Body Repairs
Audi A5 Coupé 2008 ➤
Audi A5 Sportback 2010 ➤

Edition 12.2018

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Repair Group overview for Body Repairs

Repair Group

00 - Technical data
50 - Body - front
51 - Body - centre
53 - Body - rear

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

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00 – Technical data

1 Important notes

(AKI000272; Edition 12.2018)

This Manual describes only selected repair operations. Where repair operations are not described: separate original joint and repair with replacement panel. Repairs requiring a method different from that used in production are described specifically.

Where sub-parts are available for a repair, they should be matched up and butt-welded in place (SG continuous seam), unless otherwise described.

Please refer to the information in the Workshop Manual, General information, Body repairs. ⇒ General Information; Body Repairs, General Body Repairs

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2 Vehicle identification data

2.1 Type plate and vehicle identification number

The vehicle identification number is located on the suspension turret (left-side).

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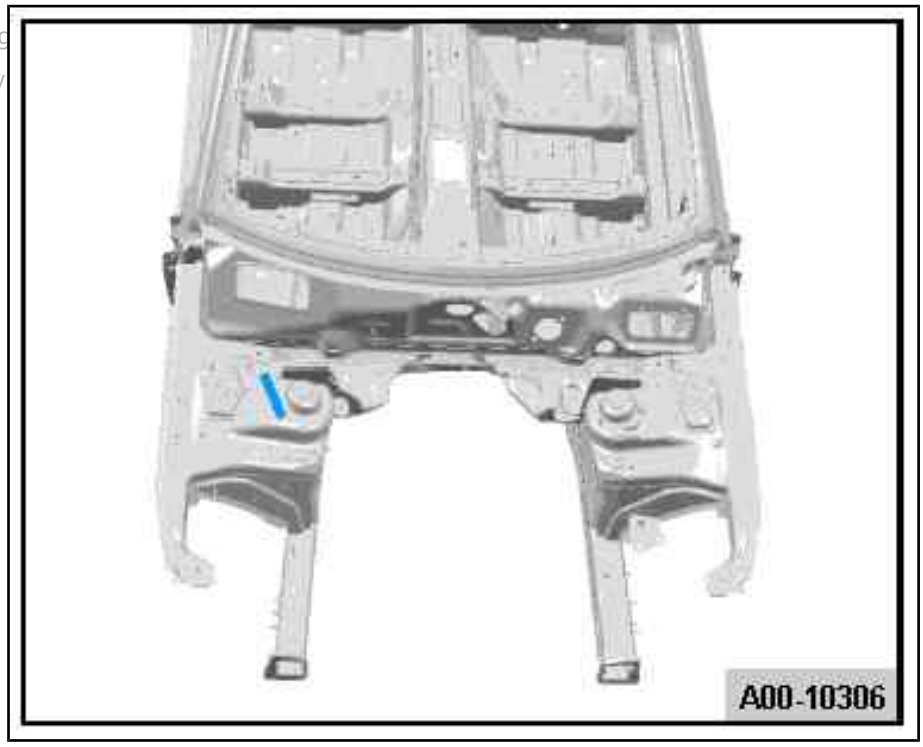


NOTICE

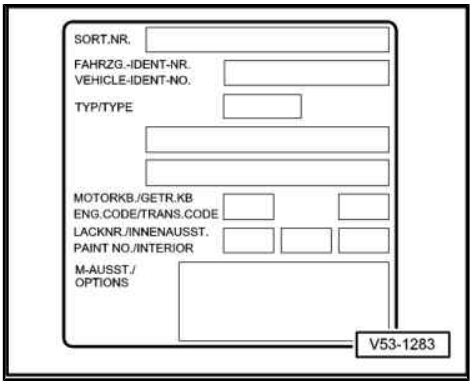
If a component with the vehicle identification number is renewed due to damage, the repairs must be documented according to the market-specific legislation.

Please make sure to comply with the market-specific legislation when renewing a component with the vehicle identification number.

Before installing the new component, stamp the vehicle identification number on using stamped numbers - VAS 6939- and punched letters - VAS 6940- .

2.2 Vehicle data sticker

The vehicle data sticker is located in the spare wheel well at the rear of the vehicle.



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3 Safety precautions

Always use an extraction system when performing welding and grinding operations.

Welding and grinding must never be performed simultaneously in the same working area.

Working area must be cleaned at regular intervals as necessary to remove dust.

Compressed air must NOT be used to blow out dust deposits.

The extraction system must be cleaned at regular intervals.

In addition, the relevant country-specific accident prevention and industrial safety regulations must be observed.

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4 Aluminium panels

4.1 Wing panels

Aluminium panels are used on the following parts of the car body

Front wing panels

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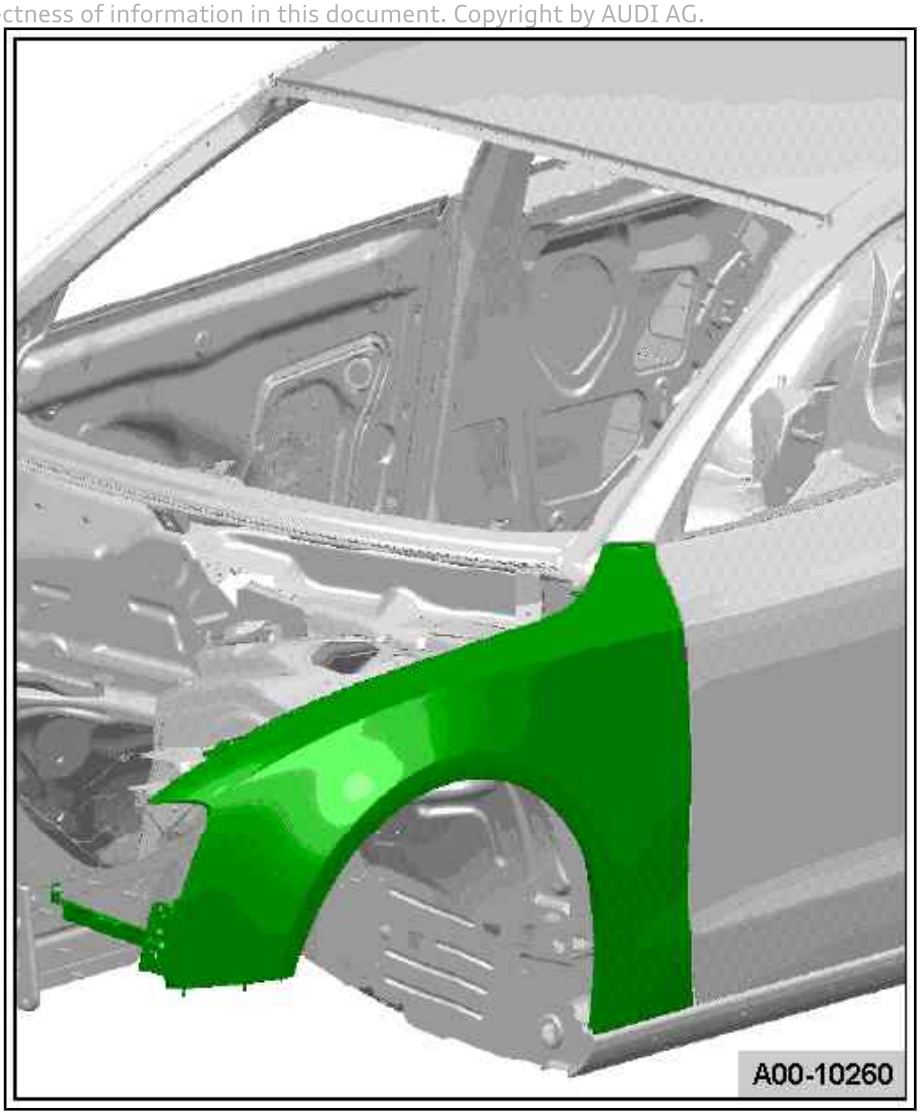

5 Galvanised body panels, high-strength and extra-high strength steel

Note

- *For lightweight construction, Audi employs several different types of steel: soft steel, high-strength steel, modern high-strength steel, ultra-high strength steel and hot-formed ultra-high strength steel.*
- *Cutting and joining of these components by butt welding is only permissible at the specified locations. There is a stipulated repair method for this repair work.*
- *Spot welding is only permissible using resistance spot welders approved by Audi.*

The following illustrations show the various types of steel in different colours, ranging from soft steel to hot-formed steel (see table below).

	Colour	Type of steel	Tensile strength / minimum yield strength in MPa
1	Grey	Soft	< 350
2	Yellow	High-strength steel	300 - 590
3	Magenta	Modern high-strength steel	500 - 980
4	Blue	Ultra-high-strength steel	980 - 1150
5	Red	Ultra-high-strength steel (hot-formed)	> 1400

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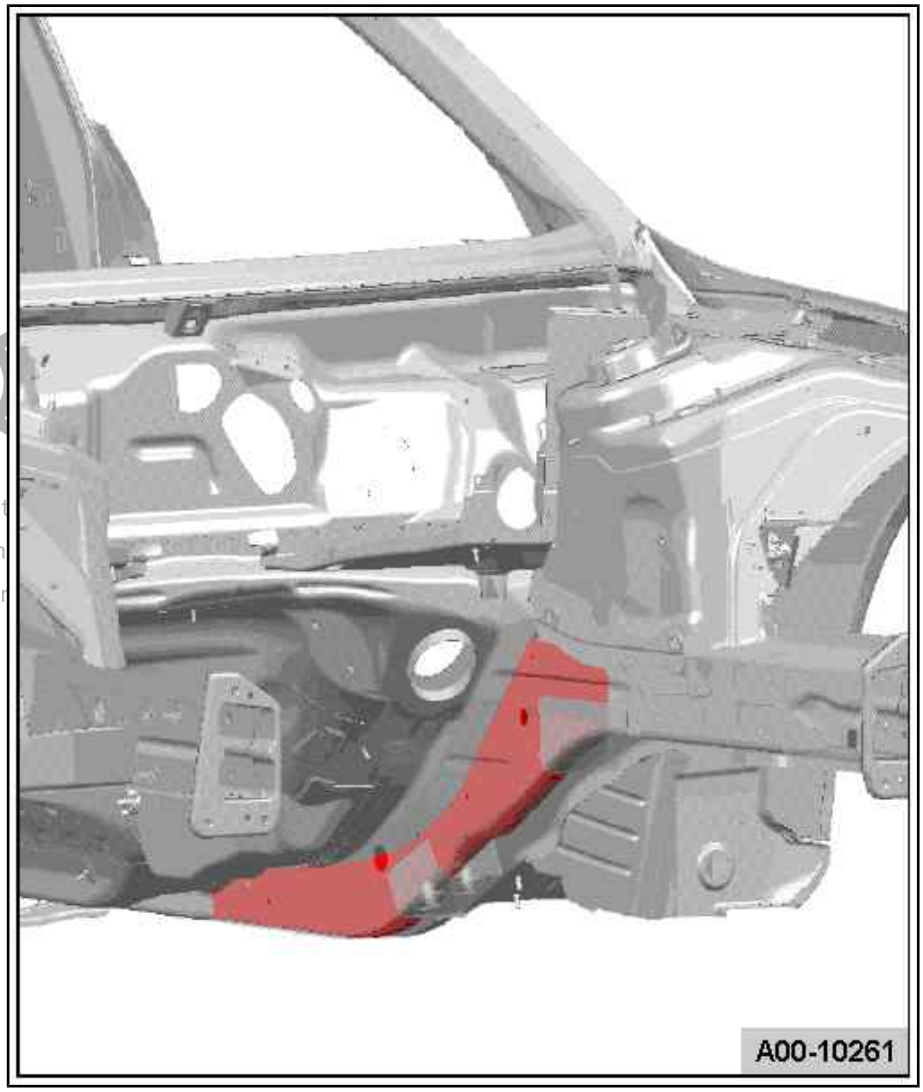

The outer side panel and roof are removed to give a clearer illustration. These panels are made of soft steel.

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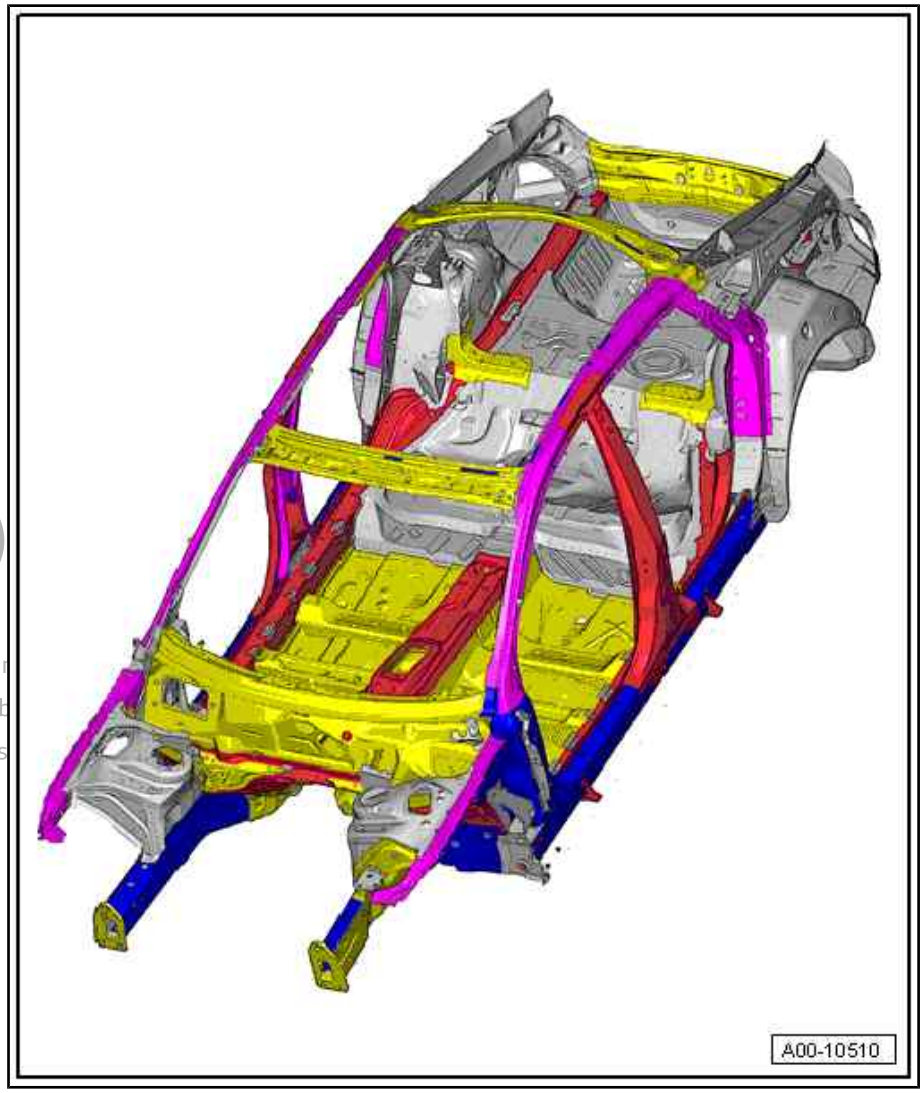

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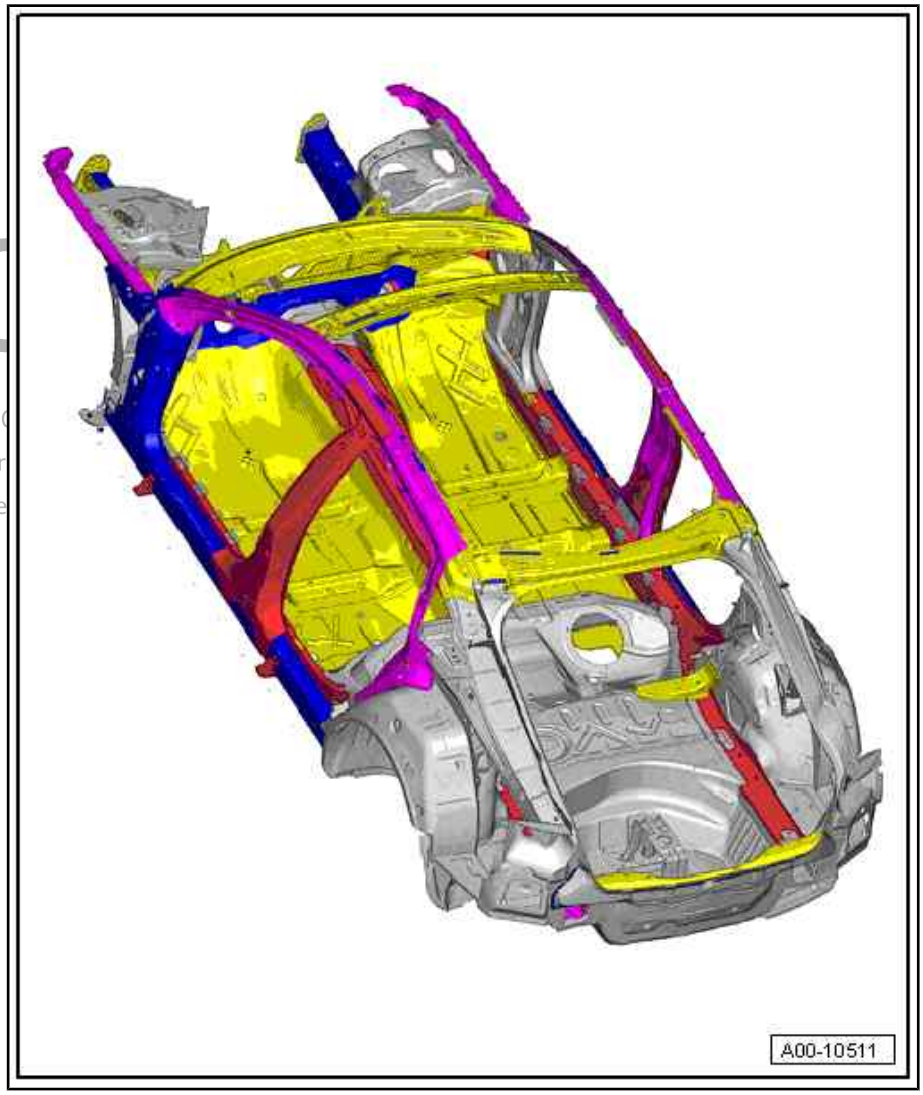

The outer side panel and roof are removed to give a clearer illustration. These panels are made of soft steel.

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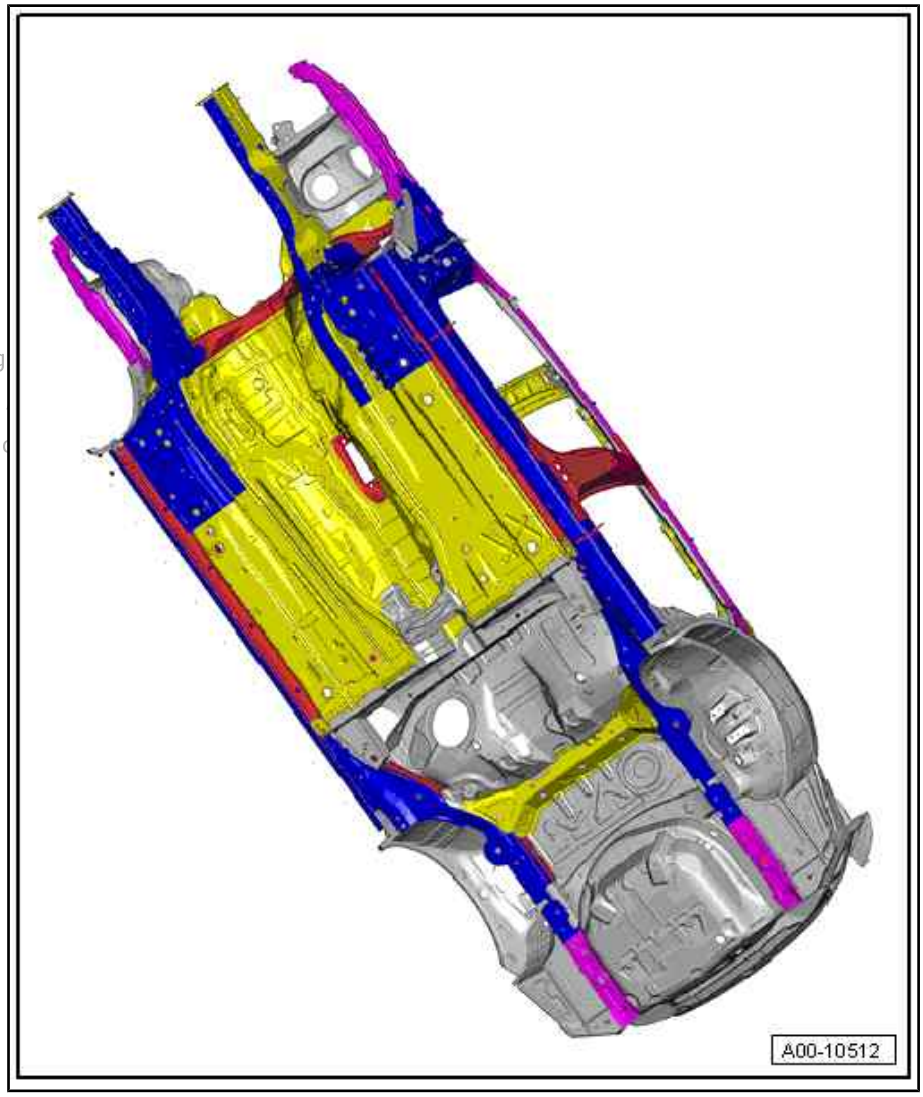

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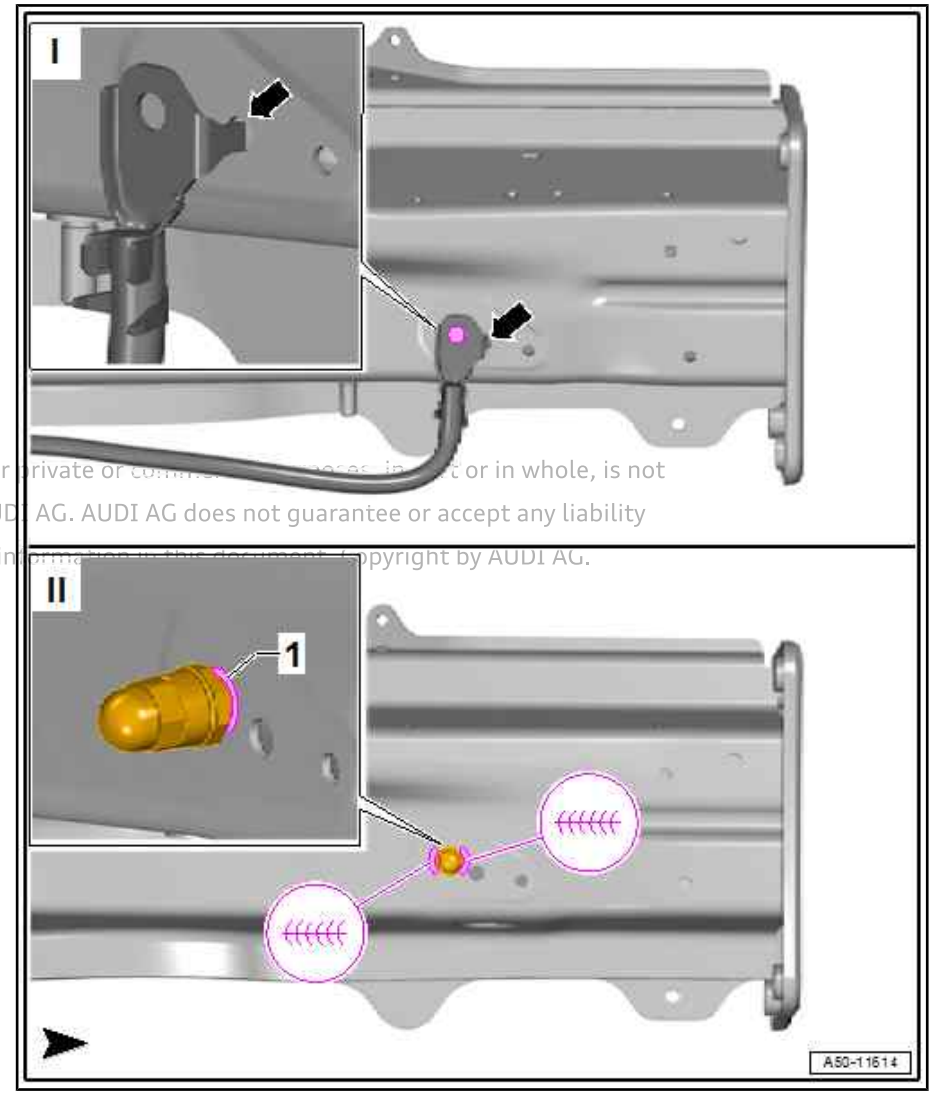
6 Renewing studs

The procedure for renewing weld screws, studs and weld studs with cap nut is described as an example.

This procedure should be used appropriately for all types of studs, screws etc.



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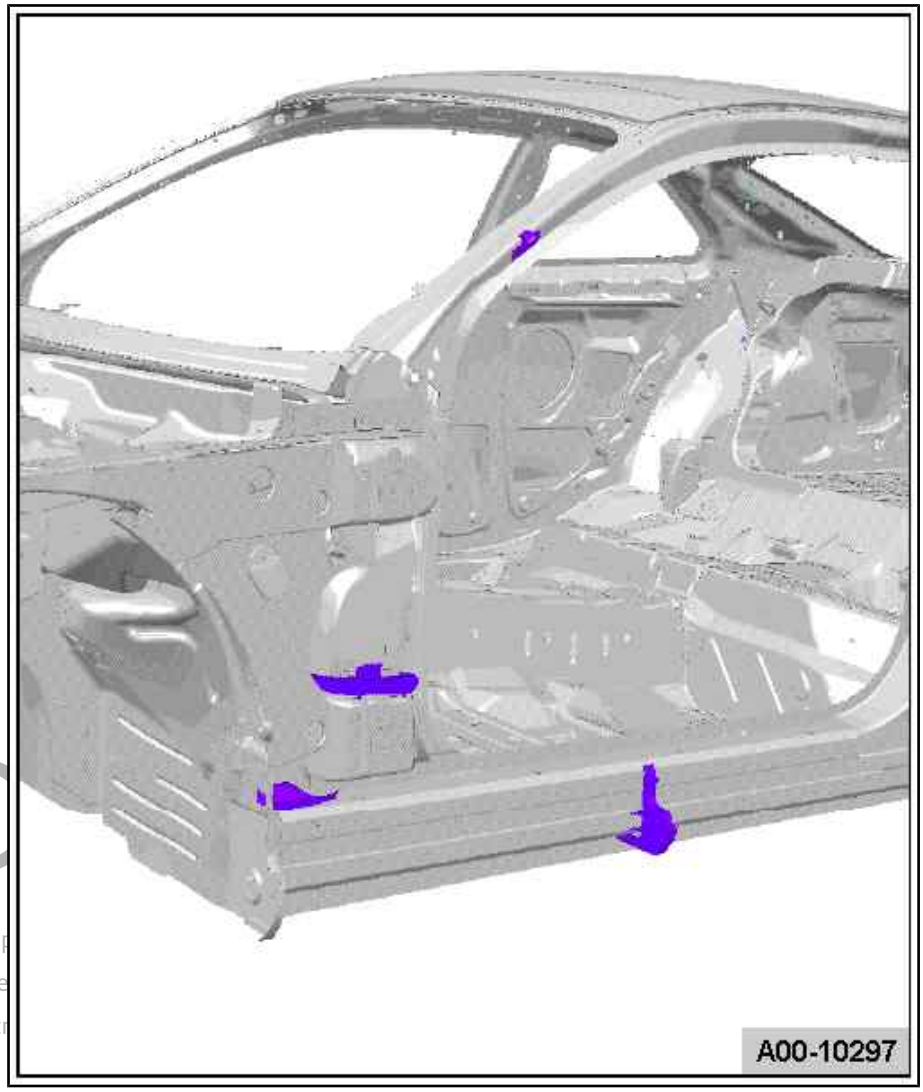
– Take installation position of stud from old part or mark it using appropriate aids (e.g. earth cable tab -arrow-).
– Weld stud with 2 weld seams on either side -1- using shielded arc welding equipment : SG continuous seam.
• To ensure adequate electrical conductivity, the length of the weld seams must be at least 12 mm on each side of the stud.
– Clean contact surface of stud after welding work is complete.

7 Moulded foam inserts

Various body cavities of the Audi A5 Coupé 2008 and A5 Sportback are fitted with moulded foam inserts.

The foam inserts reduce the noise transmitted to the interior when driving.

These pre-moulded parts are fitted during body manufacture and subsequently increase their volume in the paint shop drying oven at approx. 180 °C after priming.



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CAUTION

The replacement foam inserts expand only after reaching about 180 °C. For this reason, an additional filler foam is used when performing repairs.

Filler foam required for repairs: D 506 000 A2.

Since the temperature necessary for the foam inserts to expand cannot be achieved under normal workshop conditions, proceed as follows:

Remove residue of foam material on vehicle.

Restore paint coating; apply two coats (wet on wet) of glass/paint primer - D 009 200 02- if necessary; flash-off time approx. 10 minutes.

Requirement

Before continuing with this procedure, ensure that the replacement metal panel is ready for installation, i.e. cut to shape, matched up to the vehicle, corrosion protection applied.

Renewing moulded foam insert

Fix moulded foam insert to vehicle.

Apply filler foam - D 506 KD1 A3- to replacement part.

Secure new part in position. Gently press in new part in vicinity of moulded foam insert until it makes contact, and then weld into place.

The foam hardens within 25 minutes.

Do not weld (SG) within 15 mm of the foam insert (on either side).

After painting the vehicle the repaired area must be cavity-sealed.

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8 Repairing thread for seat belt anchorage

The procedure for repairing the thread is described in the installation instructions supplied with the repair set for belt anchorage - VAS 6733- .

– The rear seat belt anchorage -A- and the front seat belt anchorage -B- can be repaired with the repair set for belt anchorage - VAS 6733- .

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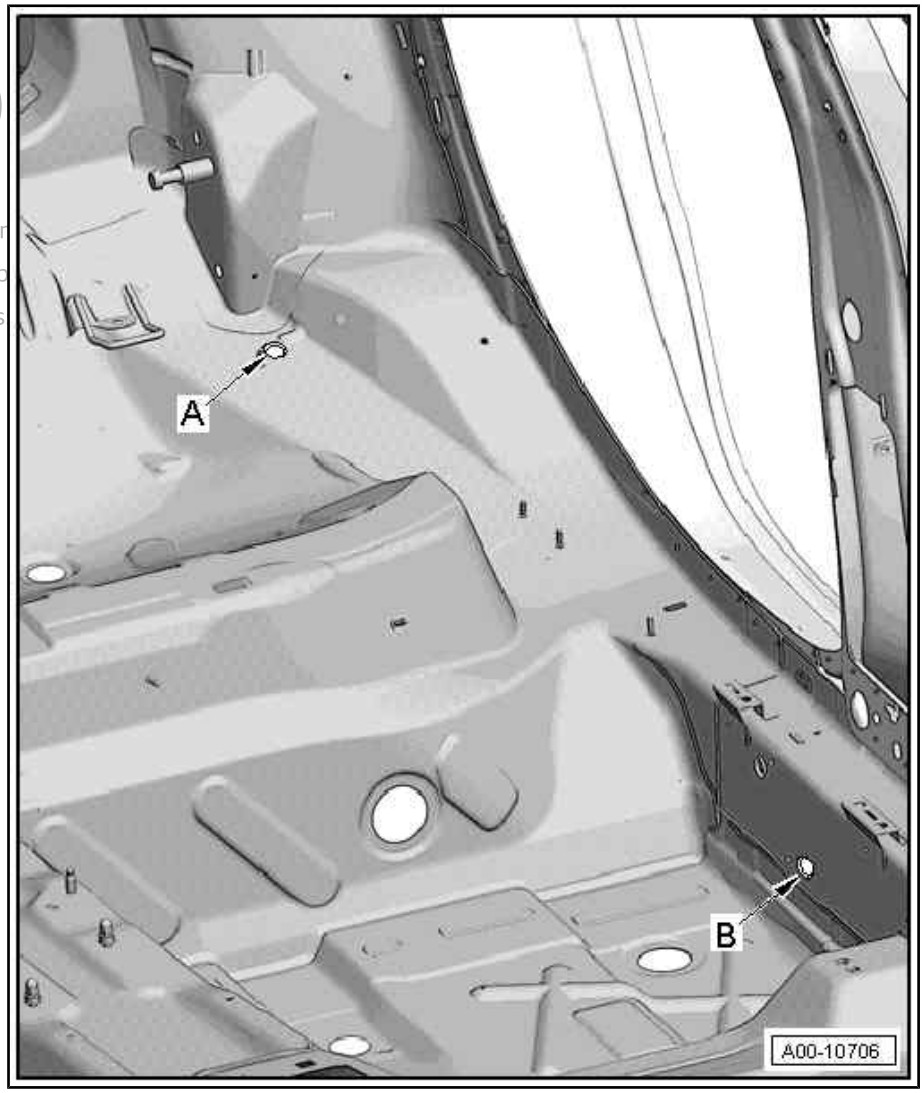

9 Thread repair for M6 pop rivet nut

If the thread-forming screws WHT 002 605 or WHT 002 612 should fail to hold or are otherwise damaged, the repair screws WHT 006 778 can be used as a substitute. It is then not necessary to drill holes and set the pop rivet nuts.

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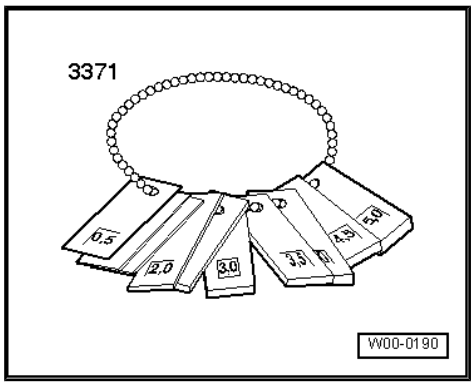
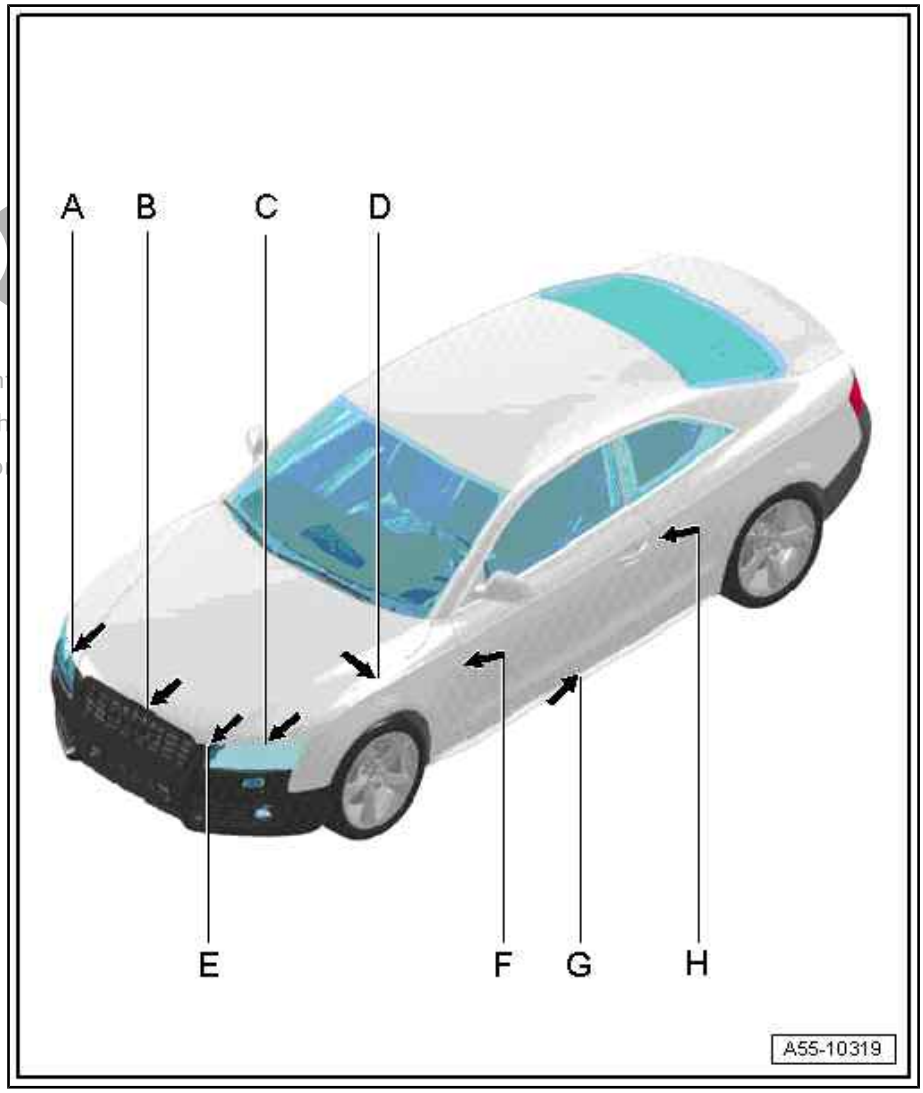
10 Body panel gaps/shut lines

Special tools and workshop equipment required

- Setting gauge - 3371-



Panel gaps - front



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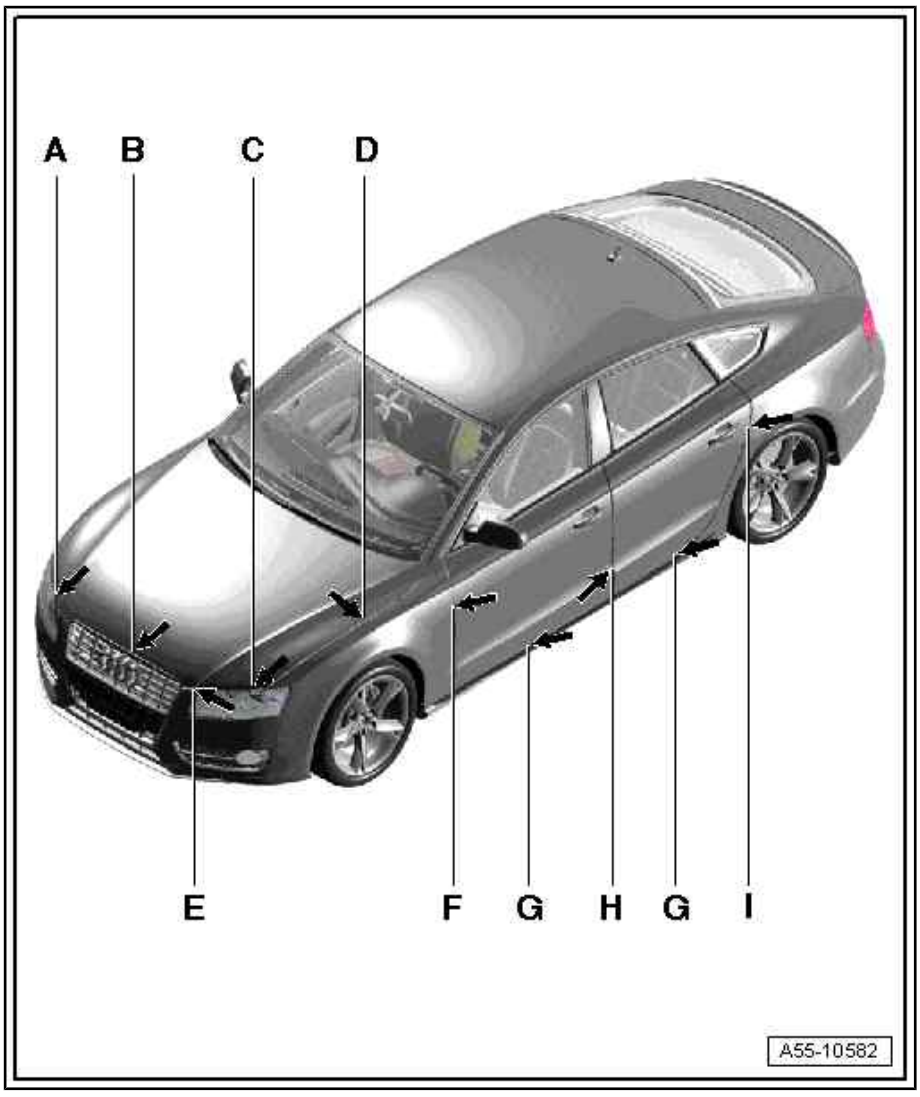
- Dimension A = 5.0 mm
- Dimension B = 4.5 mm

- Dimension C = 5.0 mm
- Dimension D = 3.0 mm
- Dimension E = 4.5 mm
- Dimension F = 3.5 mm
- Dimension G = 4.5 mm
- Dimension H = 3.5 mm

Panel gaps - front (Sportback)



- Dimension A = 5.0 mm
- Dimension B = 4.5 mm
- Dimension C = 5.0 mm
- Dimension D = 3.0 mm
- Dimension E = 4.5 mm
- Dimension F = 3.5 mm
- Dimension G = 4.5 mm
- Dimension H = 3.5 mm

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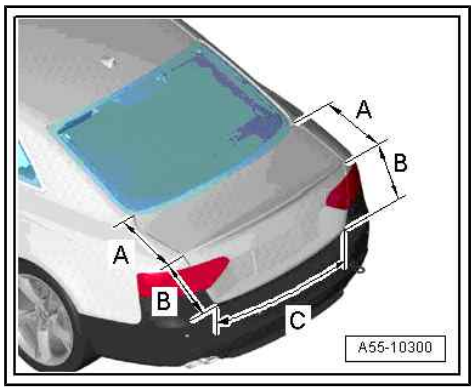
- Dimension I = 3.5 mm

Panel gaps - rear

The panel gaps can be checked with setting gauge - 3371- .

- In area -A- = 3.5 mm ± 0.5 mm
- In area -B- = 3.7 mm ± 0.5 mm
- In area -C- = 5.0 mm ± 0.5 mm

Panel gaps - rear



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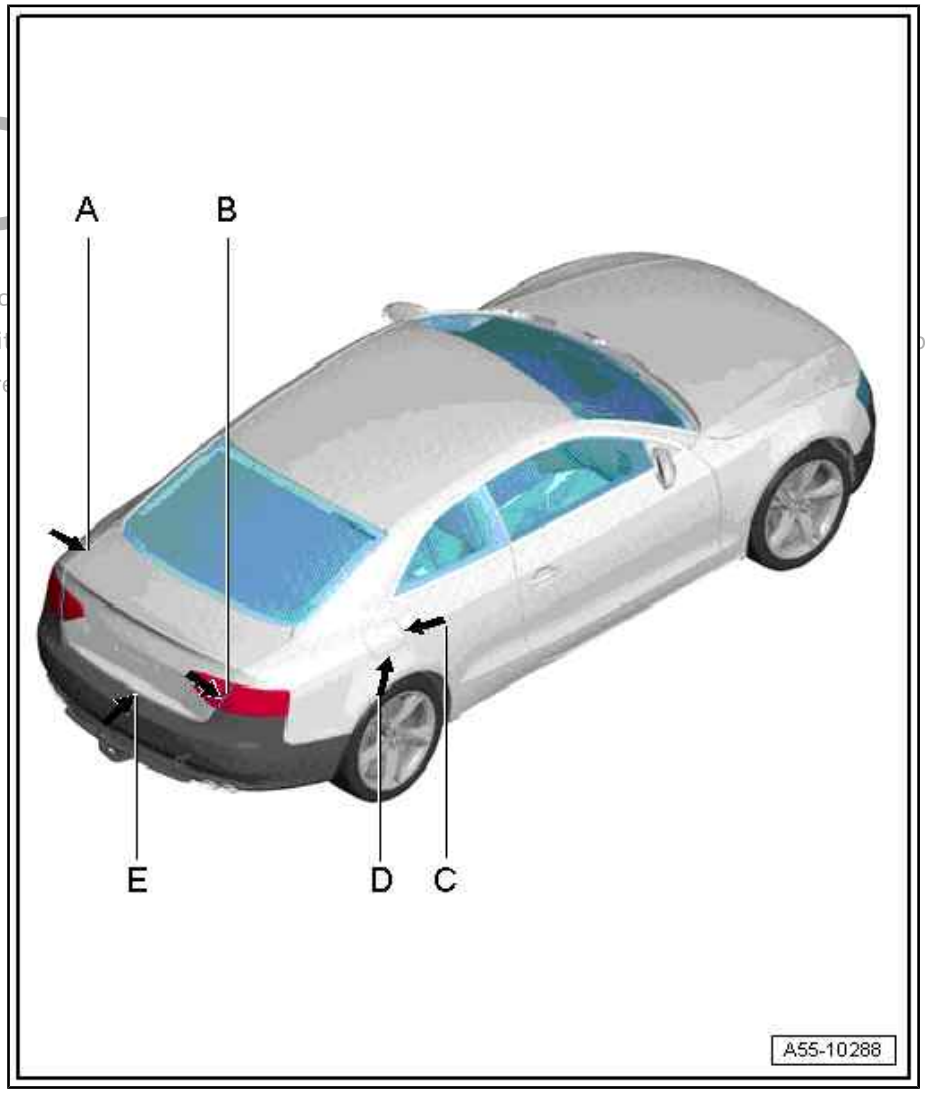
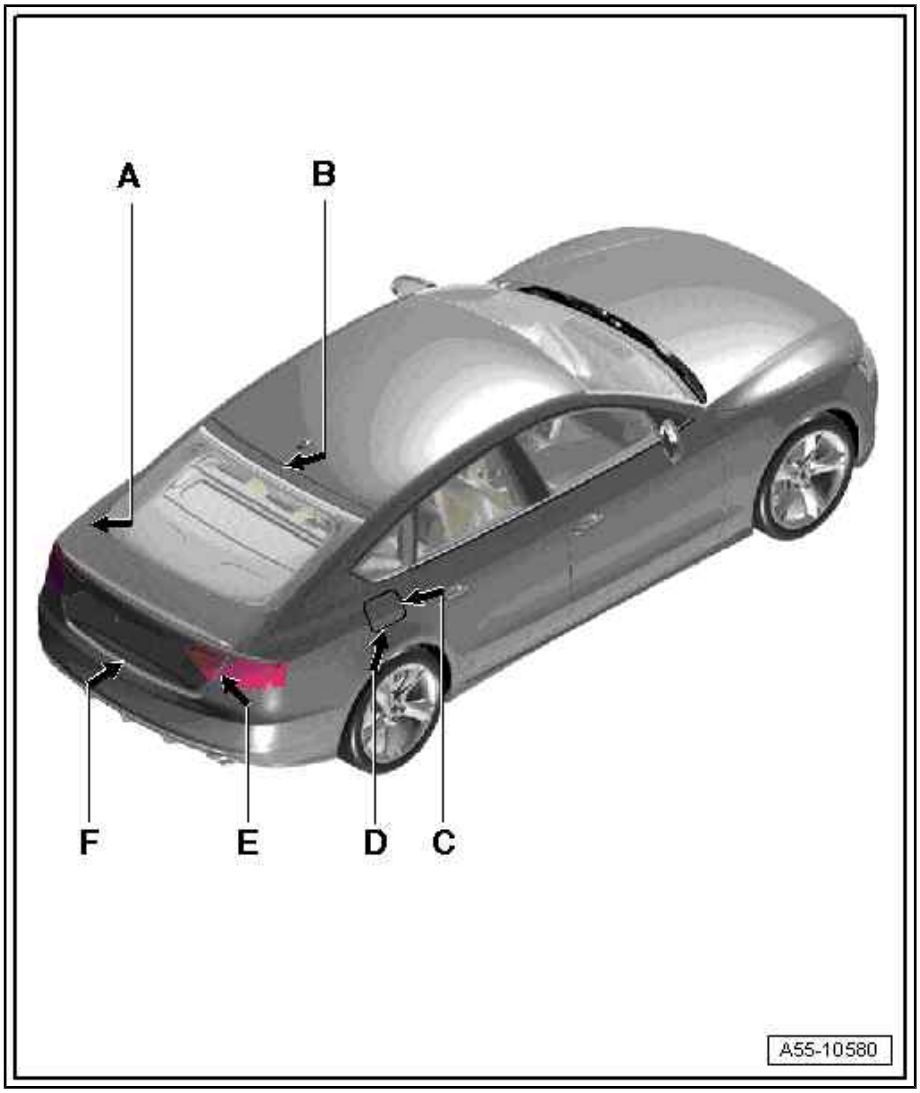


- Dimension -A- = 4.0 mm ± 0.5 mm
- Dimension -B- = 4.5 mm ± 0.5 mm
- Dimension -C- (front and rear) = 2.2 mm

- Dimension -D- (top and bottom) = 2 mm
- Dimension -E- = 5 mm ± 0.5 mm

Panel gaps - rear (Sportback)



The panel gaps can be checked with setting gauge - 3371- .

- Dimension -A- = 3.5 mm
- Dimension -B- = 5.0 mm
- Dimension -C- = 2.2 mm
- Dimension -D- = 2.5 mm
- Dimension -E- = 3.5 mm
- Dimension -F- = 5.0 mm

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11 Laser welding

AUDI AG introduced laser welding for the production of the Audi A5 Coupé.

The laser welding technique employs a high-energy light beam directed onto the weld by means of optical lenses or fibre optics.

During the welding process the upper panel is fused onto the partially molten lower panel, creating a weld joint with no additional material.

When performing repairs, laser weld seams are replaced by SG seams or pop rivets.

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12 Matching the surface contour

Repaired areas must be prepared so that all surfaces, swage lines and panel edges are accurately aligned with the surrounding body contour.

The following requirements must be met:

- After body repair work such as dent removal, welding and filling, etc., the repaired areas and parts must be dry-sanded with a grit size of at least P 80.
- The repaired surfaces must be prepared so that the required paint finish can be achieved in no more than two stages.

For the required surface contour use the following body fillers:

For vehicles with steel body

2-component steel filler set - DA 787 300 A2 -

For vehicles with aluminium body

2-component "diamond" filler aluminium powder - DA 004 200 A2 - and hardener - DA 004 201 A1-

CAUTION

The use of body solder containing lead is prohibited as of 1st January 2003.

Note

Lead-free body solder is not approved by AUDI AG.

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13 Bonded joints

Bonded and spot-welded bonded joints are employed on the Audi A5 Coupé for increased body stiffness and strength.

13.1 Bonded joints

In the case of adhesive-bonded joints, the joint between the sheet metal parts is formed only by the adhesive.

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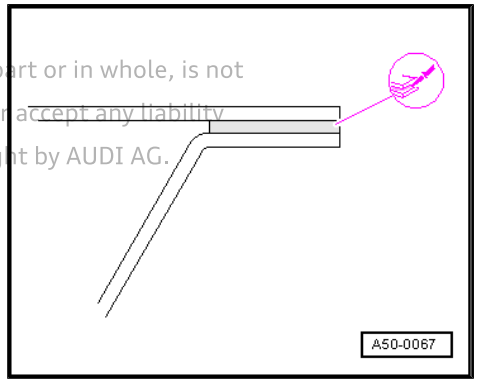
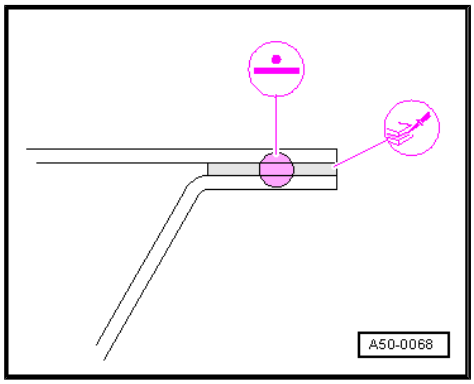


13.2 Spot-welded/bonded joints

In spot-welded/bonded joints an electrically conductive adhesive is used between the panels, which allows good root penetration for spot welding.

The welding current must not be increased for spot-weld bonding operations. The pre-press period must be extended to about 30 – 50 cycles because of the displacement of the adhesive. Always use a fume extractor.



13.3 Inspecting and repairing bonded joints

Particular attention should be given to these joints when diagnosing accident damage and performing body repairs.

Note the following points: Do not use a chisel to test the strength of a joint or relieve stresses by hammering as this will cause irreparable damage to the bonded joint.

These joints should be inspected particularly closely when diagnosing accident damage and after performing straightening work on the body.

If the joint is not accessible with pop rivets, it must be repaired with an arc-welded seam (SG). In this case the complete area must be repaired as the heat generated by welding destroys the adhesive joint. The SG seams should be welded working from the thin to the thick panel. Always use a fume extractor.

13.4 Repair methods for replacing body parts

When making repairs, welded joints can be used in place of all spot-welded bonded joints and certain bonded joints if no suitable body adhesive is available.

Do not make the repair with only the same spot welds or seams as originally used in production. These alone are not adequate for a proper joint.

The repair methods are shown in detail on the following pages.

Note

- *If the instructions call for additional spot welds, these should be applied in a single operation.*
- *Do not place new spot welds in-between the original spot welds.*
- *SG plug welding should only be performed after spot welding.*
- *This avoids any increased shunt current when spot welding.*

Ensure good root penetration at all joints.

Seal off repaired joint flanges and apply cavity sealing.

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14 Body dimensions

Body - front (Coupé and Sportback identical)

NOTICE

These dimensions only serve as a check. Correct dimensions are defined by the alignment bracket set.

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A - 1470 ± 2mm

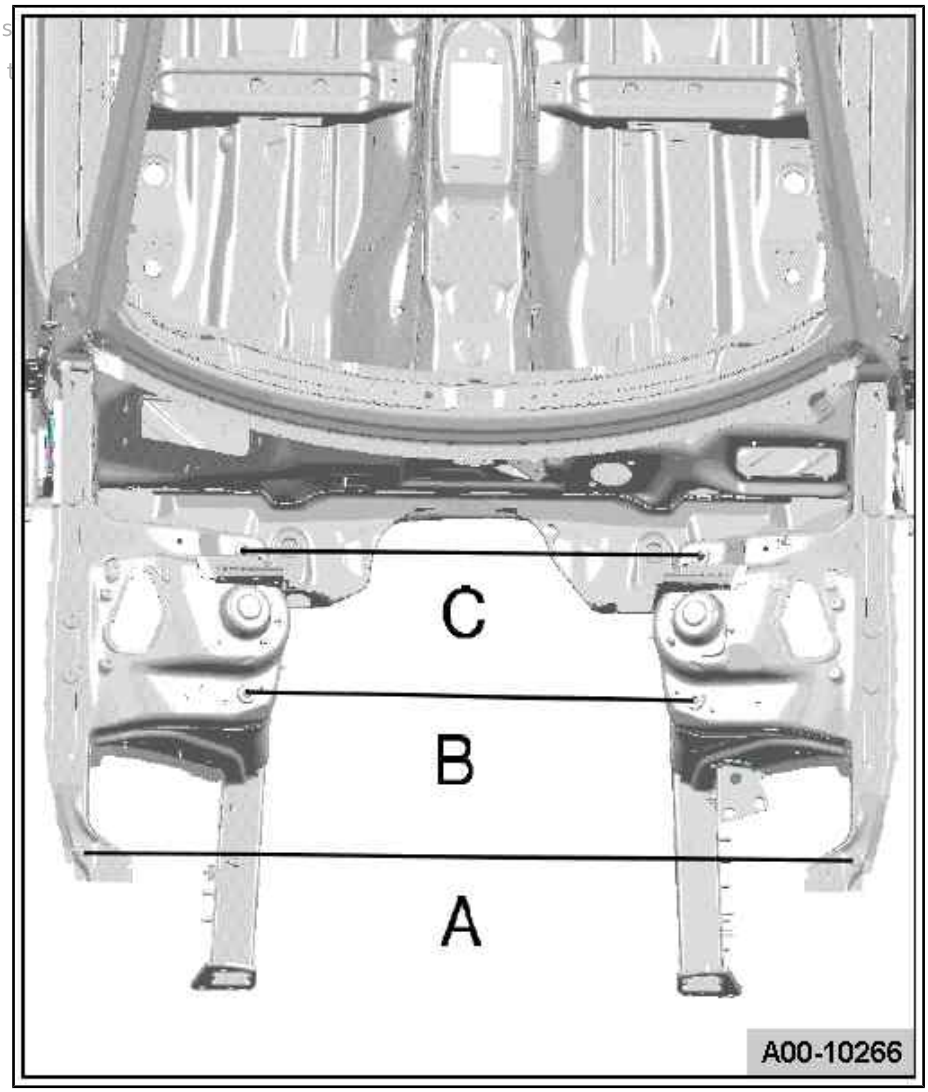
Distance between wing panel mountings

B - 856 ± 2mm

Distance between suspension strut mountings

C - 870 ± 2mm

Distance between suspension strut mountings



A - 930 ± 2mm

Distance between impact damper mountings

B - 1008 ± 2mm

Distance between impact damper mountings

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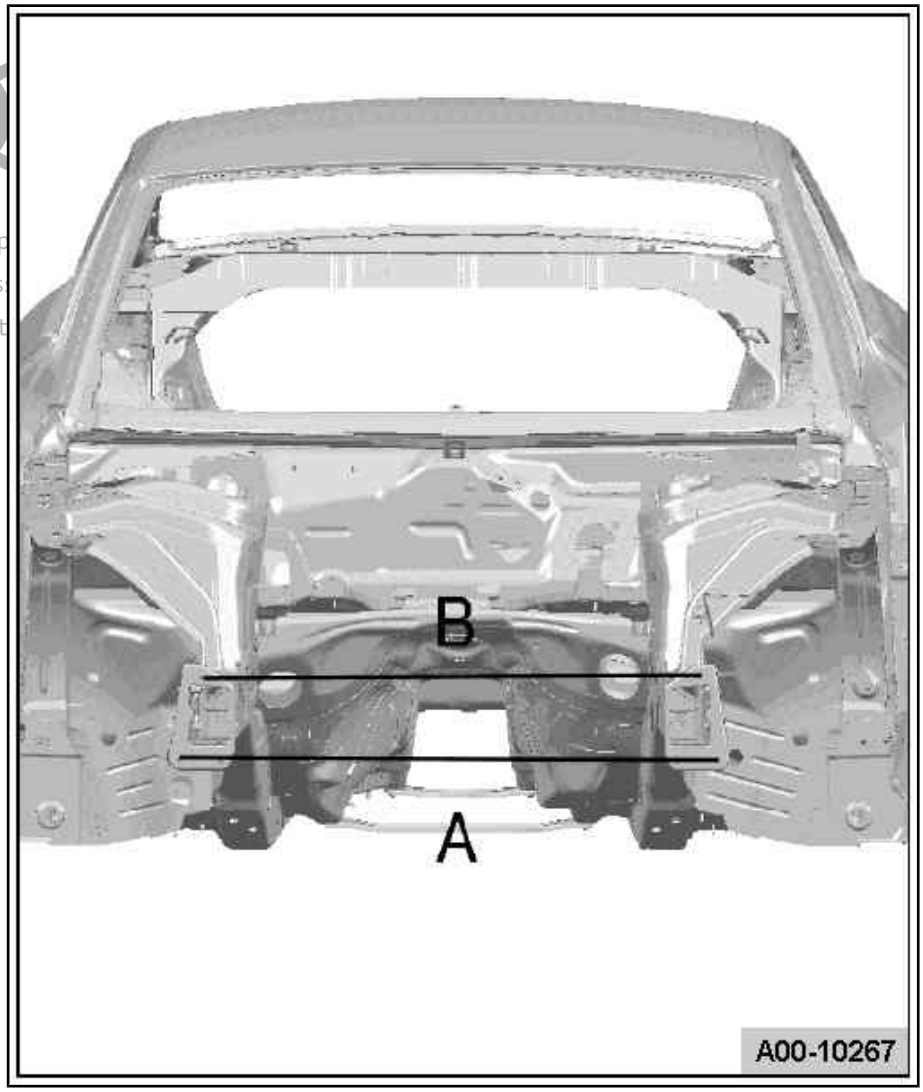


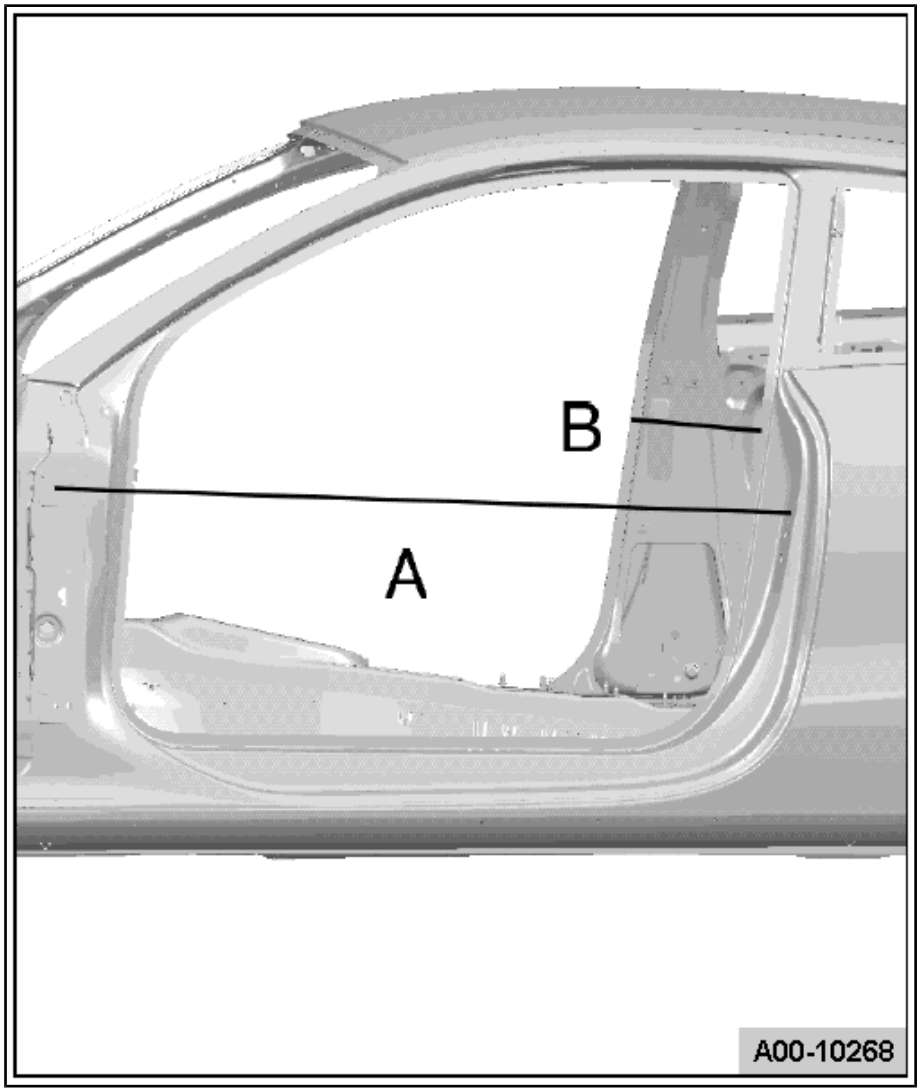
Front door opening (Coupé)

A - 1274 ± 2mm

Distance between hinge mounting on A-pillar and striker plate mounting on B-pillar

B - 1485 ± 2mm

Distance between B-pillars



Door opening (Coupé and Sportback identical)

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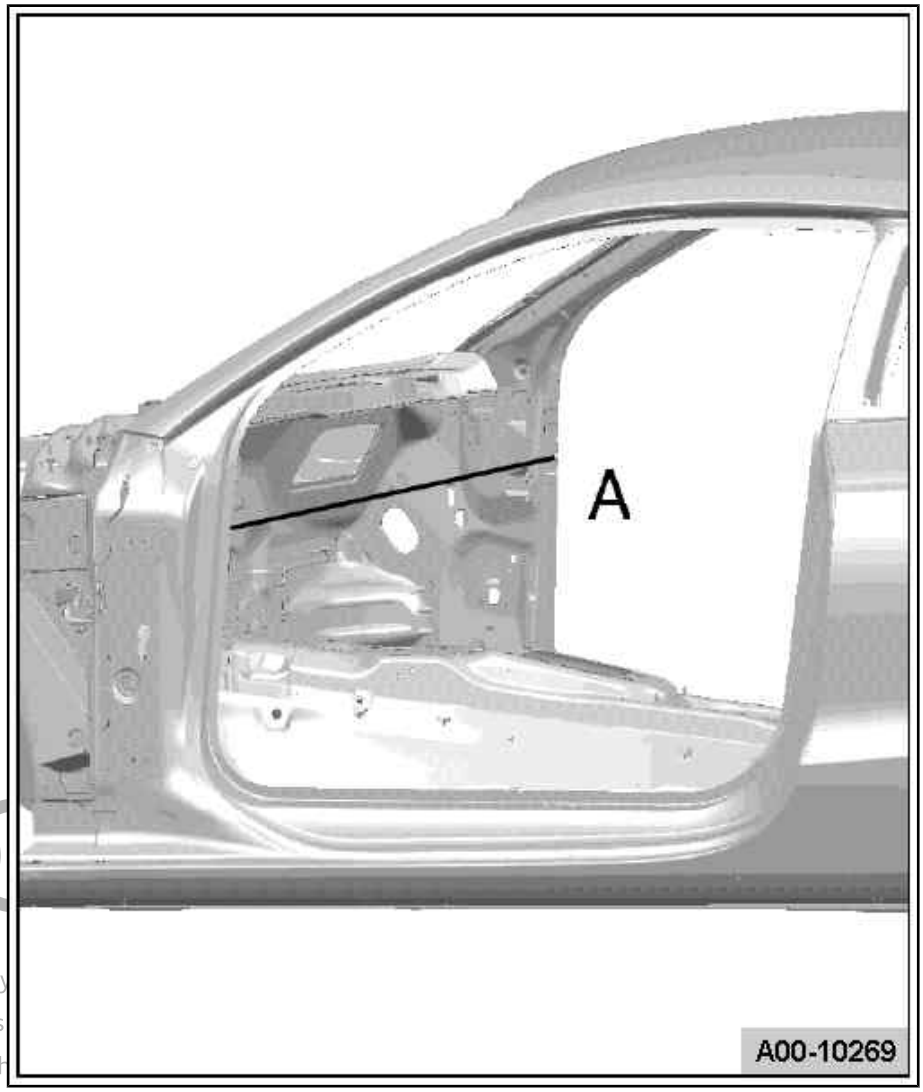
A - 1453 ± 2mm

Distance between A-pillars



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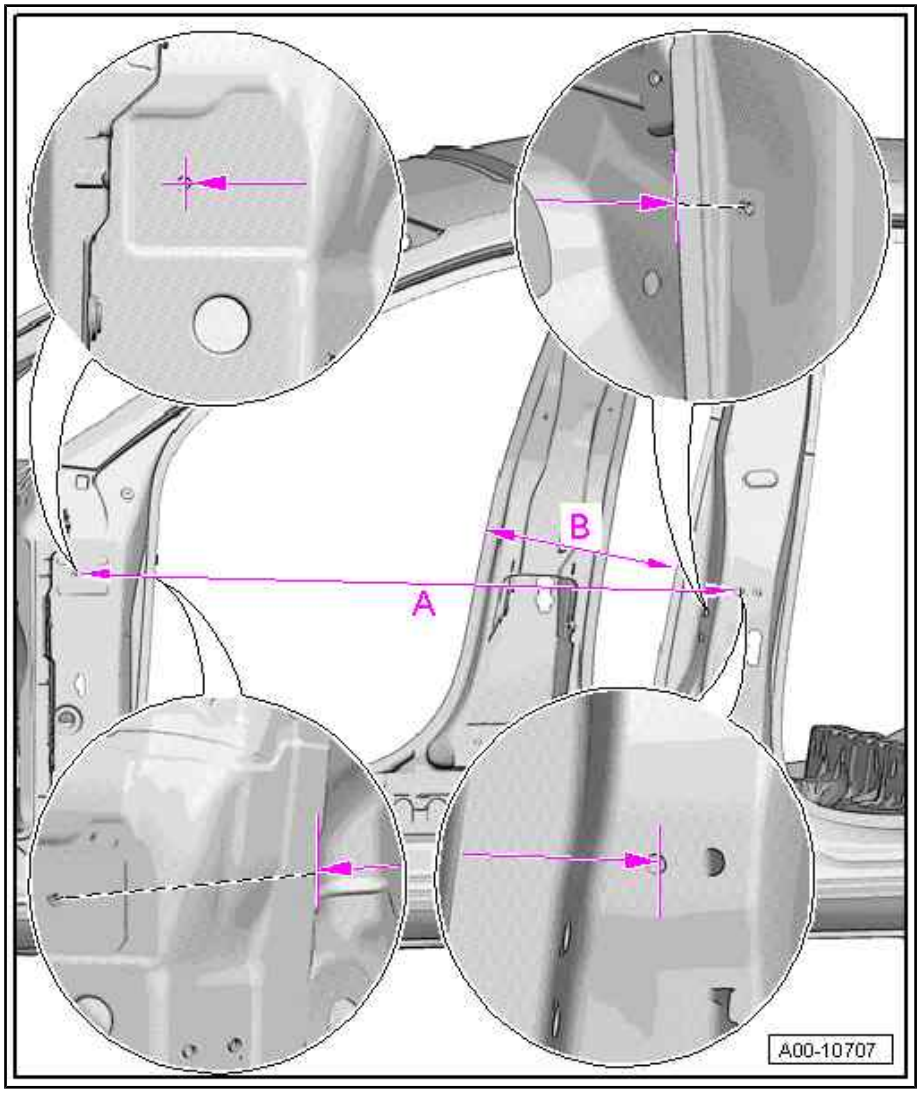
Front door opening (Sportback)

A - 1061 ± 2mm

Distance between hinge mounting on A-pillar and striker plate mounting on B-pillar

B - 1472 ± 2mm

Distance between B-pillars



Rear door opening (Sportback)

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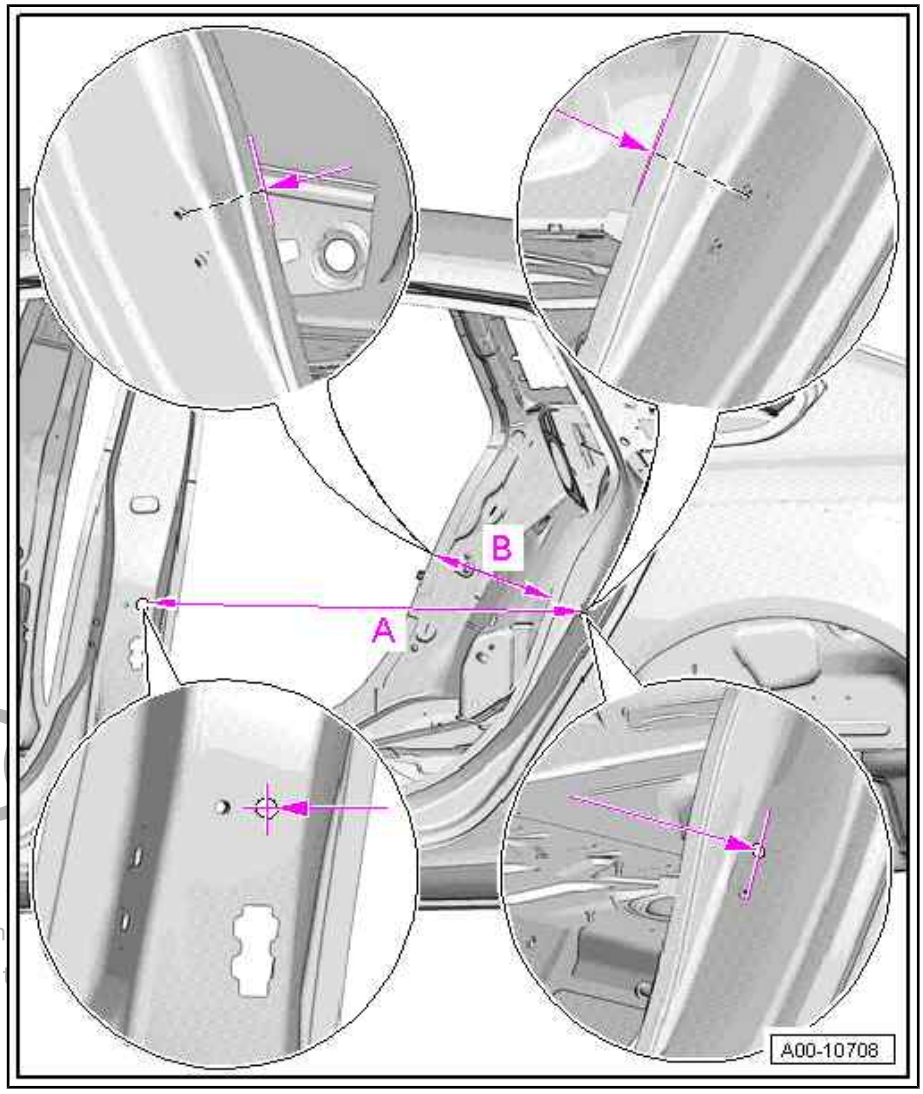
A - 810 ± 2mm

Distance between hinge mounting on B-pillar and striker plate mounting on C-pillar

B - 1421 ± 2mm

Distance between C-pillars



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Floor group, front

A - 892 ± 2mm

Distance between front longitudinal members

B - 1127 ± 2mm

Diagonal distance between front longitudinal members

C - 756 ± 2mm

Distance between front longitudinal members (at rear)

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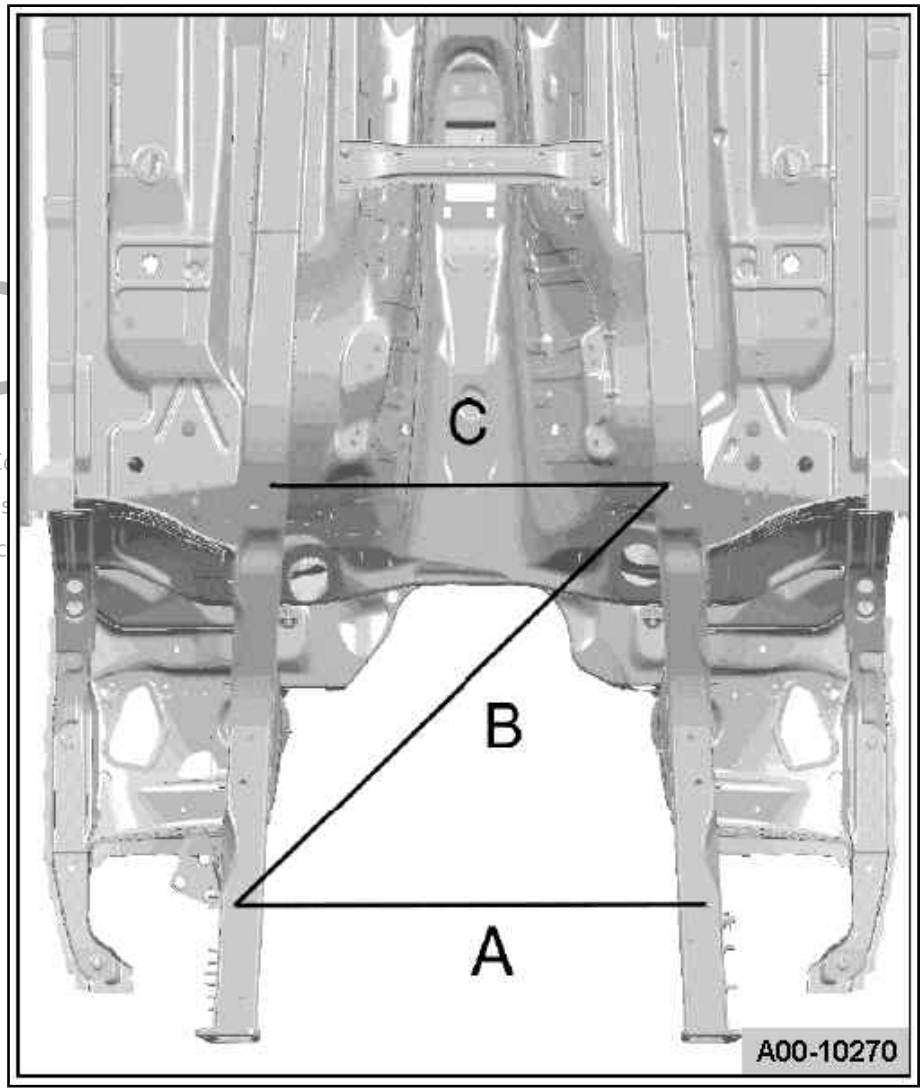


Floor group, rear

A - 1439 ± 2mm

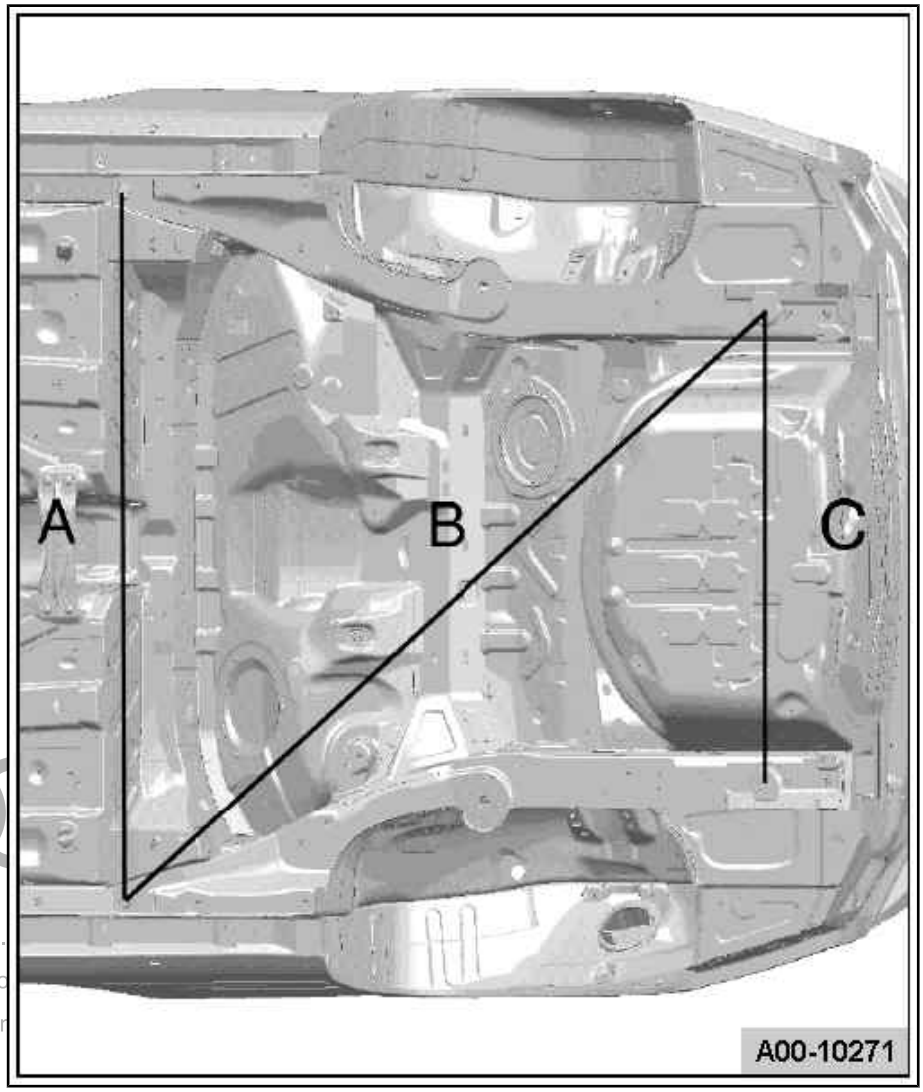
Distance between rear longitudinal members

B - 1879 ± 2mm

Diagonal distance between longitudinal members

C - 955 ± 2mm

Distance between rear longitudinal members



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A - 1020 ± 2mm

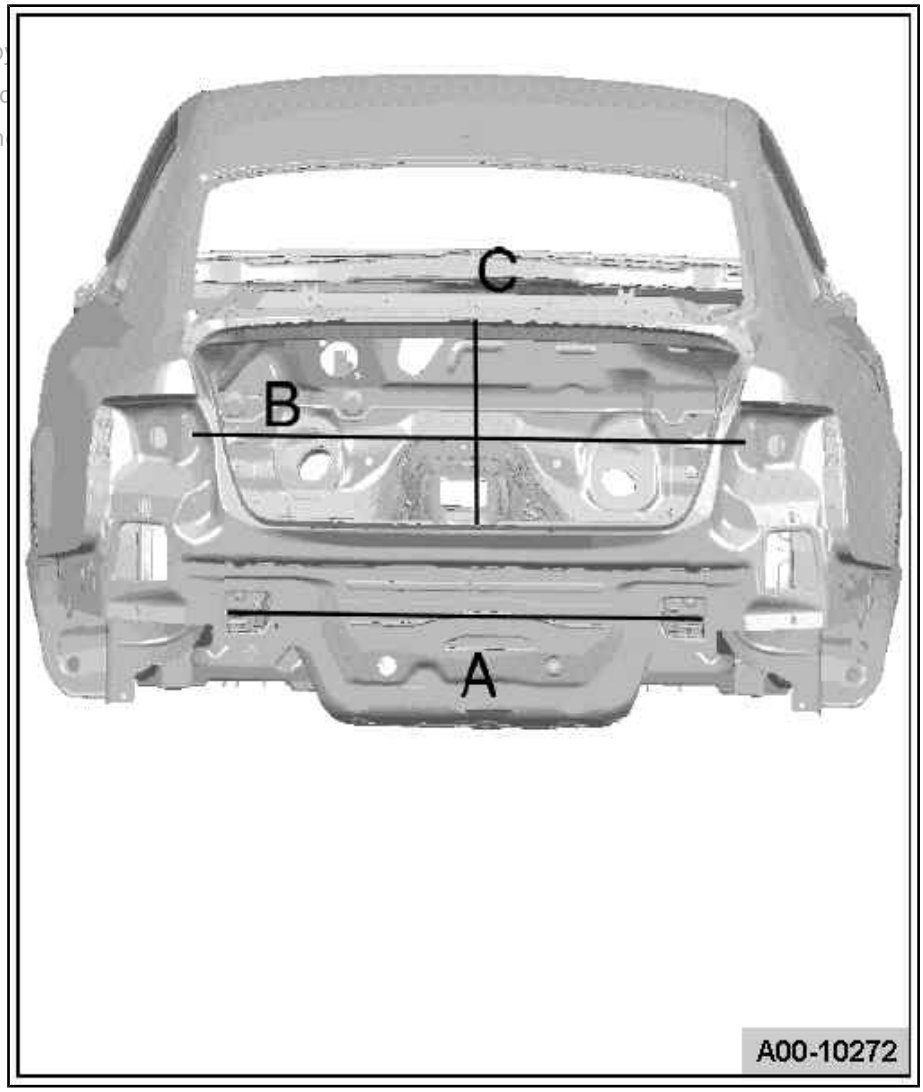
Distance between rear longitudinal members

B - 1168 ± 2mm

Distance between tail light mountings

C - 512 ± 2mm

Distance between window cross member and rear upper cross panel



A - 1020 ± 2mm

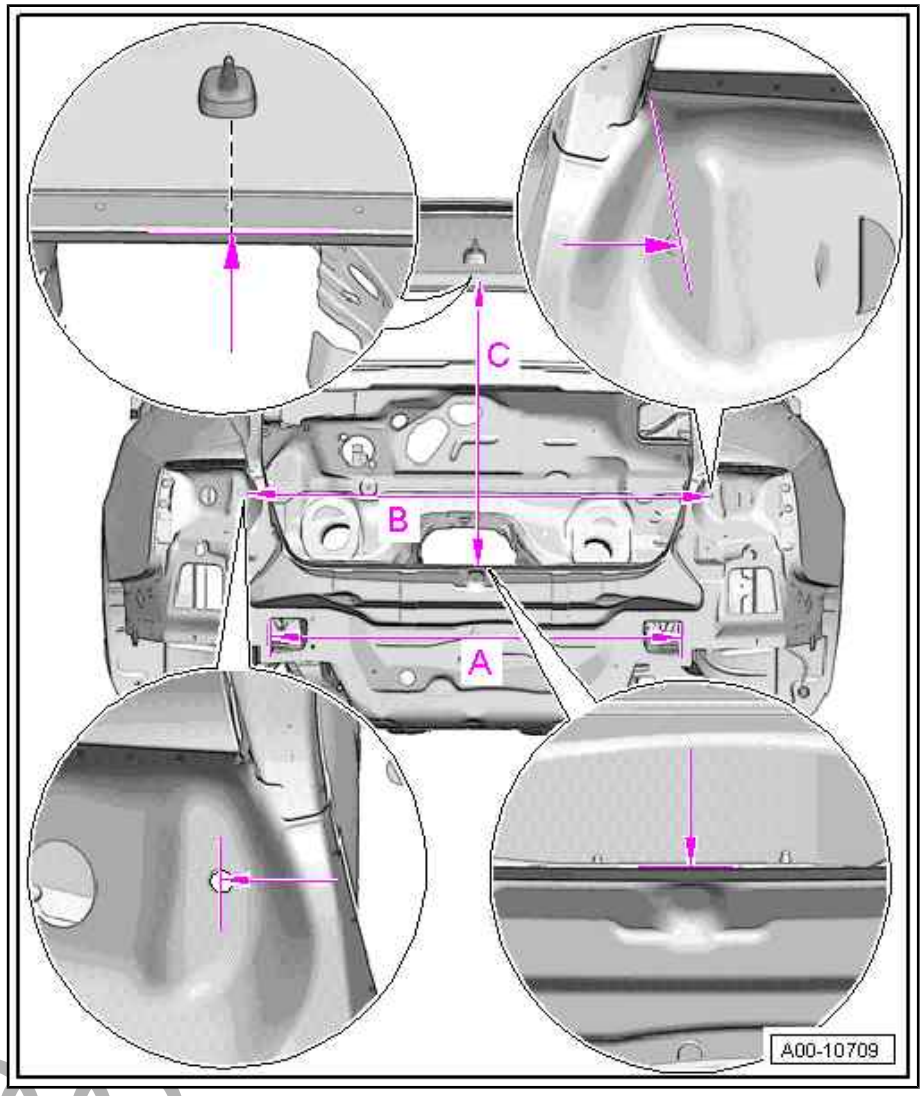
Distance between rear longitudinal members

B - 1160 ± 2mm

Distance between tail light mountings

C - 1152 ± 2mm

Distance between window cross member and rear upper cross panel



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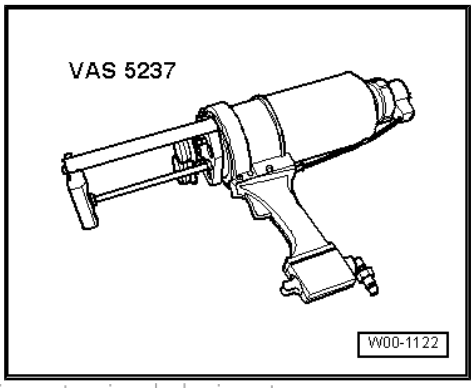
15 Tools

Special tools and workshop equipment required

- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530 A-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545 A-
- Resistance spot welder - VAS 6755-
- Resistance spot welder - VAS 821 101-
- Resistance spot welder - VAS 821 201-
- Shielded arc welding equipment - V.A.G 1959 A-
- Shielded arc welding equipment - VAS 6044 A-
- Shielded arc welding equipment - VAS 6045 A-
- MIG/MAG welding and brazing system - VAS 6741-
- MAG welding system, analogue - VAS 6672-
- MAG welding system, analogue - VAS 6681-
- ALU/MIG/MAG welding and brazing system - VAS 6388 A-
- Measuring and alignment system - VAS 6526- , basic
- Measuring and alignment system - VAS 6527- , professional
- Measuring and alignment system - VAS 6528- , professional plus
- Brush grinder - VAS 6446 A-
- Drill - VAS 6267 A-
- Scraper - VAS 5448-
- Thread repair kit M12x1.5 - VAS 6058-
- Compact angle grinder - VAS 5167 A-
- Compact angle grinder - VAS 5167 B-
- Belt grinder - VAS 881 003-
- Double cartridge gun - VAS 5237-



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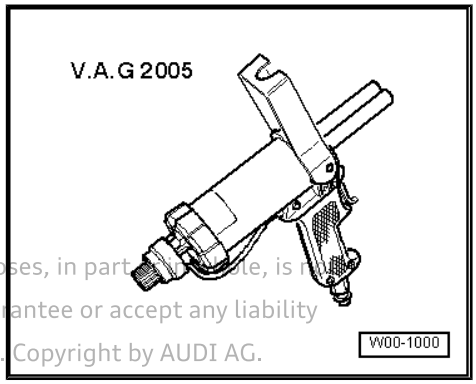
- Double cartridge gun - VAS 6453-

- Compressed-air gun - V.A.G 1761/1-

- Pneumatic glue gun - V.A.G 2005 B-



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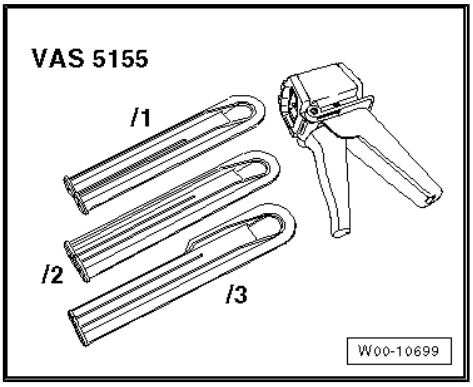
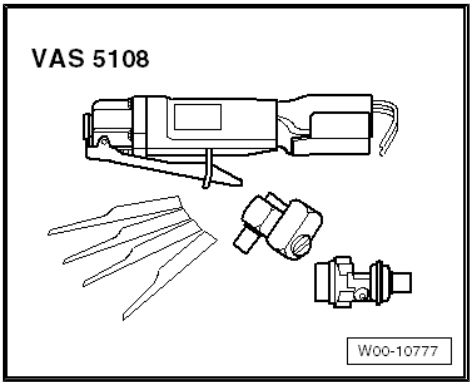
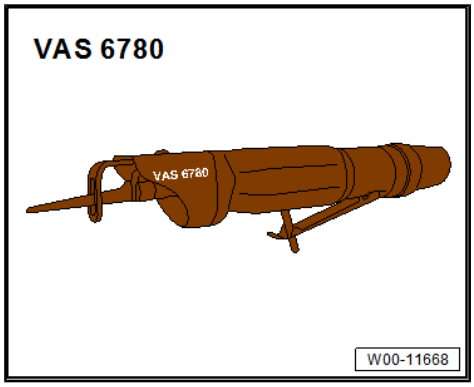
- Compressed-air gun - VAS 6648-
- Hand cartridge gun - VAS 5155-



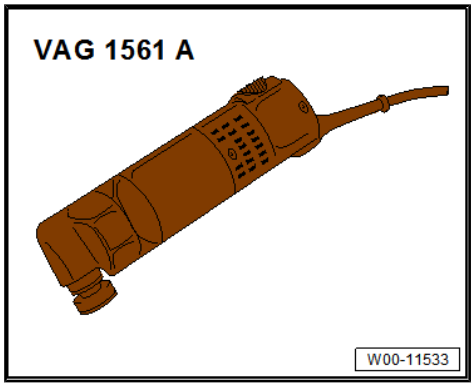
- Body saw - VAS 5108-



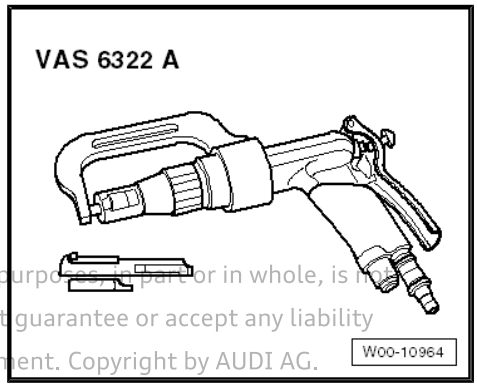
- Body saw - VAS 6780-



- Body saw - VAS 882 003-
- Electric cutter - V.A.G 1561 A-



- Tin snips - VAS 5356-
- Tin snips - VAS 5357-
- Spot weld breaker - VAS 6322 A-



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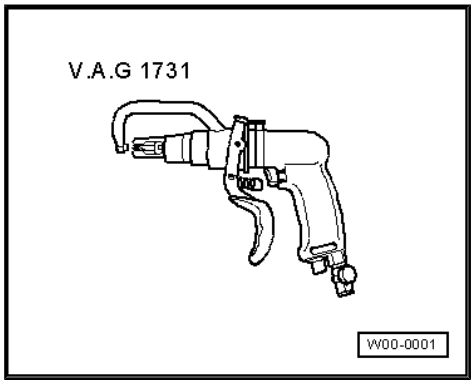
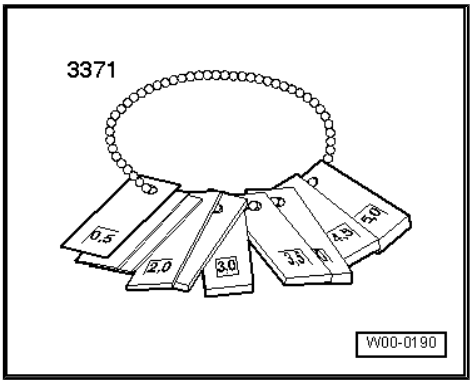
- Spot weld breaker - V.A.G 1731 A-

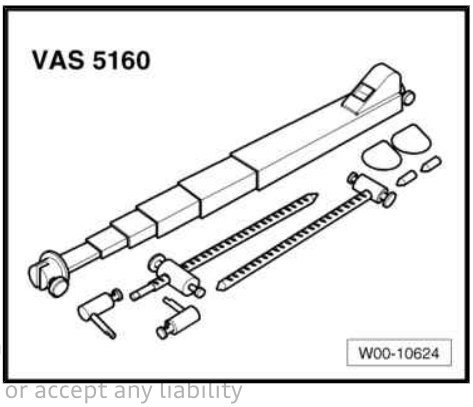


- Spot weld breaker - VAS 882001-

- Setting gauge - 3371-



- Telescopic gauge - VAS 5159- or telescopic gauge - VAS 5160-



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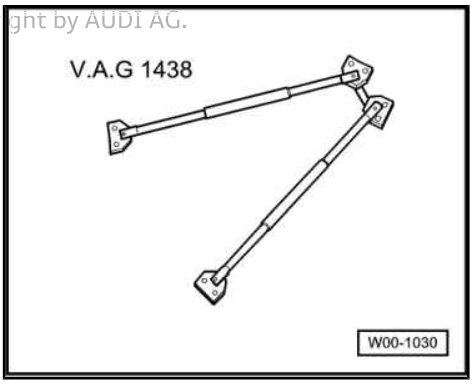
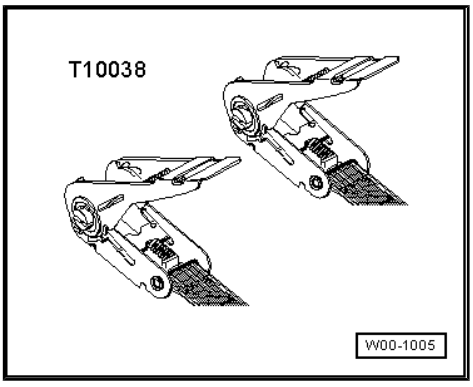
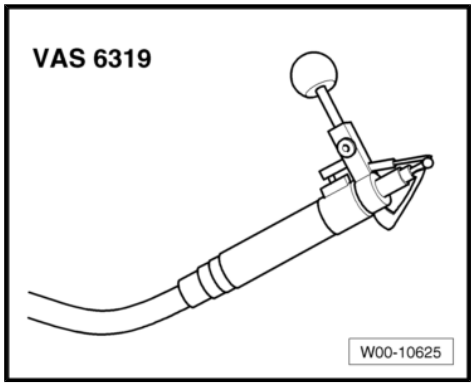
- Mechanical door tensioner - V.A.G 1438-



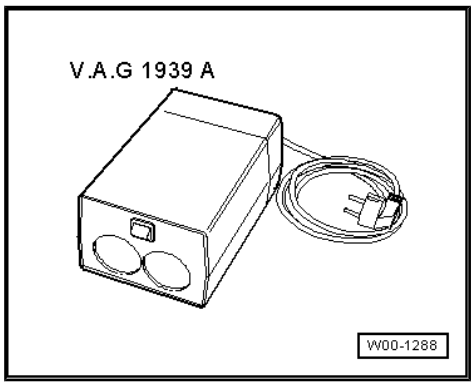
- Tensioning strap - T10038-



- Laser weld seam grinder - VAS 6319-



- Cartridge heater - V.A.G 1939 A-



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16 Straightening jig

Note

- *The item numbers in the illustrations are identical with the end numbers on the alignment bracket mountings.*
- *The item numbers of the alignment bracket mountings marked with a circle are for checking the body with mechanical units installed.*
- *The required basic set size is given for the alignment bracket mountings.*

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Straightening bracket set - VAS 6442- incl. quattro Portal gauge - VAS 5007/33-

– Detailed information on setting up the alignment bracket set can be found in the setup plan enclosed with the equipment.

