



Body Repairs

Audi A1 2011 ➤

Audi A1 Sportback 2012 ➤

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

(AKI000262; 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.

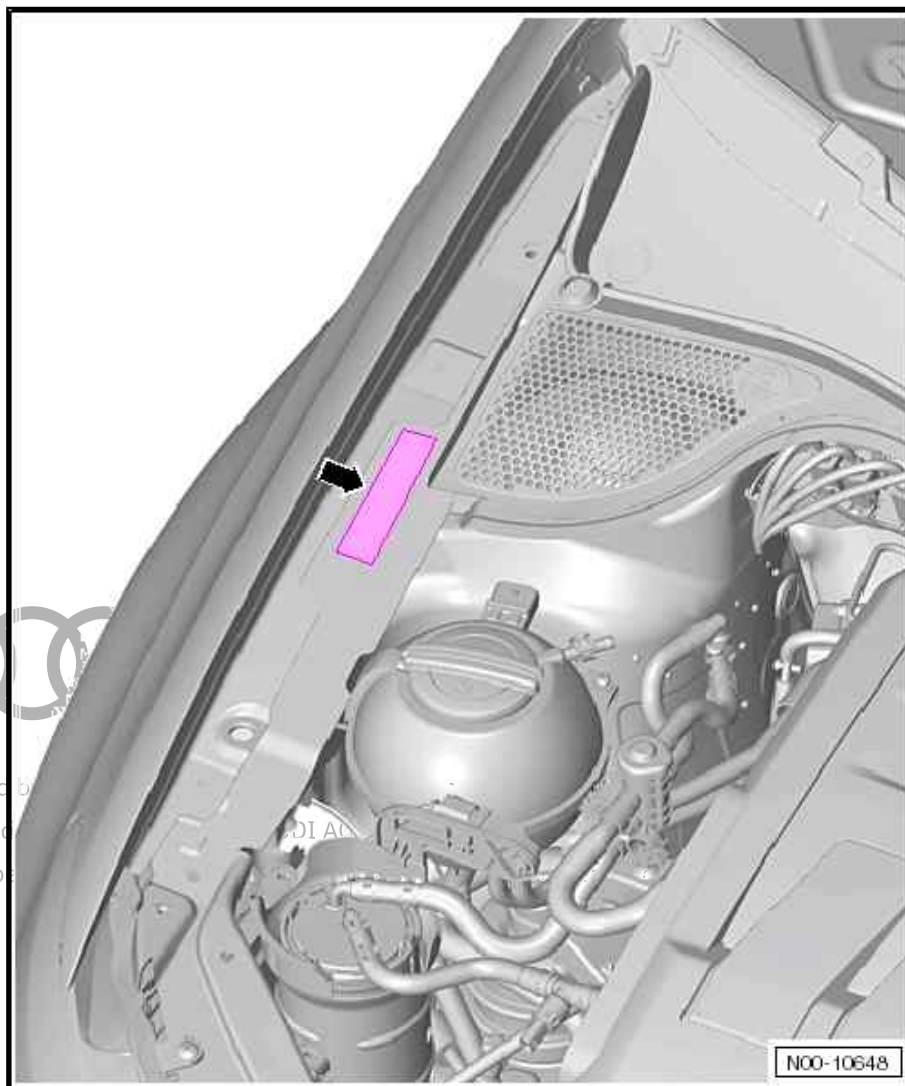
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2 Vehicle identification data

2.1 Vehicle identification number

The vehicle identification number is stamped on the right-hand upper longitudinal member for wheel housing.



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.

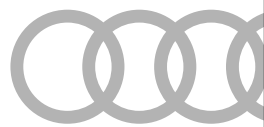
Please make sure to comply with the market-specific legislation when renewing a component with the vehicle identification number.

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

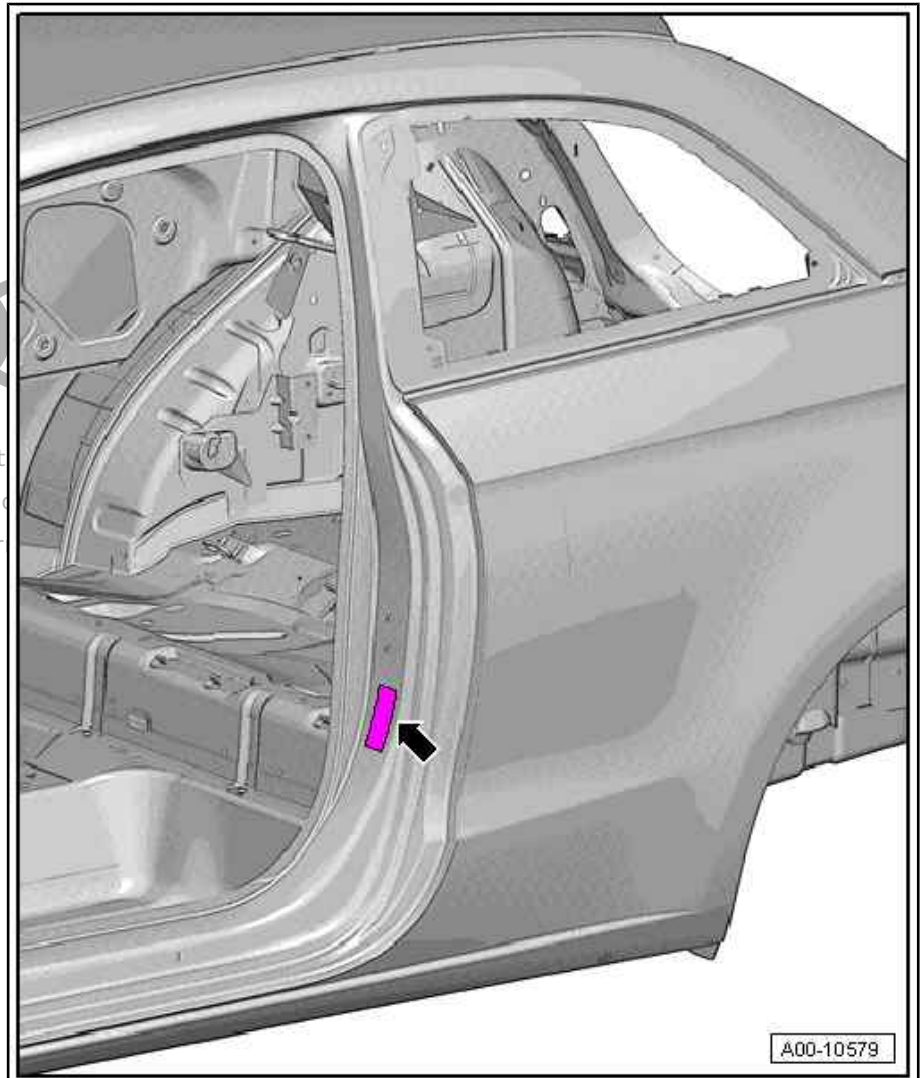


2.2 Type plate

The type plate -arrow- is located on the left-side B-pillar (as viewed when looking forwards) and is visible when the door is opened.



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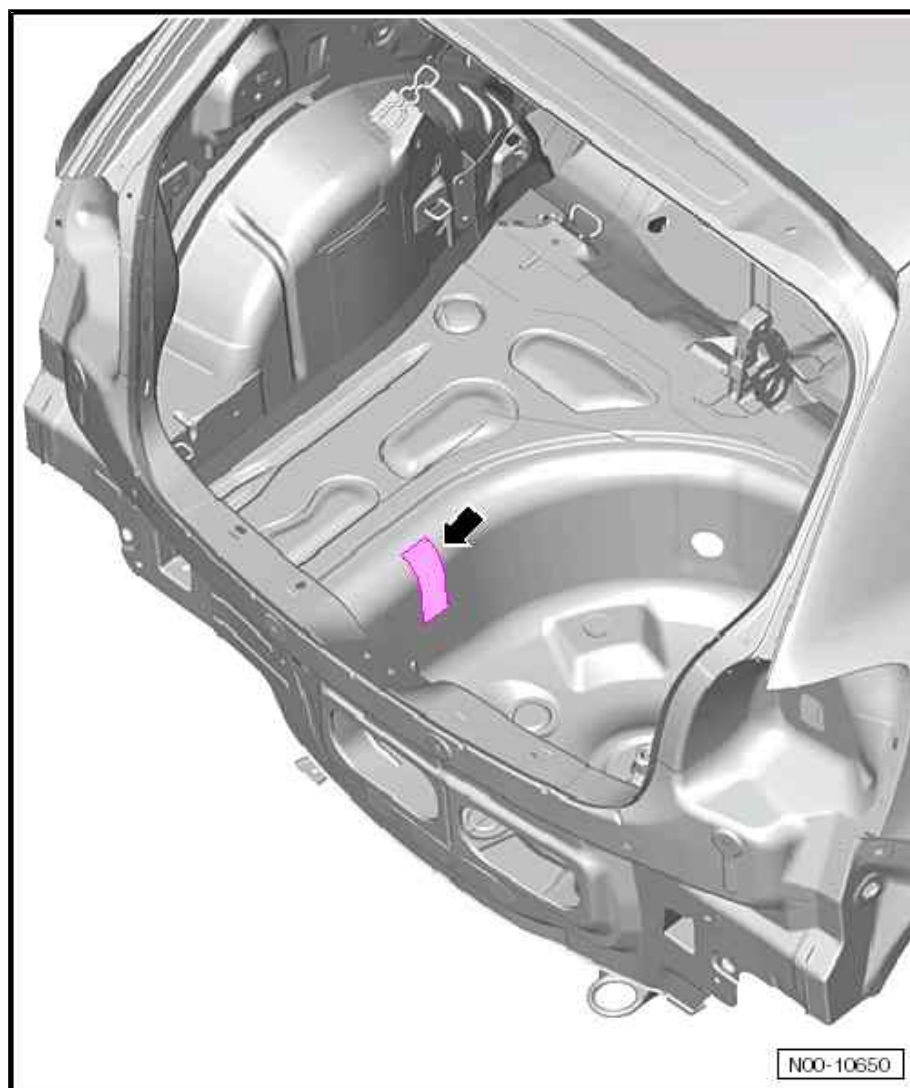


2.3 Vehicle data sticker

SORT.NR.	
FAHRZG.-IDENT-NR.	
VEHICLE-IDENT-NO.	
TYP/TYPE	
MOTORKB./GETR.KB	
ENG.CODE/TRANS.CODE	
LACKNR./INNENAUSST.	
PAINT NO./INTERIOR	
M-AUSST./	
OPTIONS	

V53-1283

The vehicle data sticker -arrow- is located at the rear of the spare wheel well (left-side in direction of travel).



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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 accident prevention and trade association regulations must be observed.



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



Note

Repairs must always be made according to the manufacturer's instructions in the respective Workshop Manual. Ultra-high-strength and hot-formed body panels may only be repaired using modern inverter technology, otherwise the optimum passenger protection after repairs is not possible. Hot-stamped steel panels are used in areas under extreme loading. These panels offer significantly greater strength than conventional high-strength panels for less weight.

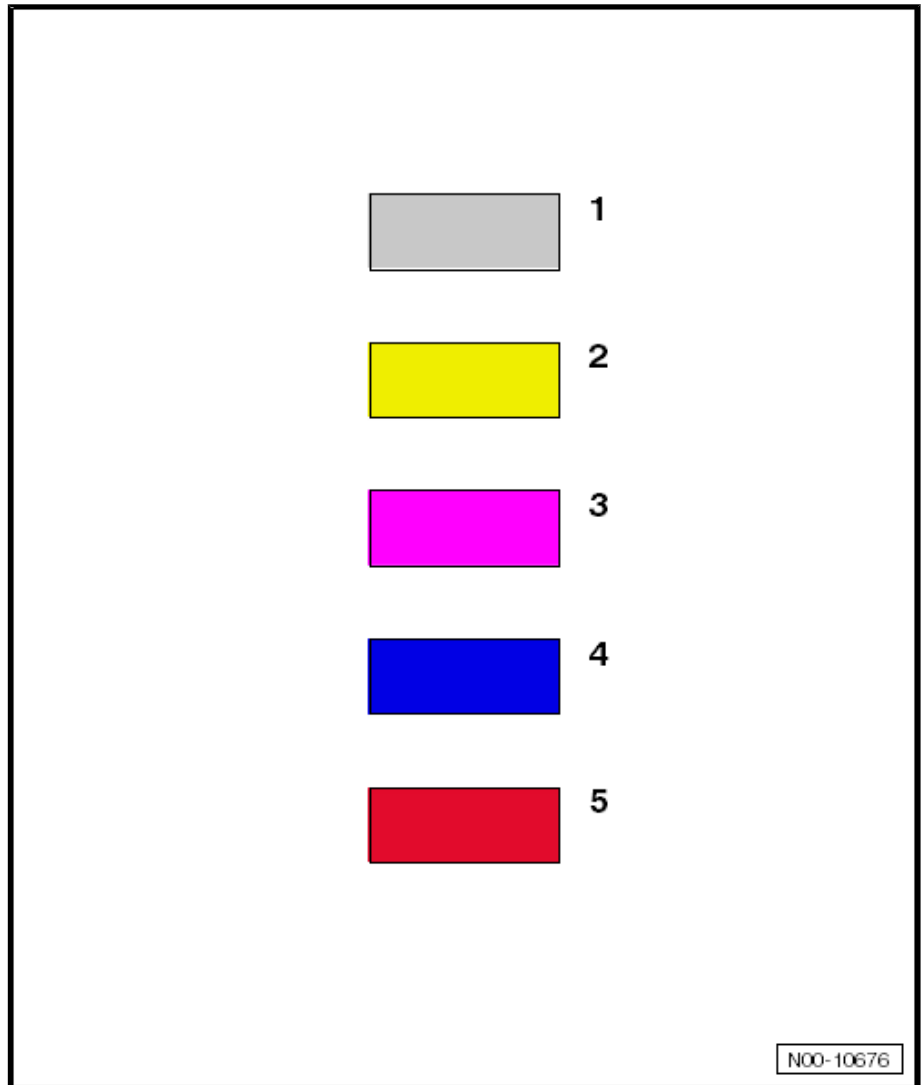


Note

- ◆ *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 AG.*

The body of the vehicle is predominantly manufactured from galvanised steel panels.

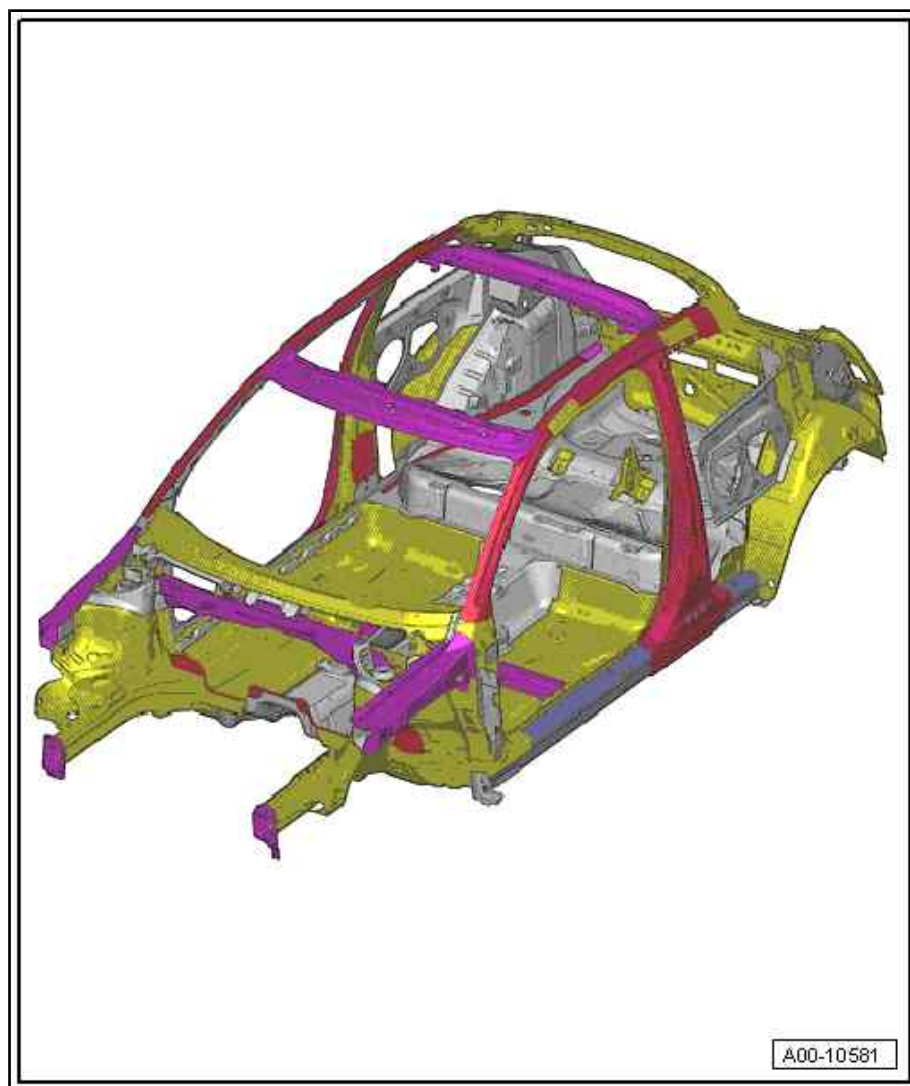
The following illustrations show the various types of steel in different colours, ranging from soft steel to hot-formed steel (see table below).



	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

The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.

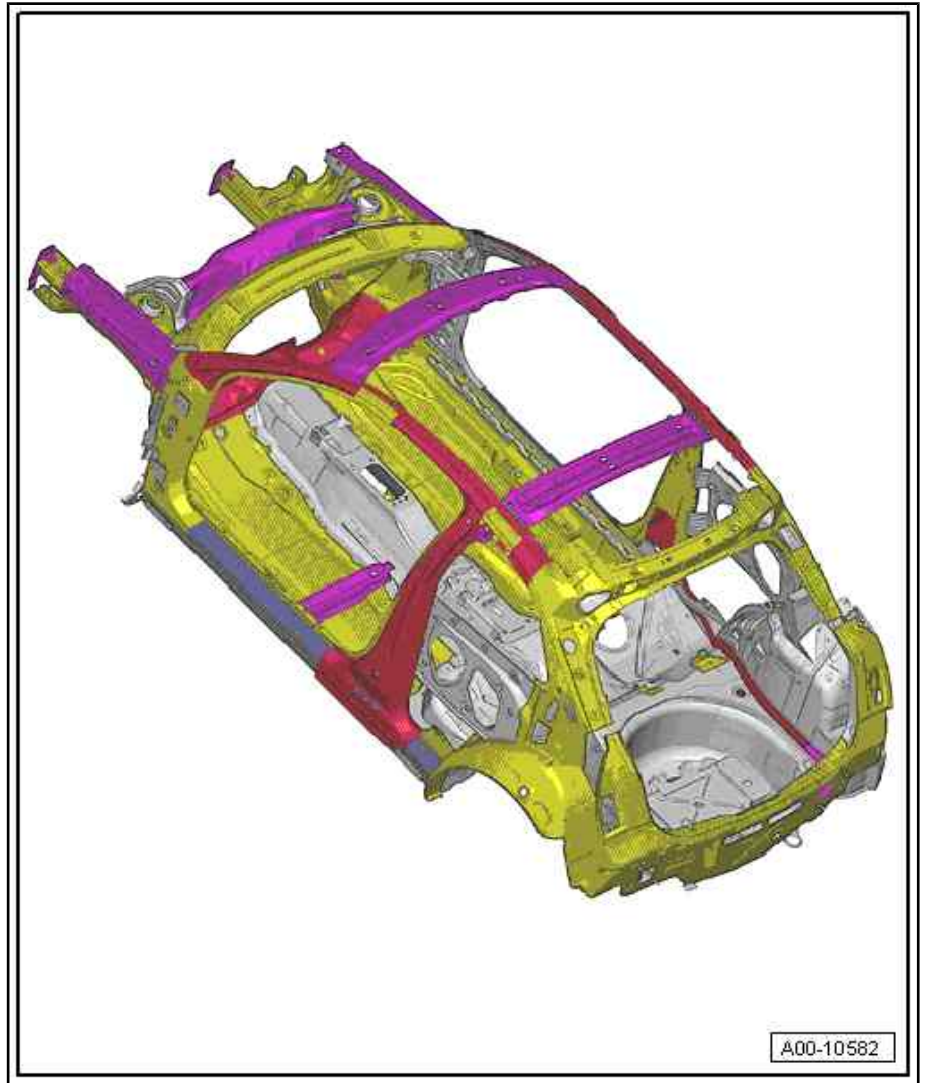




The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.



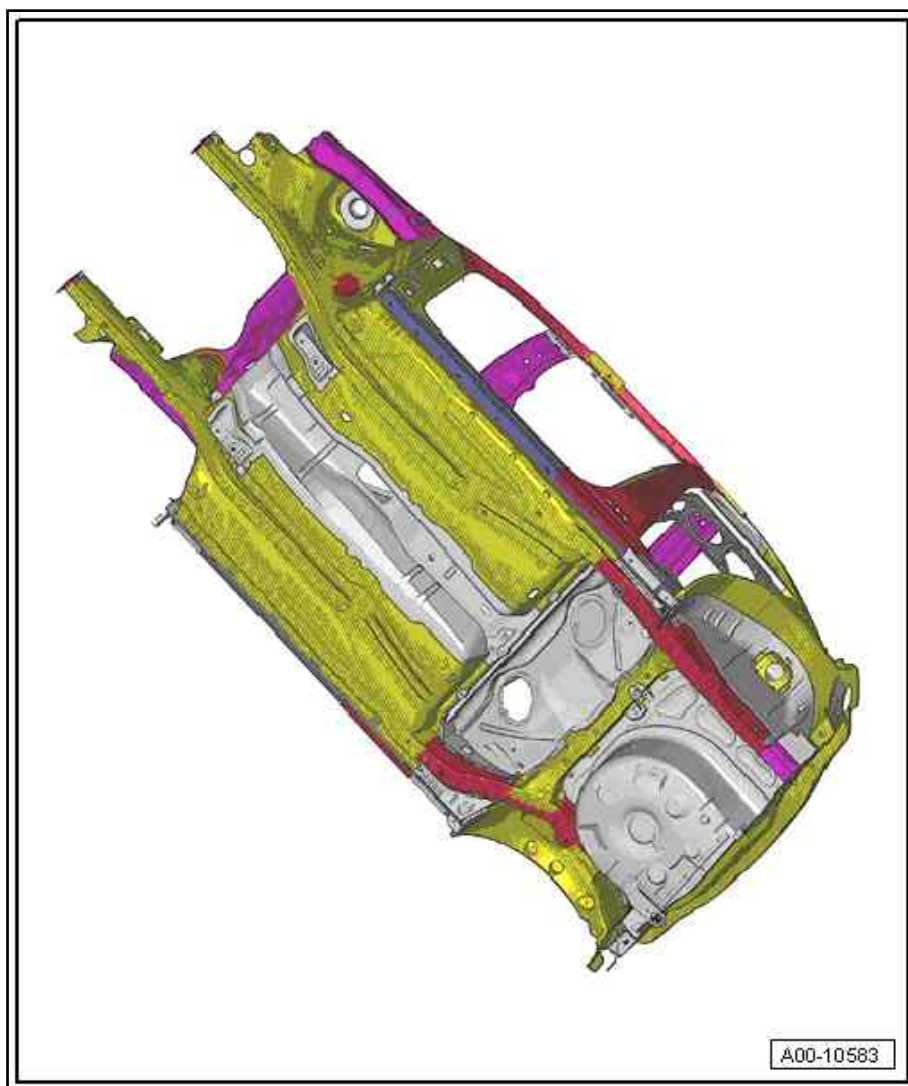
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The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.



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Audi A1 quattro

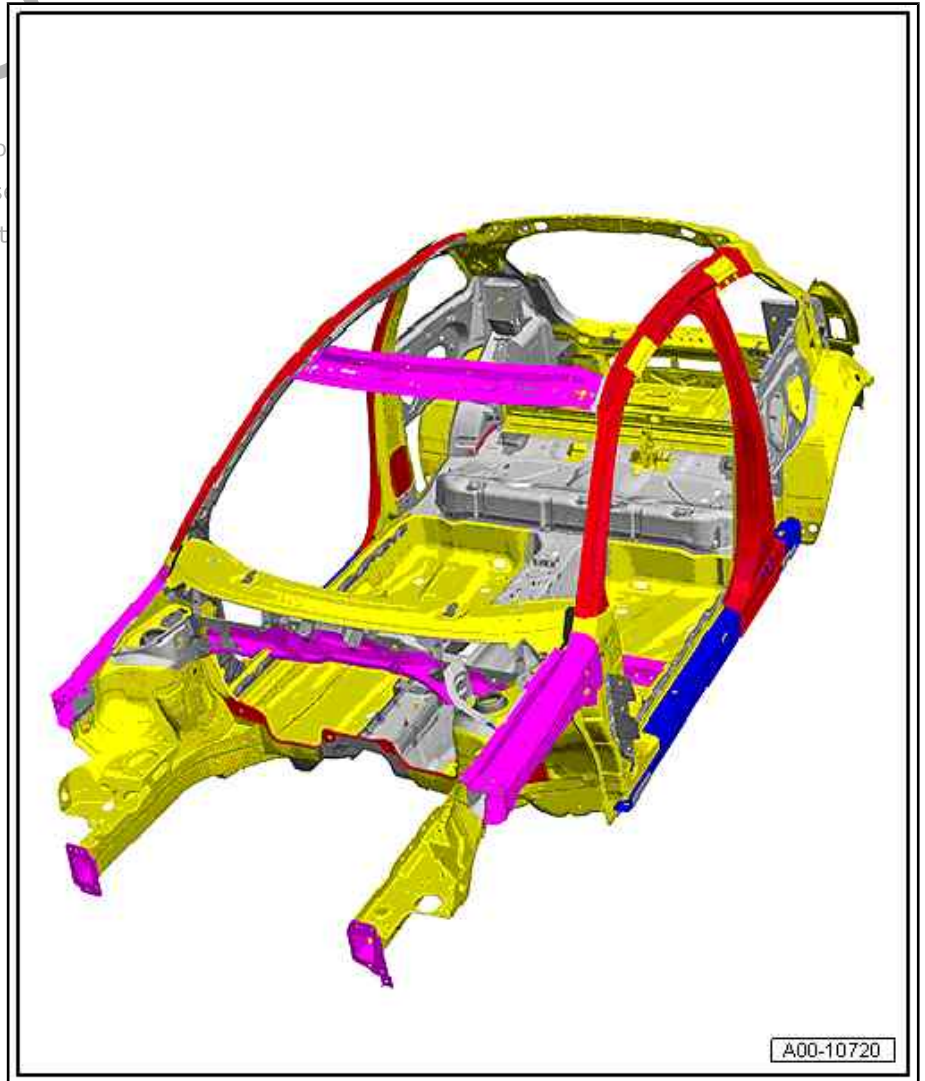
The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.



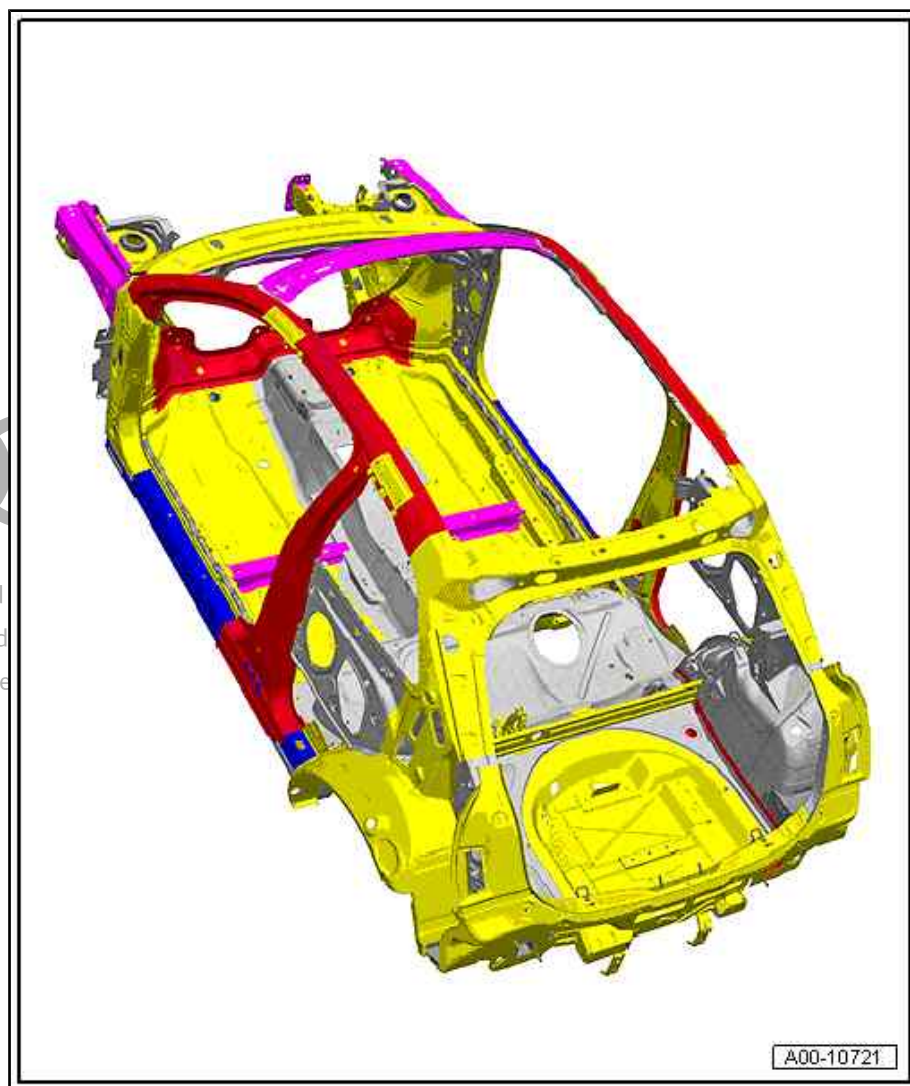
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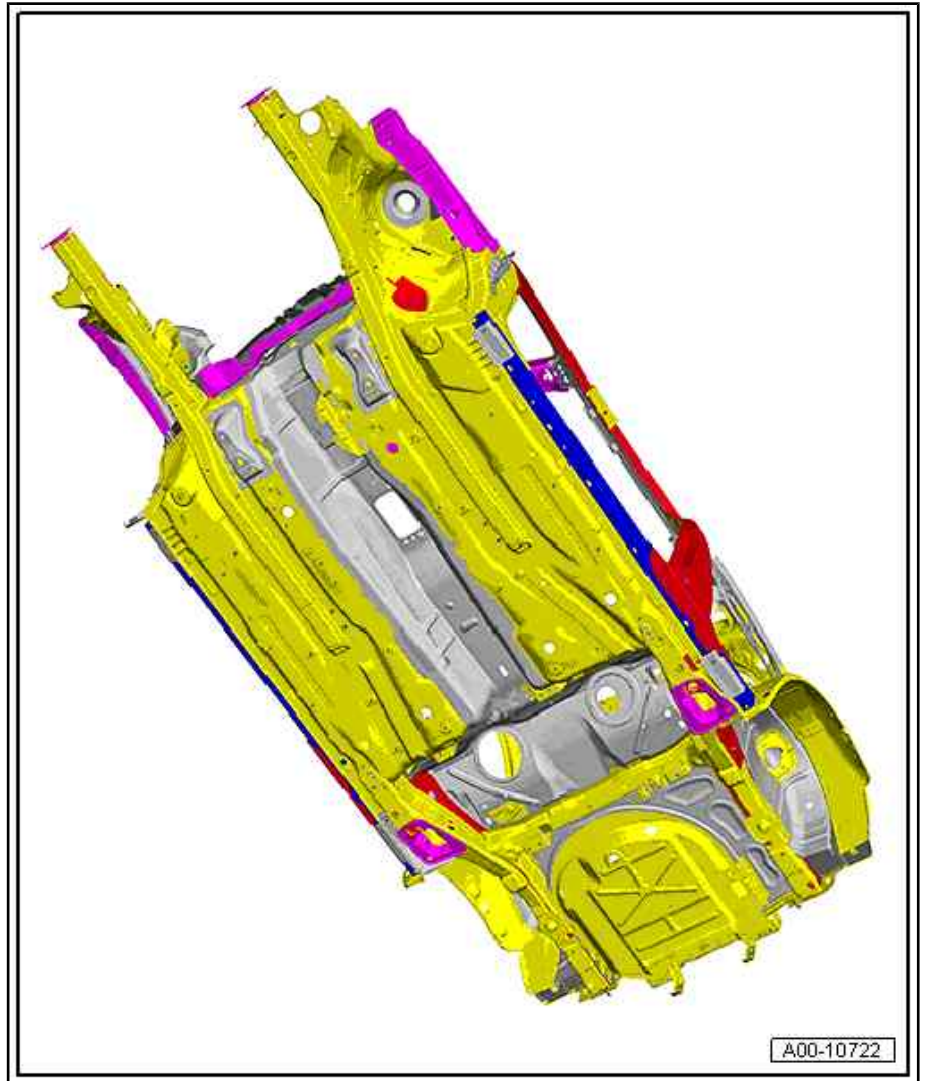
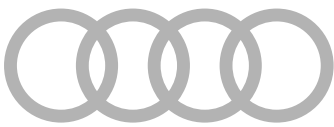
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The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.



The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.



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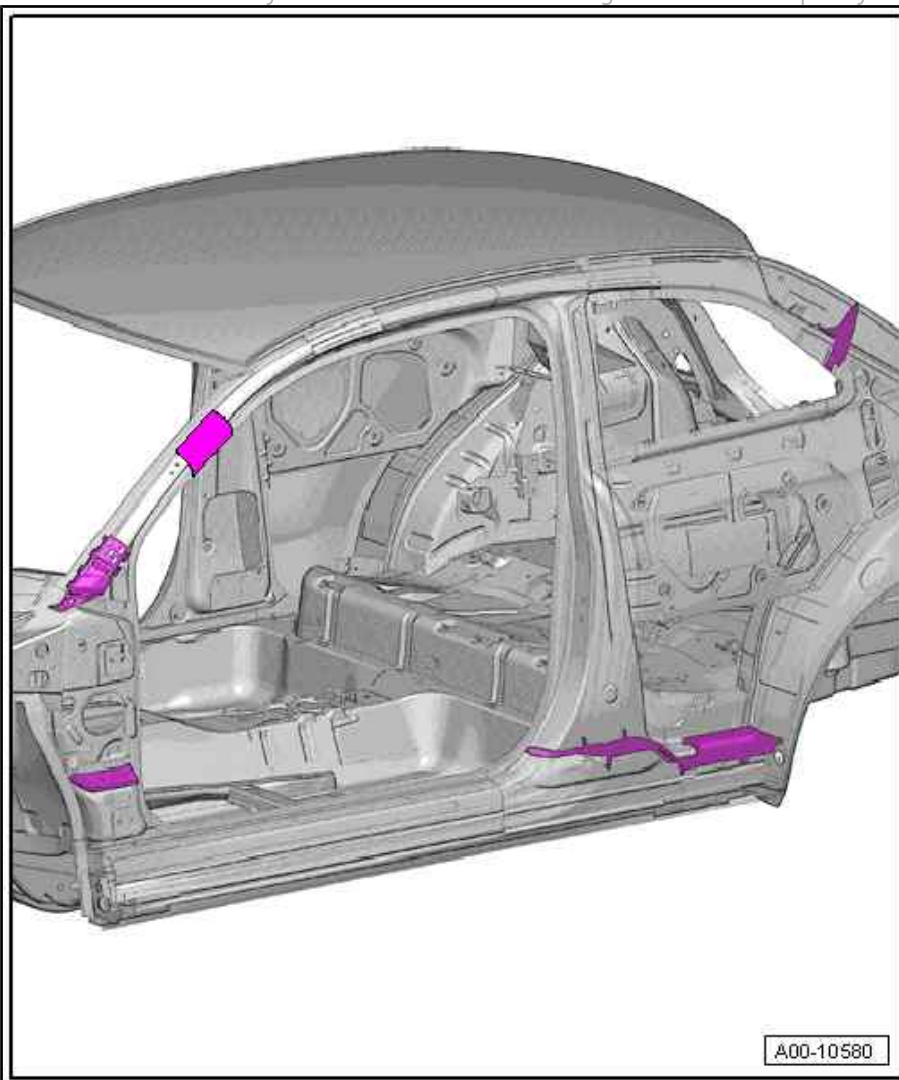
5 Moulded foam inserts

On this vehicle, various body cavities are fitted with moulded foam inserts.

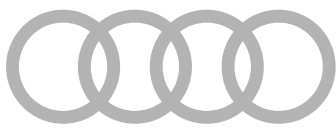
The foam inserts reduce the noise transmitted to the interior when driving.

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.

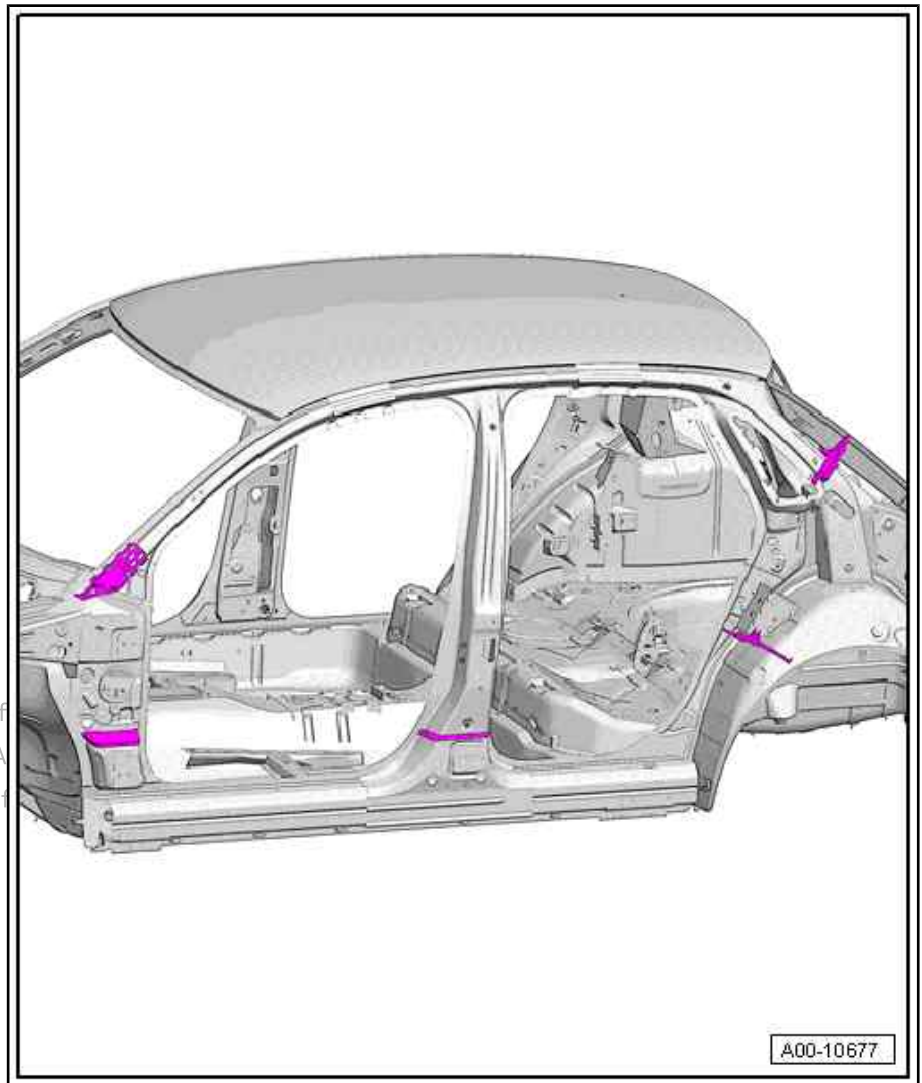
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Moulded foam inserts (Sportback)



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CAUTION

The moulded foam inserts expand only after reaching approx. 180 °C. For this reason, a 2-component filler foam is used when performing repairs.

The material required for workshop repairs is 2-component filler foam - D 506 KD1 A3 - .

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 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 2-component filler foam -D 506 KD1 A3- to replacement part.

Secure the new part in position, gently pressing in the new part in the area of the moulded foam insert, and weld in.

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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6 Body panel gaps/shut lines

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

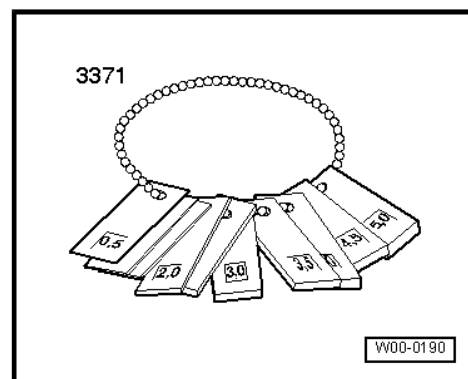


Note

- ◆ All dimensions are given in mm.
- ◆ The tolerance for all dimensions is ± 0.5 mm.
- ◆ Panel gaps must be parallel with a maximum deviation of 0.5 mm.

Special tools and workshop equipment required

- ◆ Setting gauge - 3371-

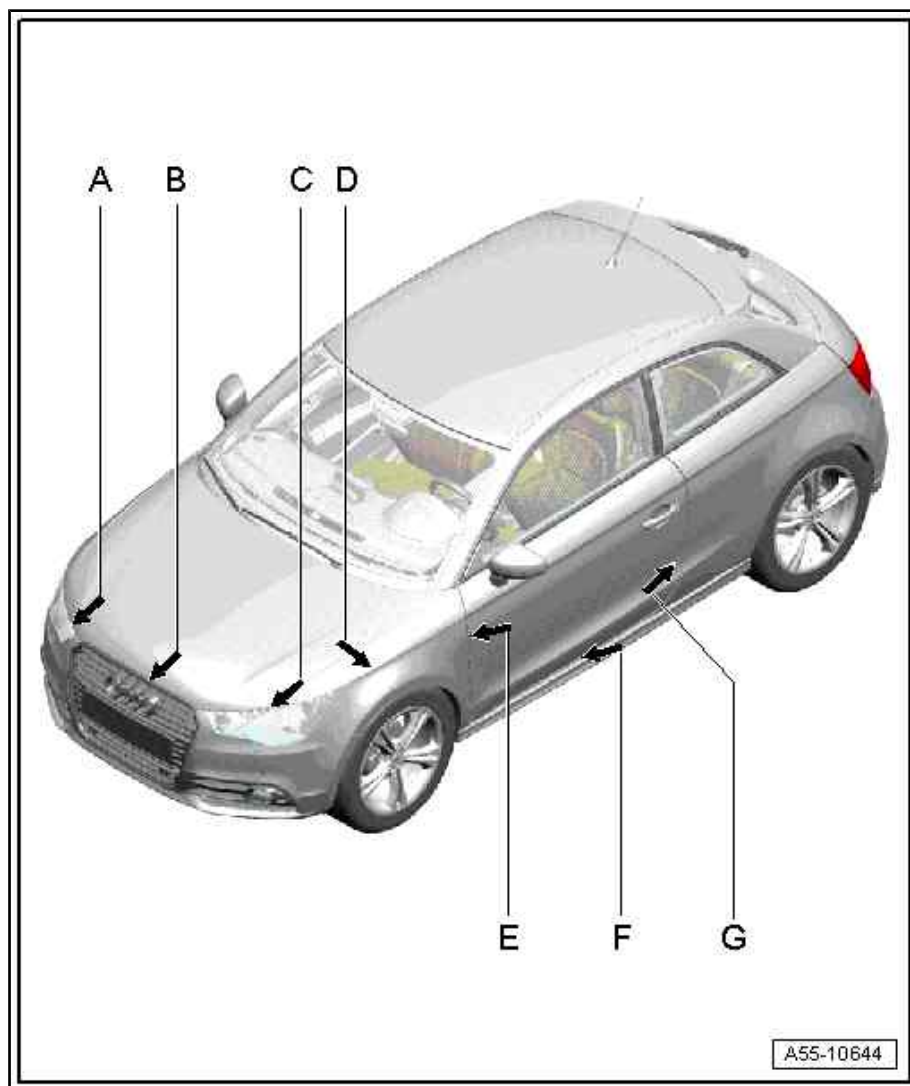


Panel gaps - front

- ◆ In area -A- = 4.5 mm $\pm$ 0.5 mm
- ◆ In area -B- = 4.5 mm $\pm$ 0.5 mm
- ◆ In area -C- = 4.5 mm $\pm$ 0.5 mm
- ◆ In area -D- = 3.5 mm $\pm$ 0.5 mm
- ◆ In area -E- = 2.5 mm $\pm$ 0.5 mm
- ◆ In area -F- = 3.5 mm $\pm$ 0.5 mm
- ◆ In area -G- = 5.0 mm $\pm$ 0.5 mm

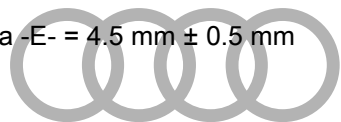


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Panel gaps - rear

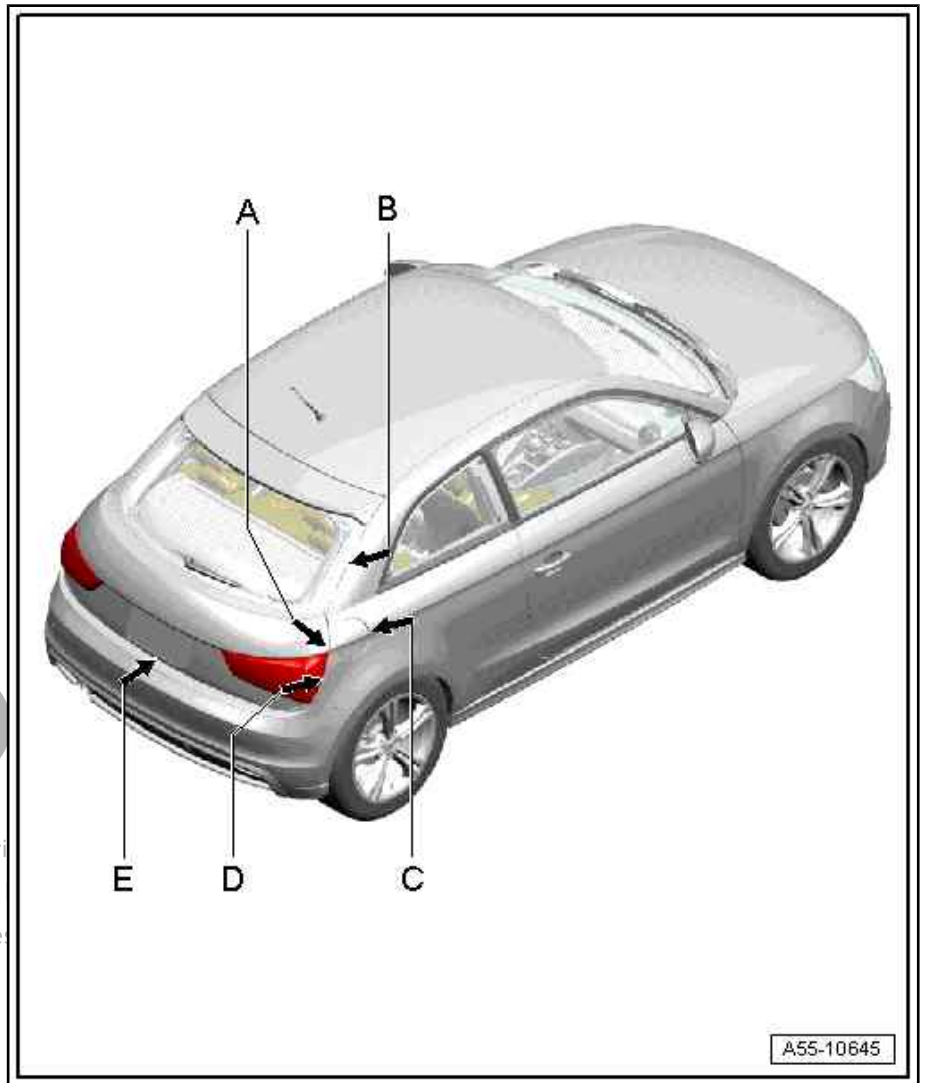
- ◆ In area -A- = $4.5 \text{ mm} \pm 0.5 \text{ mm}$
- ◆ In area -B- = $4.5 \text{ mm} \pm 0.5 \text{ mm}$
- ◆ In area -C- = $2.3 \text{ mm} \pm 0.5 \text{ mm}$
- ◆ In area -D- = $5.3 \text{ mm} \pm 0.5 \text{ mm}$
- ◆ In area -E- = $4.5 \text{ mm} \pm 0.5 \text{ mm}$



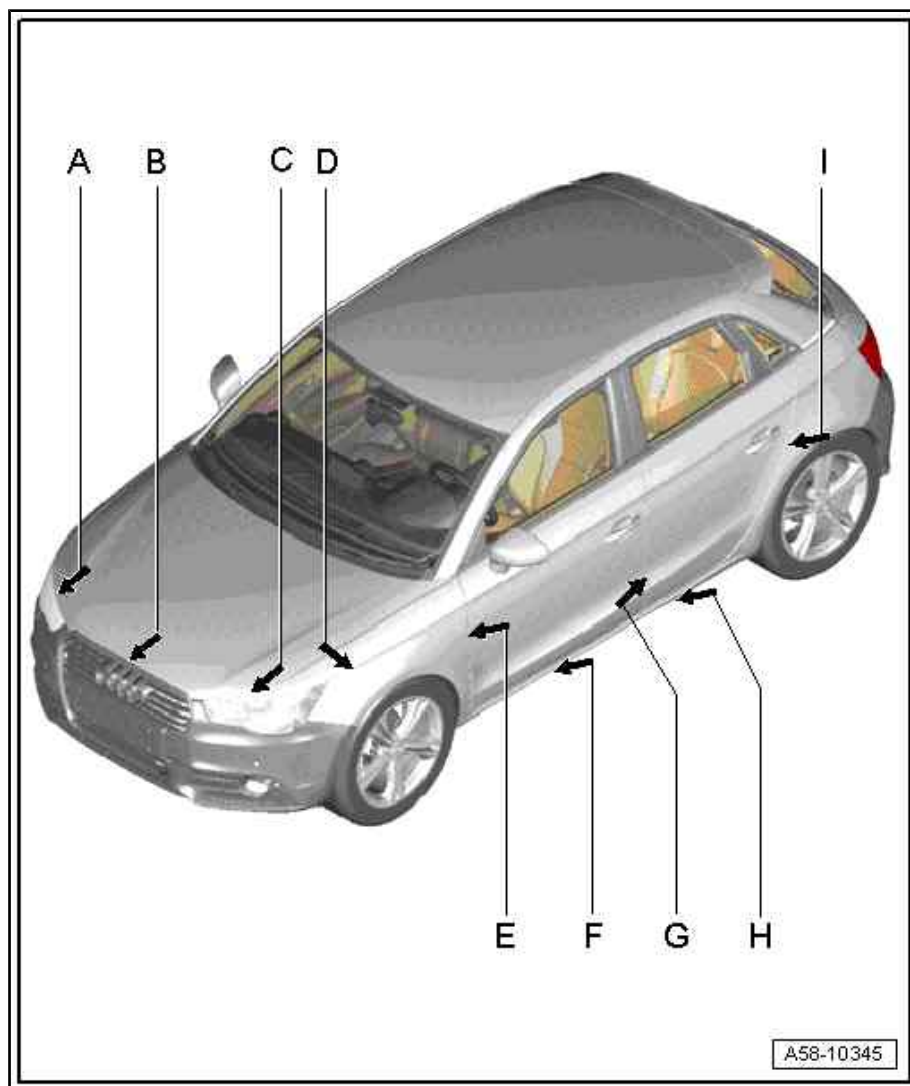
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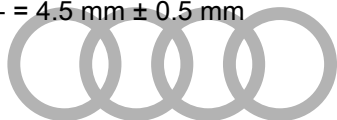
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Panel gaps (Sportback)



- ◆ In area -A- = 4.5 mm ± 0.5 mm
- ◆ In area -B- = 4.5 mm ± 0.5 mm
- ◆ In area -C- = 4.5 mm ± 0.5 mm
- ◆ In area -D- = 3.5 mm ± 0.5 mm
- ◆ In area -E- = 3.5 mm ± 0.5 mm
- ◆ In area -F- = 6.0 mm ± 0.5 mm
- ◆ In area -G- = 4.5 mm ± 0.5 mm
- ◆ In area -H- = 6.0 mm ± 0.5 mm
- ◆ In area -I- = 4.5 mm ± 0.5 mm



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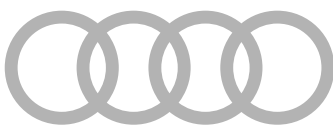


7 Laser welding

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, the laser weld seams are replaced by SG plug weld seams or RP spot weld seams.



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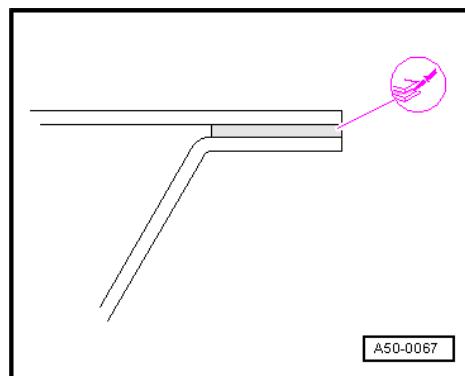


8 Bonded joints

The body of the Audi A1 features bonded joints and spot-welded/bonded joints for increased rigidity and strength.

8.1 Bonded joints

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



8.2 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.

8.3 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.

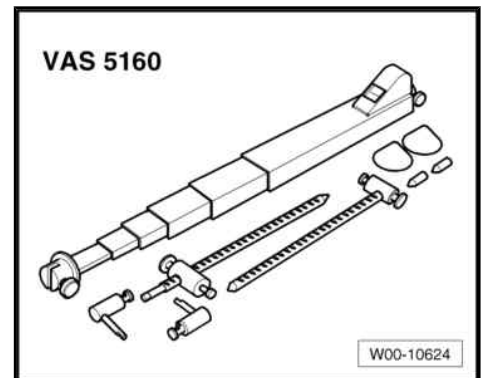


9 Body dimensions



Note

- ◆ Dimensions are only given for checking purposes. Correct dimensions are defined by the alignment bracket set.
- ◆ Bolts, screws, plugs, trim panels and attached components must be removed before starting the measuring process.
- ◆ The body dimensions should be measured using the telescopic gauge - VAS 5159- or the telescopic gauge - VAS 5160-.
- ◆ To avoid inaccurate measurements, make sure the measuring rods are always of equal length.



NOTICE

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

9.1 Body - front

Audi A1 and Audi A1 Sportback identical

A - 1331 mm ± 2.0 mm

Distance between wing panel mountings

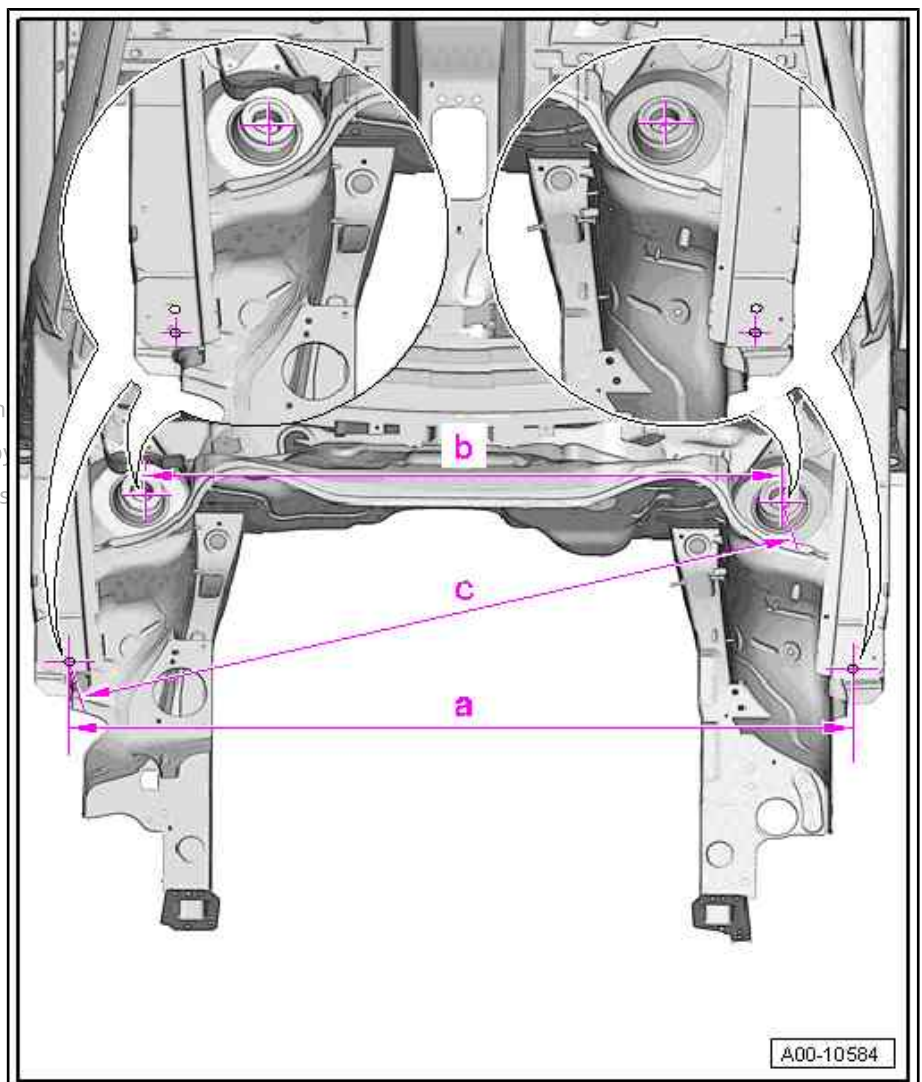
B - 1080 mm ± 2.0 mm

Distance between suspension strut mountings

C - 1240 mm ± 2.0 mm

Diagonal distance between suspension strut mountings

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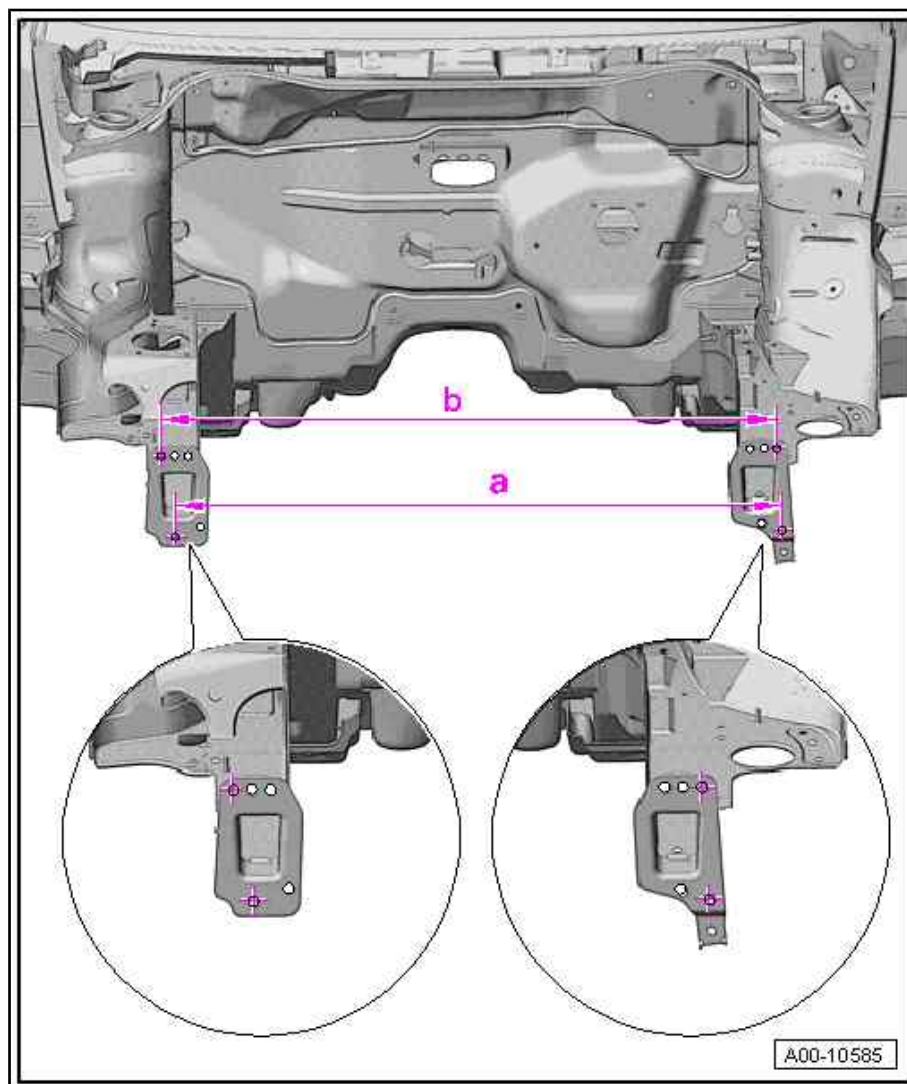
and wing panel mountings

A - 935 mm ± 2.0 mm

Distance between impact
damper mountings

B - 950 mm ± 2.0 mm

Distance between impact
damper mountings



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9.2 Body - centre

Windscreen opening

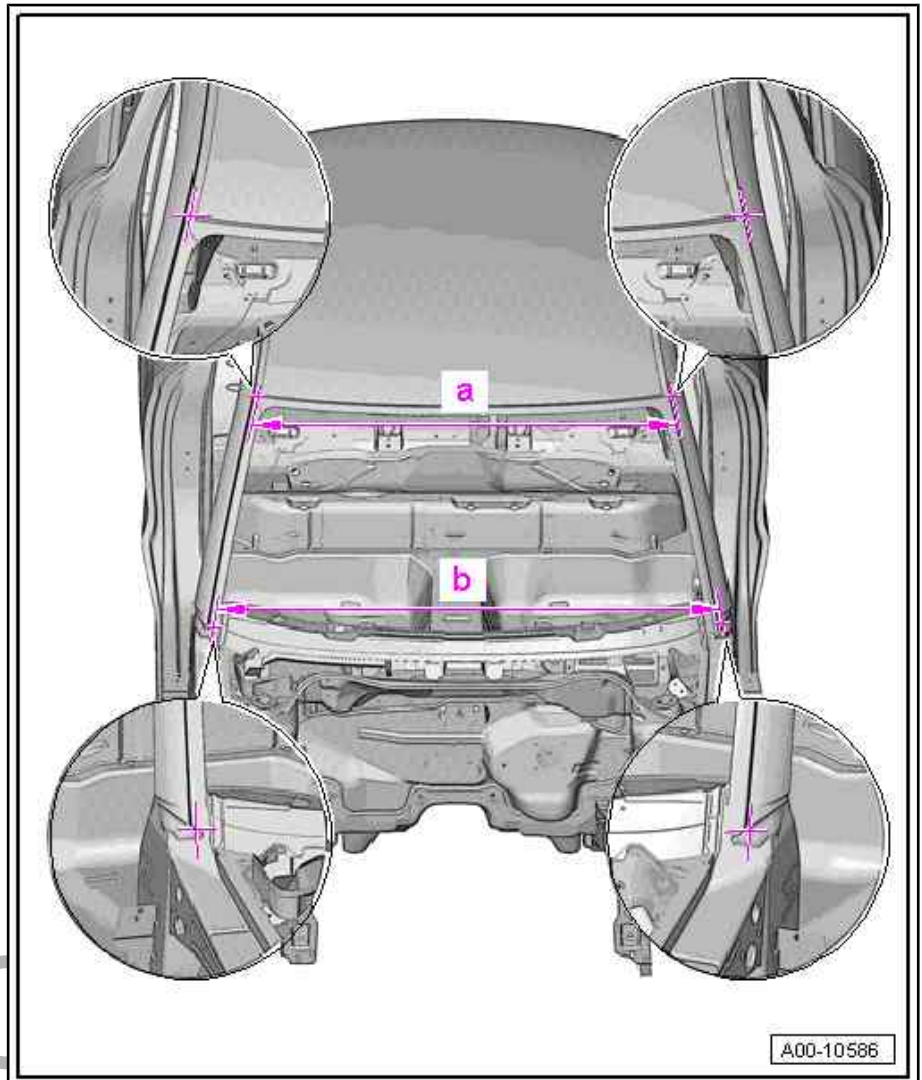
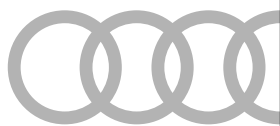
Audi A1 and Audi A1 Sportback identical

A - 1097 mm $\pm$ 2.0 mm

Windscreen opening (top)

B - 1381 mm $\pm$ 2.0 mm

Windscreen opening (bottom)



A00-10586

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Distance between A-pillars

Audi A1 and Audi A1 Sportback identical

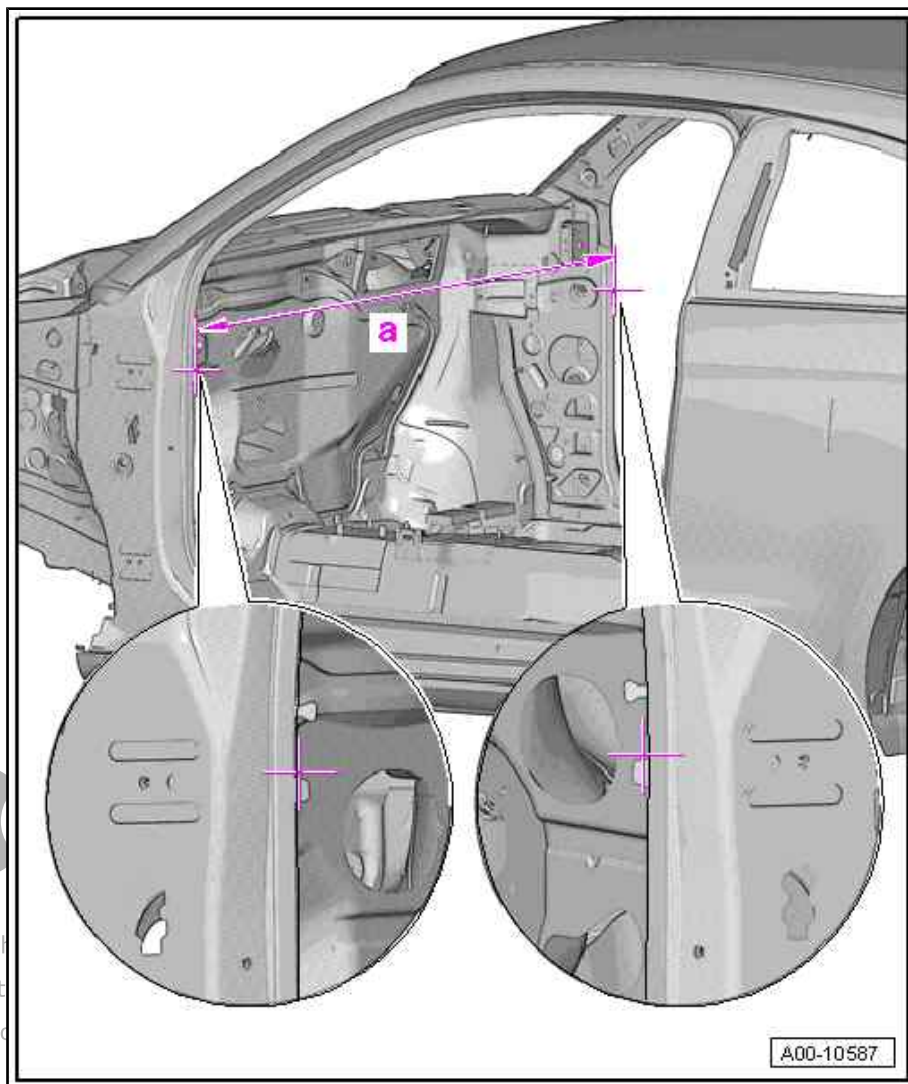


A - 1360 mm ± 2.0 mm

Distance between A-pillars



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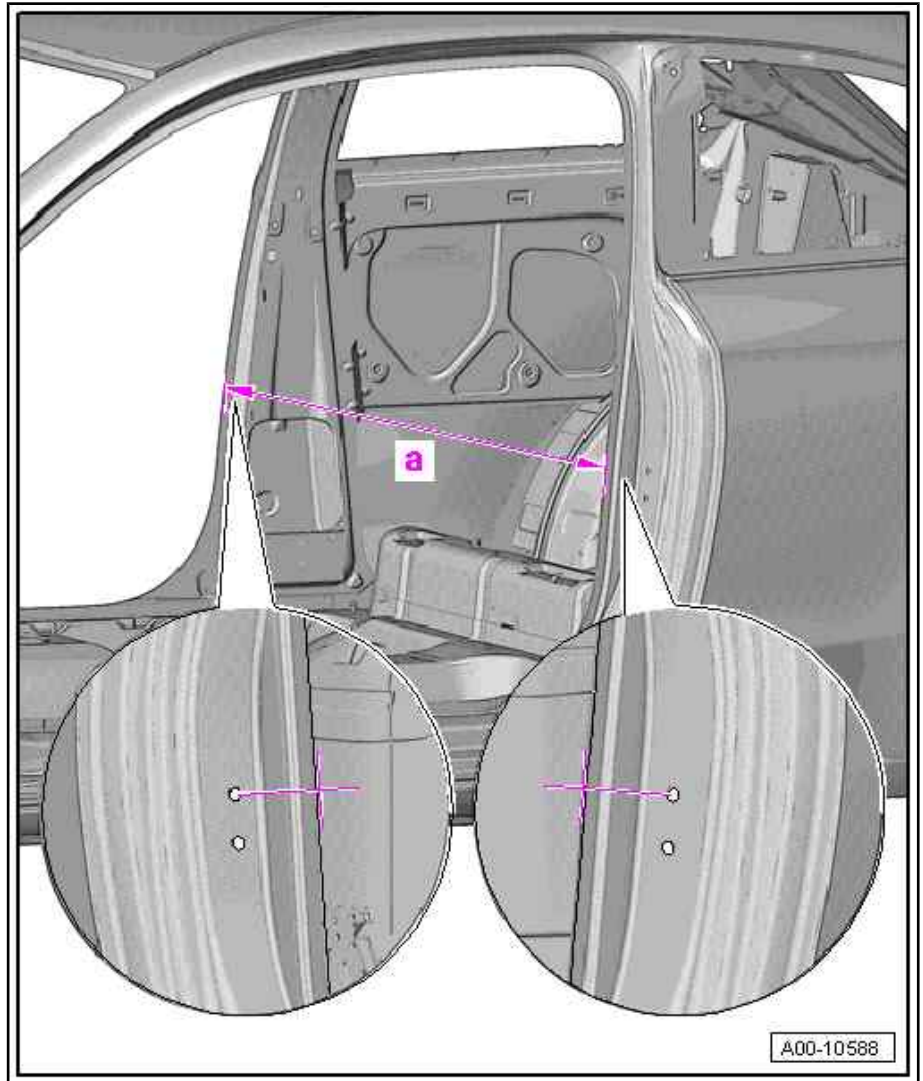


Distance between B-pillars

Audi A1 and Audi A1 Sportback identical



A - 1360 mm ± 2.0 mm
Distance between B-pillars



Front door opening (Audi A1)



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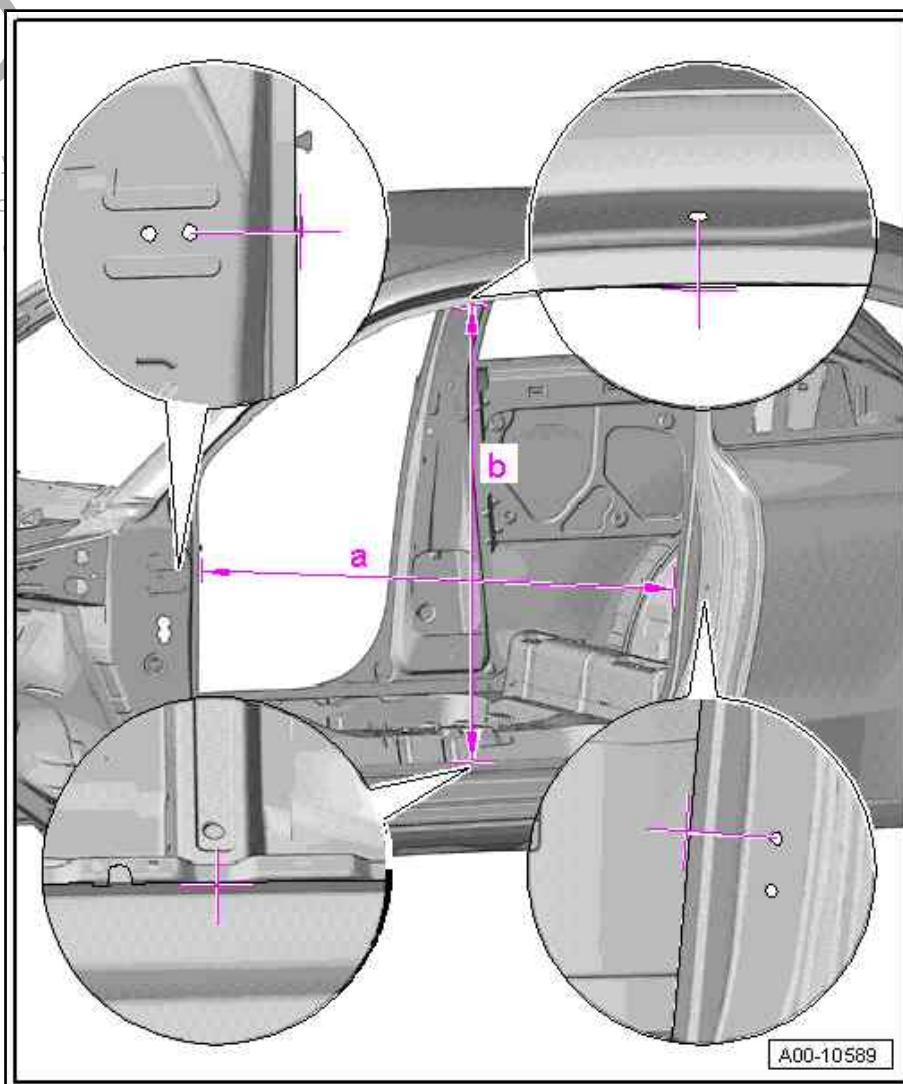
A - 1035 mm ± 2.0 mm

Distance between A-pillar and
B-pillar

B - 942 mm ± 2.0 mm

Height of door opening

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Front door opening (Audi A1 Sportback)

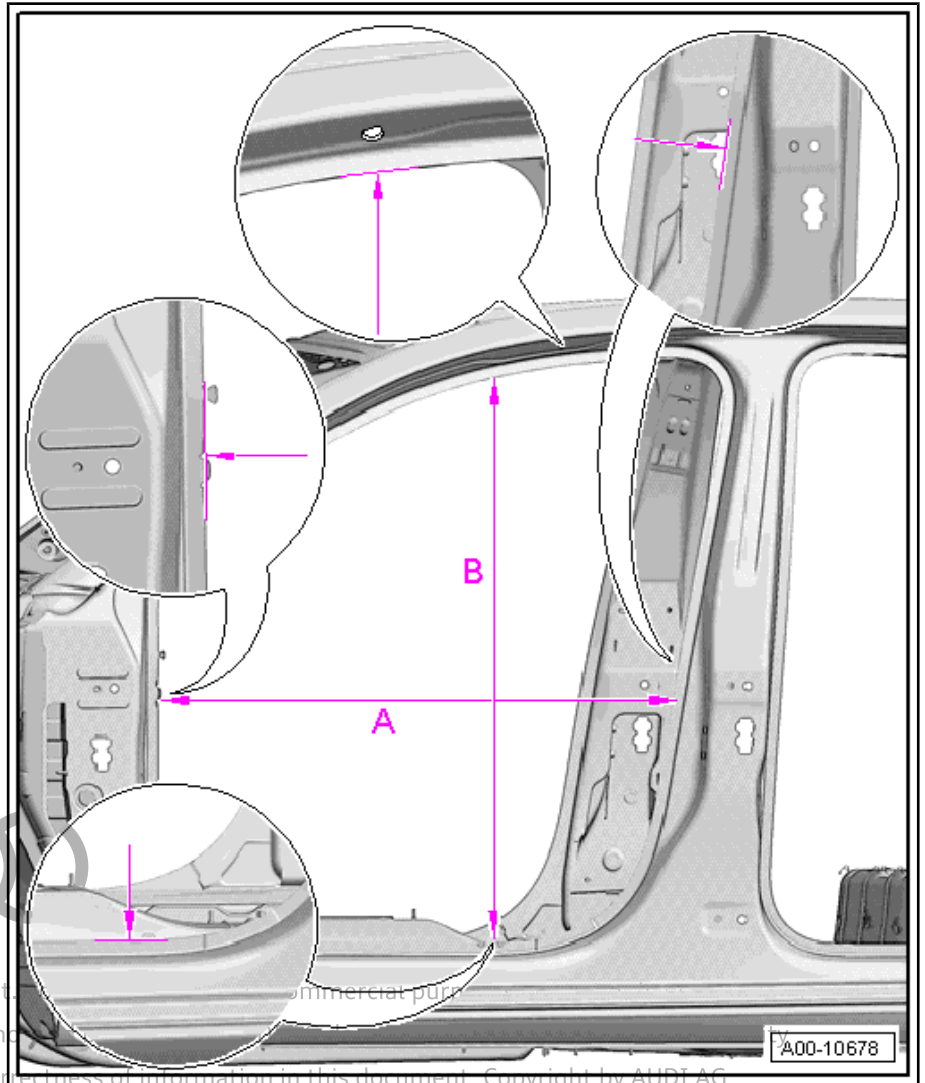


A - 817 mm ± 2.0 mm

Distance between A-pillar and
B-pillar

B - 942 mm ± 2.0 mm

Height of door opening



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Rear door opening (Audi A1 Sportback)

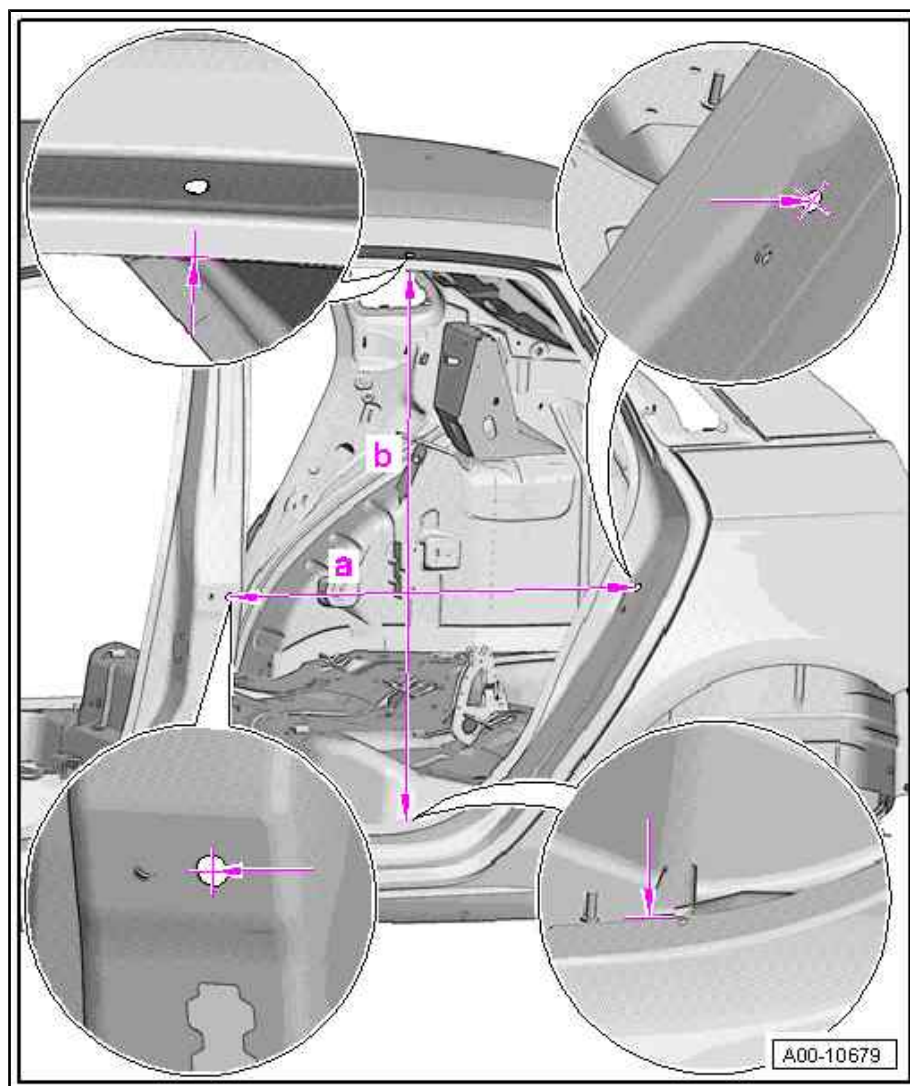


A - 784 mm ± 2.0 mm

Distance between B-pillar and
C-pillar

B - 942 mm ± 2.0 mm

Height of door opening

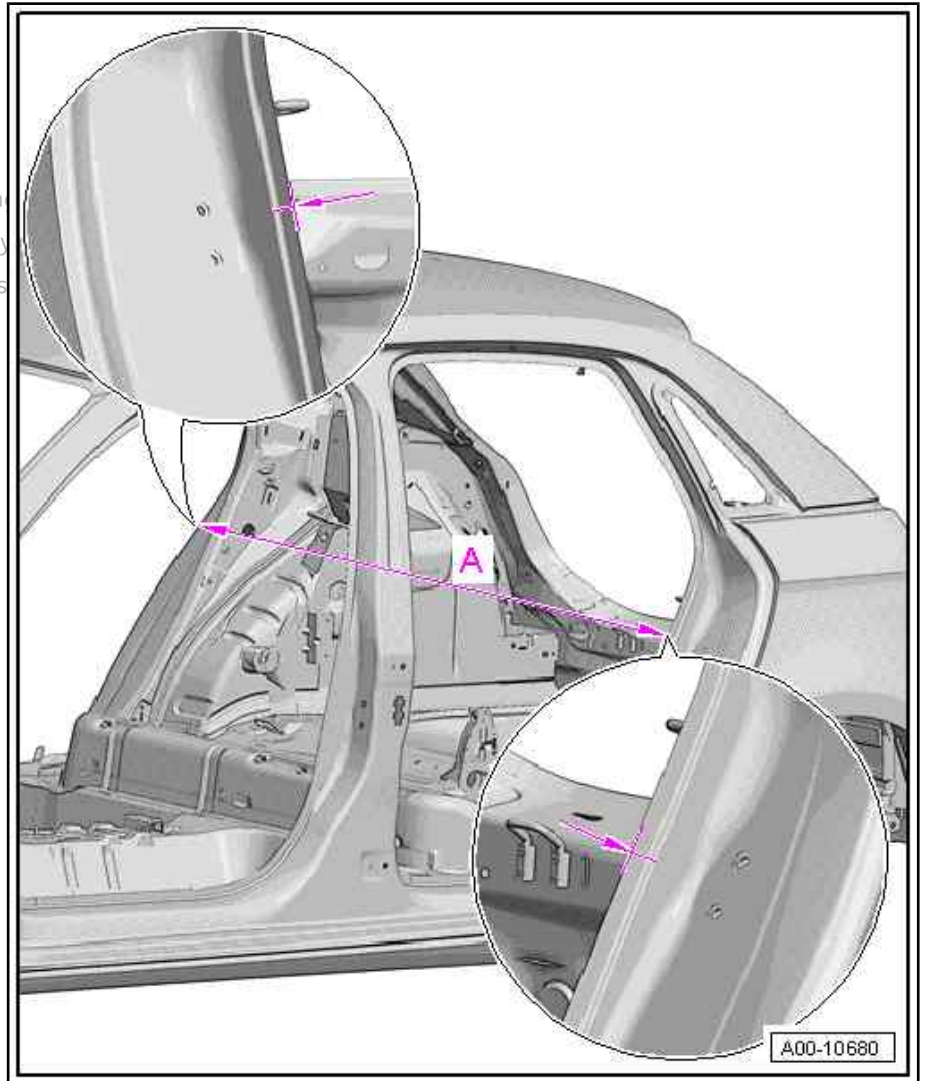


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A - 1445 mm ± 2.0 mm
Distance between C-pillars

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9.3 Floor group

Audi A1 and Audi A1 Sportback identical



A - 830 mm $\pm$ 2.0 mm

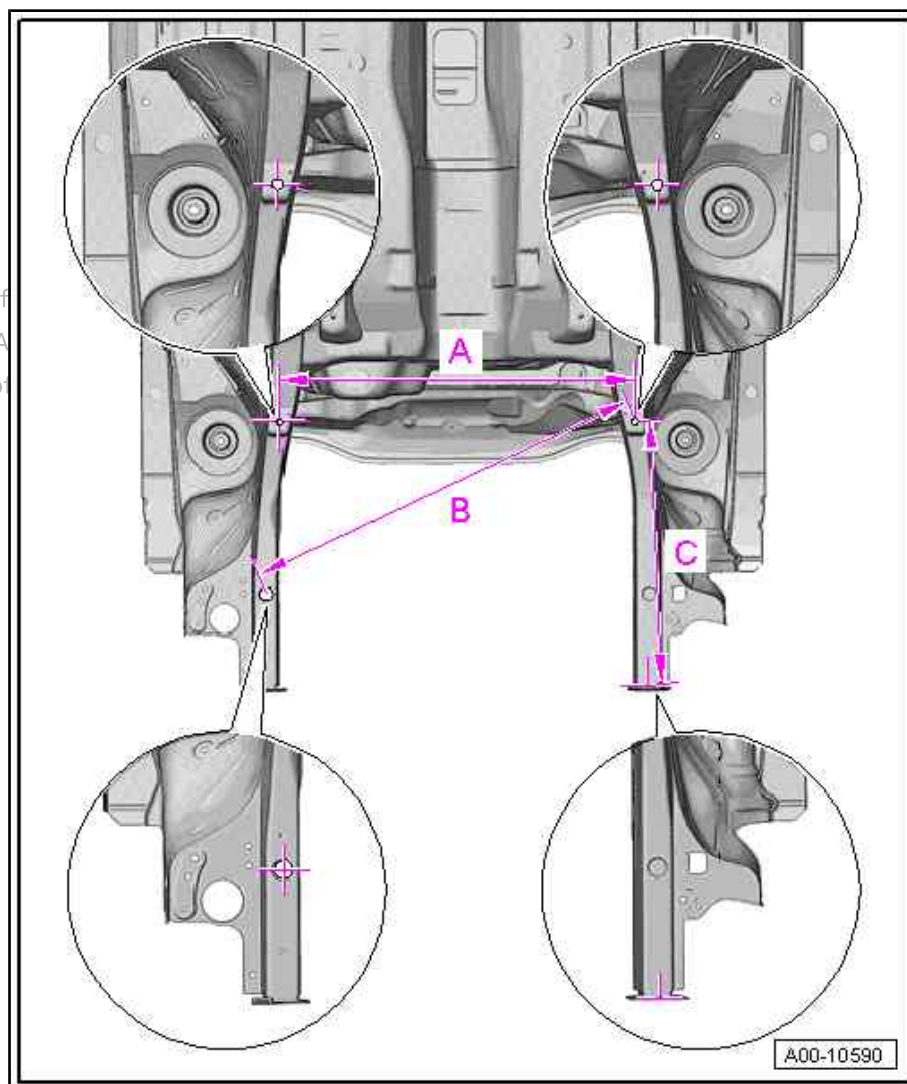
Distance between front longitudinal members (at rear)

B - 950 mm $\pm$ 2.0 mm

Diagonal distance between front longitudinal members

C - 620 mm $\pm$ 2.0 mm

Distance between suspension strut mounting and impact damper mounting





A - 997 mm ± 2.0 mm

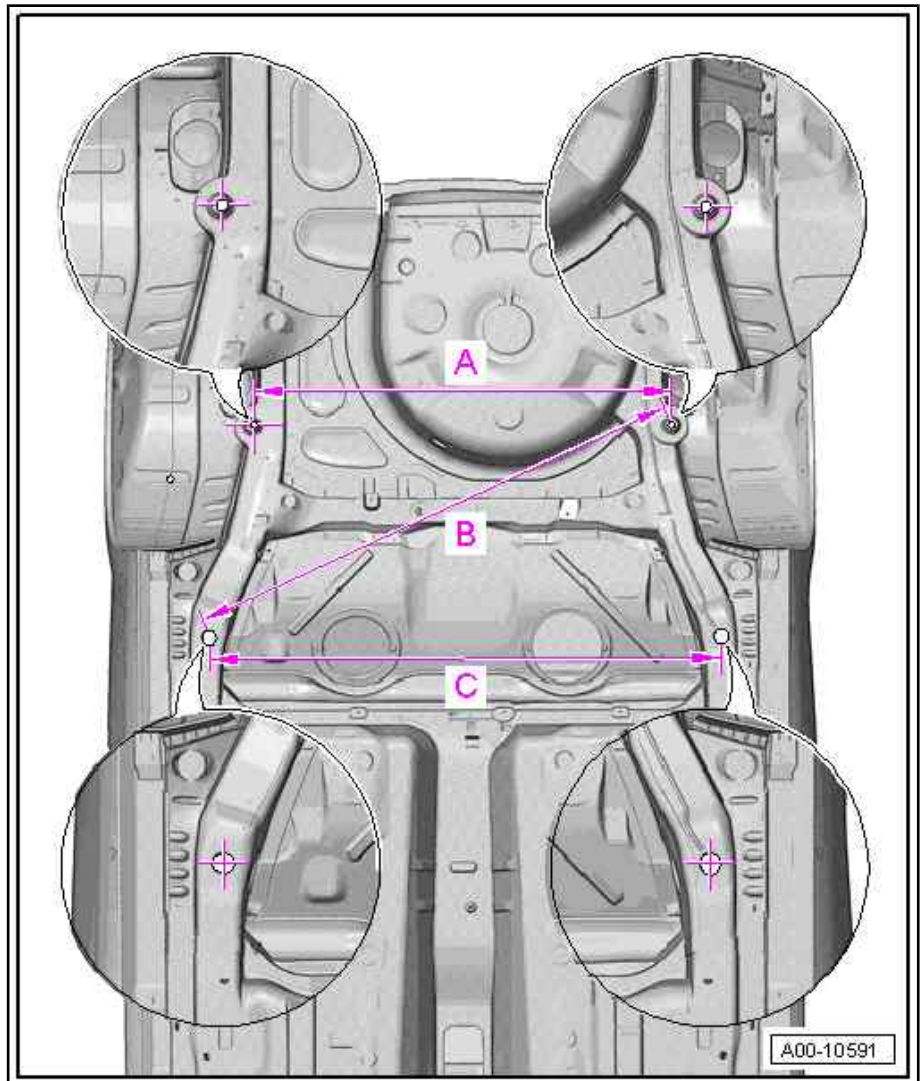
Distance between rear longitudinal members

B - 1231 mm ± 2.0 mm

Diagonal distance between longitudinal members

C - 1220 mm ± 2.0 mm

Distance between rear longitudinal members



9.4 Body - rear

Audi A1 and Audi A1 Sportback identical

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A - 943 mm ± 2.0 mm

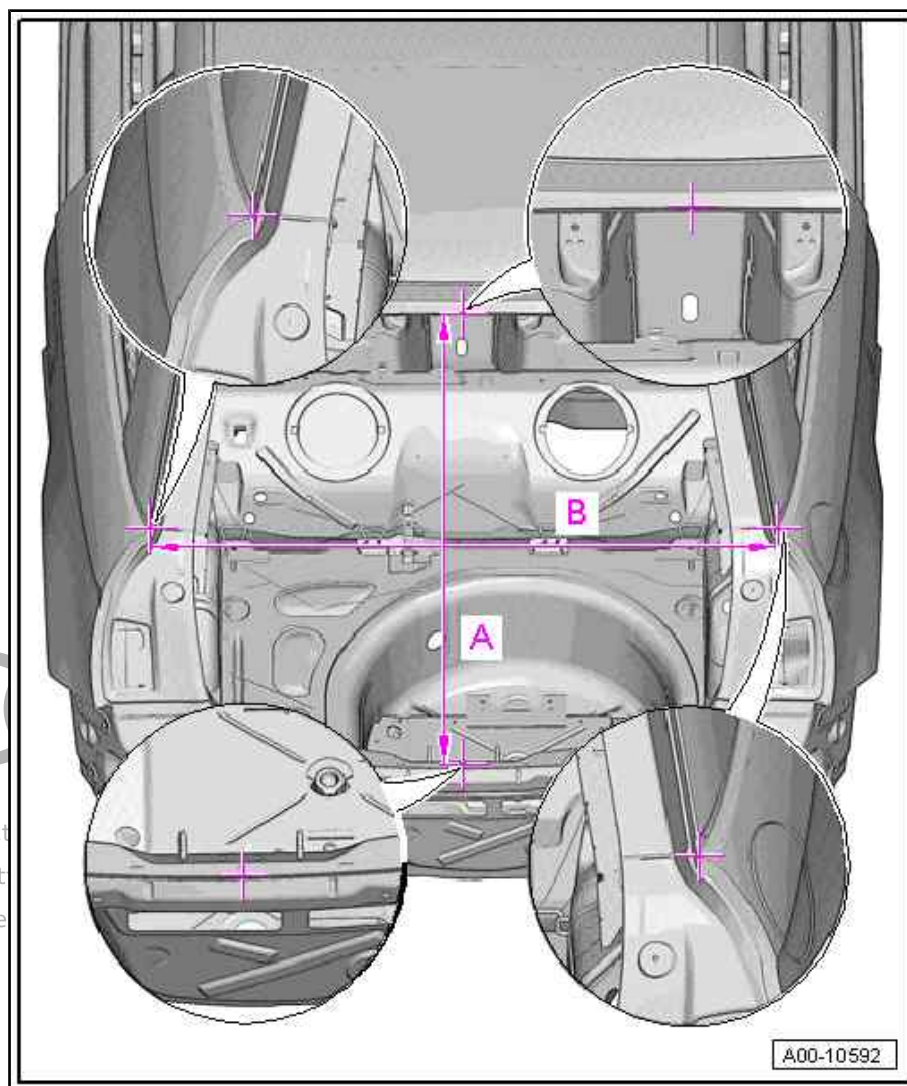
Distance between window
cross member and rear cross
panel (top)

B - 1287 mm ± 2.0 mm

Distance between side panels



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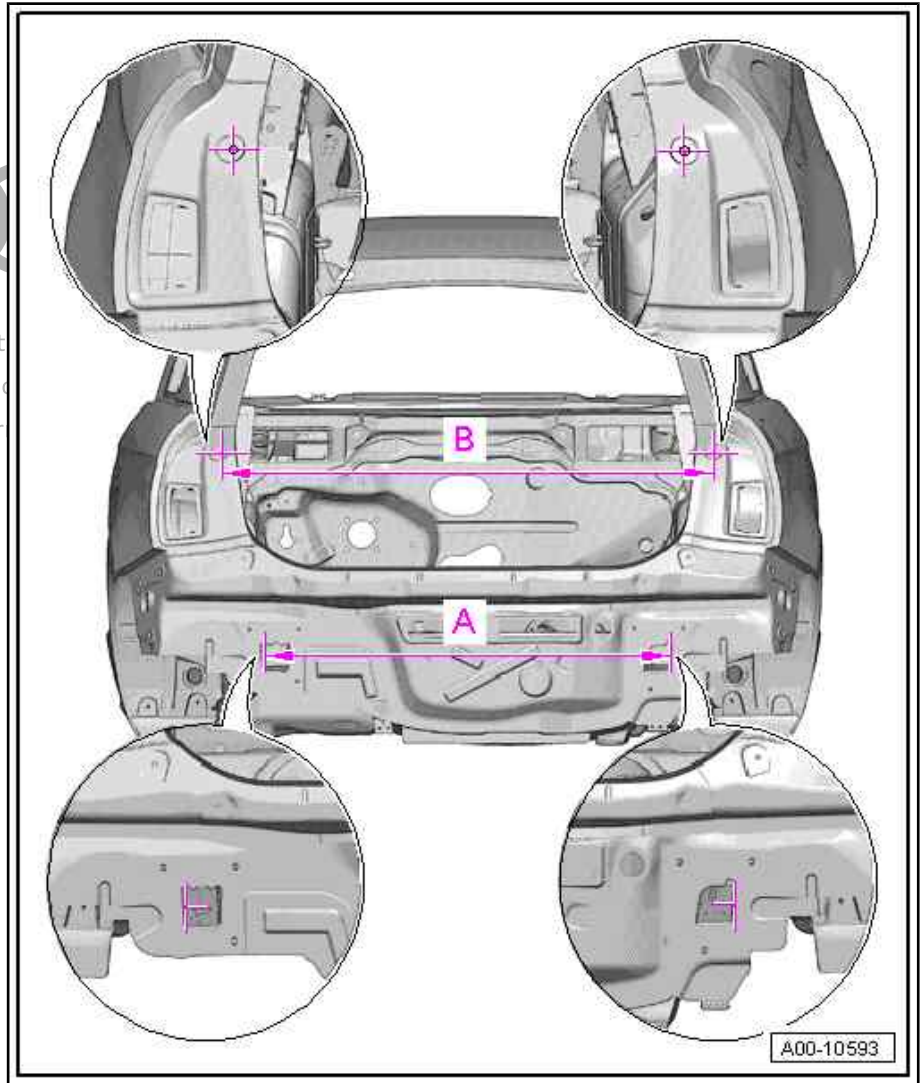
A - 966 mm ± 2.0 mm

Distance between longitudinal members

B - 1165 mm ± 2.0 mm

Distance between tail light mountings

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Audi A1 quattro



A - 948 mm ± 2.0 mm

Distance between rear longitudinal members

B - 1396 mm ± 2.0 mm

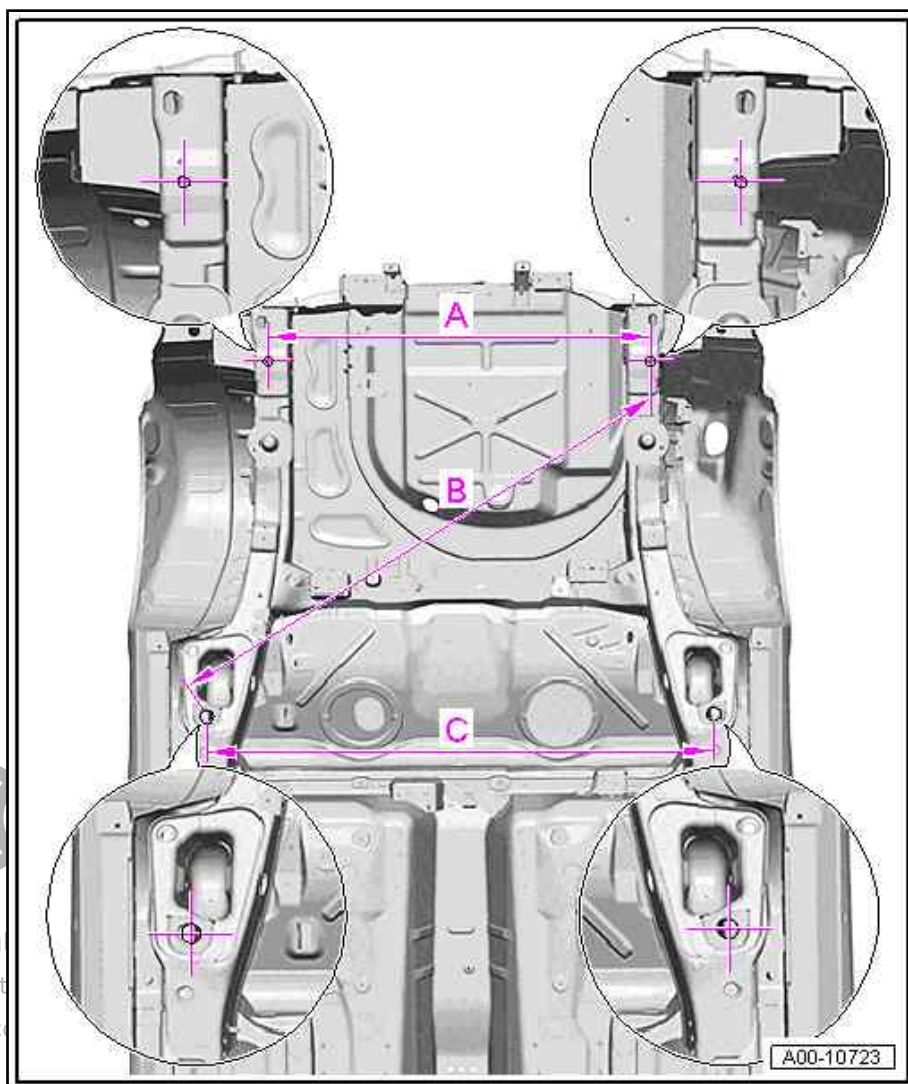
Diagonal distance between longitudinal members

C - 1220 mm ± 2.0 mm

Distance between rear longitudinal members



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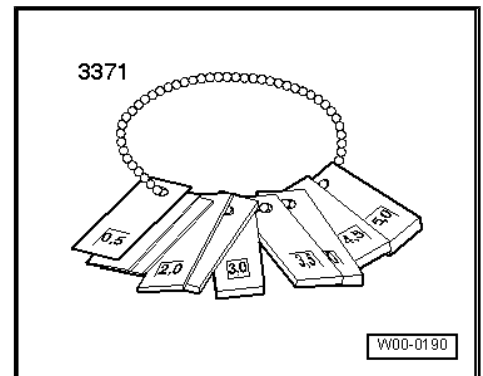




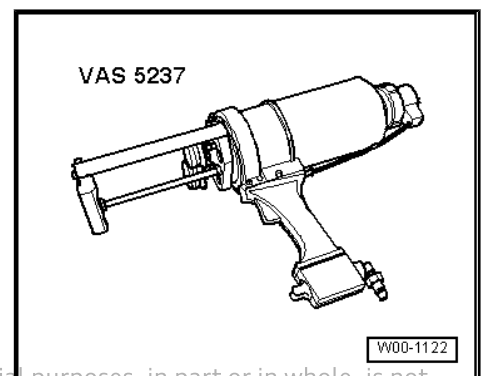
10 Tools

Special tools and workshop equipment required

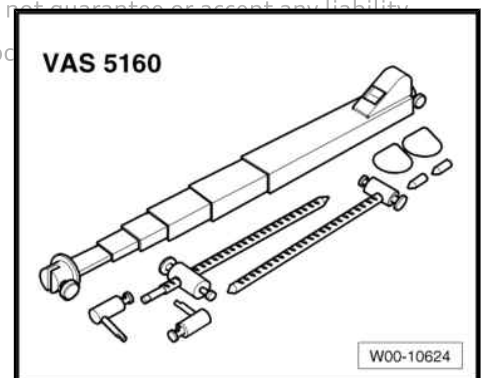
- ◆ Resistance spot welder - VAS 6239 A-
- ◆ Resistance spot welder - VAS 6525-
- ◆ Resistance spot welder - VAS 6530-
- ◆ Resistance spot welder - VAS 6535-
- ◆ Resistance spot welder - VAS 6545-
- ◆ Shielded arc welding equipment
- ◆ Drill - VAS 5830-
- ◆ Thread repair kit M12x1.5 - VAS 6058-
- ◆ Compact angle grinder - VAS 5167-
- ◆ Double cartridge gun - VAS 6453-
- ◆ Setting gauge - 3371-



- ◆ Double cartridge gun - VAS 5237-

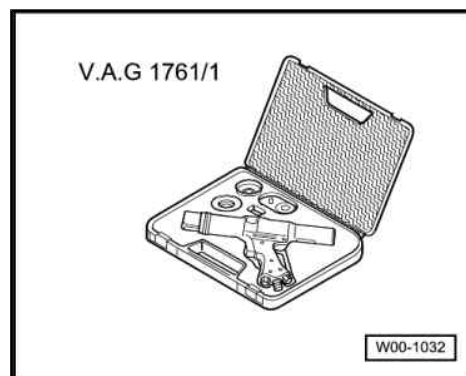


- ◆ Telescopic gauge - VAS 5160-

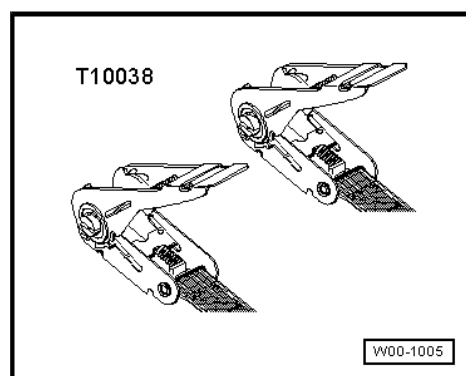




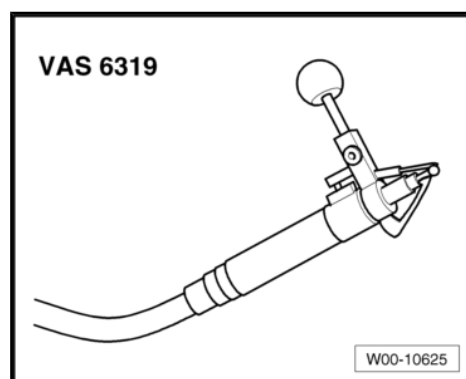
◆ Compressed-air gun - V.A.G 1761/1-



◆ Tensioning strap - T10038-



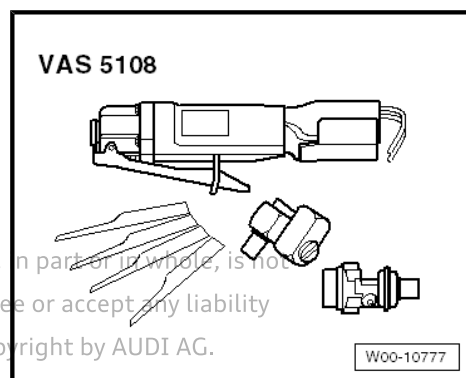
◆ Laser weld seam grinder - VAS 6319-



◆ Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

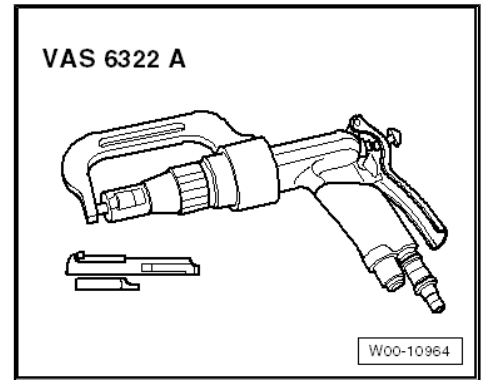


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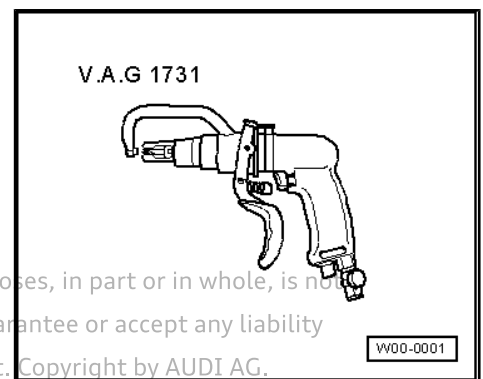
- ◆ Spot weld breaker - VAS 6322 A- or



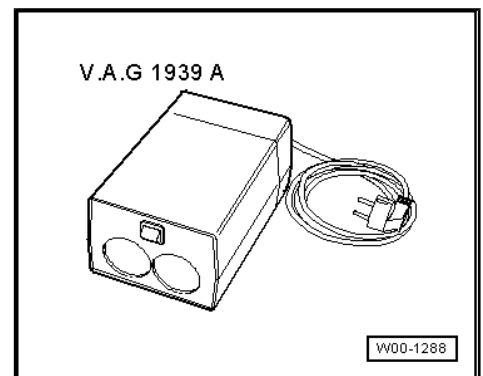
- ◆ Spot weld breaker - V.A.G 1731-



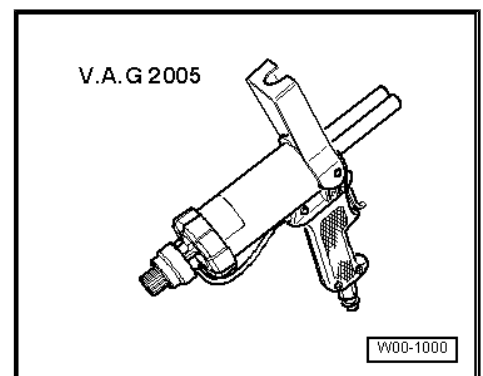
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- ◆ Cartridge heater - V.A.G 1939 A-



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





11 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-



NOTICE

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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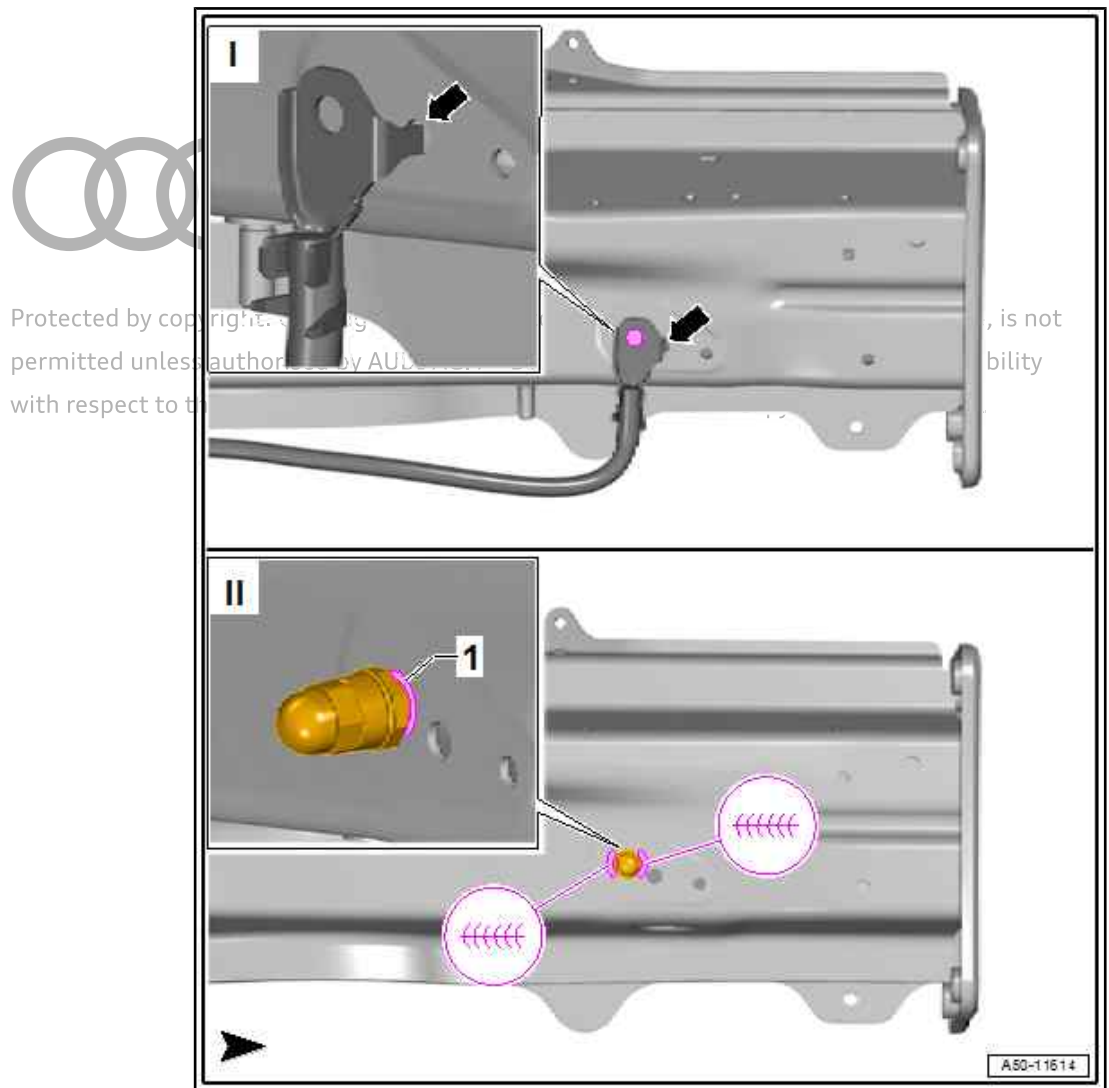


RO: 50 80 55 00

12 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.



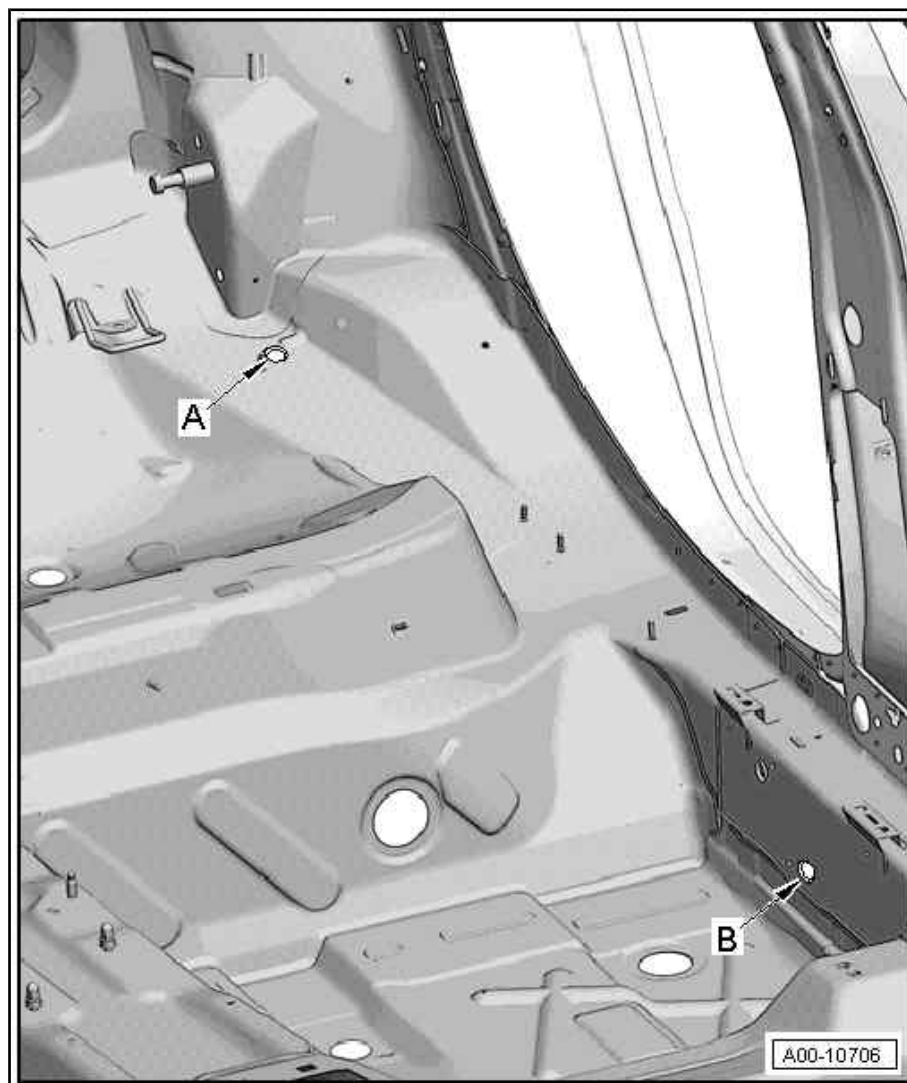
- Take installation position of stud from old part or mark it using appropriate aids (e.g. earth cable tab -arrow-).
- Weld stud with 2 weld seams on either side -1- using shielded arc welding equipment : SG continuous seam.
- To ensure adequate electrical conductivity, the length of the weld seams must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



13 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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14 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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15 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.*

Alignment bracket set supplement - VAS 5224/8-

Portal gauge - VAS 5007/54 - 1-

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

15.1 Procedure for repairing structural body damage on Audi vehicles

- If there is reason to believe that a vehicle has suffered structural body damage, if the body dimensions do not conform to the specifications in the Workshop Manual and/or if there is visible damage to structural components, the vehicle must be mounted on an Audi-approved straightening jig system in order to check the body dimensions.

Definition of structural body damage:

Damage (denting, buckling, rupture, etc.) to and/or displacement of a structural component of the vehicle body.

All body components with the exception of outer skin panels or bolt-on parts must be regarded as structural components.

Notwithstanding the above, the bolt-on longitudinal members of an aluminium vehicle are also structural components.

If the body dimensions differ from the specifications, the vehicle must be repaired according to the instructions in the Workshop Manual.



Note

Detailed information on setting up the alignment bracket set can be found with the equipment.



Note

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- ♦ *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 size is given for the alignment bracket mountings.*



50 – Body - front

RO: 50 40 55 50

1 Engine console (right-side) - Renewal

Audi A1 and Audi A1 Sportback identical

1.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .

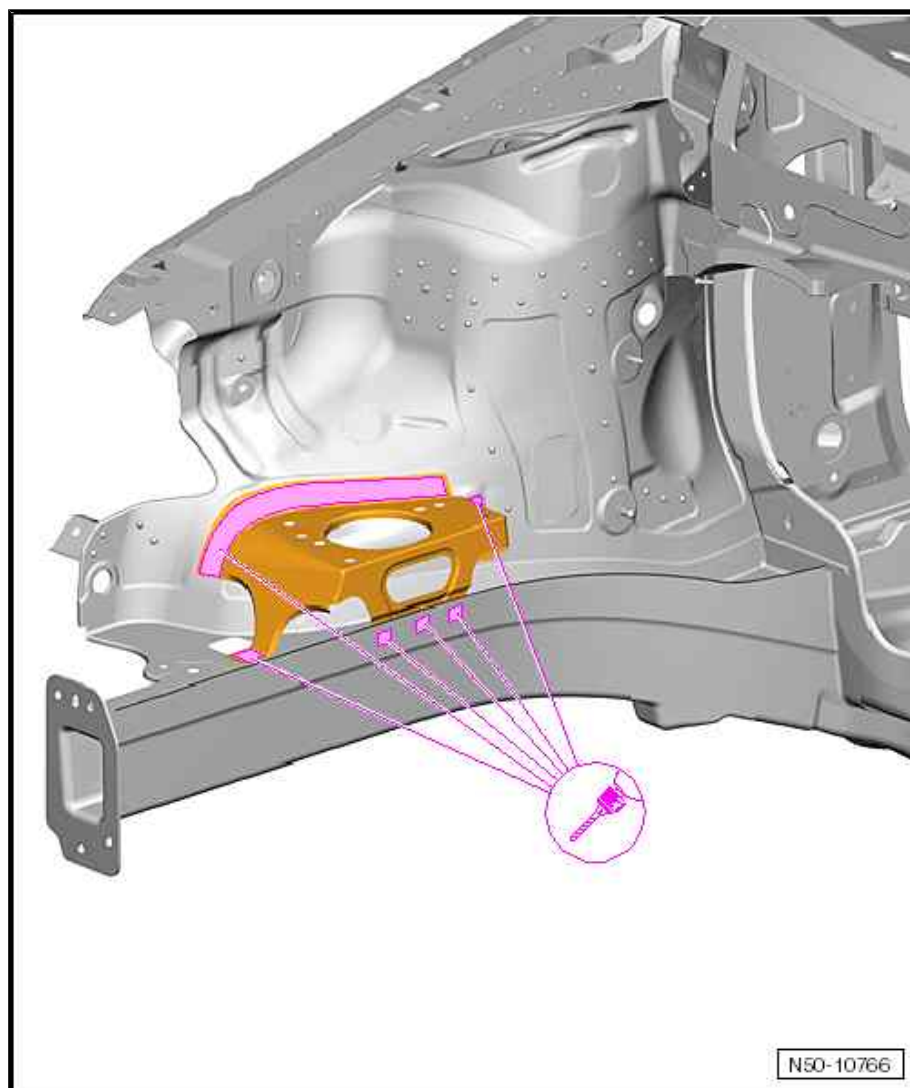
1.2 Procedure

Cutting locations

- Separate original joint using spot weld breaker .



