (1) and guides (2) on the two covers (3) for damage, renew if necessary.

The latch mechanisms (1) and guides (2) must not be damaged.

- Check the spacers (4).

The spacers (4) must not be damaged or missing.



- Install covers on the interior mirror (1) clip together.

Additional Information

Links

Repair instructions

Used in step

[61 35 ... Notes on ESD protection \(Electro Static Discharge\)](#)

66 51 531 Replace KAFAS camera



RISK OF DAMAGE



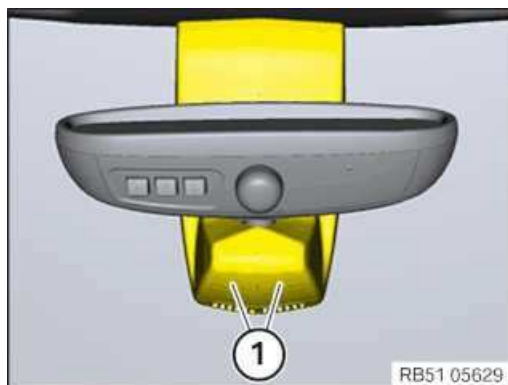
Electrostatic discharge.

Damage to or destruction of electrical components.

- Leave electrical components in original packaging until just before they are installed. Use the original packaging only for any return shipments. Always package removed components straight away.
- Read and comply with user information on using the associated special tool 12 7 060.
- Only touch the housings of electrical components. Do not touch pins or multi-pin connectors directly.
- Wear electrically conductive clothing and antistatic shoes (with ESD symbol).
- For additional information see: 61 35 Information on electrostatic discharge (ESD) protection.

PRELIMINARY WORK

1 – Remove the cover on the inside mirror



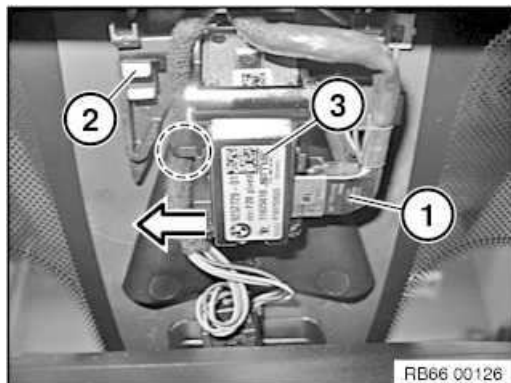
- Unclip the covers on the interior mirror (1) outward with a suitable plastic wedge in the center and remove.

2 – Remove the KAFAS camera



TECHNICAL INFORMATION

The heating of the KAFAS camera is integrated in the windscreen. If the heating is faulty, replace the windscreen.



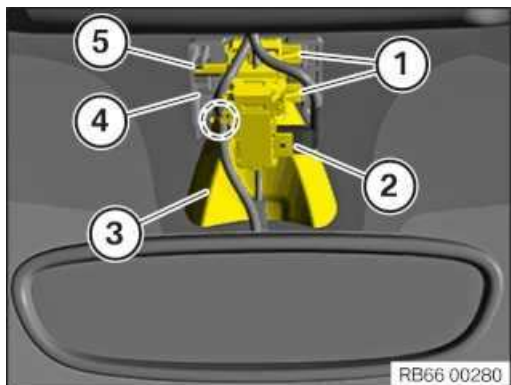
- Disconnect plug connection (1).
- Unclip cable in marked area.
- Unlock the retaining clamp (2) and remove camera (3) in direction of arrow.

3 – Install the KAFAS camera



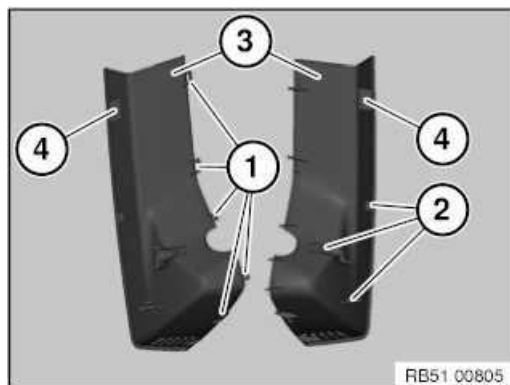
TECHNICAL INFORMATION

The heating of the KAFAS camera is integrated in the windscreen. If the heating is faulty, replace the windscreen.



- Correctly feed in the KAFAS camera (3) with the guides (1) on the holder (4).
- Engage the latch mechanism (5).
- Connect connector (2).
- Attach cable in the marked area.

4 – Install the cover on the inside mirror

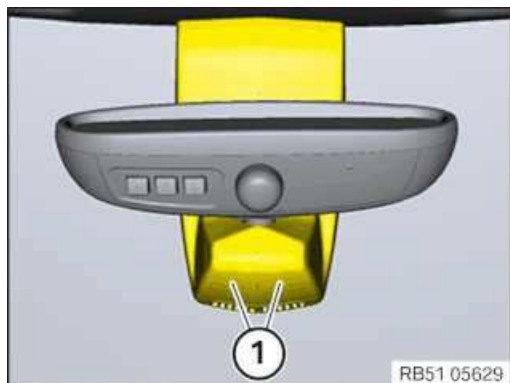


- Check the latch mechanisms (1) and guides (2) on the two covers (3) for damage, renew if necessary.

The latch mechanisms (1) and guides (2) must not be damaged.

- Check the spacers (4).

The spacers (4) must not be damaged or missing.



- Install covers on the interior mirror (1) clip together.

5 – Calibrate KAFAS camera



TECHNICAL INFORMATION

The calibration process of the KAFAS camera is not complete until the vehicle drives in traffic. Tell the customer that some assistance systems are temporarily unavailable after vehicle pick-up.

- Perform camera calibration using diagnosis system.

Under Service Functions menu:

- Driver assistance
- Camera-based driver assistance systems
- Calibration of camera-based driver support systems

Additional Information

Links

Repair instructions

Used in step

[61 35 ... Notes on ESD protection \(Electro Static Discharge\)](#)

66 53 023 Removing and installing rear view camera

Prerequisite

- Tailgate is open.