50 – Body - front

RO: 50 53 55 00

1 Intermediate piece - Renewal

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1.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

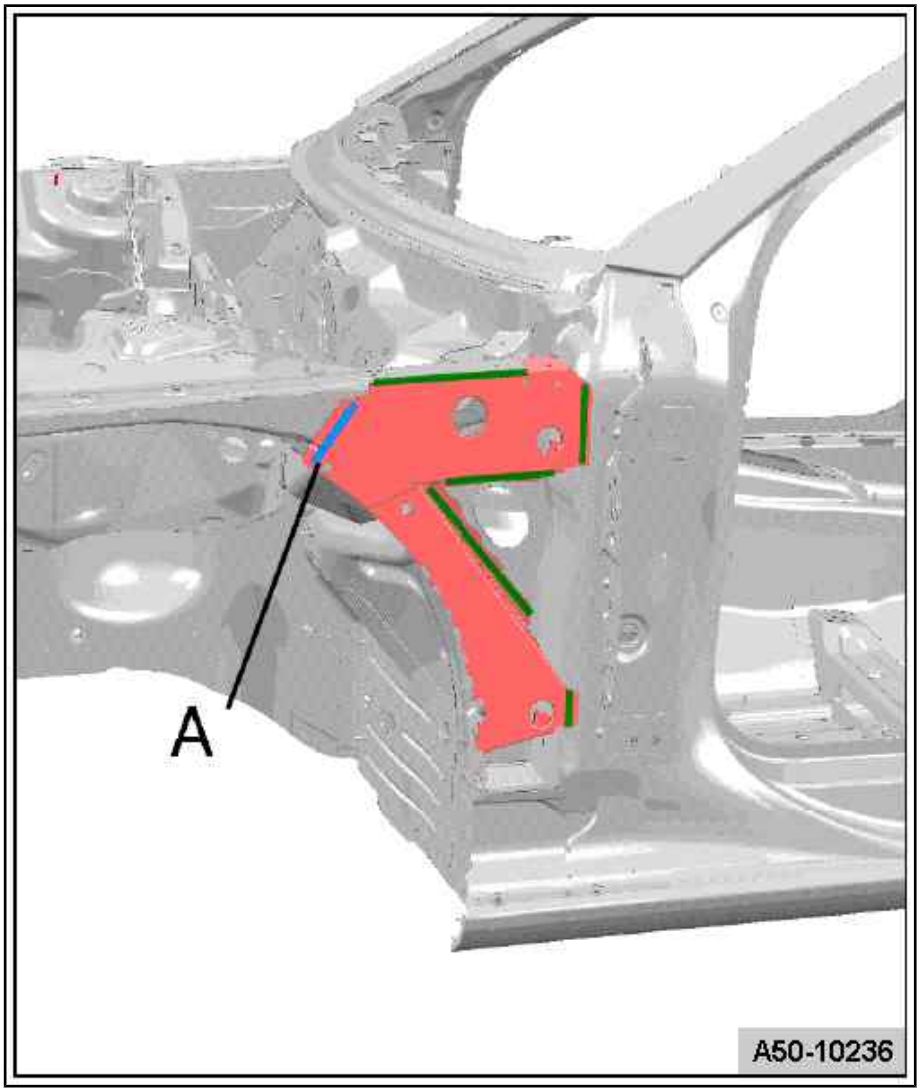
1.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .

– Remove remaining material using compact angle grinder .

– -A- - Grind open laser weld seam.



Replacement part

- Connecting plates

Preparing new part

– Drill holes for SG plug weld seam, 7 mm ∅ using drill .

– Using compact angle grinder , grind down new part for SG continuous seam in place of laser weld.

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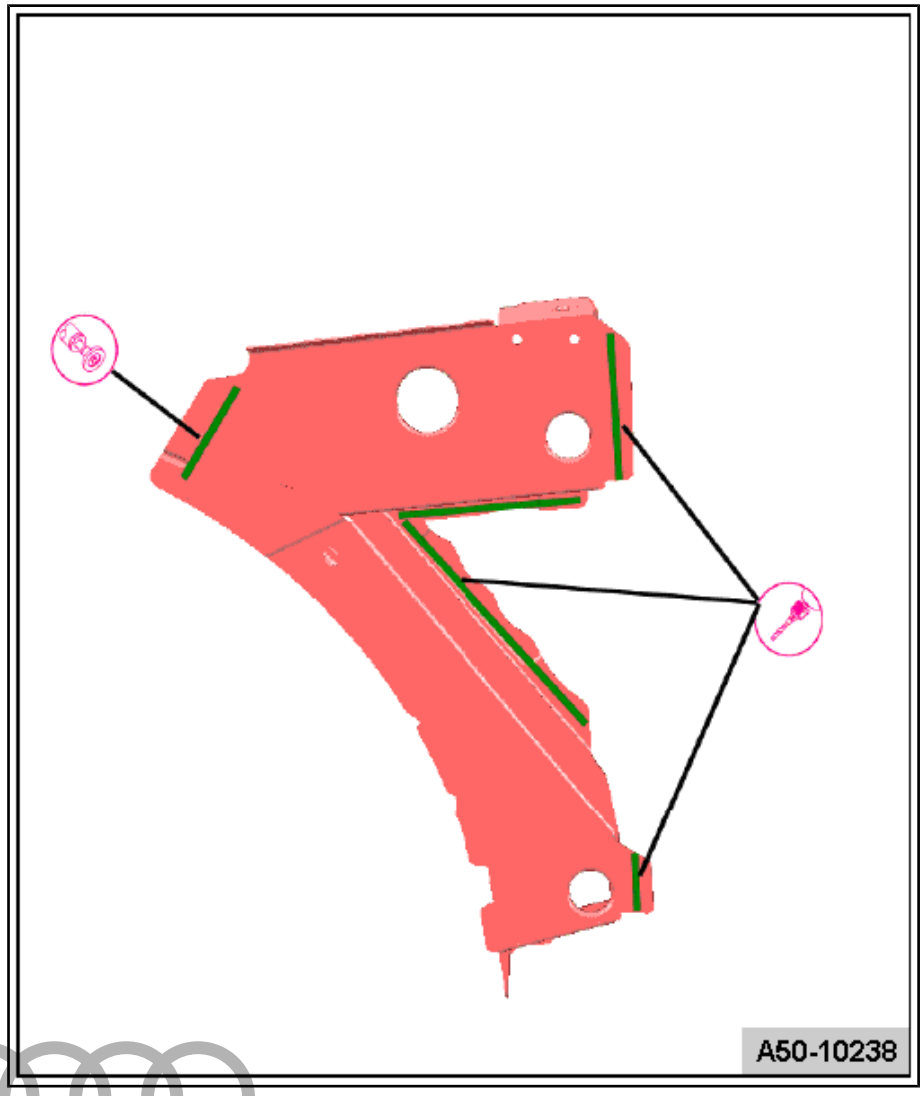

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

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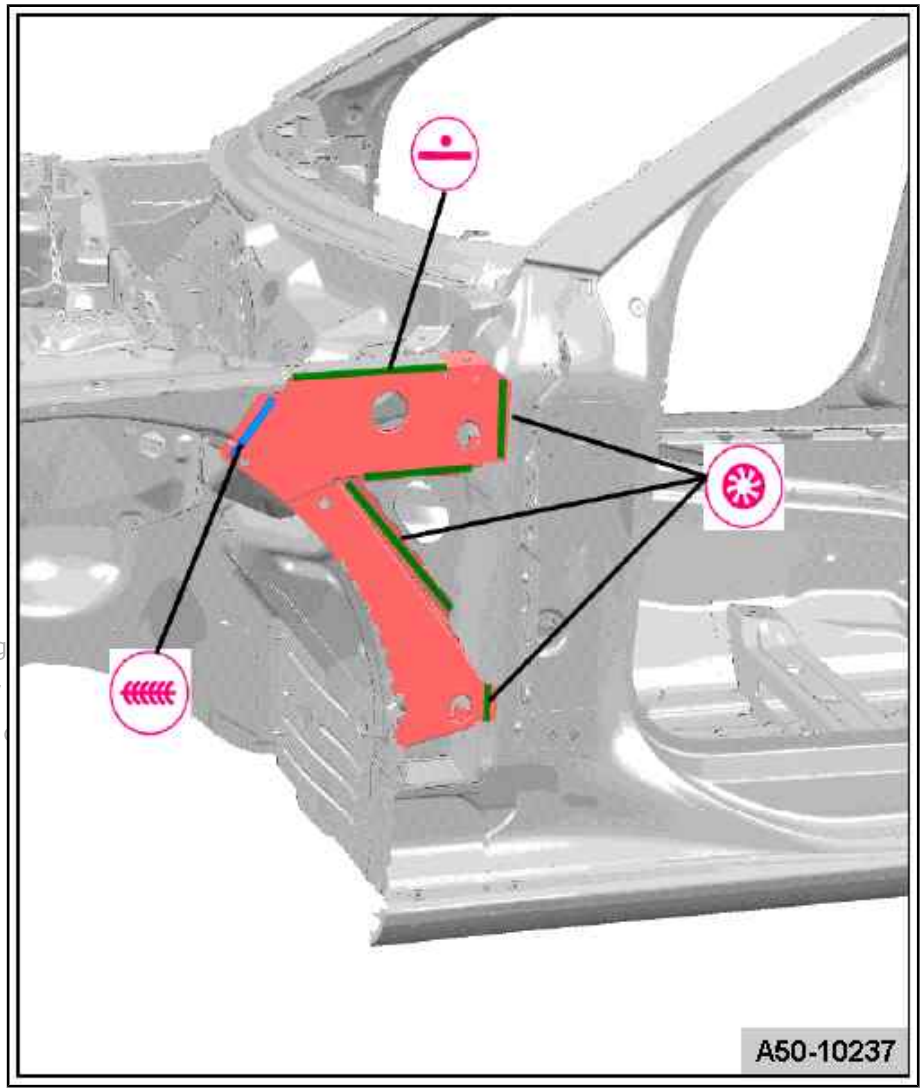
Welding in

– Match up reinforcement and weld in using resistance spot welder : RP spot weld seam.
– Weld in intermediate piece using shielded arc welding equipment : SG continuous seam in place of laser weld.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



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RO: 50 72 55 00

2 Upper wheel housing longitudinal member - Renewal

2.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

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Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

2.2 Procedure

- Intermediate piece already removed ⇒ page 40

Cutting locations

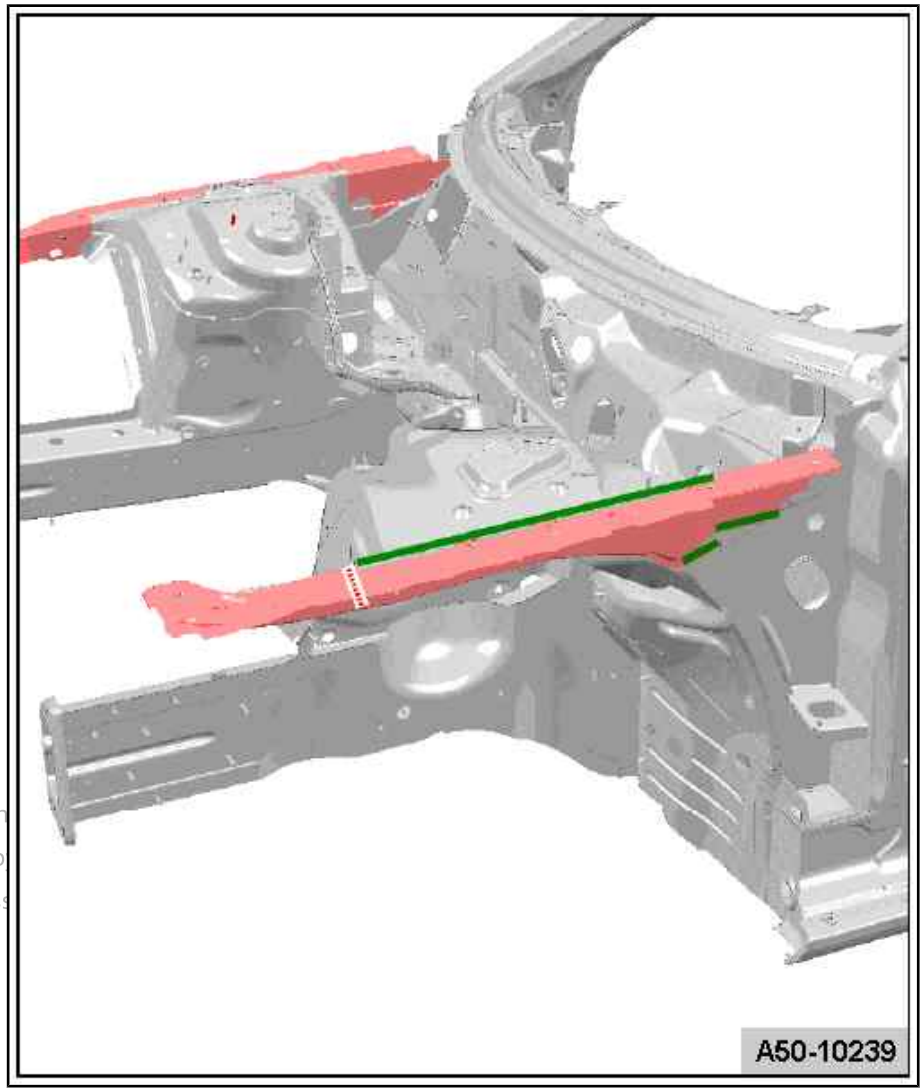
NOTICE

Take care not to damage the bonnet lock cable when making the separating cut in the longitudinal member.

Note

Partial renewal is possible with the separating cut shown. Place a backing plate of the same material behind the joint and use SG continuous seam.

– Make separating cut as shown using body saw .
– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .



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Replacement parts

- Upper wheel housing longitudinal member

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

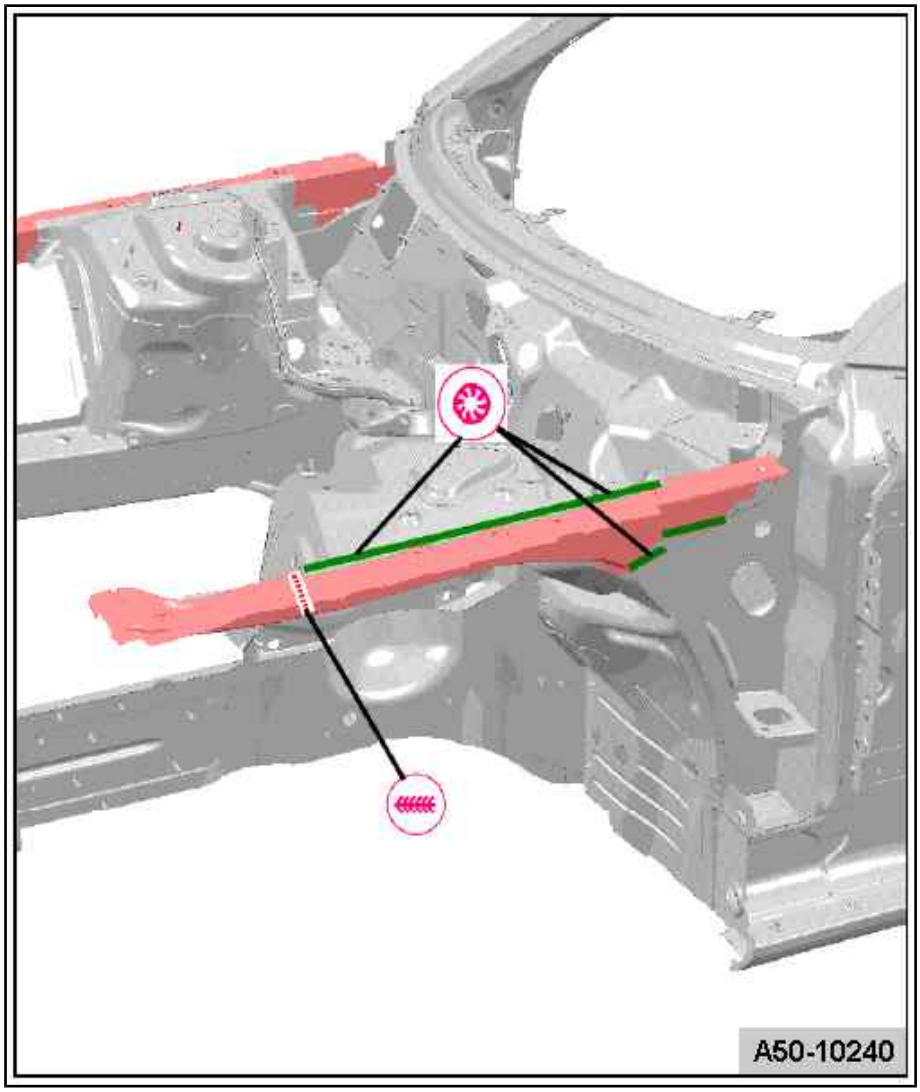
Welding in

– Fix new part on alignment bracket.

– Weld in upper wheel housing longitudinal member using resistance spot welder : RP spot weld seam.

– Weld in upper wheel housing longitudinal member using shielded arc welding equipment : SG plug weld seam.

– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.



- Welding in intermediate piece ⇒ page 40

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RO: 50 74 55 00

3 Suspension strut mounting - Renewal

3.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

3.2 Procedure

Cutting locations

– Separate original joint at suspension strut mounting using spot weld breaker .

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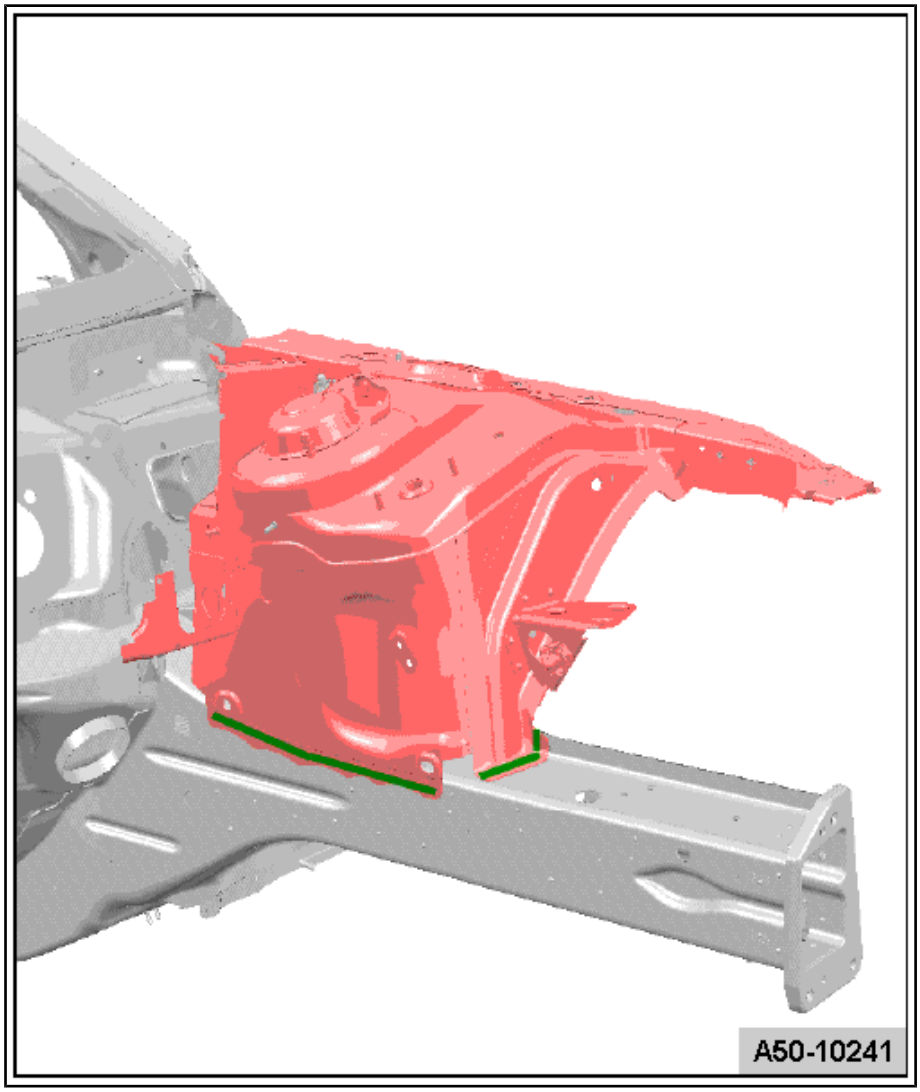

– Separate original joint at suspension strut mounting using spot weld breaker .
– Detach part.
– Remove remaining material using compact angle grinder .

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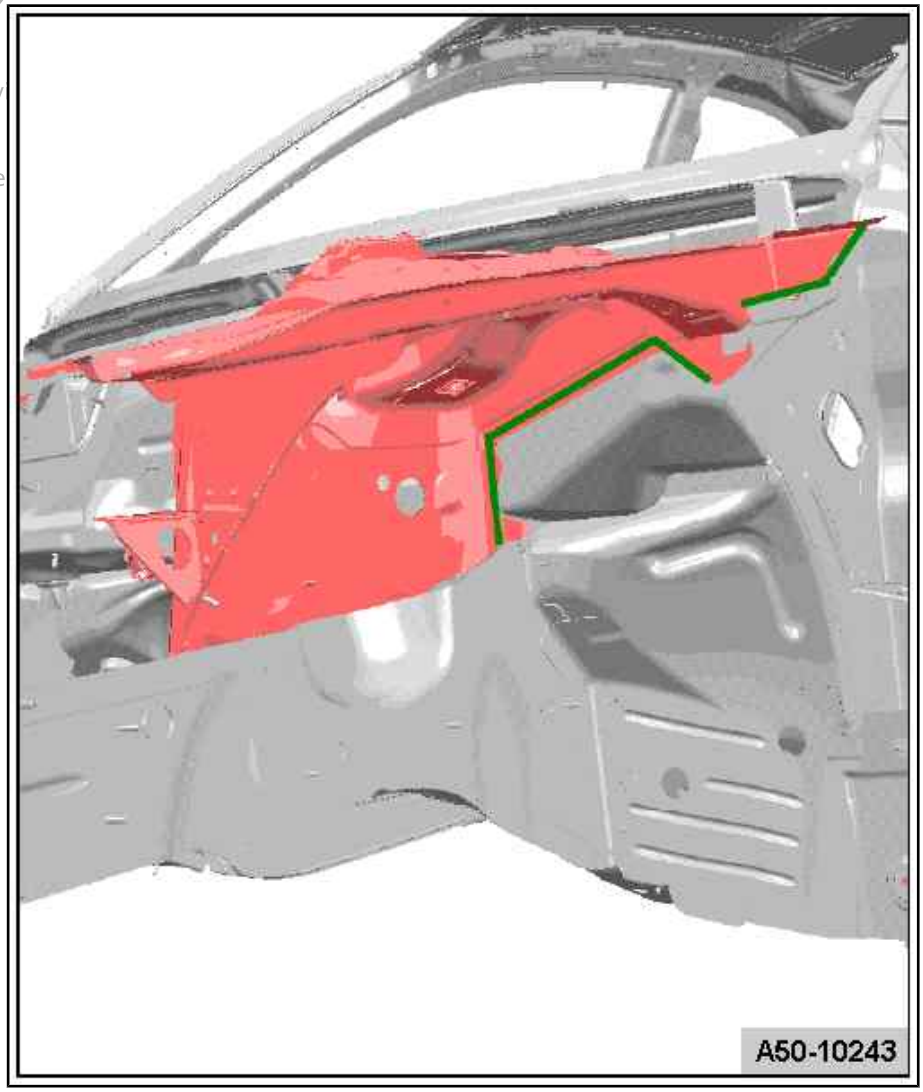

Replacement parts

- Suspension strut mounting

Preparing new part

– Drill holes for SG plug weld seam in suspension strut mounting using drill .

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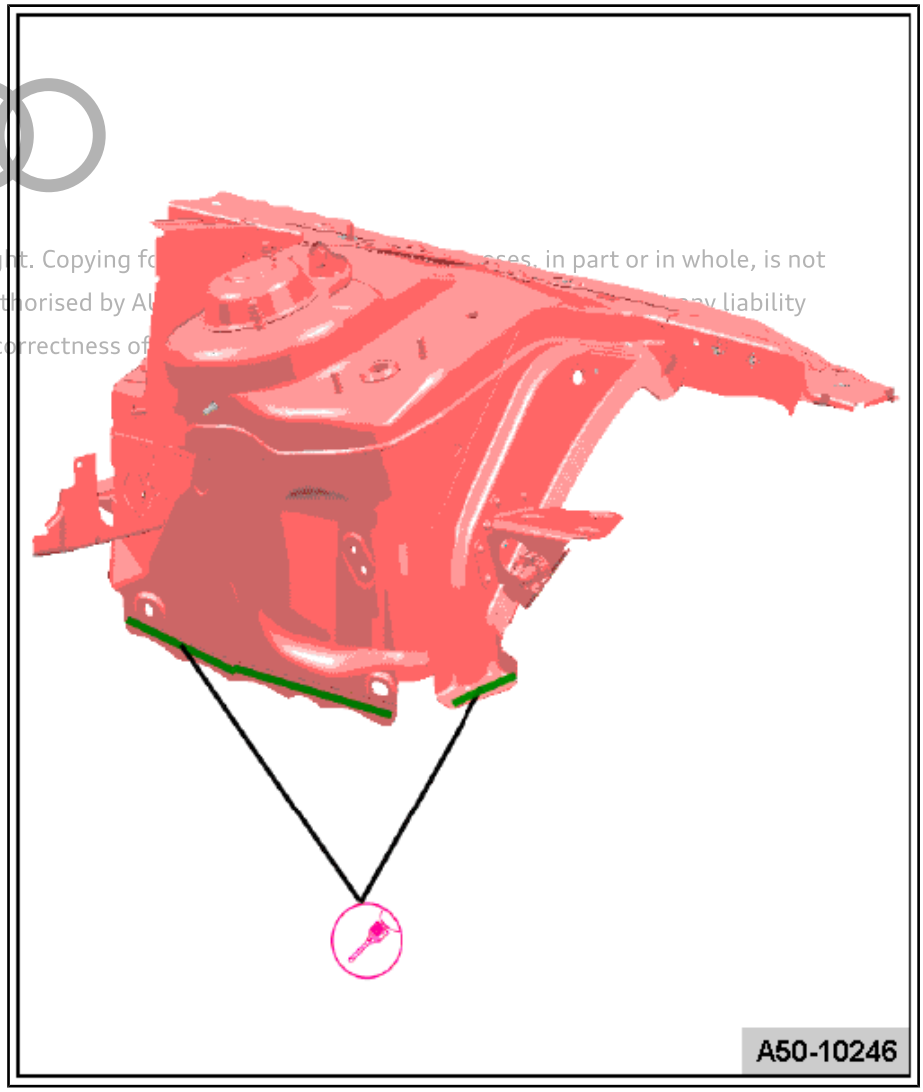

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Fix new part on alignment bracket.

– Weld in suspension strut mounting (front) using shielded arc welding equipment : SG plug weld seam.

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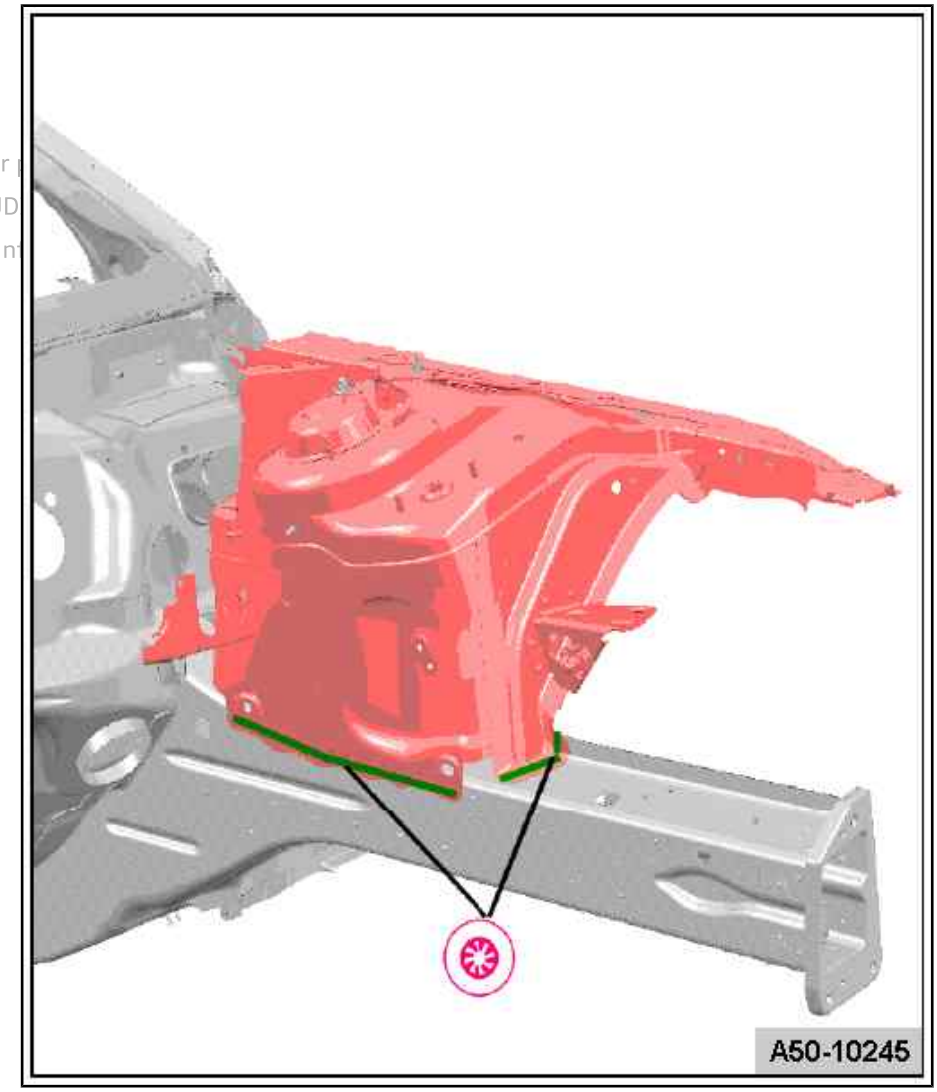
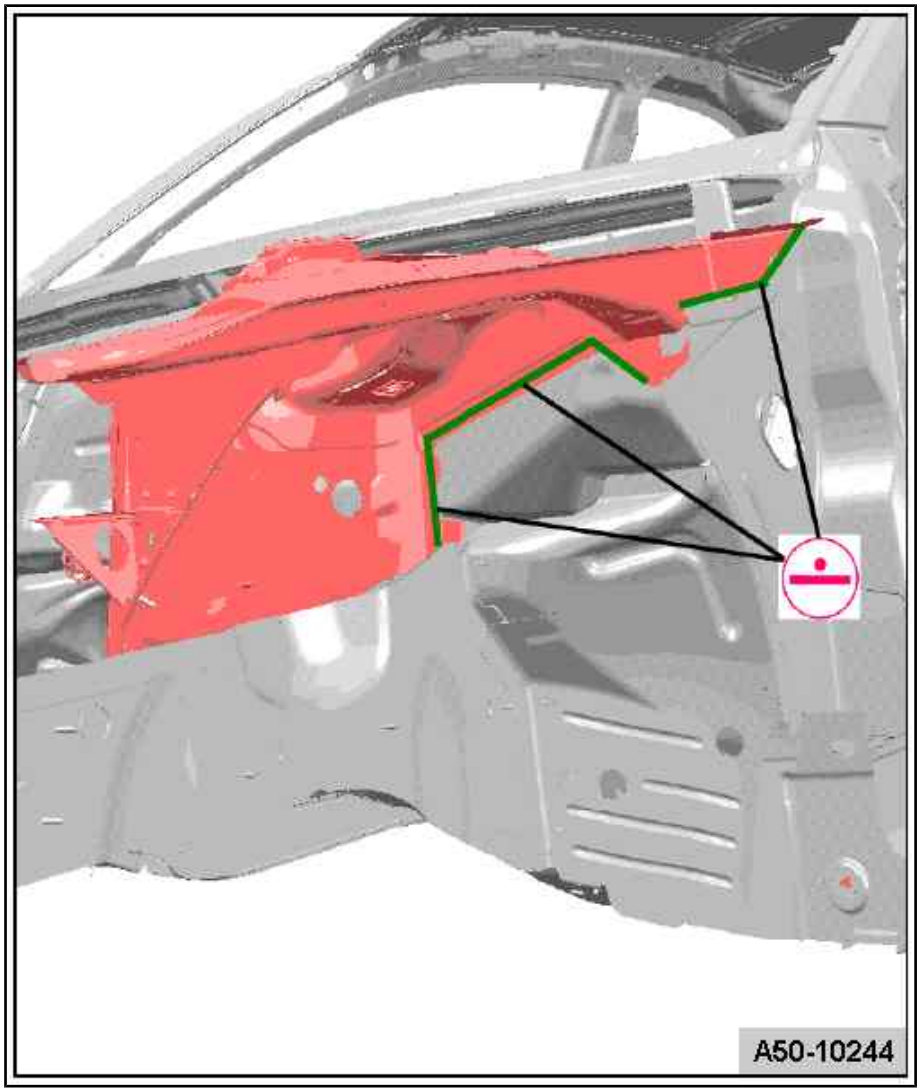


– Weld in suspension strut mounting using resistance spot welder : RP spot weld seam.



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RO: 50 79 55 02

4 Front longitudinal member - Partial renewal

4.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Compact angle grinder
- Body saw

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

4.2 Procedure

Cutting locations

Note

Separating cut must be a straight line.

– Dimension -A- = 158 mm
– Cut out longitudinal member using body saw .

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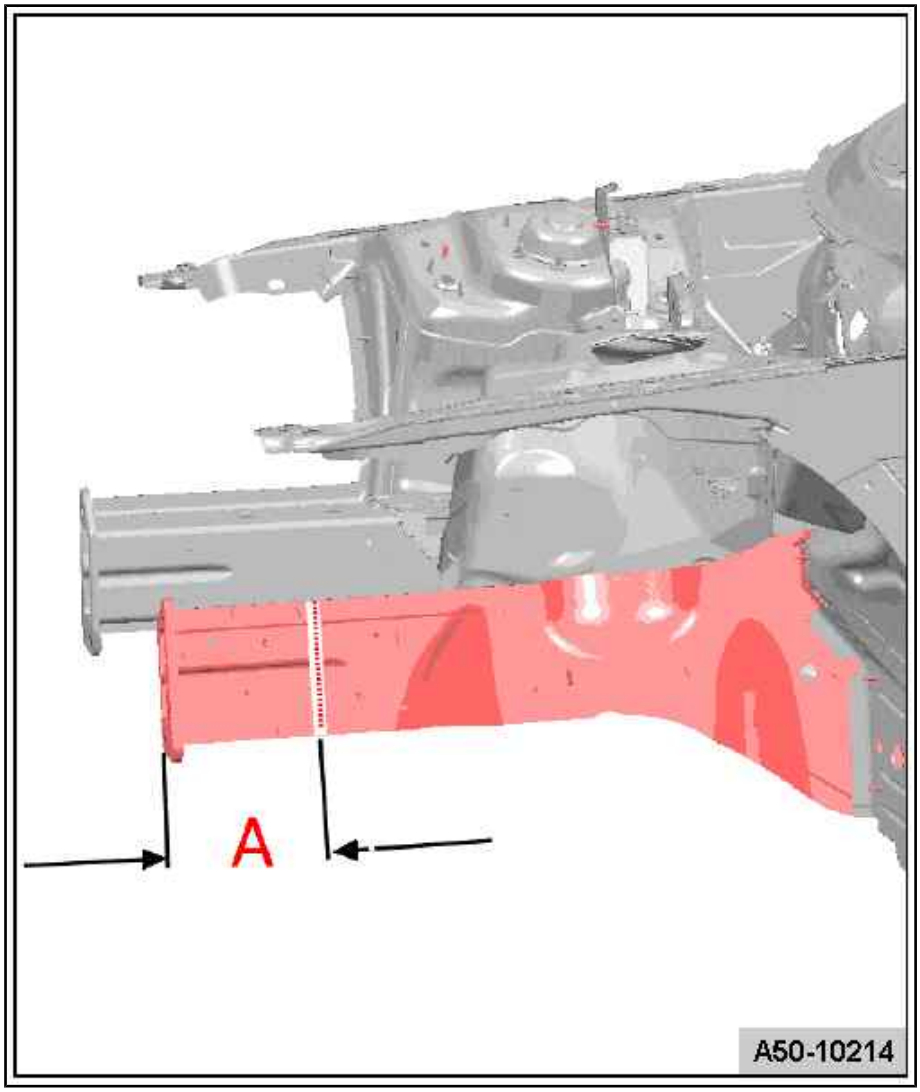

– Cut out longitudinal member using body saw .

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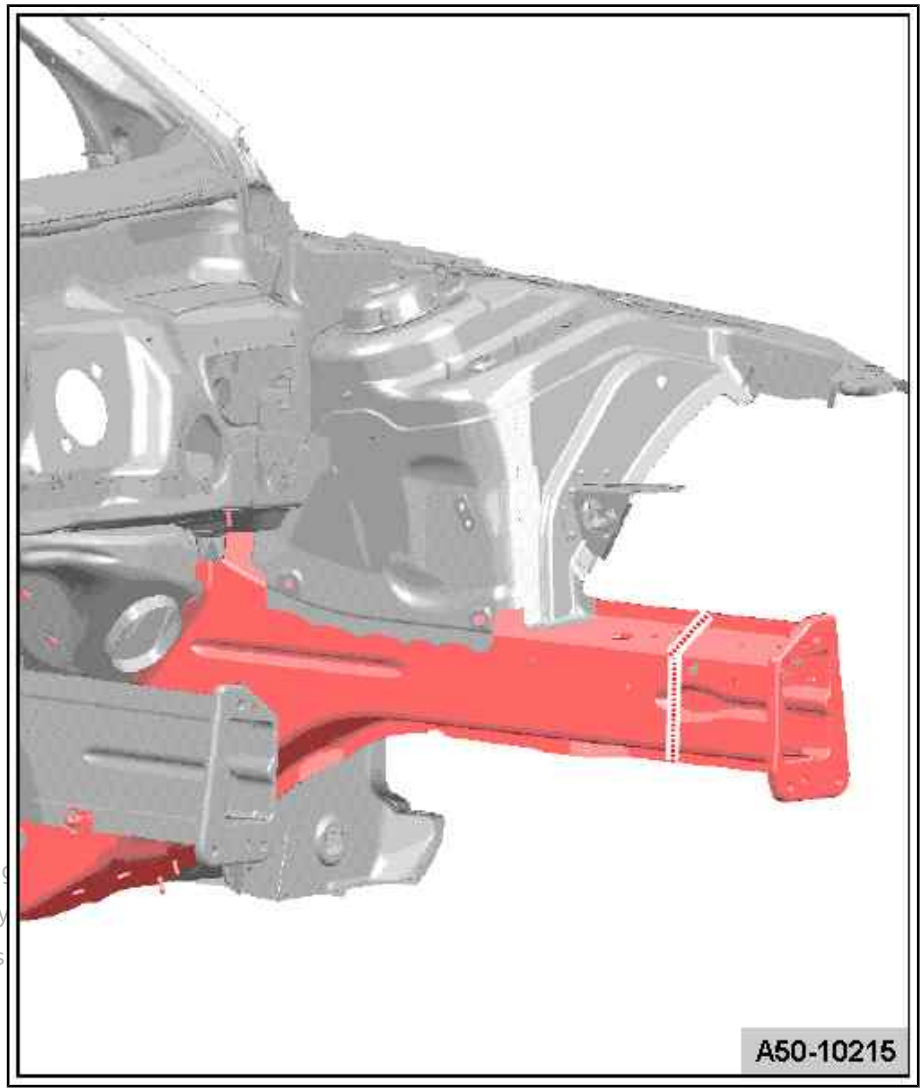

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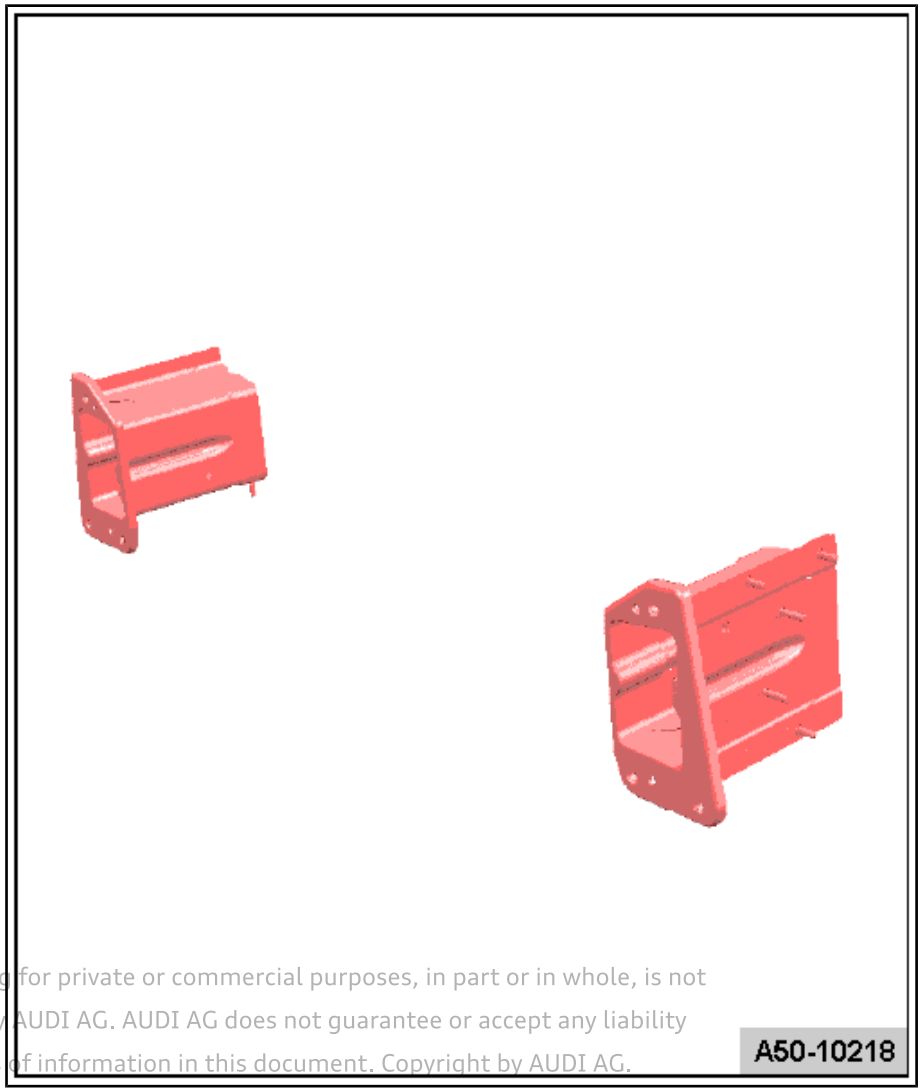
Replacement part

- Sub-part - longitudinal member



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Preparing new part

– Adapt length on body side of joint if necessary using body saw .

Note

Align longitudinal member with lock carrier, cross member and headlight to bumper.

NOTICE

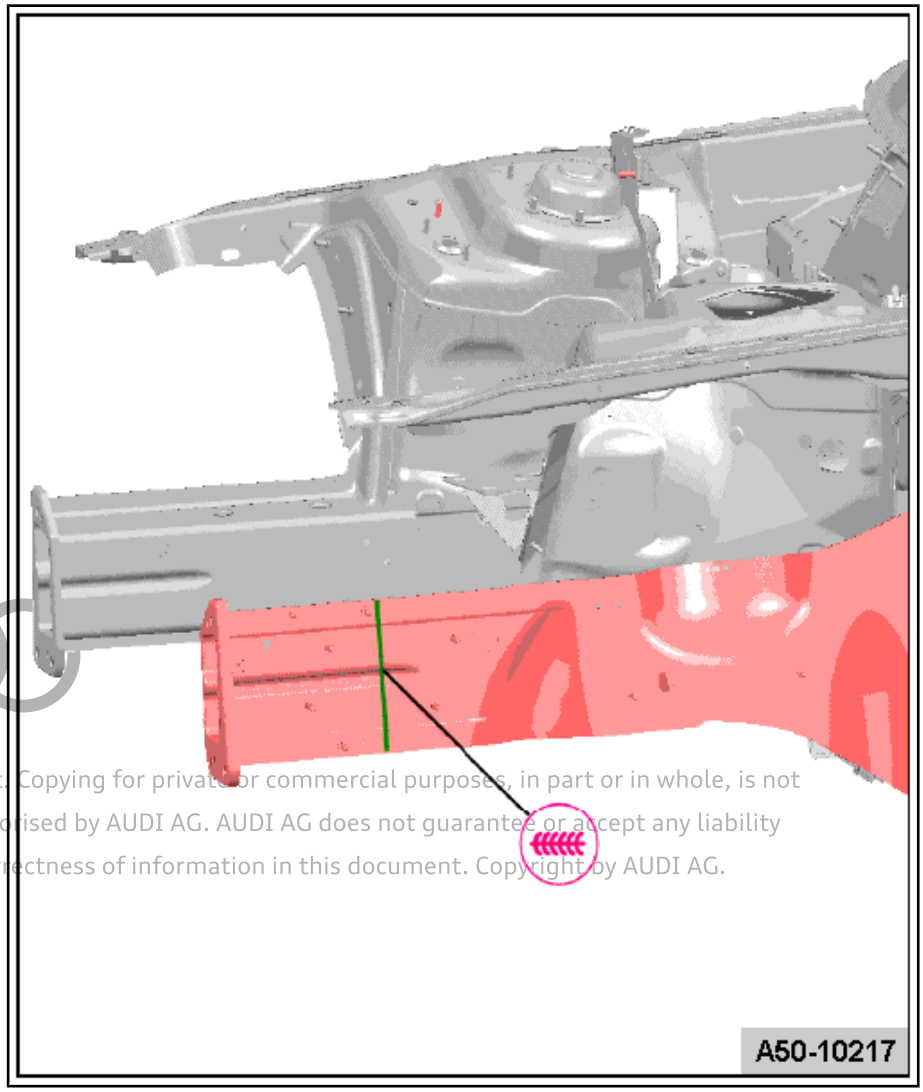
Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

Welding in

– Fix new part on alignment bracket.

– Weld in longitudinal member at front using shielded arc welding equipment : SG continuous seam.



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– Weld in longitudinal member at front using shielded arc welding equipment : SG continuous seam.

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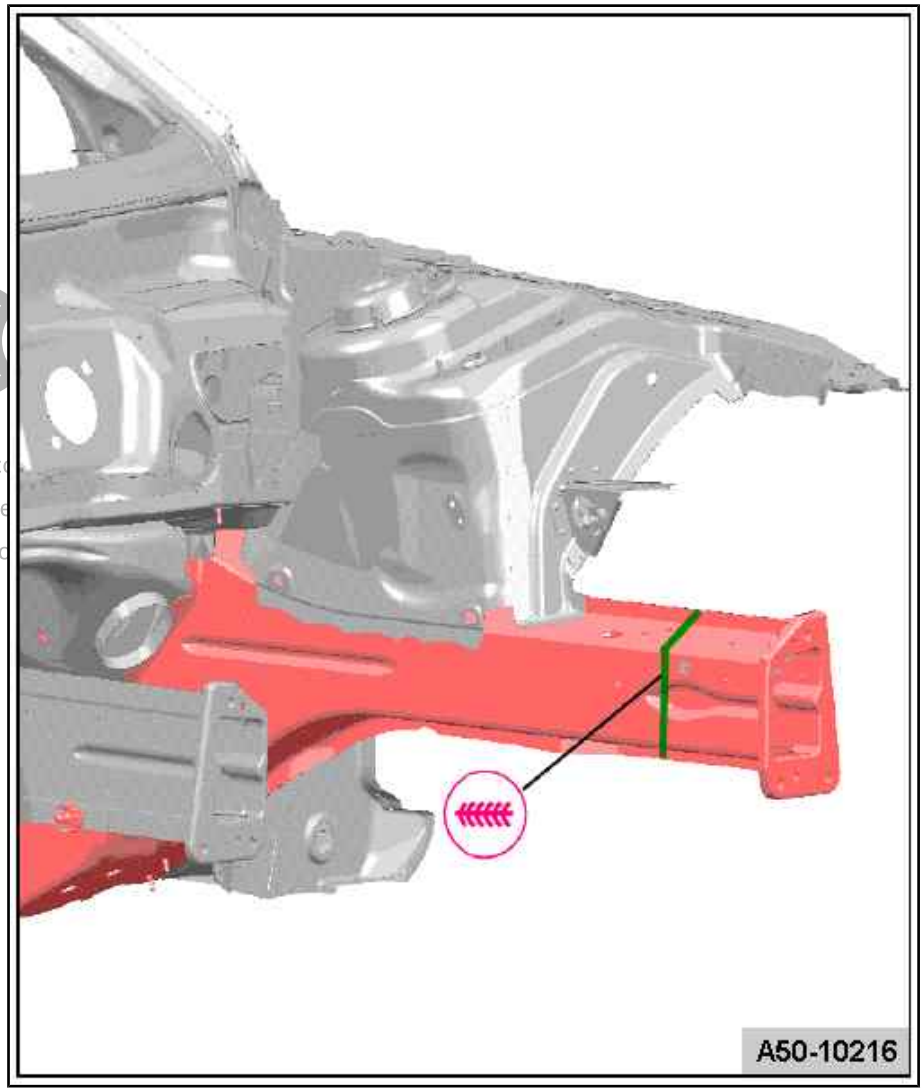

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5 Front longitudinal member - Renewal

5.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

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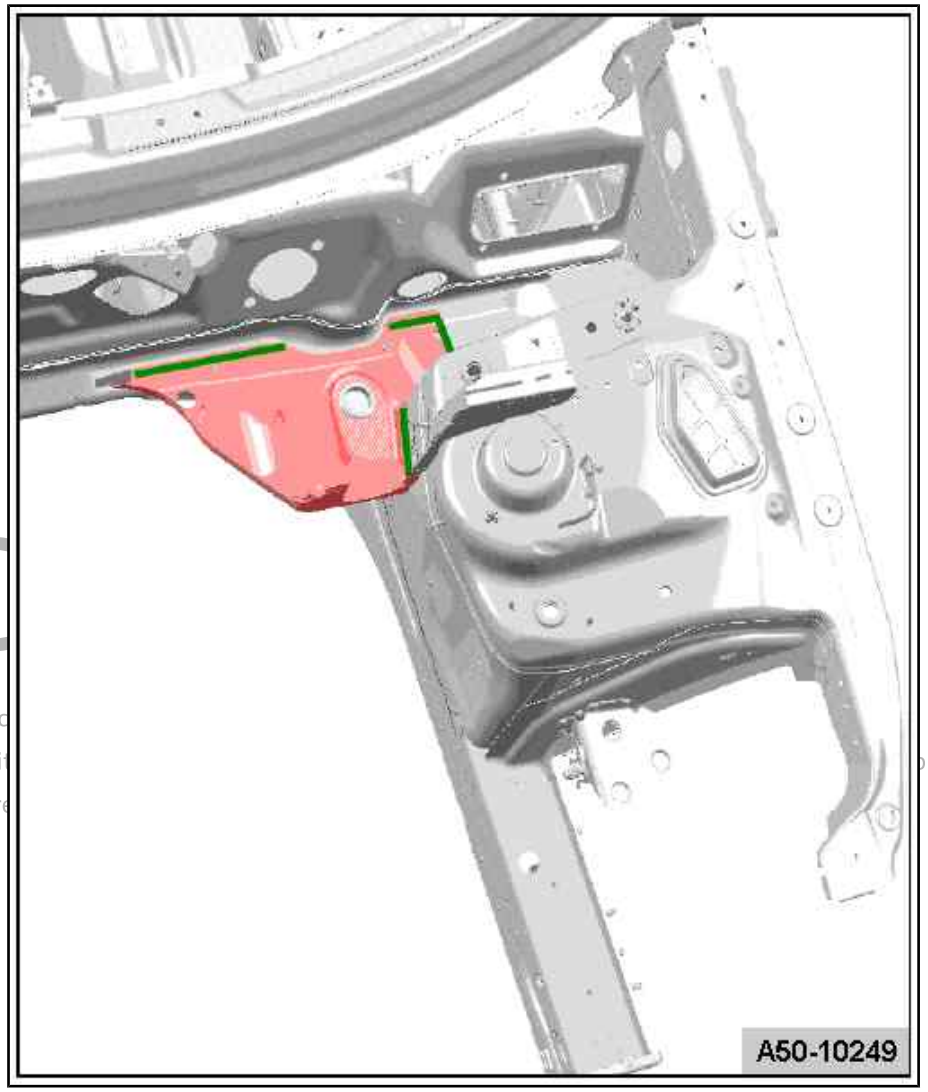
5.2 Procedure

Cutting locations

The plenum chamber partition panel can be re-used.

– Separate original joint at plenum chamber partition panel using spot weld breaker .

– Remove remaining material using compact angle grinder .



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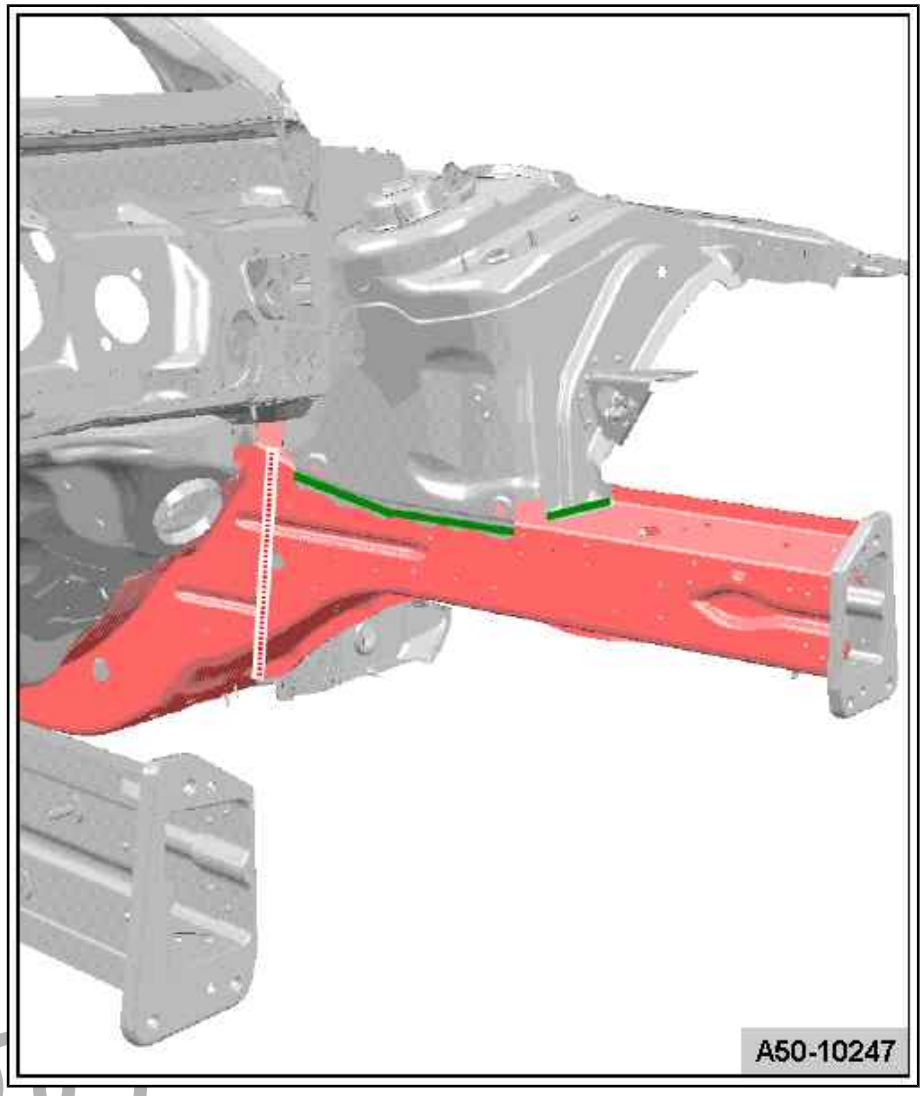
– Make separating cut at longitudinal member using body saw .
  Take care not to damage internal reinforcement.

Offset separating cuts to achieve the required strength when welding.

– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .



Offset separating cuts to achieve the required strength when welding.

– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .

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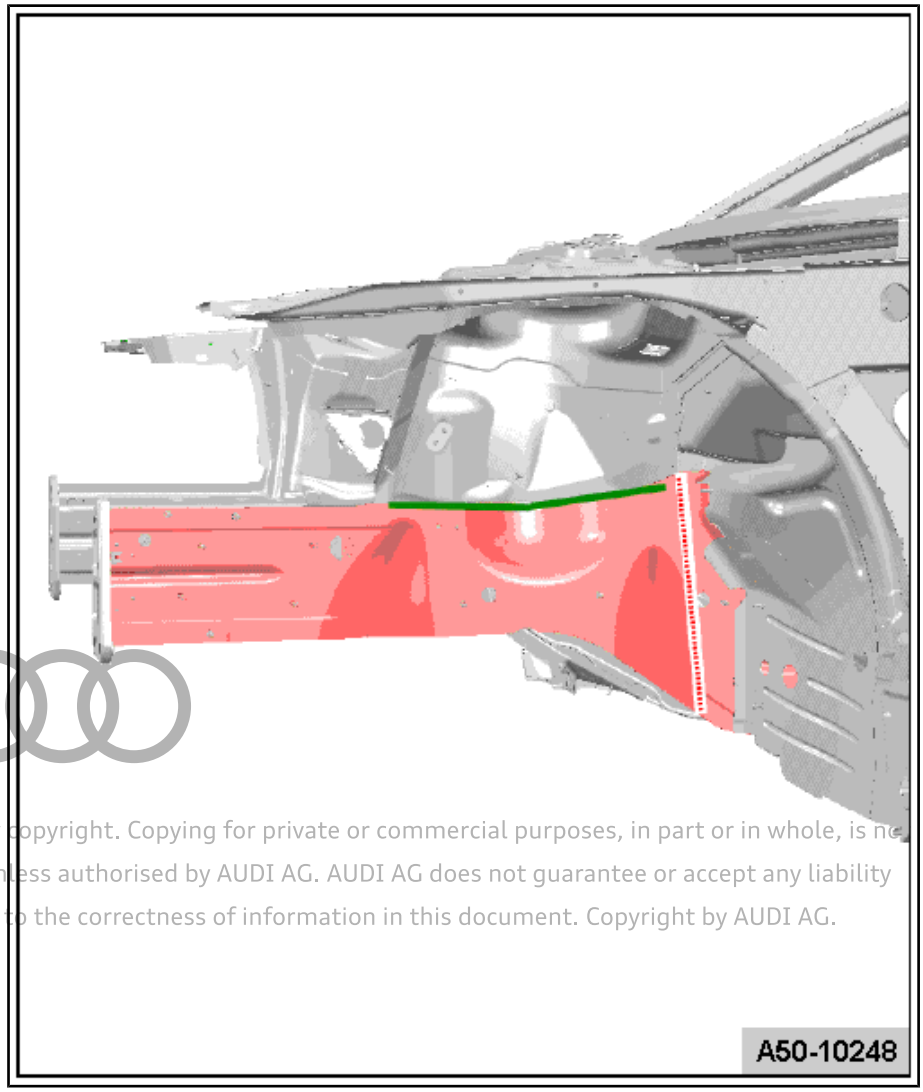

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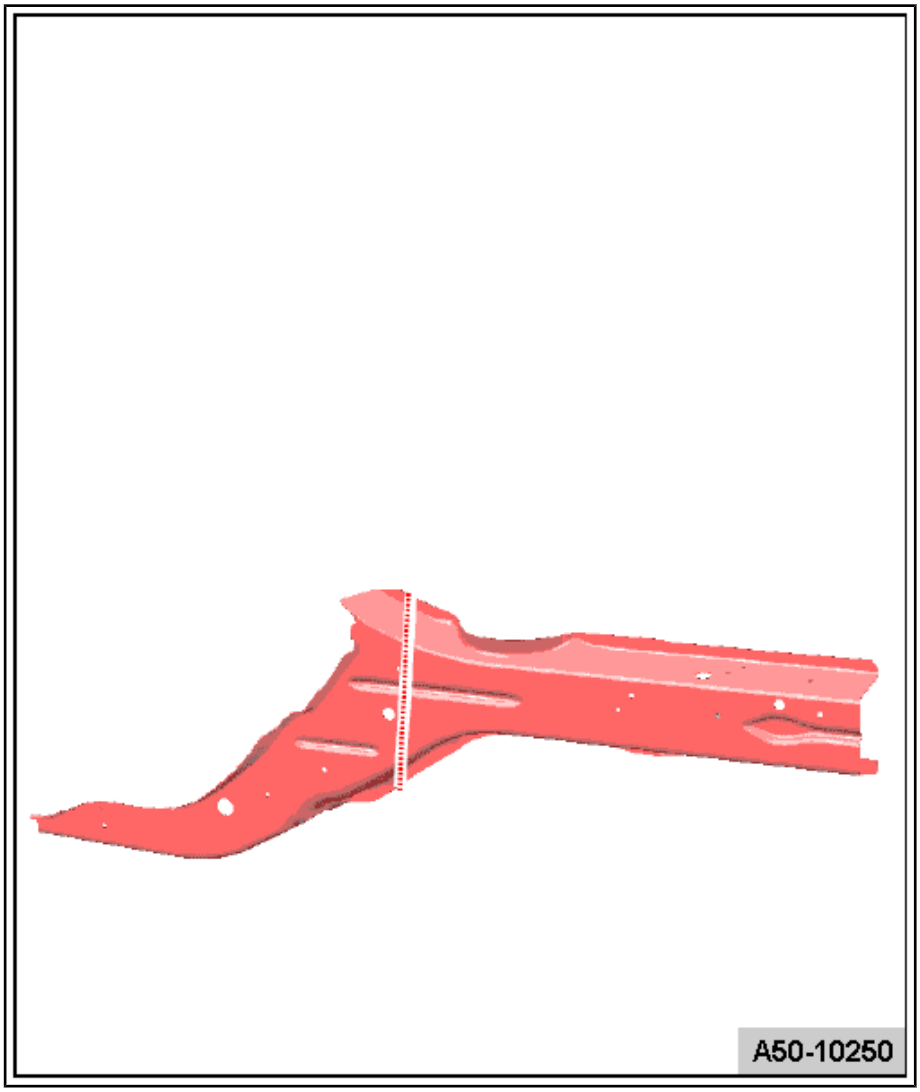
Replacement parts

- Inner longitudinal member
- Longitudinal member

Preparing new parts

– Transfer separating cut to new part using body saw .



– Transfer separating cut to new part using body saw .

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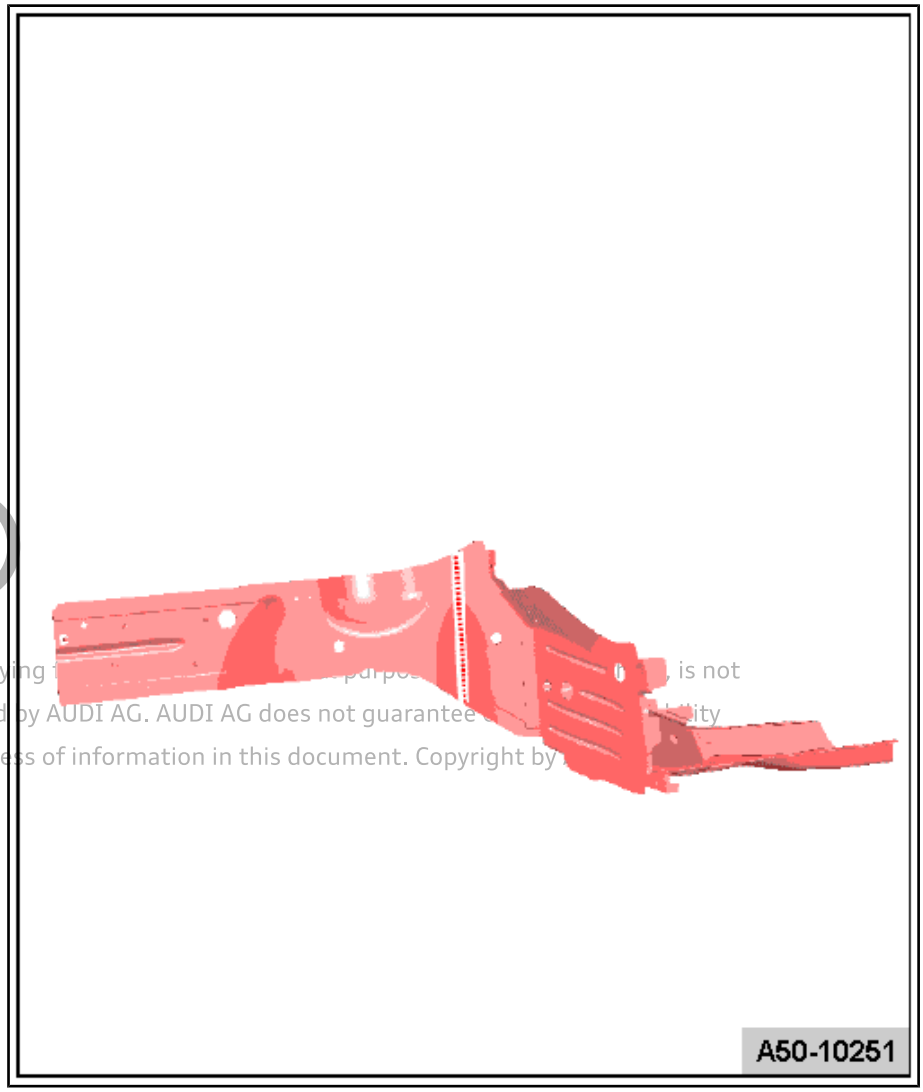

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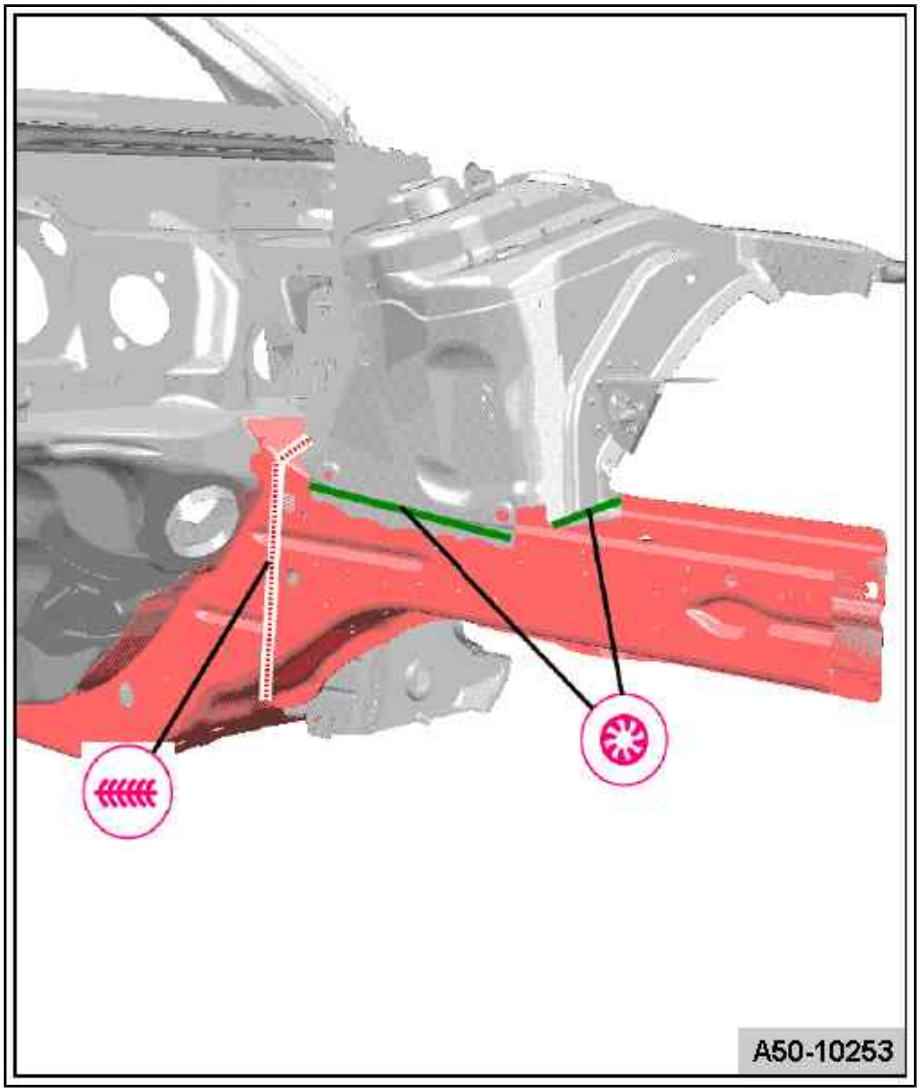
NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

Welding in

– Match up new parts and secure on alignment bracket.
– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.



– Match up new parts and secure on alignment bracket.
– Weld in longitudinal member using resistance spot welder : RP spot weld seam.
– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.

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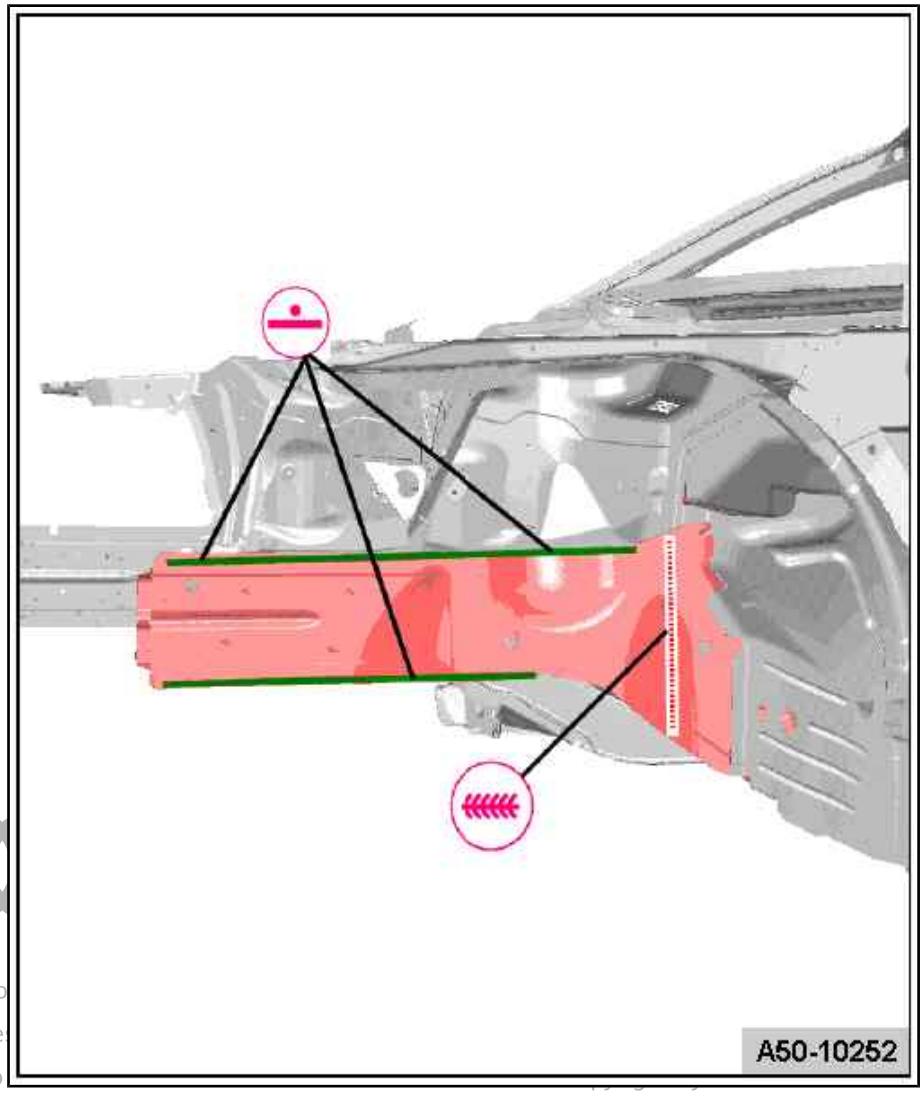

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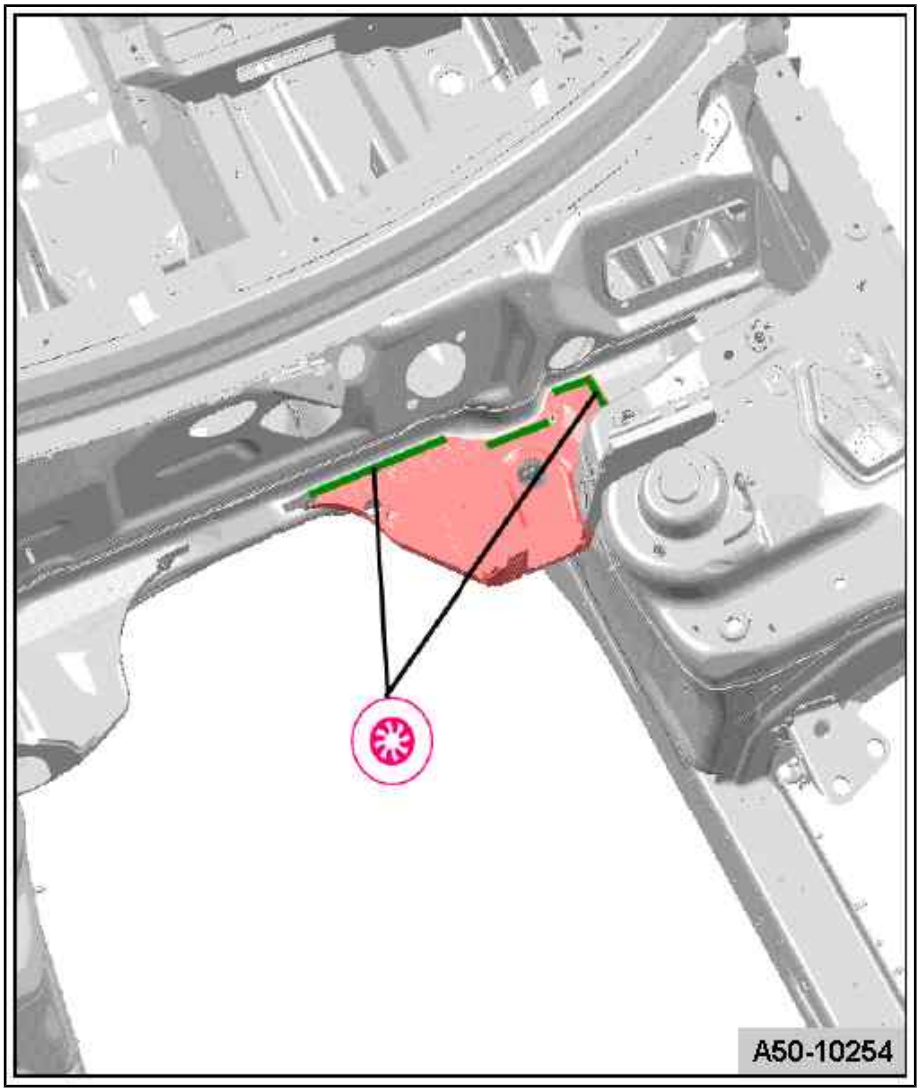
– Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.
– Weld in plenum chamber partition panel using shielded arc welding equipment : SG plug weld seam.



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RO: 50 79 55 00

6 Longitudinal member reinforcement (front) - Renewal

6.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

6.2 Procedure

- Front longitudinal member already removed ⇒ page 59

Cutting locations

– Drill out welds on longitudinal member reinforcement from inside using drill .

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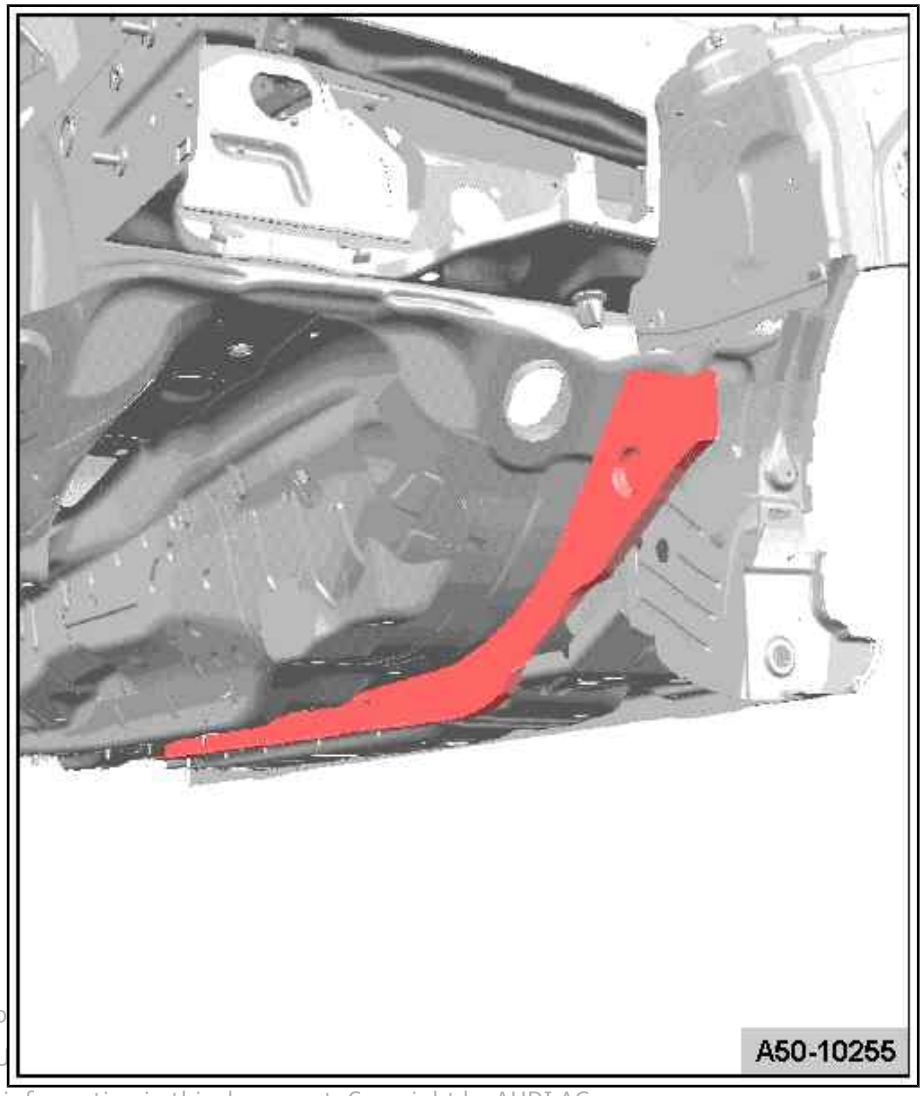

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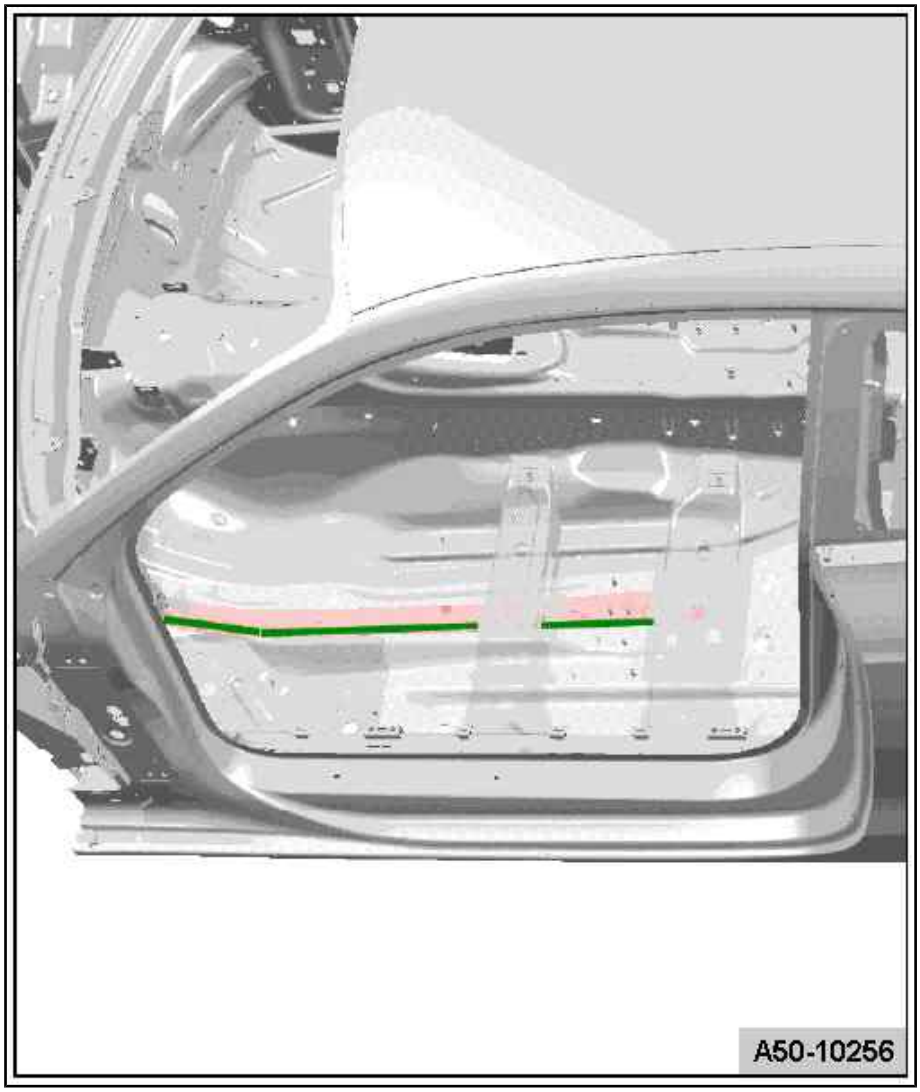
– Drill out welds on longitudinal member reinforcement from inside using drill .
– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .



Replacement part

- Longitudinal member reinforcement

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

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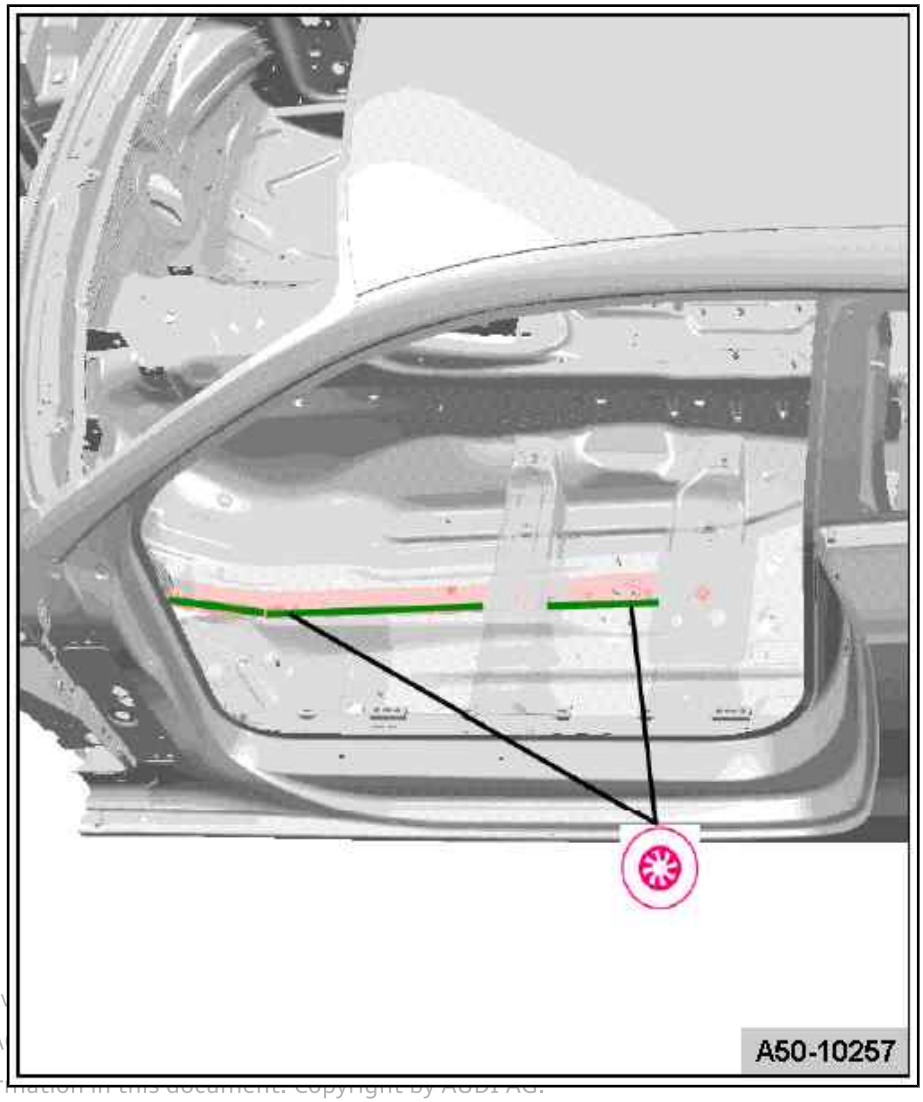
Welding in

– Weld in longitudinal member reinforcement using shielded arc welding equipment : SG plug weld seam.



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- Welding in front longitudinal member ⇒ page 59

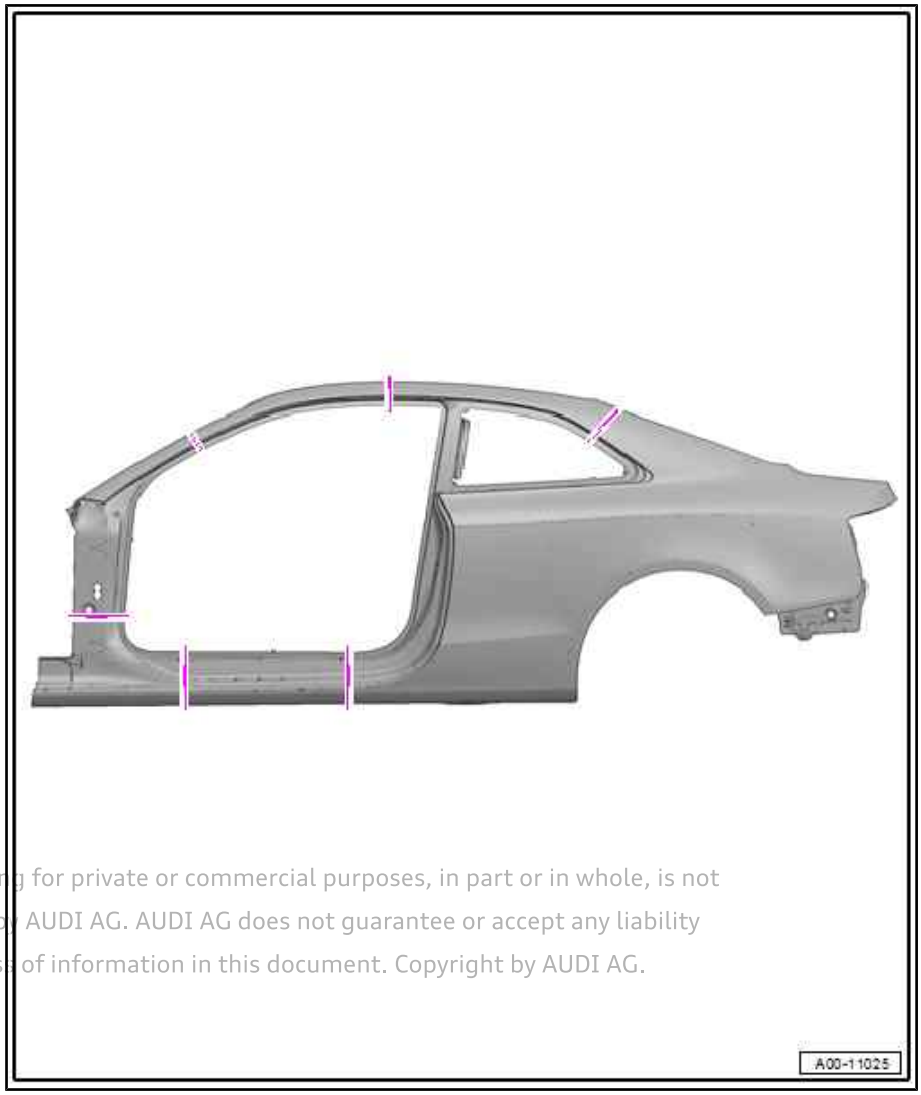
51 – Body - centre

1 Permitted separating cuts on complete side panel

Note

- *Use only welding equipment approved by AUDI AG.*
- *SG continuous weld seams are approved for the separating cuts shown in the illustration.*

Separating cuts for Coupé



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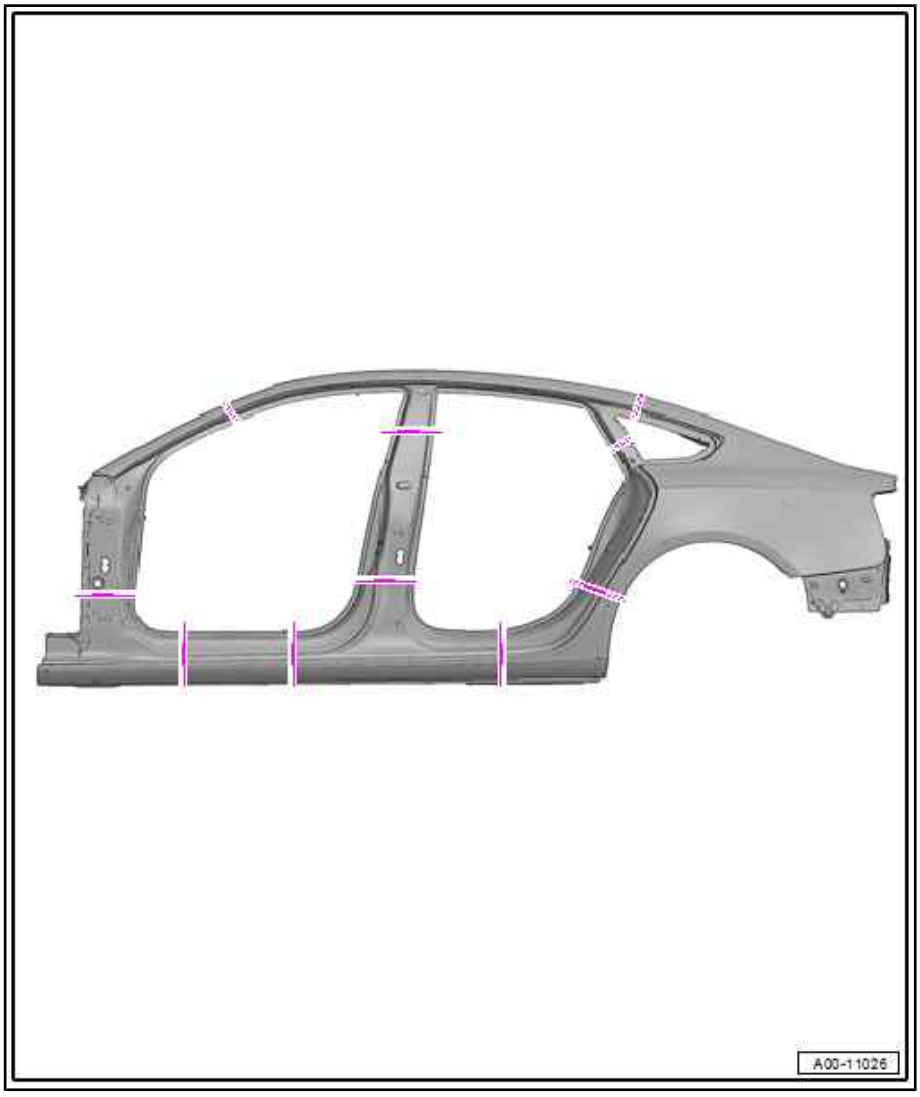
Separating cuts for Sportback



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RO: 51 03 55 00

2 Roof - Renewal

2.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compressed-air gun
- Double cartridge gun
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker
- Pneumatic pop riveter
- Mole grips, 18-18
- Tensioning strap

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

2.2 Procedure

Cutting locations

– Roughly cut out roof using body saw .
– Separate original joint using spot weld breaker .