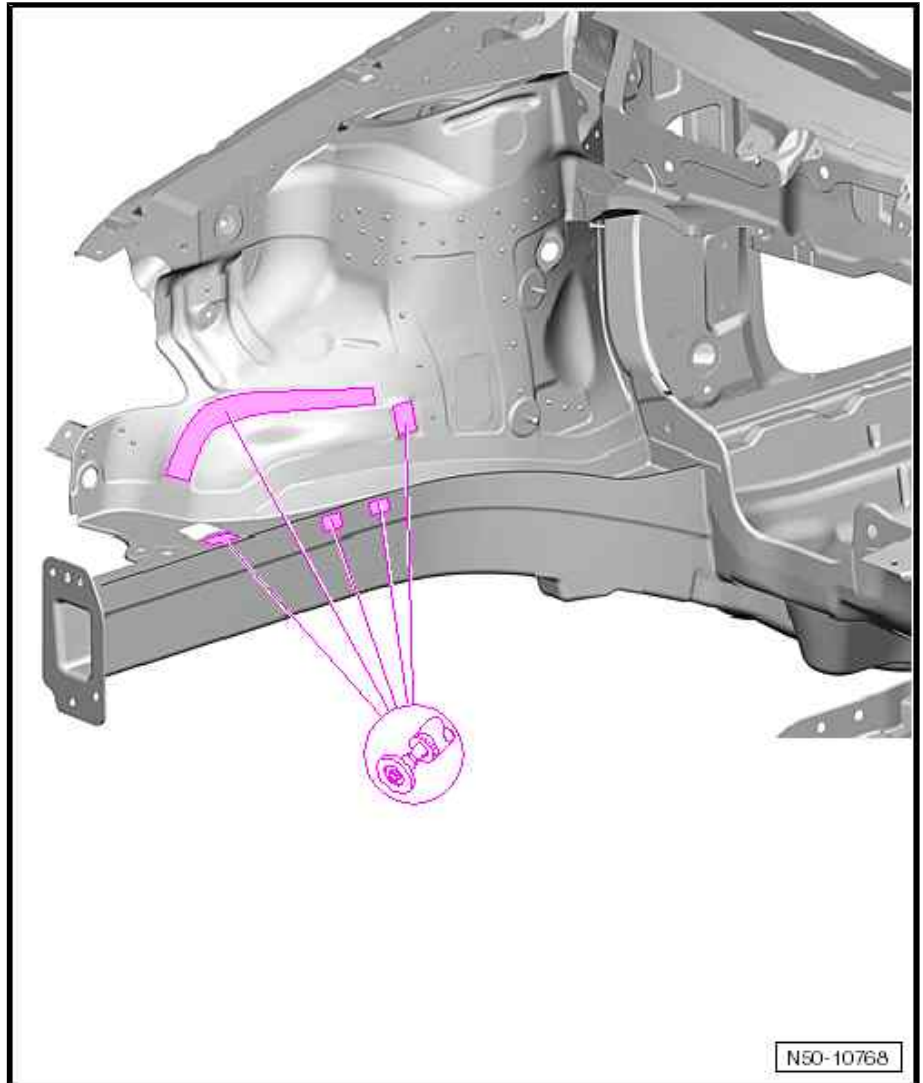
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- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Engine console

Preparing new part

- Match up new part with vehicle positioned on alignment bracket set and fix in place.



Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

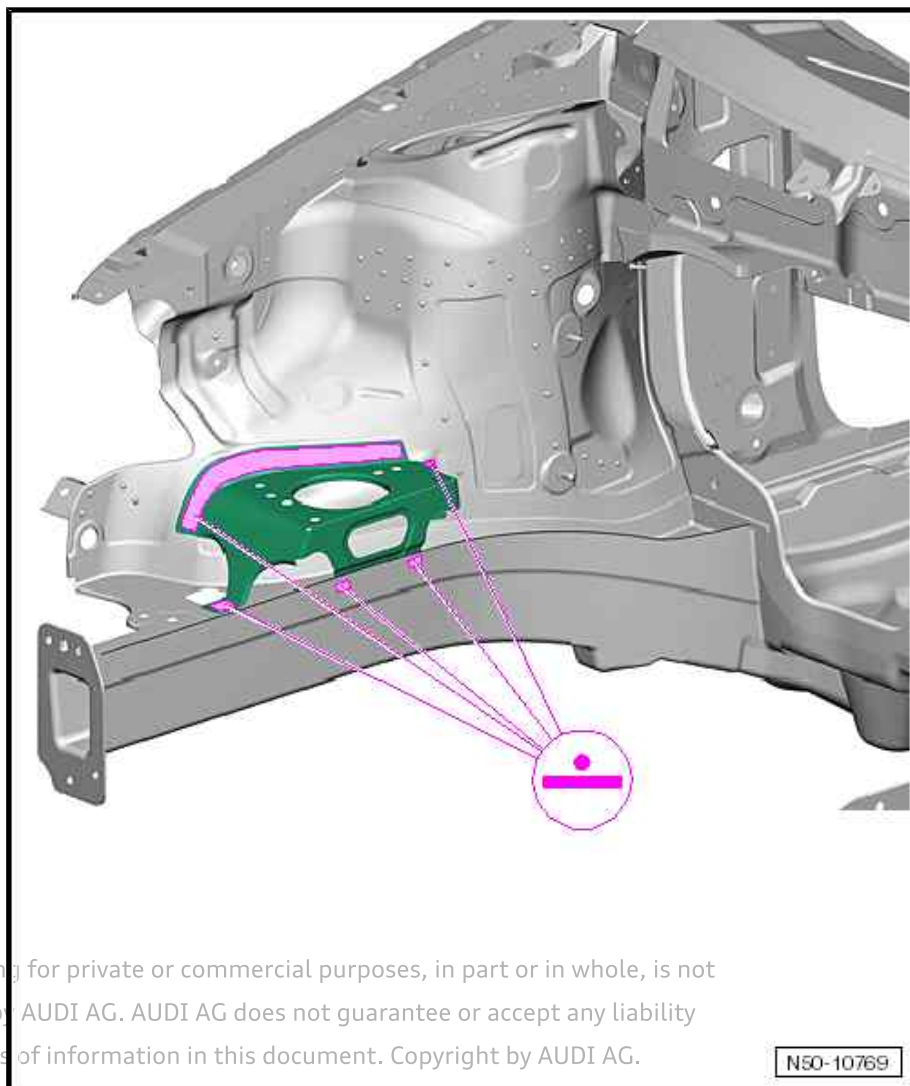
- Weld in engine console using resistance spot welder : RP spot weld seam.

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N50-10769





RO: 50 43 55 60

2 Mounting bracket (for subframe) - Renewal

Audi A1 and Audi A1 Sportback identical



The procedure for renewal of the subframe mounting bracket is described on this vehicle for the front left mounting bracket. The procedure for the other three mounting brackets is similar.

2.1 Tools

Special tools and workshop equipment required

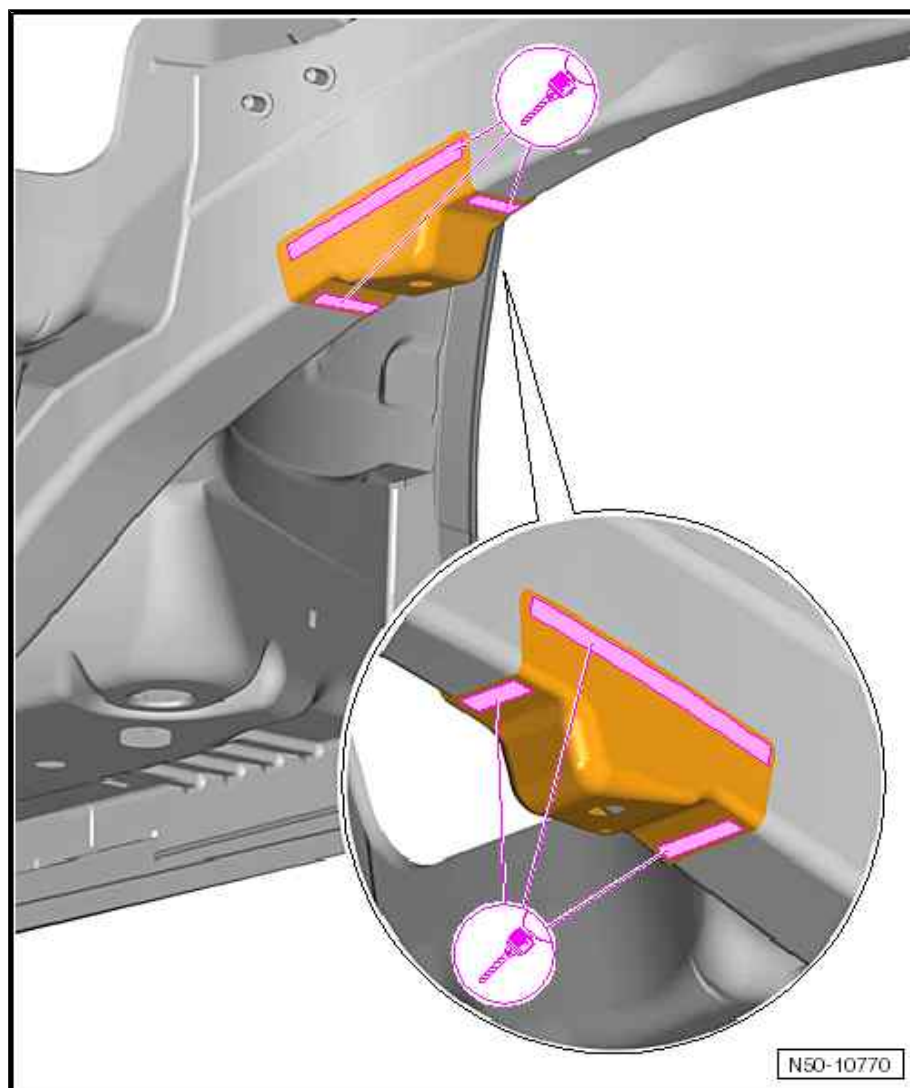
- ◆ Shielded arc welding equipment
- ◆ Compact angle grinder
- ◆ Drill
- ◆ Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .

2.2 Procedure

Cutting locations

- Separate original joint using spot weld breaker .



- Remove remaining material using compact angle grinder .

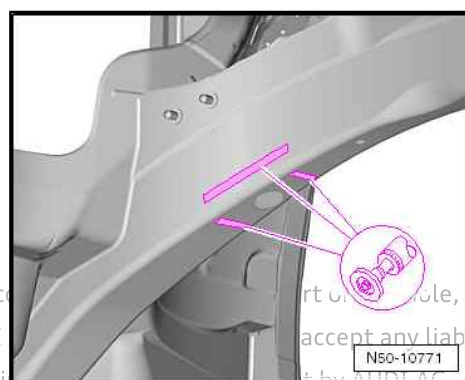
Replacement part

- ◆ Front mounting bracket for subframe

Preparing new part



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Drill holes for SG plug weld seam, 8 mm Ø using drill .

- Match up new part with vehicle positioned on alignment bracket set and fix in place.

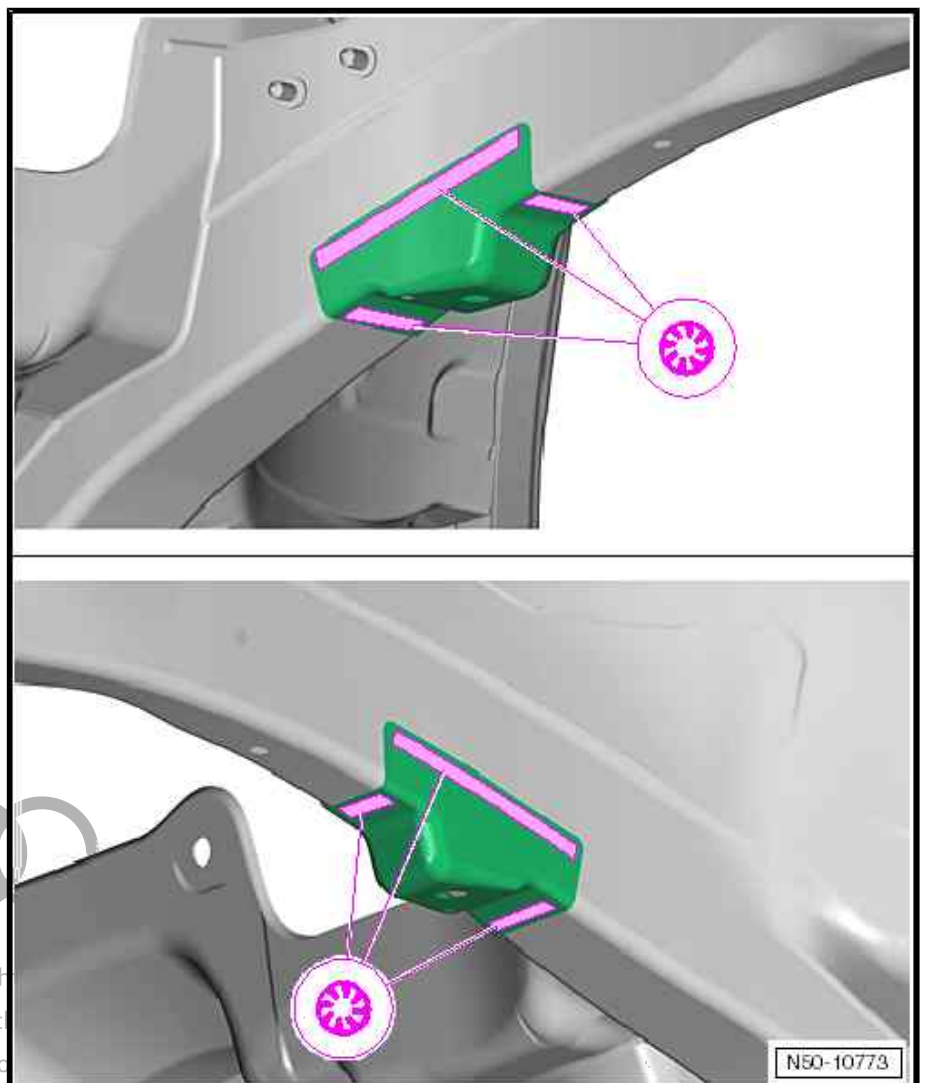
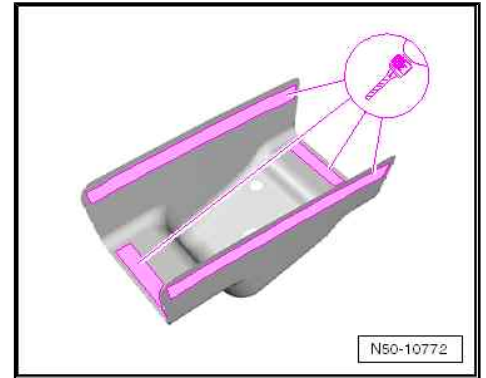


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Weld in mounting bracket using shielded arc welding equipment : SG plug weld seam.



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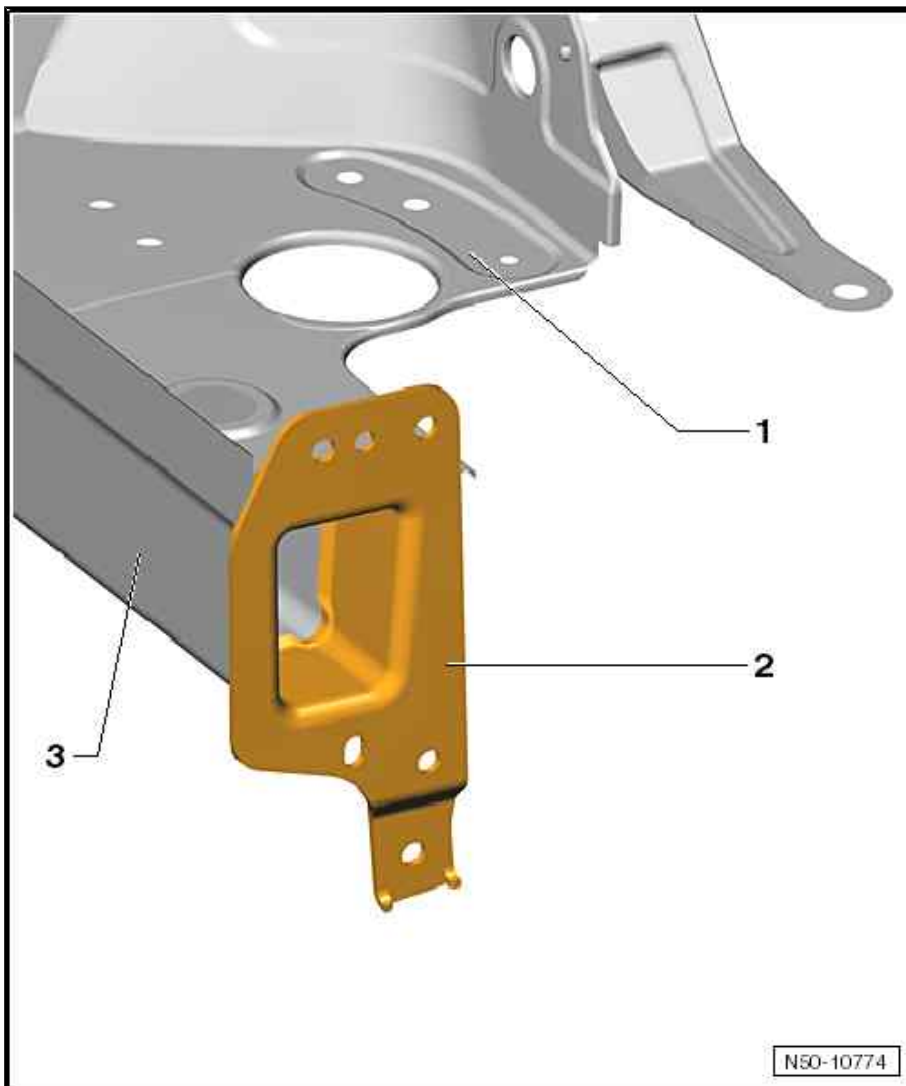
3 Front bumper bracket - Renewal

Audi A1 and Audi A1 Sportback identical

1 - Cover plate for longitudinal member

2 - Bumper bracket

3 - Longitudinal member



3.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .



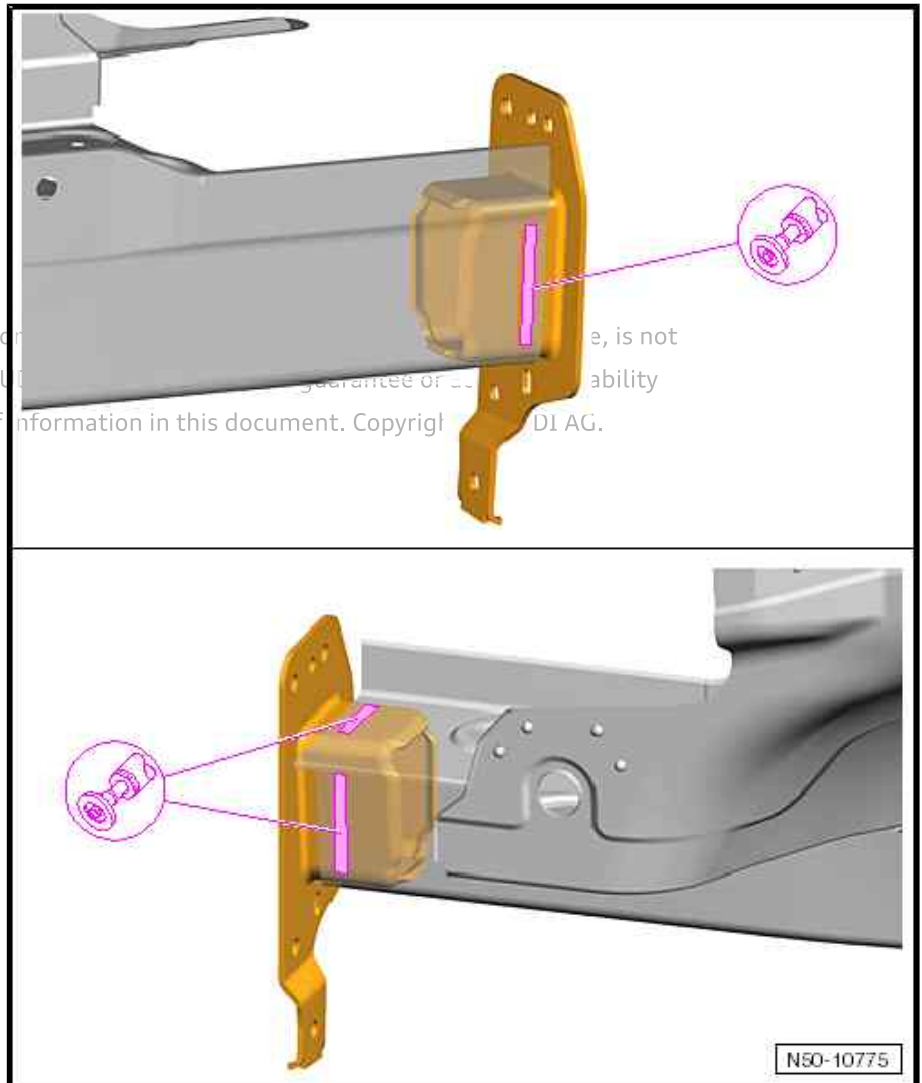
3.2 Procedure

Cutting locations

- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .

Replacement part

- ◆ Front bumper bracket

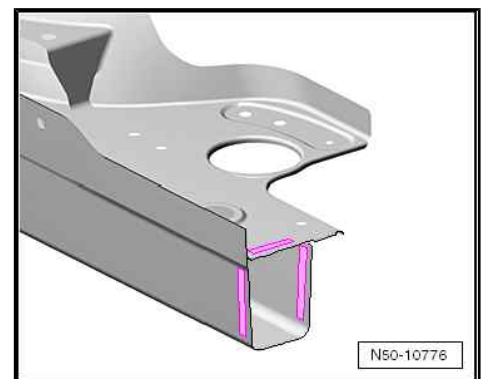
Preparing new part

- Match up new part with vehicle positioned on alignment bracket set and fix in place.



Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

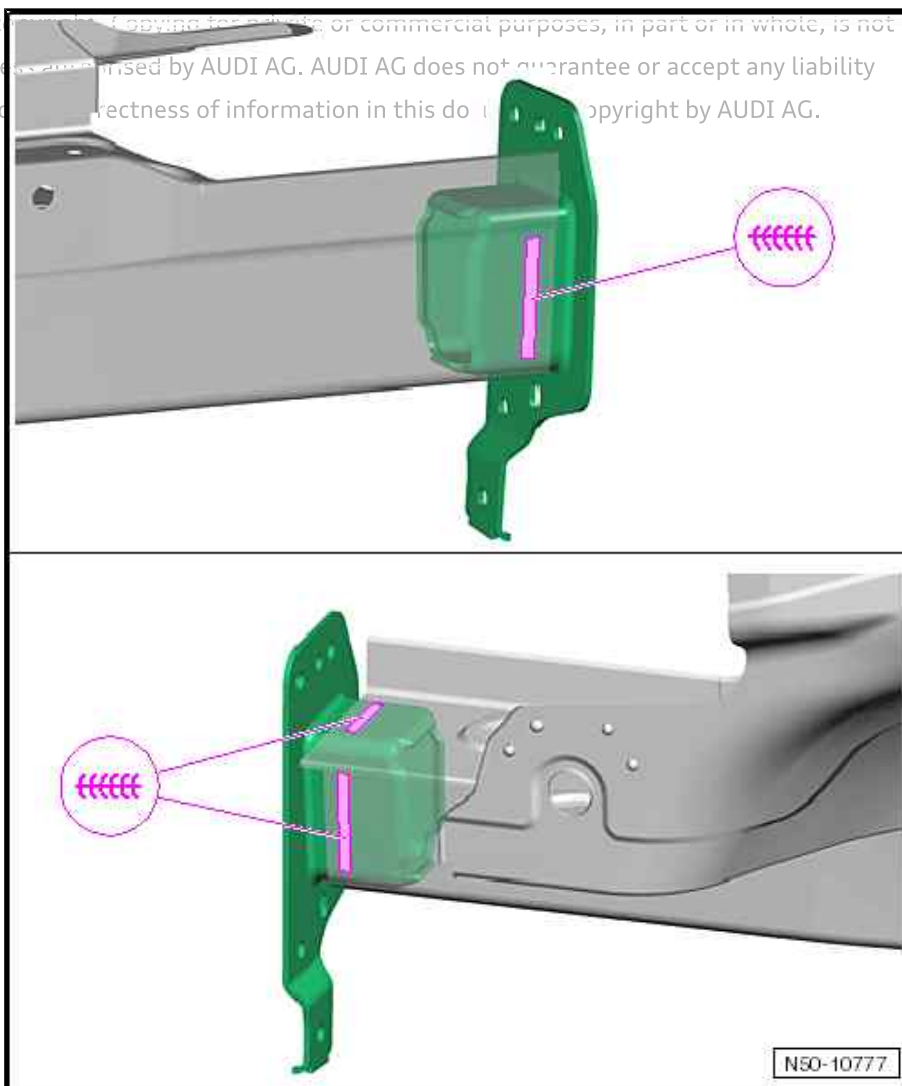


Welding in



- Weld in bumper bracket using shielded arc welding equipment : SG continuous seam.

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RO: 50 72 55 50

4 Upper wheel housing longitudinal member - Renewal

Audi A1 and Audi A1 Sportback identical

1 - Upper wheel housing longitudinal member

2 - A-pillar

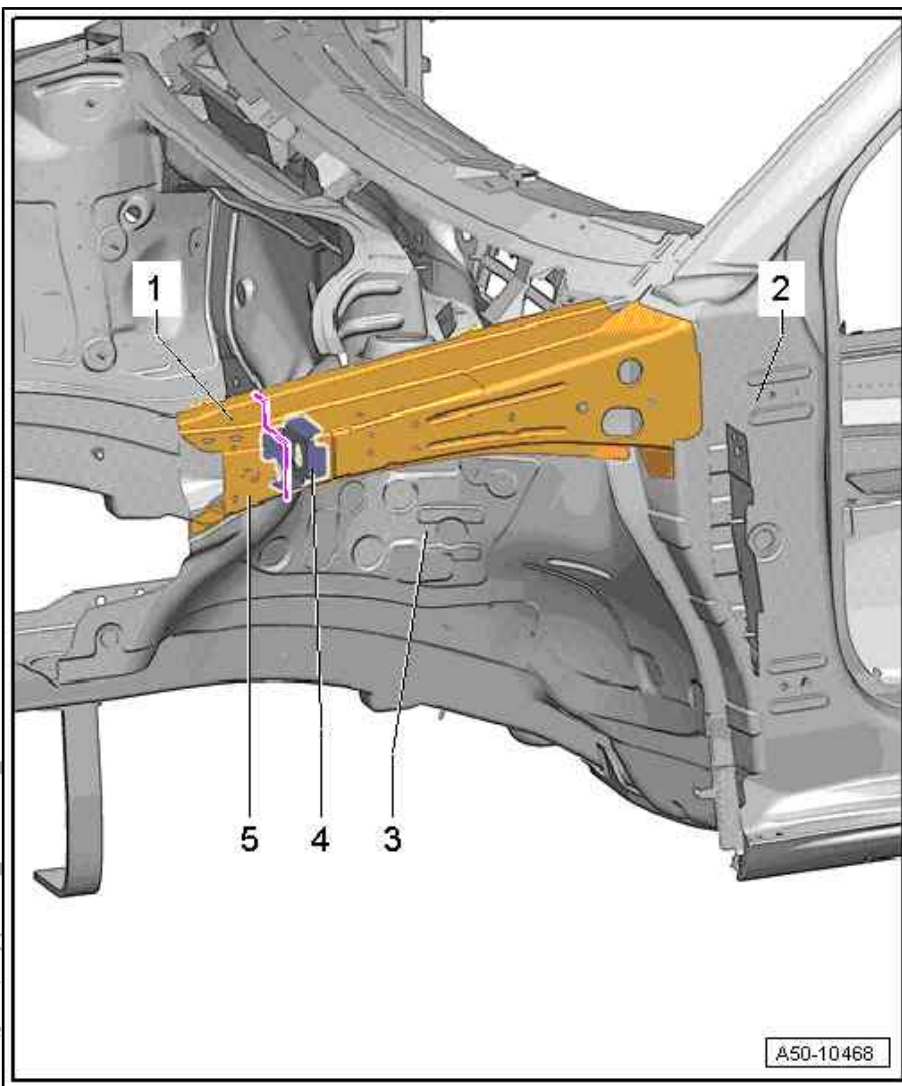
3 - Wheel housing

4 - Web plate

5 - Separating cut for upper outer longitudinal member

Partial renewal

The separating cut for the upper inner longitudinal member is shown in the description.



4.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .



4.2 Procedure

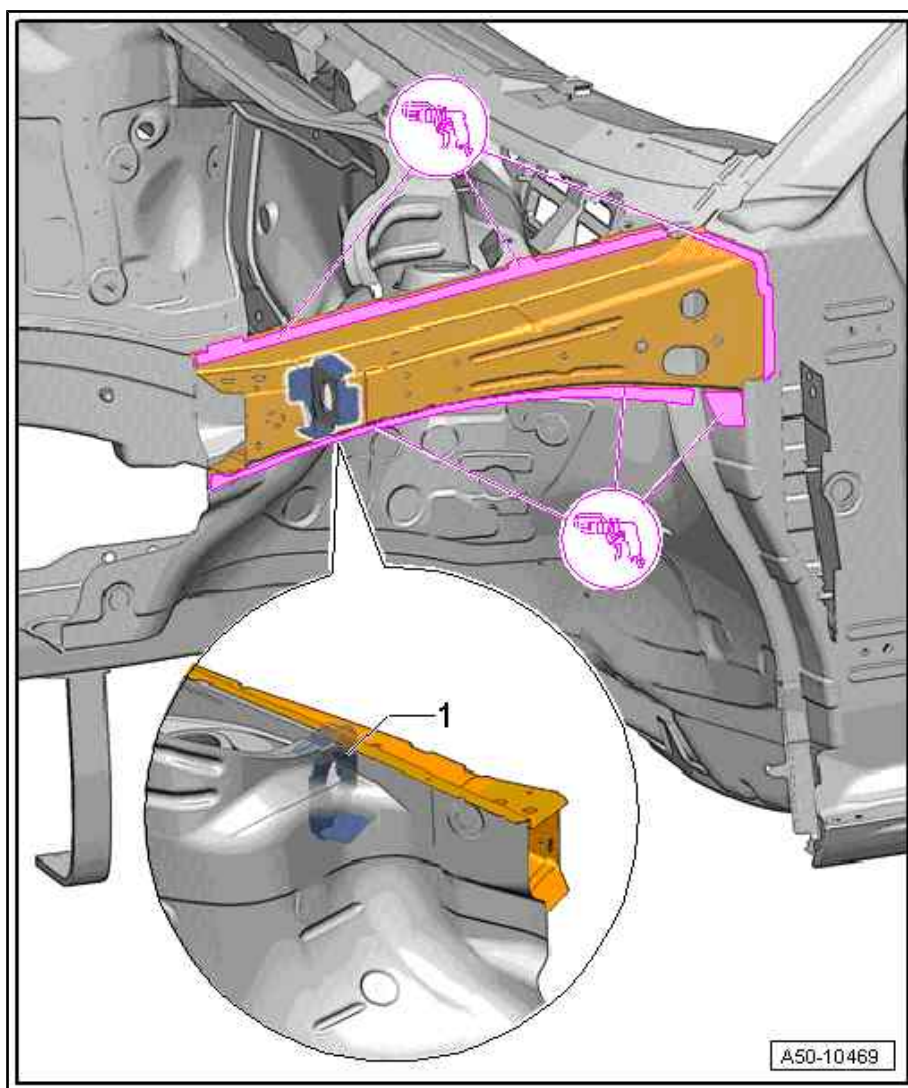
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Cutting locations

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- Separate original joint between upper outer longitudinal member, upper inner longitudinal member and A-pillar using spot weld breaker .
- Separate original joint between web plate -1- and upper inner longitudinal member using spot weld breaker .

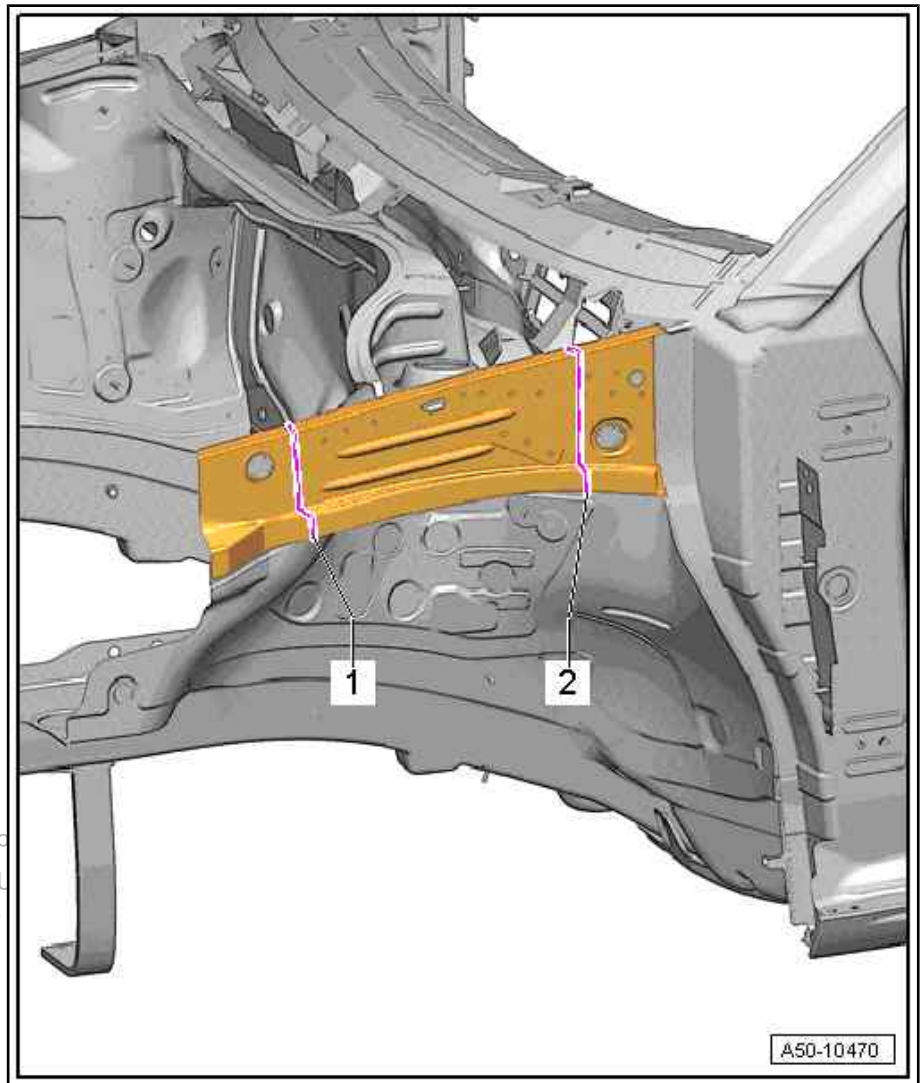


Note

- ♦ *Separating cuts -1 and 2- in the illustration are also possible.*
- ♦ *The complete inner side of the upper longitudinal member can only be replaced in conjunction with the A-pillar.*
- Separate original joint between upper inner longitudinal member, wheel housing and plenum chamber using spot weld breaker .



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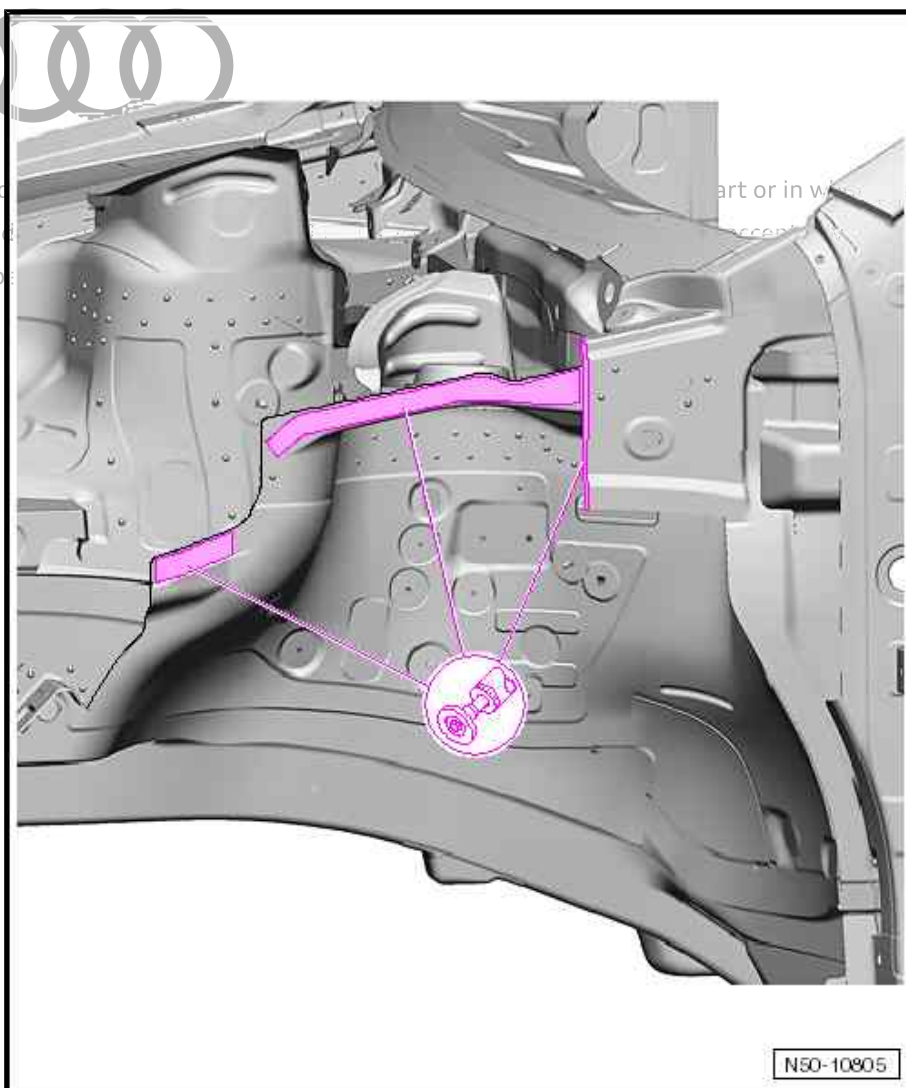


- Remove remaining material using compact angle grinder .



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Replacement part

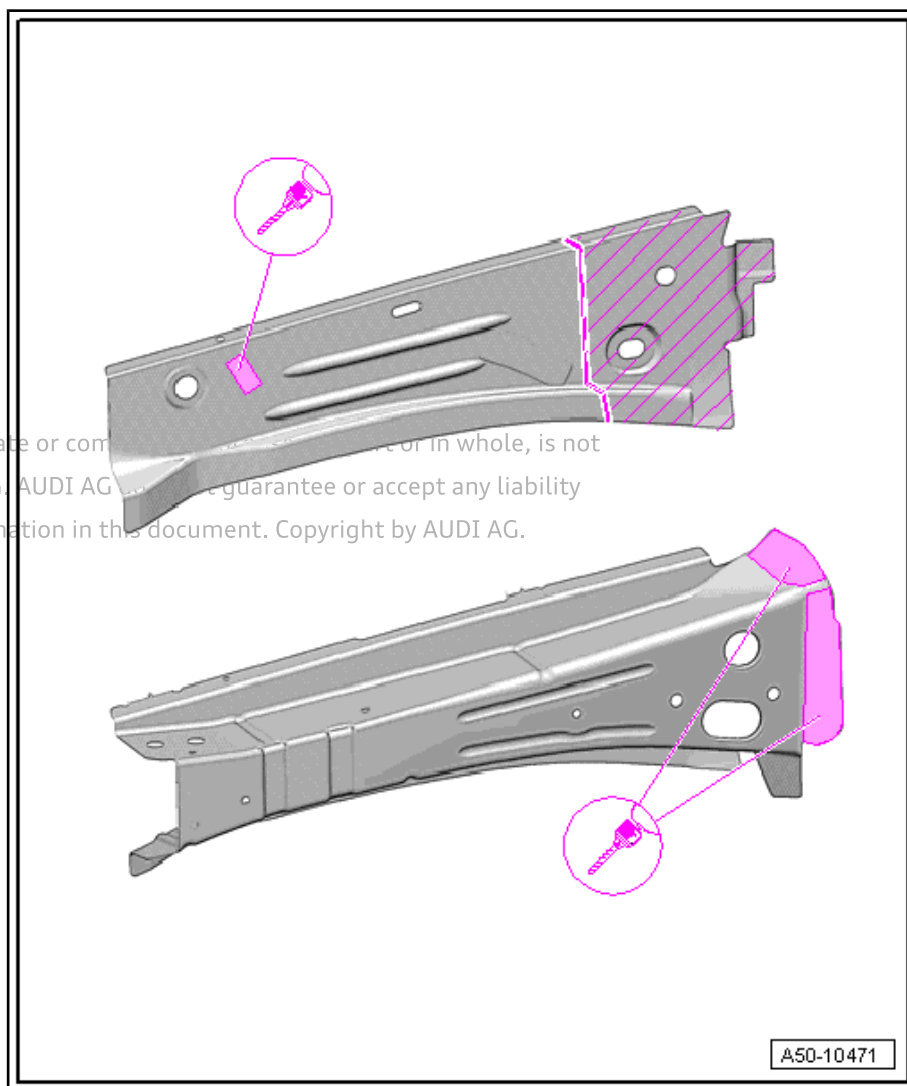
- ◆ Upper inner longitudinal member for wheel housing
- ◆ Upper outer longitudinal member for wheel housing

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .
- Transfer separating cut to new part and cut to size using body saw .



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- Match up upper inner and outer longitudinal member for wheel housing with vehicle positioned on alignment bracket set and fix in place.

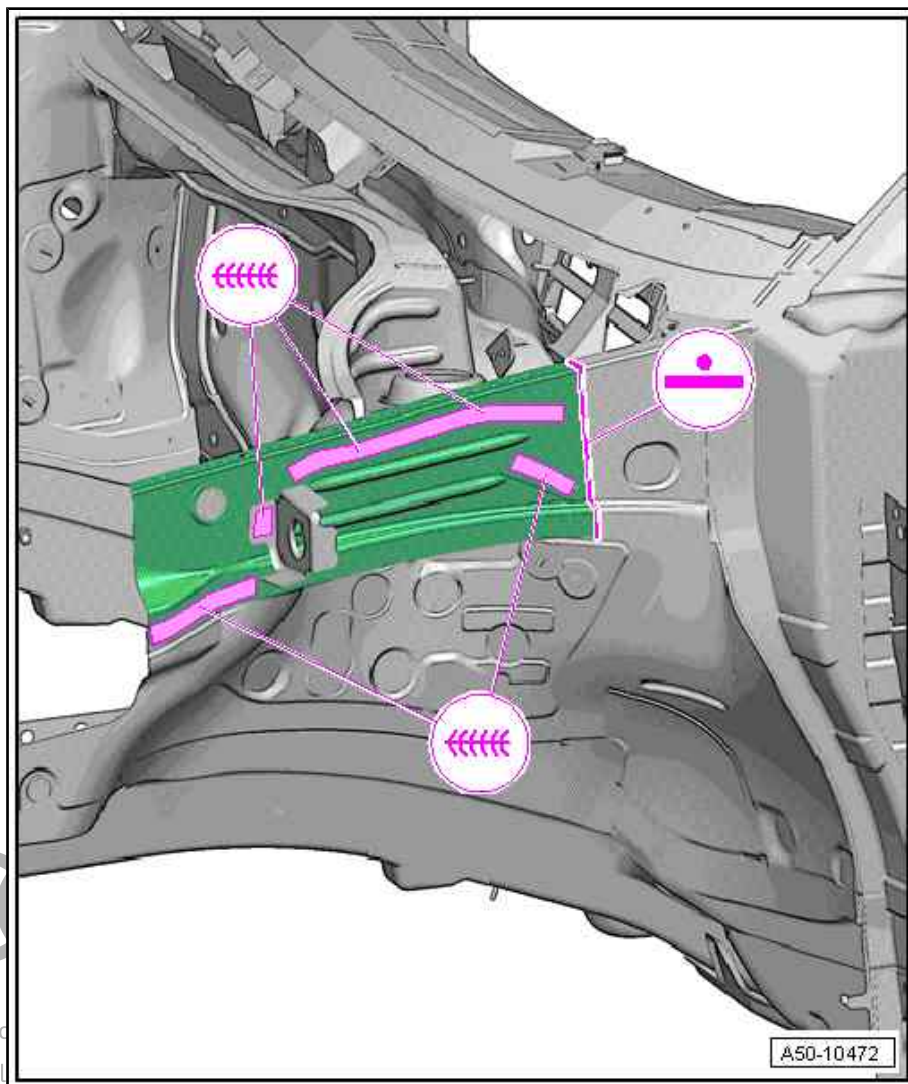


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Weld in separating cut at upper inner longitudinal member for wheel housing using shielded arc welding equipment : SG continuous seam.
- Weld in upper inner longitudinal member for wheel housing to suspension turret and wheel housing using resistance spot welder : RP spot weld seam.
- Weld in web plate using resistance spot welder : RP spot weld seam.



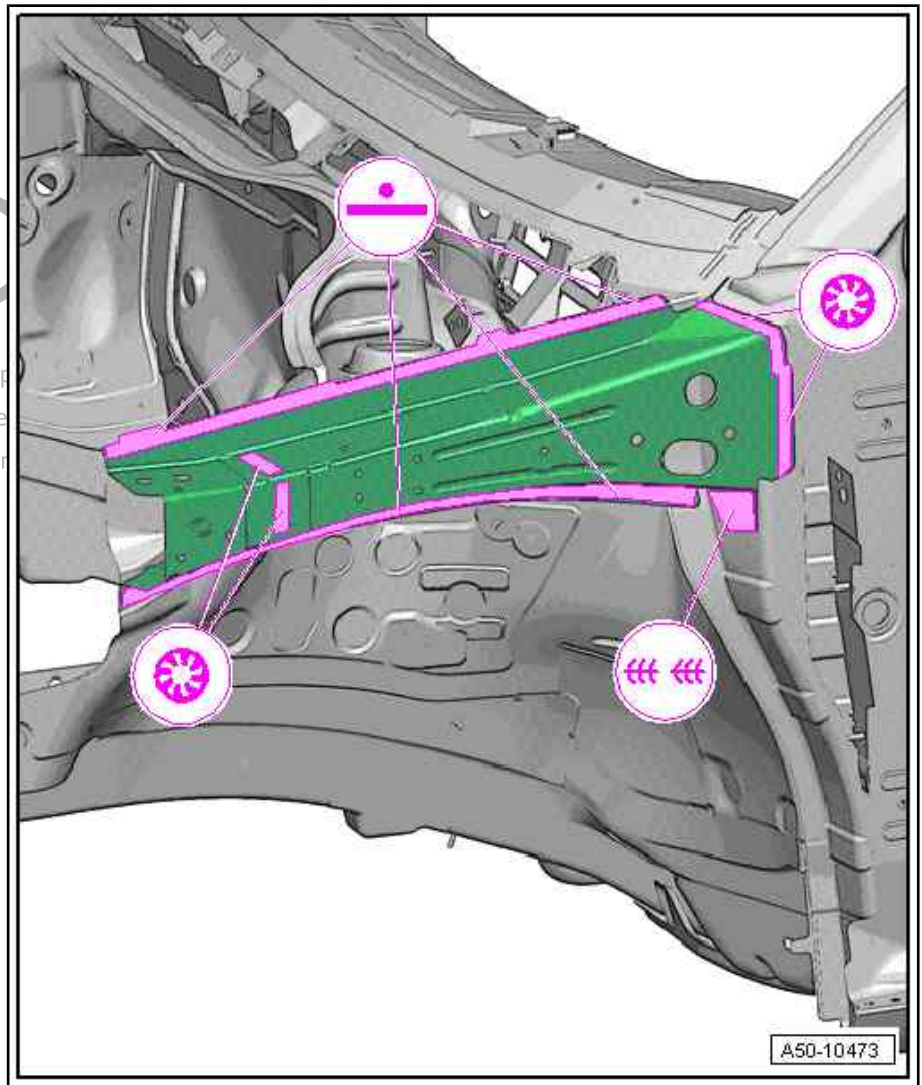
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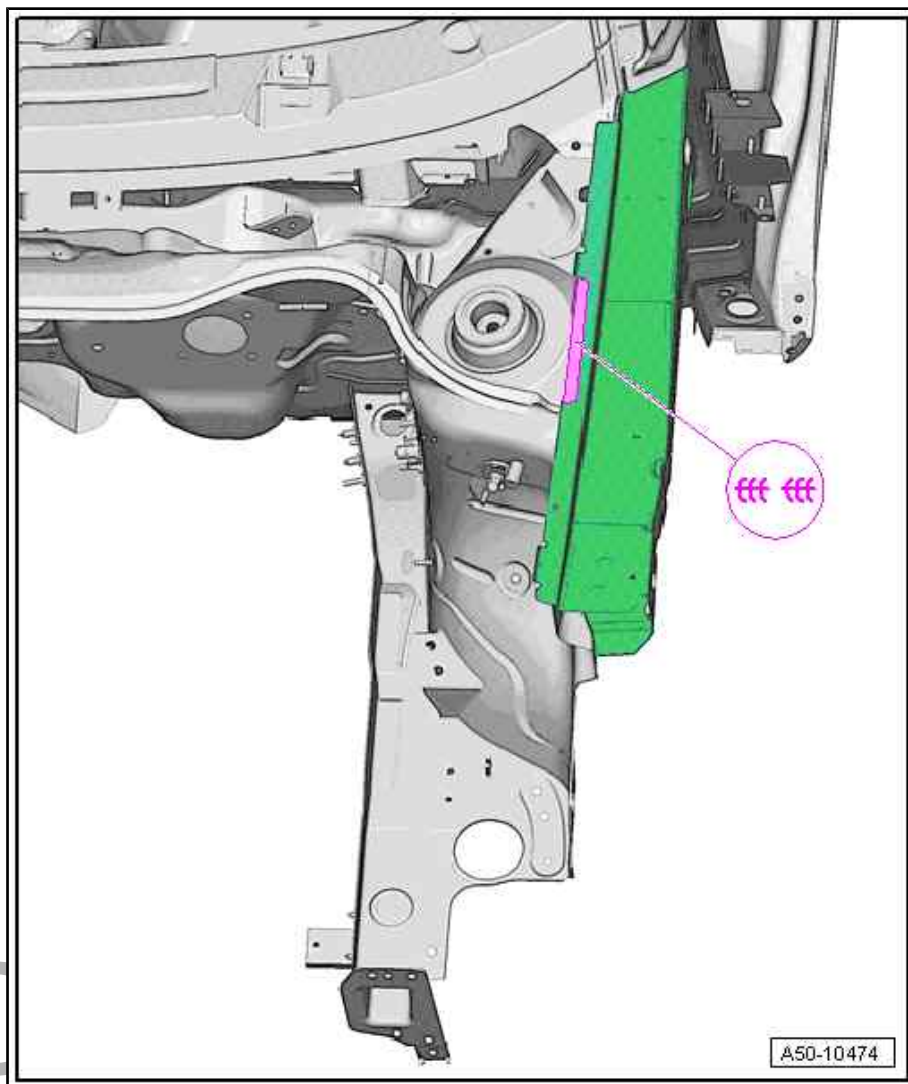
- Match up upper outer longitudinal member for wheel housing using alignment bracket set and fix in position.
- Weld in upper outer longitudinal member for wheel housing using resistance spot welder : RP spot weld seam.
- Weld in upper inner longitudinal member for wheel housing to suspension strut mounting using shielded arc welding equipment : SG continuous seam (staggered - with gaps) and SG plug weld seam.



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- Weld in upper inner longitudinal member for wheel housing to suspension strut mounting using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



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RO: 50 74 55 00

5 Front wheel housing - Renewal

Audi A1 and Audi A1 Sportback identical

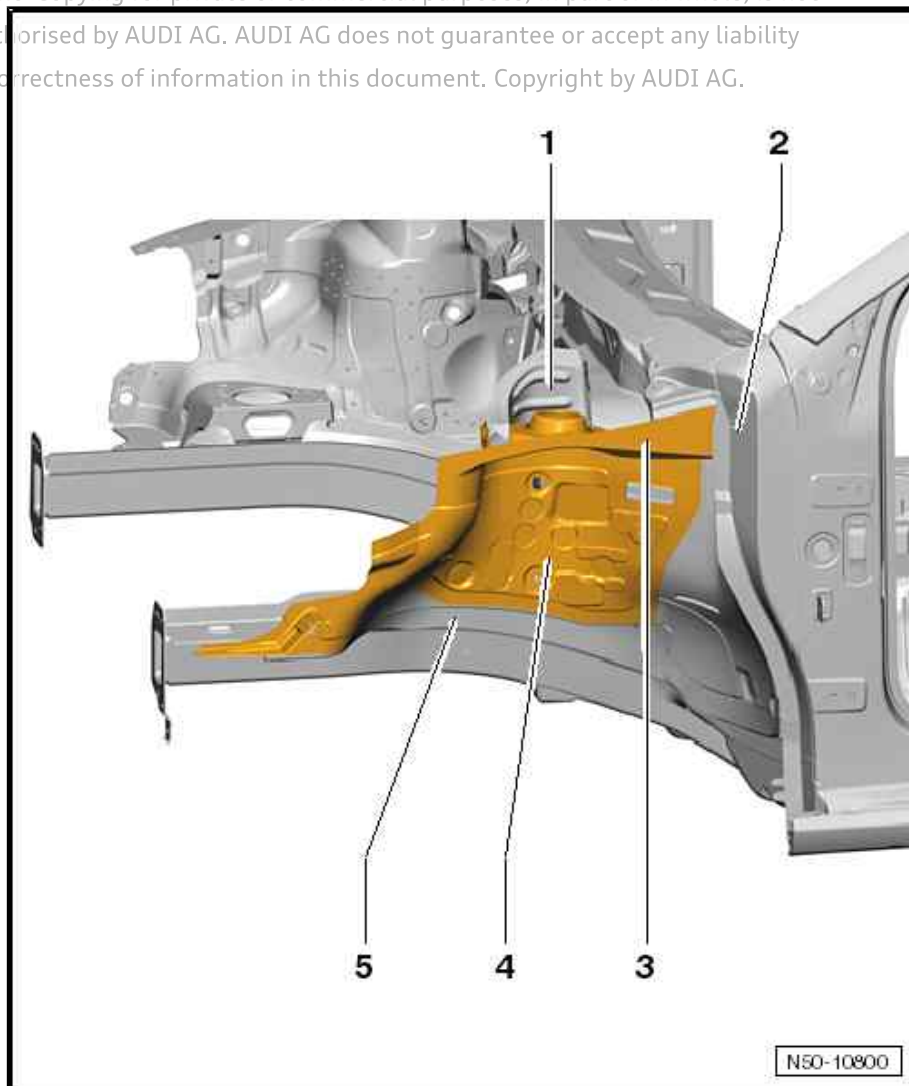
1 - Plenum chamber closure plate

2 - A-pillar

3 - Suspension turret

4 - Front wheel housing liner

5 - Front longitudinal member



5.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work [⇒ page 37](#) .



5.2

Procedure

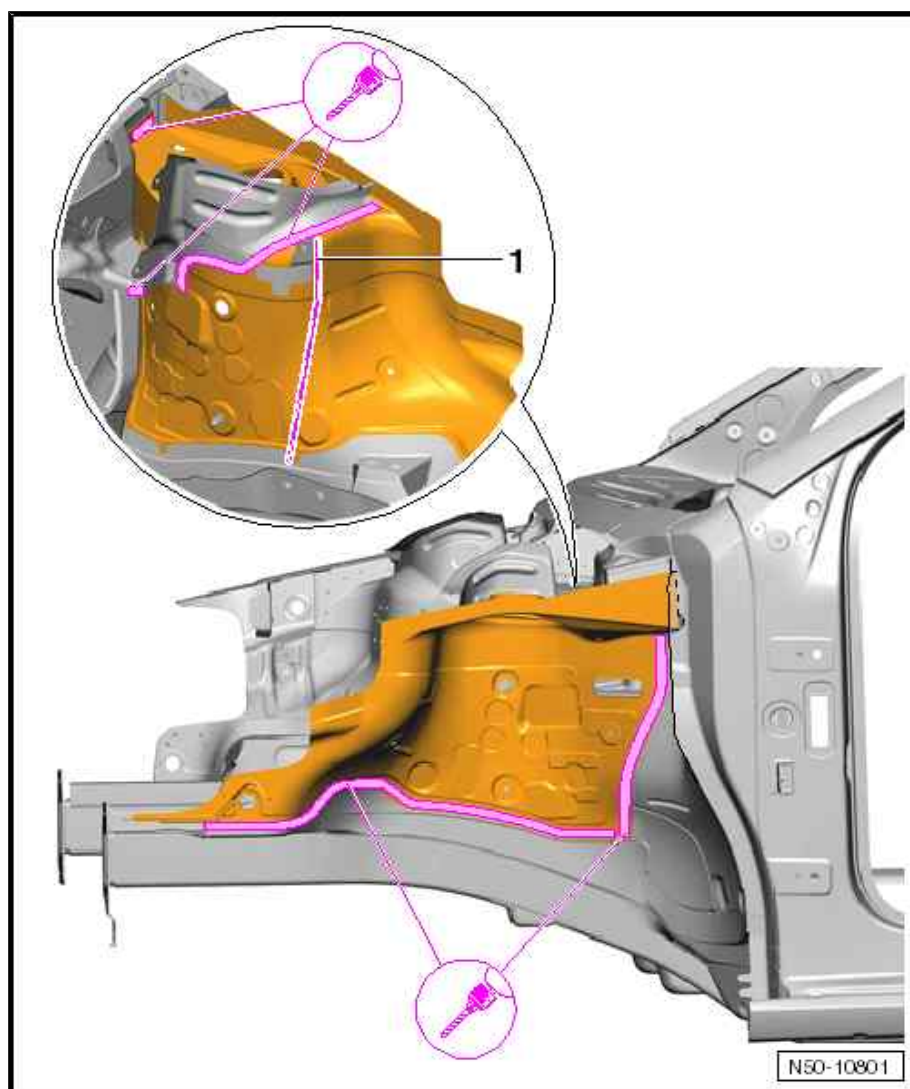
- Upper outer and inner longitudinal member for wheel housing already removed ⇒ [page 55](#)

Cutting locations

Partial renewal

Part section repair is possible using separating cut -1-.

- Separate original joint using spot weld breaker .
- Remove remaining material using compact angle grinder .
- Drill off web plate for plenum chamber using drill .



Replacement part

- ◆ Front wheel housing

Preparing new part

- Drill holes for SG plug weld seam (8 mm Ø) using drill .



- Cut wheel housing liner to size for partial renewal.
- With vehicle standing on alignment bracket set, match up new part and fix in position.

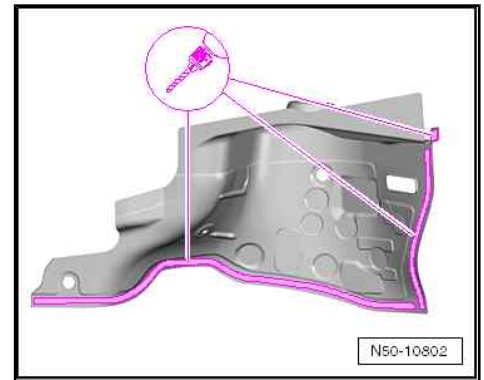


Note

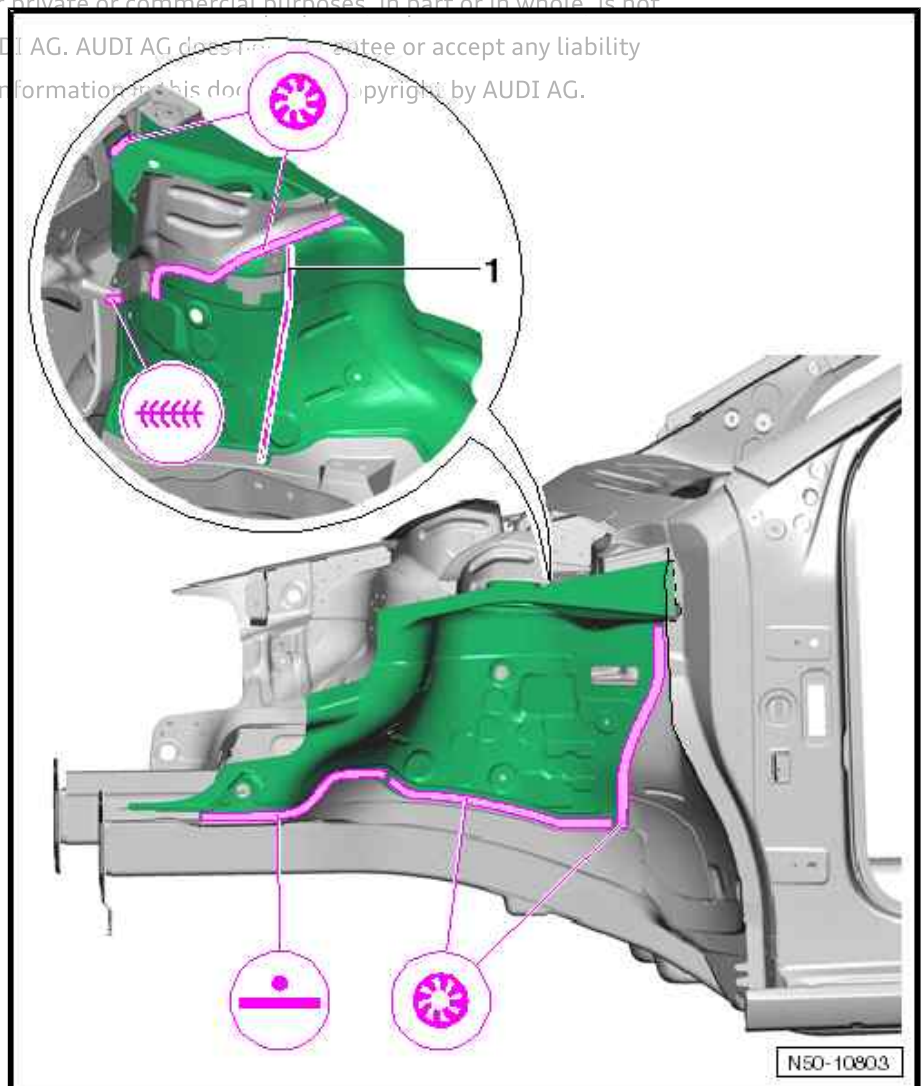
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Weld in wheel housing at lower longitudinal member using resistance spot welder : RP spot weld seam.
- Weld in remaining joint using shielded arc welding equipment : SG plug weld seam.
- Weld in web plate for plenum chamber using shielded arc welding equipment : SG plug weld seam and SG continuous seam.



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Welding in upper outer and inner longitudinal member for wheel
housing ⇒ [page 55](#)

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RO: 50 79 49 50

6 Repairing threads for attachment of subframe

Audi A1 and Audi A1 Sportback identical

- Subframe already removed ⇒ Running gear, suspension, steering; Rep. gr. 40 ; Subframe, anti-roll bar, suspension links



Note

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The following description shows the thread repair for the front left subframe mounting bracket; the procedure for the other three mounting brackets is basically the same.

6.1 Tools

Special tools and workshop equipment required

- ◆ Thread repair kit M12x1.5 - VAS 6058-
- ◆ Drill
- ◆ Compact angle grinder
- ◆ Drill
- ◆ Body saw
- ◆ Spot weld breaker - VAS 6322 A-

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .



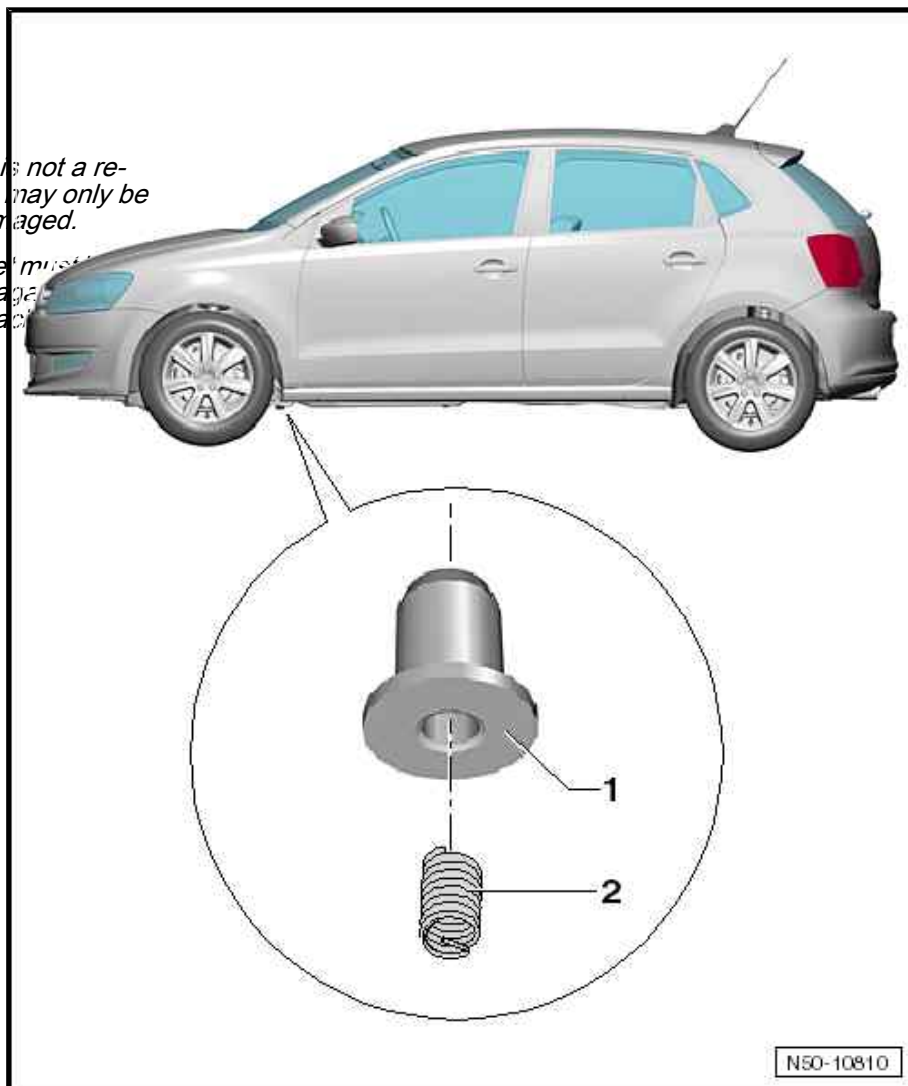
1 - Threaded plate (welded to subframe retaining bracket)



Note

- ◆ *The threaded plate is not a replacement part and may only be repaired once if damaged.*
- ◆ *The retaining bracket must be renewed if damaged after renewing retaining bracket.*
⇒ [page 49](#).

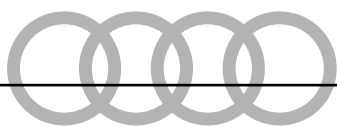
2 - Helicoil thread insert



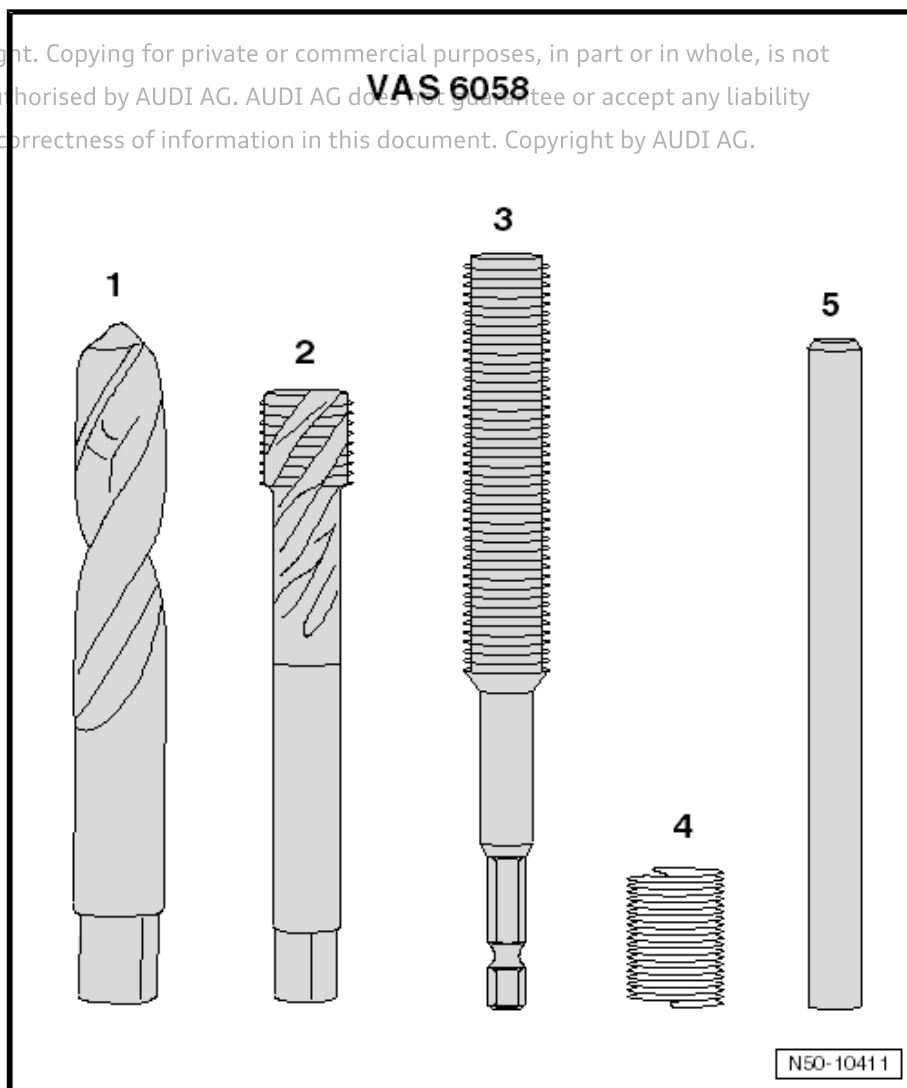
Contents of thread repair kit



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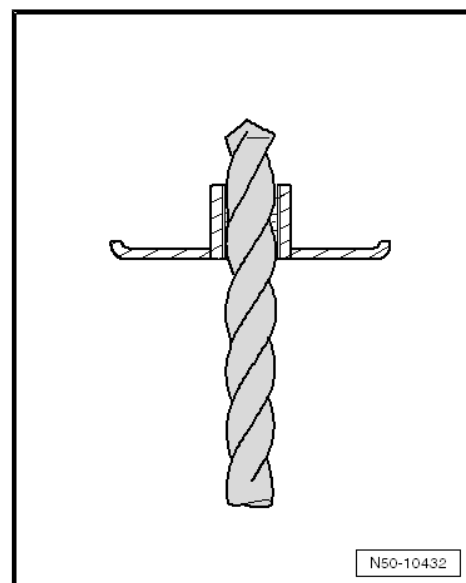
- 1 - Drill bit $\varnothing$ 12.5 mm
- 2 - Thread tap M 12 x 1.5
- 3 - Fitting spindle
- 4 - Thread insert M 12 x 1.5 x 24 (-VAS 6058/1-)
- 5 - Pin breaker with magnetic tip



Repairing thread

Making drilling for thread

- Drill hole for thread using drill bit (twist drill).





Note

- ◆ Use drill - VAS 6267- for drilling and cutting.
- ◆ The drill must be supported by a second mechanic using the additional handle.
- ◆ Take care to keep the drill straight.

Cutting thread



CAUTION

Always wear eye protection when cutting the thread and blowing out the threaded drilling.

- Cut thread using thread tap.

Fitting thread insert

- Screw thread insert -3- onto fitting spindle until driving pin -2- on thread insert makes contact with driving lug -1- on fitting spindle.
- Blow out threaded drilling with compressed air.

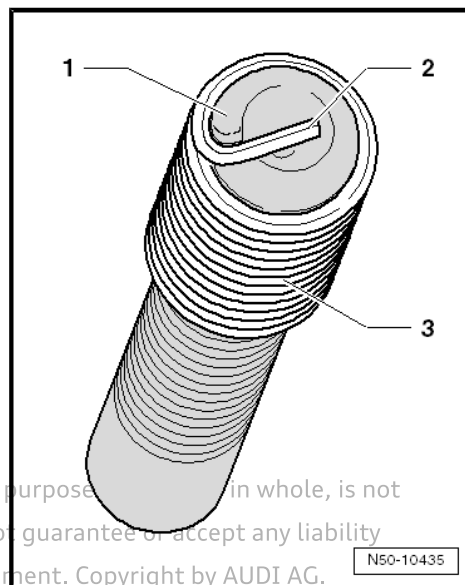
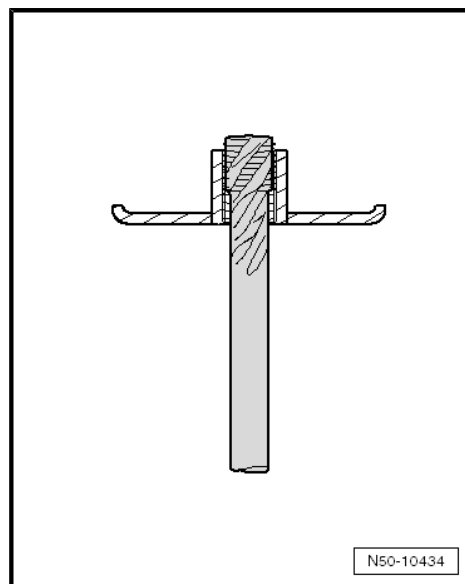
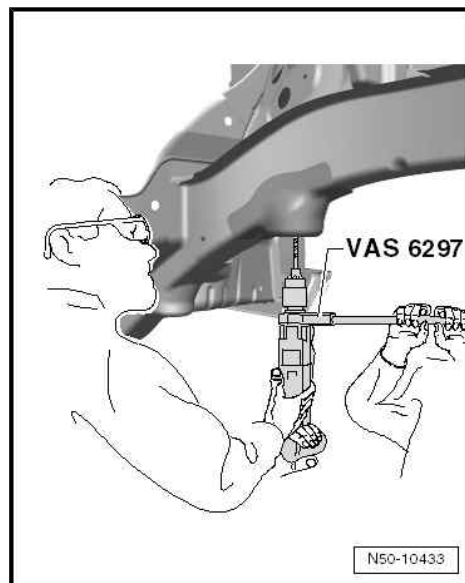


Note

The thread insert should screw in easily.

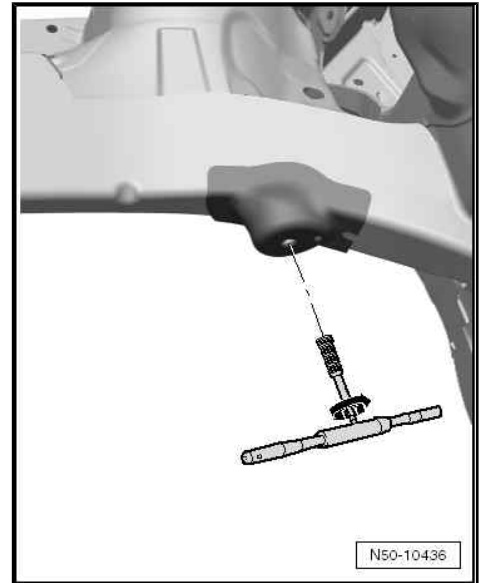


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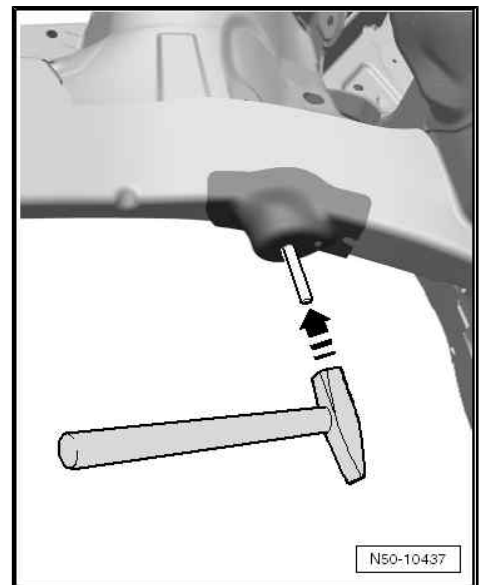




- Screw thread insert into threaded plate until it is flush with outside of threaded plate (visual check).
- Then screw in thread insert $\frac{1}{4}$ turn further.
- Unscrew fitting spindle.



- Break off drive pin of thread insert using pin breaker.
- Install subframe and tighten to specified torque ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe, anti-roll bar, suspension links .



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RO: 50 79 55 03

7 Front longitudinal member (left-side) - Renewal

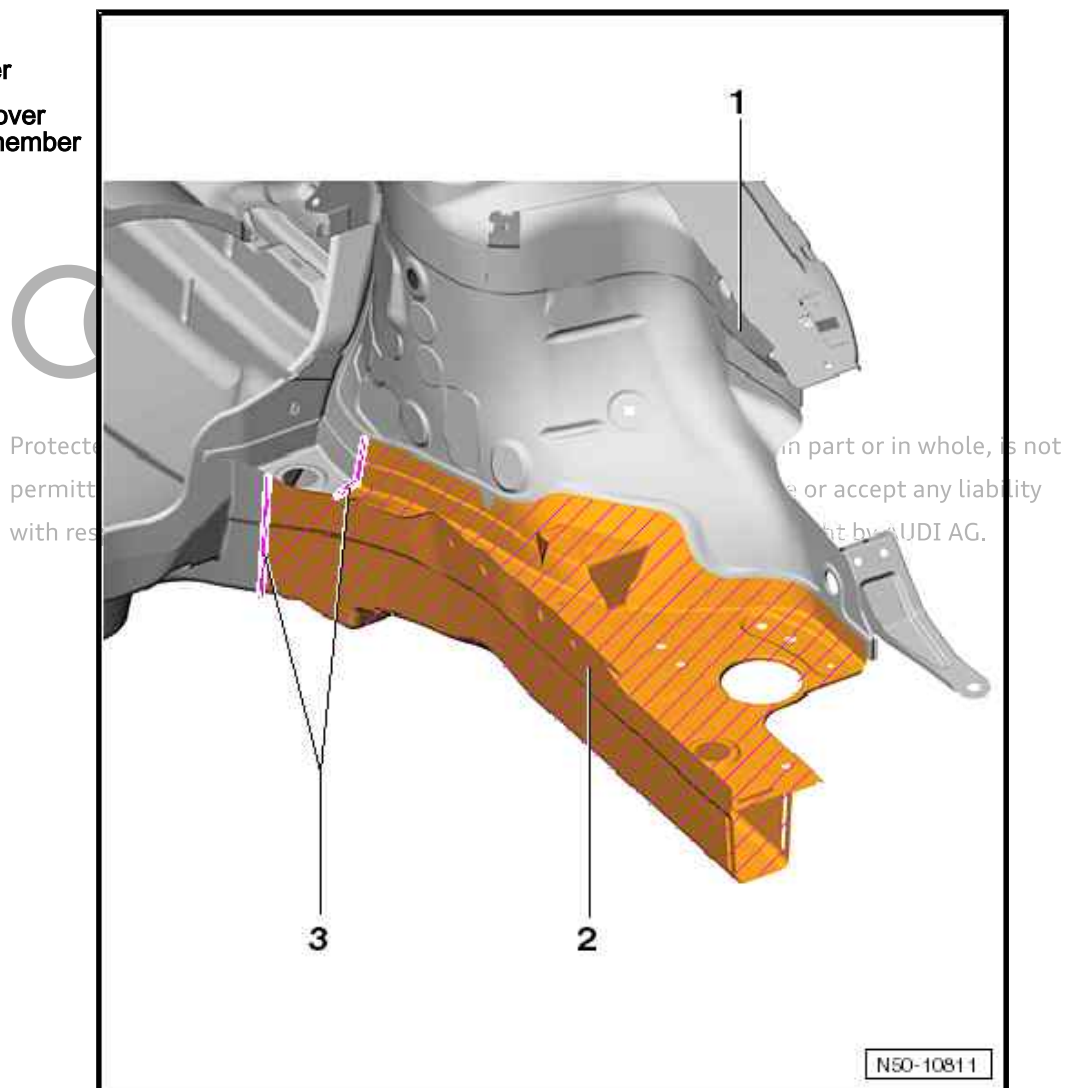
Includes: bumper bracket

Audi A1 and Audi A1 Sportback identical

1 - Wheel housing

2 - Longitudinal member

3 - Separating cut for cover
plate and longitudinal member



7.1 Tools

Special tools and workshop equipment required

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

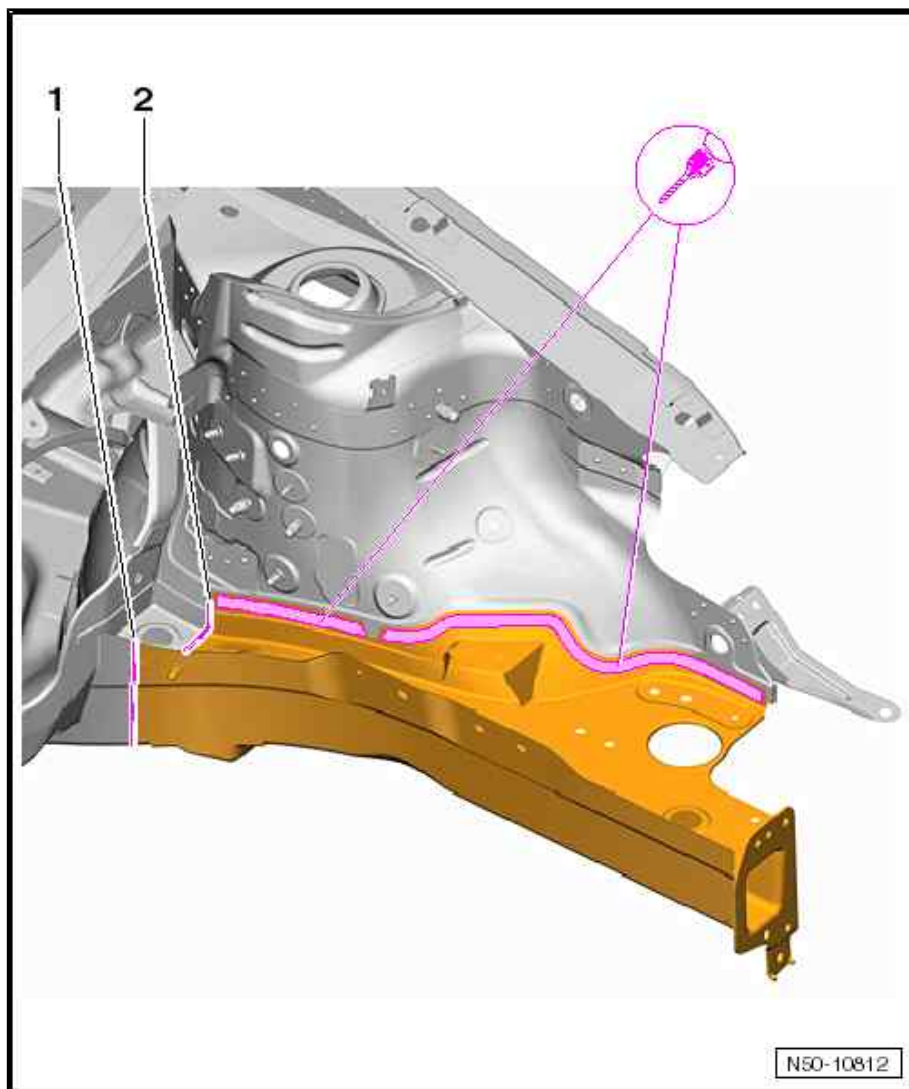
Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .



7.2 Procedure

Cutting locations

- Separate original joint at wheel housing using spot weld breaker.



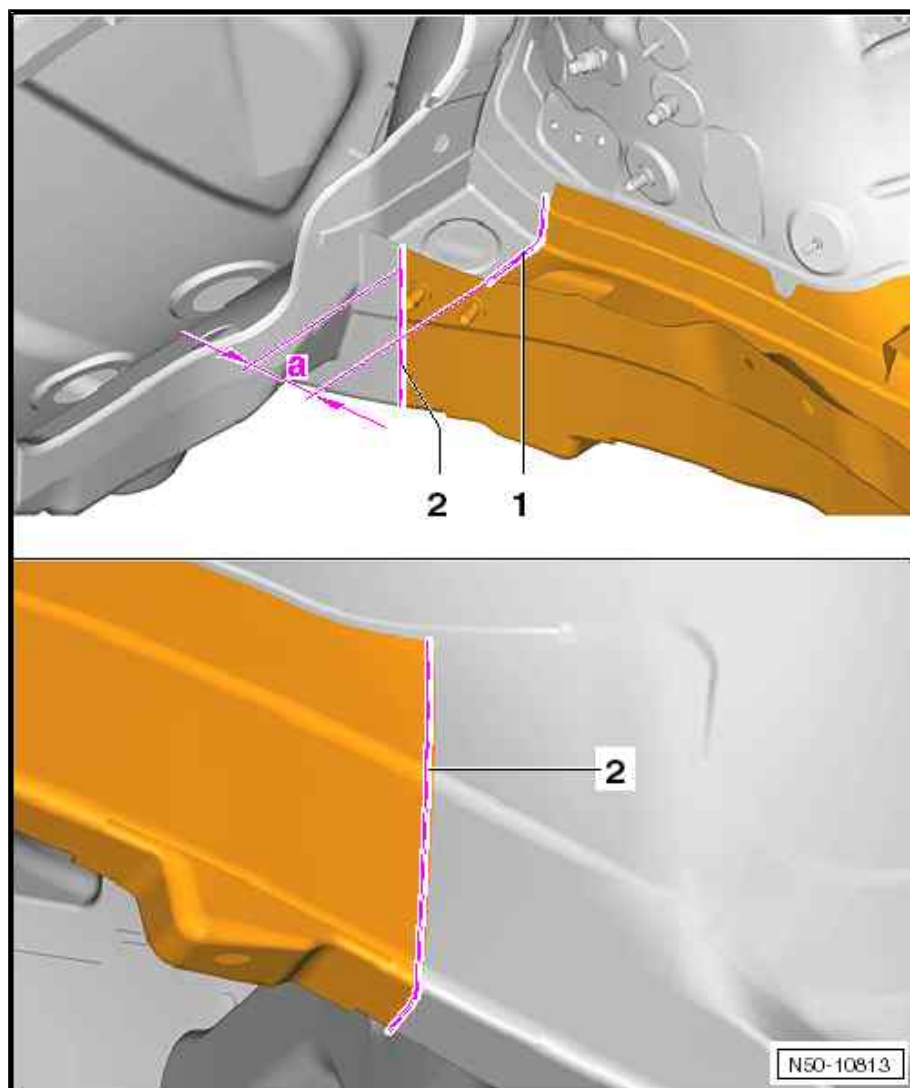
Note

Offset separating cut on cover plate from separating cut on longitudinal member by approx. 50 mm (-distance a-).

- Make separating cut -1- on cover plate as shown.
- Make separating cut -2- on longitudinal member as shown.



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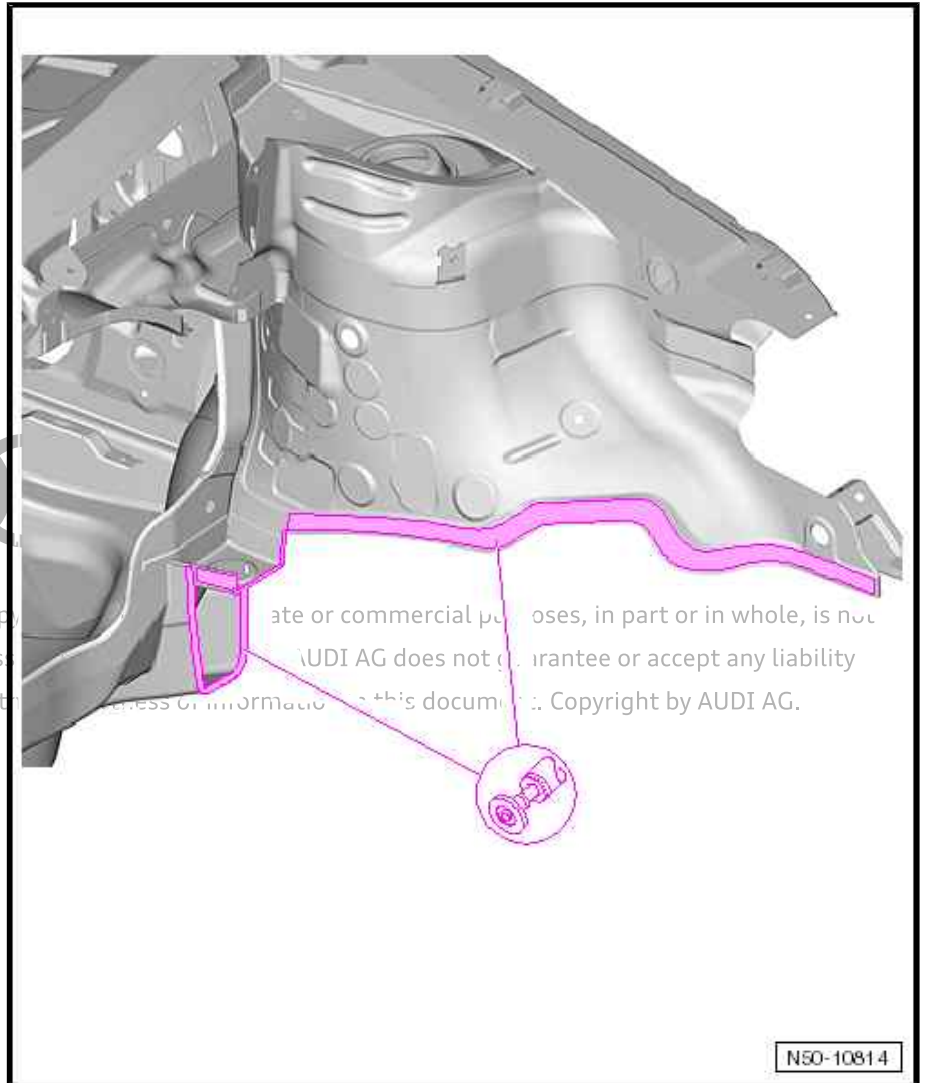
- Remove remaining material using compact angle grinder .



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N50-10814

Replacement part

- ◆ Longitudinal member
- ◆ Bumper bracket

Preparing new part

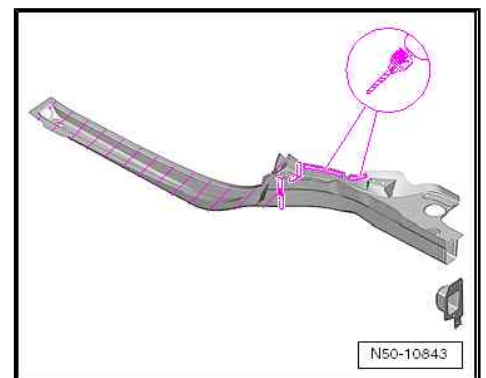
- Transfer separating cut to new part and cut to size using body saw .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .
- With vehicle standing on alignment bracket set, match up new part and fix in position.



Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

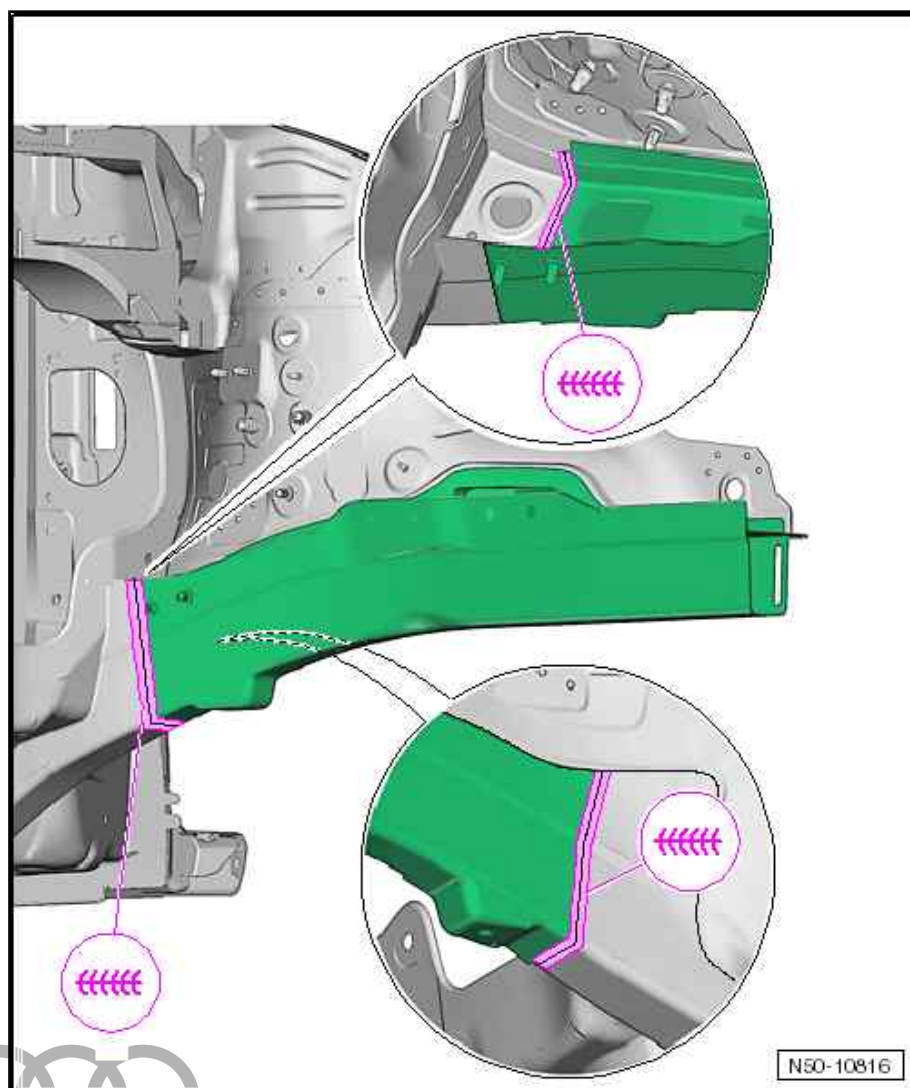
Welding in



N50-10843



- Weld at separating cuts using shielded arc welding equipment : SG continuous seam.

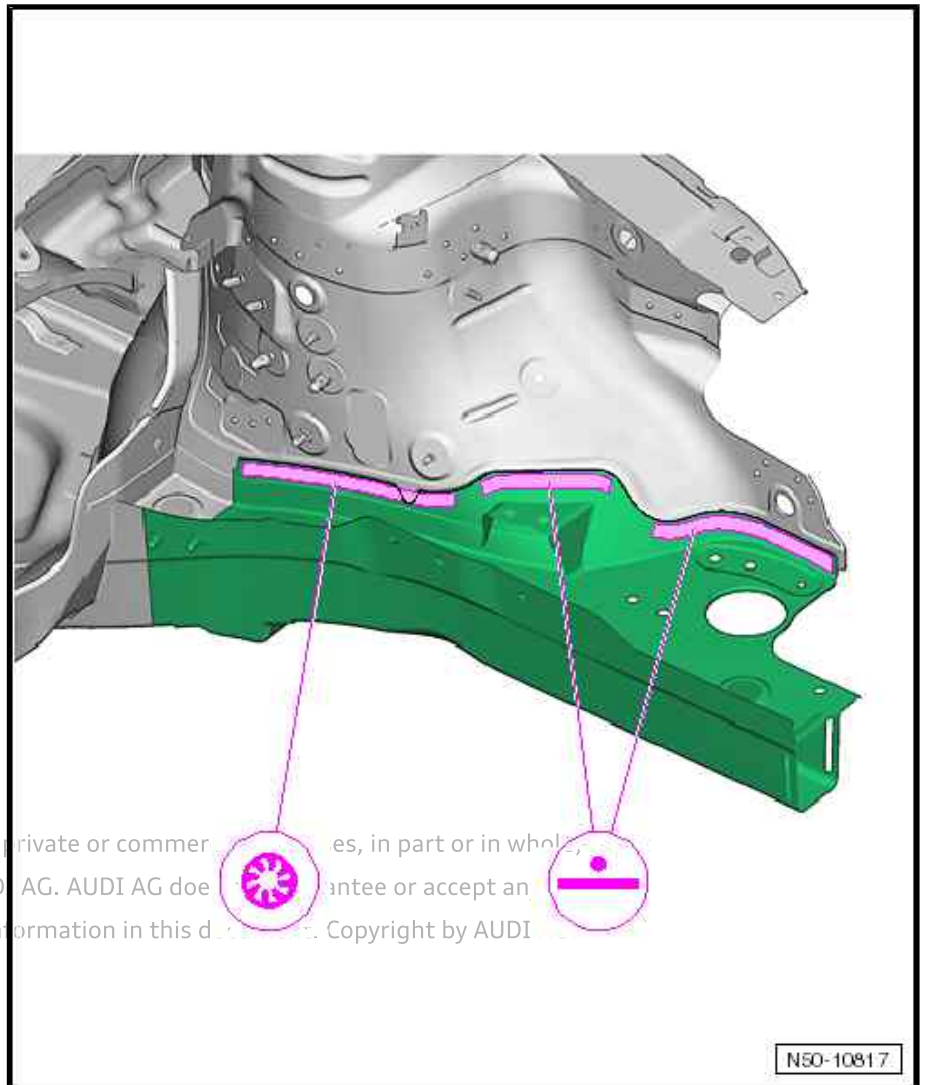


- Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.
- Weld in longitudinal member using resistance spot welder : RP spot weld seam.

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RO: 50 79 55 06

8 Front longitudinal member (left-side) - Partial renewal

Audi A1 and Audi A1 Sportback identical

1 - Separating cut on cover plate

2 - Separating cut for longitudinal member



Note

The separating cut for the cover plate -1- and the longitudinal member -2- must be offset by dimension -a-.

Dimension -a- = 50 mm

3 - Laser weld seam

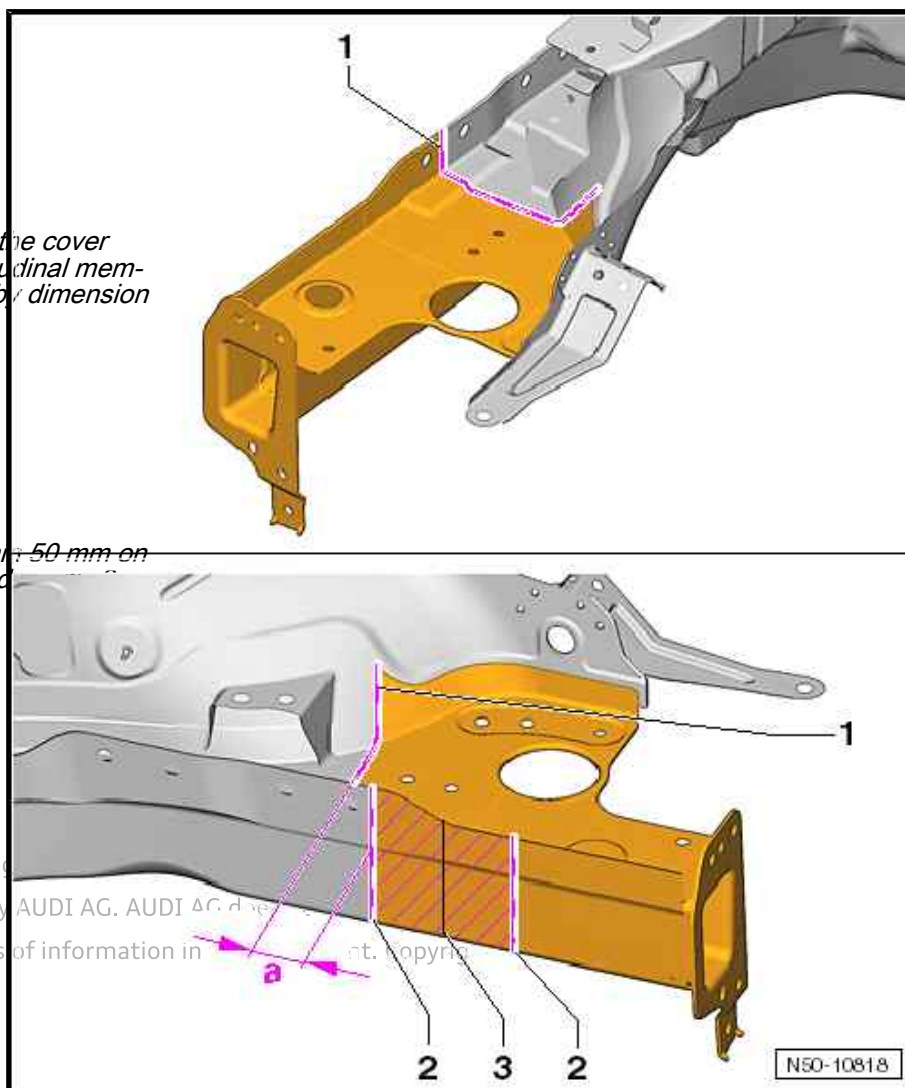


Note

Do not cut or weld within 50 mm on either side of laser weld seam (shaded area).



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8.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .



8.2 Procedure

Cutting locations

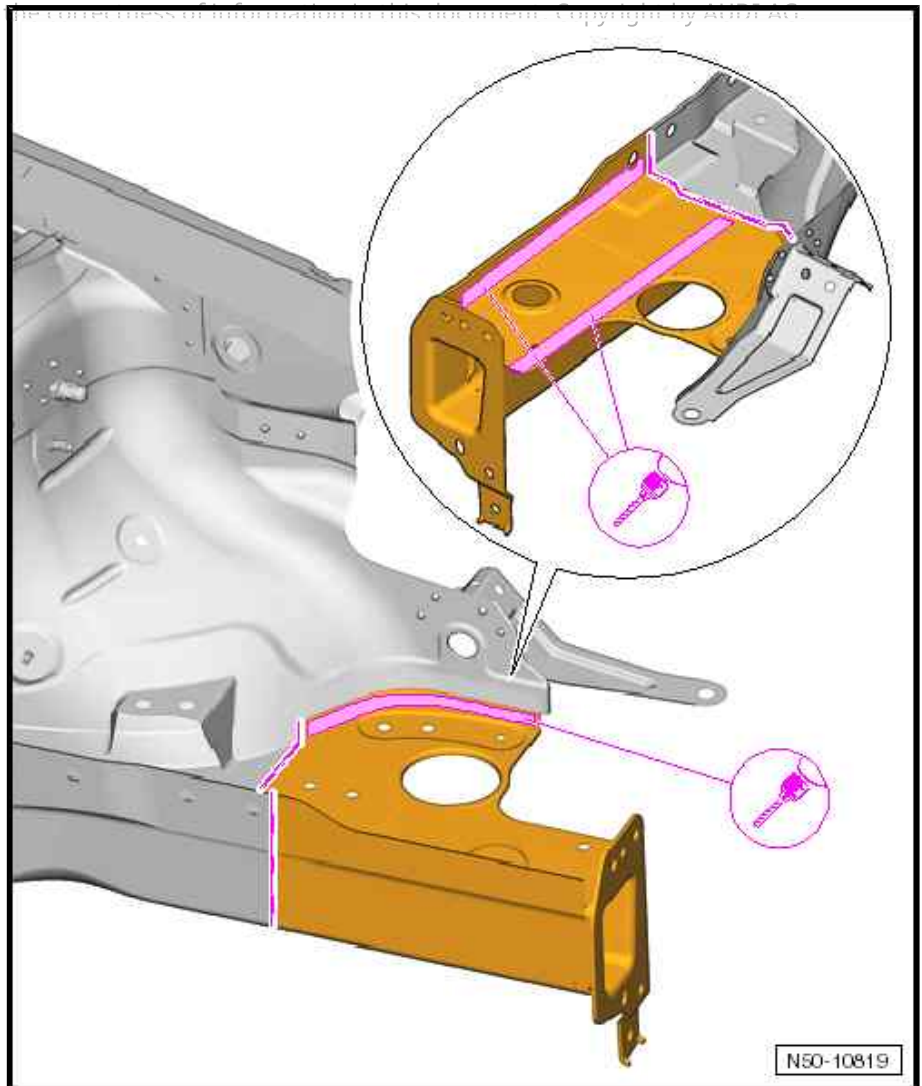


Note

This separating cut on the longitudinal member may only be made in the area shown. If damage to the longitudinal member extends further it must be renewed completely.

- Mark off separating cuts as shown and make cuts using body saw .
- Separate original joint using spot weld breaker .

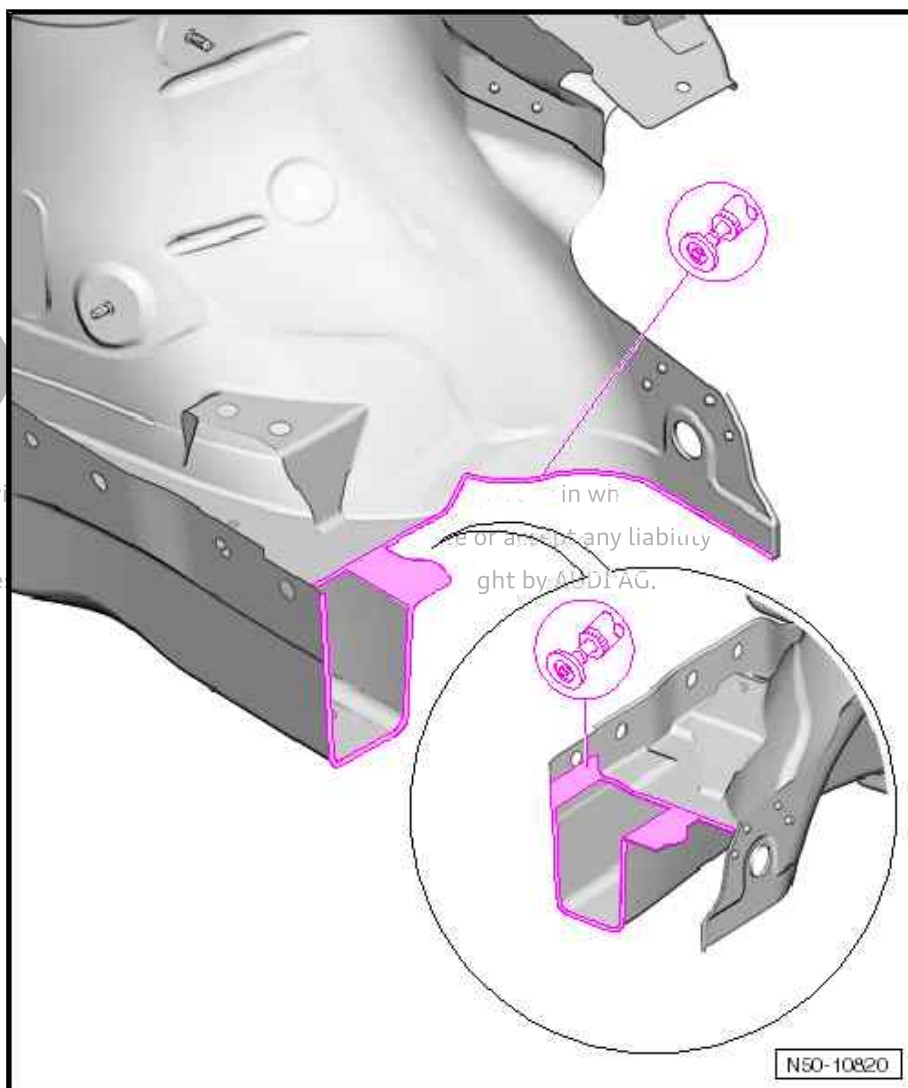
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- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Longitudinal member (part section)

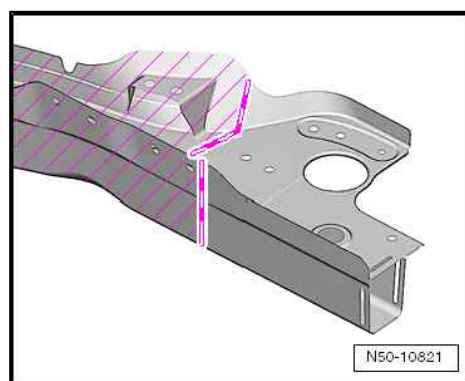
Preparing new part

- Transfer separating cut to new part and cut to size using body saw .
- With vehicle standing on alignment bracket set, match up new part and fix in position.



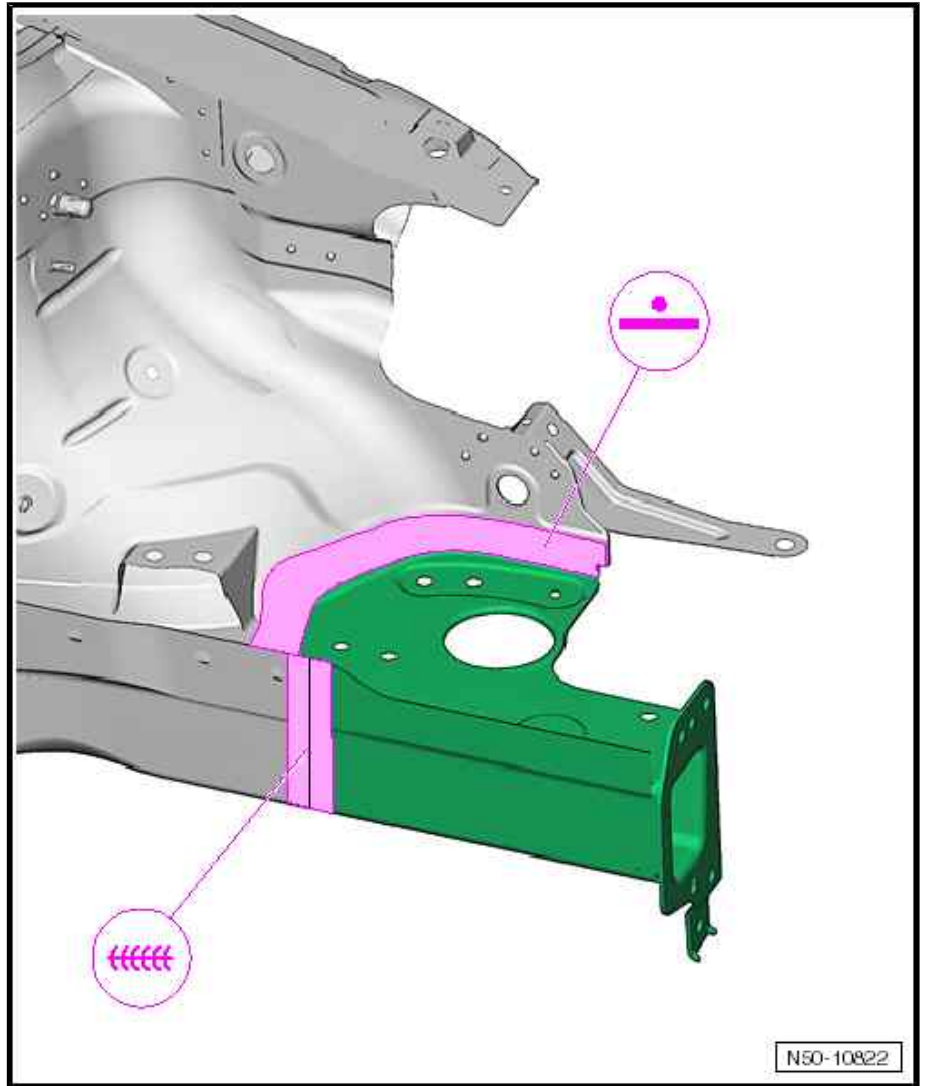
Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.



Welding in

- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in remaining joint using resistance spot welder : RP spot weld seam.



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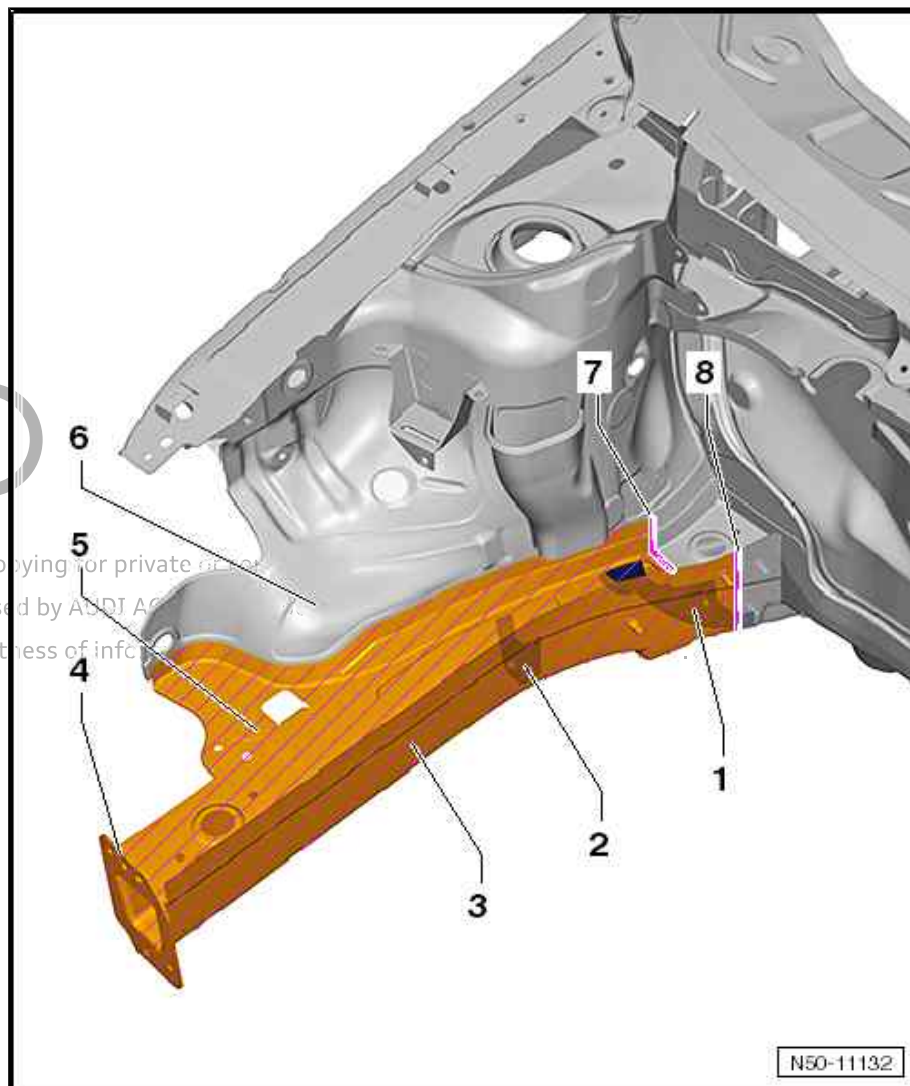
RO: 50 79 55 13

9 Front longitudinal member (right-side) - Renewal

Includes: mounting bracket for subframe and bumper bracket

Audi A1 and Audi A1 Sportback identical

- 1 - Guard piece
- 2 - Web plate
- 3 - Longitudinal member
- 4 - Bumper bracket
- 5 - Cover plate
- 6 - Wheel housing
- 7 - Separating cut for cover plate
- 8 - Separating cut for longitudinal member



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9.1 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 37](#) .



9.2 Procedure

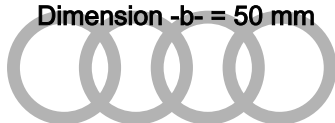
- Bumper bracket already removed ➔ [page 52](#)
- Engine console already removed ➔ [page 45](#)
- Mounting bracket for subframe already removed ➔ [page 49](#)

Cutting locations

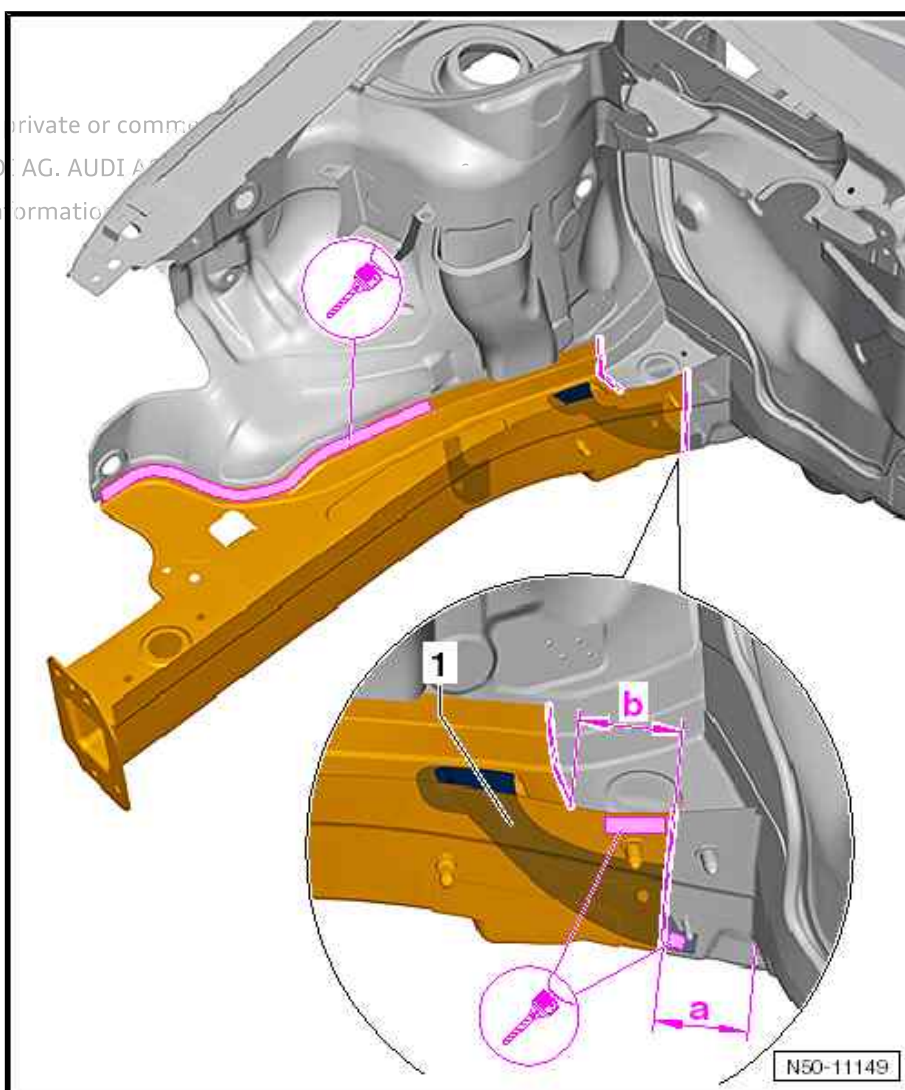
- Separate original joint at wheel housing and guard piece -1- using spot weld breaker .
- Make separating cuts at longitudinal member and cover plate as shown using body saw ; observe offset -b-.

Dimension -a- = 50 mm

Dimension -b- = 50 mm



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- Separate original joint at wheel housing -1- and guard piece -2- using spot weld breaker .
- Make separating cut at longitudinal member as shown using body saw .