PRELIMINARY WORK

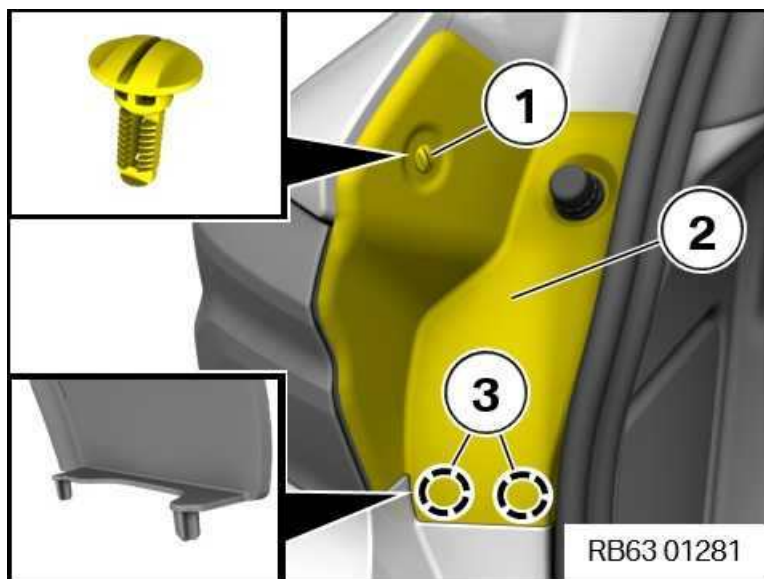
1 – Removing both trims for water channel



NOTICE

Description is for left component only. Procedure on the right side is identical.

► Removing trim for water channel



- Detach rotary clip (1).
- Feed out and remove trim for water channel (2) from guides (3).

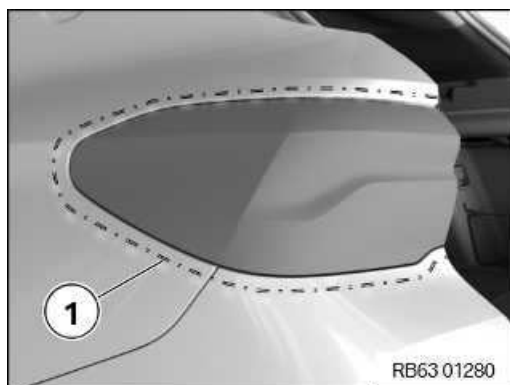
2 – Remove both rear lights from the side panel



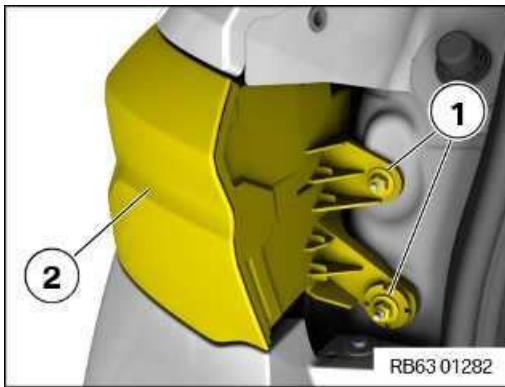
NOTICE

Description is for left component only. Procedure on the right side is identical.

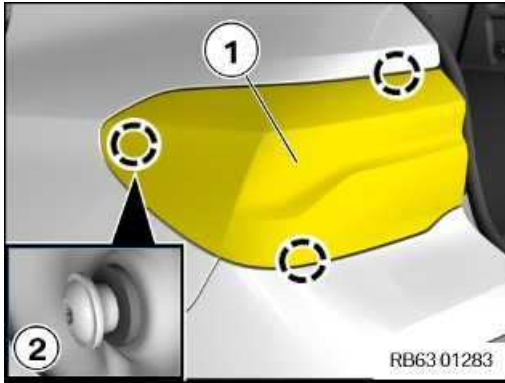
► Remove the rear light on the side panel



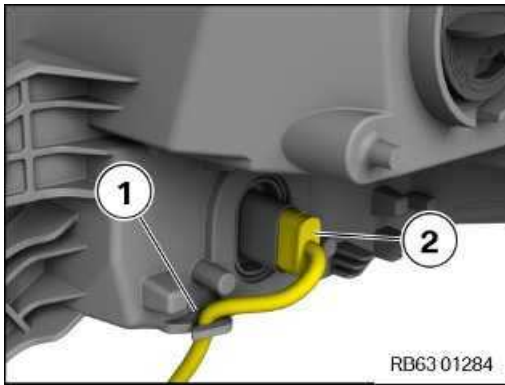
- Mask the body in area (1) with plastic adhesive tape.



- Loosen the nuts (1) on the rear light (2).

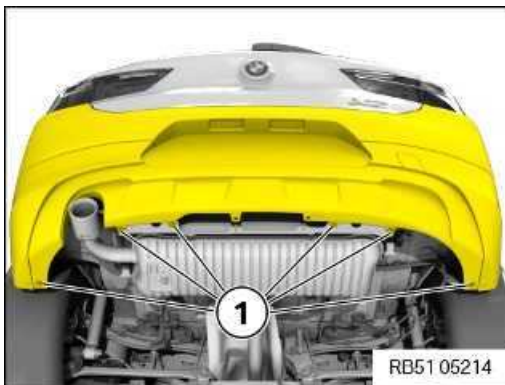


- Remove the rear light (1) from the guides (2) towards the rear.

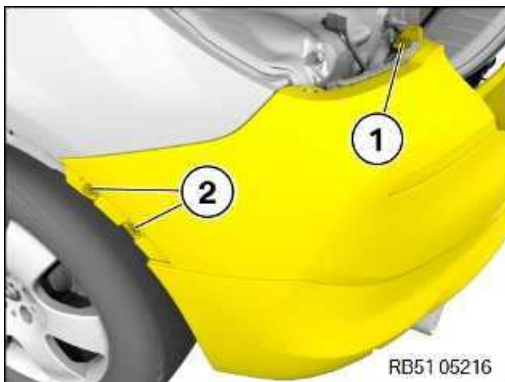


- Detach cable from guide (1).
- Unlock and disconnect the plug connection (2) and remove the rear light .

3 – Remove rear bumper panel



- Loosen screws (1).