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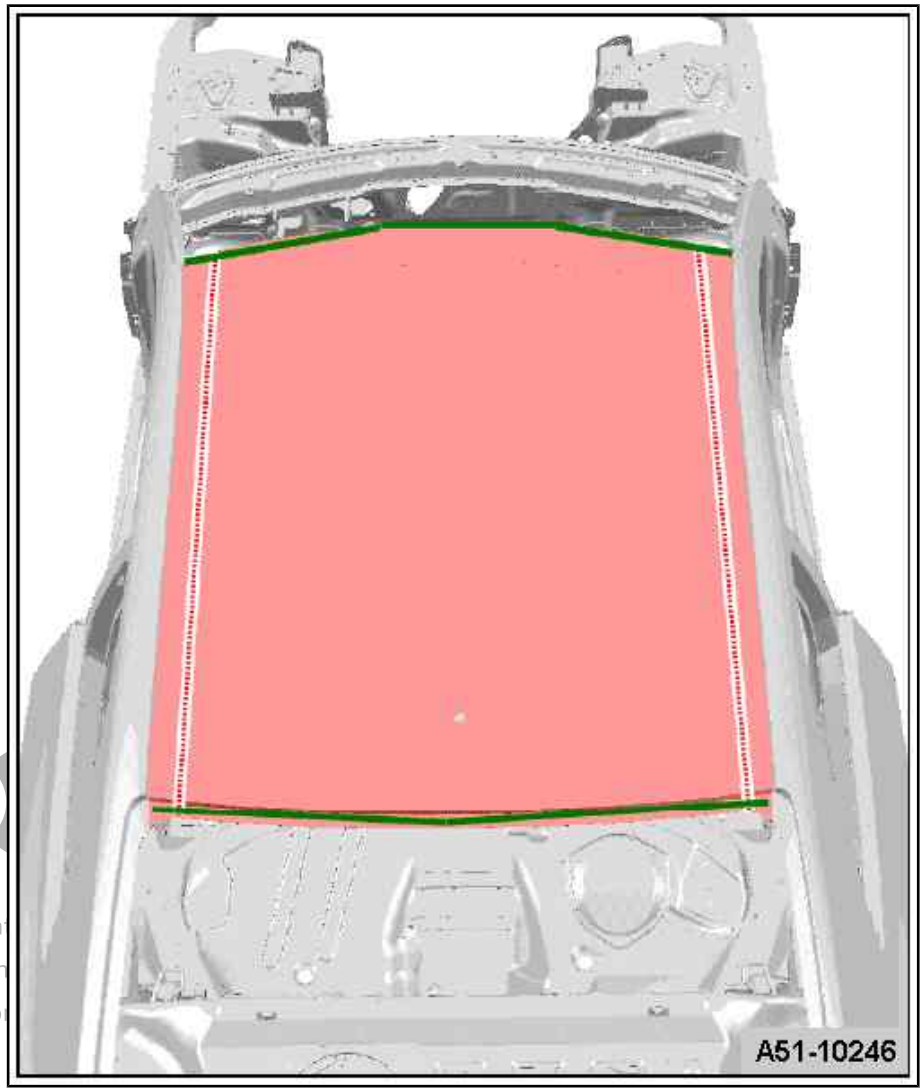

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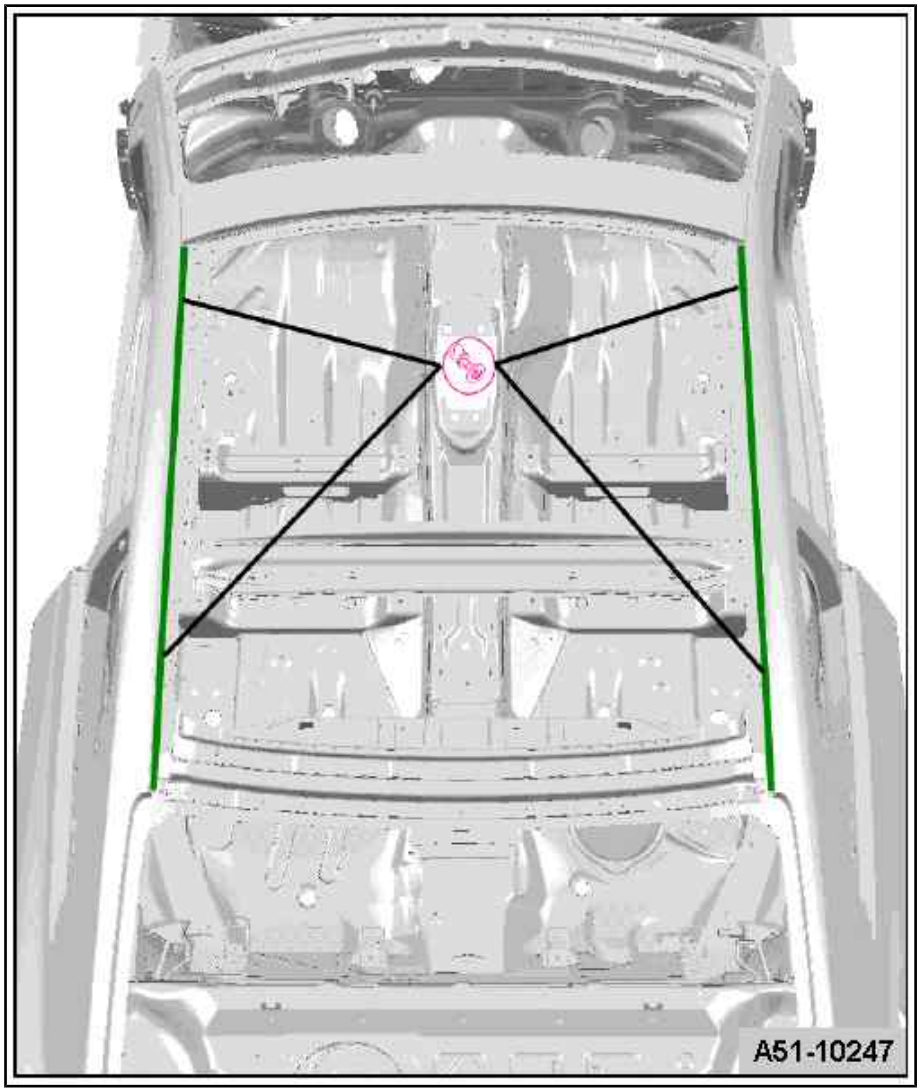
– Remove remaining material using compact angle grinder .

Take care not to damage roof frame when removing remaining material from roof frame.

Do not use cutting discs or rough-filing discs.



Note

Observe safety precautions: General information; Body repairs, General body repairs; Safety notes.

Replacement parts

- Roof (with welded retaining brackets)
- Single-component assembly adhesive - D 190 MKD A3 - , 1 cartridge
- 2-component epoxy adhesive - DA 180 A00 A2- , 2 sets of cartridges
- Cleaning solution - D 009 401 04- . Observe safety precautions when handling.
- Pop rivet - N.909 236 01- , 22x

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Note

- *It is important to keep to the following procedure to ensure a satisfactory and effective roof repair.*
- *Bonded areas must not be treated with surfacer (filler coat) before bonding in centre roof section.*

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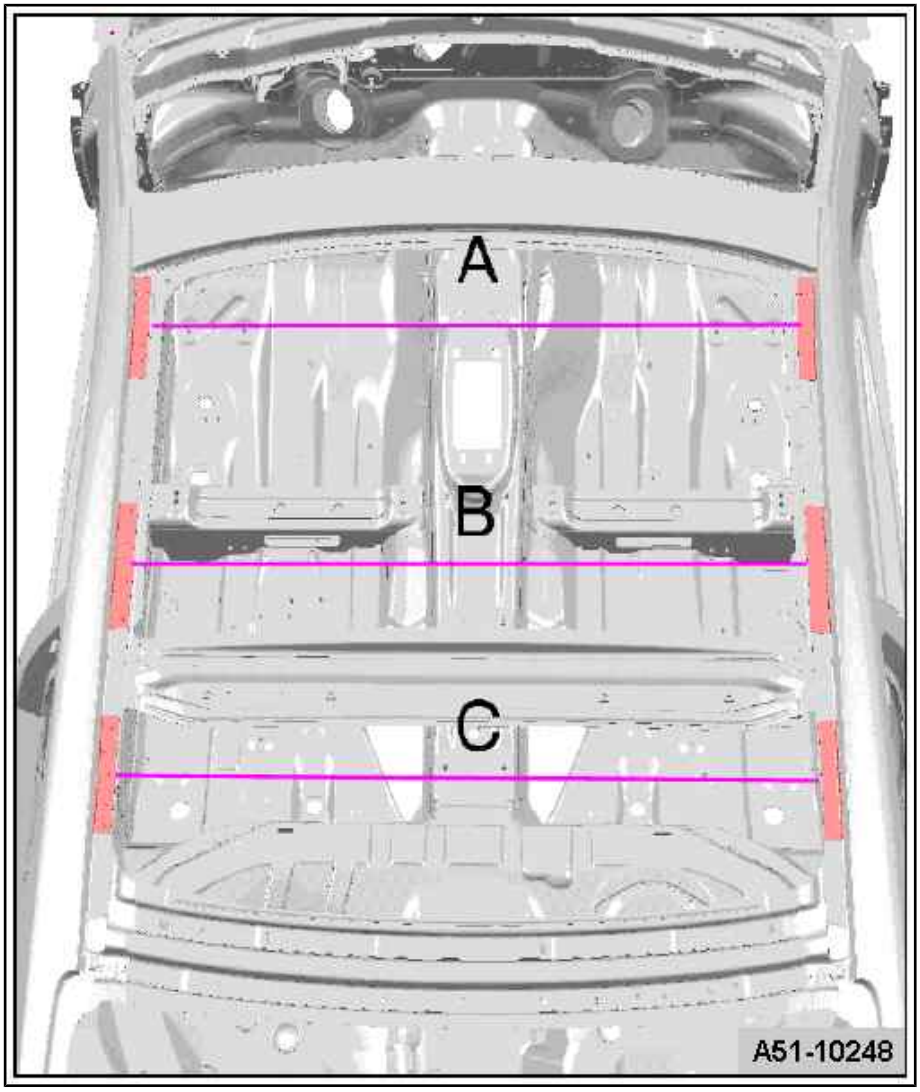
Preparing new part

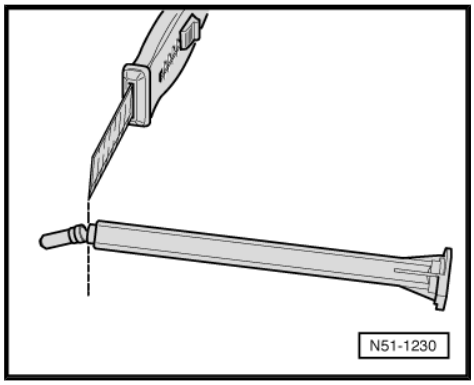
- Space out the holes for rivets evenly in the corresponding retaining brackets, but do not drill holes in the spot welds - this could adversely affect the stiffness of the body.
- Bring roof panel into position and mark rivet holes from below.
- Take off roof and drill rivet holes using drill .
- Retaining bracket A: drill holes for 3 rivets with drill .
- Retaining bracket B: drill holes for 4 rivets with drill .
- Retaining bracket C: drill holes for 4 rivets with drill .



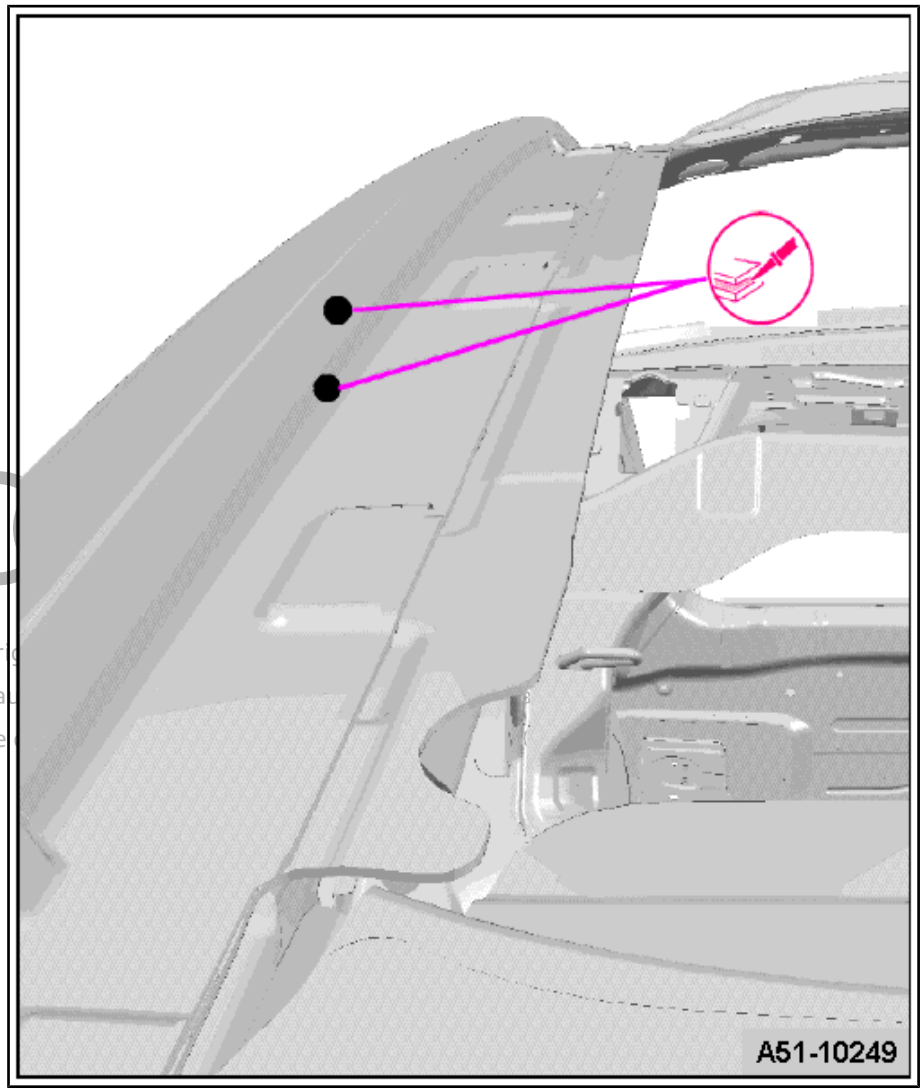
– Clean roof side members and replacement roof panel using cleaning solution - D 009 401 04- .

– Prepare adhesive cartridges required for bonding.

– Cut static mixer from 2-component epoxy adhesive - DA 180 A00 A2- down to 4th notch to obtain required bead cross section.



– Apply adhesive beads onto roof side members using double cartridge gun - VAS 6453- .



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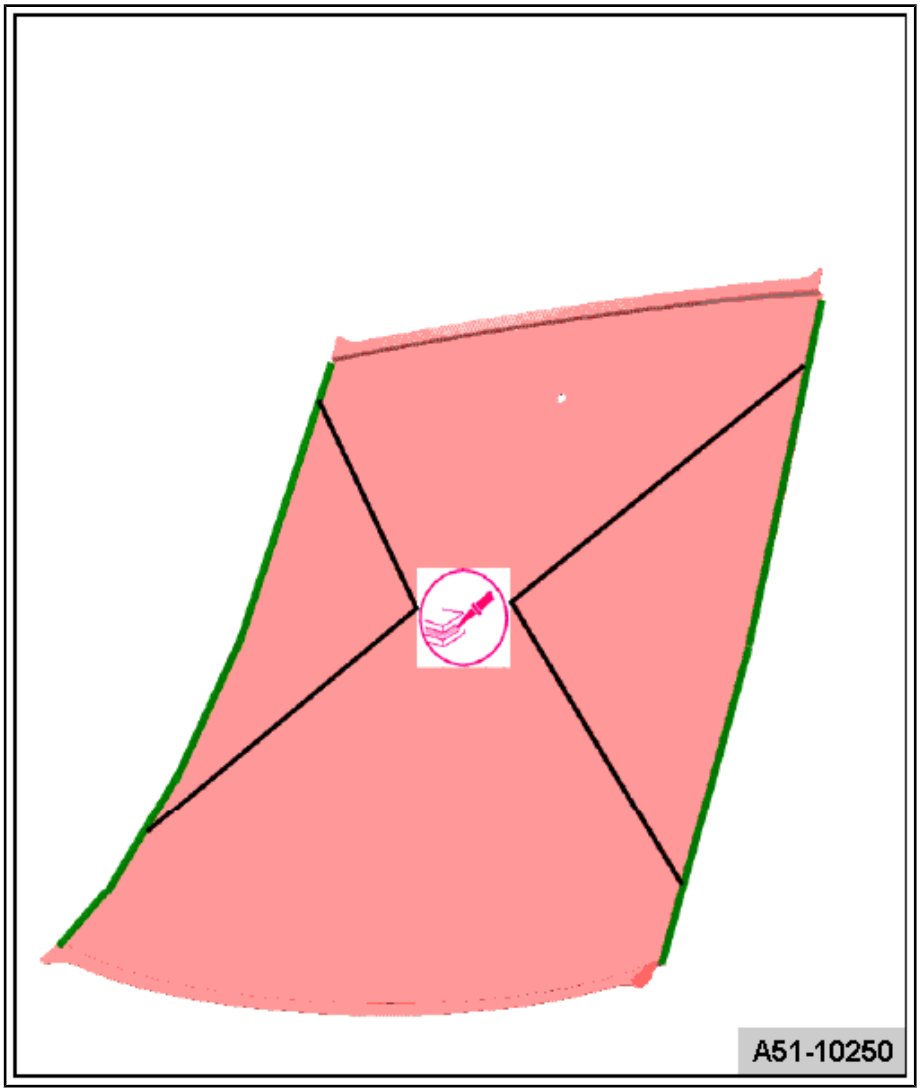
– Apply adhesive bead onto previously cleaned new roof panel (replacement part) using double cartridge gun - VAS 6453- .



– Apply single-component assembly adhesive - D 190 MKD A3- to roof frame using pneumatic cartridge gun - V.A.G 1761/1- .

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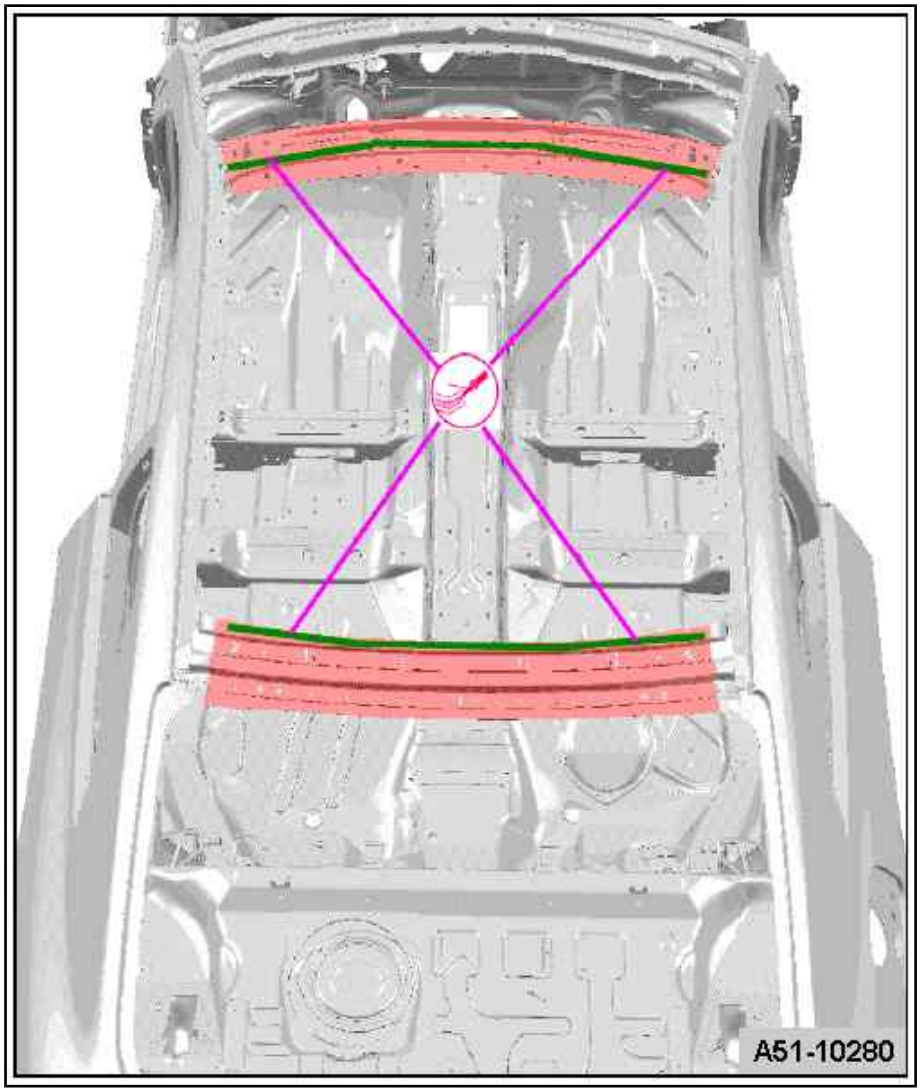

– Fit roof and fix in place.
– Tension two tensioning straps across the roof.
– Use a plastic wedge to obtain the required depth.

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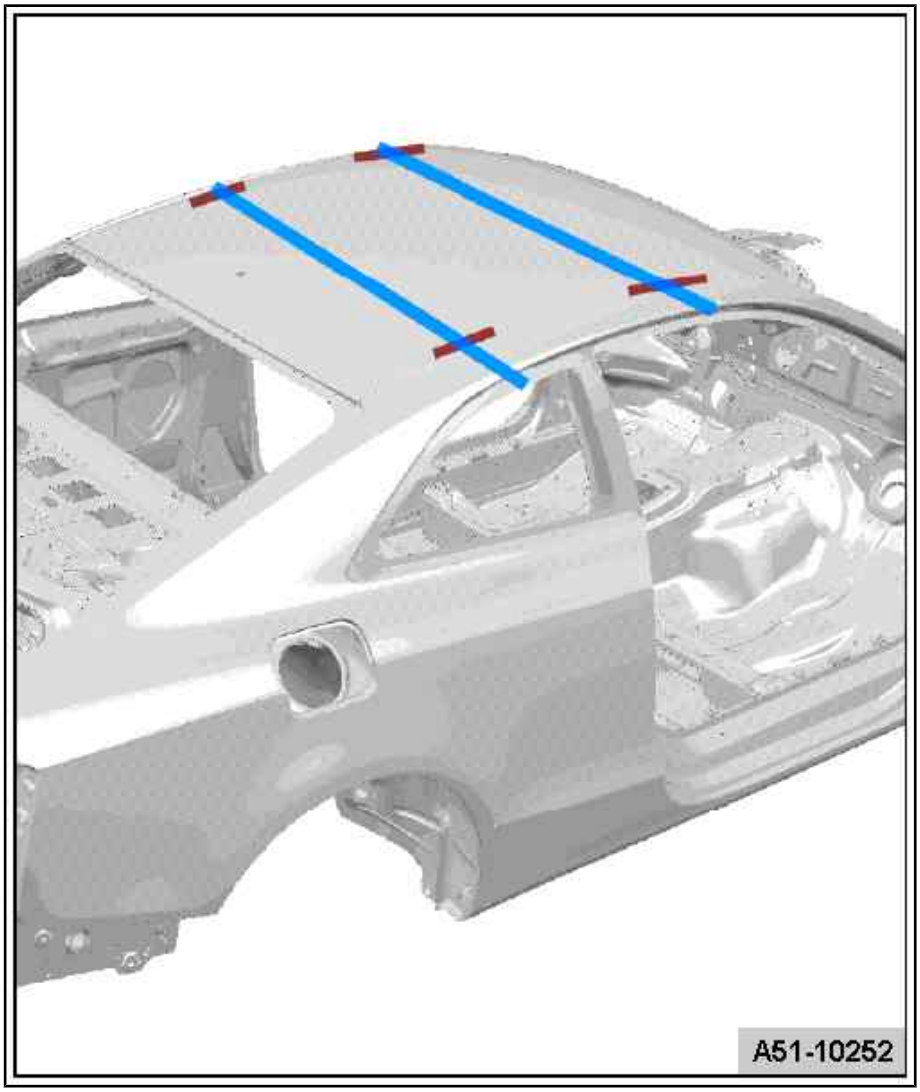
Note

To avoid damage to the centre roof section or side panel frame, the tensioning straps should not be too tight.



Welding in

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

– Weld in roof using resistance spot welder : RP spot weld seam.

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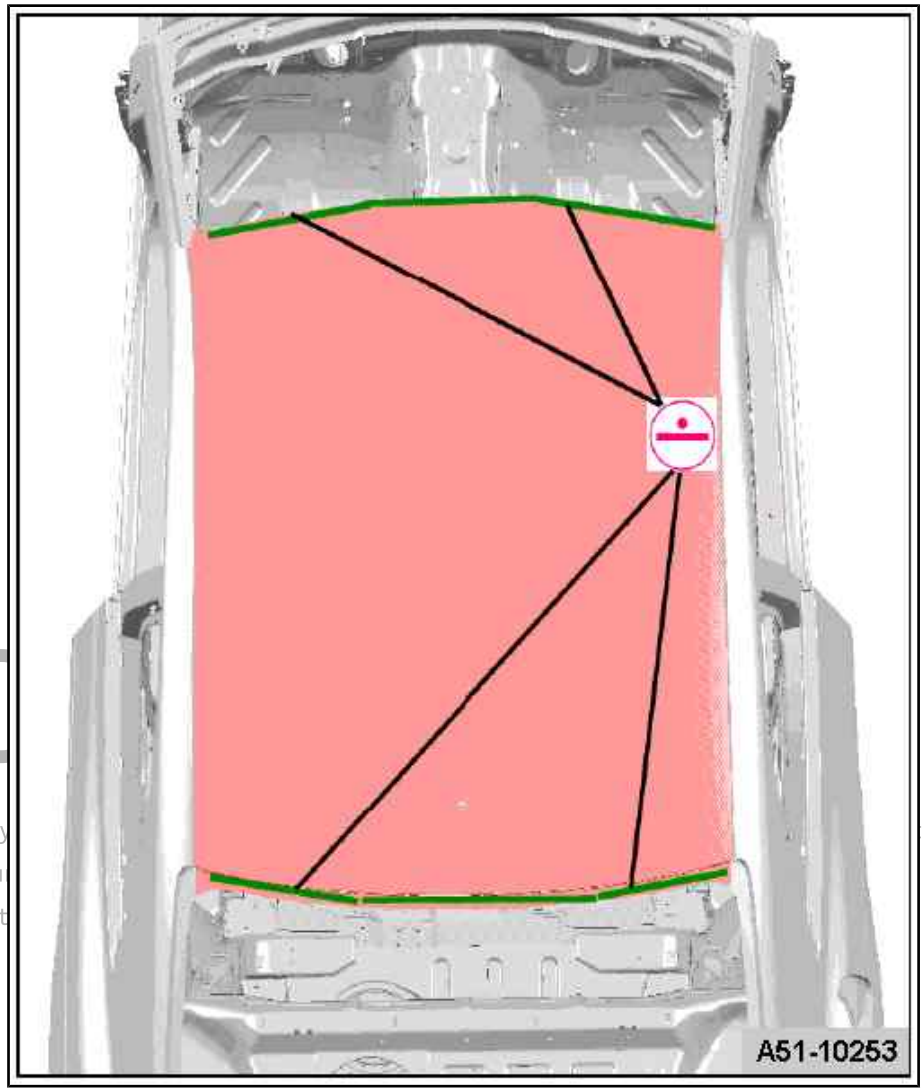

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– Make additional weld for roof using shielded arc welding equipment : SG continuous seam.

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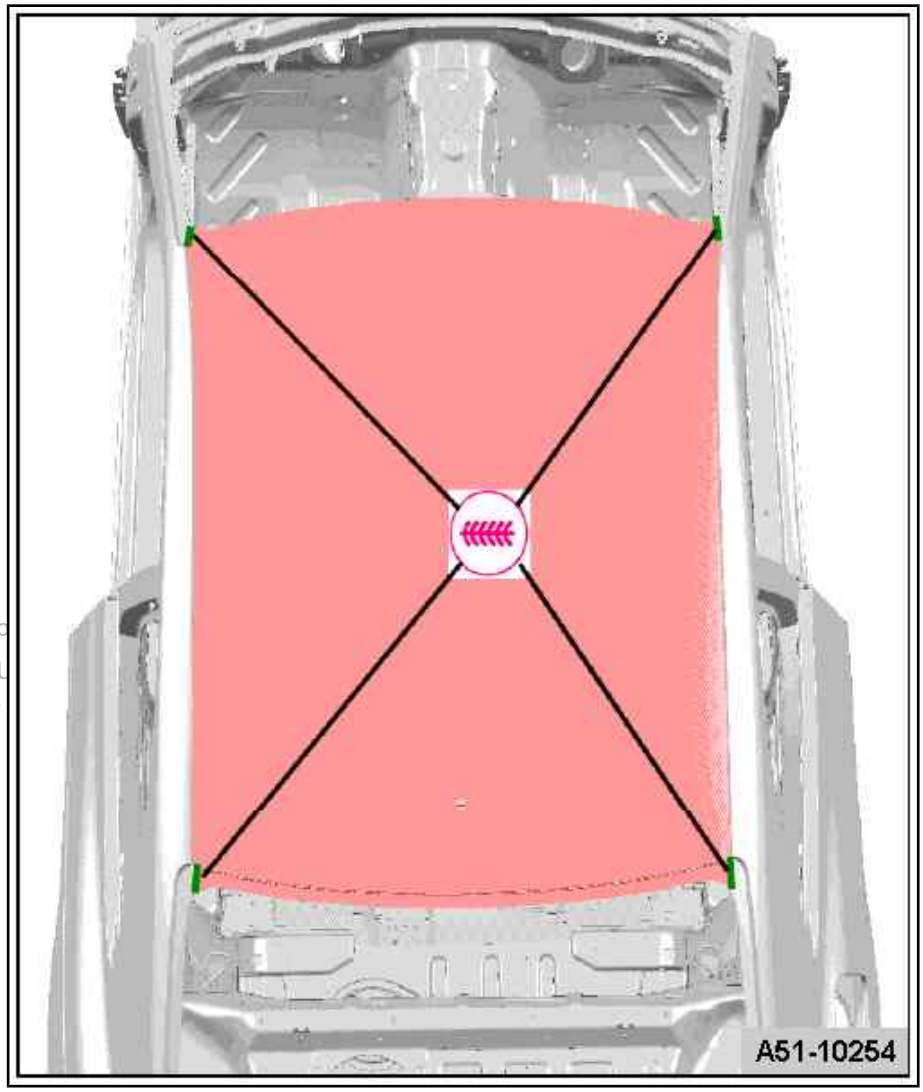
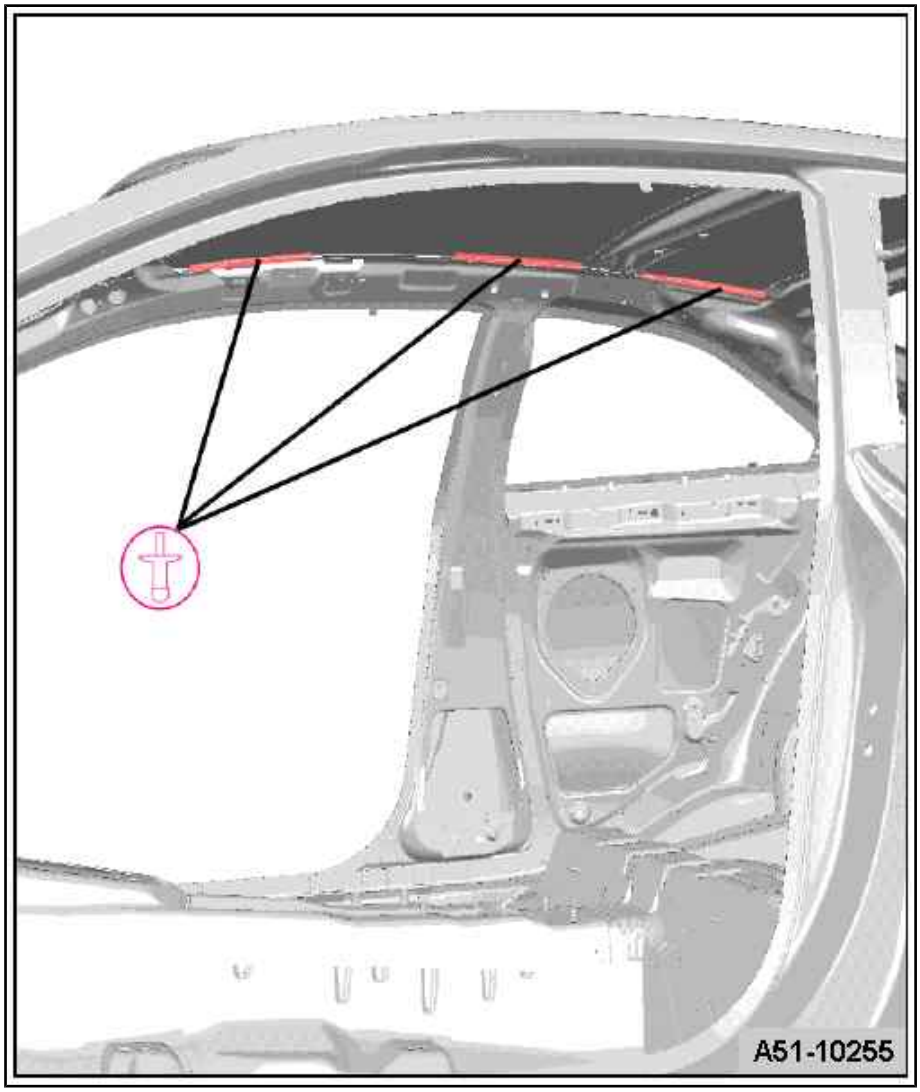


- When adhesive has cured, rivet in roof reinforcements using pneumatic pop riveter .



Note

- *After completing the joint, the vehicle must be left standing for 8 hours on a level surface at a room temperature of 15° C to allow the adhesive components to harden (curing time).*
- *Do not continue working on the vehicle until the curing time has elapsed.*

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3 Roof - Renewal (version with tilting sunroof)

3.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Pneumatic pop riveter
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker
- Mole grips, 18-18
- Tensioning strap
- Pneumatic cartridge gun
- Double cartridge gun

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

3.2 Procedure

Cutting locations

– Roughly cut out roof using body saw .
– Separate original joint using spot weld breaker .
– Make separating cuts as shown.
– Carefully bend open half-sections of roof until brazed joint breaks.

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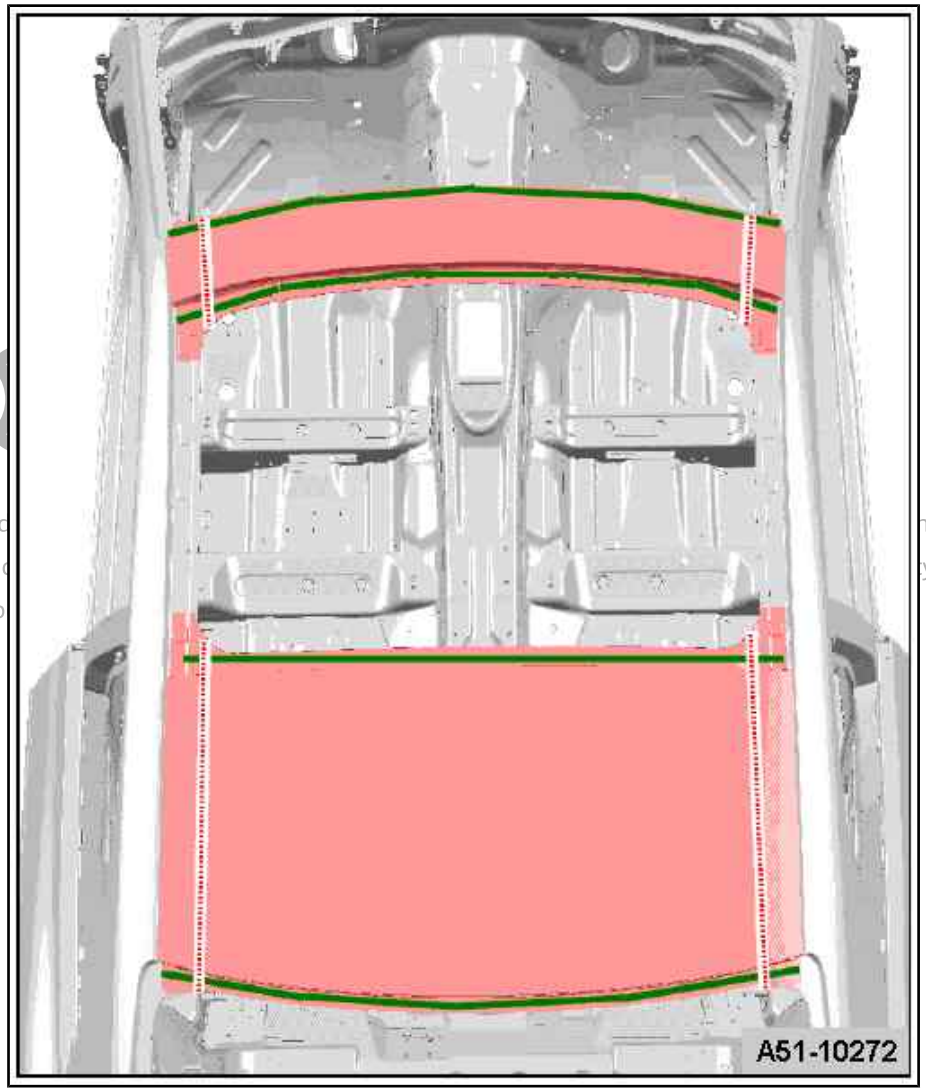

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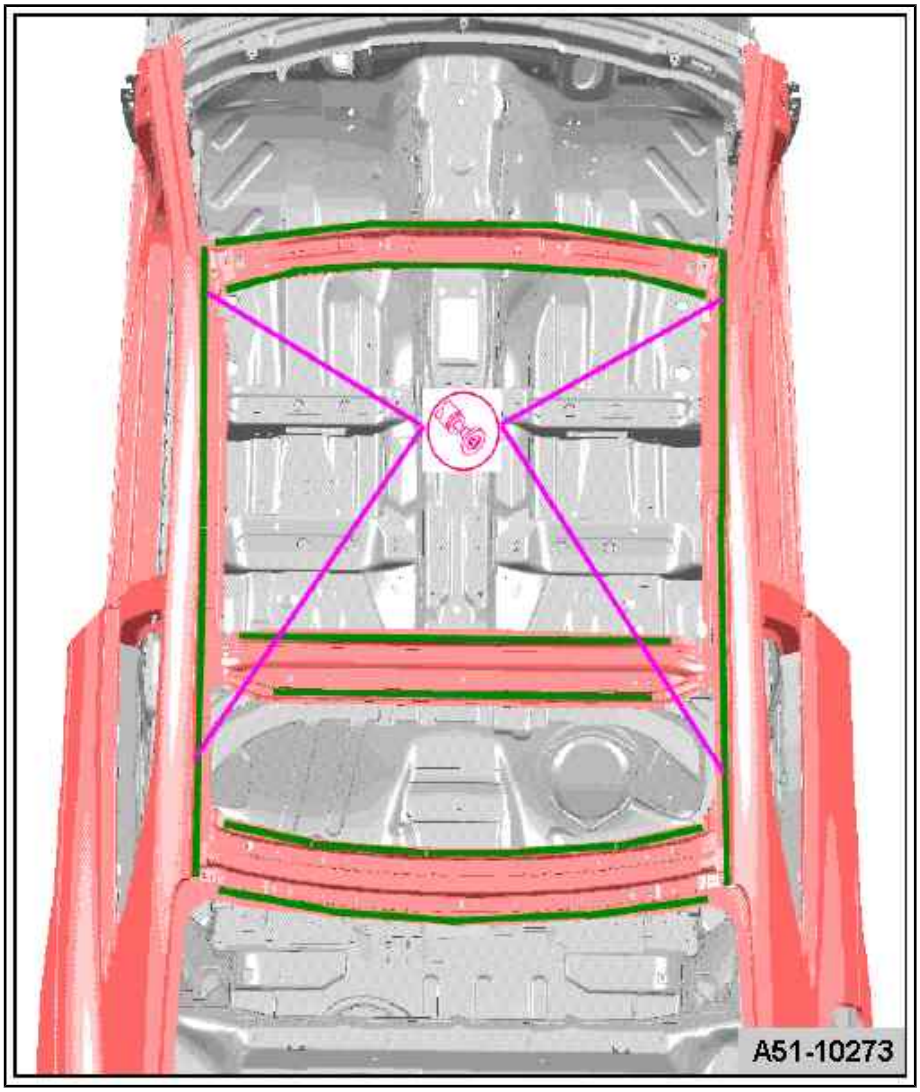
– Remove remaining material using compact angle grinder .

Take care not to damage roof frame when removing remaining material from roof frame.

Do not use cutting discs or rough-filing discs.



Note

Observe safety precautions: General information; Body repairs, General body repairs; Safety notes.

Replacement parts

- Roof with tilting sunroof
- Single-component assembly adhesive - D 190 MKD A3-
- 2-component epoxy adhesive - DA 180 A00 A2-
- Cleaning solution - D 009 401 04- . Observe safety precautions when handling.

Note

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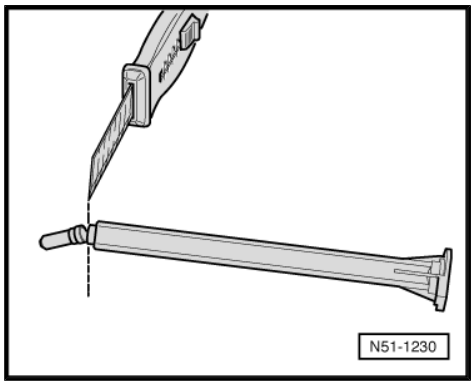
- *It is important to keep to the following procedure to ensure a satisfactory and effective roof repair.*
- *Bonded areas must not be treated with surfacer (filler coat) before bonding in centre roof section.*

Preparing new part

– Clean roof side members and replacement roof panel using cleaning solution - D 009 401 04- .

– Prepare adhesive cartridges required for bonding.

– Cut static mixer from 2-component epoxy adhesive - DA 180 A00 A2- down to 4th notch to obtain required bead cross section.



– Apply single-component assembly adhesive - D 190 MKD A3- to roof frame using pneumatic cartridge gun - V.A.G 1761/1- .

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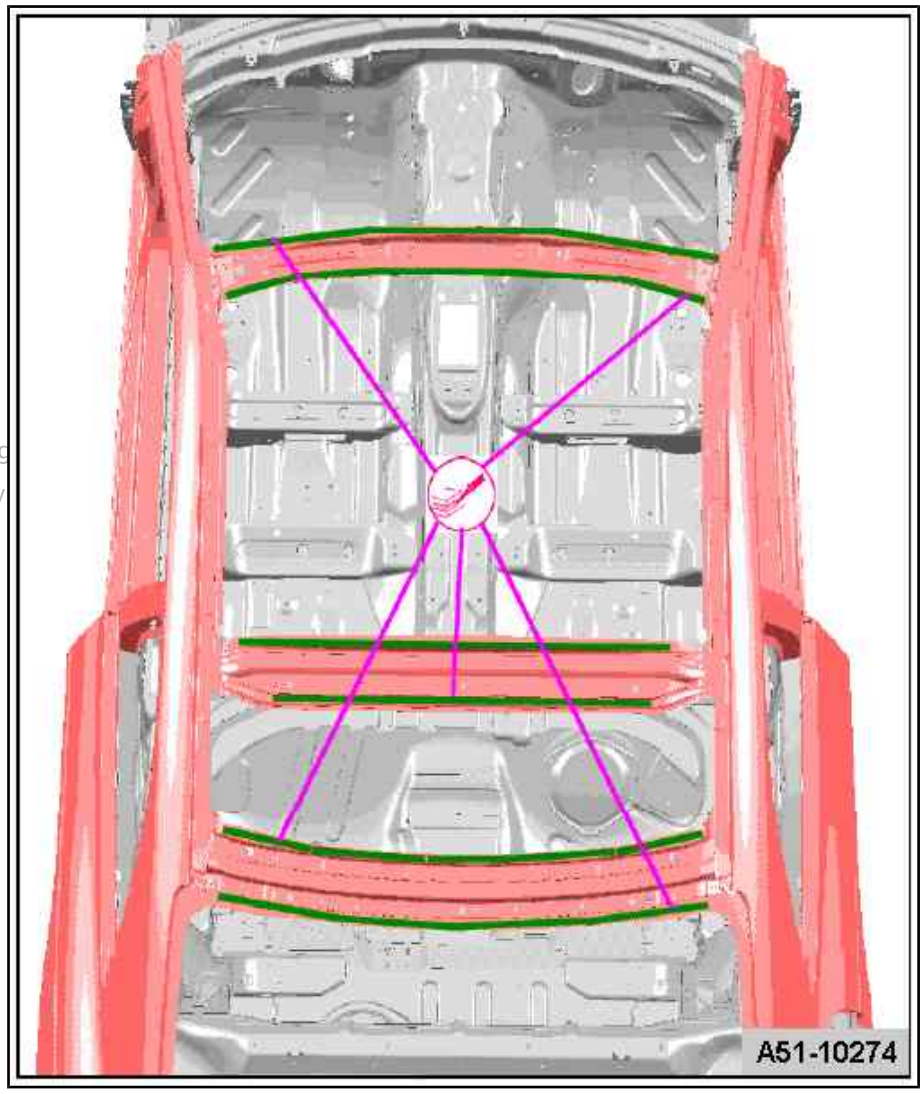
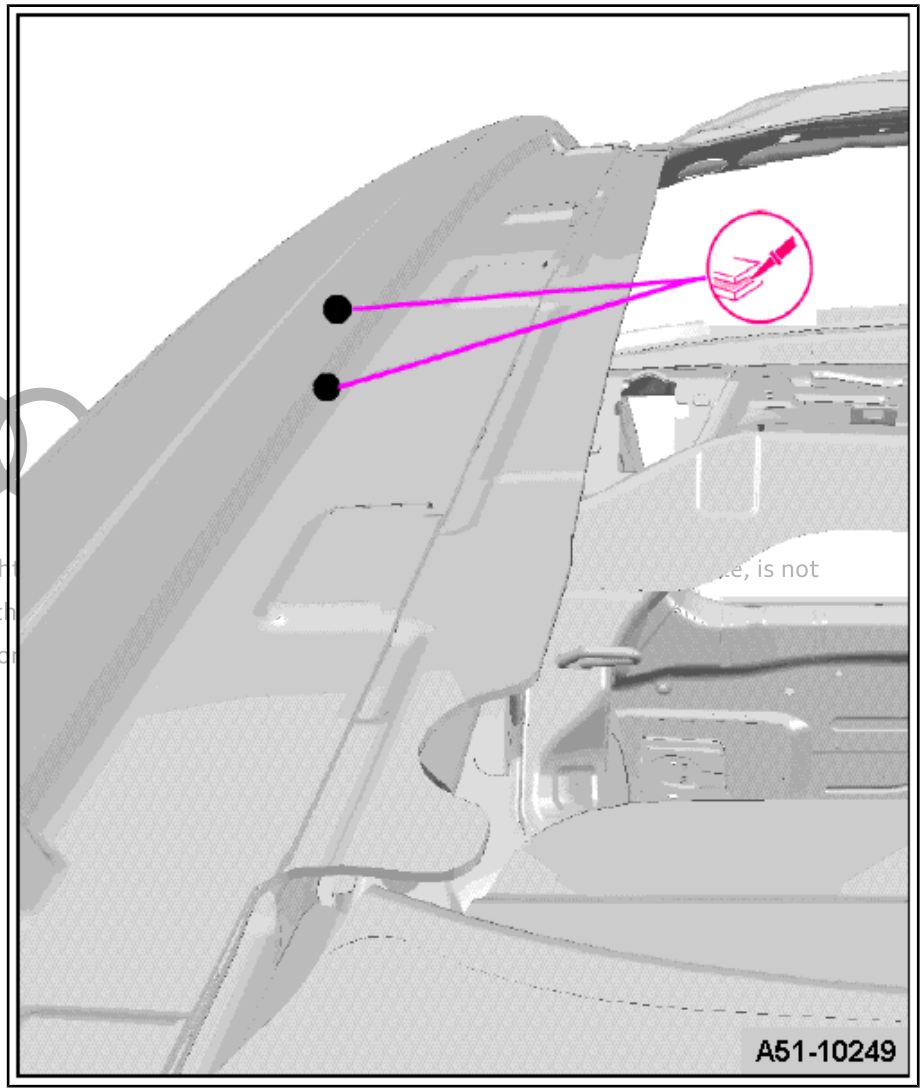


– Apply adhesive beads onto roof side members using double cartridge gun - VAS 6453- .



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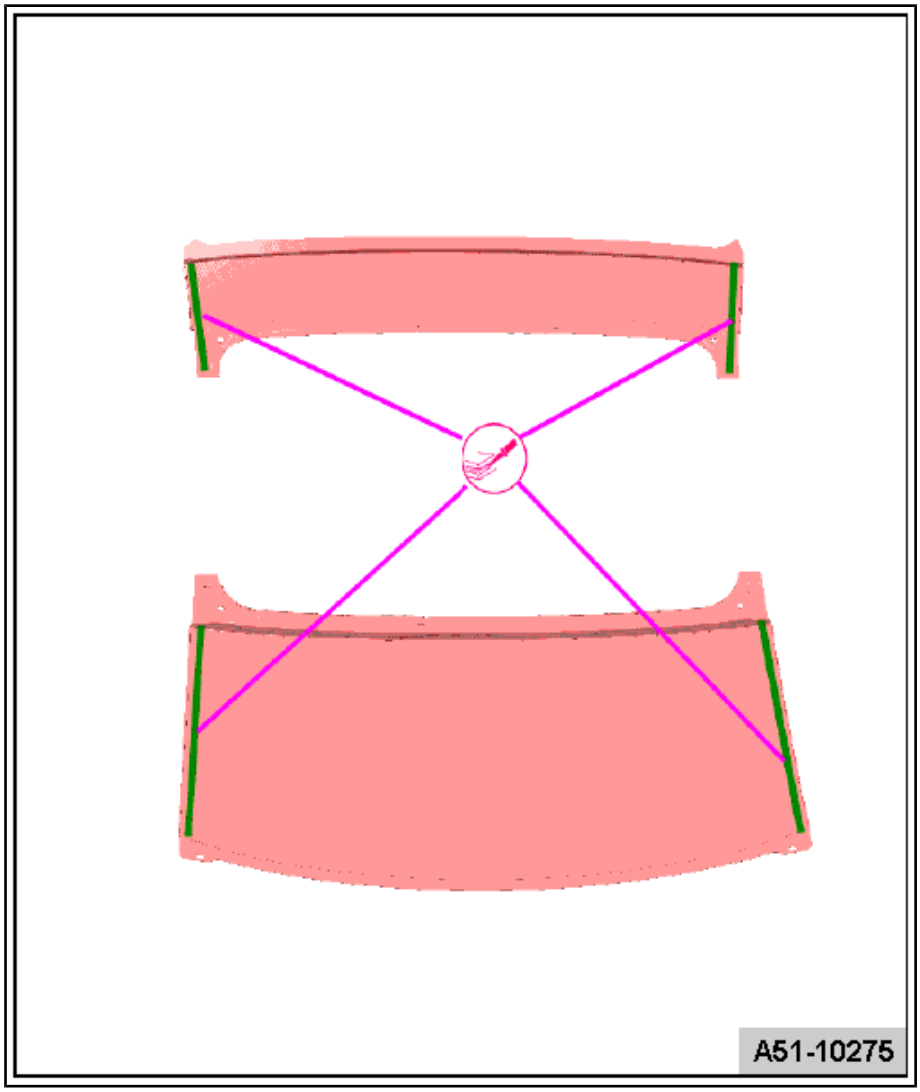
– Apply adhesive bead onto previously cleaned new roof panel (replacement part) using double cartridge gun - VAS 6453- .



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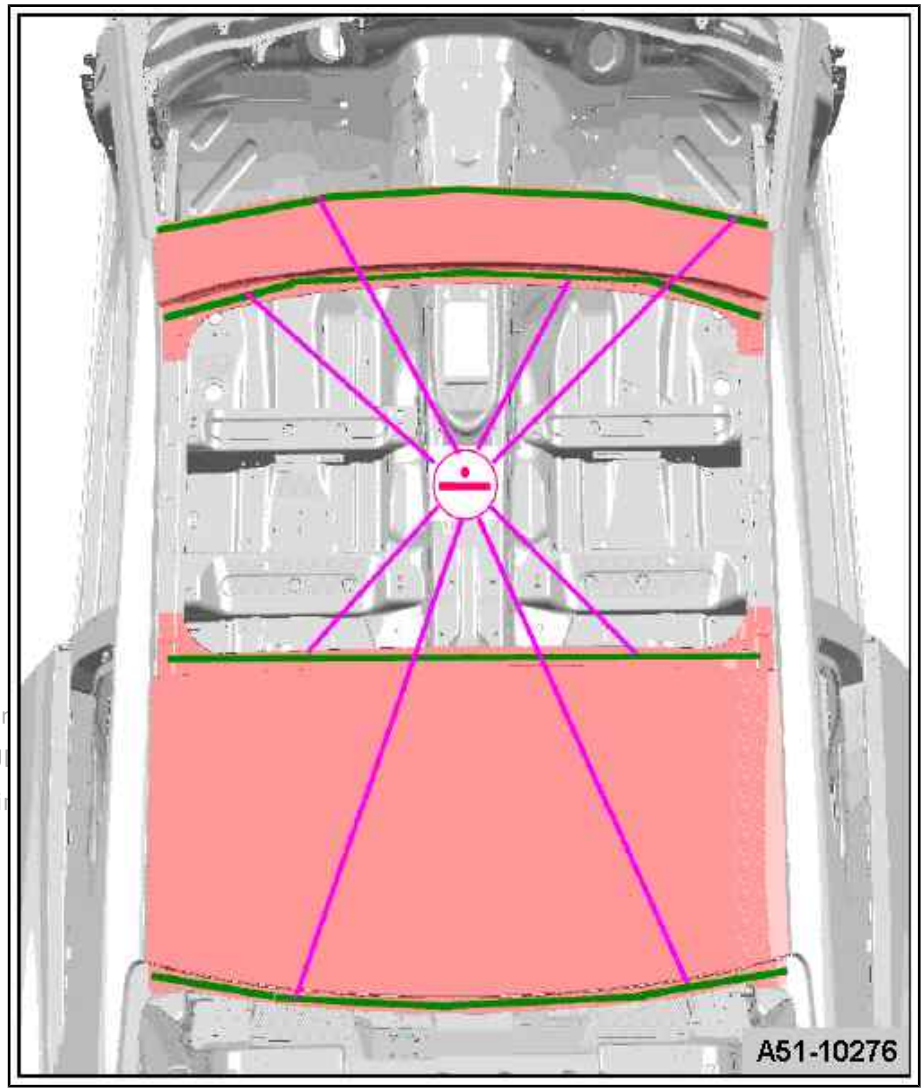
Welding in

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

– Weld in roof using resistance spot welder : RP spot weld seam.



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– Make additional weld for roof using shielded arc welding equipment : SG continuous seam.

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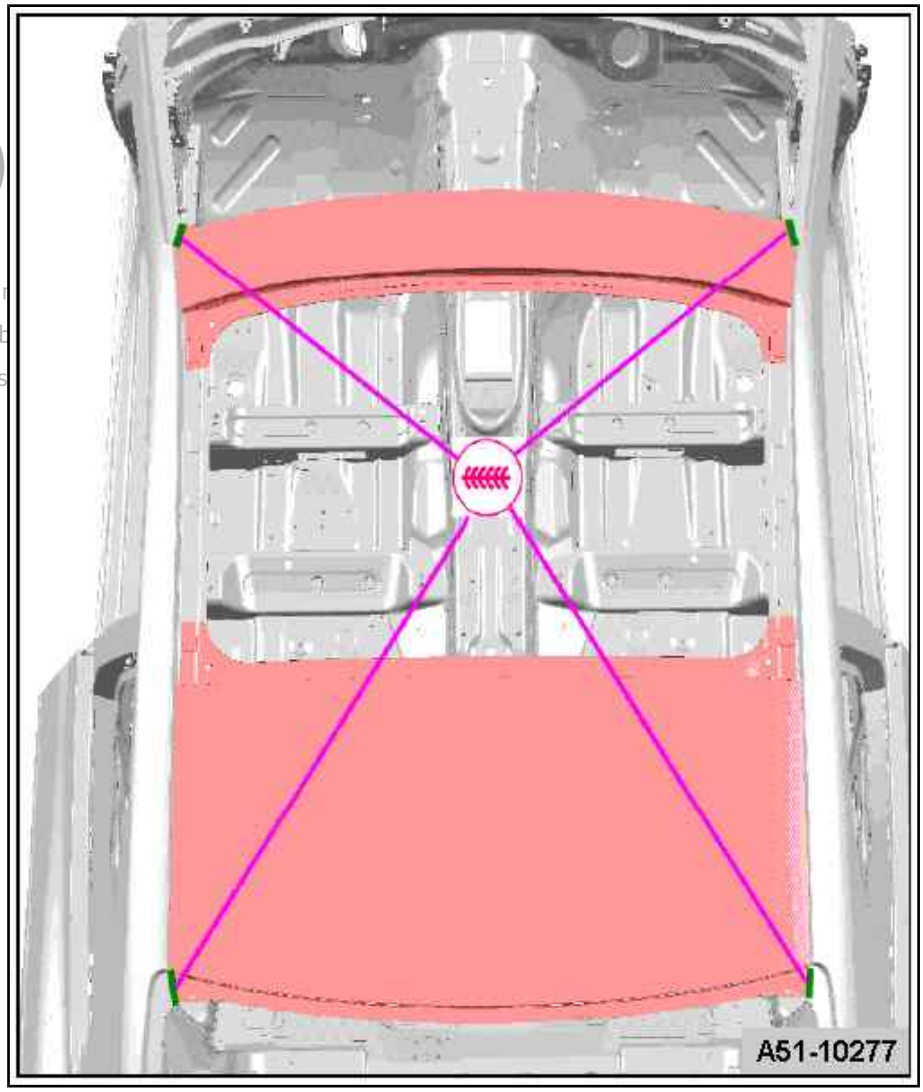

Note

- *After completing the joint, the vehicle must be left standing for 8 hours on a level surface at a room temperature of 15° C to allow the adhesive components to harden (curing time).*
- *Do not continue working on the vehicle until the curing time has elapsed.*

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4 Roof - Renewal (Sportback)

1 - Roof
2 - Plasmatron weld seam
3 - Bonded area

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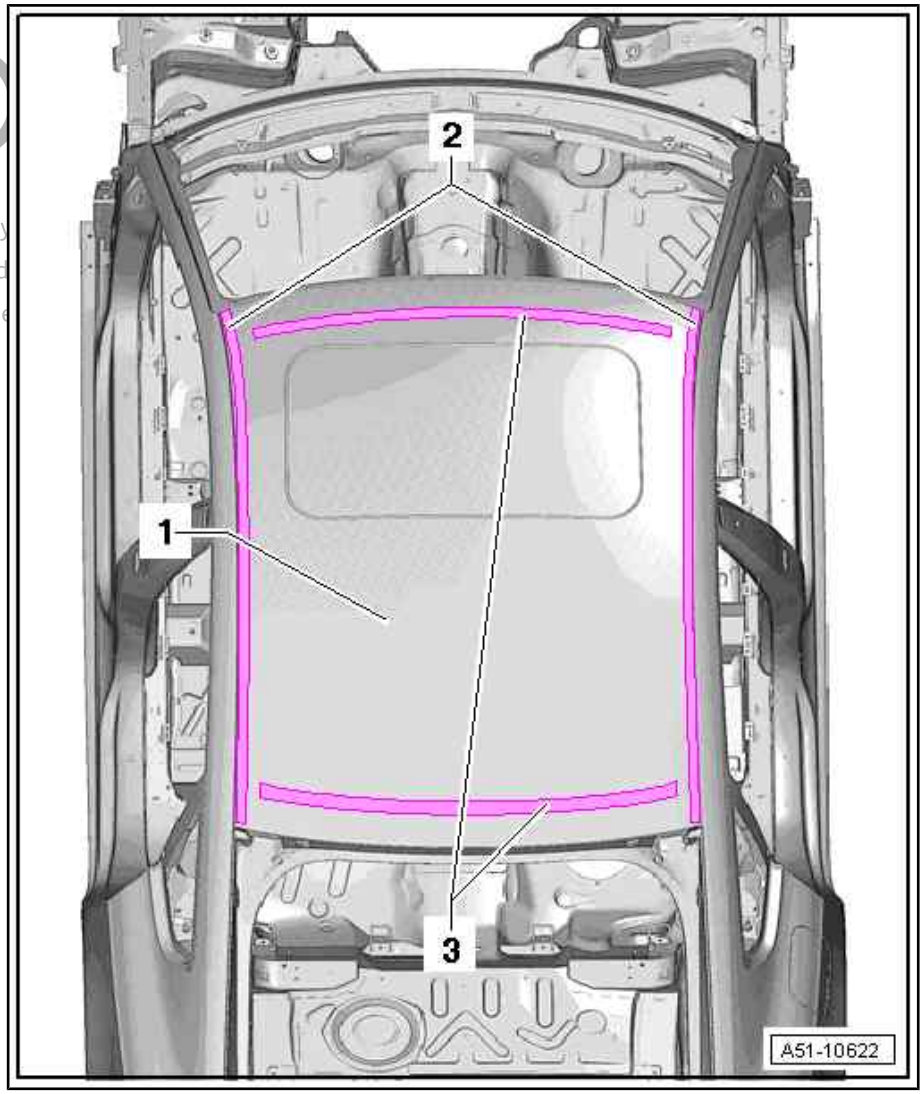


4.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Pneumatic pop riveter
- Drill
- Compact angle grinder
- Suction lifter , 4x
- Electric cutter
- Body saw
- Spot weld breaker
- Mole grips, 18-18

- Tensioning strap
- Pneumatic cartridge gun

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

4.2 Procedure

Cutting locations

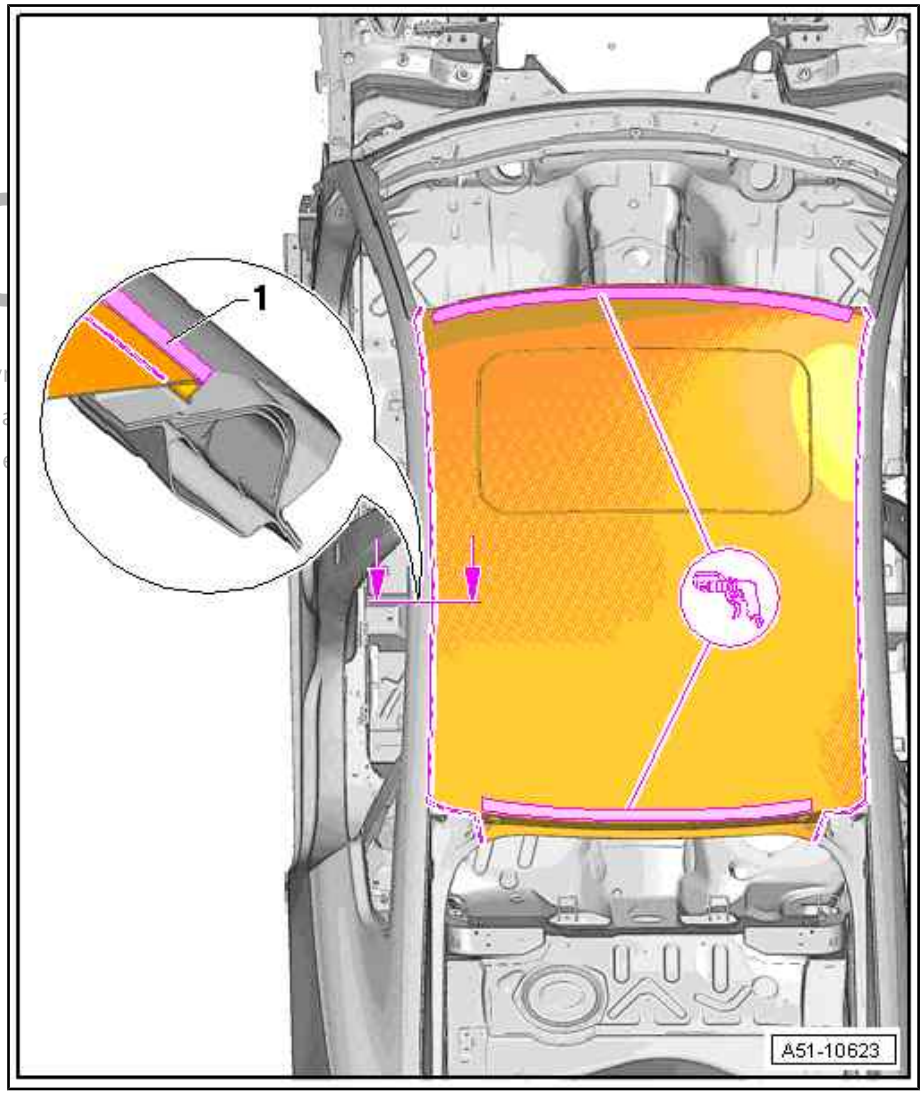
Note

- *Mask the roof side members with adhesive tape to protect them from damage and dirt.*
- *Take care not to damage the front and rear roof cross members when cutting out.*

– Roughly cut out roof parallel with plasmatron weld seam -1- at a distance of approx. 30 mm using body saw .

– Drill off original joint to windscreen opening and rear lid opening using spot weld breaker .

– Working from passenger compartment, separate bonded joints between roof and roof cross members using electric cutter .



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Note

Take care not to damage the roof side members when making cuts and when moving the remaining sections of the roof up and down.

– Make cuts in remaining sections of roof using tin snips - VAS 5357- .

– Grip remaining sections with pliers and break open plasmatron weld seam by moving up and down.

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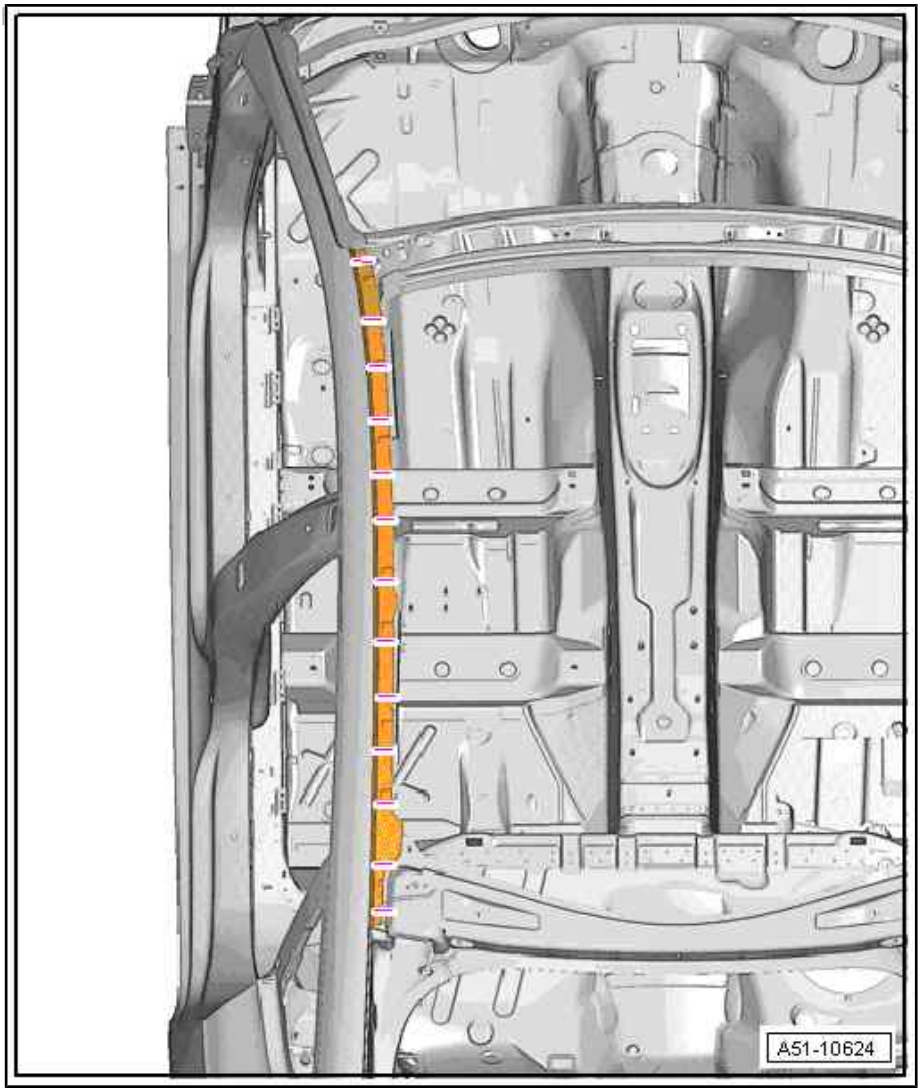


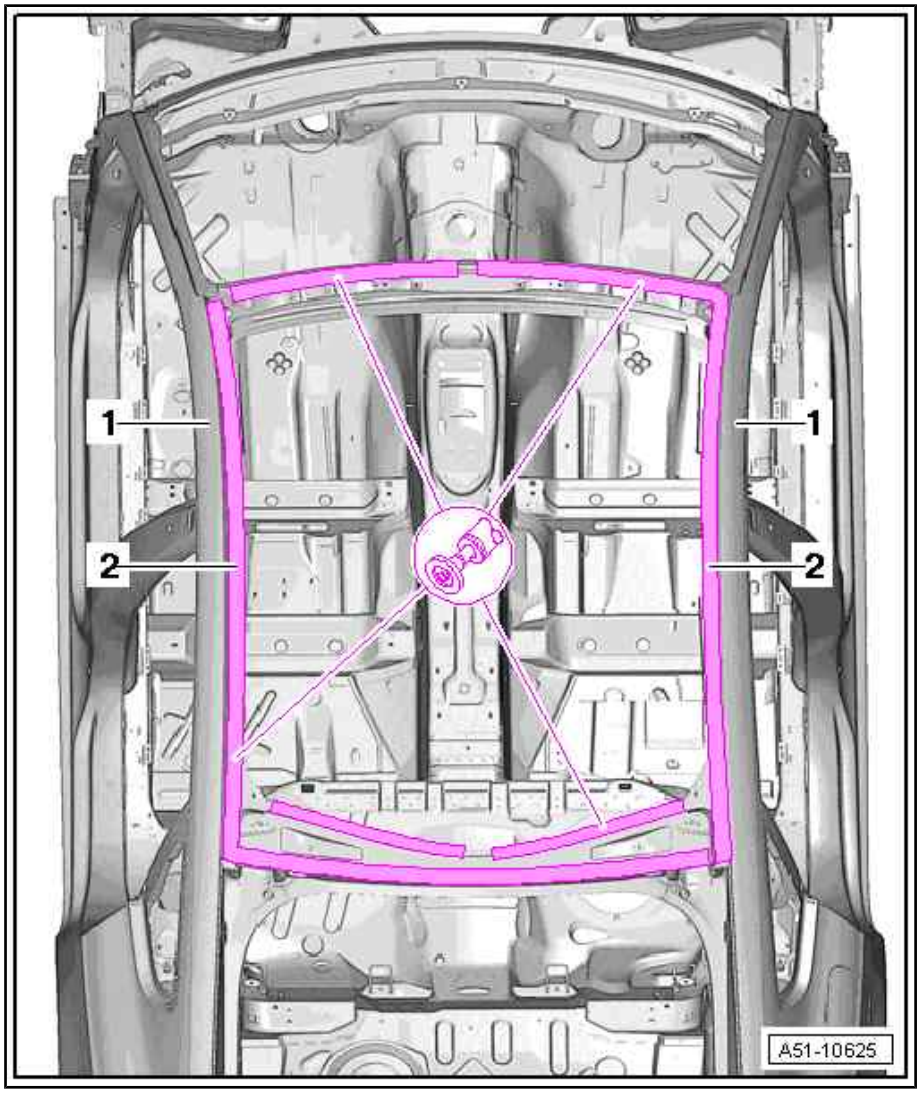
Note

- *Take care not to damage the roof side members -1- when removing the remaining sections of the roof -2-.*
- *Use a suitable flap disc; do not use a cutting disc or rough-filing disc.*

– Remove remaining material using compact angle grinder .

– Remove all residual adhesive and sealing compound from roof cross members at front and rear using scraper .

– Grind bonding areas down to bare metal.



– Make good any paintwork damage as described in paint manual.

Replacement parts

- Roof
- Retaining bracket
- Pop rivet - N 909 236 01- , 26x
- Single-component assembly adhesive - D 190 MKD A3- , 1 cartridge
- 2-component epoxy adhesive - DA 180 A00 A2- , 2 sets of cartridges
- Cleaning solution - D 009 401 04-. Observe safety precautions when handling.
- Zinc spray

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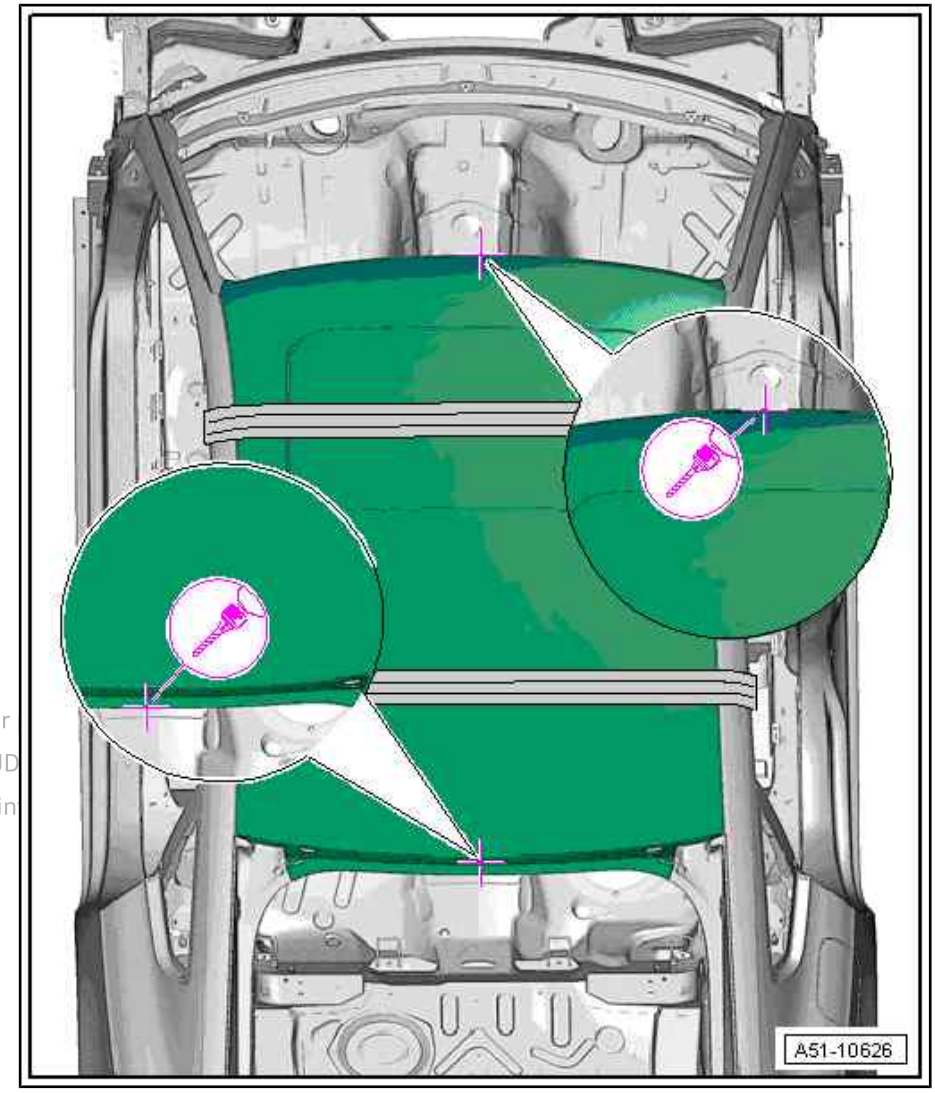
Preparing new part

Note

- *It is important to keep to the following procedure to ensure a satisfactory and effective roof repair.*
- *Bonded areas must not be treated with filler coat (surfacer) and painted before bonding in the roof.*
- *The adhesive materials must be applied very quickly.*
- *Make sure adhesive is applied before pot life is exceeded.*
- *Use a pneumatic cartridge gun to apply the bonding materials.*
- *Affixing adhesive tape to the roof parallel with the bonded seam on the side prevents soiling when bonding.*

Bonding in



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– Position roof on roof frame and check alignment of roof with roof side members (visual inspection).
– Check fit of roof with rear lid and windscreen.

– Fix roof in position in windscreen flange and sealing flange of rear lid using one self-tapping screw at each end.
– Additionally fix roof in position with two tensioning straps - T10038- .
– Remove roof.

Preparing for pop riveting

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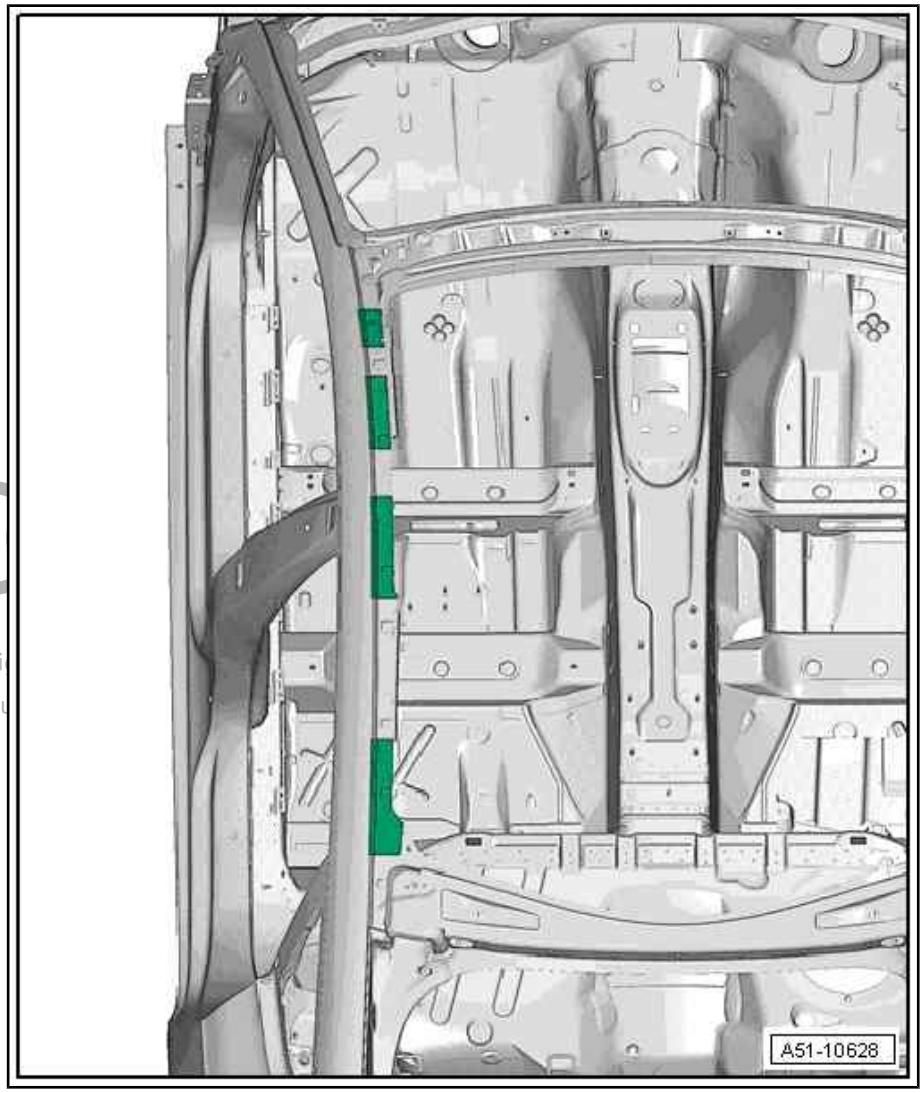
Note

The front retaining bracket can be positioned via the cut-out contour of the inside edge of the roof frame; the remaining retaining brackets are positioned by means of the corresponding depressions and projections on the outer side panel and the retaining brackets.

– Mark rivet positions on roof frame as shown.

Note

- *When marking the rivet positions, always ensure accessibility for the pneumatic pop riveter - V.A.G 2003A- from below, especially in the vicinity of the front deformation element.*
- *When marking the rivet positions make sure that no drillings are made through any spot welds on the roof frame. Drilling through spot welds would reduce the strength of the body.*



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– Drill rivet holes -1- using drill : 5 mm ∅.
– Drill rivet holes -2- using drill : 5 mm ∅.
– Deburr drill holes.

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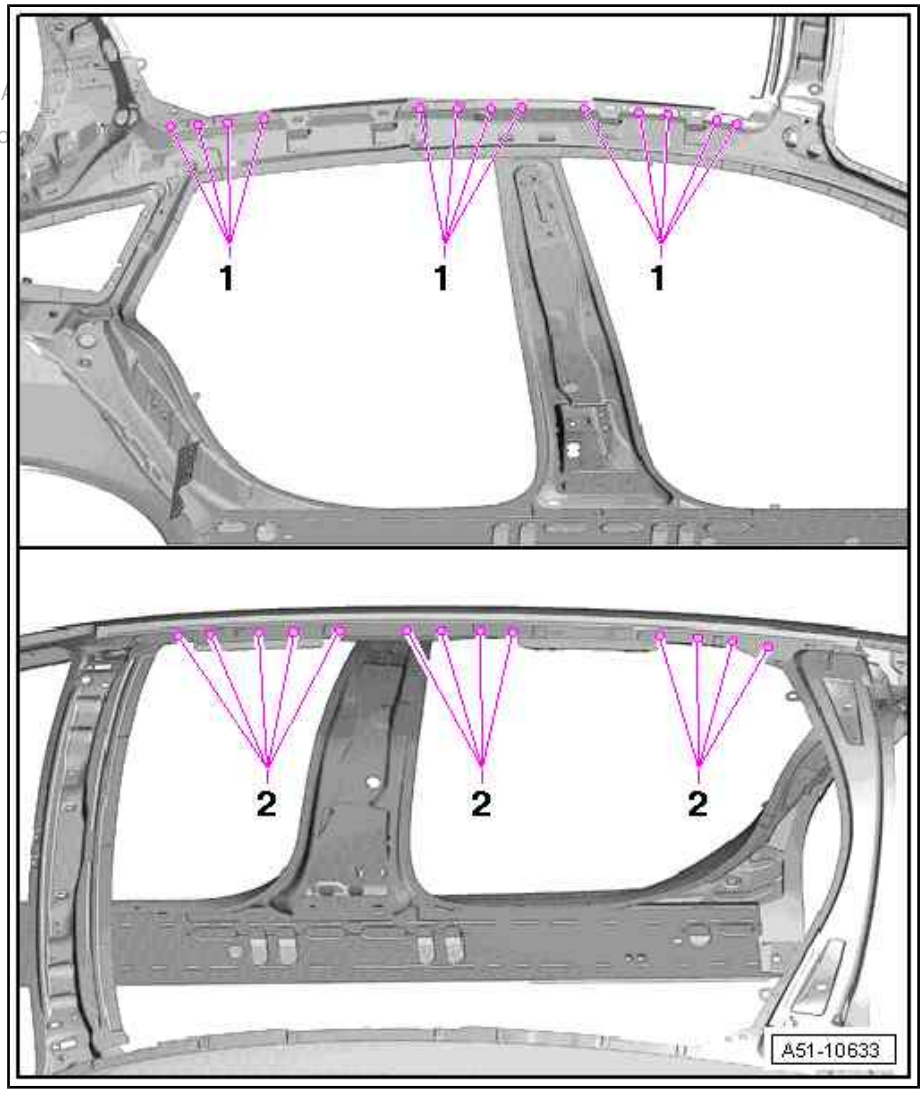

– Fit roof panel.
– Slide retaining brackets outwards as far as stop at marked positions so that inside edges of brackets are in full contact with inside edge of roof frame.
– Fix retaining brackets in position with clamps.
– Mark positions of rivet holes on retaining brackets through drillings made previously in roof frame.
– Take retaining brackets off roof frame and drill holes in retaining brackets outside vehicle using drill : 5 mm ∅.

Apply zinc spray to welding flanges for RP spot weld seam on roof cross members -1- and roof -1-.

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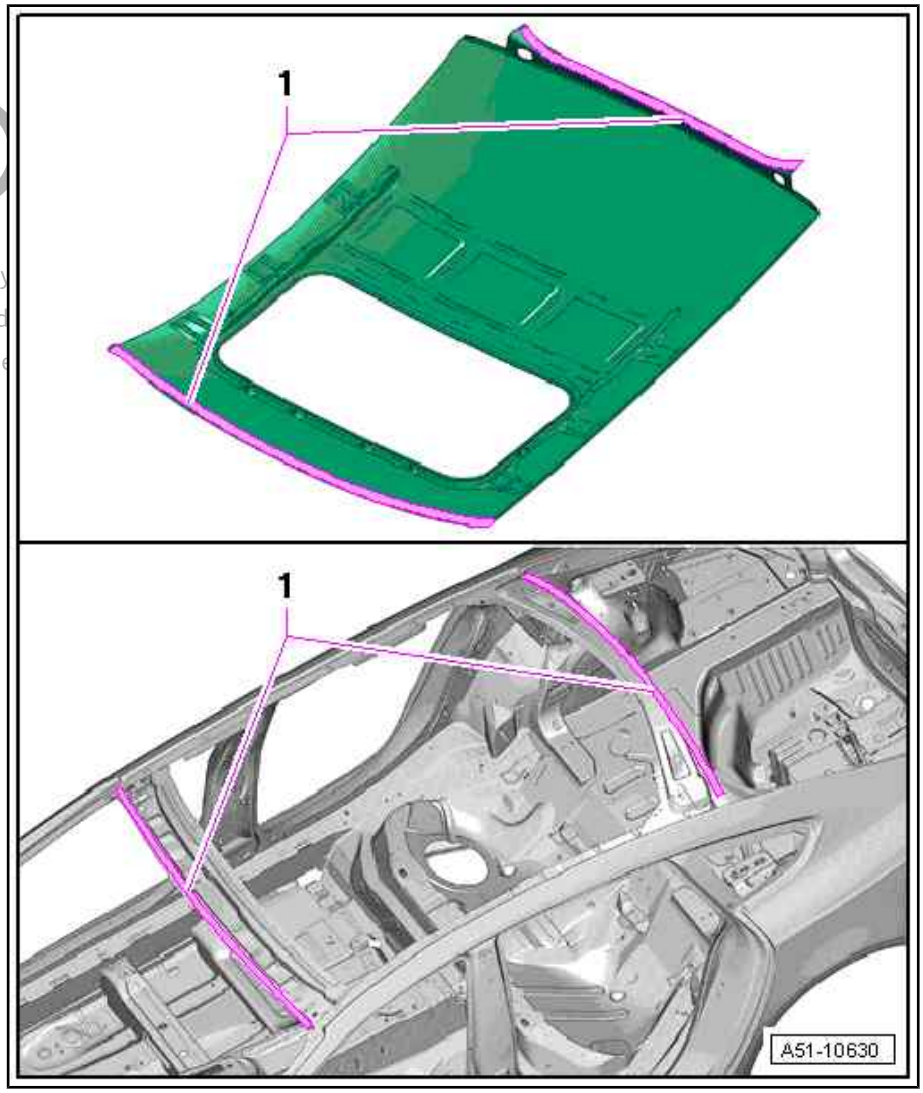
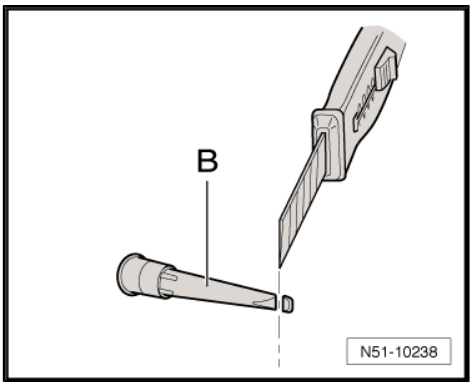


– Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.



– Apply single-component assembly adhesive - D190 MKD A3- to rear roof cross member in area of factory bonding location using pneumatic cartridge gun - V.A.G 1761/1- .

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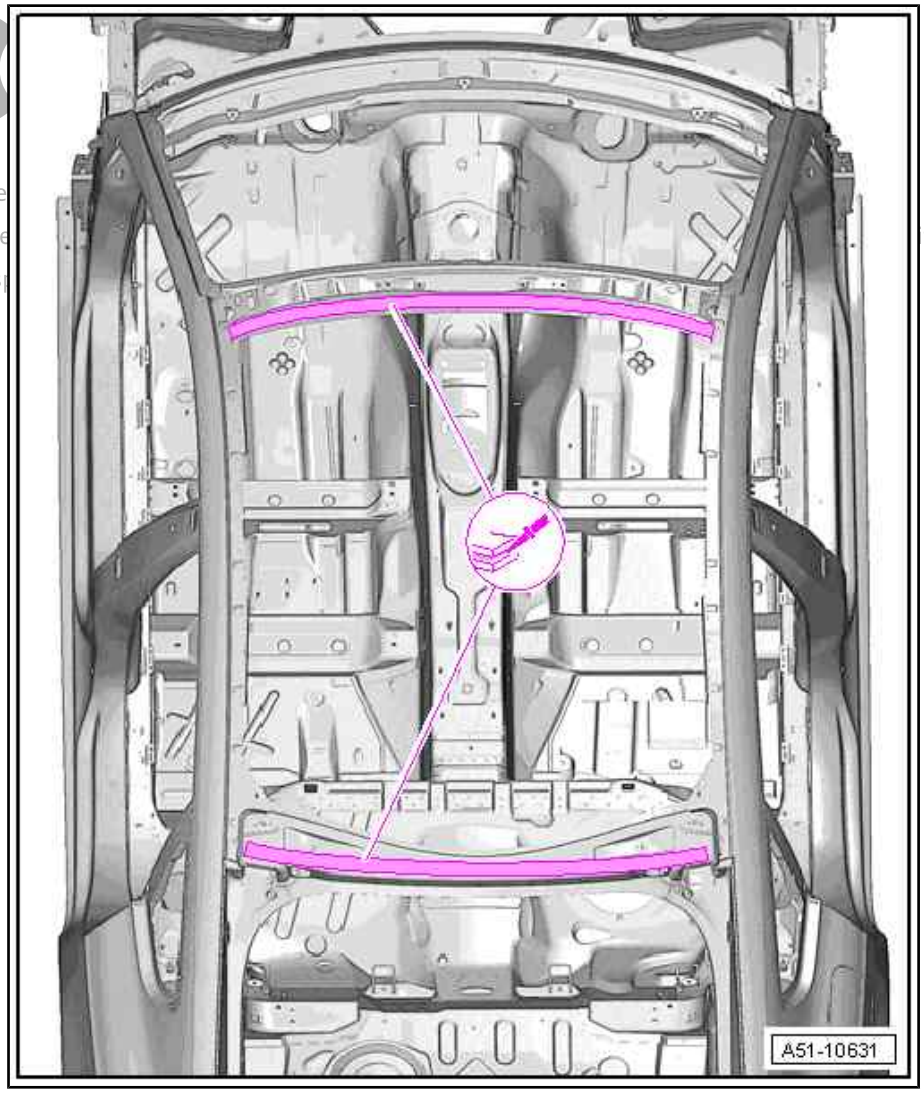
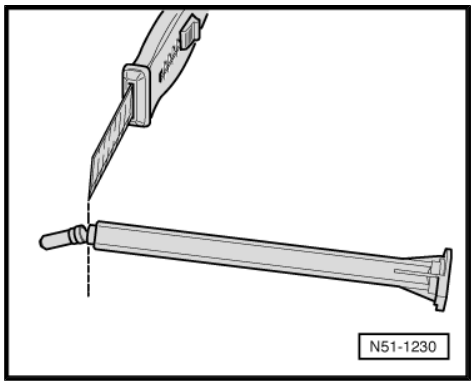


– Cut static mixer from 2-component epoxy adhesive - DA 180 A00 A2- down to 4th notch to obtain required bead cross section.



Note

- *The pot life of the 2-component epoxy adhesive - DA 180 A00 A2- is roughly 90 minutes.*
- *A second mechanic is required for the next steps.*

– Operate the pneumatic gun - VAS 6453- with the 2-component epoxy adhesive - DA 180 A00 A2- and apply a roughly 100 mm long adhesive bead to a piece of cardboard before starting application on the vehicle.

– Apply two continuous beads -1- of 2-component epoxy adhesive - DA 180 A00 A2- to bevelled sections of roof side members in area of zero-gap joint using pneumatic gun - VAS 6453- .

– Apply one continuous bead -2- of 2-component epoxy adhesive - DA 180 A00 A2- to roof frame and roof cross members over entire contact area of roof reinforcement using pneumatic gun - VAS 6453- .

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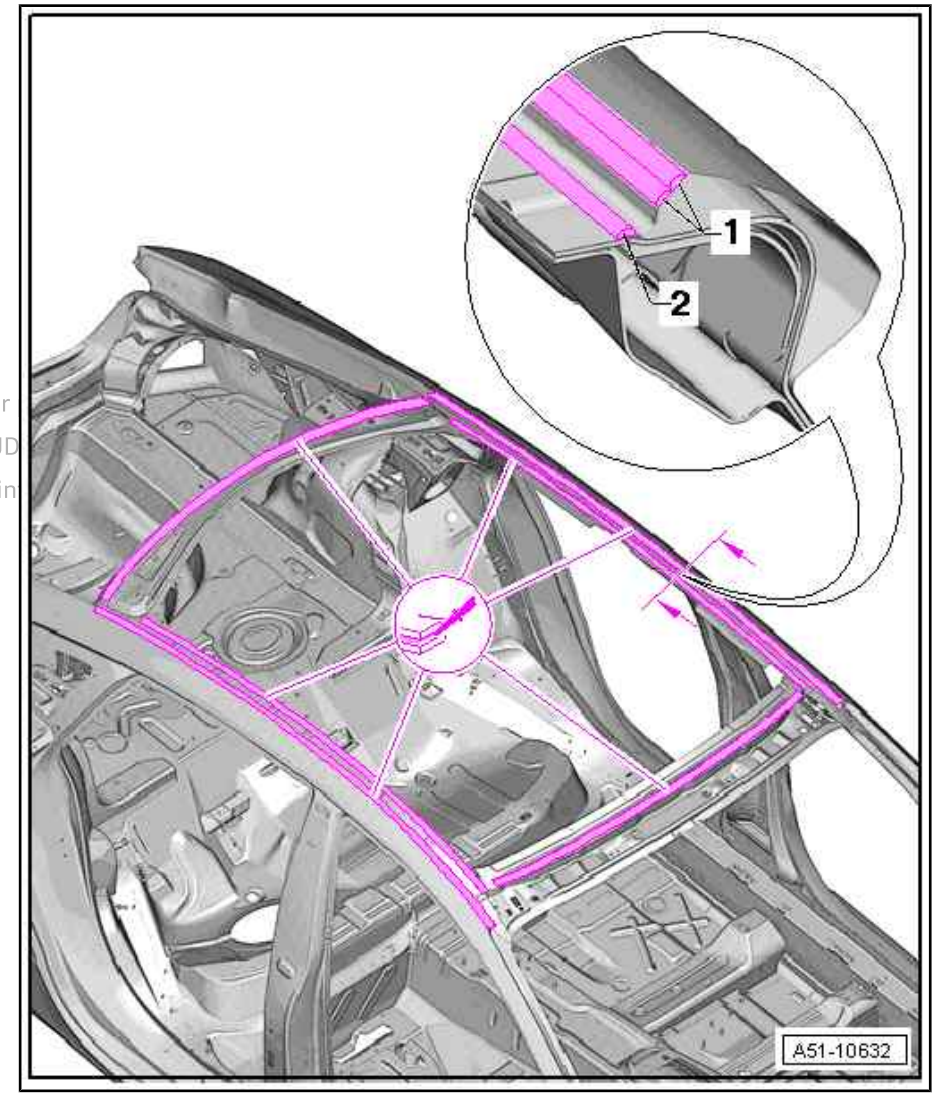
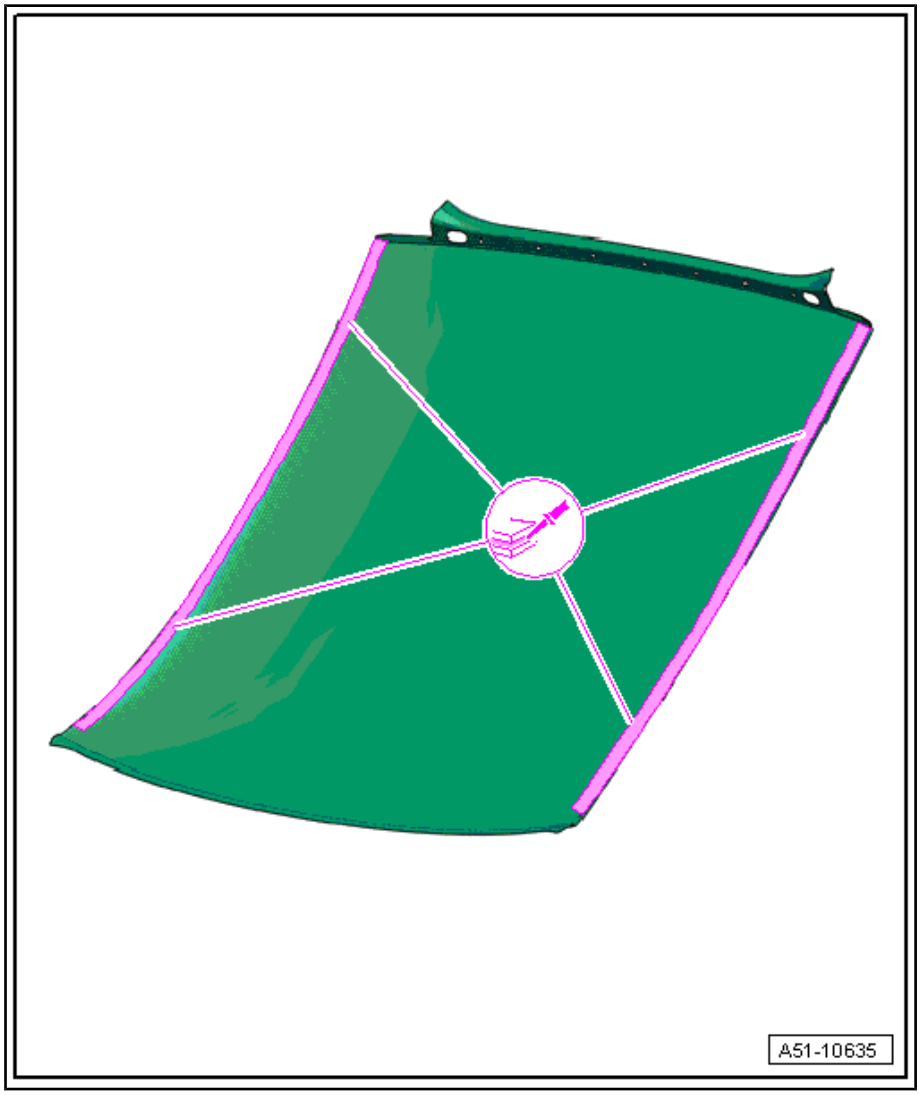


– Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2- to side flanges of roof -1- using pneumatic gun - VAS 6453- .