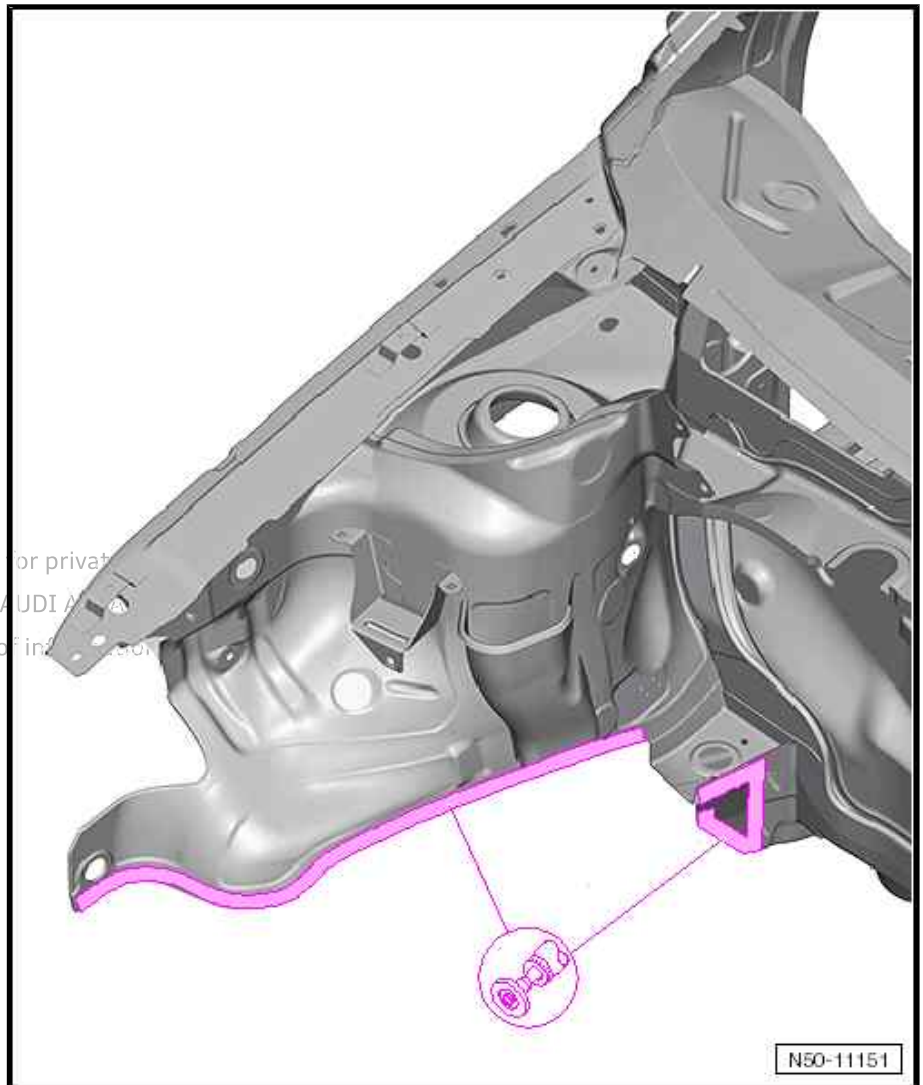
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- Remove remaining material using compact angle grinder .



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Replacement parts

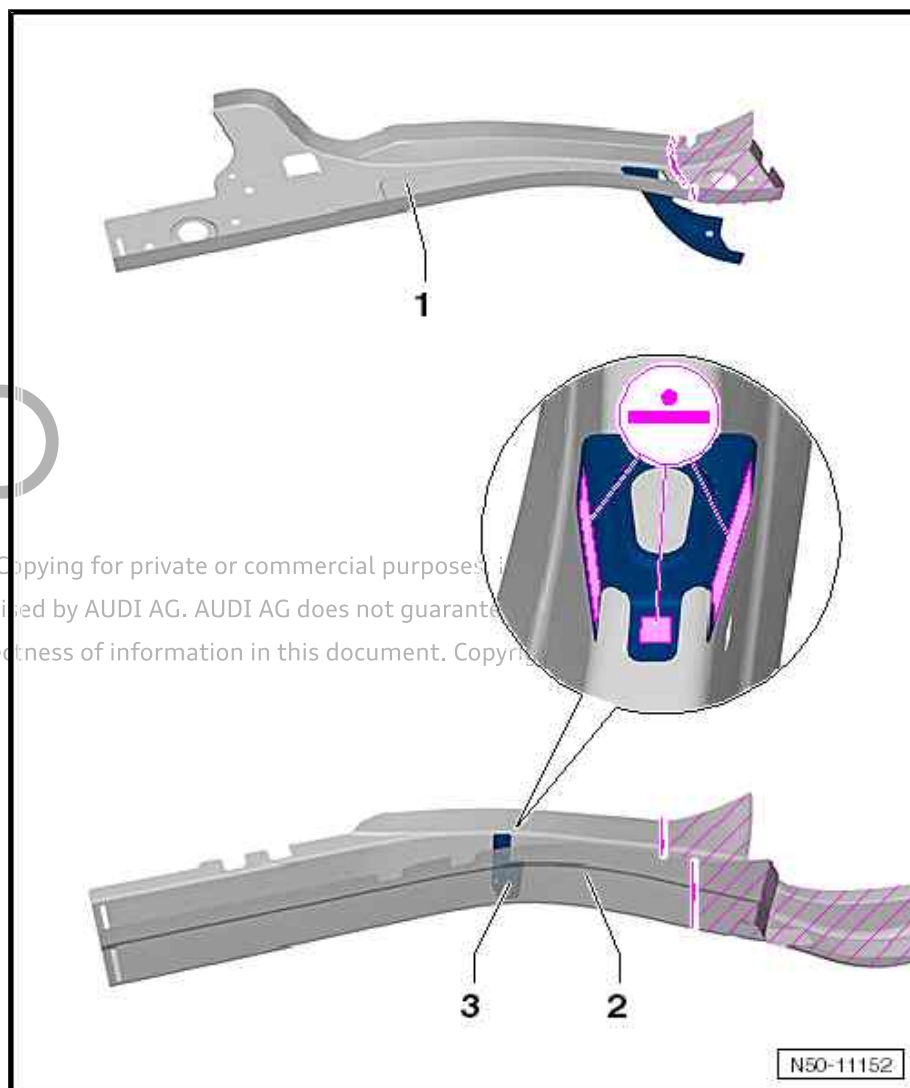
- ◆ Longitudinal member
- ◆ Cover plate with guard piece
- ◆ Web plate
- ◆ Bumper bracket
- ◆ Mounting bracket for subframe

Preparing new part

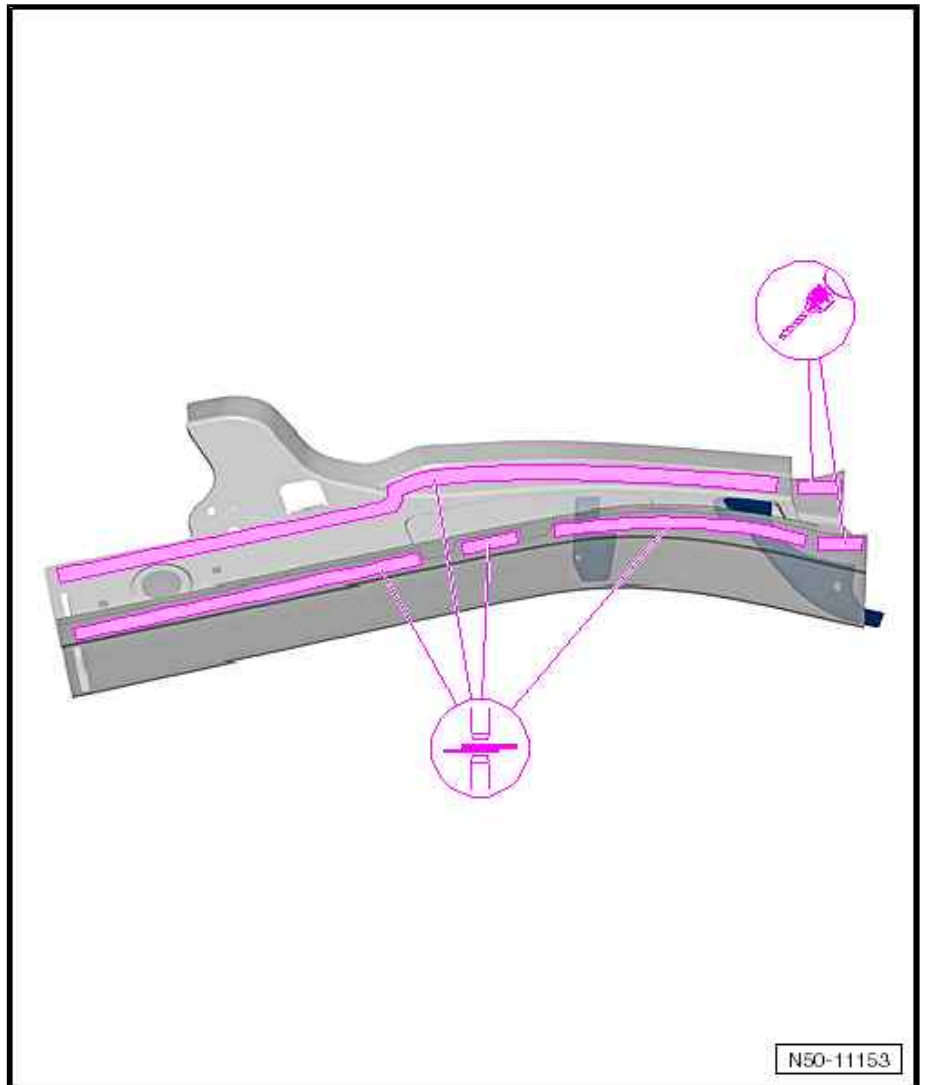
- Transfer separating cut to cover plate -1- and cut to size using body saw .
- Transfer separating cut to longitudinal member -2- and cut to size using body saw .
- Weld web plate -3- in longitudinal member -2- using resistance spot welder : RP spot weld seam.



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- Weld in new parts using resistance spot welder .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .



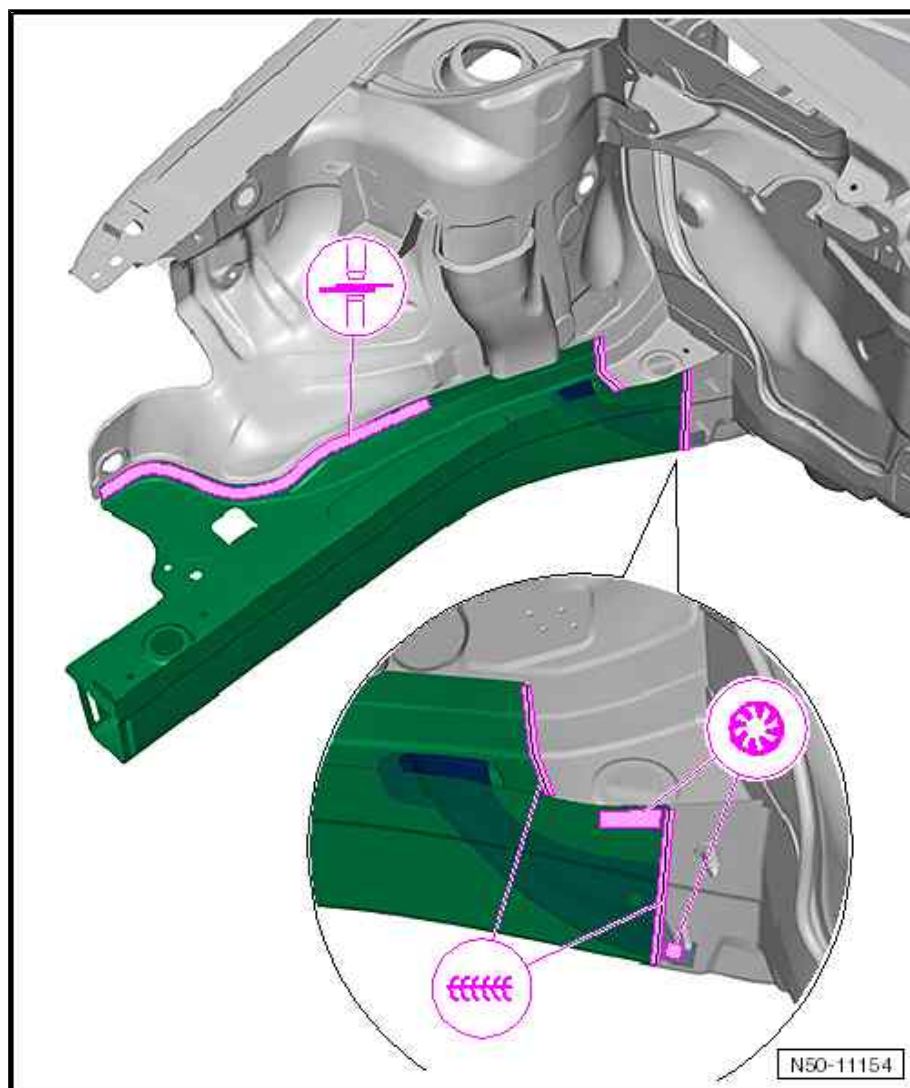
Note

Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.

Welding in

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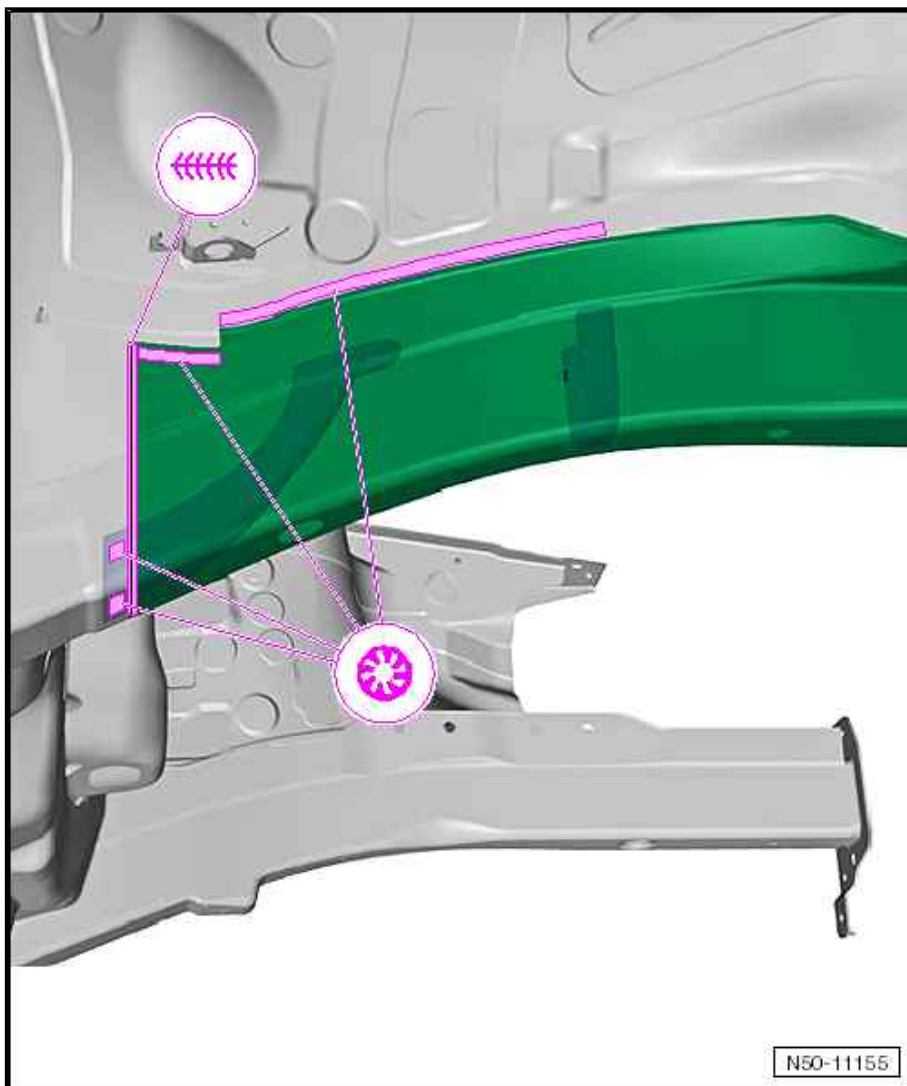
- Match up new part with vehicle positioned on alignment bracket set and fix in place.
- Weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.
- Weld in longitudinal member (part section) using resistance spot welder : RP spot weld seam.



- Weld separating cut at longitudinal member using shielded arc welding equipment : SG continuous seam.
- Remake remaining joint using shielded arc welding equipment : SG plug weld seam.



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Audi A1 quattro only



Note

After renewal, a cut-out -1- must be made on the top of the new longitudinal member (right-side) -2- (Audi A1 quattro only).

- Make cut-out -1- according to dimensions shown.
- Radius of cut-out: approx. 37 mm.

Dimension -a- = 237 mm

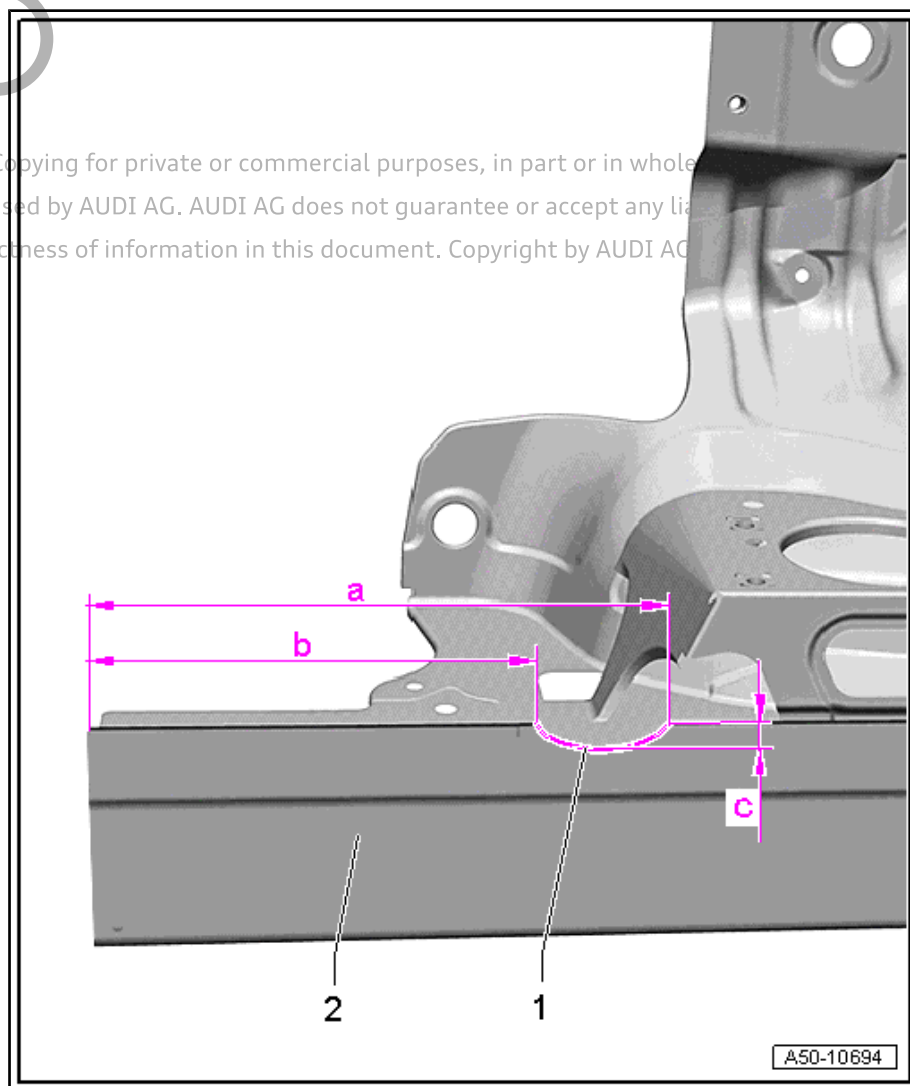
Dimension -b- = 180 mm

Dimension -c- = 11 mm

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- Weld in bumper bracket ⇒ [page 52](#) .
- Weld in engine console ⇒ [page 45](#) .
- Weld in mounting bracket for subframe ⇒ [page 49](#) .



RO: 50 79 55 16

10 Front longitudinal member (right-side) - Partial renewal

Includes: bumper bracket

Audi A1 and Audi A1 Sportback identical

1 - Cover plate for longitudinal member

2 - Separating cut for cover plate

3 - Separating cut for longitudinal member

4 - Laser weld seam

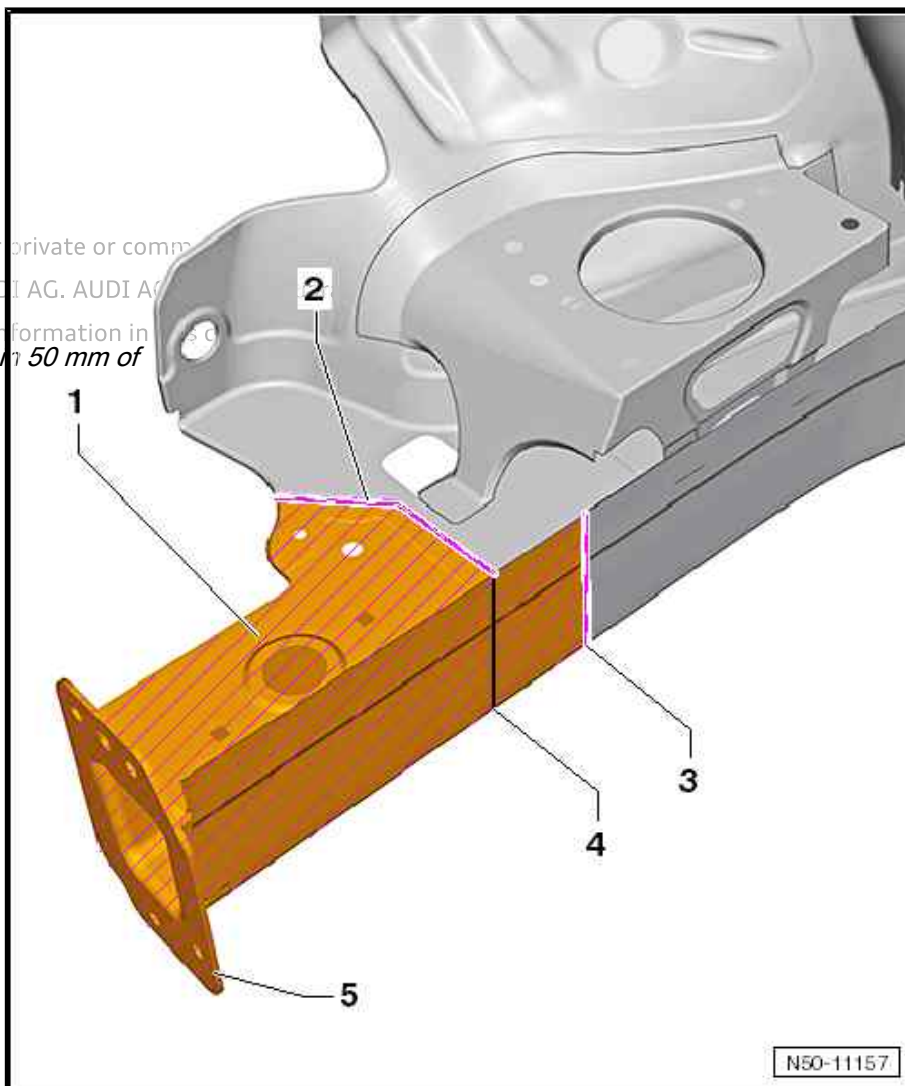


Note

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Do not cut or weld within 50 mm of laser weld seam.

5 - Bumper bracket



10.1 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 37](#).



10.2 Procedure

Cutting locations



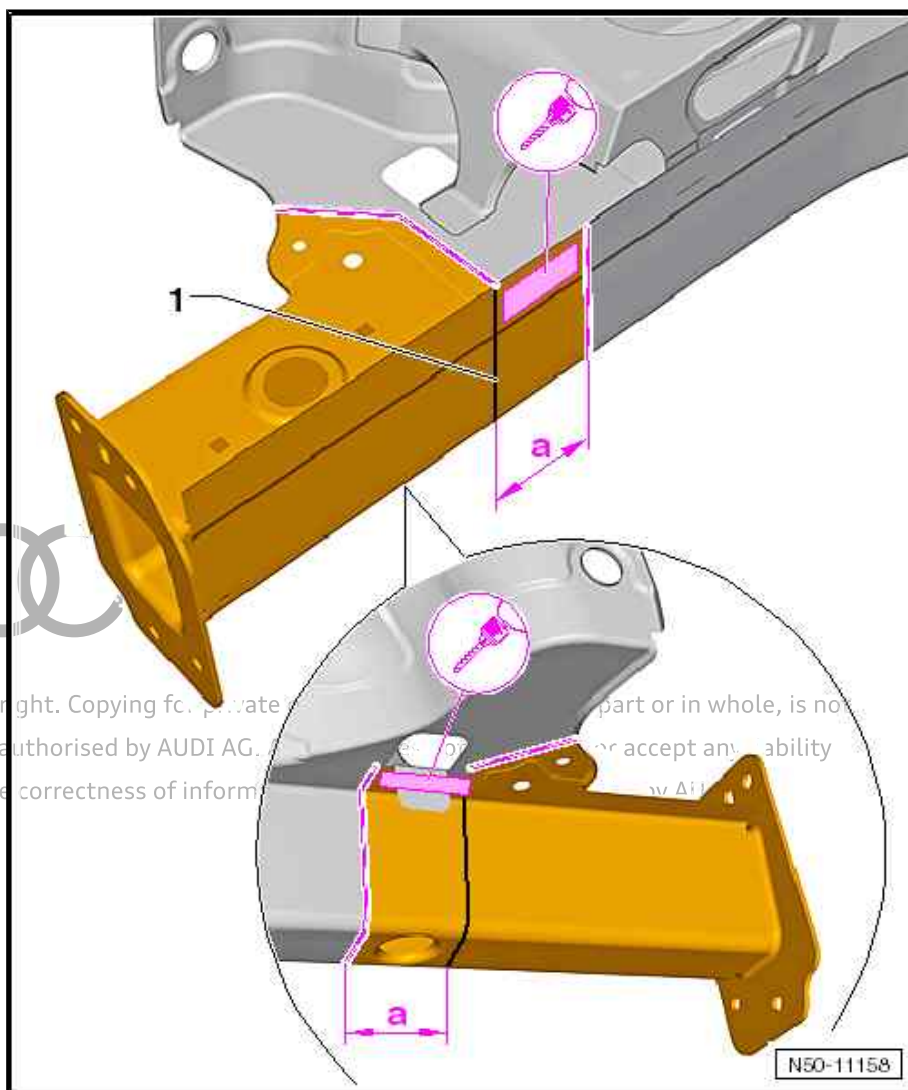
Note

This separating cut on the longitudinal member may only be made in the area shown. If damage to the longitudinal member extends further it must be renewed completely.

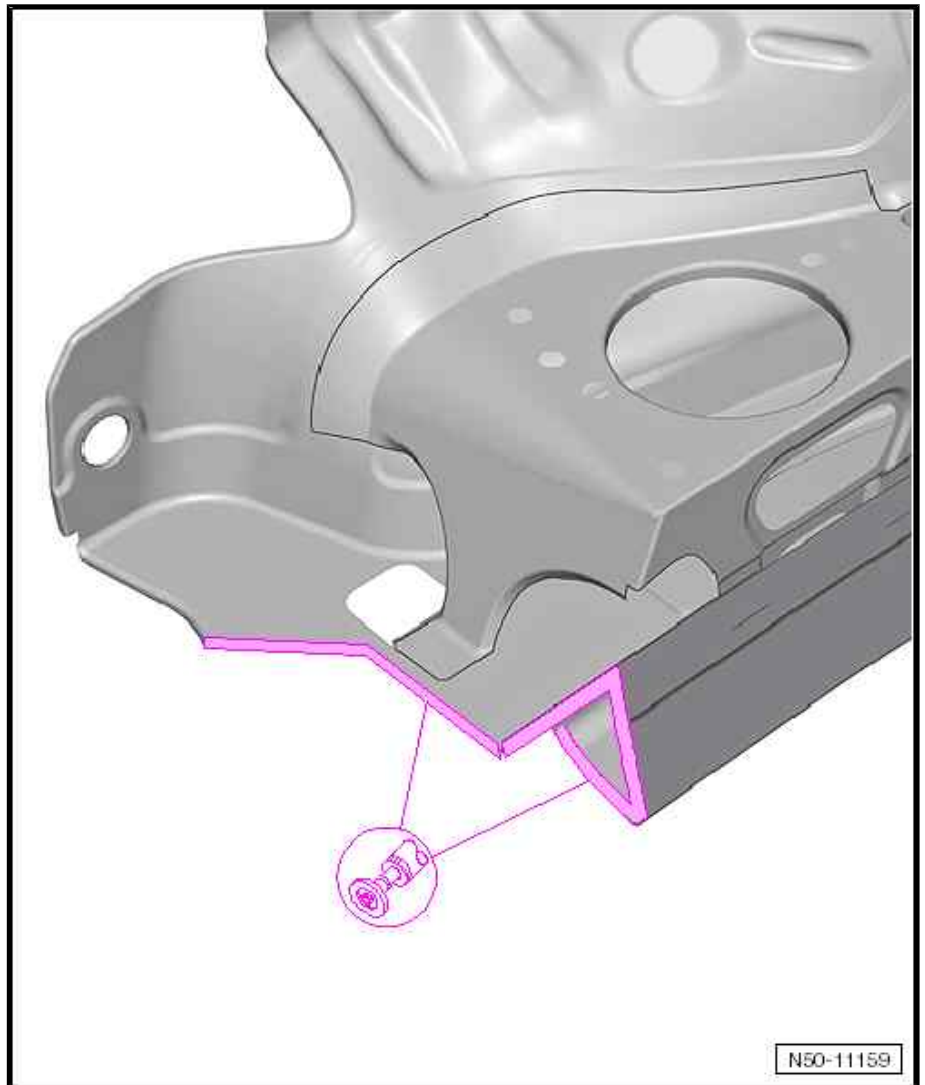
- Mark off separating cut on longitudinal member at distance -a- from laser weld seam -1- and make cut using body saw .

Dimension -a- = 50 mm

- Mark off separating cut on cover plate as shown and make cut using body saw .
- Separate original joint using spot weld breaker .



- Remove remaining material using compact angle grinder .



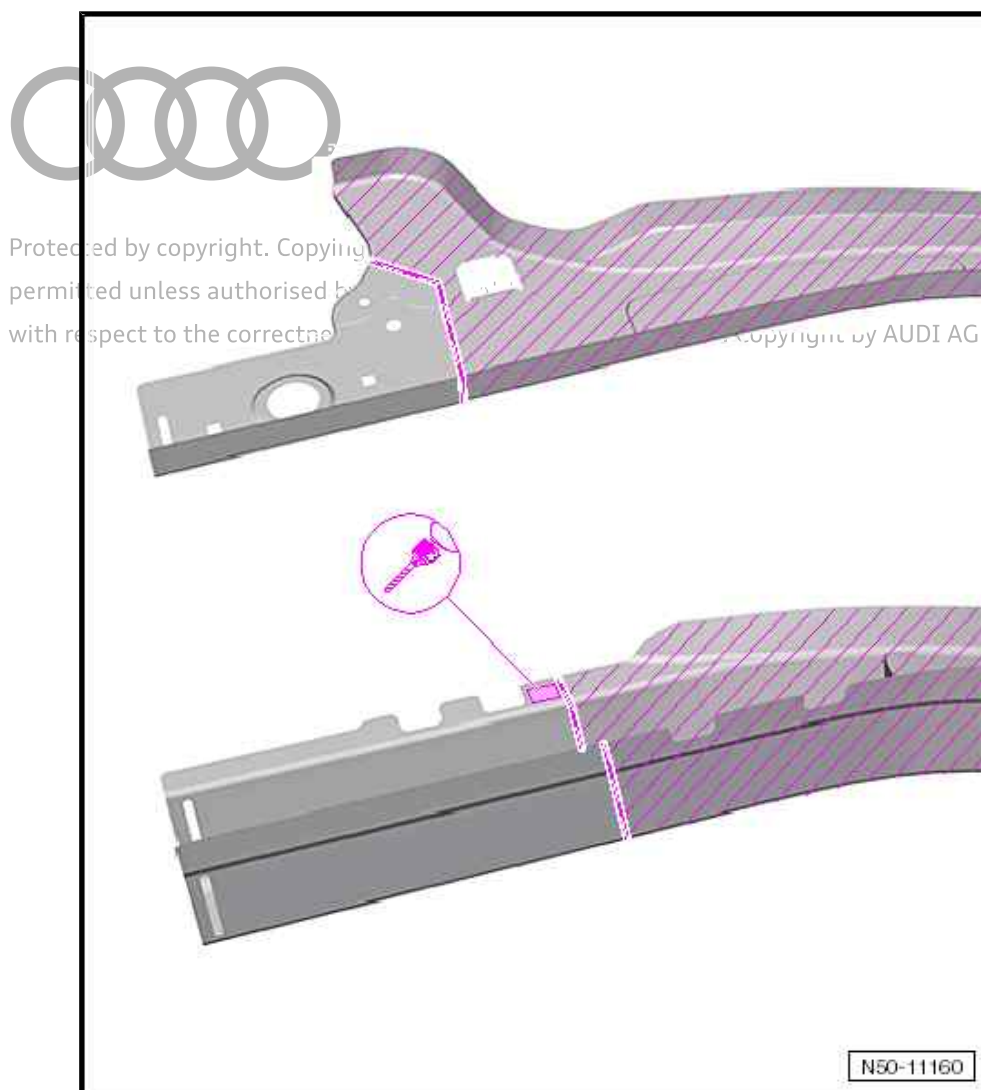
Replacement parts

- ◆ Longitudinal member
- ◆ Cover plate
- ◆ Bumper bracket

Preparing new part

- Transfer separating cuts to new parts and cut to size using body saw .

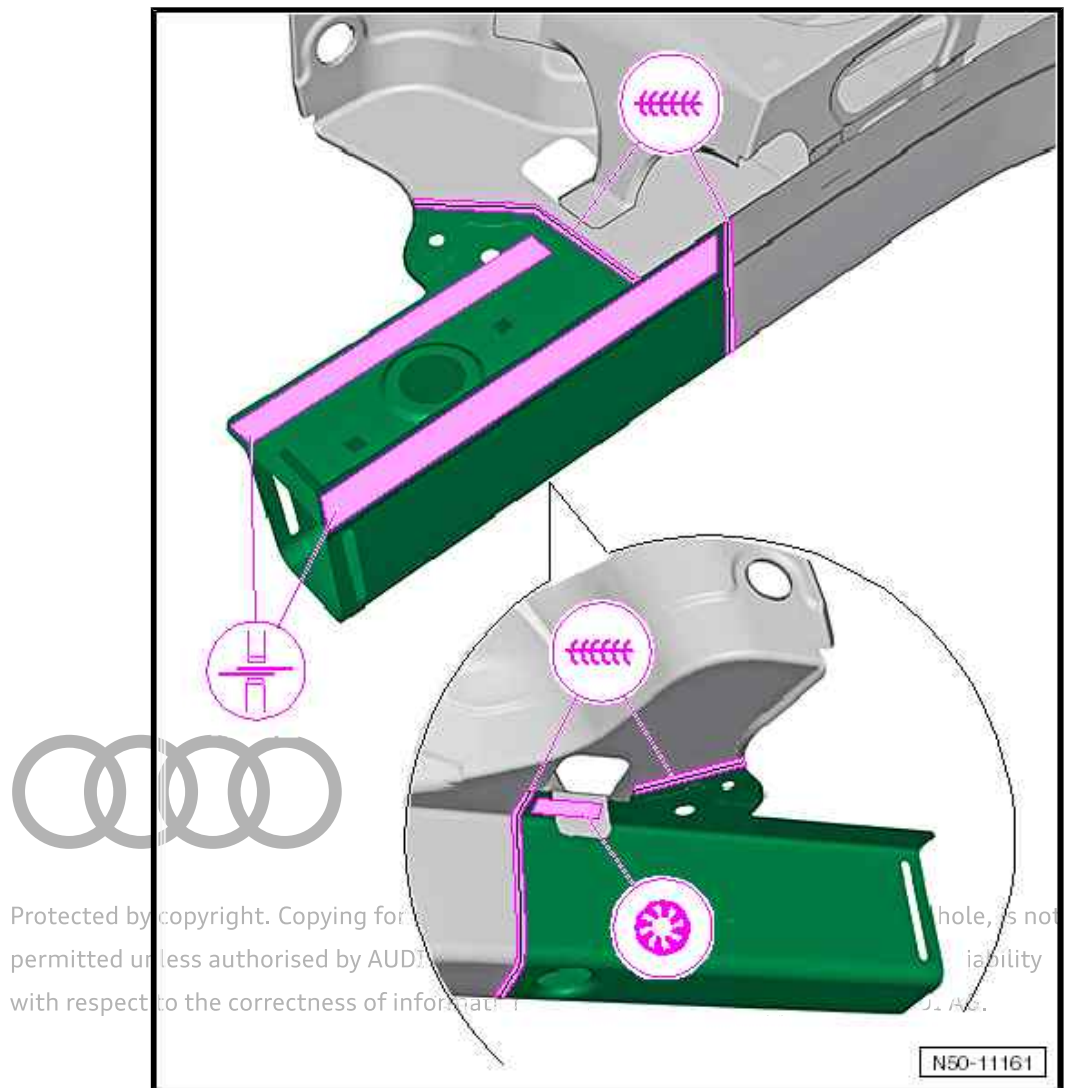
Drill holes (8 mm Ø) in longitudinal member for SG plug weld seam using drill .



- Match up new part with vehicle positioned on alignment bracket set and fix in place.

Welding in

- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.
- Weld in longitudinal member (part section) using resistance spot welder : RP spot weld seam.



Audi A1 quattro only

Note

After renewal, a cut-out -1- must be made on the top of the new longitudinal member (right-side) -2- (Audi A1 quattro only).

- Make cut-out -1- according to dimensions shown.
- Radius of cut-out: approx. 37 mm.

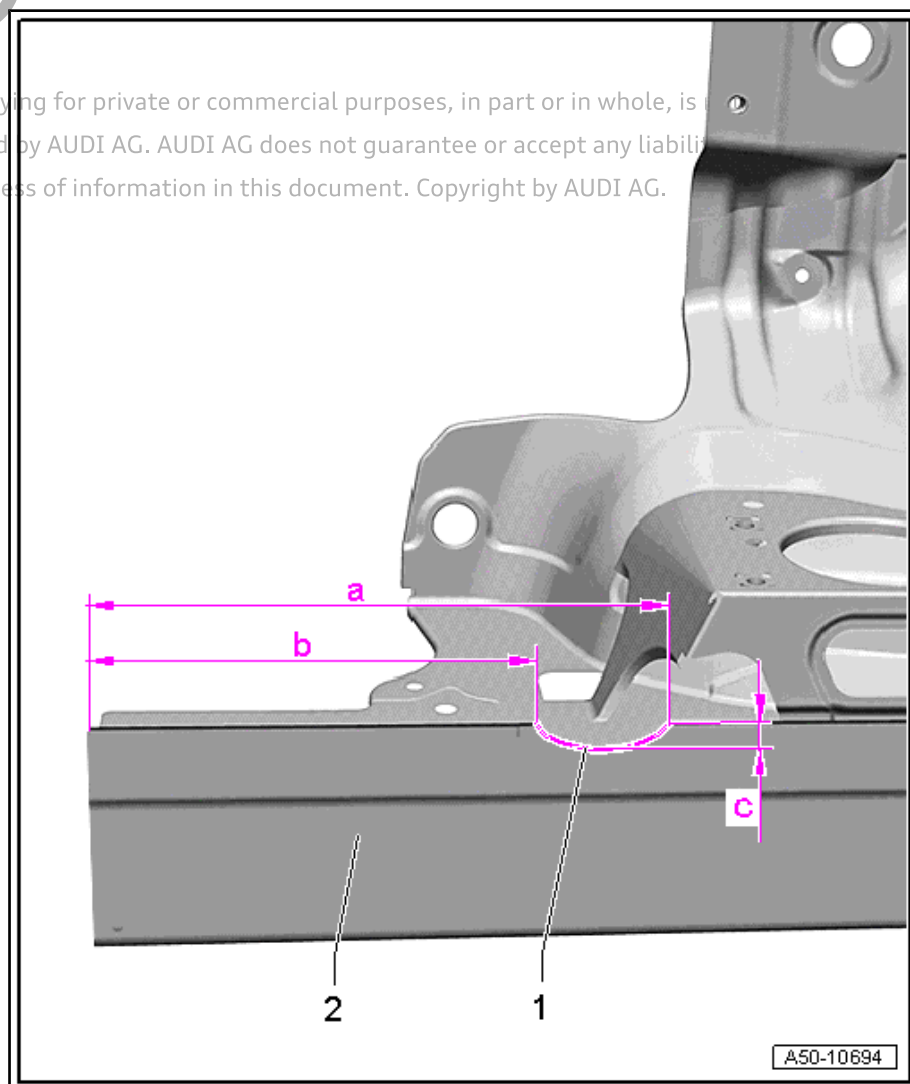
Dimension -a- = 237 mm

Dimension -b- = 180 mm

Dimension -c- = 11 mm



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- Weld in front bumper bracket ⇒ [page 52](#) .



51 – Body - centre

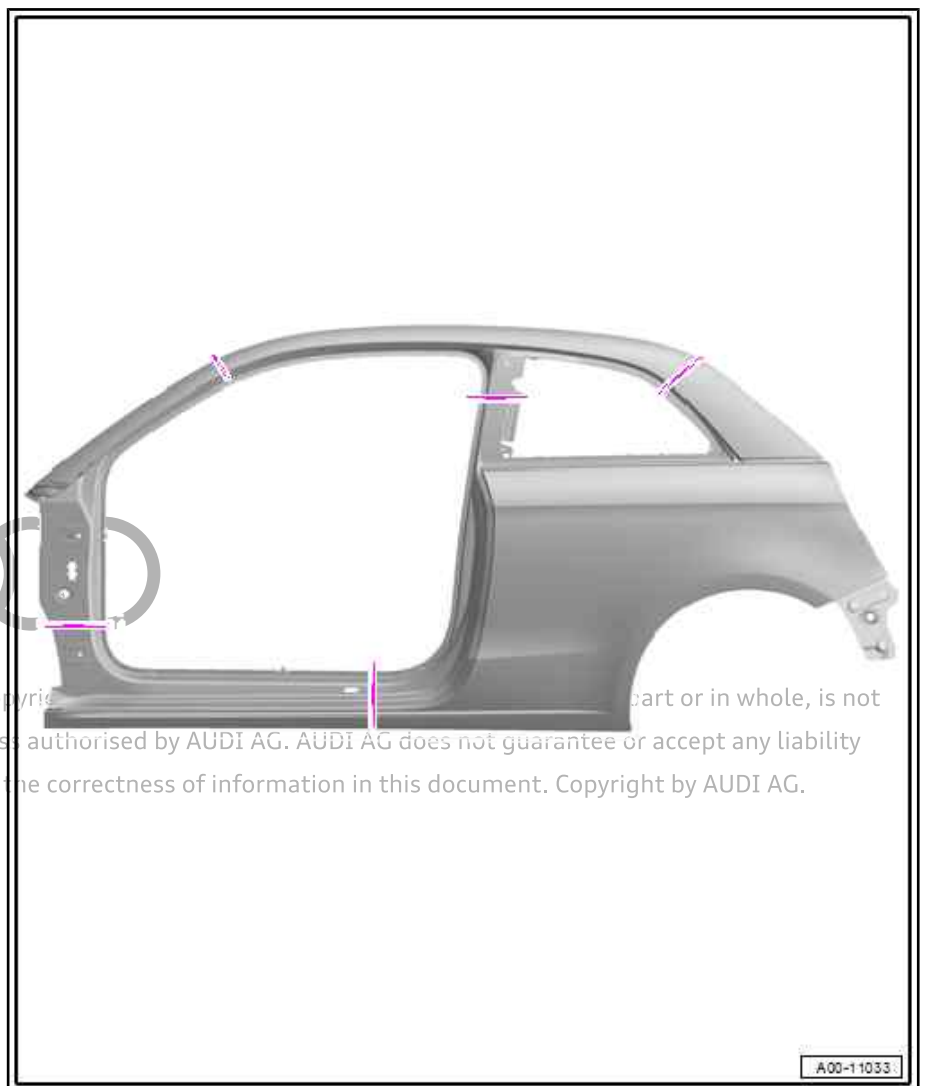
1 Permitted separating cuts on side panel



Note

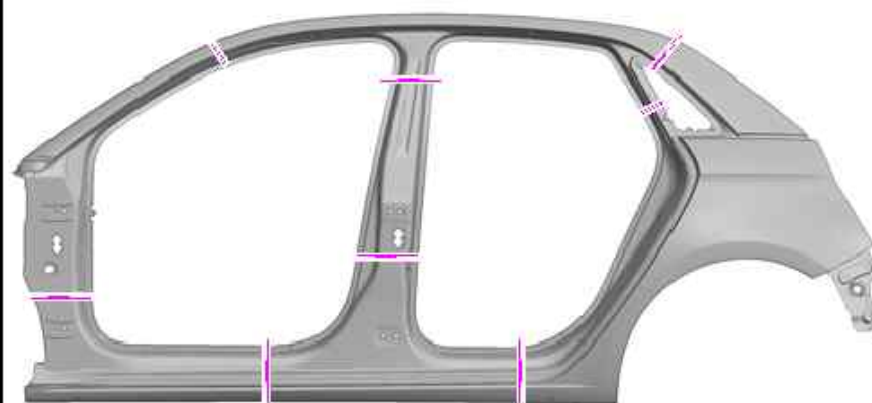
- ◆ Use only welding equipment approved by AUDI AG.
- ◆ SG continuous weld seams are approved for the separating cuts shown in the illustration.

A1



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A1 Sportback



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A00-11030



RO: 51 03 55 00

2 Roof - Renewal

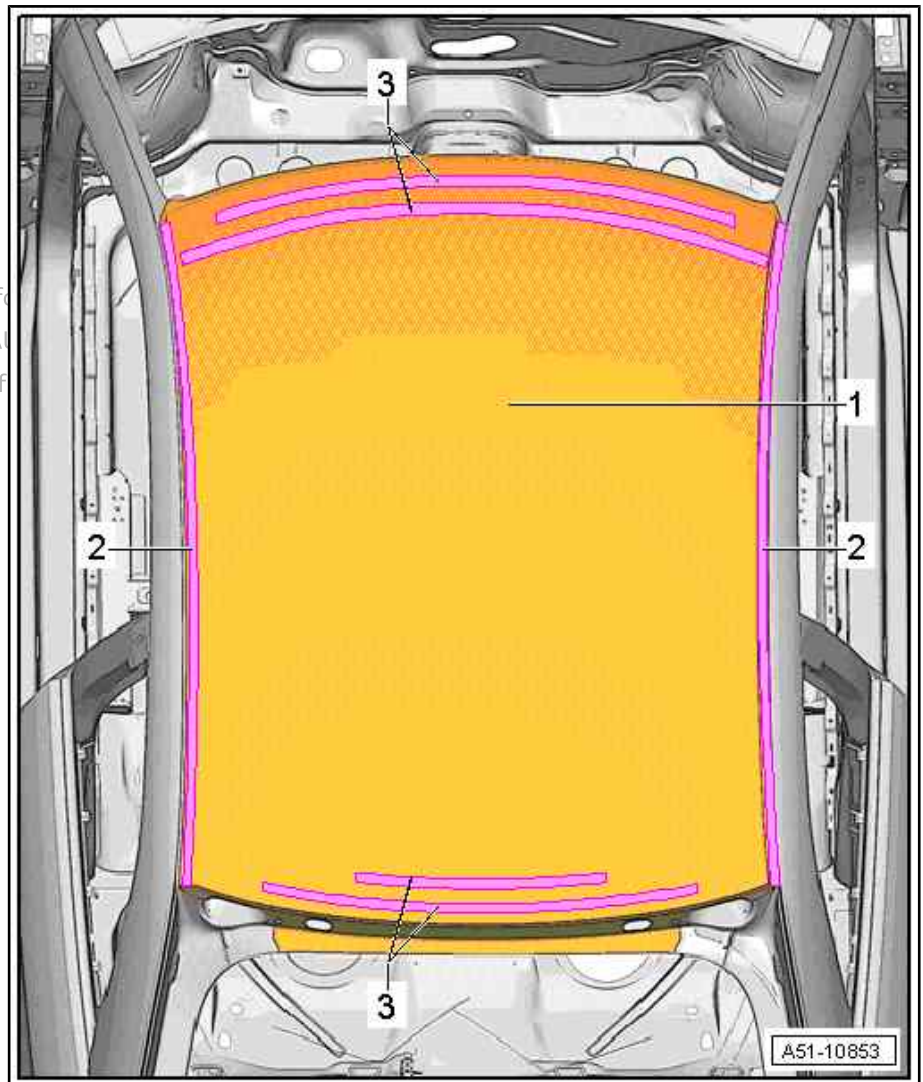
1 - Roof

2 - Laser weld seam

3 - Bonded area



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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

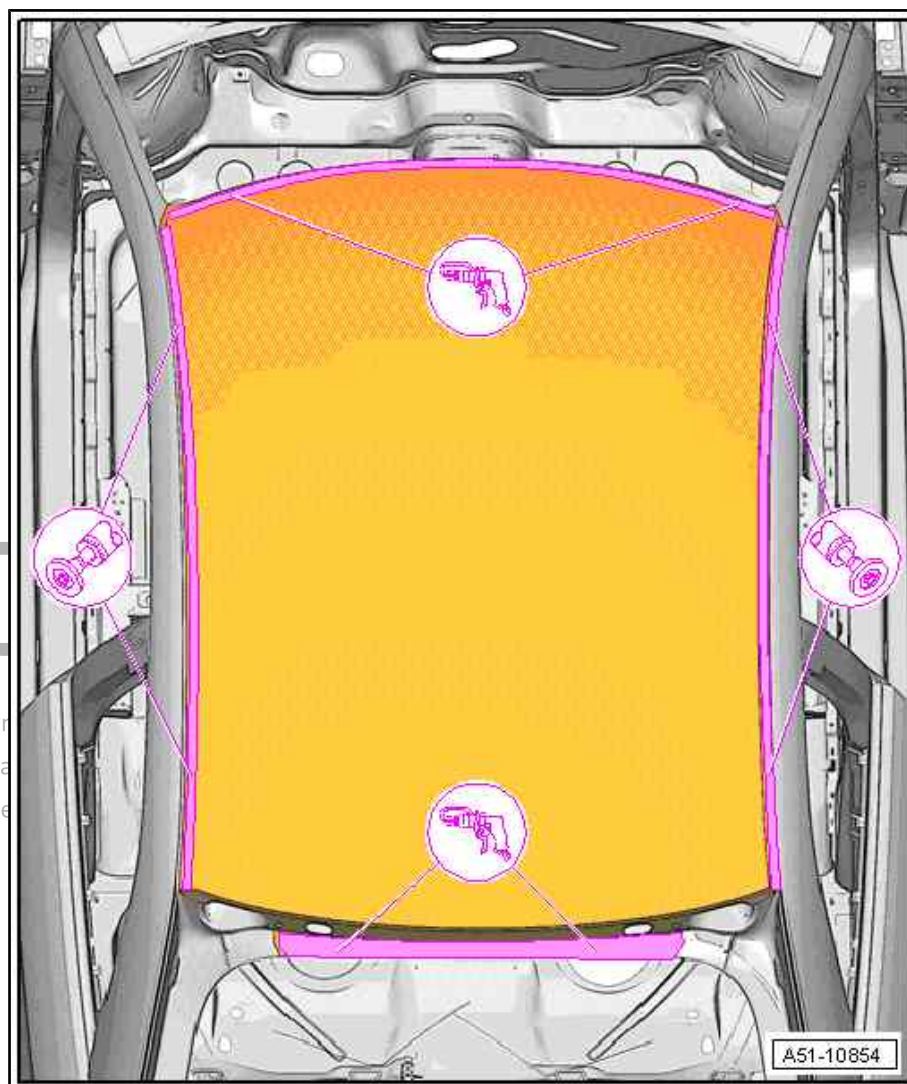
Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work [⇒ page 37](#) .



2.2 Procedure

Cutting locations

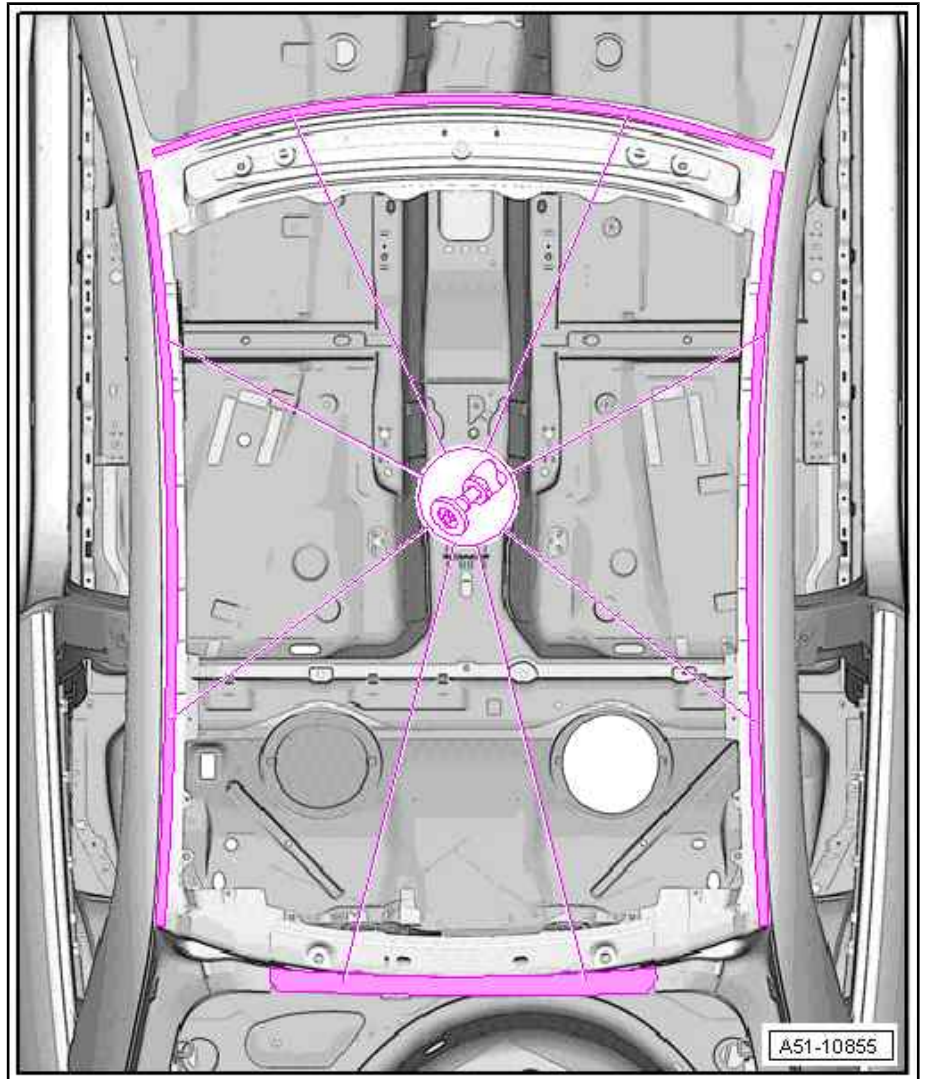
- Separate original joint using spot weld breaker .
- Grind open laser weld seam using laser weld seam grinder .



- 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.



Replacement parts

- ◆ Roof
- ◆ Single-component assembly adhesive - D 190 MKD A3-

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Note

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It is important to keep to the following procedure to ensure a satisfactory and effective roof repair.



Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



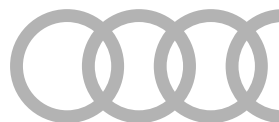
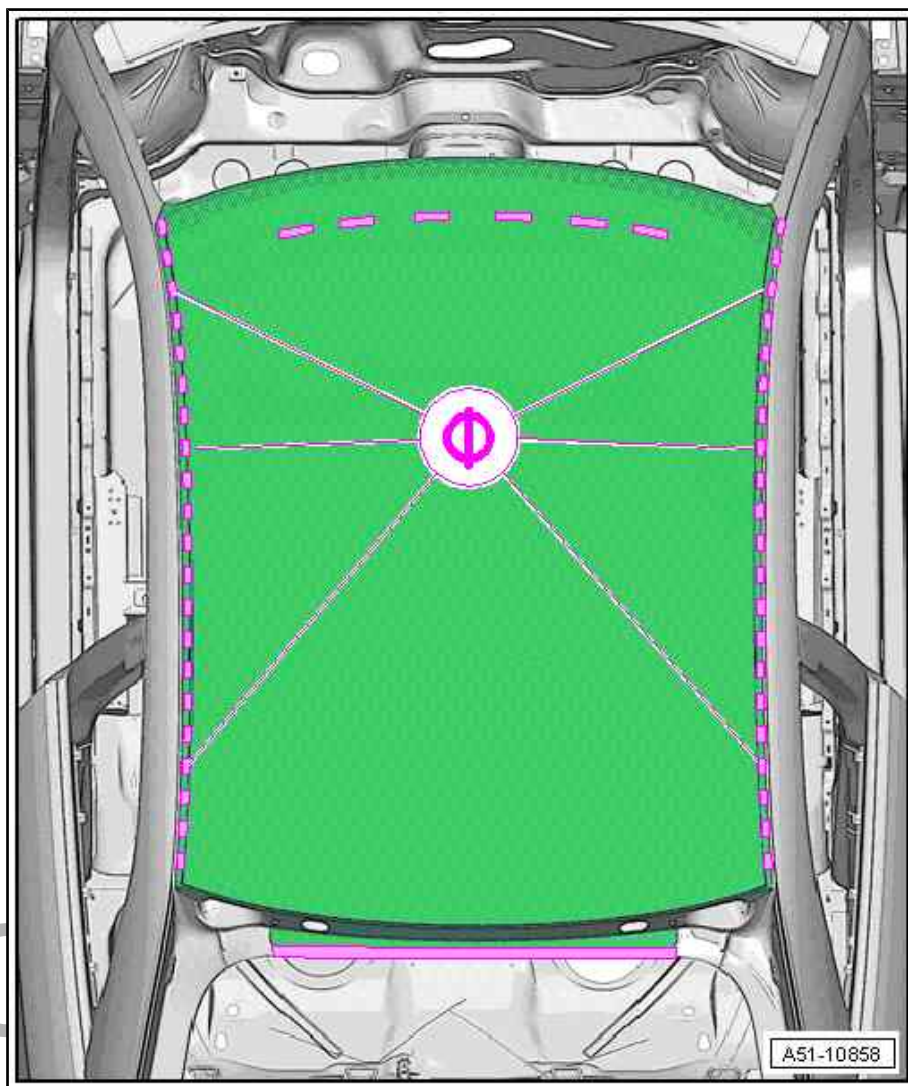
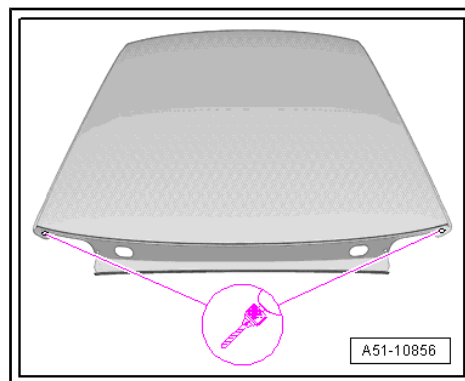
Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Fit roof and fix in place.
- Weld in roof at roof channel using shielded arc welding equipment : SG stepped seam (stitch weld).

Length of seam = 20 mm + 5 mm with 20 mm spacing

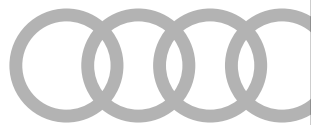
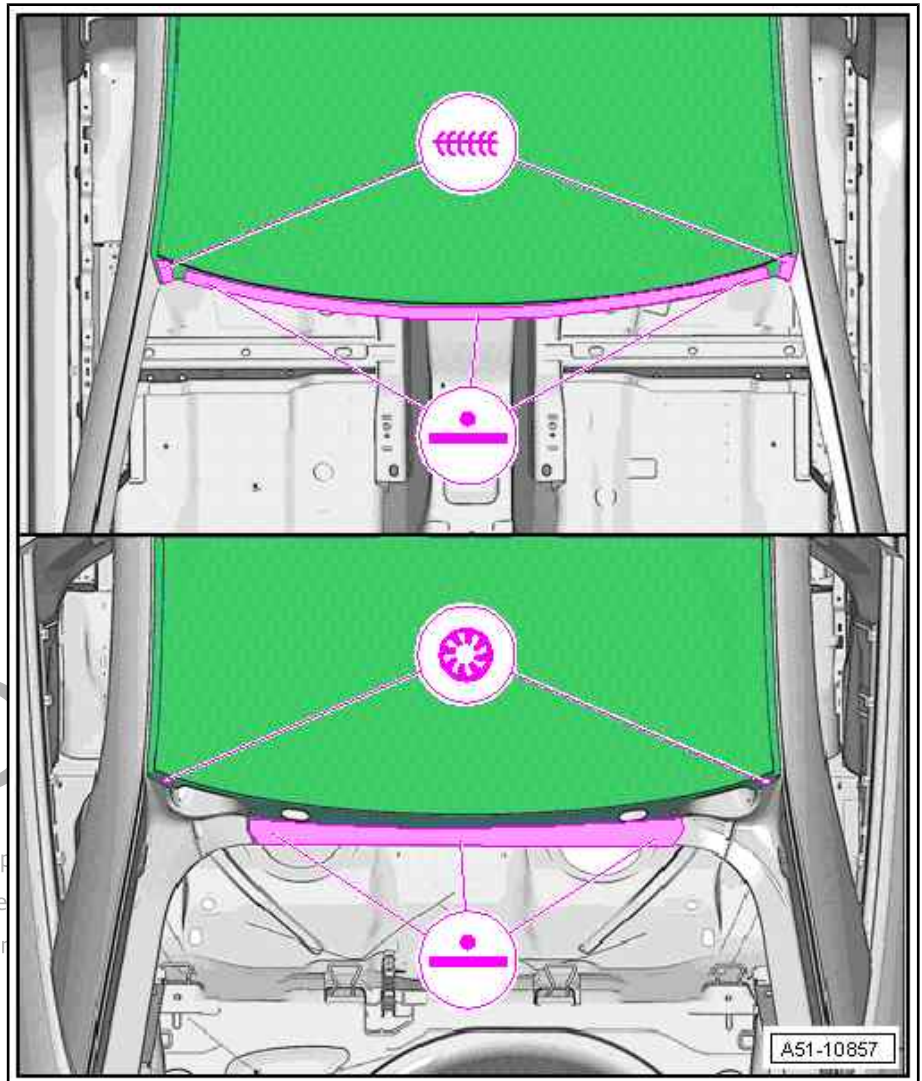


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- Weld in roof using resistance spot welder : RP spot weld seam.
- Make additional weld for roof at front using shielded arc welding equipment : SG continuous seam.



- Make additional weld for roof at rear using shielded arc welding equipment : SG plug weld seam.



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RO: 51 23 55 00

3 Roof - Renewal (vehicles with panoramic tilting sunroof)

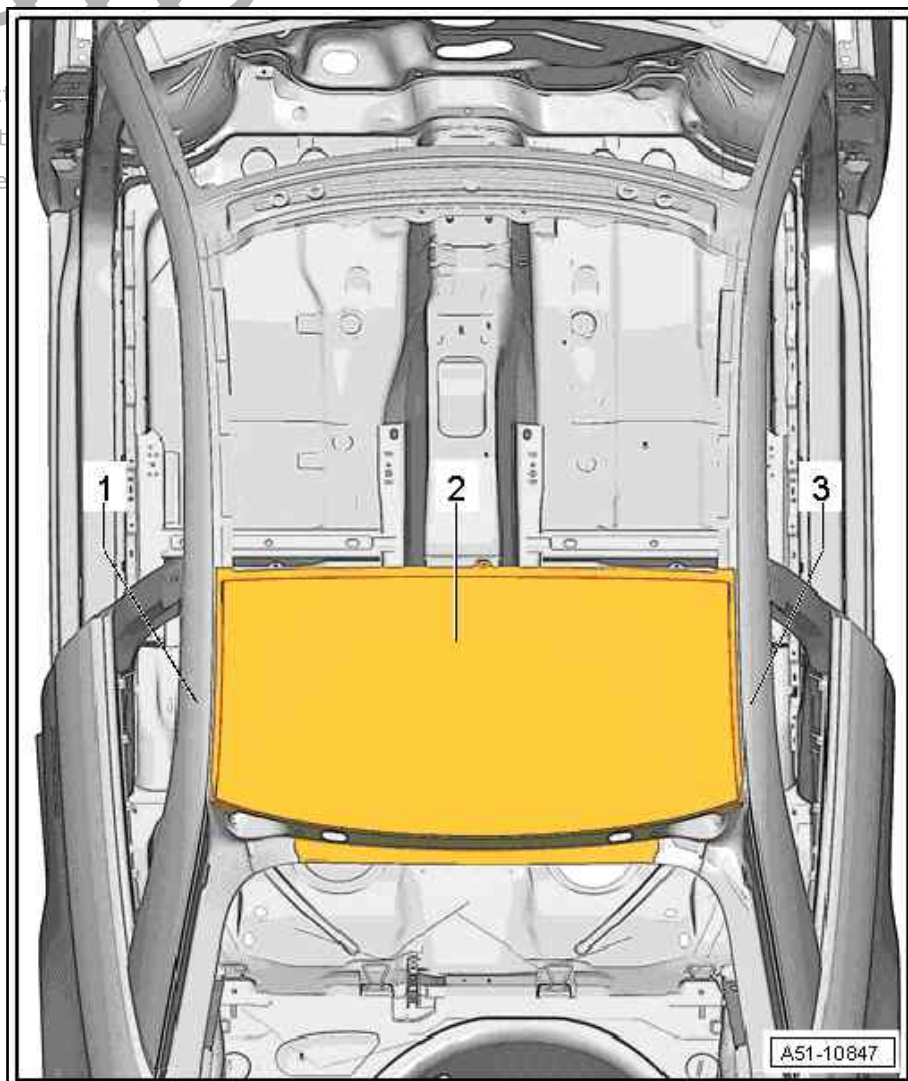
1 - Side panel (left-side)

2 - Roof

3 - Side panel (right-side)

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3.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .

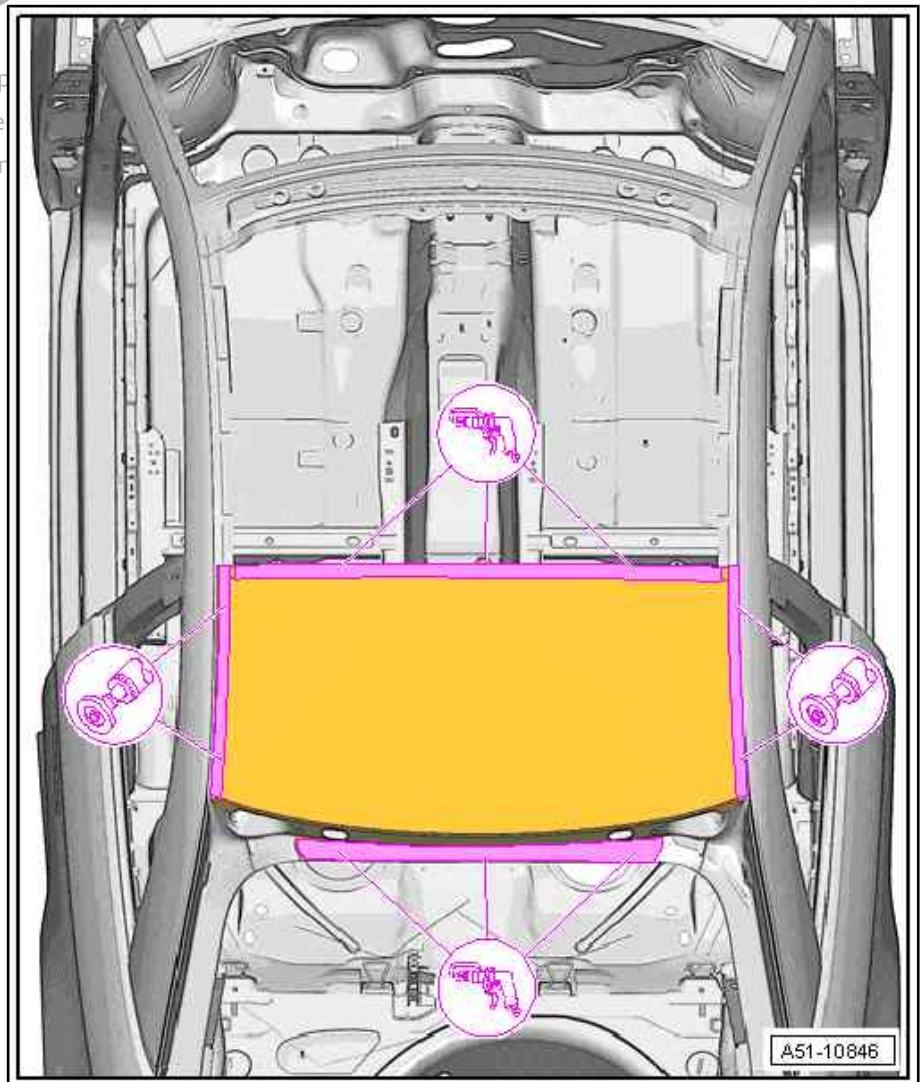


3.2 Procedure

Cutting locations

- Separate laser weld seam using laser weld seam grinder .
- Working from passenger compartment, separate bonded joints between roof and roof cross members using electric cutter .
- Separate original joint using spot weld breaker .

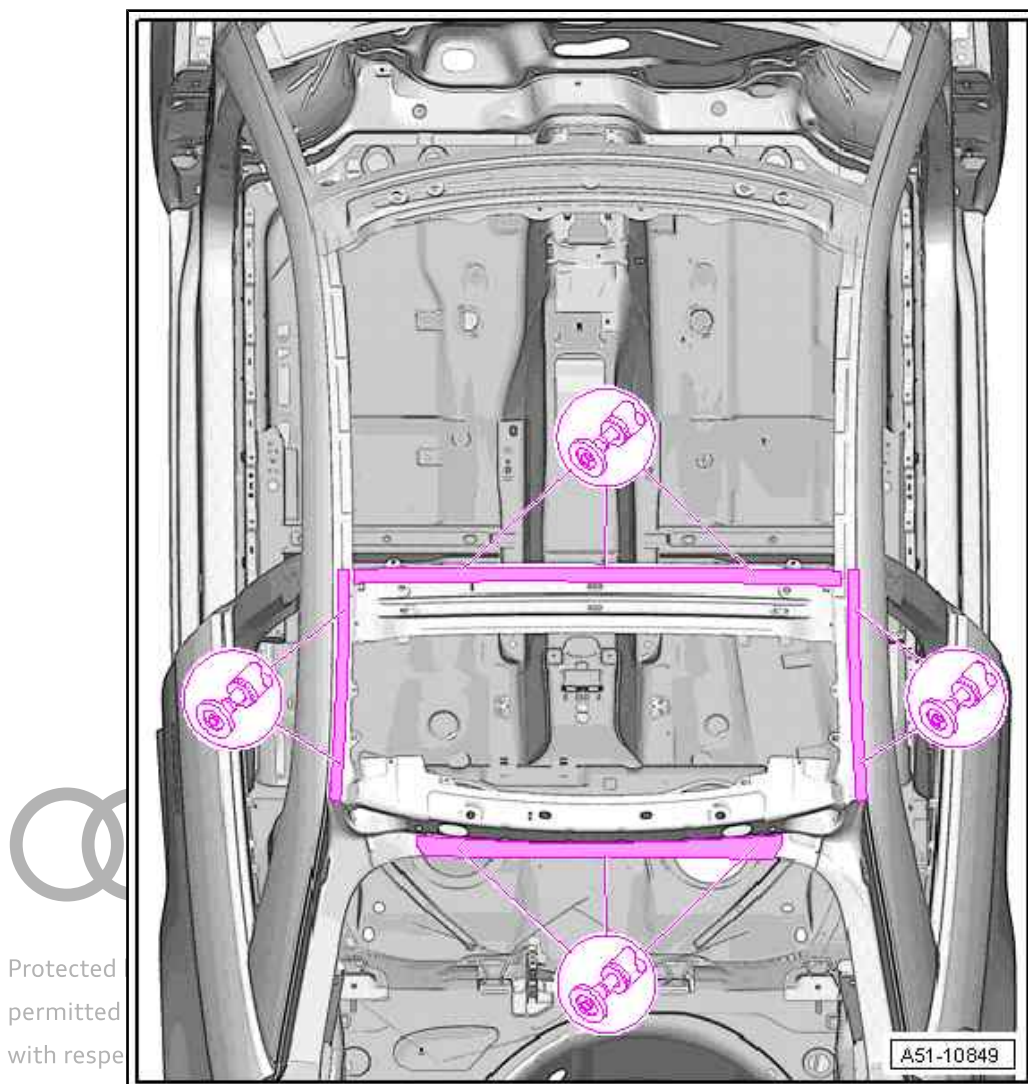
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- Remove remaining material using compact angle grinder .

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

Do not use cutting discs or rough-filing discs.



Replacement part

- ◆ Roof with tilting sunroof



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 before bonding in centre roof section.*



Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



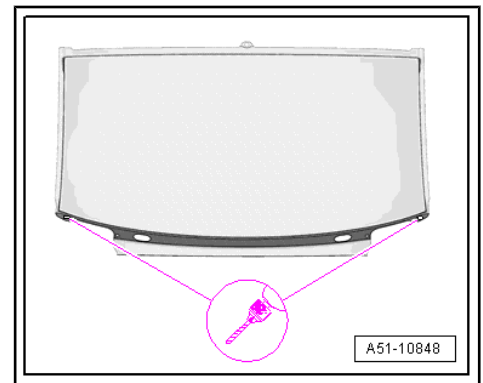
Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

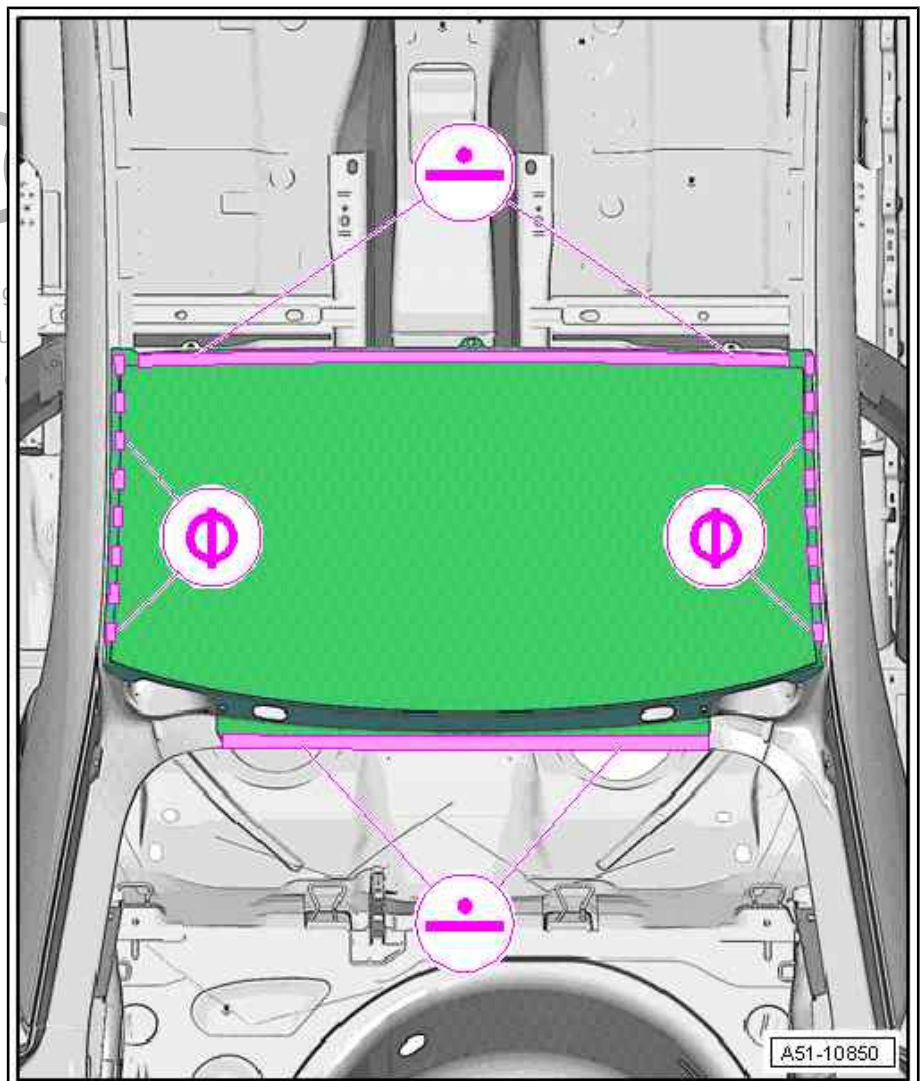
Welding in

- Weld in roof using resistance spot welder : RP spot weld seam.
- Weld in roof at roof channel using shielded arc welding equipment : SG stepped seam (stitch weld).

Length of seam = 20 mm + 5 mm with 20 mm spacing

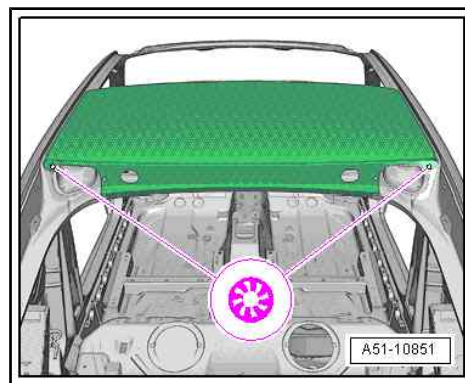


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- Make additional weld for roof using shielded arc welding equipment : SG plug weld seam.



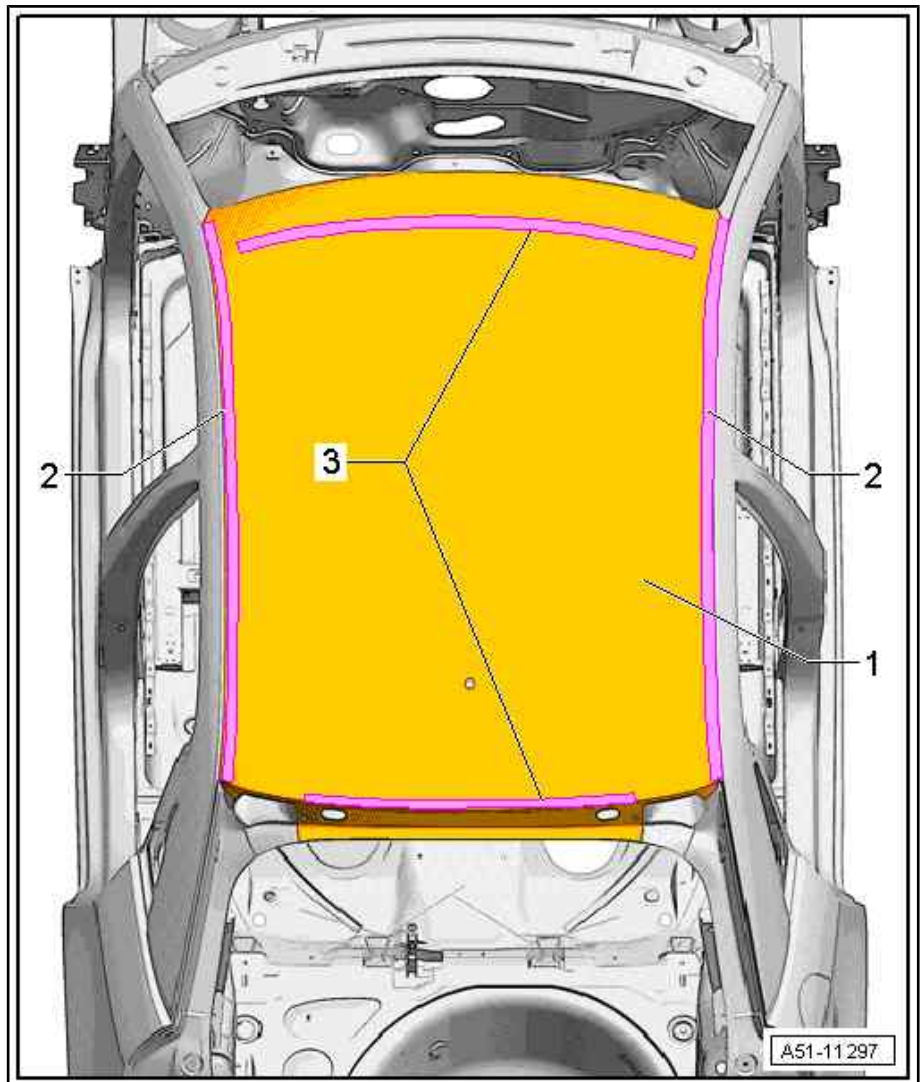
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RO: 51 03 55 00

4 Roof - Renewal (Sportback)

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



4.1 Tools

Special tools and workshop equipment required

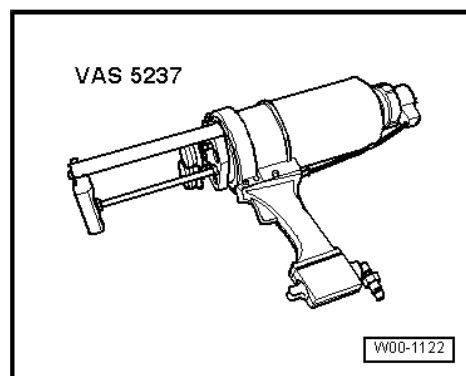
- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ Drill
- ◆ Suction lifter - V.A.G 1344- , 4x
- ◆ Setting gauge
- ◆ Body saw
- ◆ Spot weld breaker
- ◆ Compressed-air gun
- ◆ Mole grips, 18-18
- ◆ Tensioning strap



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- ◆ Double cartridge gun - VAS 6453-
- ◆ Double cartridge gun - VAS 5237-



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1 - 2-component window adhesive - DA 004 660 M2 -

- Open cap.

2 - Static mixer

3 - Extension hose

Part number 000 809 937

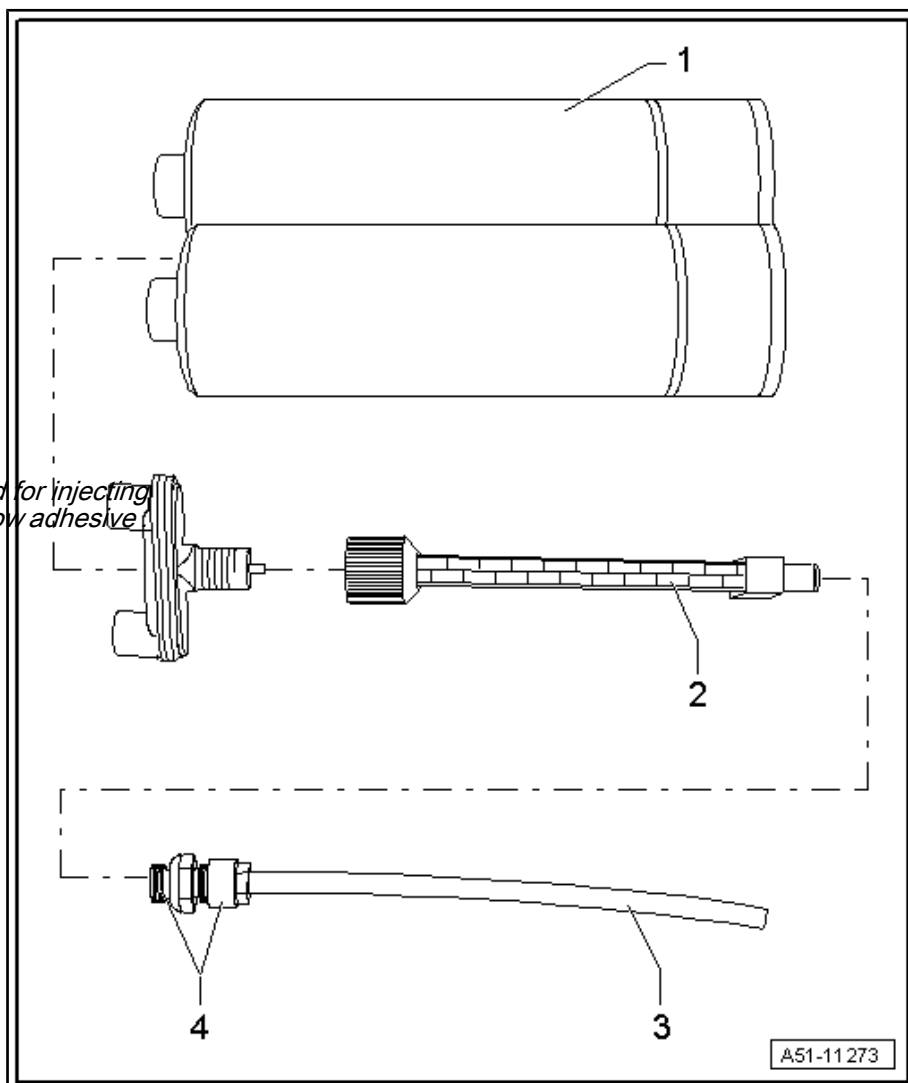
- Screw onto static mixer -2- with adapter -4-.

4 - Adapter



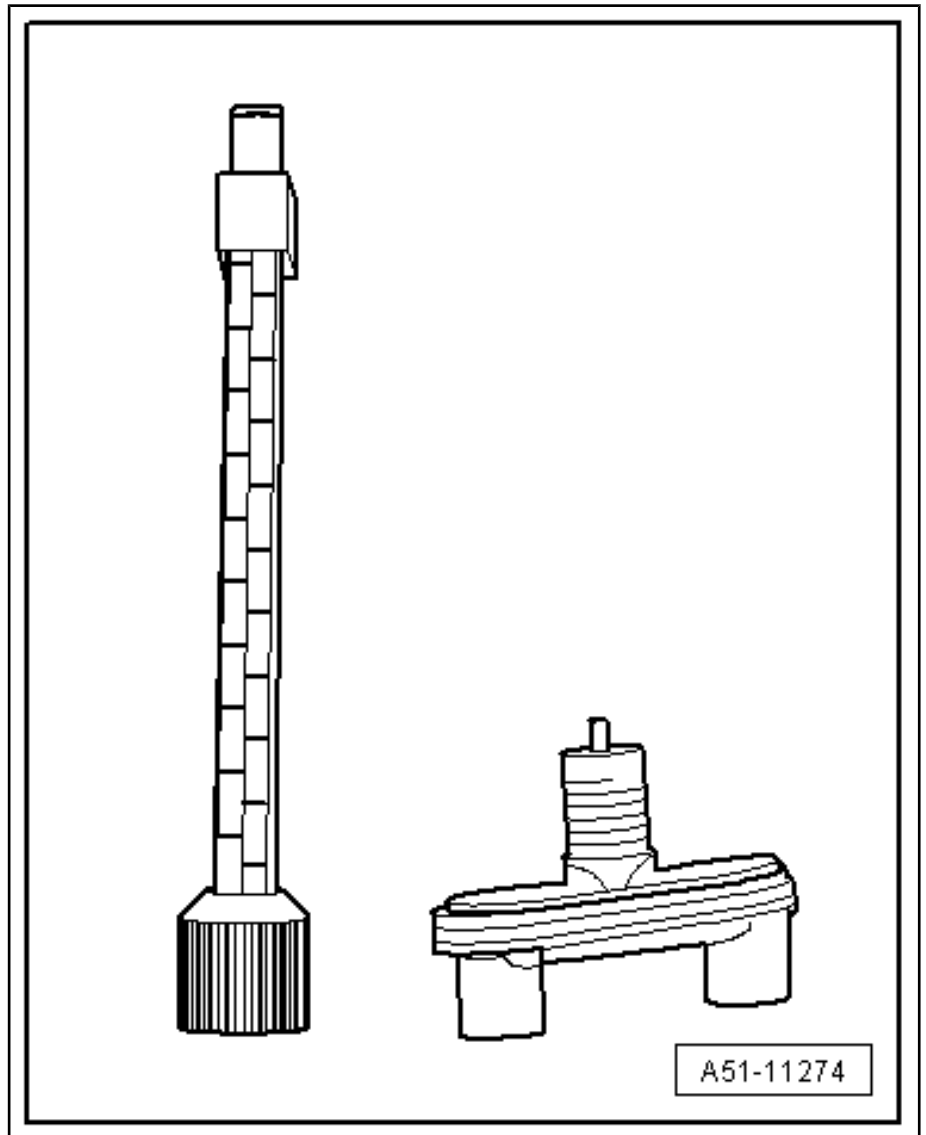
Note

The adapter is required for injecting the 2-component window adhesive.



Instructions for using extension hose for window adhesive

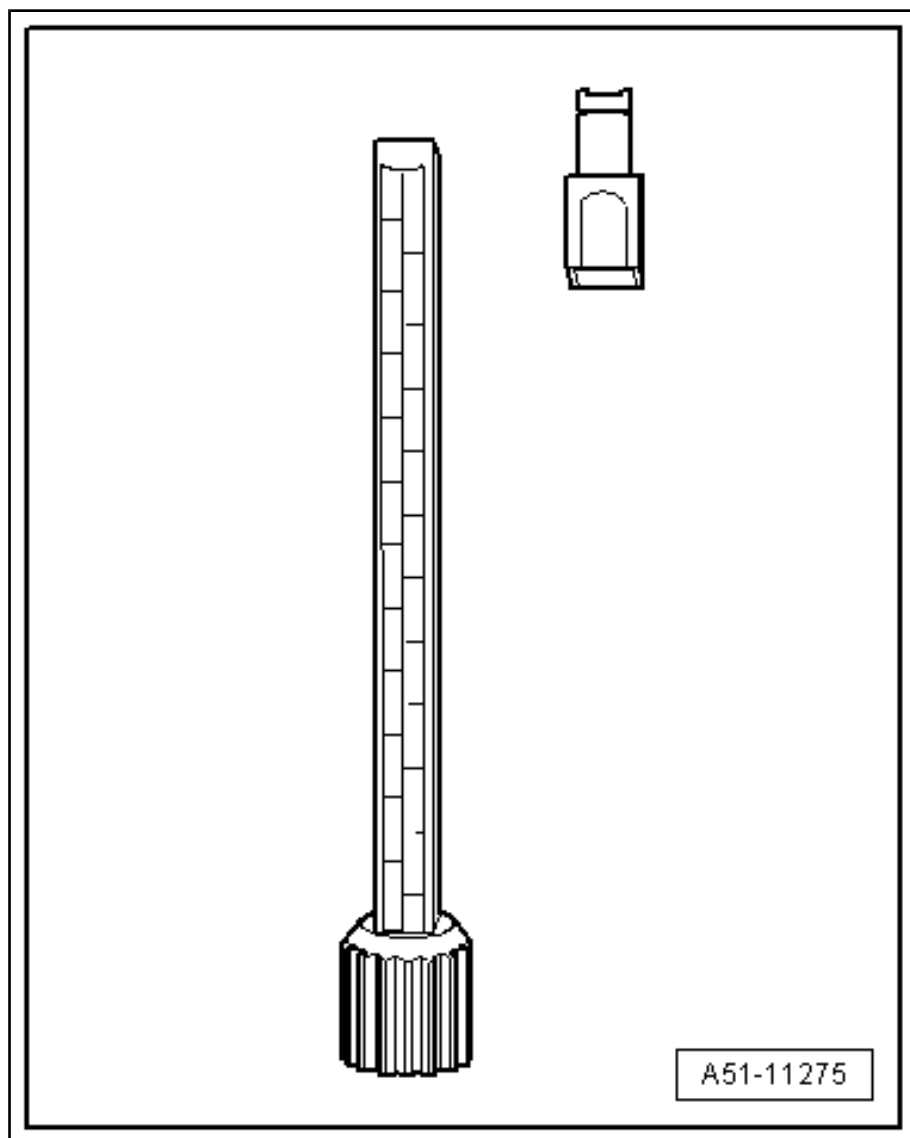
- Take static mixer out of window adhesive kit.



- Remove front cap from static mixer.



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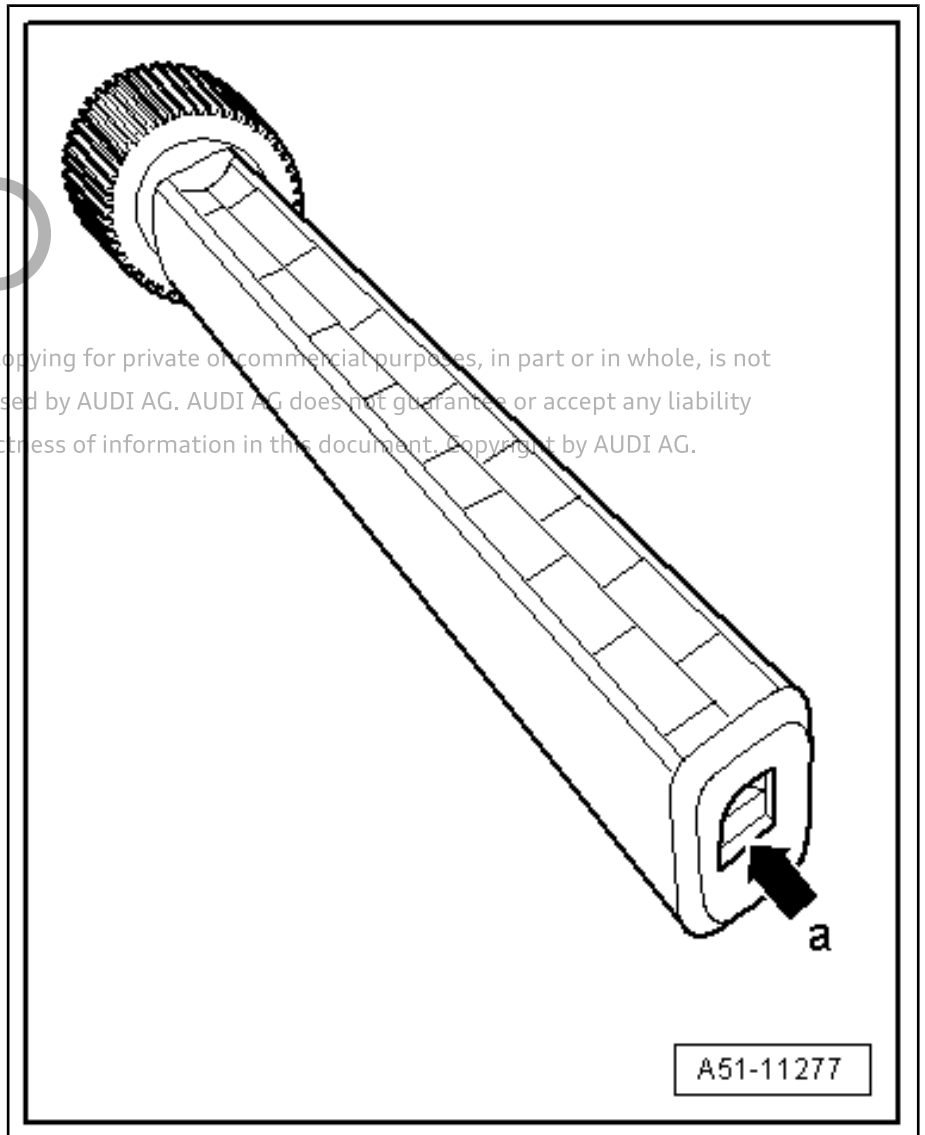
- Drill out opening in static mixer -a- to 9 mm Ø using drill .



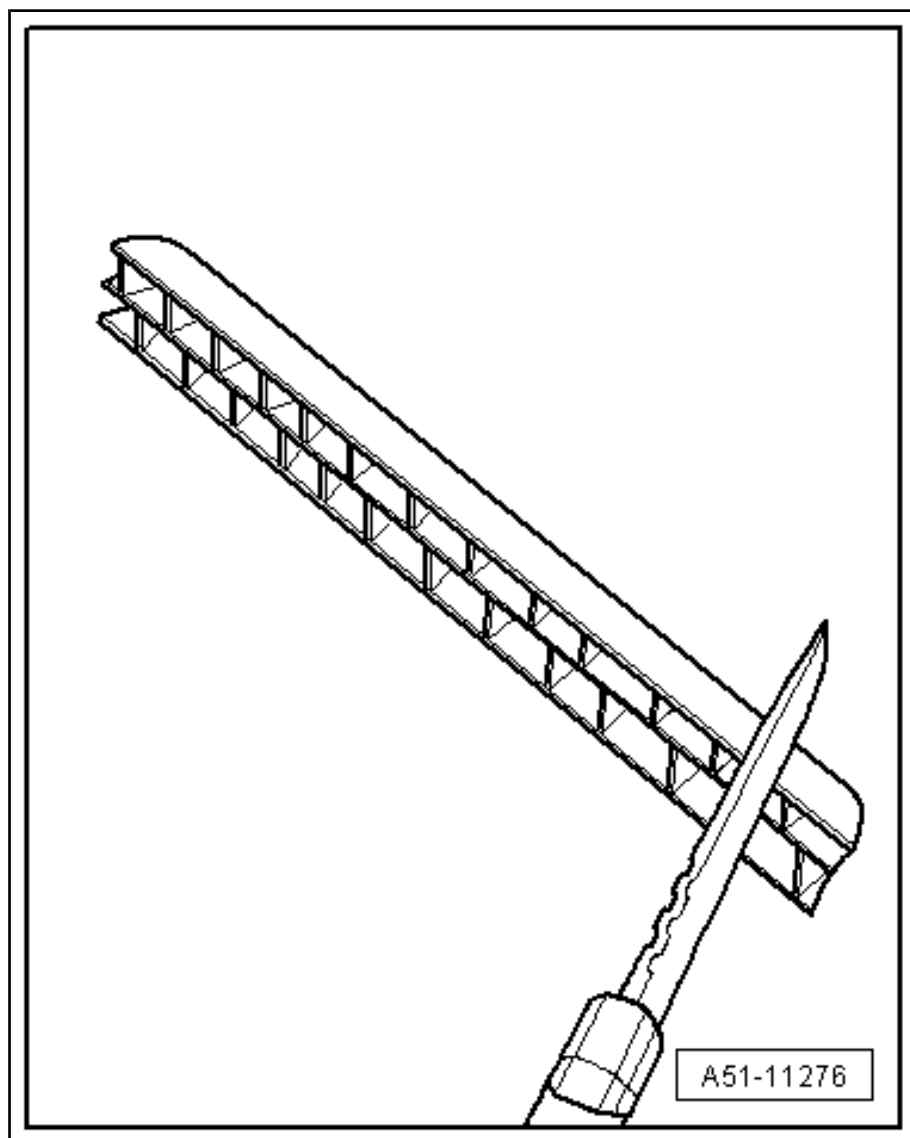
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- Shorten inner section of mixer so that hose can be screwed in fully.



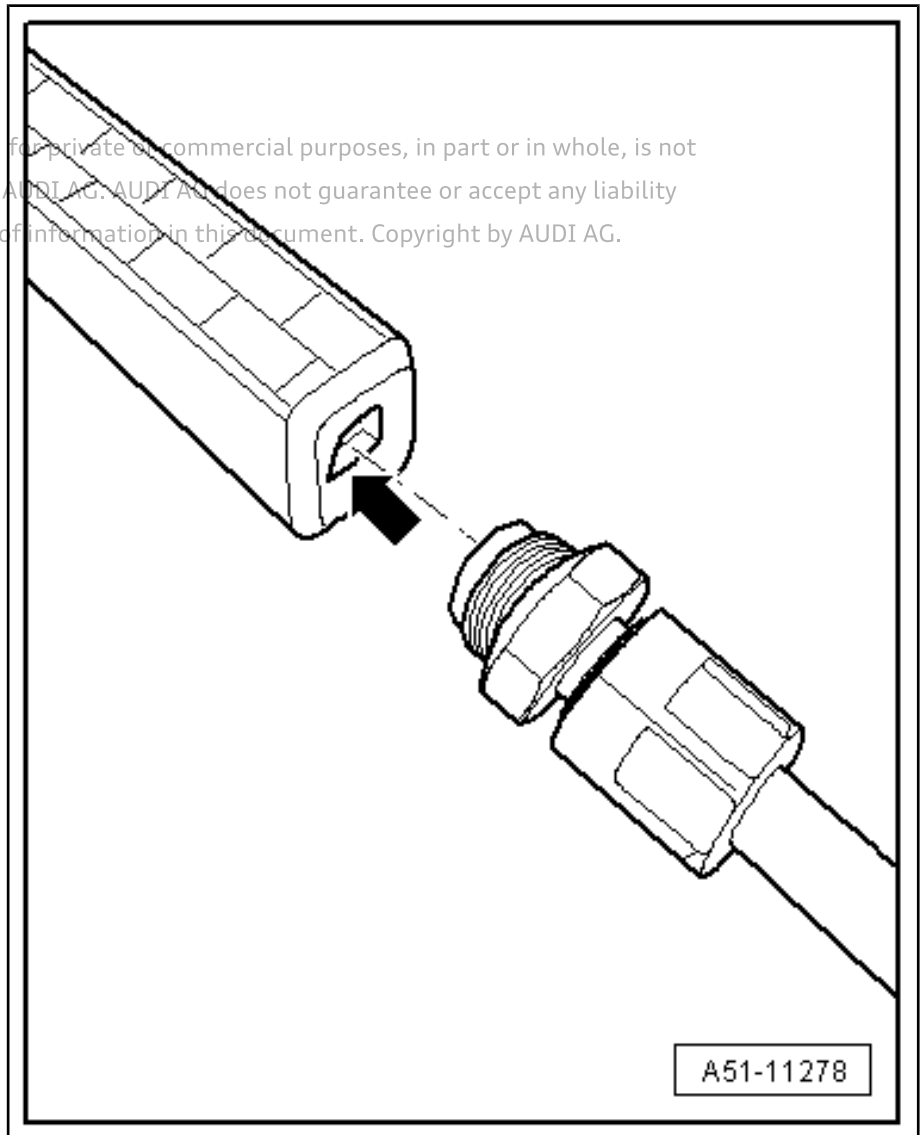
- Screw extension hose onto mixer.



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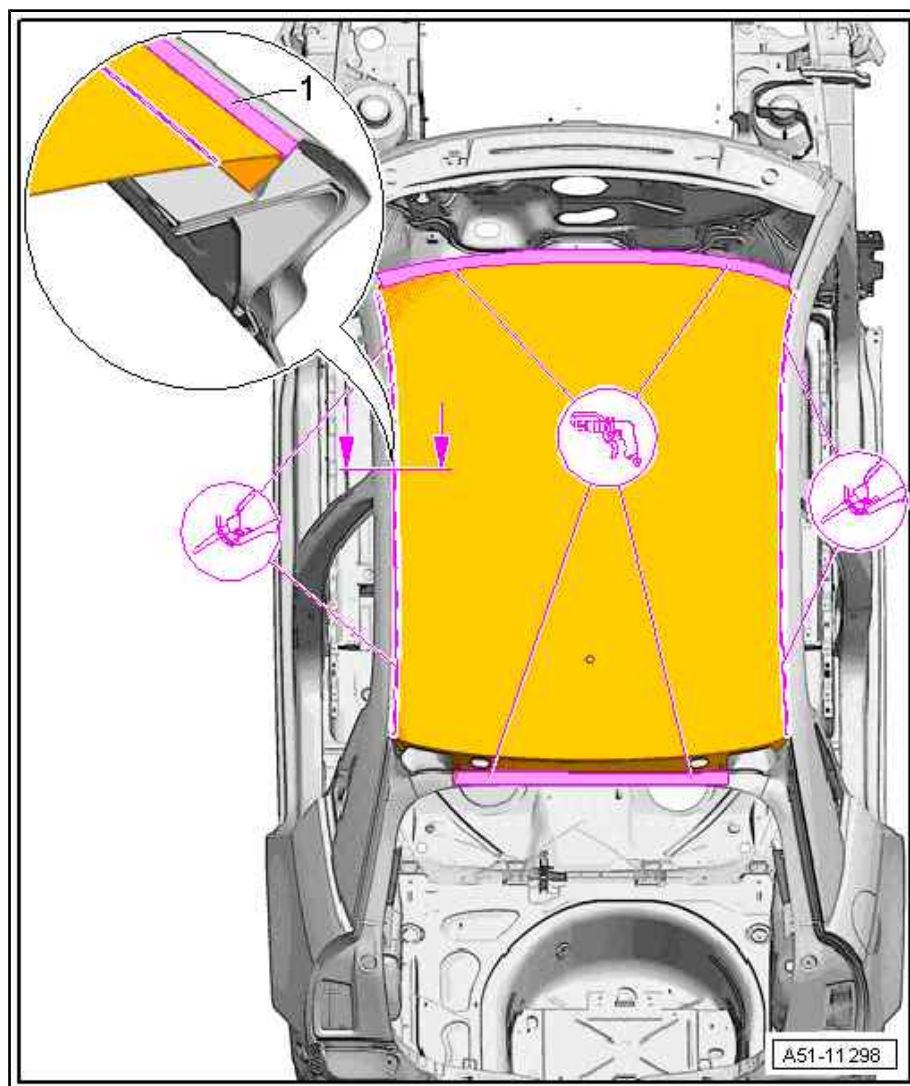
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4.2 Procedure

Cutting locations

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



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.

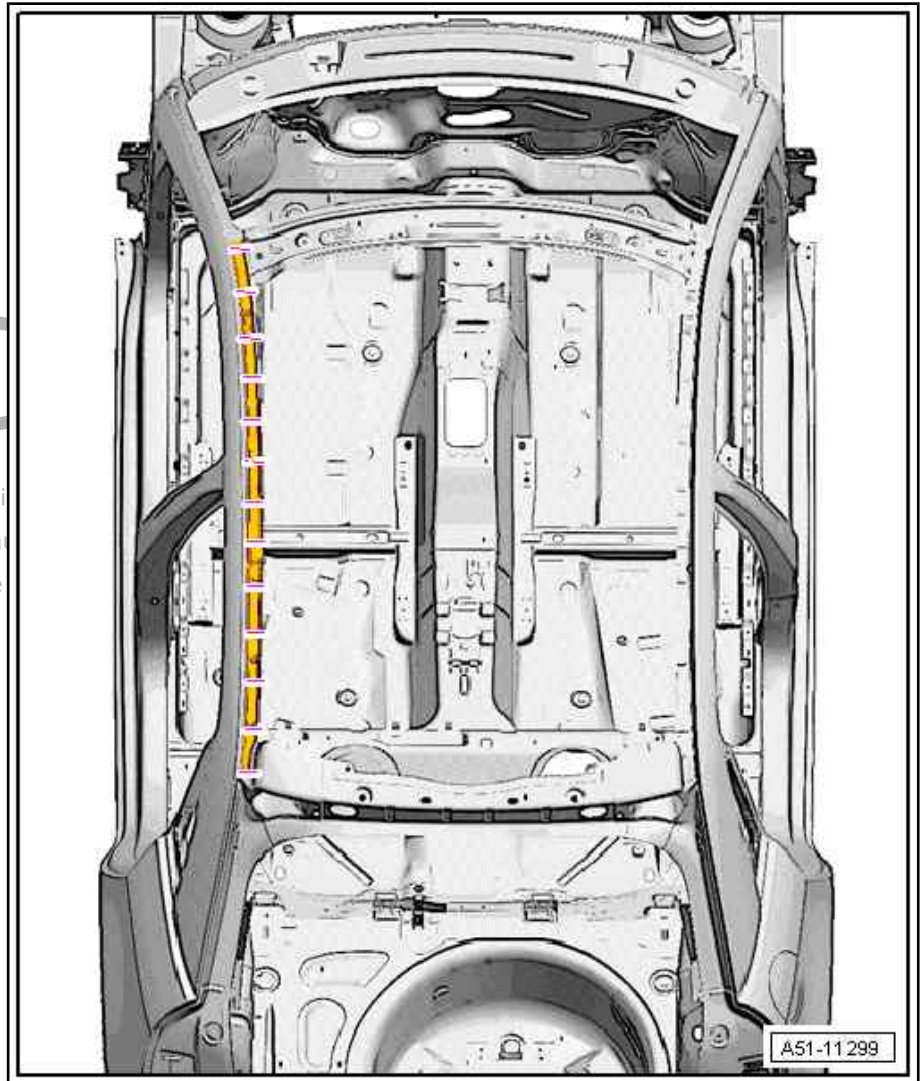
- Make cuts in remaining sections of roof using tin snips - VAS 5357- .
- Grip remaining sections with pliers and break open plasmatron weld seam by moving up and down.



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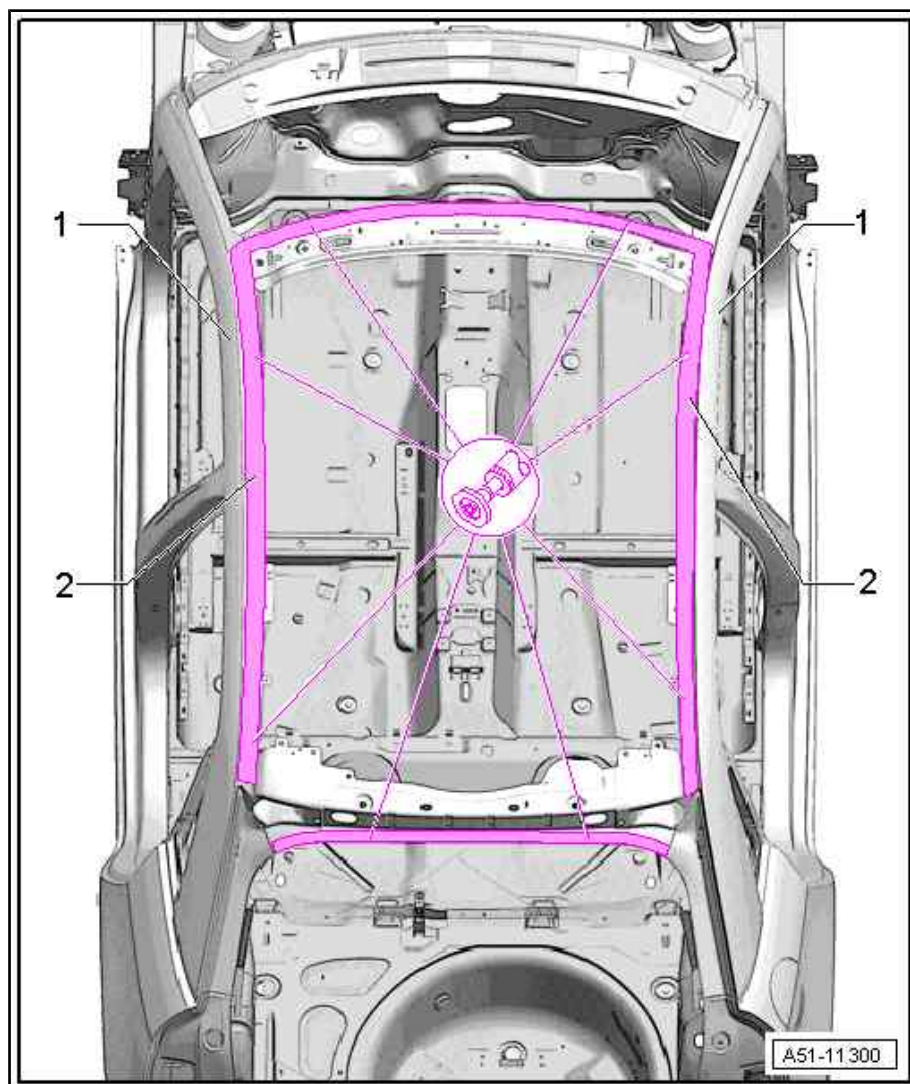


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Note

- ◆ *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 - VAS 5448- .
- Grind bonding areas down to bare metal.



Replacement parts

- ◆ Roof
- ◆ 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-
- ◆ 2-component window adhesive - DA 004 660 M2 - , 2 sets of cartridges
- ◆ Glass and paint primer - D 009 200 02-



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Preparing new part



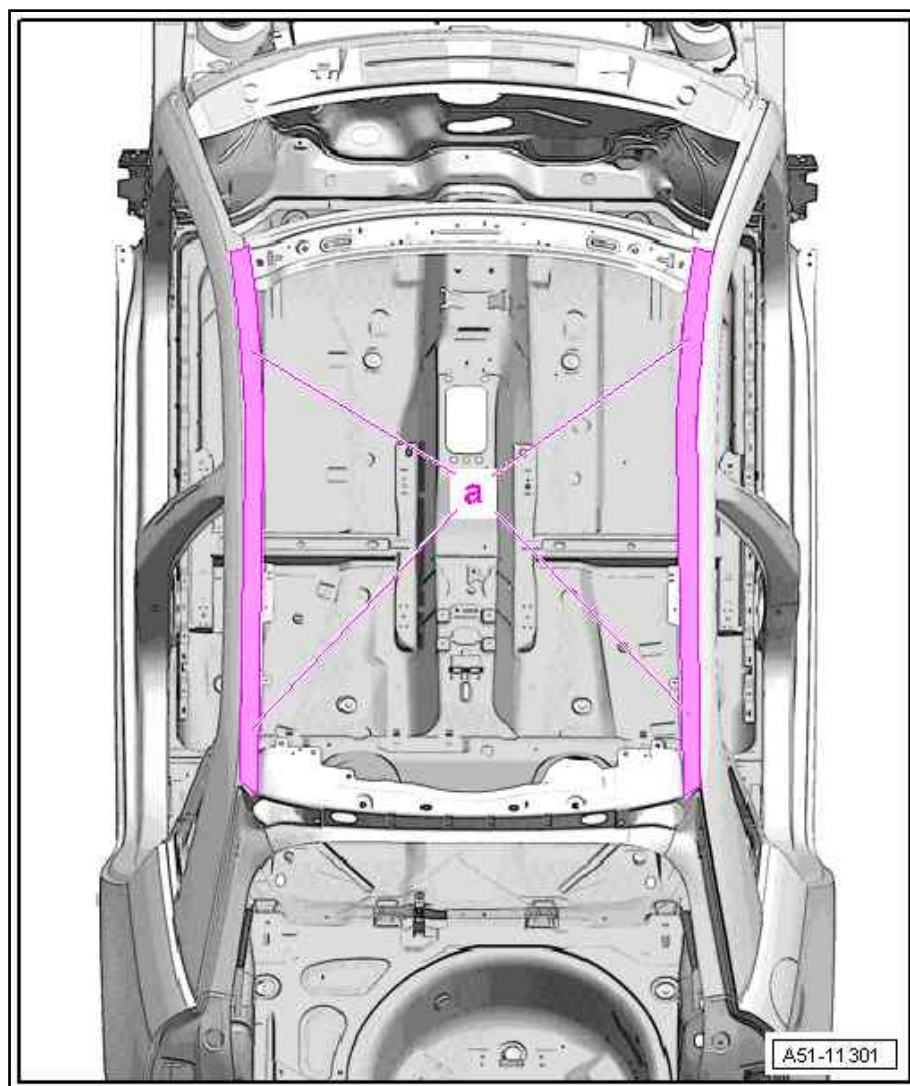
Note

- ◆ *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 (surfacers) 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

- 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.
- Remove roof.
- Apply glass and paint primer - D 009 200 02- in area of roof frame -a-.

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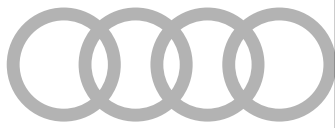
Dimension for aerial hole (standard roof)

- Drill aerial hole according to dimension -a- in centre of vehicle and widen to form a 15 x 15 mm square hole.

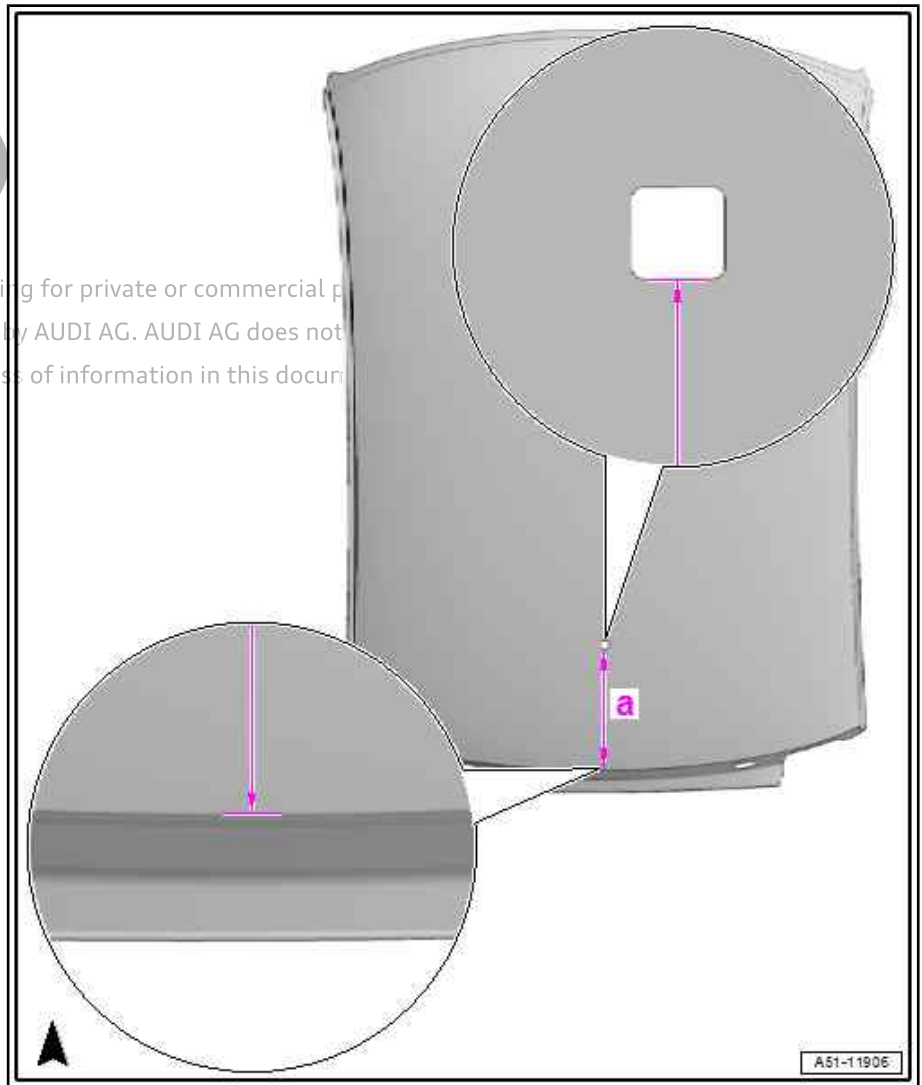
Dimension -a- = 282 mm



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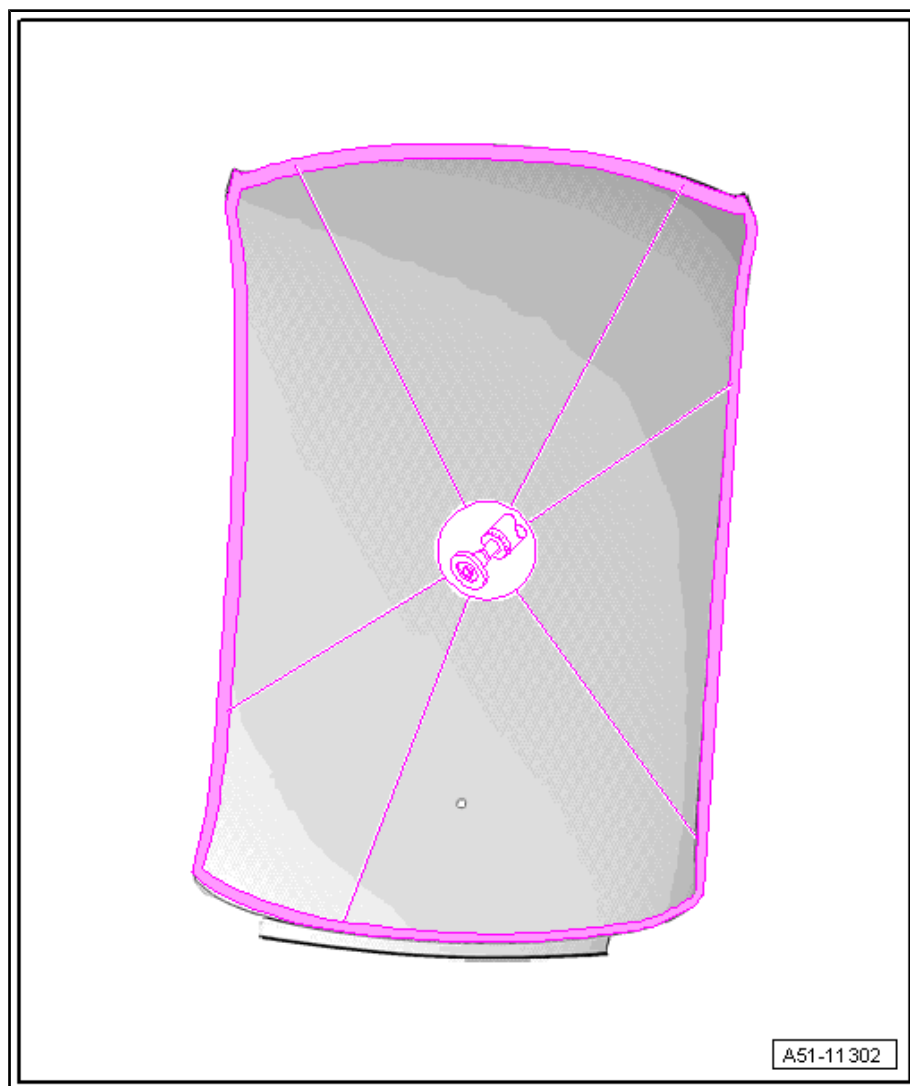


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- Grind bonding areas on roof and roof reinforcement (left and right) down to bare metal; grind welding areas on roof cross members down to bare metal.
- Grind outside of welding flanges at windscreen opening and rear lid opening down to bare metal.