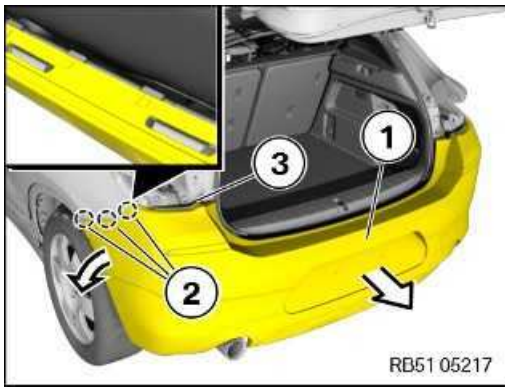


- Loosen screws (1) and (2).



NOTICE

Perform the operations on the left and right side.



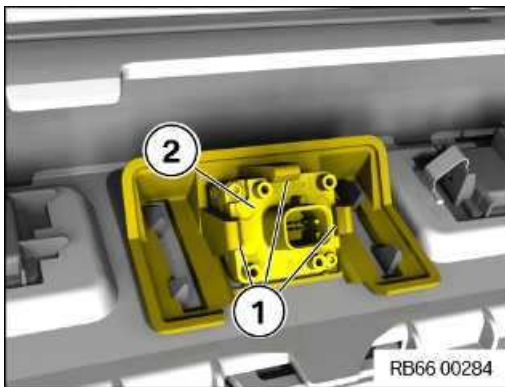
NOTICE

Perform the operations on the left and right side.

- Carefully detach side latch mechanisms (2) in direction of arrow.
- Carefully detach latch mechanisms in area (3) to the rear.
- Pull the bumper panel (1) straight toward the rear in direction of arrow with an auxiliary person.
- Unlock all plug connections and disconnect.
- Remove the bumper panel (1).

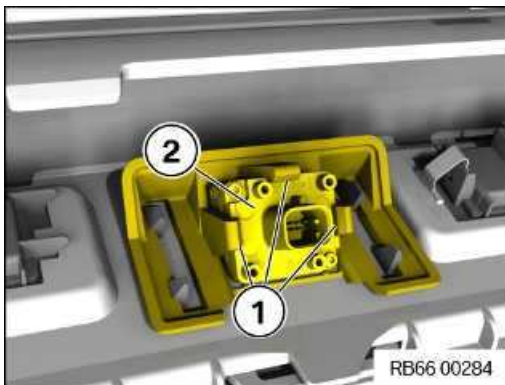
MAIN WORK

4 – Remove the rear view camera (RFK)



- Detach retaining lug (1).
- Feed out rear view camera (RFK) (2).

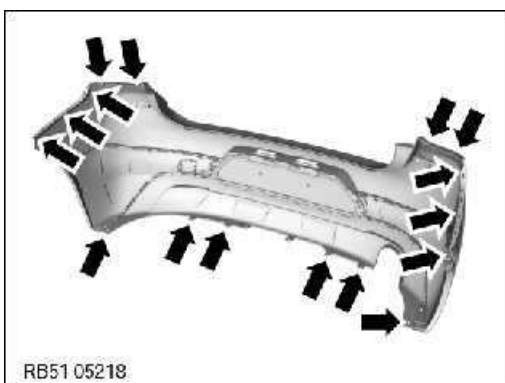
5 – Install the rear view camera (RFK)



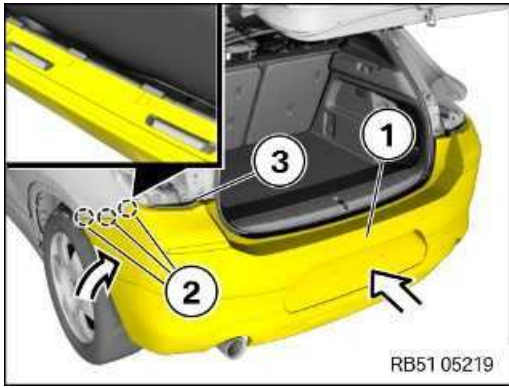
- Insert the rear view camera (RFK) (2) and clip it in at the retaining lugs (1).

POSTPROCESSES

6 – Install rear bumper panel



- Check if the latch mechanisms and the guide (arrows) are damaged or missing and replace the bumper panel where required.



- Position the bumper panel (1) straight with the help of another person.
- Connect all connectors and lock.



NOTICE

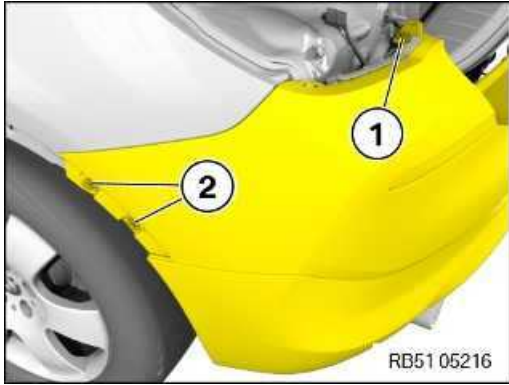
Perform the operations on the left and right side.

- Engage the latch mechanisms in the area (3).
- Engage the side latch mechanisms (2) in the direction of the arrow.



NOTICE

Perform the operations on the left and right side.



- Tighten the screws (1).

Rear bumper panel to guides

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
---------------------------------	--	-------------------	--------

- Tighten down screws (2).

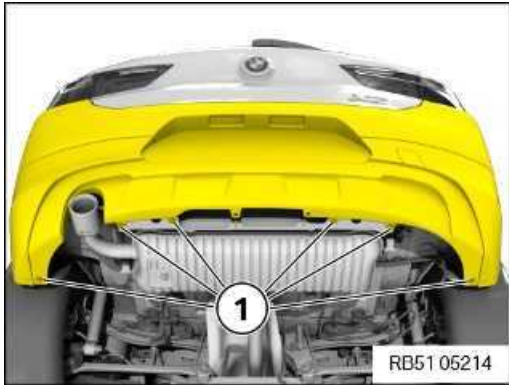
Rear bumper panel to side wall

Screw for thermoplastic plastic		Tightening torque	4,6 Nm
---------------------------------	--	-------------------	--------

- Tighten the screws (1).