– Immediately fit and align roof.
– Use one self-tapping screw at each end to fix roof in position in centring hole in windscreen flange and sealing flange for rear lid.
– Fix roof in position at windscreen opening and rear lid opening using mole grips, 18-18 - VAS 5430/1- .
– Additionally fix roof in position with two tensioning straps - T10038- .
– Roughly spread any 2-component epoxy adhesive - DA 180 A00 A2- that comes out at the edge of the roof.

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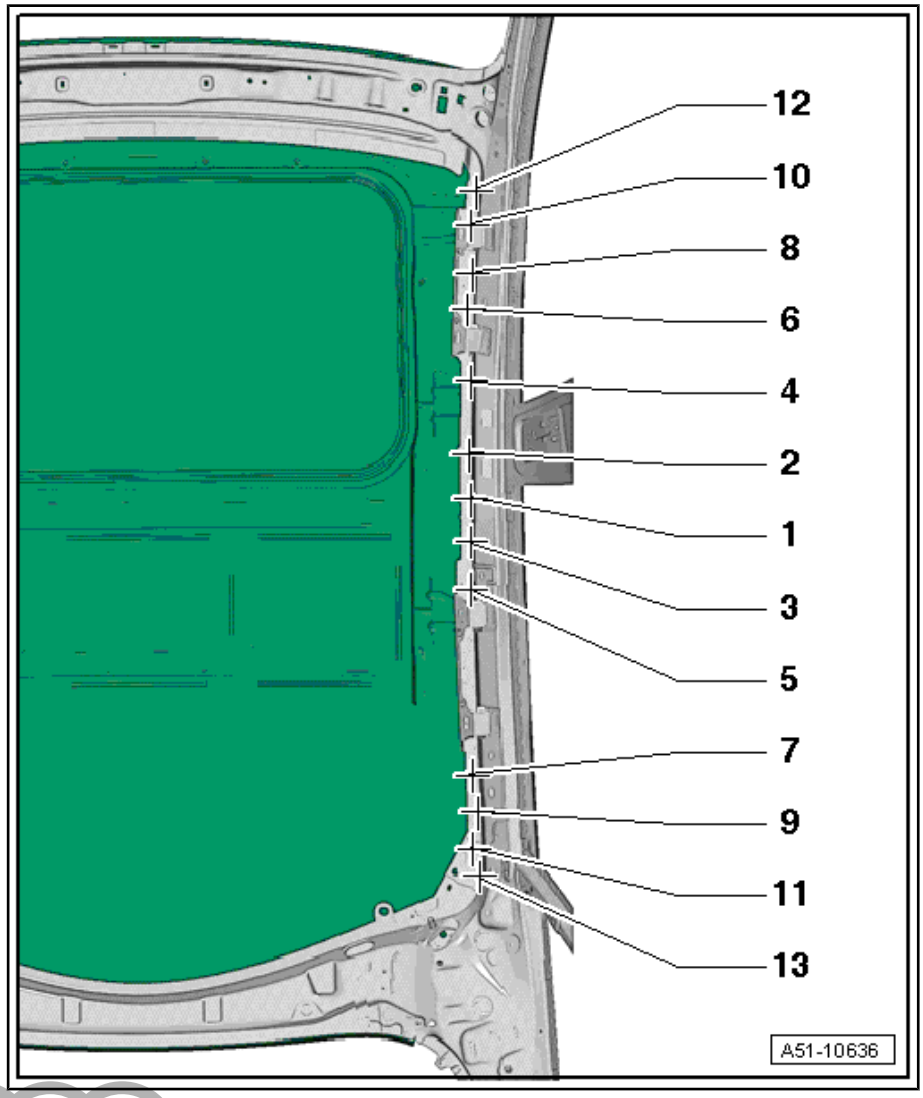
Note

The roof must be riveted on evenly on the right and left, working from the centre to the front and rear to avoid straining the roof on installation.

– Rivet on roof in specified sequence using pneumatic pop riveter - V.A.G 2003A- .



Note

- *After bonding has been completed, the vehicle must be left standing on a level surface for 8 ... 10 hours at room temperature (min. 15 °C) so that the adhesive components can harden (curing time).*
- *Do not perform any further work on the vehicle until the "curing time" has elapsed.*

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in roof using resistance spot welder : RP spot weld seam.

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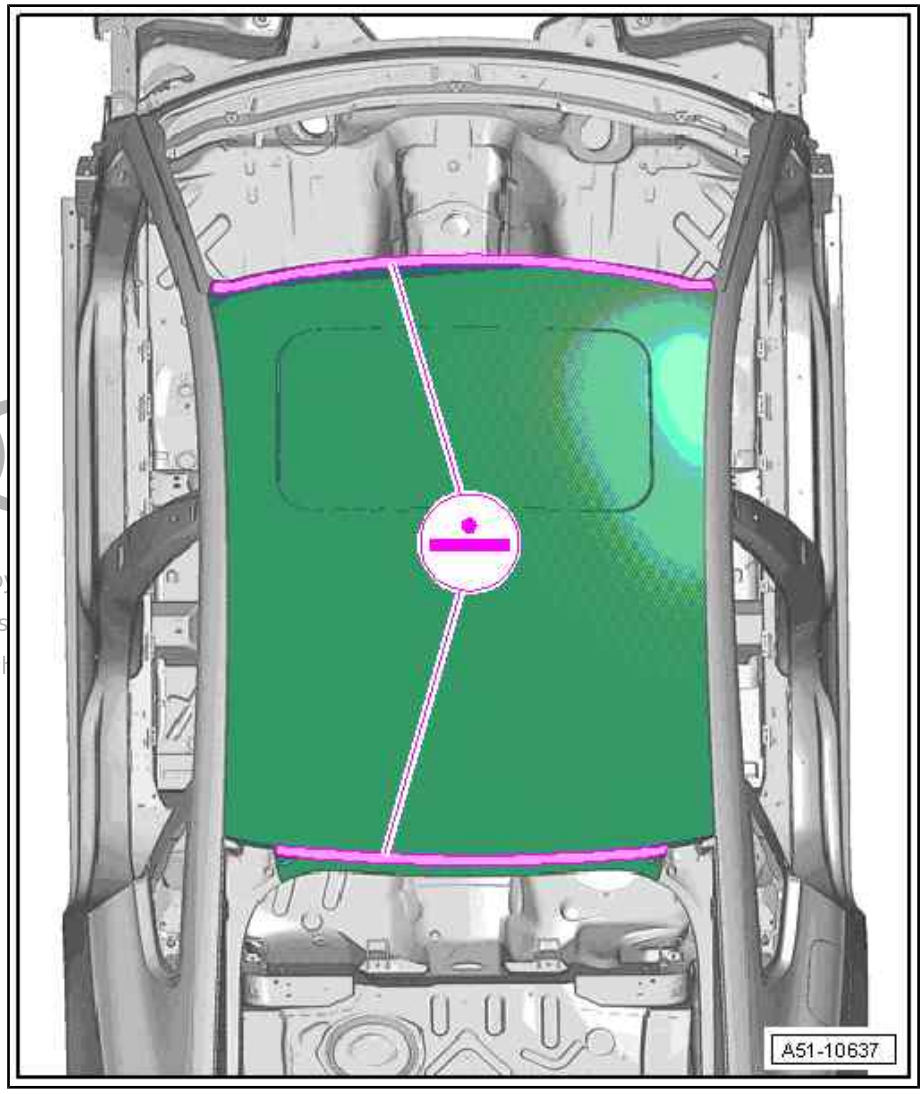
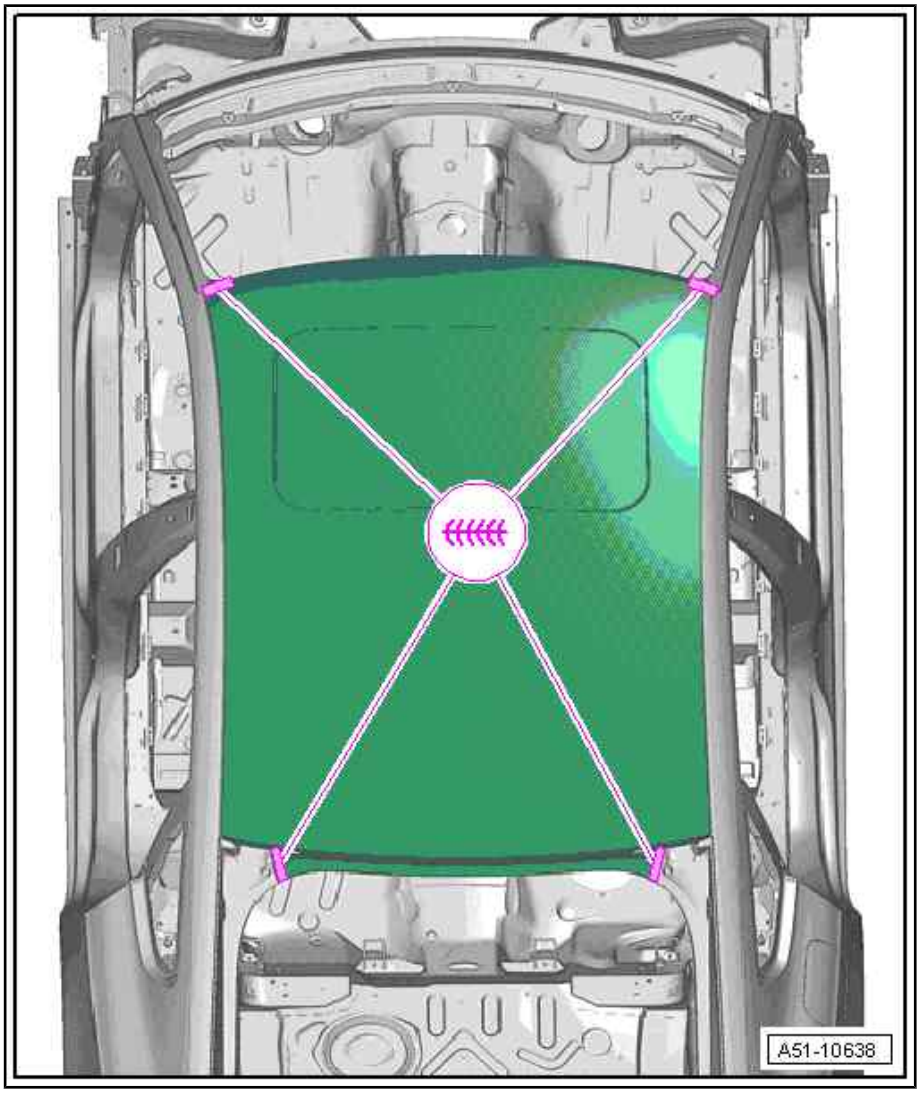


– Make additional welds for roof using shielded arc welding equipment : SG continuous seam.
– Grind down SG continuous weld seams using compact angle grinder .



– Grind zero-gap joint -1- into shape (left and right).

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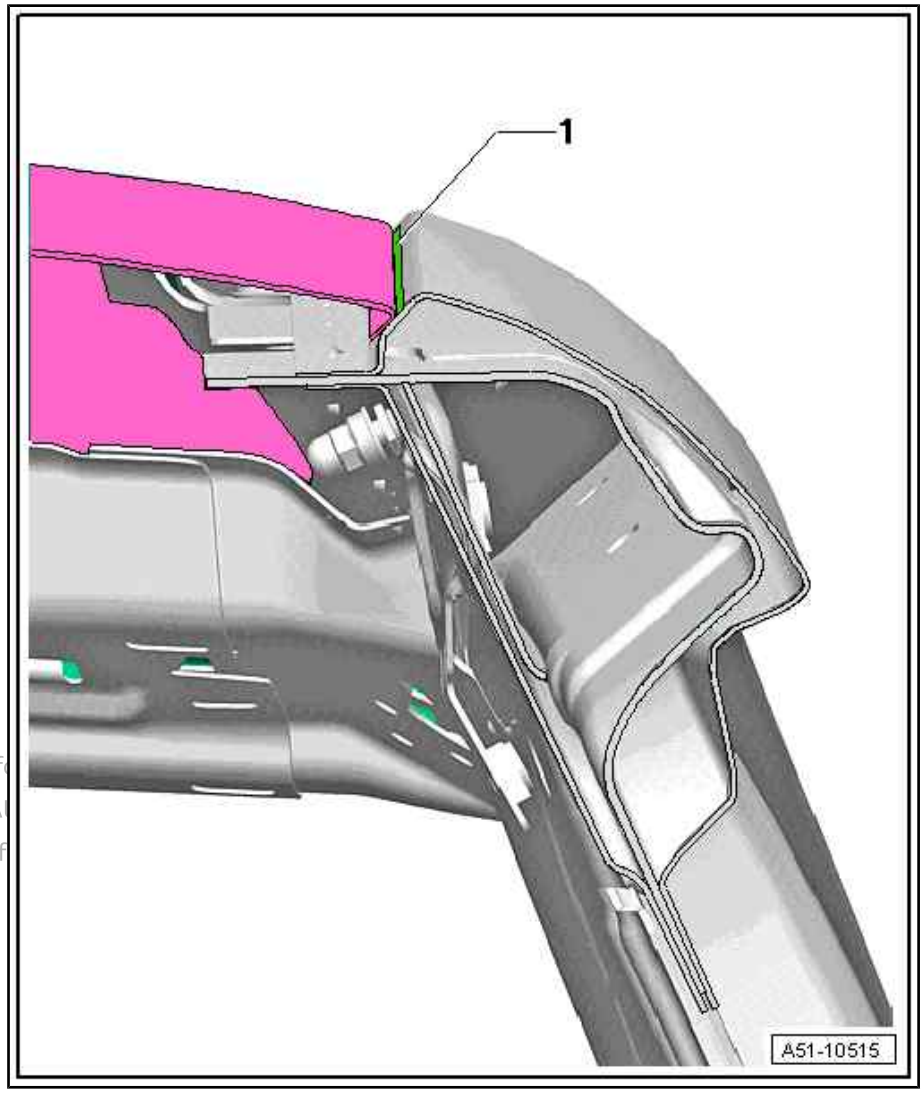

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Note

- *After completing the joint, the vehicle must be left standing for 8 hours on a level surface at a room temperature of 15° C to allow the adhesive components to harden (curing time).*
- *Do not continue working on the vehicle until the curing time has elapsed.*

RO: 51 05 55 50

5 Roof side member - Renewal

5.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

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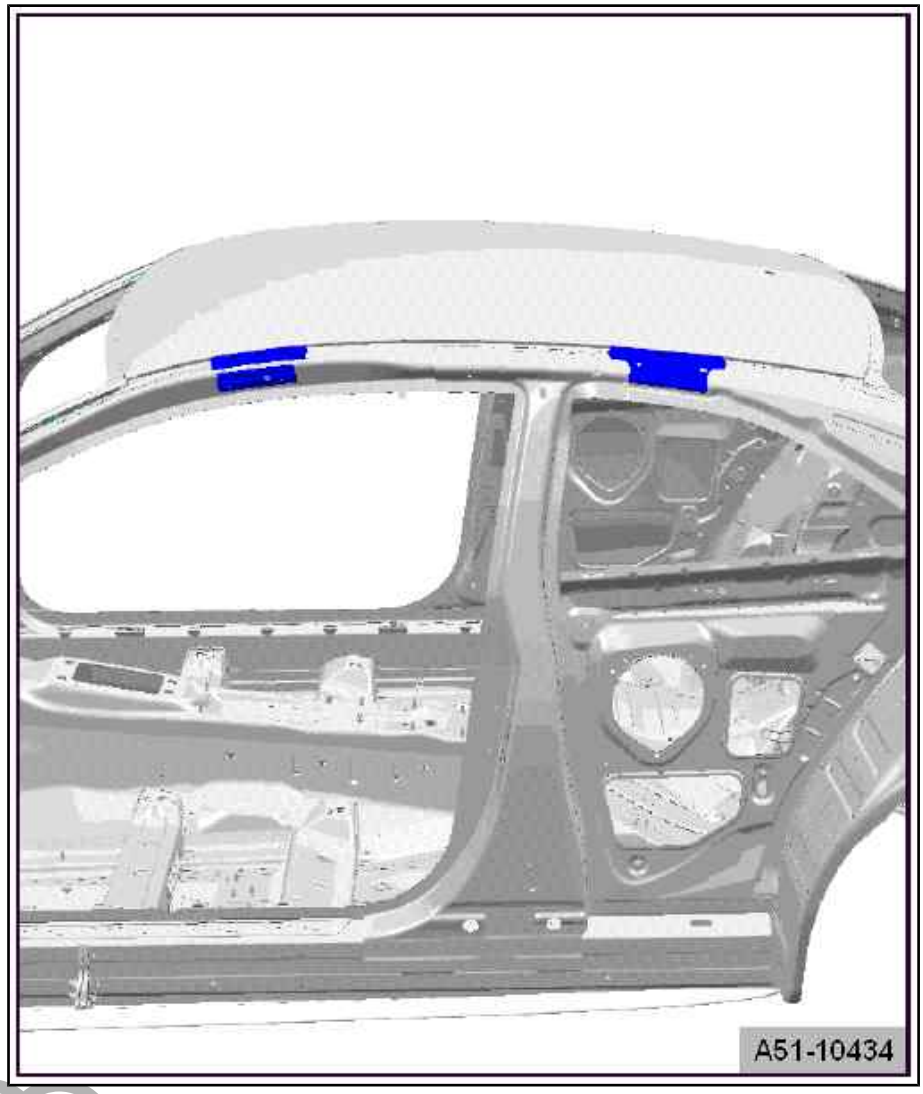
5.2 Procedure

Cutting locations

CAUTION

When renewing the roof side member, 2-component epoxy hard foam must be used in place of the moulded foam inserts as a stiffener for the roof carrier.

It is important to keep exactly to the specified sequence.



– Make separating cuts using body saw .
– Separate original joint using spot weld breaker .

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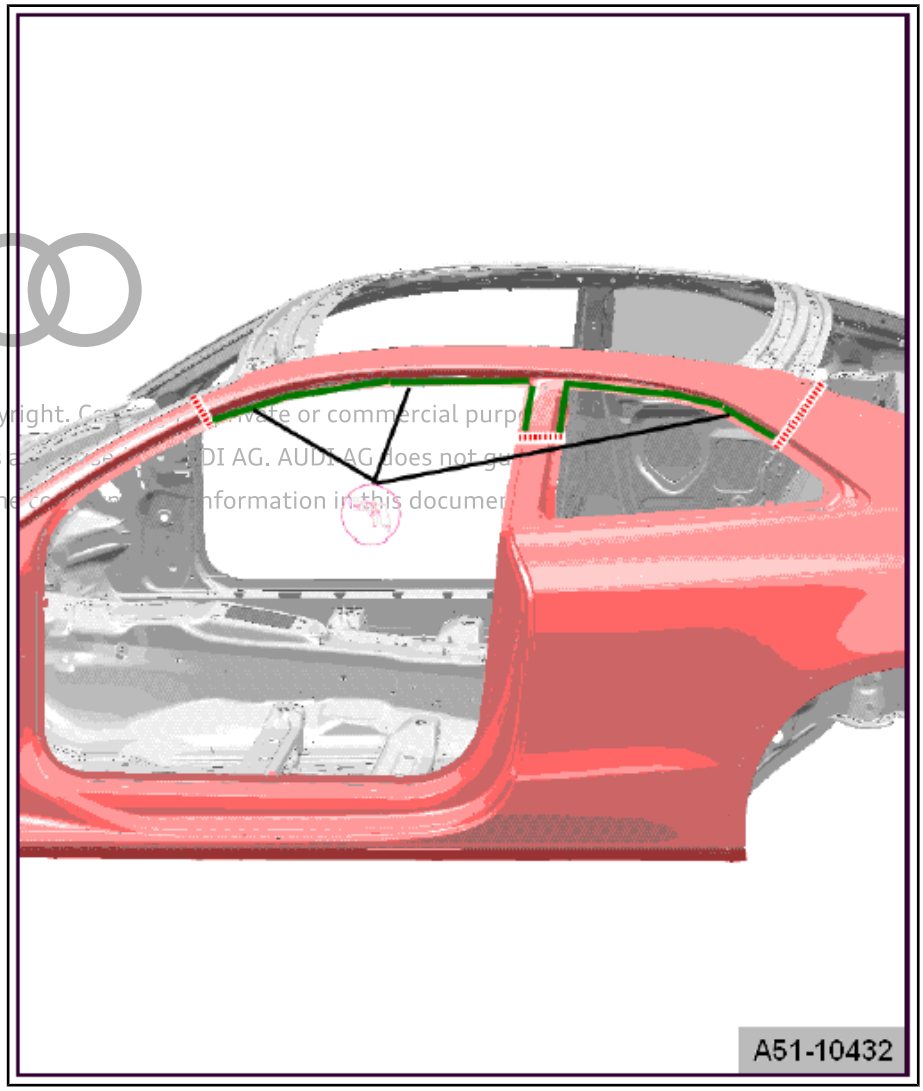

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Replacement part

- Roof side member (sub-part)

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in roof side member using shielded arc welding equipment : SG continuous seam.

– Weld in roof side member using resistance spot welder .

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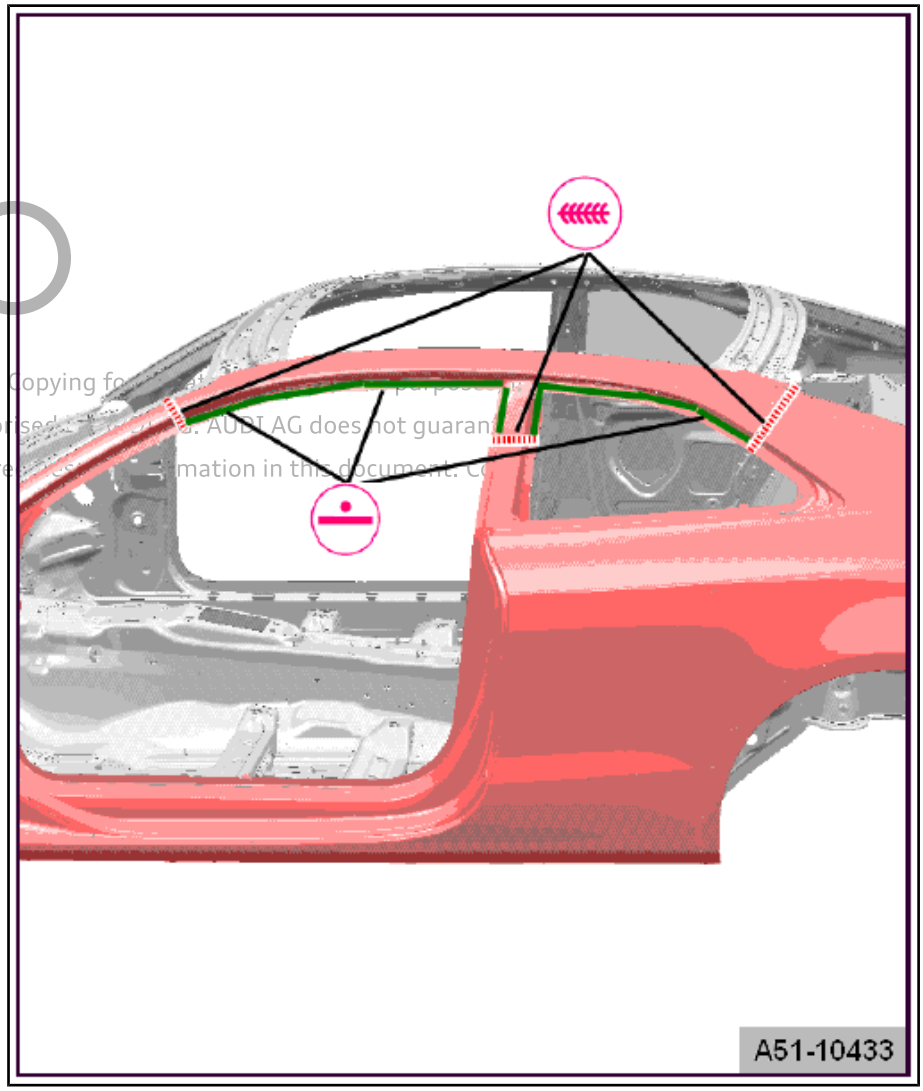

RO: 51 05 55 50

6 Roof side member - foam-filling (Sportback)

6.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

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6.2 Procedure

- Roof already removed ⇒ page 93

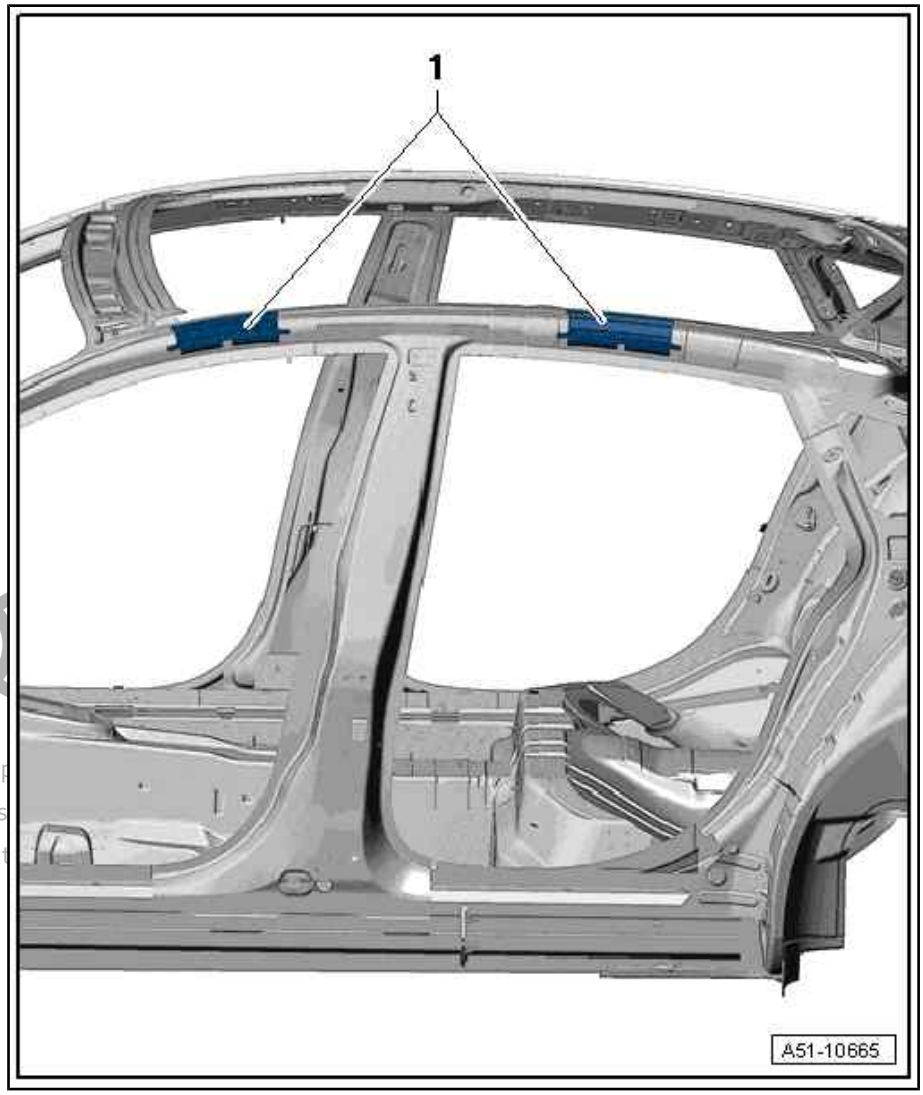
Cutting locations

CAUTION

When renewing the roof side member, 2-component epoxy hard foam must be used in place of the moulded foam inserts as a stiffener for the roof carrier.

It is important to keep exactly to the specified sequence.

1 - Moulded foam inserts



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1 - Separating cut in A-pillar
2 - Separating cut in B-pillar
3 - Separating cut in C-pillar
4 - Separating cut in D-pillar

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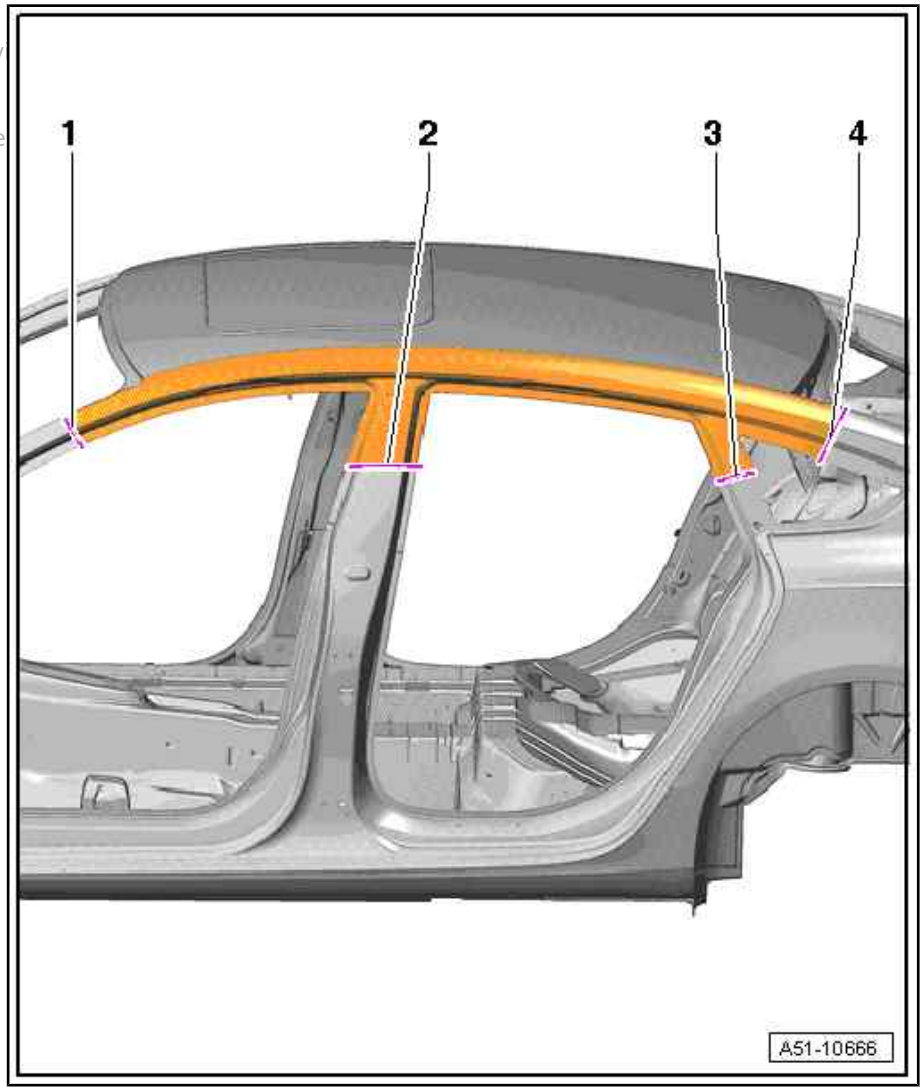
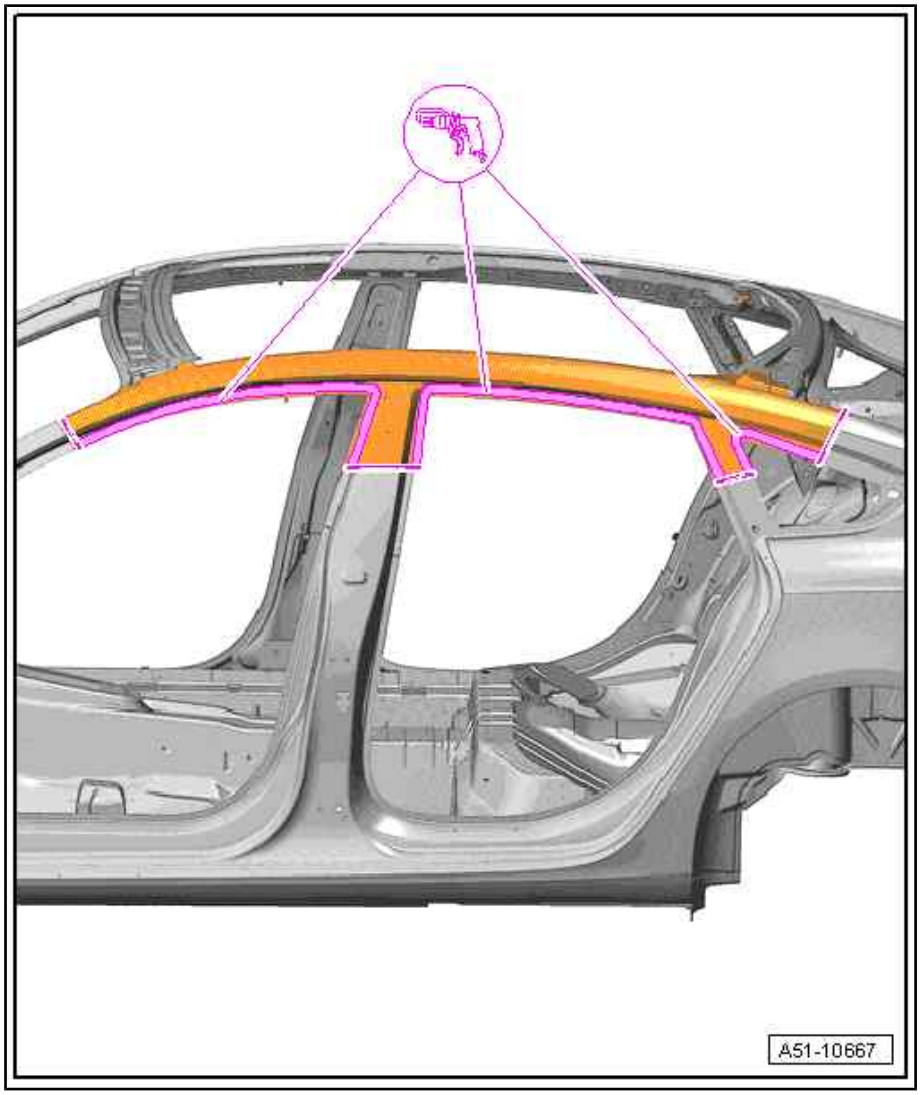


– Make separating cuts using body saw .
– Separate original joint using spot weld breaker .



Replacement part

- -Roof side member (sub-part)-

Preparing new part

– Transfer separating cut to new part and cut to size using body saw .

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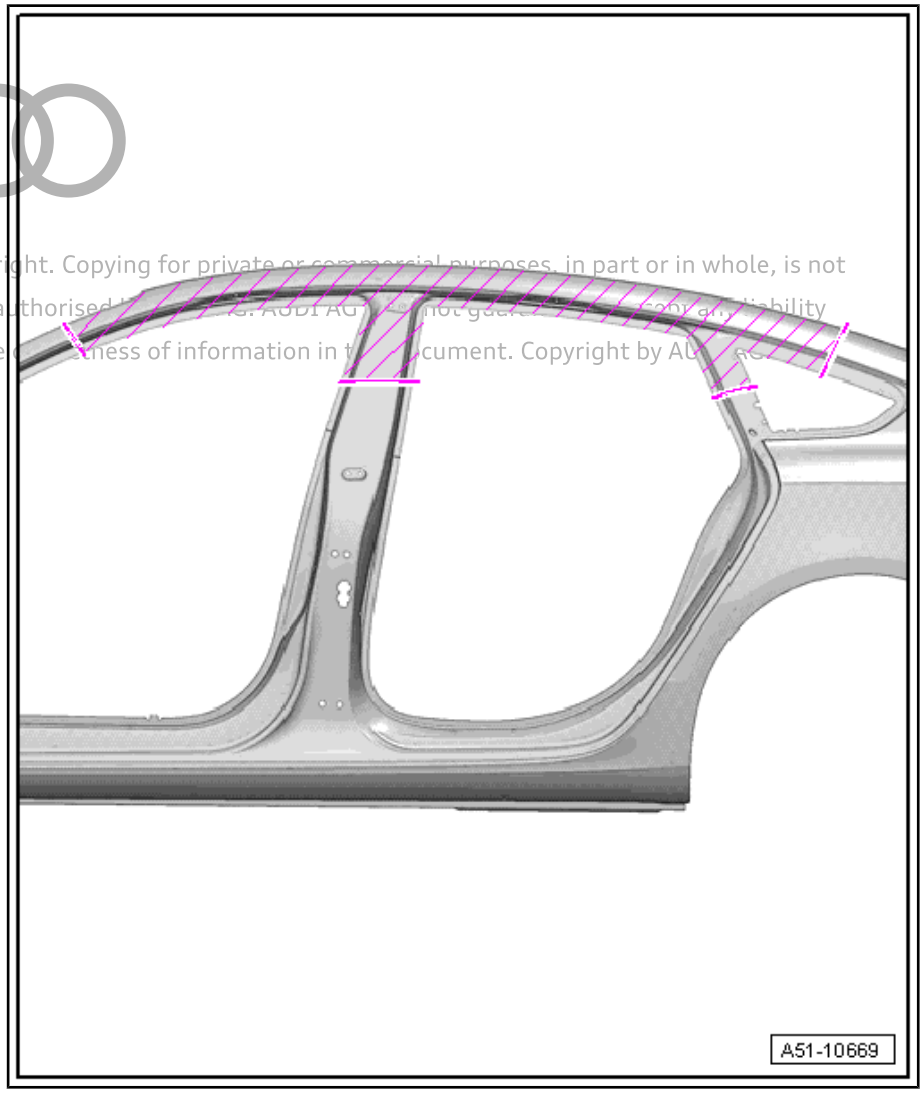

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in roof side member using shielded arc welding equipment : SG continuous seam.

– Weld in roof side member using resistance spot welder .

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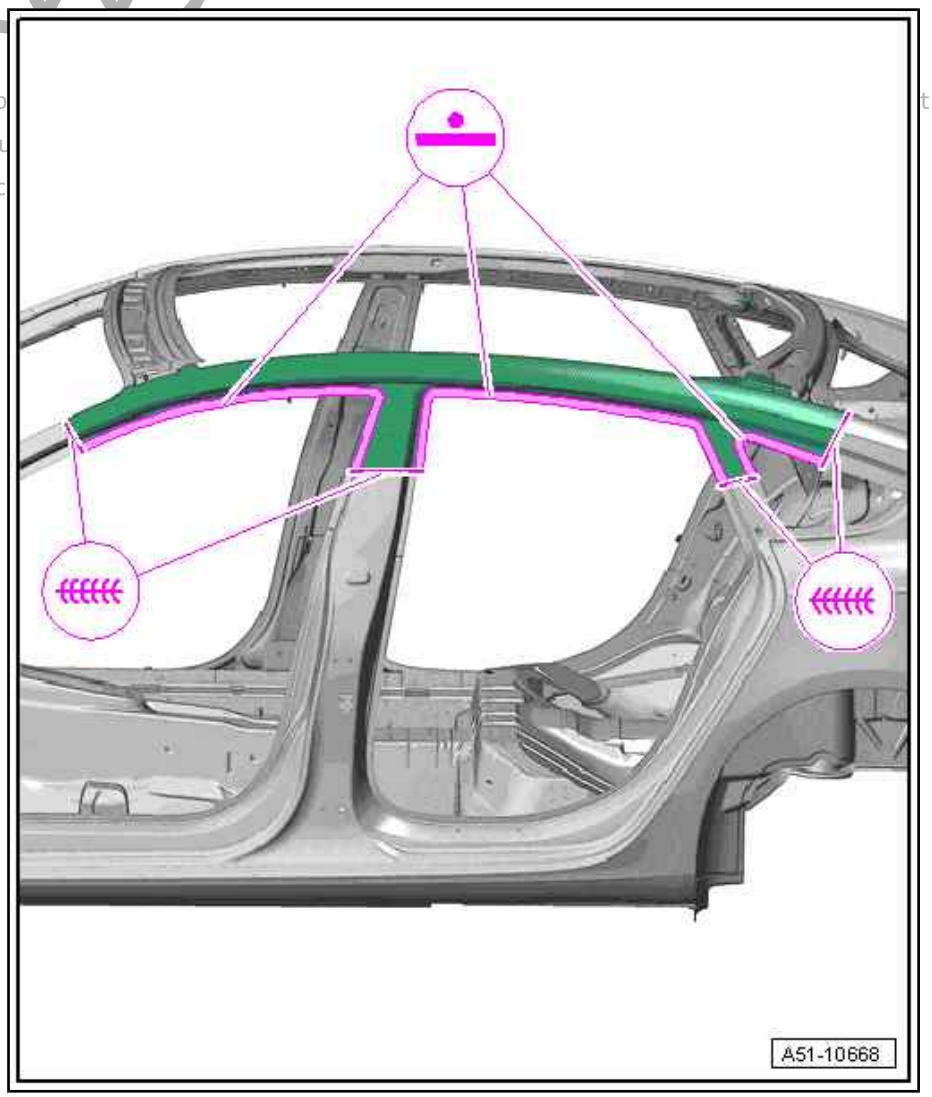


7 Roof side member - foam-filling

Note

- *After foam-filling is completed, the vehicle must be left standing for 24 hours on a level surface at a room temperature of 15°C to allow the adhesive components to harden (curing time).*
- *Do not continue working on the vehicle until the curing time has elapsed.*

CAUTION

The replacement foam inserts expand only after reaching about 180 °C. For this reason, a 2-component epoxy hard foam is used when performing repairs.

The material required for this workshop repair is 2-component epoxy hard foam -D 506 110 A3- .

Note

One cartridge of 2-component epoxy hard foam -D 506 110 A3- is required for each side of the car.

As the required temperatures cannot be achieved under normal workshop conditions, proceed as follows:

It is important to keep exactly to the procedure as described:

Heat the cartridge of structural foam material for 30 minutes in a water bath at a constant temperature of approx. 60 °C.

The cartridge can also be heated at 60° C in a suitable oven, if available.

Prepare static mixer for foaming operation.

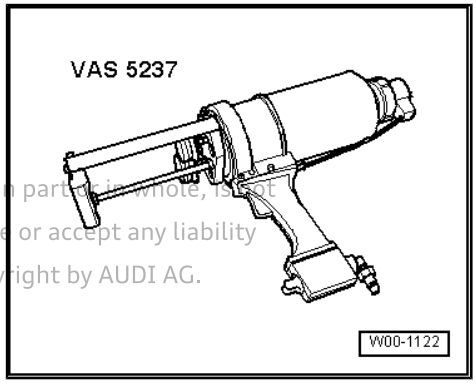
Inject foam into holes.

Replacement parts

- 2-component epoxy hard foam -D 506 110 A3-

Special tools and workshop equipment required

- Double cartridge gun - VAS 5237-



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– Heat the cartridge of structural foam material for 30 minutes in a water bath at a constant temperature of approx. 60 °C.

The cartridge can also be heated at 60° C in a suitable oven, if available.

1 - Cartridge of 2-component structural foam material

– Open cap.

2 - Static mixer

3 - Extension hose

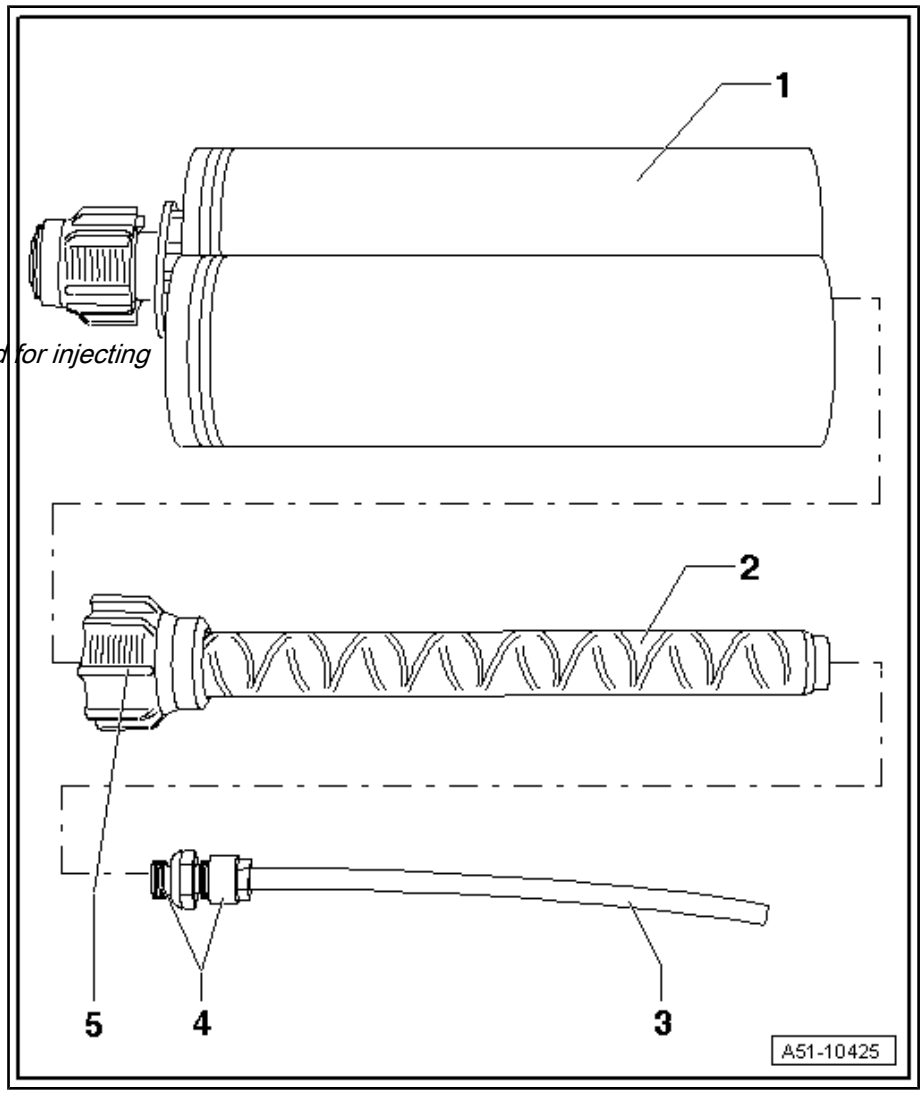
4 - Adapter

Note

The adapter is required for injecting the foam material.

5 - Union nut

– Screw onto structural foam cartridge -1- together with static mixer -2-.



Overview of steps 1 – 6 when injecting foam by means of double cartridge gun - VAS 5237-

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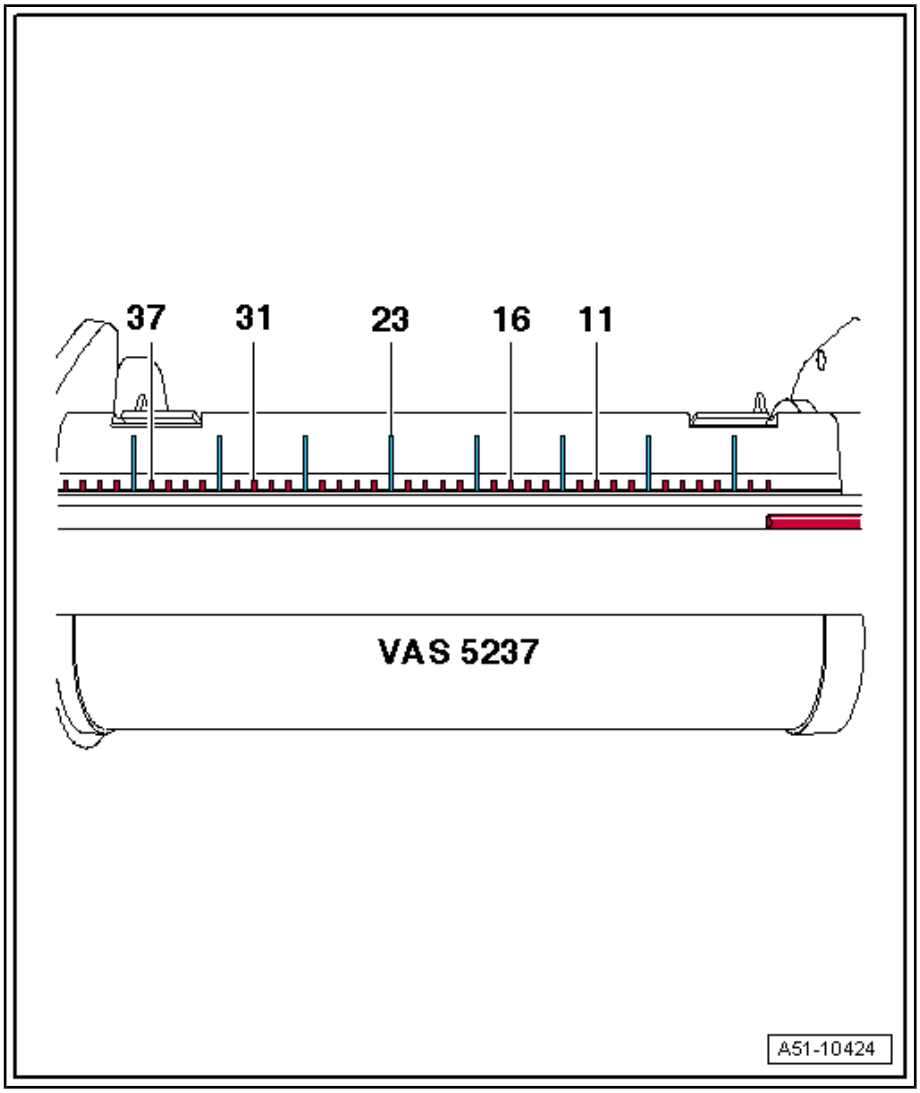

Elongated hole - A - (aperture for crash element)

Mask off holes for roof trim moulding - B - with commercially available adhesive tape.

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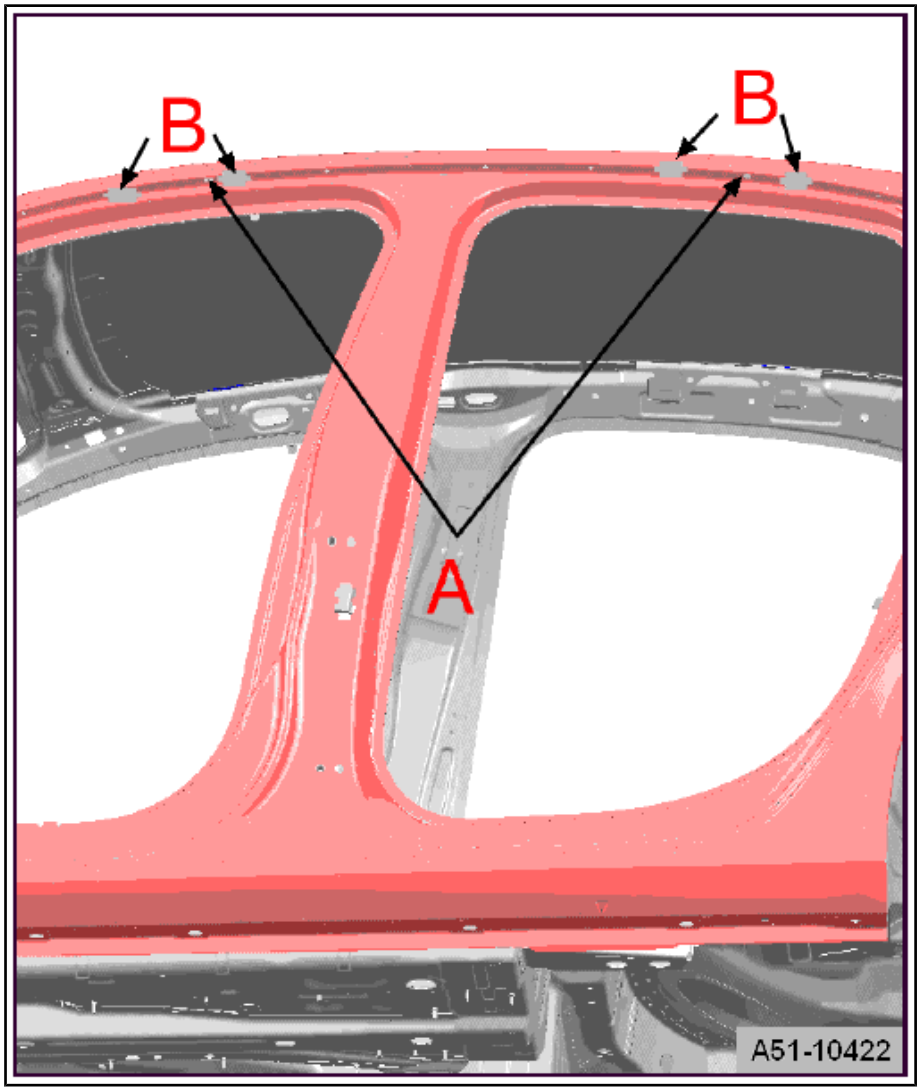

Preparing extension hose

– Mark hose at 20 mm, 60 mm and 100 mm.

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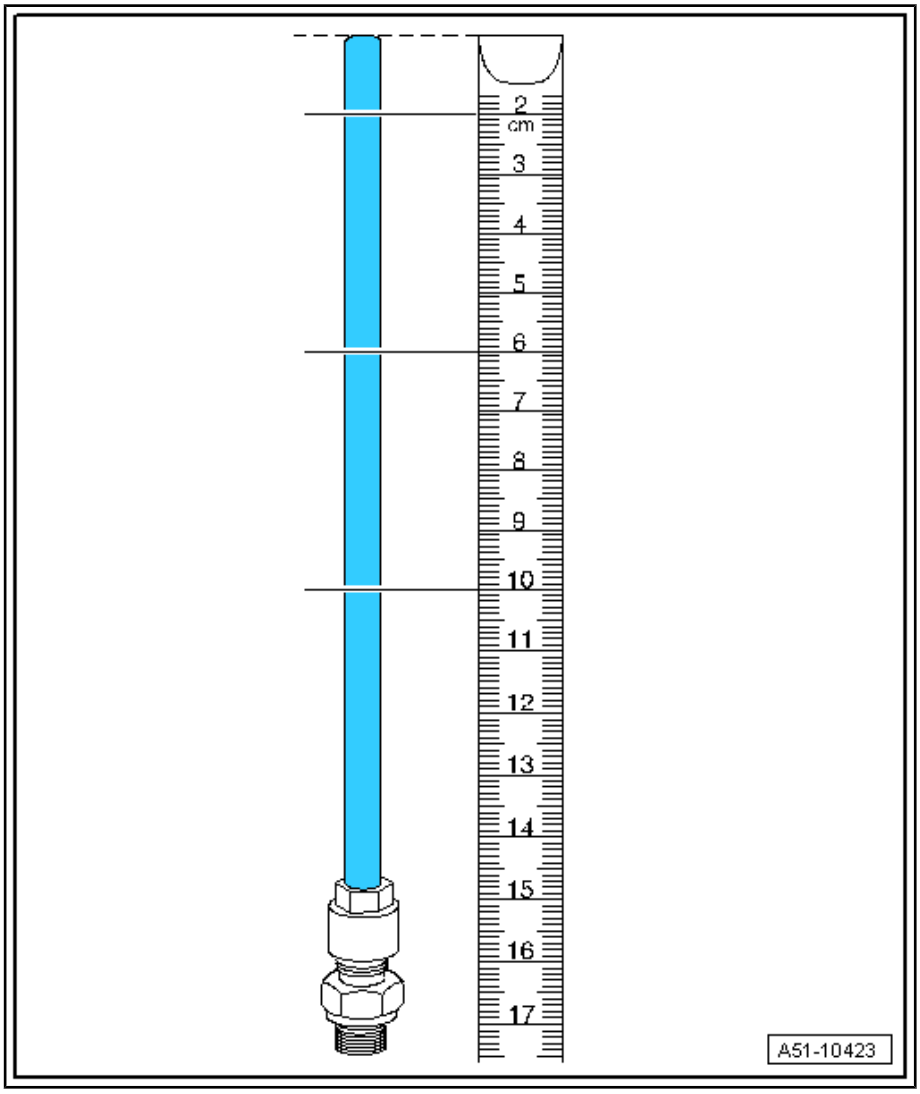

Step 1

– Apply extension hose at right angles and insert hose approx. 100 mm into aperture for front crash element.
– Start injecting foam material and continue until first mark is reached (graduation 11 on cartridge gun).

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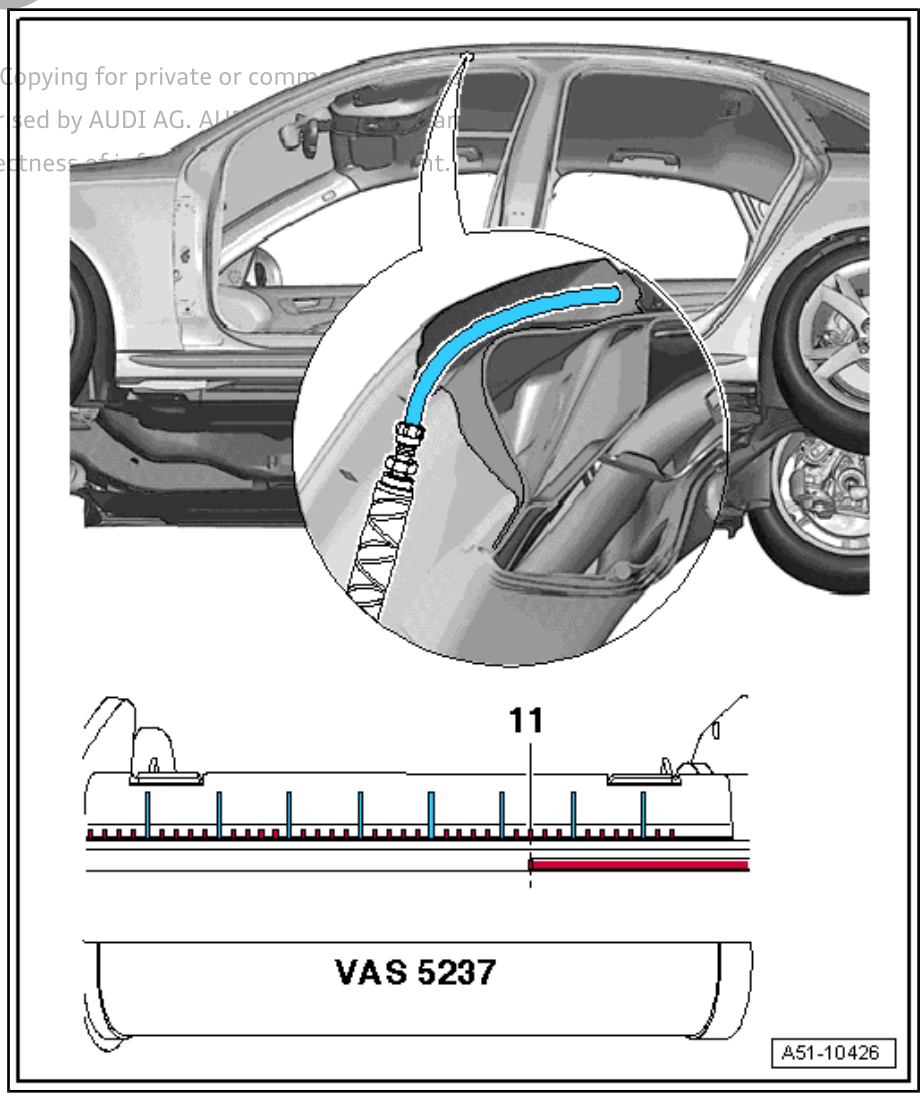
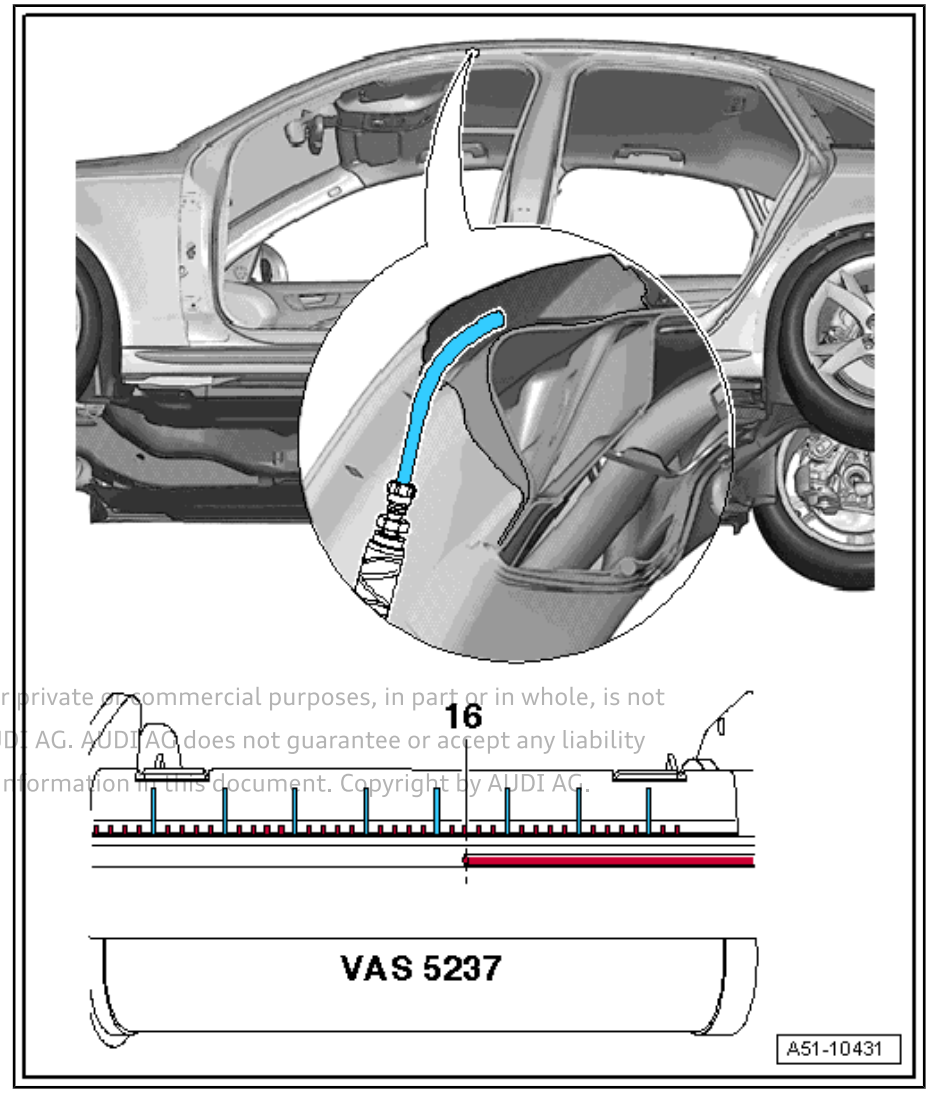


Step 2

– When first mark is reached, pull hose out approx. 40 mm.
– Continue injecting foam until second mark (graduation 16).



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Step 3

– When second mark is reached, pull hose out once more approx. 40 mm.
– Continue injecting foam until third mark (graduation 23).

Pull extension hose out of aperture.

Note

In order to install the roof trim moulding, the 2-component epoxy hard foam must be cleaned out of the rivet holes and the holes for the crash element.

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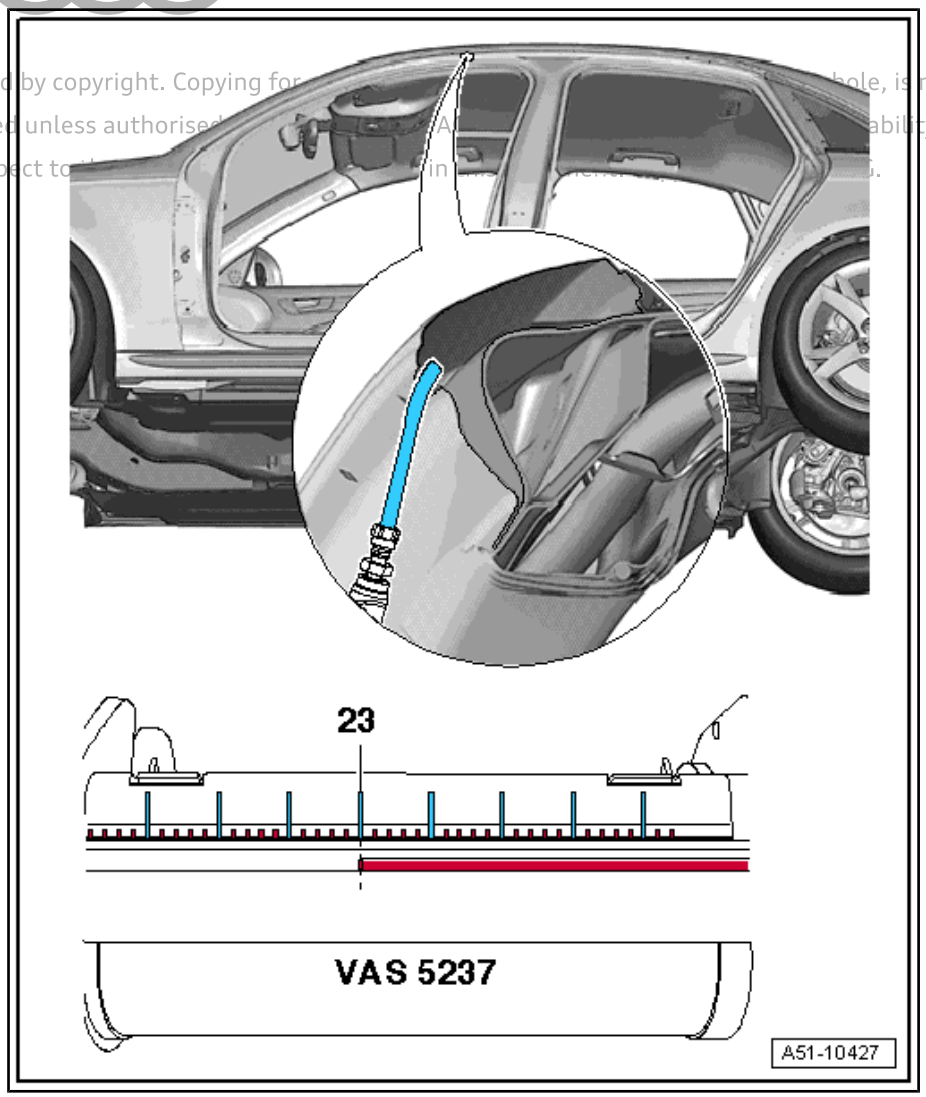
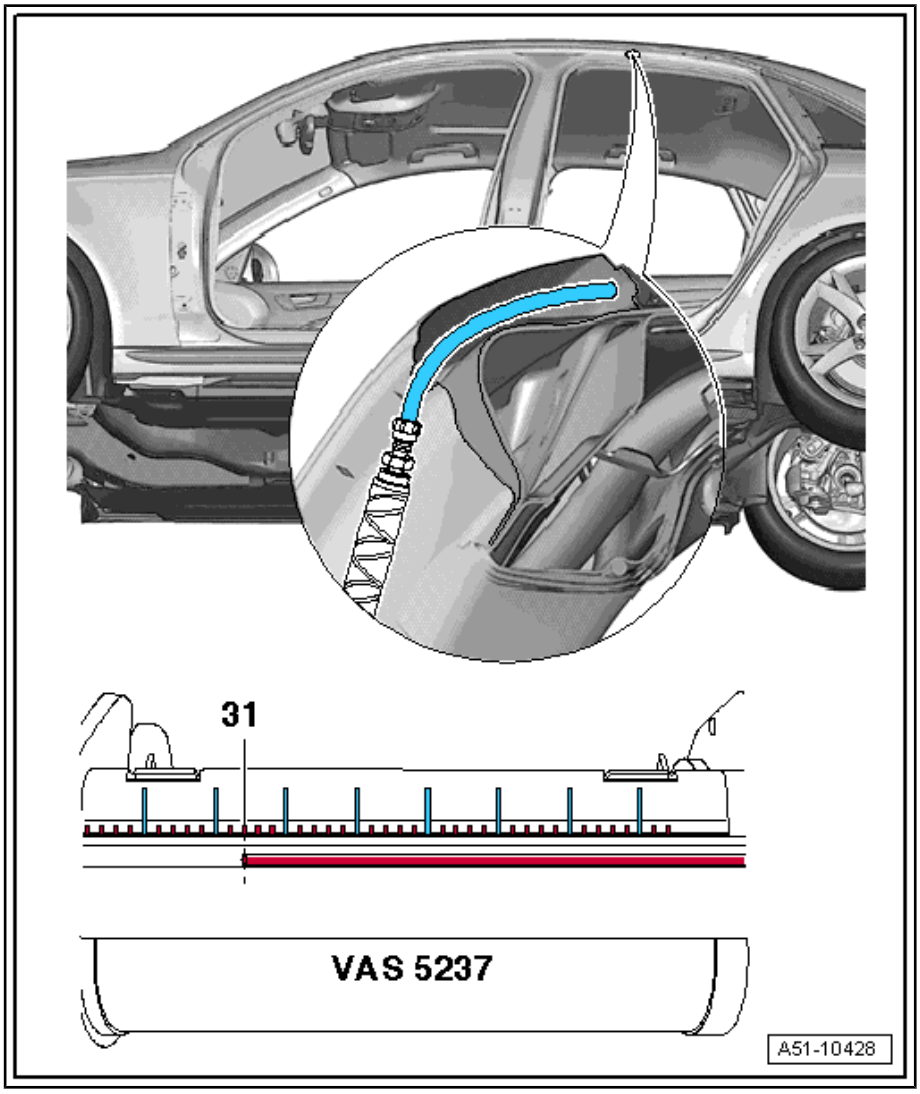


Step 4

– Apply extension hose at right angles and insert hose approx. 100 mm into aperture for rear crash element.
– Start injecting foam material and continue until fourth mark is reached (graduation 31 on cartridge gun).



Step 5

– When mark is reached, pull hose out approx. 40 mm.
– Continue injecting foam until fifth mark (graduation 37).

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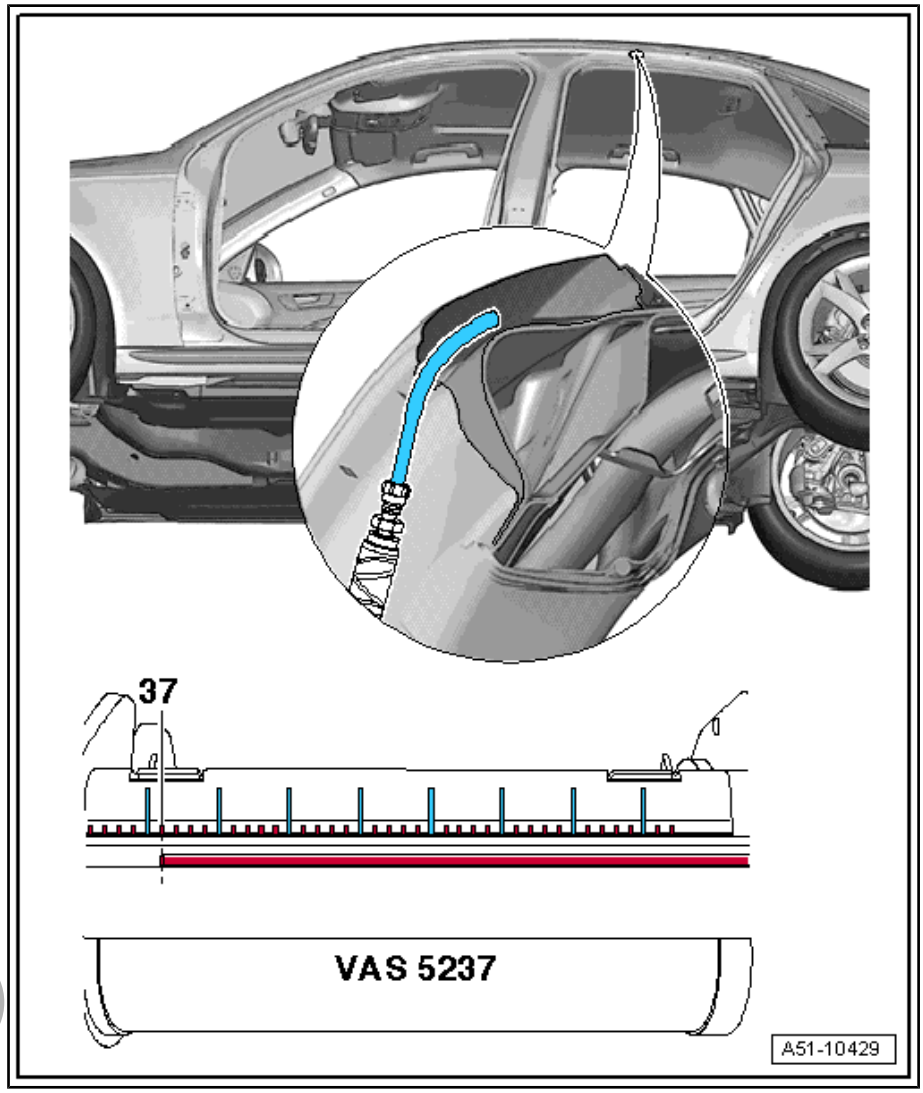

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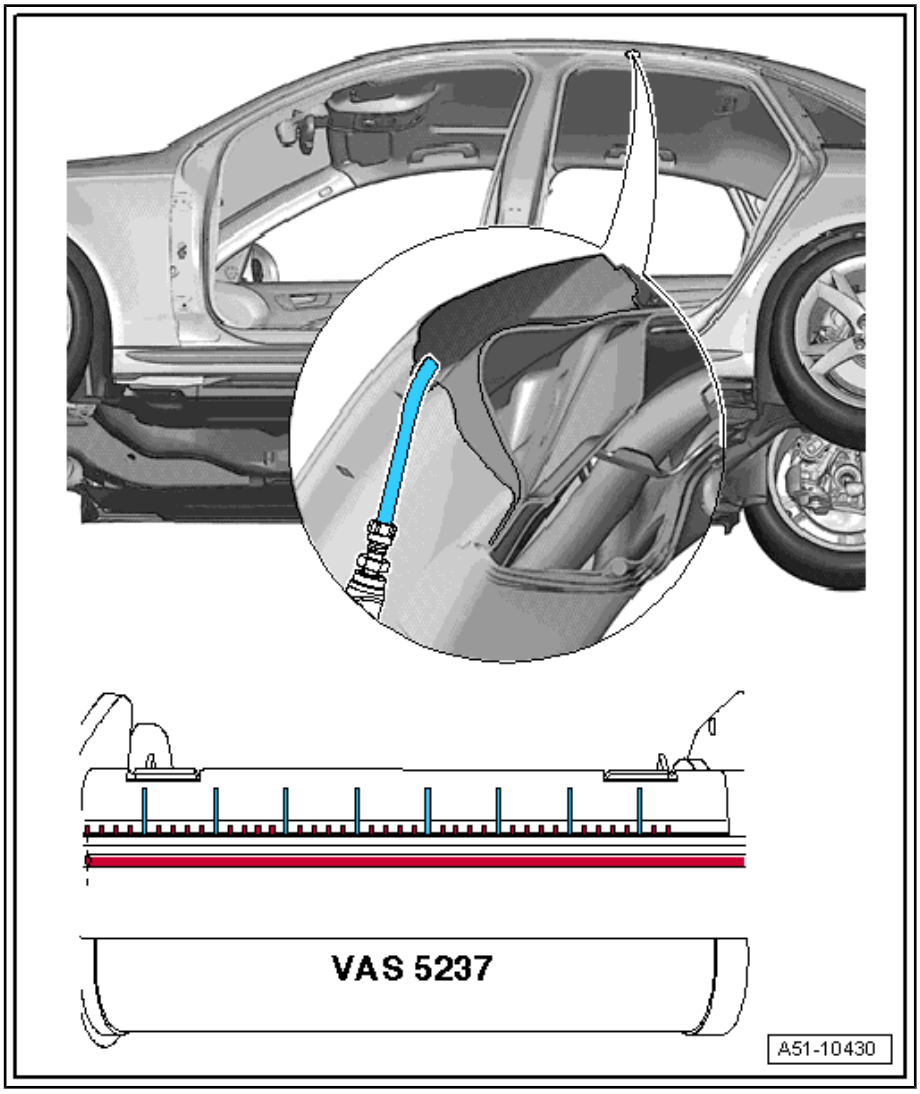
Step 6

– When mark is reached, pull hose out approx. 40 mm.
– Continue injecting foam until cartridge is completely empty.

Note

In order to install the roof trim moulding, the 2-component epoxy hard foam must be cleaned out of the rivet holes and the holes for the crash element.



Note

- *After foam-filling is completed, the vehicle must be left standing for 24 hours on a level surface at a room temperature of 15°C to allow the adhesive components to harden (curing time).*
- *Do not continue working on the vehicle until the curing time has elapsed.*

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RO: 51 07 55 50

8 Front roof cross member - Renewal

8.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

8.2 Procedure

- Roof already removed ⇒ page 74

Cutting locations

– Separate original joint using spot weld breaker .

– Remove remaining material using compact angle grinder .

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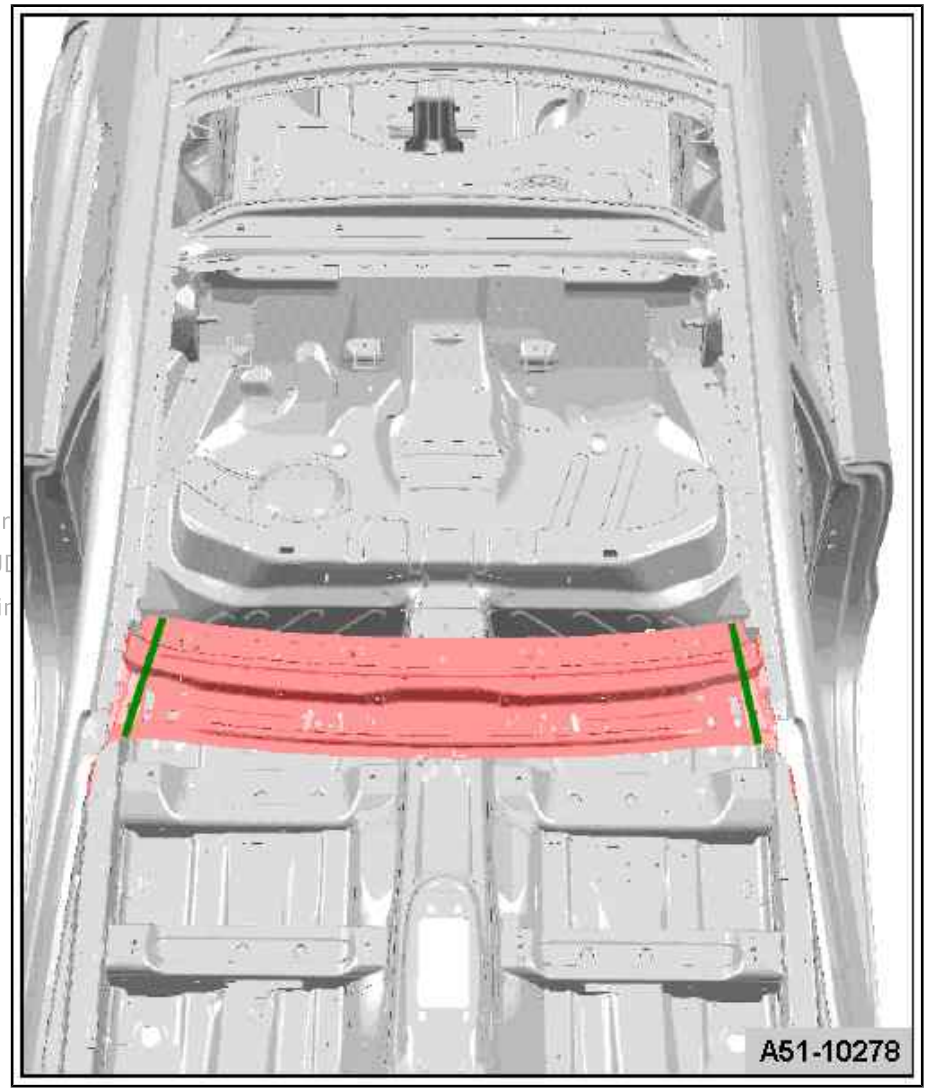


Note

This joint is additionally bonded. Make additional 2 x 10 mm SG continuous seams in place of bonded joints.

Replacement part

- Roof cross member

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

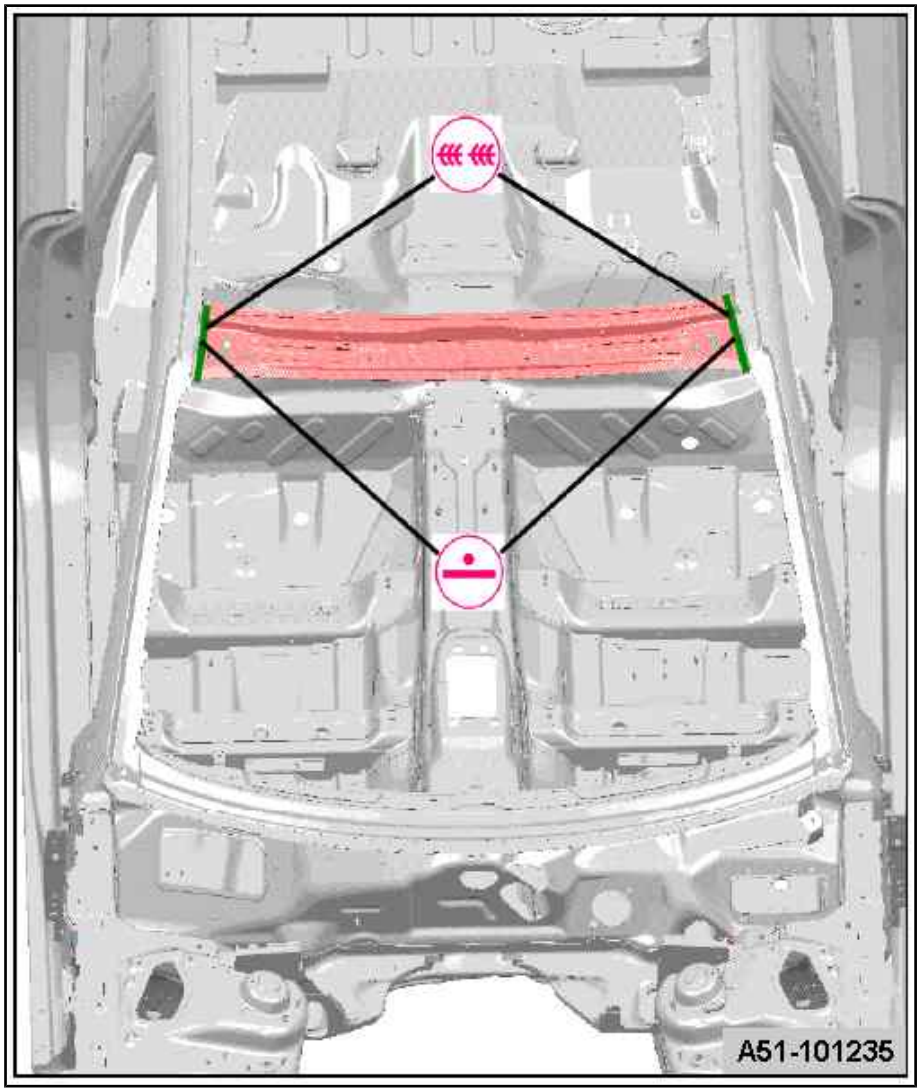
– Use a welding unit which has been approved by AUDI AG.

Welding in

– Match up and fix new part in position.

– Weld in new part using resistance spot welder : RP spot weld seam.

– Weld in roof cross member using shielded arc welding equipment : SG continuous seam (staggered - with gaps) in place of bonded joint.



- Weld in roof ⇒ page 74 .

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RO: 51 09 55 50

9 Rear roof frame - Renewal

9.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

9.2 Procedure

- Roof already removed ⇒ page 74

Cutting locations

– Separate original joint using spot weld breaker .

– Remove remaining material using compact angle grinder .

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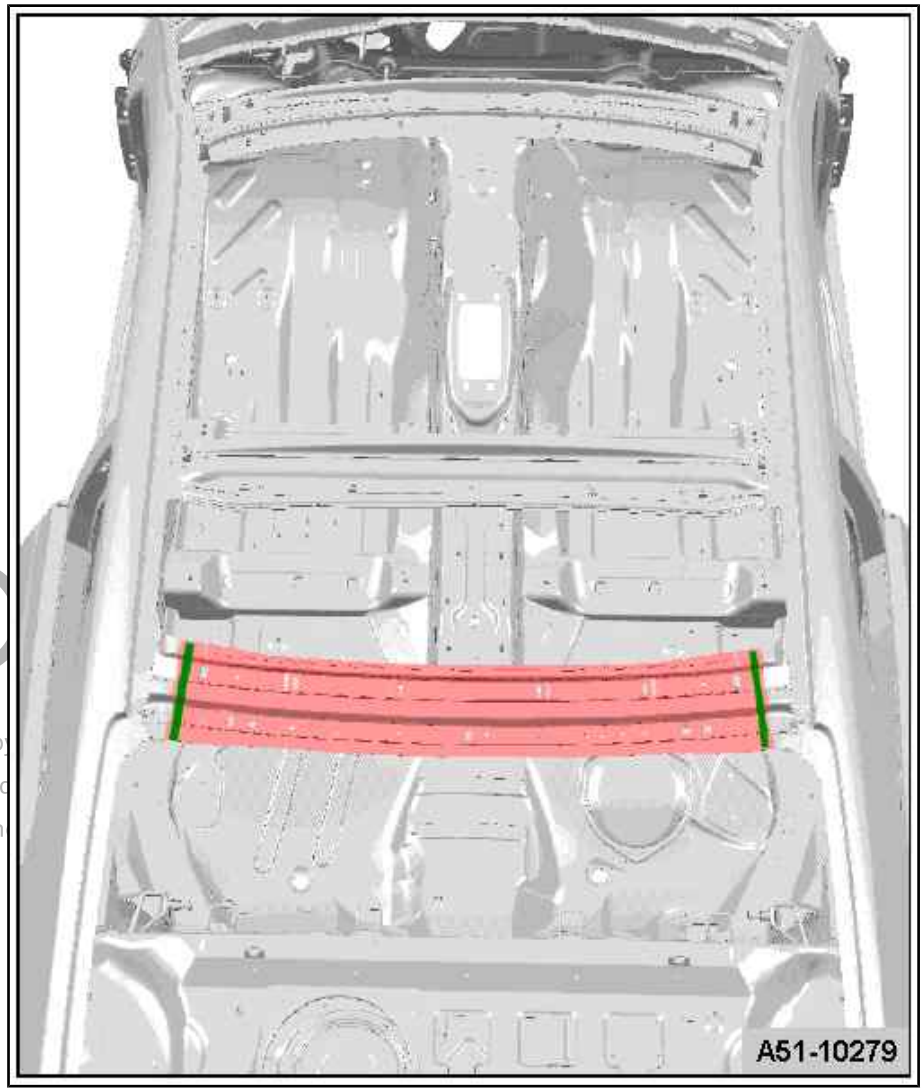

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Note

This joint is additionally bonded. Make additional 2 x 10 mm SG continuous seams in place of bonded joints.

Replacement parts

- Rear roof frame

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Match up and fix new part in position.

– Weld in new part using resistance spot welder : RP spot weld seam.

– Weld in remaining joint using shielded arc welding equipment : SG continuous seam (staggered - with gaps).

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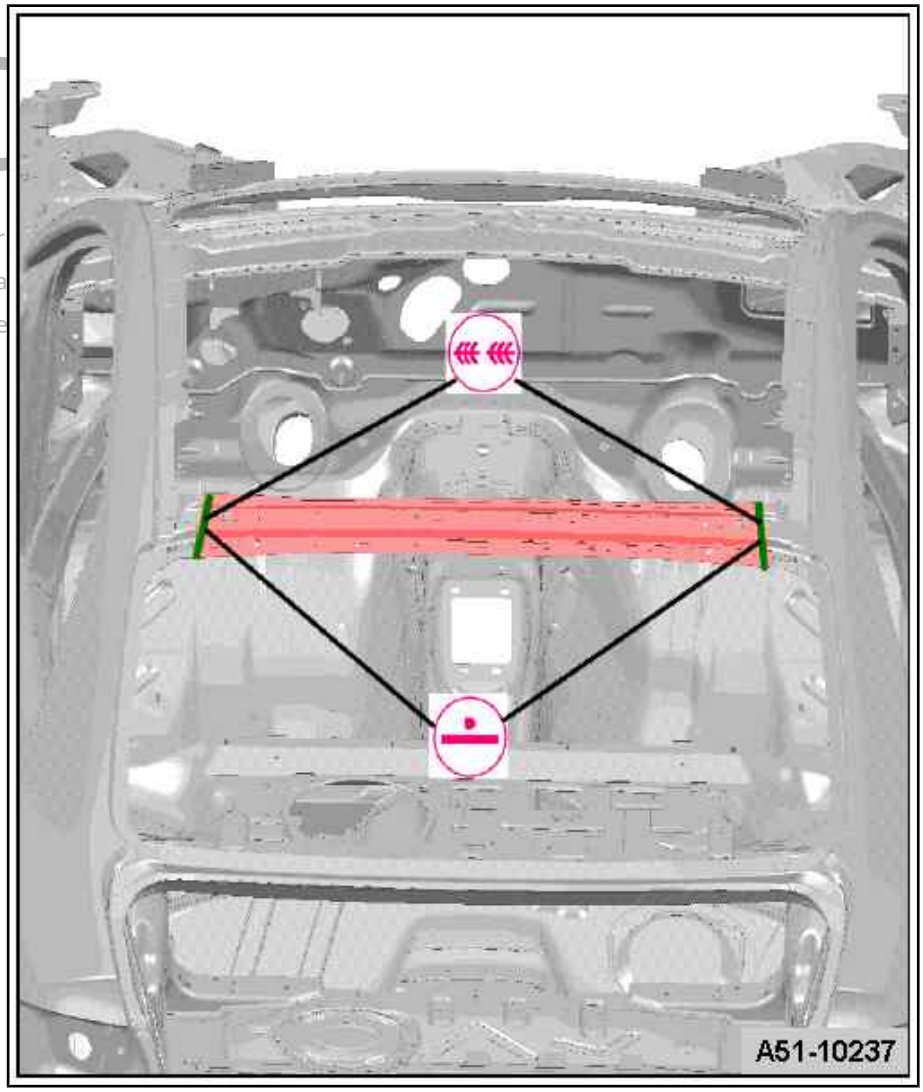


- Welding in roof ⇒ page 74

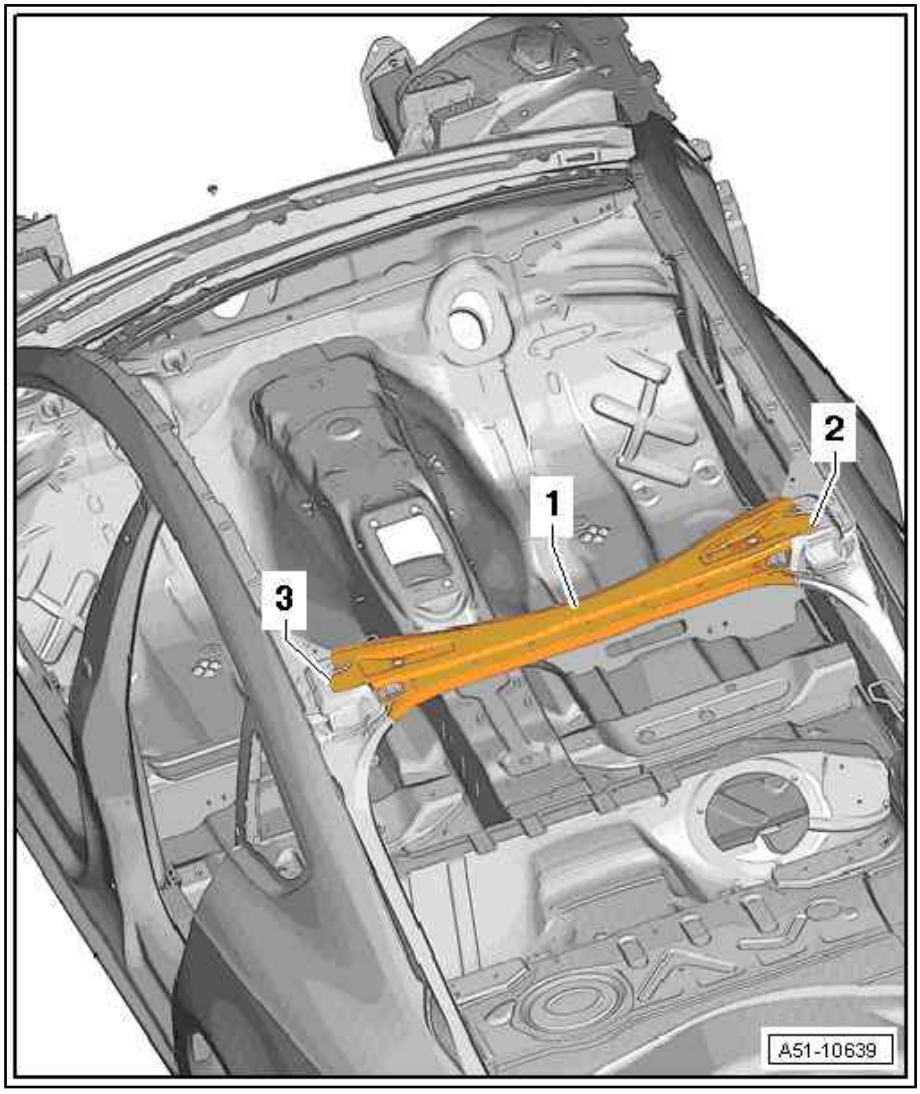
RO: 51 09 55 50

10 Rear roof cross member - Renewal (Sportback)

1 - Roof cross member

2 - Right roof frame connection

3 - Left roof frame connection



10.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

10.2 Procedure

- Roof already removed ⇒ page 93

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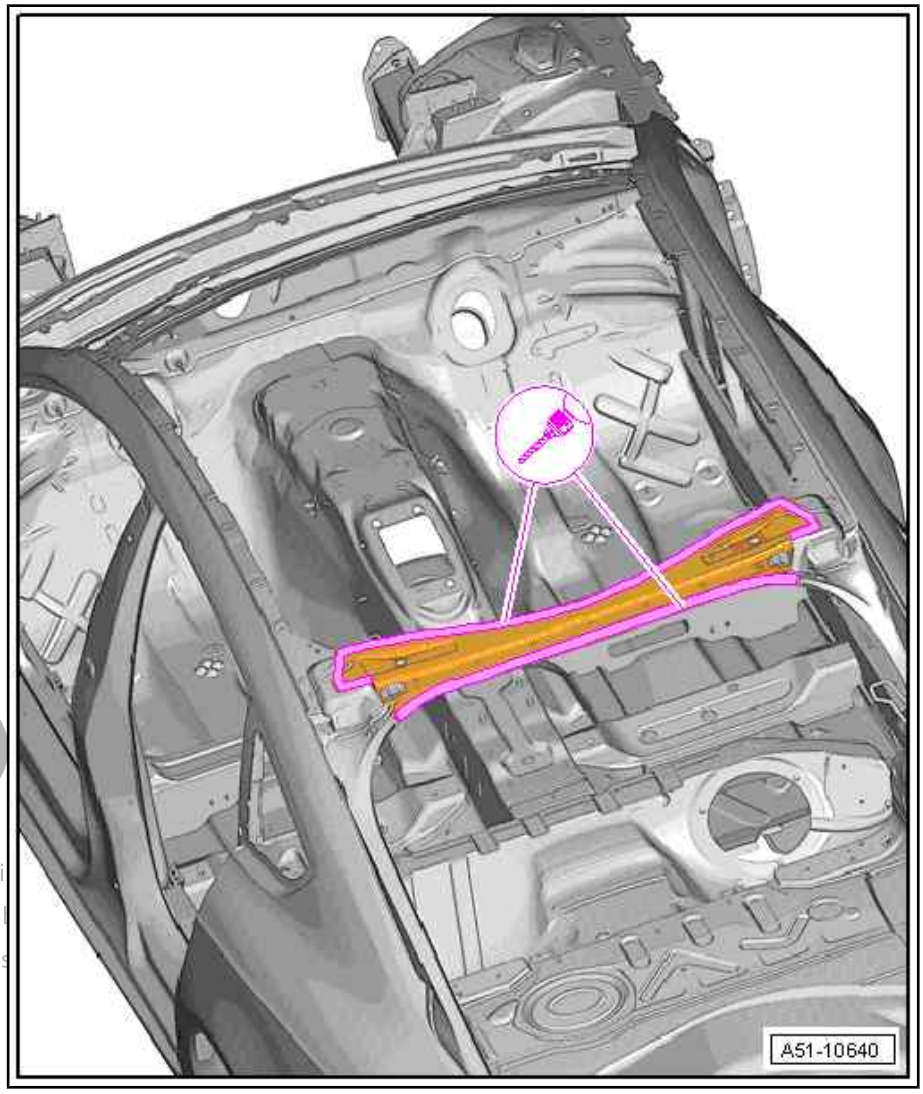
Cutting locations

– Drill out original joint using spot weld breaker .