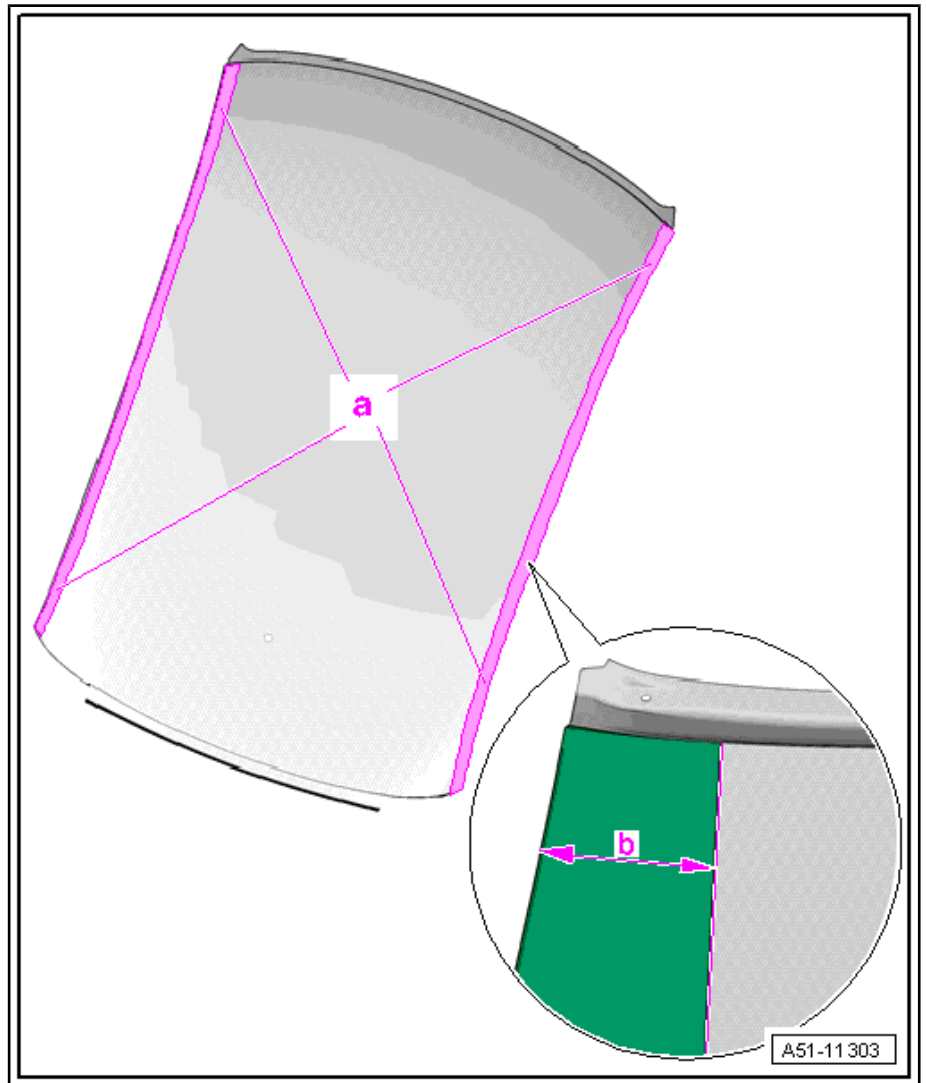
This ensures that the 2-component epoxy adhesive - DA 180 A00 A2 - forms a good joint with the bonding area.



- Mask outside of roof panel parallel with side bonding area using adhesive tape.
- Attach four suction lifters - V.A.G 1344- to outside of roof panel.
- Clean roof frame, roof reinforcement and roof with cleaning solution - D 009 401 04- .
- Apply glass and paint primer - D 009 200 02- approx. 5 cm wide -b- on inner section of roof and inner side flange -a-.

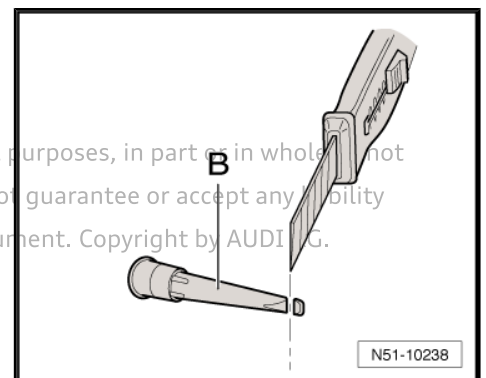


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- Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.

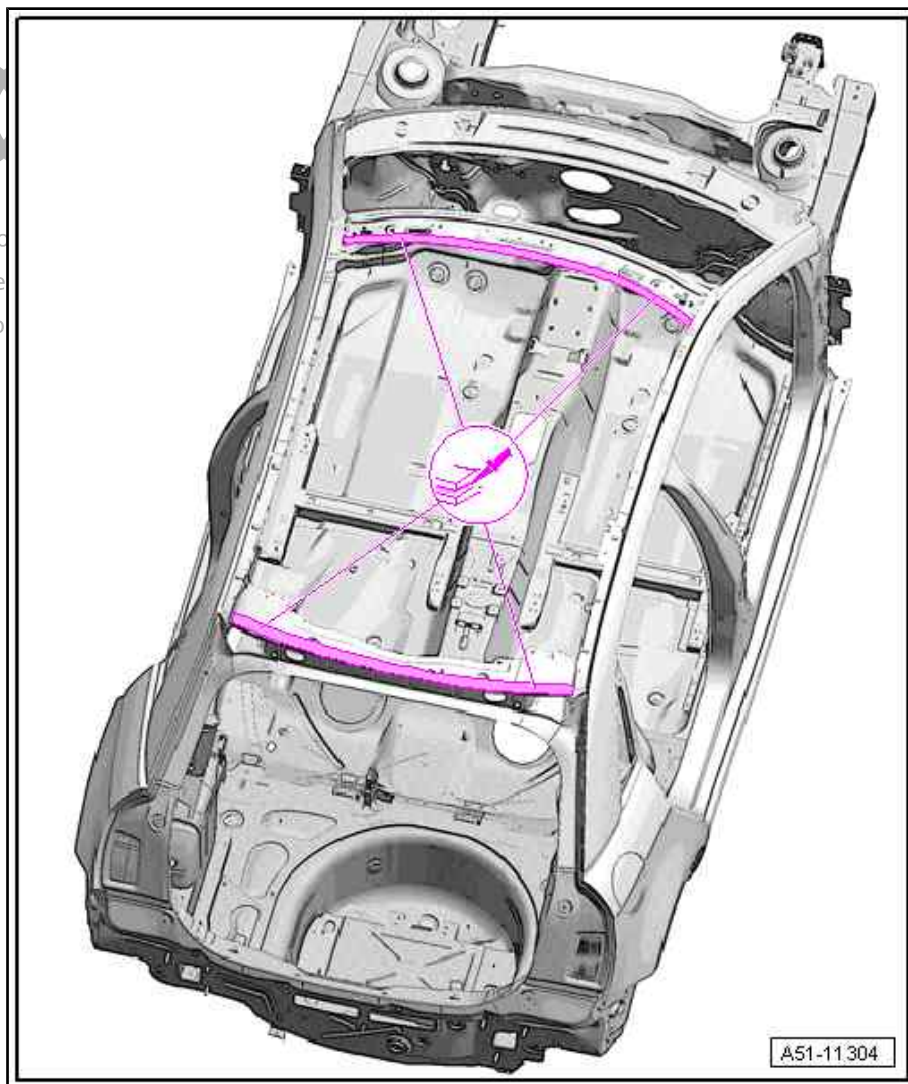
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- Apply single-component assembly adhesive - D 190 MKD A3- to roof cross members in the area of the factory bonding location using pneumatic cartridge gun - V.A.G 1761/1- .



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Preparing new part

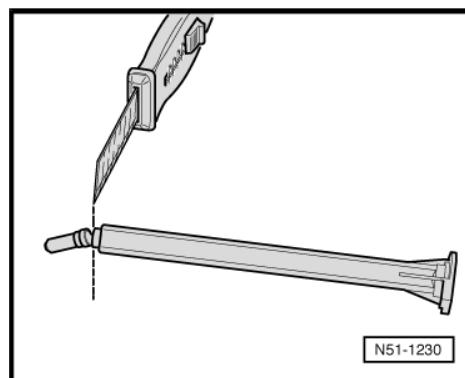
- Cut static mixer from 2-component epoxy adhesive set - DA 180 A00 A2 - down to 4th notch to obtain required bead cross section.



Note

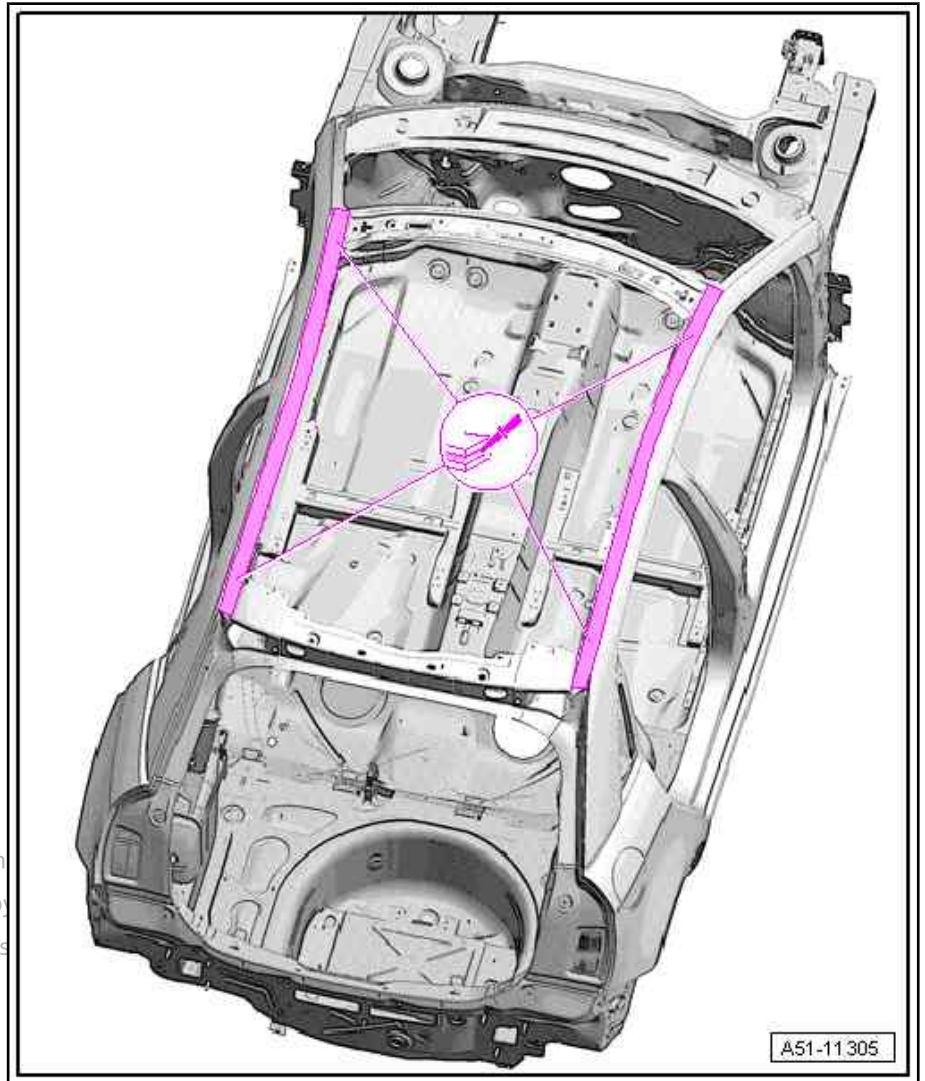
- ◆ *The pot life of the 2-component epoxy adhesive - DA 180 A00 A2 - is roughly 90 minutes.*
- ◆ *A second mechanic is required for the next steps.*

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

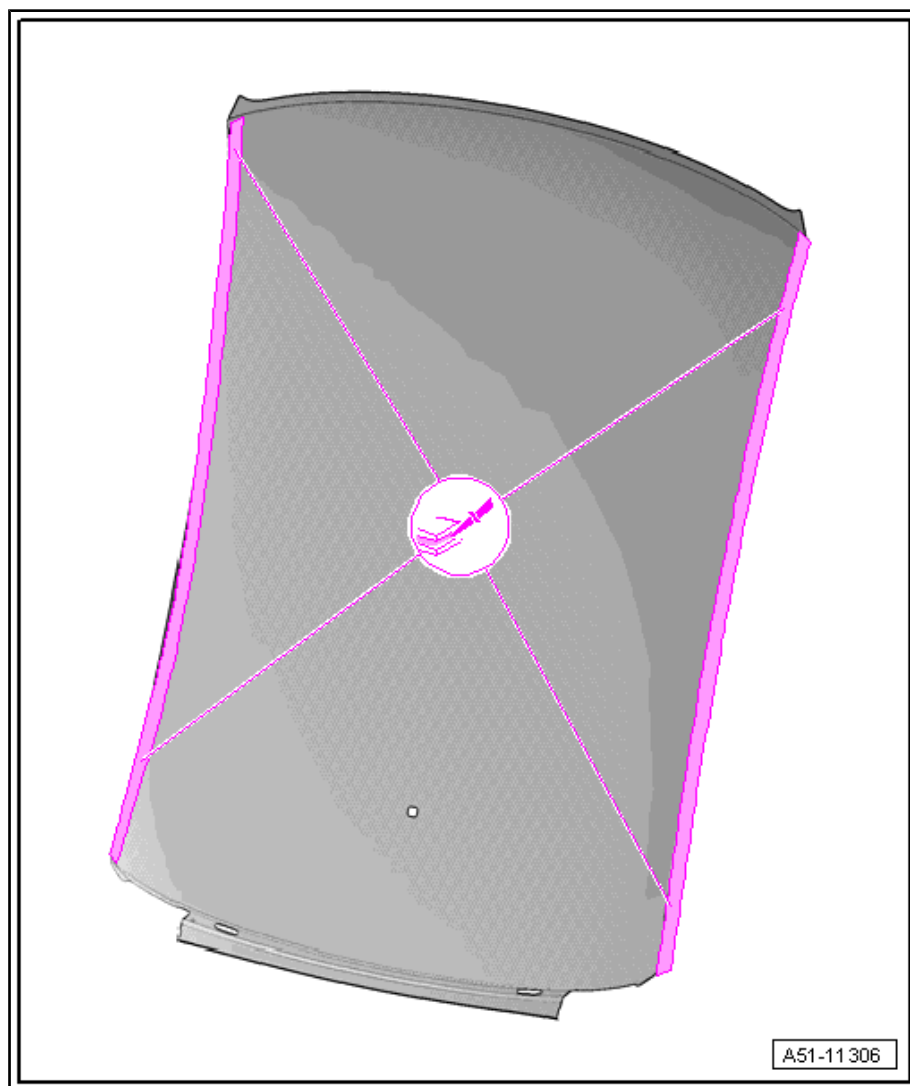




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- Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2 - to side flanges of roof using double cartridge gun - VAS 6453- .



- 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 window opening using mole grips, 18-18 - VAS 5430/1- .

Adjusting roof depth

- Additionally fix roof in position with two tensioning straps - T10038- -1-.
- Set required depth using e.g. drill bit or suitable wooden spacer -2-.

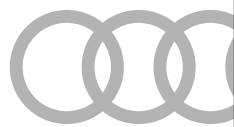
Depth setting in centre part of front door -a -

Dimension -a- = 3 mm

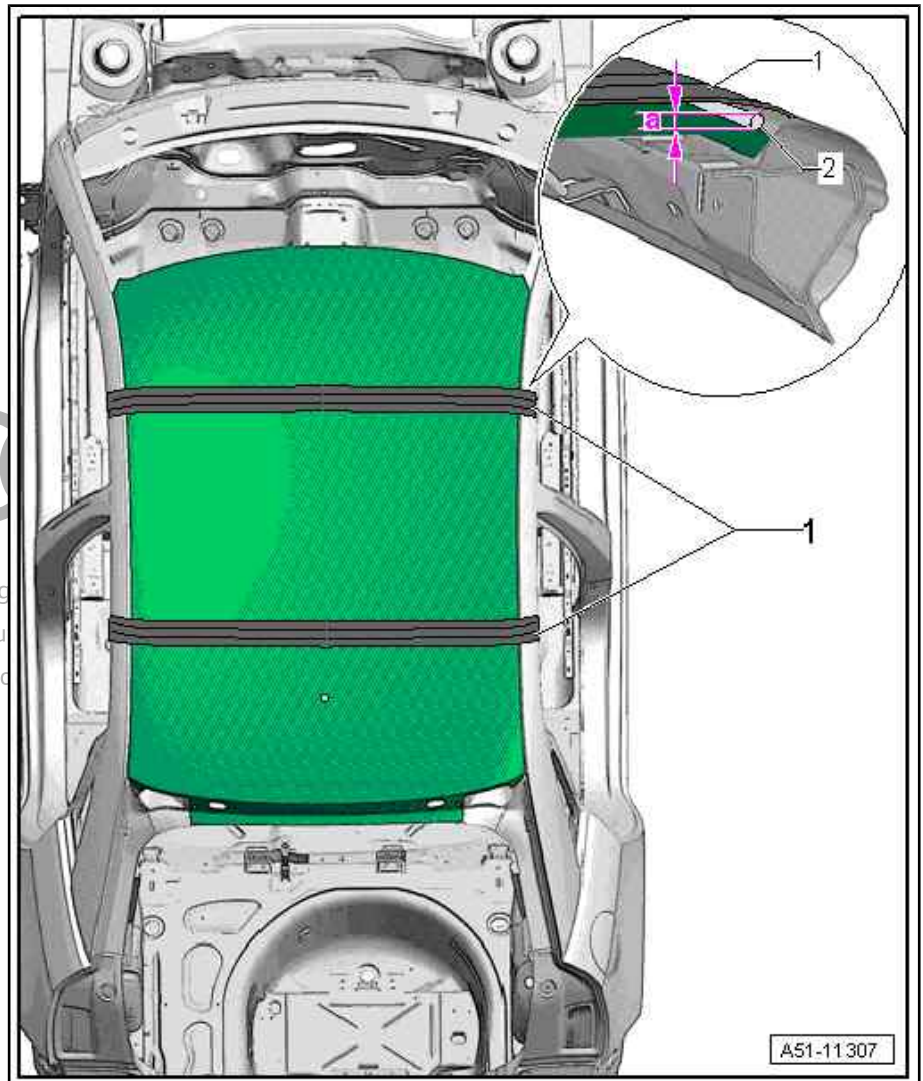
Depth setting in centre part of rear door -a -

Dimension -a- = 2.5 mm

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- Roughly spread any 2-component epoxy adhesive - DA 180 A00 A2 - that comes out at edge of roof.

CAUTION

Allow bonded joint on roof to harden for 60 minutes at approx. 65° to 80° C with radiant heater. Check temperature constantly with temperature sensor.



Note

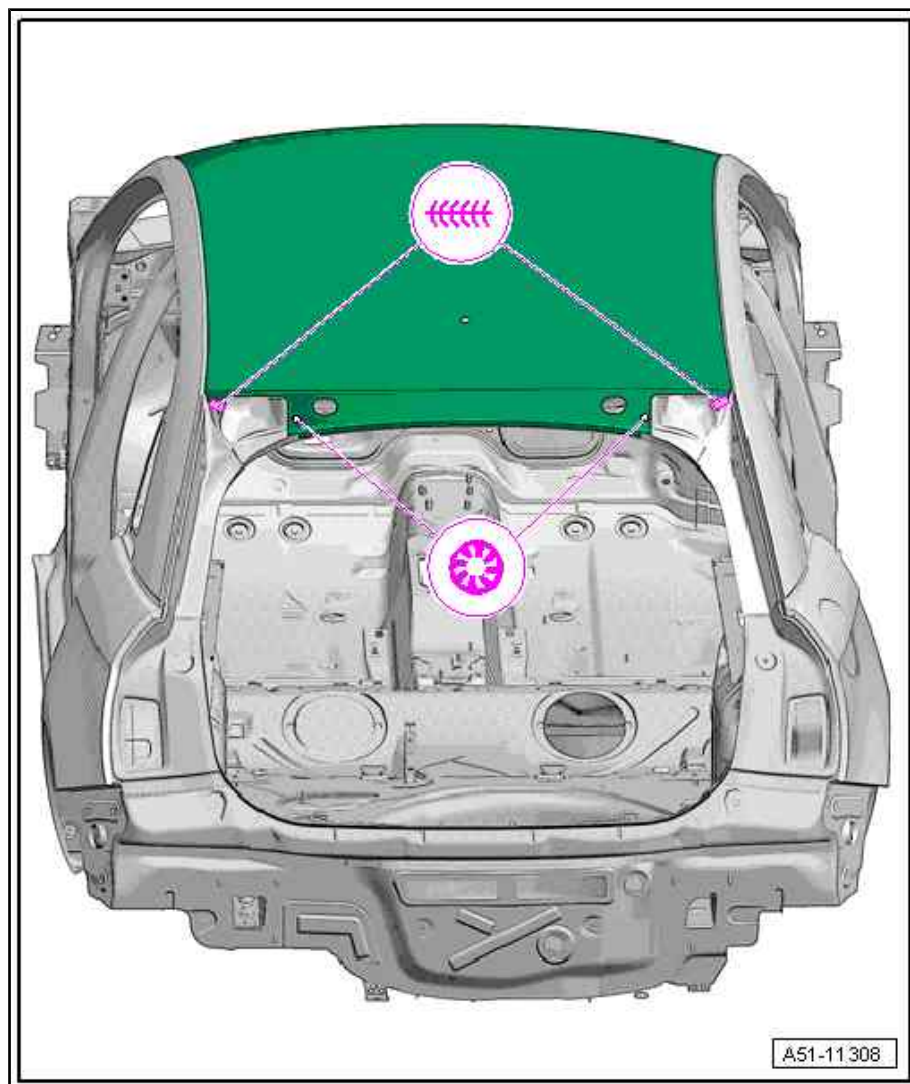
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Make additional welds for roof at rear using shielded arc welding equipment : SG continuous seam.
- Make additional welds for roof at rear using shielded arc welding equipment : SG plug weld seam.



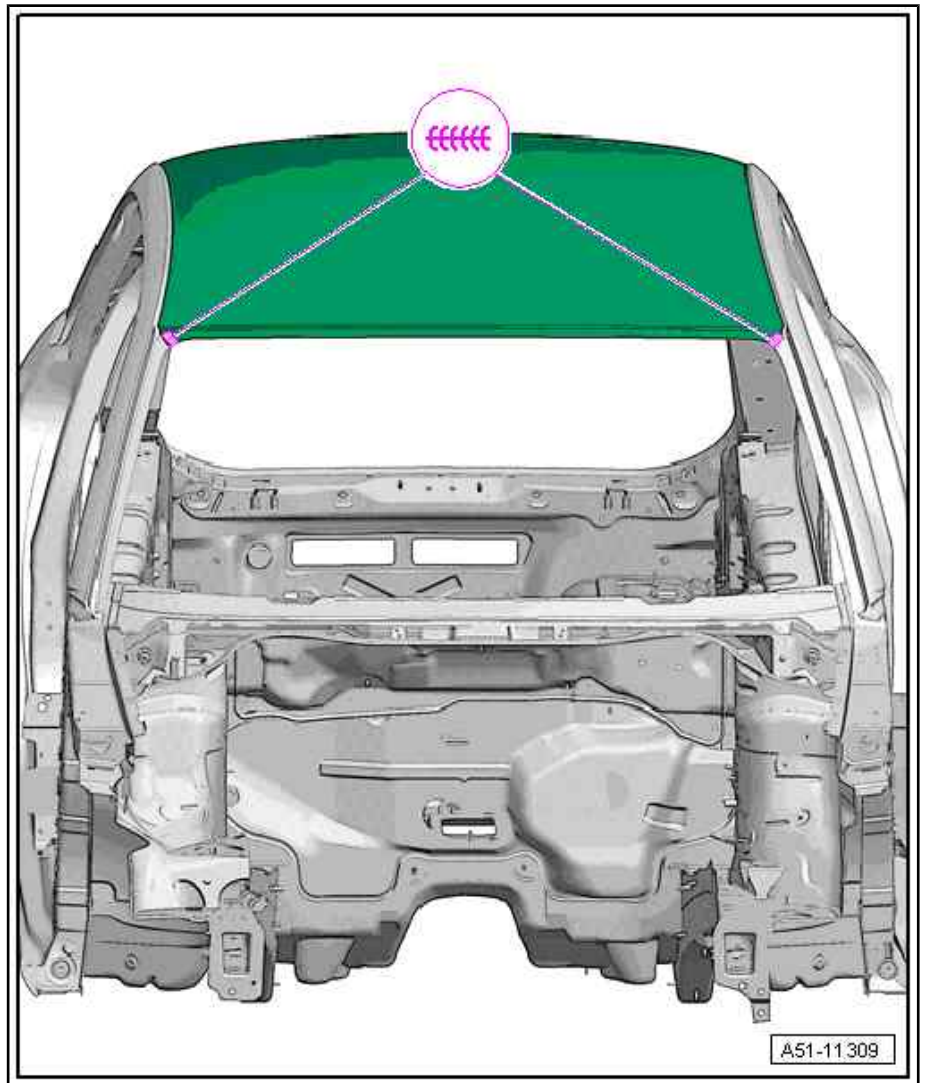
- Grind down SG continuous weld seams using compact angle grinder .



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



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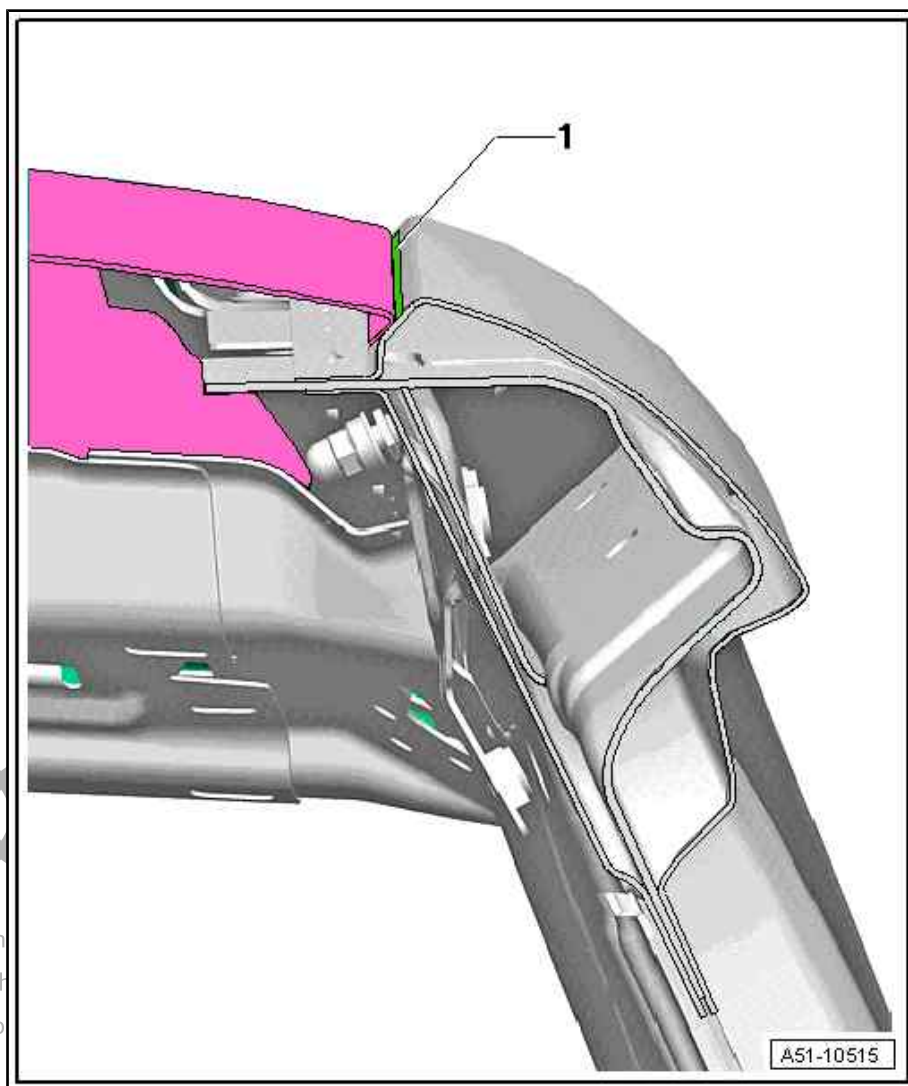


- Grind zero-gap joint -1- into shape (left and right).

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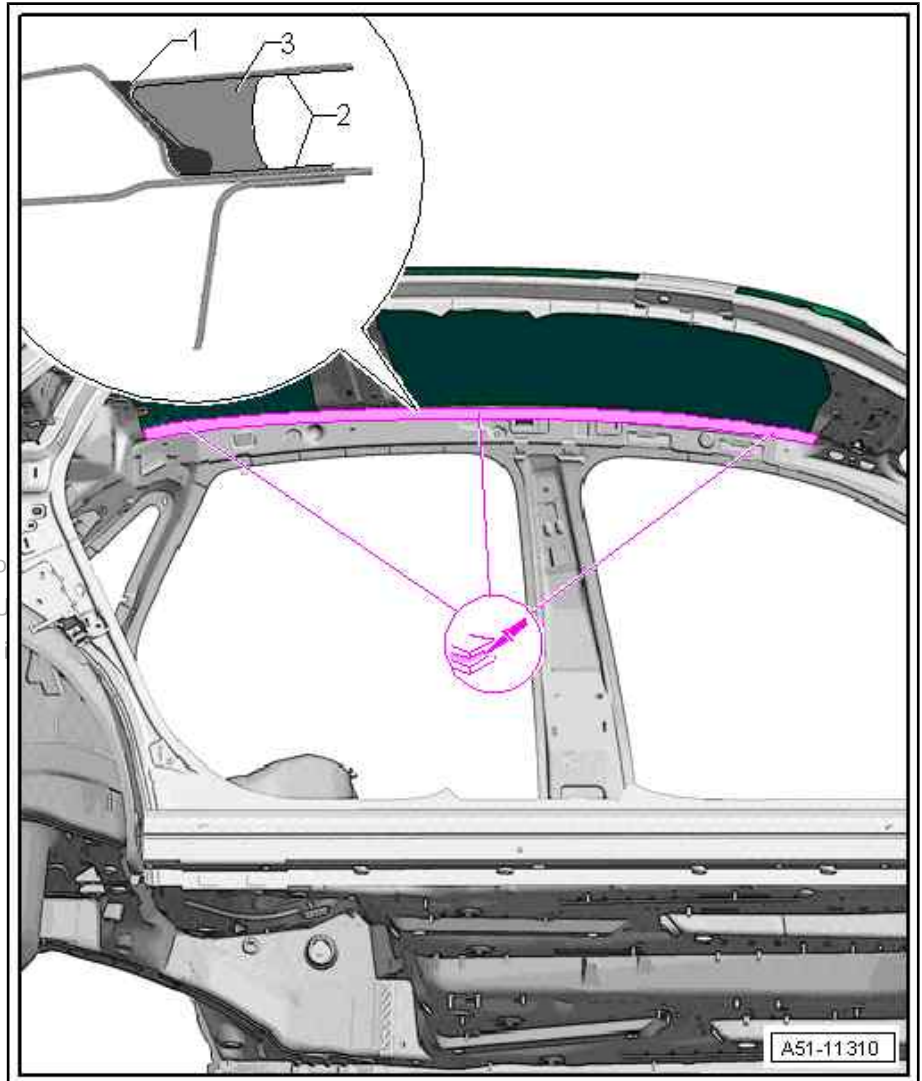
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- Apply one cartridge of 2-component window adhesive - DA 004 660 M2 - -3- into each roof side member using double cartridge gun - VAS 5237- .
- ◆ 1 = 2-component epoxy adhesive - DA 180 A00 A2 -
- ◆ 2 = Glass and paint primer - D 009 200 02-
- ◆ 3 = 2-component window adhesive - DA 004 660 M2 -



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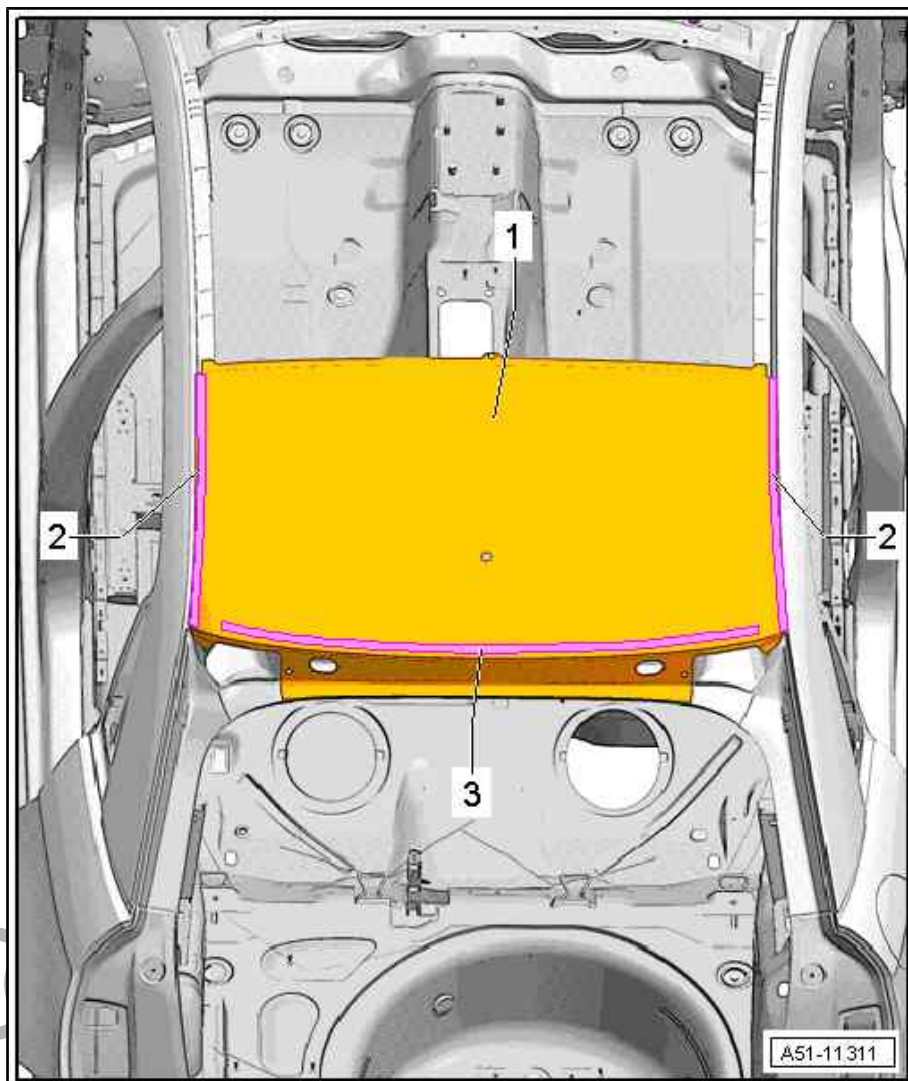




RO: 51 23 55 00

5 Roof - Renewal (vehicles with panoramic tilting sunroof - Sportback)

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



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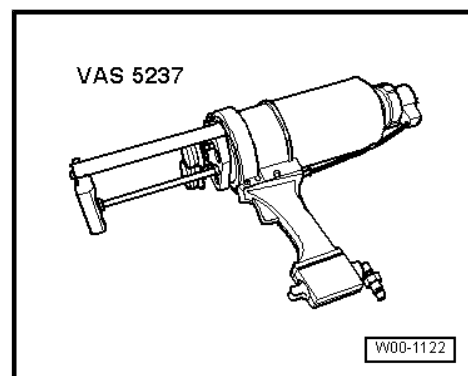
5.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ Drill
- ◆ Suction lifter
- ◆ Setting gauge
- ◆ Spot weld breaker
- ◆ Compressed-air gun
- ◆ Mole grips, 18-18
- ◆ Tensioning strap
- ◆ Body saw



- ◆ Double cartridge gun - VAS 6453-
- ◆ Double cartridge gun - VAS 5237-



Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .

1 - 2-component window adhesive - DA 004 660 M2 -

- Open cap.

2 - Static mixer

3 - Extension hose

Part number 000 809 937

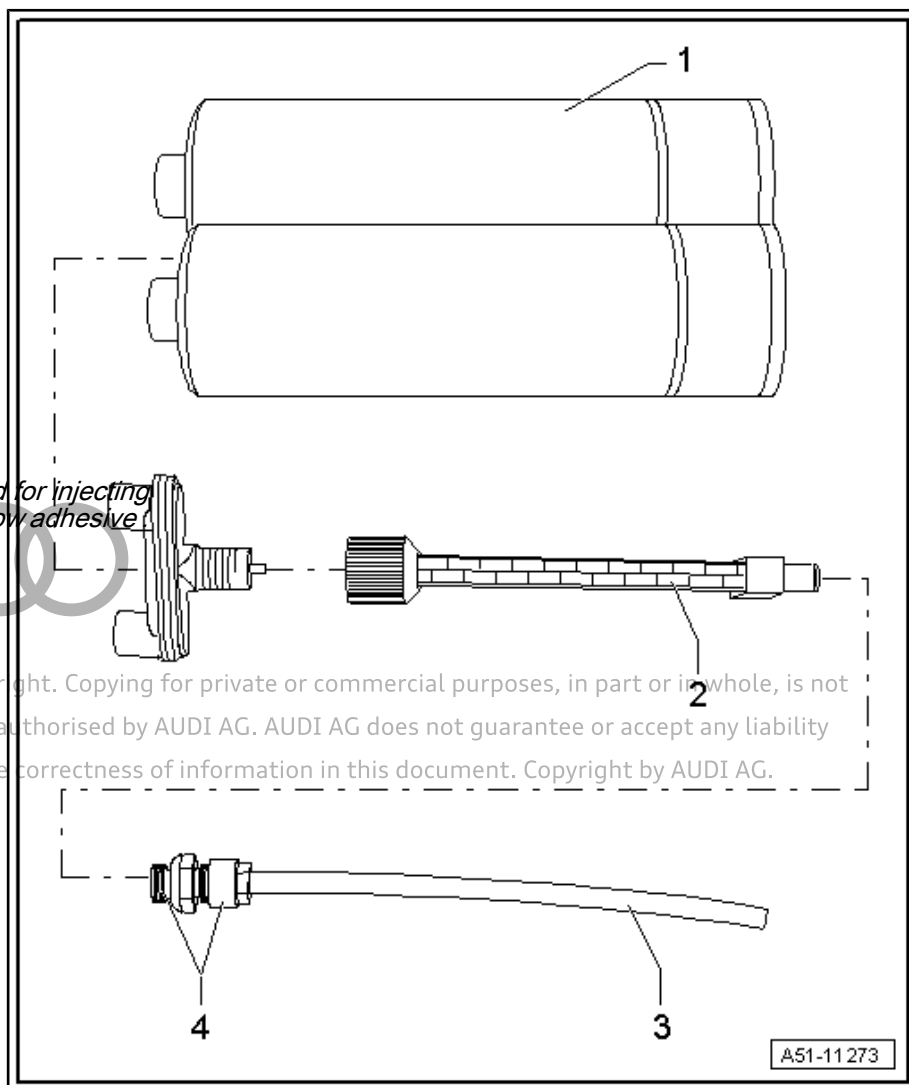
- Screw onto static mixer -2- with adapter -4-.

4 - Adapter



Note

The adapter is required for injecting the 2-component window adhesive.



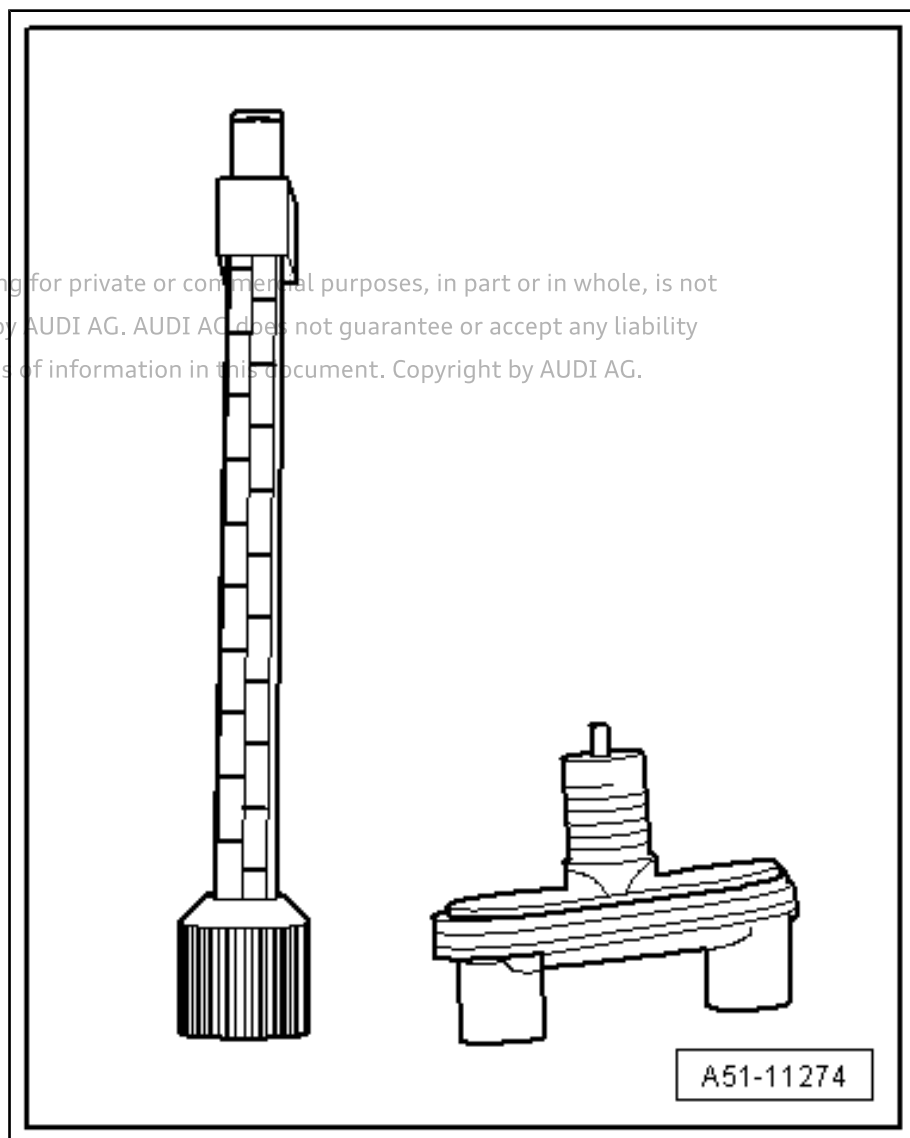
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Instructions for using extension hose for window adhesive

- Take static mixer out of window adhesive kit.



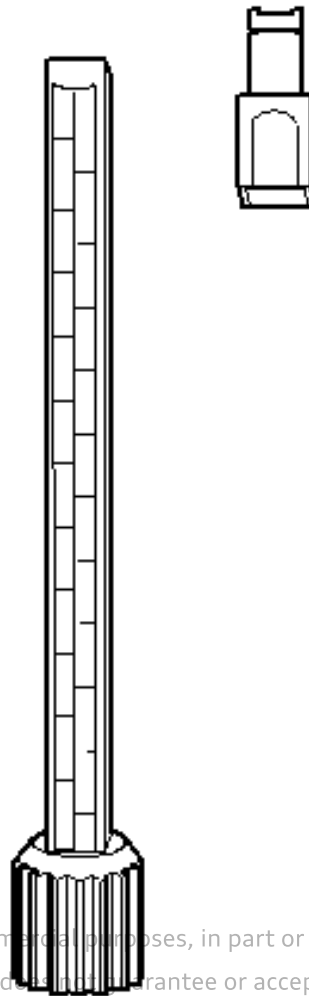
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- Remove front cap from static mixer.

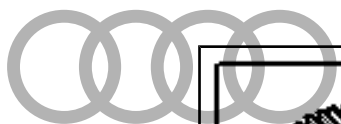


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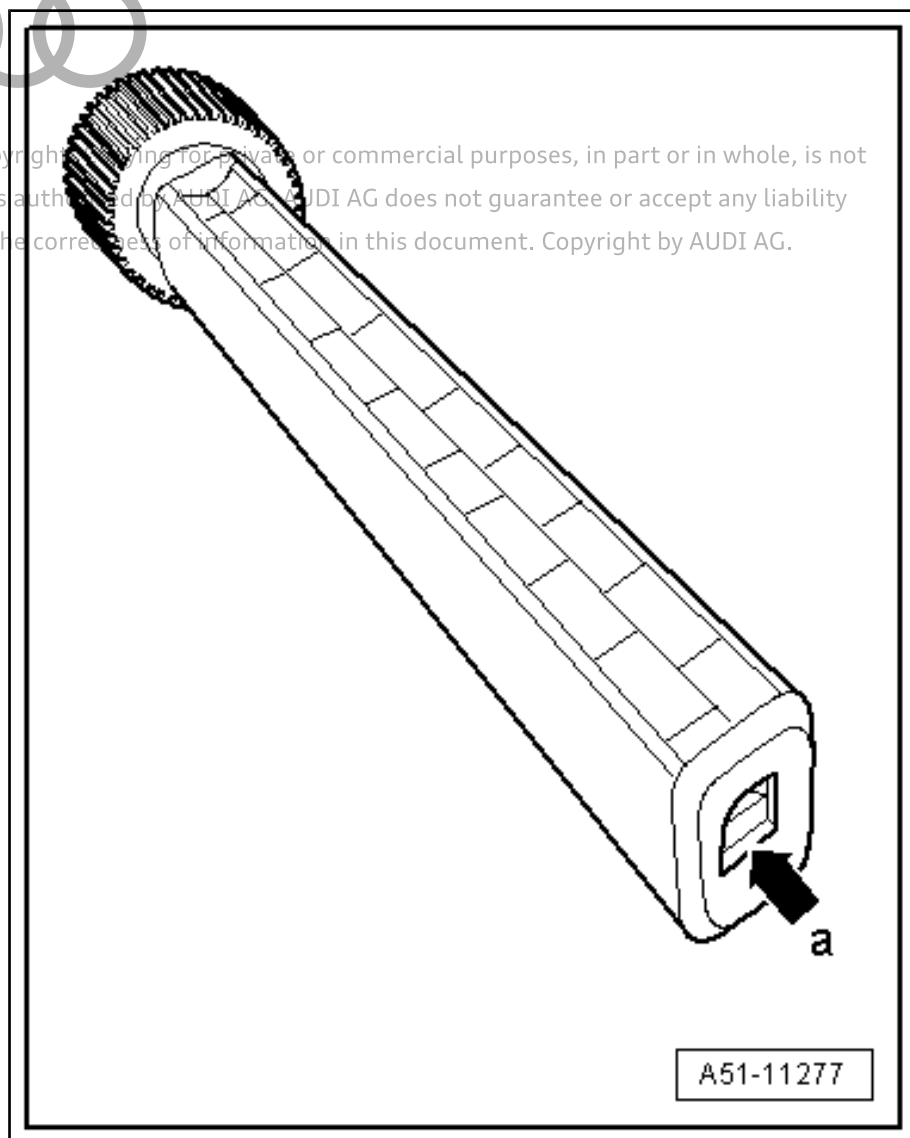


A51-11275

- Drill out opening in static mixer -a- to 9 mm Ø using drill .



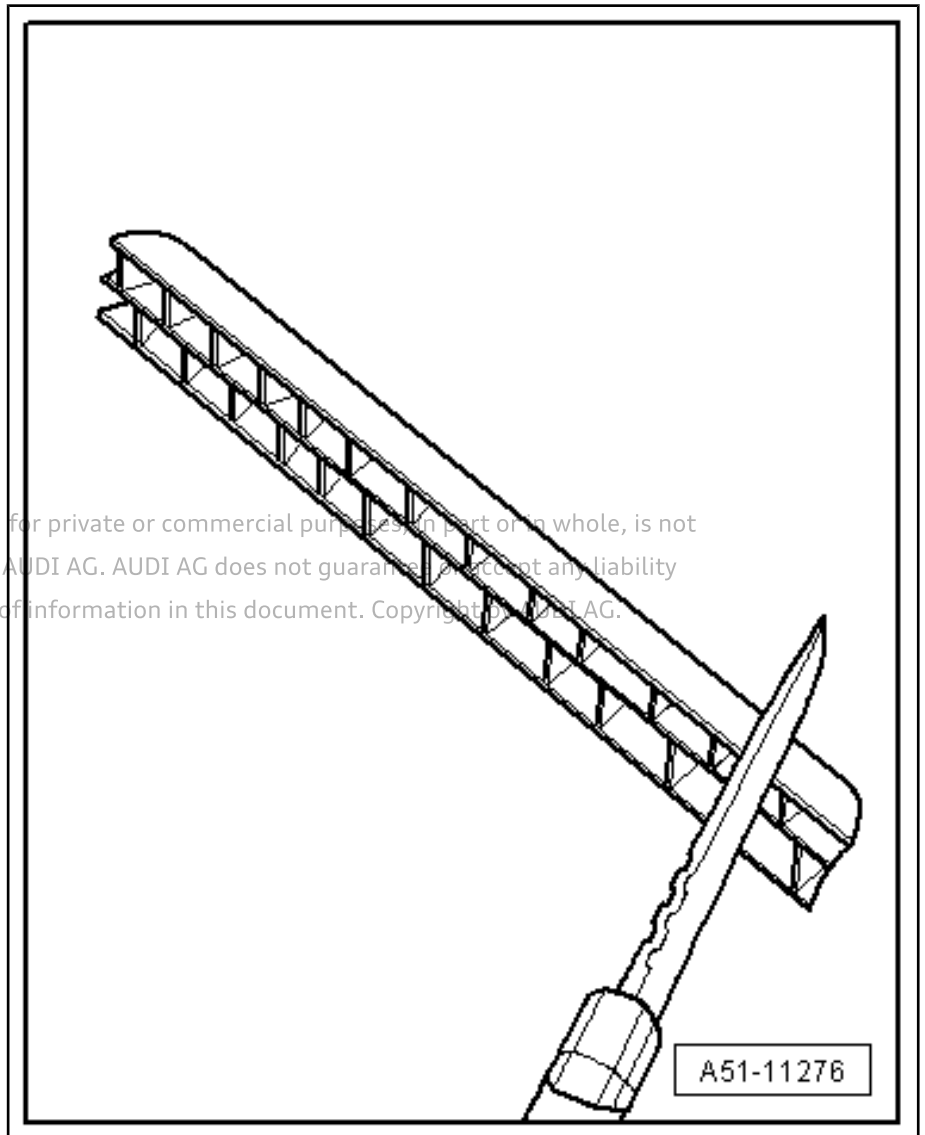
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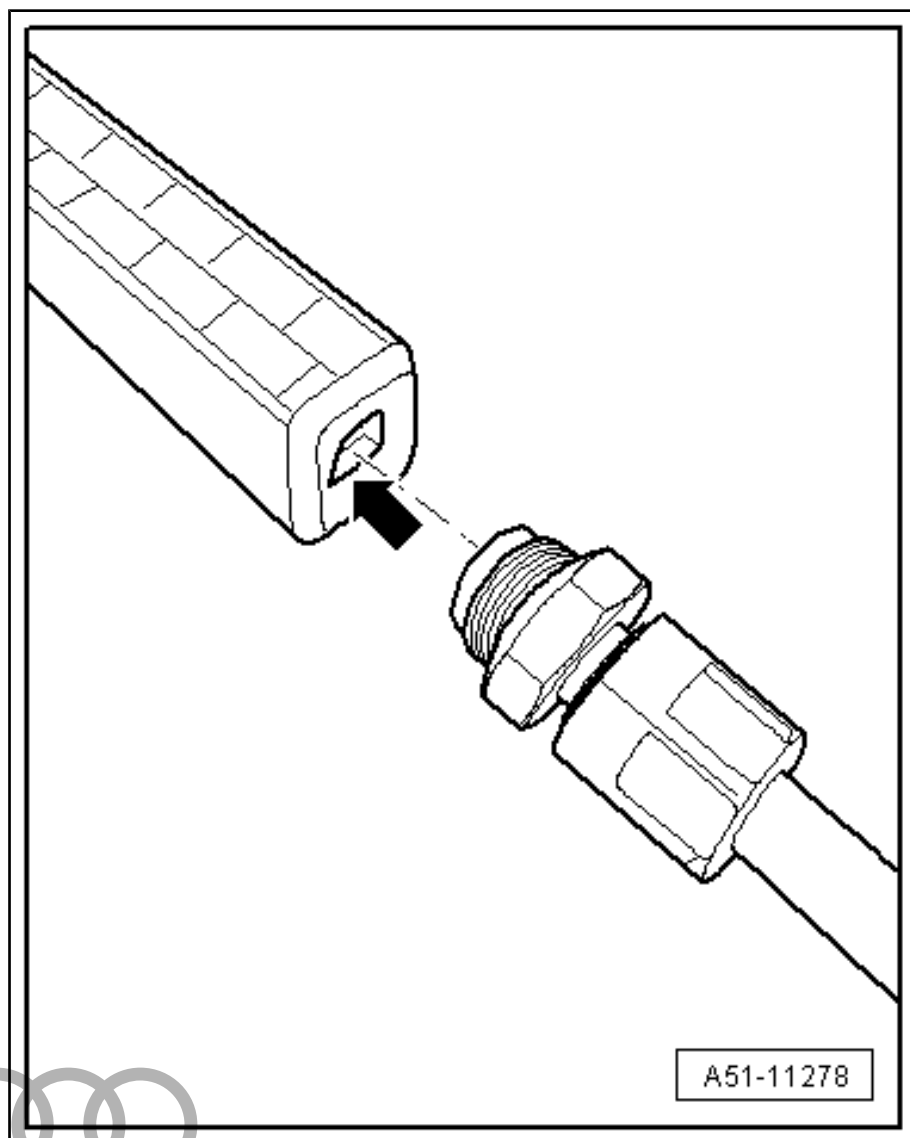
- Shorten inner section of mixer so that hose can be screwed in fully.



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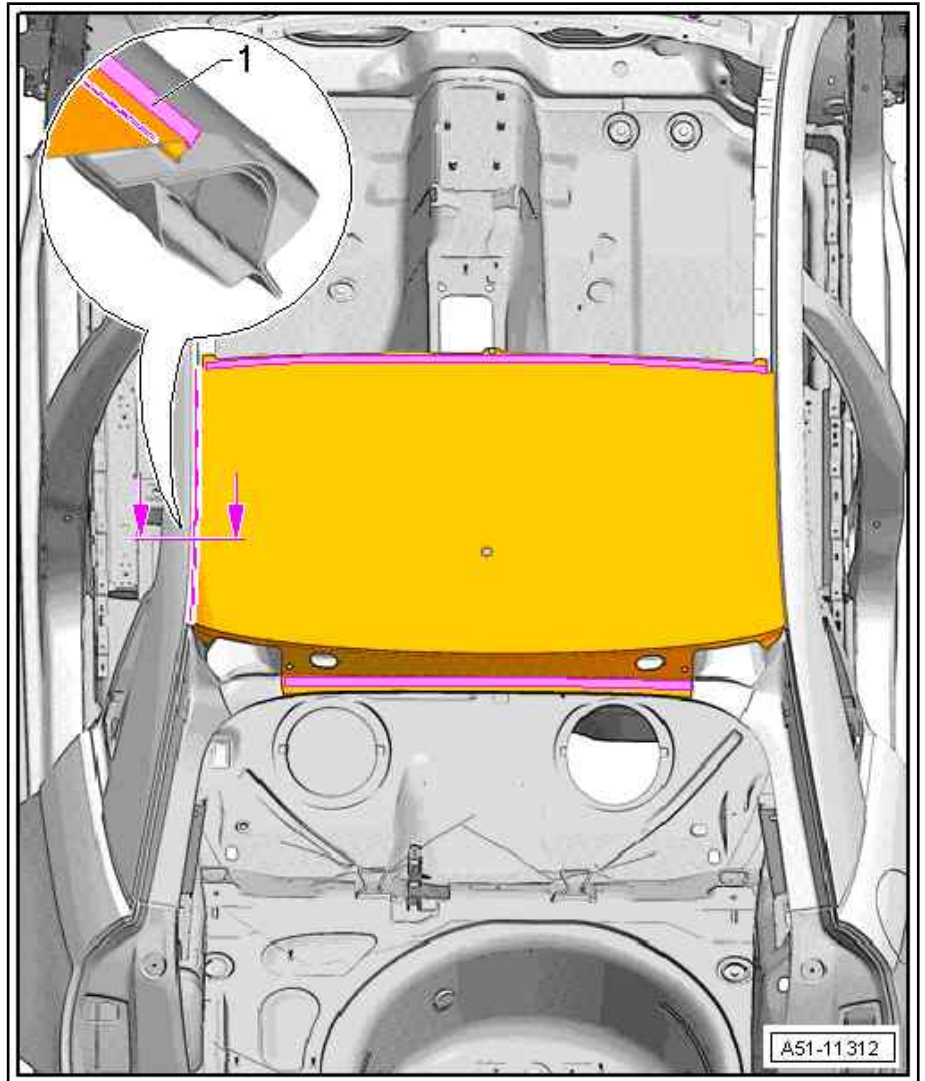
- Screw extension hose onto mixer.



5.2 Procedure

Cutting locations

- Roughly cut out roof parallel with plasmatron weld seam -1- at a distance of approx. 30 mm using body saw .
- Working from passenger compartment, separate bonded joints between roof and roof cross members using electric cutter .
- Separate original joint using spot weld breaker .



- Remove remaining material using compact angle grinder .

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

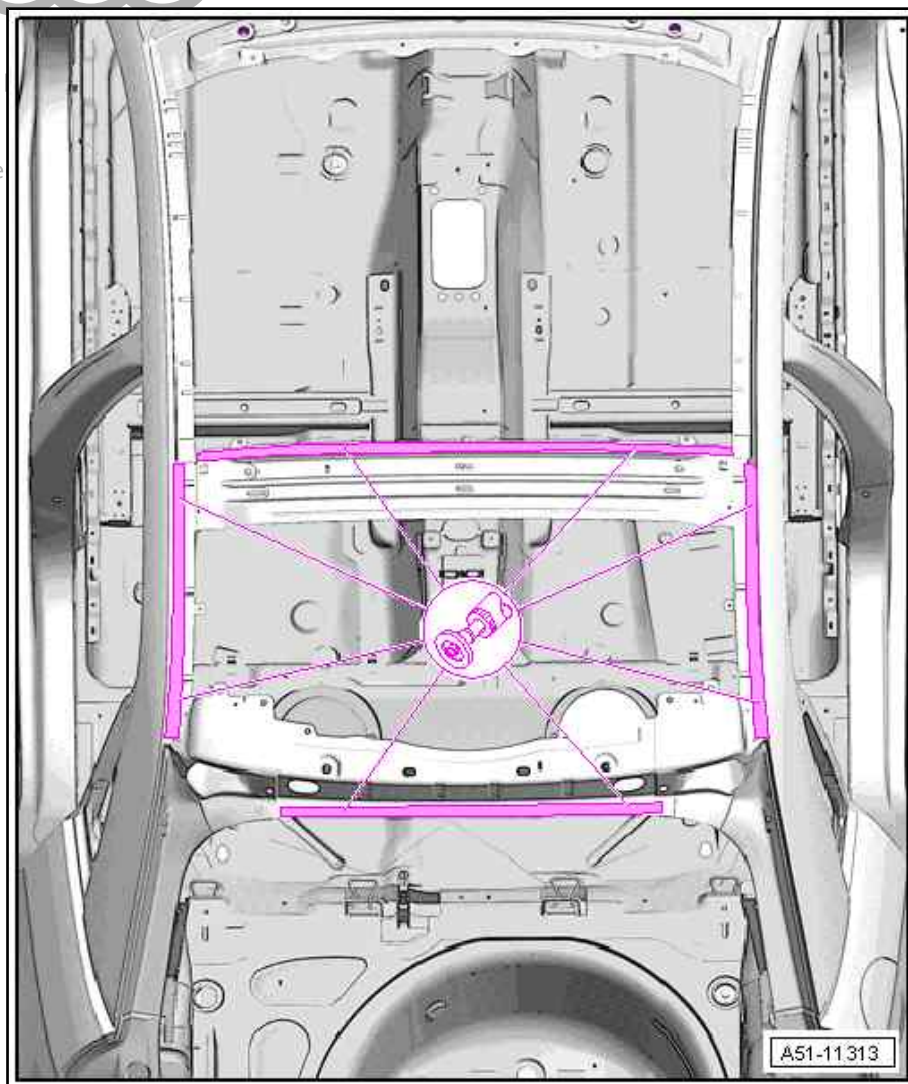
Do not use cutting discs or rough-filing discs.



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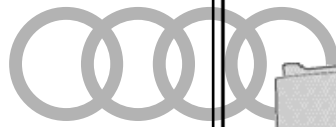


Replacement parts

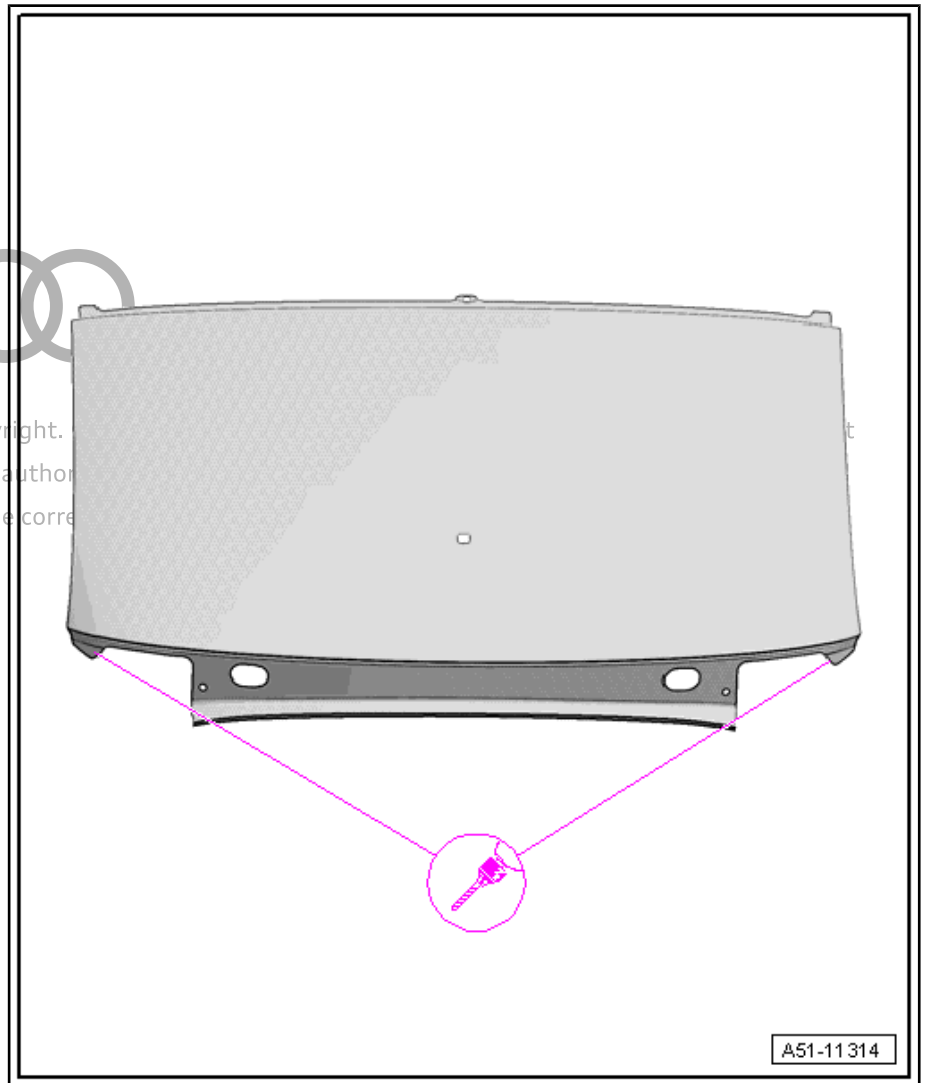
- ◆ Roof rear section
- ◆ Single-component assembly adhesive - D 190 MKD A3- , 1 cartridge
- ◆ 2-component epoxy adhesive - DA 180 A00 A2- , 1 cartridge
- ◆ Cleaning solution - D 009 401 04-
- ◆ 2-component window adhesive - DA 004 660 M2 - , 1 cartridge set
- ◆ Glass and paint primer - D 009 200 02-

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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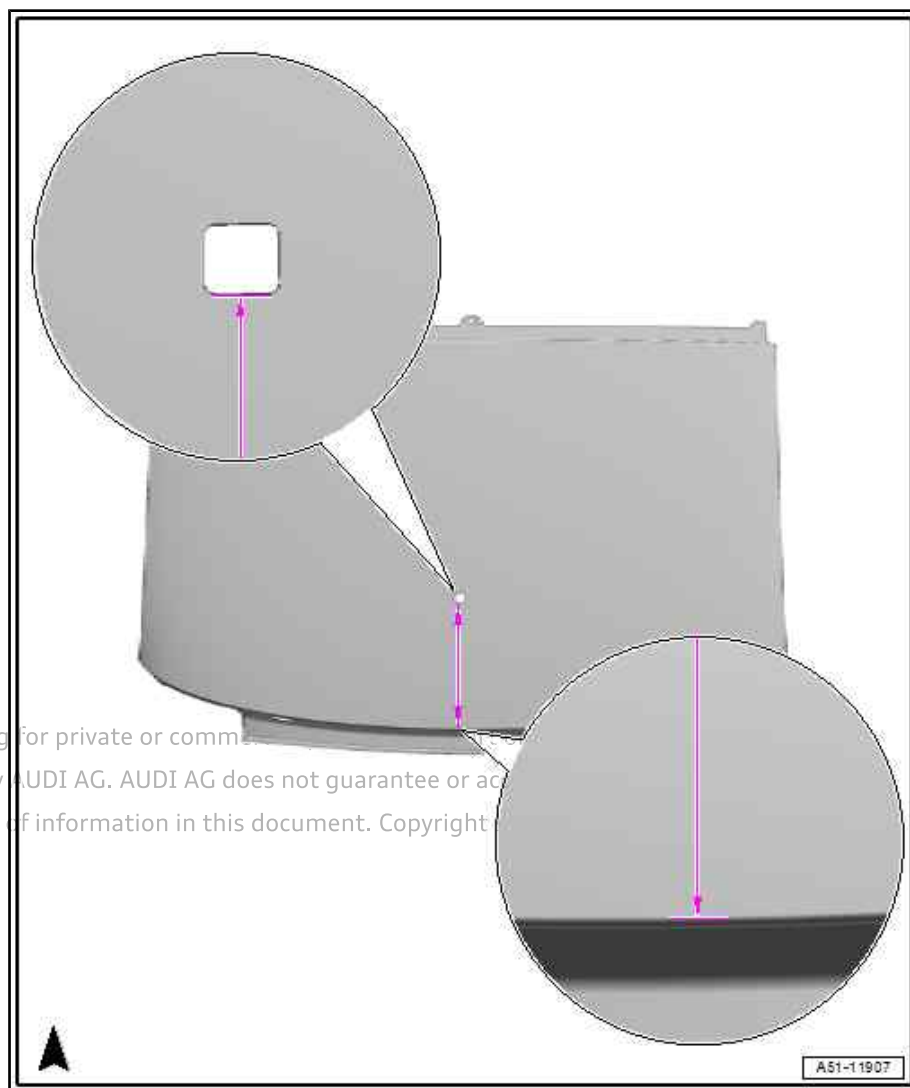
Dimension for aerial hole (panoramic sunroof)

- Drill aerial hole according to dimension -a- in centre of vehicle and widen to form a 15 x 15 mm square hole.

Dimension -a- = 200 mm



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Bonding in



Note

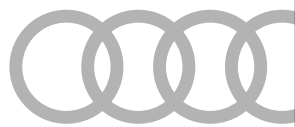
- ◆ *It is important to keep to the following procedure to ensure a satisfactory and effective roof repair.*
- ◆ *Bonded areas must not be treated with filler coat (surfacers) and painted before bonding in the roof.*
- ◆ *The adhesive materials must be applied very quickly.*
- ◆ *Make sure adhesive is 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.*

A second mechanic is required for the next steps.

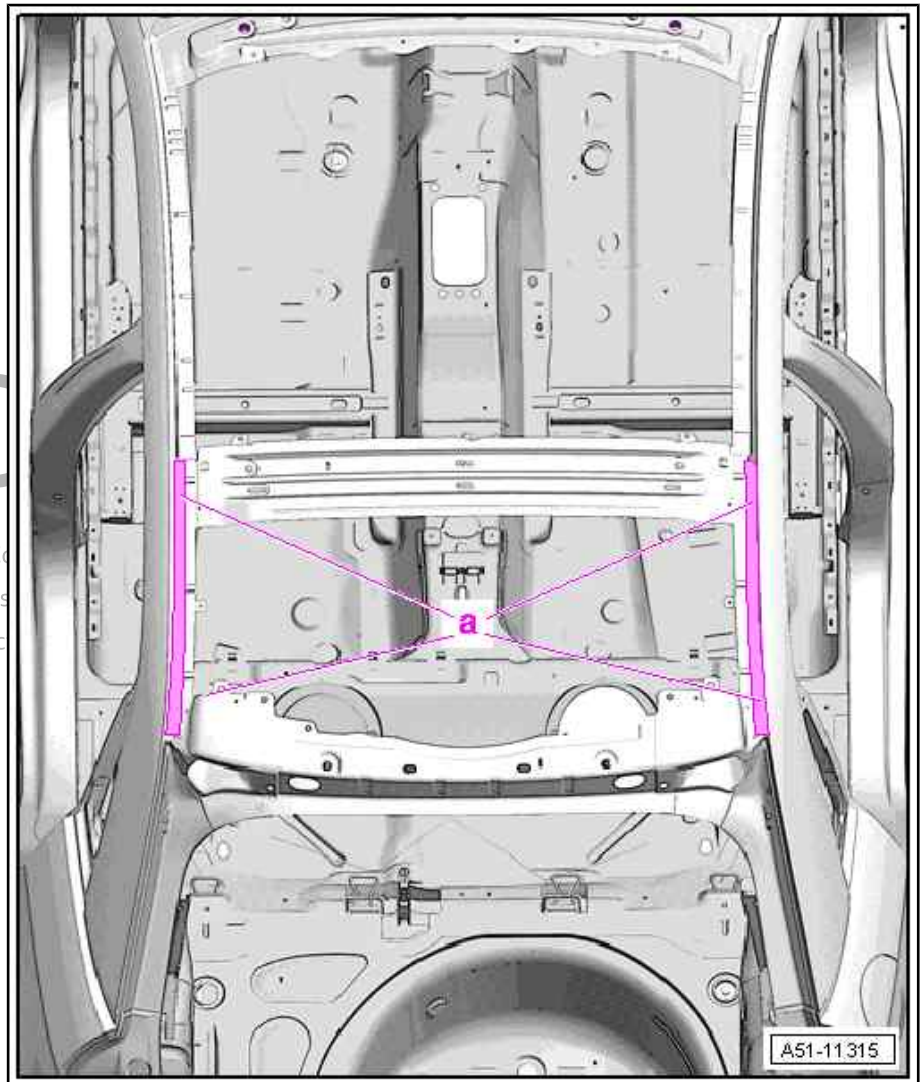
- Position roof on roof frame and check alignment of roof with roof side members (visual inspection).
- Check fit of roof with rear lid and glass roof.



- Fix roof in position in glass roof flange and sealing flange of rear lid using one self-tapping screw at each end.
- Remove roof.
- Apply glass and paint primer - D 009 200 02- in area of roof frame -a-.

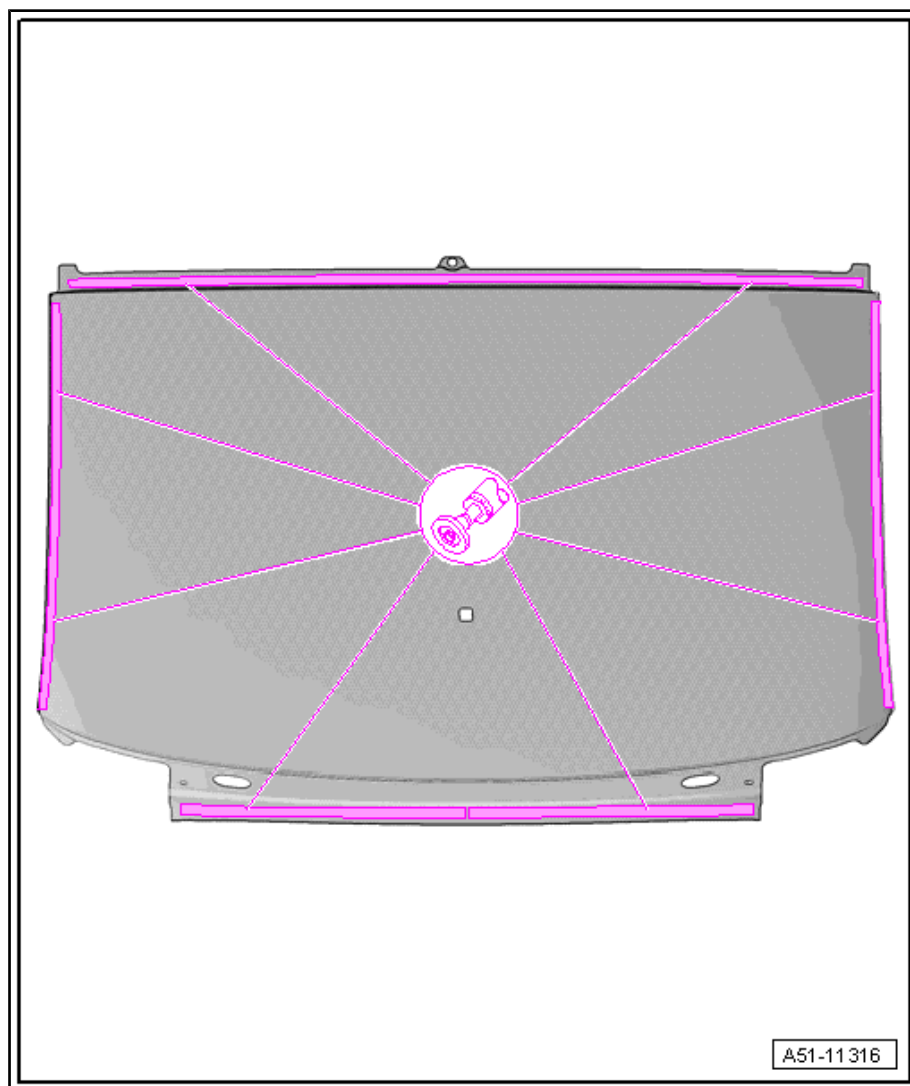


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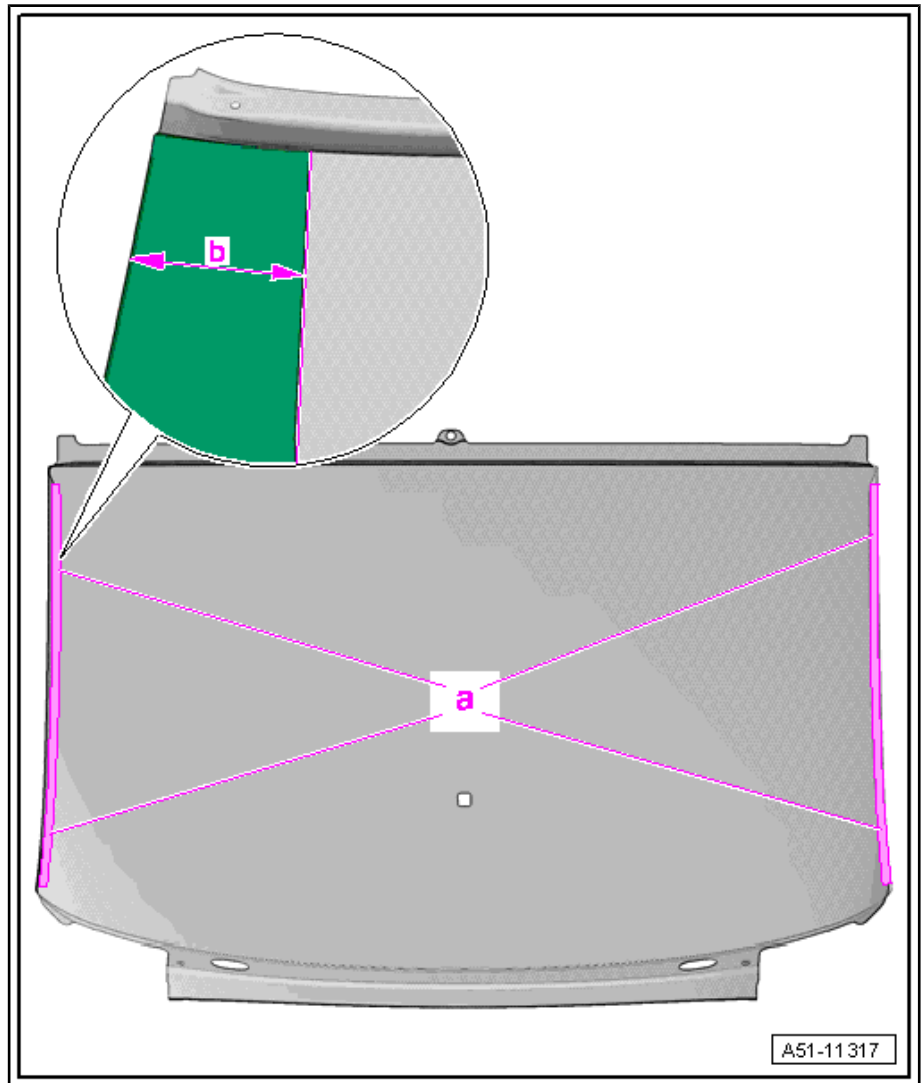
- Grind bonding areas on roof and roof reinforcement (left and right) down to bare metal; grind welding areas on roof cross members down to bare metal.
- Grind down outer sides of welding flanges to bare metal.

This ensures that the 2-component epoxy adhesive - DA 180 A00 A2 - forms a good joint with the bonding area.

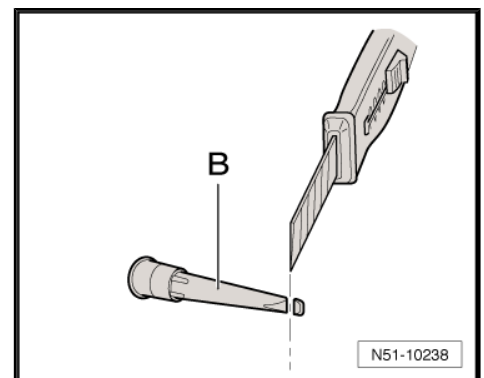


- Mask outside of roof panel parallel with side bonding area using adhesive tape.
- Attach four suction lifters - V.A.G 1344- to outside of roof panel.

- Clean roof frame, roof reinforcement and roof with cleaning solution - D 009 401 04-.
- Apply glass and paint primer - D 009 200 02- approx. 5 cm wide -b- on inner section of roof and inner side flange -a-.



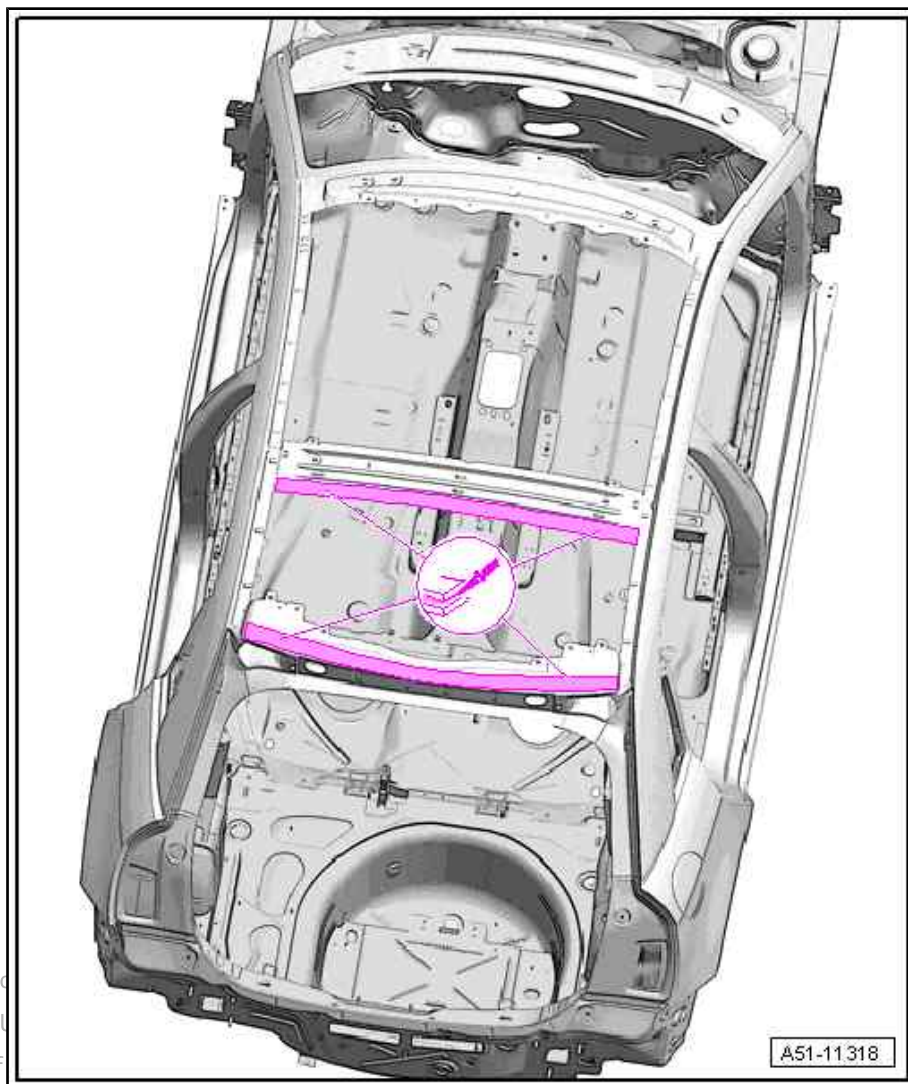
- Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.



- Apply single-component assembly adhesive - D 190 MKD A3- to roof cross members in the area of the factory bonding location using pneumatic cartridge gun V.A.G 1761/1-
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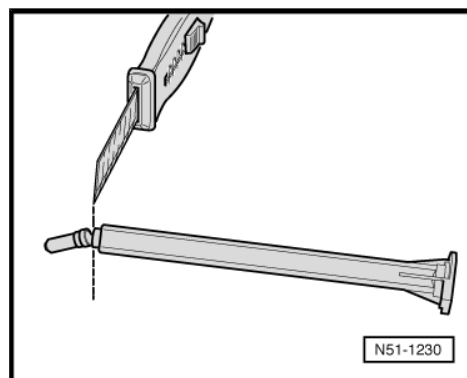
Preparing new part

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

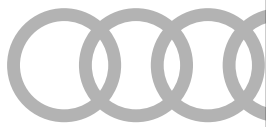


Note

The pot life of the 2-component epoxy adhesive - DA 180 A00 A2 - is roughly 90 minutes.

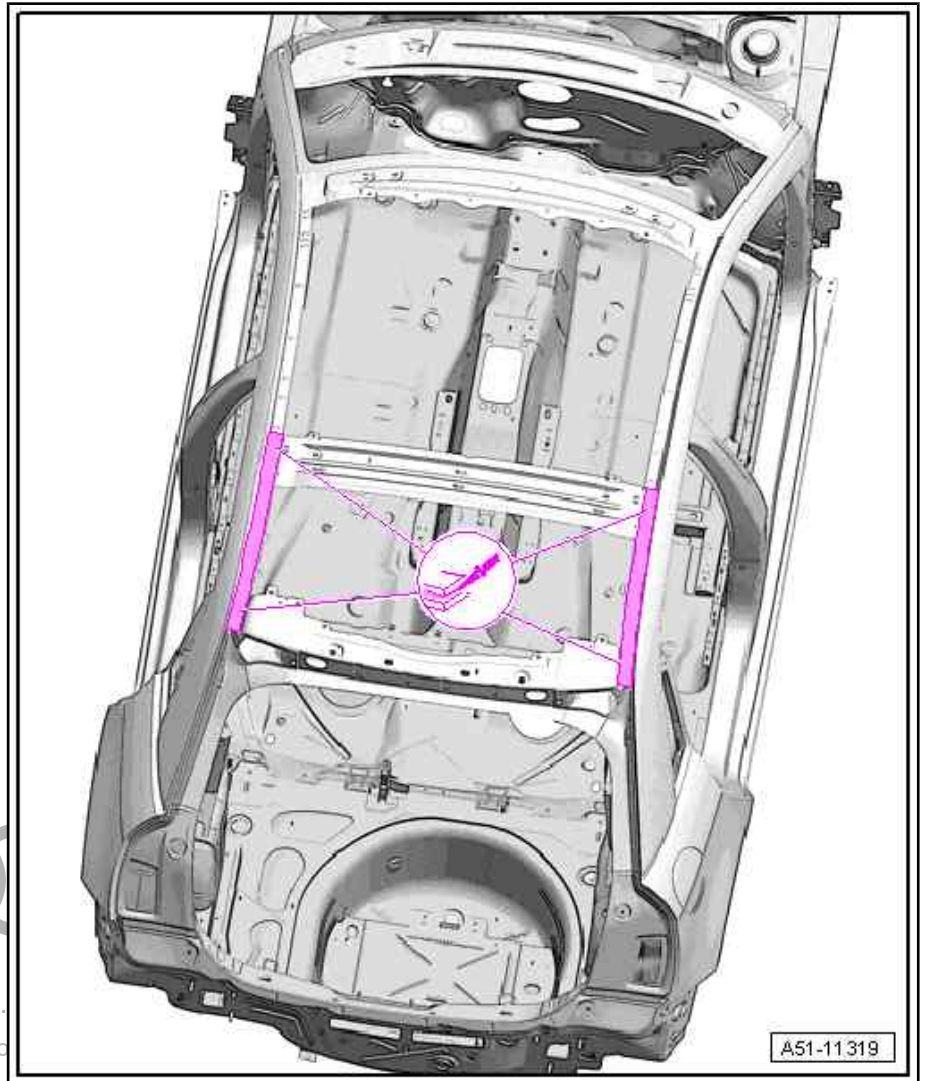


- Apply two continuous beads of 2-component epoxy adhesive - DA 180 A00 A2 - to bevelled sections of roof side members in area of zero-gap joint using double cartridge gun - VAS 6453- .



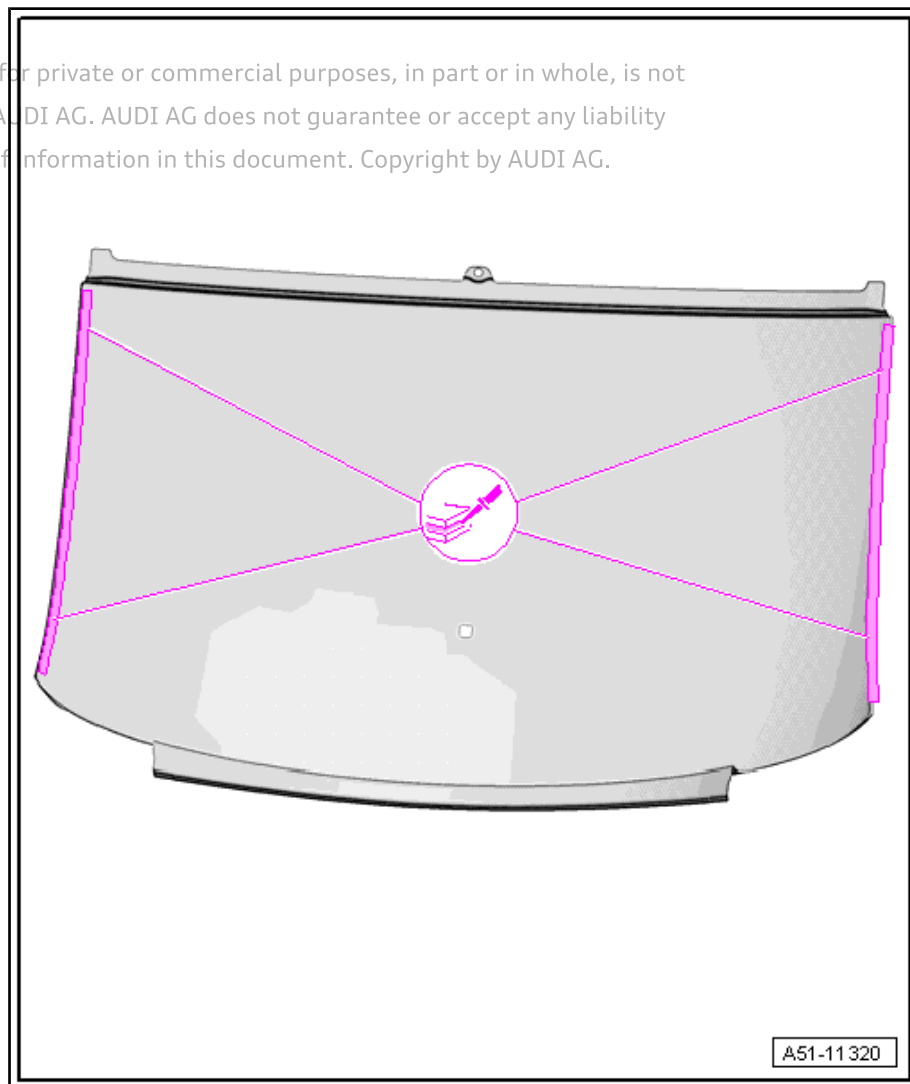
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- Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2 - to side flanges of roof using double cartridge gun - VAS 6453- .

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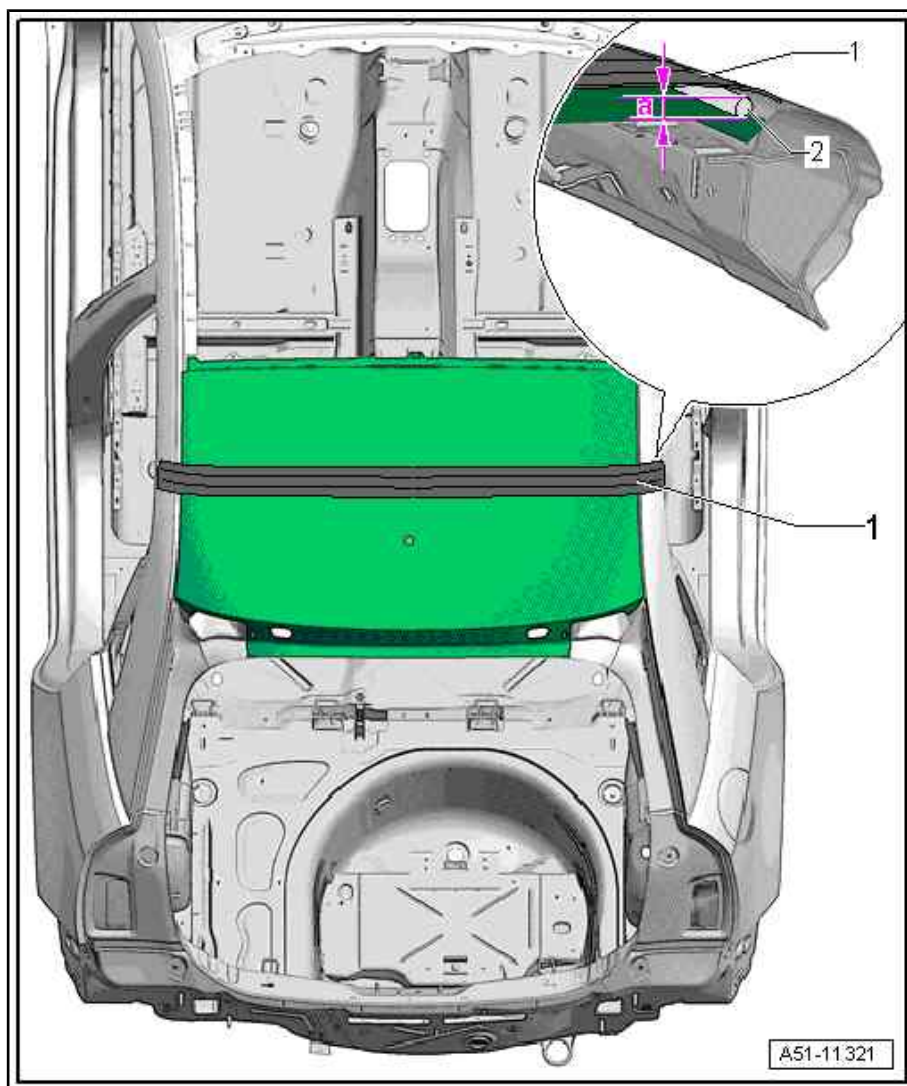
- Immediately fit and align roof.
- Use one self-tapping screw at each end to fix roof in position in centring hole in glass roof flange and sealing flange for rear lid.
- Fix roof in position with mole grips, 18-18 - VAS 5430/1- .

Adjusting roof depth

- Additionally fix roof in position with one tensioning strap - T10038- -1-.
- Set required depth using e.g. drill bit or suitable wooden spacer -2-.

Depth setting in centre part of rear door -a -

Dimension -a- = 2.5 mm



- Roughly spread any 2-component epoxy adhesive - DA 180 A00 A2 - that comes out at edge of roof.

CAUTION

Allow bonded joint on roof to harden for 60 minutes at approx. 65° to 80° C with radiant heater. Check temperature constantly with temperature sensor.

Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

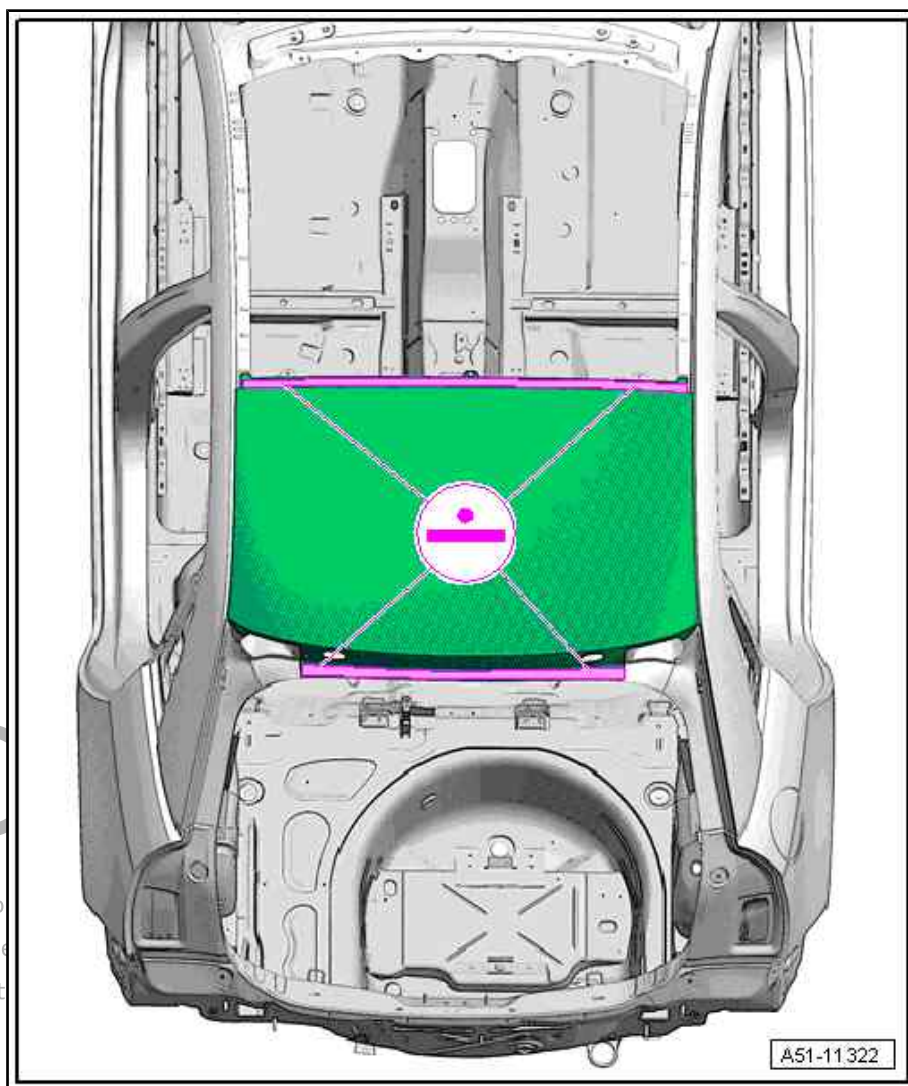
Welding in

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

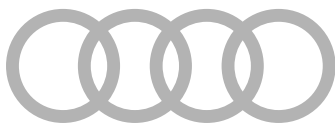
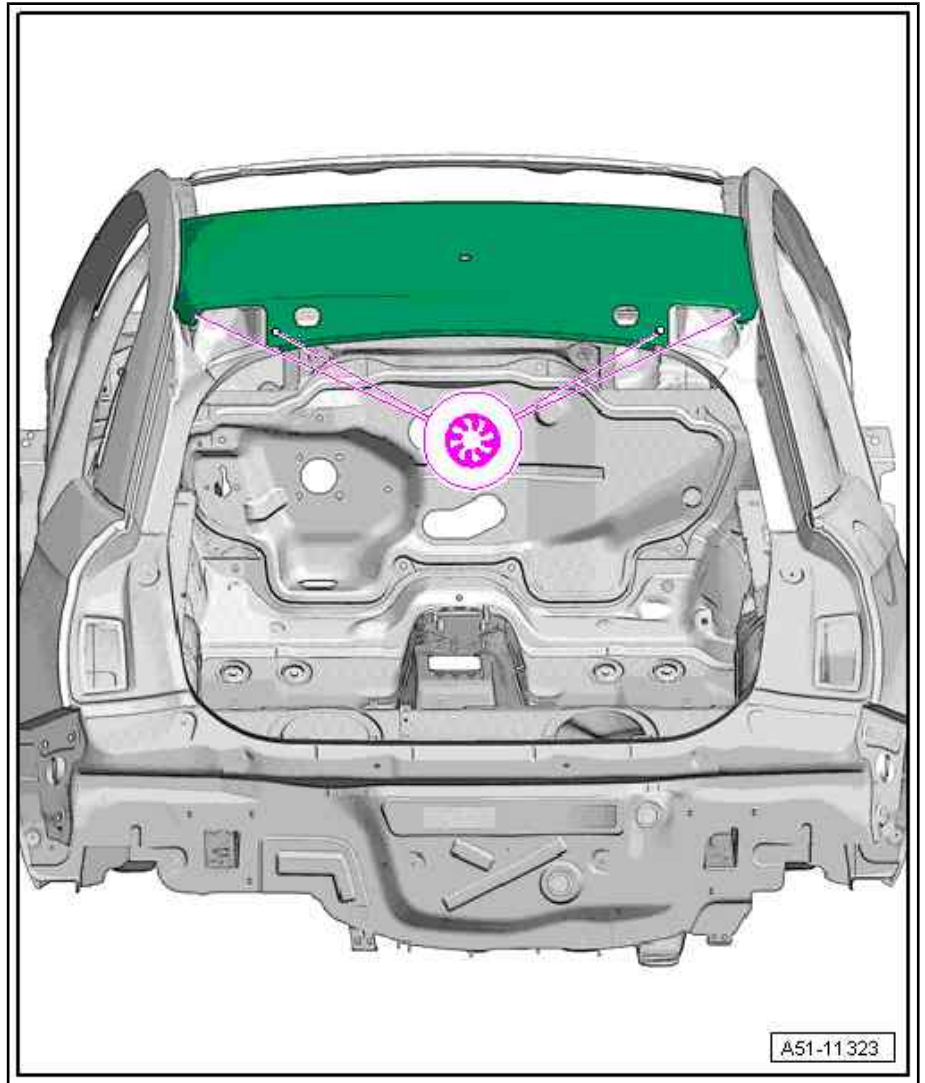
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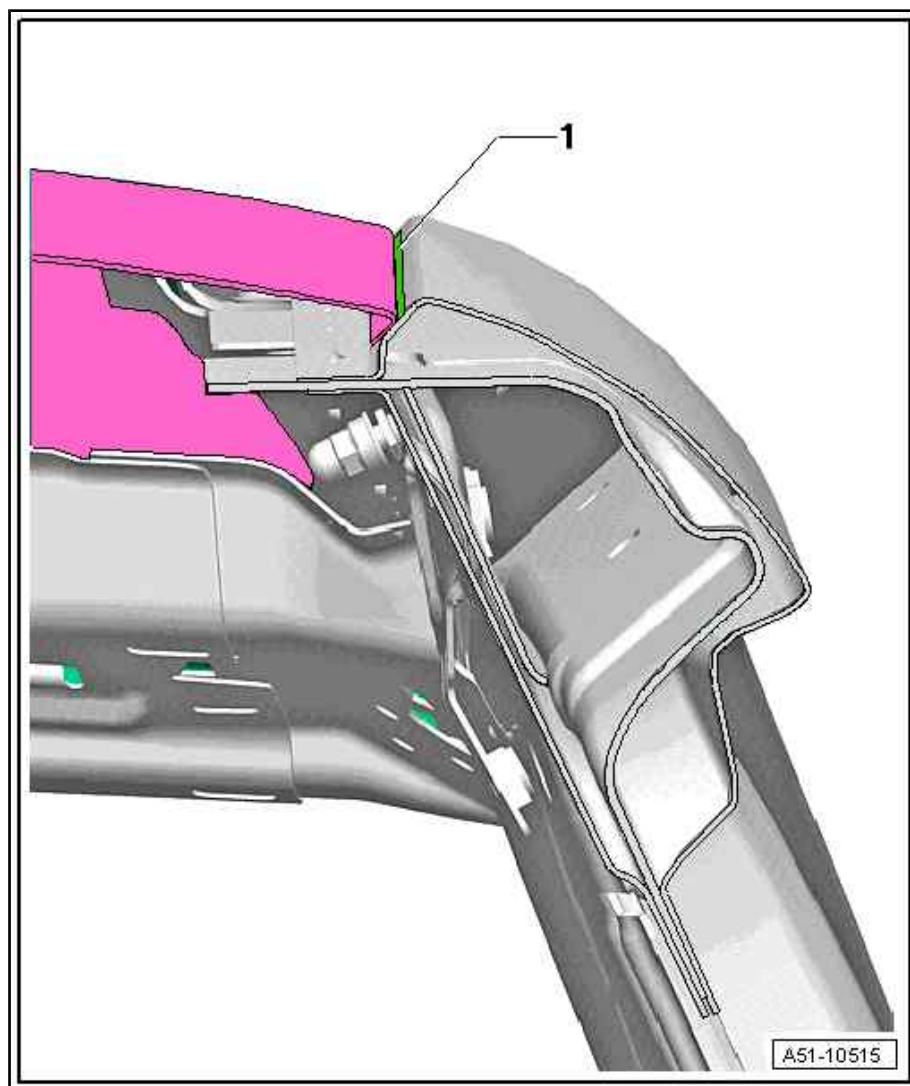


- Make additional weld for roof using shielded arc welding equipment : SG plug weld seam.



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



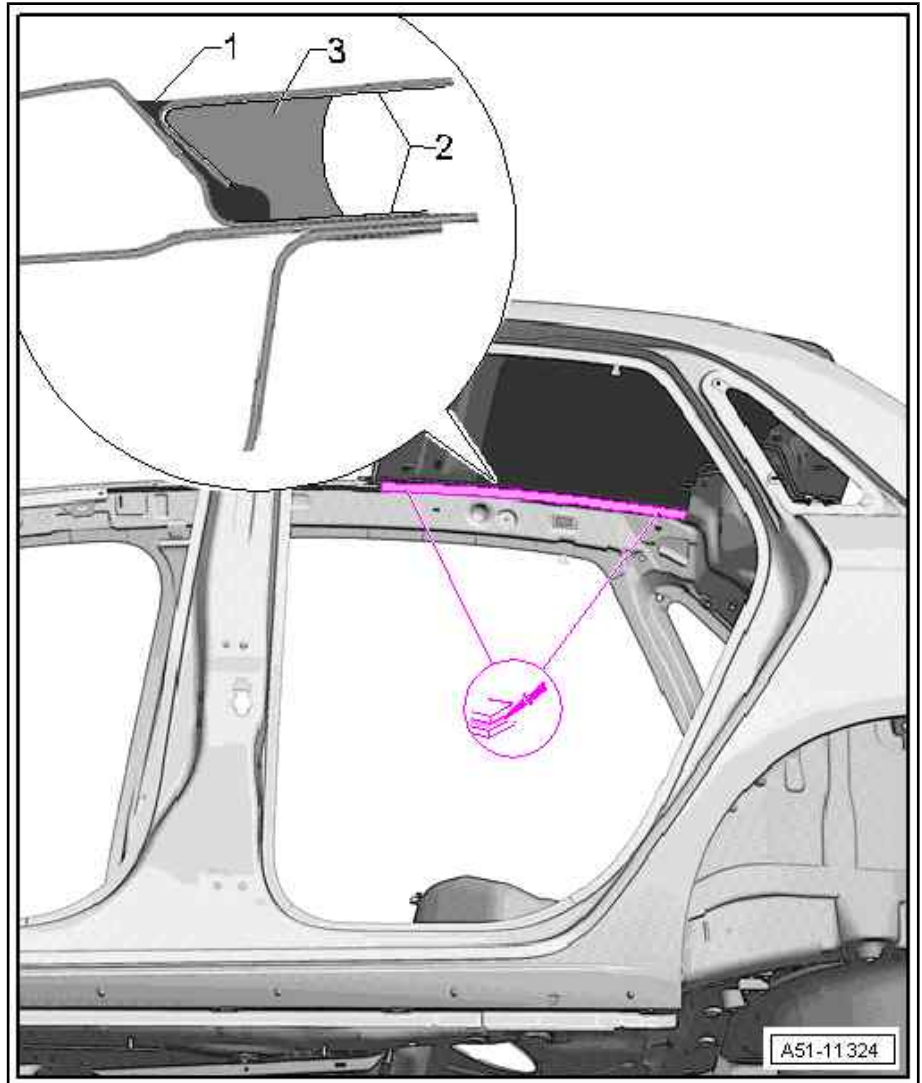
- Apply one cartridge of 2-component window adhesive - DA 004 660 M2 - -3- into each roof side member using double cartridge gun - VAS 5237- .

◆ 1 = 2-component epoxy adhesive - DA 180 A00 A2 -

◆ 2 = Glass and paint primer - D 009 200 02 -

◆ 3 = 2-component window adhesive - DA 004 660 M2 -

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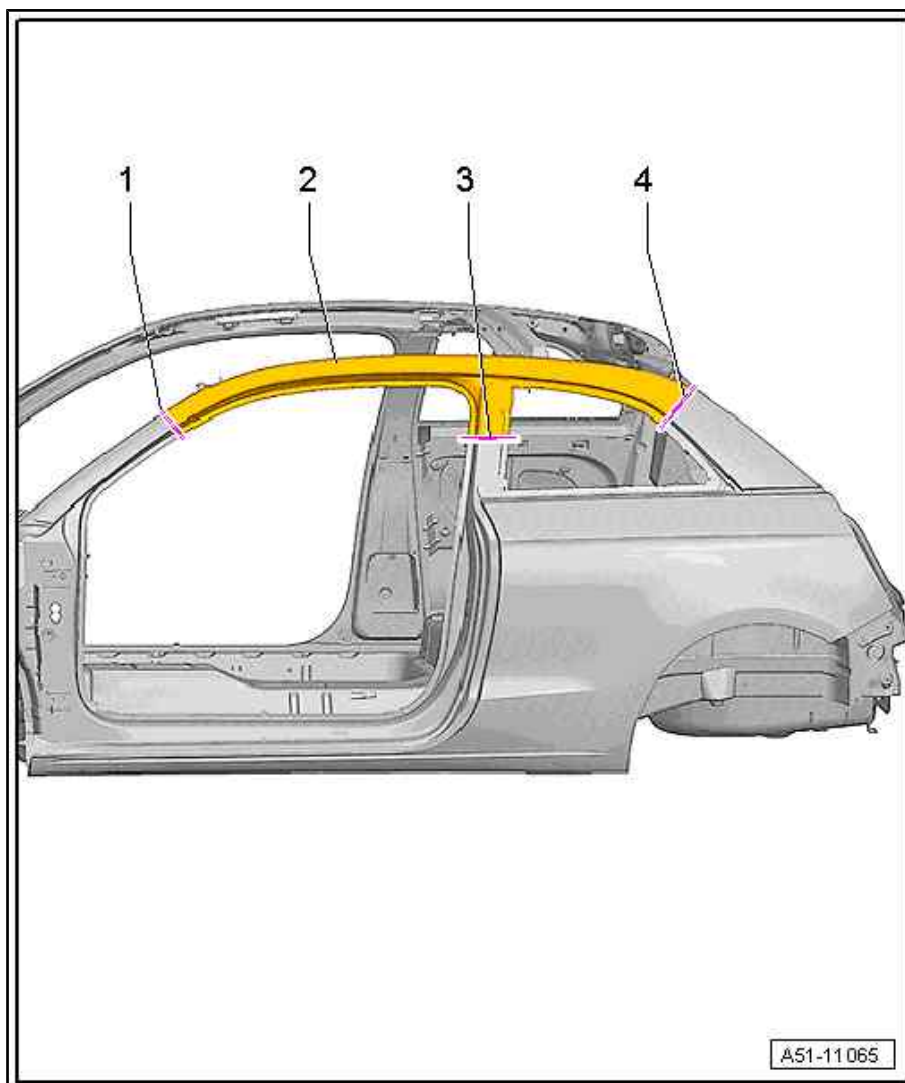
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RO: 51 05 55 50

6 Roof side member - Renewal

- 1 - Separating cut in A-pillar
- 2 - Roof side member
- 3 - Separating cut in B-pillar
- 4 - Separating cut in C-pillar



6.1 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 37](#) .

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6.2 Procedure

- Roof already removed ➔ [page 99](#)

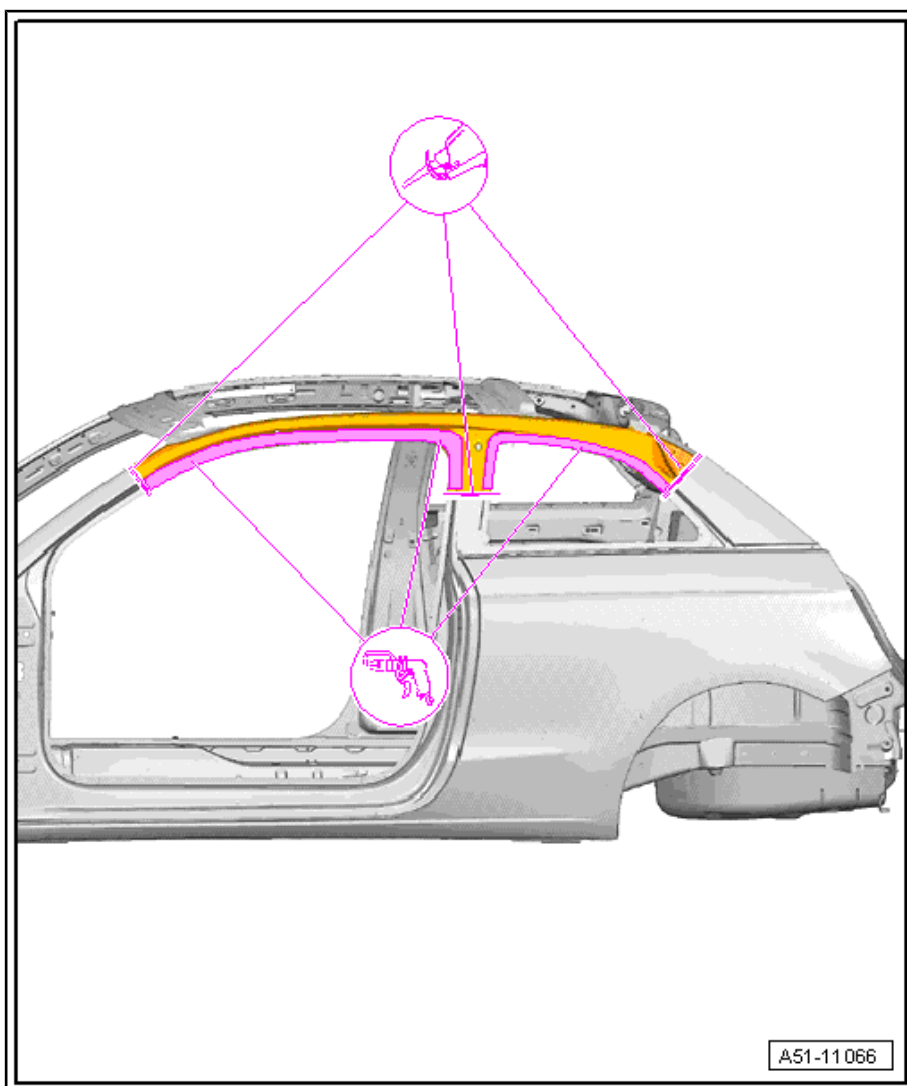


- Roof already removed (vehicles with panoramic tilting sunroof)
⇒ [page 104](#)
- Roof cross member already removed ⇒ [page 168](#)

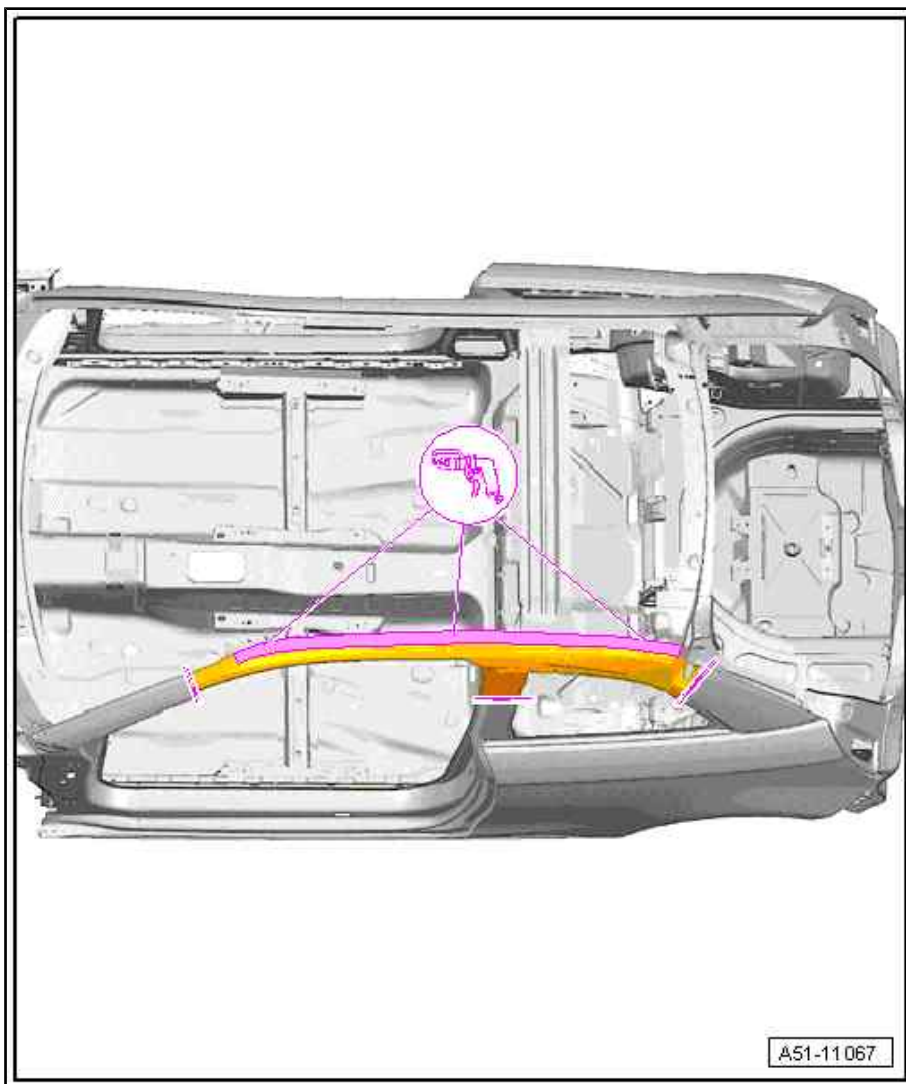
Cutting locations

Permitted separating cuts on side panel ⇒ [page 97](#)

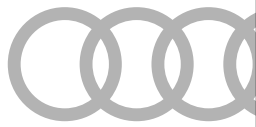
- Make separating cuts at A, B and C-pillars according to degree of damage using body saw .
- Separate original joint using spot weld breaker .