Rear bumper panel to guides

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
---------------------------------	--	-------------------	--------



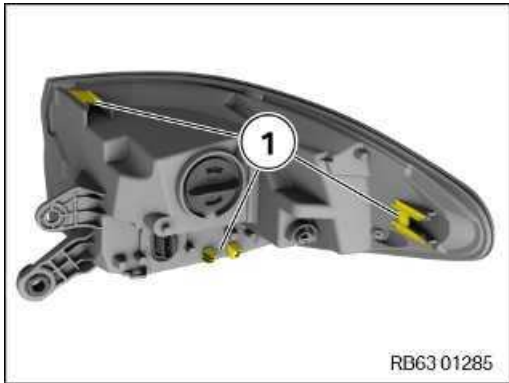
7 – Install both rear lights on the side panel



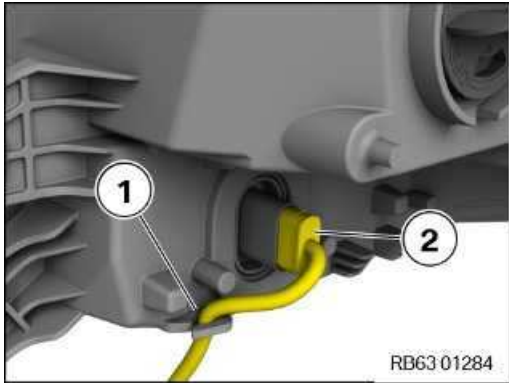
NOTICE

Description is for left component only. Procedure on the right side is identical.

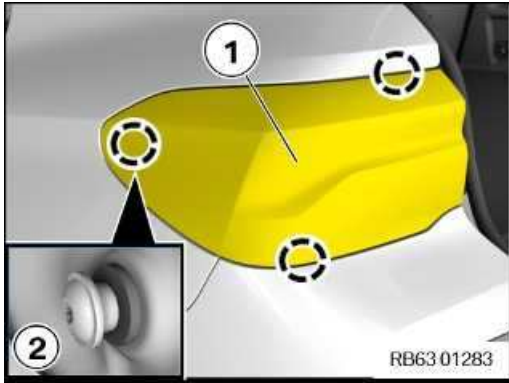
- Install the rear light on the side panel



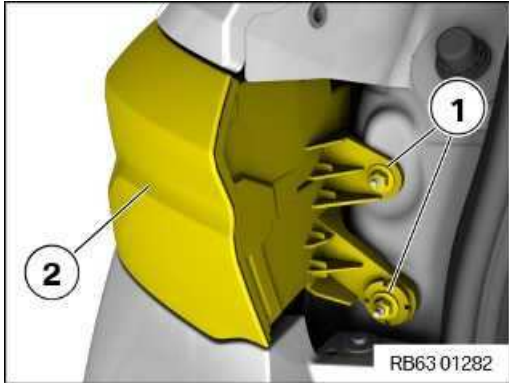
- Make sure that the guides (1) on the rear light are not damaged or missing.



- Connect connectors (2) and lock.
- Attach the cable in the guide (1).



- Position the rear light (1) in the side panel.
- Make sure the rear light (1) is fitted correctly in the guides (2).



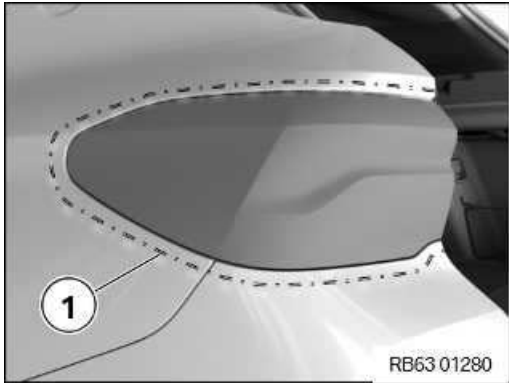
- Replace the nuts (1) on the rear light (2).

Parts: Nuts

- Tighten nuts (1).

Side panel rear light to body

Combination hexagon nut	Replace nuts.	Tightening torque	2.8 Nm
-------------------------	---------------	-------------------	--------



- Pull off the plastic adhesive tape from the body in the area (1).

8 – Install both trim pieces for the water channel

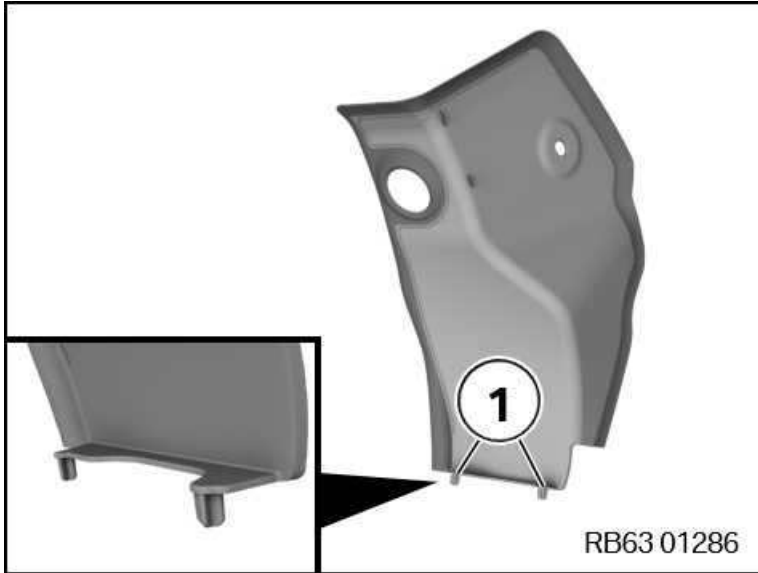


NOTICE

Description is for left component only. Procedure on the right side is identical.