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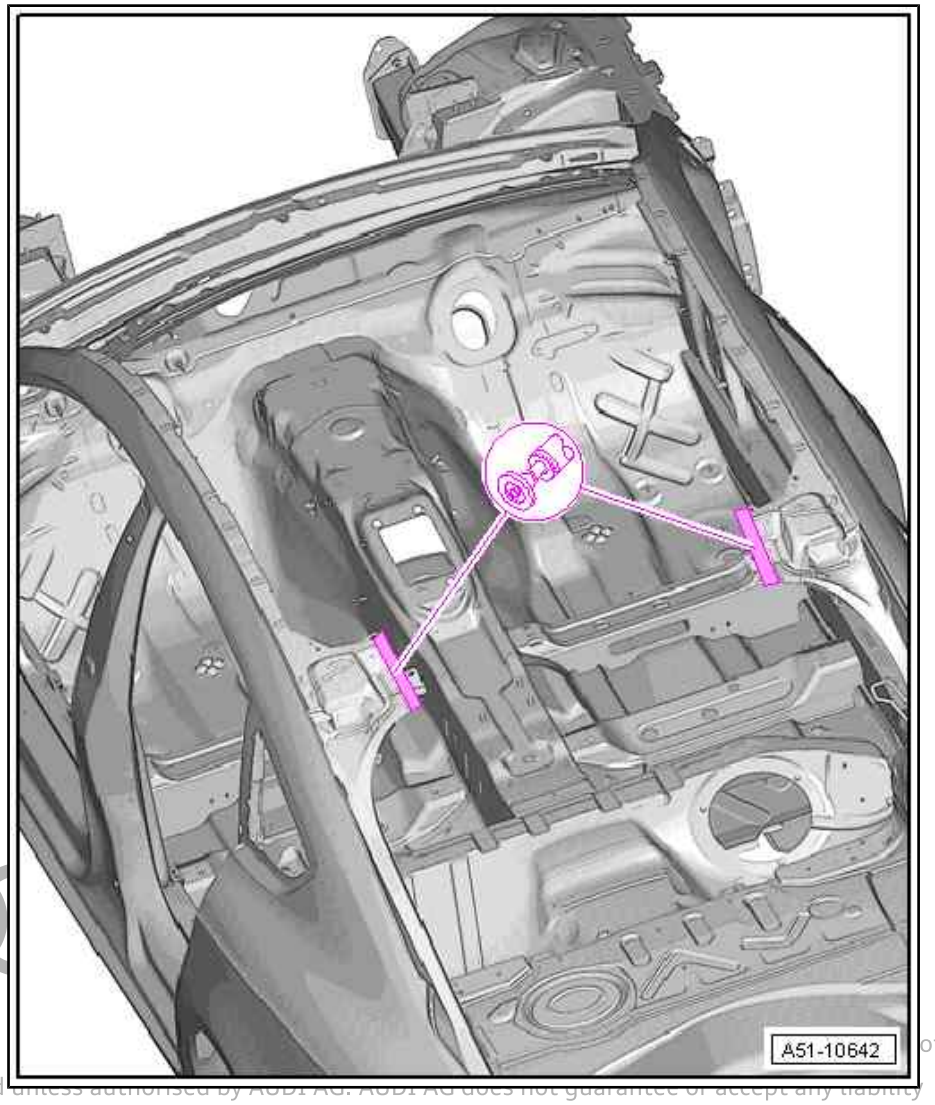
– Remove remaining material using compact angle grinder .



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Replacement parts

- Upper rear roof cross member
- Lower rear roof cross member

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Match up lower rear roof cross member and fix in position.

– Check fit relative to roof.

– Weld in new part using resistance spot welder : RP spot weld seam.

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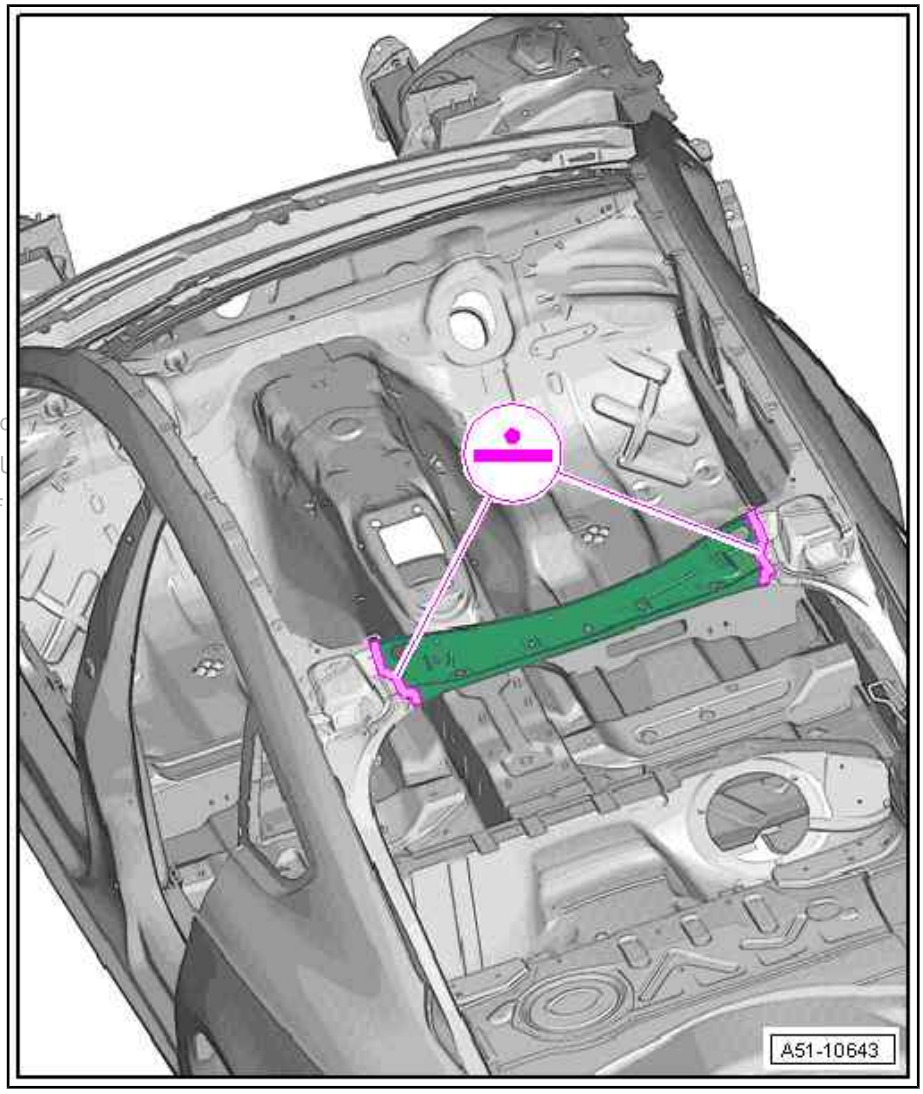

– Weld in new part using resistance spot welder : RP spot weld seam.
– Match up upper rear roof cross member and fix in position.
– Check fit relative to roof.

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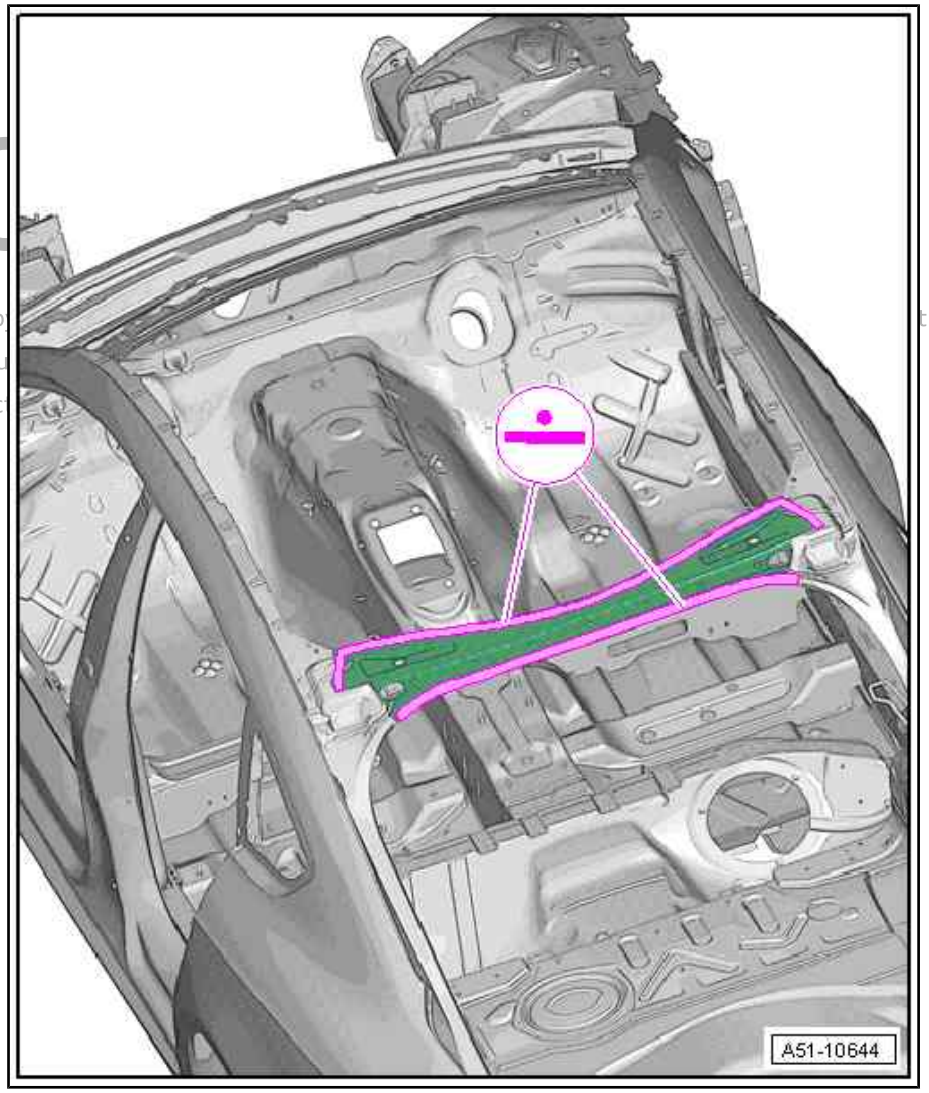

- Welding in roof ⇒ page 93

RO: 51 37 55 00

11 A-pillar - Renewal (Coupé and Sportback identical)

11.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker
- Hot air blower

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

11.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 72 .

– Make top separating cut according to extent of damage using body saw .
– Take care not to damage inner reinforcement when making separating cut in sill.
– Separate original joint using spot weld breaker .

Note

Partial renewal is possible with the separating cuts illustrated. Place a backing plate of the same material behind the joint and make SG continuous seam.

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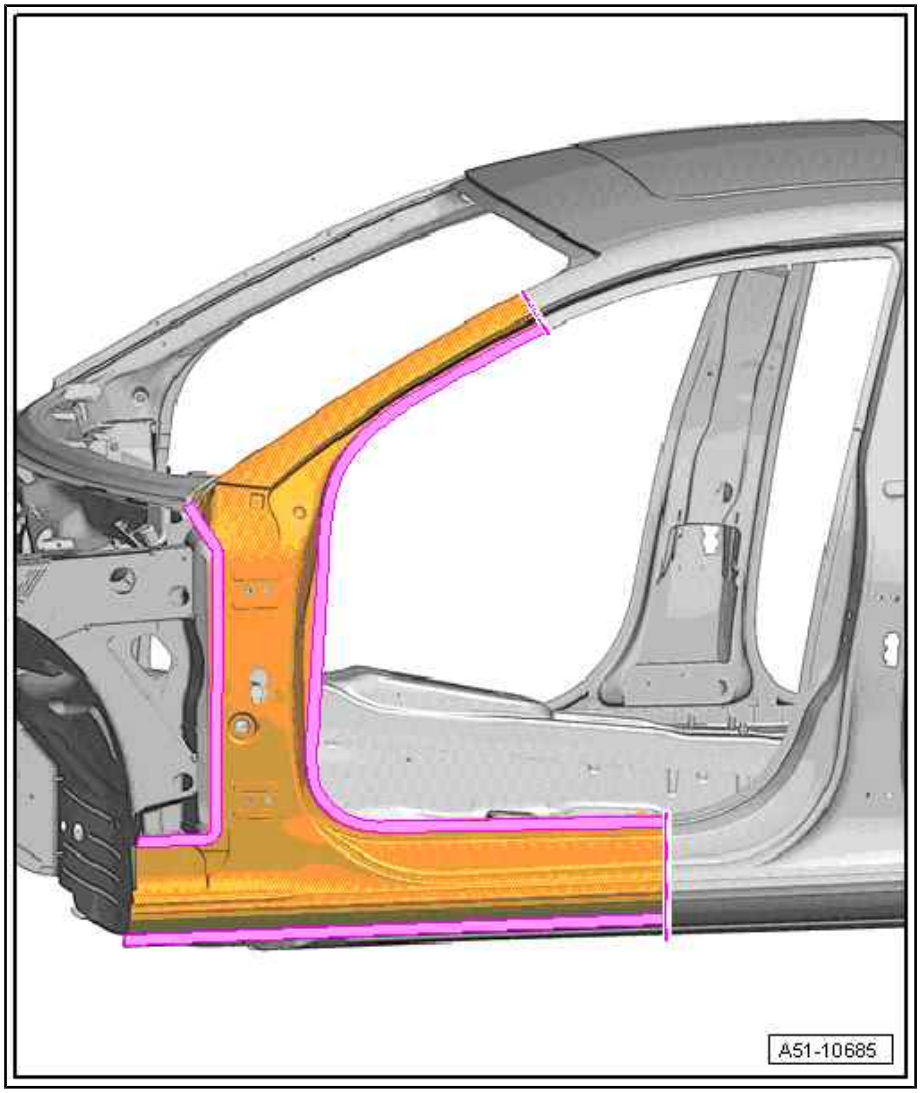

♦ A-pillar (sub-part)

Preparing new part

– Transfer separating cuts to new part and cut to shape.

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Place backing plate of same material behind separating cuts.

– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.

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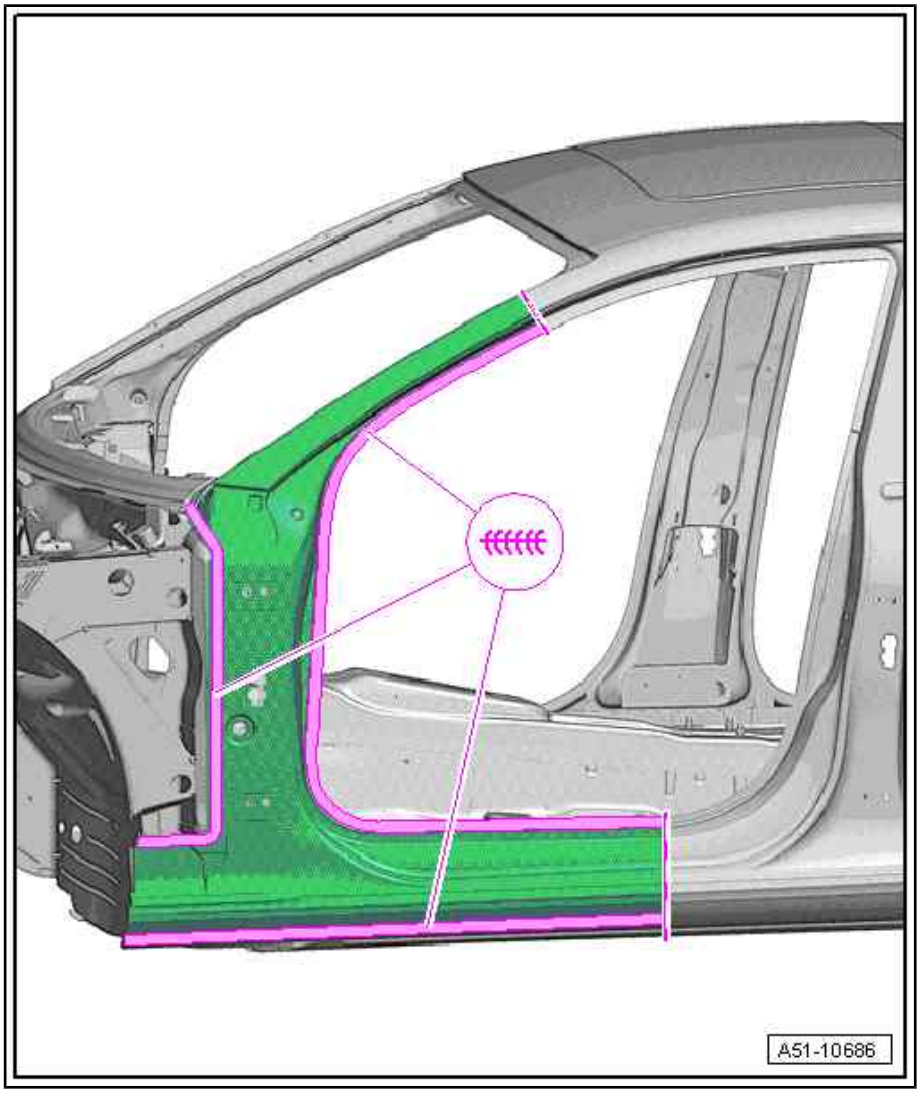

– Weld in A-pillar using resistance spot welder : RP spot weld seam.

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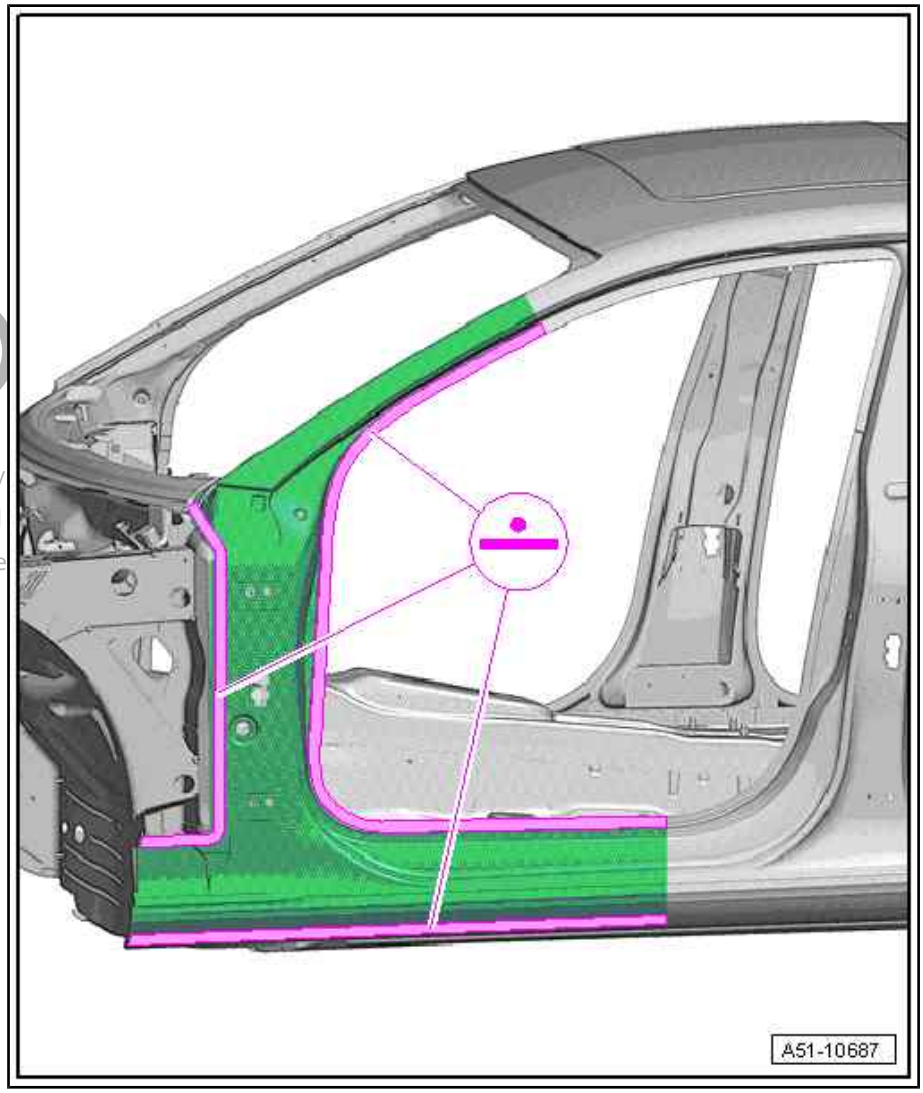

- Weld in A-pillar using shielded arc welding equipment : SG continuous seam.
- Weld in lower A-pillar using resistance spot welder : RP spot weld seam.
- In place of bonded joint, weld in A-pillar using shielded arc welding equipment : SG continuous seam (staggered - with gaps).

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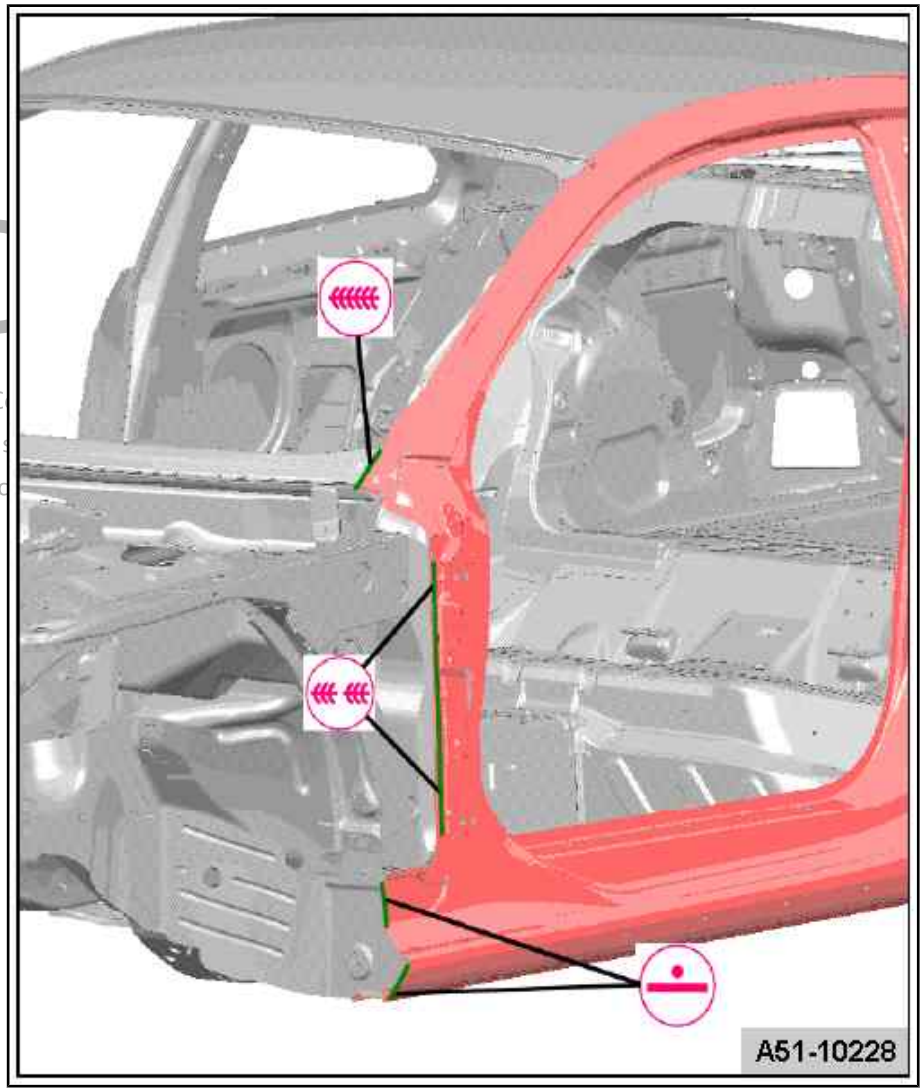
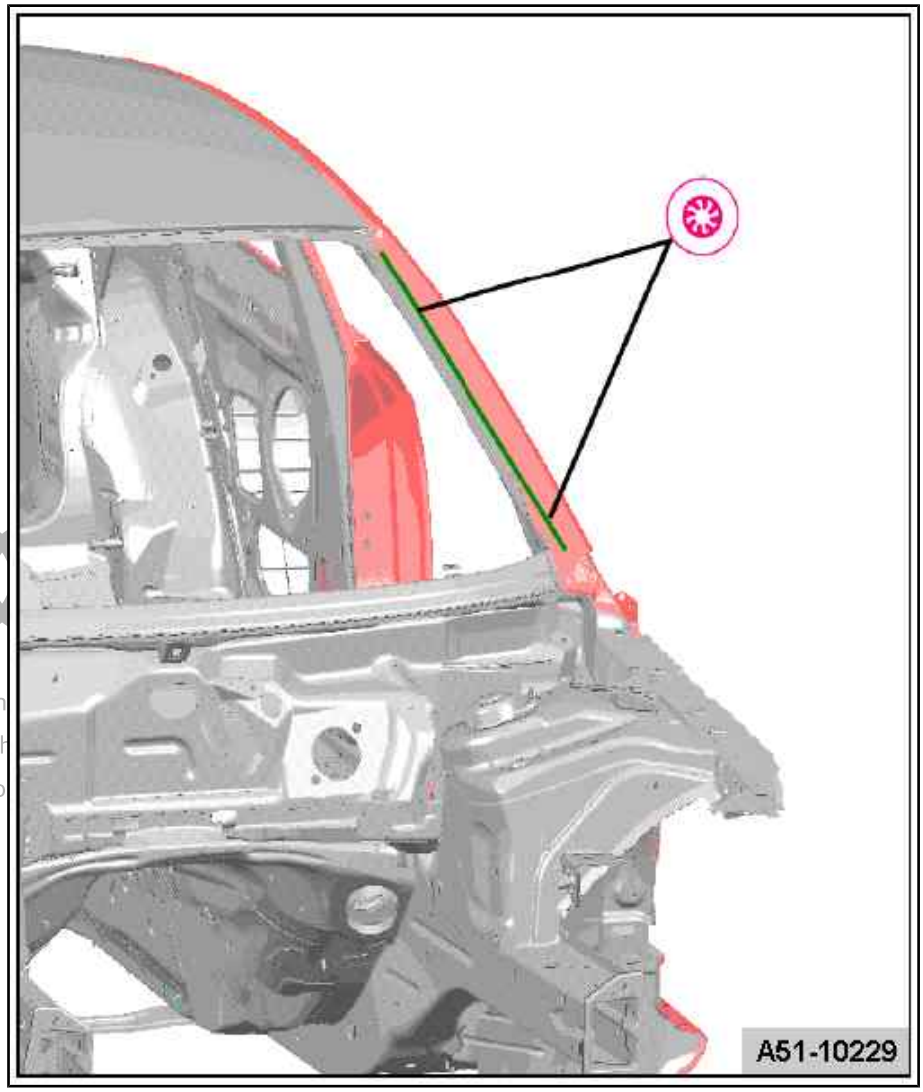


– Weld in A-pillar using resistance spot welder : RP spot weld seam.



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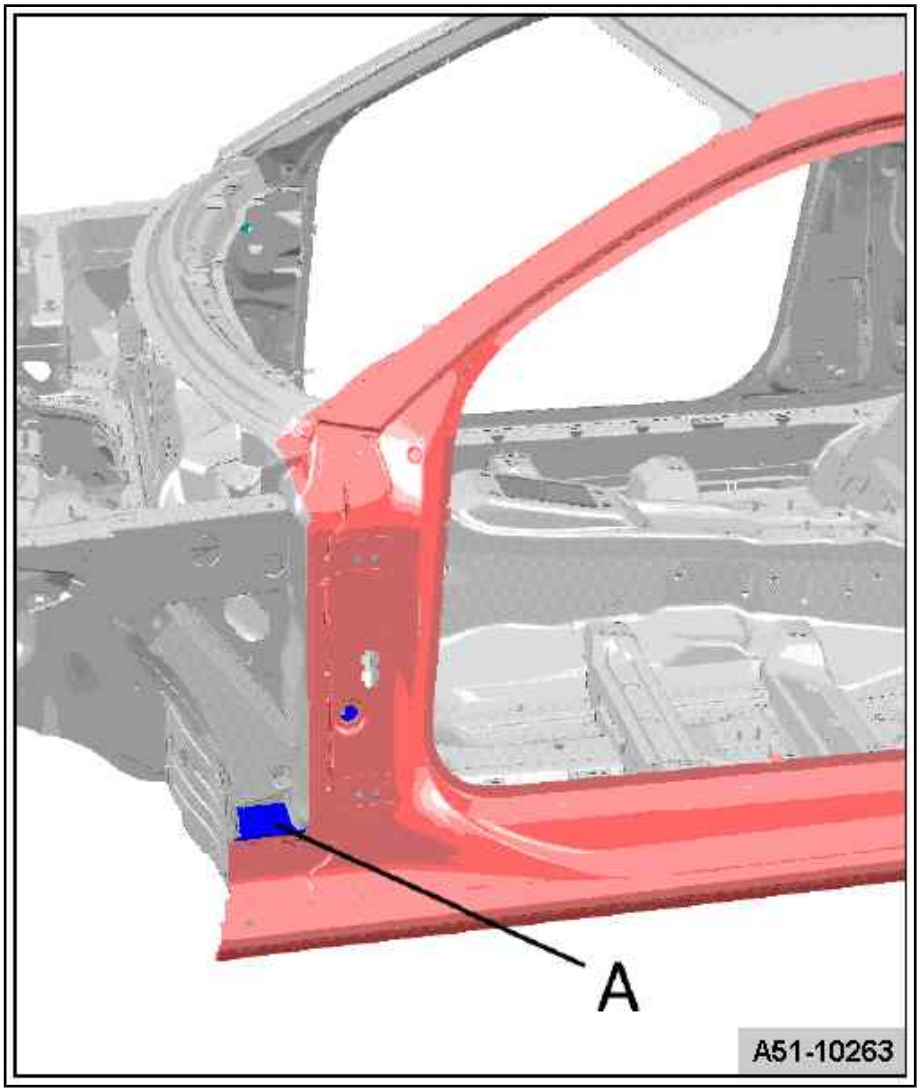
Renewing moulded foam insert

– Pre-heat relevant area of body evenly with hot air blower - V.A.G 1416- for 3.5 minutes. Then install part and heat again for 3.5 minutes until a visible amount of foam comes out.

⚠ CAUTION

During this operation take care to apply the hot air evenly to avoid damage (discolouration) to the paintwork and the plastic stiffener.



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RO: 51 38 55 50

12 Inner A-pillar - Renewal (Coupé and Sportback identical)

12.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Hole punch pliers
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

12.2 Procedure

- Outer A-pillar already cut out ⇒ page 141
- Intermediate piece already cut out ⇒ page 40

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 72 .

– Separate original joint using spot weld breaker .
– Separate original joint at A-pillar (top) -A- using compact angle grinder .
– Pull out inner A-pillar from below.
– Remove remaining material using compact angle grinder .

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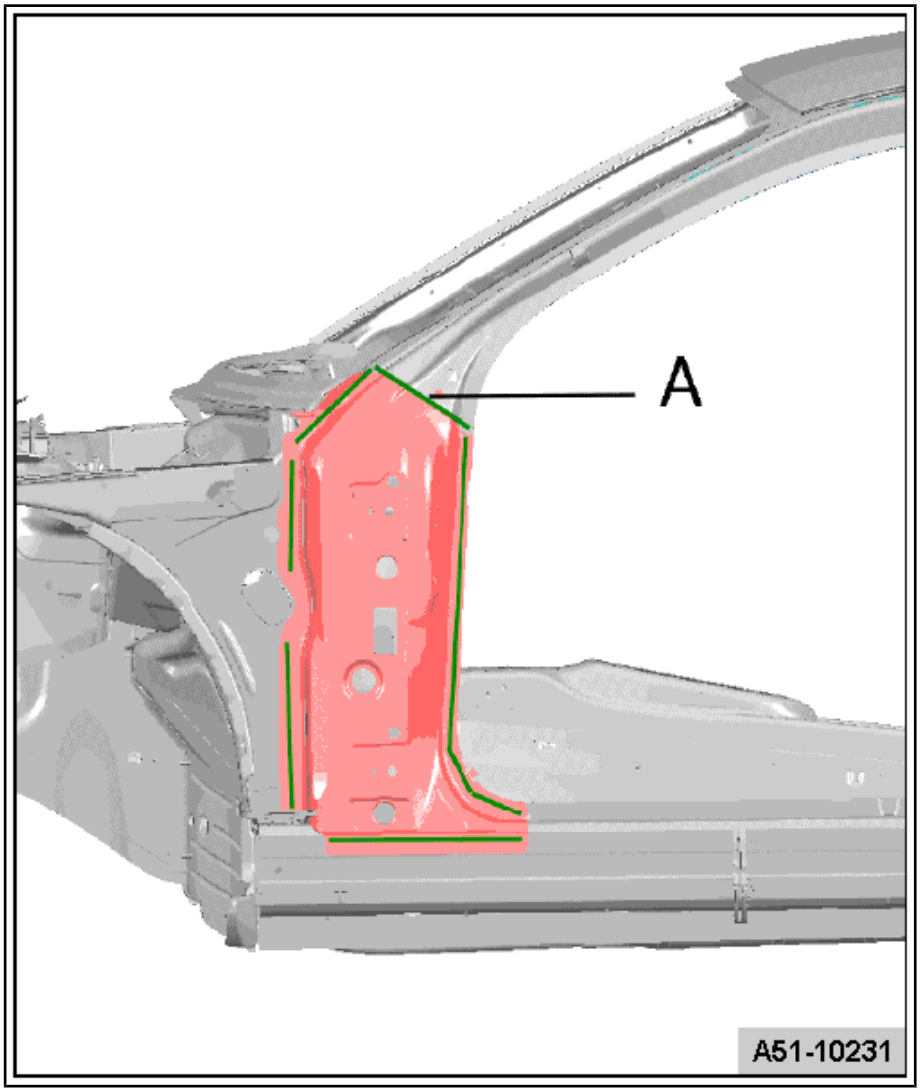

Replacement part

Inner A-pillar

Preparing new part

- Make 7 mm ∅ holes for SG plug weld seam using hole punch pliers .

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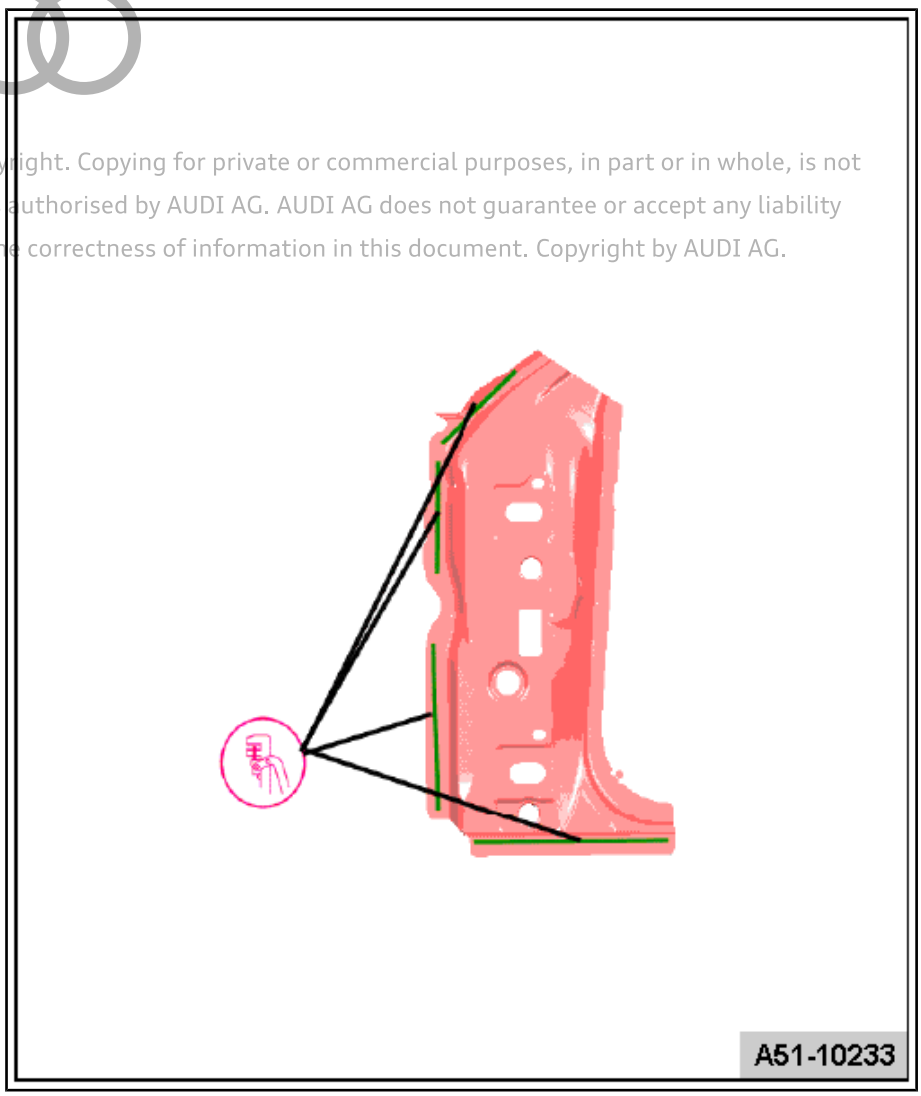


NOTICE

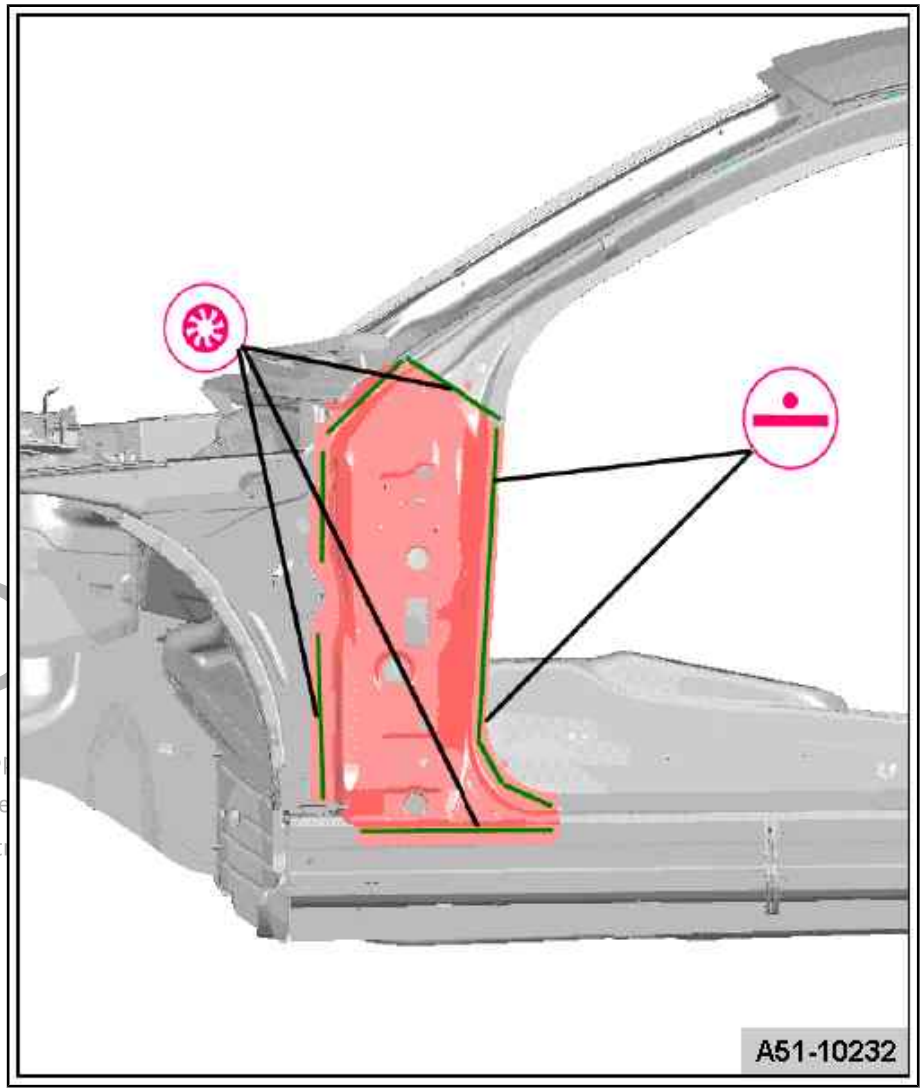
Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in inner A-pillar using resistance spot welder : RP spot weld seam.

– Weld in A-pillar using shielded arc welding equipment : SG plug weld seam.



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- Welding in outer A-pillar ⇒ page 141
- Welding in intermediate piece ⇒ page 40

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13 Outer B-pillar - Renewal (Sportback)

1 - B-pillar

Outer B-pillar

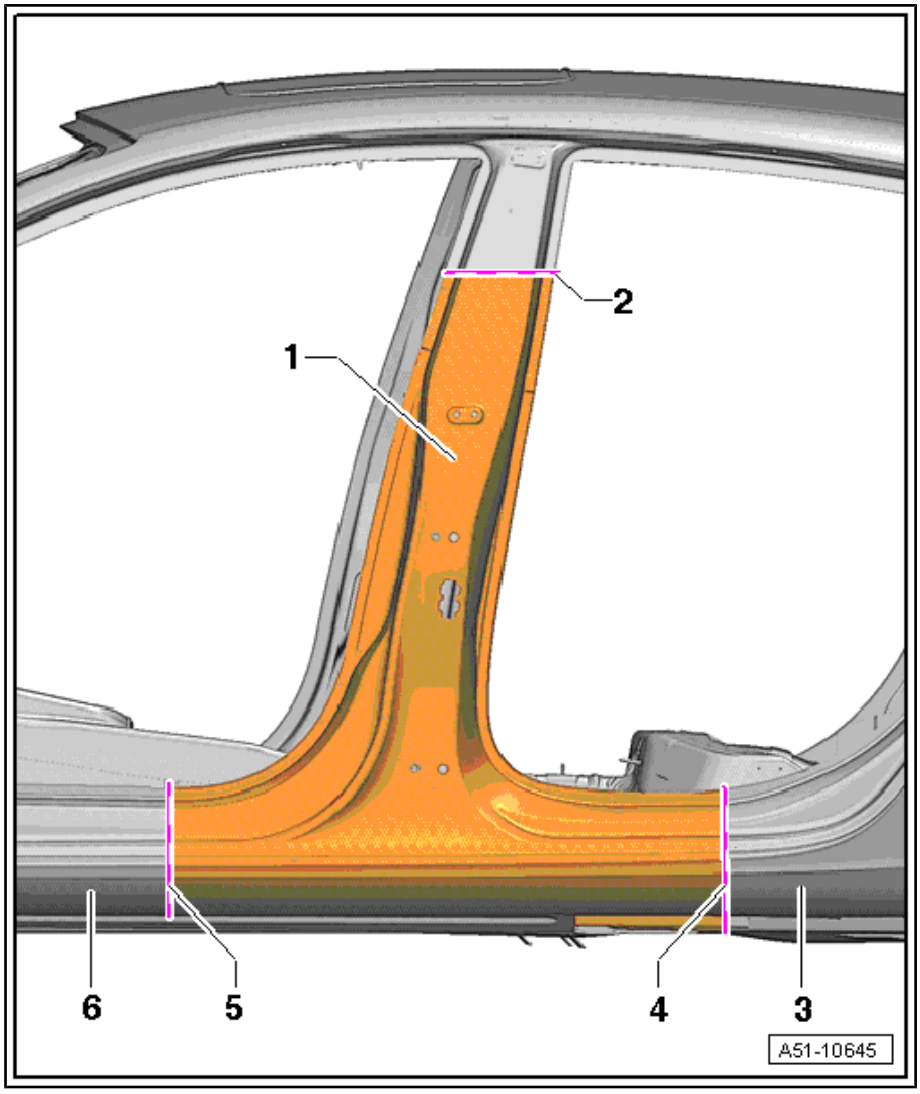
2 - Upper separating cut

3 - Rear side member

4 - Separating cut in side member (rear)

5 - Separating cut in side member (front)

6 - Front side member



13.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

13.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 72 .

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Note

- *Part section repair is possible using separating cut -4-.*
- *Note the replacement part dimensions when making the separating cut at the rear side member -2-.*
- *Take care not to damage any panels behind when making the separating cuts.*

– Drill out original joint using spot weld breaker .

– Make separating cut -1- as shown using body saw .

– Mark off separating cuts -2- and -3- according to degree of damage and make cuts using body saw .

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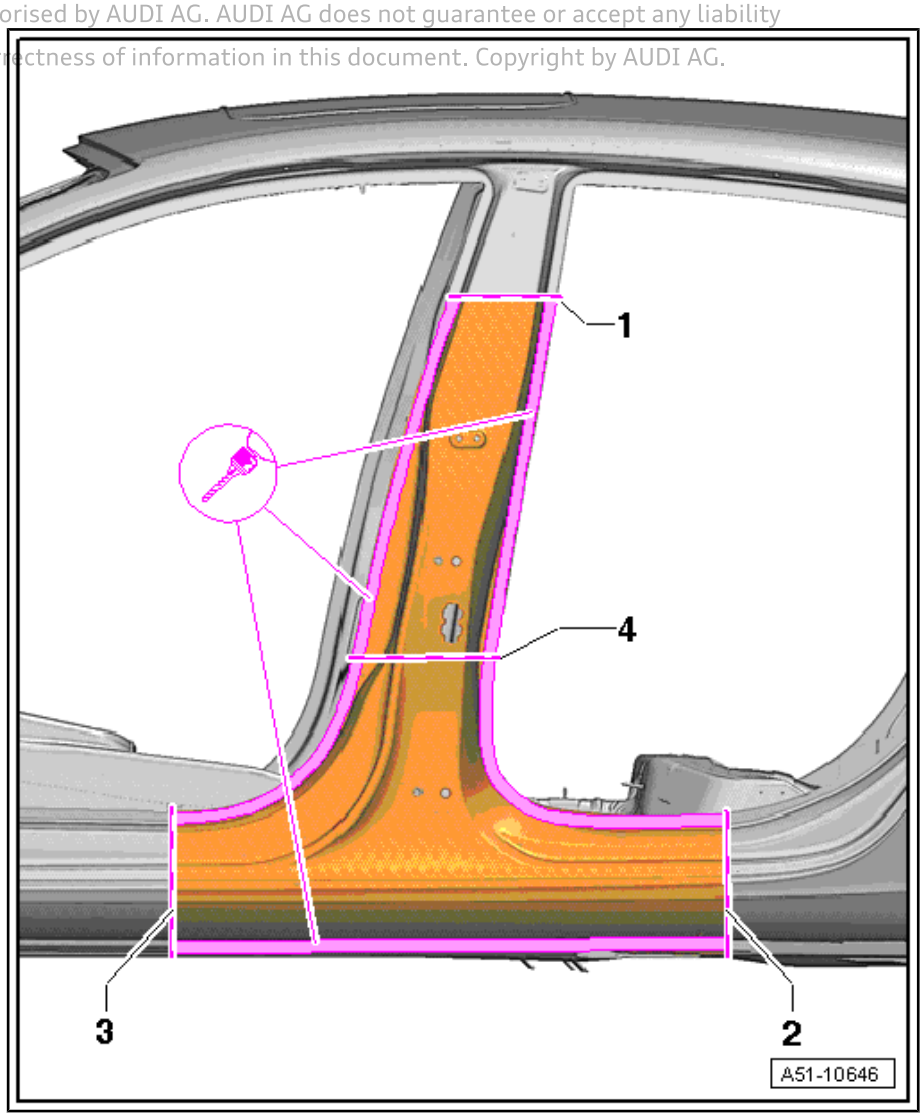

– Remove remaining material using compact angle grinder .

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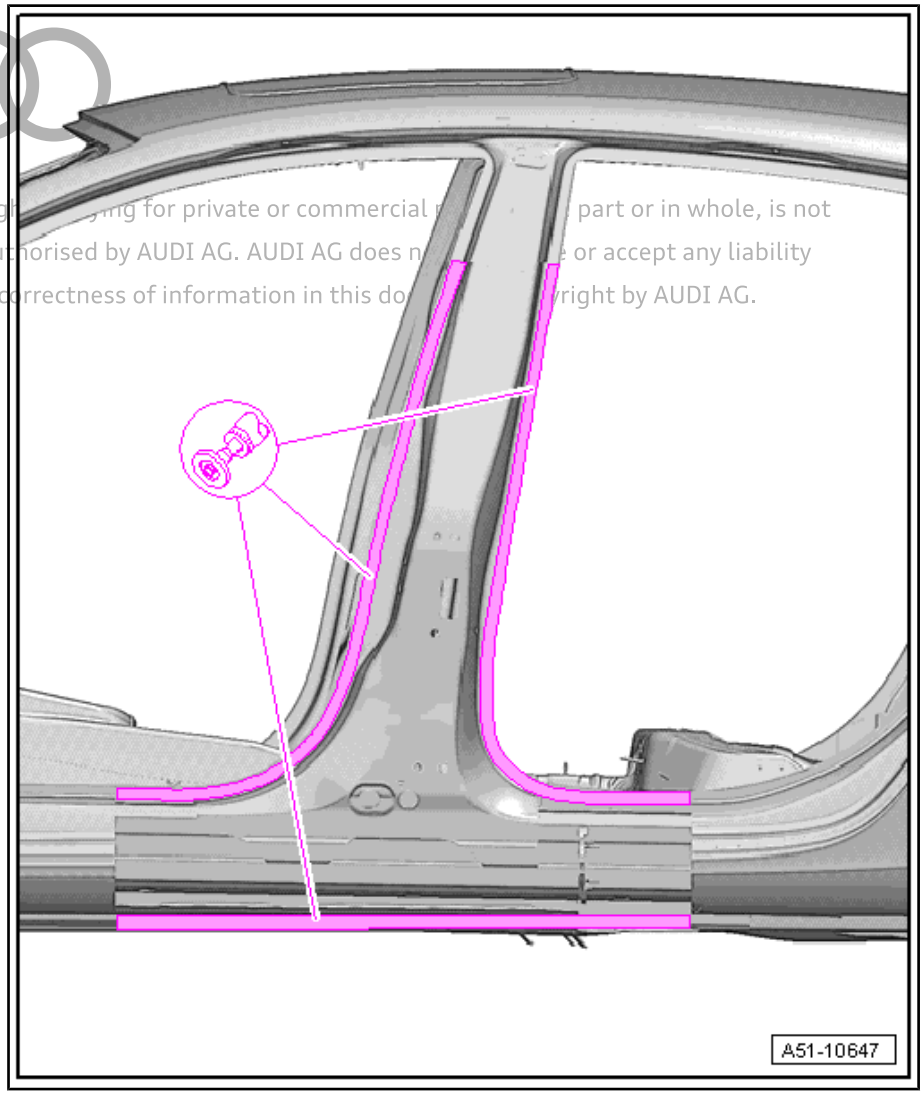
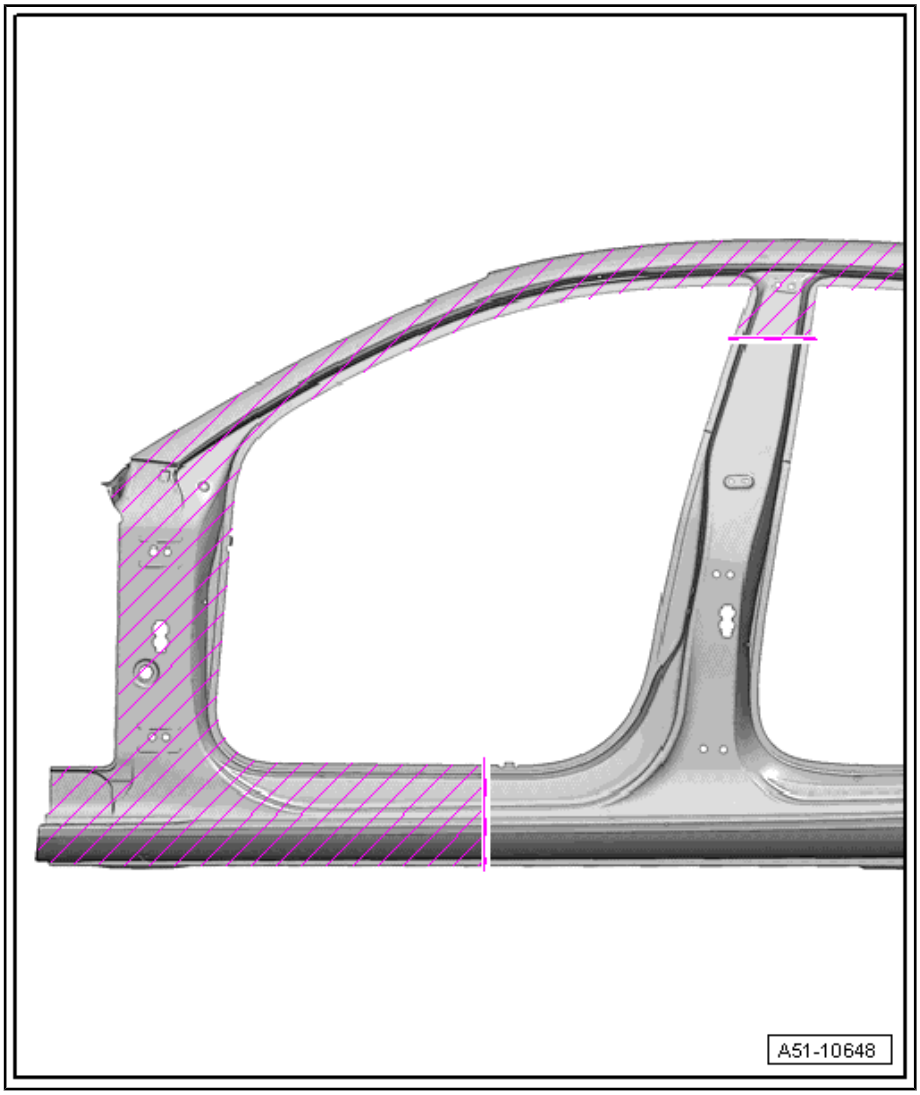


Replacement part

- B-pillar

Preparing new part

– Transfer separating cut to new part and cut to size using body saw .



NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

- **Use a welding unit which has been approved by AUDI AG.**

Welding in

- Place a backing plate of the same material behind the joint.
- With no load on vehicle, match up new part and fix in position.
- Check fit relative to bolt-on parts.
- Weld in B-pillar using resistance spot welder : RP spot weld seam.
- Weld at separating cuts using shielded arc welding equipment : SG continuous seam.

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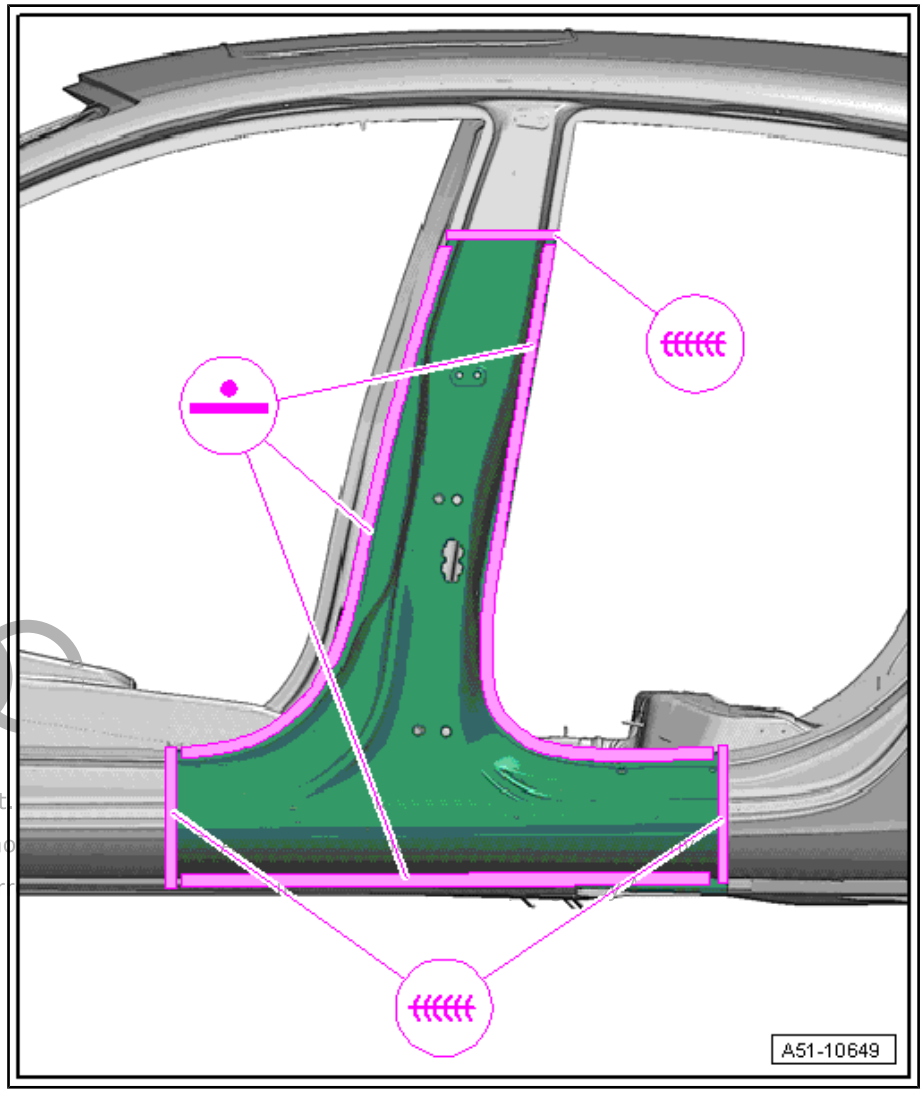

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14 Inner B-pillar - Renewal (Coupé)

14.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

14.2 Procedure

- Roof already removed ⇒ page 74
- Side panel already removed ⇒ page 239

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Cutting locations

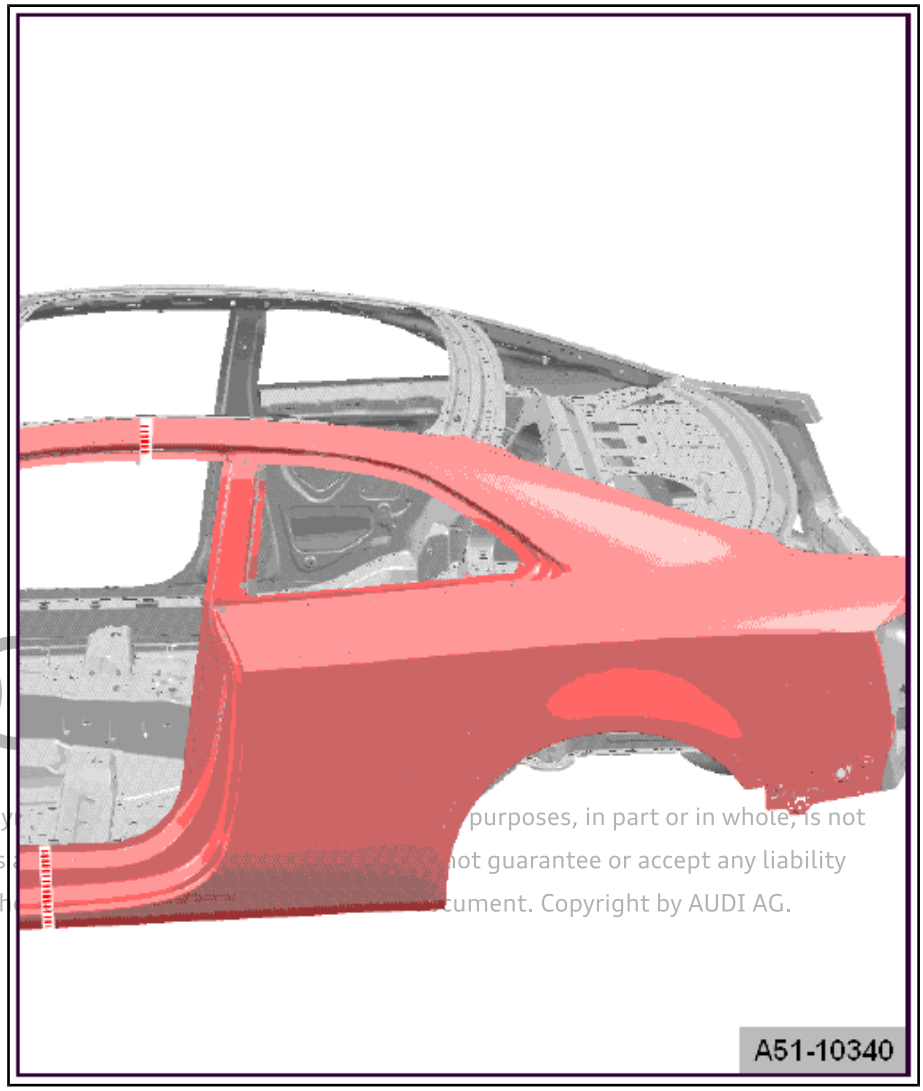
Note

The B-pillar is made of high-strength steel.

Note

Partial renewal is possible with the separating cuts illustrated. Place a backing plate of the same material behind the joint and use SG continuous seam.

Make separating cuts as shown using body saw .



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– Separate original joint using spot weld breaker .

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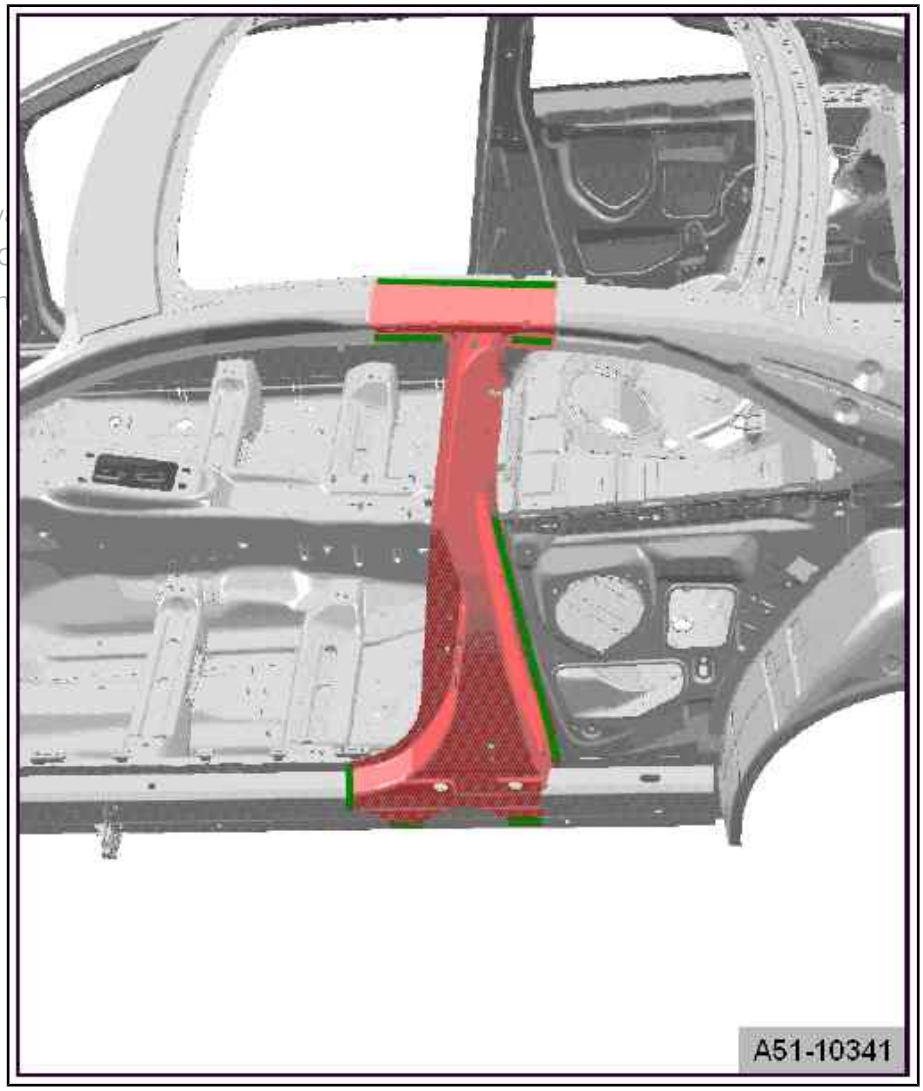

Replacement part

- Inner B-pillar

Preparing new part

– Prepare new part for welding.

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Welding in

NOTICE

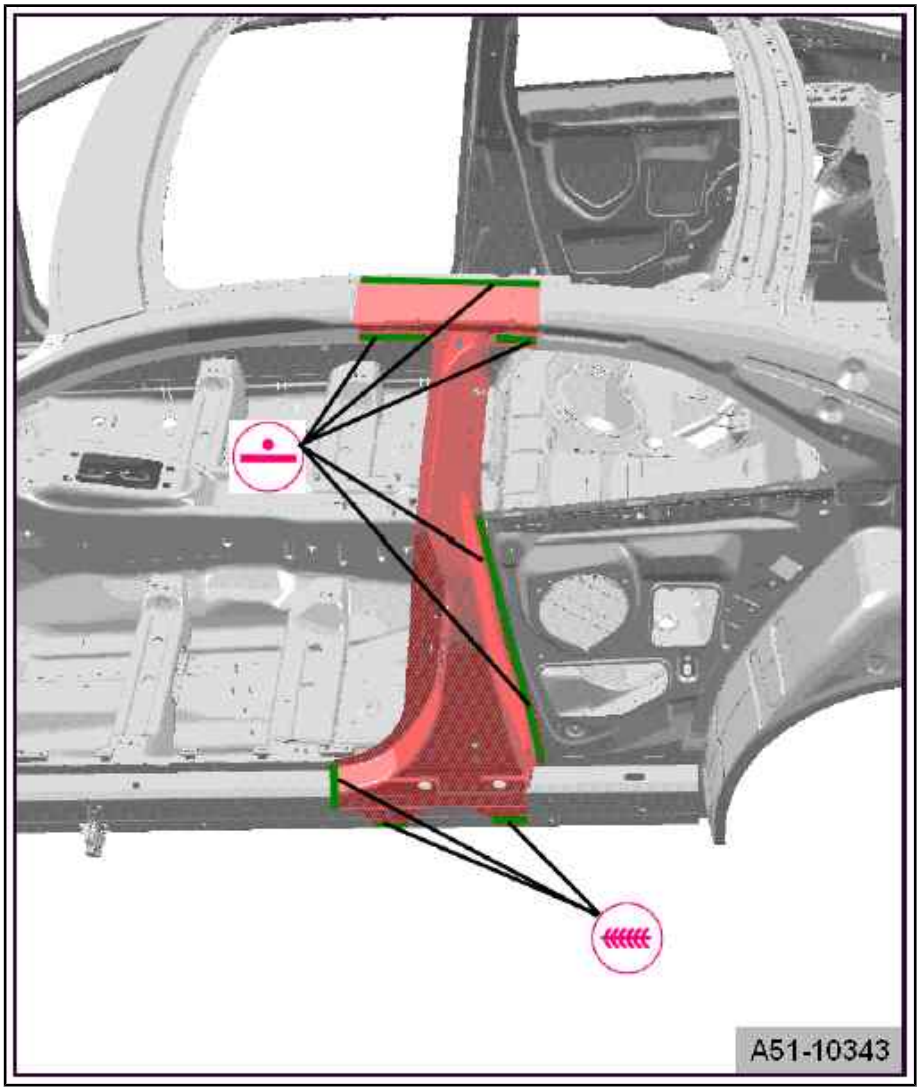
Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

– Match up inner B-pillar with no load on vehicle and fix in position.

– Weld in B-pillar using resistance spot welder : RP spot weld seam.

– Weld in B-pillar using shielded arc welding equipment : SG continuous seam.



– Place a backing plate of the same material behind the joints and weld in using shielded arc welding equipment : SG continuous seam.

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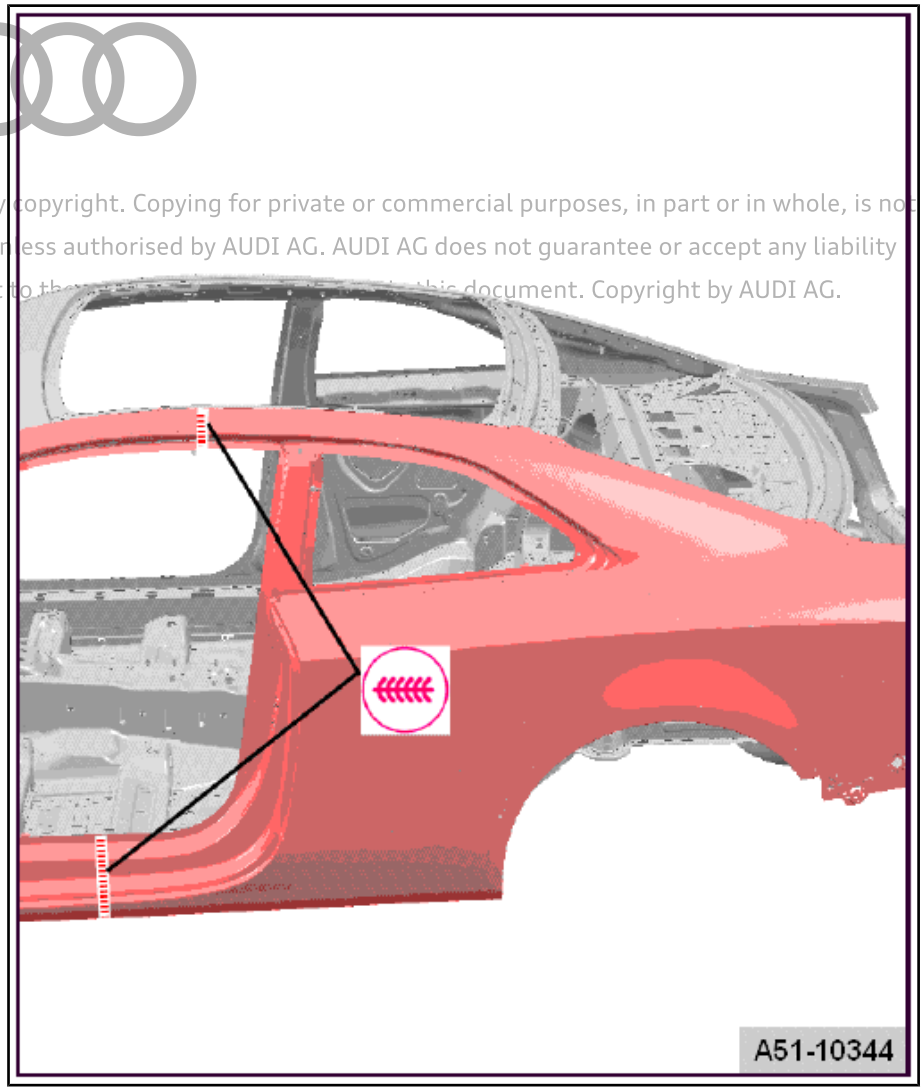

- Welding in roof ⇒ page 74
- Welding in side panel ⇒ page 239

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15 Inner B-pillar - Partial renewal (Coupé)

15.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Mechanical door tensioner
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

15.2 Procedure

- Side panel already cut out ⇒ page 239

Cutting locations

– The separating cut may only be made at the position shown, using body saw . Important: observe distance -A- = 70 mm.

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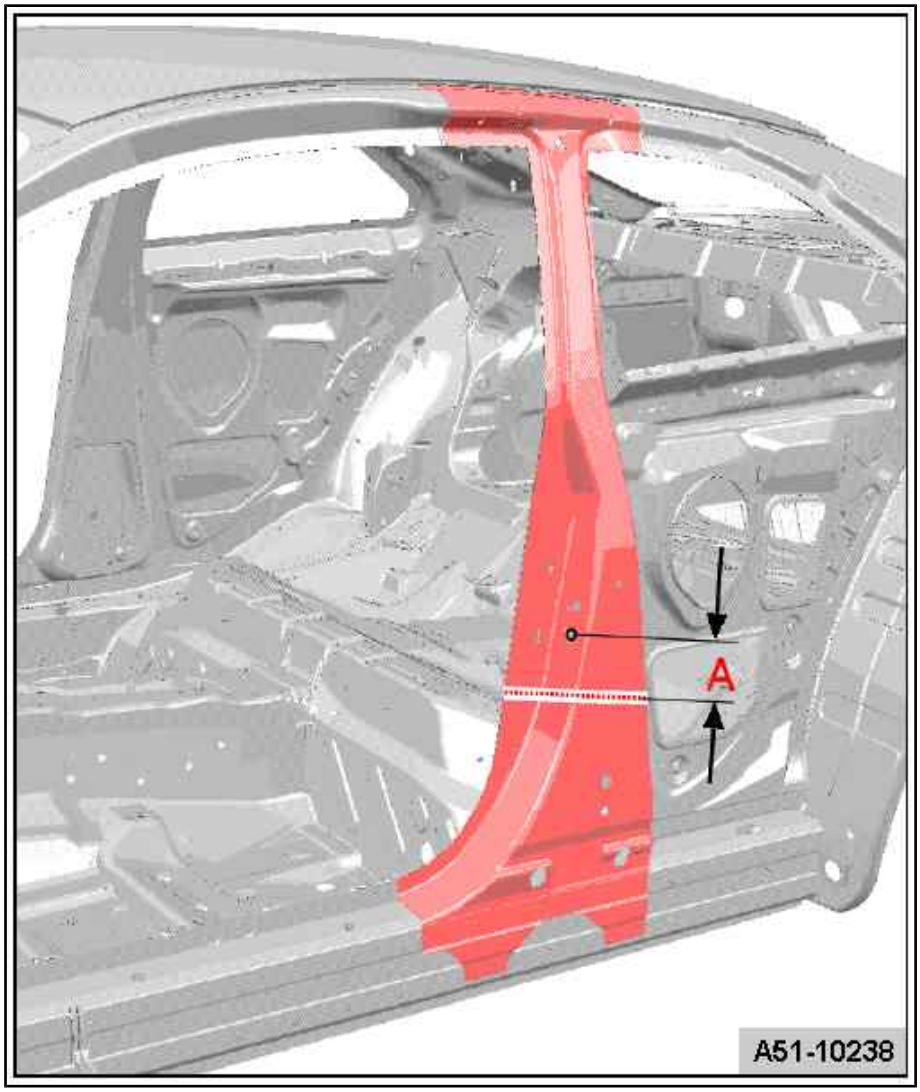

– Separate original joint using spot weld breaker .

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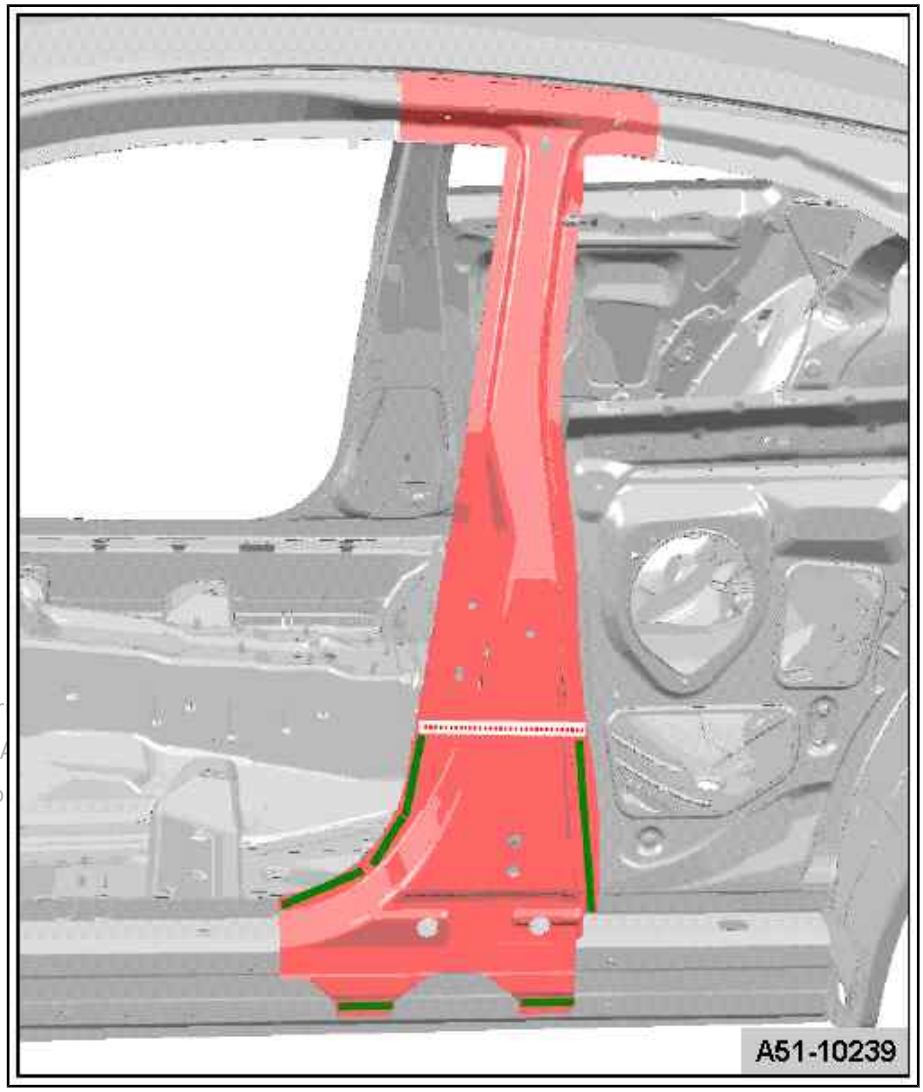

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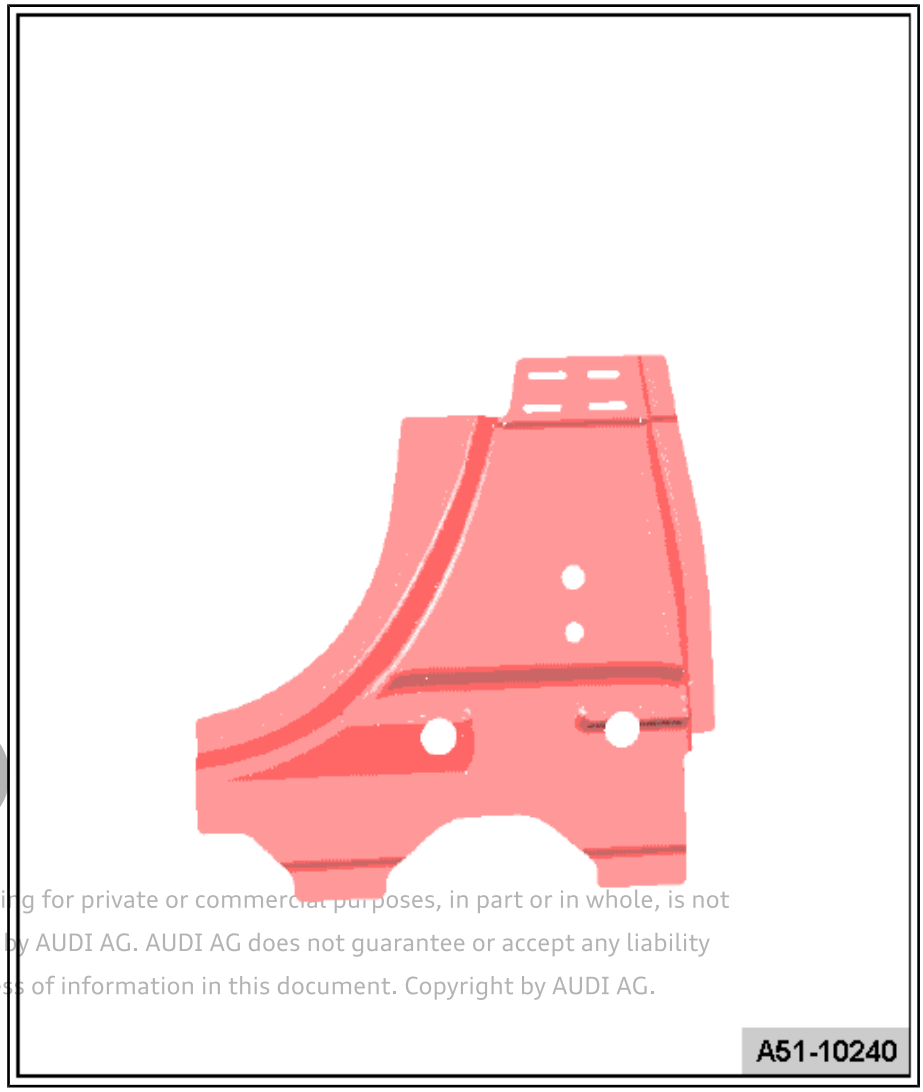
Replacement part

- Inner B-pillar (bottom) replacement part



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Welding in

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

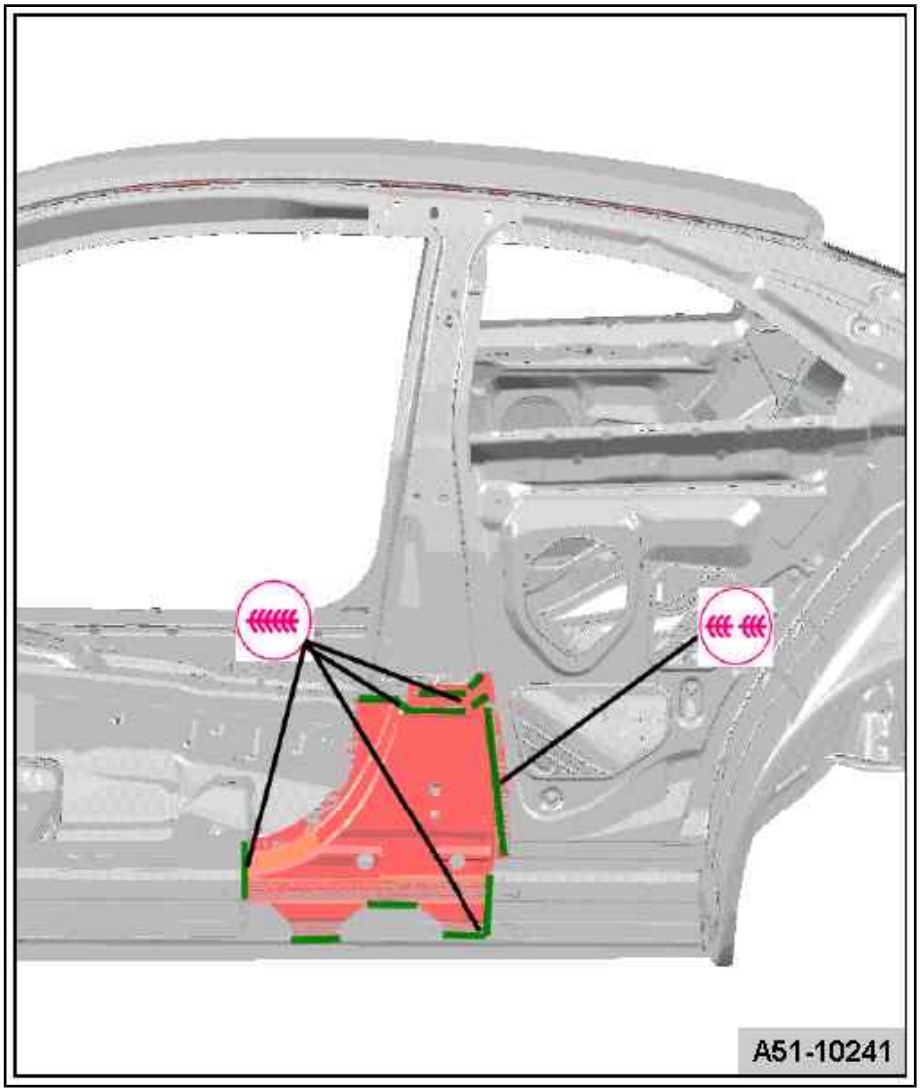
– Use a welding unit which has been approved by AUDI AG.

– Match up inner B-pillar with no load on vehicle and fix in position.

– Weld in inner B-pillar using shielded arc welding equipment : SG continuous seam.

– Butt weld separating cut using shielded arc welding equipment : SG continuous seam.

– Weld in inner B-pillar using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



– Weld in B-pillar using resistance spot welder : RP spot weld seam.

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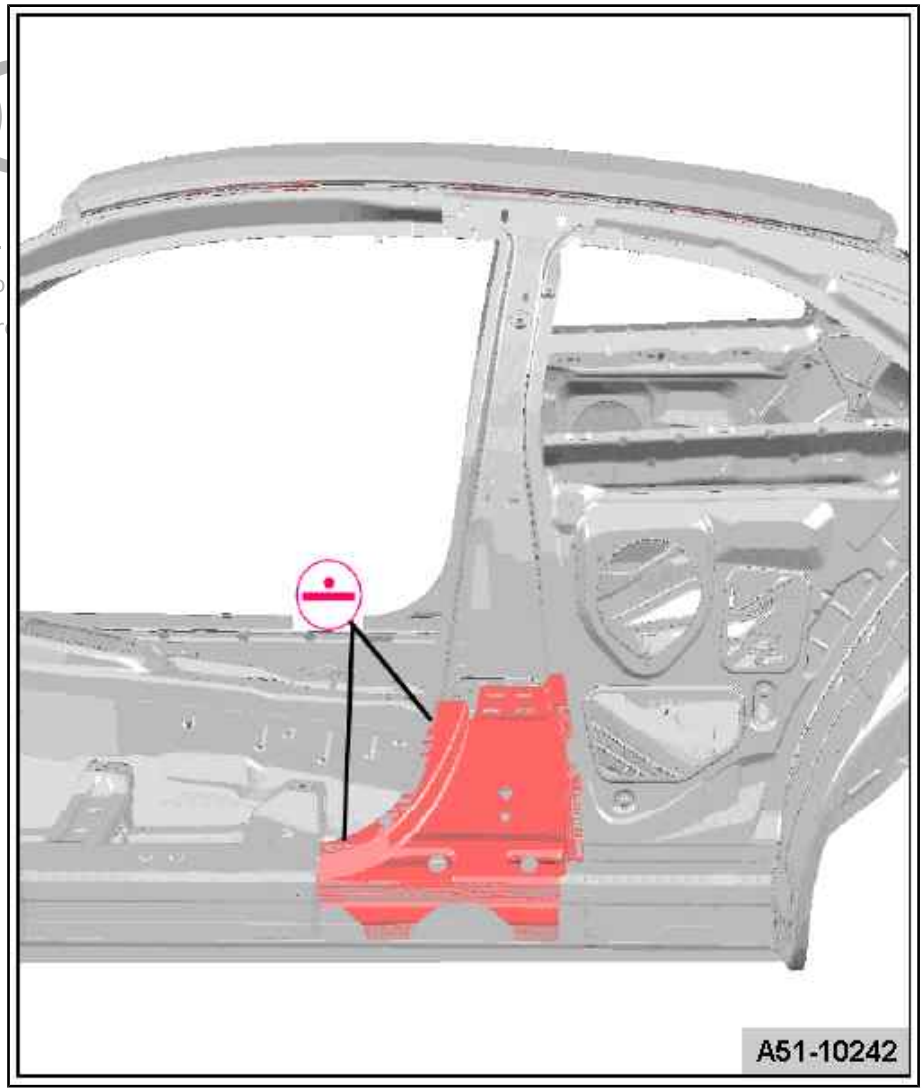

- Welding in side panel ⇒ page 239

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16 Inner B-pillar - Partial renewal (Sportback)

Includes inner B-pillar reinforcement

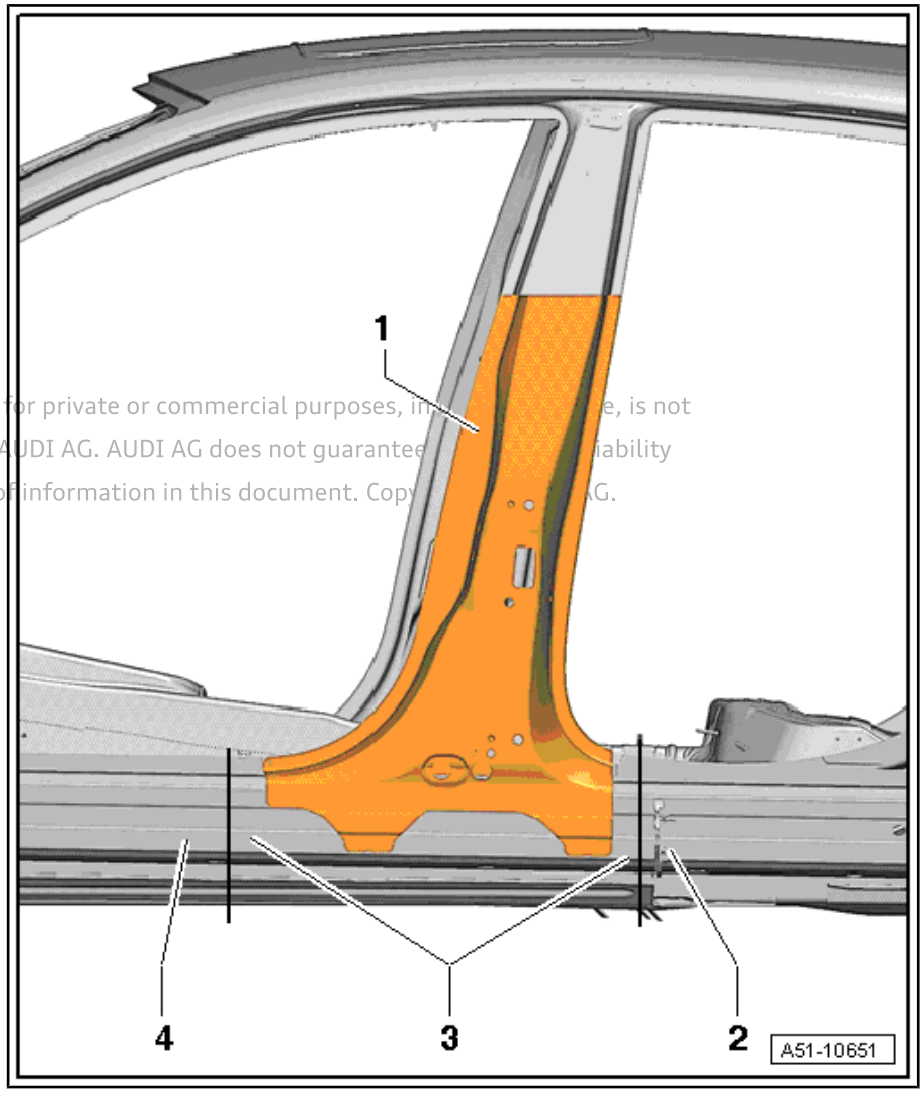
1 - B-pillar

Inner B-pillar

2 - Outer rear side member

3 - Outer side member reinforcement

4 - Outer front side member



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16.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Mechanical door tensioner
- Body saw
- Spot weld breaker
- Mole grips, 18-18

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

16.2 Procedure

- Outer B-pillar already removed ⇒ page 152

Cutting locations

Note

Before cutting out the inner B-pillar, insert the mechanical door tensioners - V.A.G 1438- in the door openings to brace the roof in position.