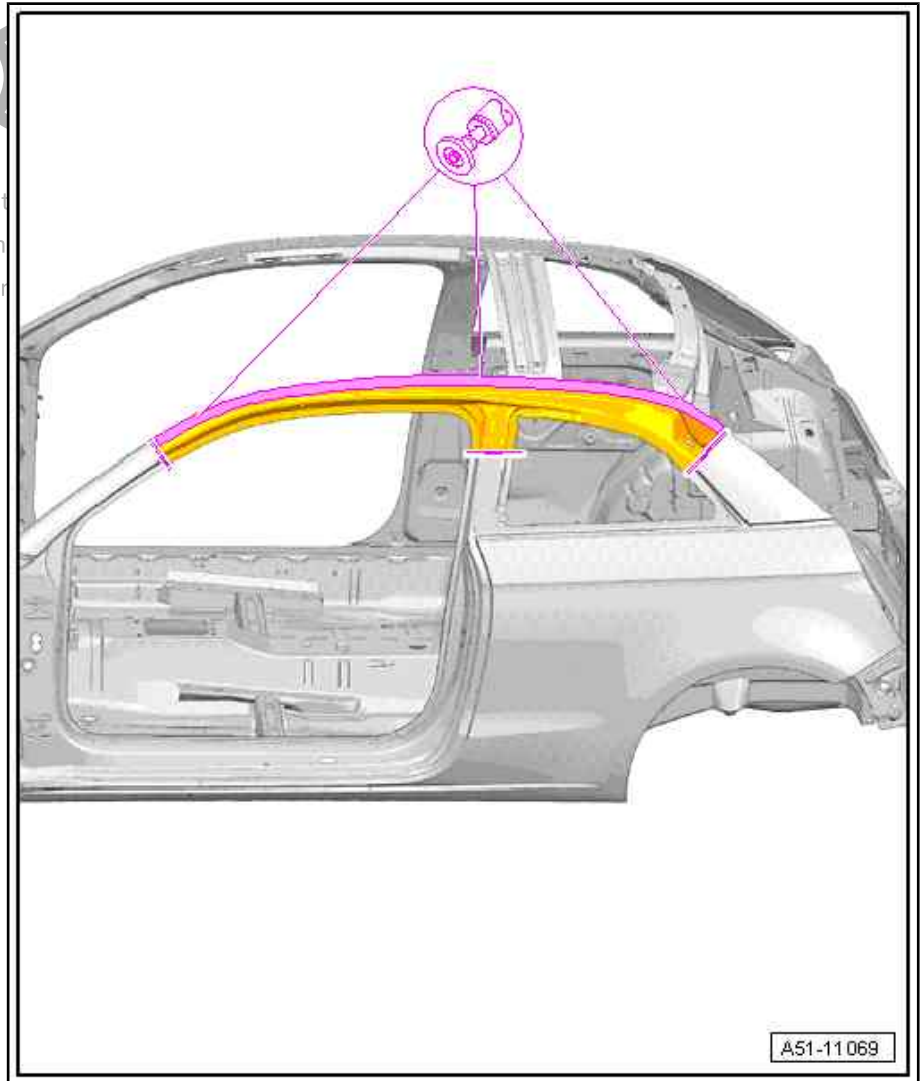
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— **Separate original joint using spot weld breaker** — we do not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



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Replacement part

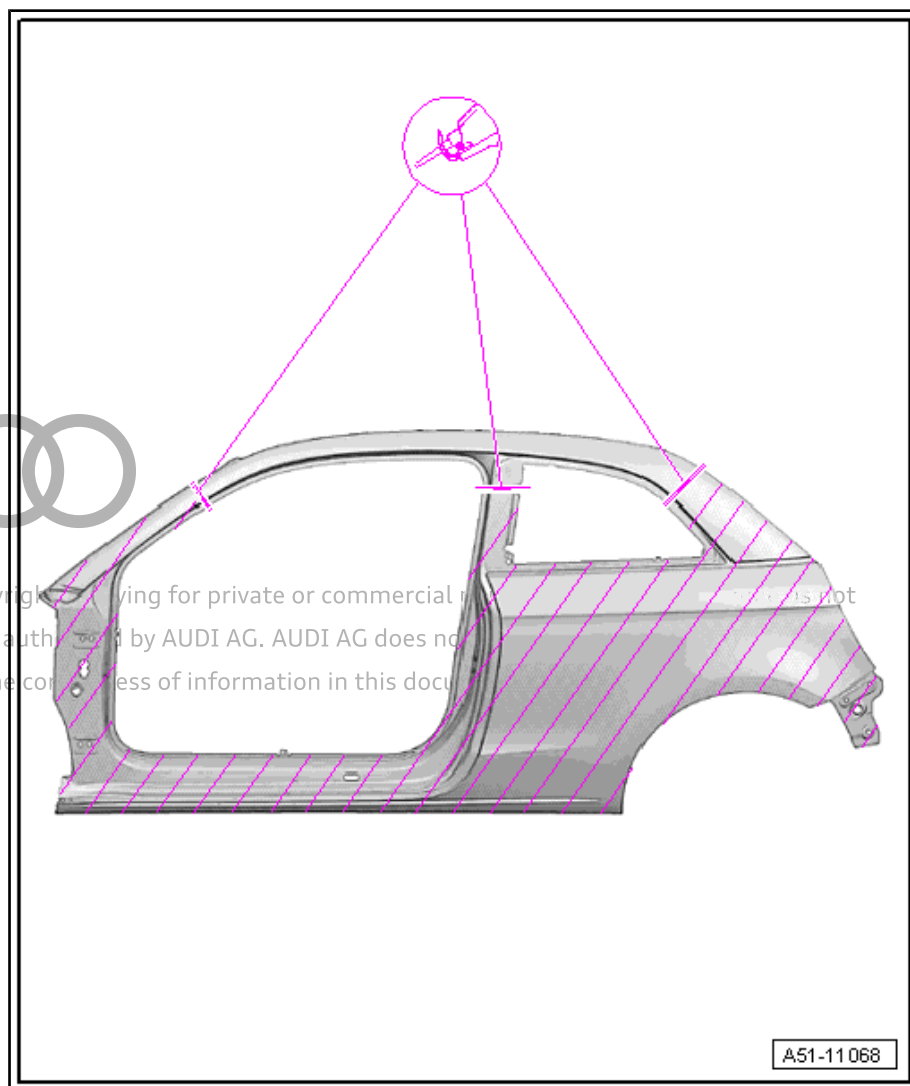
- ◆ Side panel

Preparing new part

- Transfer separating cuts to new part and cut off hatched area using body saw .



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Note

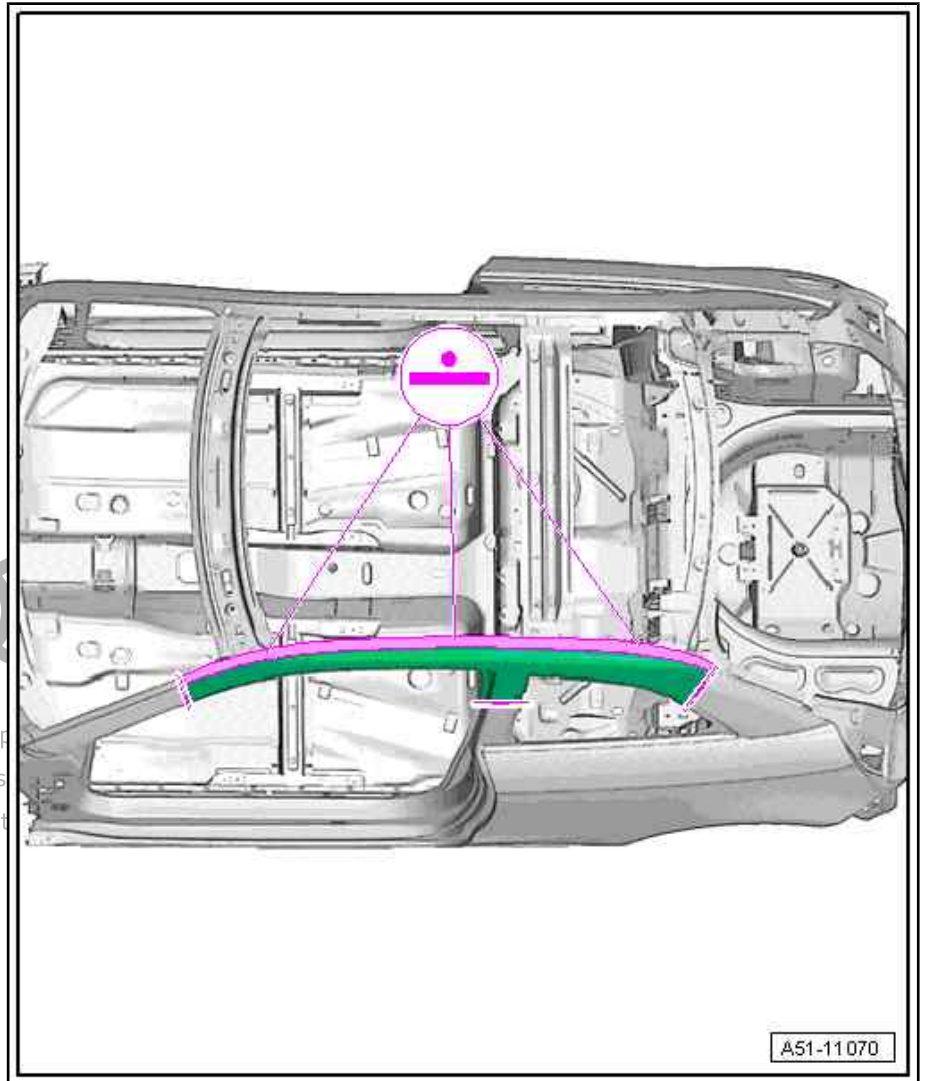
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Match up roof side member and fix in position.
- Check fit relative to bolt-on parts.
- Weld in roof side member using resistance spot welder : RP spot weld seam.



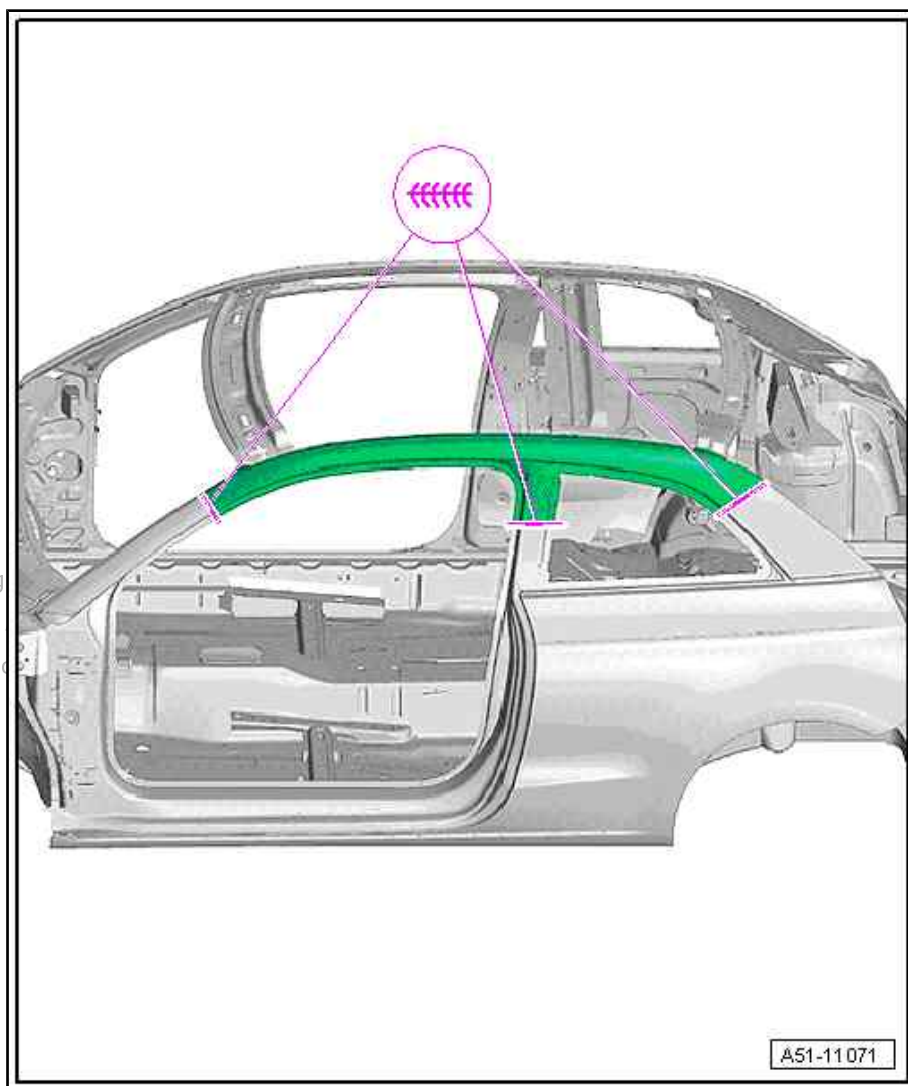
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- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.



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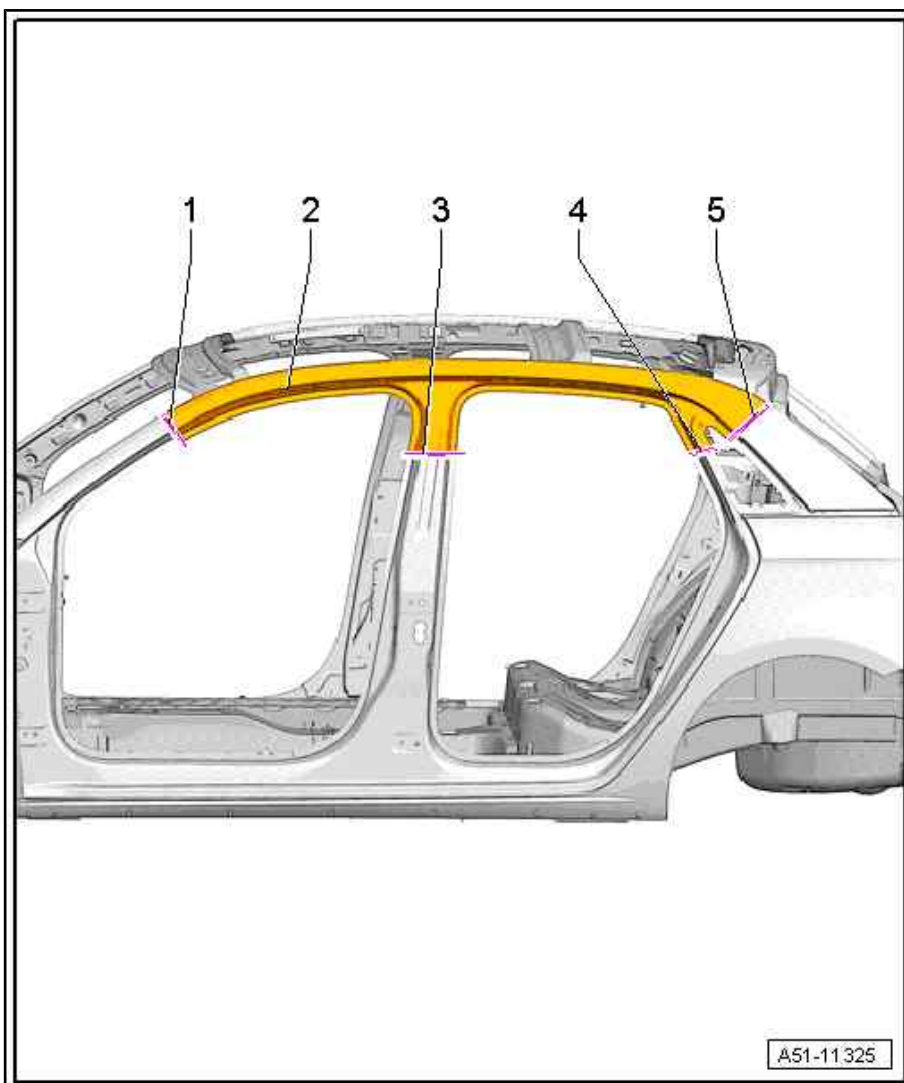
- Welding in roof ➤ [page 99](#)
- Welding in roof (vehicles with panoramic tilting sunroof)
➤ [page 104](#)



RO: 51 05 55 50

7 Roof side member - Renewal (Sportback)

- 1 - Separating cut in A-pillar
- 2 - Roof side member
- 3 - Separating cut in B-pillar
- 4 - Separating cut in C-pillar
- 5 - Separating cut in D-pillar



7.1 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 37](#) .

7.2 Procedure

- Roof already removed (Sportback with panoramic tilting sun-roof) [⇒ page 132](#)
- Roof already removed (Sportback) [⇒ page 109](#)

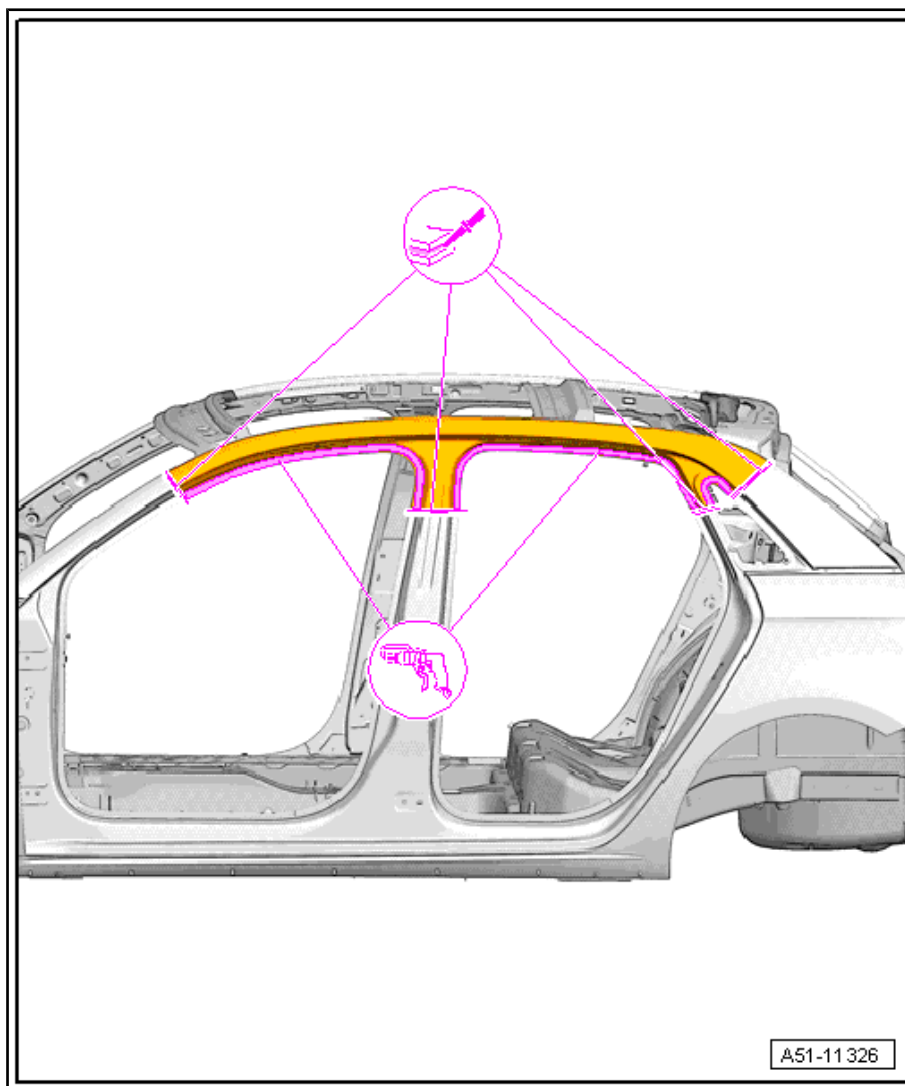


Cutting locations

Permitted separating cuts on side panel ⇒ [page 97](#)

- Make separating cuts at A, B, C and D-pillars according to degree of damage using body saw .
- Separate original joint using spot weld breaker .

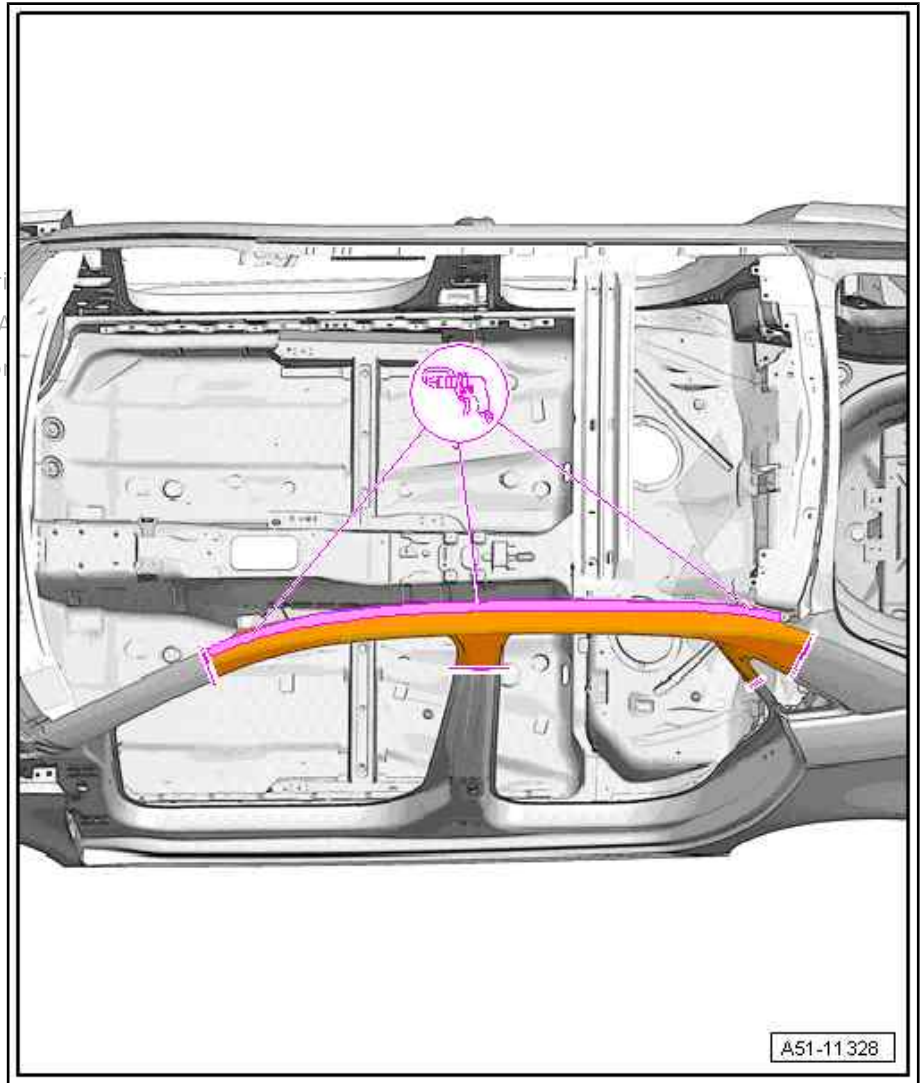
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- Separate original joint using spot weld breaker .



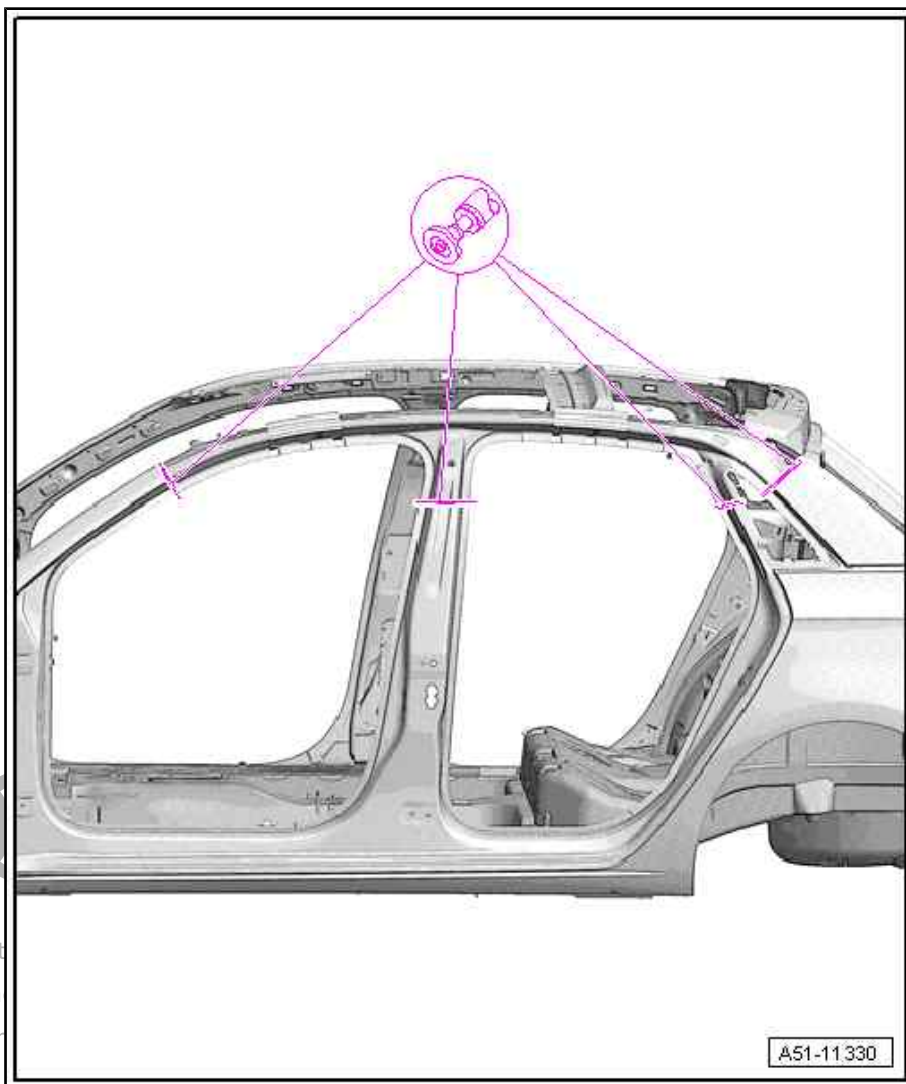
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- Remove remaining material using compact angle grinder .



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Replacement part

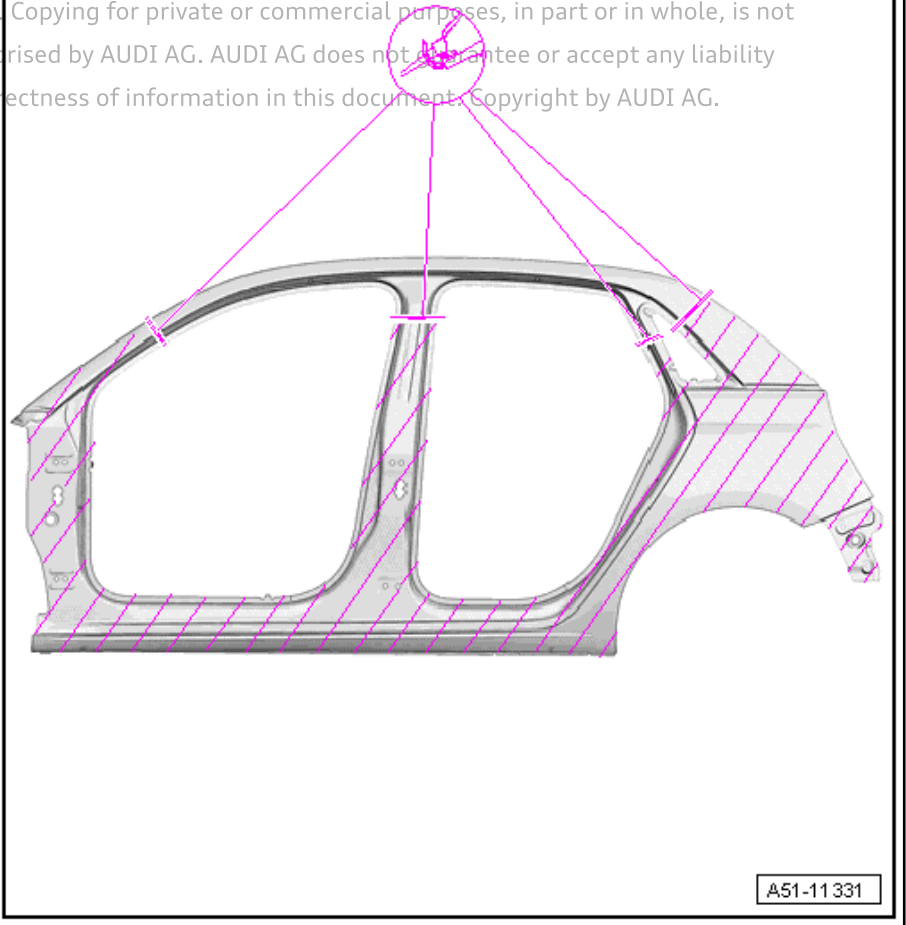
- ◆ Side panel

Preparing new part

- Transfer separating cuts to new part and cut off hatched area using body saw .



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Note

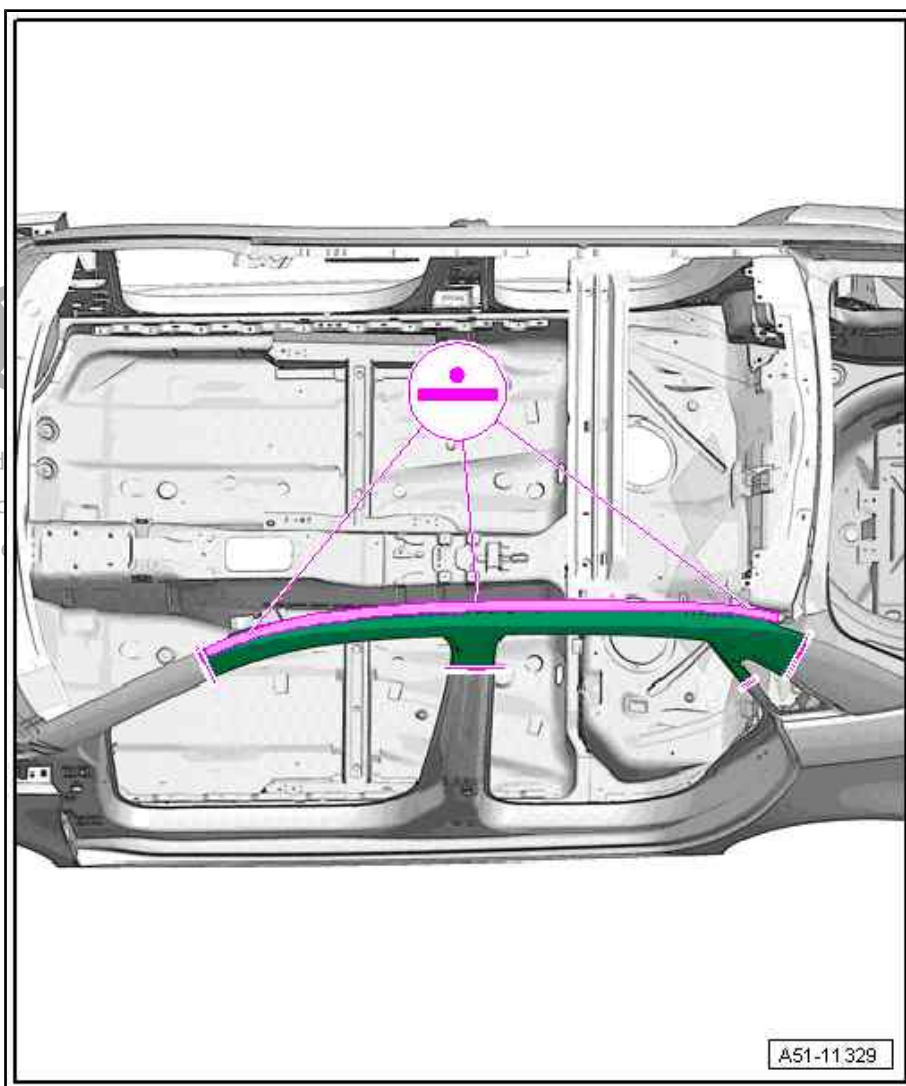
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Match up roof side member and fix in position.
- Check fit relative to bolt-on parts.
- Weld in roof side member using resistance spot welder : RP spot weld seam.



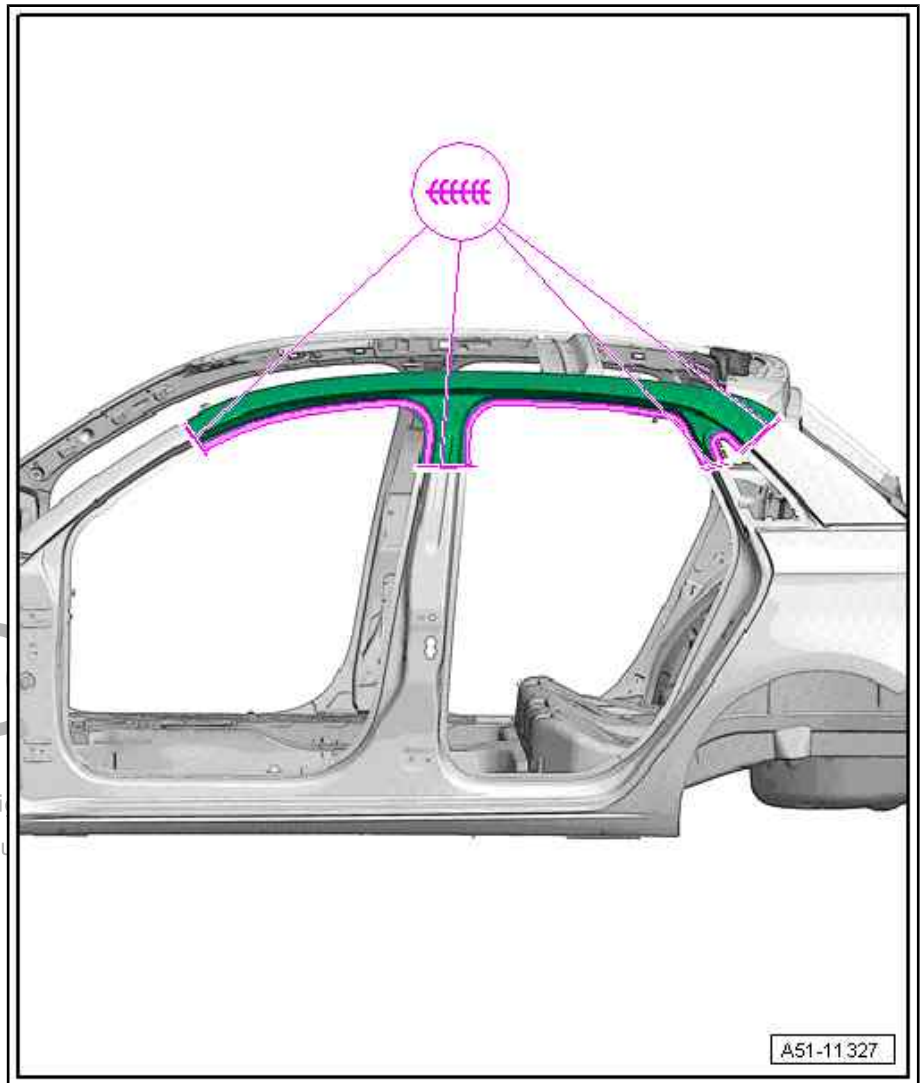
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- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.



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- Welding in roof (Sportback with panoramic tilting sunroof)
⇒ [page 132](#)
- Welding in roof (Sportback) ⇒ [page 109](#)
- Welding in roof cross member ⇒ [page 168](#)

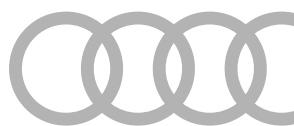
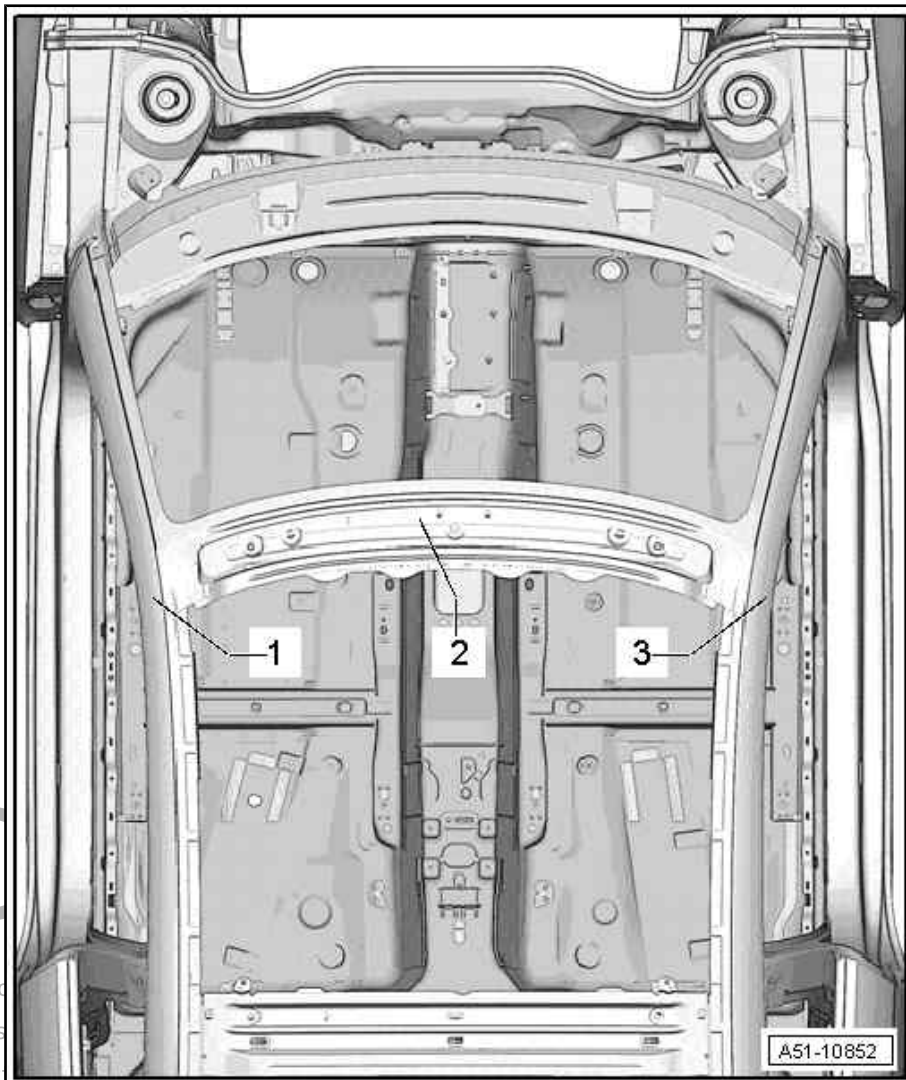


RO: 51 07 55 50

8 Front roof cross member - Renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Side frame (left-side)
- 2 - Roof cross member (front)
- 3 - Side frame (right-side)



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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 37](#) .

8.2 Procedure

- Roof already removed (Sportback with panoramic tilting sunroof) ➔ [page 132](#)
- Roof already removed (Sportback) ➔ [page 109](#)



- Roof already removed ⇒ [page 99](#)
- Roof already removed (vehicles with panoramic tilting sunroof)
⇒ [page 104](#)

Cutting locations

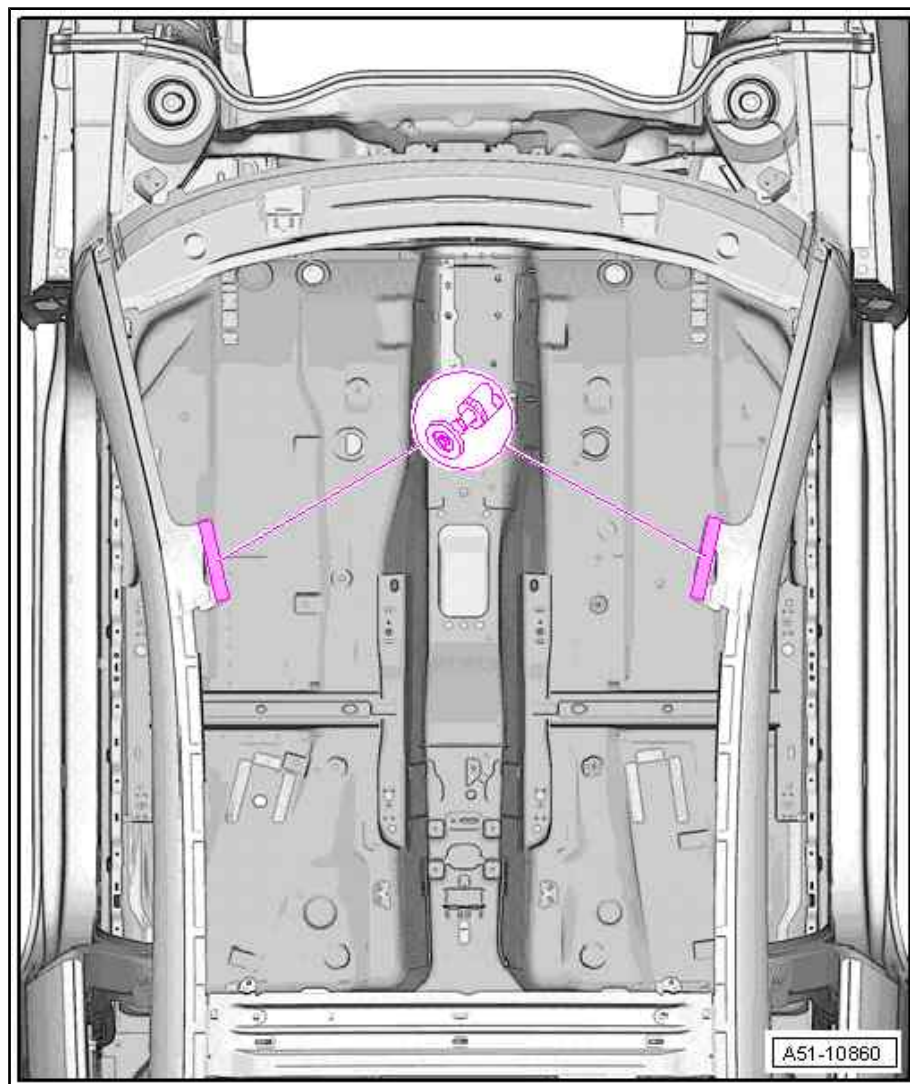
- Roughly cut out roof cross member using body saw .
- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .



Replacement part

- ◆ Roof cross member

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



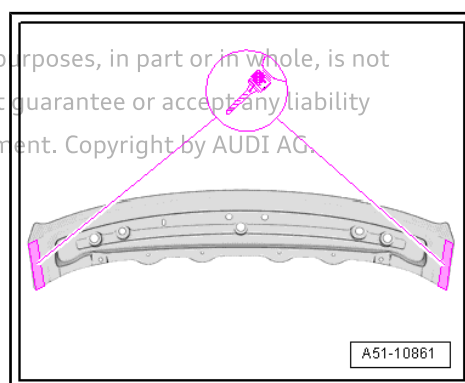
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Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

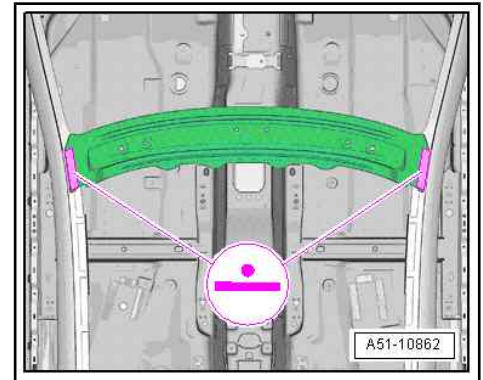
Welding in

- Match up and fix new part in position.

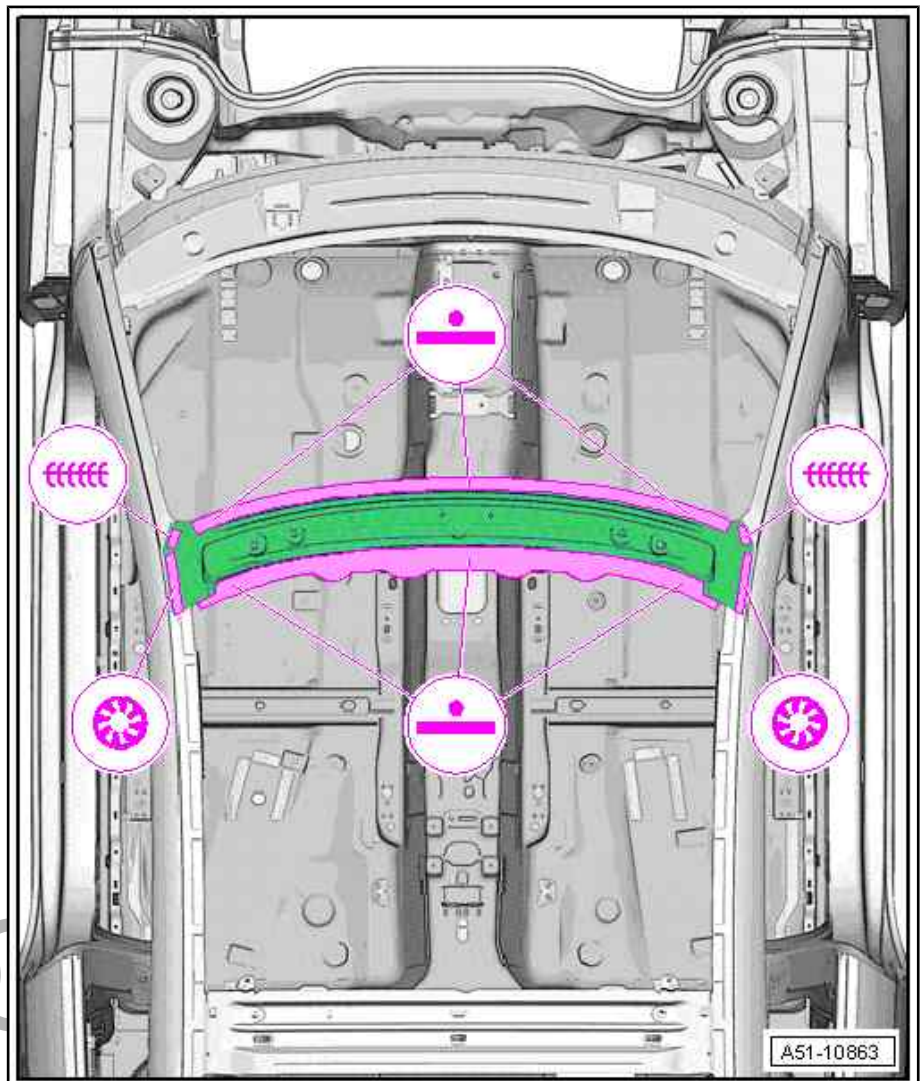




- Weld in new part using resistance spot welder : RP spot weld seam.



- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in front roof cross member using shielded arc welding equipment : SG plug weld seam.
- In place of laser weld make 20 mm seam using shielded arc welding equipment : SG continuous seam.



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- Welding in roof (Sportback with panoramic tilting sunroof)

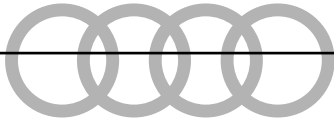
⇒ [page 132](#) with respect to the correctness of information in this document. Copyright by AUDI AG.



- Welding in roof (Sportback) ⇒ [page 109](#)
- Welding in roof ⇒ [page 99](#)
- Welding in roof (vehicles with panoramic tilting sunroof)
⇒ [page 104](#)



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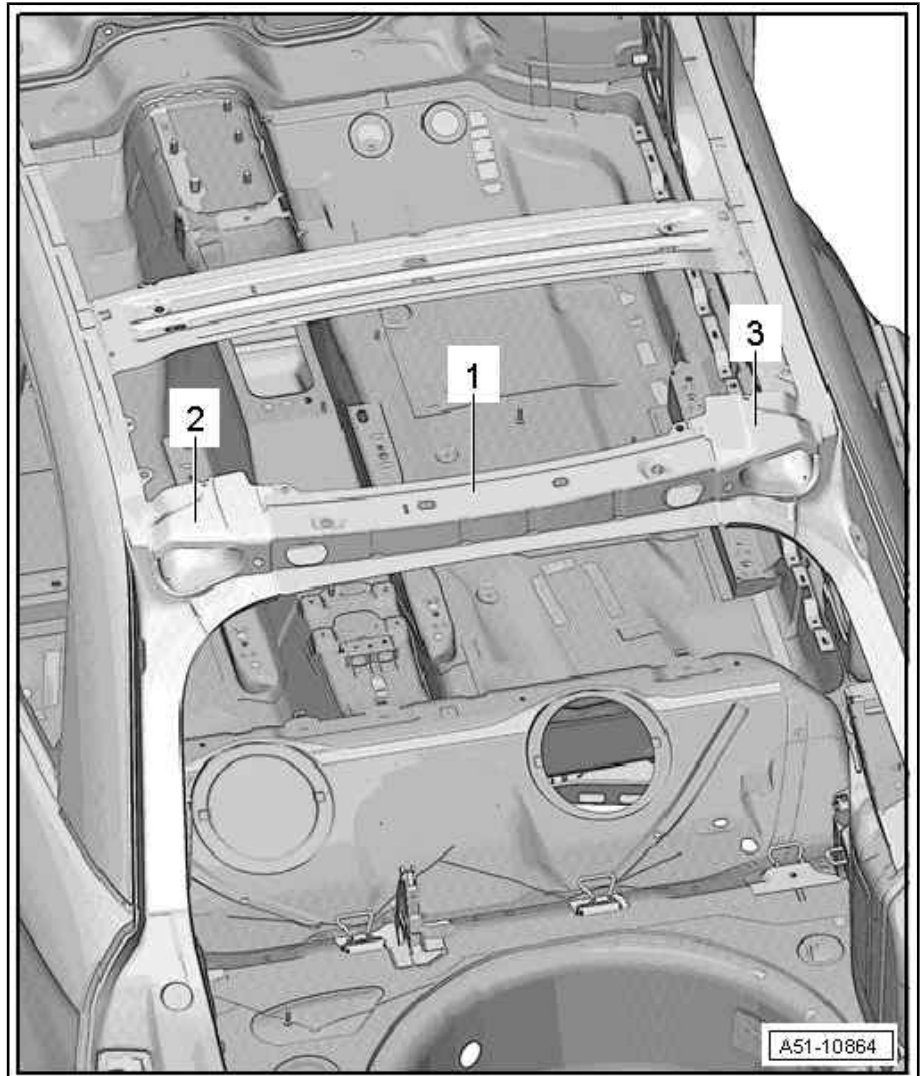


RO: 51 09 55 50

9 Rear roof cross member - Renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Roof cross member
- 2 - Right roof frame connection
- 3 - Left roof frame connection



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 37](#) .

9.2 Procedure

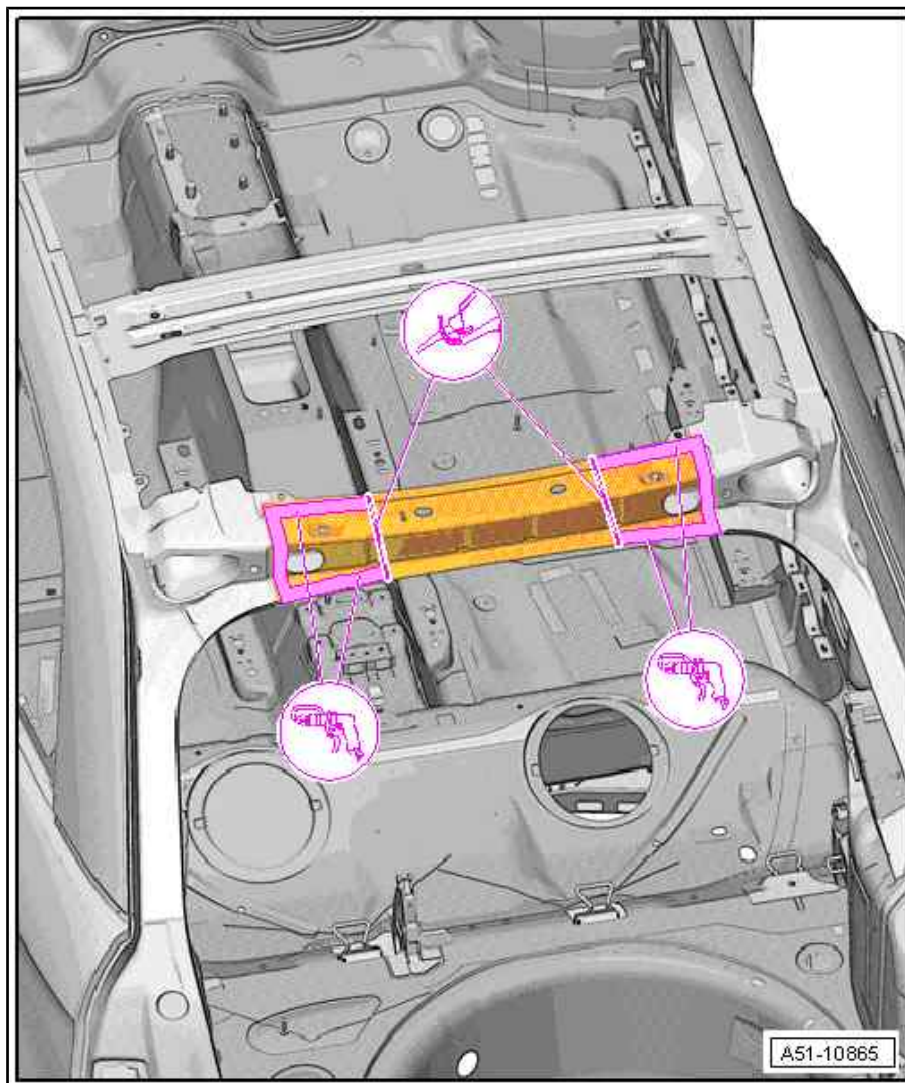
- Roof already removed (Sportback with panoramic tilting sun-roof) ⇒ [page 132](#)
- Roof already removed (Sportback) ⇒ [page 109](#)



- Roof already removed ➔ [page 99](#)
- Roof already removed (vehicles with panoramic tilting sunroof)
➔ [page 104](#)

Cutting locations

- Roughly cut out roof cross member using body saw .
- Separate original joint using spot weld breaker .



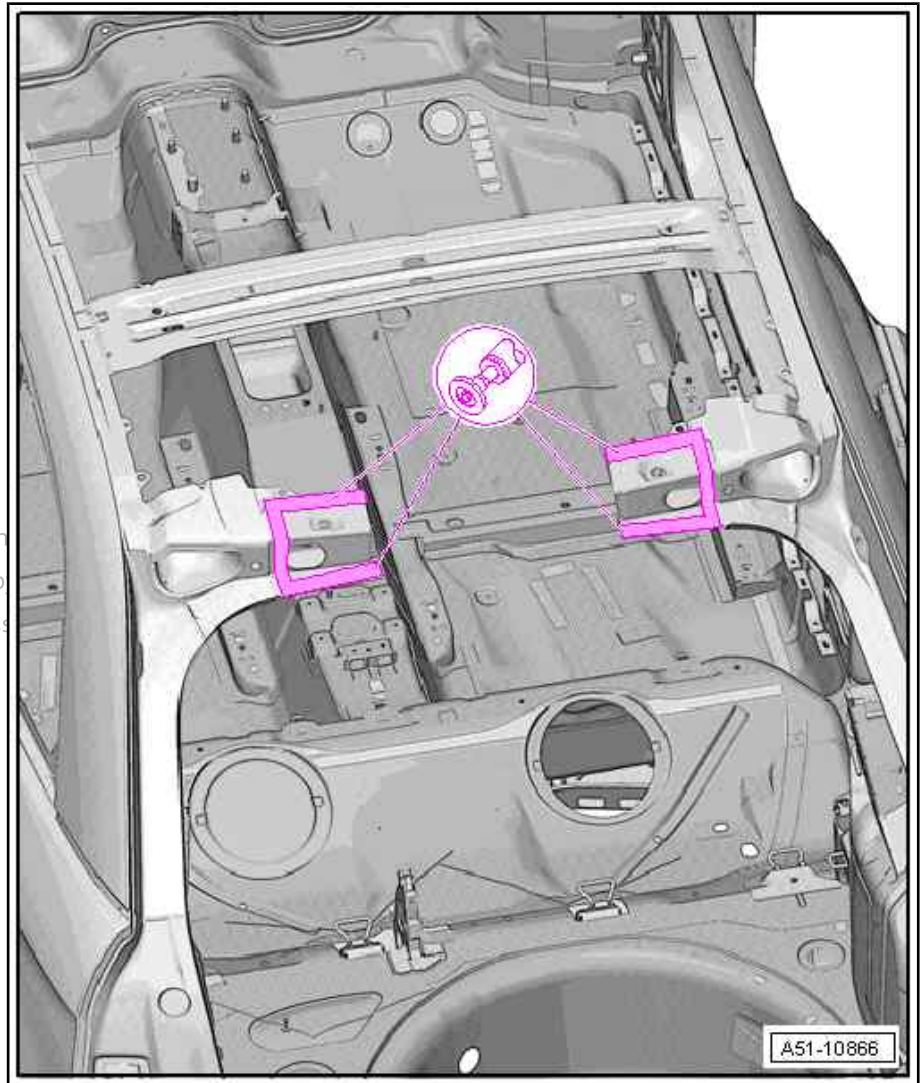
- Remove remaining material using compact angle grinder .



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Replacement parts

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

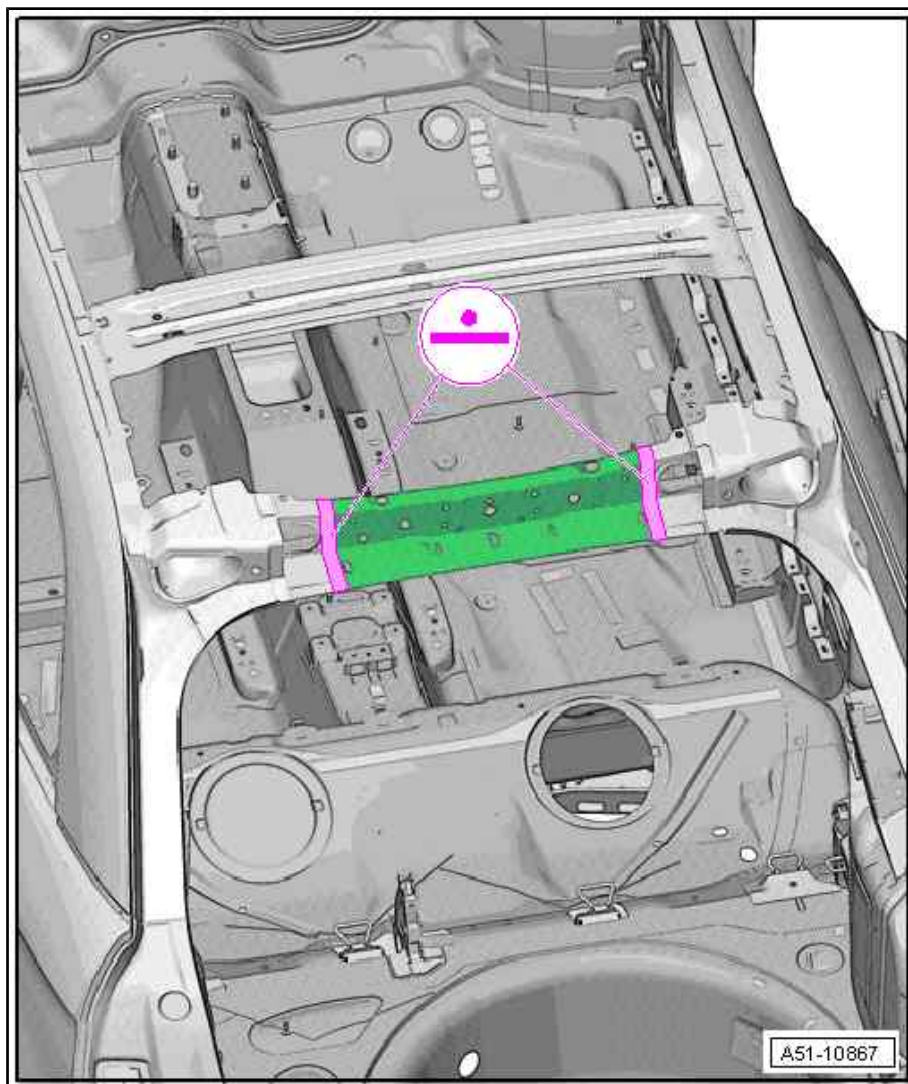


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

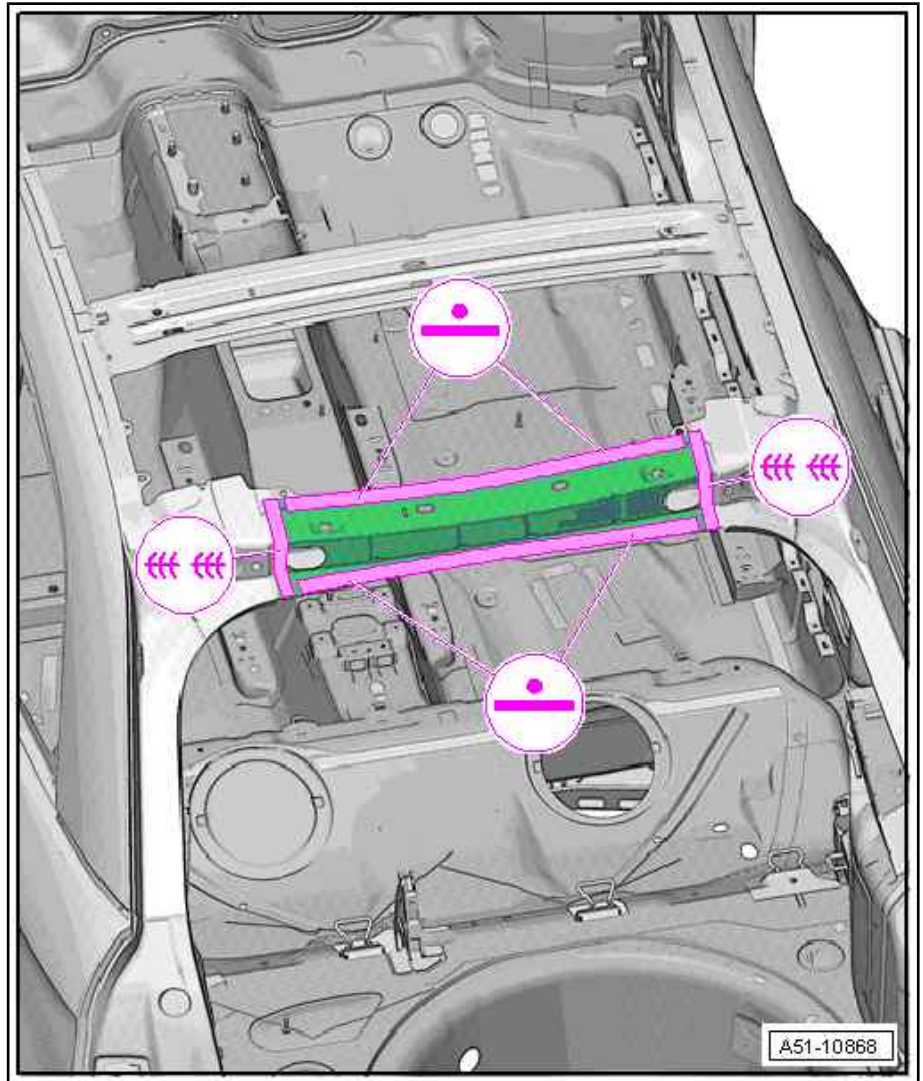
Welding in

- 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.



- Match up upper 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.
- Make additional welds at roof frame connections on both sides using shielded arc welding equipment : SG continuous seam (staggered - with gaps)

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- Welding in roof (Sportback with panoramic tilting sunroof)
⇒ [page 132](#)
- Welding in roof (Sportback) ⇒ [page 109](#)
- Welding in roof ⇒ [page 99](#)
- Welding in roof (vehicles with panoramic tilting sunroof)
⇒ [page 104](#)



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RO: 51 37 55 00

10 Outer A-pillar - Renewal

Audi A1 and Audi A1 Sportback identical

1 - A-pillar

2 - Upper separating cut

3 - Separating cut in side member

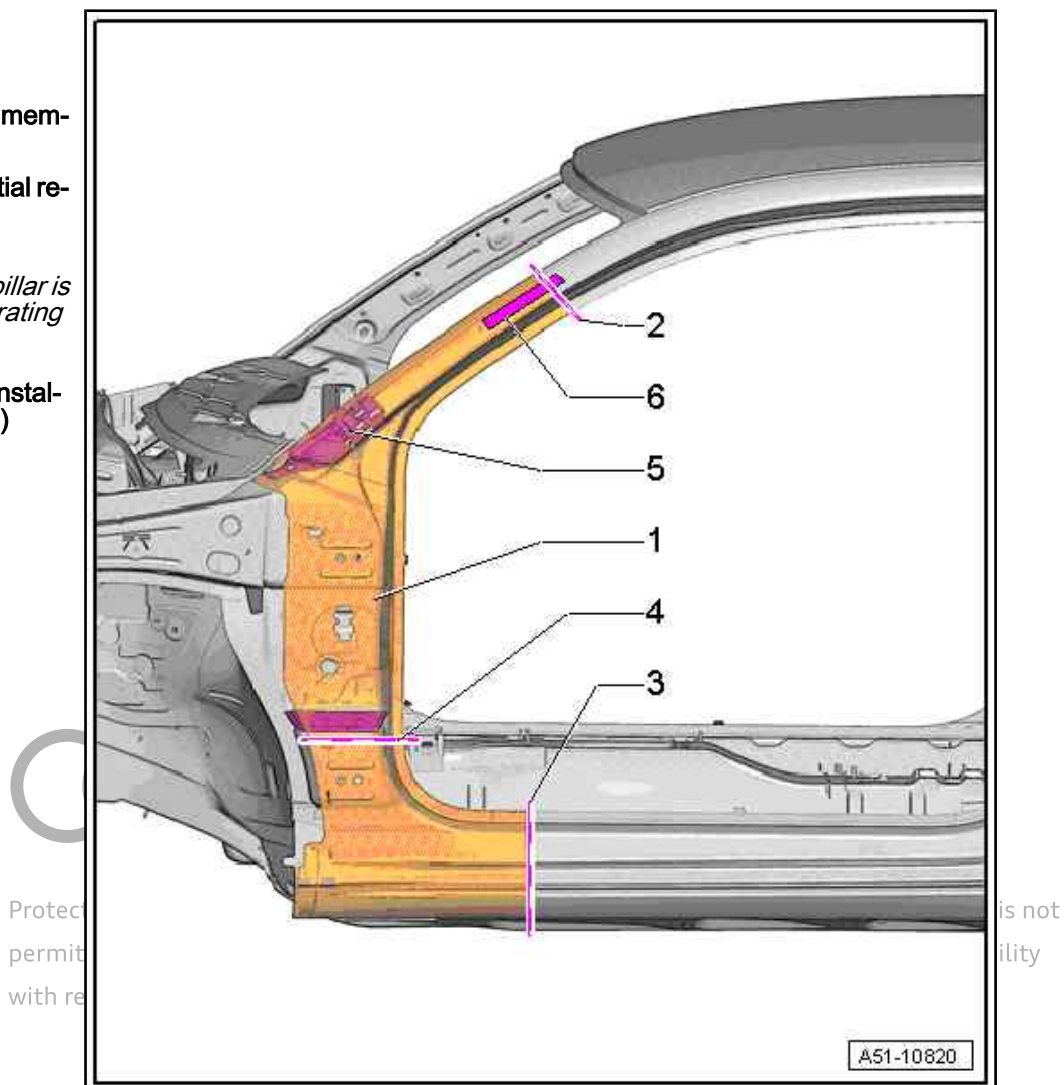
4 - Separating cut for partial renewal

Partial renewal

Partial renewal of the A-pillar is possible using this separating cut.

5 - Web plate (is not re-installed when making repairs)

6 - Moulded foam insert



10.1 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 37](#) .



10.2 Procedure

Cutting locations

Permitted separating cuts on side panel ➔ [page 97](#)



Note

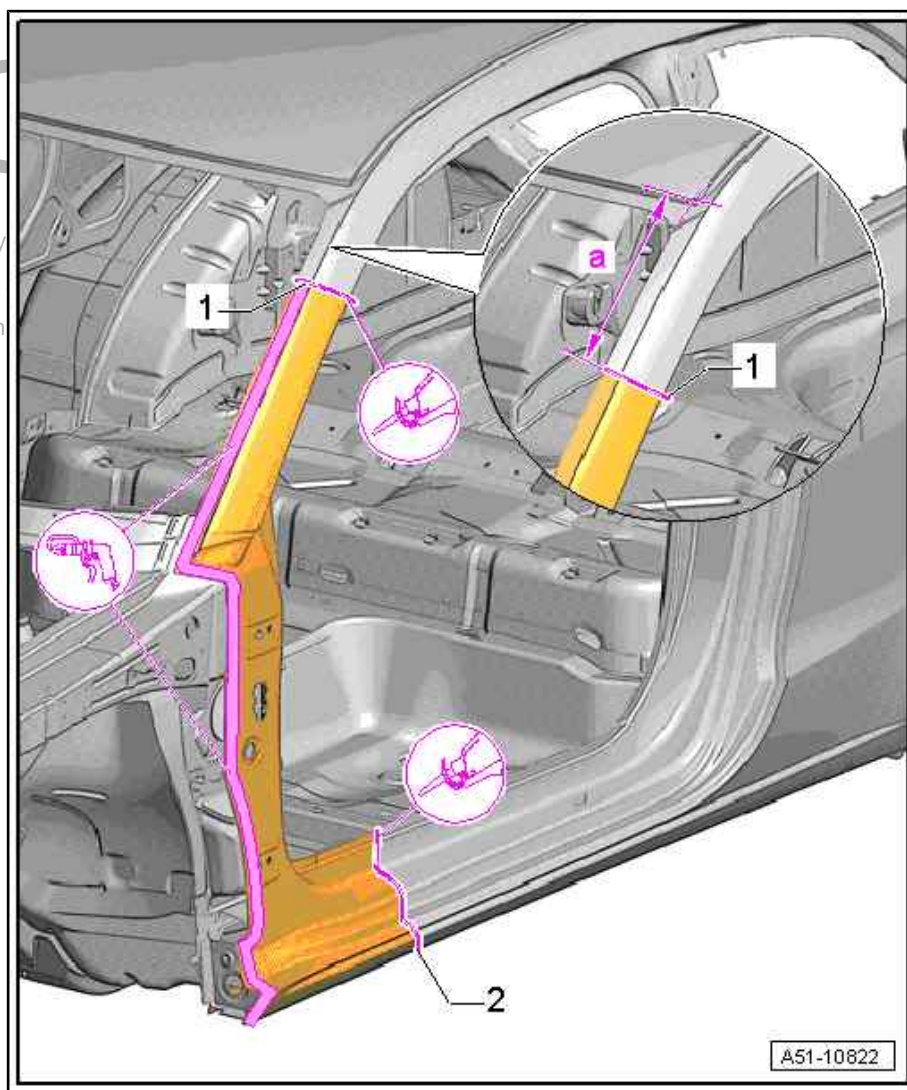
- ◆ When making separating cuts, ensure that the panels located behind are not damaged.
- ◆ If the inner A-pillar is also being renewed, the separating cut -1- must be made at distance -a- from the edge of the roof.

Dimension -a- = 120 mm

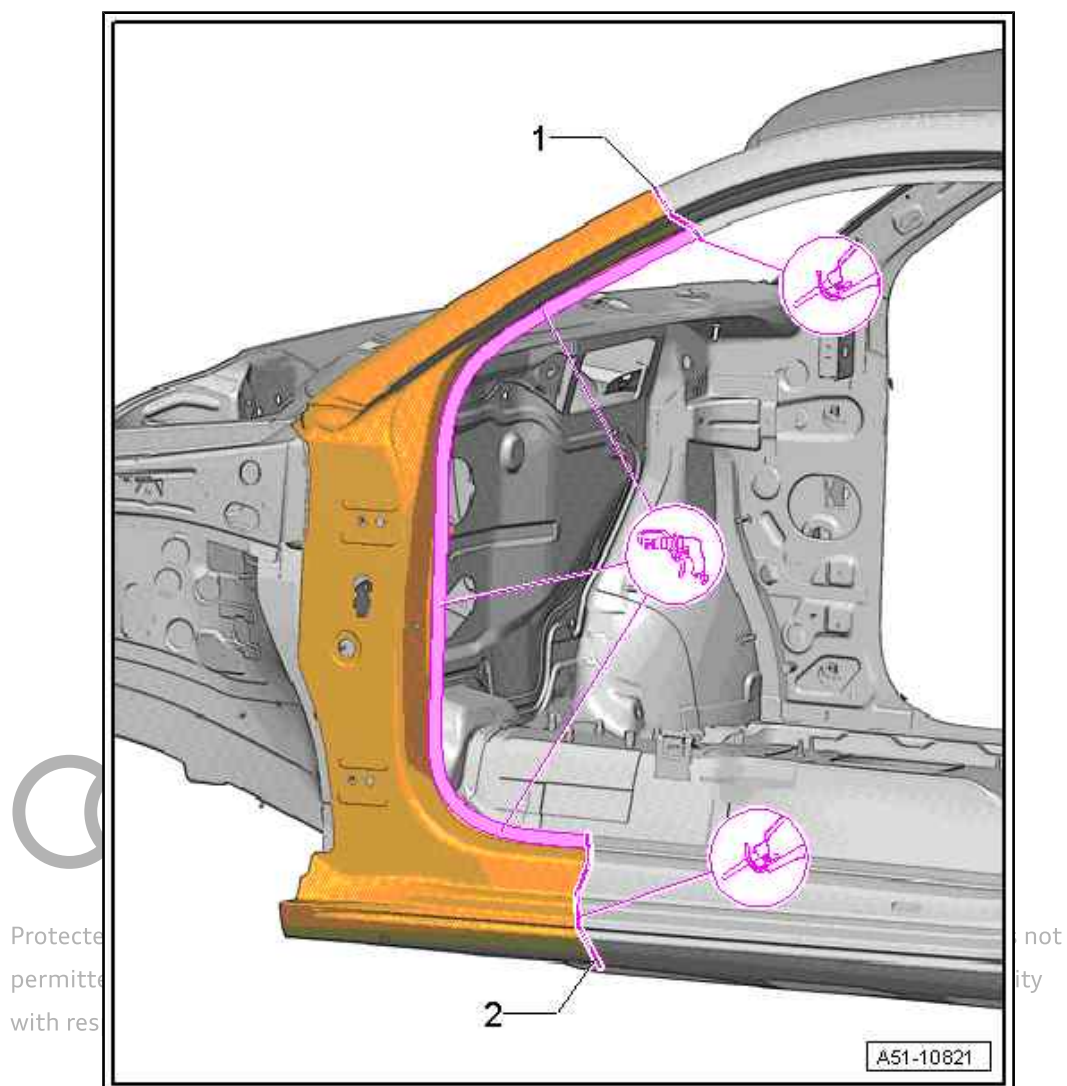
- Mark off separating cut -1- according to degree of damage and make cut using body saw .
- Mark off separating cut -2- according to degree of damage and make cut using body saw .



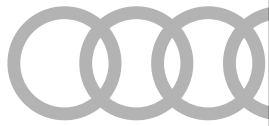
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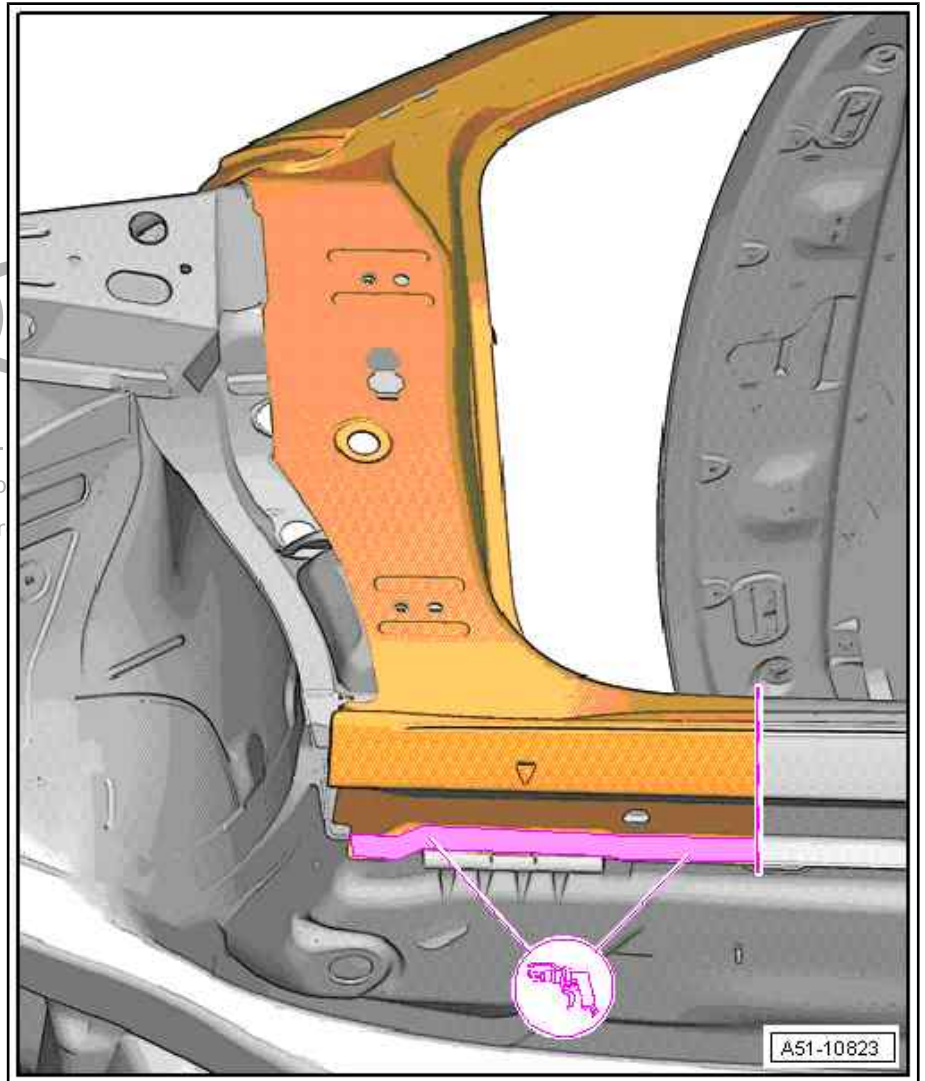
- Separate original joint using spot weld breaker .
- Make separating cut as shown using body saw .



- Separate original joint using spot weld breaker .



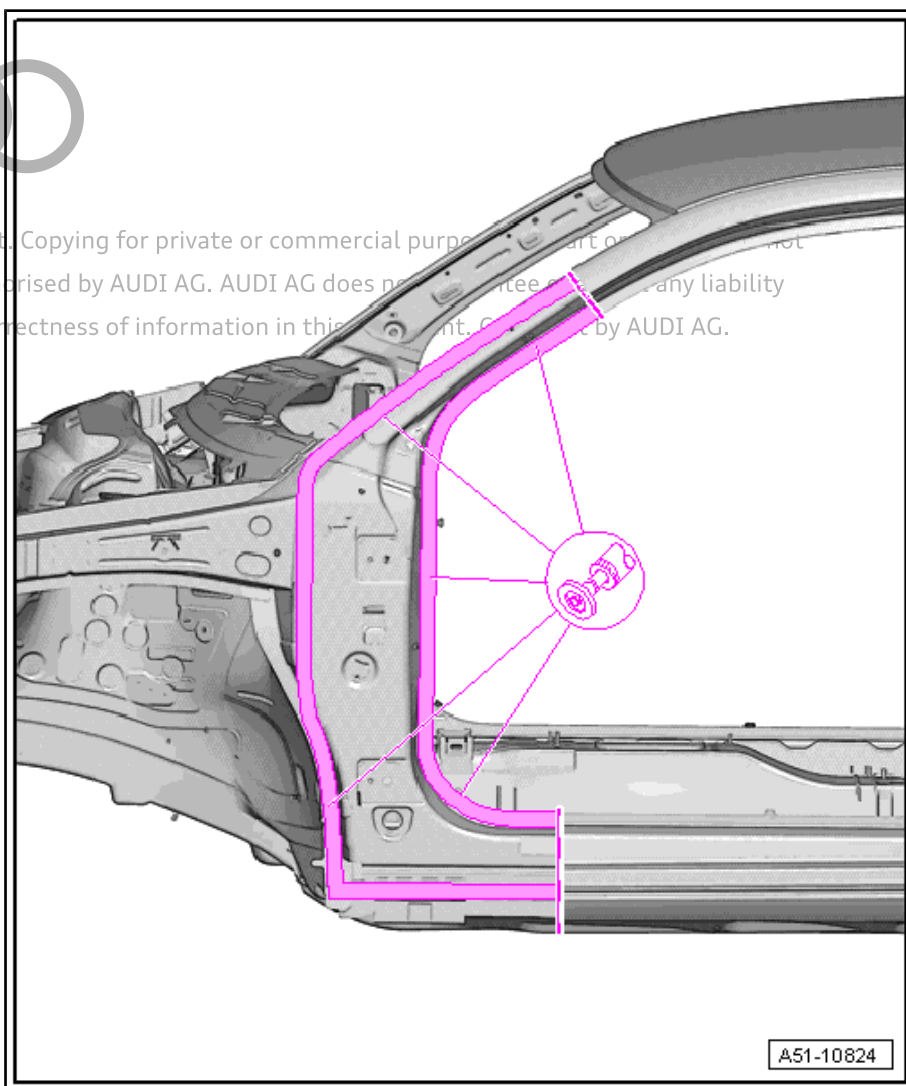
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- Remove remaining material using compact angle grinder .



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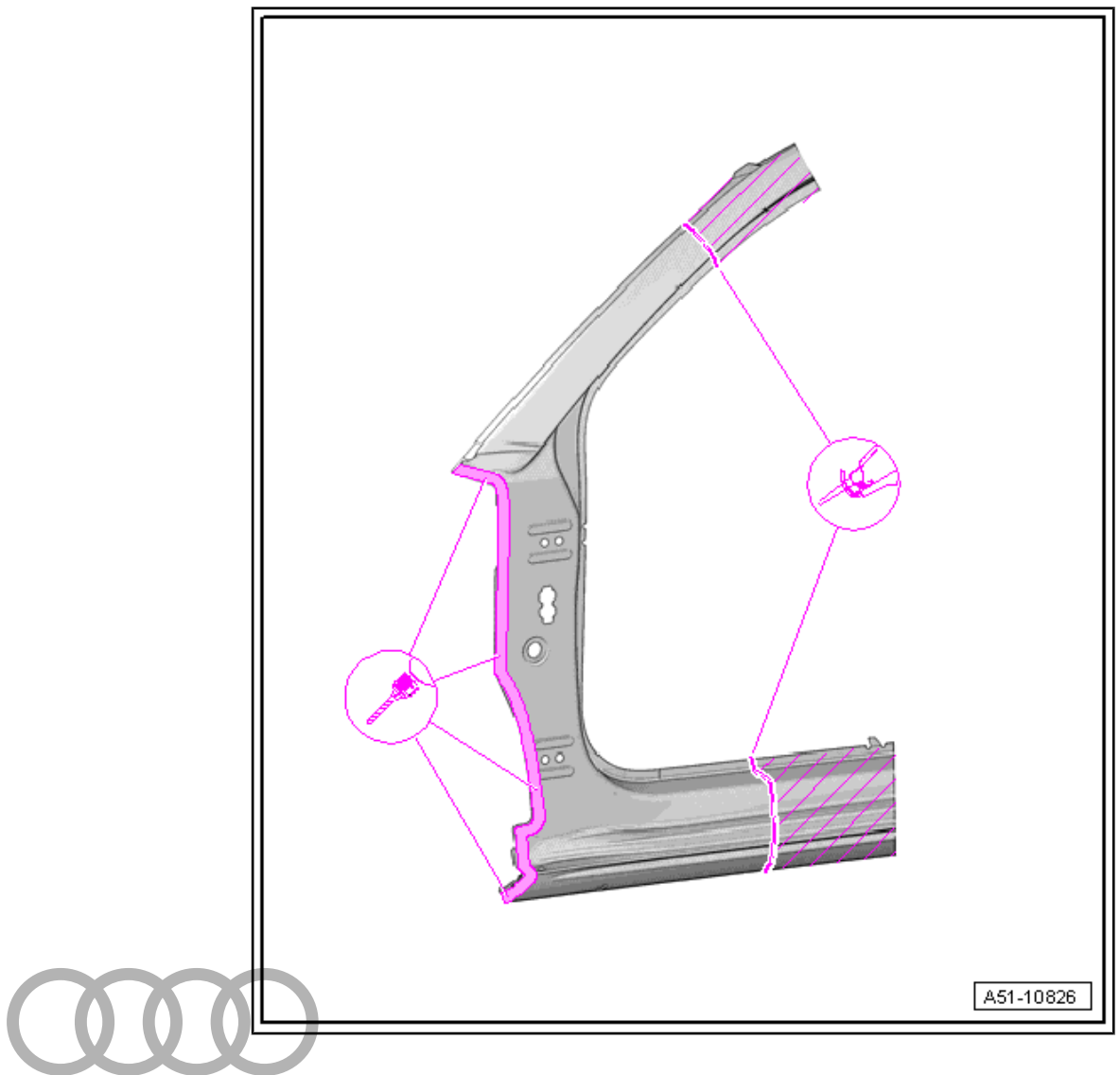


Replacement part

- ◆ A-pillar (sub-part)

Preparing new part

- Transfer separating cuts to new part and cut to size using body saw .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .

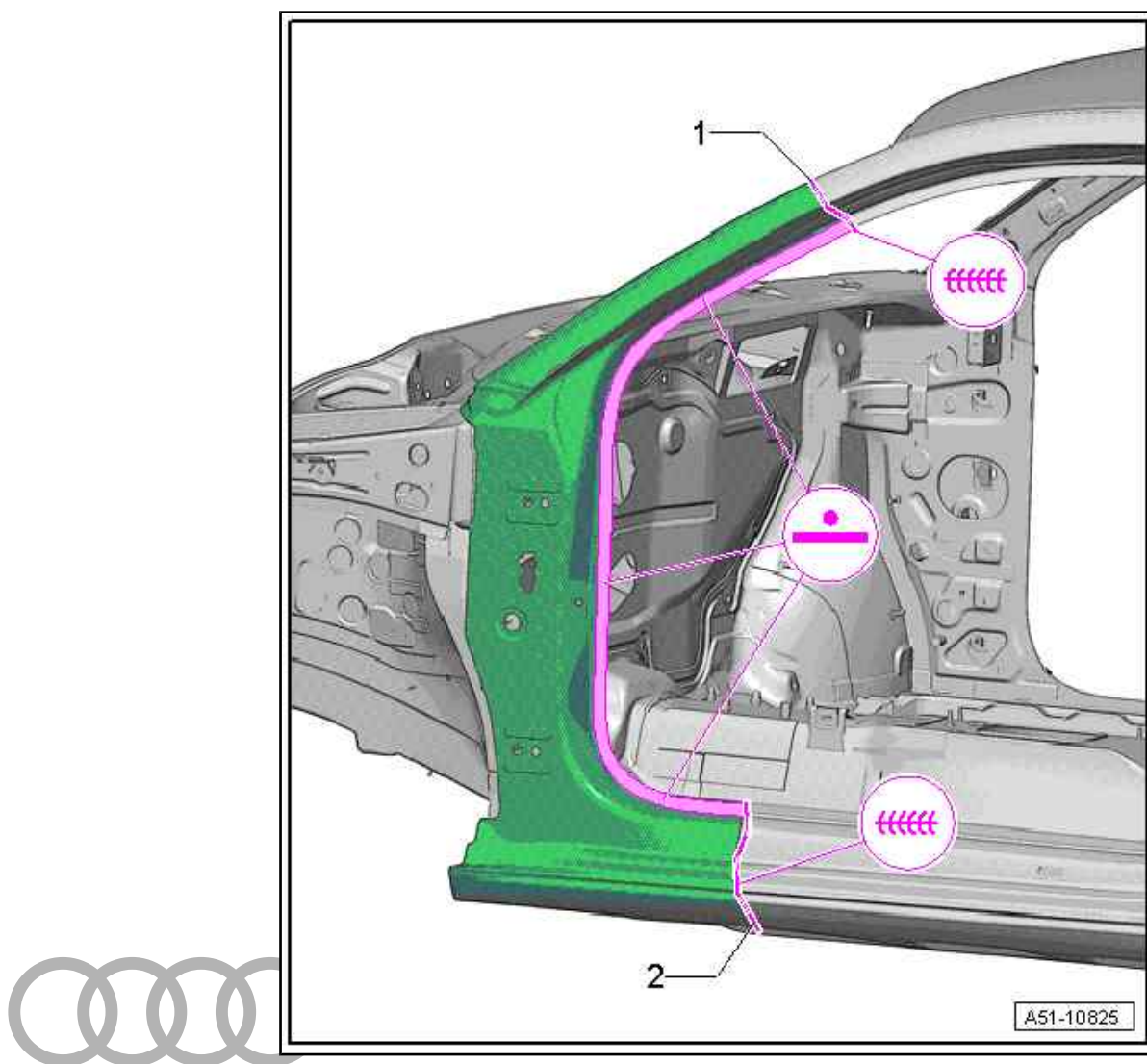


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Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

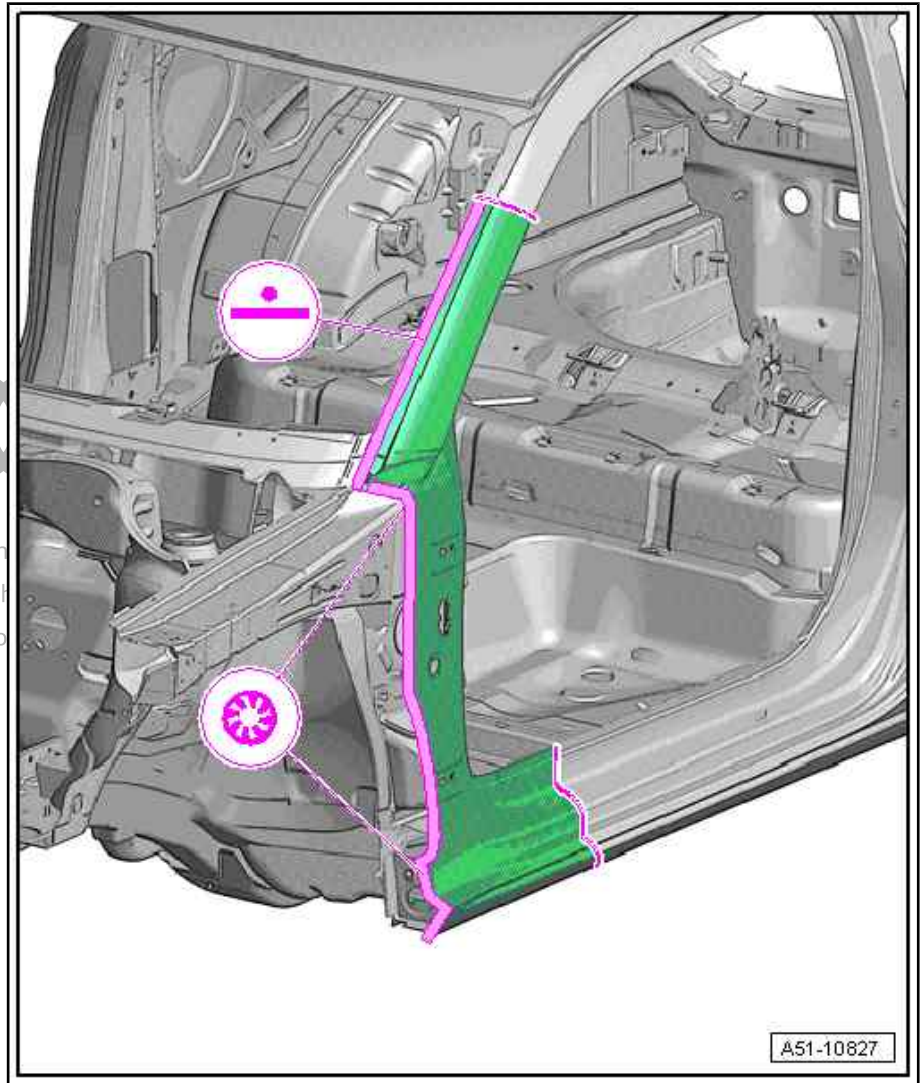
- Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in outer A-pillar using resistance spot welder : RP spot weld seam.



- Weld in A-pillar using resistance spot welder : RP spot weld seam.
- Weld in A-pillar using shielded arc welding equipment : SG plug weld seam.



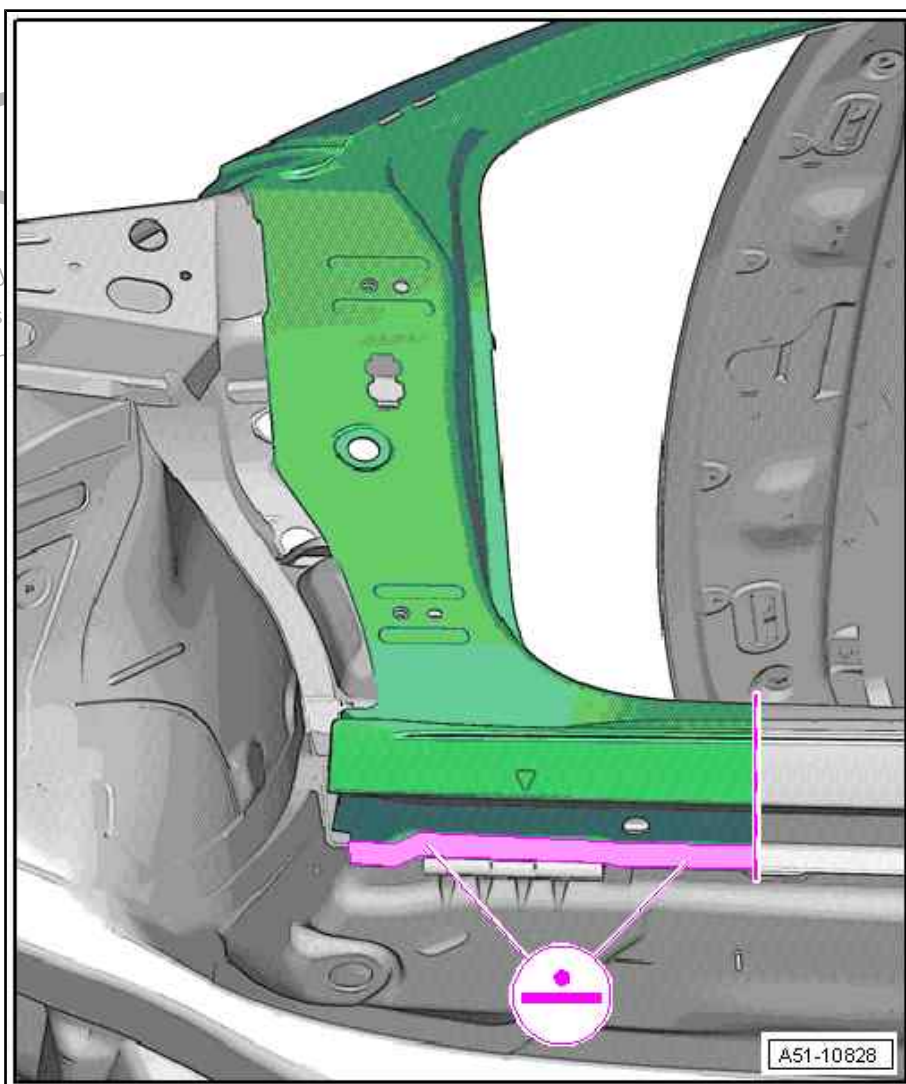
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- Weld in lower A-pillar using resistance spot welder : RP spot weld seam.



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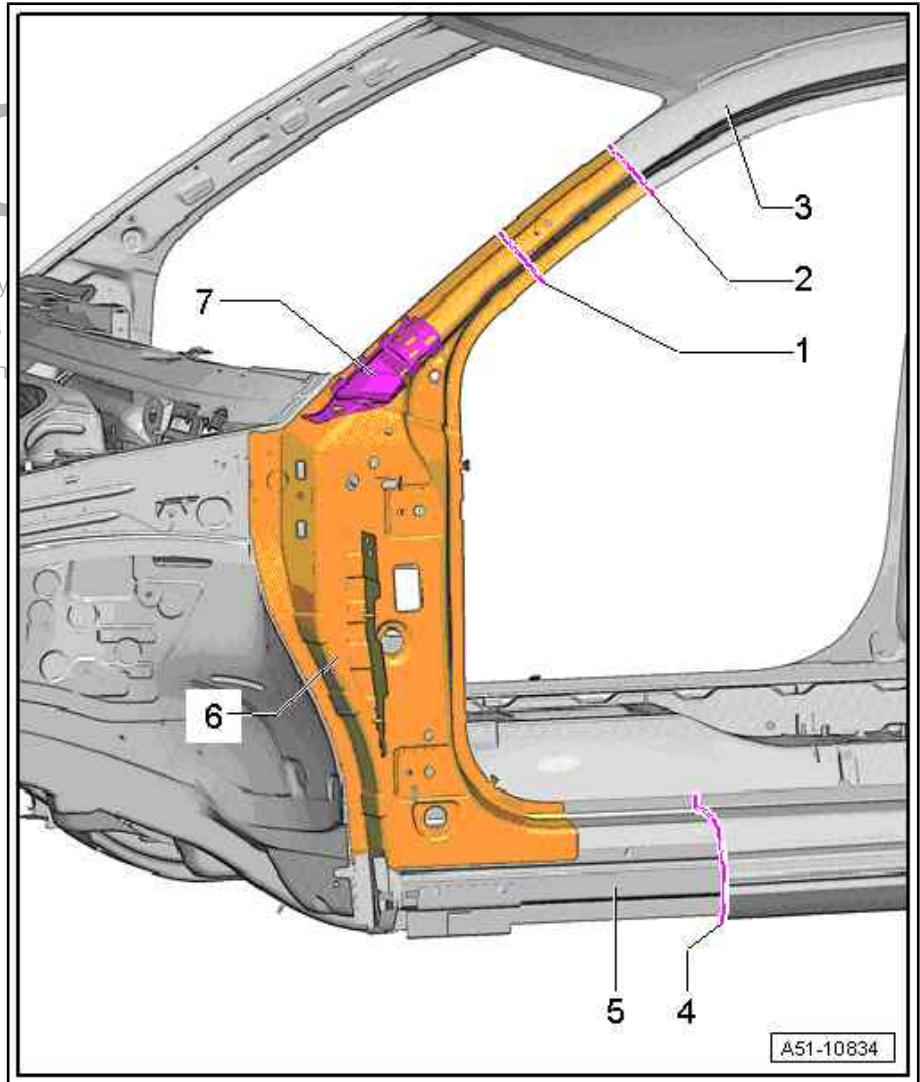


RO: 51 38 55 50

11 Inner A-pillar - Partial renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Separating cut, inner A-pillar
- 2 - Separating cut, outer A-pillar
- 3 - Side panel
- 4 - Separating cut, outer side member
- 5 - Inner side member
- 6 - Inner A-pillar
- 7 - Web plate (is not re-installed when making repairs)



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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .



11.2 Procedure

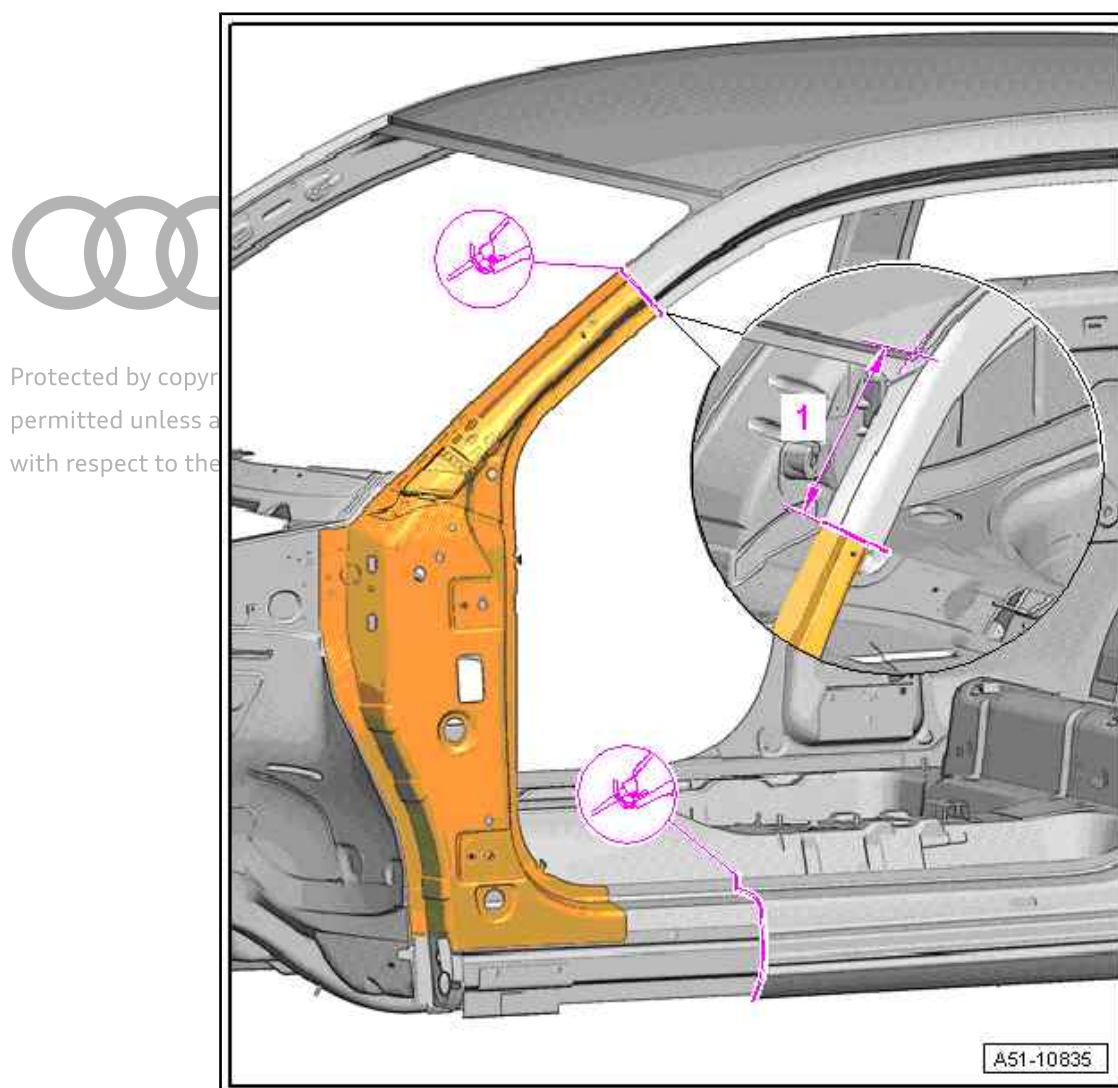
- Upper longitudinal member for wheel housing already removed ⇒ [page 55](#)
- Outer A-pillar already removed ⇒ [page 178](#)

Cutting locations

Permitted separating cuts on side panel ⇒ [page 97](#)

- Make separating cut -1- using body saw (important: keep to dimension shown for separating cut).

Dimension -1- = 120 mm



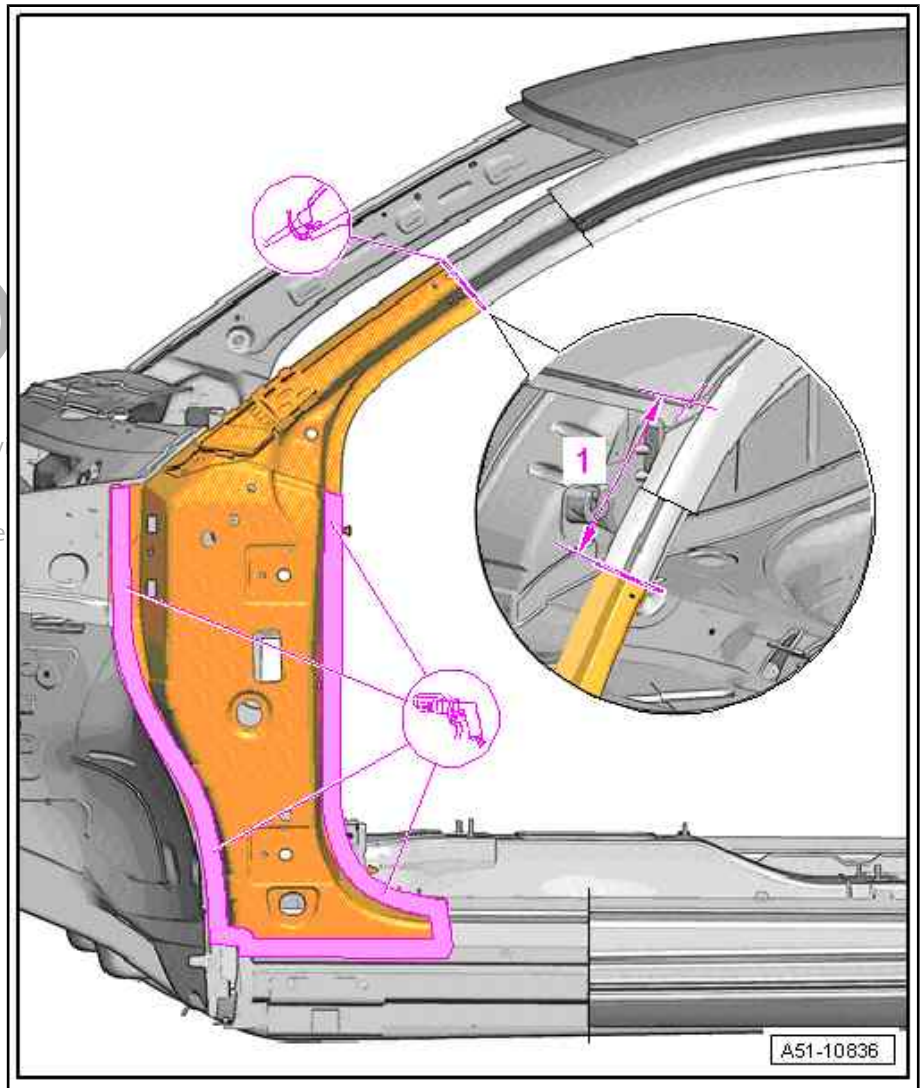
- Make separating cut -1- through inner A-pillar and A-pillar cover plate using compact angle grinder (important: keep to dimension shown for separating cut).

Dimension -1- = 290 mm

- Separate original joint using spot weld breaker .



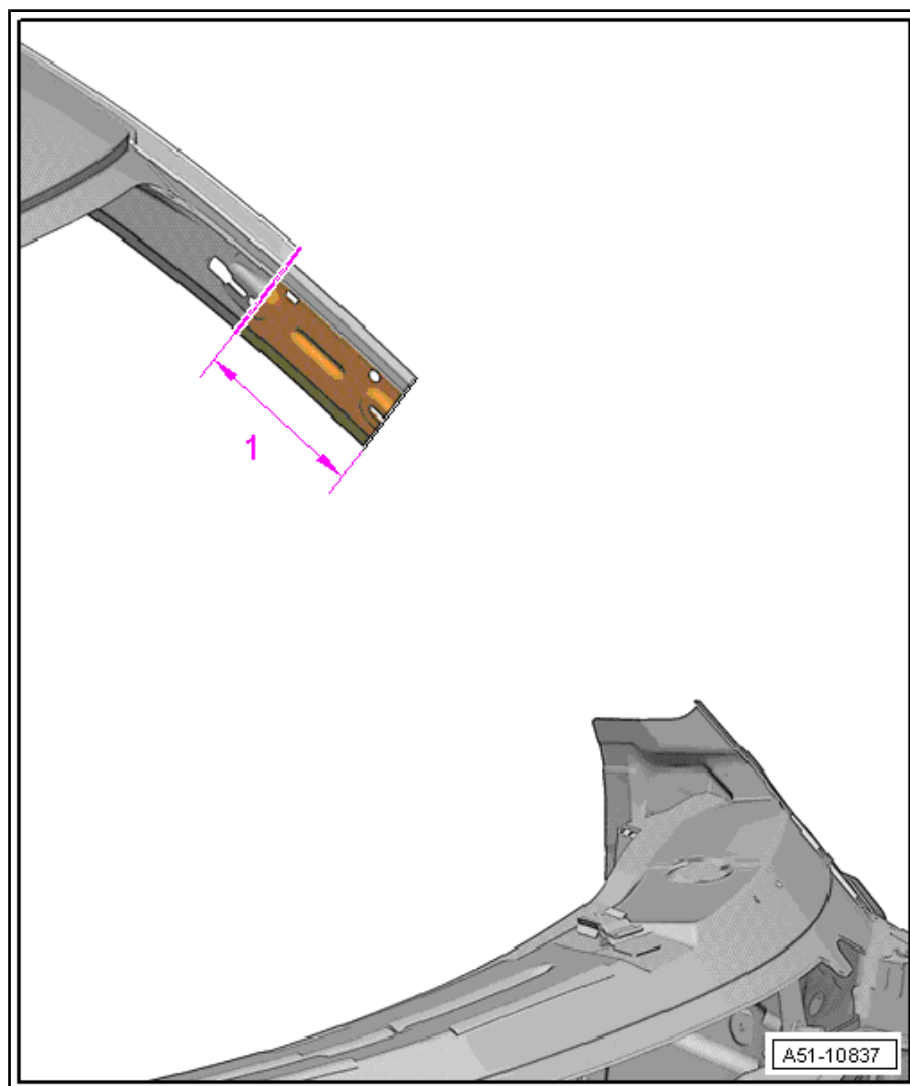
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- Make separating cut -1- through inner A-pillar cover plate using compact angle grinder (important: keep to dimension shown for separating cut).

Dimension -1- = 100 mm

- Completely remove foam material.



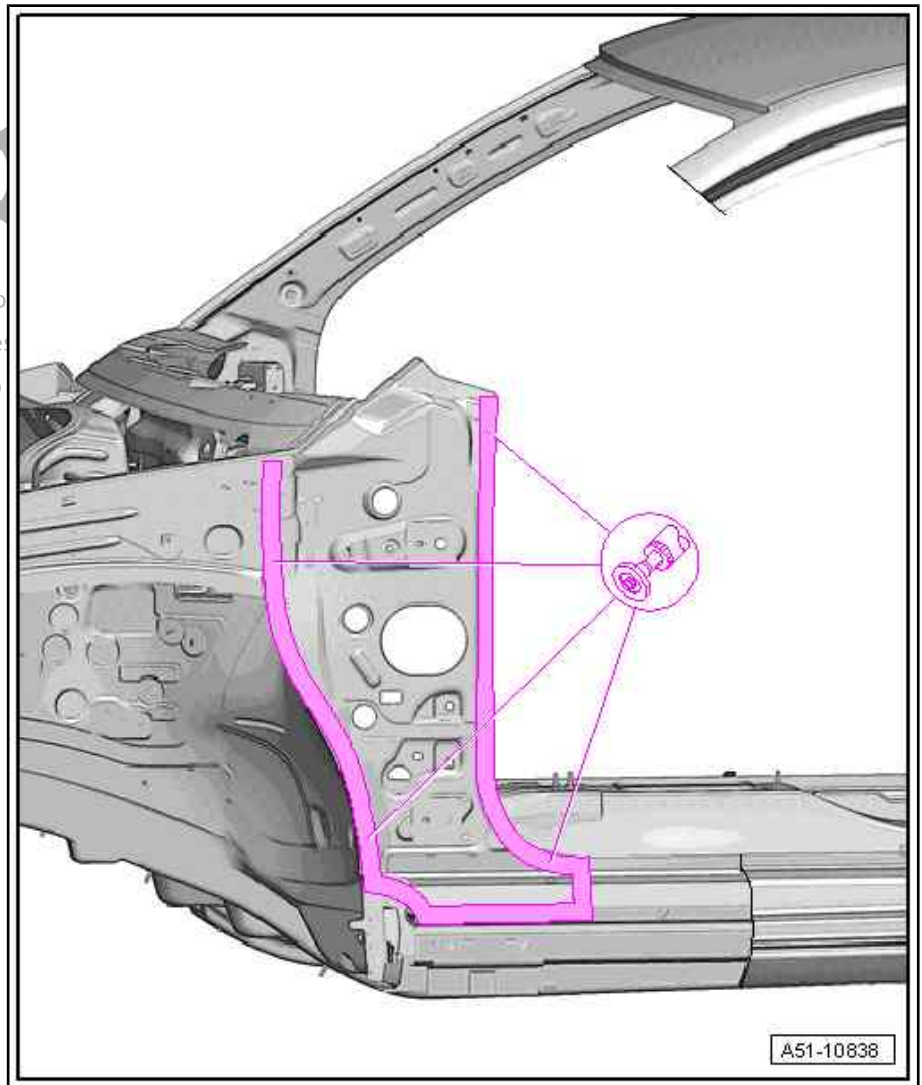
- Remove remaining material using compact angle grinder .



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Replacement parts

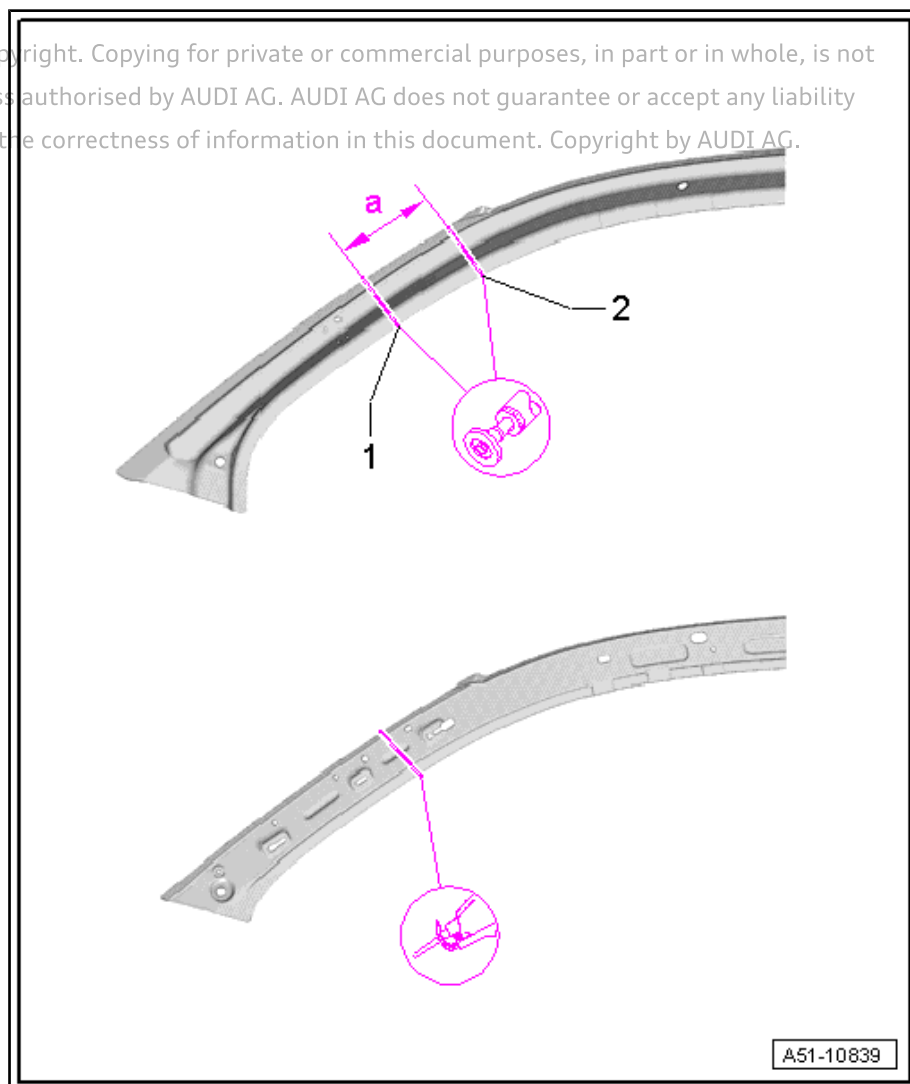
- ◆ Lower inner A-pillar
- ◆ Upper inner A-pillar
- ◆ Inner A-pillar cover plate
- ◆ 2-component filler foam - D 506 KD1 A3-

Preparing new part

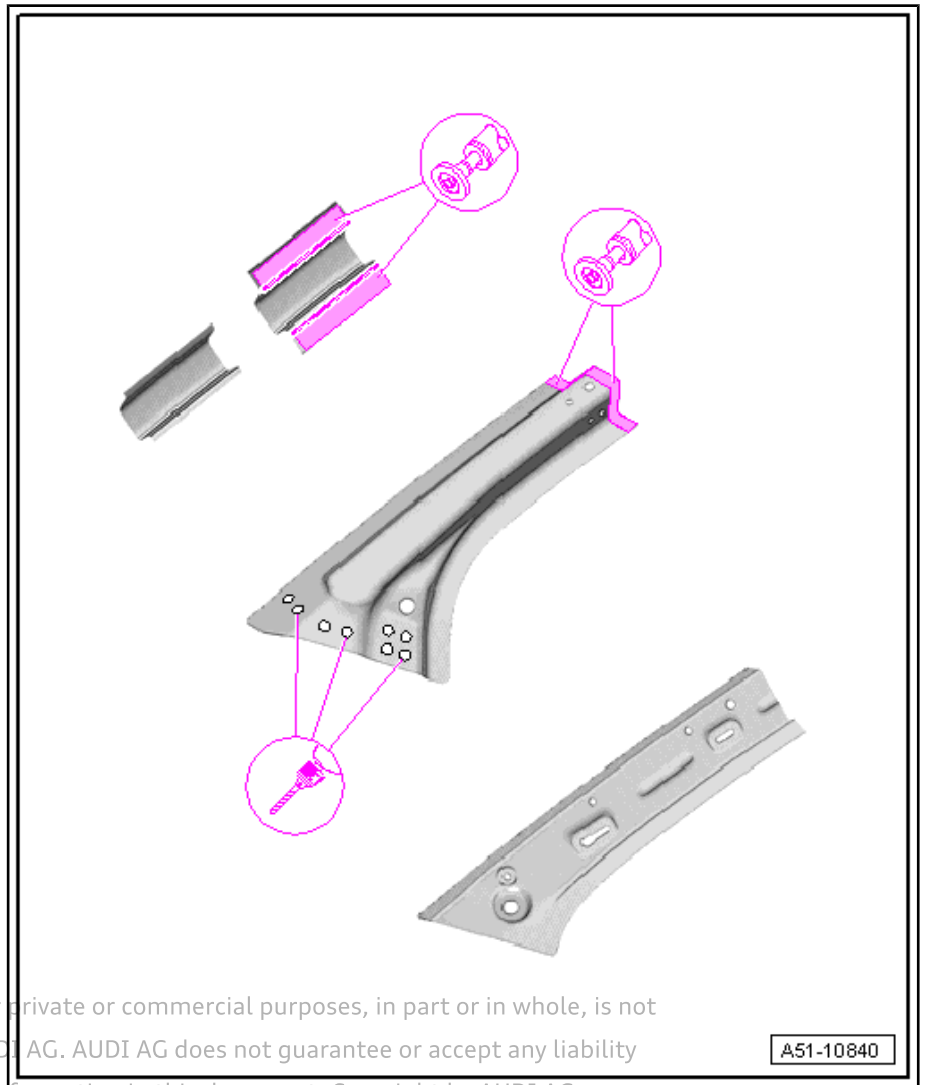
- Separating cut -1- for inner A-pillar part section; separating cut -2- for backing plate (important: keep to dimension -a = 140 mm-).
- Transfer separating cut for inner A-pillar reinforcement to new part and cut to size using body saw .



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- Drill 8 holes for SG plug weld seam using drill (8 mm Ø).
- Grind off area of separating cut for SG continuous weld seam using compact angle grinder .
- Prepare backing plate for inner A-pillar (140 mm) using compact angle grinder .