► Install the trim for the water channel

Check



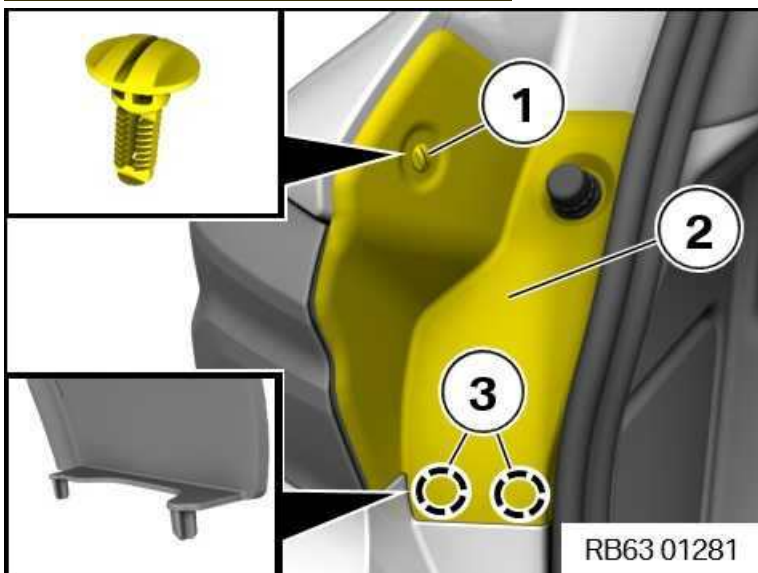
- Check the guides (1) for damage.

Result

» The guides (1) are damaged.

Measure

- Renew the trim for the water channel.
- Check rotary clip (1) for damage and, if necessary, replace it.



- Insert the trim for water channel (2) with guides (3).
- Fasten the rotary clip (1).

Additional Information

Overview of Tightening Torques

Rear bumper panel to guides

Used in step 6

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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Rear bumper panel to side wall

Used in step 6

Screw for thermoplastic plastic		Tightening torque	4,6 Nm
---------------------------------	--	-------------------	--------

Side panel rear light to body

Used in step 7

Combination hexagon nut	Replace nuts.	Tightening torque	2.8 Nm
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66 53 524 Replacing rear view camera (after vehicle diagnosis) (flat rate specification without programming/encoding, see 61 00 ...)

Prerequisite

- Tailgate is open.

PRELIMINARY WORK

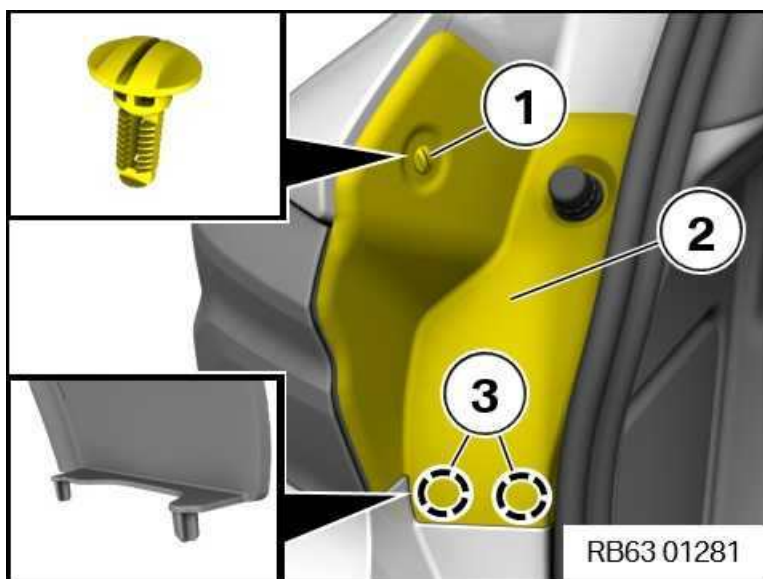
1 – Removing both trims for water channel



NOTICE

Description is for left component only. Procedure on the right side is identical.

► Removing trim for water channel



- Detach rotary clip (1).
- Feed out and remove trim for water channel (2) from guides (3).

2 – Remove both rear lights from the side panel

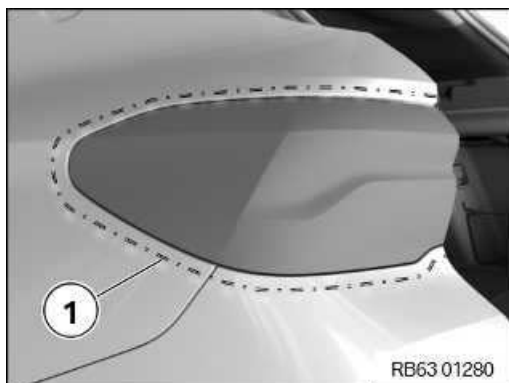


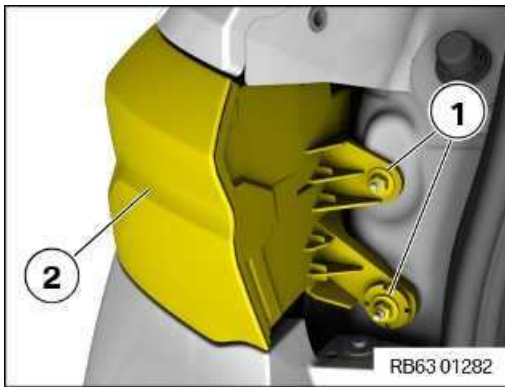
NOTICE

Description is for left component only. Procedure on the right side is identical.

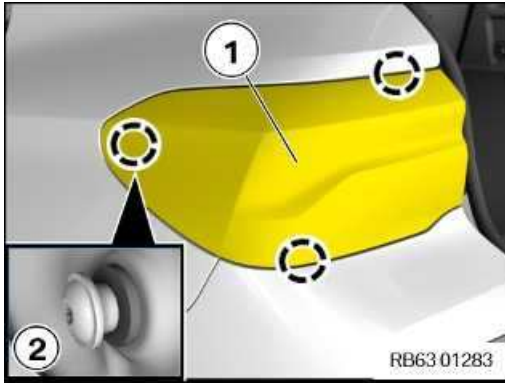
► Remove the rear light on the side panel

- Mask the body in area (1) with plastic adhesive tape.

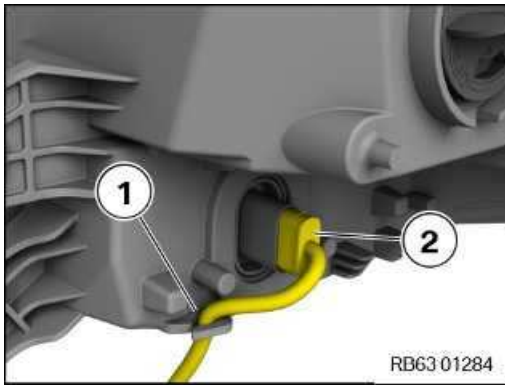




- Loosen the nuts (1) on the rear light (2).