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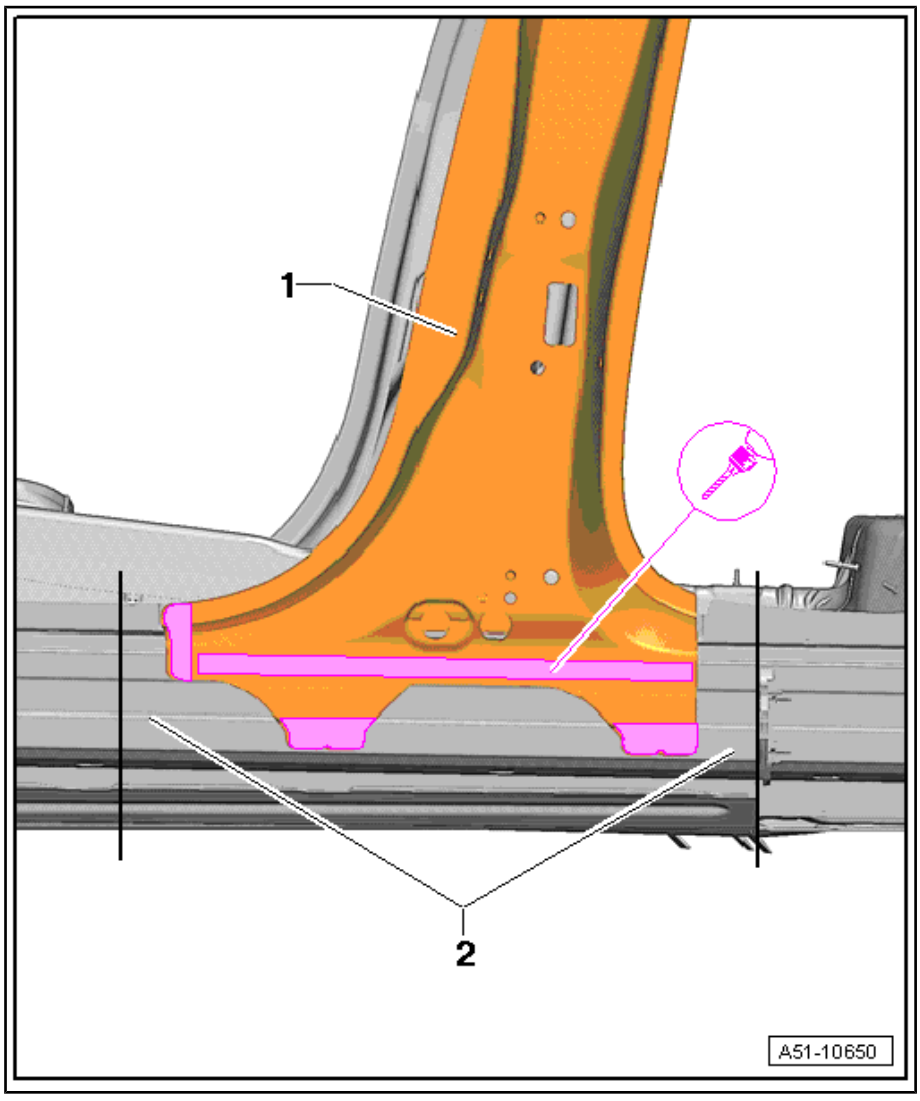
– Drill off original joint with side member -2- using drill .
– Separate inner B-pillar -1- from outer side member -2- using chisel .



Note

A separating cut is only permissible at the location described.

– Mark off separating cut on inner B-pillar -1- according to dimension -a- and make the cut using compact angle grinder .

Dimension -a- = 300 mm

– To facilitate removal, make another cut through lower part of inner B-pillar using compact angle grinder .

– Take out inner B-pillar -1-.

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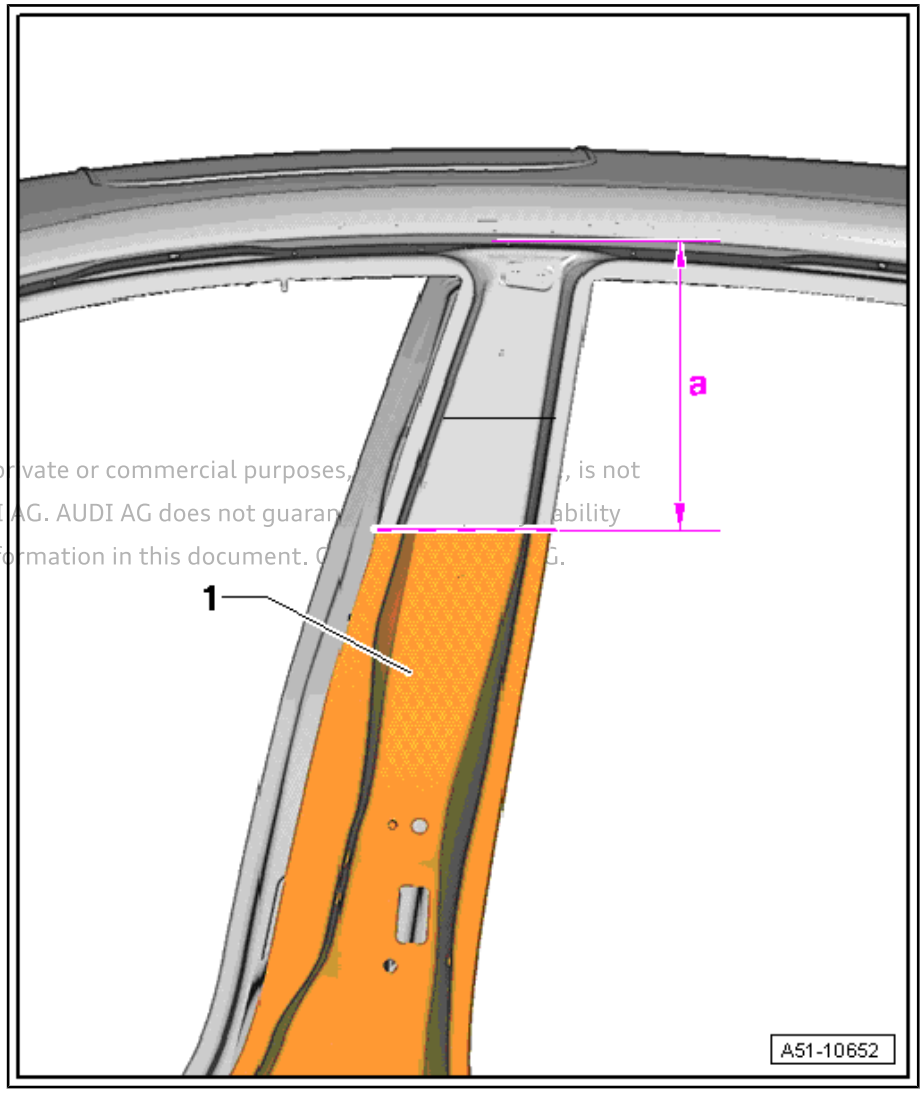

– Working from passenger compartment, drill off closure plate -1- and remaining section of inner B-pillar reinforcement using spot weld breaker .

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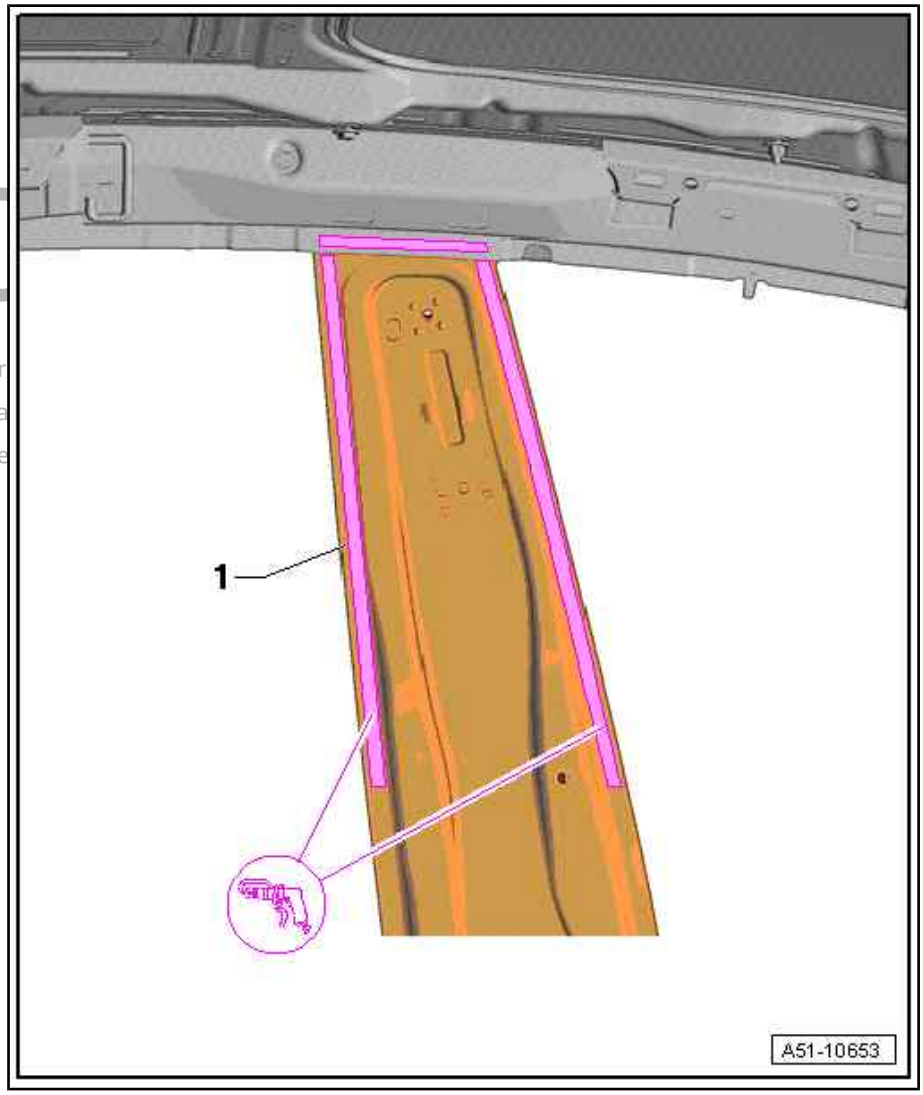
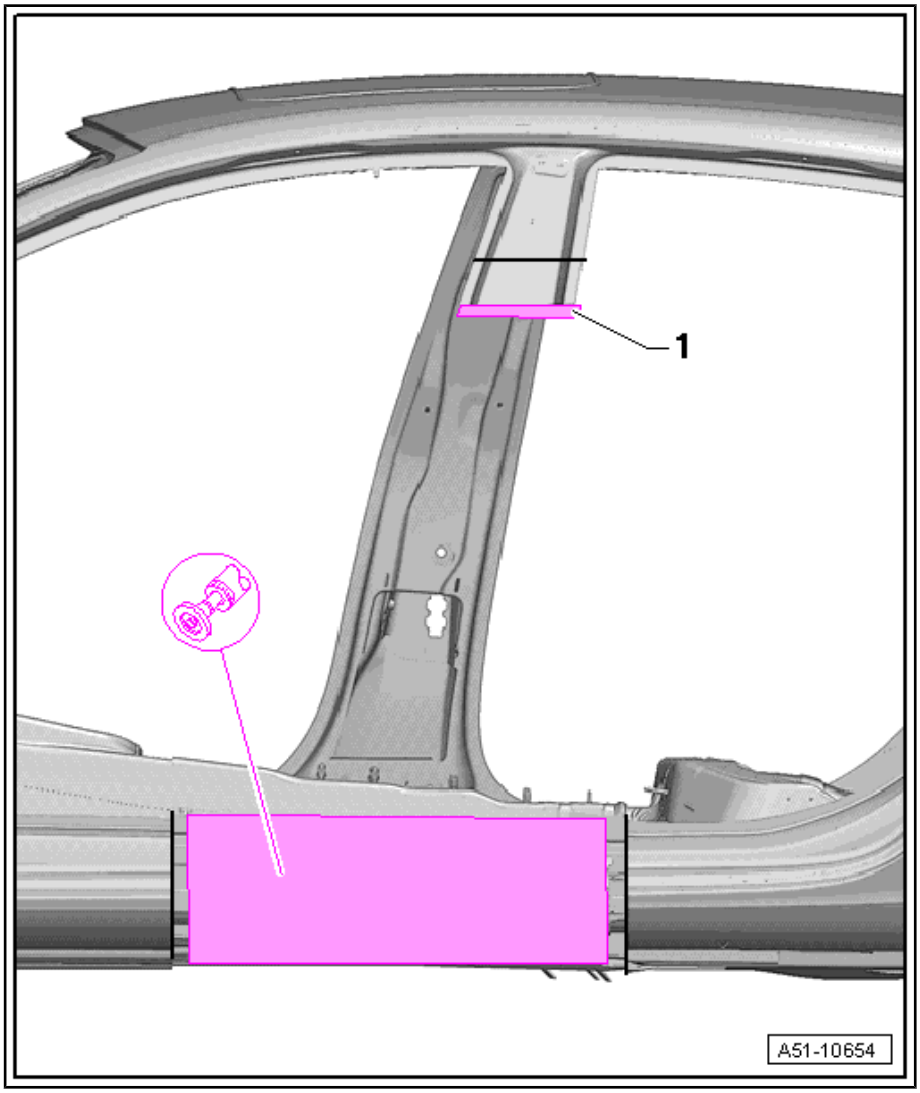


– Remove remaining material using compact angle grinder .
– Grind area around separating cut -1- down to bare metal on inside and outside using compact angle grinder .



Replacement parts

- Inner B-pillar
- B-pillar reinforcement
- Closure plate

Preparing new parts

– Transfer separating cut -1- to new part and cut off using compact angle grinder .

– Grind area around separating cuts -1- and -2- down to bare metal on inside and outside using compact angle grinder .

– Drill 2 additional holes for SG plug weld seam in inner B-pillar using drill .

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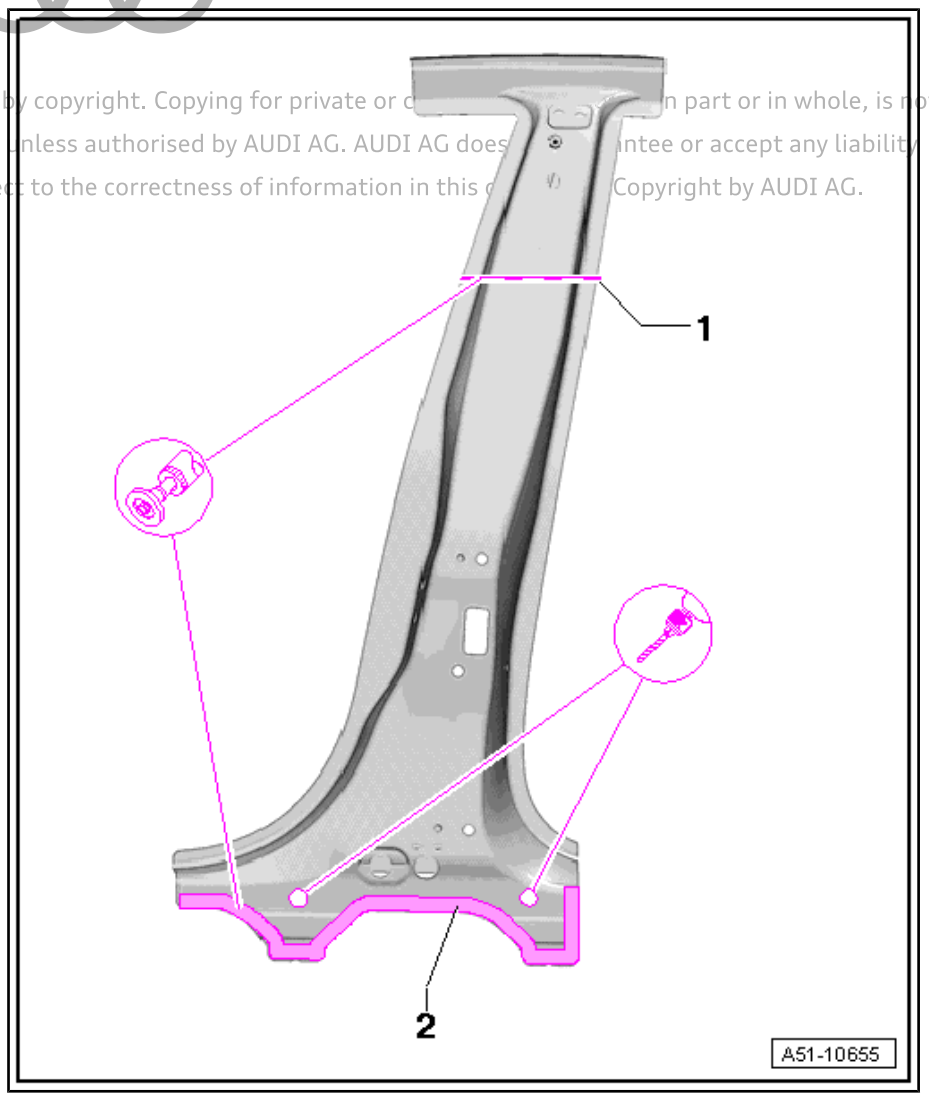
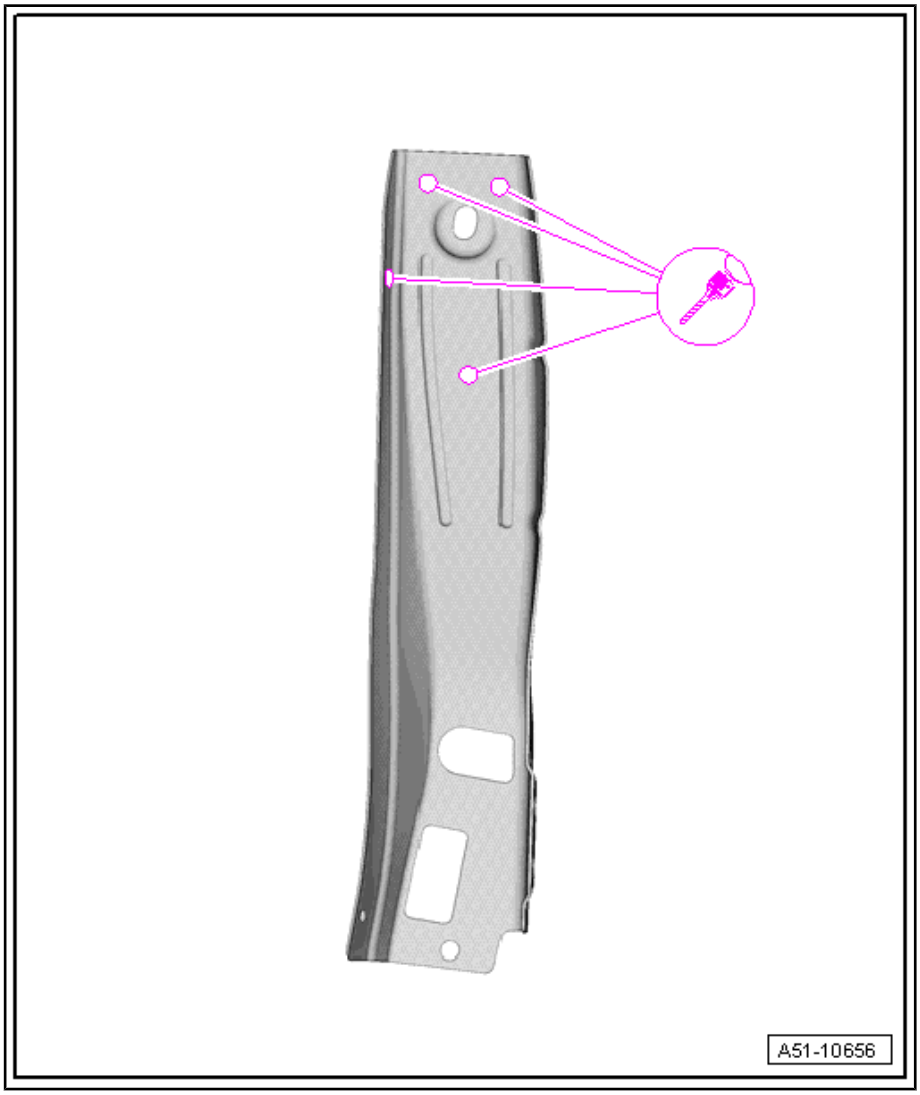


– Drill 4 additional holes for SG plug weld seam in inner B-pillar reinforcement using drill .



NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

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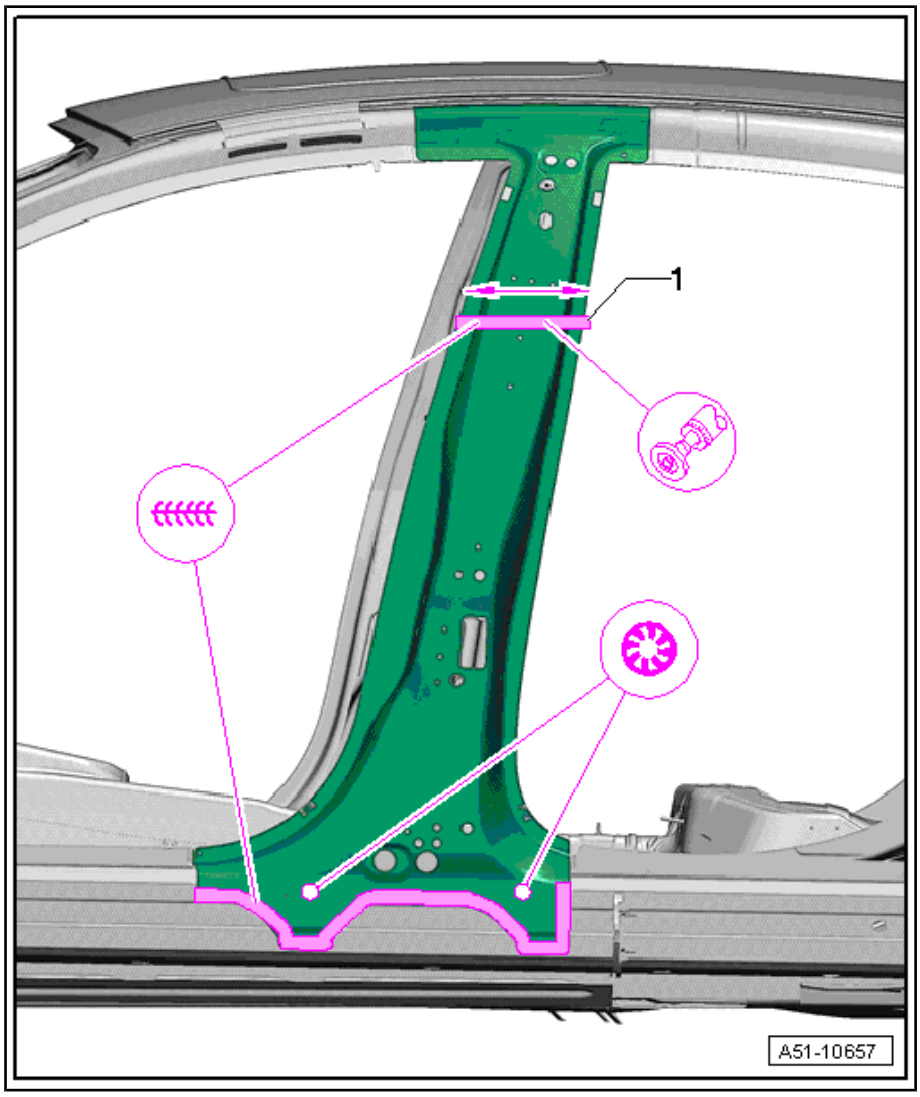
Welding in

– With vehicle standing on alignment bracket set , match up inner B-pillar and fix in position.
– Check fit relative to outer B-pillar.
– Tack weld inner B-pillar at separating cut -1- using shielded arc welding equipment .
– Weld inner B-pillar to inner side member using shielded arc welding equipment : SG plug weld seam.
– Additionally weld bottom edge of inner B-pillar to outer side member using shielded arc welding equipment : SG continuous seam (staggered - with gaps; seam length 30 mm, spacing 20 mm).
– Working outwards from centre, butt weld separating cut using shielded arc welding equipment : SG continuous seam.

– Grind down weld seam at separating cut -1- from outside using compact angle grinder .



NOTICE

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– **Use a welding unit which has been approved by AUDI AG.**

Welding in inner B-pillar reinforcement

– Match up B-pillar reinforcement in inner B-pillar and fix in position.

– Weld B-pillar reinforcement into inner B-pillar using resistance spot welder and shielded arc welding equipment : RP spot weld seam and SG plug weld seam.

Note

The spot weld spacing must not exceed 25 mm.

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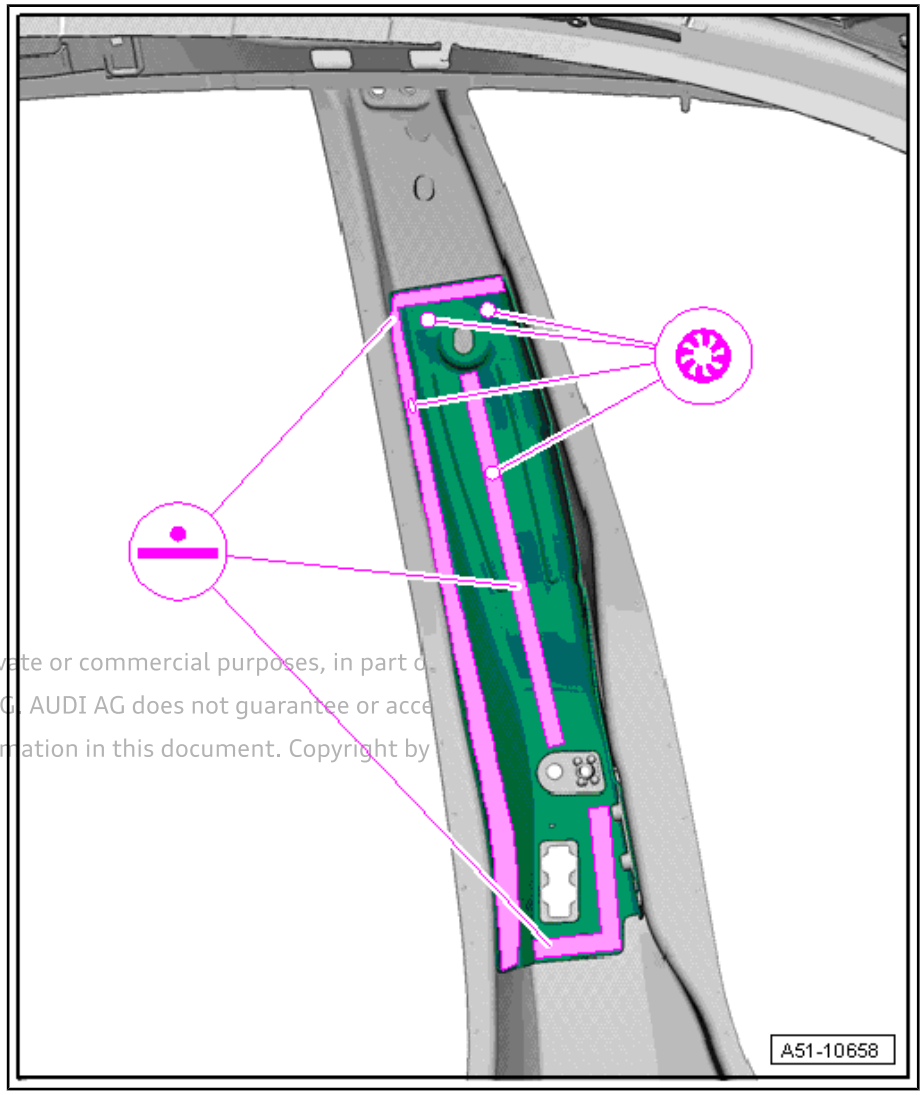

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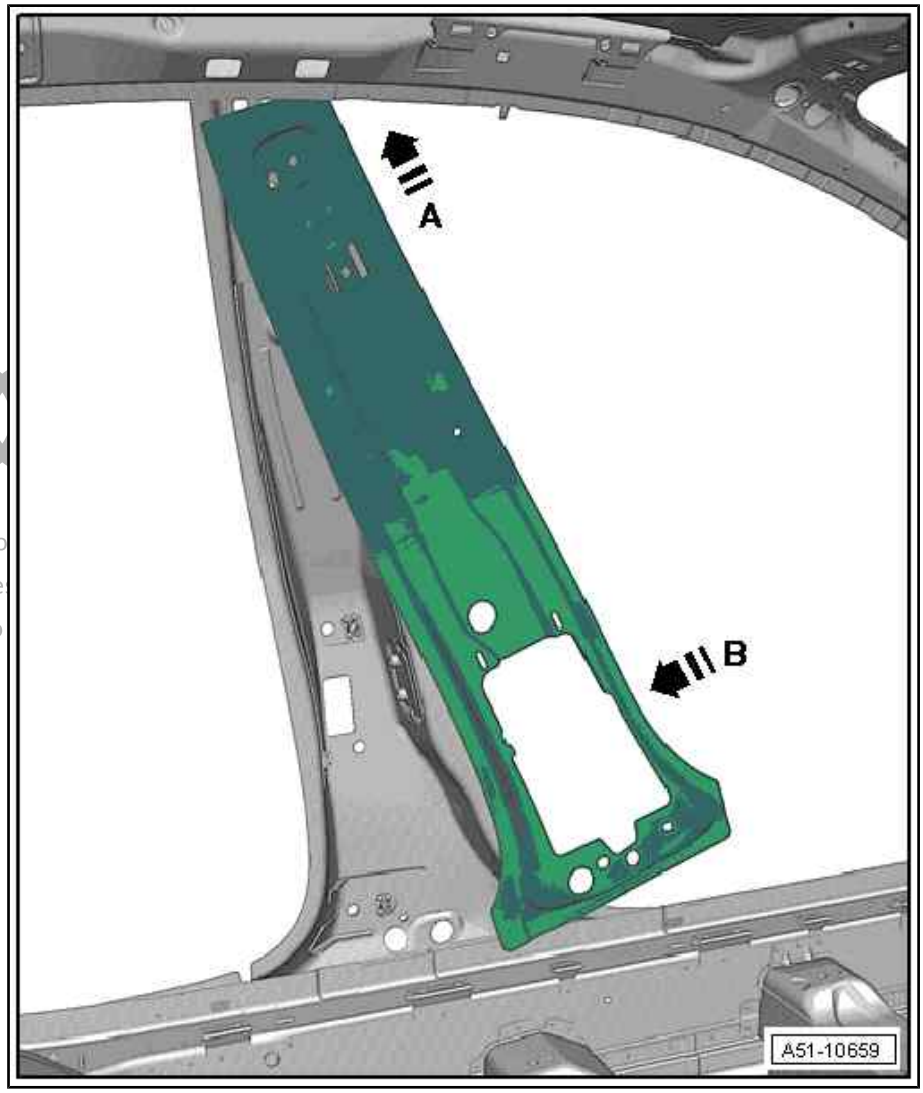
– Match up closure plate and clamp in place.



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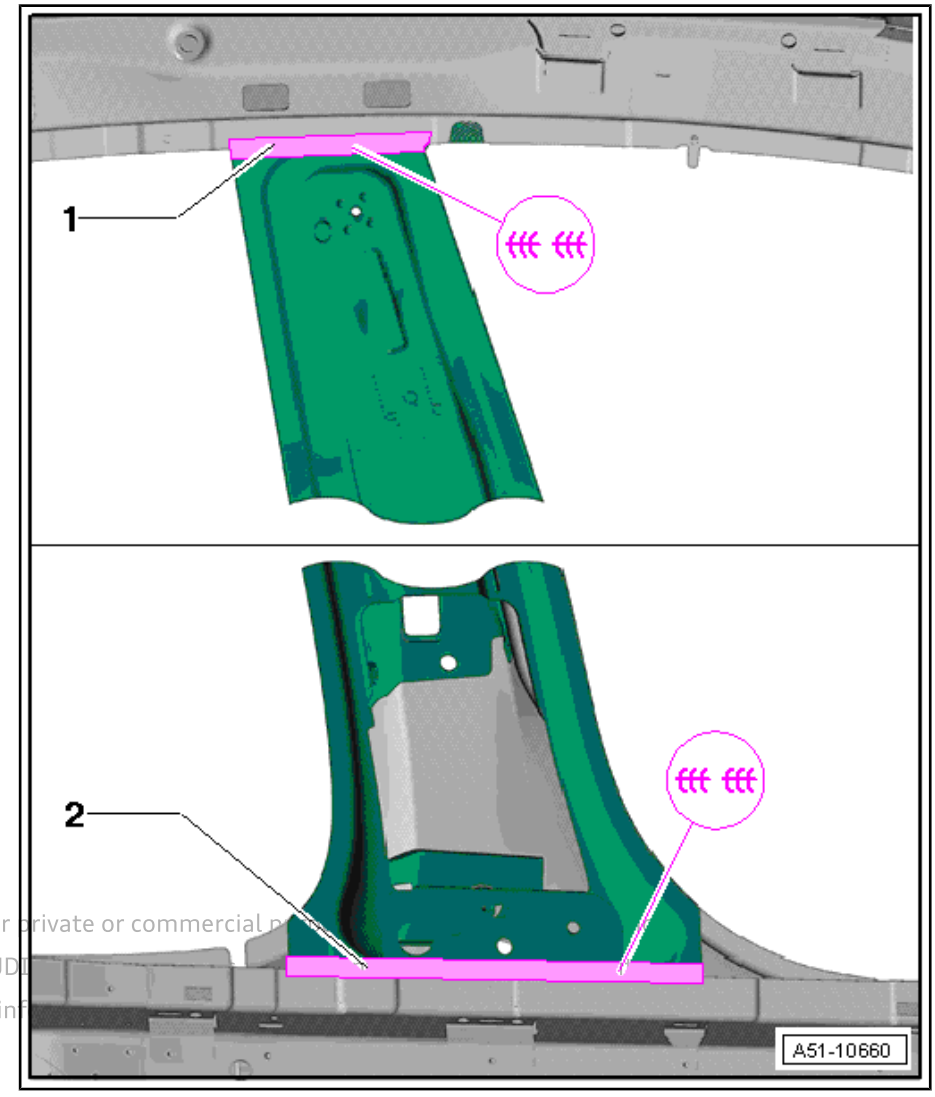
– Weld in closure plate -1- at the top using shielded arc welding equipment : 3 x SG continuous seam (staggered - with gaps; seam length 20 mm, spacing 20 mm).
– Weld in closure plate -2- at the bottom using shielded arc welding equipment : 6 x SG continuous seam (staggered - with gaps; seam length 30 mm, spacing 20 mm).



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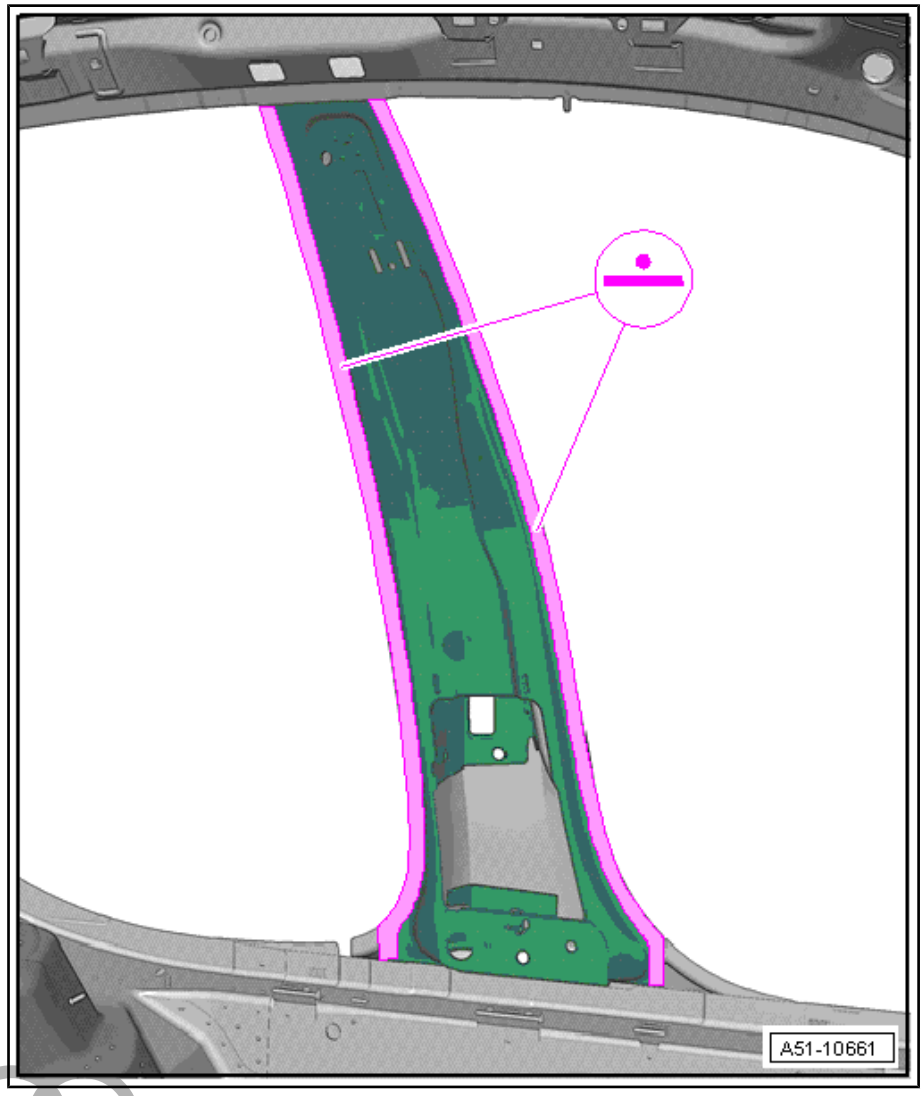
– Weld in closure plate using resistance spot welder : RP spot weld seam.

Note

The spot weld spacing must not exceed 25 mm.



- Welding in outer B-pillar ⇒ page 152 .

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RO: 51 45 55 00

17 Outer side member - Renewal (Sportback)

1 - Outer side member

2 - Separating cut in B-pillar

3 - Separating cut in side member (rear)

Partial renewal
Partial renewal is possible with this separating cut.

4 - Separating cut at wheel arch

5 - Moulded foam insert

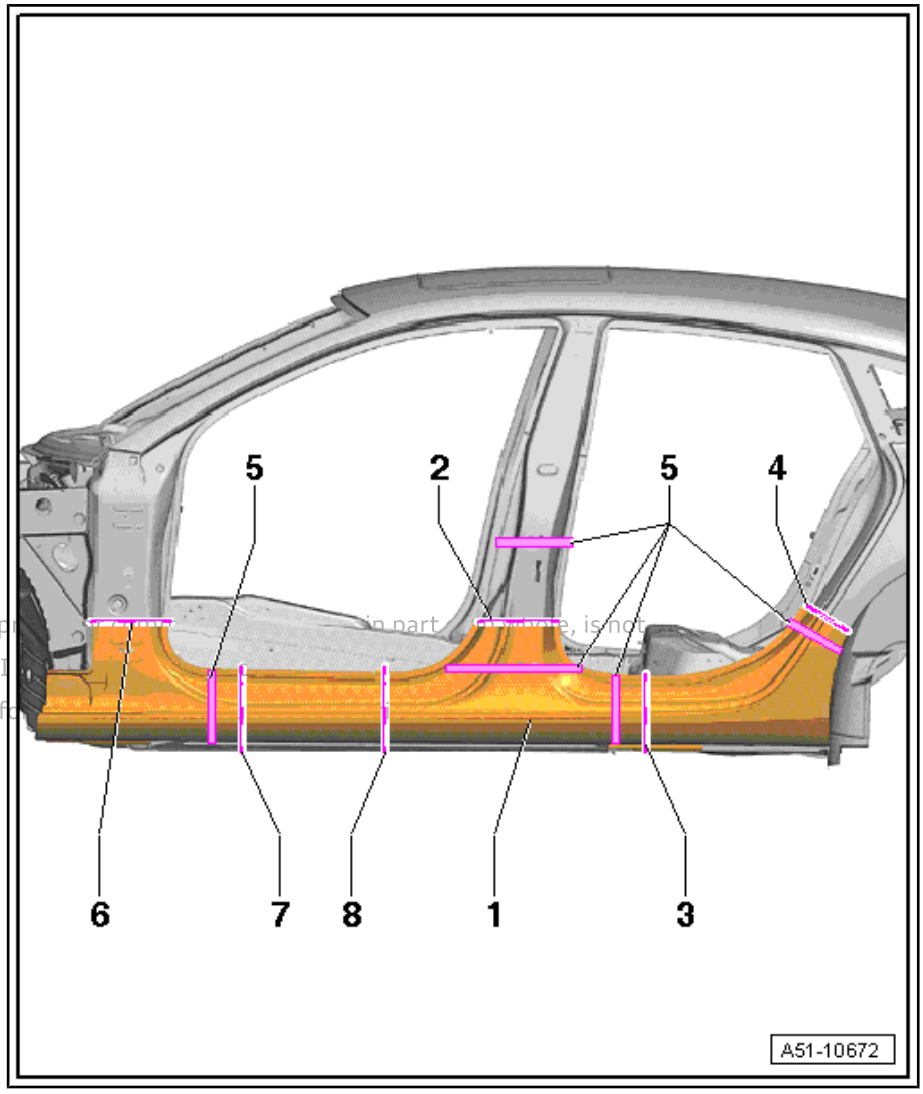
6 - Separating cut in A-pillar

7 - Separating cut in side member (front)

Partial renewal
Partial renewal is possible with this separating cut.

8 - Separating cut in side member

Partial renewal
Partial renewal is possible with this separating cut.



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17.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

17.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 72 .

Note

- *Note the replacement part dimensions when making the separating cuts -1-, -2- and -3-.*
- *Take care not to damage any panels behind when making the separating cuts.*

– Mark off separating cuts according to degree of damage and make the cuts using body saw .

– Drill out original joint using spot weld breaker .

– Grind through edge of wheel arch using compact angle grinder .

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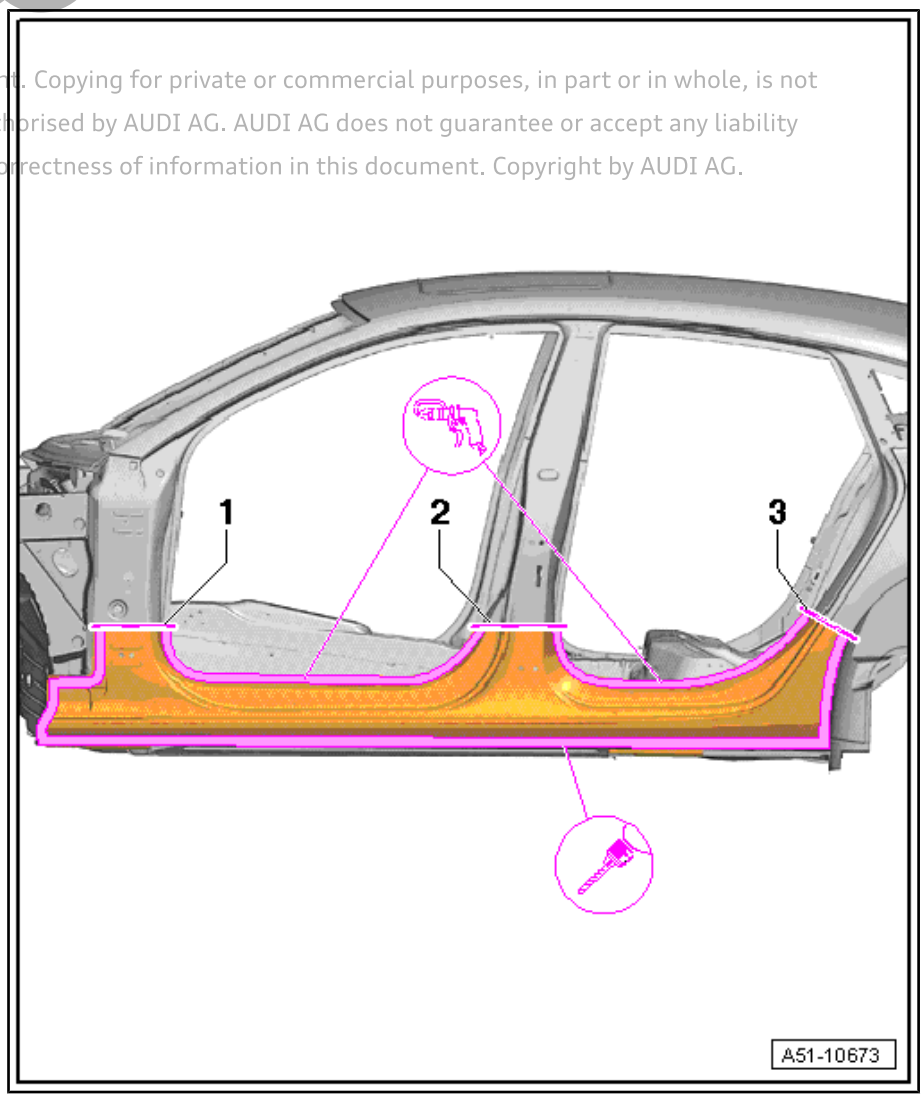
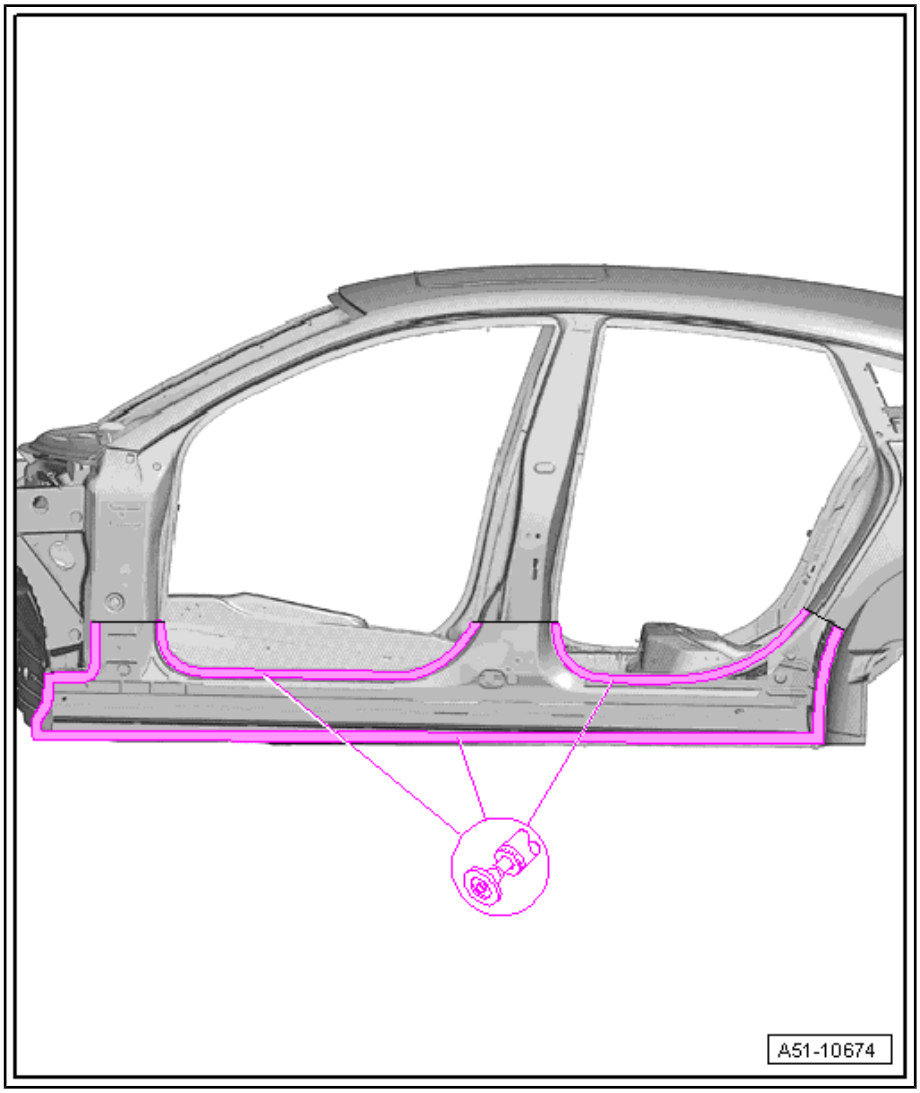


– Remove remaining material using compact angle grinder .



Replacement part

- Outer side member
- 2-component epoxy adhesive - DA 001 730 A2-

Preparing new part

– Transfer separating cut to new part and cut to size using body saw .

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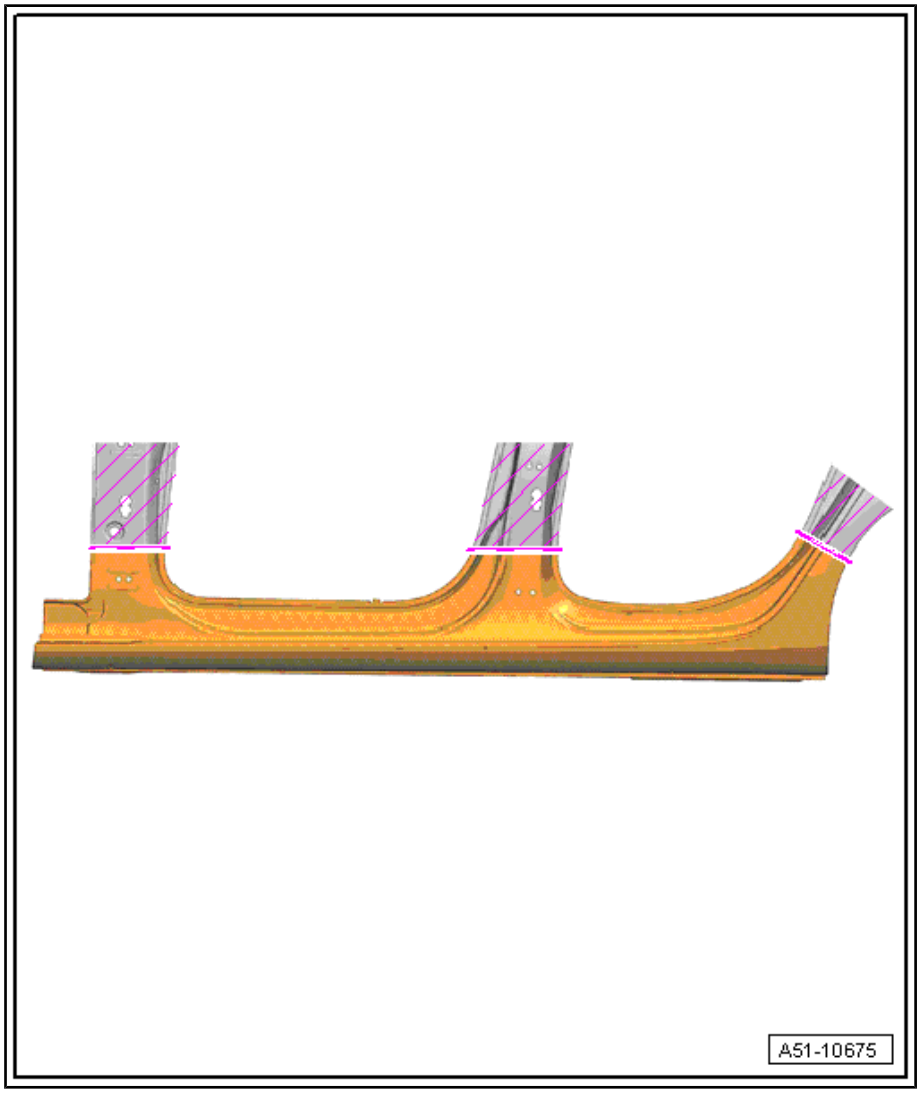

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

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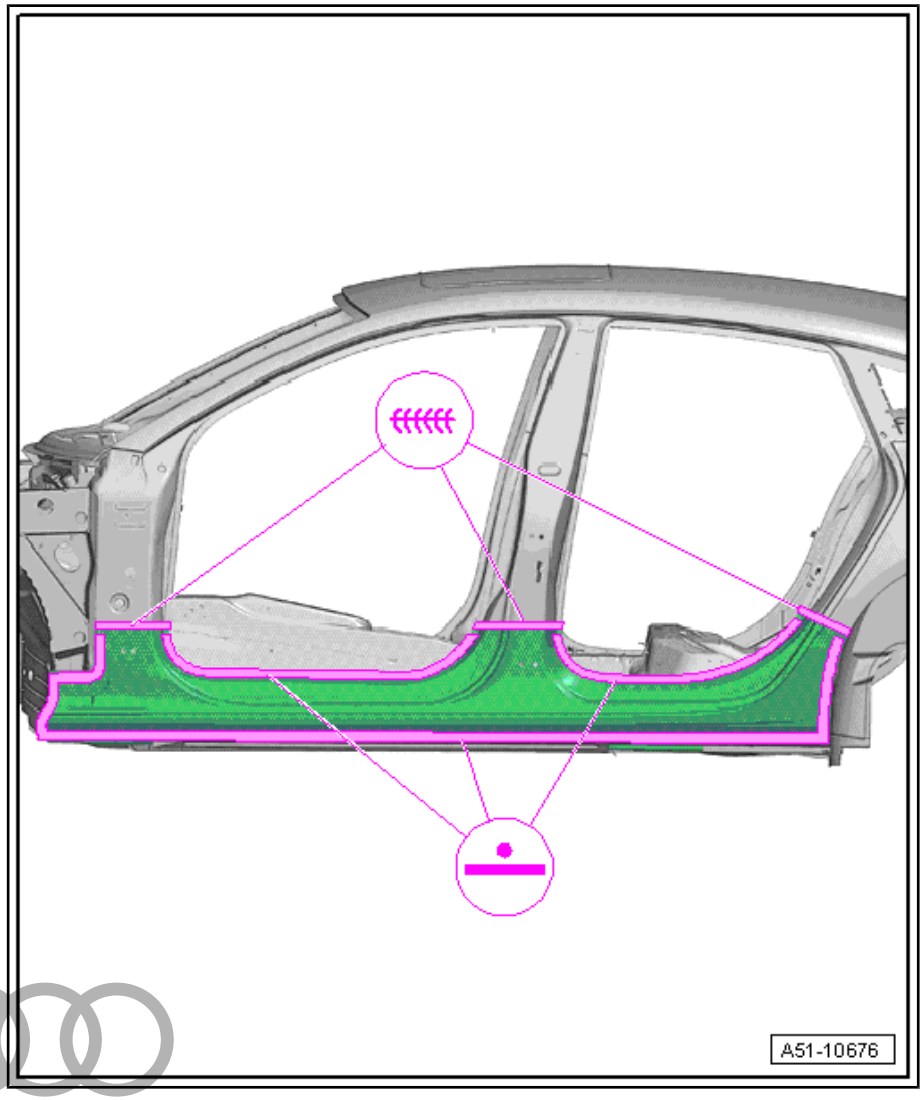
Welding in

– Place backing plates of same material behind joints.
– Match up and fix new part in position.
– Check fit relative to bolt-on parts.
– Weld in side member using resistance spot welder : RP spot weld seam.
– Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.



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RO: 51 47 55 50

18 Inner side member - Renewal (Coupé and Sportback identical)

18.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

18.2 Procedure

- Outer side member already removed ⇒ page 181
- Side panel already removed (Coupé) ⇒ page 239
- Side panel already removed (Sportback) ⇒ page 249
- Inner B-pillar (part section) already removed (Coupé) ⇒ page 163
- Inner B-pillar (part section) already removed (Sportback) ⇒ page 169
- Outer A-pillar already removed ⇒ page 141
- Inner A-pillar already removed ⇒ page 148

Cutting locations

– Make separating cuts according to extent of damage using body saw .

– Separate original joint using spot weld breaker .

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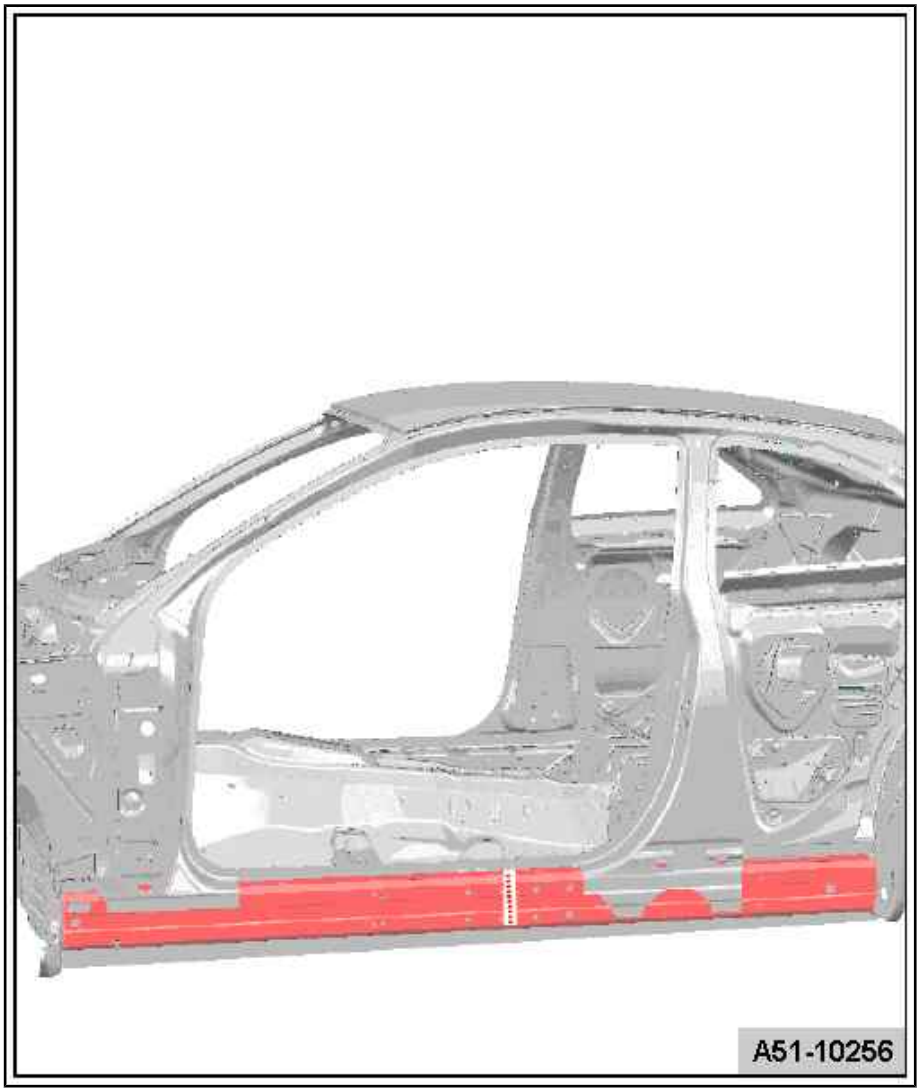

– Make separating cut at top of side member using body saw along -line- shown in illustration.

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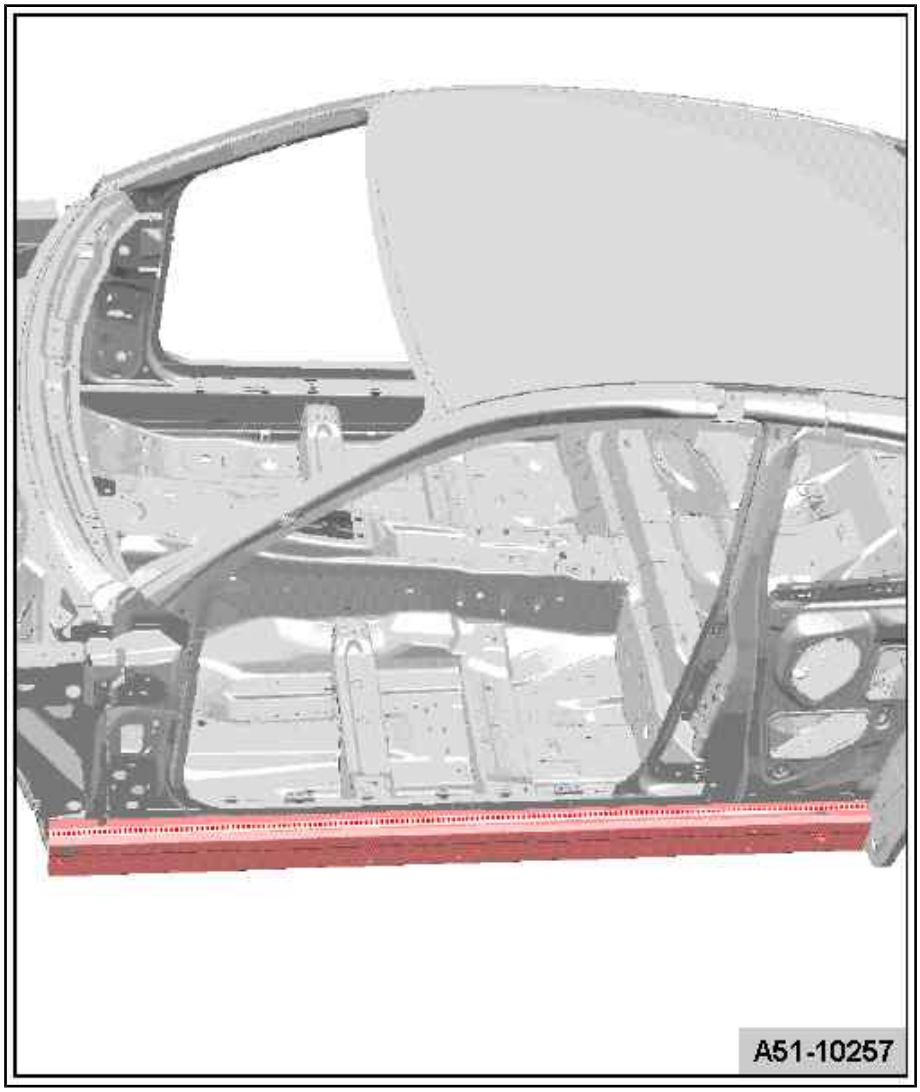

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– Make separating cut at bottom of side member using body saw along -line- shown in illustration.

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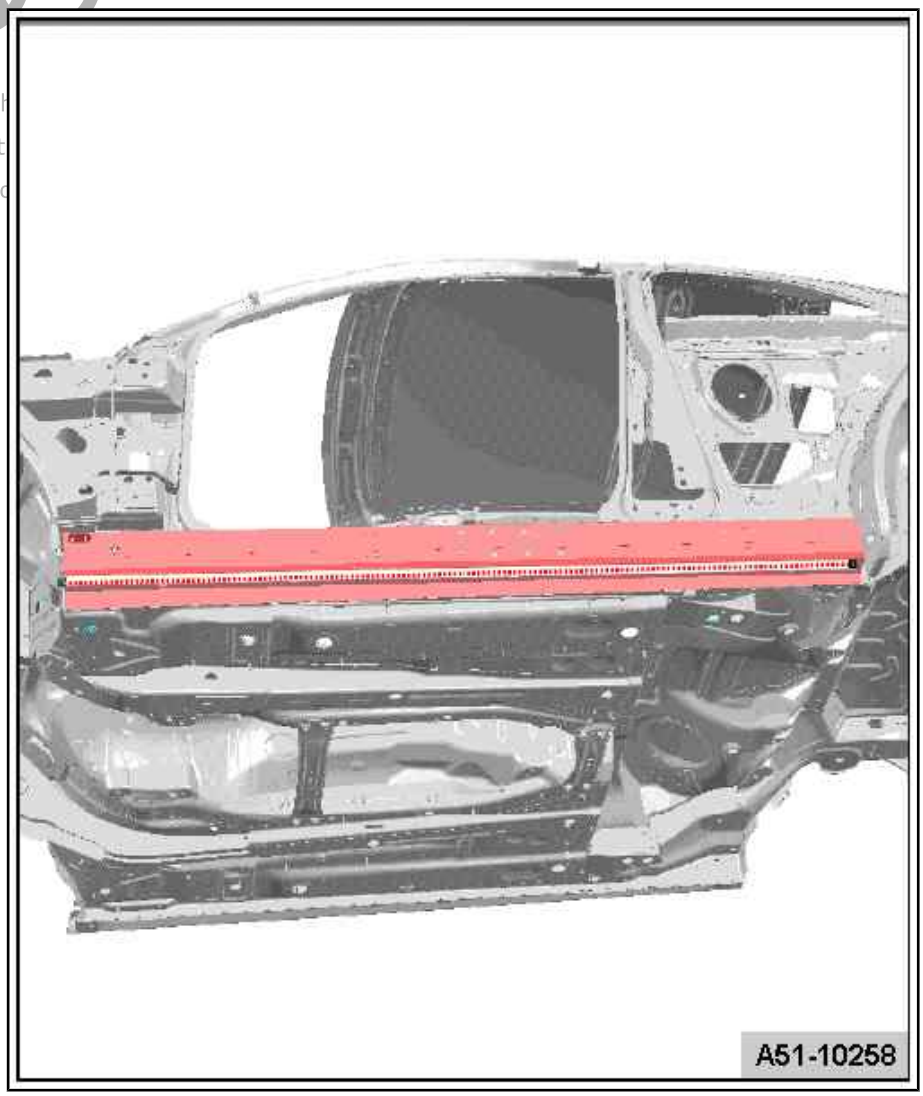
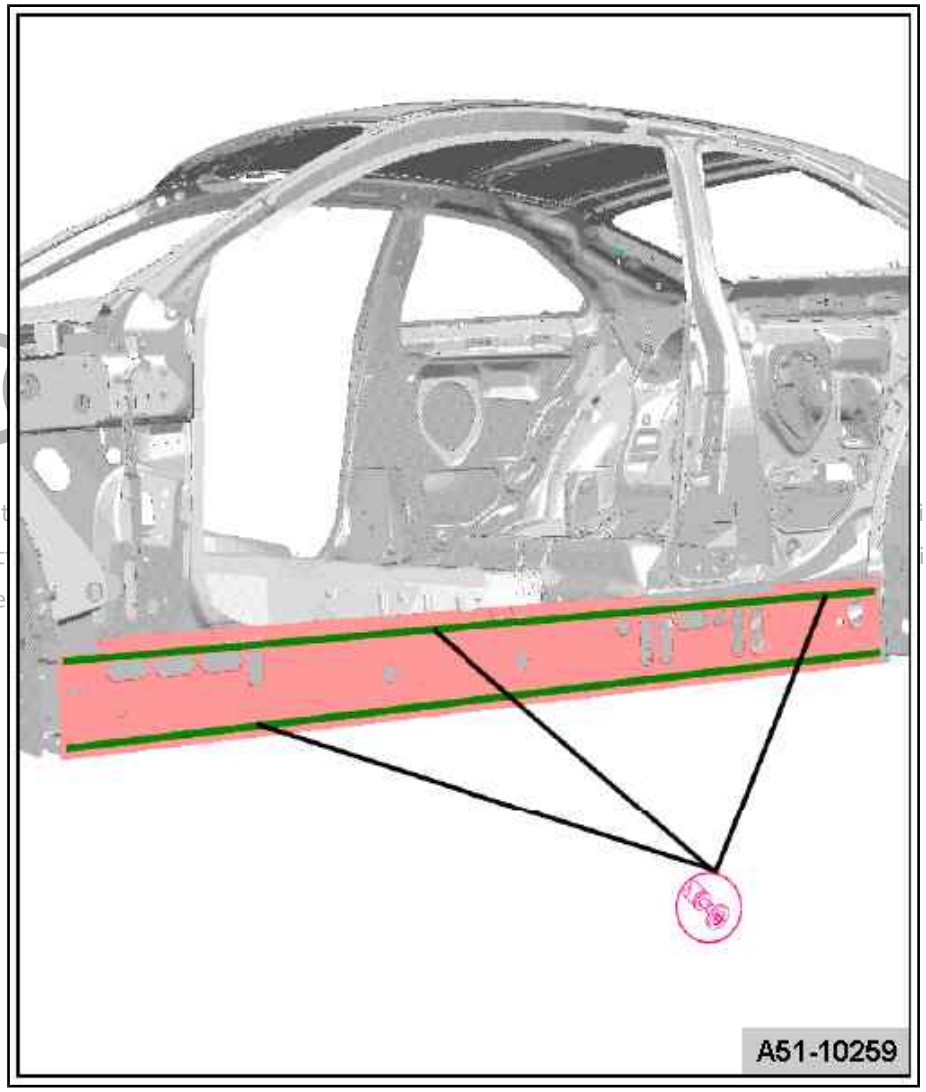


– Detach part.
– Remove remaining material using compact angle grinder .



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Replacement part

- Inner side member

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.

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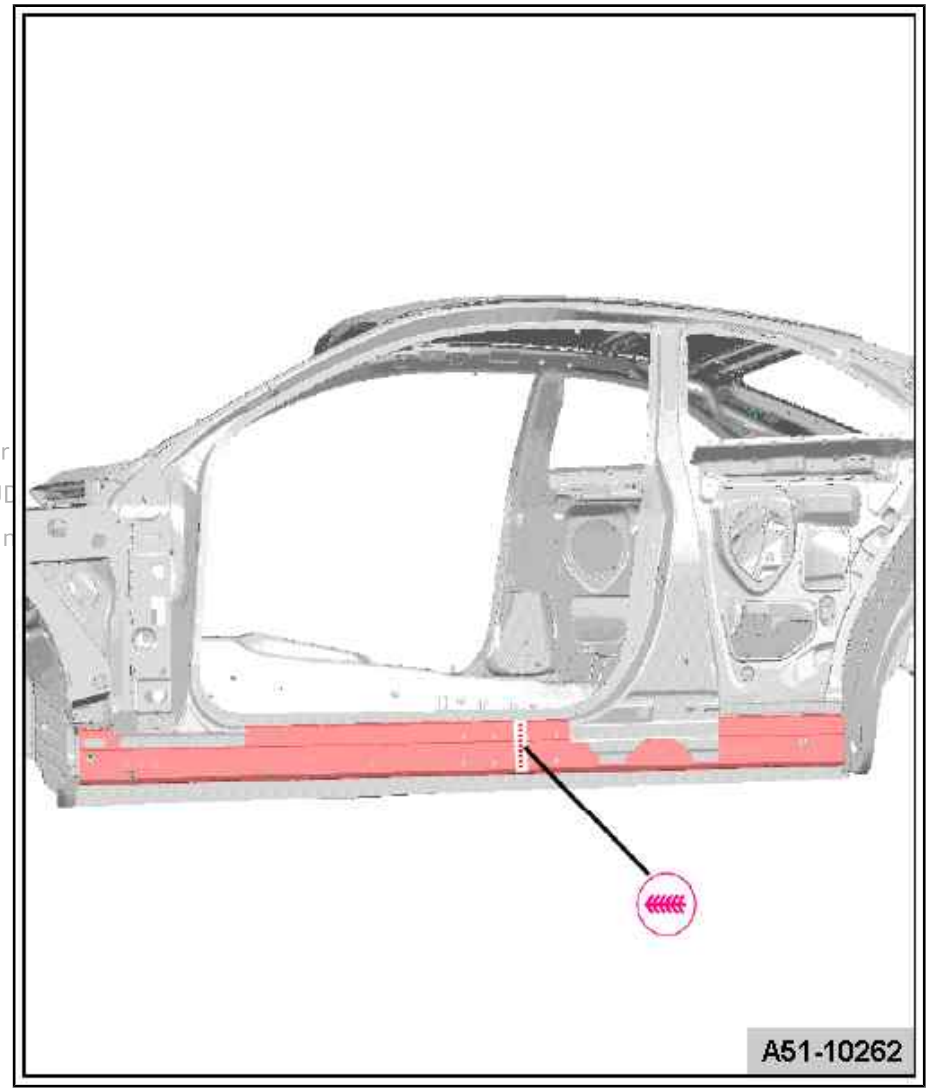
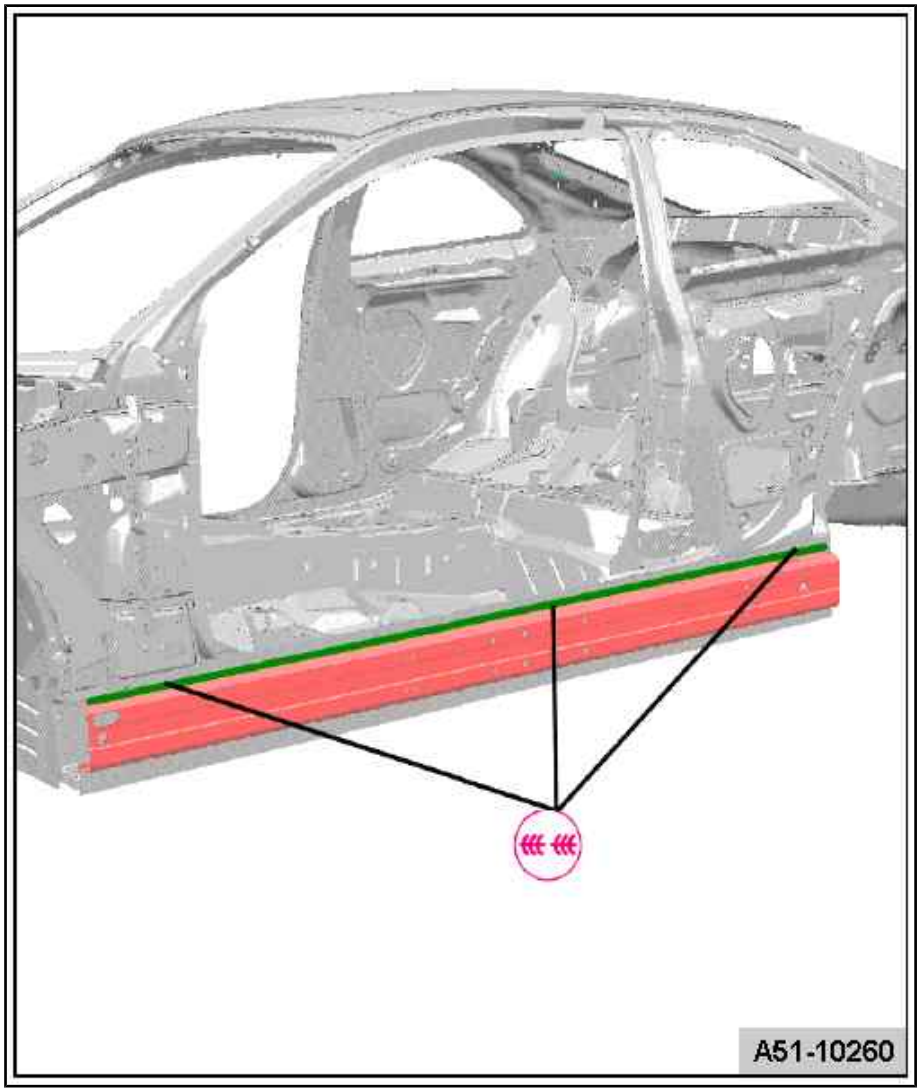


– Weld in side member with fillet weld at inner side member reinforcement using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



– Weld in side member with fillet weld at inner side member reinforcement using shielded arc welding equipment : SG continuous seam (staggered - with gaps).

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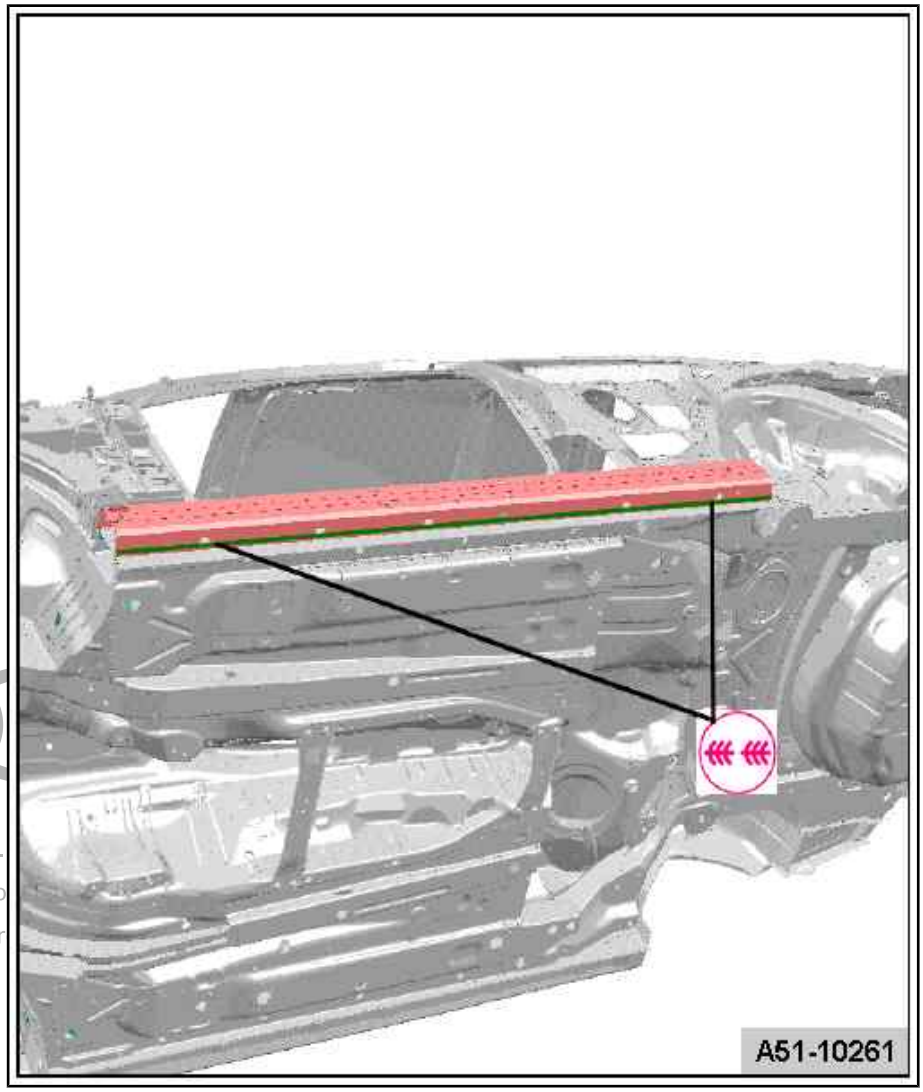

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- Welding in outer side member ⇒ page 181
- Welding in side panel (Coupé) ⇒ page 239
- Welding in side panel (Sportback) ⇒ page 249
- Welding in inner B-pillar (part section; Coupé) ⇒ page 163
- Welding in inner B-pillar (part section; Sportback) ⇒ page 169
- Welding in outer A-pillar ⇒ page 141
- Welding in inner A-pillar ⇒ page 148

RO: 51 47 55 52

19 Inner side member - Partial renewal (Coupé and Sportback identical)

19.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Compact angle grinder
- Body saw
- Spot weld breaker

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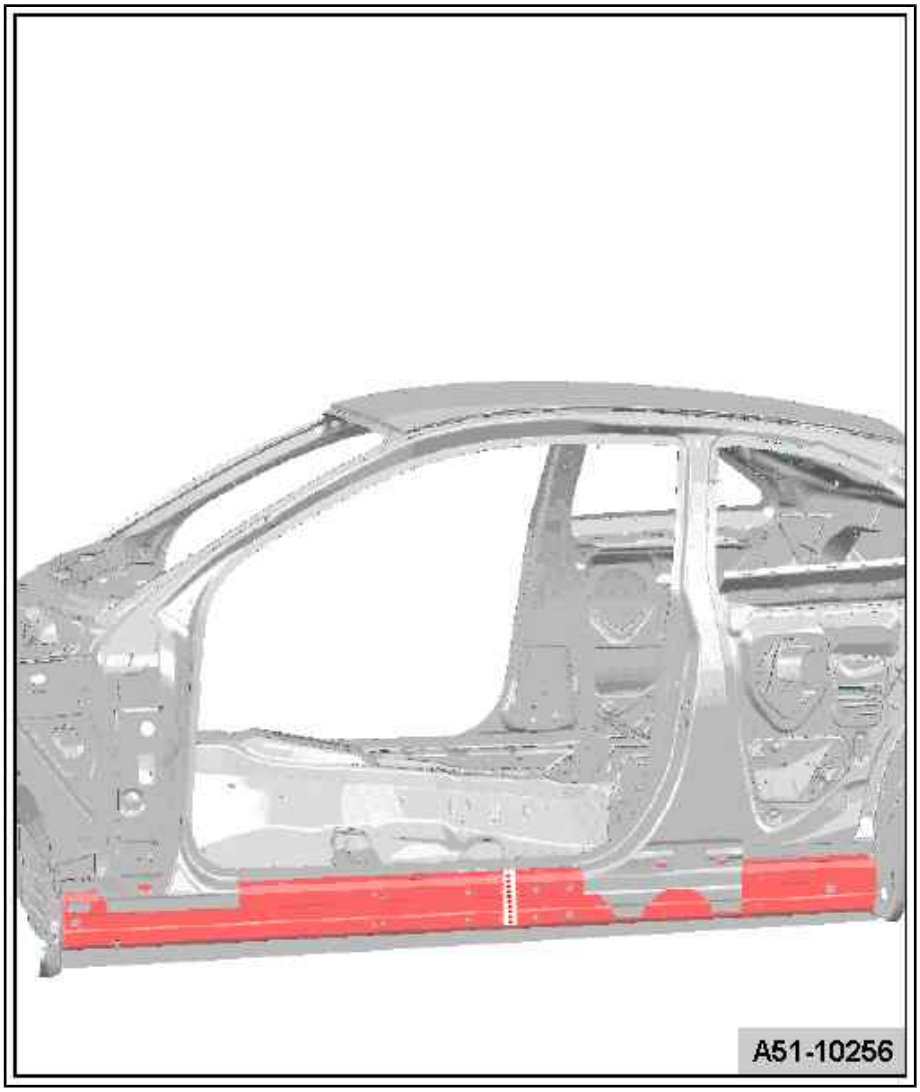
19.2 Procedure

- Outer side member already removed ⇒ page 181
- Side panel already removed (Coupé) ⇒ page 239
- Side panel already removed (Sportback) ⇒ page 249
- Inner B-pillar (part section) already removed (Coupé) ⇒ page 163
- Inner B-pillar (part section) already removed (Sportback) ⇒ page 169
- Outer A-pillar already removed ⇒ page 141
- Inner A-pillar already removed ⇒ page 148

Cutting locations

– Make separating cuts according to extent of damage using body saw .

– Separate original joint using spot weld breaker .



– Make separating cut as shown using body saw .

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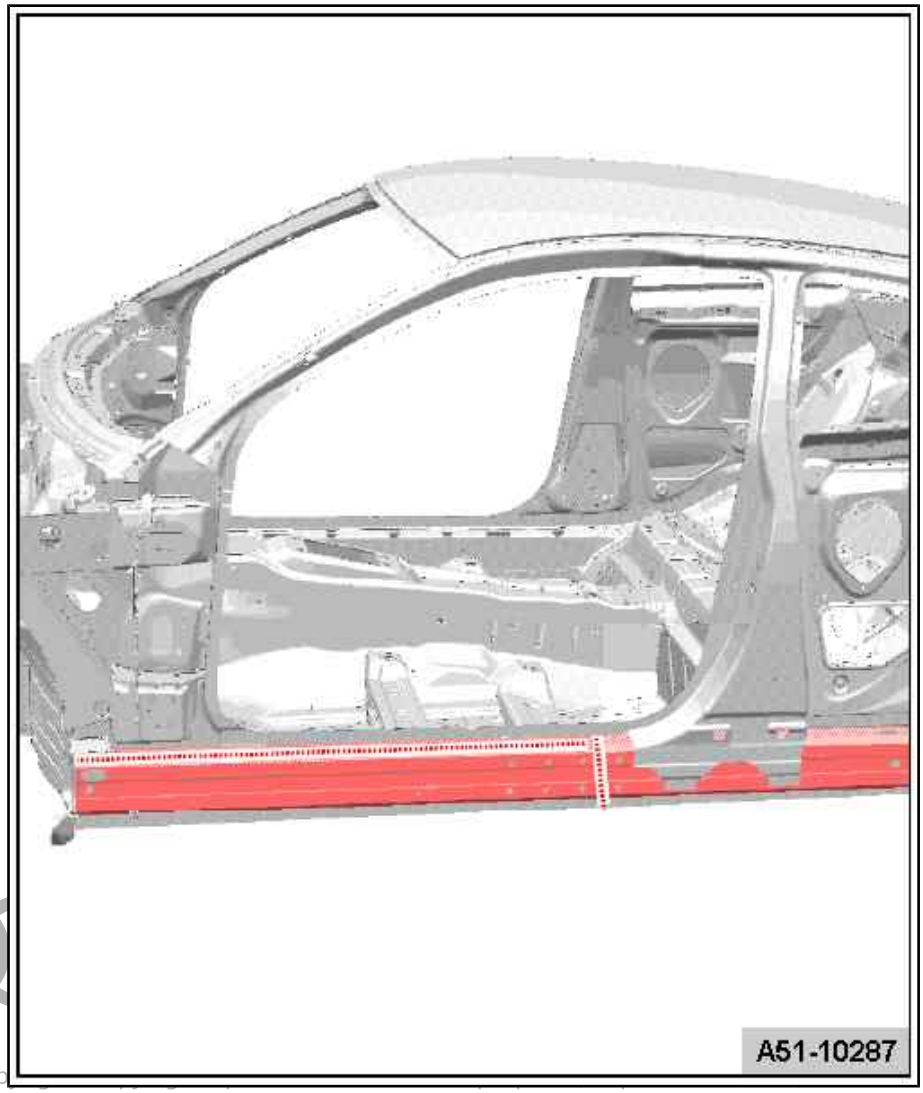

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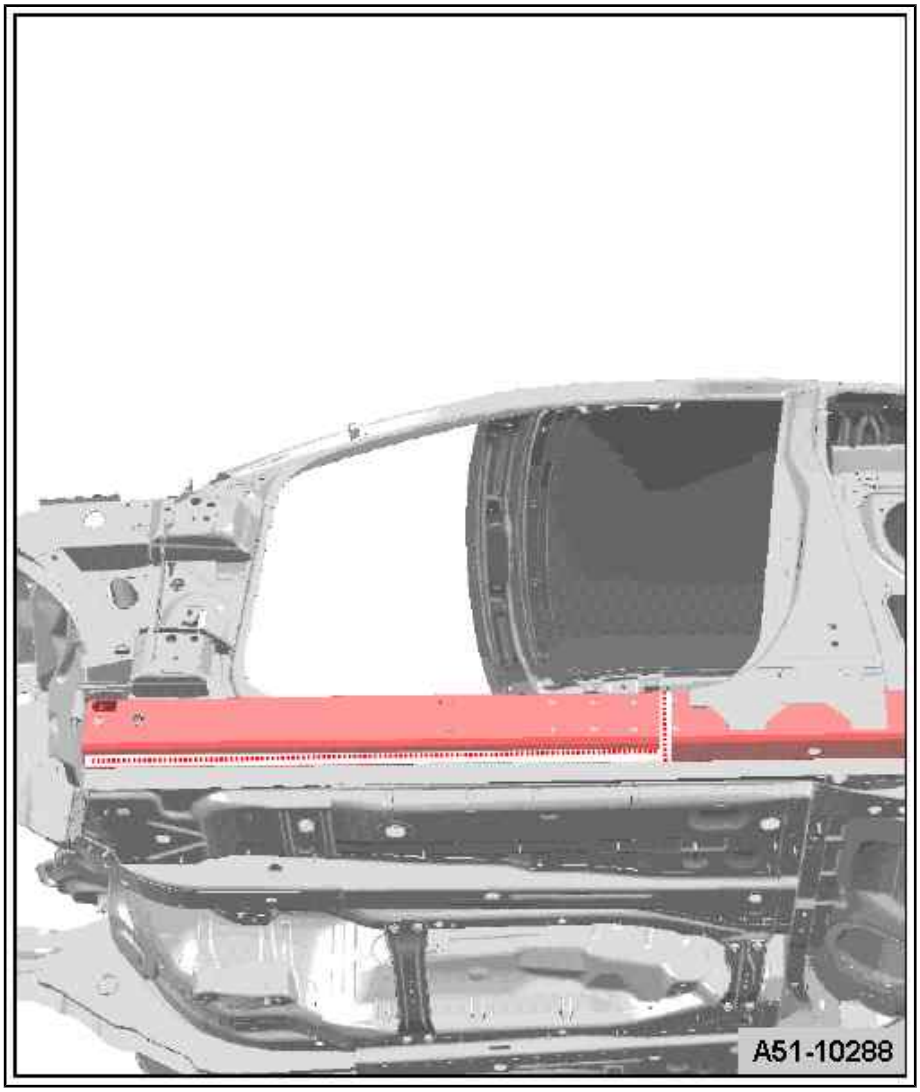
– Make separating cut as shown using body saw .
– Remove remaining material using compact angle grinder .



Replacement part

♦ Inner side member

NOTICE

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– Use a welding unit which has been approved by AUDI AG.

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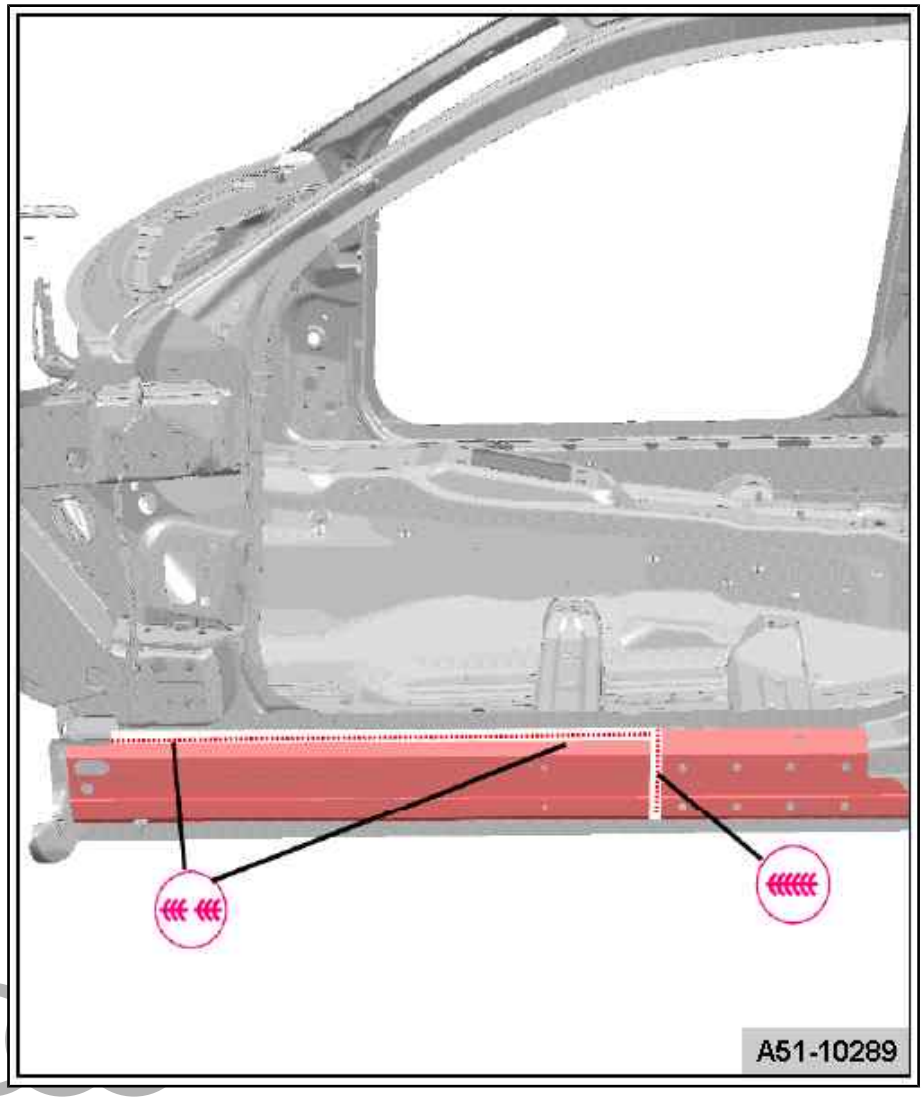
Welding in

– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.

– Weld in side member with fillet weld at web plate using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



- Welding in outer side member ⇒ page 181
- Welding in side panel (Coupé) ⇒ page 239
- Welding in side panel (Sportback) ⇒ page 249
- Welding in inner B-pillar (part section; Coupé) ⇒ page 163
- Welding in inner B-pillar (part section; Sportback) ⇒ page 169
- Welding in outer A-pillar ⇒ page 141
- Welding in inner A-pillar ⇒ page 148

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20 Inner side member reinforcement - Renewal (Coupé and Sportback identical)

20.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

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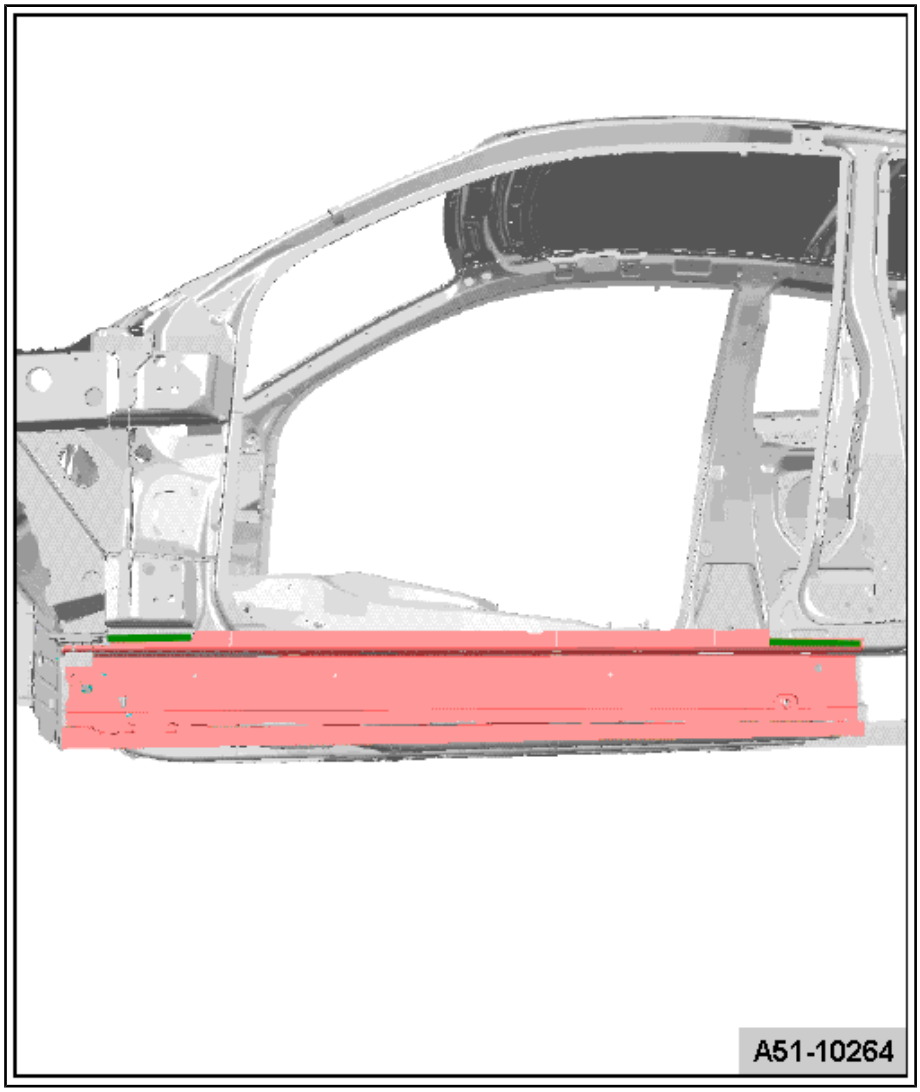
20.2 Procedure

- Outer side member already removed ⇒ page 181
- Side panel already removed (Coupé) ⇒ page 239
- Side panel already removed (Sportback) ⇒ page 249
- Inner B-pillar (part section) already removed (Coupé) ⇒ page 163
- Inner B-pillar (part section) already removed (Sportback) ⇒ page 169
- Outer A-pillar already removed ⇒ page 141
- Inner A-pillar already removed ⇒ page 148

The inner side member reinforcement consists of high-strength steel.

Cutting locations

– Separate original joint using spot weld breaker .



– Separate original joint at inside of floor panel using spot weld breaker .
– Detach part.
– Remove remaining material using compact angle grinder .