A51-10840

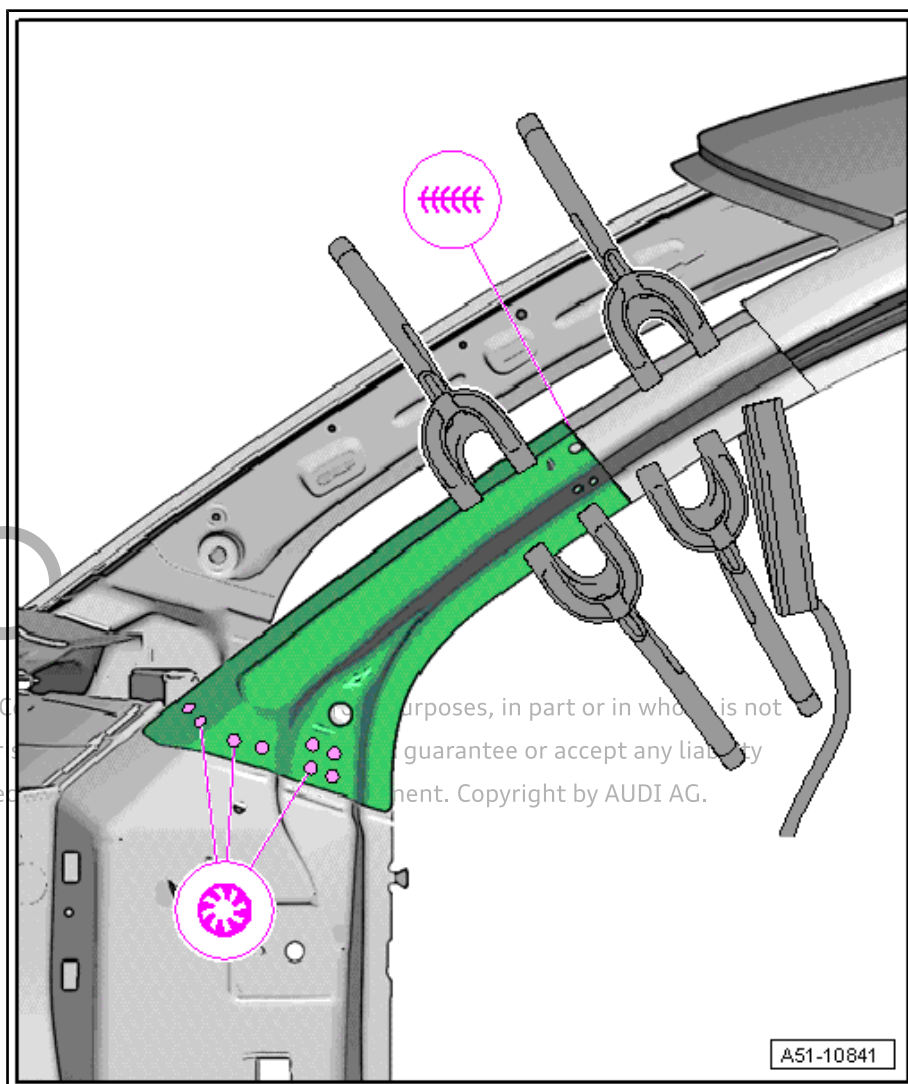


Welding in

11. Inner A-pillar - Partial renewal 193



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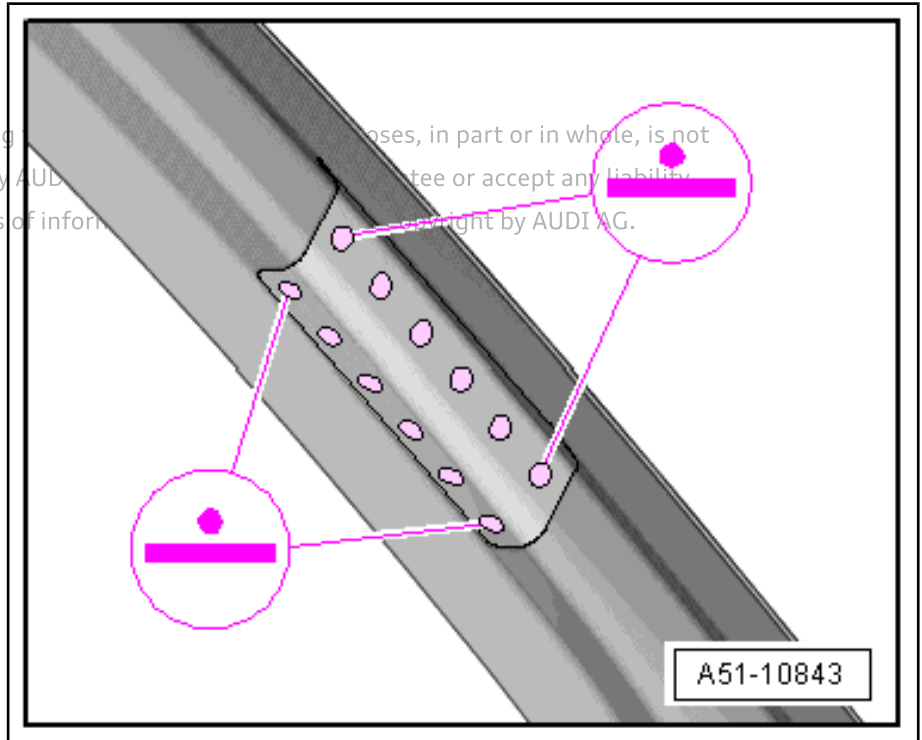


View from inside

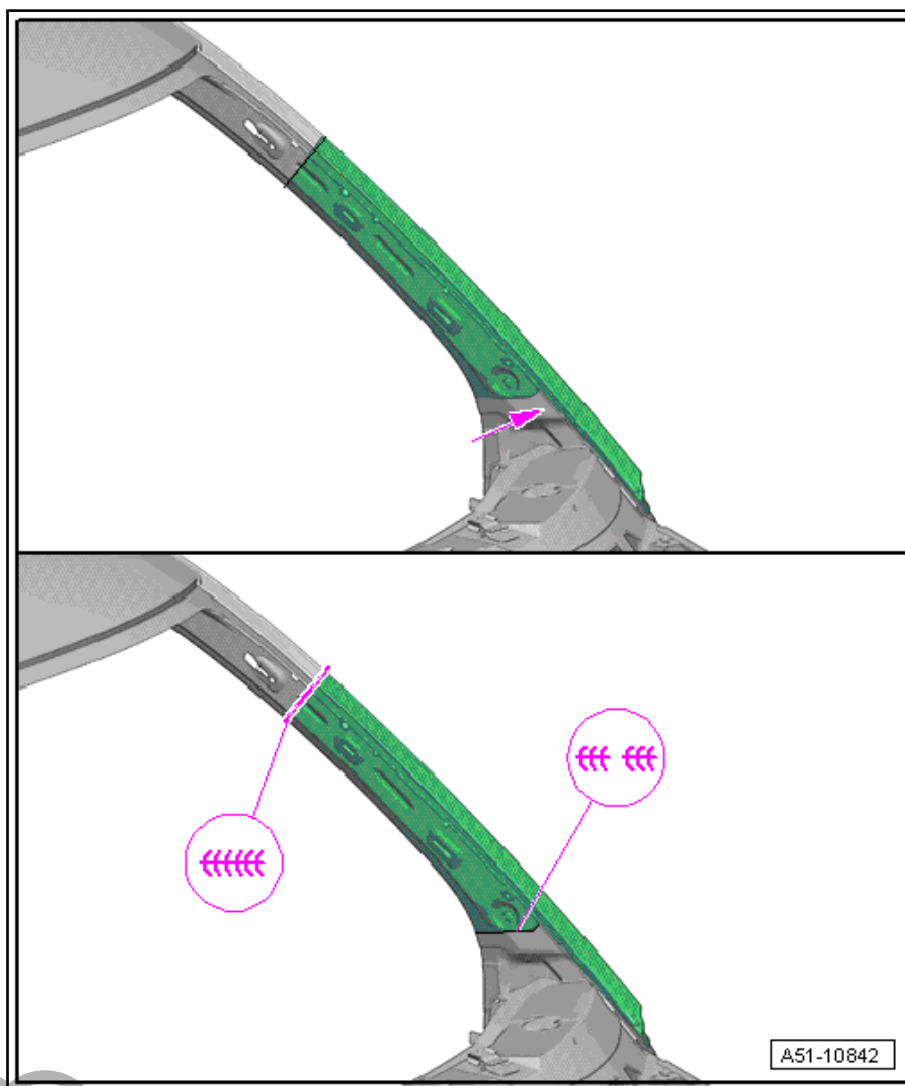
- Weld in base surface and side surface of inner A-pillar with 6 spot welds on each surface using resistance spot welder : RP spot weld seam.



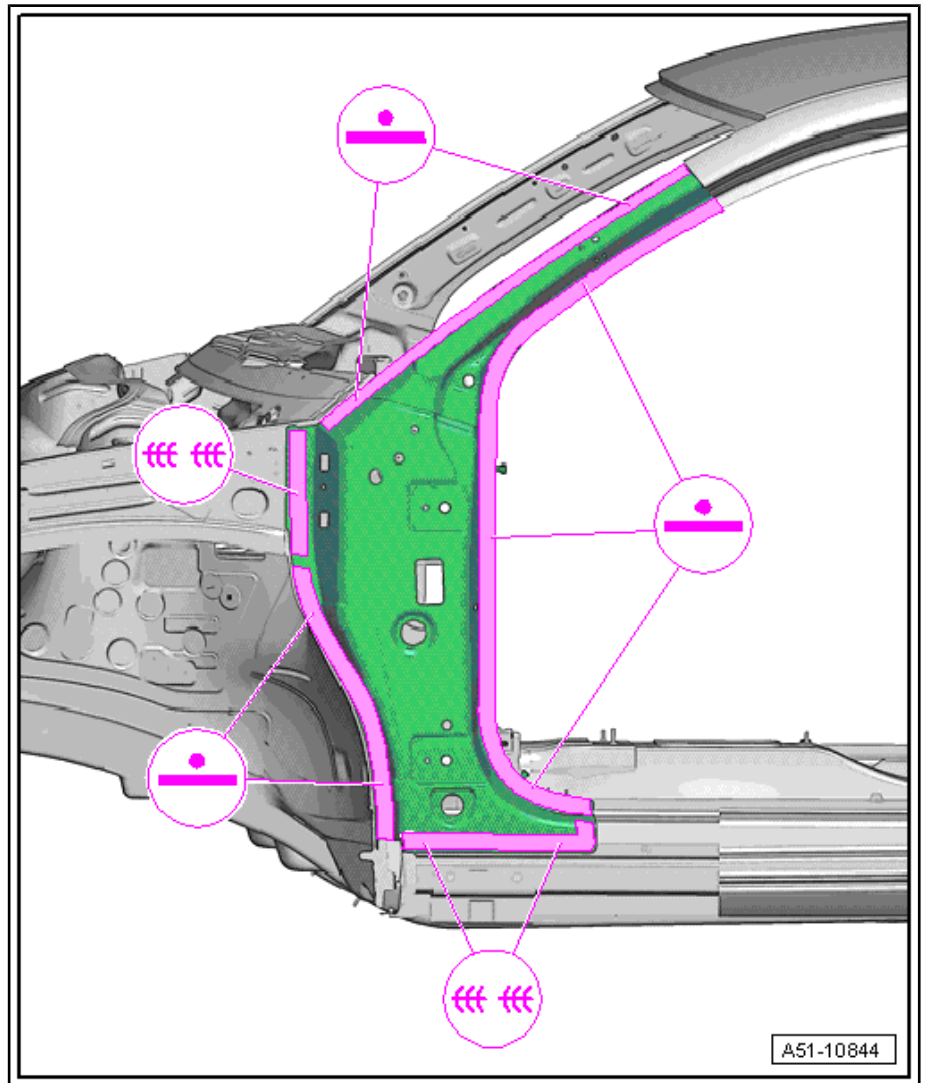
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- Lift inner A-pillar slightly and slide in cover plate between lower A-pillar reinforcement and inner A-pillar, see -arrow-.
- Weld in lower cover plate for inner A-pillar using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
- Weld in at separating cut using shielded arc welding equipment : SG continuous seam.



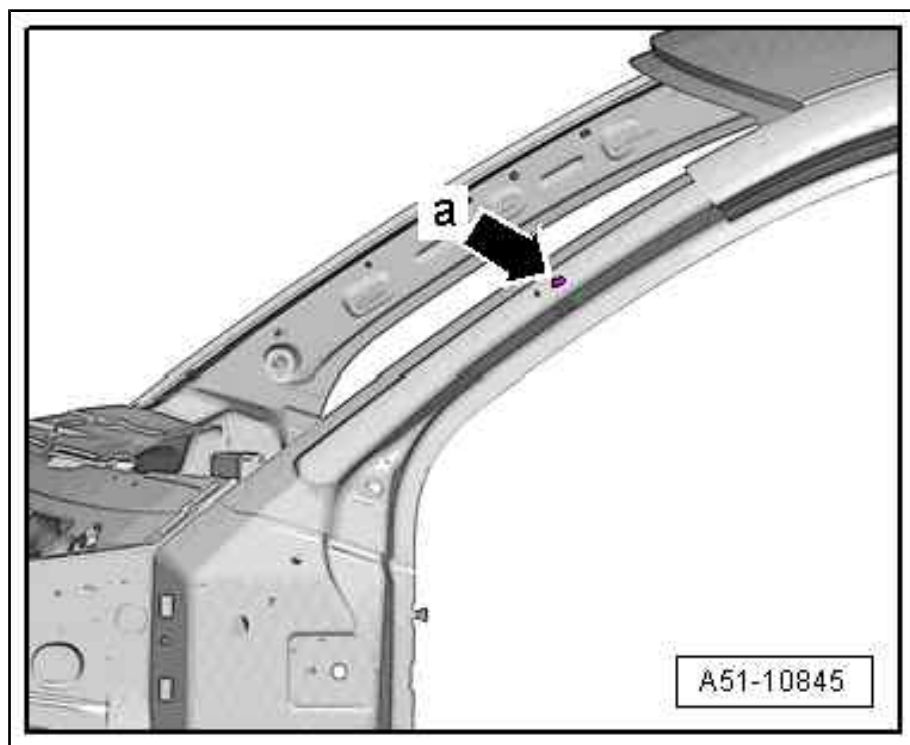
- Weld in upper A-pillar using resistance spot welder : RP spot weld seam (spacing between spot welds: 75 mm).
- Weld in remaining joint on inner A-pillar using resistance spot welder : RP spot weld seam.
- Weld in inner A-pillar using shielded arc welding equipment : SG continuous seam (staggered with gaps).



- Fill inner A-pillar with 2-component filler foam - D 506 KD1 A3-a-.



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- Welding in upper wheel housing longitudinal member
⇒ [page 55](#)
- Welding in outer A-pillar ⇒ [page 178](#)

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RO: 51 42 55 50

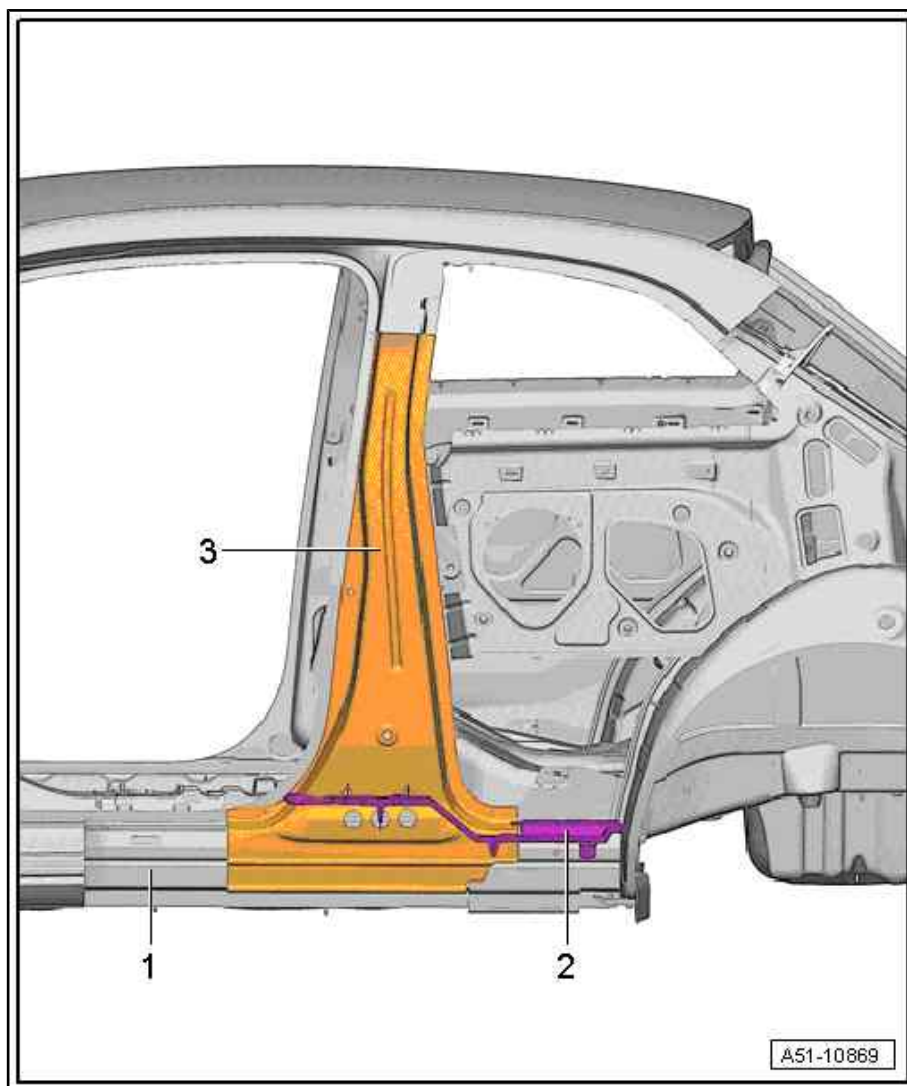
12 Inner B-pillar - Partial renewal

1 - B-pillar

Inner B-pillar

2 - Moulded foam insert

3 - Inner side member



12.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➤ [page 37](#) .

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12.2 Procedure

- Side panel removed ➤ [page 317](#)

Cutting locations

Permitted separating cuts on side panel ➤ [page 97](#)

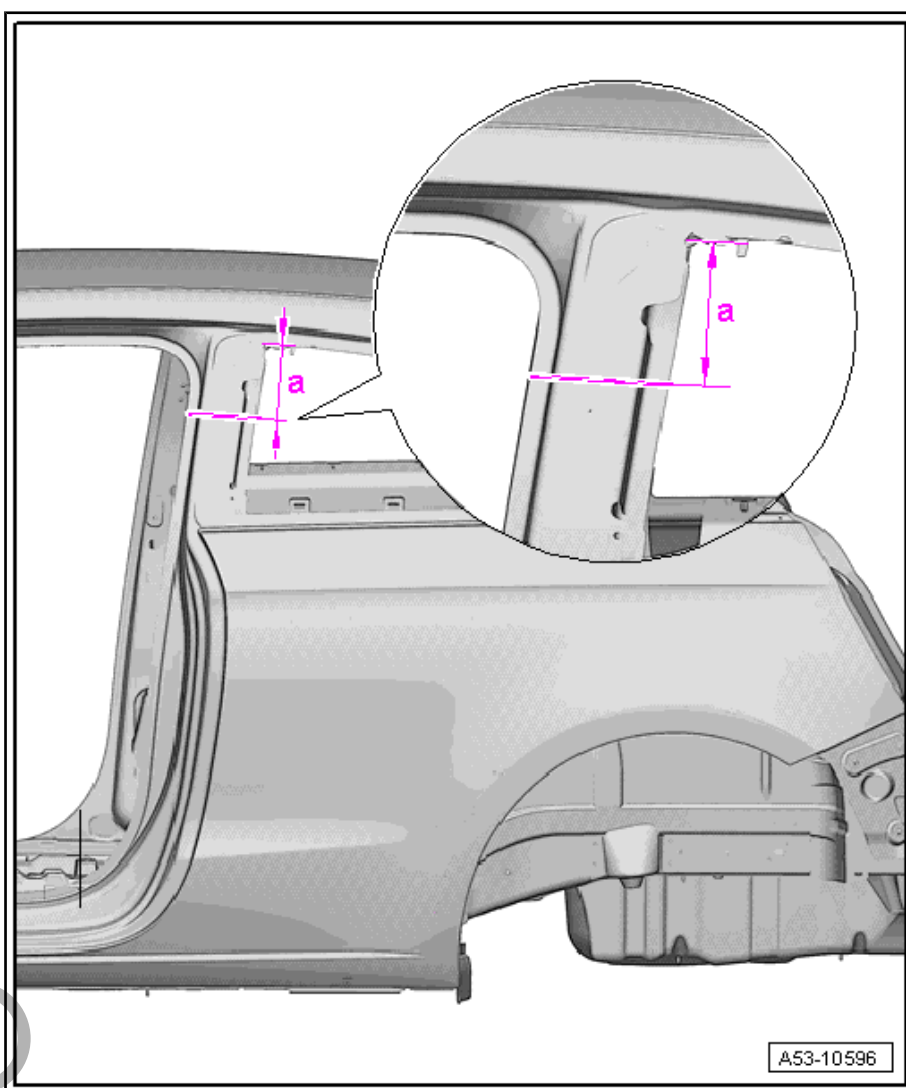


Note

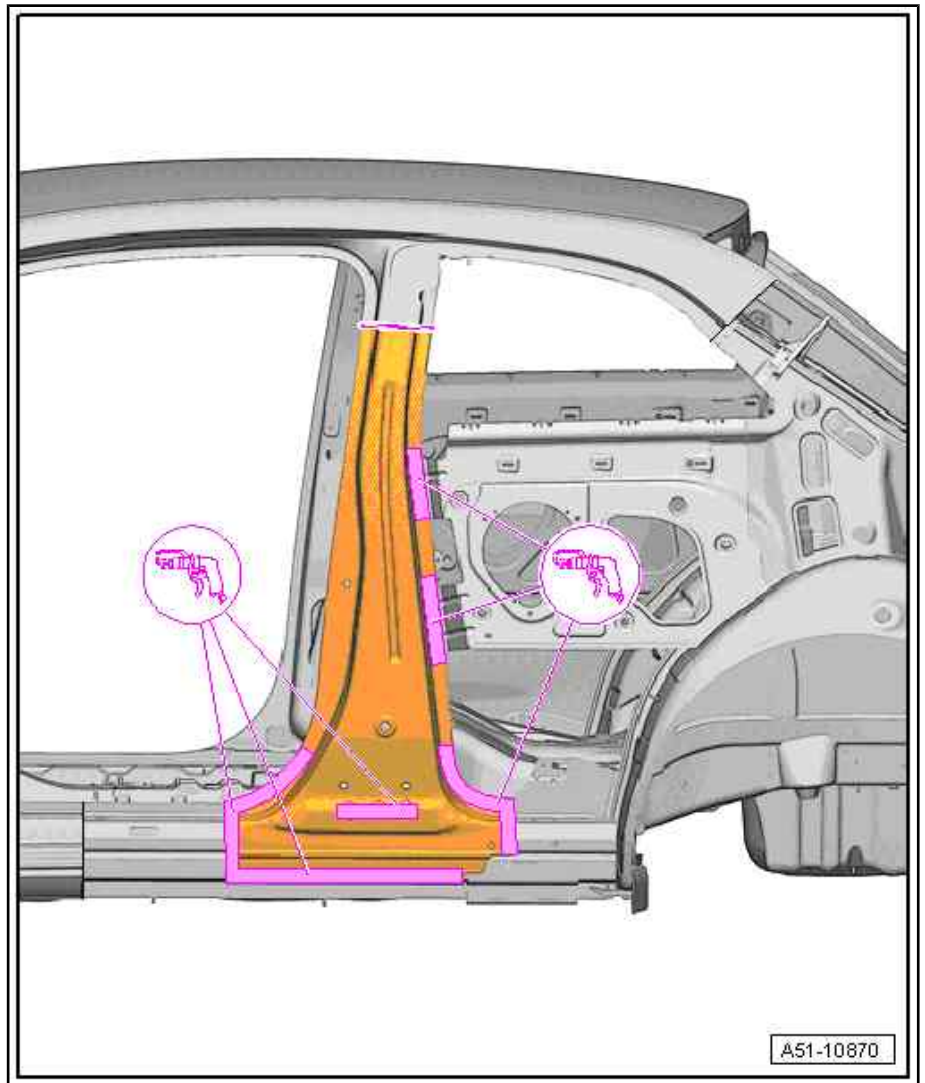
A separating cut is only permissible at the location described.

Dimension -a- = 120 mm

- Cut through outer B-pillar, inner B-pillar and inner B-pillar closure plate using compact angle grinder .



- **Separate original joint using spot weld breaker.** For commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



- Make separating cut on outer B-pillar at distance -a- above separating cut on inner B-pillar using compact angle grinder .

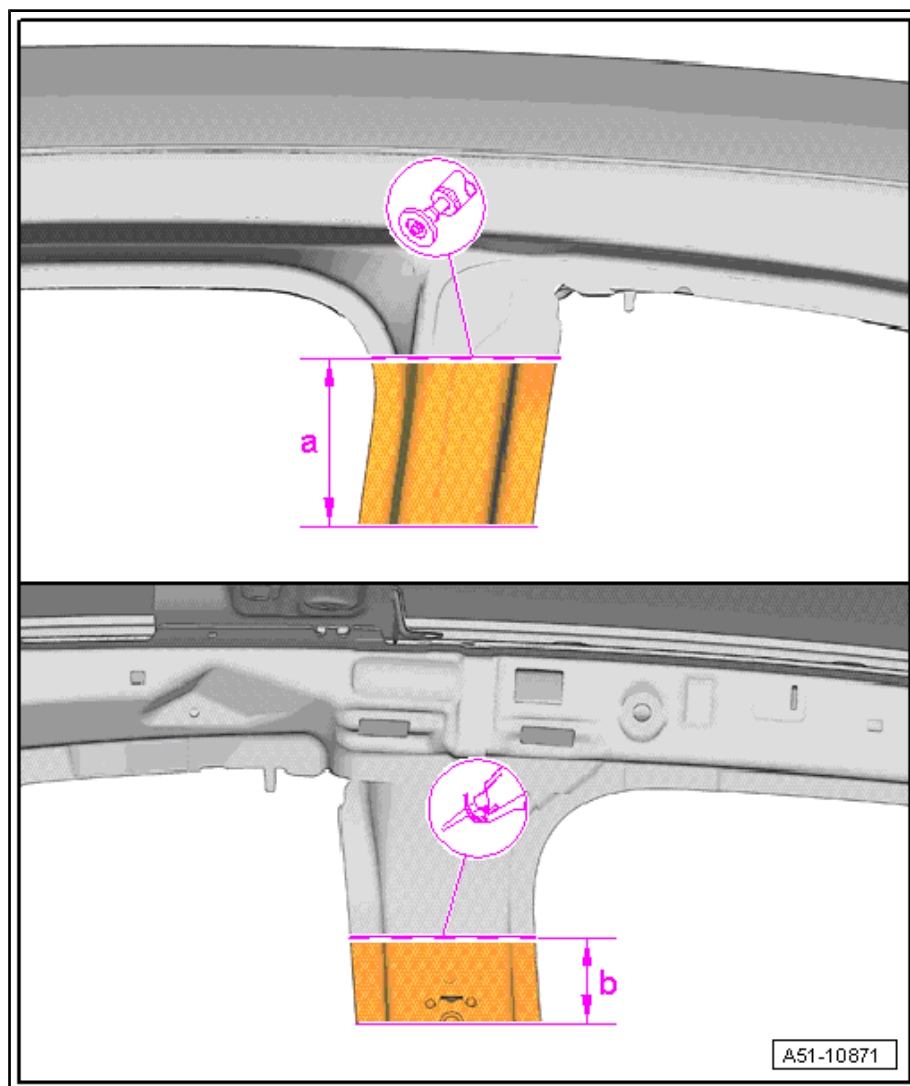
Dimension -a- = 90 mm

- Make separating cut on inner B-pillar closure plate at distance -b- above separating cut on inner B-pillar using body saw .

Dimension -b- = 60 mm



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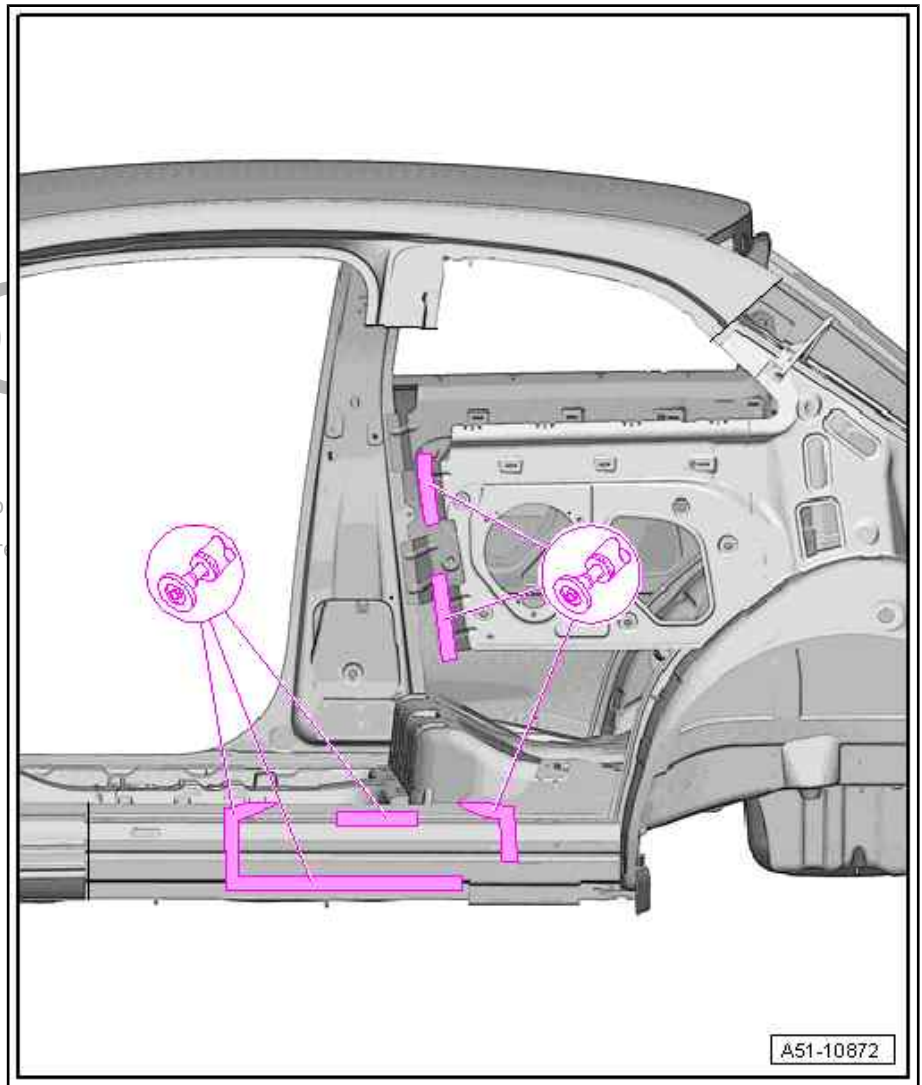
A51-10871

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- Grind areas around separating cuts and original joint down to bare metal on inside and outside using compact angle grinder.



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Replacement parts

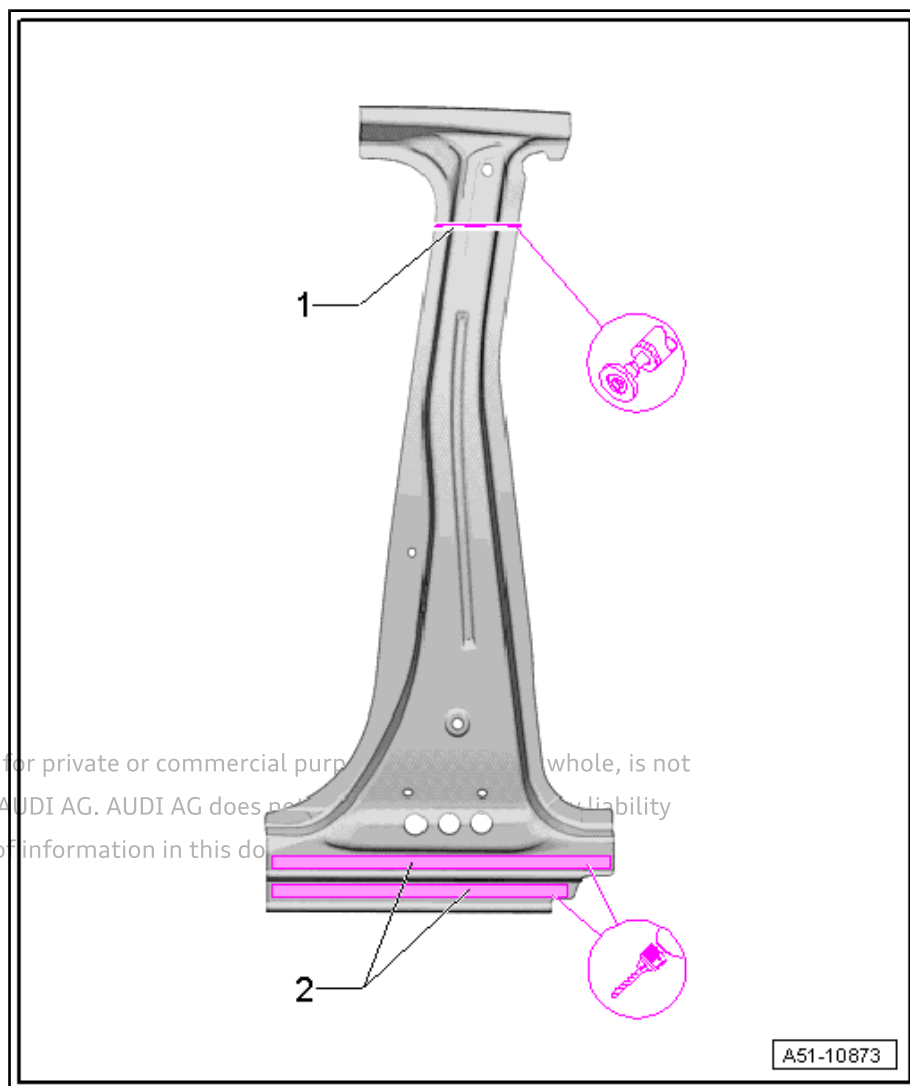
- ◆ Inner B-pillar
- ◆ B-pillar reinforcement
- ◆ Closure plate

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 16 additional holes (8 mm Ø) for SG plug weld seam in inner B-pillar using drill .



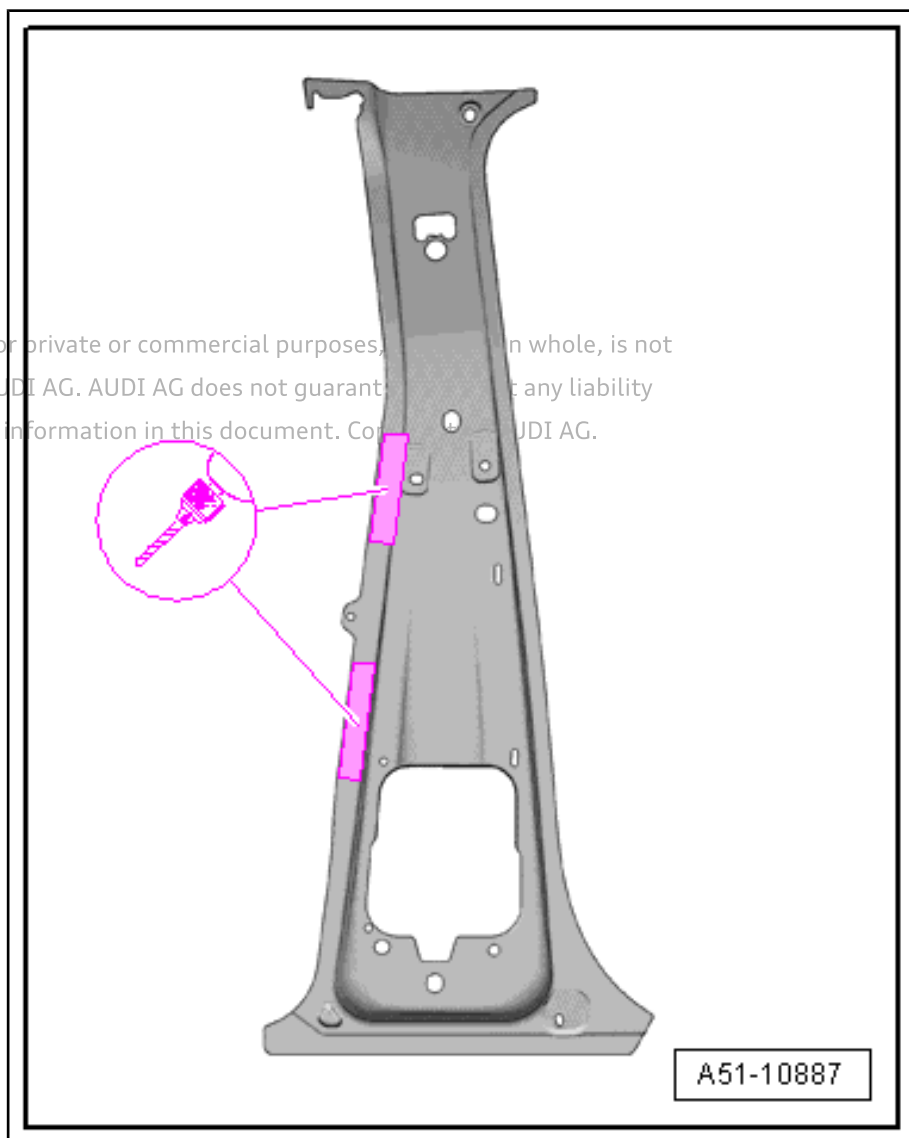
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- Drill holes (8 mm Ø) for SG plug weld seam in inner B-pillar web plate at connection to inner side panel using drill .



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Marking prohibited weld area



Note

Note areas where welding is not permitted -hatched areas-.

- In areas where welding is not permitted -hatched areas-, clamp panels together until 2-component epoxy adhesive - DA 001 730 A2- has cured.
- Make one RP spot weld above and below prohibited weld areas.
- Weld front and rear side member reinforcements to B-pillar reinforcement and web plates: RP spot weld seam.



Note

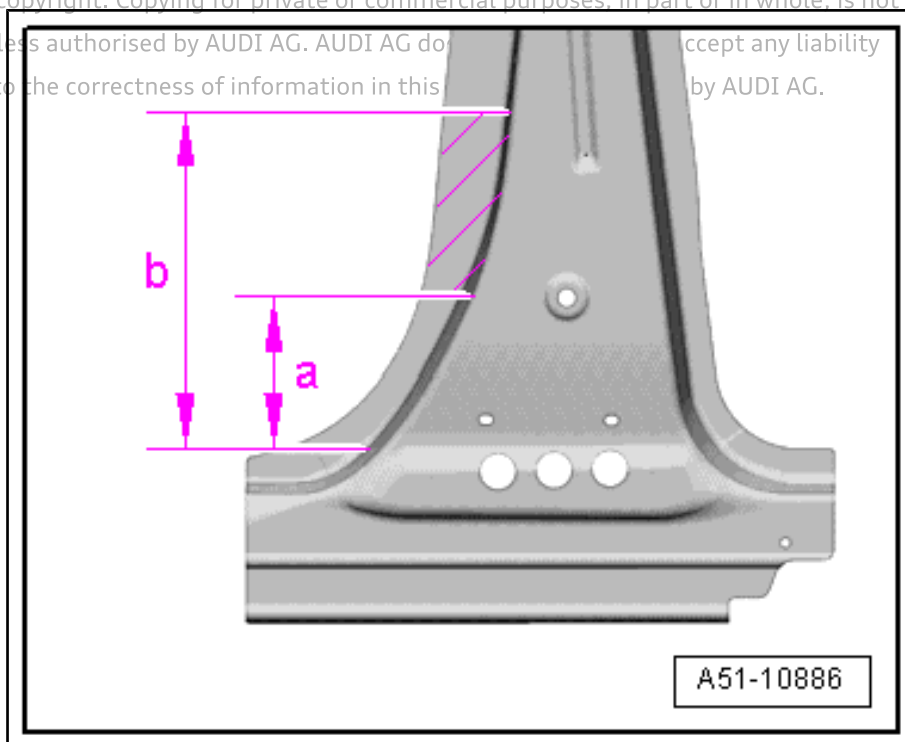
For safety reasons (crash resistance), no welding work may be carried out in the prohibited weld areas as marked in the illustration above.



Dimension -a- = 65 mm

Dimension -b- = 215 mm

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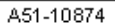


Note

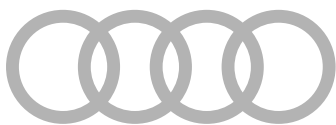
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- With vehicle standing on alignment bracket set , match up inner B-pillar and fix in position.
- First 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.
- 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 .
- Weld in inner B-pillar and inner side panel with RP spot weld seam -1- using resistance spot welder : RP spot weld seam. For other joints make spot welds with 70 mm spacing.



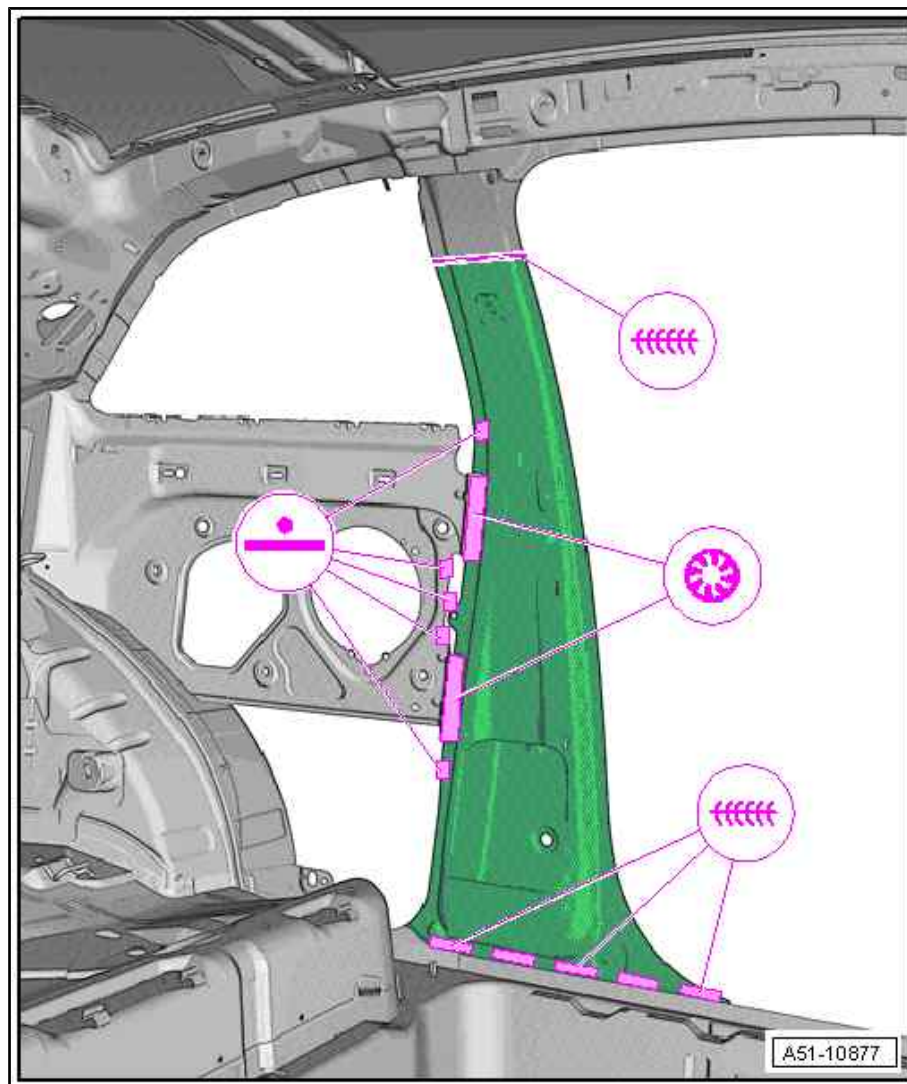
A51-10876



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



- Weld in lower closure plate using shielded arc welding equipment : SG continuous seam (staggered - with gaps). Length of seams 20 mm, spacing 20 mm).
- Weld in B-pillar closure plate to inner side panel using resistance spot welder : RP spot weld seam.



- Renewing moulded foam insert ⇒ [page 14](#)
- Welding in side panel ⇒ [page 317](#)



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RO: 51 41 55 50

13 Outer B-pillar - Renewal (Sportback)

1 - B-pillar

Outer B-pillar

2 - Upper separating cut

3 - Lower separating cut

Partial renewal

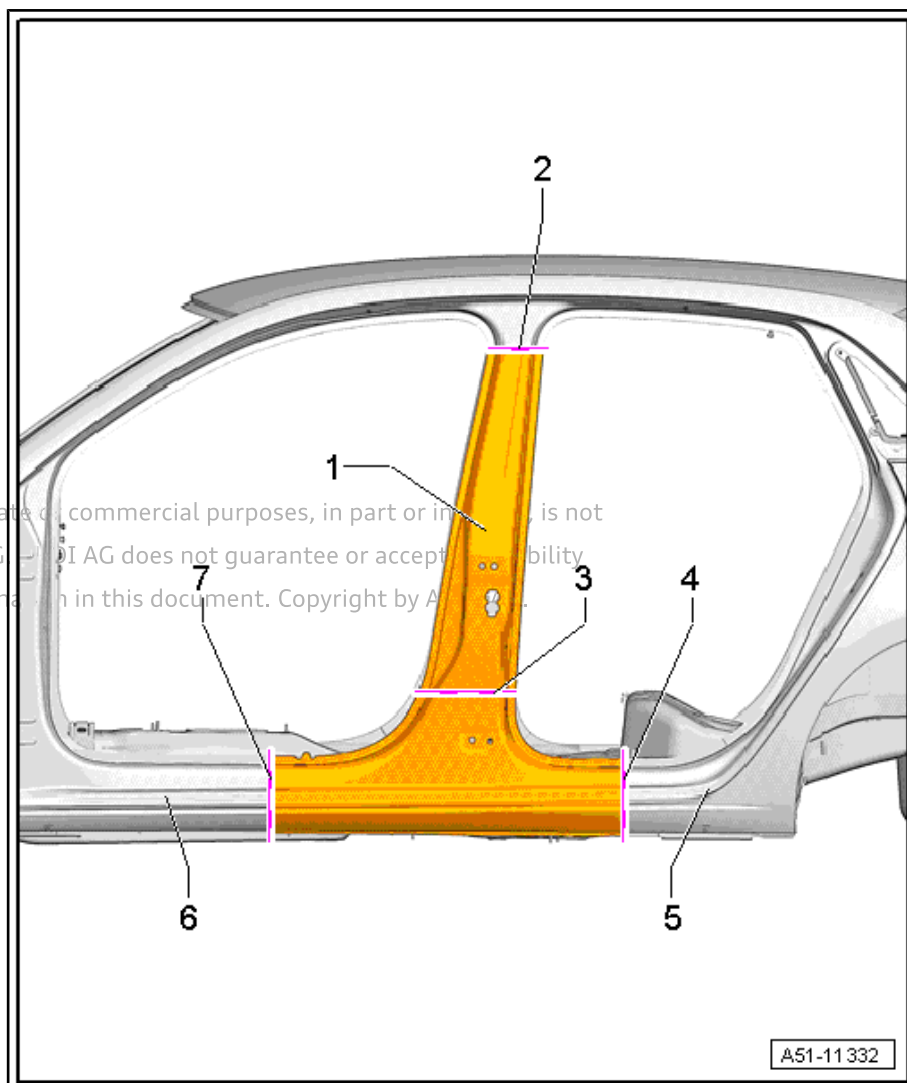
Partial renewal is possible with this separating cut.

4 - Separating cut in side member (rear)

5 - Rear side member

6 - Front side member

7 - Separating cut in side member (front)



13.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ Compact angle grinder
- ◆ Body saw
- ◆ Spot weld breaker - V.A.G 1731-

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .

13.2 Procedure

Cutting locations

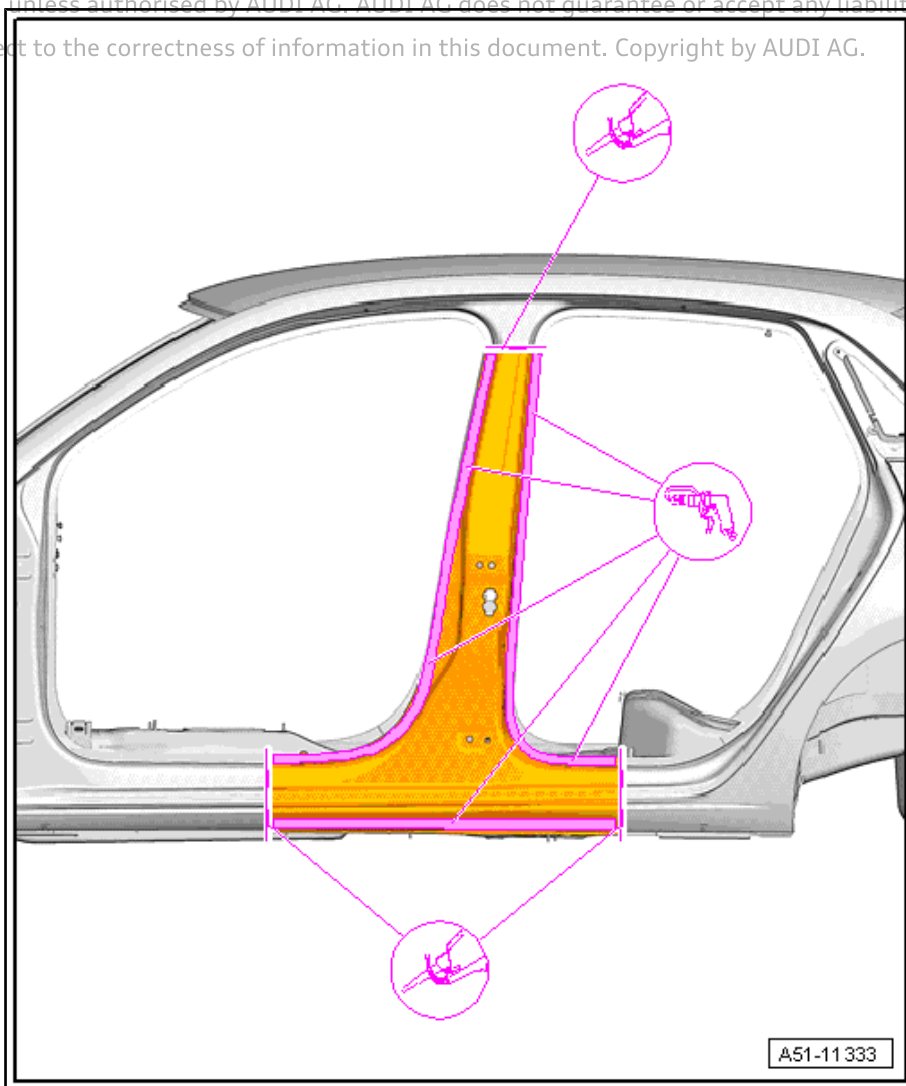
Permitted separating cuts on side panel ➔ [page 97](#)



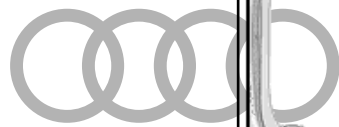
Note

- ◆ *Part section repair is possible using separating cut -3-.*
- ◆ *Take care not to damage any panels behind when making the separating cuts.*
- Separate original joint using spot weld breaker .
- Make separating cut -2- as shown using body saw .
- Mark off separating cuts -4- and -7- according to degree of damage and make cuts using body saw .

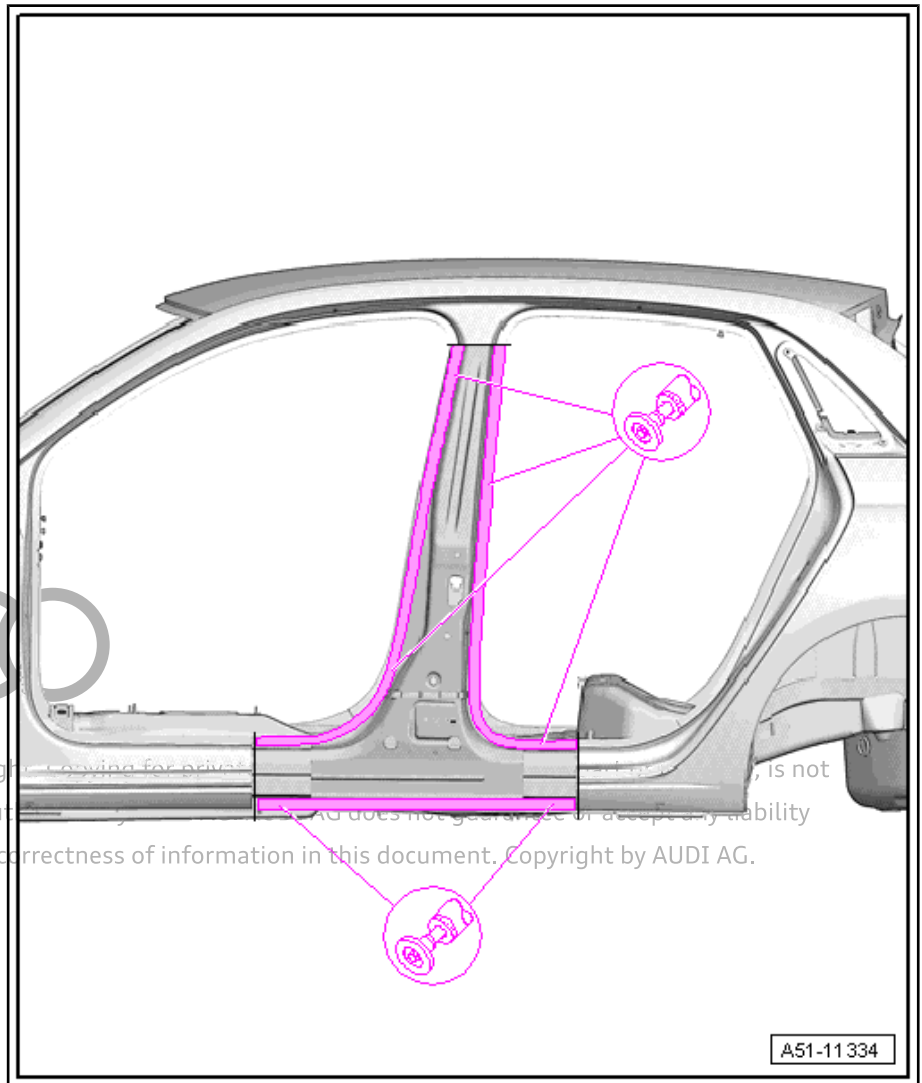
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- Remove remaining material using compact angle grinder .



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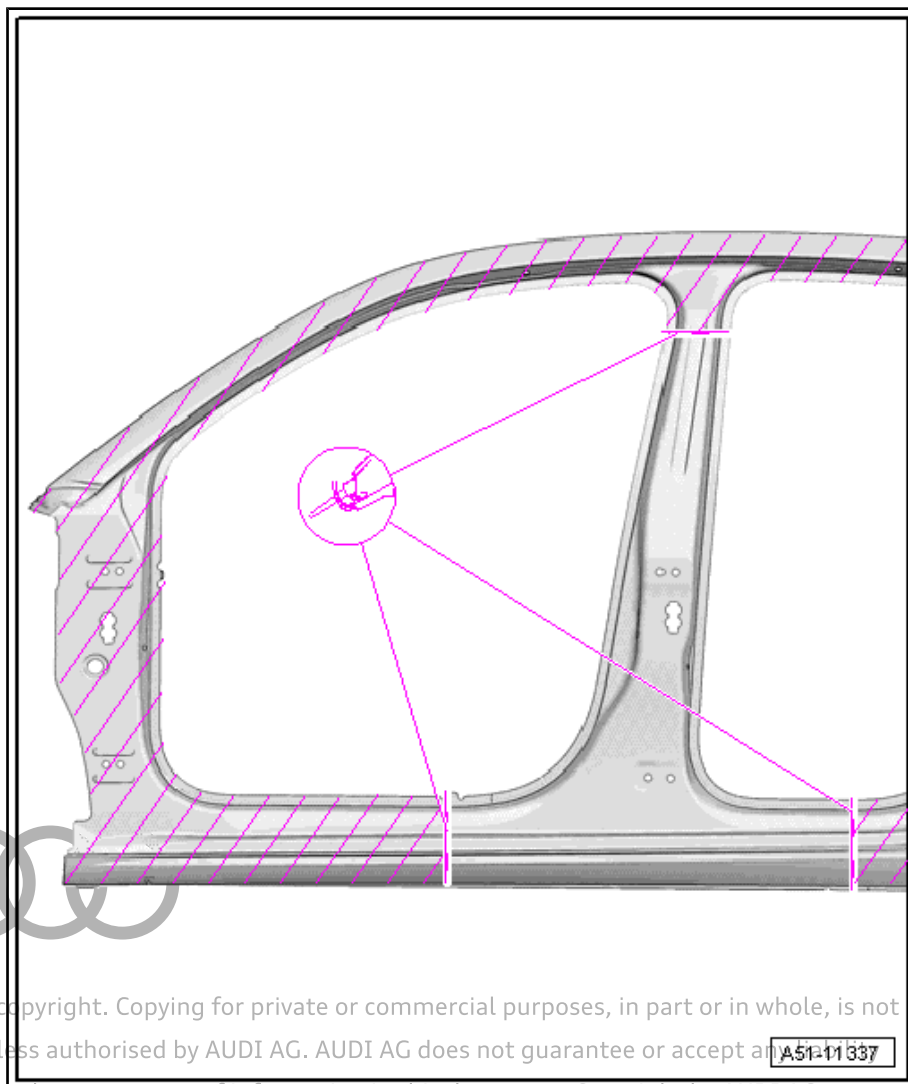


Replacement part

- ◆ B-pillar (sub-part)

Preparing new part

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



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A51-11337

Marking prohibited weld area



Note

Note areas where welding is not permitted -hatched areas-.

- In areas where welding is not permitted -hatched areas-, clamp panels together until 2-component epoxy adhesive - DA 001 730 A2- has cured.
- Make one RP spot weld above and below prohibited weld areas.
- Weld front and rear side member reinforcements to B-pillar reinforcement and web plates, RP spot weld seam (see illustration).



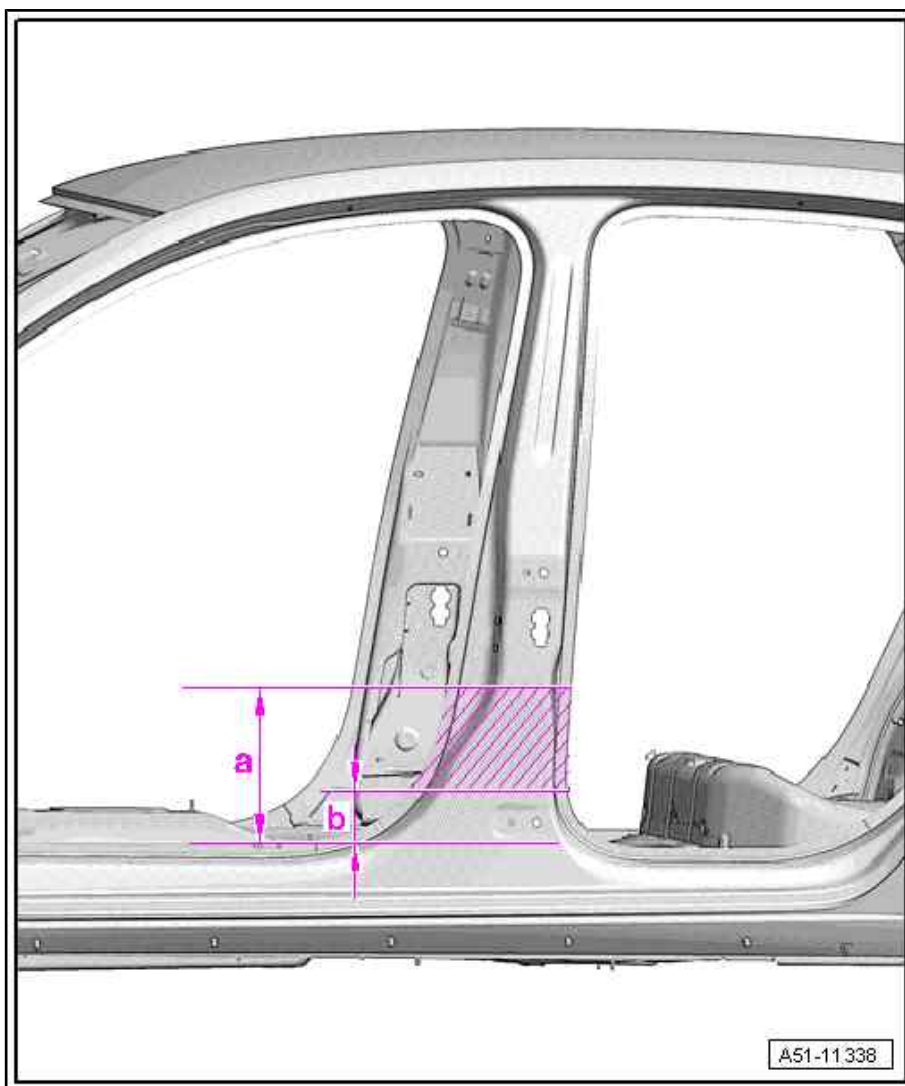
Note

For safety reasons (crash resistance), no welding work may be carried out in the prohibited weld areas as marked in the illustration above.



Dimension -a- = 210 mm

Dimension -b- = 85 mm



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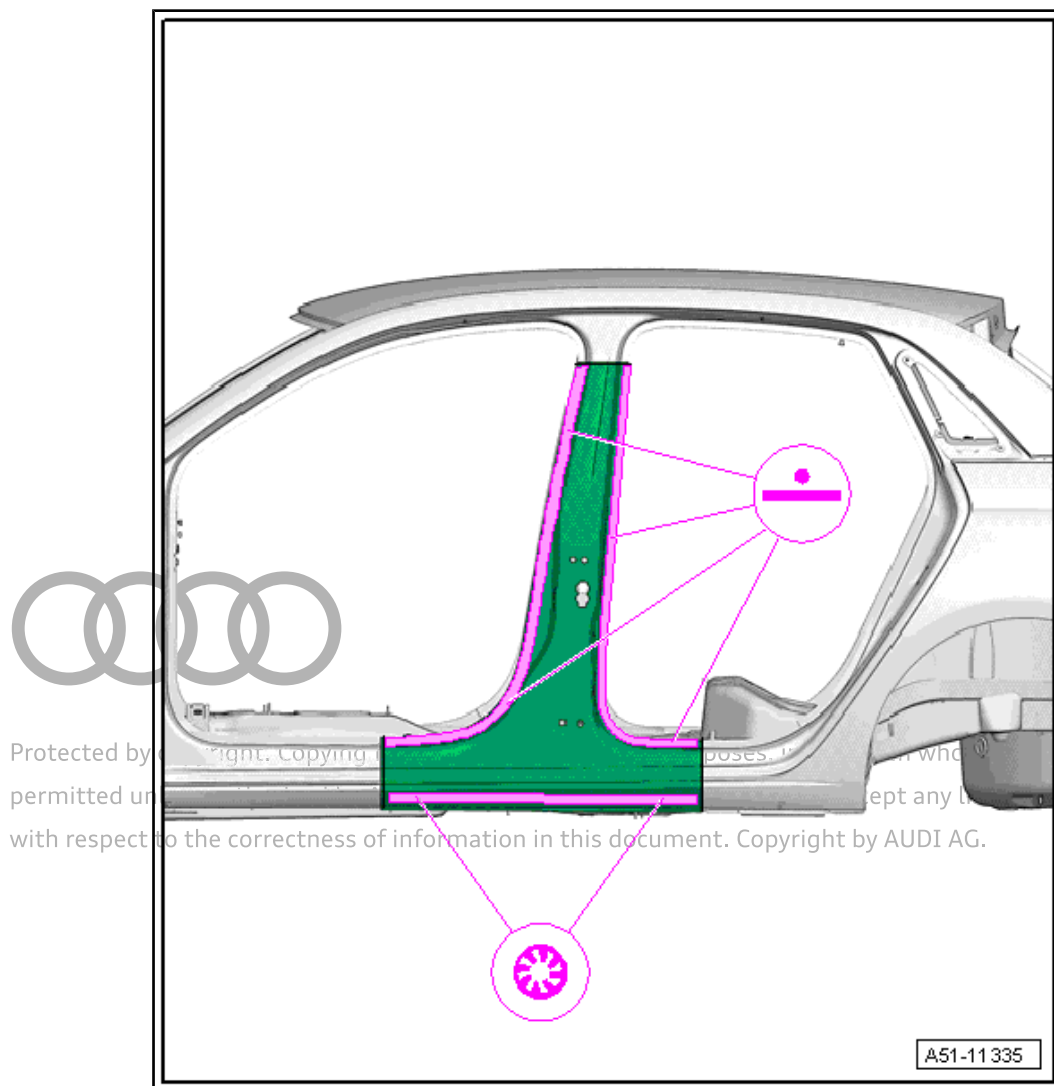
Note

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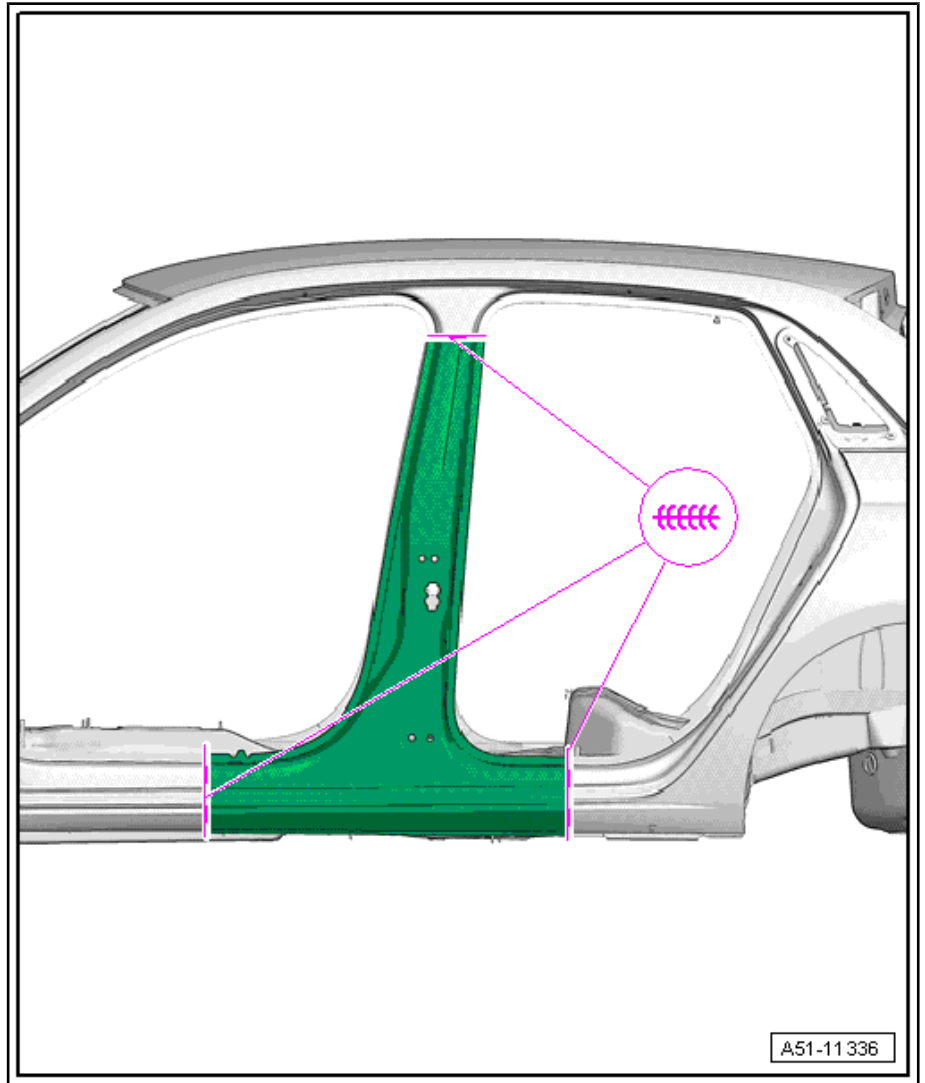
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- With no load on vehicle, match up new part and fix in position on portal gauge.
- Check fit relative to bolt-on parts.
- Weld in B-pillar using resistance spot welder : RP spot weld seam.
- Weld in B-pillar using shielded arc welding equipment : SG plug weld seam.



- Weld at separating cuts using shielded arc welding equipment : SG continuous seam.



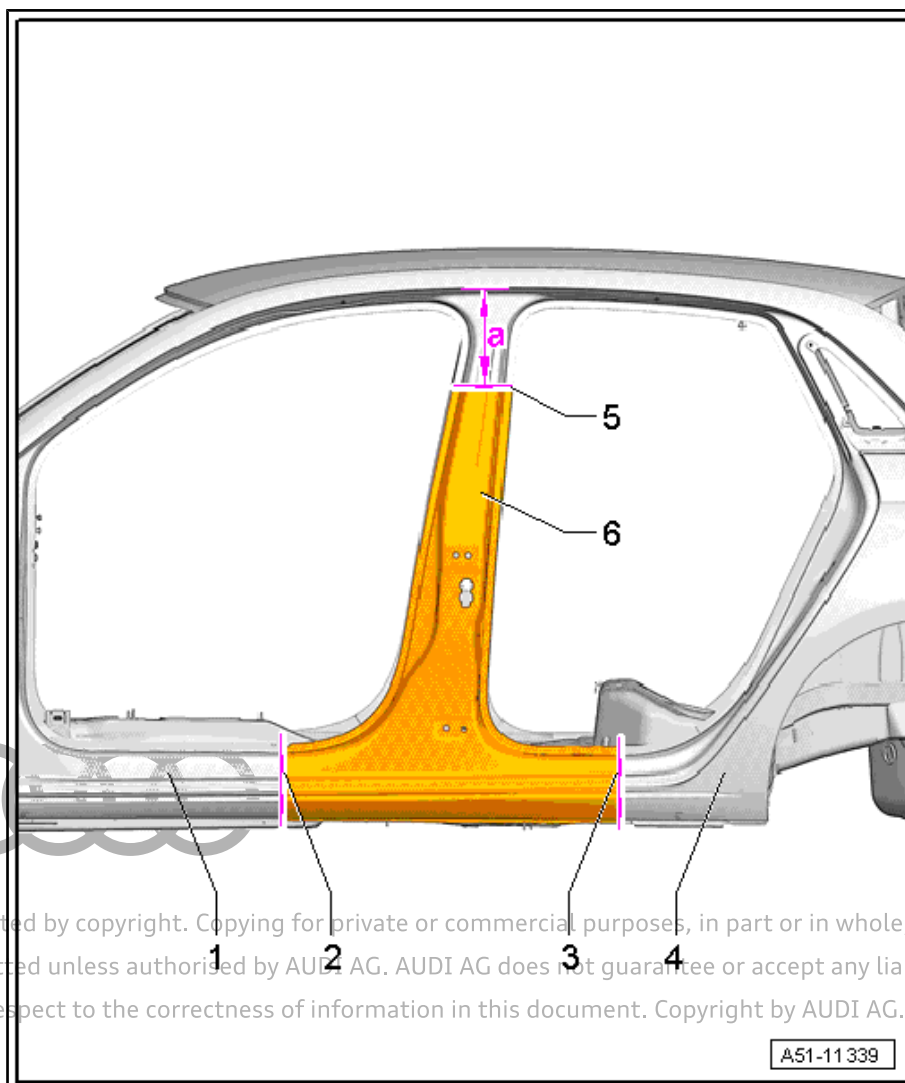
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RO: 51425552

14 Inner B-pillar - Partial renewal (Sportback)

- 1 - Front side member
- 2 - Separating cut in side member (front)
- 3 - Separating cut in side member (rear)
- 4 - Rear side member
- 5 - Separating cut in B-pillar
- Dimension -a- = 175 mm
- 6 - Outer B-pillar



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A51-11 339

14.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .



14.2 Procedure

- Outer B-pillar removed

Cutting locations

Permitted separating cuts on side panel ➔ [page 97](#)



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.



Note

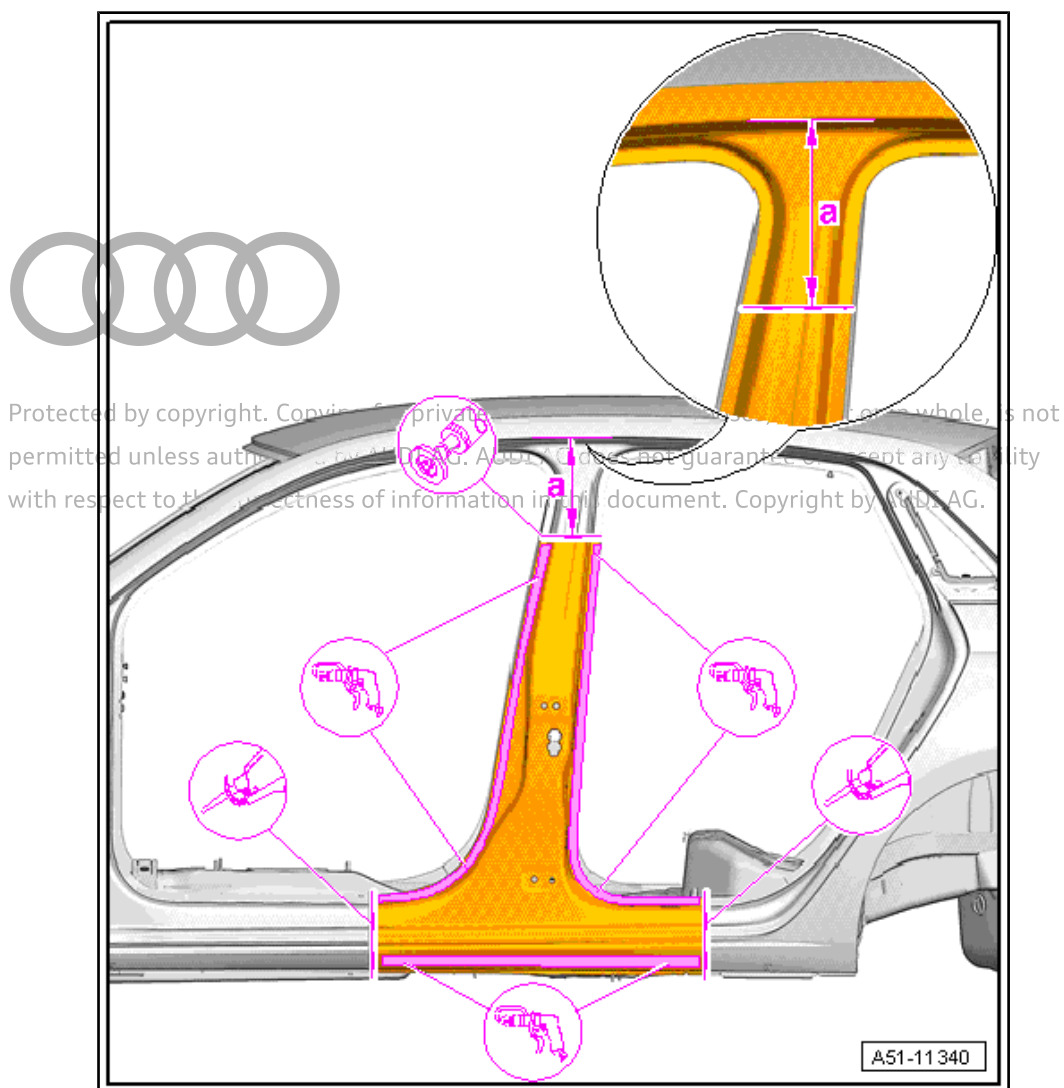
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A separating cut is only permissible at the location described.

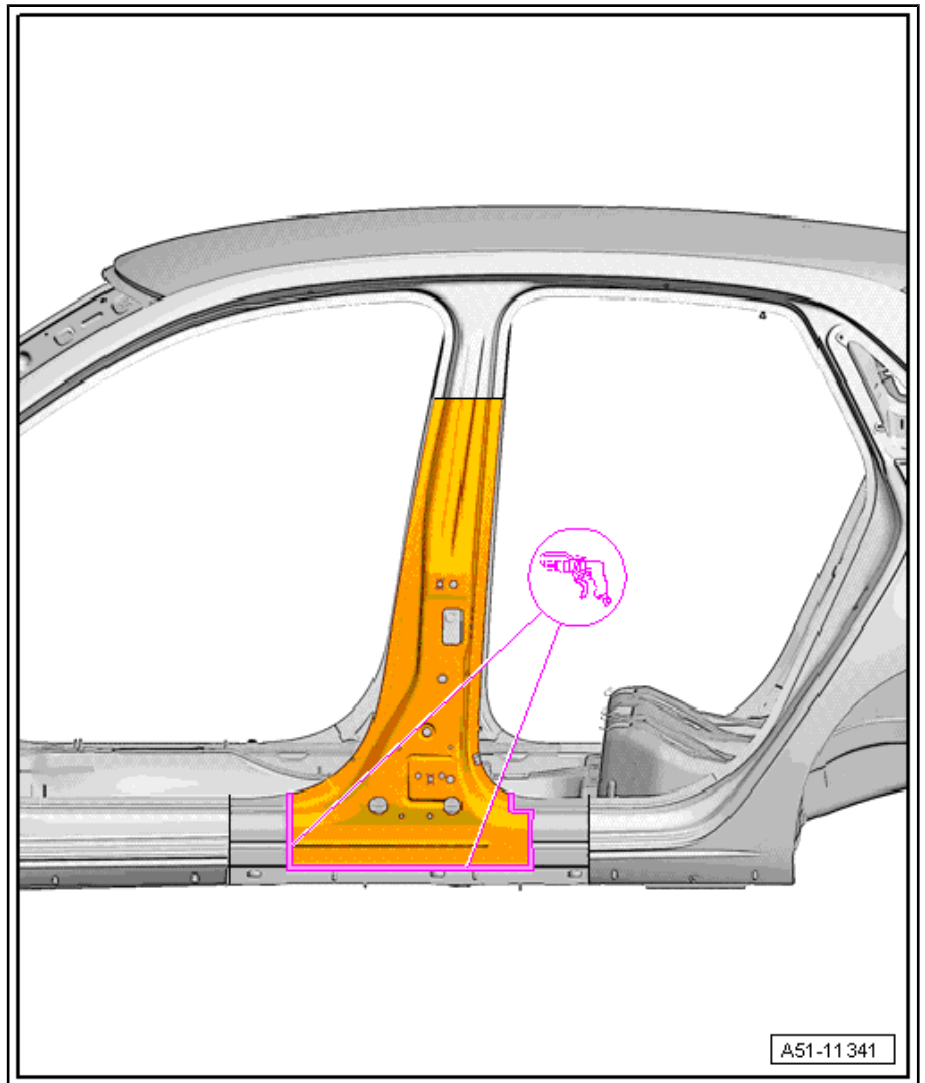
- Mark off separating cut on B-pillar according to dimension -a- and make cut using compact angle grinder .

Dimension -a- = 175 mm

- Separate original joint using spot weld breaker .
- Make separating cuts on side member as shown using body saw .



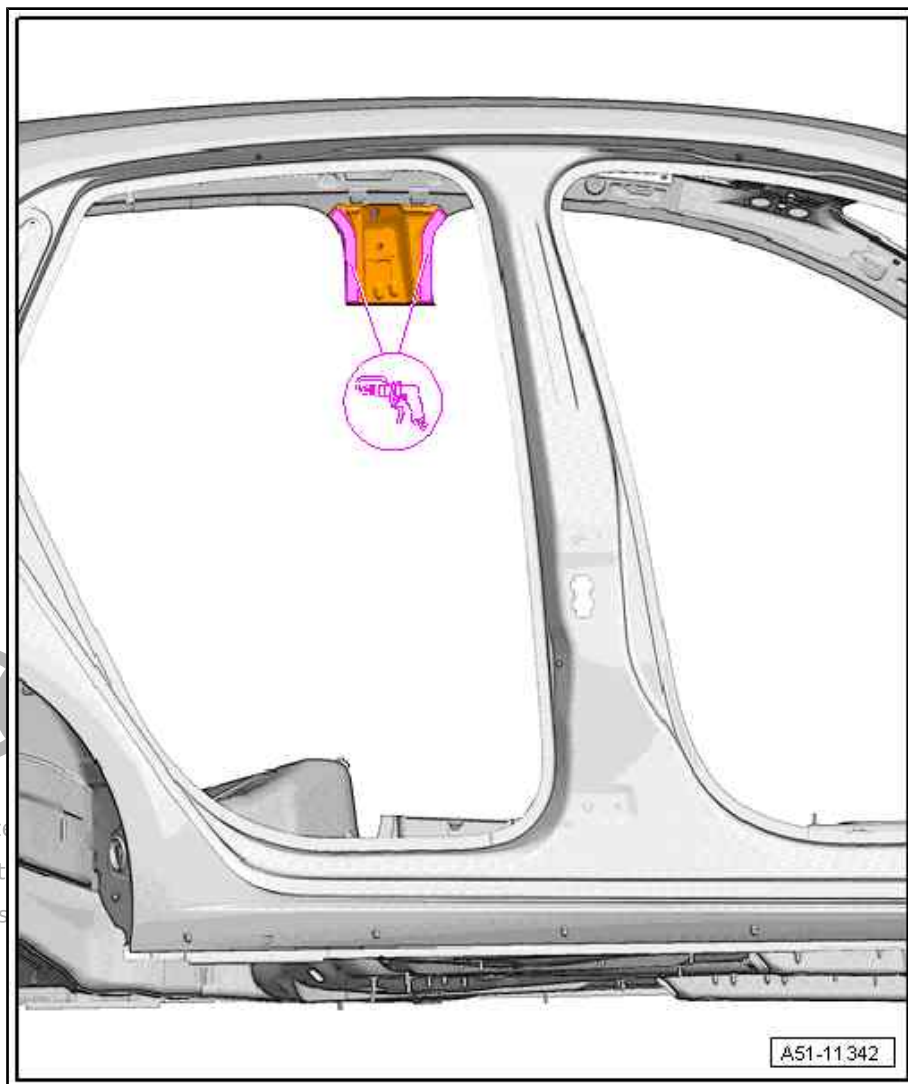
- Separate original joint at B-pillar (bottom)/inner side member using spot weld breaker .
- Detach inner B-pillar.



- Separate original joint at inner web plate using spot weld breaker .



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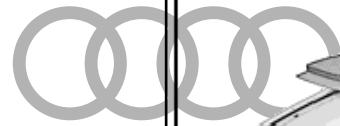


Note

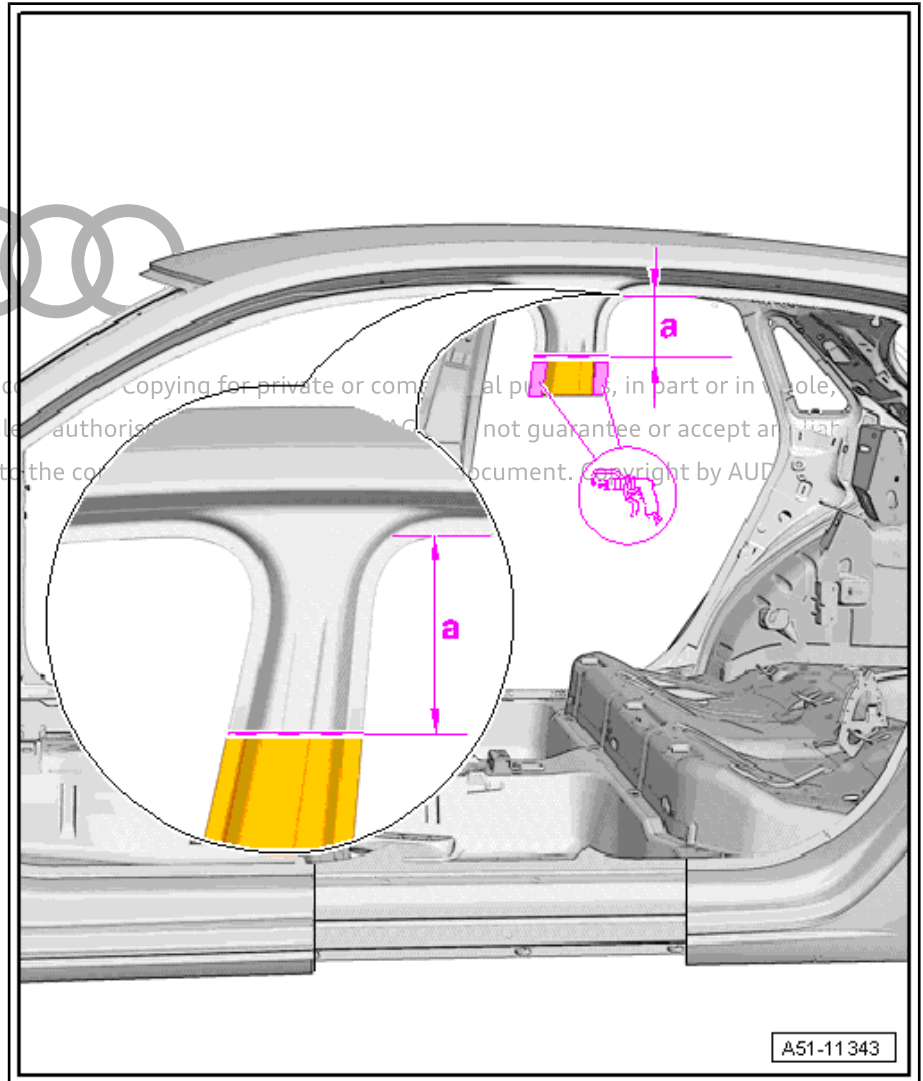
A separating cut is only permissible at the location described.

- Mark off separating cut on outer B-pillar according to dimension -a- and make cut using body saw .

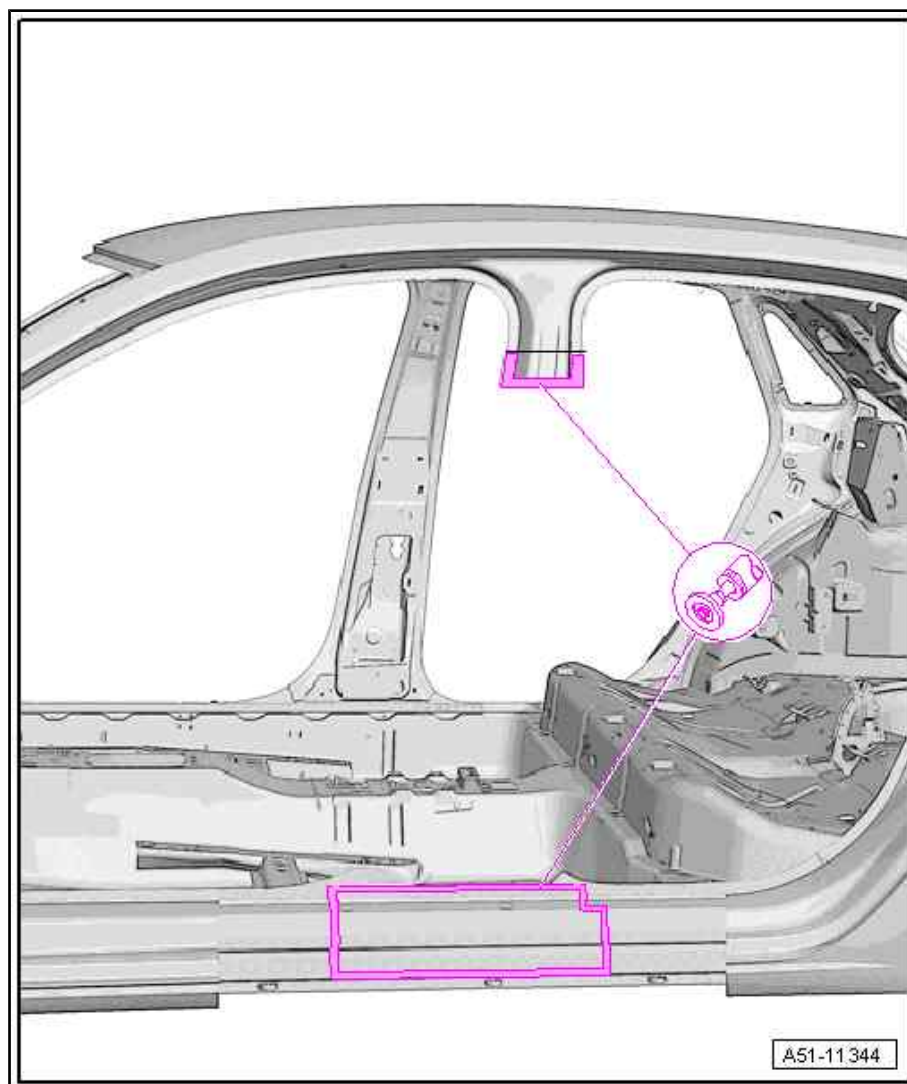
Dimension -a- = 75 mm



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



Replacement parts

- ◆ Inner B-pillar
- ◆ B-pillar reinforcement
- ◆ Threaded plate (M 8), striker plate
- ◆ Closure plate

Preparing new part

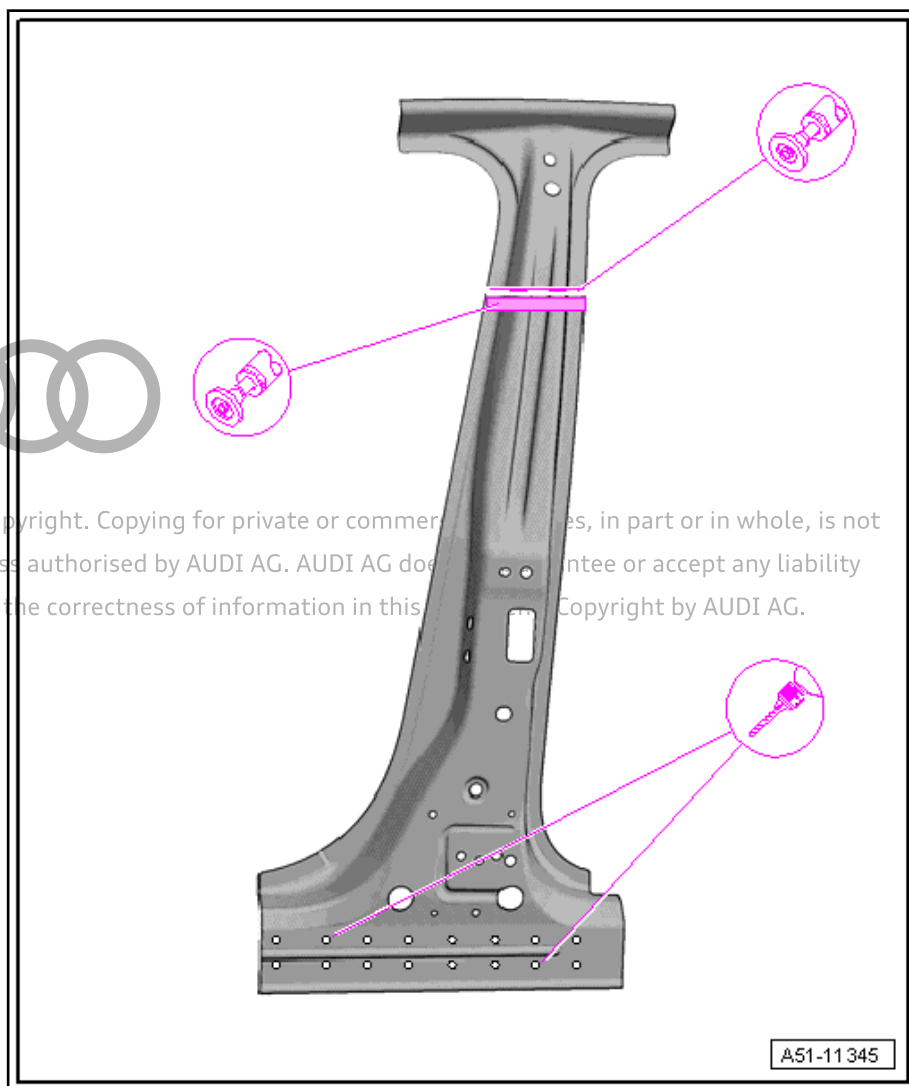
- Transfer separating cut to new part and cut off using compact angle grinder .
- Grind area around separating cut down to bare metal on inside and outside using compact angle grinder .
- Drill 15 holes for SG plug weld seam using drill as shown (8 mm Ø).



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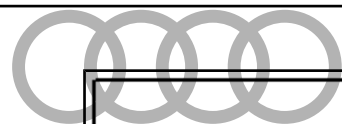


Note

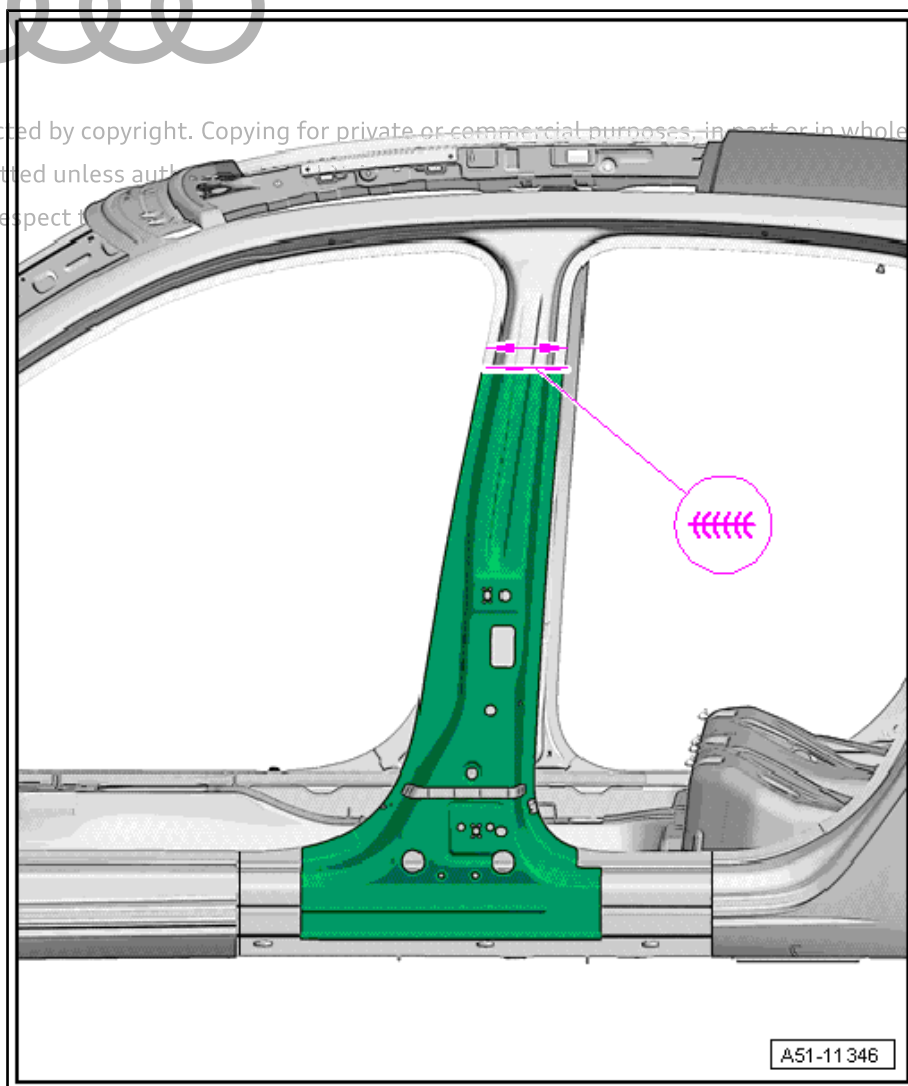
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- To avoid distortion, only tack weld inner B-pillar initially using shielded arc welding equipment .
- Then weld in inner B-pillar from inside to outside using shielded arc welding equipment : SG continuous seam.



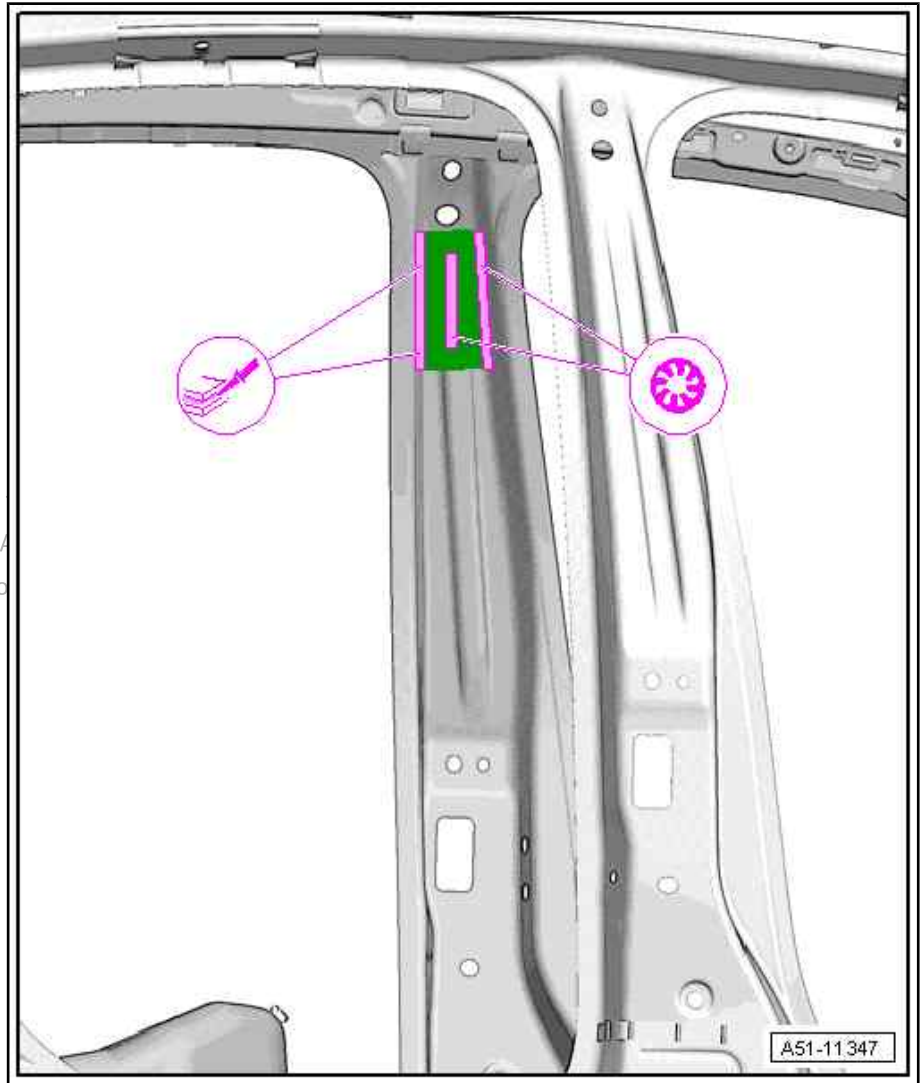
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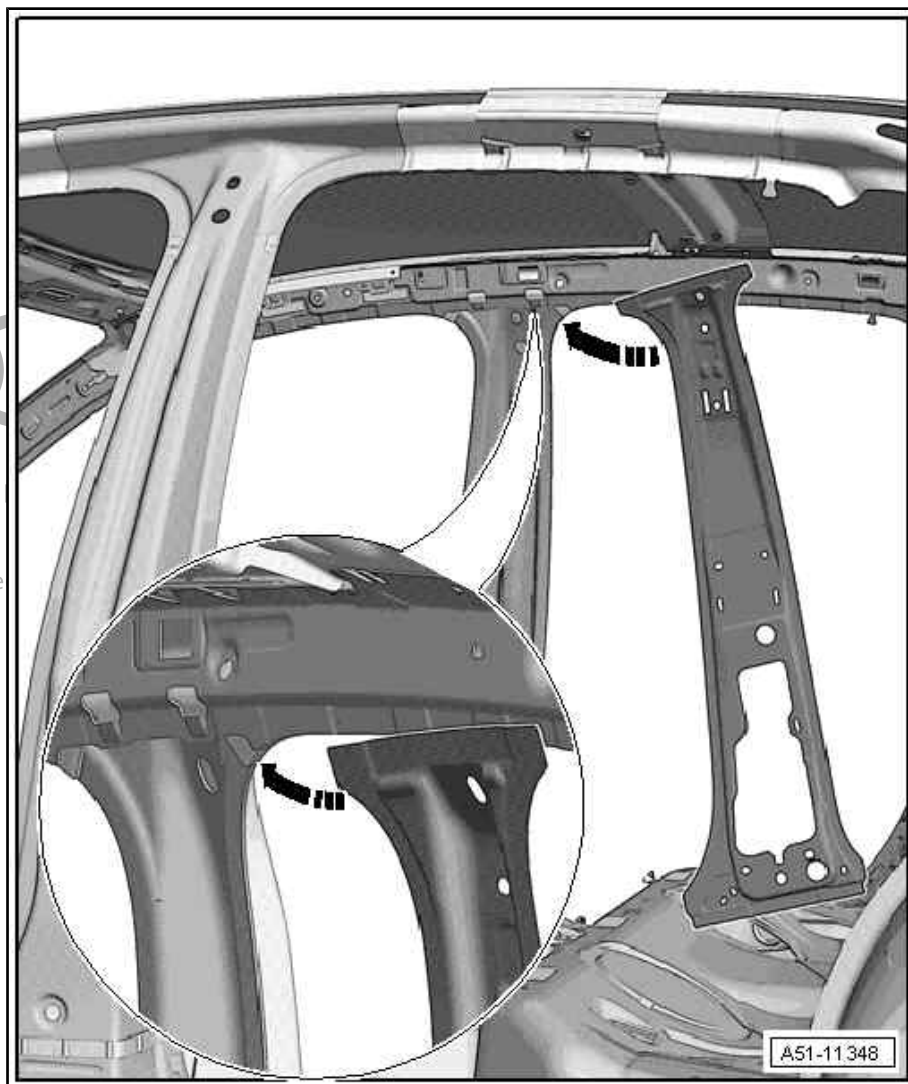
- Weld in inner B-pillar reinforcement with 8 additional welds using shielded arc welding equipment : SG plug weld seam.
- Apply 2-component epoxy adhesive - V.A.G 2005 B - using pneumatic glue gun - DA 001 730 A2- to compensate for tolerance between backing plate and inner B-pillar.



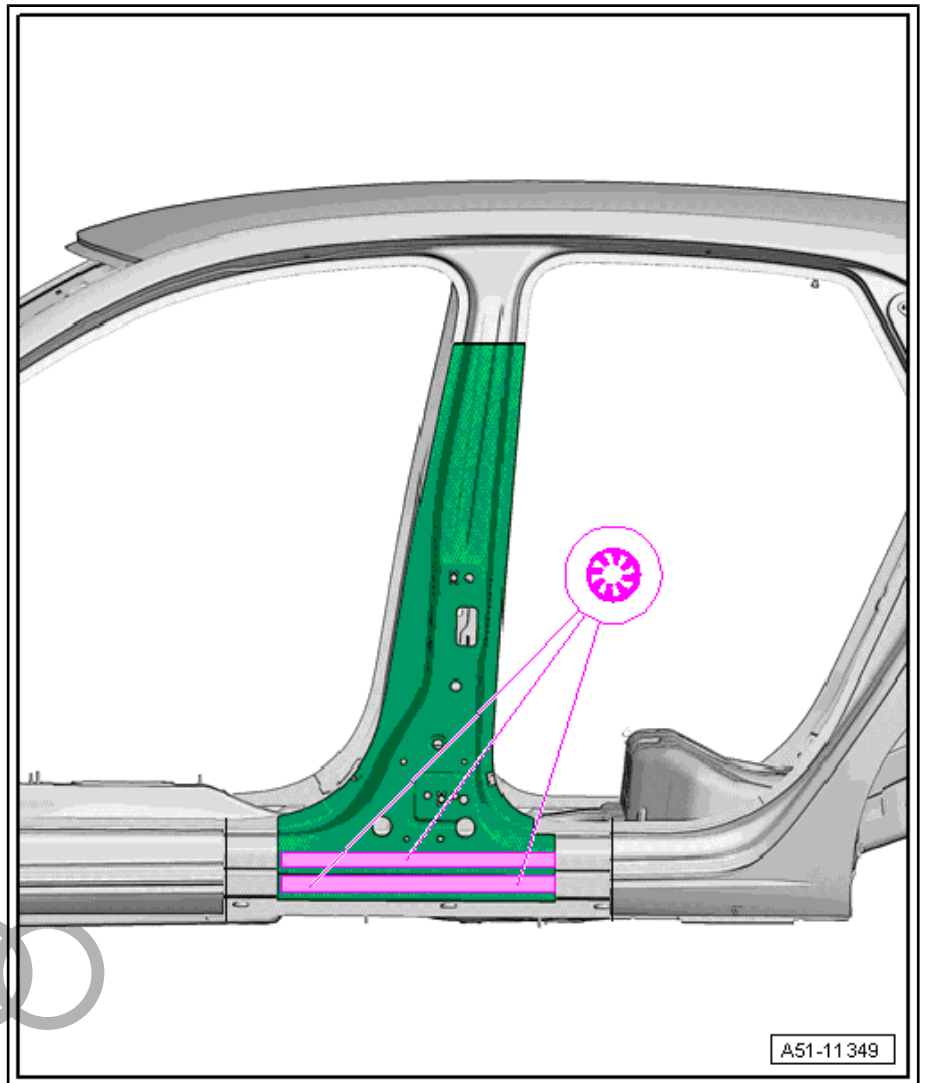
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- Insert closure plate through front door opening at the top and then guide in at the bottom.

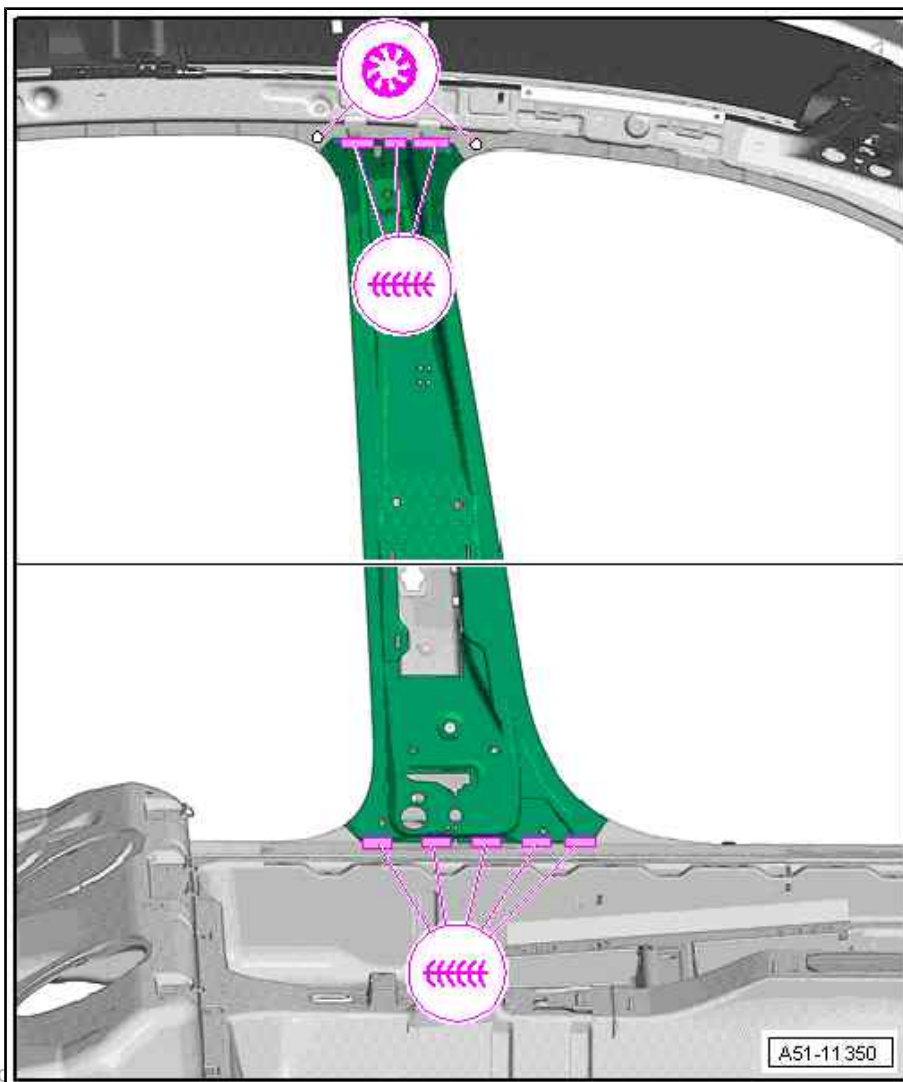


- Weld in lower outer B-pillar using shielded arc welding equipment : SG plug weld seam.



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- Weld in lower inner B-pillar using shielded arc welding equipment : 7x SG continuous seam (staggered - with gaps).
- Weld in upper inner B-pillar using shielded arc welding equipment : 3x SG continuous seam (staggered - with gaps).
- Weld in upper inner B-pillar using shielded arc welding equipment : 2x SG plug weld seam.



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Marking prohibited weld area ss of information in this document. Copyright by AUDI AG.



Note

Note areas where welding is not permitted -hatched areas-.

- In areas where welding is not permitted -hatched areas-, apply 2-component epoxy adhesive - DA 001 730 A2- using pneumatic glue gun - VAG 2005 B - .
- Make one RP spot weld above and below prohibited weld areas.

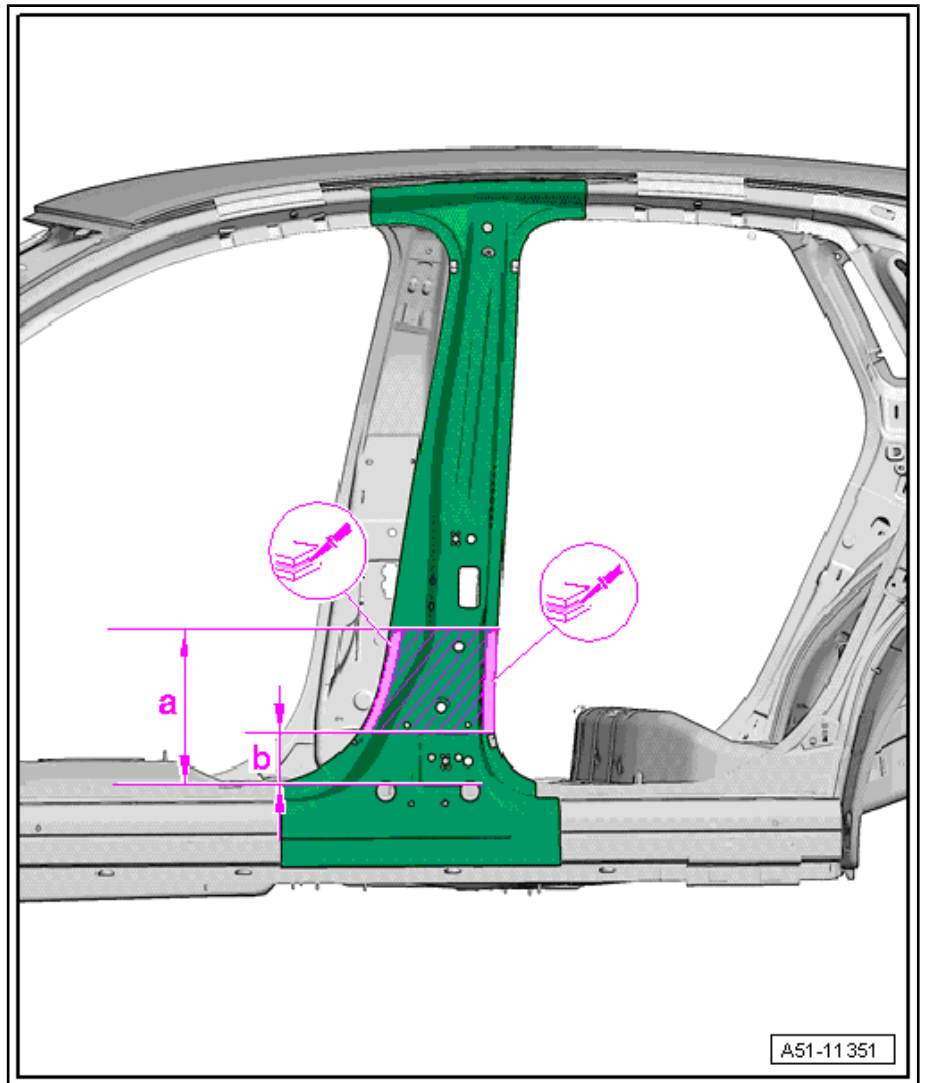


Note

For safety reasons (crash resistance), no welding work may be carried out in the prohibited weld areas as marked in the illustration above.

Dimension -a- = 210 mm

Dimension -b- = 85 mm



- Weld in B-pillar using resistance spot welder : RP spot weld seam (distance between spot welds = 65 mm).

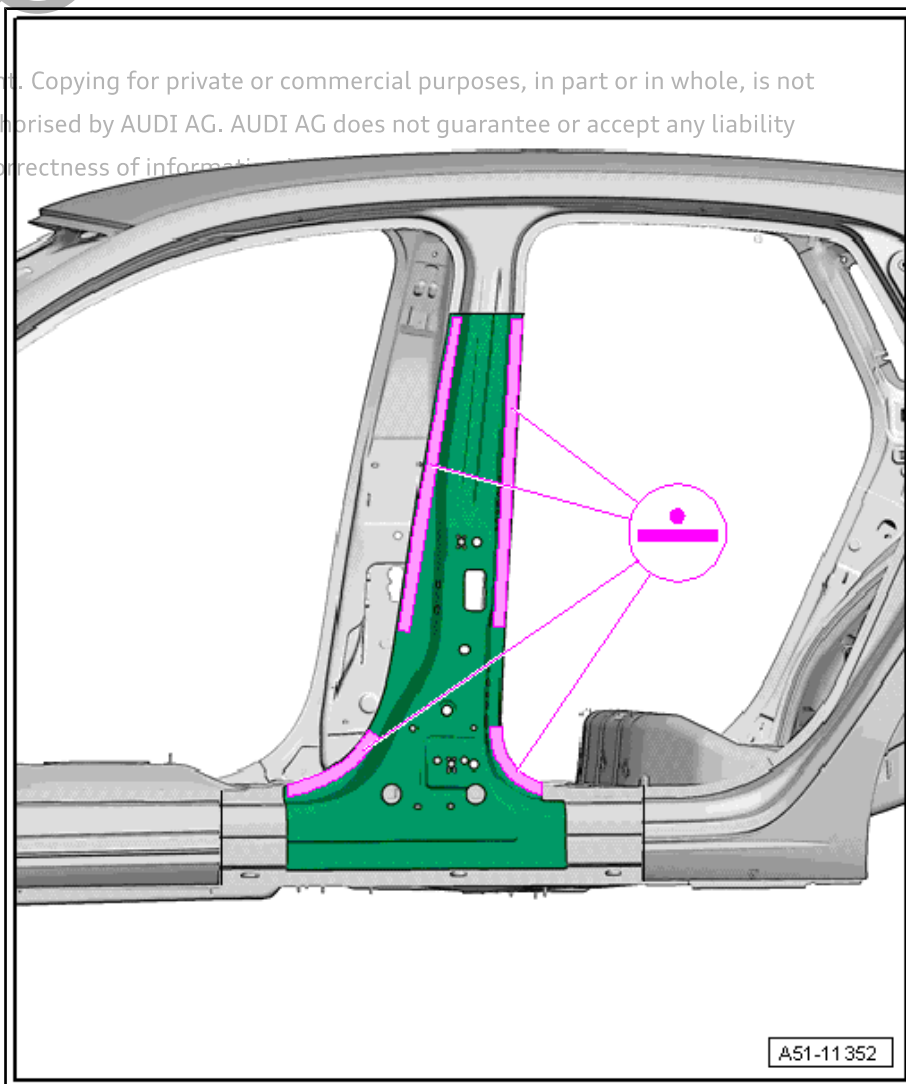
Do not weld in bonded area.



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- Weld in outer B-pillar ➔ [page 209](#) .



RO: 51 45 55 00

15 Outer side member - Renewal

1 - Outer side member

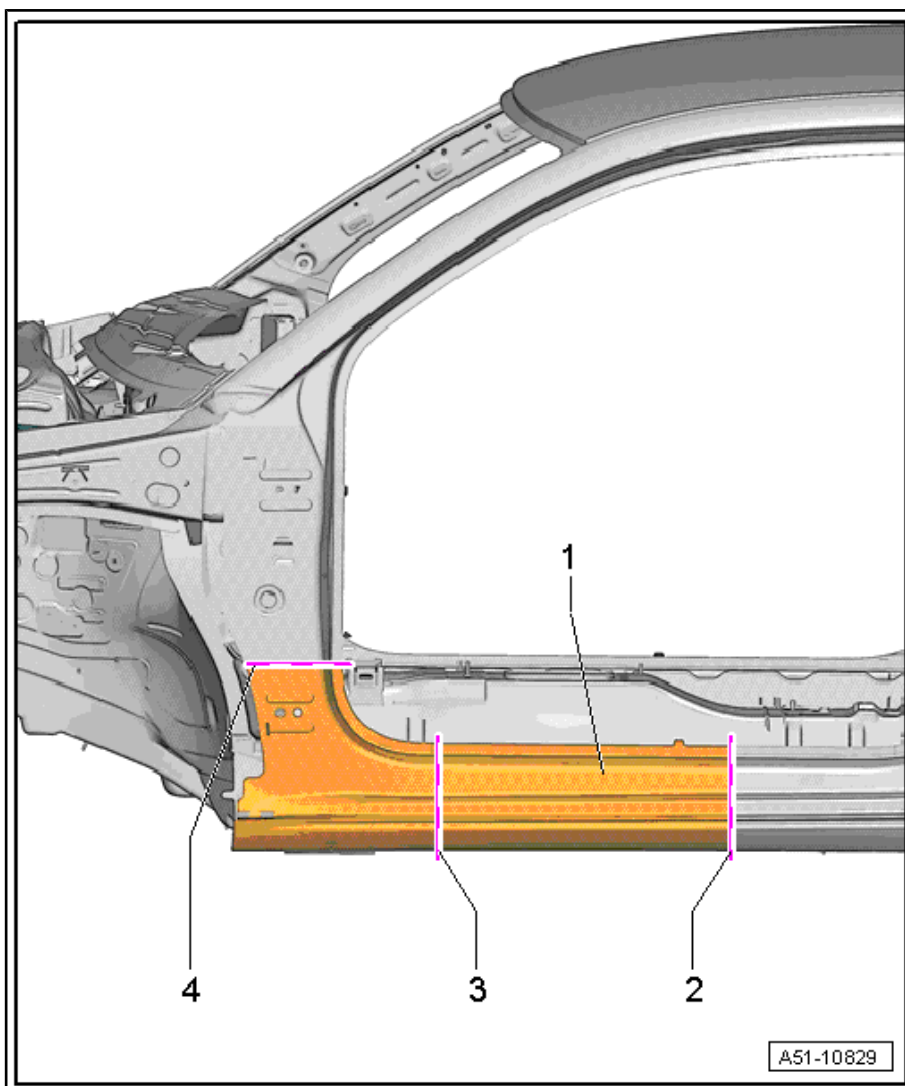
2 - Separating cut in side member (rear)

Partial renewal
Partial renewal is possible with this separating cut.

3 - Separating cut in side member (front)

4 - Separating cut in A-pillar

Partial renewal
Partial renewal is possible with this separating cut.



15.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ 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 37](#).