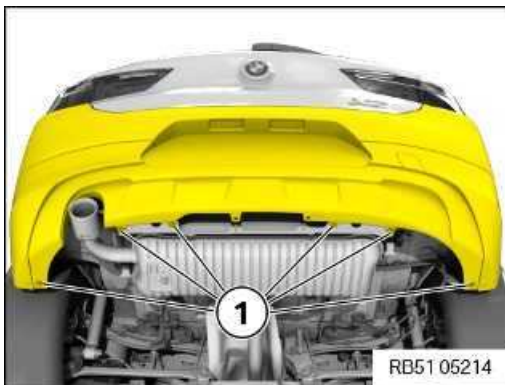


- Remove the rear light (1) from the guides (2) towards the rear.

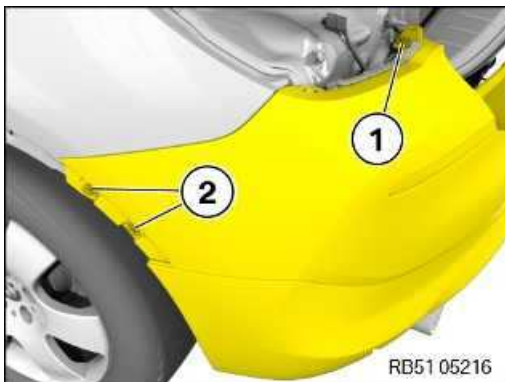


- Detach cable from guide (1).
- Unlock and disconnect the plug connection (2) and remove the rear light .

3 – Remove rear bumper panel



- Loosen screws (1).

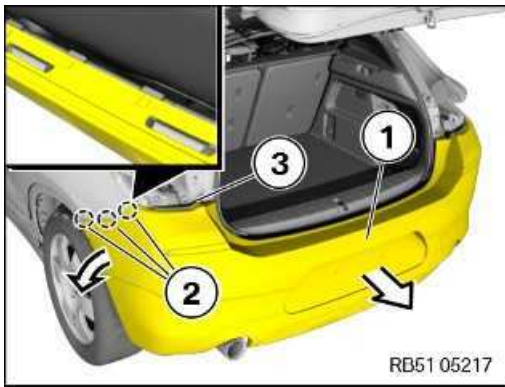


- Loosen screws (1) and (2).



NOTICE

Perform the operations on the left and right side.



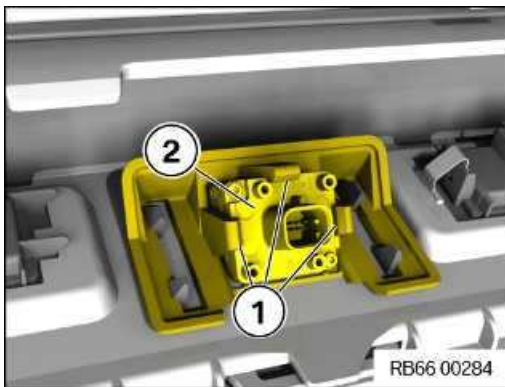
NOTICE

Perform the operations on the left and right side.

- Carefully detach side latch mechanisms (2) in direction of arrow.
- Carefully detach latch mechanisms in area (3) to the rear.
- Pull the bumper panel (1) straight toward the rear in direction of arrow with an auxiliary person.
- Unlock all plug connections and disconnect.
- Remove the bumper panel (1).

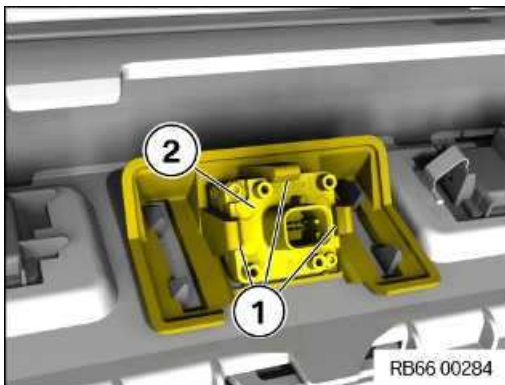
MAIN WORK

4 – Remove the rear view camera (RFK)



- Detach retaining lug (1).
- Feed out rear view camera (RFK) (2).

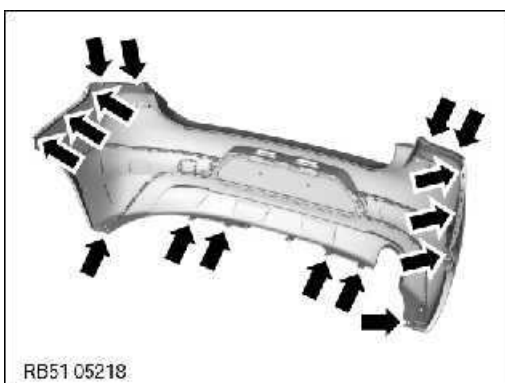
5 – Install the rear view camera (RFK)



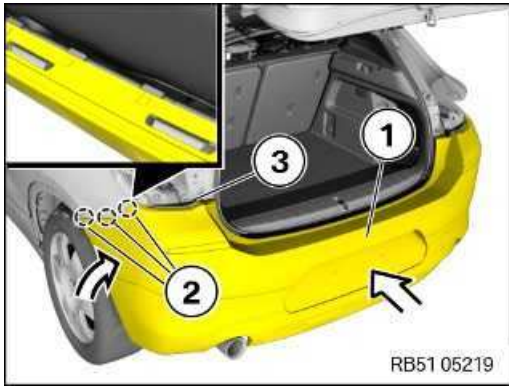
- Insert the rear view camera (RFK) (2) and clip it in at the retaining lugs (1).

POSTPROCESSES

6 – Install rear bumper panel



- Check if the latch mechanisms and the guide (arrows) are damaged or missing and replace the bumper panel where required.



- Position the bumper panel (1) straight with the help of another person.
- Connect all connectors and lock.