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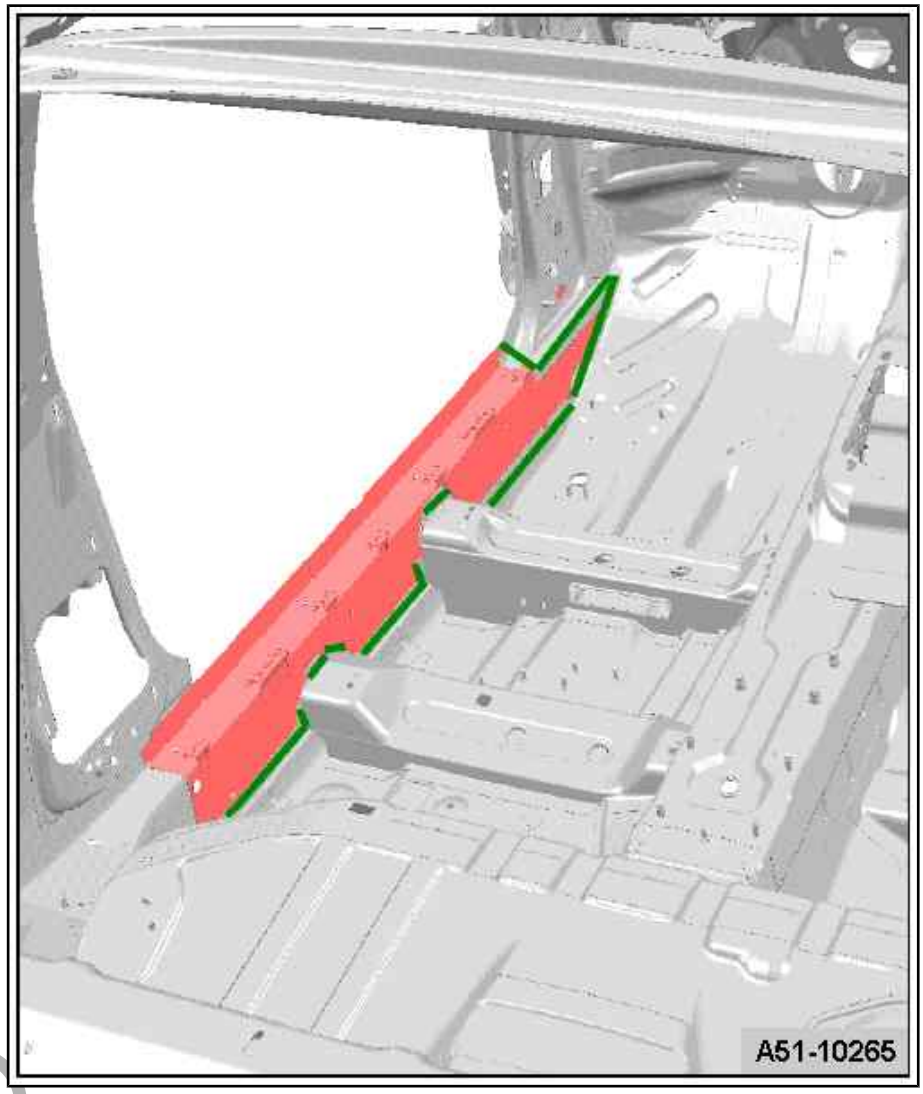

Replacement part

- Inner side member reinforcement

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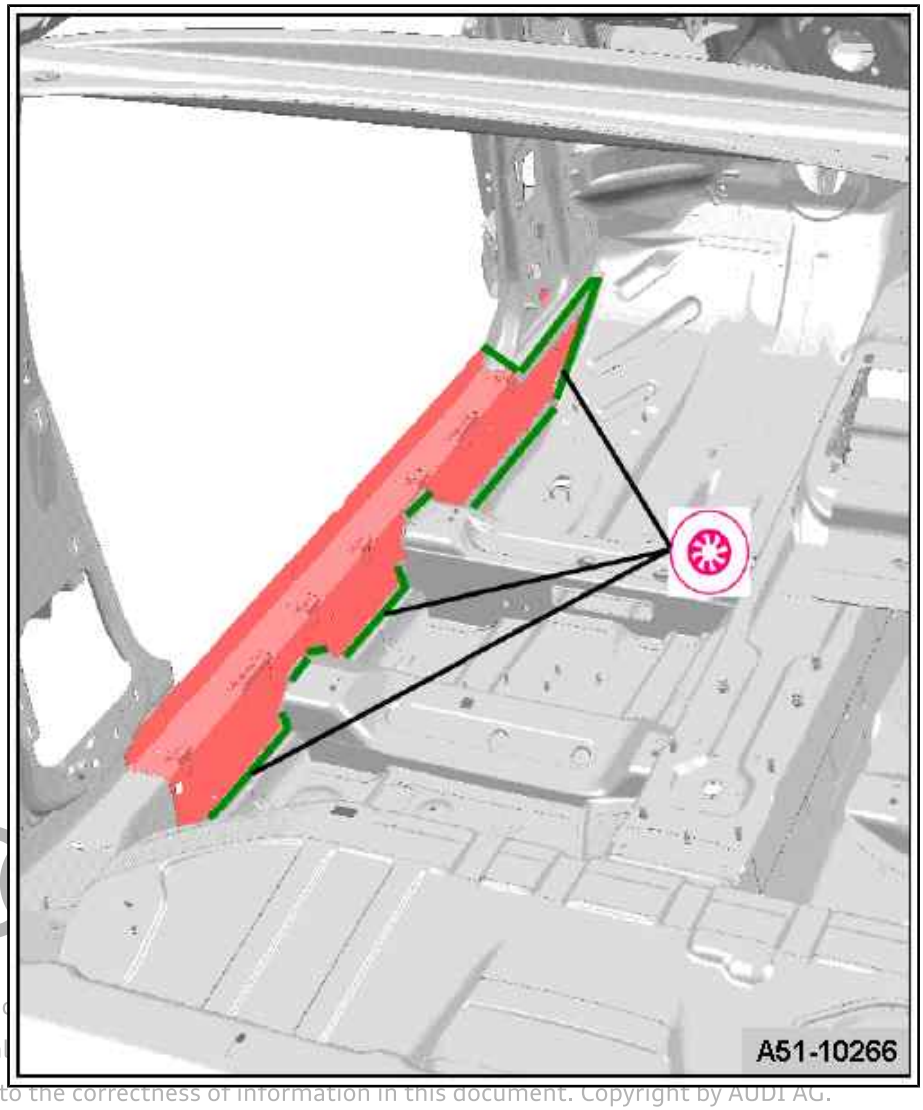
– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in inner side member reinforcement using shielded arc welding equipment : SG plug weld seam.



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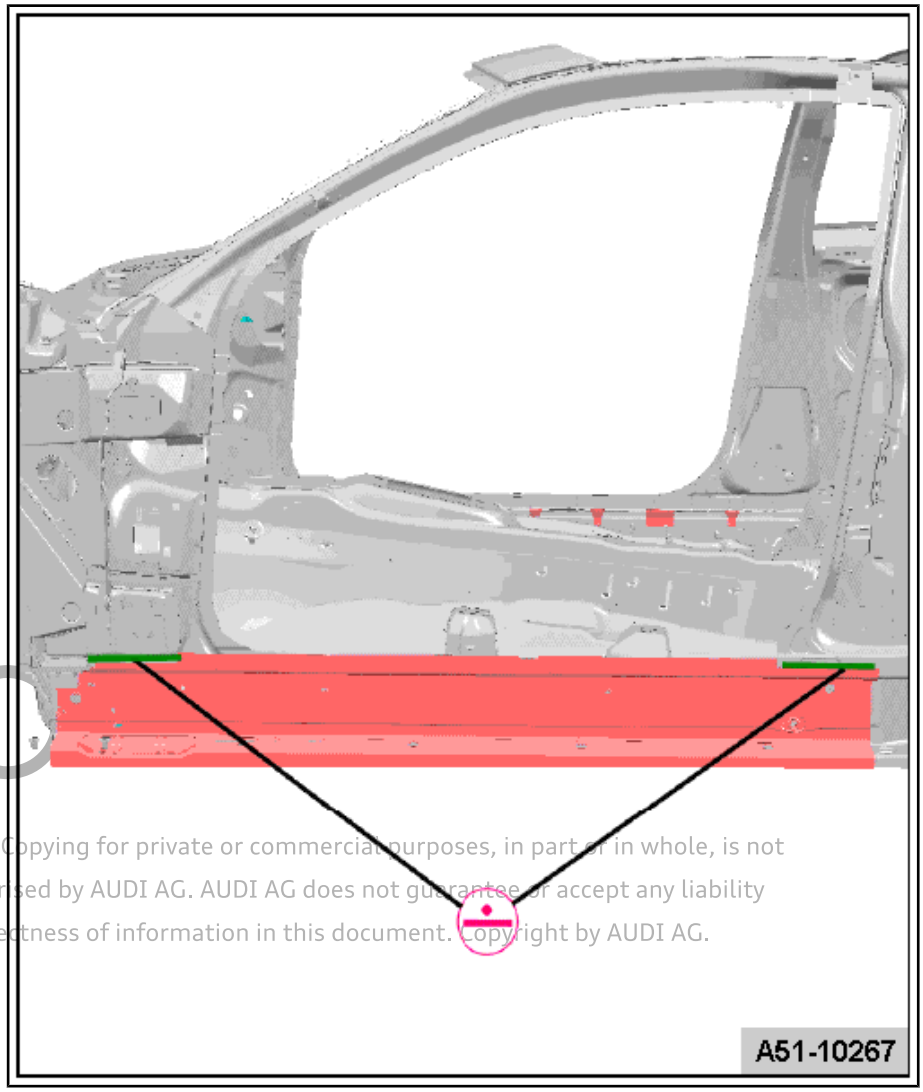
– Weld in inner side member reinforcement using resistance spot welder : RP spot weld seam.



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- Welding in outer side member ⇒ page 181
- Welding in side panel (Coupé) ⇒ page 239
- Welding in side panel (Sportback) ⇒ page 249
- Welding in inner B-pillar (part section; Coupé) ⇒ page 163
- Welding in inner B-pillar (part section; Sportback) ⇒ page 169
- Welding in outer A-pillar ⇒ page 141
- Welding in inner A-pillar ⇒ page 148

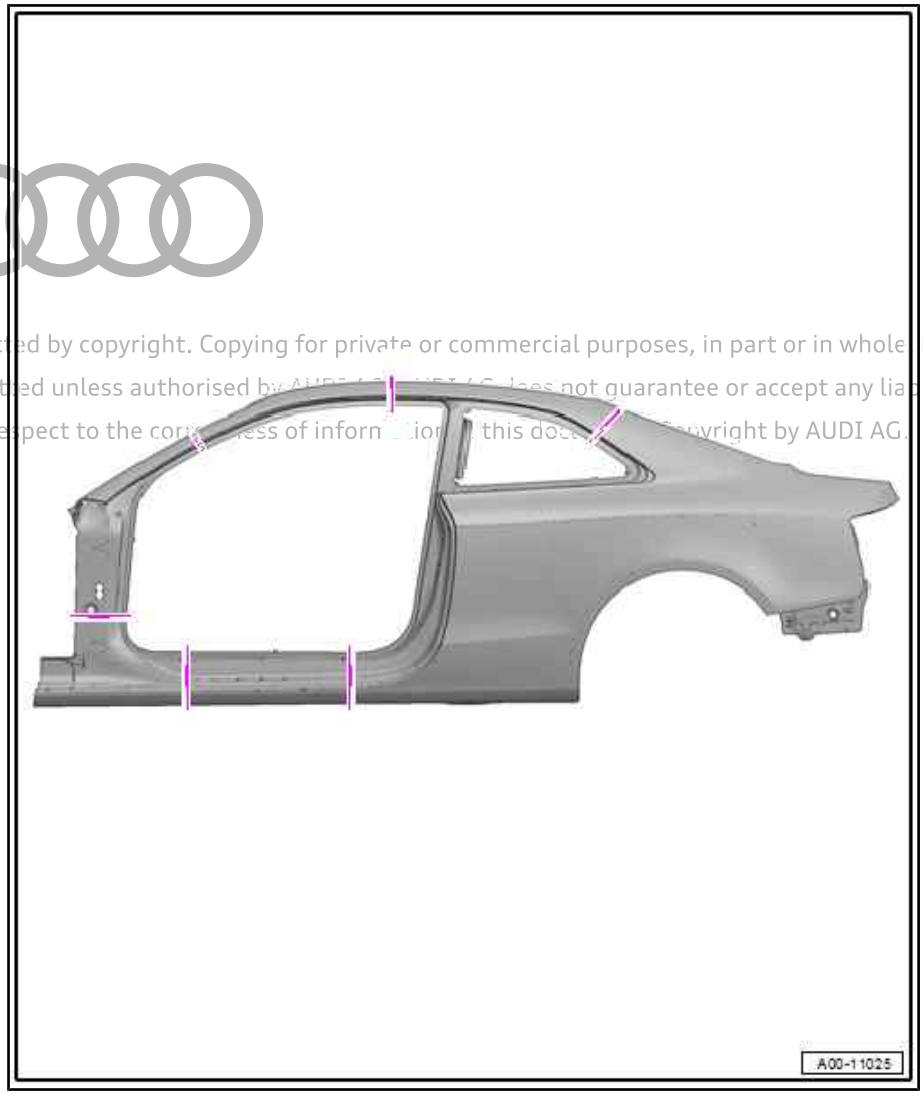
53 – Body - rear

1 Permitted separating cuts on complete side panel

Note

- *Use only welding equipment approved by AUDI AG.*
- *SG continuous weld seams are approved for the separating cuts shown in the illustration.*

Separating cuts for Coupé



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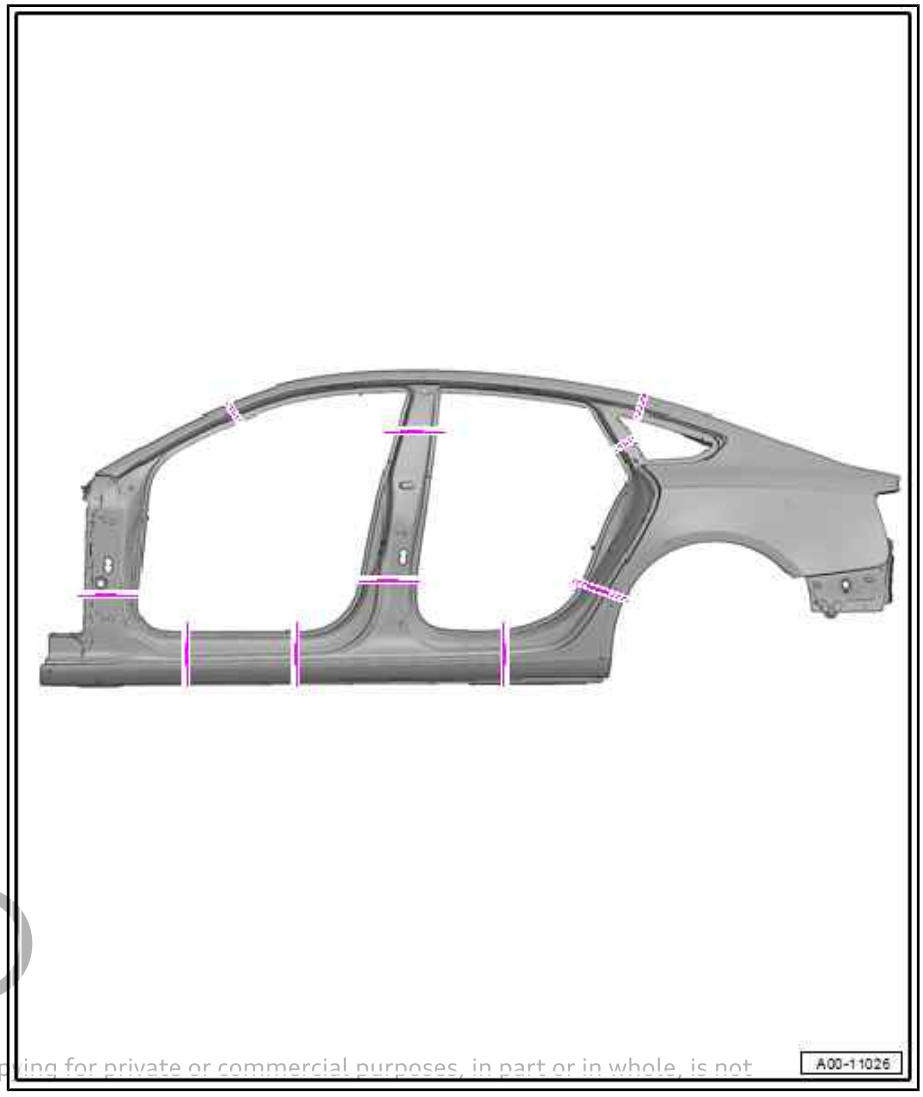
Separating cuts for Sportback



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1. Permitted separating cuts on complete side panel

RO: 53 16 55 02

2 Upper cross panel - Renewal

2.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Drill
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

2.2 Procedure

Note

Partial renewal is possible with the separating cuts illustrated. Butt weld separated joints: SG continuous seam.

Cutting locations

– Separate original joint using spot weld breaker .

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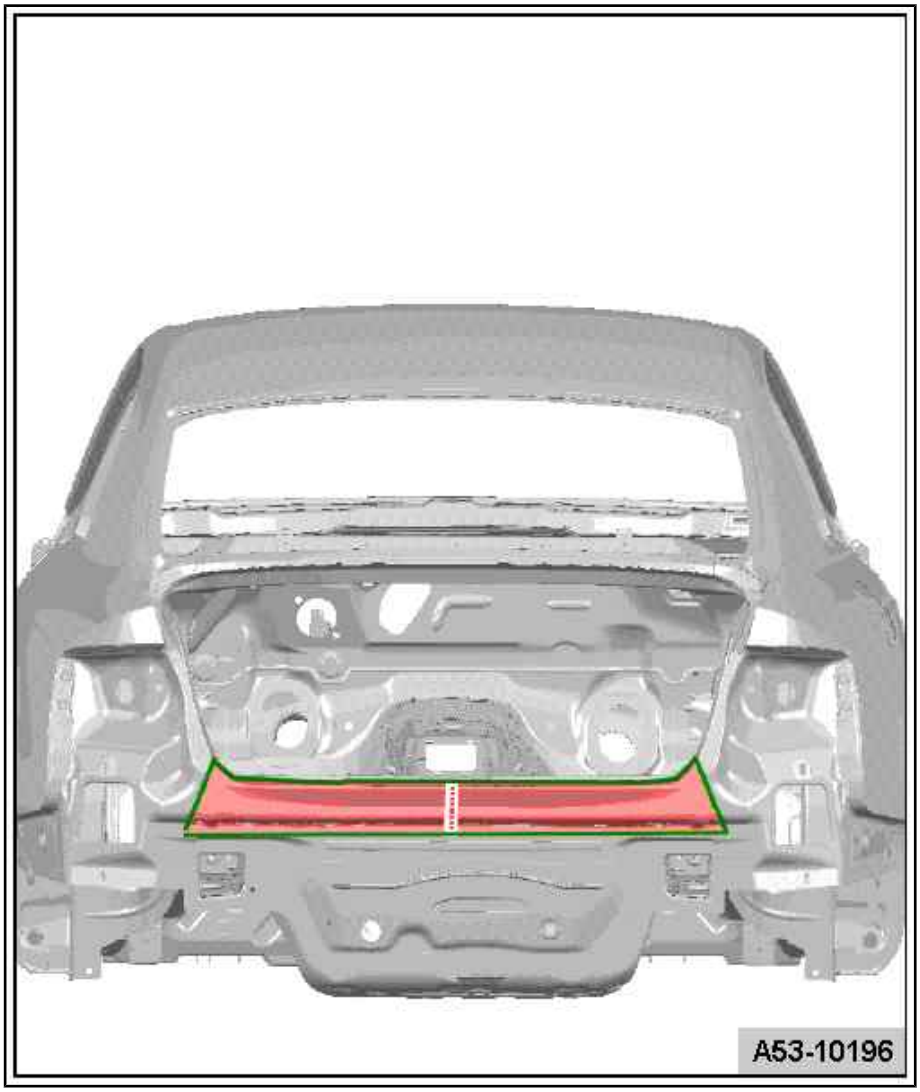

Replacement part

- Rear cross panel

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in cross panel using resistance spot welder : RP spot weld seam.

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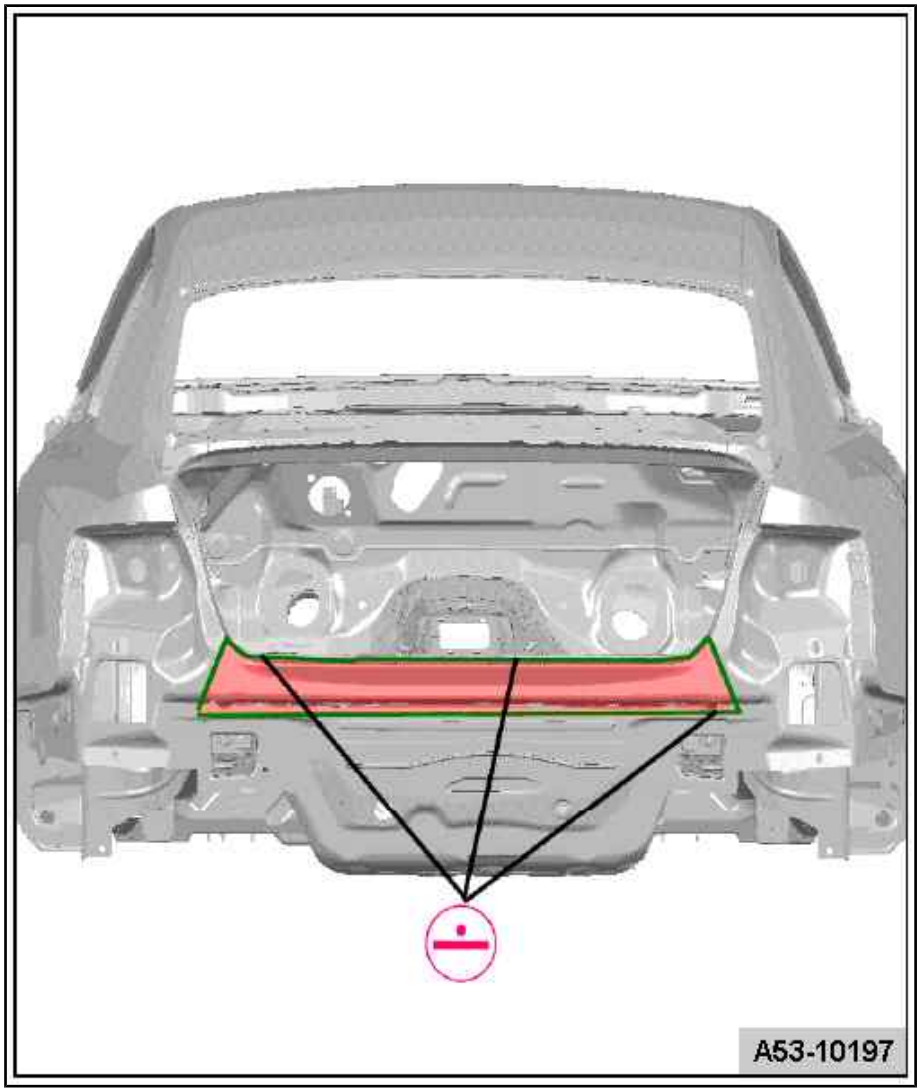

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RO: 53 16 55 02

3 Upper cross panel - Renewal (Sportback)

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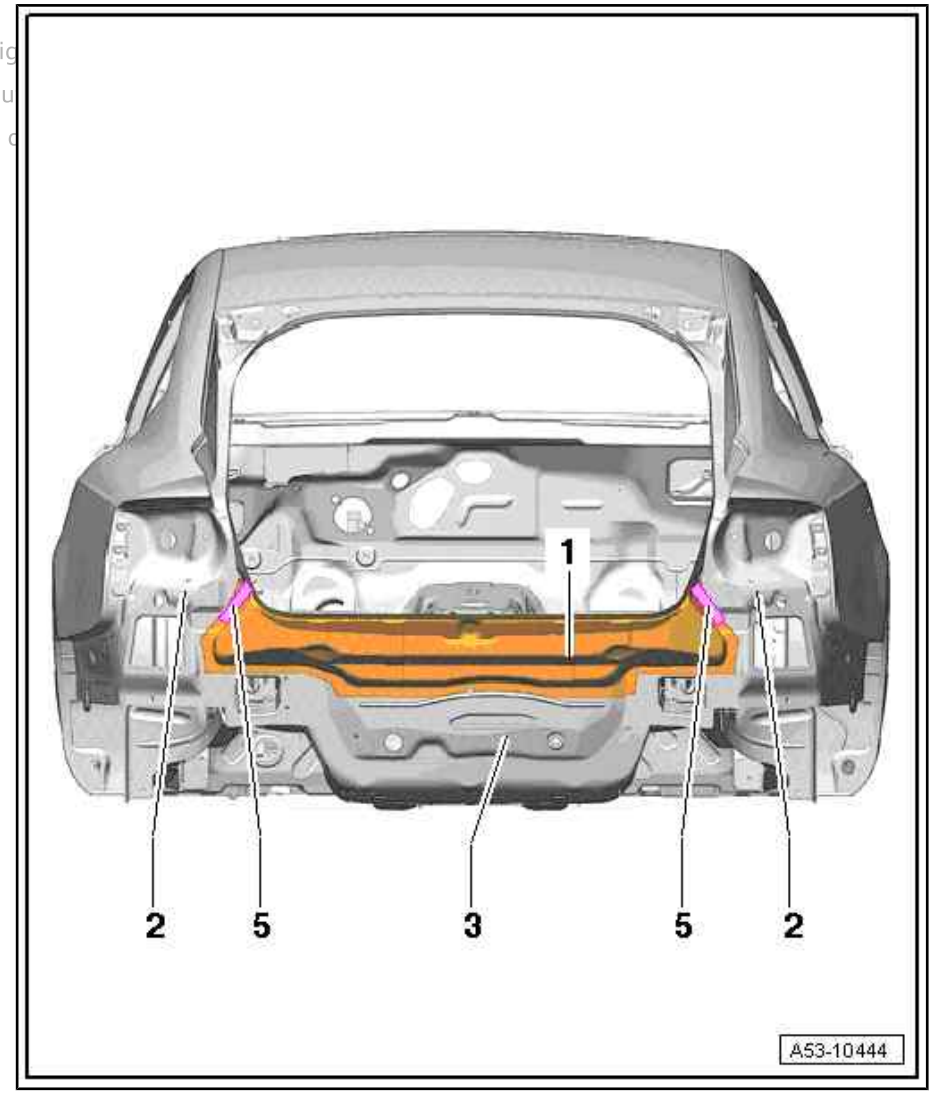
1 - Rear cross member
2 - Corner panel (right-side)
3 - Cross panel
4 - Corner panel (left-side)
5 - Bonded area



3.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Drill
- Spot weld breaker
- Compressed-air gun

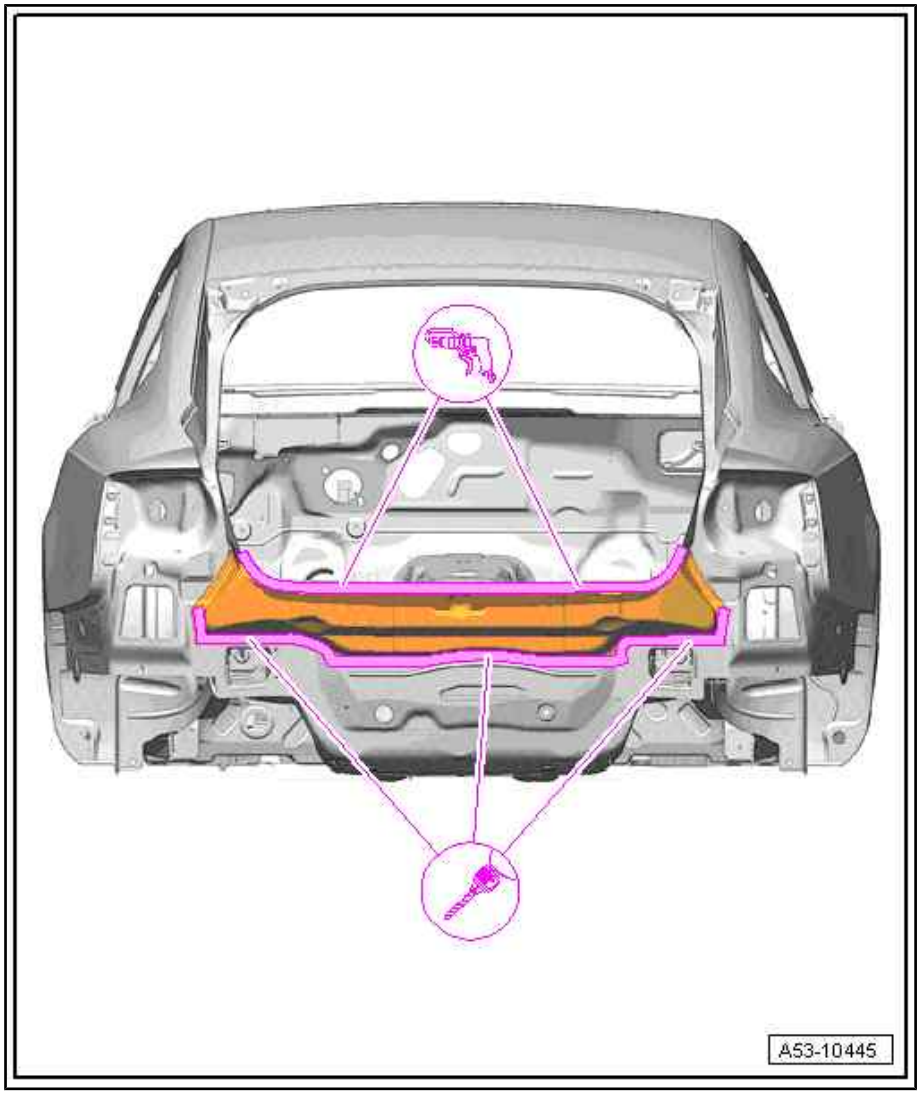
Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

3.2 Procedure

Cutting locations

– Drill out original joint using spot weld breaker .

– Drill out remaining joint using drill .



– Remove remaining material using compact angle grinder .

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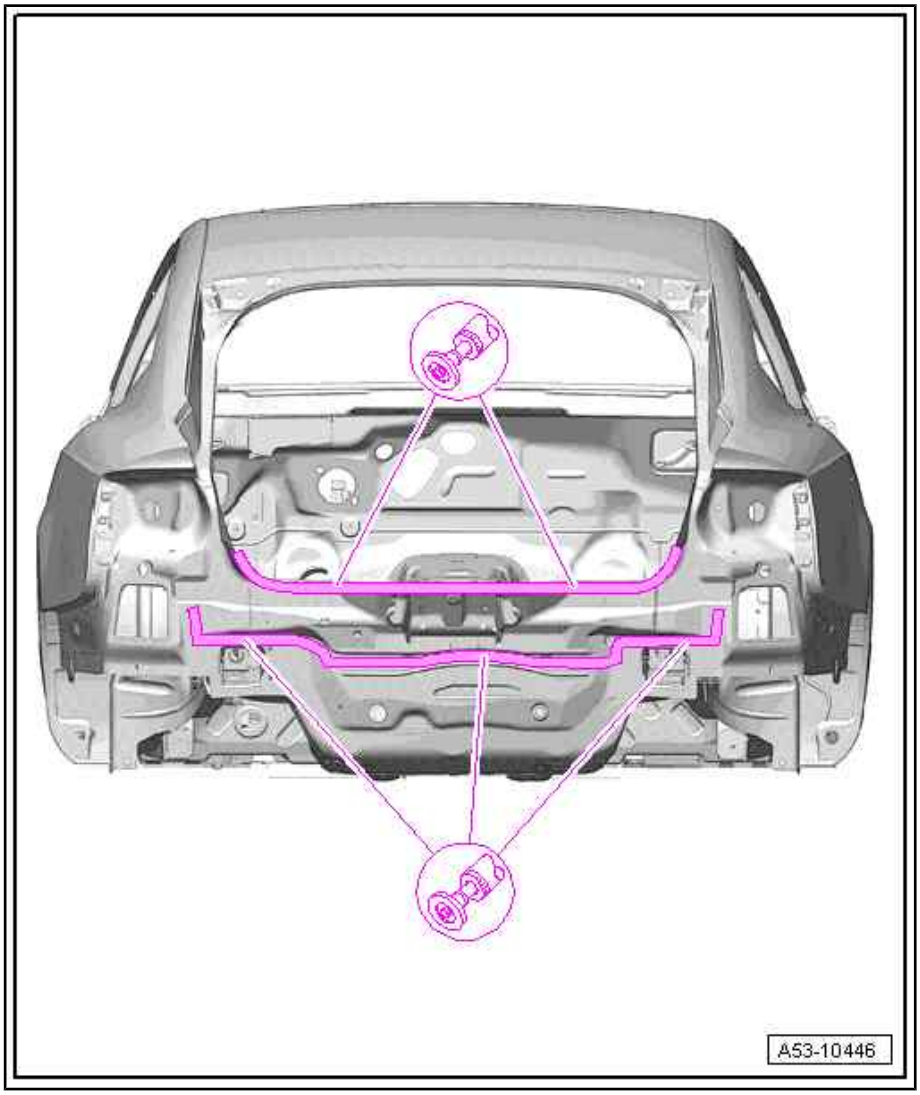

Replacement parts

- Rear cross member
- 2-component epoxy adhesive - DA 001 730 A2-

Preparing new part

Note

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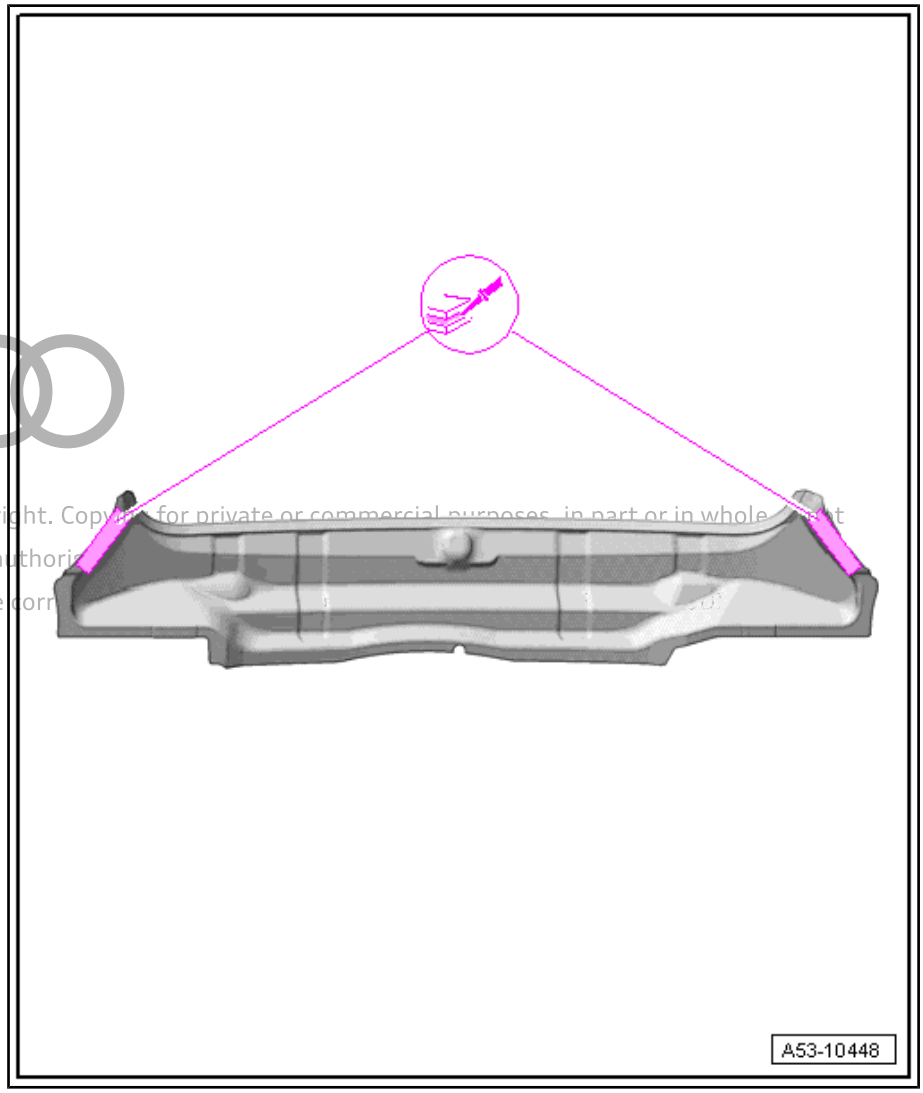
The new part must be welded in within 30 minutes, otherwise the adhesion of the bond will be impaired.

– Using hand cartridge gun - DA 001 730 A2- , apply 2-component epoxy adhesive - VAS 5155- to areas of original bonded joints used in production.



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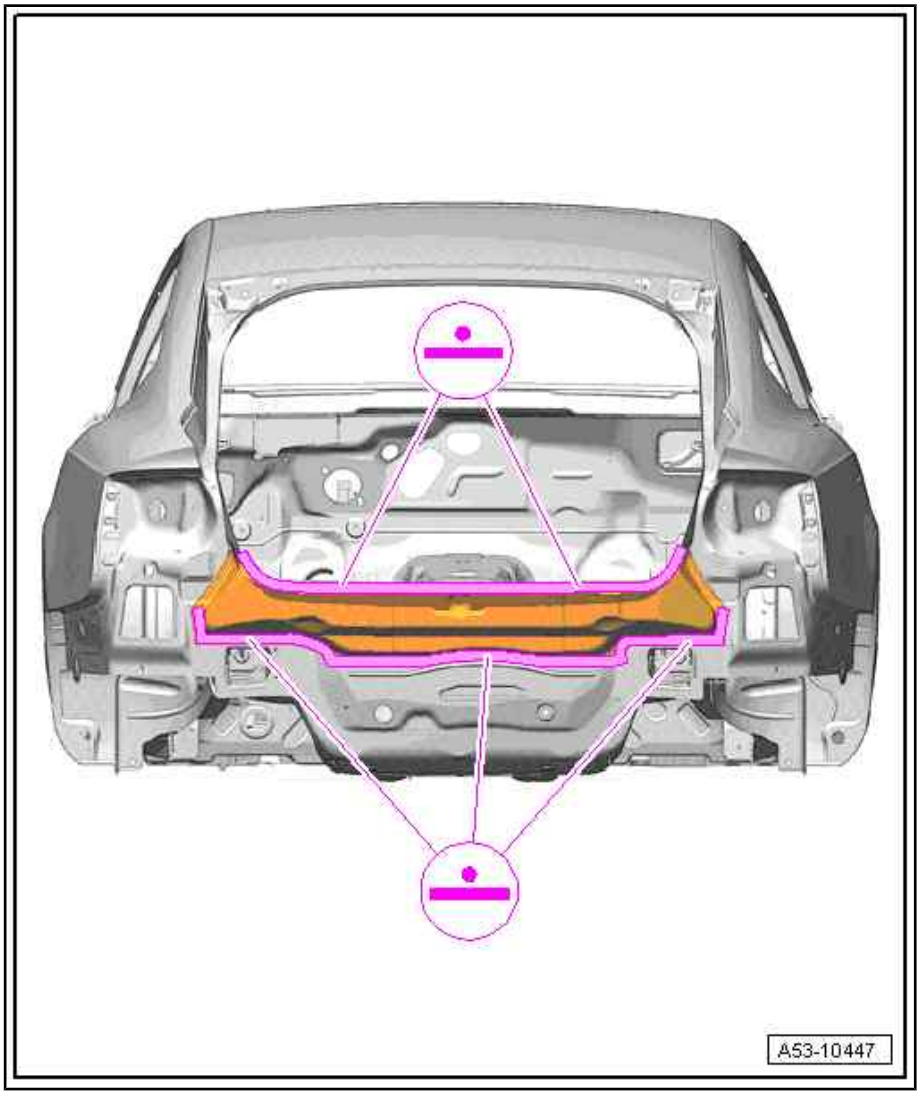
NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

- **Use a welding unit which has been approved by AUDI AG.**

Welding in

- Match up rear cross member and fix in position.
- Check fit relative to rear lid.
- Weld in rear cross member using resistance spot welder : RP spot weld seam.



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RO: 53 09 55 50

4 Rear cross panel - Renewal (Coupé)

4.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Drill
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

4.2 Procedure

- Upper cross panel already removed ⇒ page 206

Cutting locations

– Separate original joint using spot weld breaker .

– Detach part.

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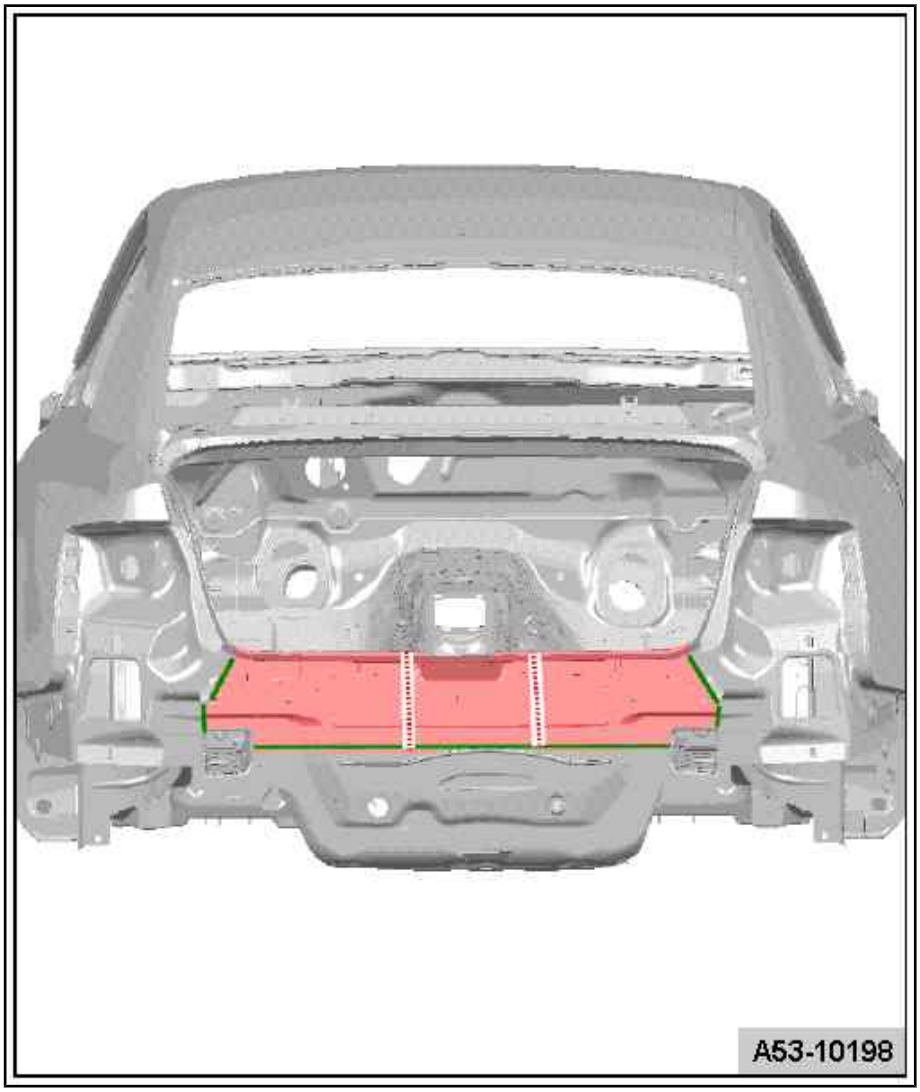

Replacement part

- Rear cross panel

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in cross panel using resistance spot welder : RP spot weld seam.

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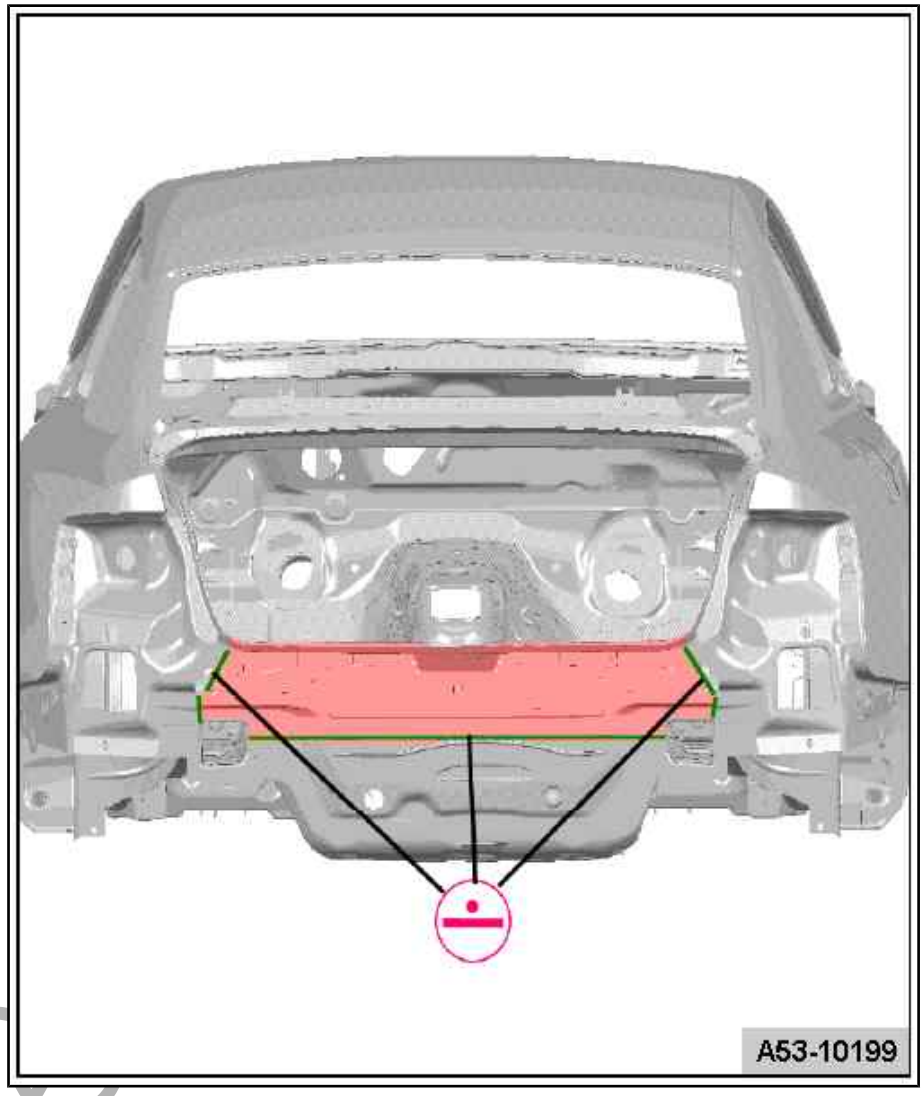

- Weld in upper cross panel ⇒ page 206 .

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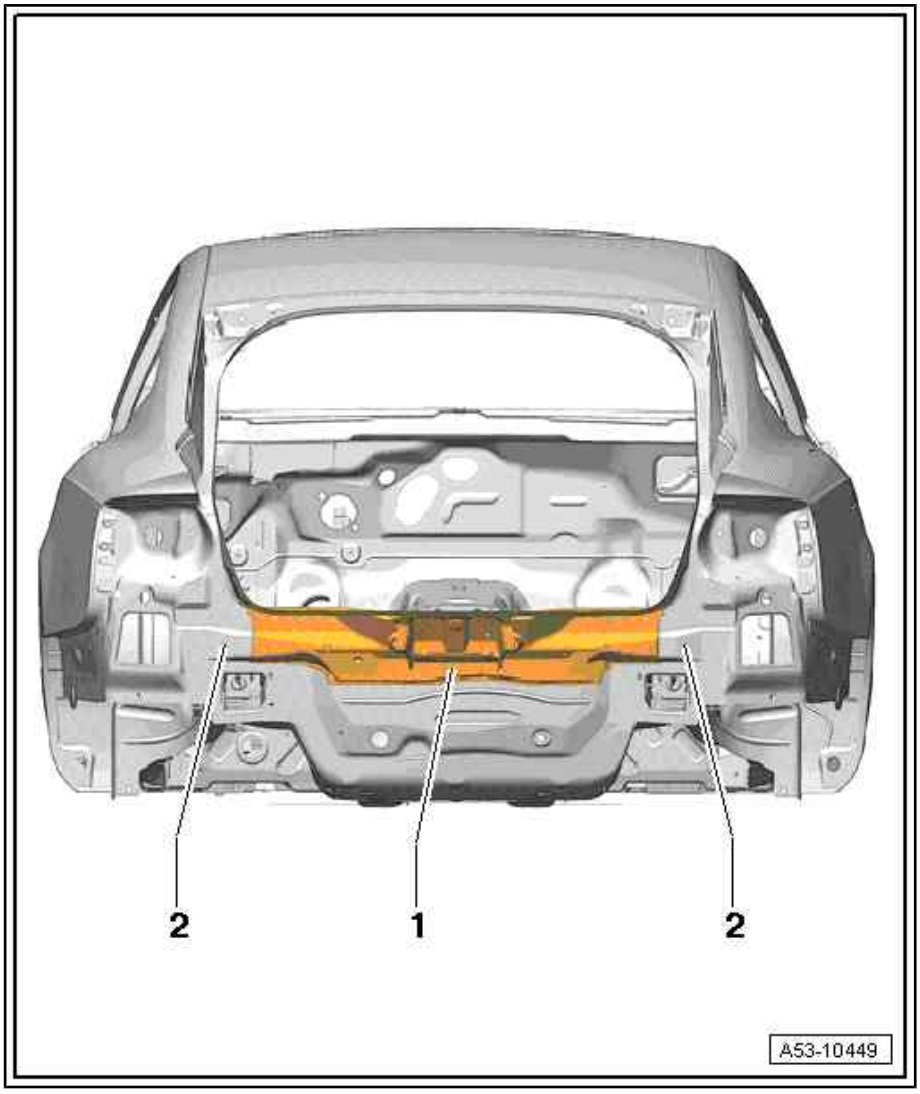
RO: 53 09 55 50

5 Rear cross panel - Renewal (Sportback)

1 - Cross panel

2 - Corner panels (left and right)



5.1 Tools

Special tools and workshop equipment required

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- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

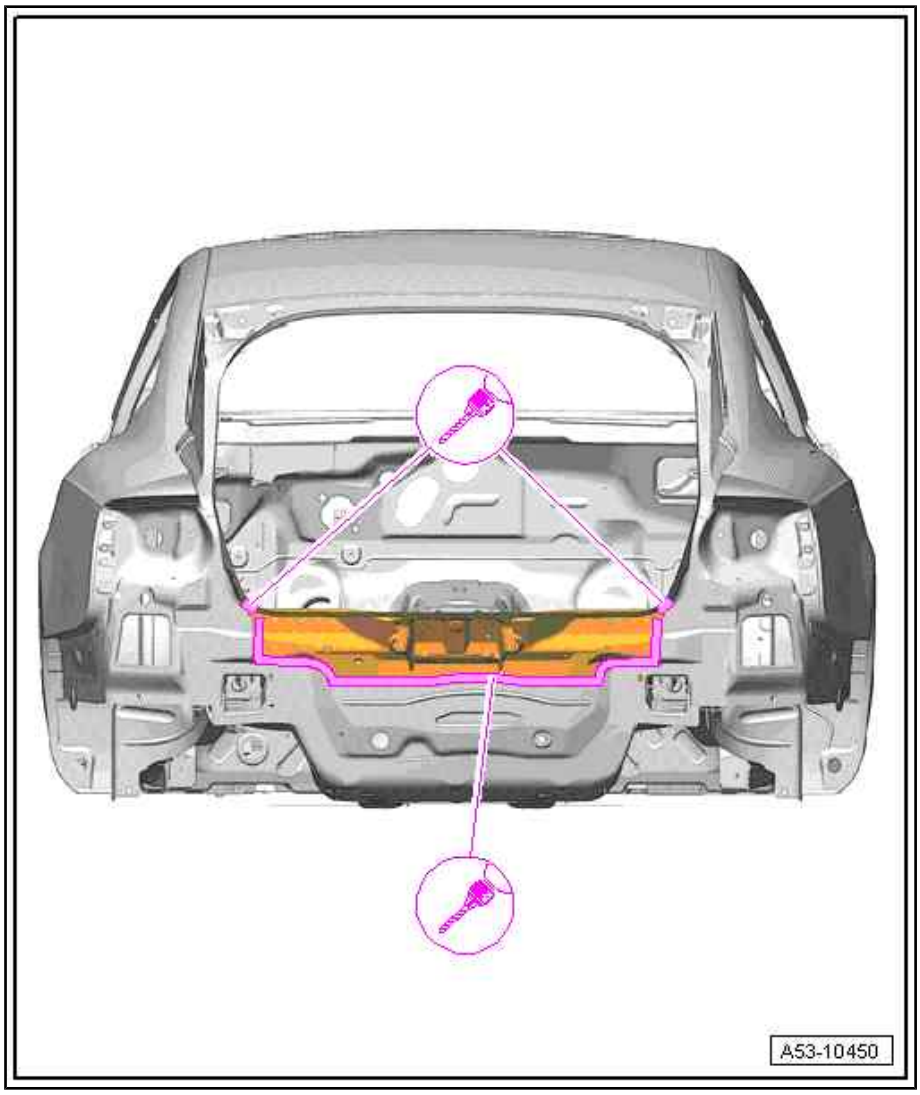
5.2 Procedure

- Upper cross panel already removed ⇒ page 209

Cutting locations

– Drill out original joint using spot weld breaker .

– Pull off cross panel at the bottom and pull out upwards into luggage compartment.



– Remove remaining material using compact angle grinder .

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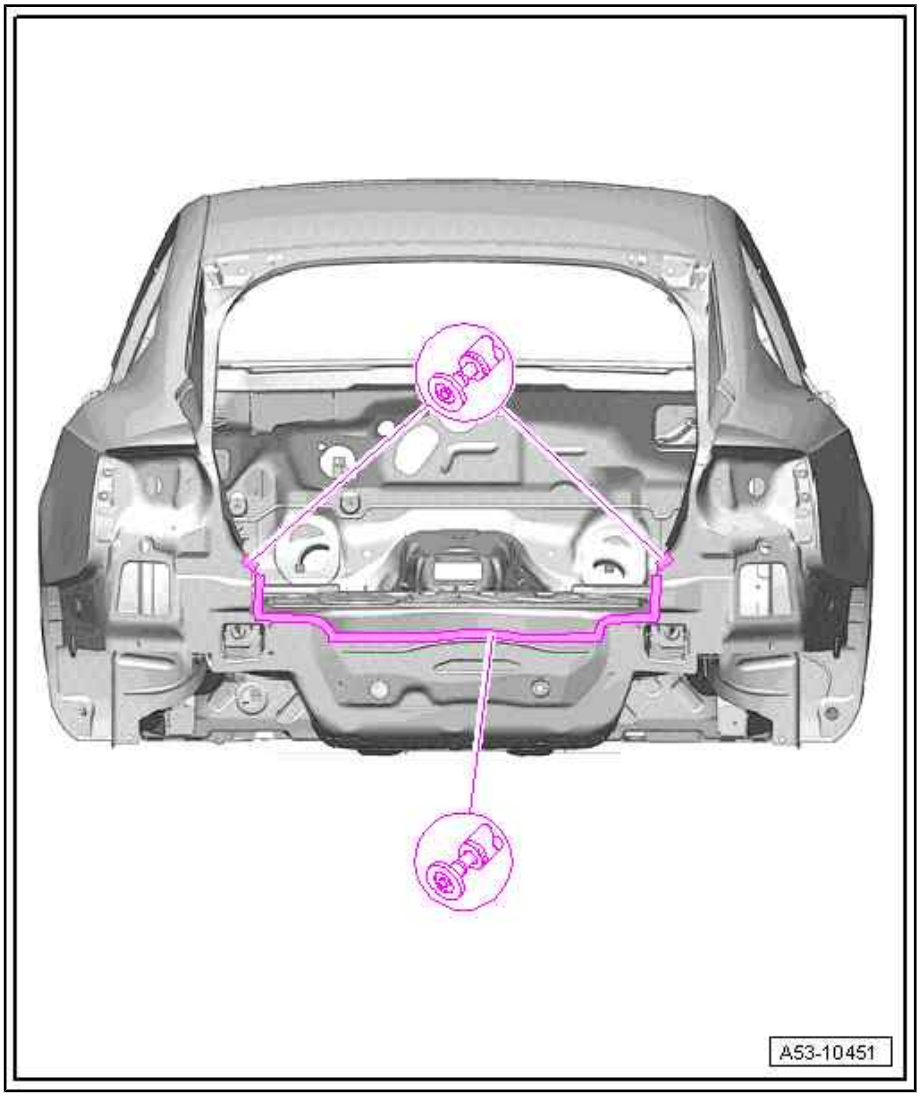

Replacement part

- Rear cross panel

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Insert cross panel from above from luggage compartment.

– Match up cross panel and fix in position.

– Check fit relative to rear cross member and rear lid.

– Weld in cross panel using resistance spot welder : RP spot weld seam.

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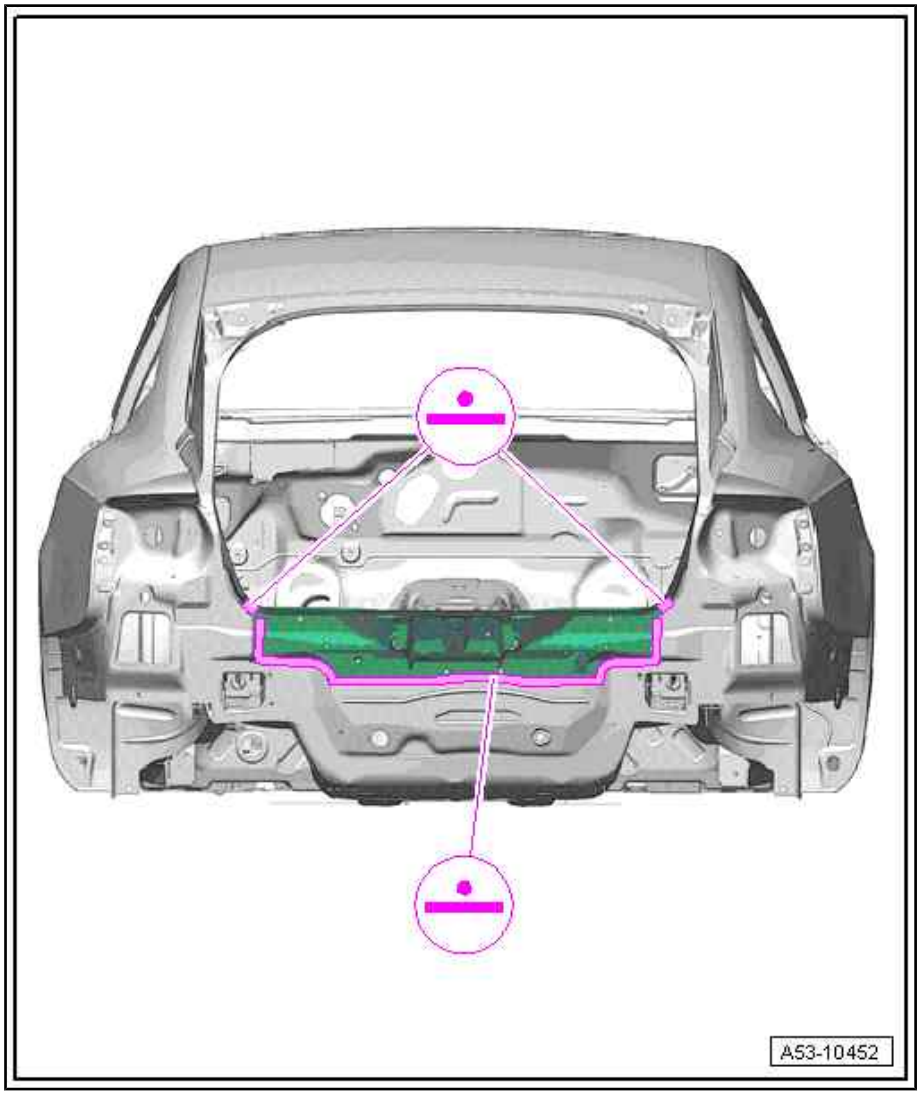

- Weld in upper cross panel ⇒ page 209 .

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RO: 53 05 55 50

6 Inner cross panel - Renewal (Coupé and Sportback identical)

6.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Drill
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

6.2 Procedure

- Upper cross panel already removed (Coupé) ⇒ page 206
- Upper cross panel already removed (Sportback) ⇒ page 209
- Rear cross panel already removed (Coupé) ⇒ page 214
- Cross panel already removed ⇒ page 217 .

Cutting locations

– Separate original joint using spot weld breaker .

– Detach part.

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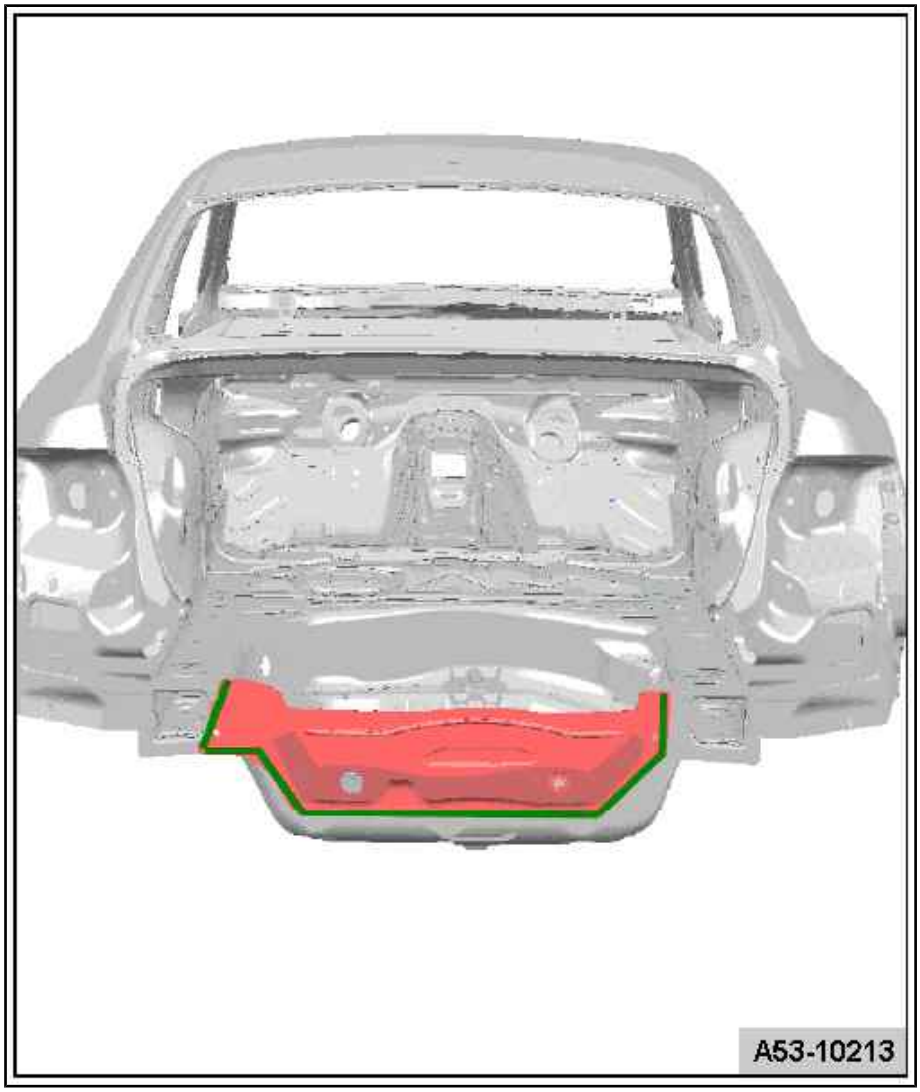

Replacement part

- Cross panel

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Weld in new part using resistance spot welder : RP spot weld seam.

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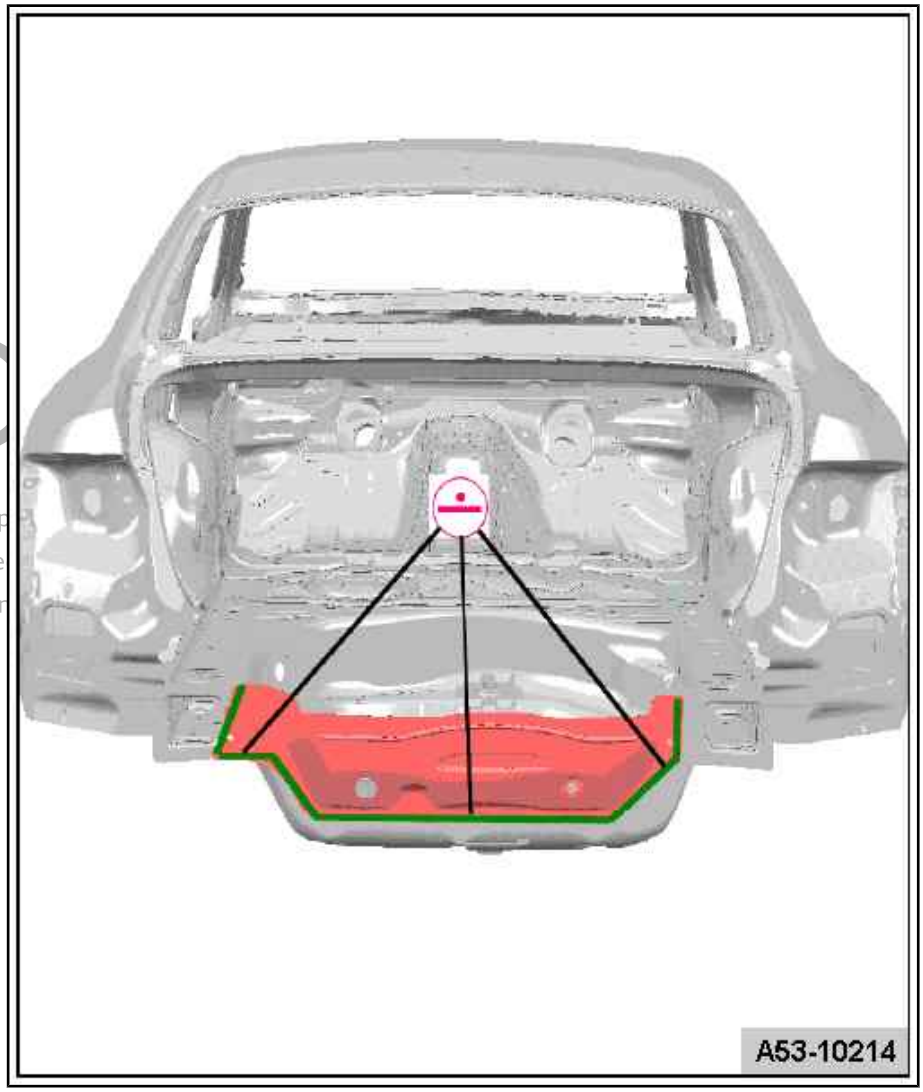

- Welding in upper cross panel (Coupé) ⇒ page 206
- Welding in upper cross panel (Sportback) ⇒ page 209
- Welding in rear cross panel (Coupé) ⇒ page 214
- Welding in rear cross panel (Sportback) ⇒ page 217

RO: 53 10 55 50

7 Tail light mounting - Renewal (Coupé and Sportback identical)

7.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

7.2 Procedure

- Upper cross panel already removed (Coupé) ⇒ page 206
- Upper cross panel already removed (Sportback) ⇒ page 209

Cutting locations

– Separate original joint using spot weld breaker .

– Detach part.

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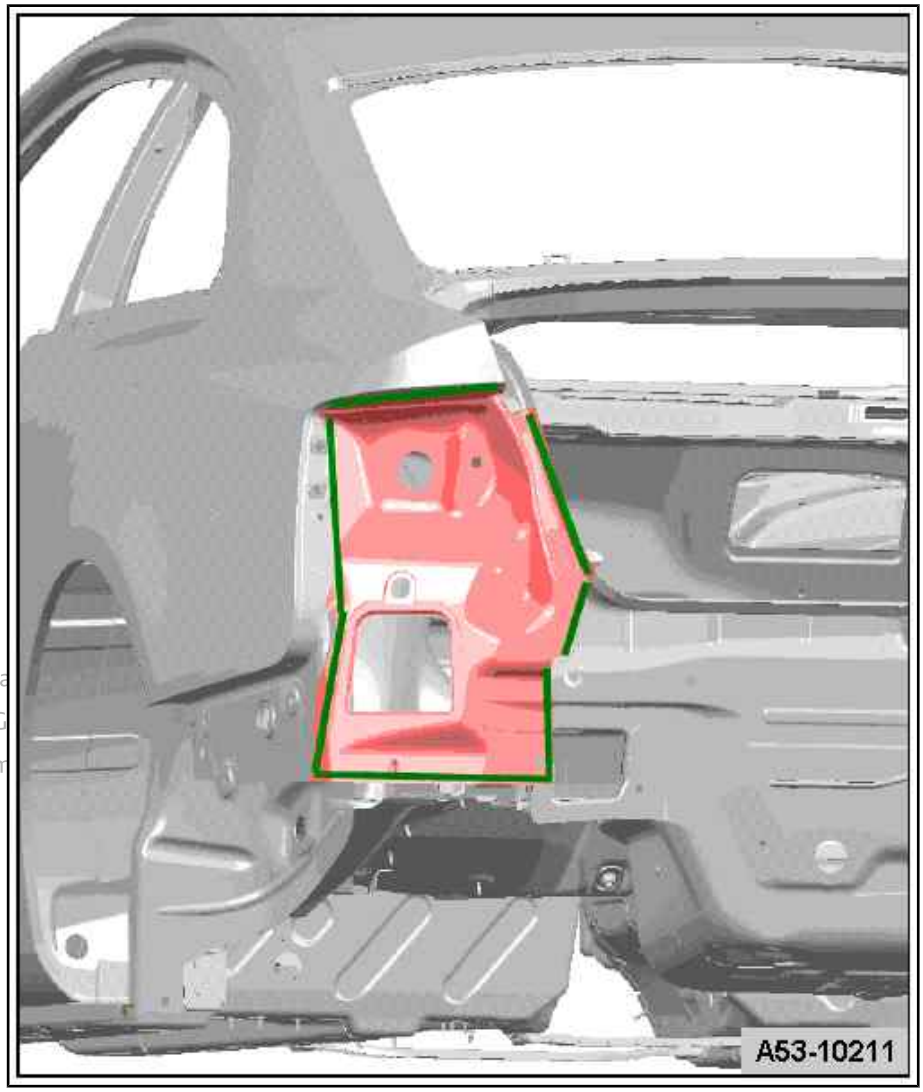

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Replacement part

♦ Tail light mounting

Preparing new part

– Check gap between new panel and tail light / rear lid.

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– The tail light mounting is now tilted into the installation position, pulled up and fitted into place.

– Weld in new part using shielded arc welding equipment : SG plug weld seam.

– Weld in tail light mounting using resistance spot welder : RP spot weld seam.

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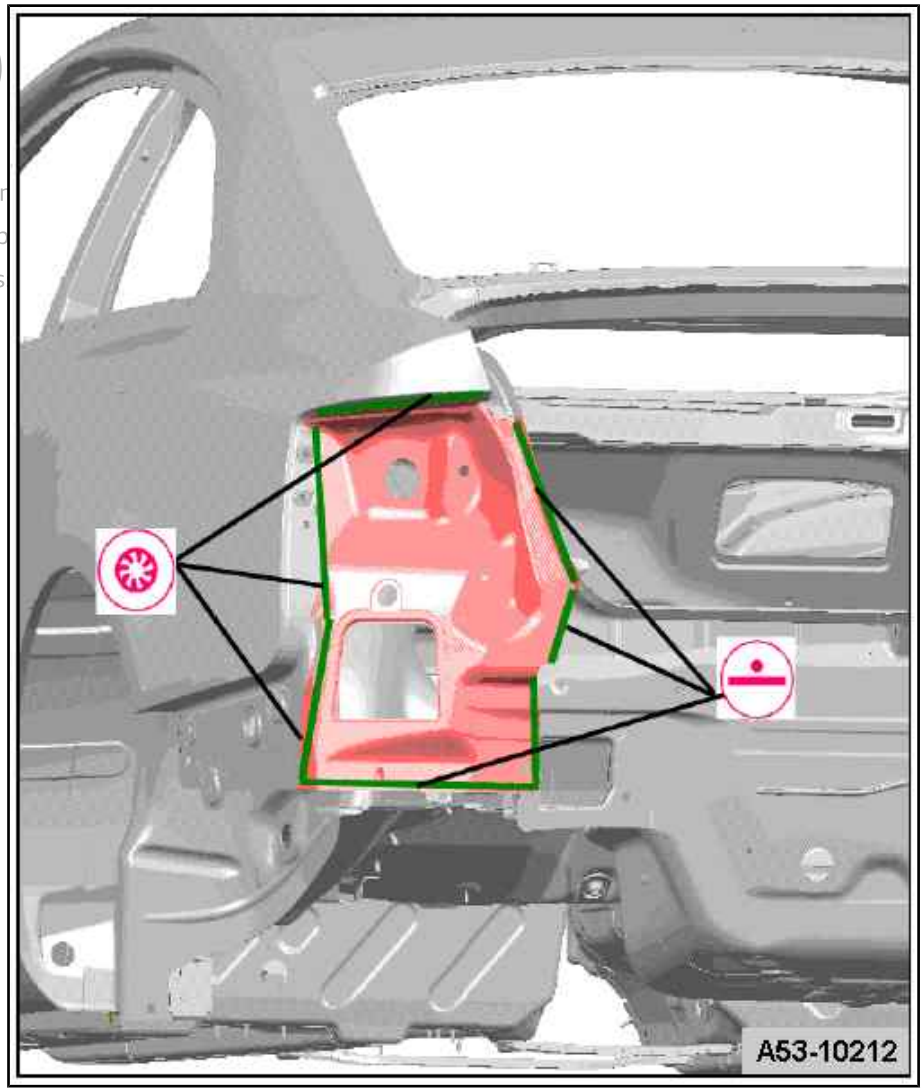

- Welding in upper cross panel (Coupé) ⇒ page 206
- Welding in upper cross panel (Sportback) ⇒ page 209

RO: 53 48 55 52

8 Rear longitudinal member - Partial renewal (Coupé and Sportback identical)

8.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

8.2 Procedure

- Upper cross panel already removed (Coupé) ⇒ page 206
- Upper cross panel already removed (Sportback) ⇒ page 209
- Rear cross panel already removed (Coupé) ⇒ page 214
- Cross panel already removed (Sportback) ⇒ page 217
- Spare wheel well already removed ⇒ page 263

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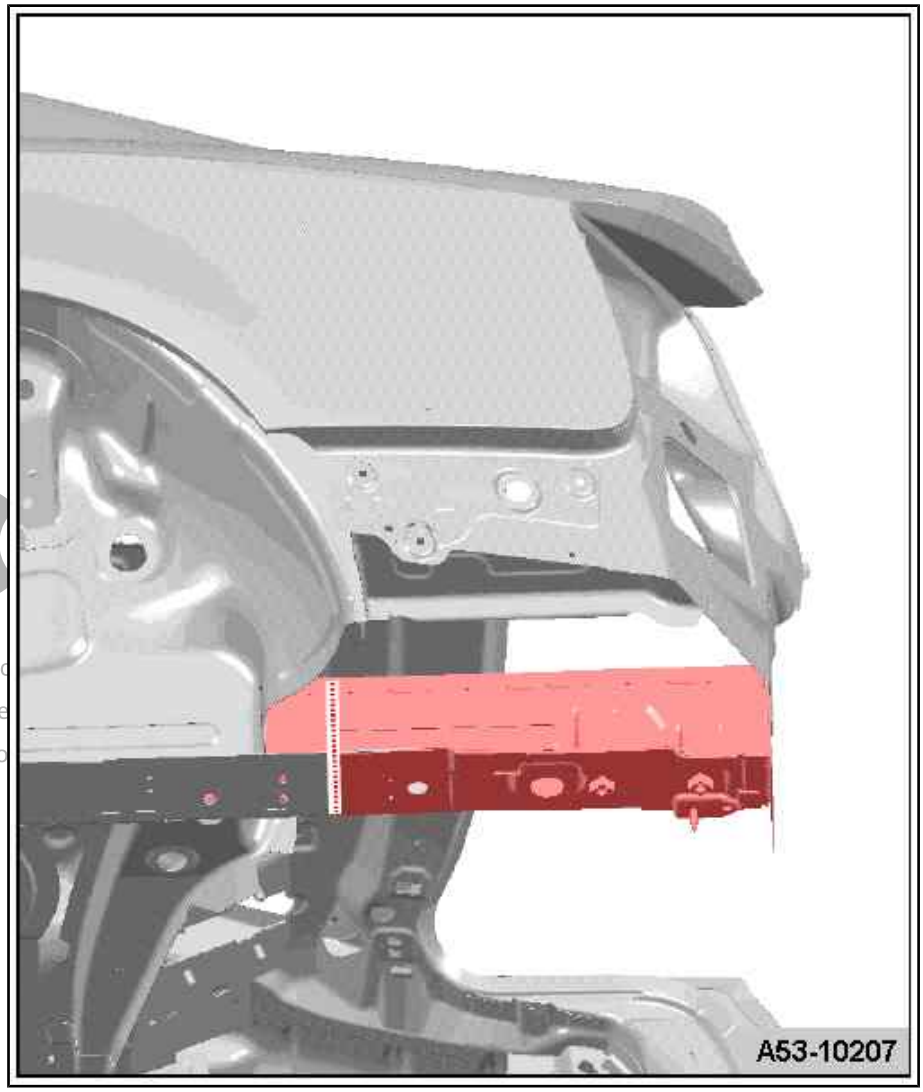
Cutting locations

– Cut out longitudinal member (part section) using body saw .

– Separate original joint using spot weld breaker .

– Remove remaining material using compact angle grinder .



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– Cut out longitudinal member (part section) using body saw .
– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .

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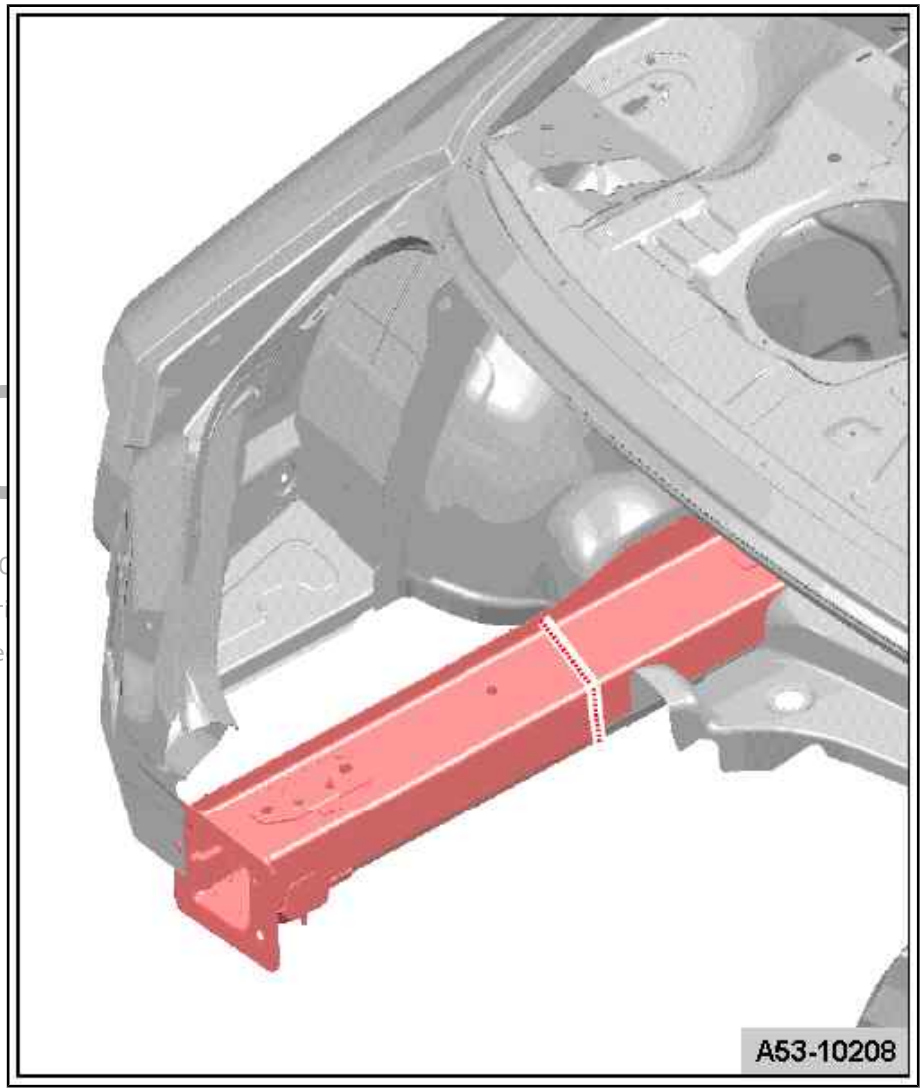


Replacement part

- Longitudinal member (part section)

NOTICE

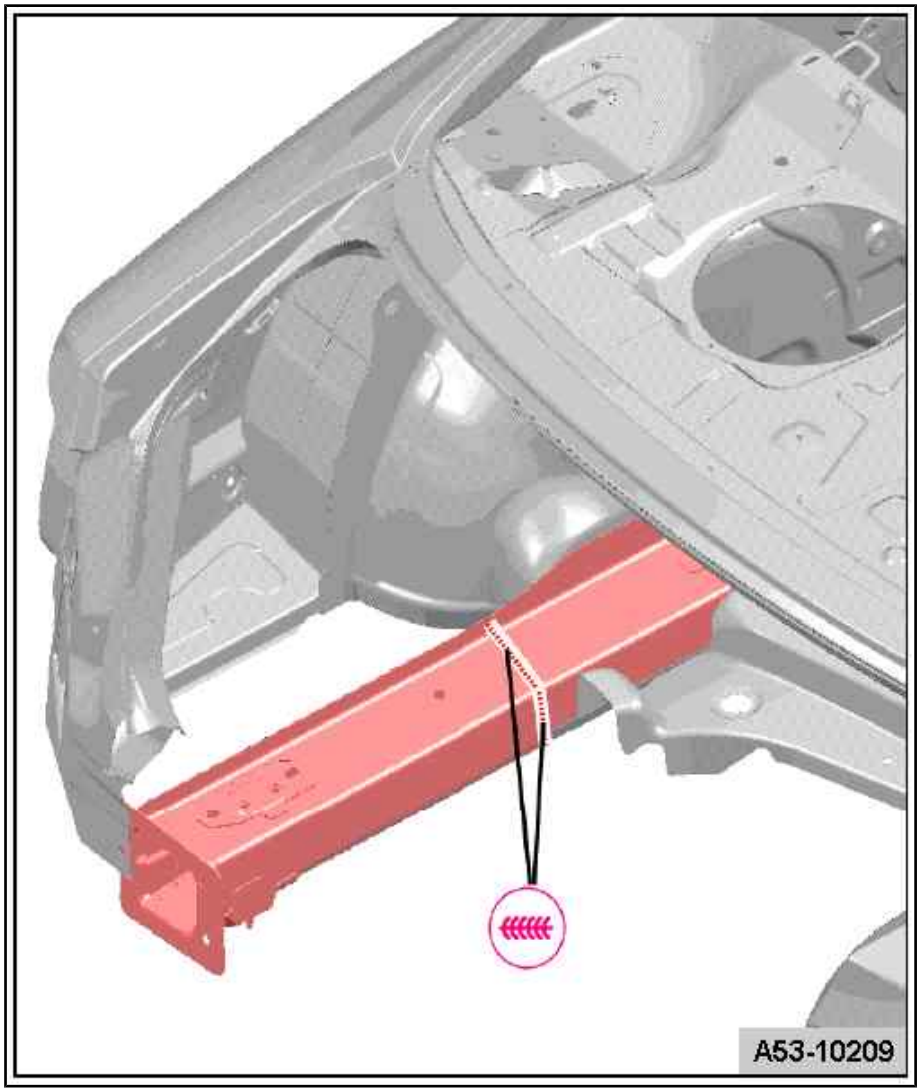
Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Locate and secure section of longitudinal member on alignment bracket.

– Butt weld longitudinal member using shielded arc welding equipment : SG continuous seam.



– Butt weld longitudinal member using shielded arc welding equipment : SG continuous seam.

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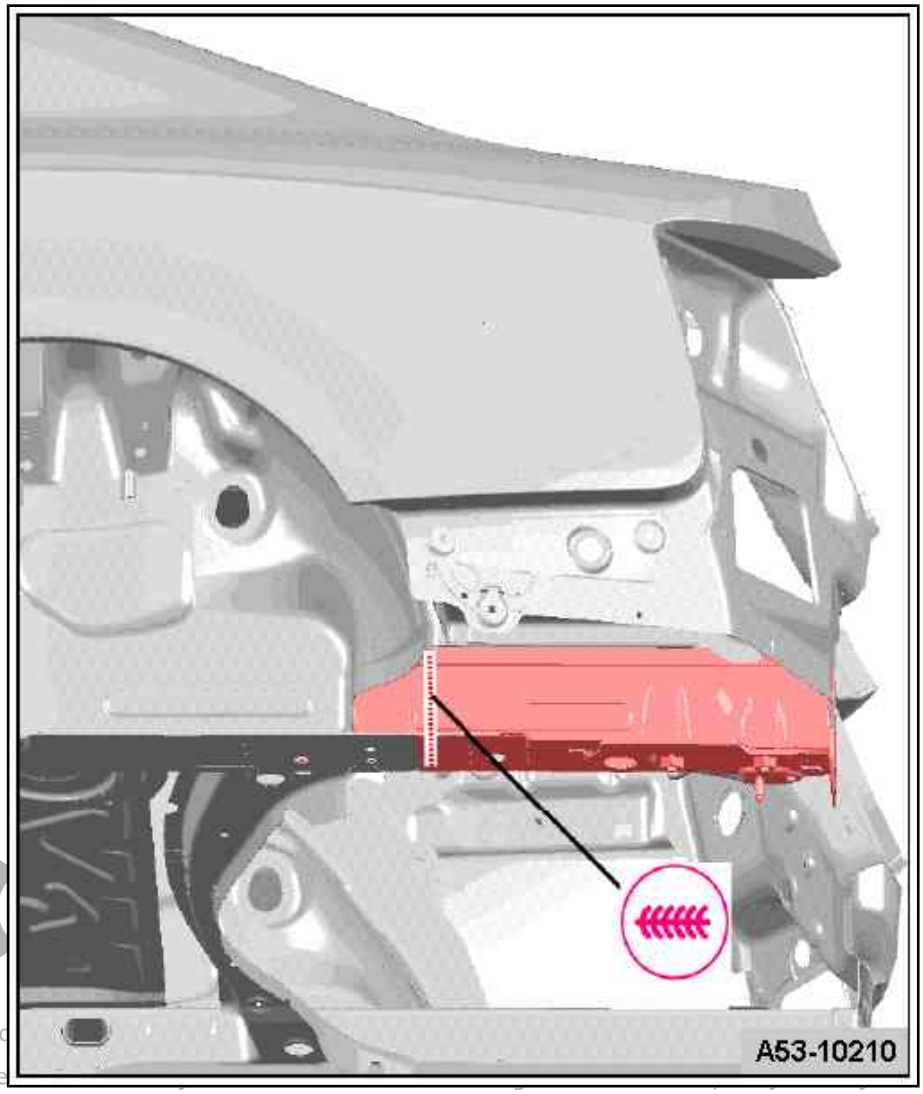

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- Welding in upper cross panel (Coupé) ⇒ page 206
- Welding in upper cross panel (Sportback) ⇒ page 209
- Welding in rear cross panel (Coupé) ⇒ page 214
- Welding in cross panel (Sportback) ⇒ page 217
- Welding in spare wheel well ⇒ page 263

RO: 53 48 55 50

9 Rear longitudinal member - Renewal (Coupé and Sportback identical)

9.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

9.2 Procedure

- Upper cross panel already removed (Coupé) ⇒ page 206
- Upper cross panel already removed (Sportback) ⇒ page 209
- Rear cross panel already removed (Coupé) ⇒ page 214
- Cross panel already removed (Sportback) ⇒ page 217
- Spare wheel well already removed ⇒ page 263

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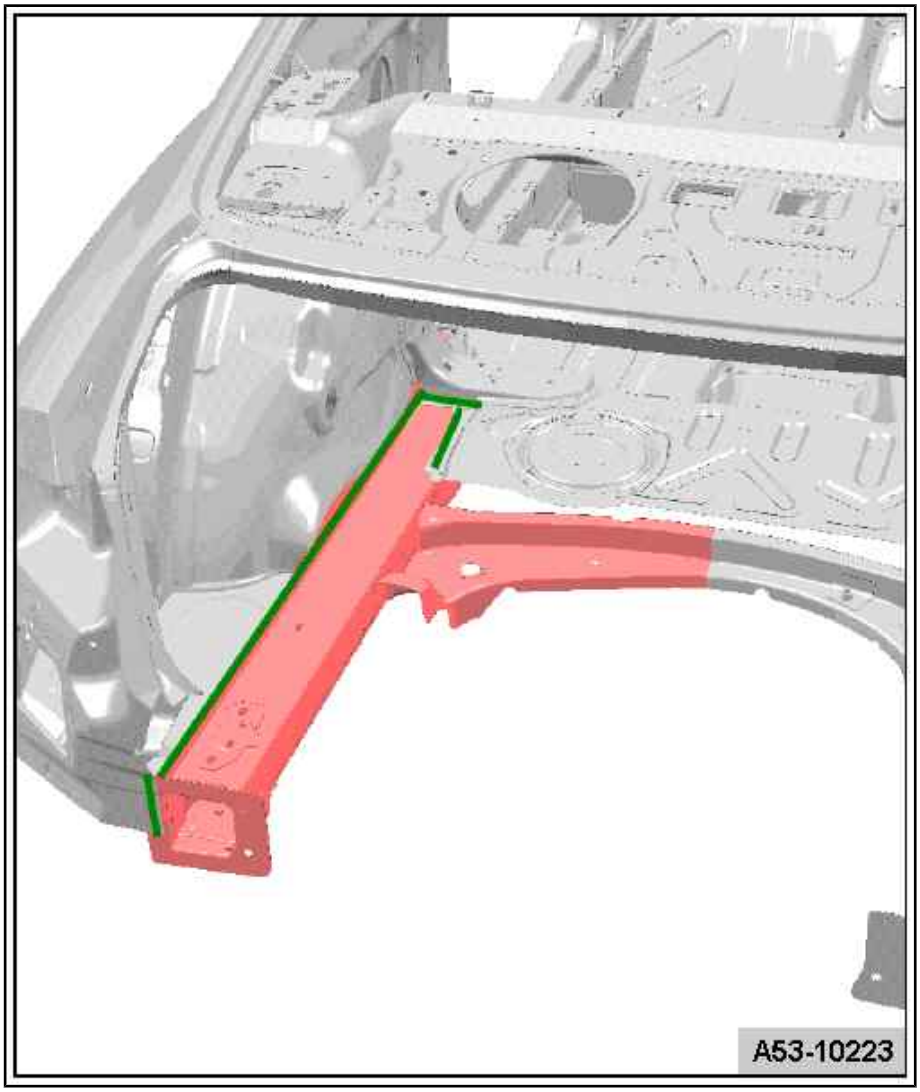
Cutting locations

– Separate original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .



– Separate reinforcements at original joint using spot weld breaker .
– Remove remaining material using compact angle grinder .

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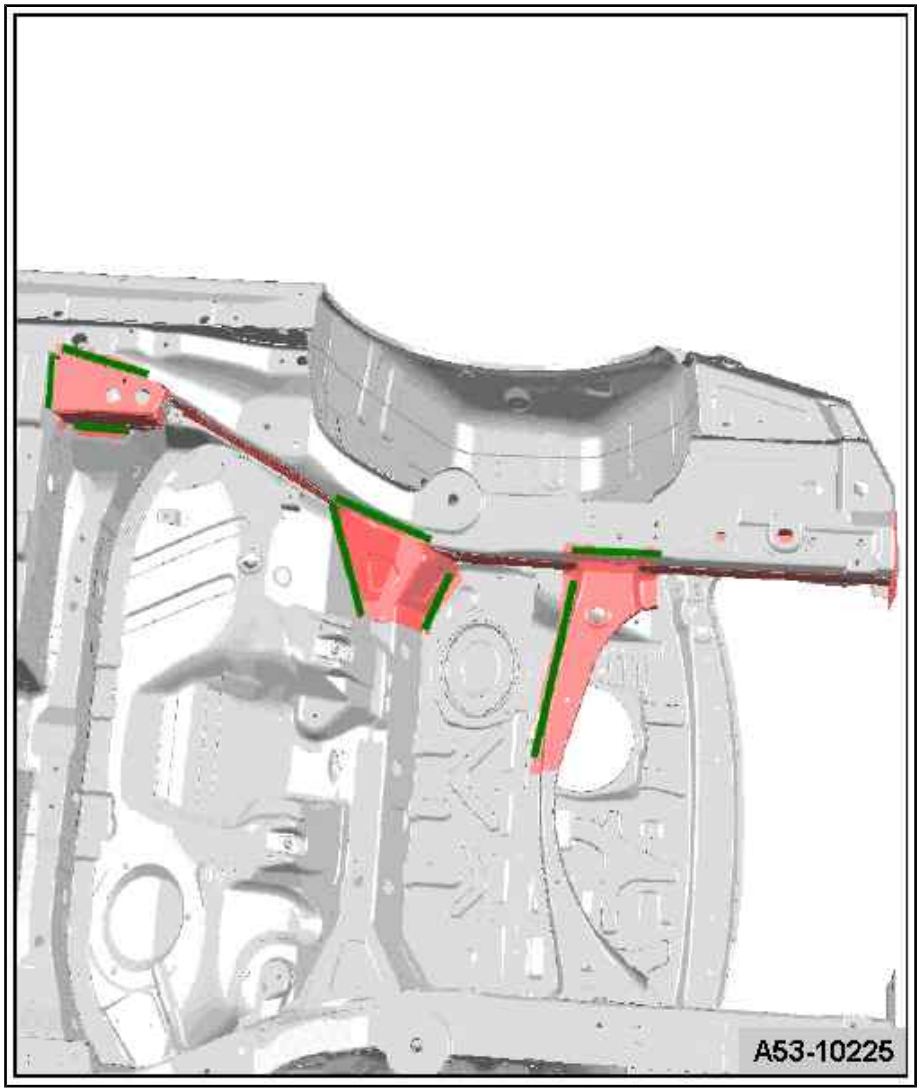

– Separate original joint at longitudinal member using spot weld breaker .