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15.2 Procedure

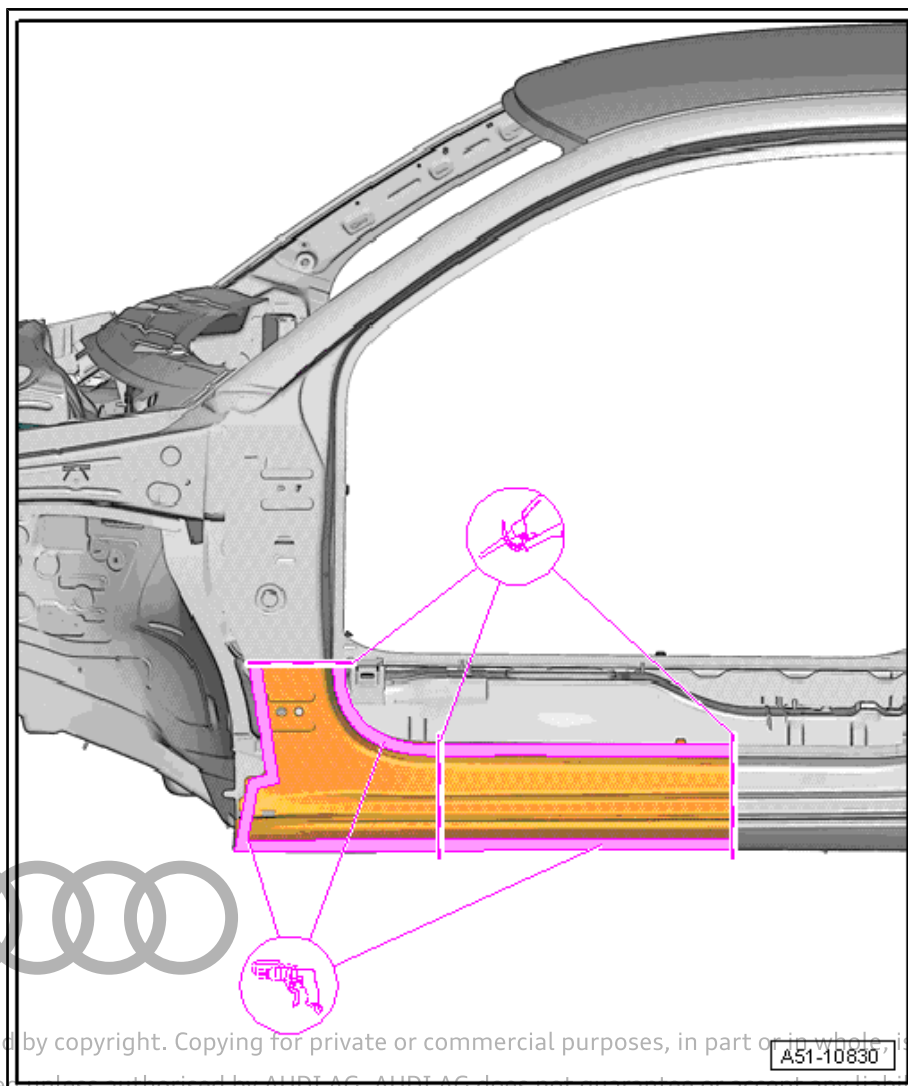
Cutting locations

Permitted separating cuts on side panel ⇒ [page 97](#)



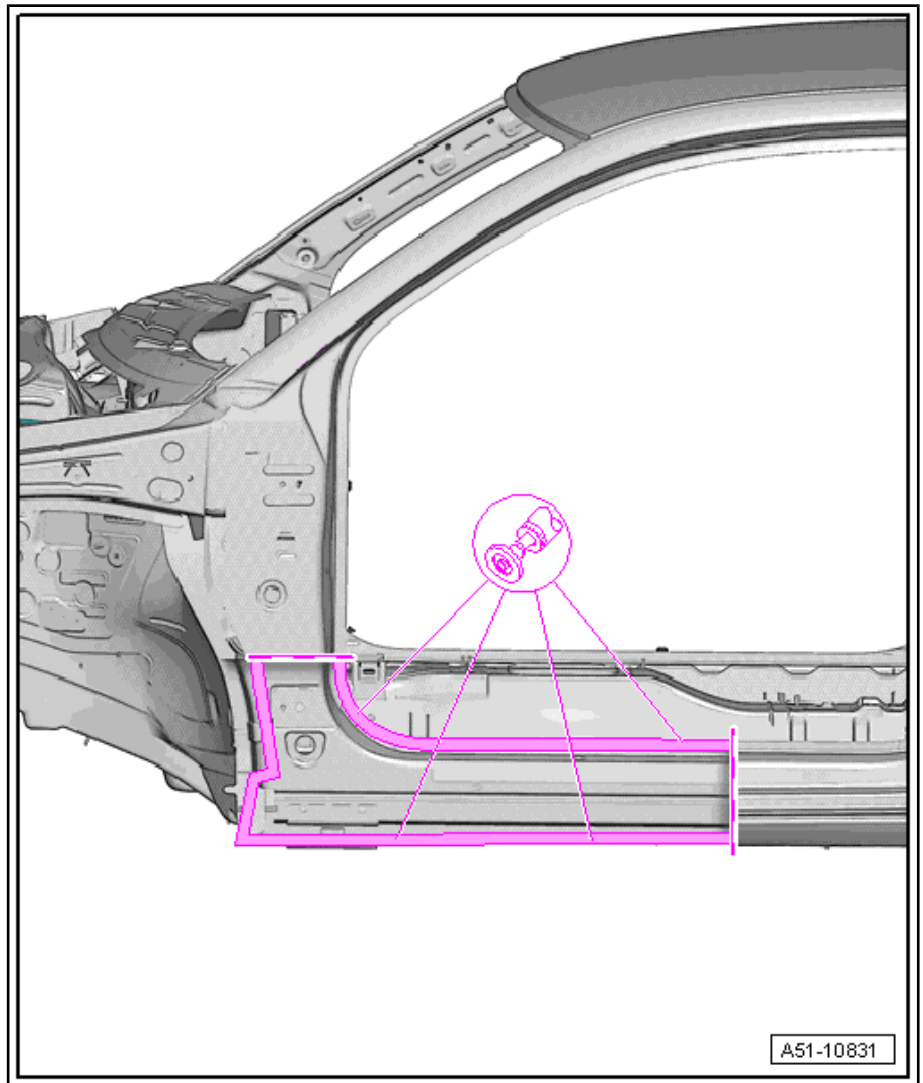
Note

- ◆ *Note the replacement part dimensions when making the separating cuts -2-, -3- and -4-.*
- ◆ *Take care not to damage any panels behind when making the separating cuts.*
- Mark off separating cuts according to degree of damage and make cuts using body saw .
- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .



Replacement part

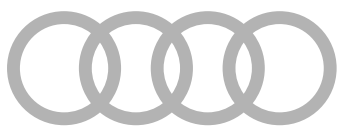
- ◆ Outer side member

Preparing new part

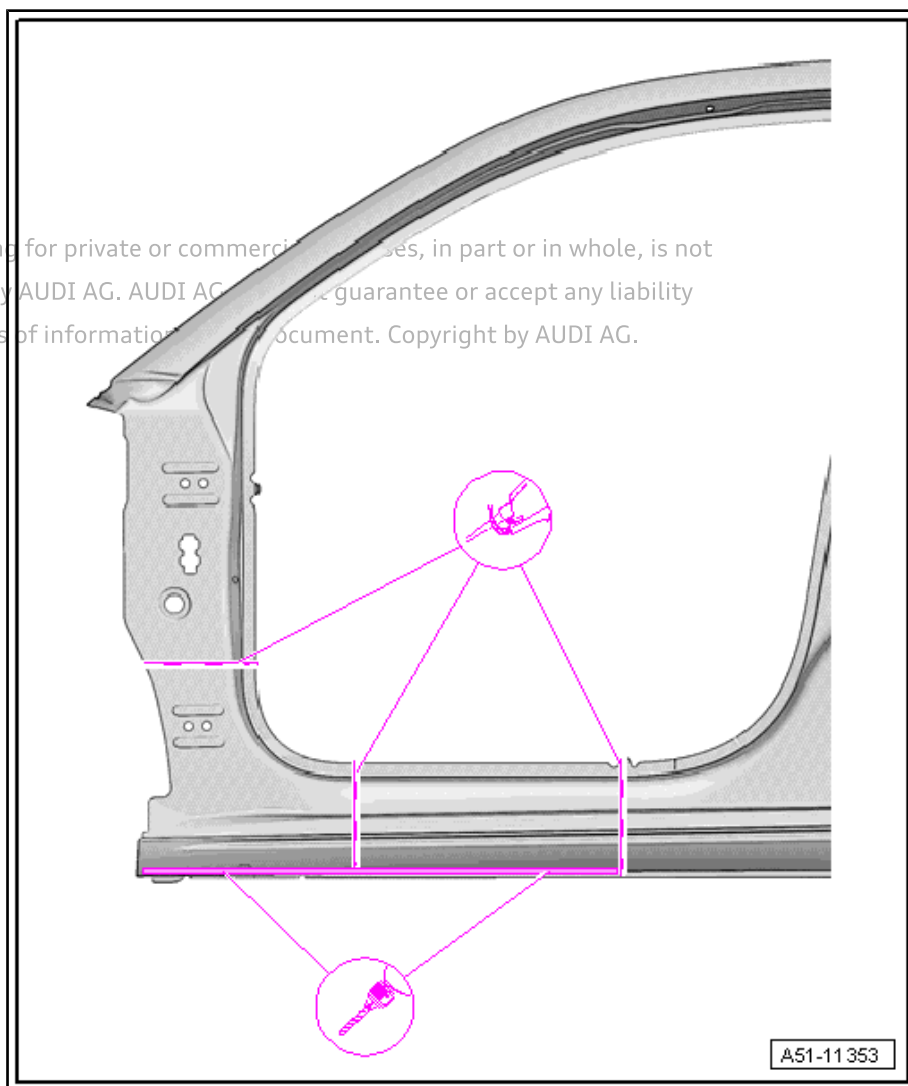
- Transfer separating cuts to new part and cut to size using body saw .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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Note

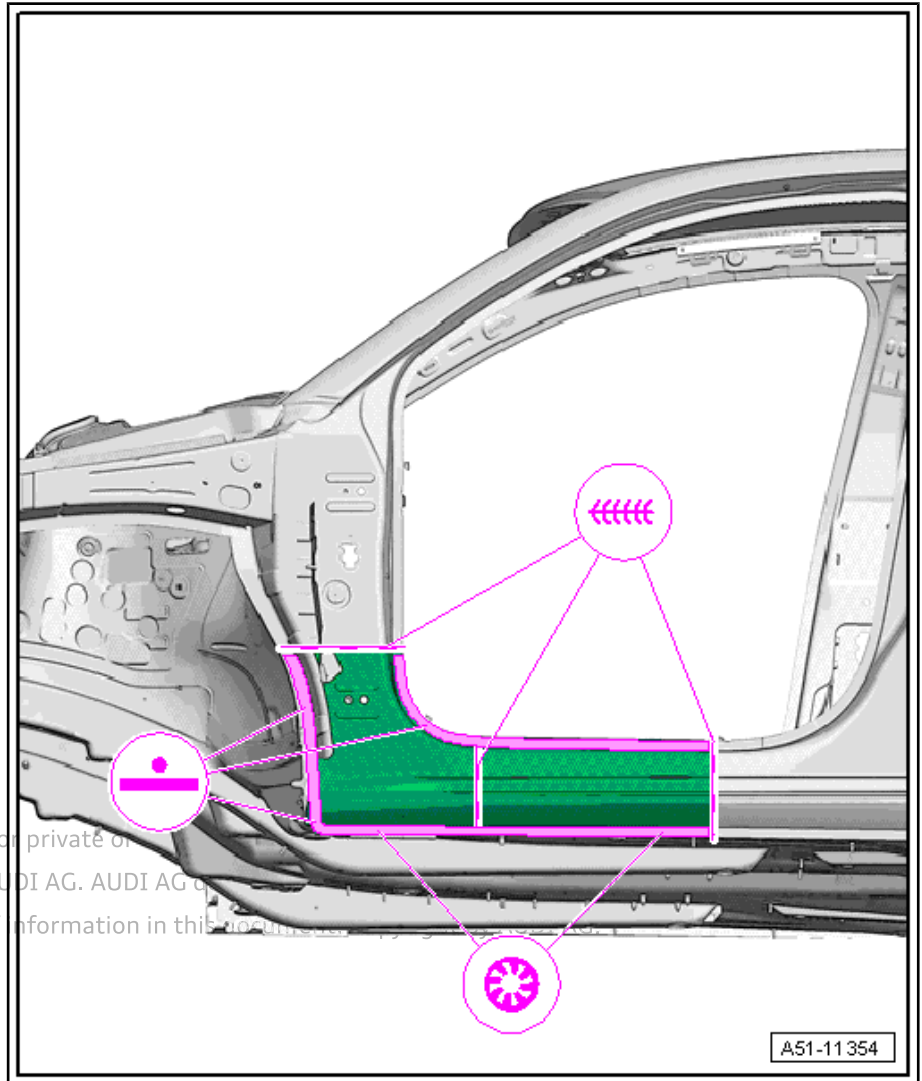
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- 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.
- Weld side member using shielded arc welding equipment : SG plug weld seam.



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RO: 51 45 55 00

16 Outer side member - Renewal (Sportback)

1 - Separating cut in A-pillar

2 - Separating cut in side member (front)

Partial renewal

Partial renewal is possible with this separating cut.

Make separating cut according to extent of damage.

3 - Outer side member

4 - Separating cut in side member (rear)

Partial renewal

Partial renewal is possible with this separating cut.

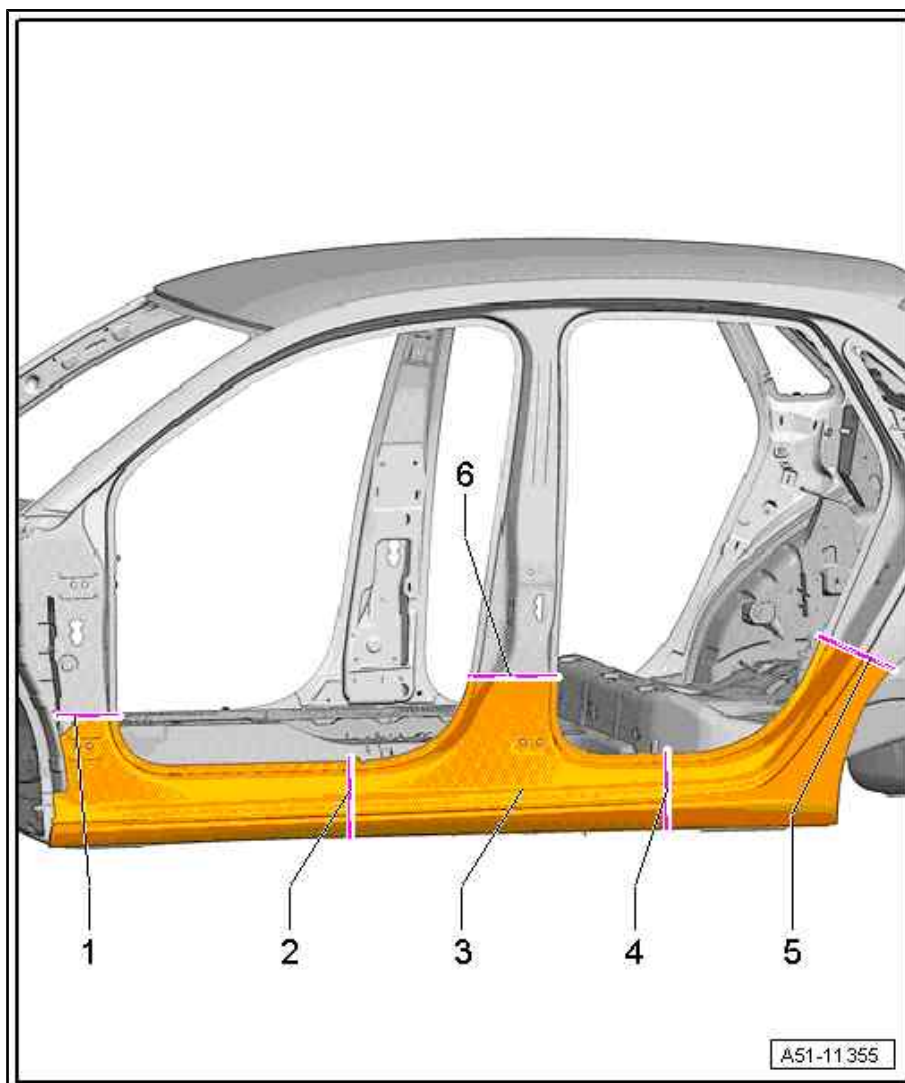
Make separating cut according to extent of damage.

5 - Separating cut at wheel arch

6 - Separating cut in B-pillar

Partial renewal is possible with this separating cut.

Make separating cut according to extent of damage.



16.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ Body saw
- ◆ Spot weld breaker

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#)

16.2 Procedure

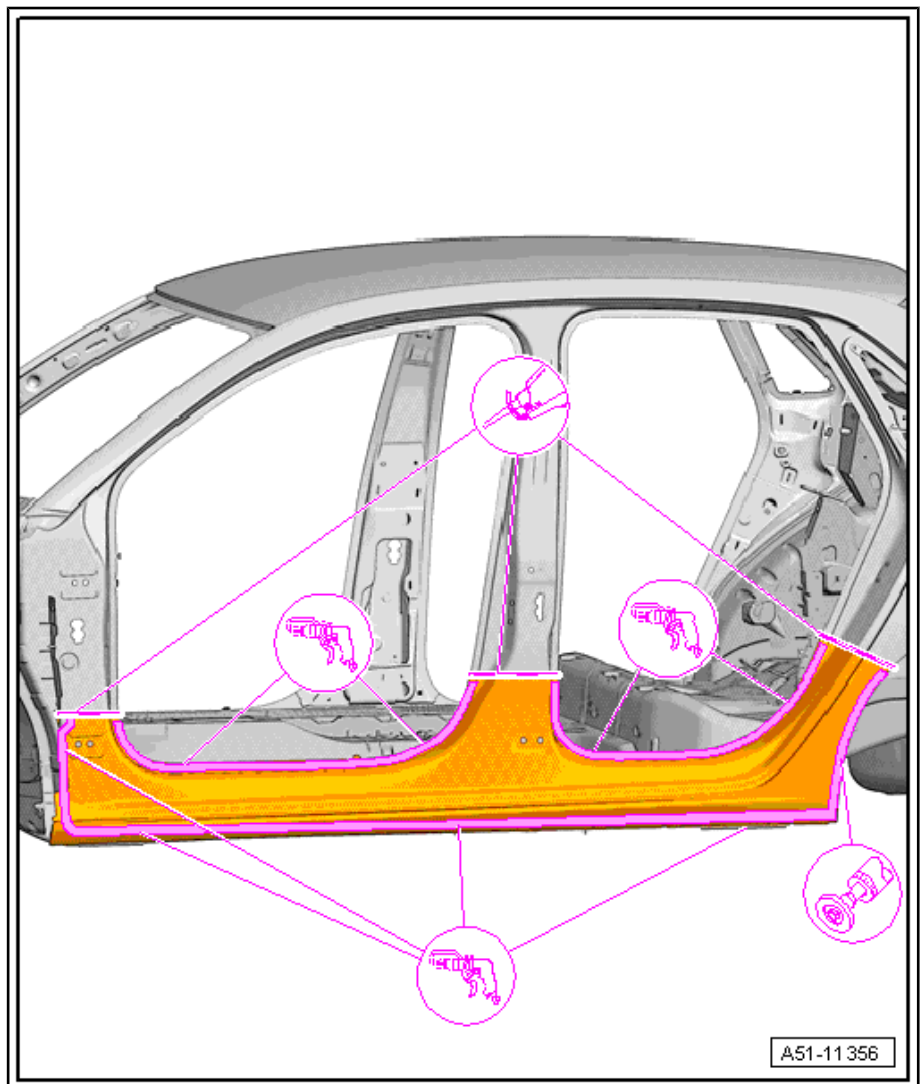
Cutting locations

Permitted separating cuts on side panel ➔ [page 97](#)

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



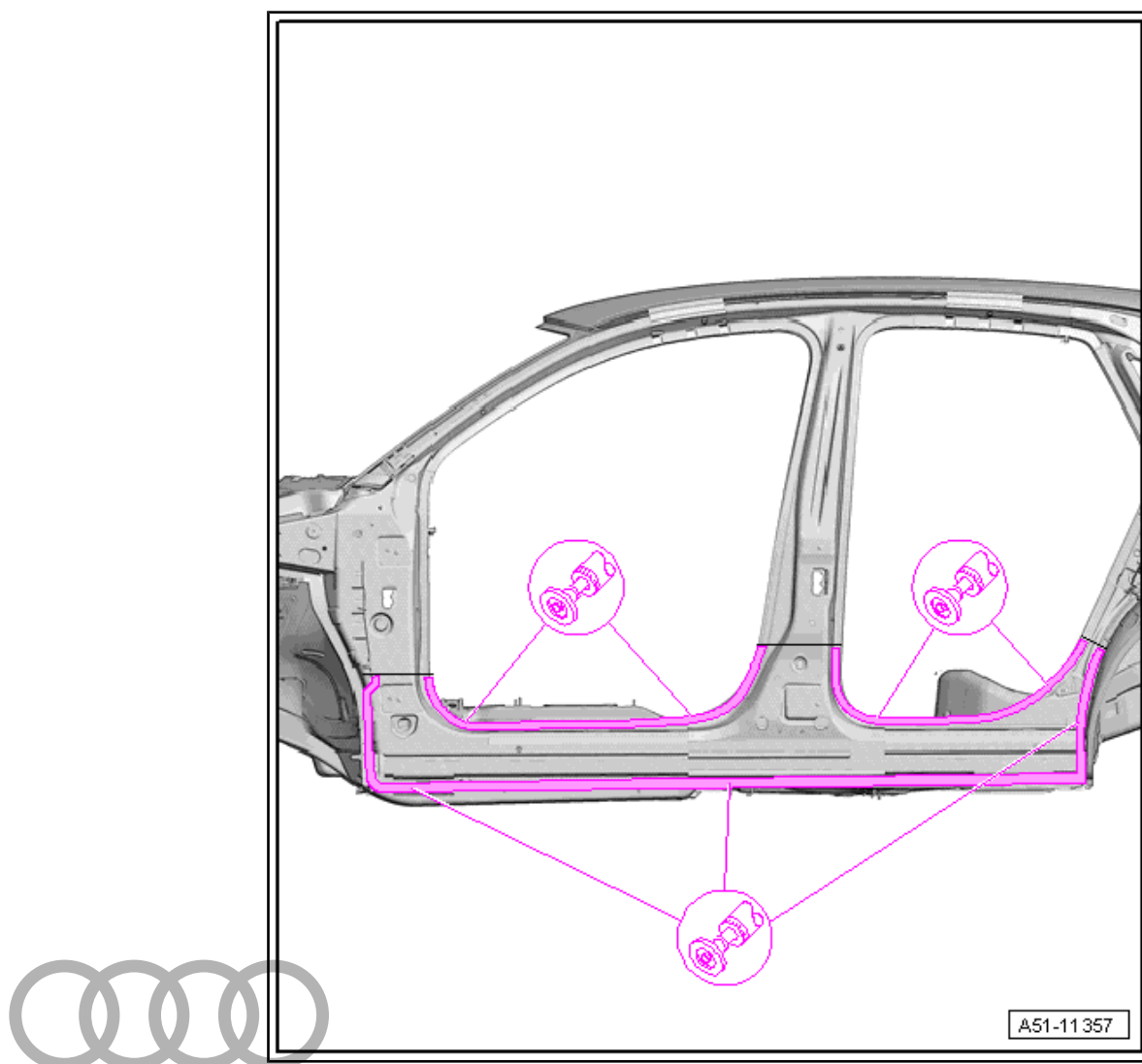
- Separate original joint using spot weld breaker .
- Grind through outer edge at wheel arch using compact angle grinder .



- 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 part

◆ Outer side member (sub-part)

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- (it must be free of dust and grease).
- Grind down bonding surface (on body side of joint) to bare metal.
- Clean beaded flange with cleaning solution - D 009 401 04- (it must be free of dust and grease).
- Drill holes for SG plug weld seam, 8 mm Ø using drill .



851-11358



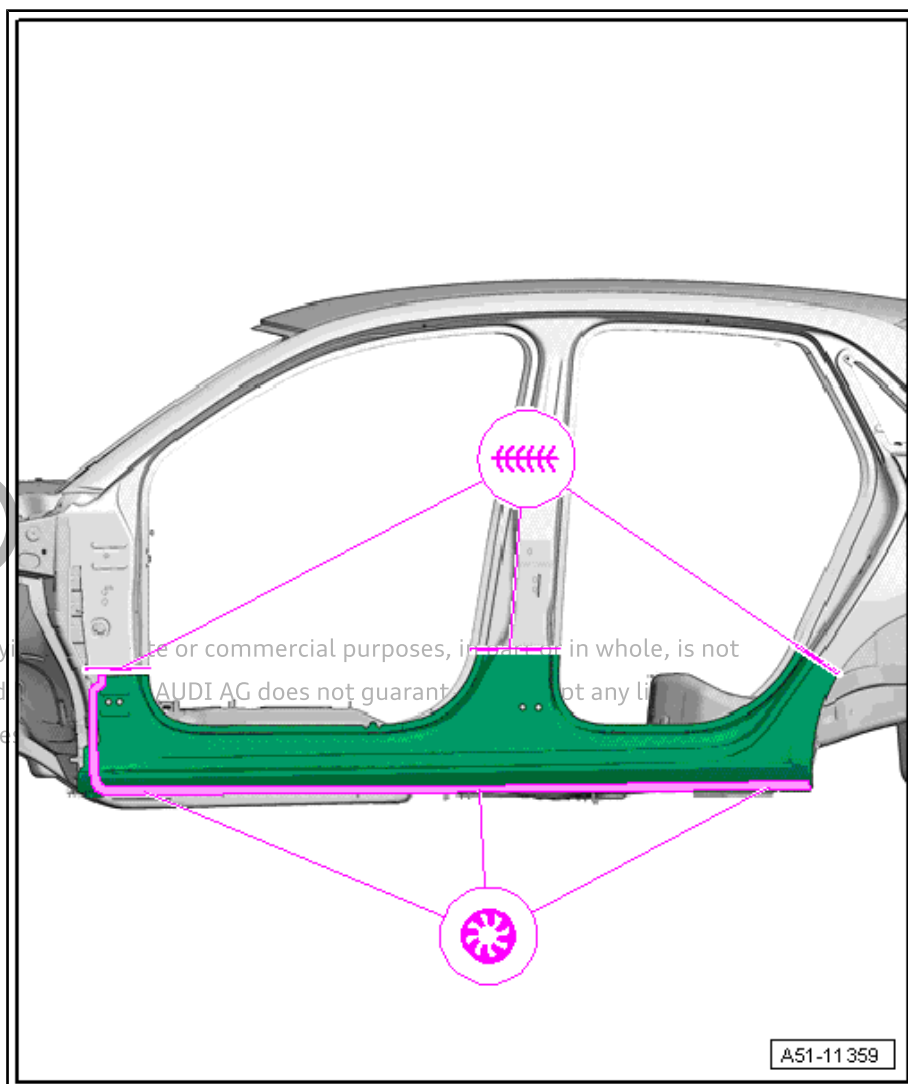
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

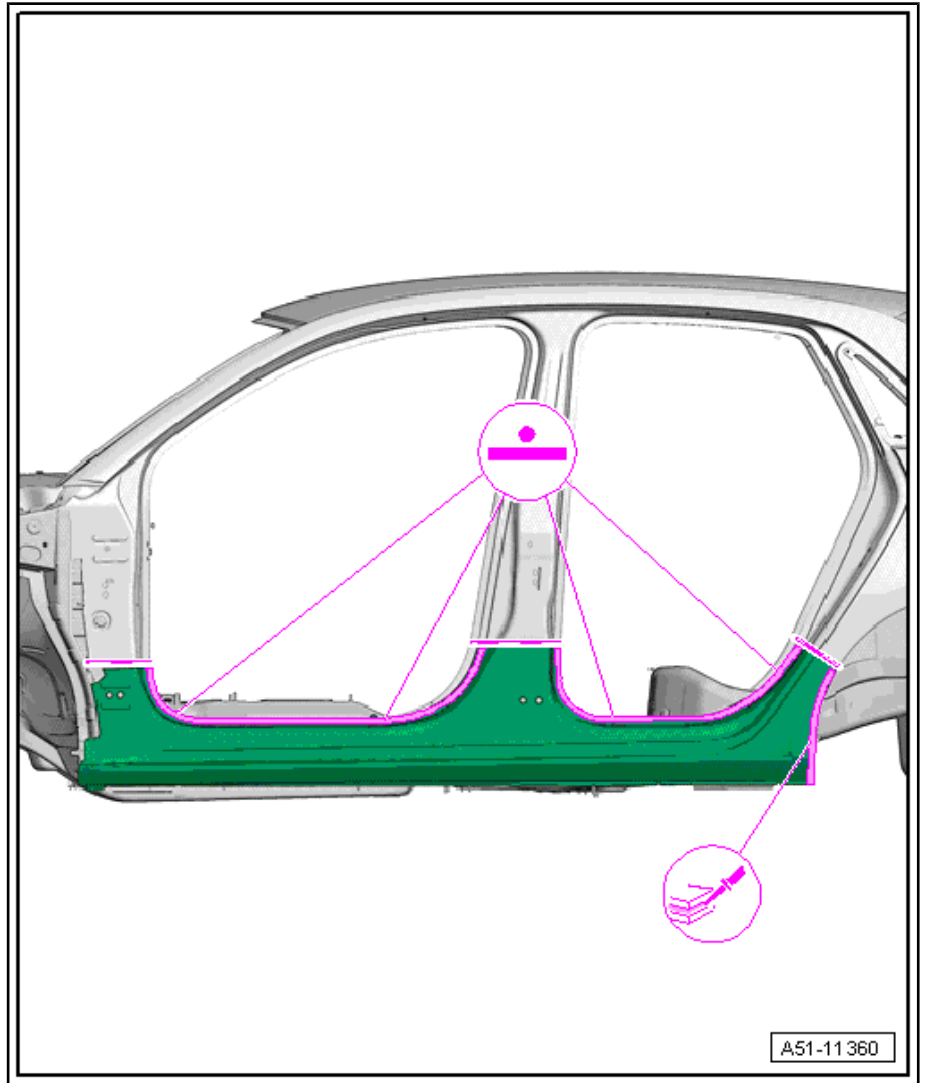
- Match up and fix new part in position.
- Check fit relative to bolt-on parts.
- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in side member using shielded arc welding equipment : SG plug weld seam.



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- Apply 2-component epoxy adhesive - DA 001 730 A2- to side panel and flange area on wheel housing using pneumatic glue gun - V.A.G 2005 B- .
- Weld in side member using resistance spot welder : RP spot weld seam.



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RO: 51 47 55 50

17 Web plate for inner side member - Renewal

Audi A1 and Audi A1 Sportback identical

1 - Inner A-pillar reinforcement

2 - Separating cut

Partial renewal

*Partial renewal is possible with
this separating cut.*

3 - Web plate for inner side
member

4 - Separating cut

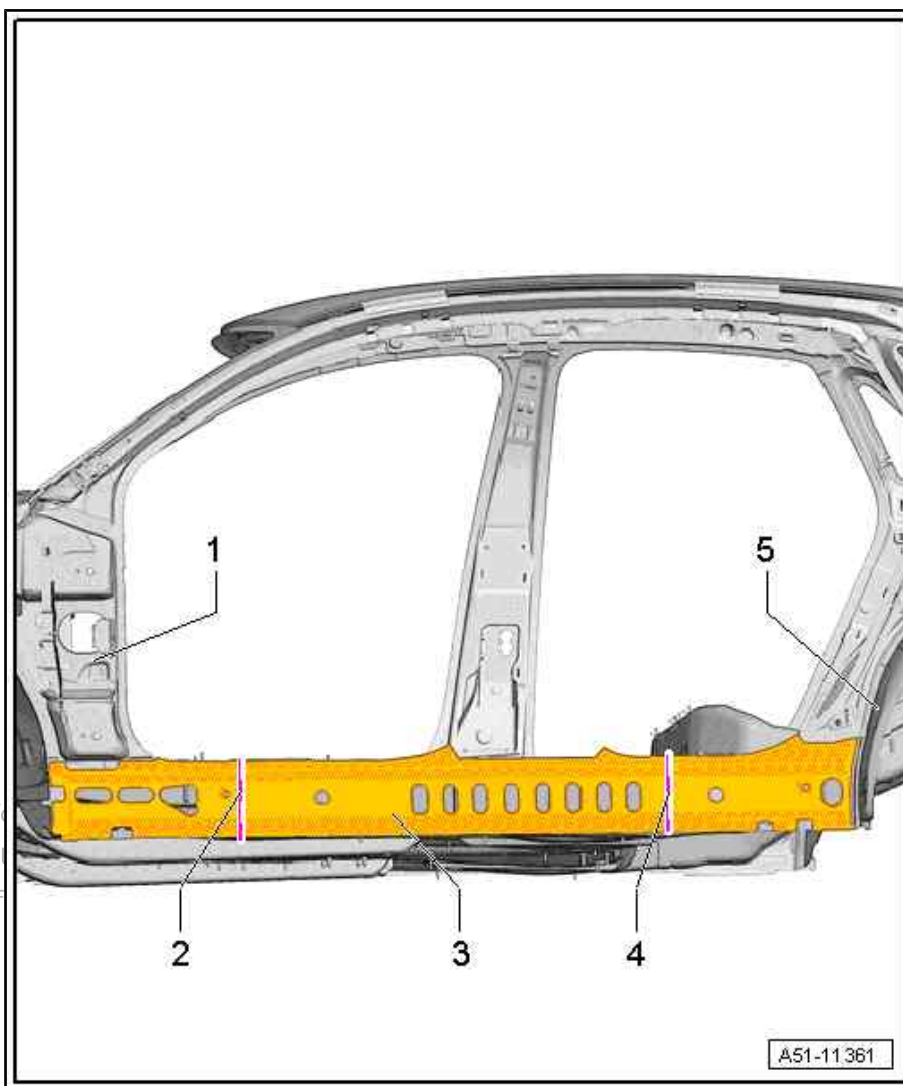
Partial renewal

*Partial renewal is possible with
this separating cut.*

5 - Rear wheel housing



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17.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ 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 37](#) .

17.2 Procedure

- Outer side member already removed (Sportback)
➔ [page 236](#)



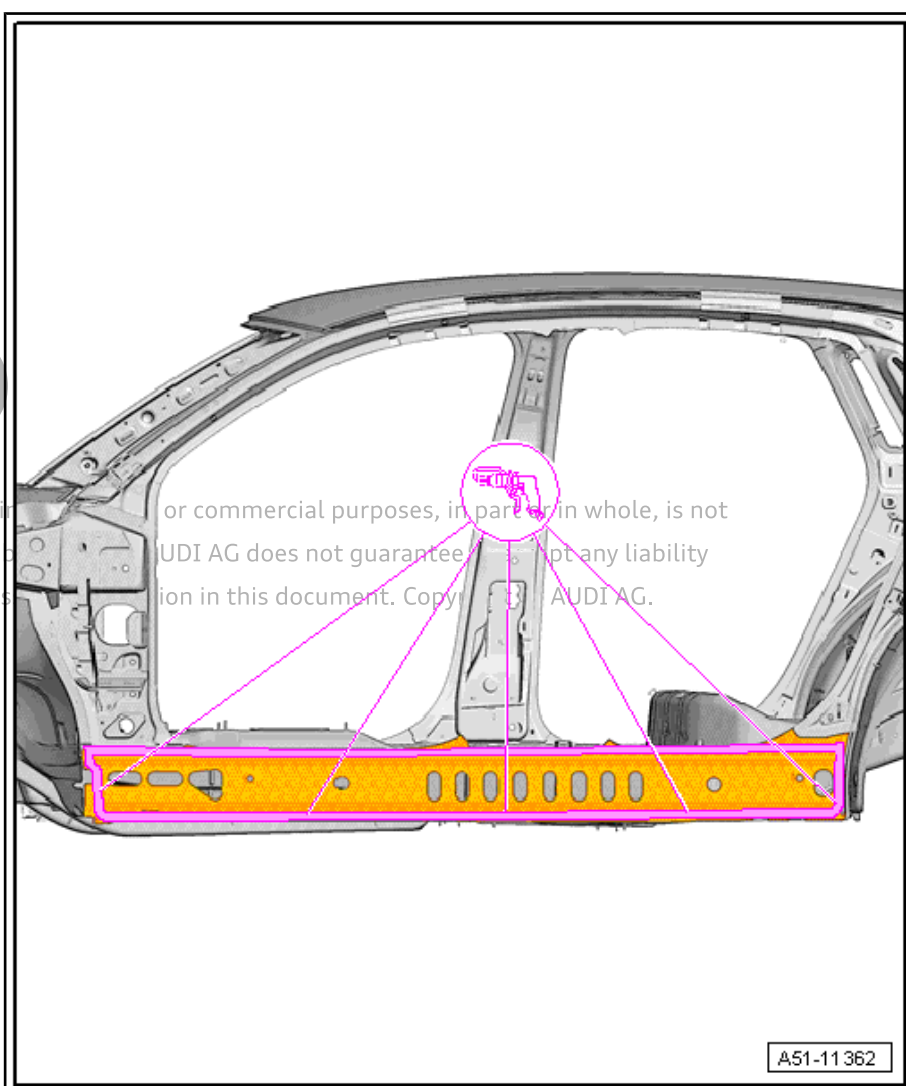
- Outer side member already removed ⇒ [page 231](#)
- Side panel already removed ⇒ [page 317](#)
- Side panel already removed (Sportback) ⇒ [page 327](#)
- Inner B-pillar (part section) already removed (Sportback) ⇒ [page 216](#)
- Inner B-pillar (part section) already removed ⇒ [page 199](#)
- Outer A-pillar already removed ⇒ [page 178](#)
- Inner A-pillar (part section) already removed ⇒ [page 187](#)

Cutting locations

- Make separating cuts according to extent of damage using body saw .
- Separate original joint using spot weld breaker .



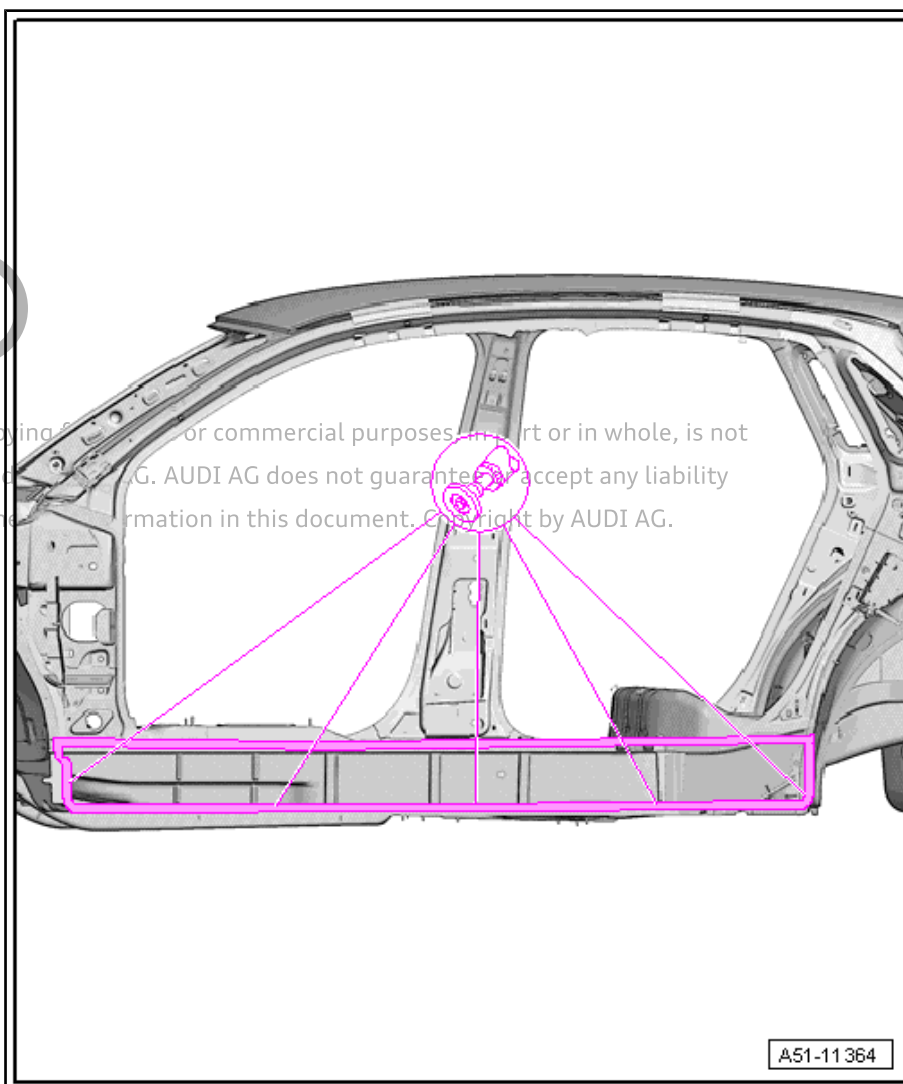
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- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Web plate for inner side member



Note

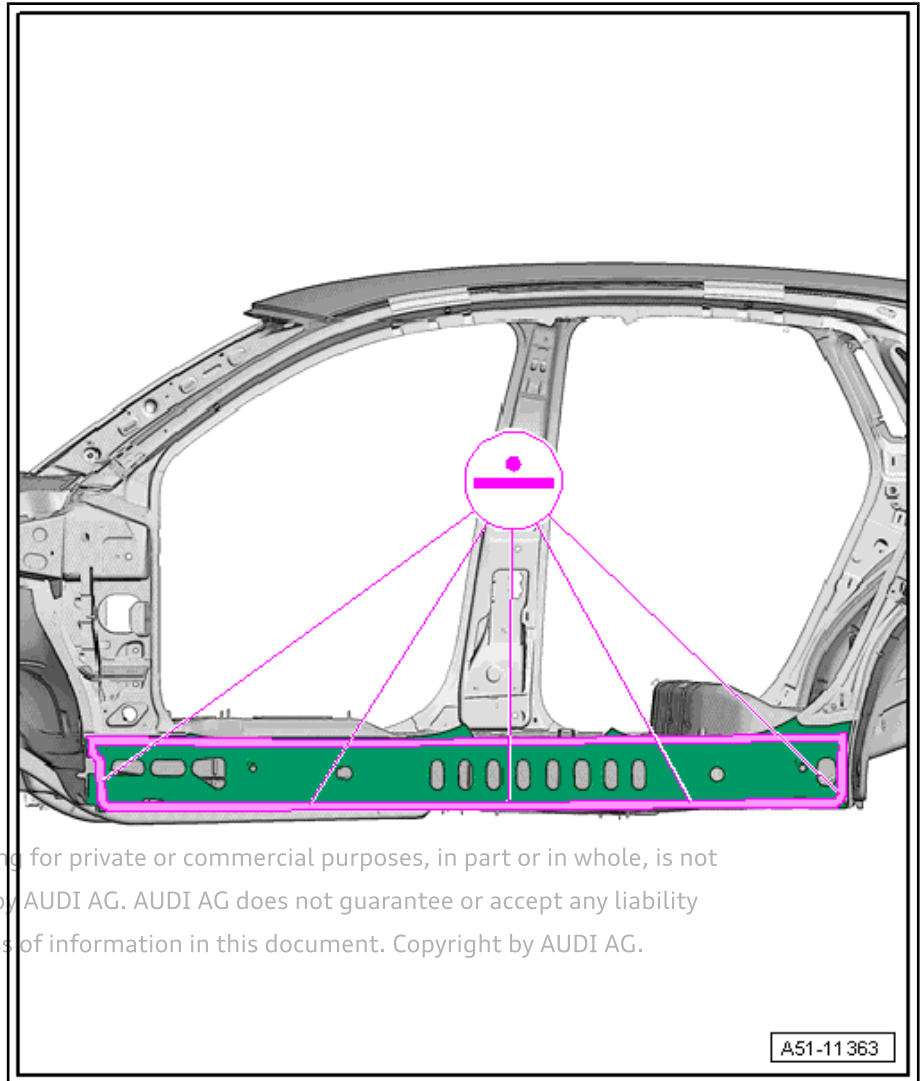
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Weld in web plate for inner side member using resistance spot welder : RP spot weld seam.



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- Welding in outer side member (Sportback) ⇒ [page 236](#)
- Welding in outer side member ⇒ [page 231](#)
- Welding in side panel ⇒ [page 317](#)
- Welding in side panel (Sportback) ⇒ [page 327](#)
- Welding in inner B-pillar (part section; Sportback) ⇒ [page 216](#)
- Welding in inner B-pillar (part section) ⇒ [page 199](#)
- Welding in outer A-pillar ⇒ [page 178](#)
- Welding in inner A-pillar (part section) ⇒ [page 187](#)



RO: 51 47 55 50

18 Inner side member - Renewal

Audi A1 and Audi A1 Sportback identical

1 - Inner A-pillar reinforcement

2 - Inner side member

3 - Rear wheel housing

4 - Separating cut

Partial renewal

Partial renewal is possible with this separating cut.

5 - Separating cut

Partial renewal

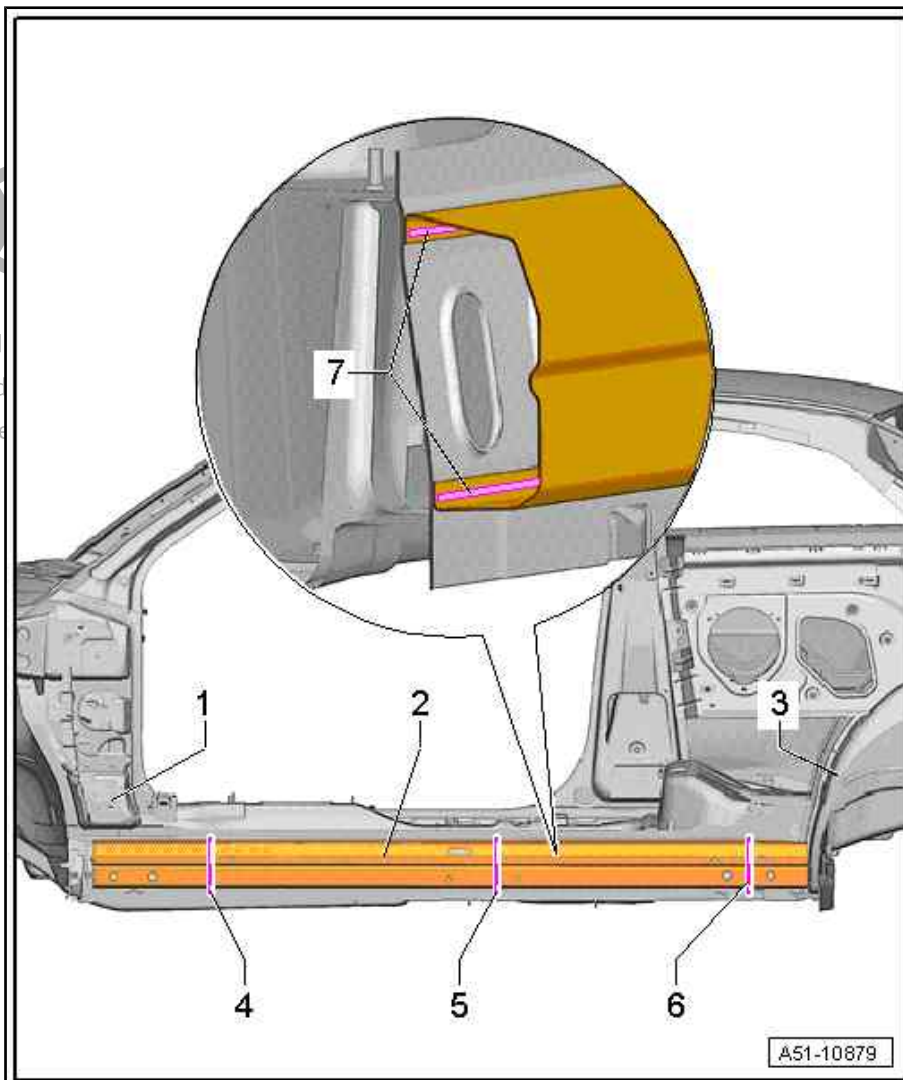
Partial renewal is possible with this separating cut.

6 - Separating cut

Partial renewal

Partial renewal is possible with this separating cut.

7 - Laser weld seam



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 37](#) .

18.2 Procedure

- Outer side member already removed (Sportback) ⇒ [page 236](#)
- Outer side member already removed ⇒ [page 231](#)



- Side panel already removed ⇒ [page 317](#)
- Side panel already removed (Sportback) ⇒ [page 327](#)
- Inner B-pillar (part section) already removed (Sportback) ⇒ [page 216](#)
- Inner B-pillar (part section) already removed ⇒ [page 199](#)
- Outer A-pillar already removed ⇒ [page 178](#)
- Inner A-pillar (part section) already removed ⇒ [page 187](#)
- Web plate for inner side member already removed ⇒ [page 242](#)

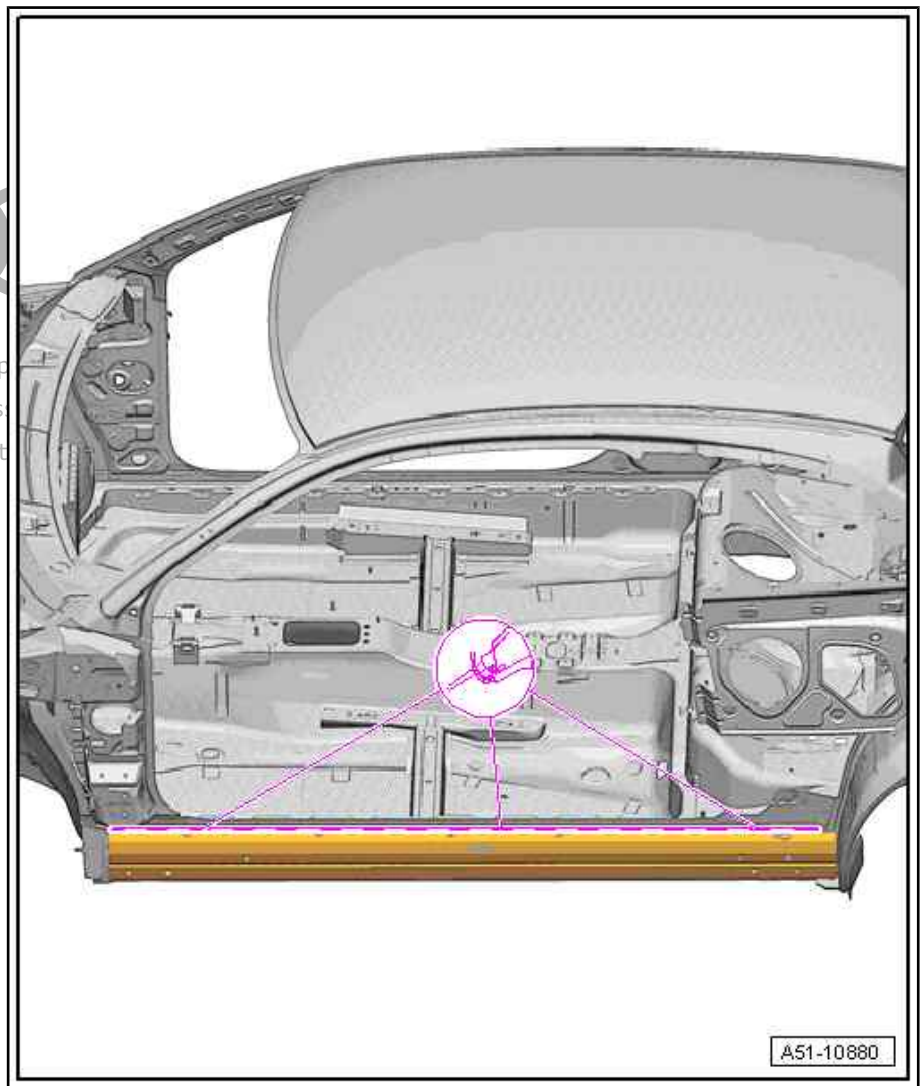
Cutting locations

Permitted separating cuts on side panel ⇒ [page 97](#)

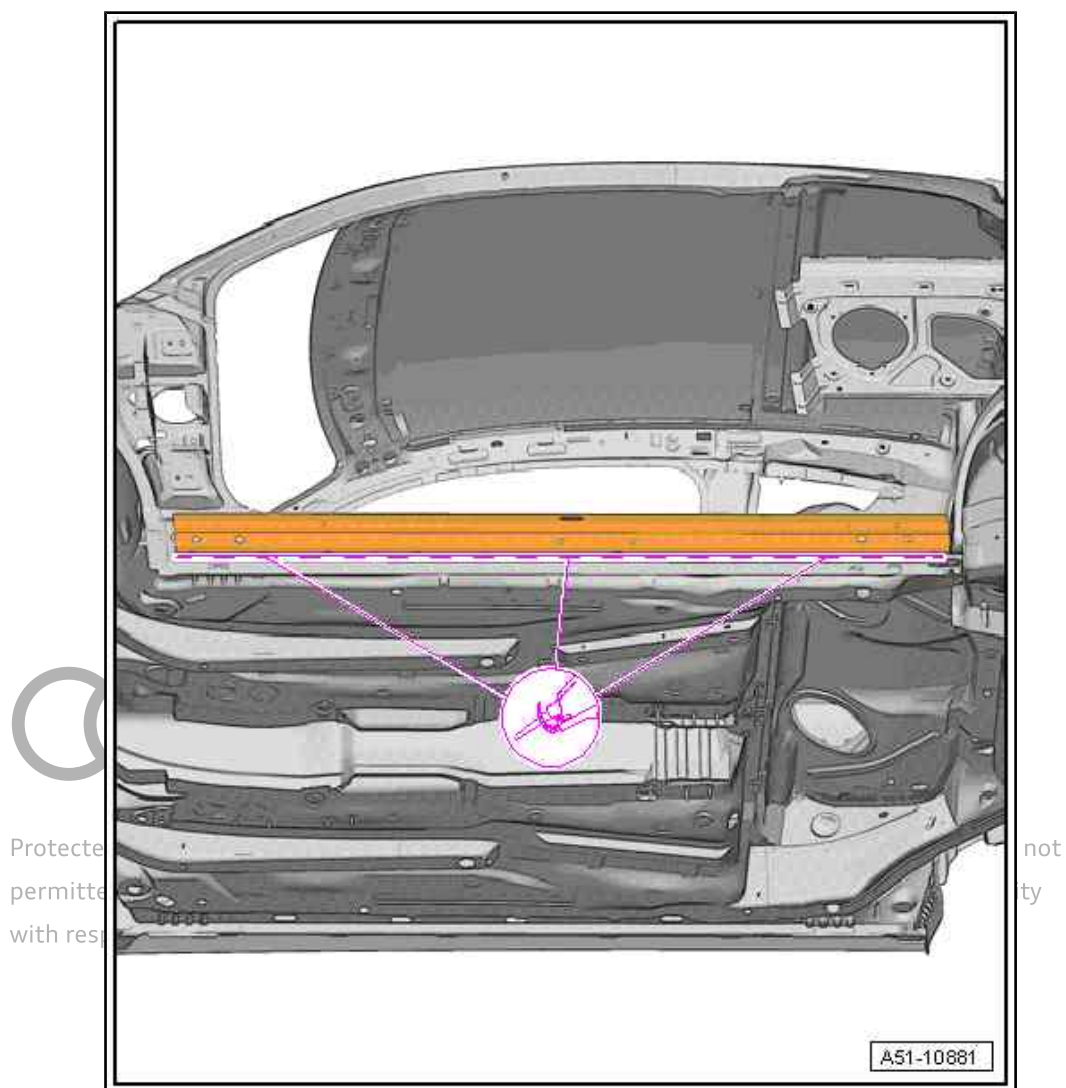
- Make separating cuts according to extent of damage using body saw .
- Make upper separating cut on side member using body saw .



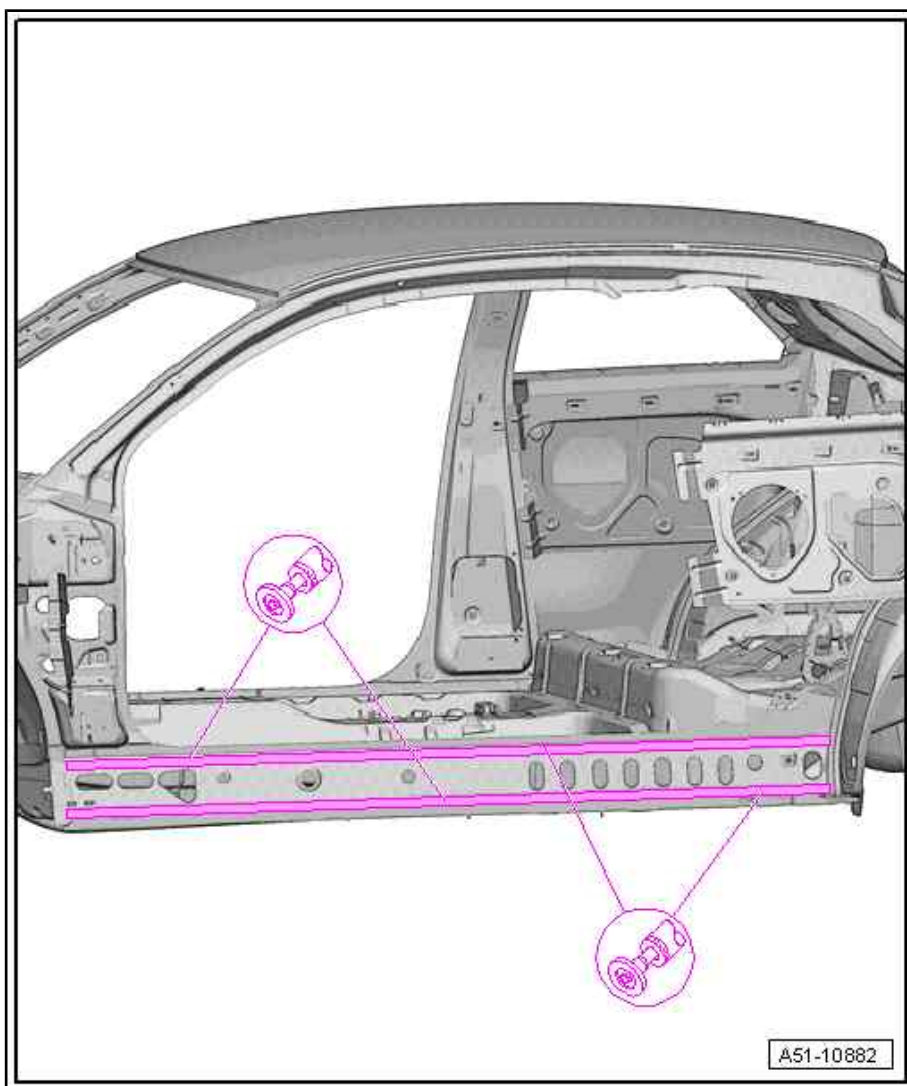
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- Make lower separating cut on side member using body saw .



- Remove remaining material using compact angle grinder .



Replacement part

- ◆ Inner side member



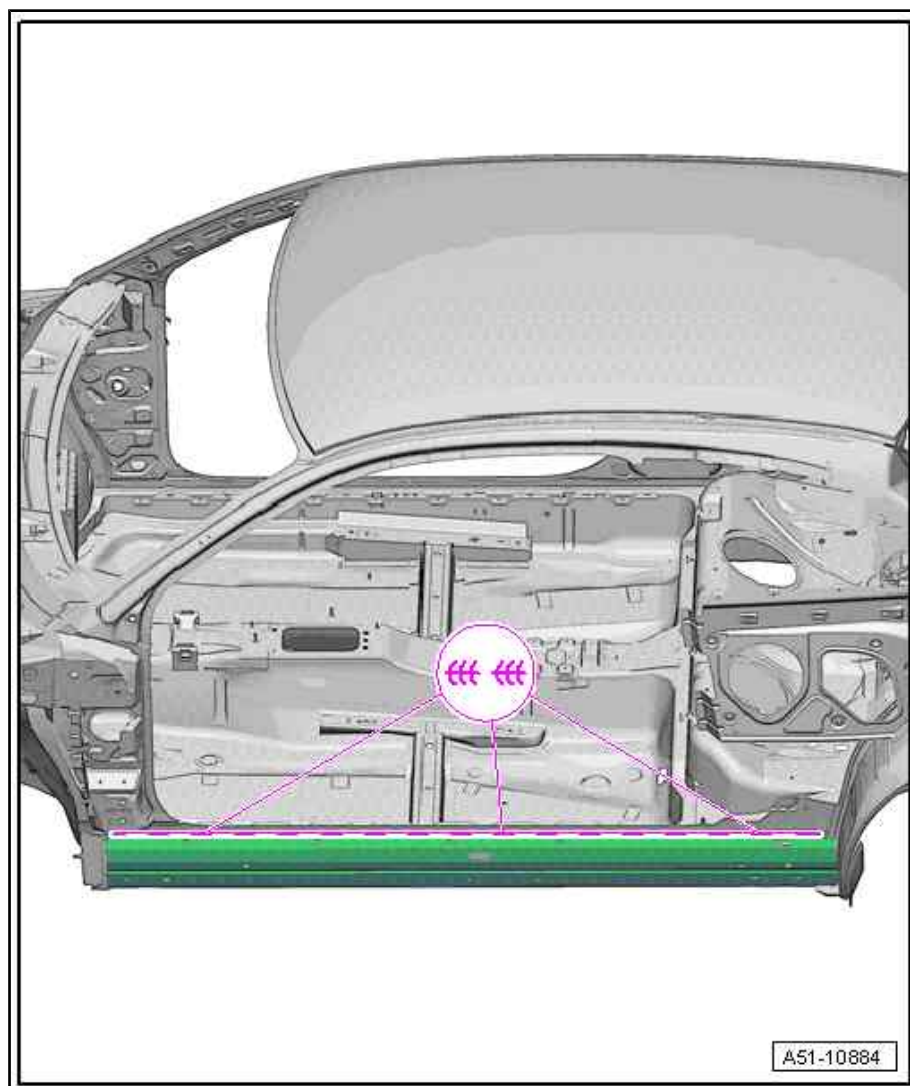
Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

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

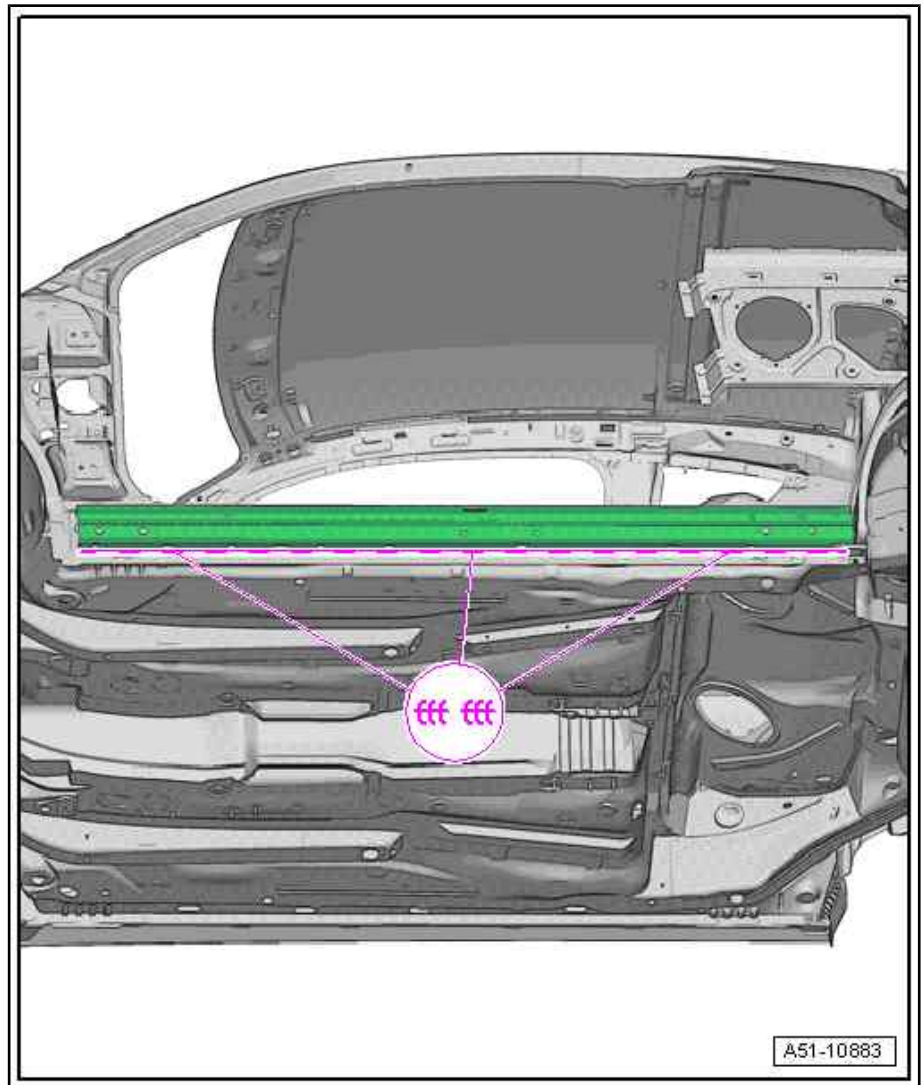
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- Weld in side member with fillet weld at inner side member reinforcement using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



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- Welding in outer side member (Sportback) ⇒ [page 236](#)
- Welding in outer side member ⇒ [page 231](#)
- Welding in side panel ⇒ [page 317](#)
- Welding in side panel (Sportback) ⇒ [page 327](#)
- Welding in inner B-pillar (part section; Sportback) ⇒ [page 216](#)
- Welding in inner B-pillar (part section) ⇒ [page 199](#)
- Welding in outer A-pillar ⇒ [page 178](#)
- Welding in inner A-pillar (part section) ⇒ [page 187](#)
- Welding in web plate for inner side member ⇒ [page 242](#)

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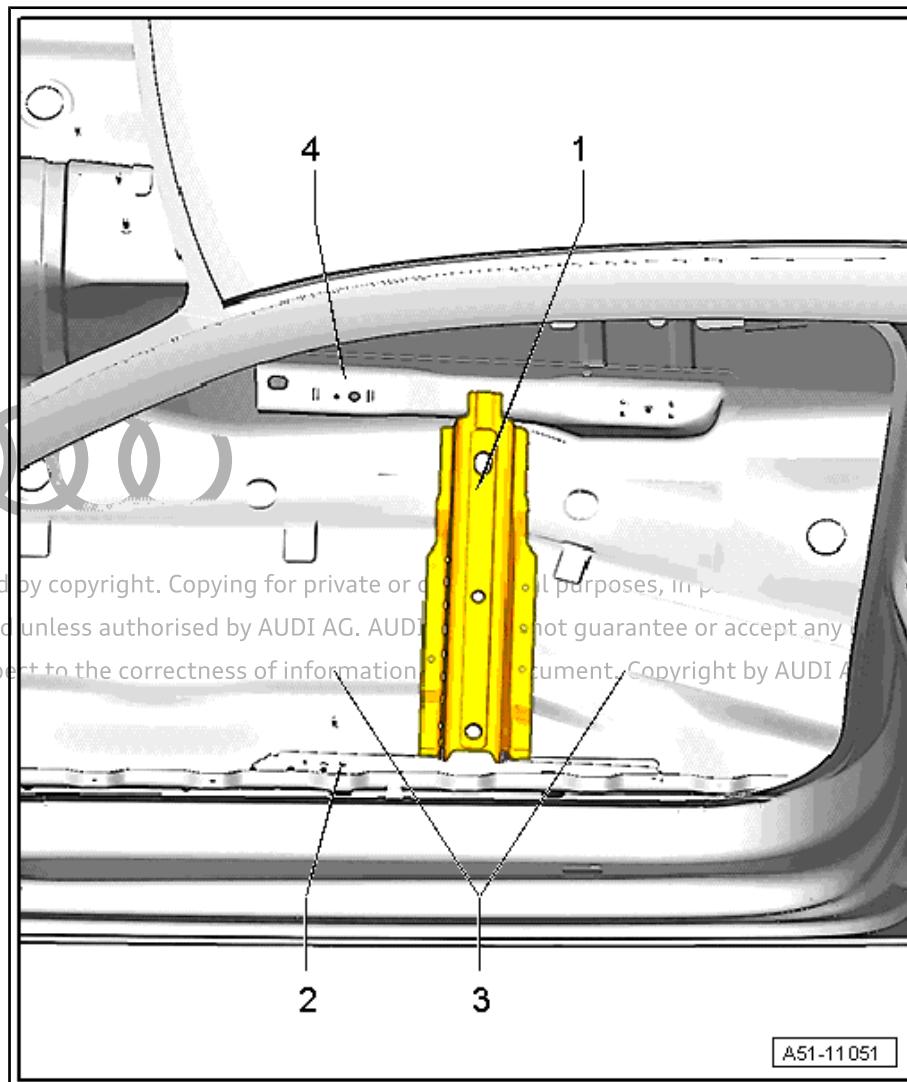


RO: 51 87 55 00

19 Centre seat cross member - Renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Seat cross member
- 2 - Mounting for seat cross member (outer)
- 3 - Floor panel
- 4 - Mounting for seat cross member (inner)



19.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .



19.2 Procedure

Cutting locations

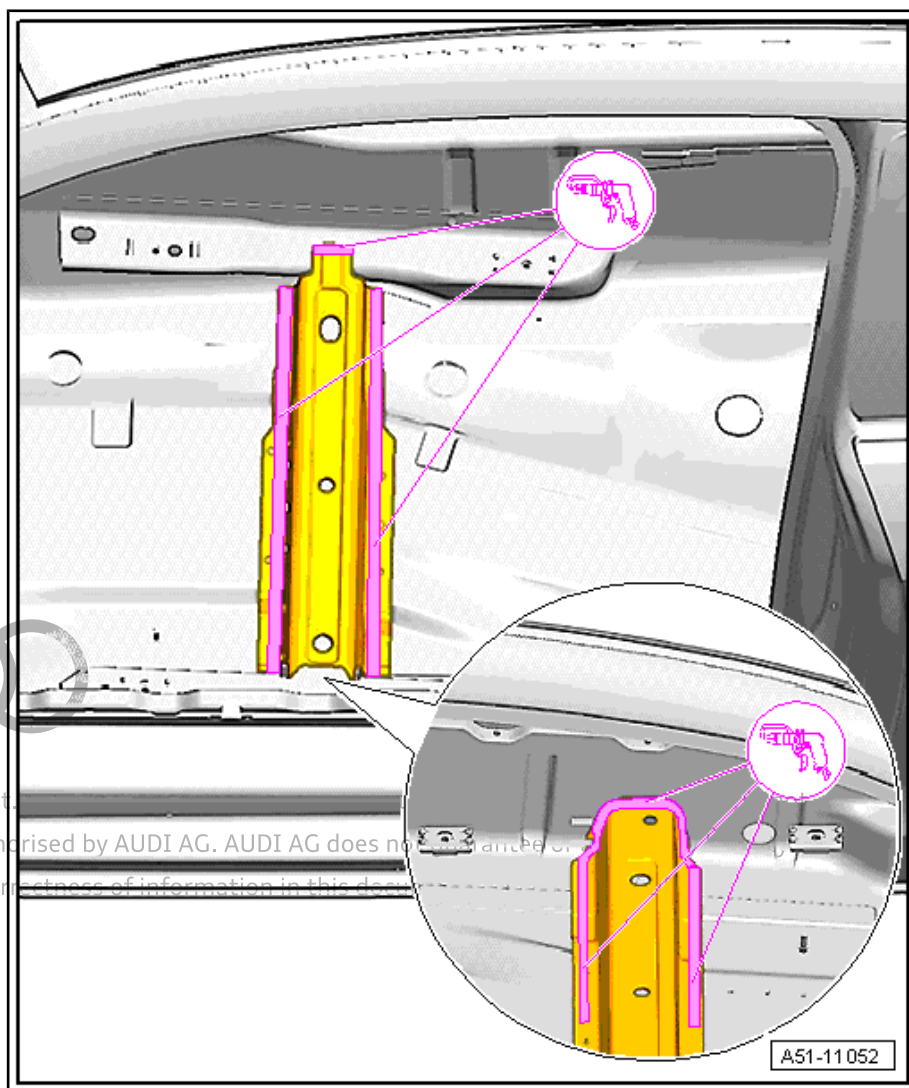
- Outer seat cross member already removed ➔ [page 262](#)



Note

When separating the weld seams, ensure that the panels located behind are not damaged.

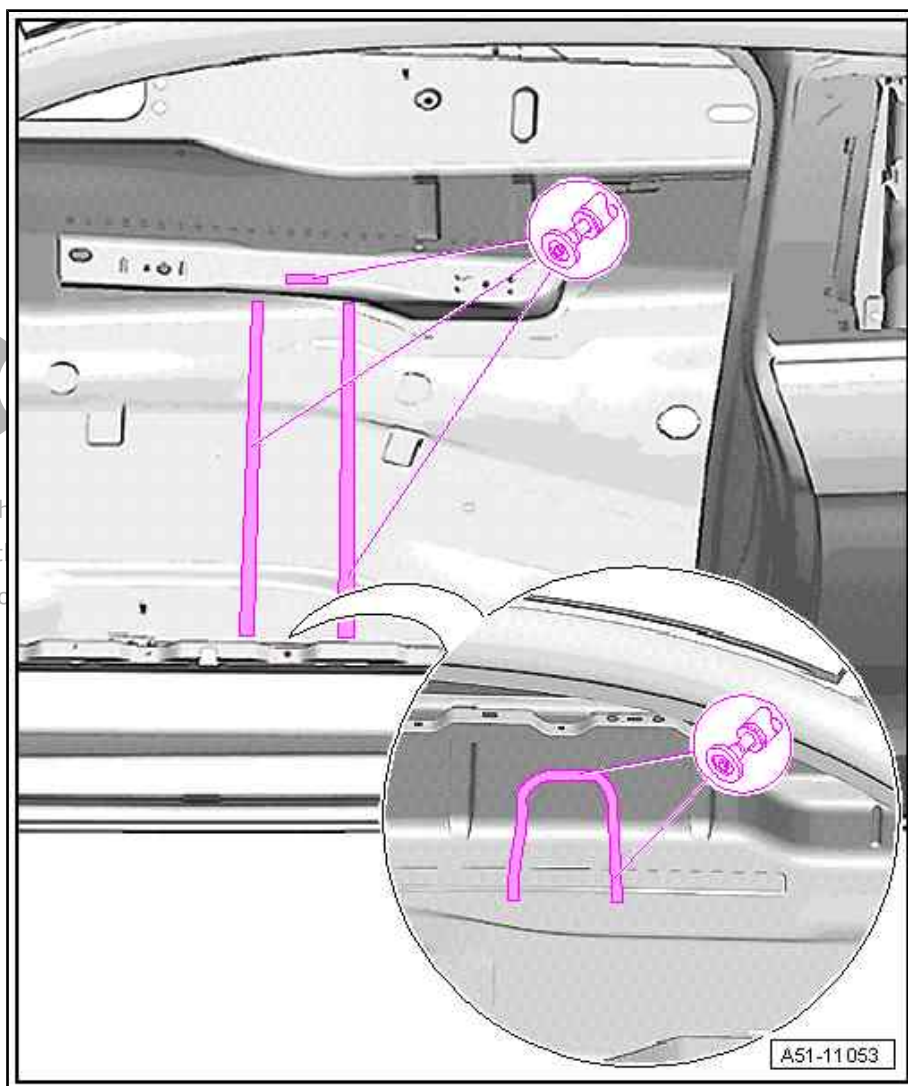
- Separate original joint at mounting for seat cross member (inner) and floor panel using spot weld breaker .
- Separate joint at mounting for seat cross member (outer) using spot weld breaker .
- Pull seat cross member out of mounting for seat cross member (outer).



- Remove remaining material using compact angle grinder .



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Replacement part

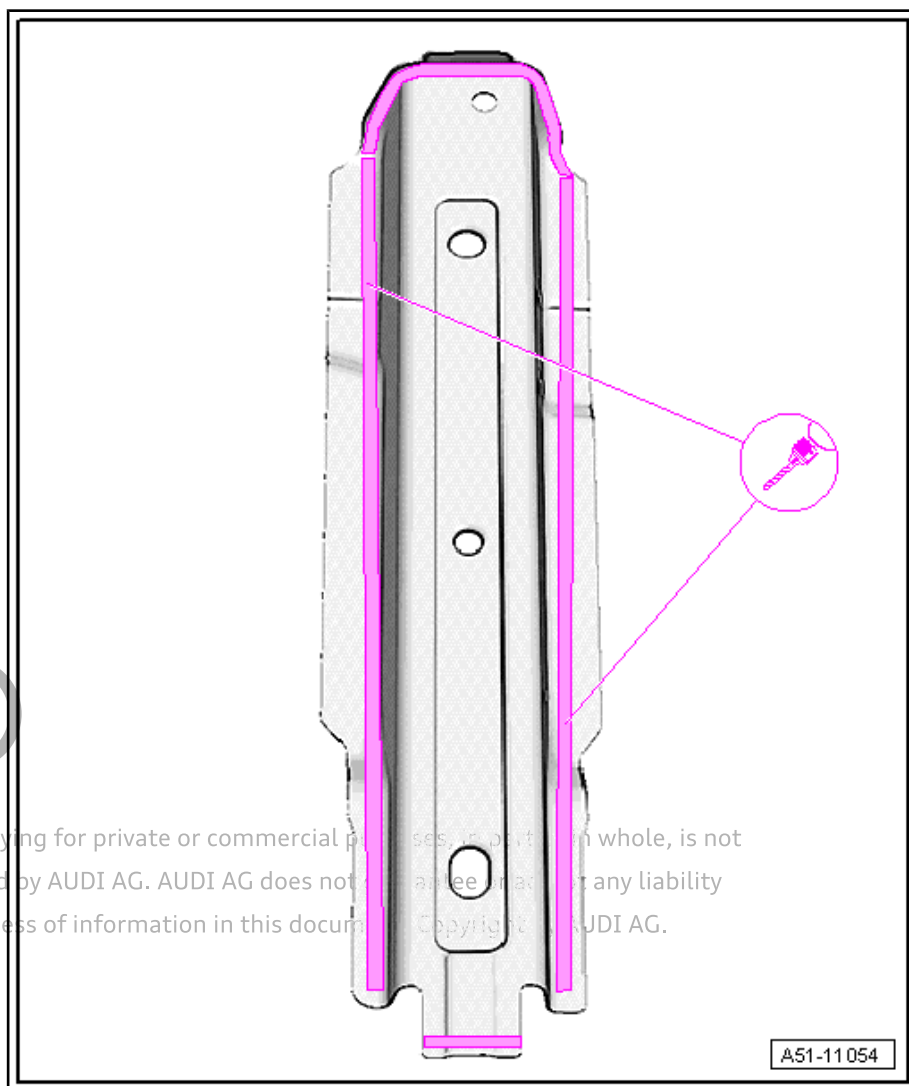
- ◆ Seat cross member

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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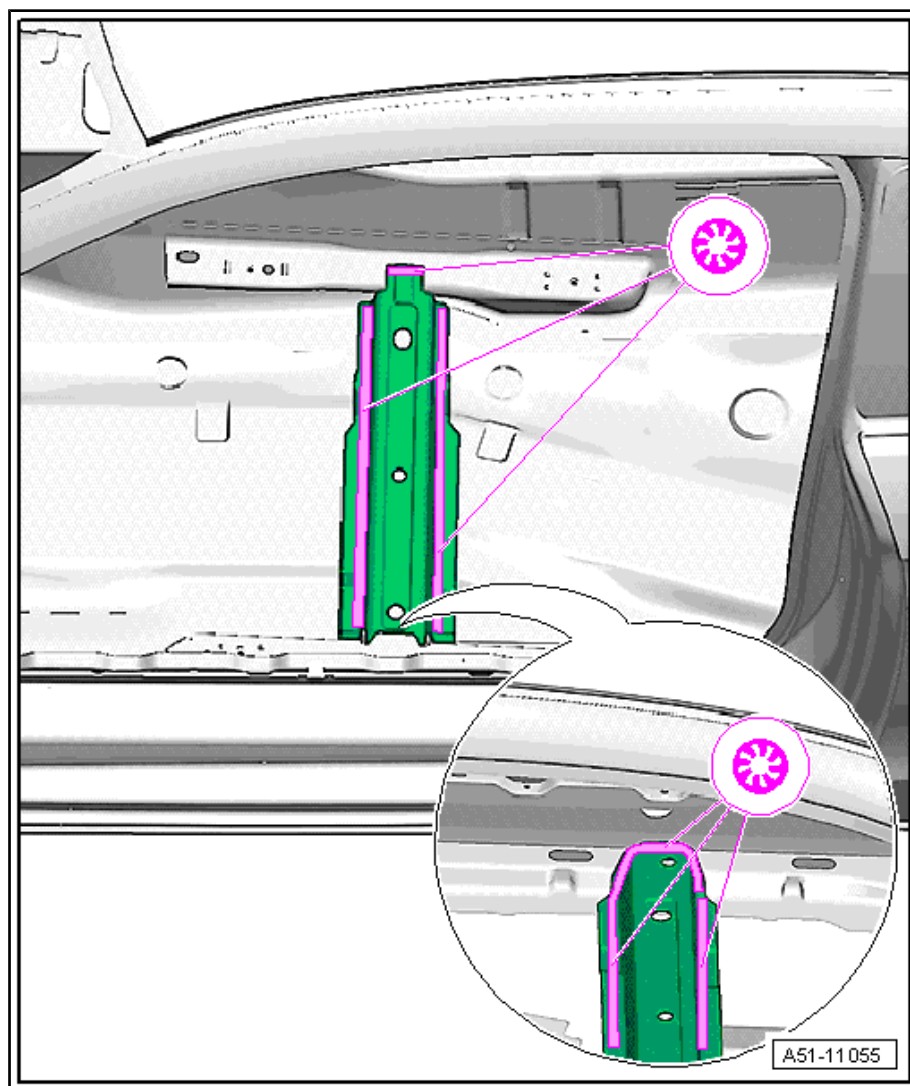


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Match up new parts and fix in position.
- Weld seat cross member to mounting for seat cross member (inner) and floor panel using shielded arc welding equipment : SG plug weld seam.
- Weld seat cross member to mounting for seat cross member (outer) using shielded arc welding equipment : SG plug weld seam.



Welding in outer seat cross member ➔ [page 262](#)



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RO: 51 46 55 58

20 Mounting for seat cross member (inner) - Renewal

Audi A1 and Audi A1 Sportback identical



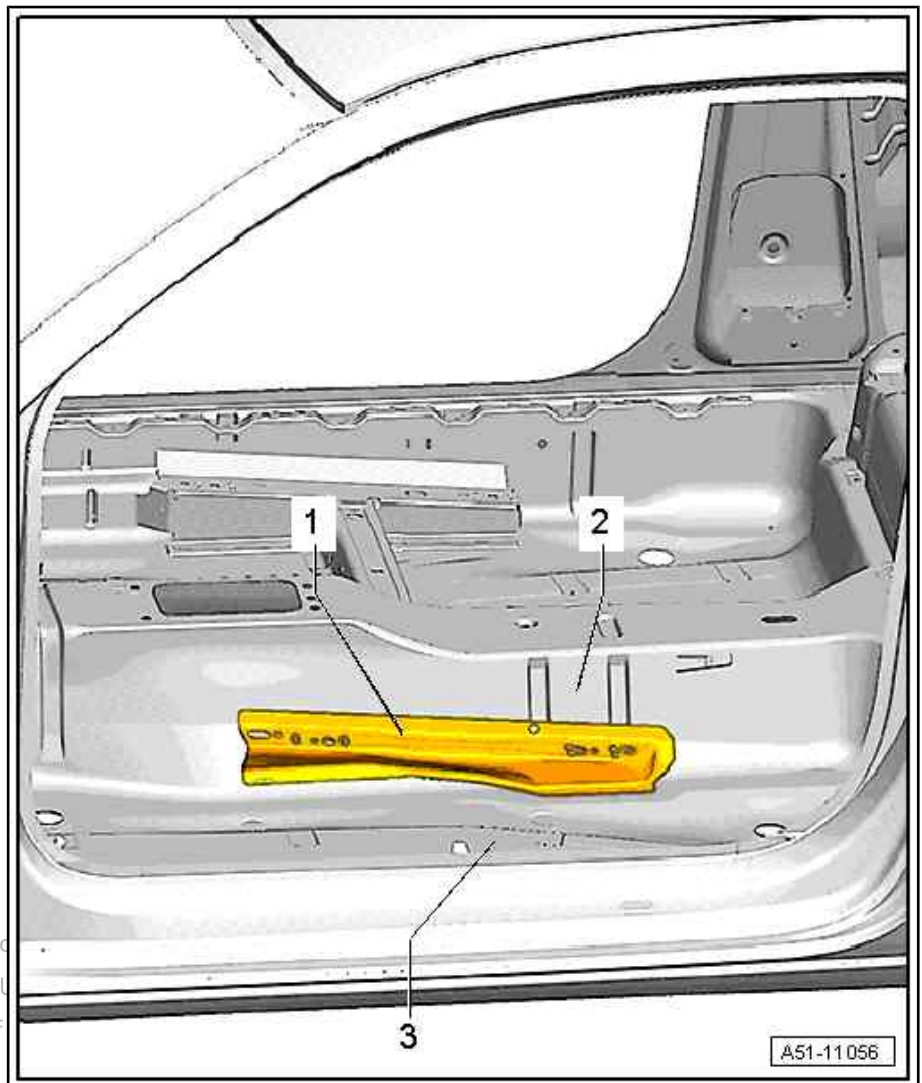
Note

If one of the threads in the mounting for the seat cross member is damaged, the component must be renewed.

1 - Mounting for seat cross member (inner)

2 - Centre tunnel

3 - Floor panel



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20.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Shielded arc welding equipment
- ◆ Compact angle grinder
- ◆ Drill



- ◆ Body saw
- ◆ Spot weld breaker

20.2 Procedure



Note

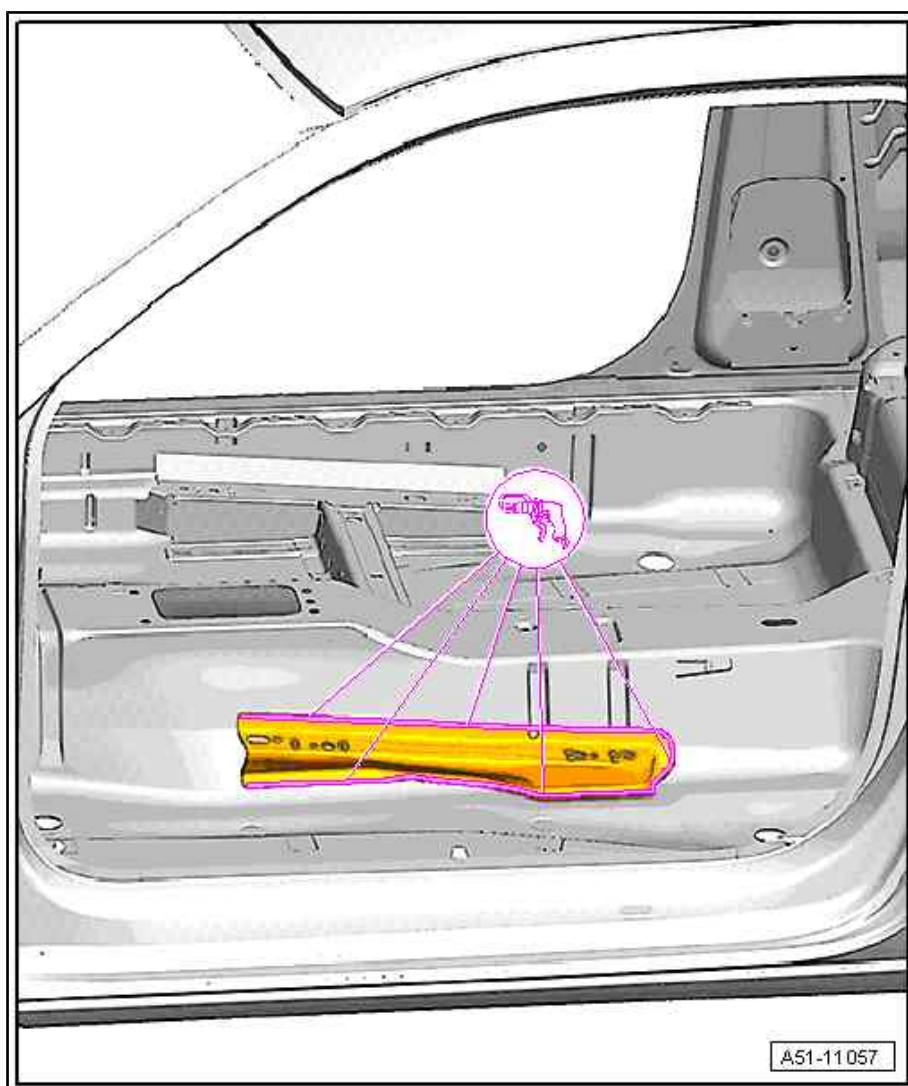
When separating the weld seams, ensure that the panels located behind are not damaged.

- Centre seat cross member already removed ➔ [page 252](#)

Cutting locations

- Separate original joint to centre tunnel and floor panel using spot weld breaker.

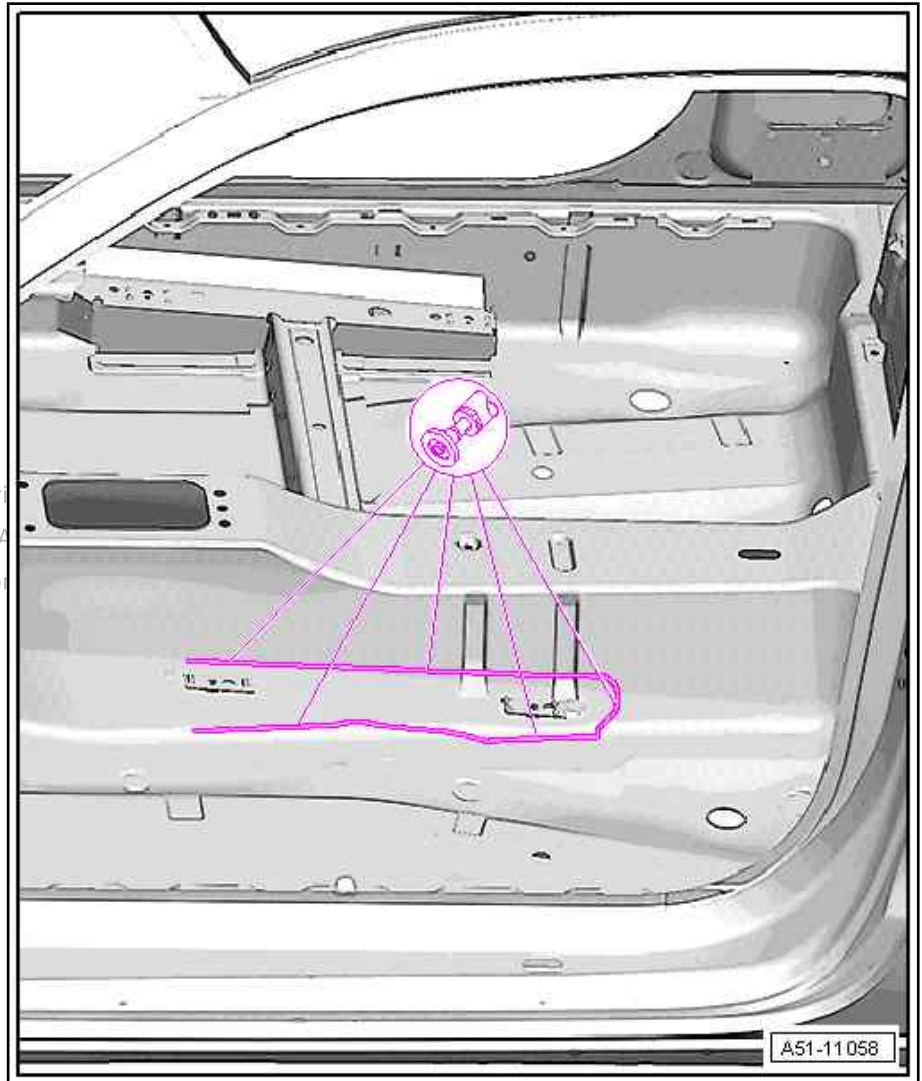
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- Remove remaining material using compact angle grinder .



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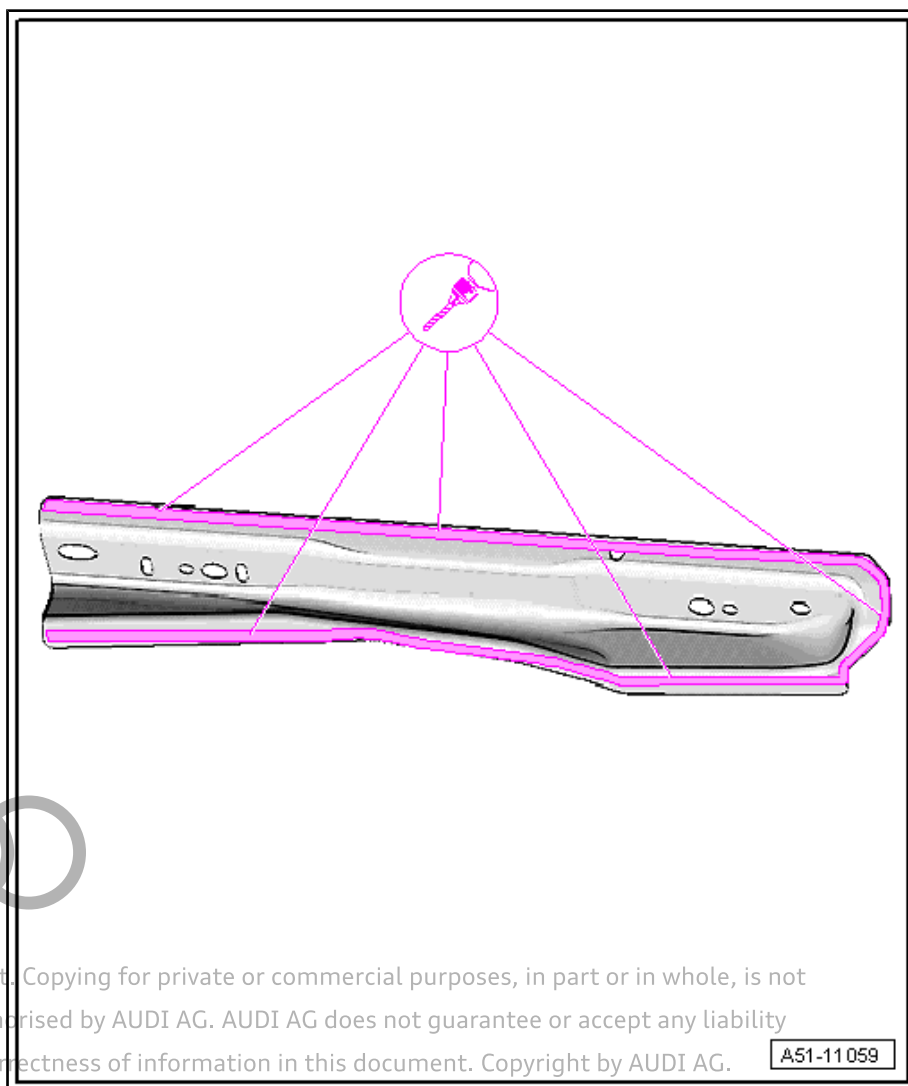


Replacement part

- ◆ Mounting for seat cross member (inner)

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



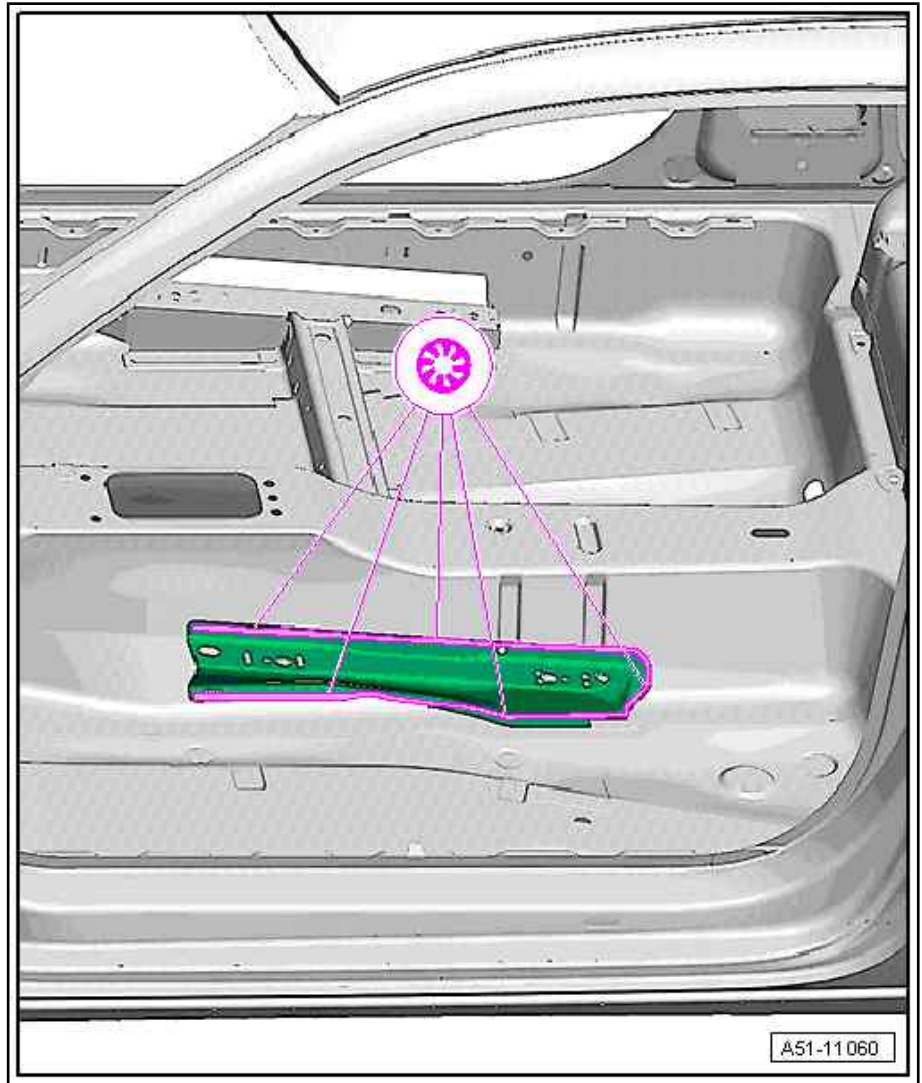
Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

- Match up new parts and fix in position.
- Check fit relative to seat.

Welding in

- Weld mounting for seat cross member (inner) to centre tunnel and floor panel using shielded arc welding equipment : SG plug weld seam.



Welding in inner seat cross member ⇒ [page 257](#)



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RO: 51 46 55 00

21 Mounting for seat cross member (outer) - Renewal

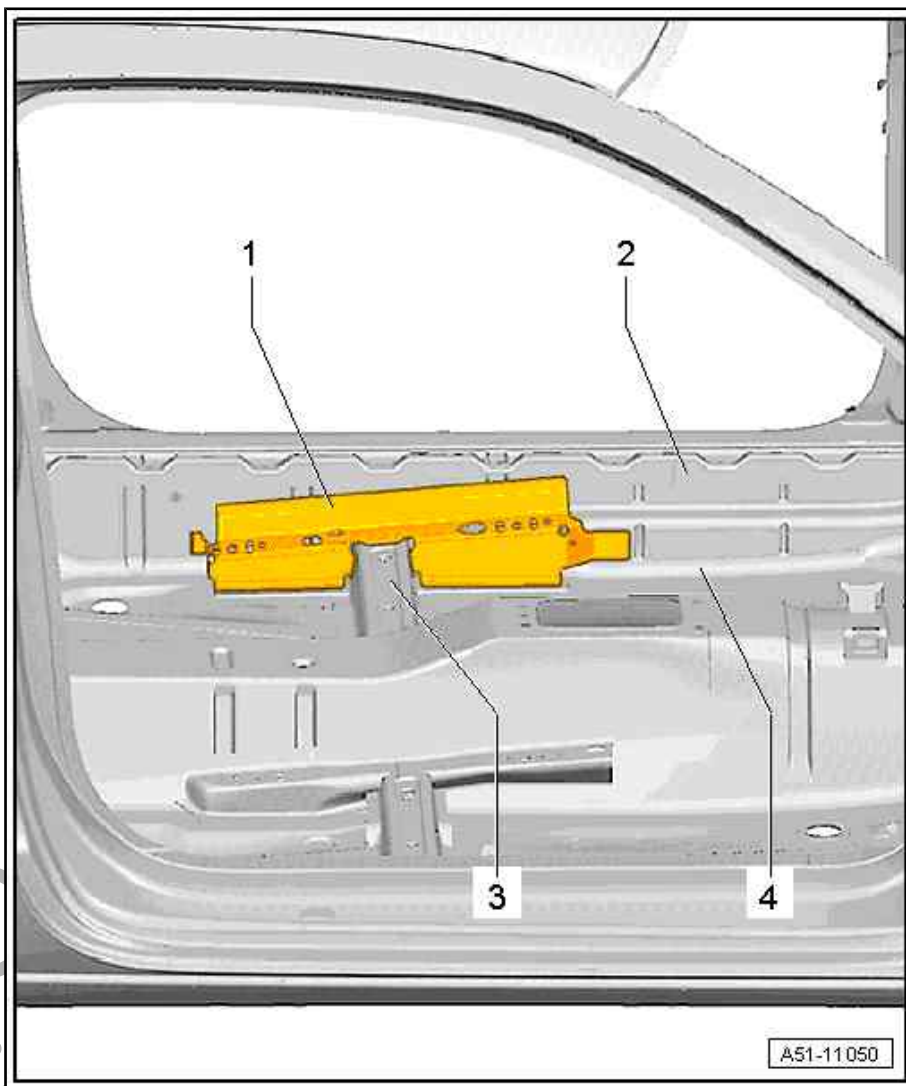
Audi A1 and Audi A1 Sportback identical



Note

- ◆ If one of the threads in the mounting for the seat cross member (outer) is damaged, the component must be renewed.
- ◆ If the mounting for the seat cross member (outer) is renewed, the repairs must be documented according to the relevant national legislation.
- ◆ The vehicle identification number should be stamped before the mounting for the seat cross member (outer) is welded in.

- 1 - Mounting for seat cross member (outer)
- 2 - Inner side member
- 3 - Inner seat cross member
- 4 - Floor panel



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21.1 Tools

Special tools and workshop equipment required



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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ [page 37](#) .

21.2 Procedure

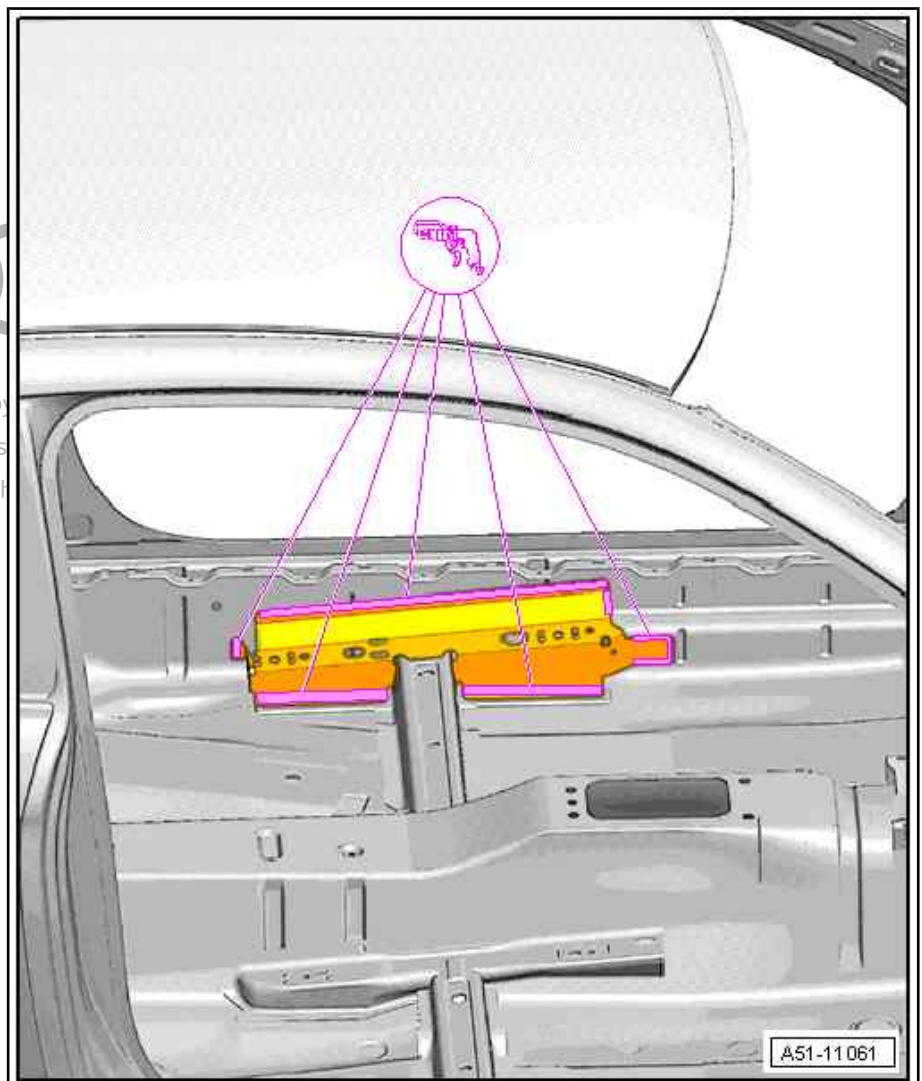
Cutting locations



Note

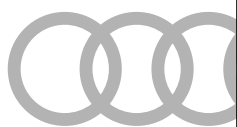
When separating the weld seams, ensure that the panels located behind are not damaged.

- Separate original joint to side member, seat cross member and floor panel using spot weld breaker .

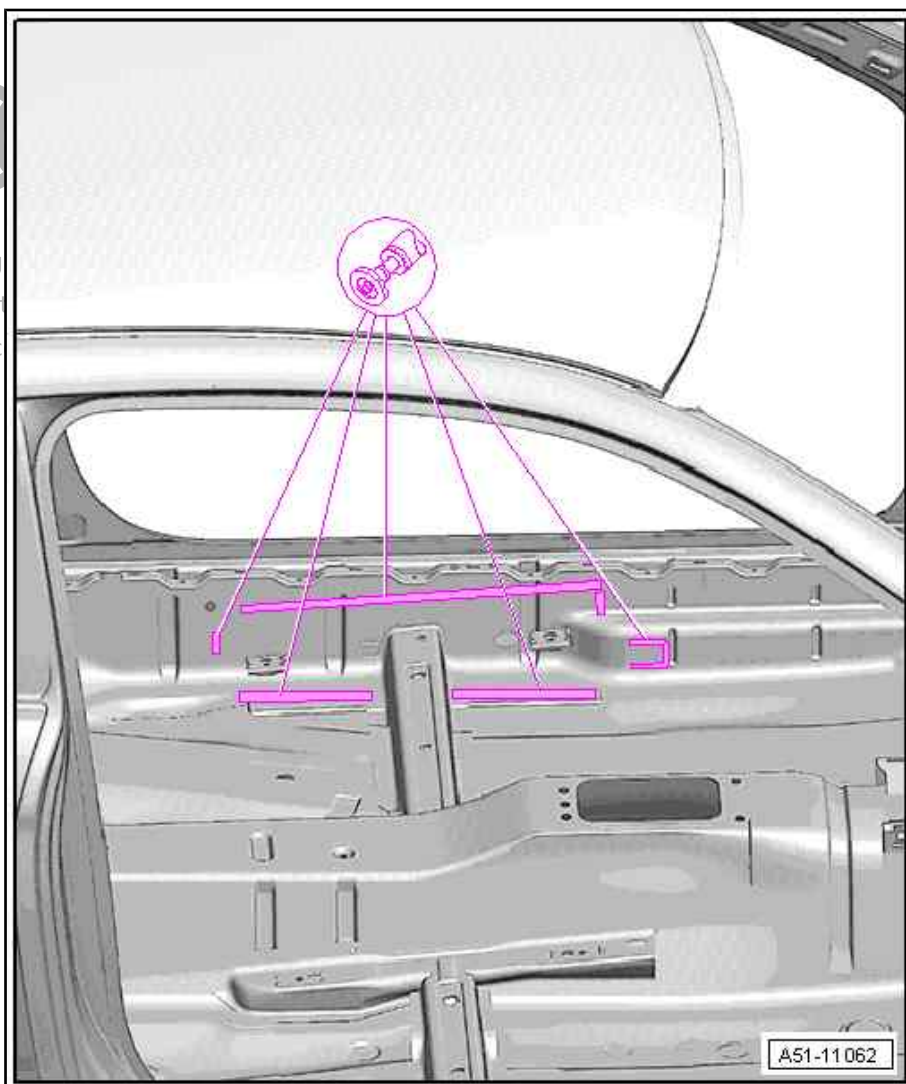




- Remove remaining material using compact angle grinder .



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Replacement part

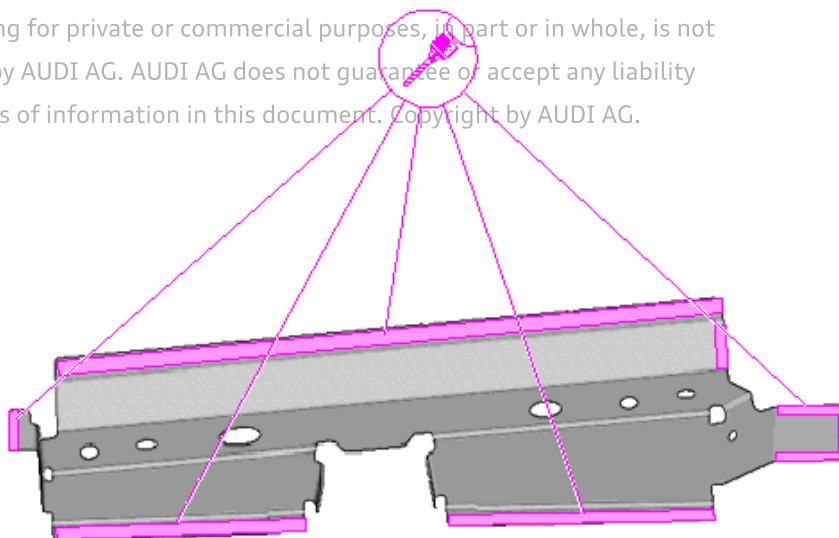
- ◆ Mounting for seat cross member (outer)

Preparing new parts

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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A51-11 063



Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

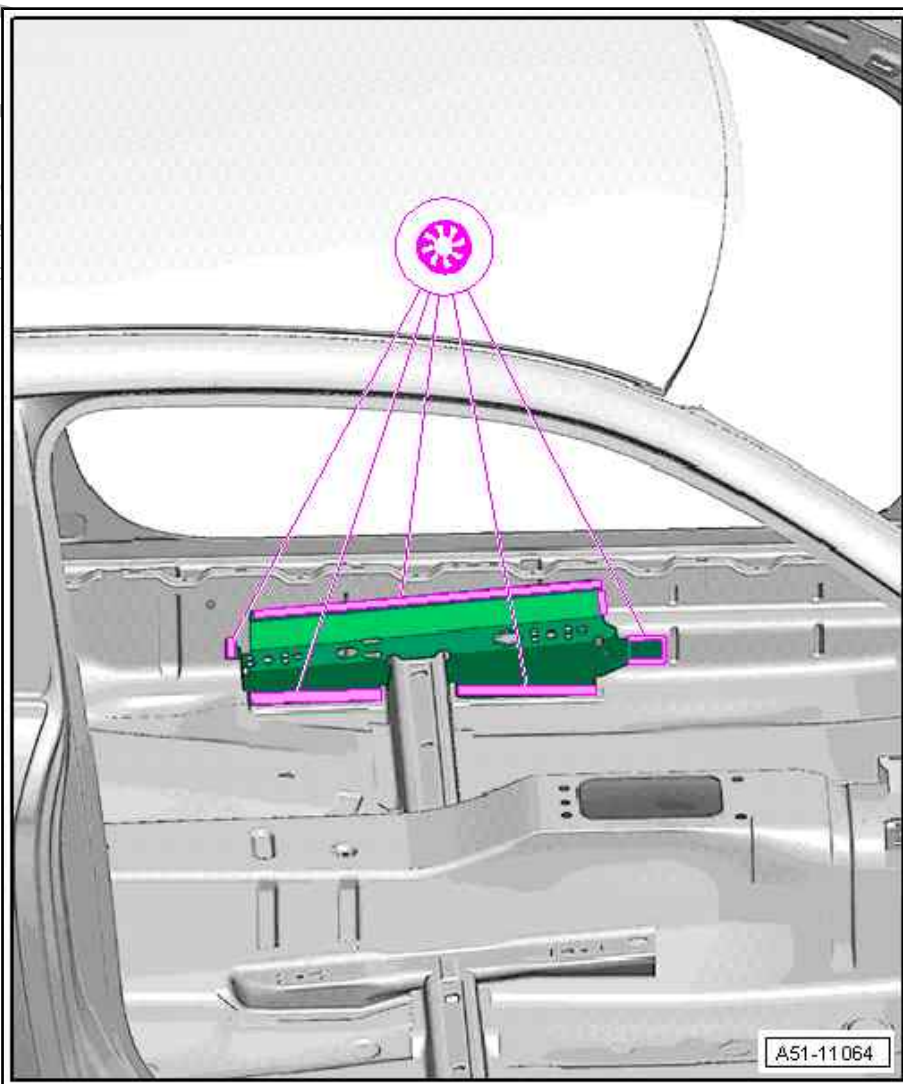
- Match up and fix new part in position.
- Check fit relative to seat.

Welding in

- Weld mounting for seat cross member (outer) to inner side member, seat cross member and floor panel using shielded arc welding equipment : SG plug weld seam.



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53 – Body - rear

1 Permitted separating cuts on side panel



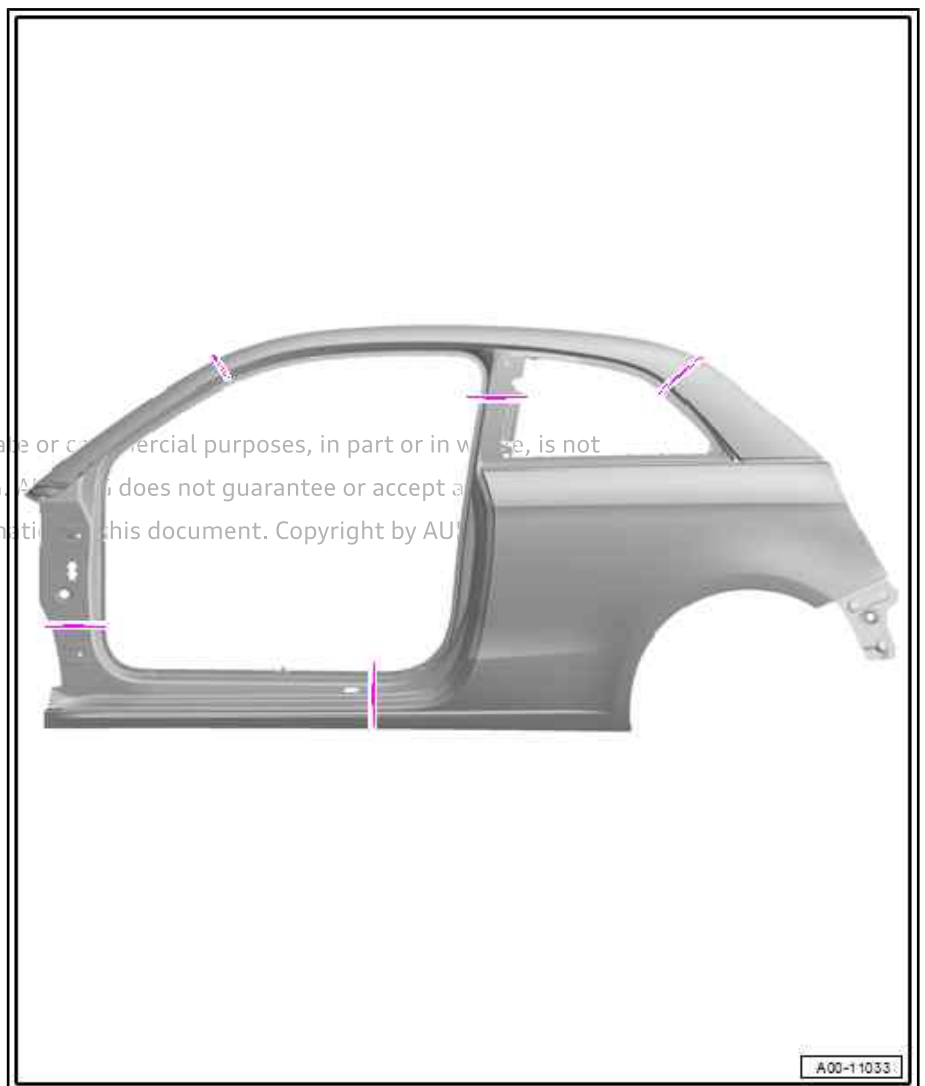
Note

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

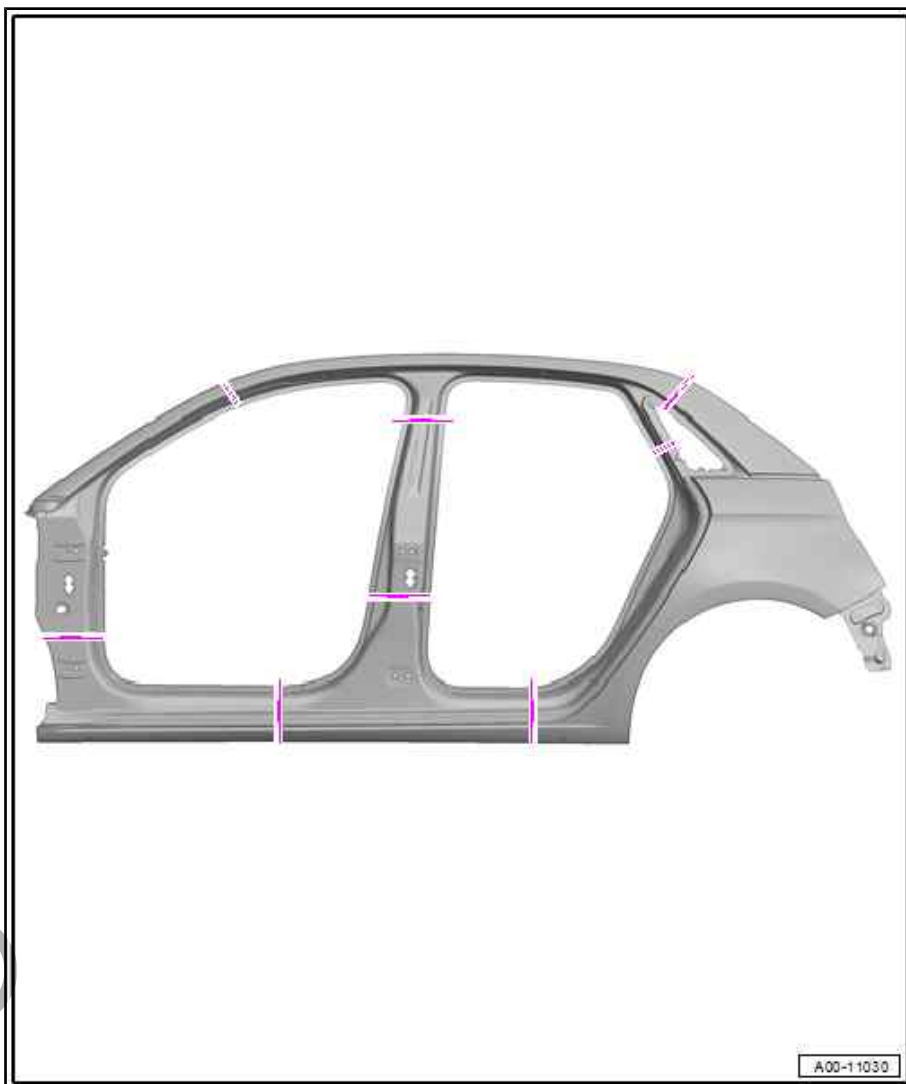
A1



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A1 Sportback



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RO: 53 16 55 02

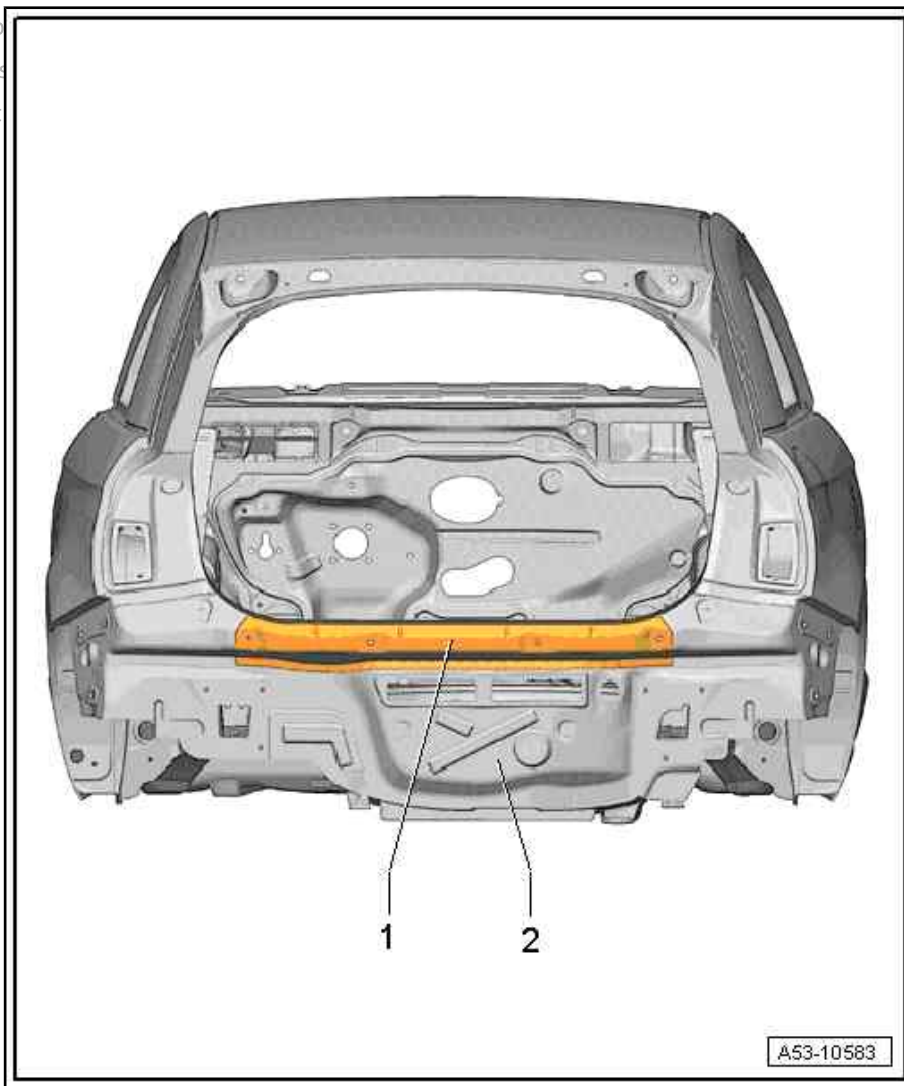
2 Rear upper cross panel - Renewal

Audi A1 and Audi A1 Sportback identical

1 - Rear upper cross panel

2 - Lower cross panel

with respect to t



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 37](#) .