NOTICE

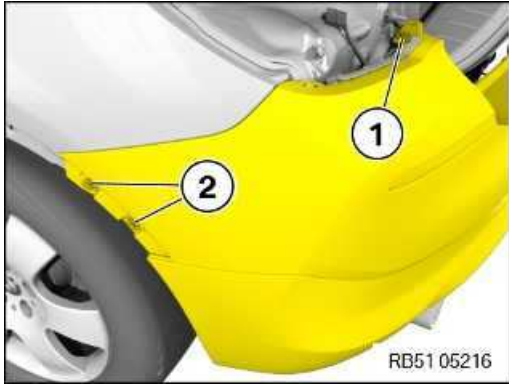
Perform the operations on the left and right side.

- Engage the latch mechanisms in the area (3).
- Engage the side latch mechanisms (2) in the direction of the arrow.



NOTICE

Perform the operations on the left and right side.



- Tighten the screws (1).

Rear bumper panel to guides

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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- Tighten down screws (2).

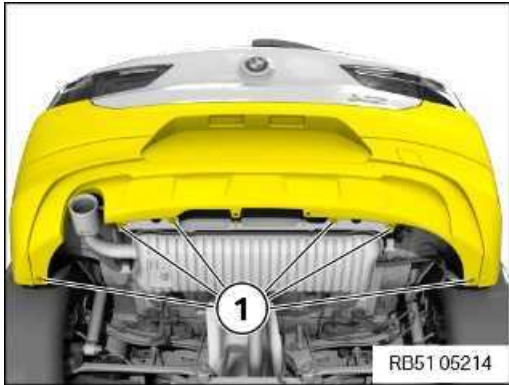
Rear bumper panel to side wall

Screw for thermoplastic plastic		Tightening torque	4,6 Nm
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- Tighten the screws (1).

Rear bumper panel to guides

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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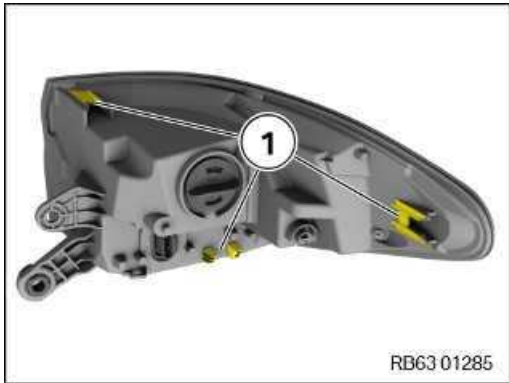
7 – Install both rear lights on the side panel



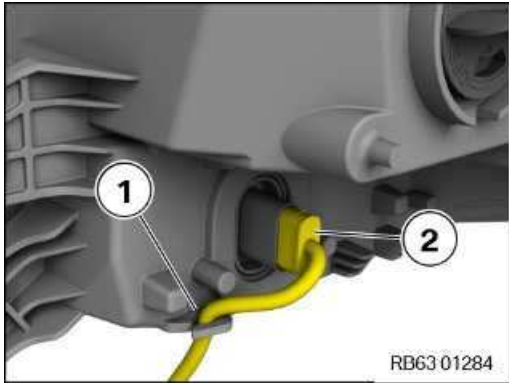
NOTICE

Description is for left component only. Procedure on the right side is identical.

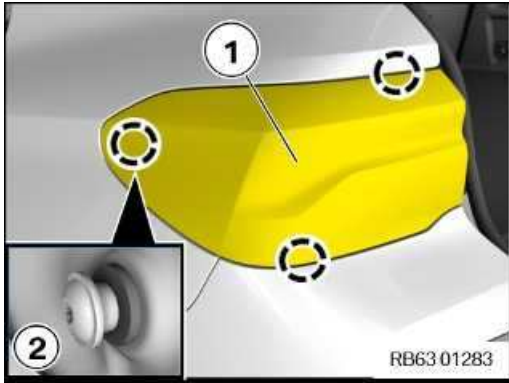
- Install the rear light on the side panel



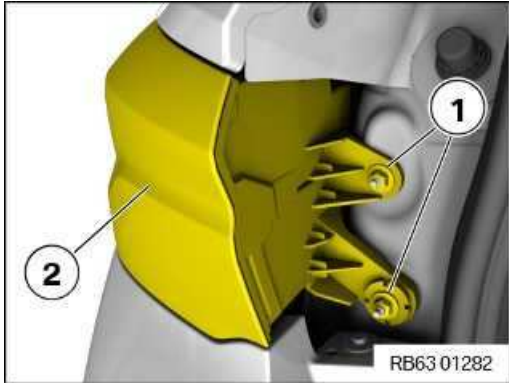
- Make sure that the guides (1) on the rear light are not damaged or missing.



- Connect connectors (2) and lock.
- Attach the cable in the guide (1).



- Position the rear light (1) in the side panel.
- Make sure the rear light (1) is fitted correctly in the guides (2).

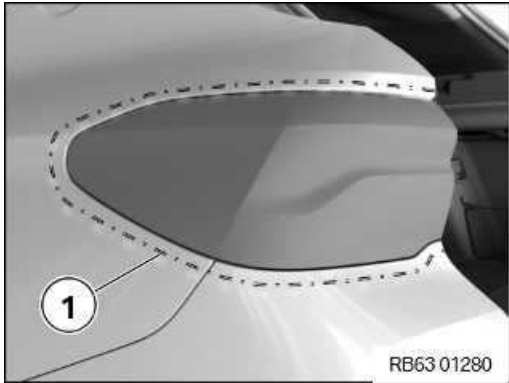


- Replace the nuts (1) on the rear light (2).
- Tighten nuts (1).

Parts: Nuts

Side panel rear light to body

Combination hexagon nut	Replace nuts.	Tightening torque	2.8 Nm
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- Pull off the plastic adhesive tape from the body in the area (1).