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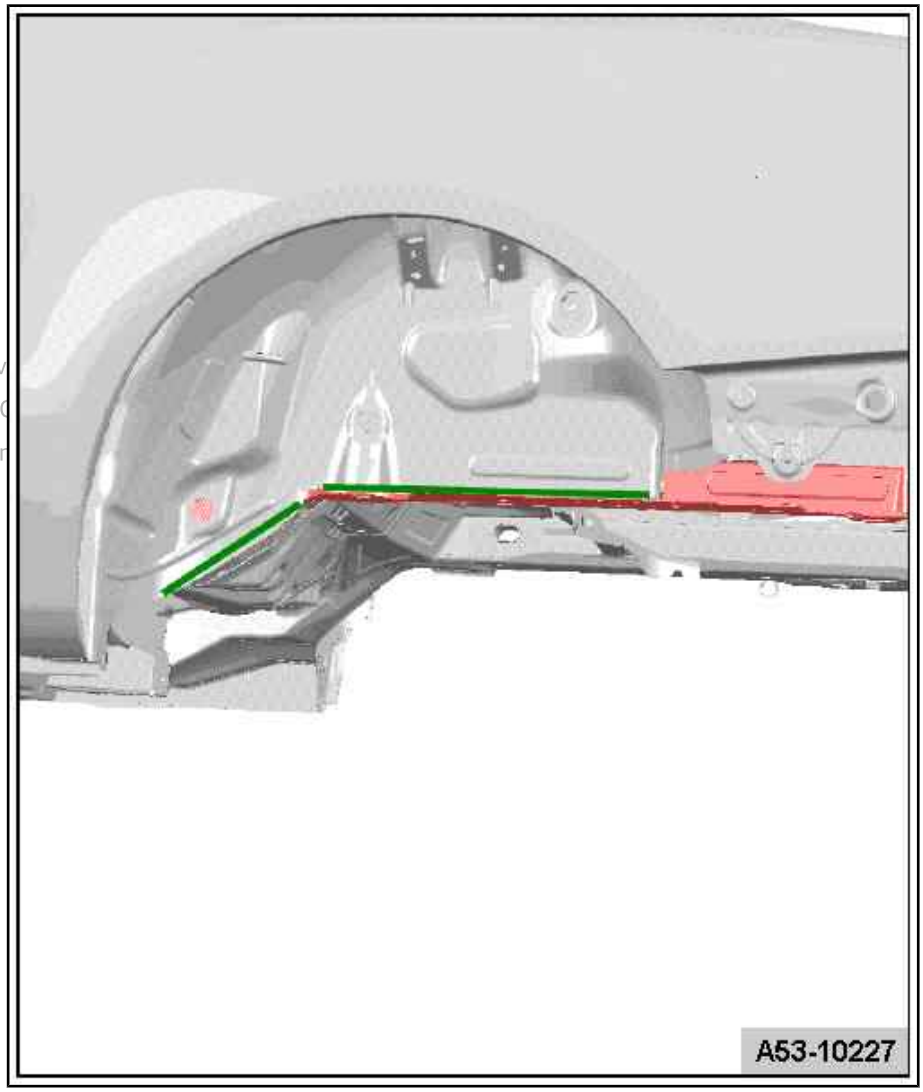

Replacement part

- Longitudinal member

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

Welding in

– Locate and secure section of longitudinal member on alignment bracket.

– Butt weld longitudinal member using shielded arc welding equipment : SG plug weld seam.

– Weld in longitudinal member using resistance spot welder : RP spot weld seam.

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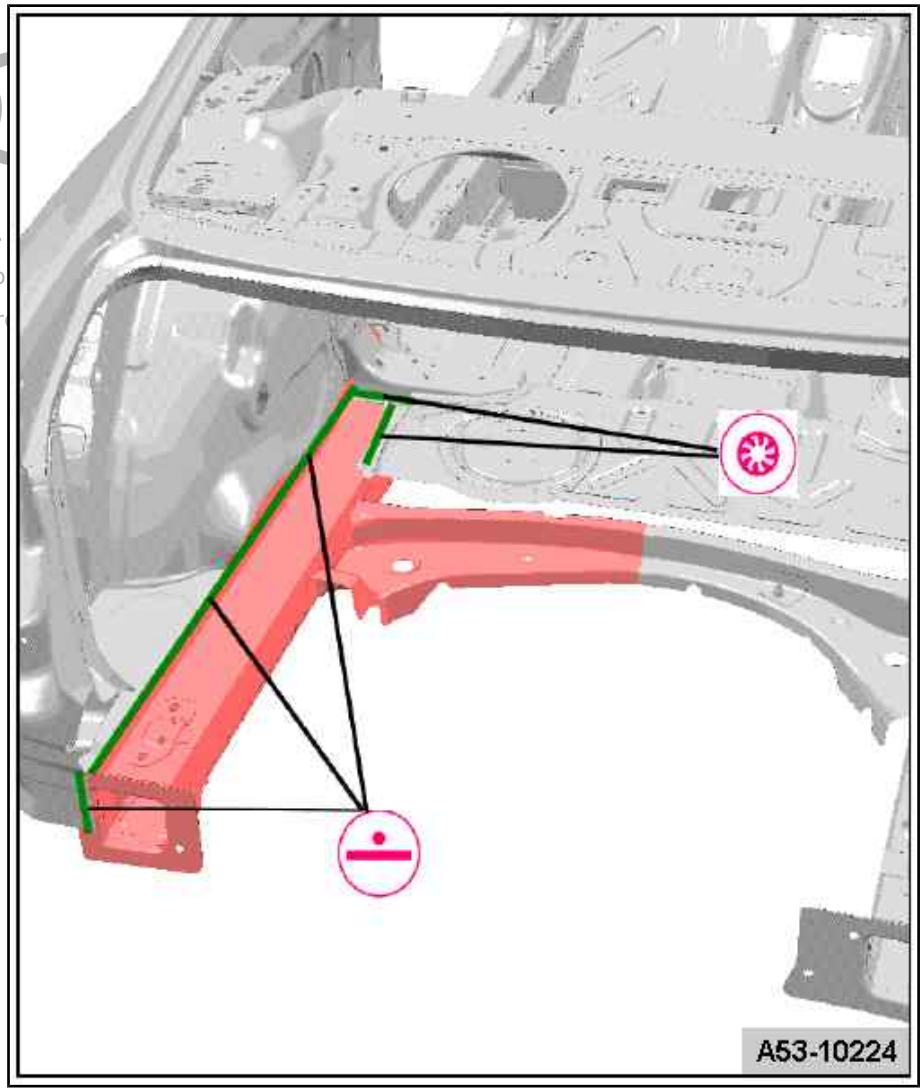

– Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.

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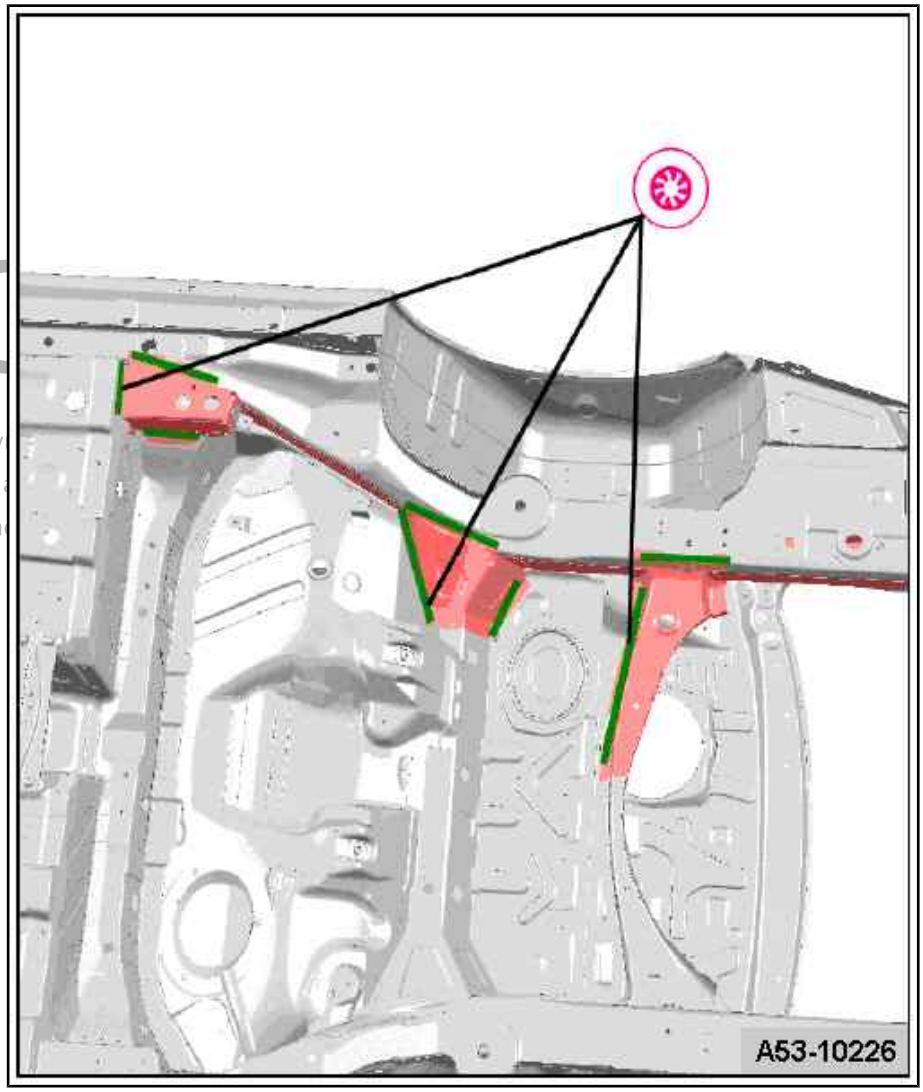
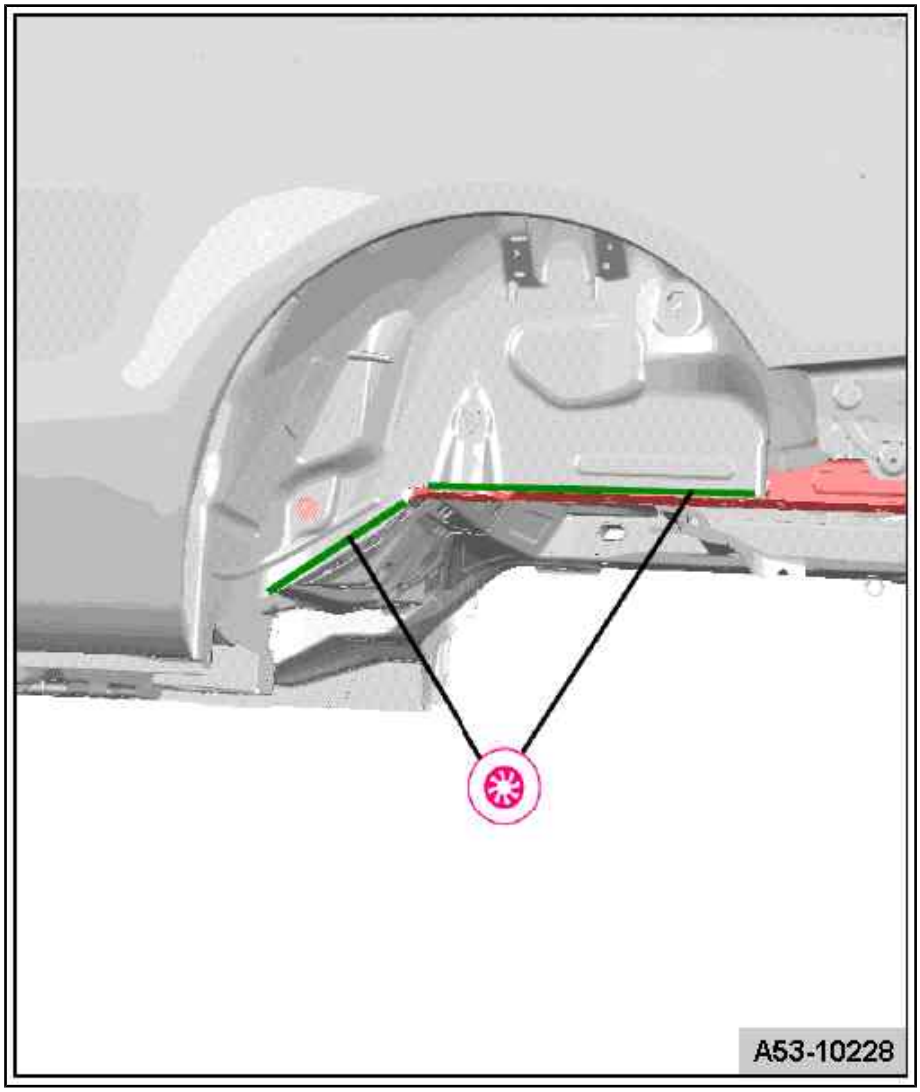


– Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.



- Welding in upper cross panel (Coupé) ⇒ page 206
- Welding in upper cross panel (Sportback) ⇒ page 209
- Welding in rear cross panel (Coupé) ⇒ page 214
- Welding in cross panel (Sportback) ⇒ page 217
- Welding in spare wheel well ⇒ page 263

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RO: 53 55 55 00

10 Side panel - Renewal (Coupé)

Includes rain channel and tail light mounting.

10.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Hole punch pliers
- Pop rivet pliers
- Compact angle grinder
- Body saw
- Spot weld breaker
- Pneumatic glue gun

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Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

10.2 Procedure

- Welding in upper cross panel (Coupé) ⇒ page 206

Cutting locations

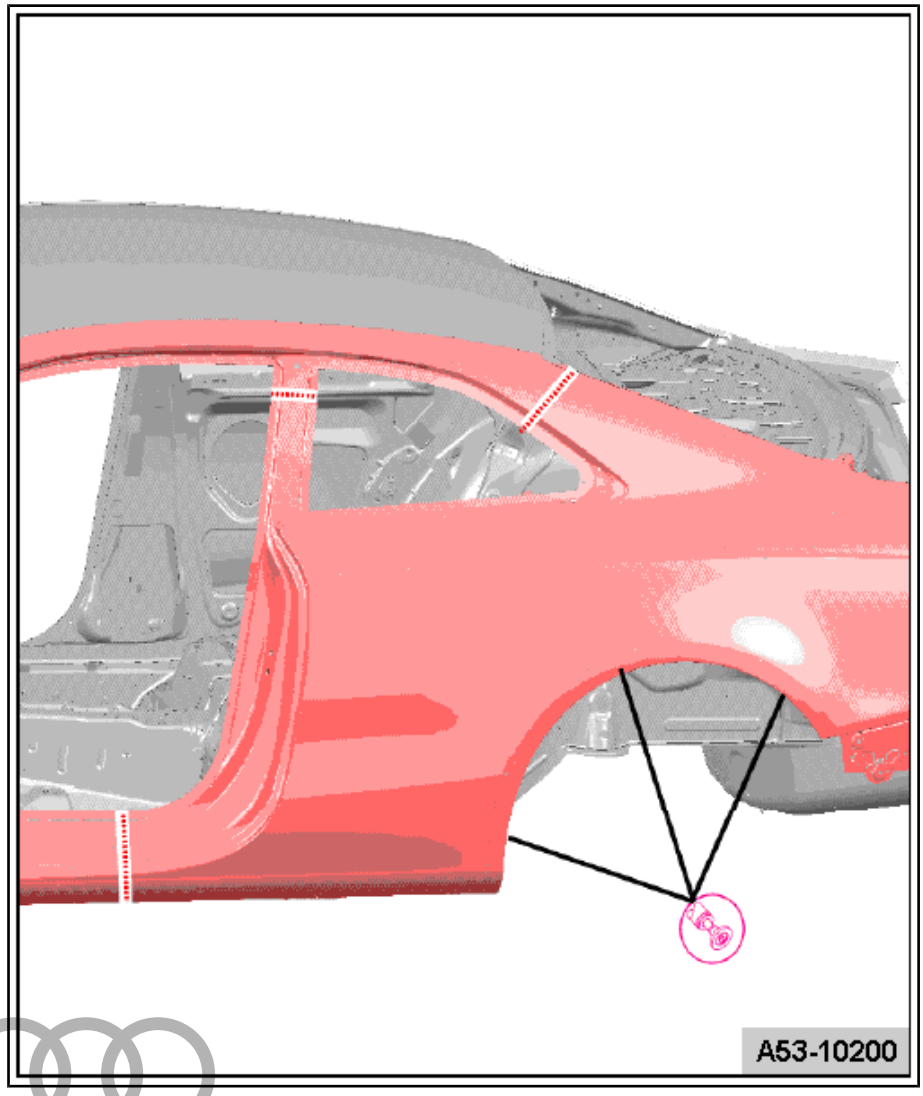
Permitted separating cuts on complete side panel ⇒ page 72 .

Note

Partial renewal is possible with the separating cuts illustrated. Place a backing plate of the same material behind the joint and use SG continuous seam.

– Grind through outer edge at wheel arch using compact angle grinder .

– Make separating cuts as shown using body saw .



– Separate original joint using spot weld breaker .

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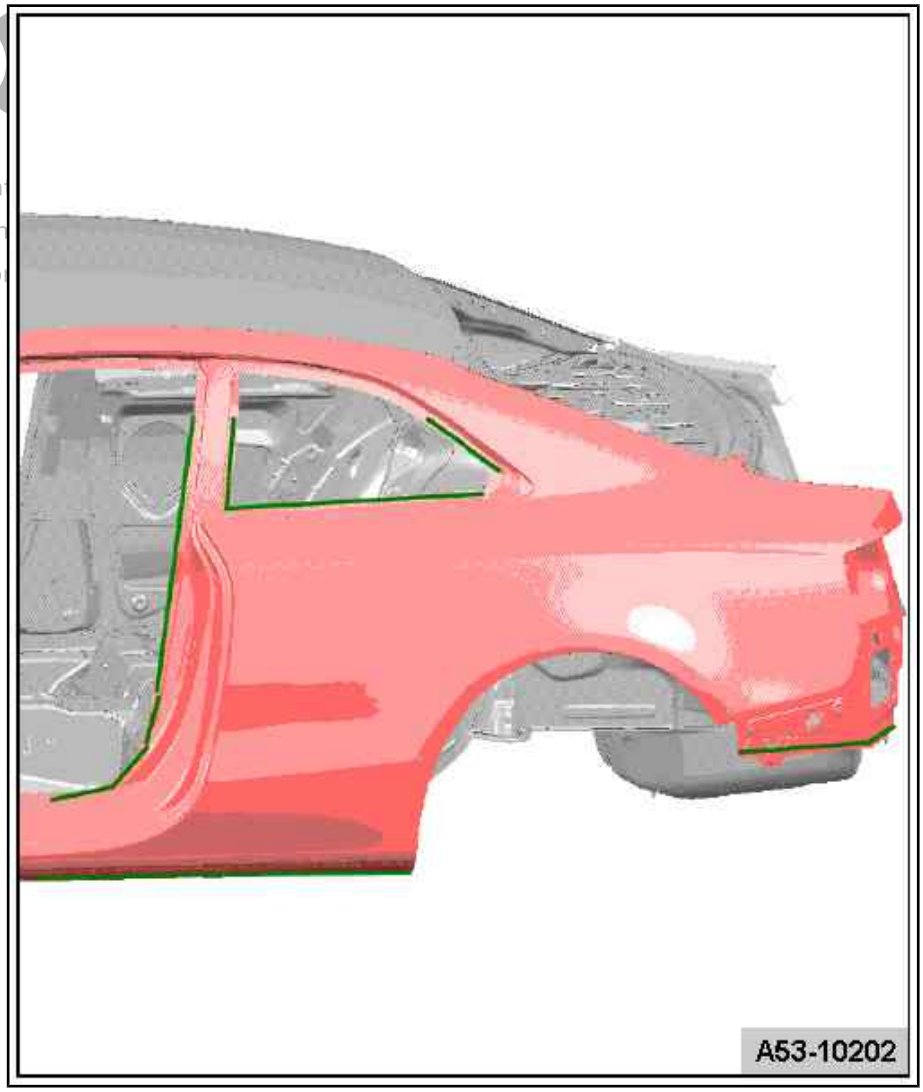
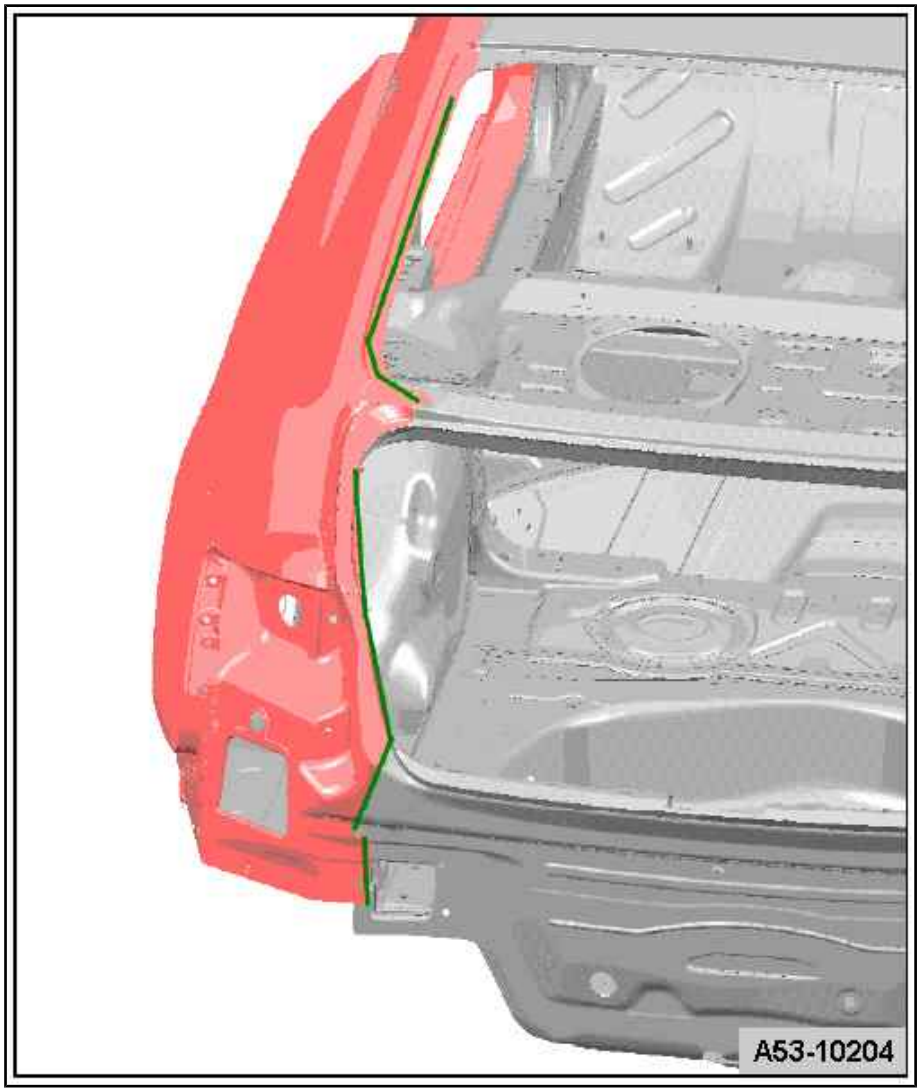


– Separate original joint using spot weld breaker .



Replacement parts

- Side panel
- 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges
- Cleaning solution - D 009 401 04- . Observe safety precautions when handling.

Preparing new part

– Transfer separating cut to new part and cut off hatched area.

– Punch holes for SG plug weld seam using hole punch pliers - V.A.G 1329- in area of rain channel and tail light.

– Clean bonding area (it must be free of dust and grease).

– Grind down bonding surface (on body side of joint) to bare metal.

– Clean beaded flange (it must be free of dust and grease).

– Align flanges of roof and window cross member.

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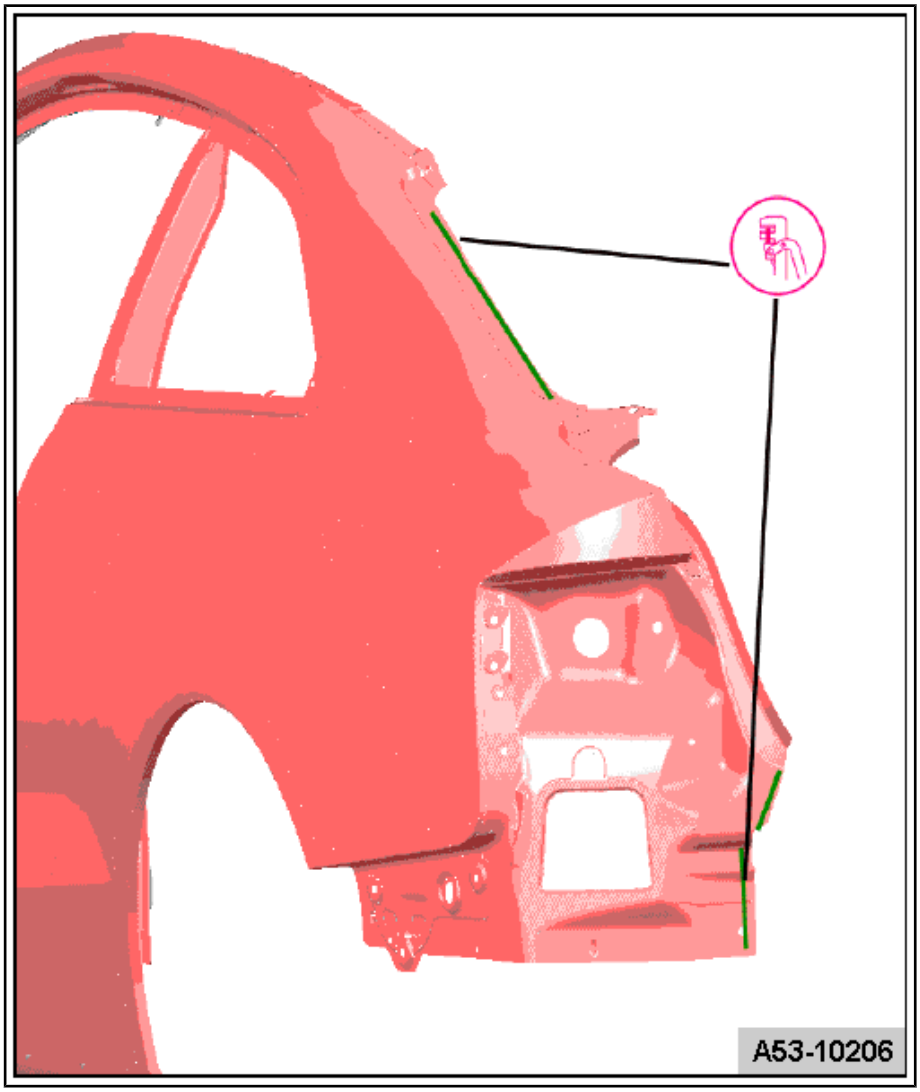

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

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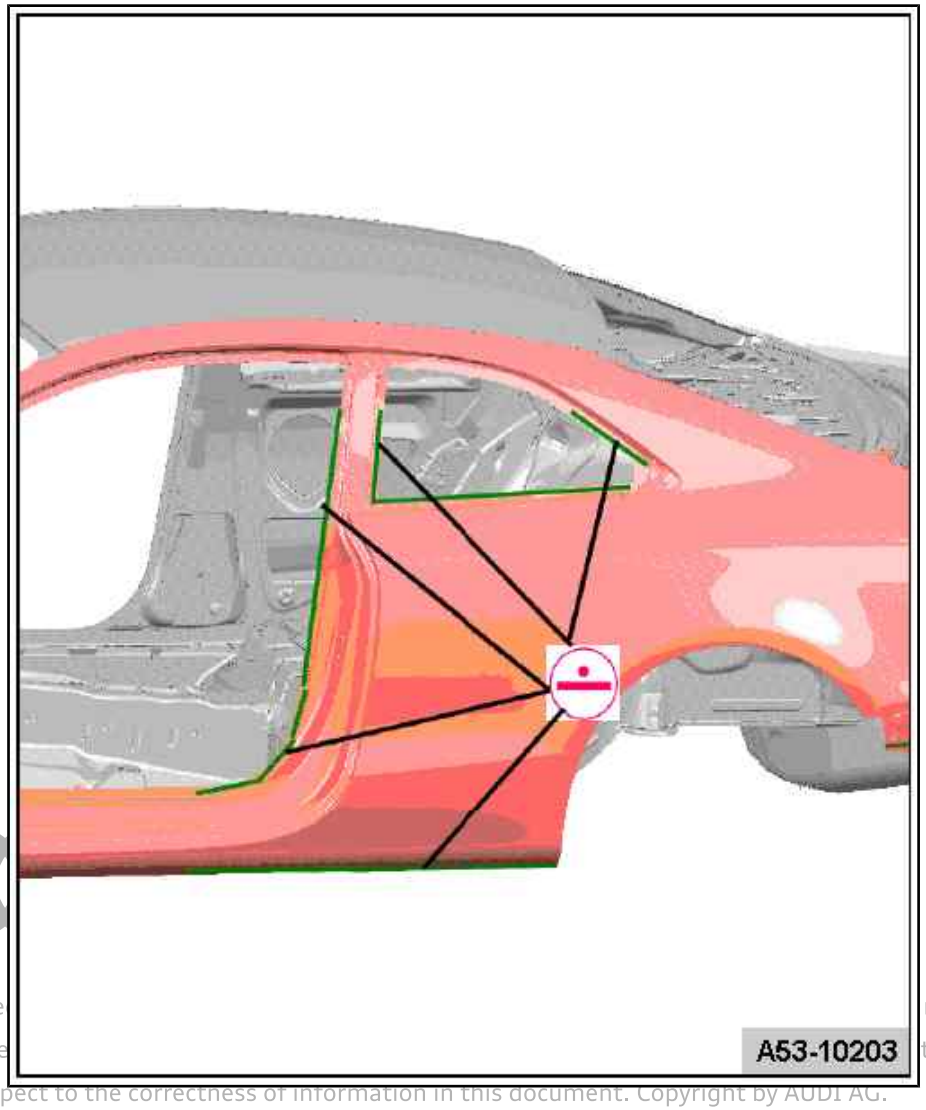
Welding in

– Weld in side panel using resistance spot welder : RP spot weld seam.



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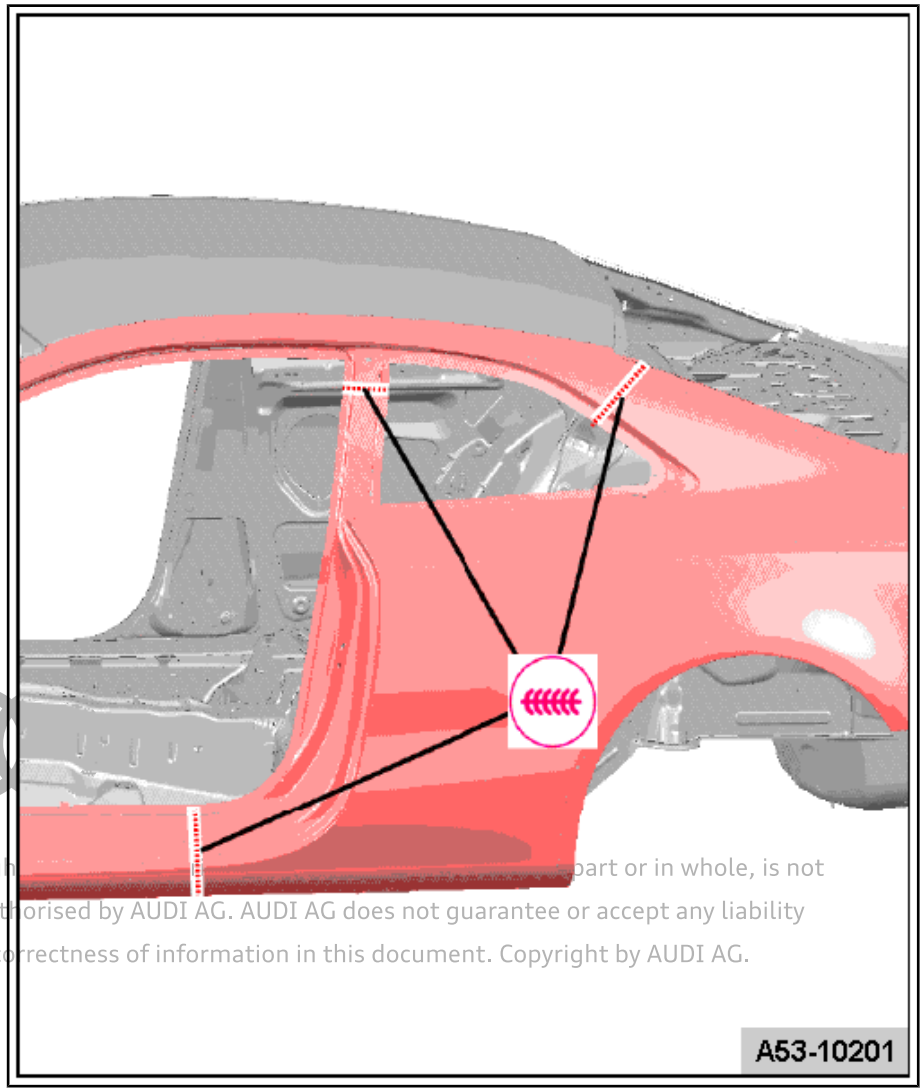
– Place a backing plate of the same material behind the joints and weld in using shielded arc welding equipment : SG continuous seam.



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– Weld in side panel using resistance spot welder : RP spot weld seam.

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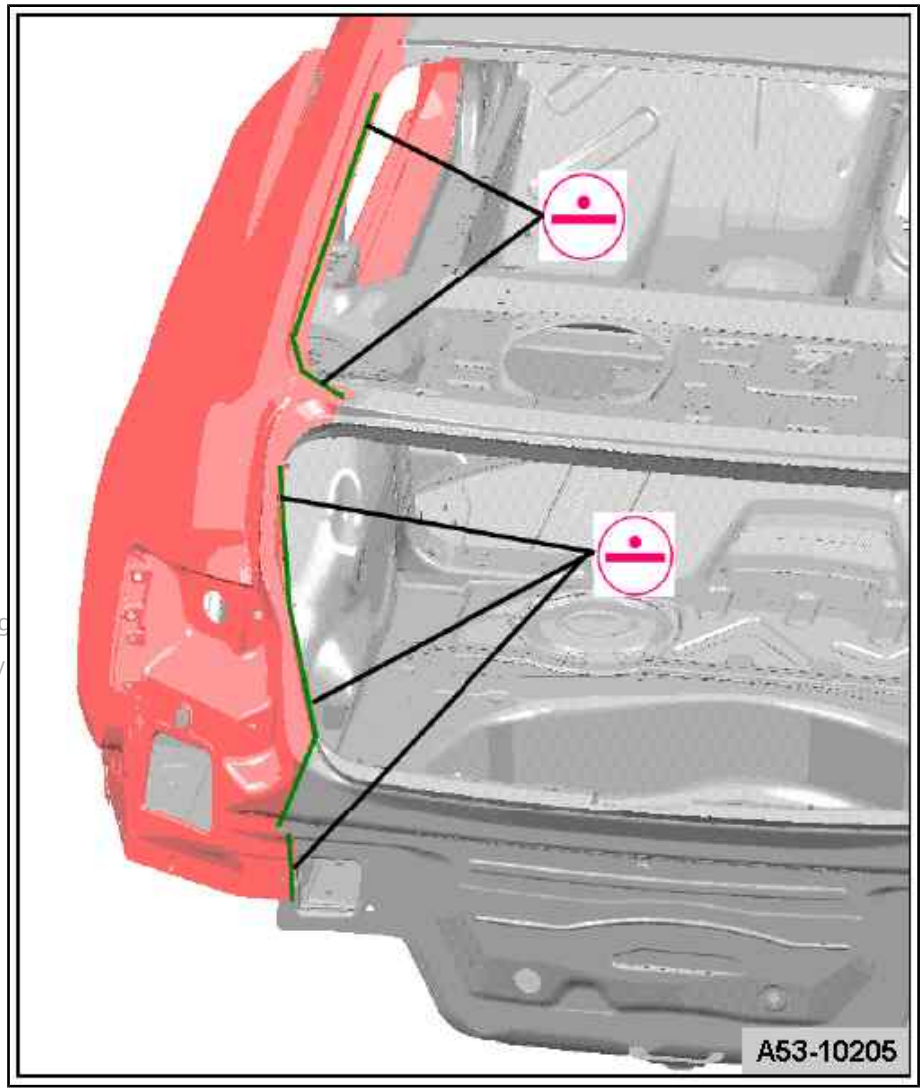

– Apply 2-component epoxy adhesive - DA 001 730 A2- using pneumatic glue gun - V.A.G 2005 B- .

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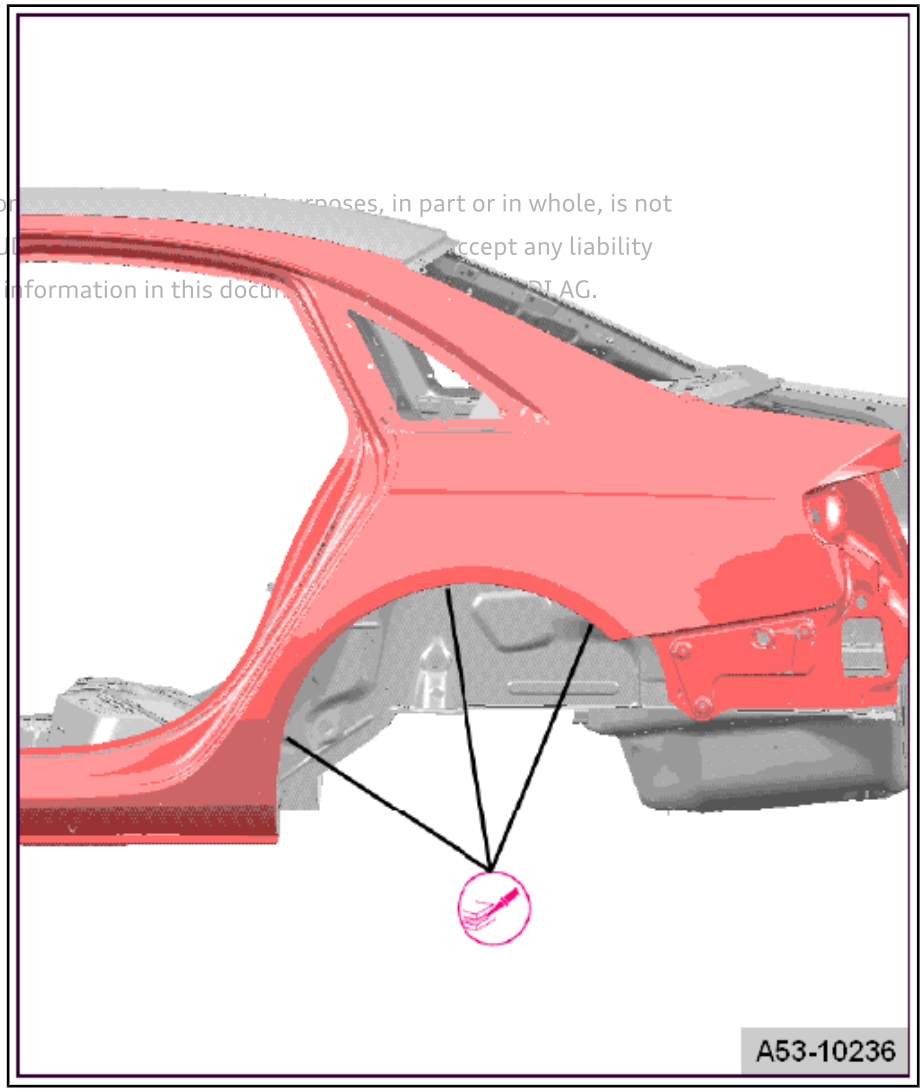
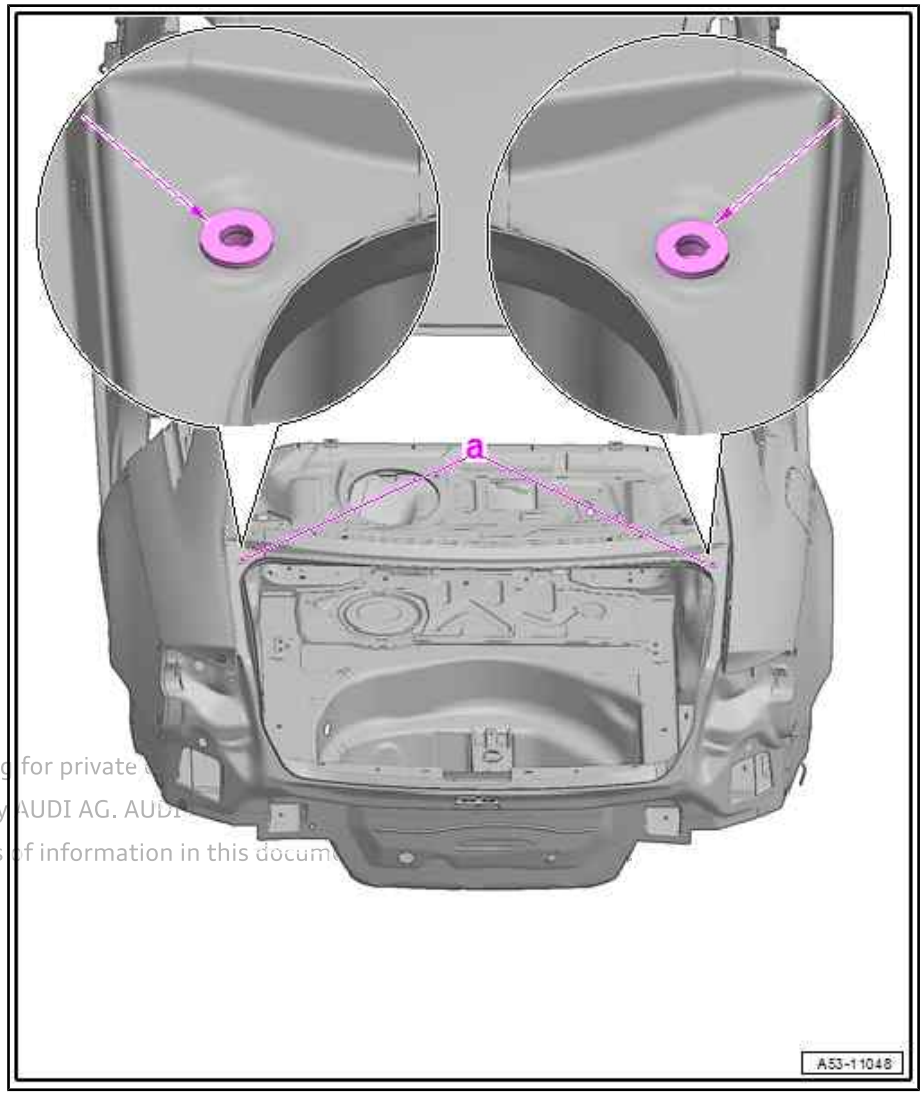


Inserting pop rivet bolts WHT 005 180

– Insert pop rivet bolts -a- using pop rivet pliers - 1765 C- and supplement -V.A.G 1765C/2- .

Note

If the threads are stiff because of the large tolerances of the pop rivet bolts, it may be necessary to use a ring spanner or open-end spanner to screw the bolts into the supplement tool -V.A.G 1765C/2- .



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- Welding in upper cross panel (Coupé) ⇒ page 206

RO: 53 55 55 00

11 Side panel - Renewal (Sportback)

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1 - Side panel

2 - Separating cut in C-pillar

3 - Separating cut in D-pillar

4 - Bonded area

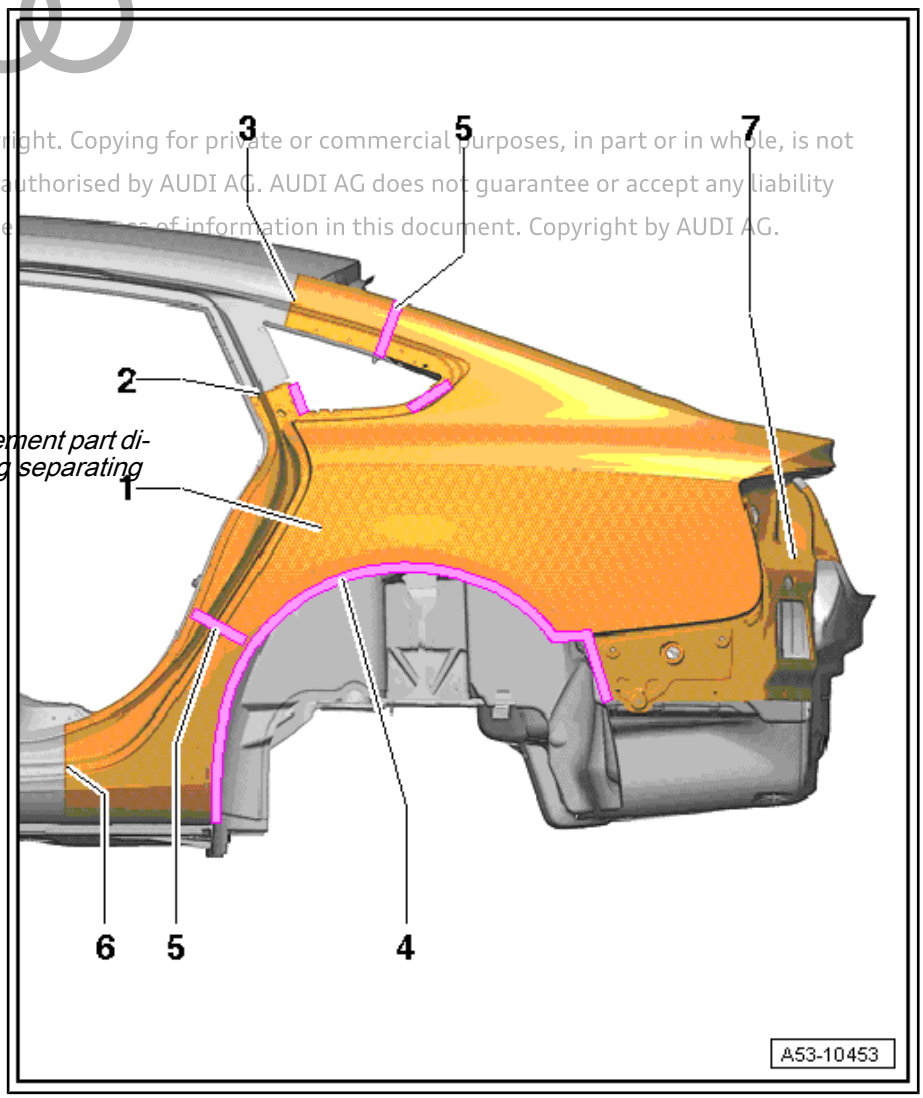
5 - Moulded foam inserts

6 - Separating cut in side member

7 - Tail light mounting

Note

Pay attention to replacement part dimensions when making separating cut in side member.



11.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Drill
- Body saw
- Hand cartridge gun
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

11.2 Procedure

- Upper cross panel already removed (Sportback) ⇒ page 209

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 72 .

Note

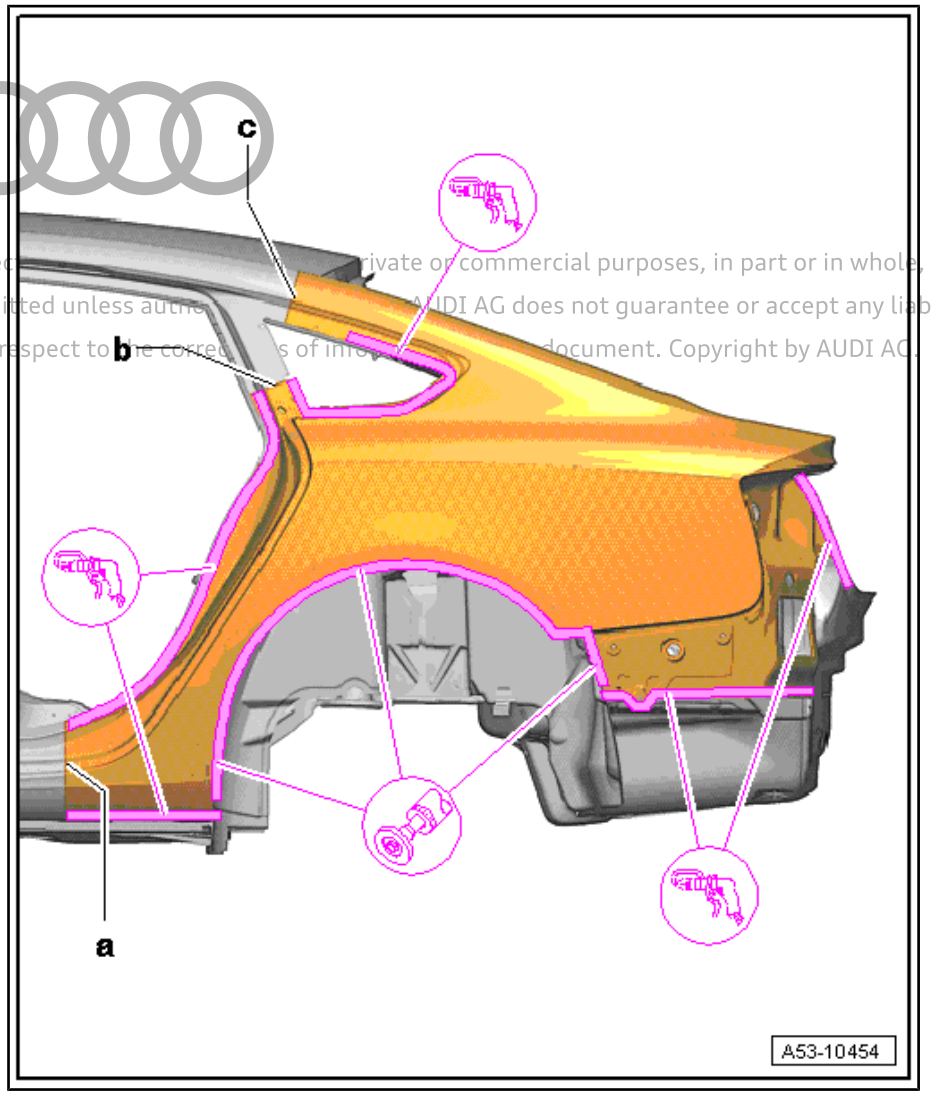
- *Take care not to damage the panels behind when making the separating cuts.*
- *Pay attention to the replacement part dimensions when making the separating cuts.*
- *Remove as much of the foam residue as possible before starting grinding work.*

– Mark off separating cuts -a-, -b- and -c- as shown and make cuts using body saw .

– Drill out original joint using spot weld breaker .

– Drill out original joint using drill .

– Grind through outer edge at wheel arch.



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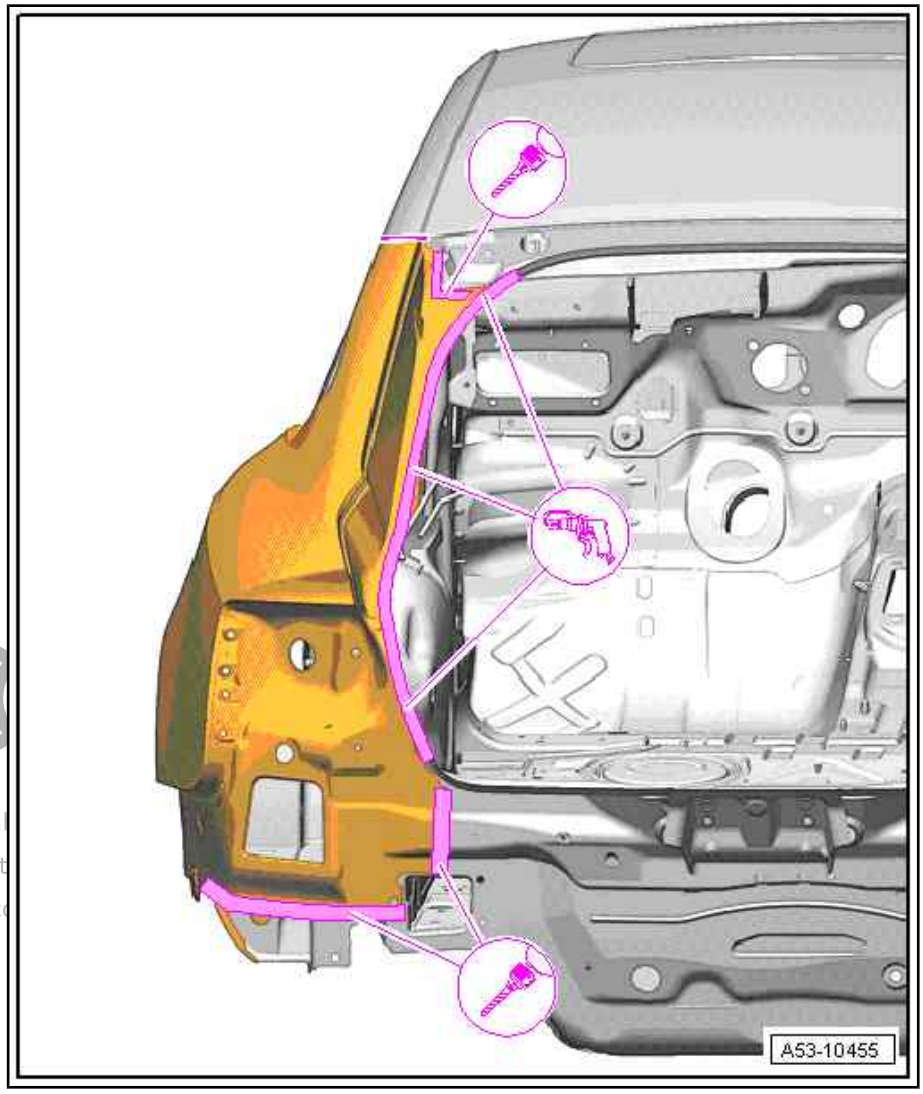
– Drill out original joint using spot weld breaker .



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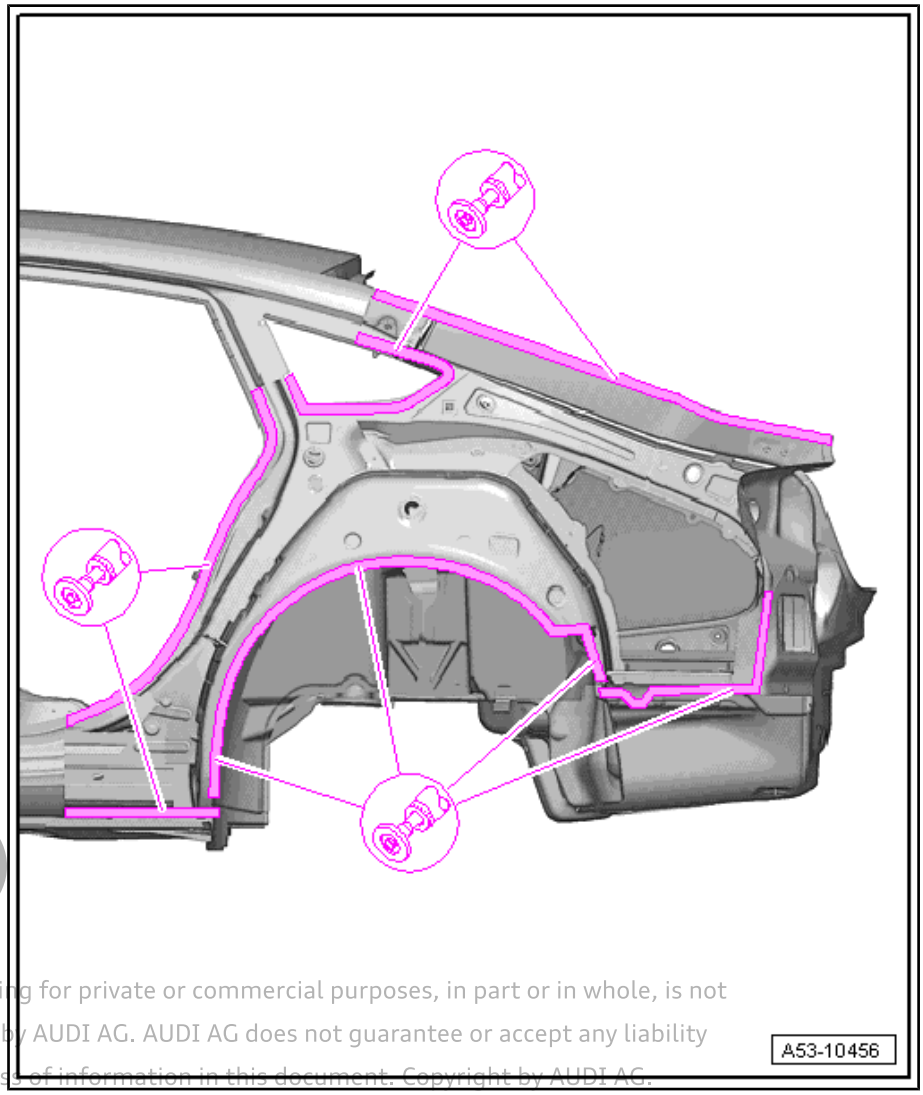
– Remove remaining material using compact angle grinder .
– Remove remaining adhesive completely and sand bonding surfaces down to bare metal.
– Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).
– Clean flange area with cleaning solution - D 009 401 04- (it must be free of dust and grease).



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Replacement parts

- Side panel (sub-part)
- 2-component epoxy adhesive - DA 001 730 A2-
- Cleaning solution - D 009 401 04- . Observe safety precautions when handling.

Preparing new part

– Transfer separating cuts to new part and cut to size using body saw .

– Clean bonding area with cleaning solution - D 009 401 04- so it is free of dust and grease. Observe safety precautions when handling.

– Clean flange area with cleaning solution - D 009 401 04- so it is free of dust and grease. Observe safety precautions when handling.

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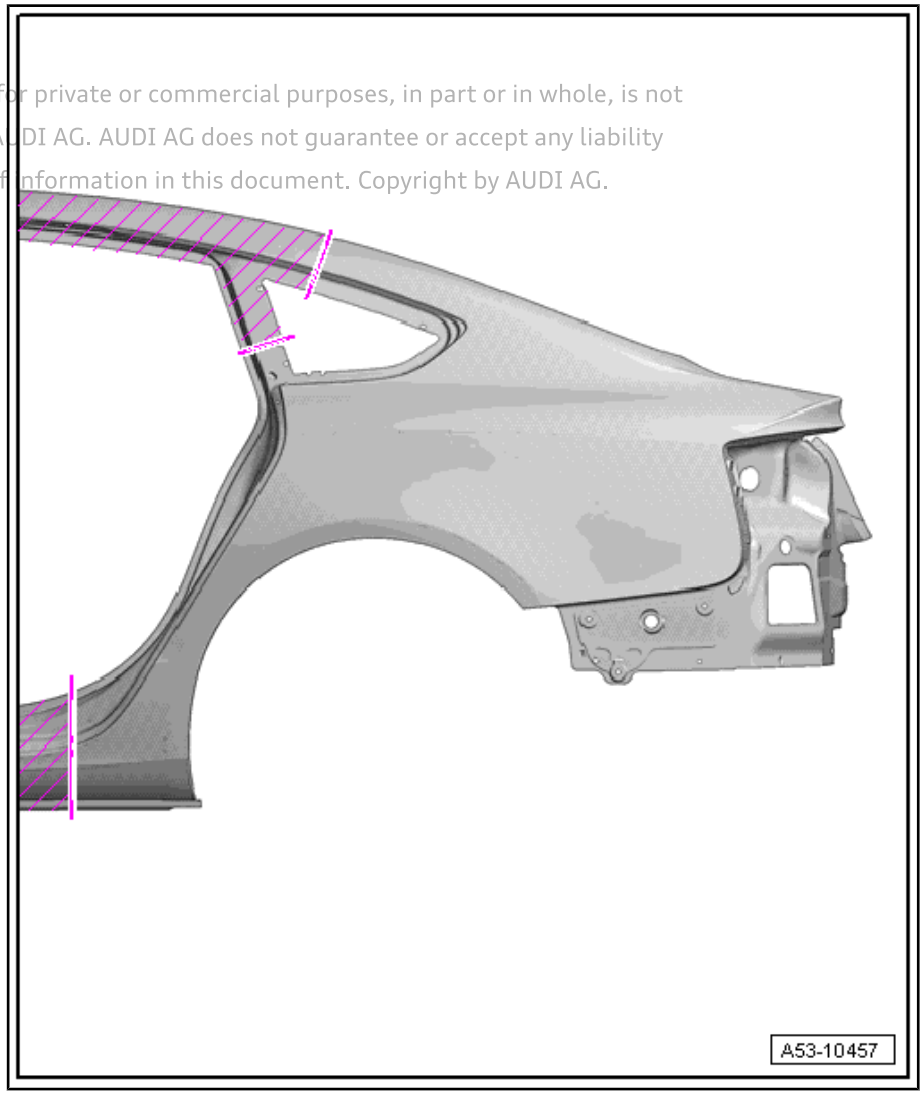


NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

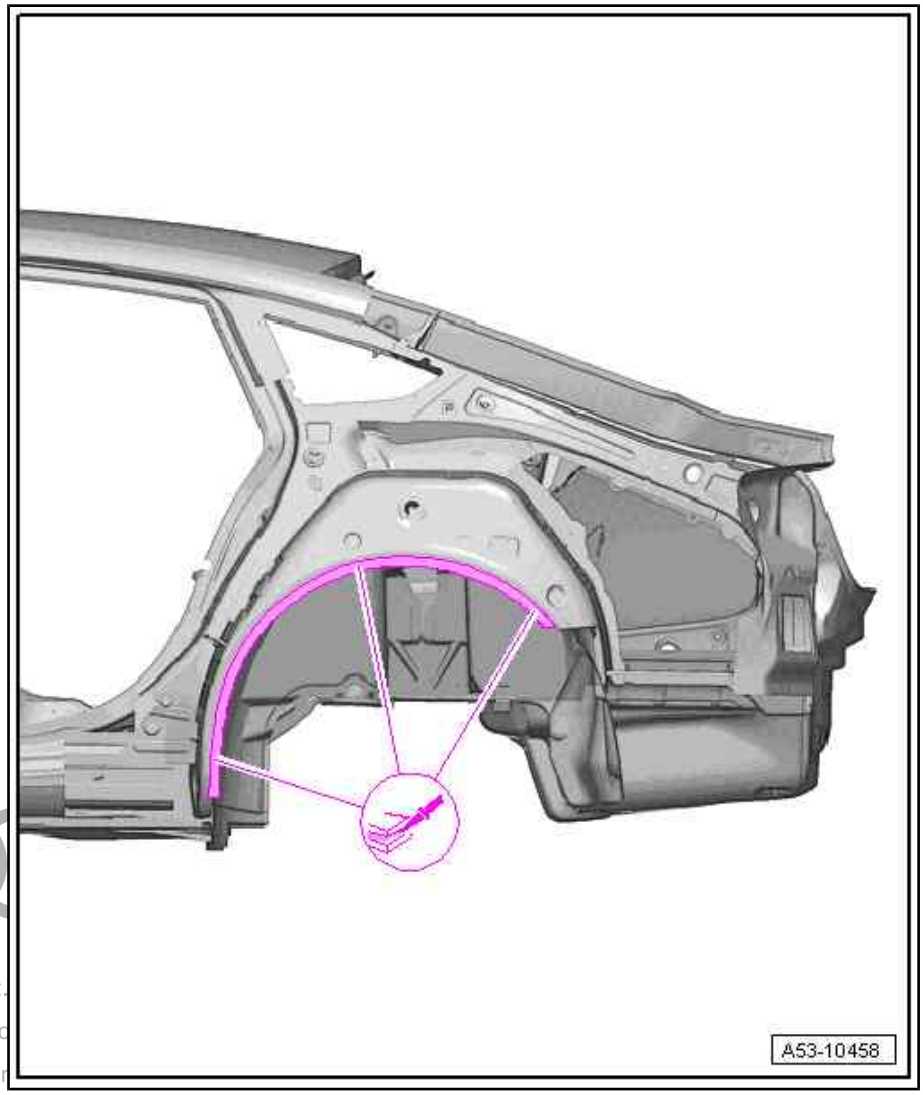
– **Use a welding unit which has been approved by AUDI AG.**

Welding in

Note

The new part must be welded in within 30 minutes, otherwise the adhesion of the bond will be impaired.

– Using hand cartridge gun - VAS 5155- , apply 2-component epoxy adhesive - DA 001 730 A2- to area of wheel arch (2 beads of adhesive, approx. 4 mm ∅).



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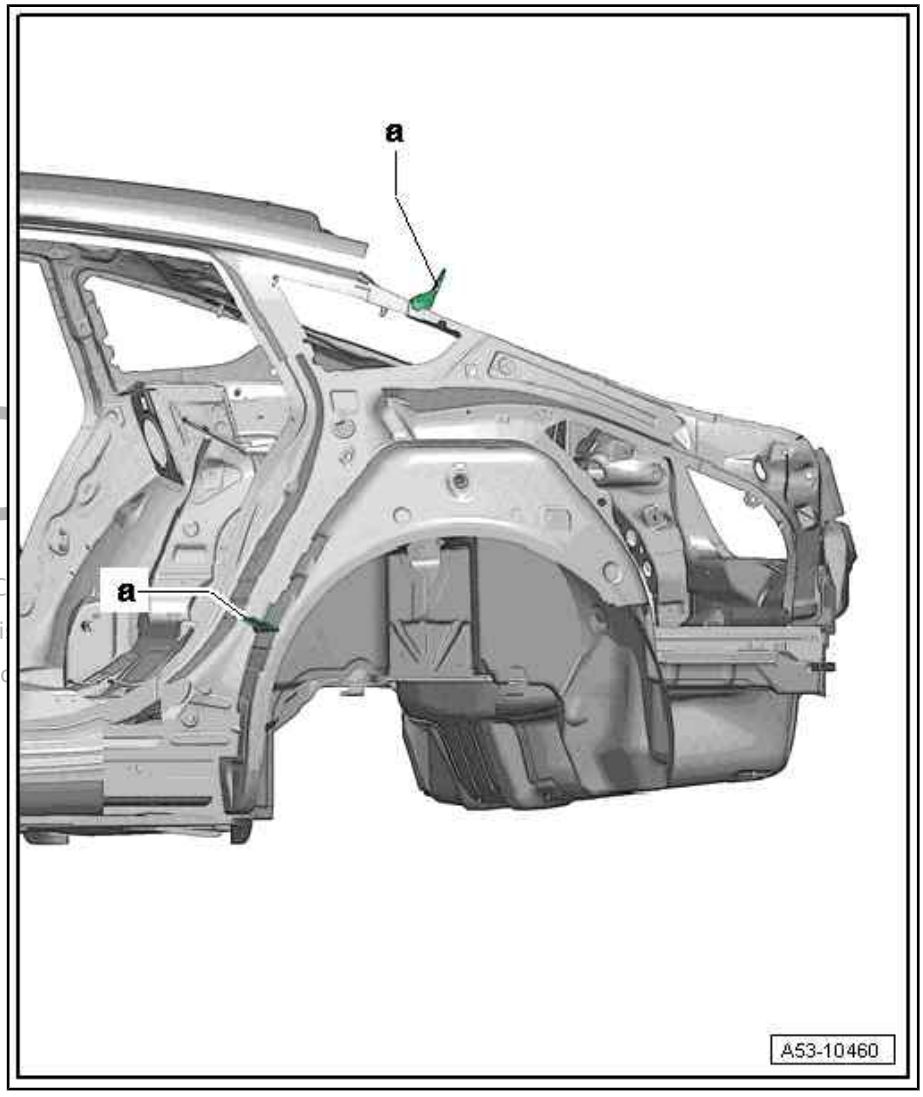
Fit moulded foam inserts -a- ⇒ page 12 .



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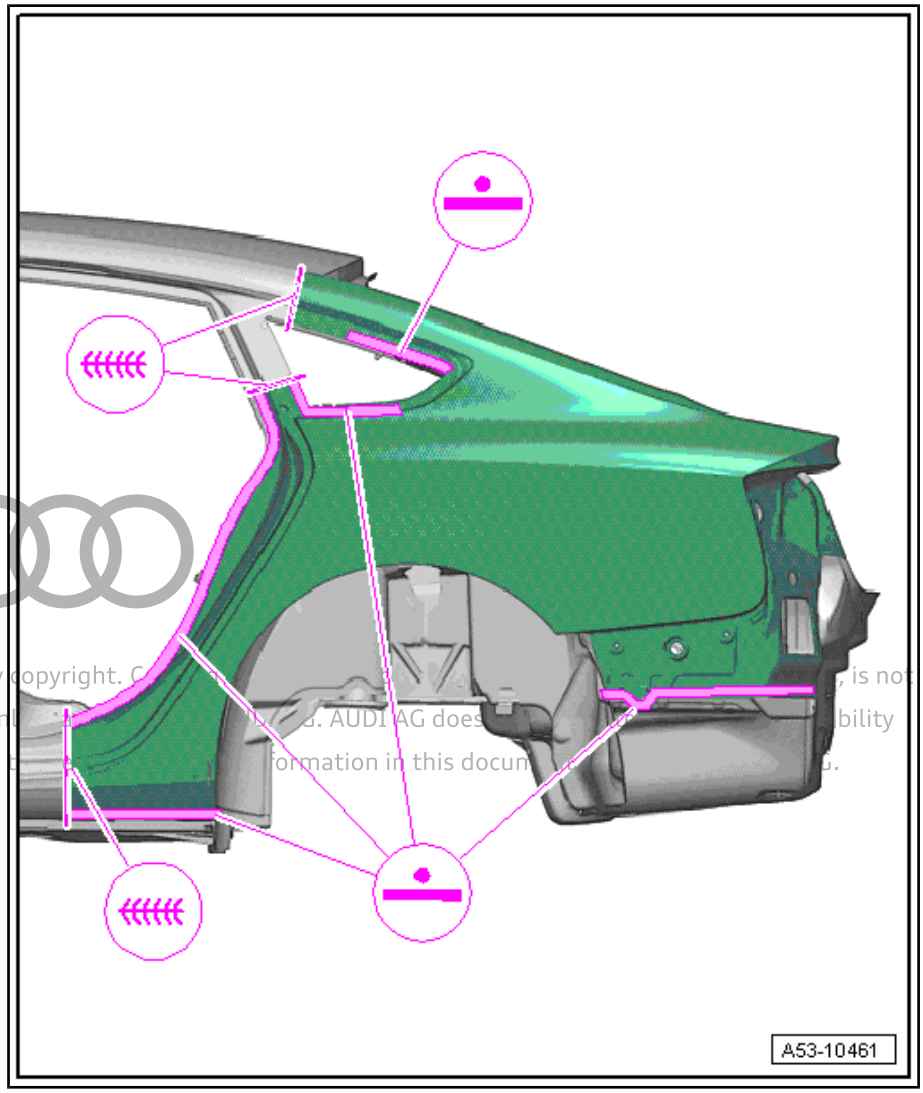
– Place backing plate of same material behind joint at separating cuts.
– Match up and fix new part in position.
– Check fit relative to adjacent parts.
– Weld in side panel using resistance spot welder : RP spot weld seam.
– Weld at separating cuts using shielded arc welding equipment : SG continuous seam.



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– Weld in side panel using resistance spot welder : RP spot weld seam.

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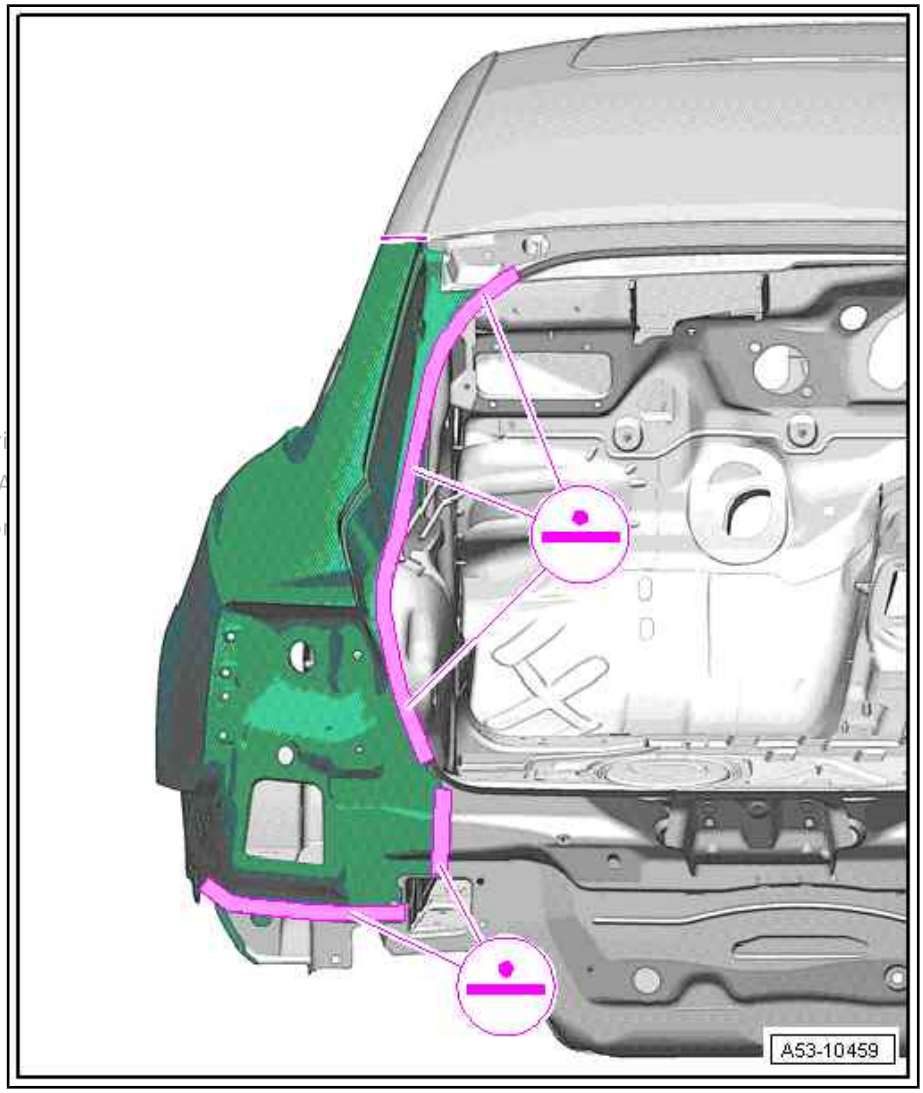

Inserting pop rivet bolts WHT 005 180

– Insert pop rivet bolts using pop rivet pliers - V.A.G 1765 C- and supplement -V.A.G 1765C/2- .

Note

If the threads are stiff because of the large tolerances of the pop rivet bolts, it may be necessary to use a ring spanner or open-end spanner to screw in the bolts.

- Welding in upper cross panel (Sportback) ⇒ page 209

RO: 53 69 55 52

12 Rear wheel housing - Renewal (Coupé and Sportback identical)

12.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Body saw
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

12.2 Procedure

- Side panel already removed (Coupé) ⇒ page 239
- Side panel already removed (Sportback) ⇒ page 249

Cutting locations

– Make separating cuts as shown using body saw .

– Separate original joint using spot weld breaker .

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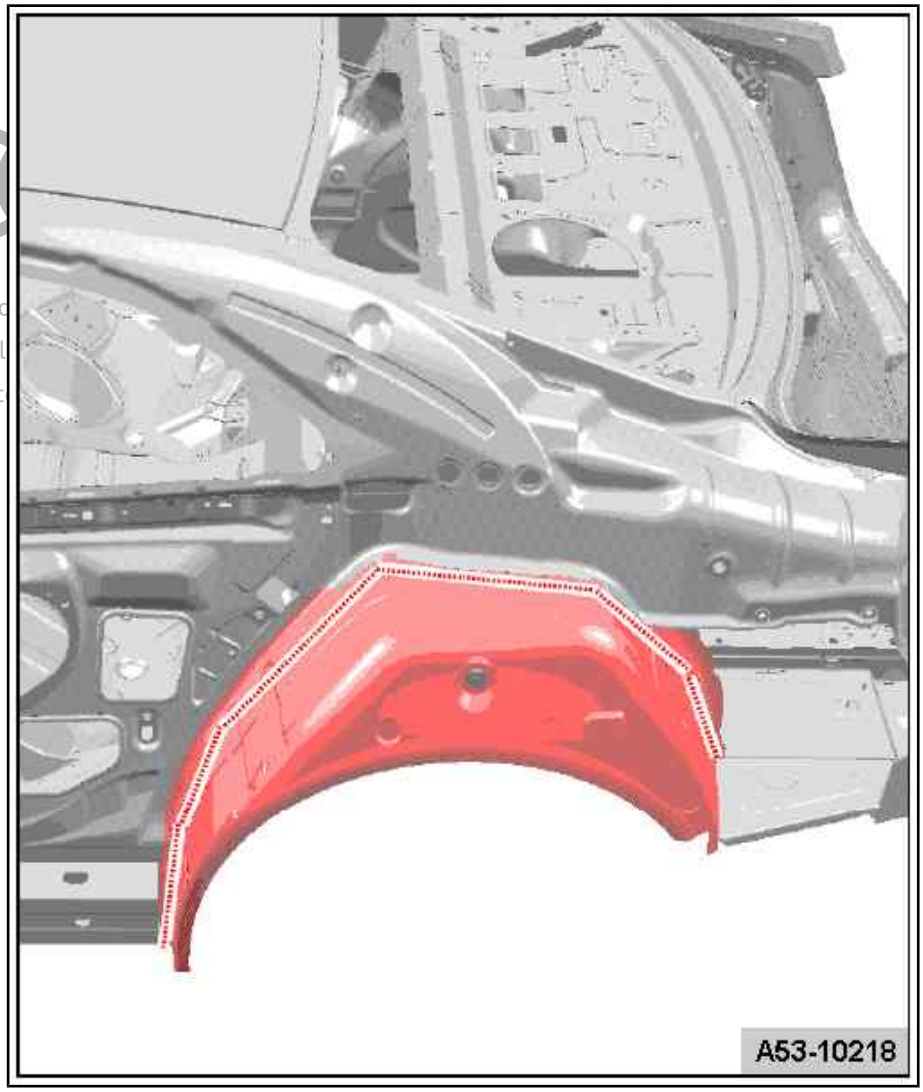
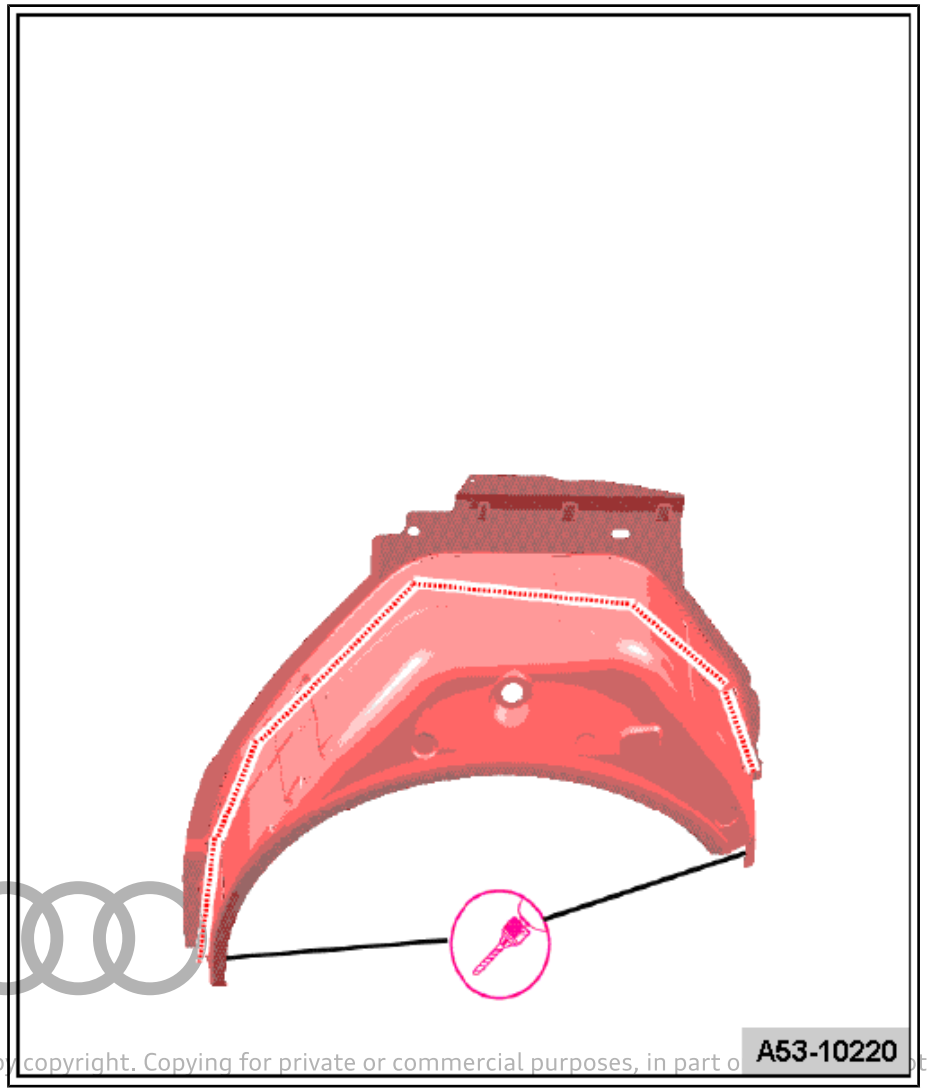


Replacement part

- Rear wheel housing liner

Preparing new part

– Step separating cut for joddle-join (on body side of joint).
– Transfer separating cut plus 10 mm for overlap to new part and cut off using body saw .
– Drill holes for SG plug weld seam, 7 mm ∅ using drill .



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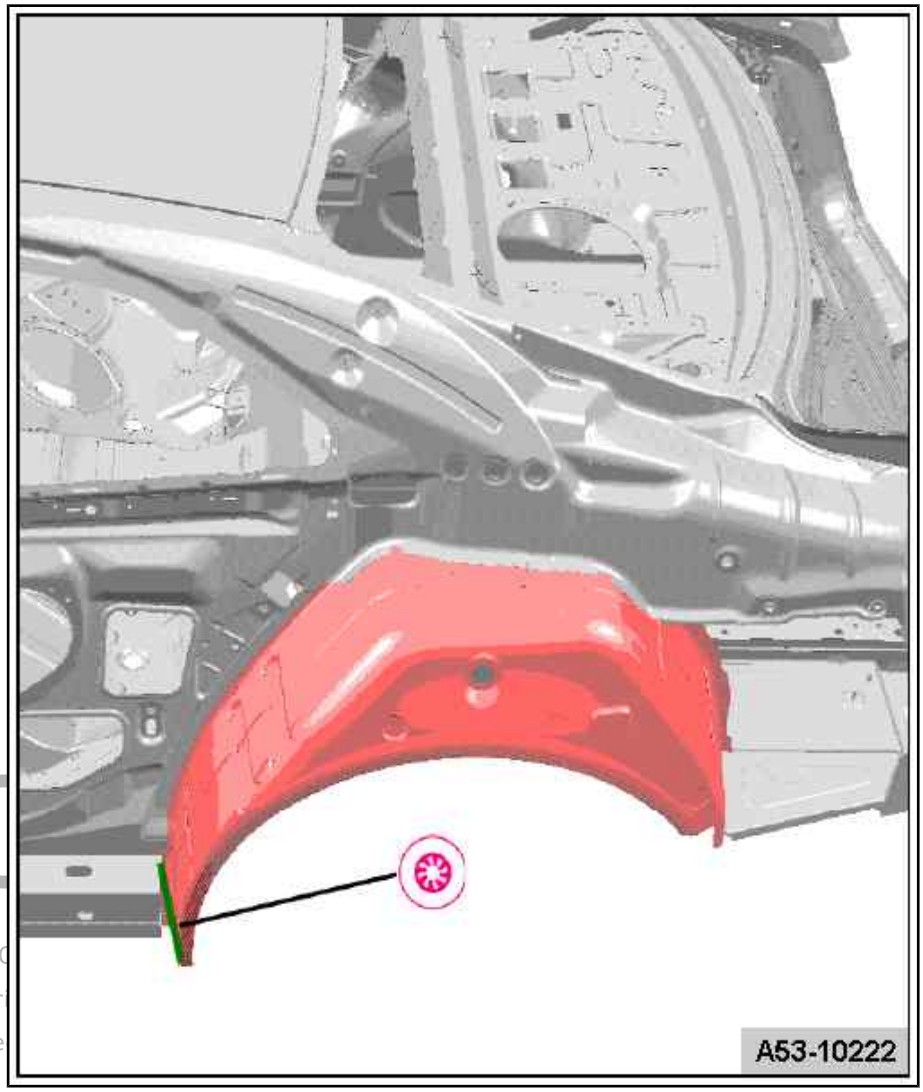
Welding in

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– Use a welding unit which has been approved by AUDI AG.

– Weld in wheel housing liner using shielded arc welding equipment : SG plug weld seam.



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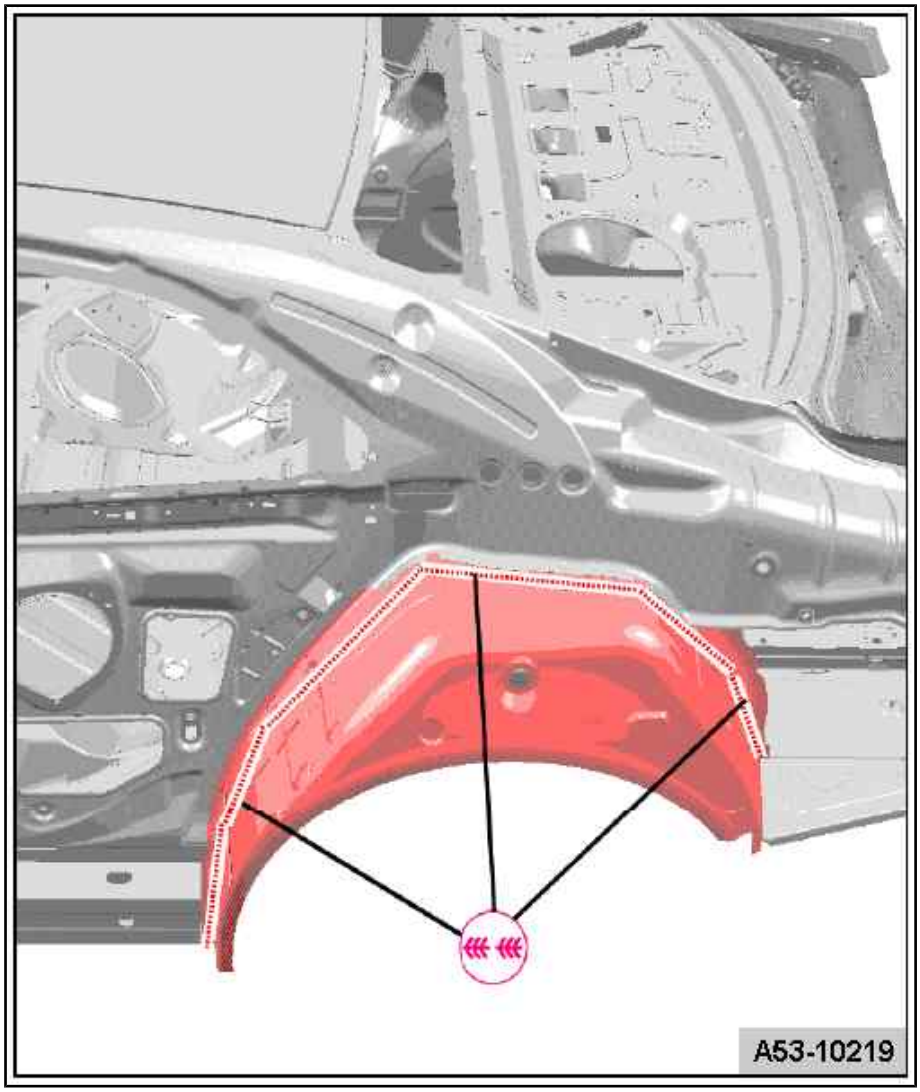
– Weld in wheel housing using shielded arc welding equipment :
SG continuous seam (staggered - with gaps).



- Welding in side panel (Coupé) ⇒ page 239
- Welding in side panel (Sportback) ⇒ page 249

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RO: 53 80 55 50

13 Spare wheel well - Renewal (Coupé and Sportback identical)

13.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Drill
- Compact angle grinder
- Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 34 .

13.2 Procedure

- Upper cross panel already removed (Coupé) ⇒ page 206
- Upper cross panel already removed (Sportback) ⇒ page 209
- Rear cross panel already removed (Coupé) ⇒ page 214
- Cross panel already removed (Sportback) ⇒ page 217

Cutting locations

– Separate original joint using spot weld breaker .

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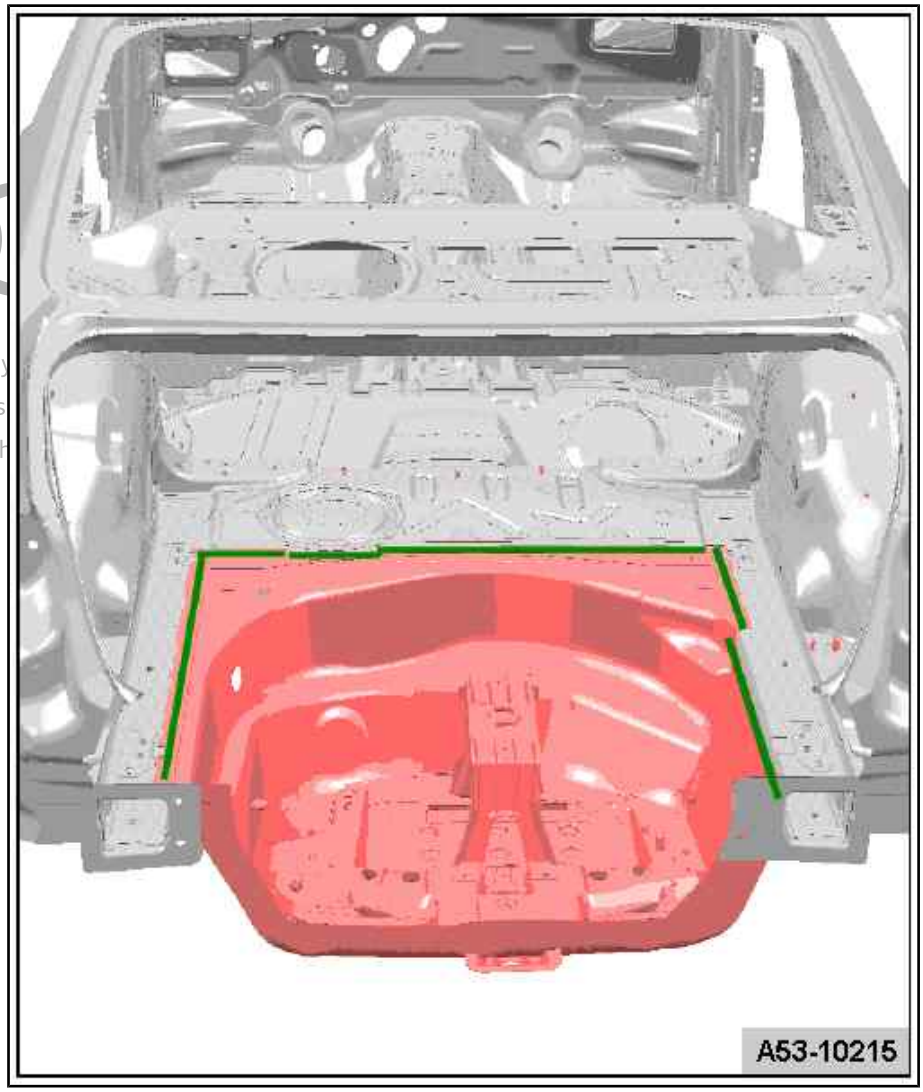

Replacement part

- Spare wheel well

Preparing new part

– Drill holes for SG plug weld seam, 7 mm ∅ using drill .

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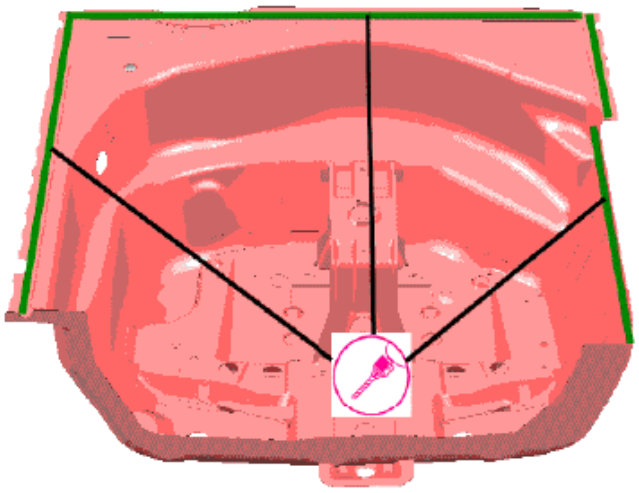


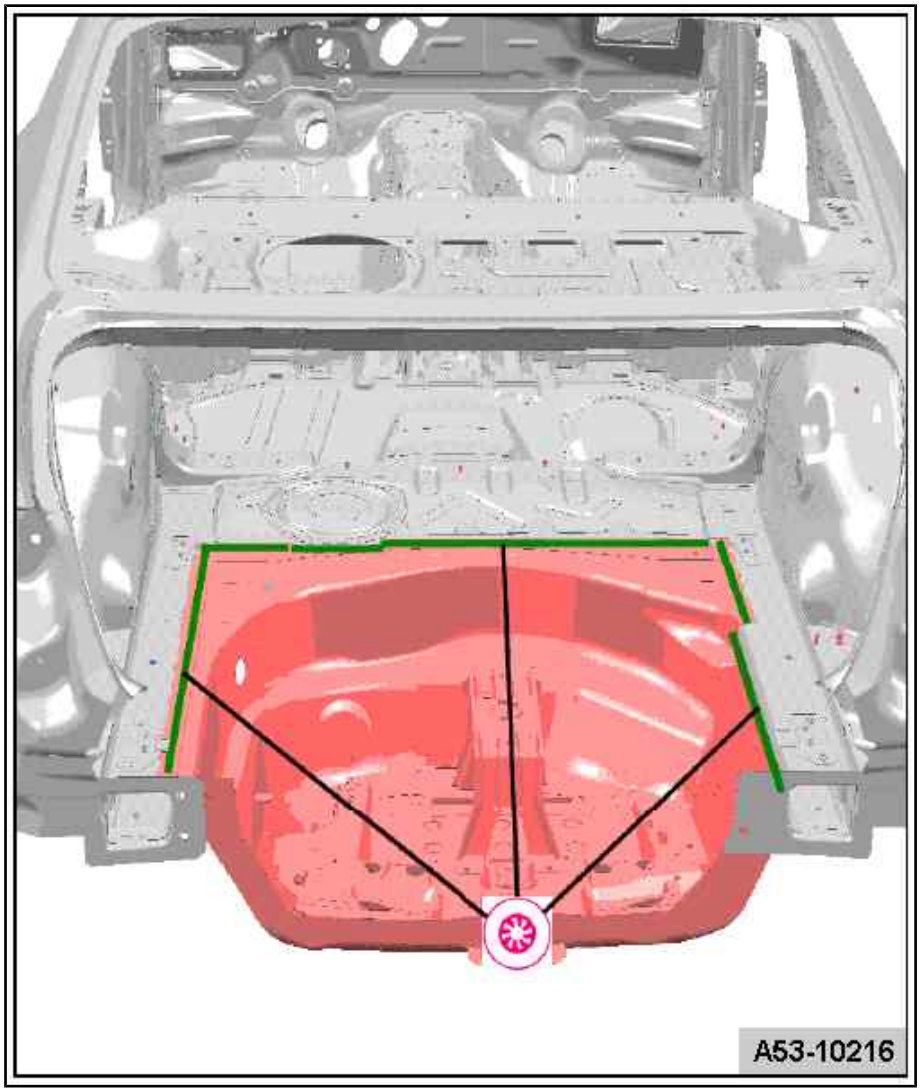
Welding in

NOTICE

Correct results must be ensured when carrying out repair work involving different types of steel and panel thicknesses.

– **Use a welding unit which has been approved by AUDI AG.**

– Weld in spare wheel well using shielded arc welding equipment : SG plug weld seam.



- Welding in upper cross panel (Coupé) ⇒ page 206
- Welding in upper cross panel (Sportback) ⇒ page 209
- Welding in rear cross panel (Coupé) ⇒ page 214
- Welding in cross panel (Sportback) ⇒ page 217

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