8 – Install both trim pieces for the water channel

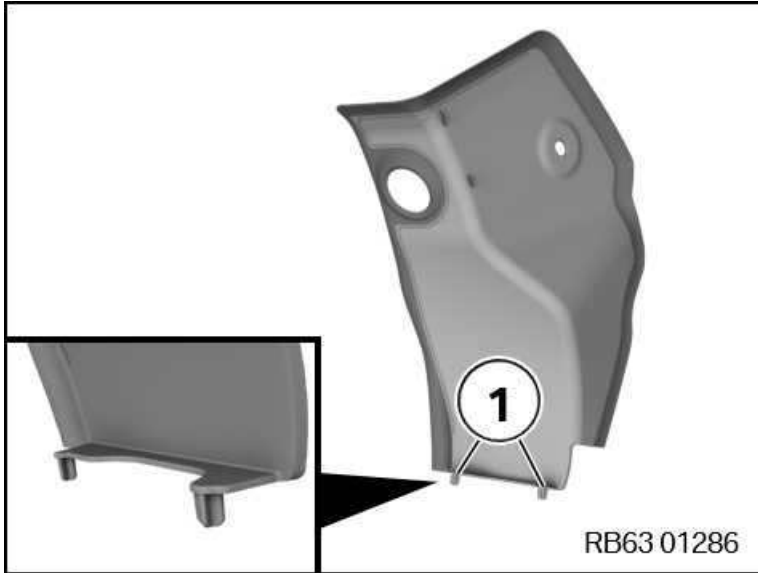


NOTICE

Description is for left component only. Procedure on the right side is identical.

► Install the trim for the water channel

Check



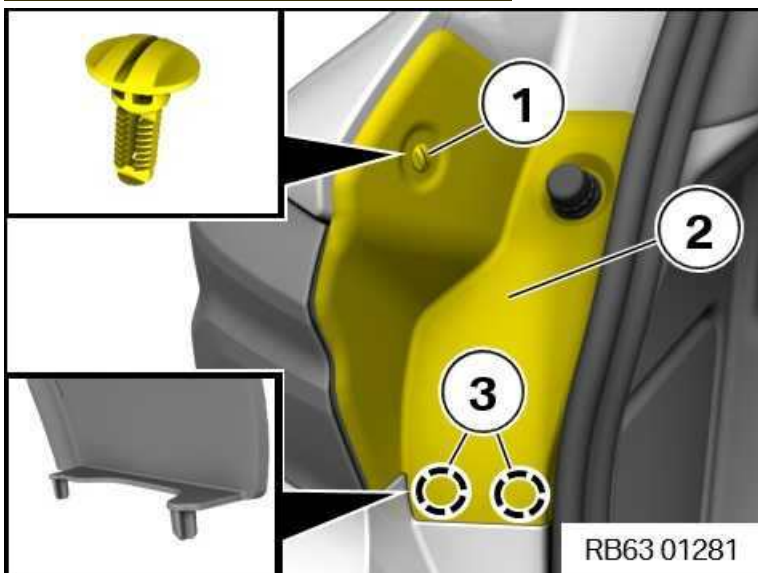
- Check the guides (1) for damage.

Result

» The guides (1) are damaged.

Measure

- Renew the trim for the water channel.
- Check rotary clip (1) for damage and, if necessary, replace it.



- Insert the trim for water channel (2) with guides (3).
- Fasten the rotary clip (1).

Prerequisite

Replacement of the control unit.

**TECHNICAL INFORMATION**

Use the most recent software version to prevent faults during programming/encoding.
 The battery voltage must not fall below 13.0 V during programming.
 Use only chargers for a low volt-vehicle electrical system that are recommended by BMW.

**TECHNICAL INFORMATION**

No high-voltage switch off is required in electric vehicles or hybrid vehicles for programming/encoding.

The high-voltage system will be automatically switched off by the programming system.

Exception:

BMW I01: Note Product and Measures Management Aftersales measure 55176388.

- Connect the battery charger to the vehicle.
- Connect the programming system with the vehicle.
- Determine the action plan.
- Accept and fully process the measures plan.
- If applicable, connect the workshop system to the vehicle, depending on the reworking list.
- Carry out vehicle test.
- Delete the fault memory.
- The information about programming the workshop system and the corresponding notes in the user documentation must be observed.
- Wait until programming/encoding has been completed.
- Disconnect the programming system from the vehicle.
- Disconnect the battery charger from the vehicle.

Additional Information**Overview of Tightening Torques****Rear bumper panel to guides**

Used in step 6

Screw for thermoplastic plastic		Tightening torque	2,5 Nm
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Rear bumper panel to side wall

Used in step 6

Screw for thermoplastic plastic		Tightening torque	4,6 Nm
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Side panel rear light to body

Used in step 7

Combination hexagon nut	Replace nuts.	Tightening torque	2.8 Nm
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00 Safety information for working on vehicles with automatic engine start-stop function (MSA)



Warning!

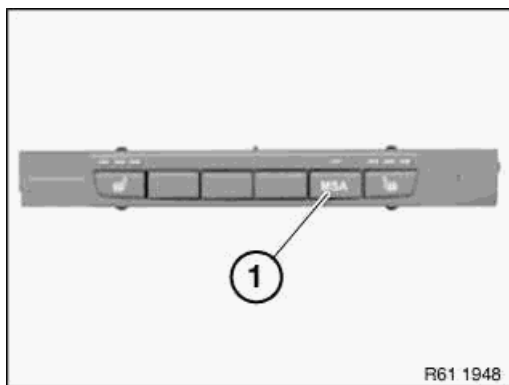
If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.

An automatic engine start is possible.

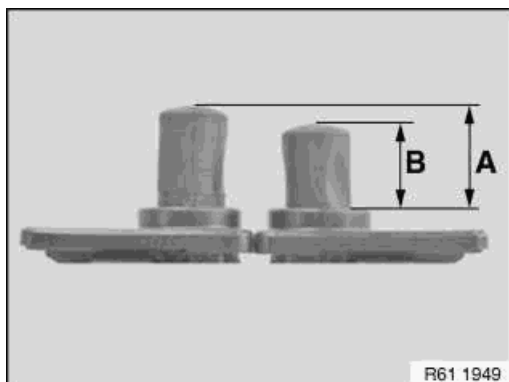
Observe safety precautions when working on MSA vehicles.

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by:



- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door



- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
 - Workshop mode
A = 10 mm
 - Basic setting (engine hood/bonnet open)
B = 7 mm

To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.



When working with diagnosis tools:

- Observe instructions in diagnosis tool



Note:

For further information on automatic engine start-stop function (MSA):

- Refer to the Service Information (bulletin) (for manual transmissions) [Service Information \(bulletin\) 61 01 07 335](#)
- Refer to the Service Information (bulletin) (for automatic transmissions or twin-clutch gearboxes) [Service Information \(bulletin\) 61 01 10 629](#)