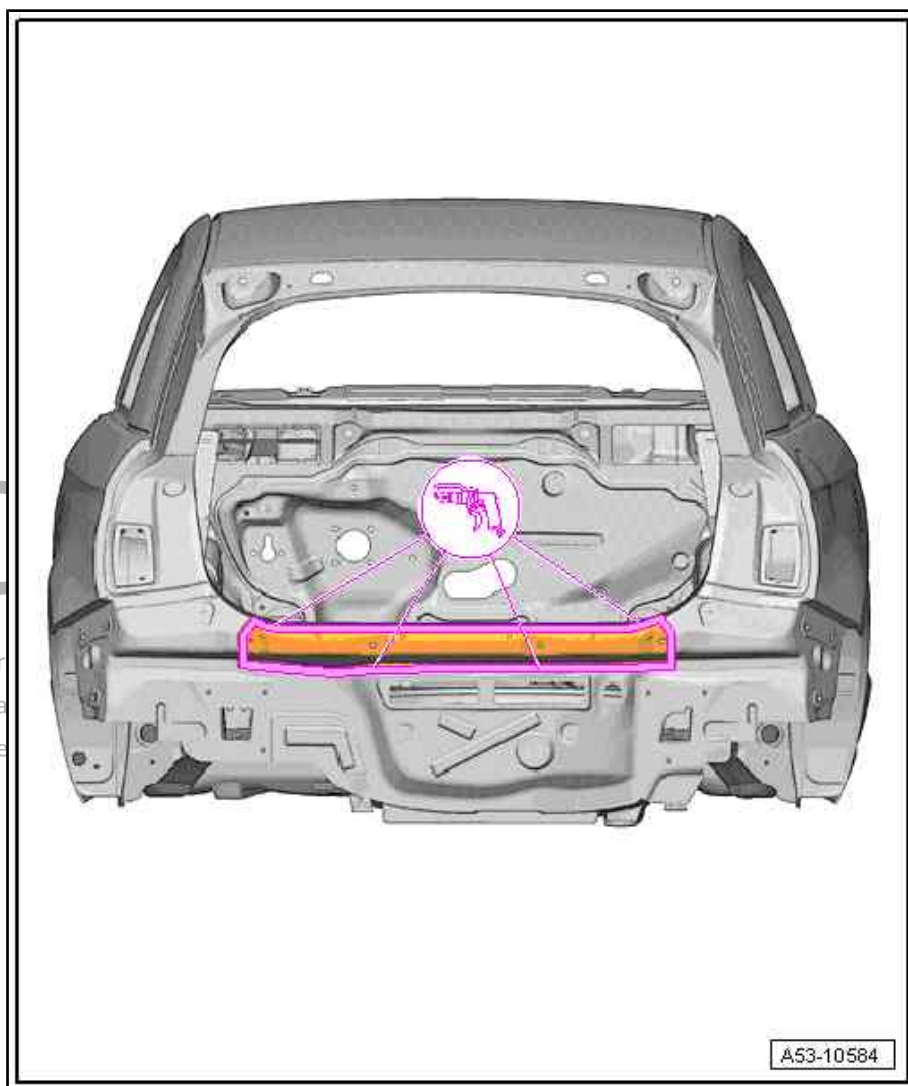
2.2 Procedure

Cutting locations

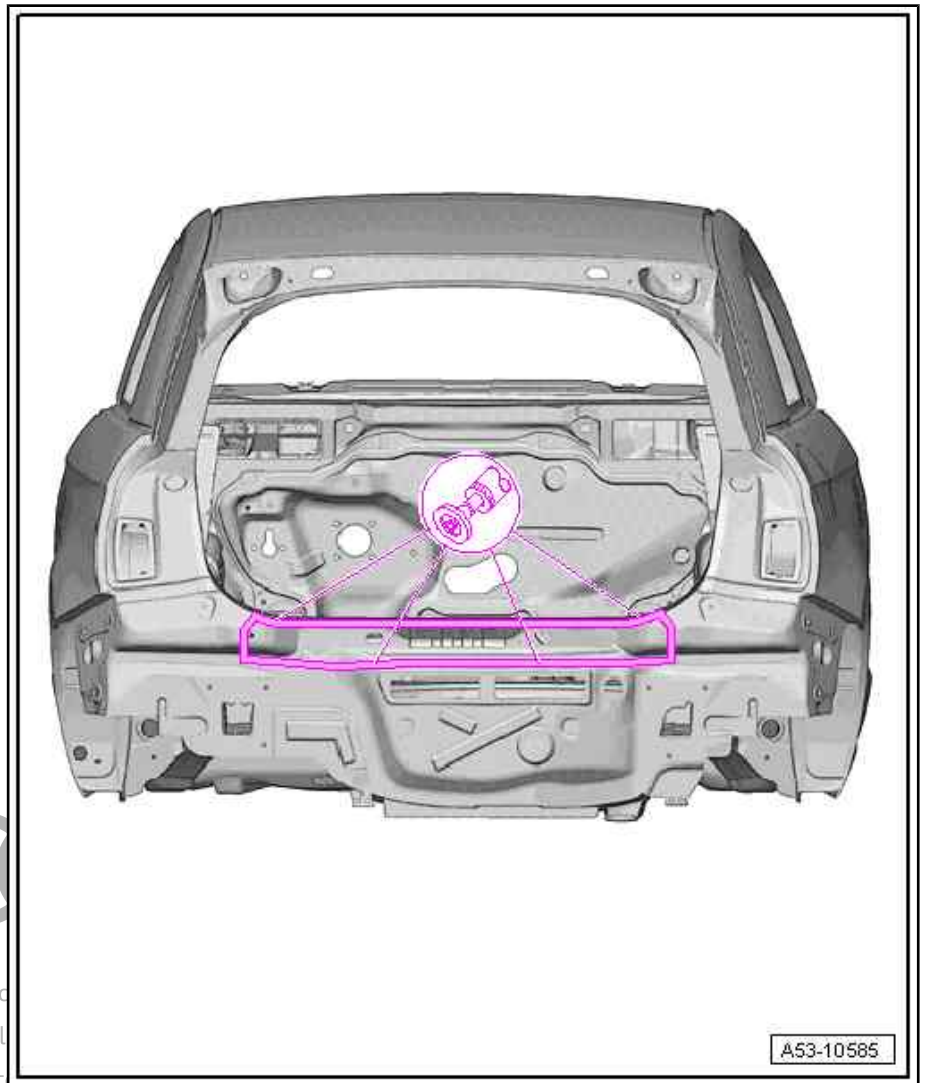
- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .



Replacement part

- ◆ Rear cross panel

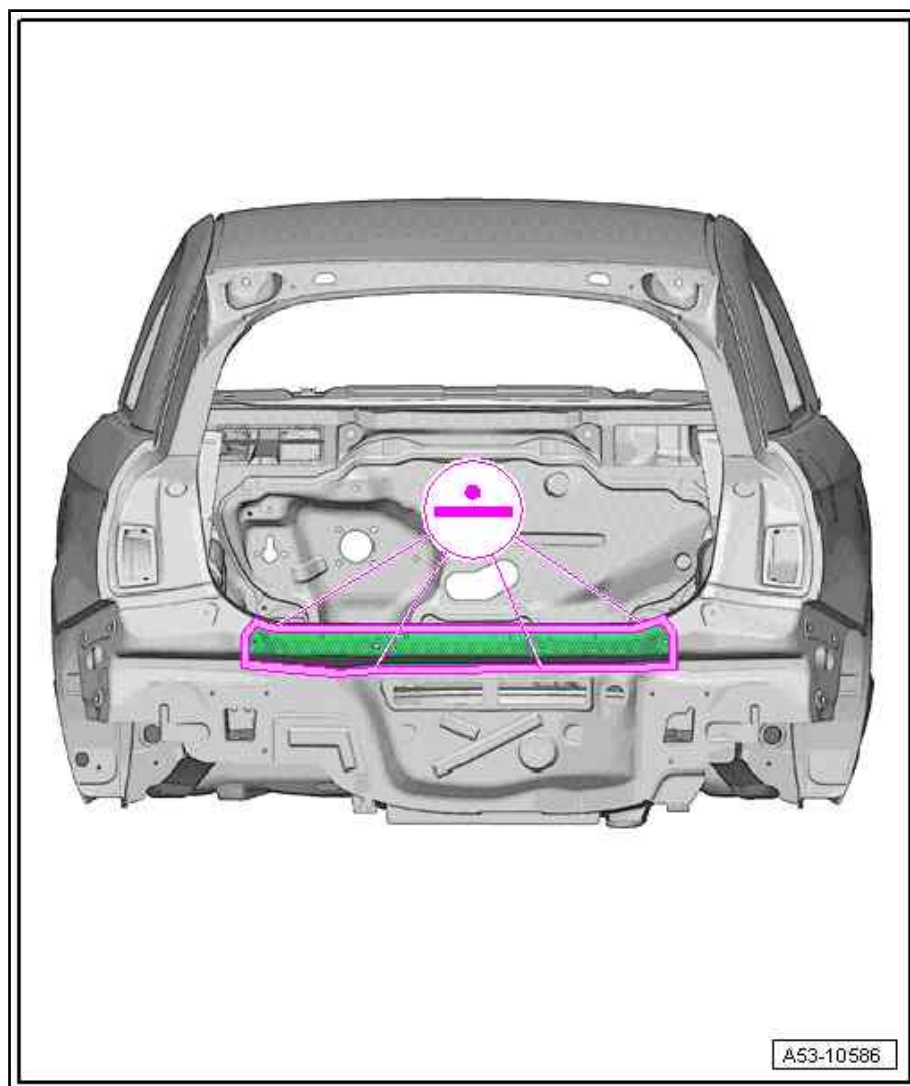


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

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



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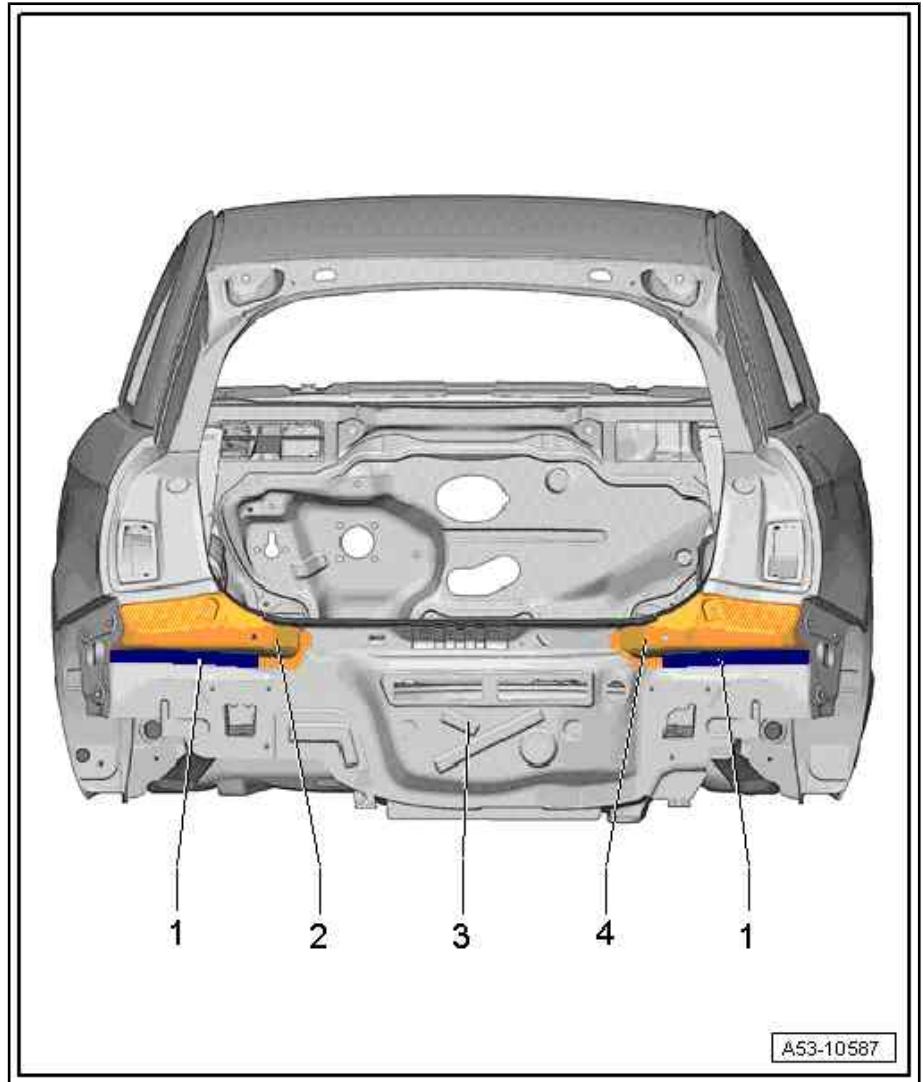


RO: 53 16 55 02

3 Cross panel reinforcement - Renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Laser weld seam
- 2 - Reinforcement (right-side)
- 3 - Cross panel
- 4 - Reinforcement (left-side)



3.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work [⇒ page 37](#) .

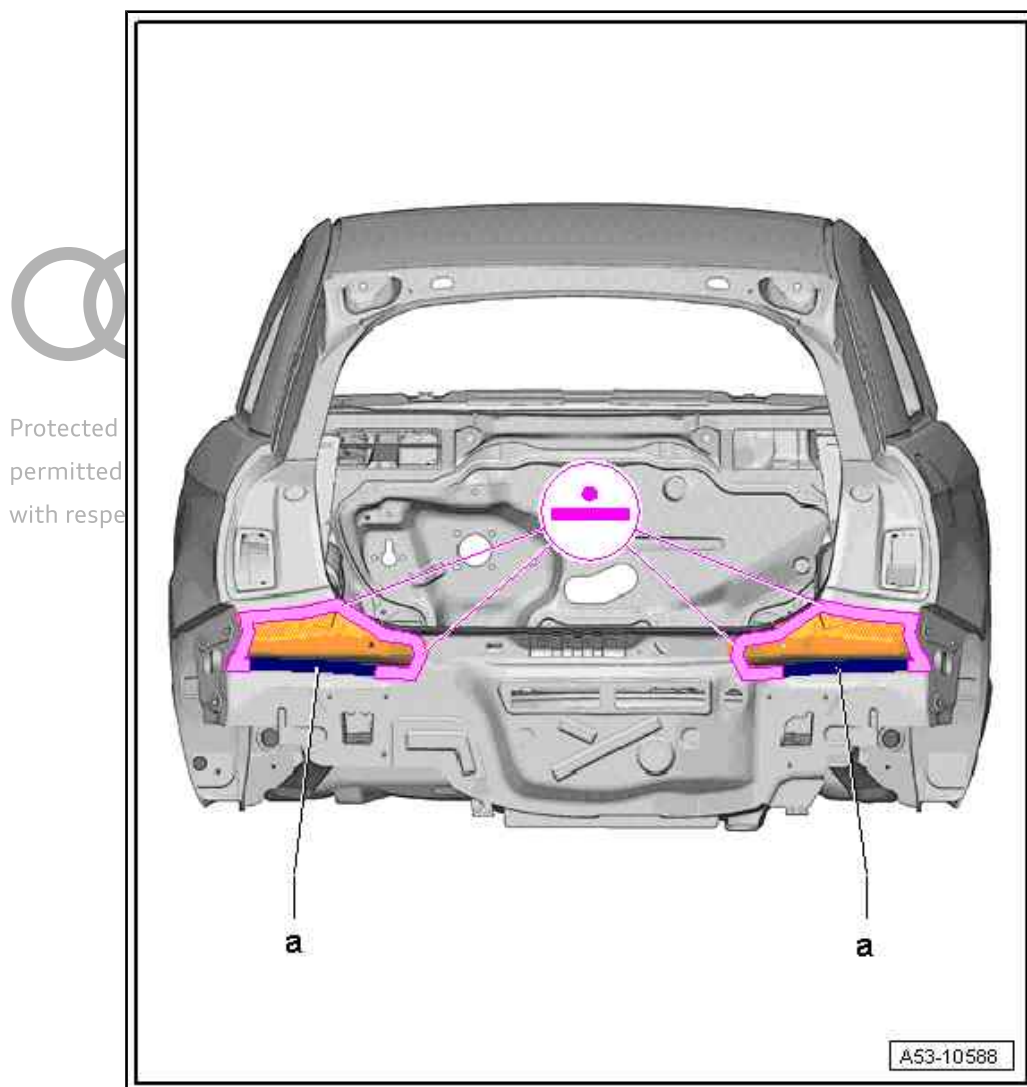
3.2 Procedure

- Rear upper cross panel already removed [⇒ page 269](#)



Cutting locations

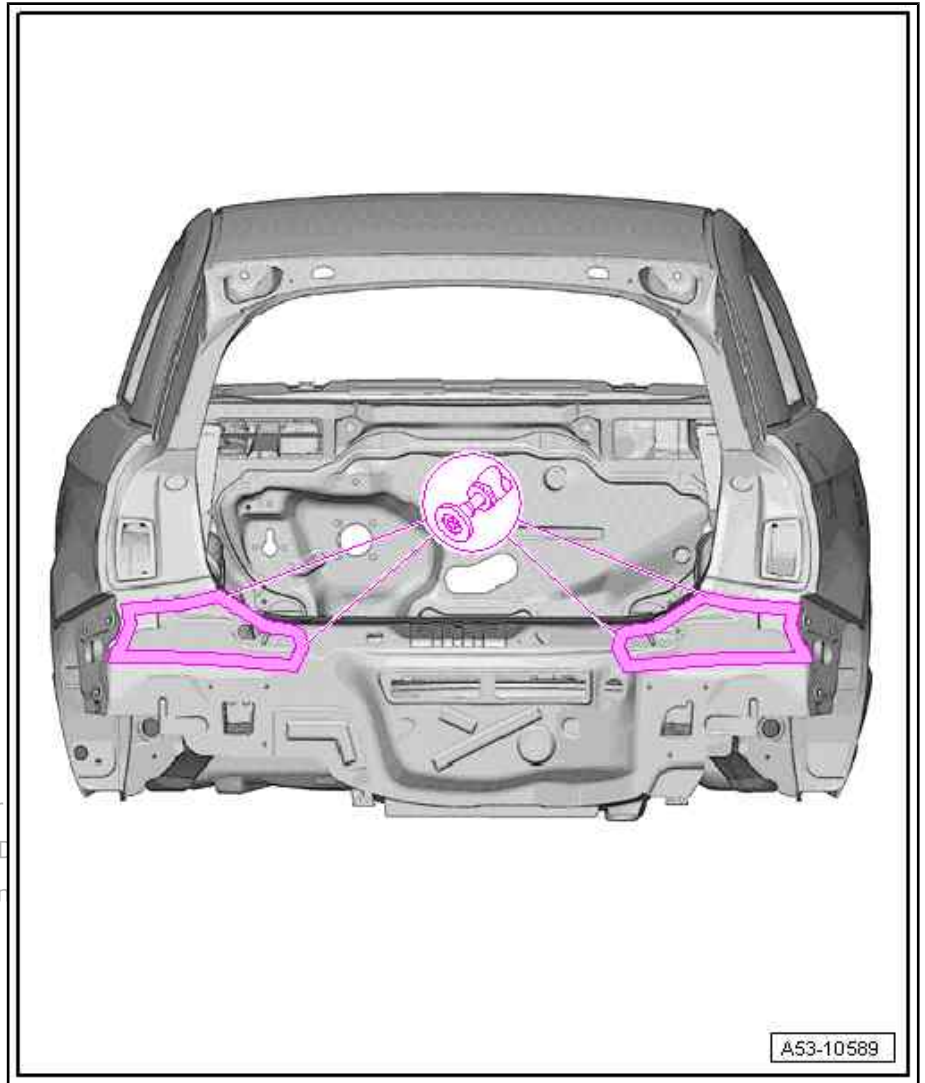
- Separate original joint using spot weld breaker .
- Grind off laser weld -a- using compact angle grinder .



- Remove remaining material using compact angle grinder .



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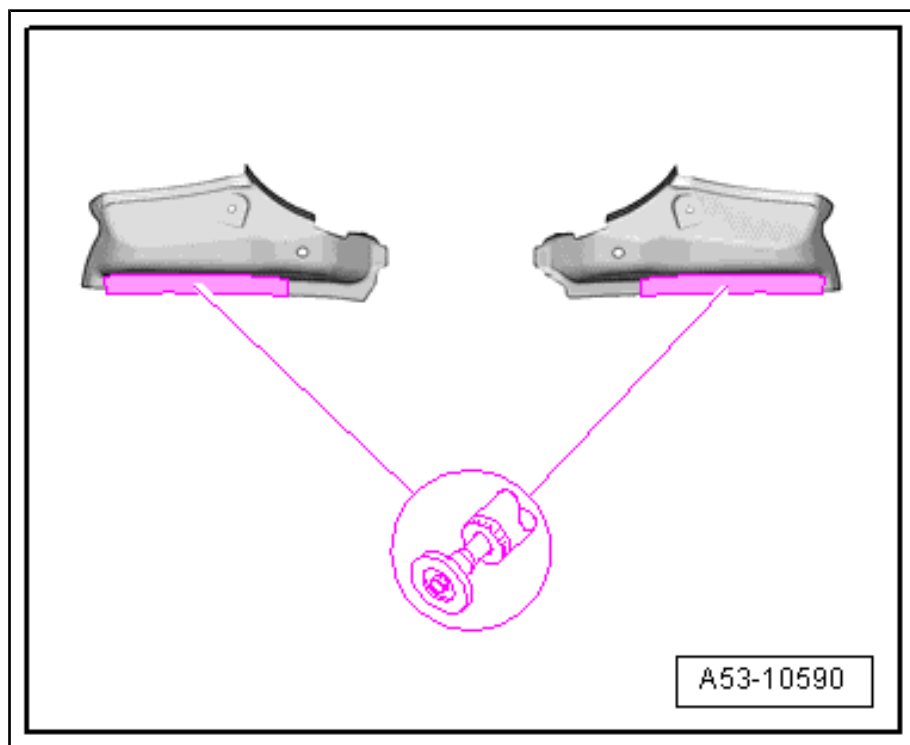


Replacement parts

- ◆ Cross panel reinforcements

Preparing new part

- Using compact angle grinder , grind out slots here for SG continuous seam in place of laser weld.

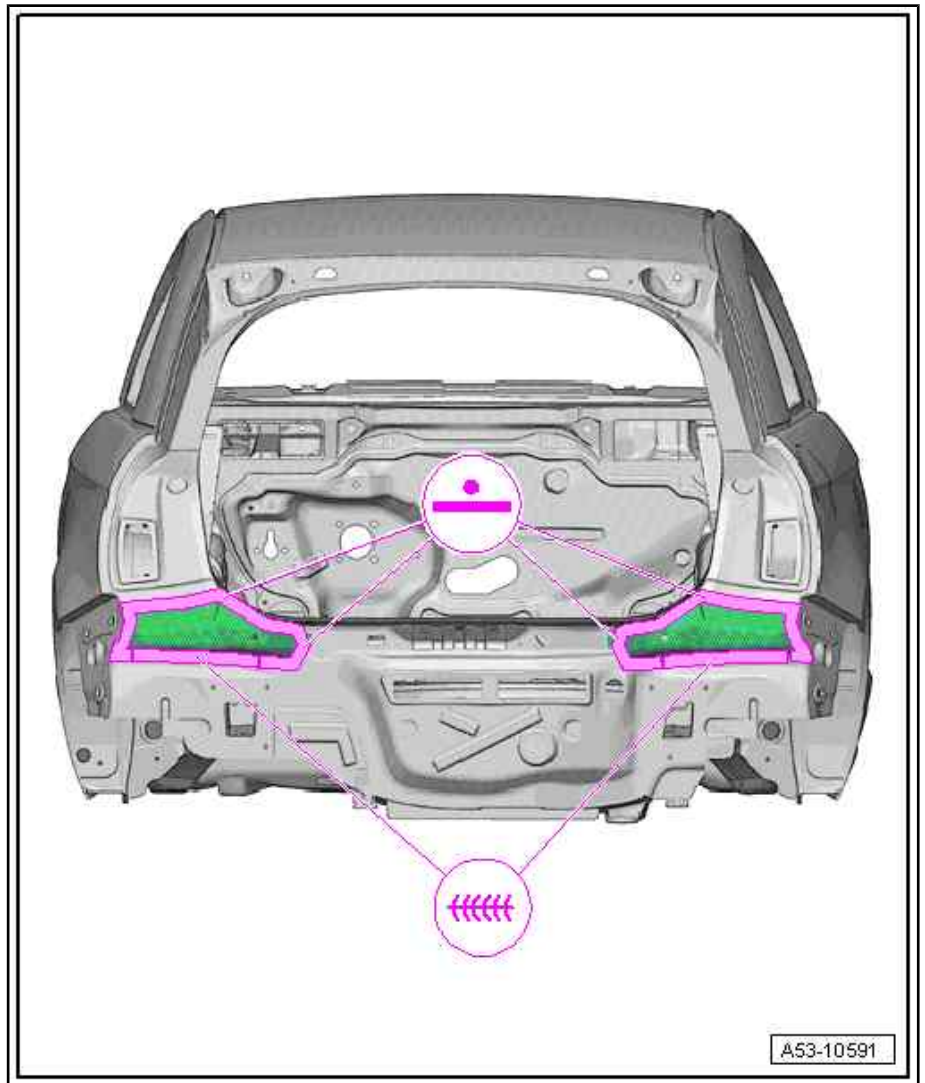


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Match up reinforcements and fix in position.
- Check fit relative to rear lid.
- Weld in reinforcement using resistance spot welder : RP spot weld seam.
- Weld in reinforcement using shielded arc welding equipment : SG continuous seam in place of laser weld.



Welding in rear upper cross panel ⇒ [page 269](#)



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RO: 53 09 55 50

4 Rear cross panel - Renewal

Audi A1 and Audi A1 Sportback identical

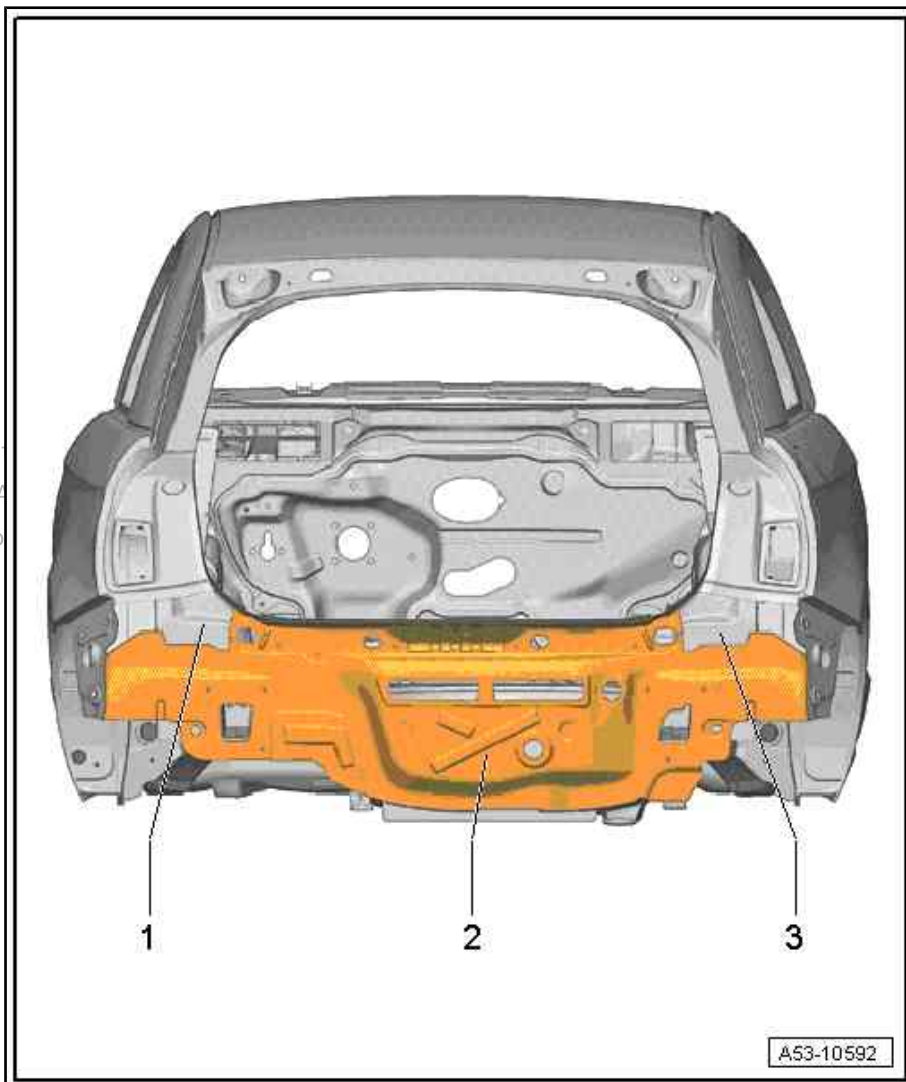
1 - Inner side panel reinforcement (right-side)

2 - Cross panel

3 - Inner side panel reinforcement (left-side)



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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 37](#) .

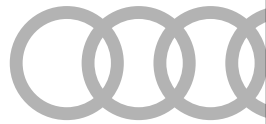
4.2 Procedure

- Upper cross panel already removed ➔ [page 269](#)
- Cross panel reinforcement already removed ➔ [page 273](#)

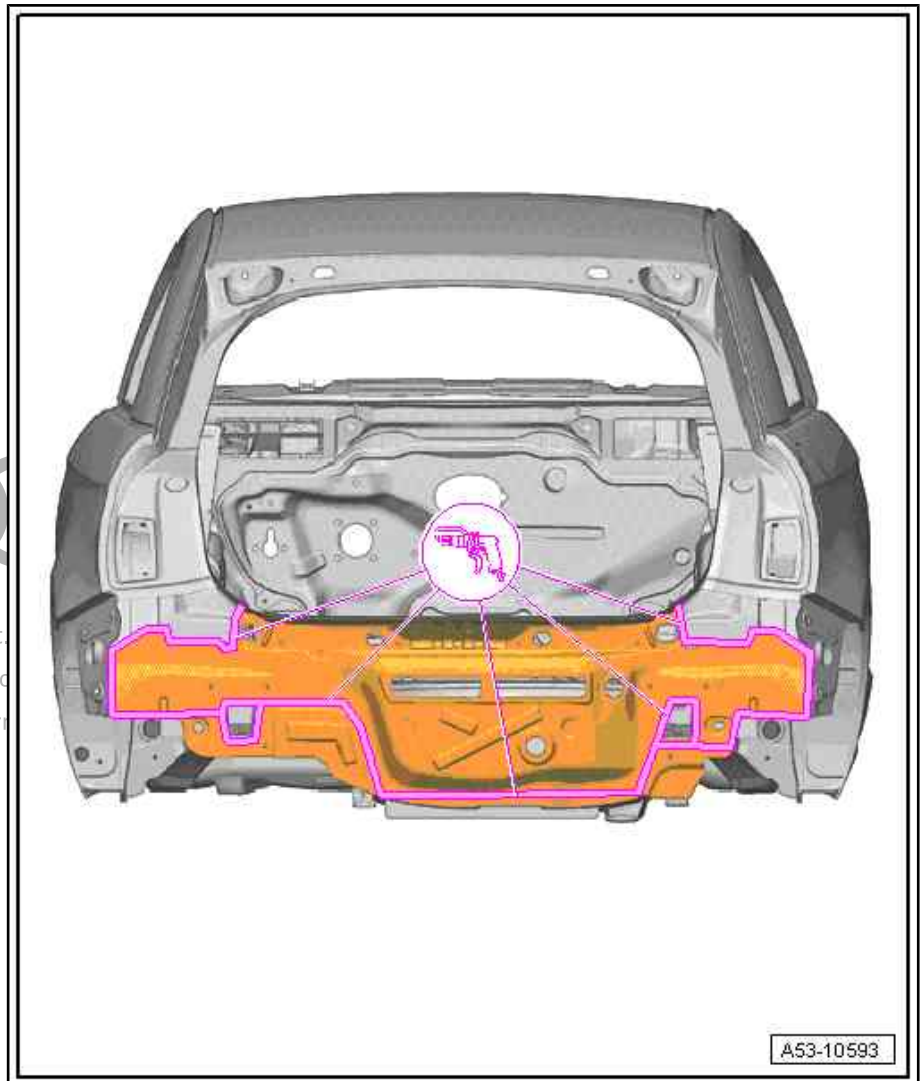


Cutting locations

- Separate original joint using spot weld breaker .



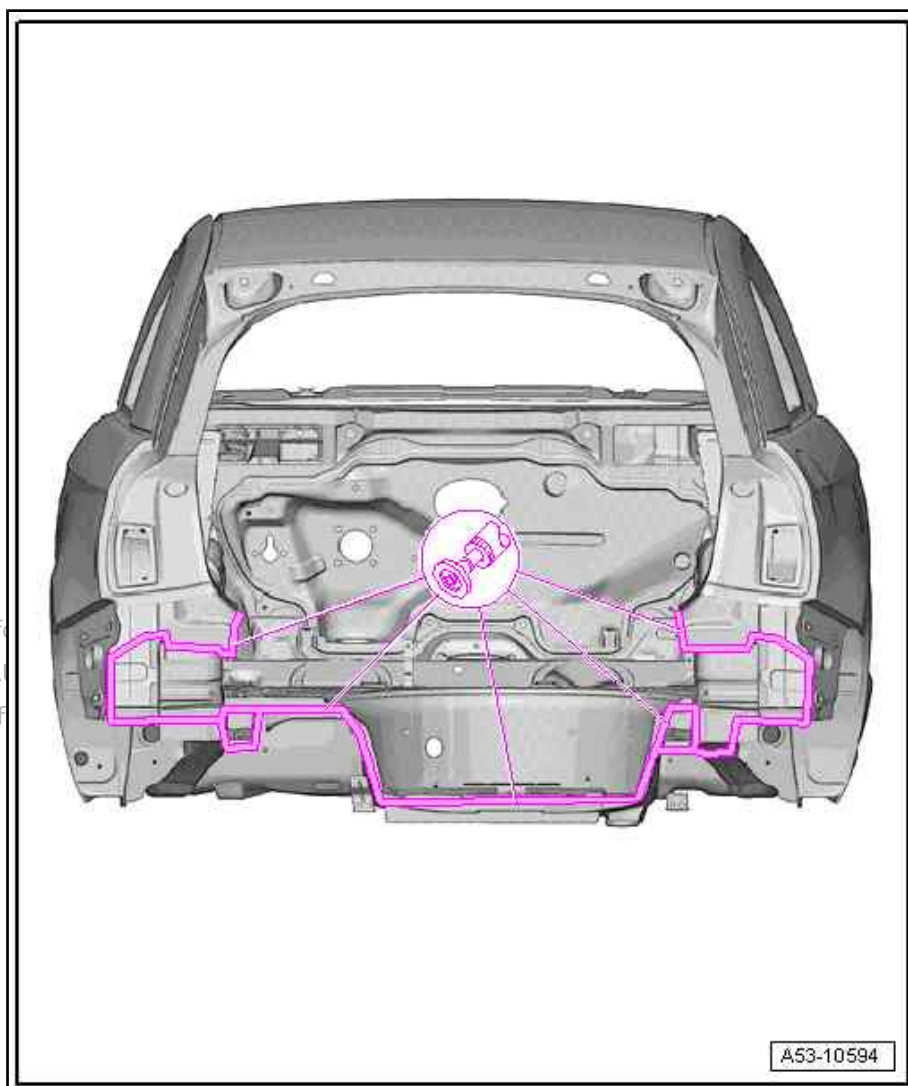
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- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Rear cross panel



Note

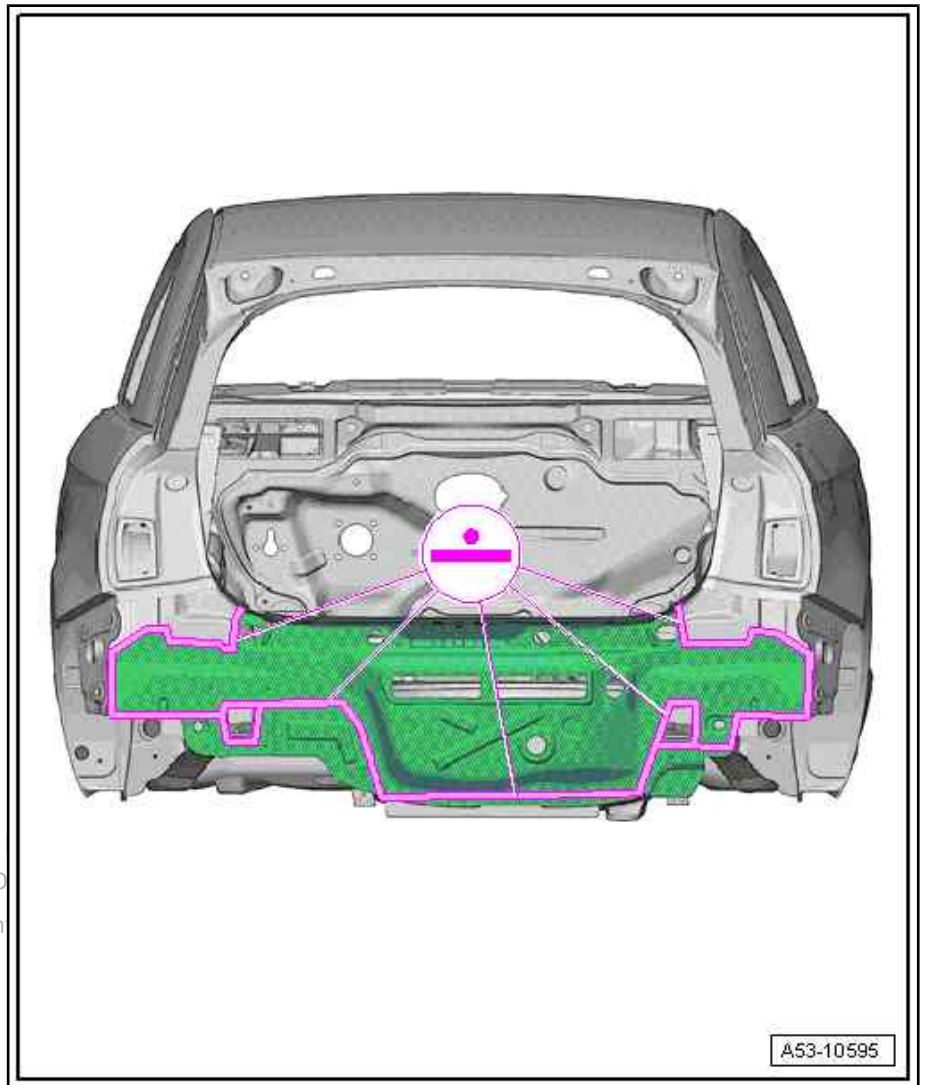
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

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



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Welding in rear upper cross panel ⇒ [page 269](#)

Welding in cross panel reinforcement ⇒ [page 273](#)



RO: 53 05 49 55

5 Rear cross panel - Renewal (quattro)

Includes: brackets for exhaust system and brackets for bumper

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1 - Inner side panel reinforcement (left-side)

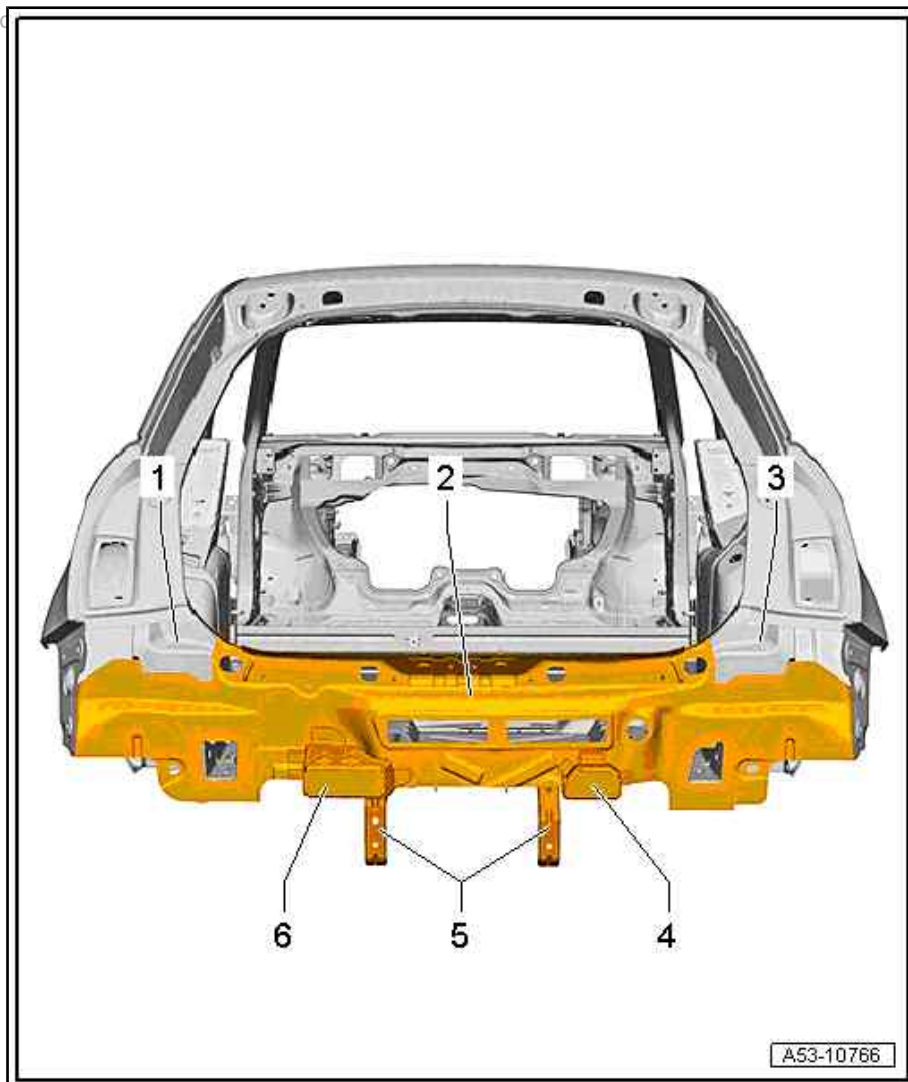
2 - Cross panel

3 - Inner side panel reinforcement (right-side)

4 - Bracket for exhaust system (right-side)

5 - Brackets for bumper

6 - Bracket for exhaust system (left-side)



5.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ 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 37](#) .

5.2 Procedure

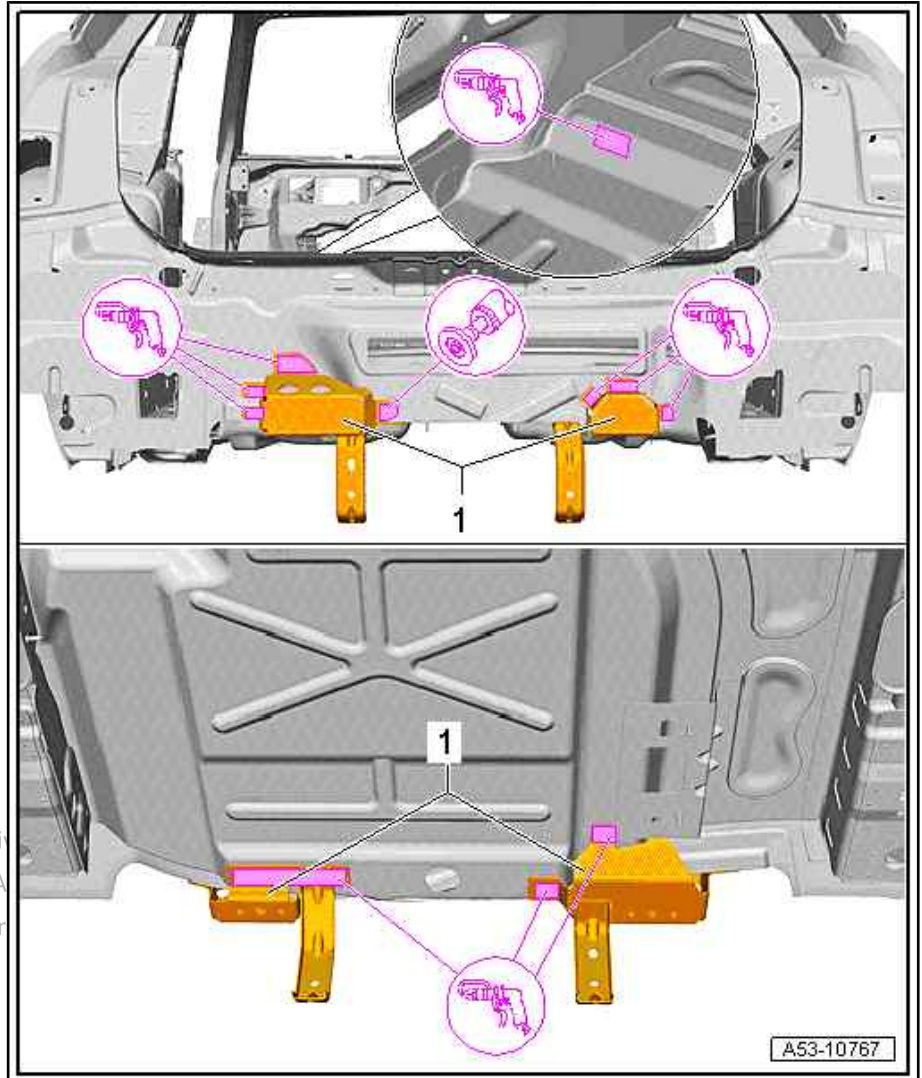
- Upper cross panel already removed ⇒ [page 269](#)



- Cross panel reinforcement already removed ⇒ [page 273](#)

Cutting locations

- Separate original joint at brackets for exhaust system -1- using spot weld breaker and compact angle grinder .

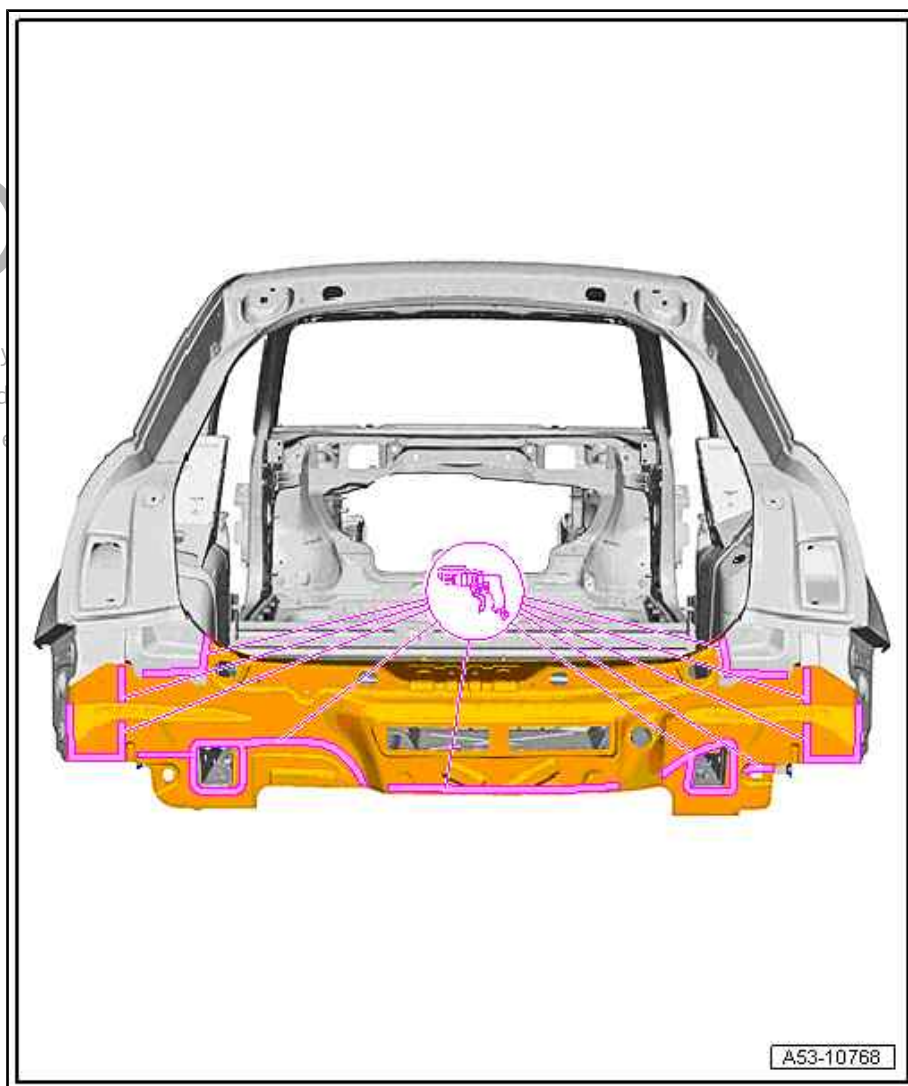


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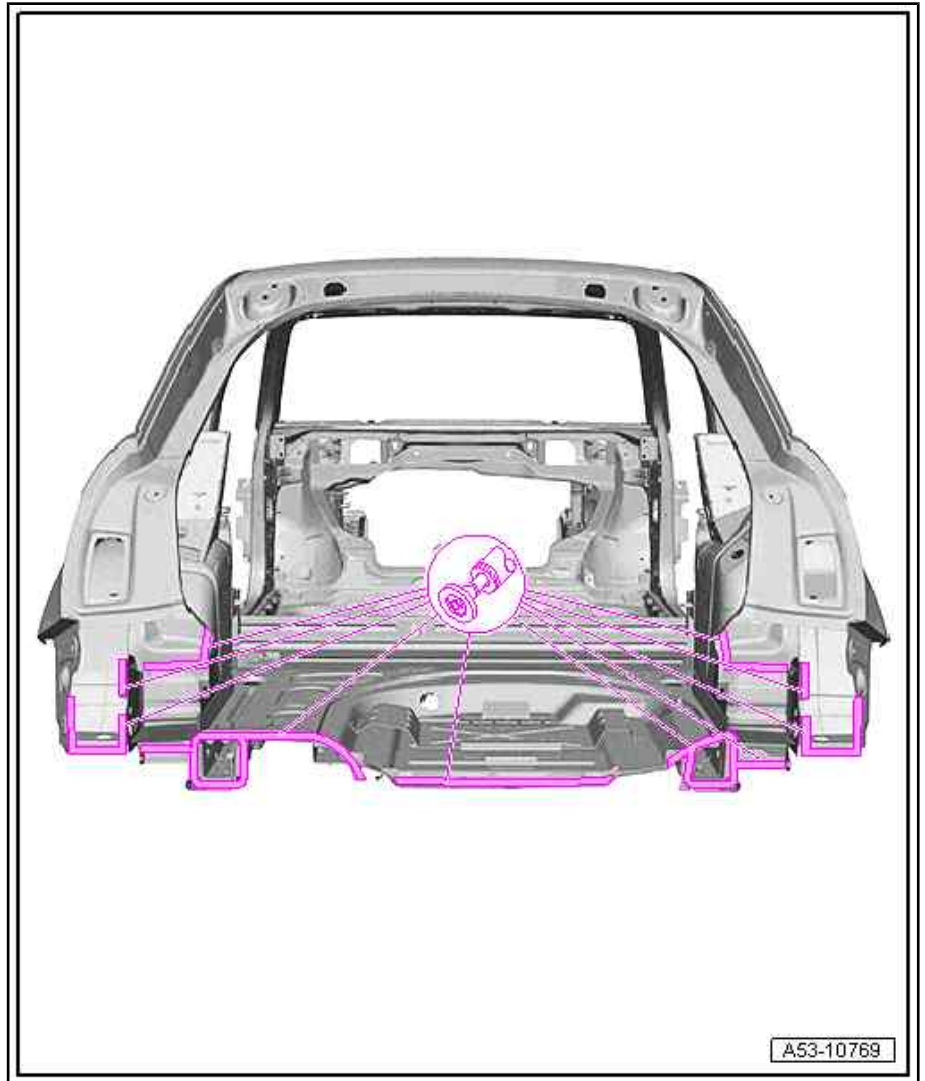
- Separate original joint using spot weld breaker .



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- Remove remaining material using grinder - VAS 5170- .



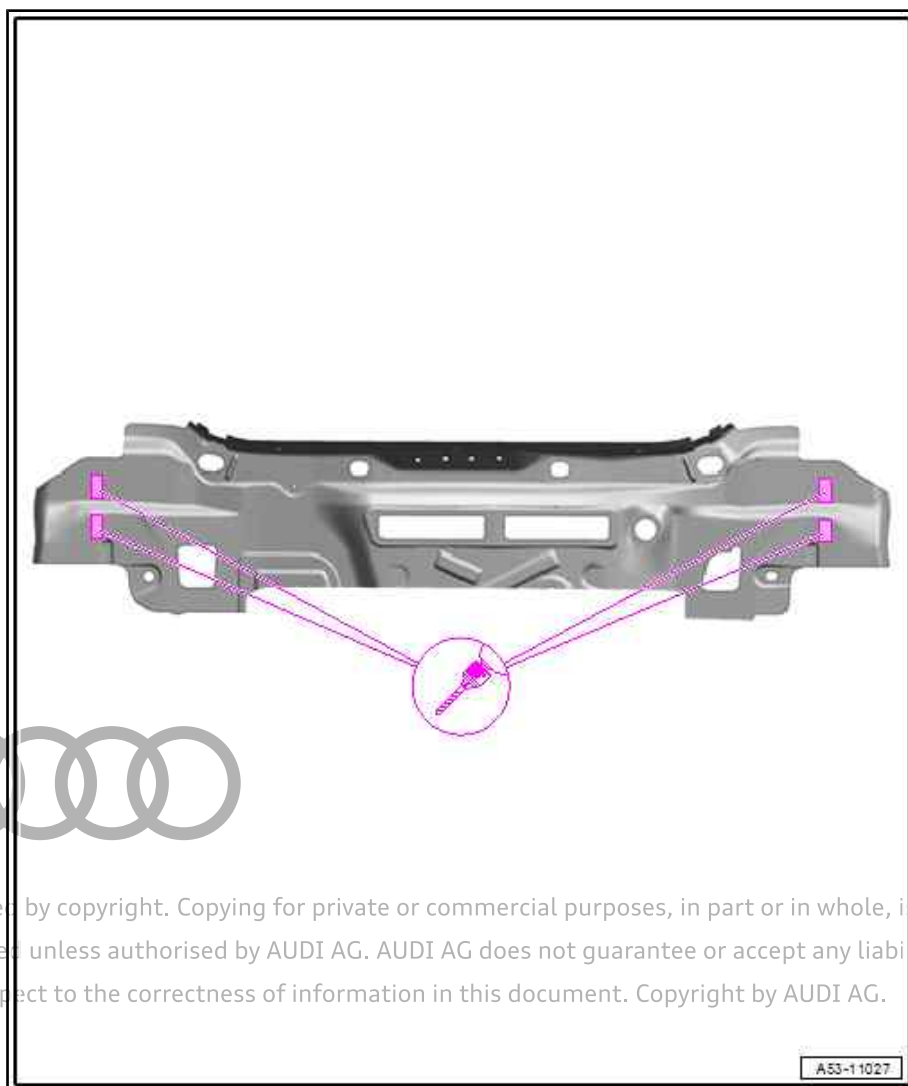
Replacement part

- ◆ Rear cross panel
- ◆ Bracket for exhaust system
- ◆ Brackets for bumper

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .

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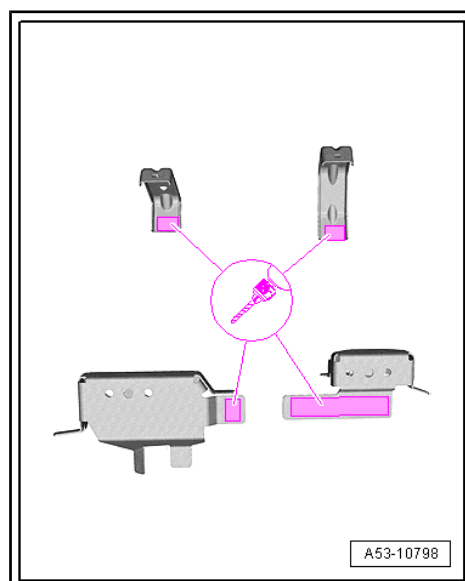
- Drill holes (8 mm Ø) for SG plug weld seam in brackets for exhaust system and brackets for bumper using drill .



Note

Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

Welding in



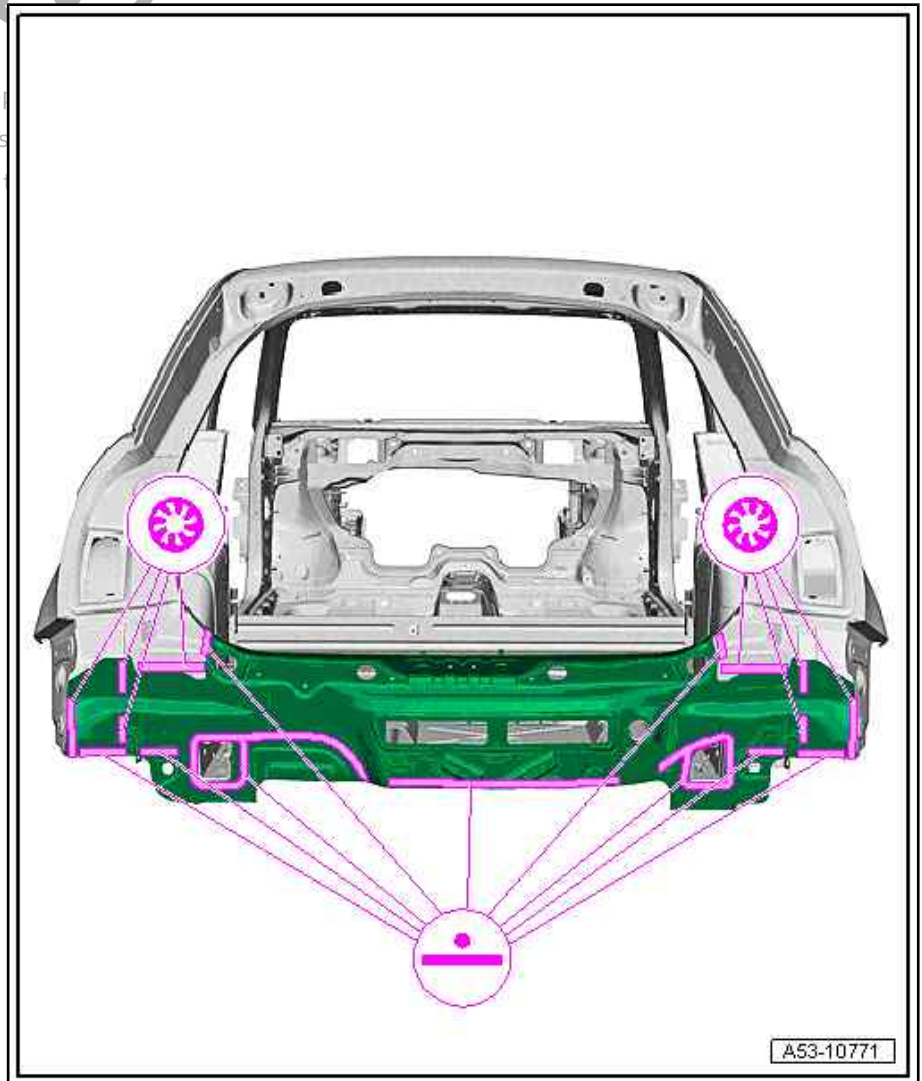
- Weld in cross panel using resistance spot welder : RP spot weld seam.



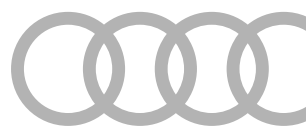
- Weld remaining joint using shielded arc welding equipment : SG plug weld seam.



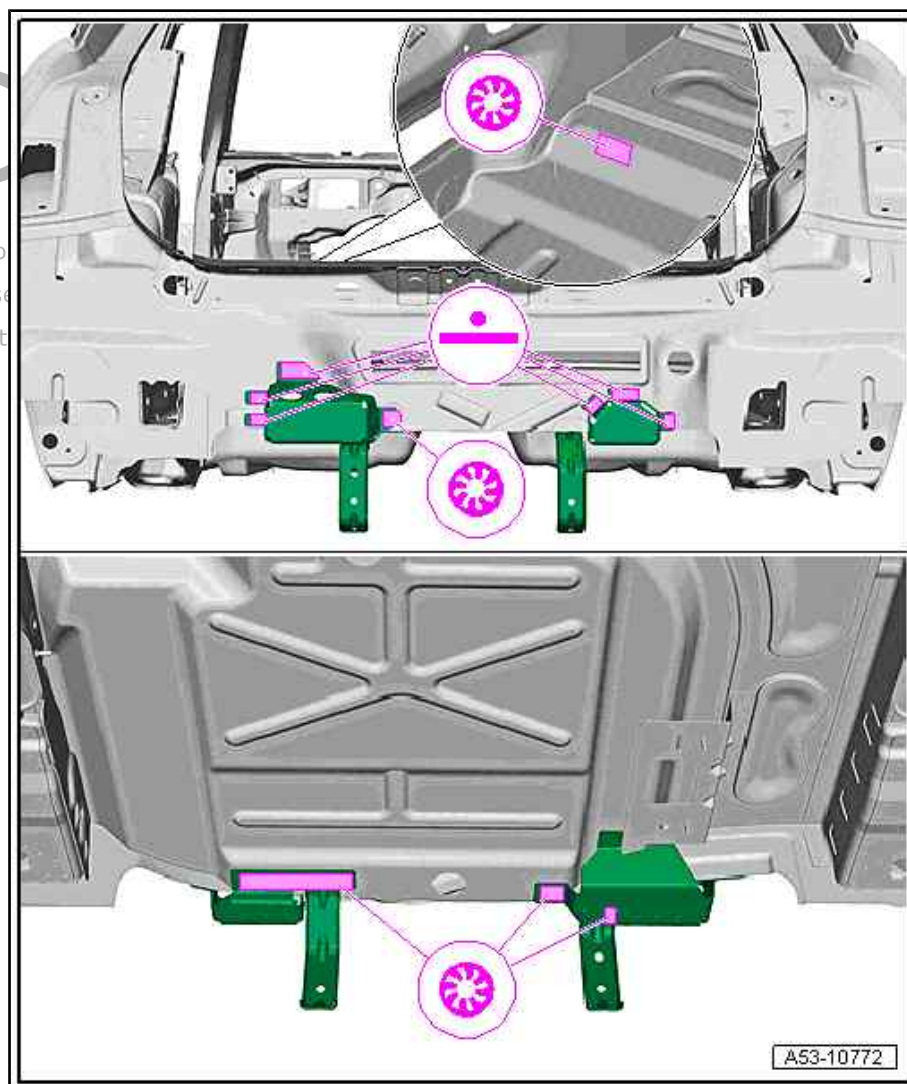
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- Weld in brackets for exhaust system and brackets for bumper using shielded arc welding equipment : SG plug weld seam.
- Weld in brackets for exhaust system and brackets for bumper using resistance spot welder : RP spot weld seam.



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Welding in rear upper cross panel ⇒ [page 269](#)

Welding in cross panel reinforcement ⇒ [page 273](#)



RO: 53 48 49 55

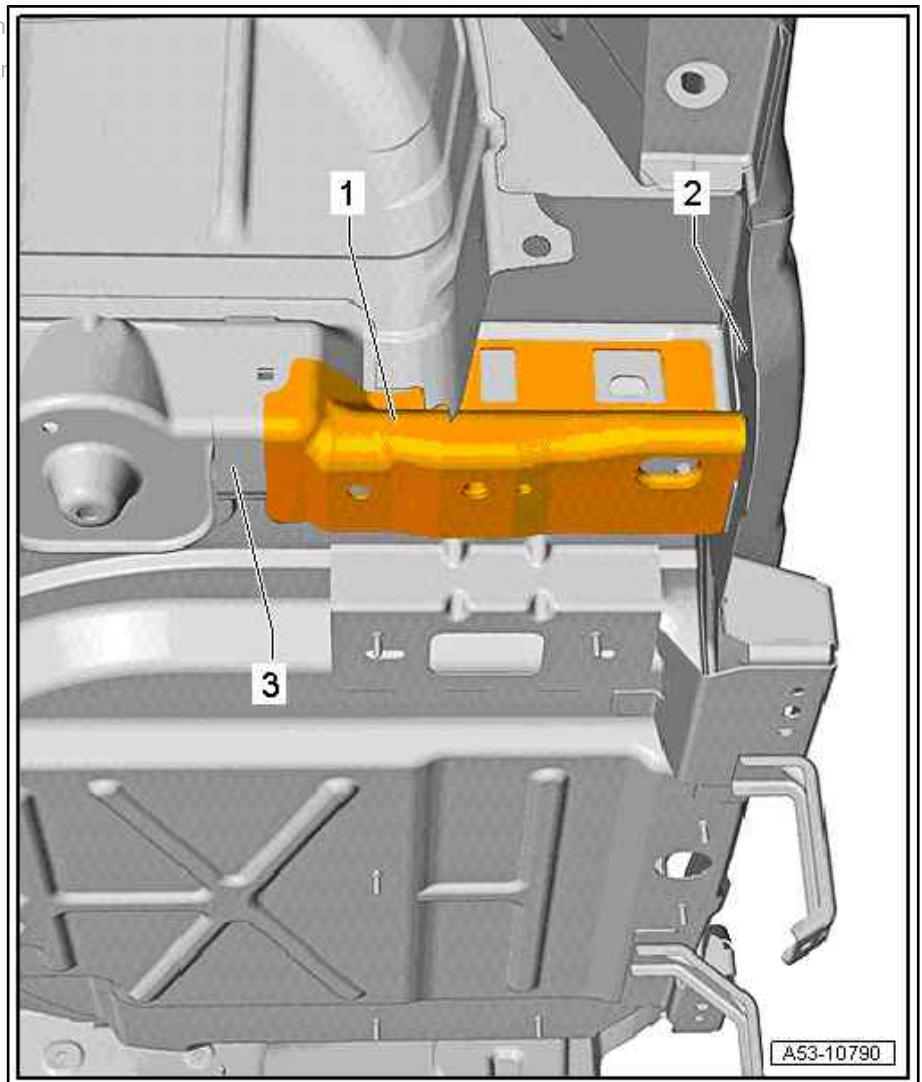
6 Rear support bracket (left-side) - Renewal (quattro)

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1 - Rear support bracket (left-side)

2 - Cross panel

3 - Rear longitudinal member (left-side)



6.1 Tools

Special tools and workshop equipment required

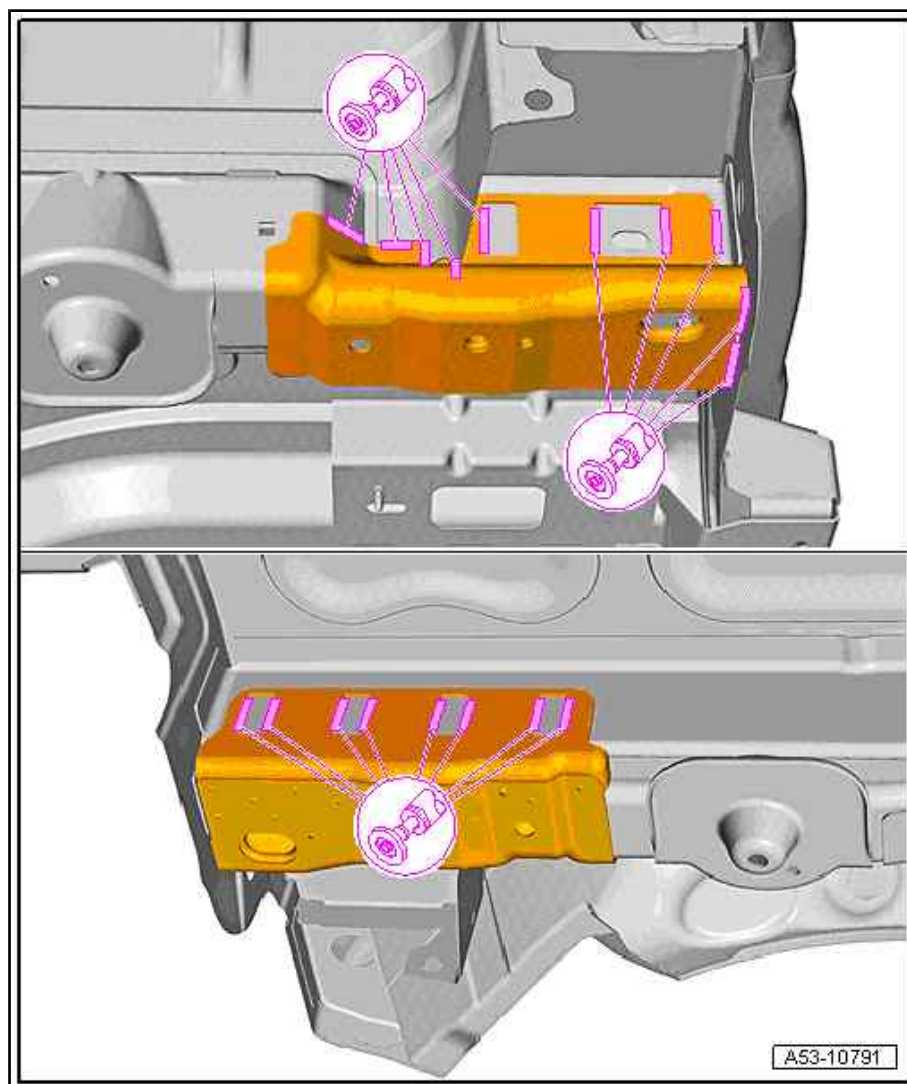
- ◆ Shielded arc welding equipment
- ◆ Compact angle grinder

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➔ [page 37](#) .

6.2 Procedure

Cutting locations

- Separate original joint using spot weld breaker .



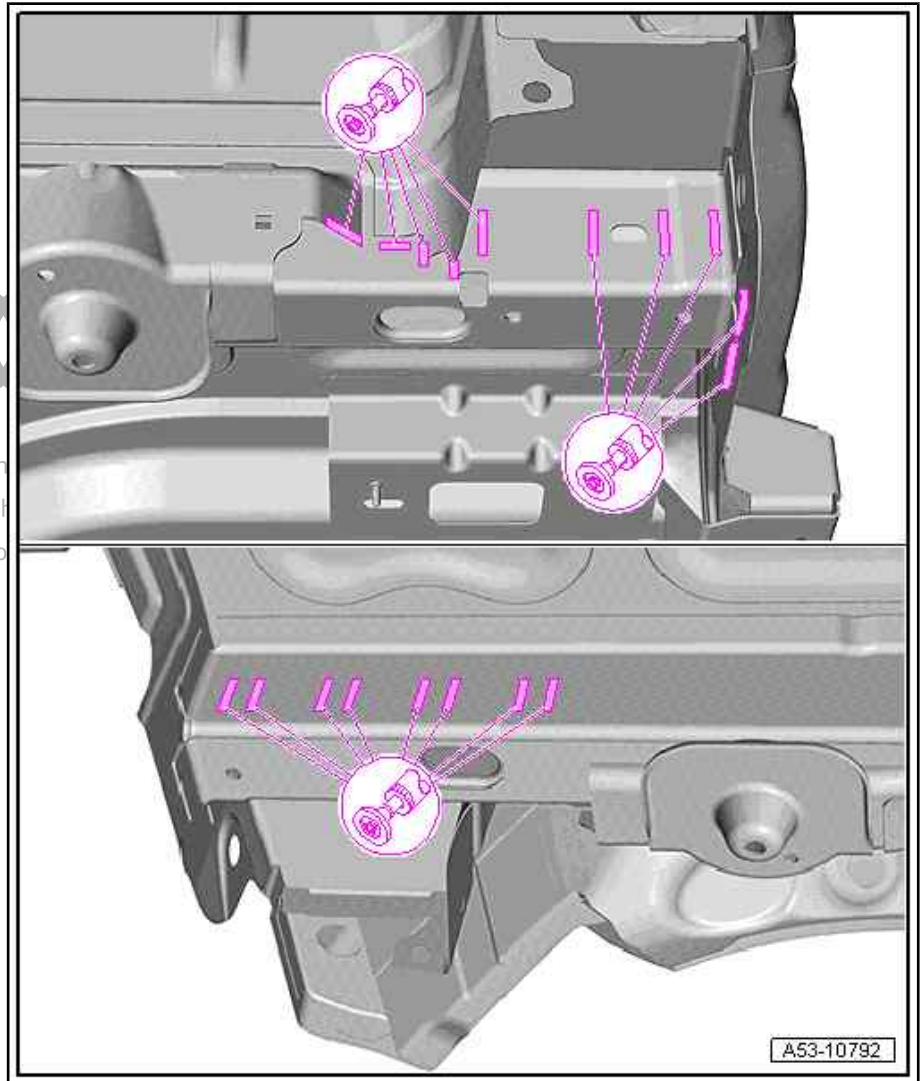
- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Rear support bracket (left-side)

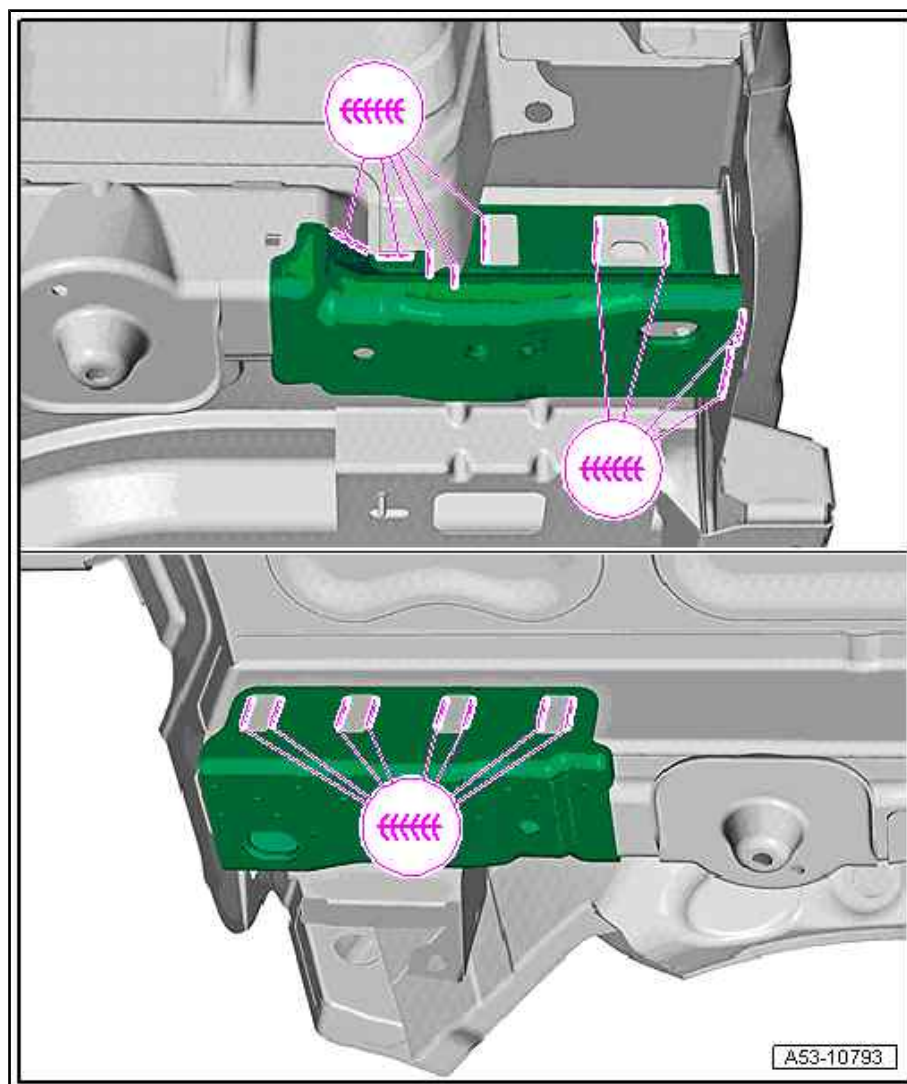


Note

Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

Welding in

- Weld in new part using shielded arc welding equipment : SG continuous seam.



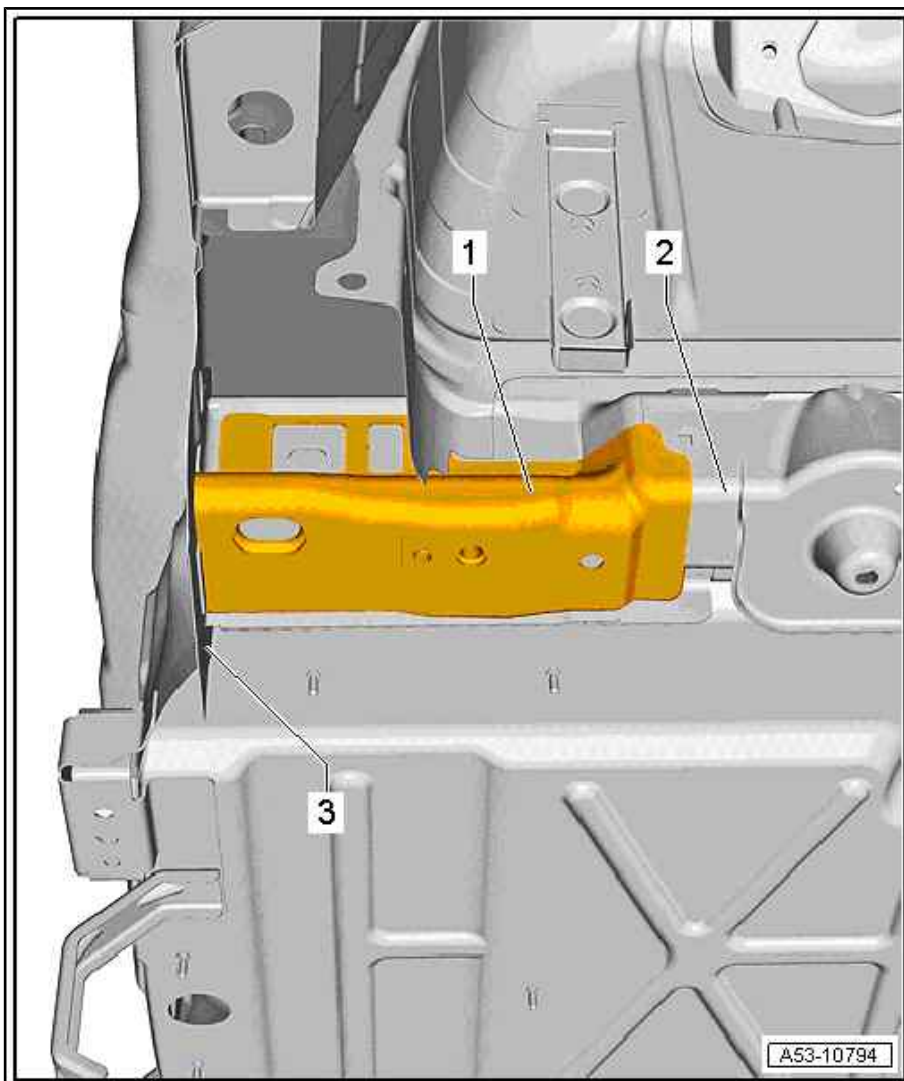
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RO: 53 48 49 57

7 Rear support bracket (right-side) - Renewal (quattro)

- 1 - Rear support bracket (right-side)
- 2 - Rear longitudinal member (right-side)
- 3 - Cross panel



7.1 Tools

Special tools and workshop equipment required

- ◆ Shielded arc welding equipment
- ◆ Compact angle grinder

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work [⇒ page 37](#) .

7.2 Procedure

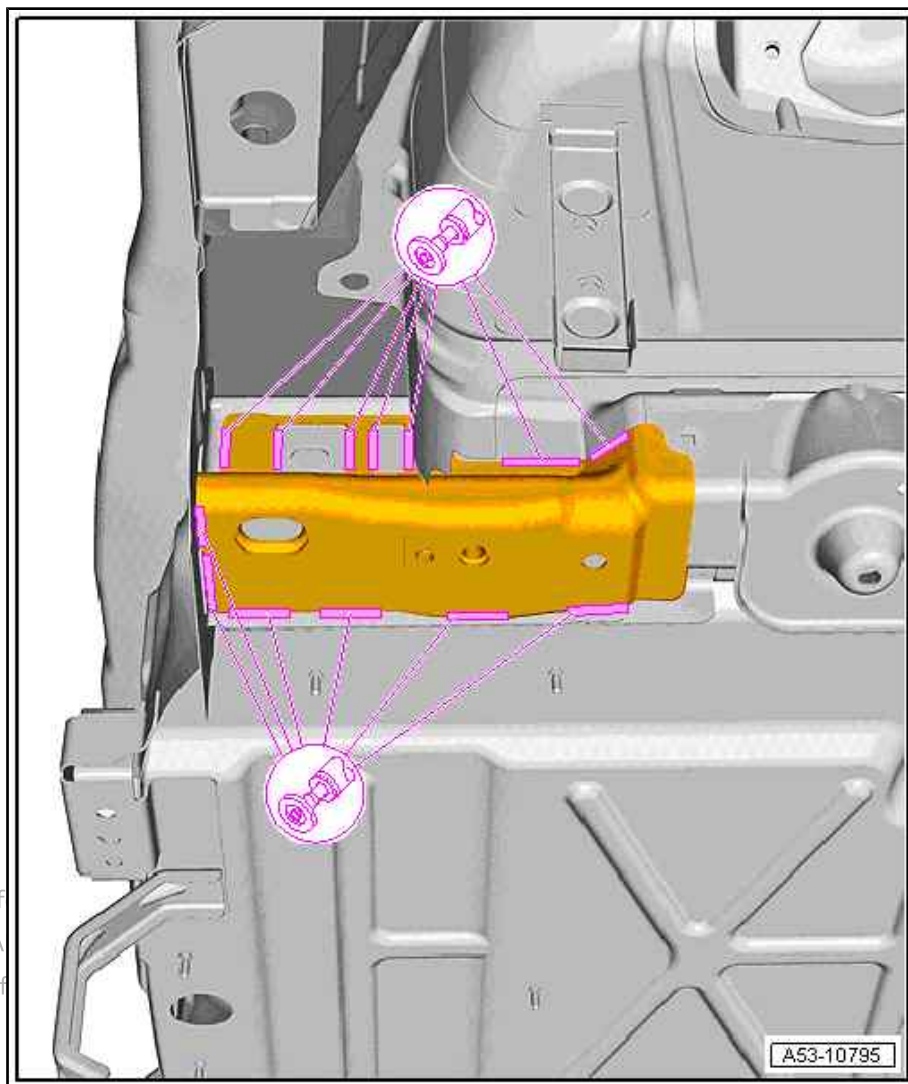
Cutting locations

- Separate original joint using spot weld breaker .

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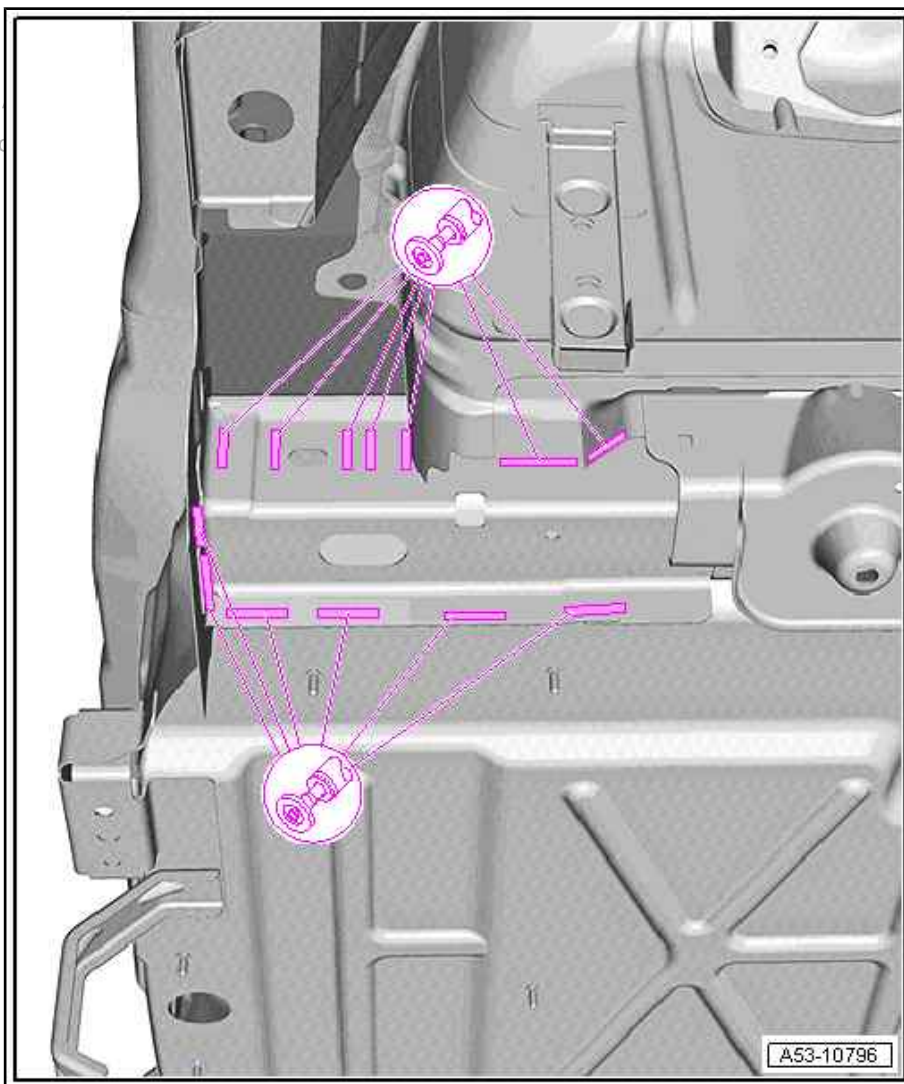


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- Remove remaining material using compact angle grinder .

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Replacement part

- ◆ Rear support bracket (right-side)



Note

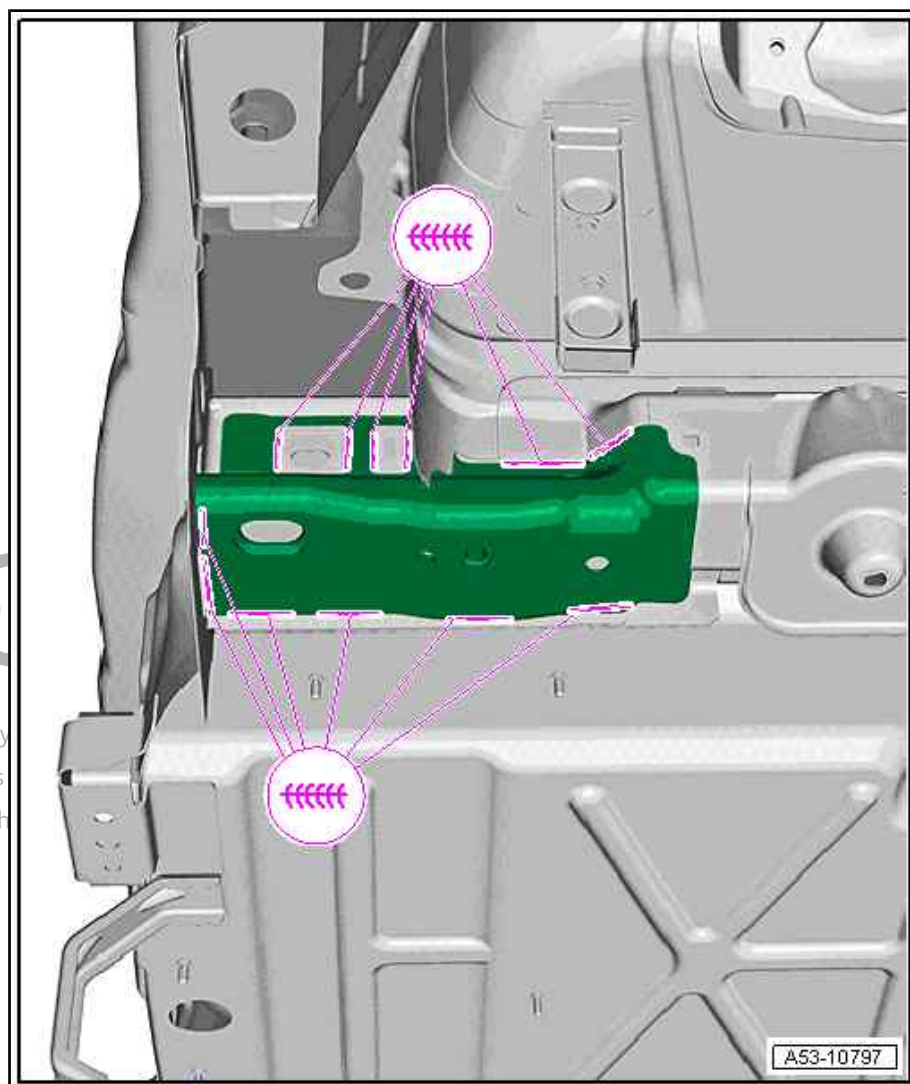
Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

Welding in

- Weld in new part using shielded arc welding equipment : SG continuous seam.



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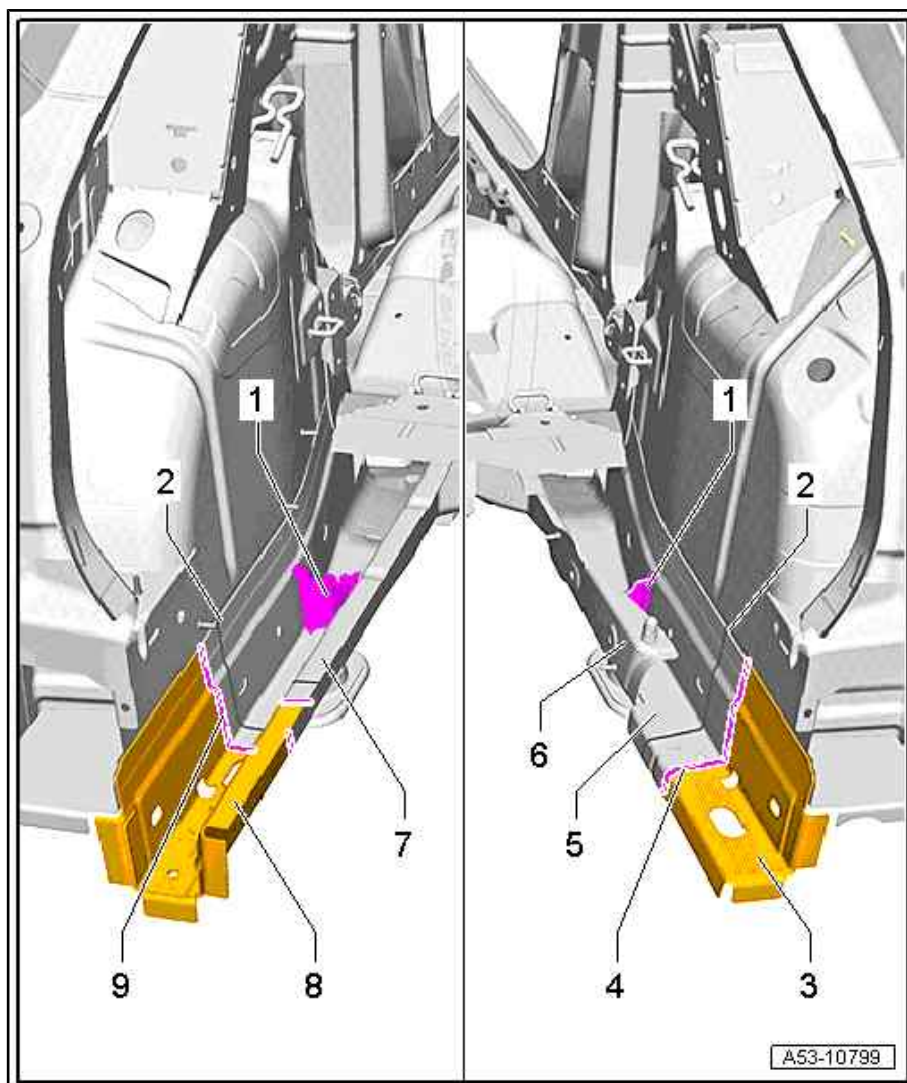




RO: 53 48 55 55

8 Rear longitudinal member - Partial renewal (quattro)

- 1 - Web plate
- 2 - Joint in metal blank
- 3 - Longitudinal member (part section), right-side (modern high-strength steel)
- 4 - Separating cut in longitudinal member (right-side)
- 5 - Rear longitudinal member, right-side (ultra-high-strength hot-formed steel)
- 6 - Closure plate, longitudinal member (right-side)
- 7 - Rear longitudinal member, left-side (ultra-high-strength hot-formed steel)
- 8 - Longitudinal member, part section, left-side (modern high-strength steel)
- 9 - Separating cut in longitudinal member (left-side)



8.1 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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8.2 Procedure

- Upper cross panel already removed ➤ [page 269](#)



- Cross panel reinforcement already removed ⇒ [page 273](#)
- Luggage compartment floor already removed ⇒ [page 349](#)
- Support bracket (rear left) already removed ⇒ [page 289](#)
- Support bracket (rear right) already removed ⇒ [page 293](#)

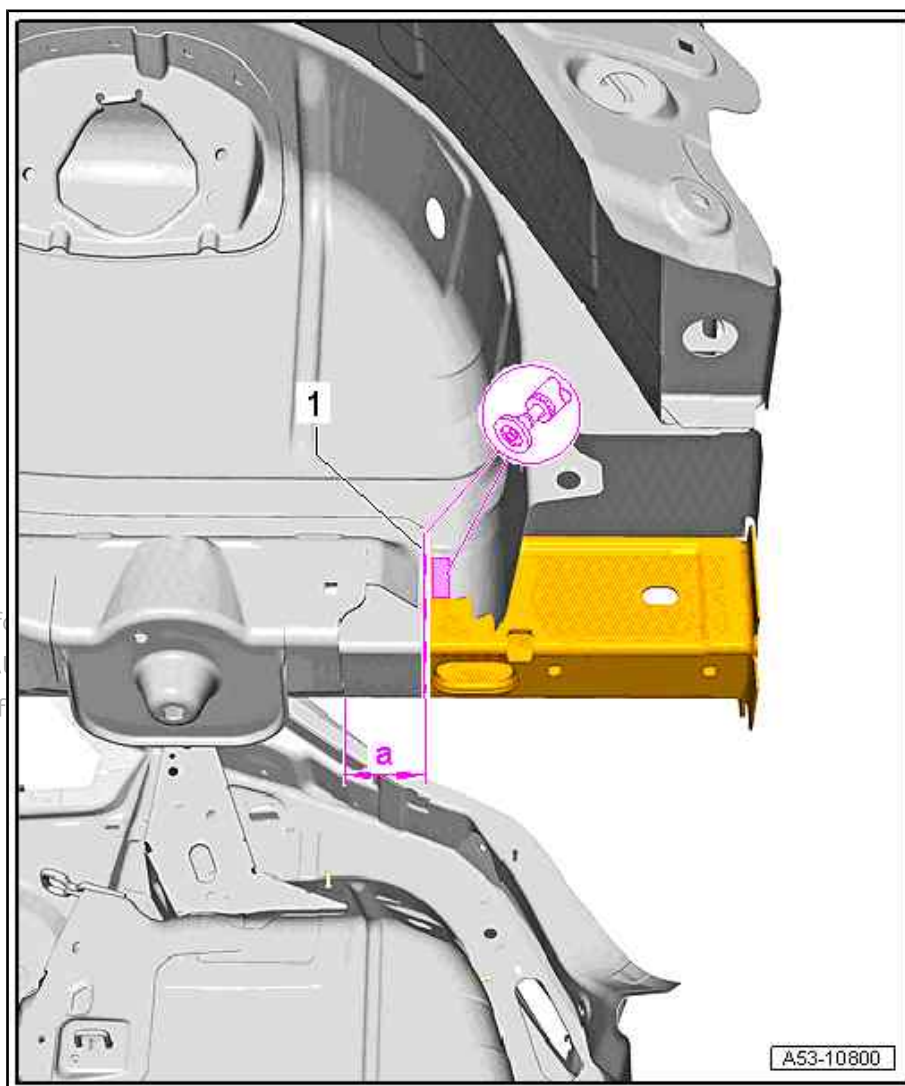
Cutting locations

Longitudinal member, part section (left-side)

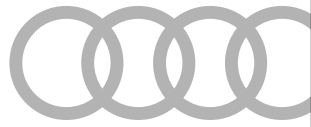
- Mark separating cut -1- as per dimension -a- and cut out.

Dimension -a- = 47 mm

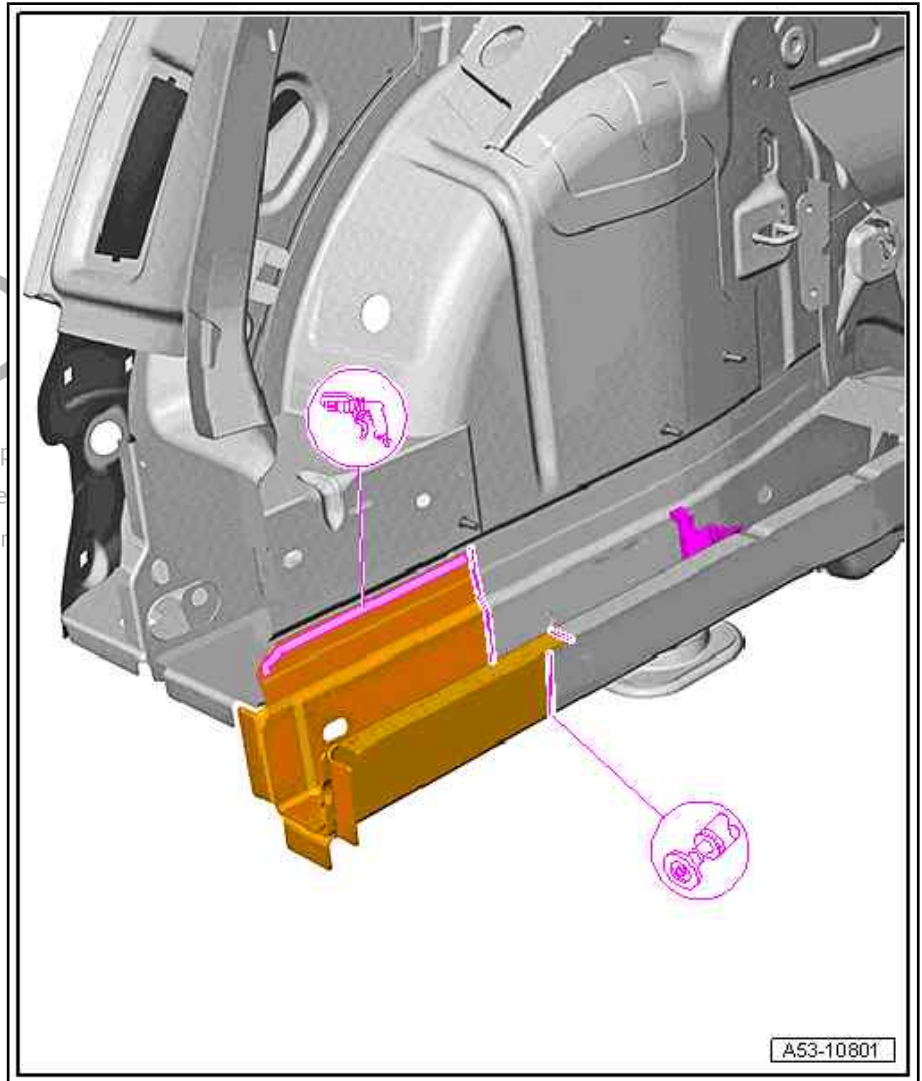
- Separate original joint using compact angle grinder .
- Cut out longitudinal member part section using compact angle grinder .



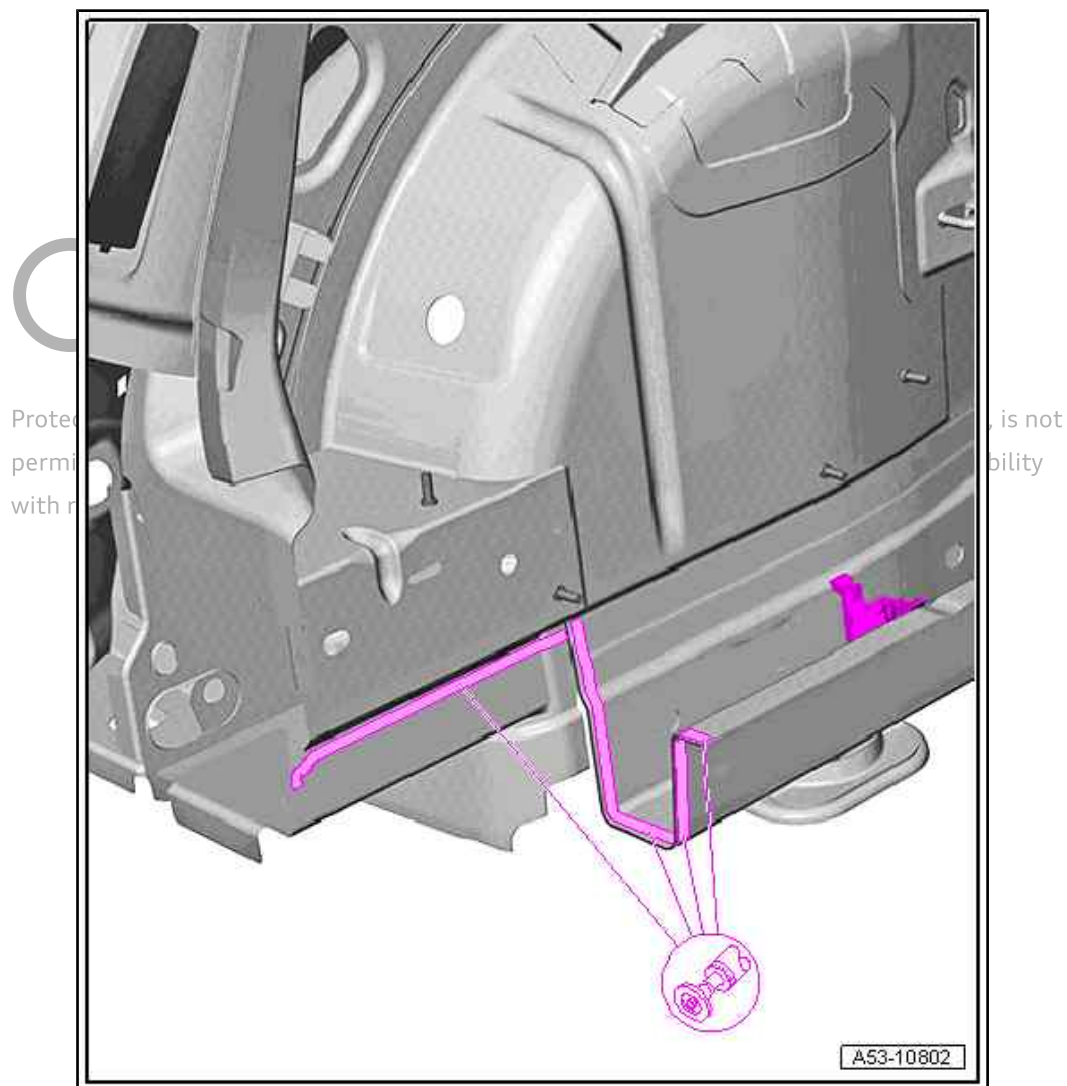
- Make separating cut in longitudinal member part section using compact angle grinder .
- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .

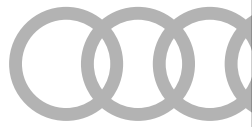


Longitudinal member, part section (right-side)

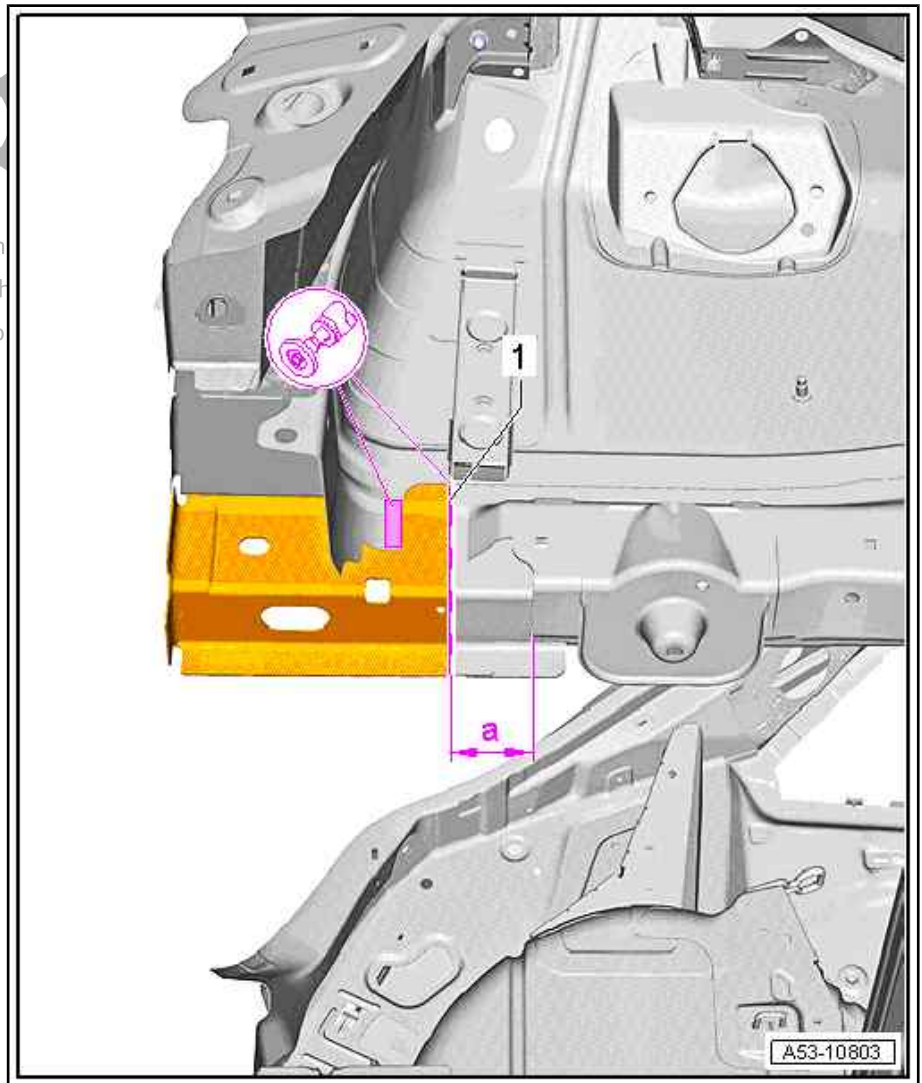
- Mark separating cut -1- as per dimension -a- and cut out.

Dimension -a- = 50 mm

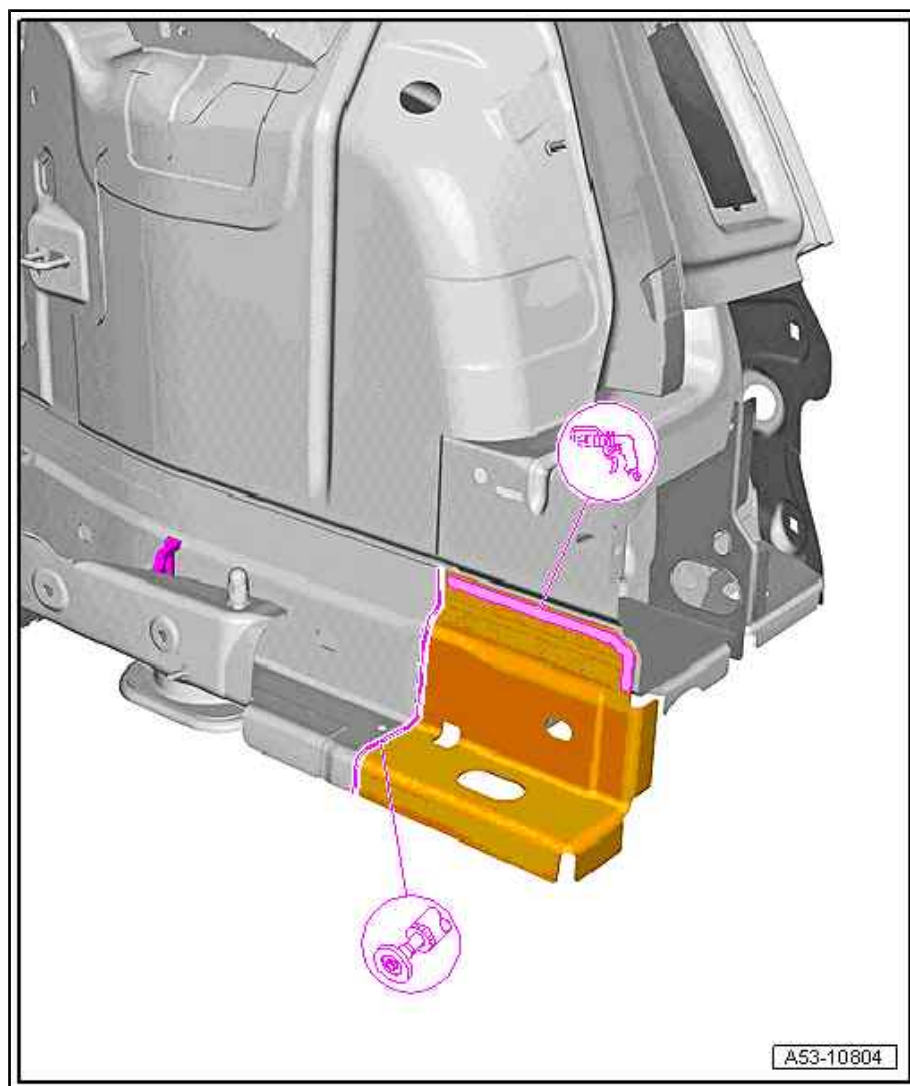
- Separate original joint using compact angle grinder .
- Cut out longitudinal member part section using compact angle grinder .



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- Make separating cut in longitudinal member part section using compact angle grinder .
- Separate original joint using spot weld breaker .



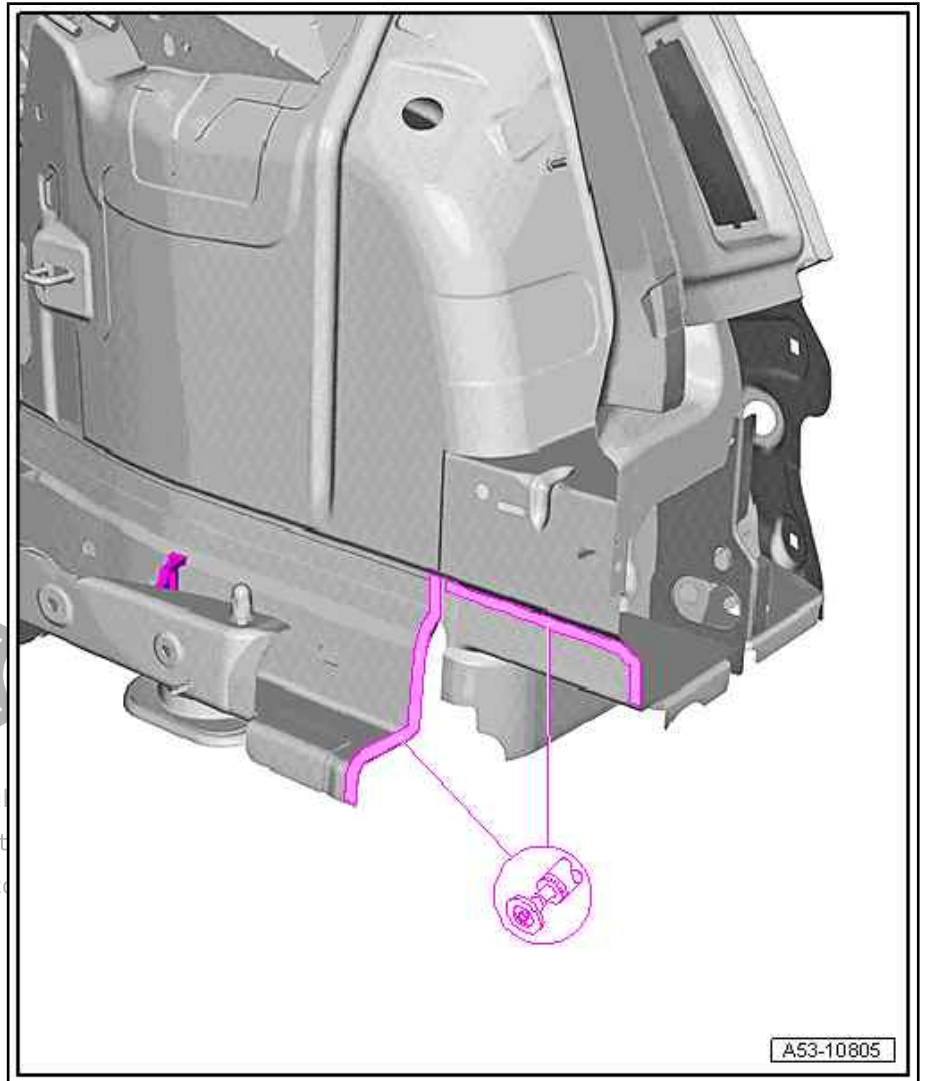
- Remove remaining material using compact angle grinder .



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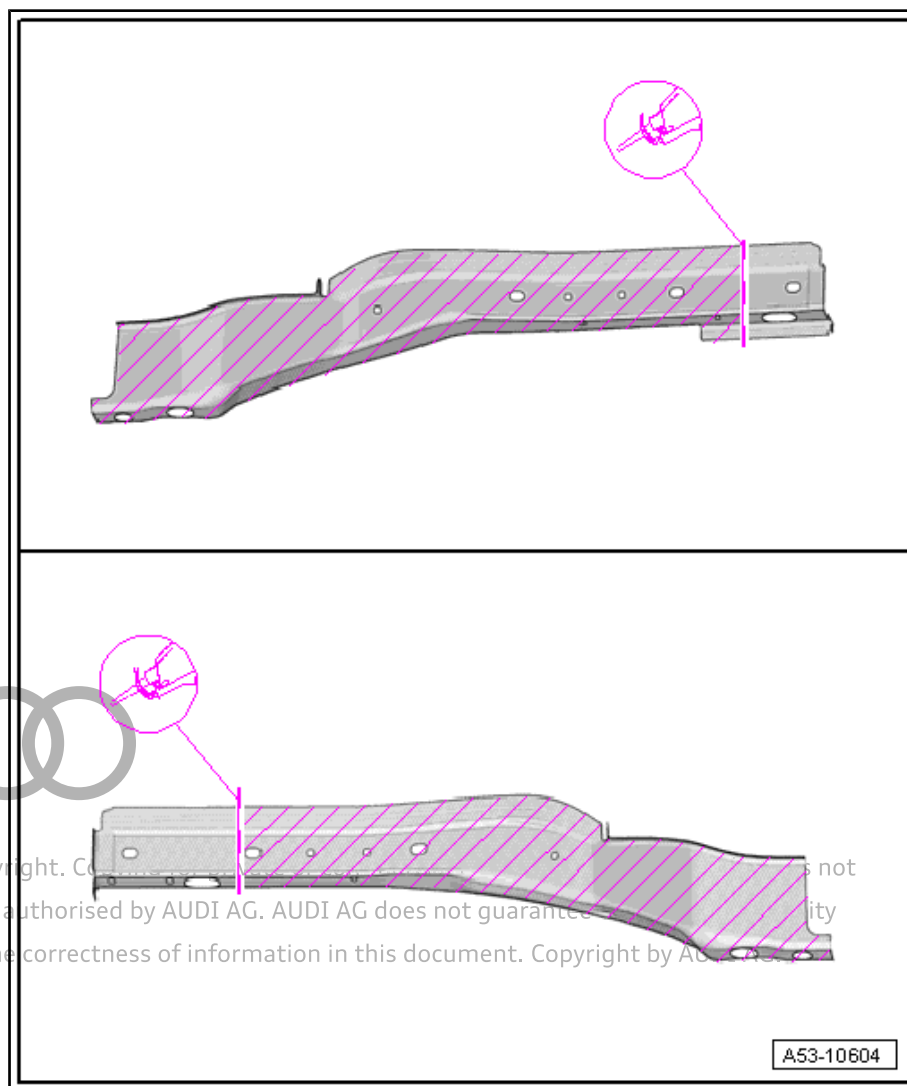


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Replacement part

- ◆ Longitudinal member
- Transfer separating cut to new part and cut to size using body saw .

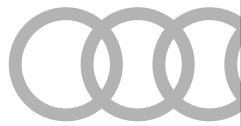


Note

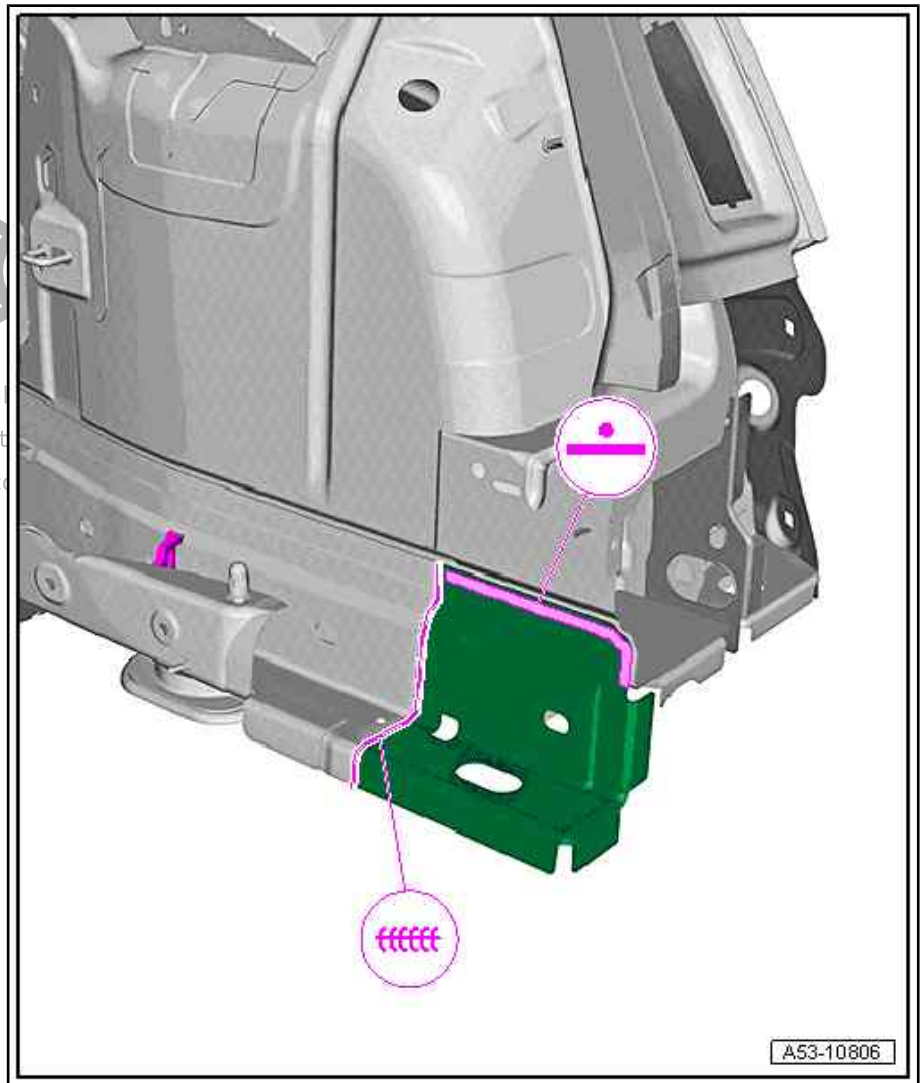
Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

Welding in

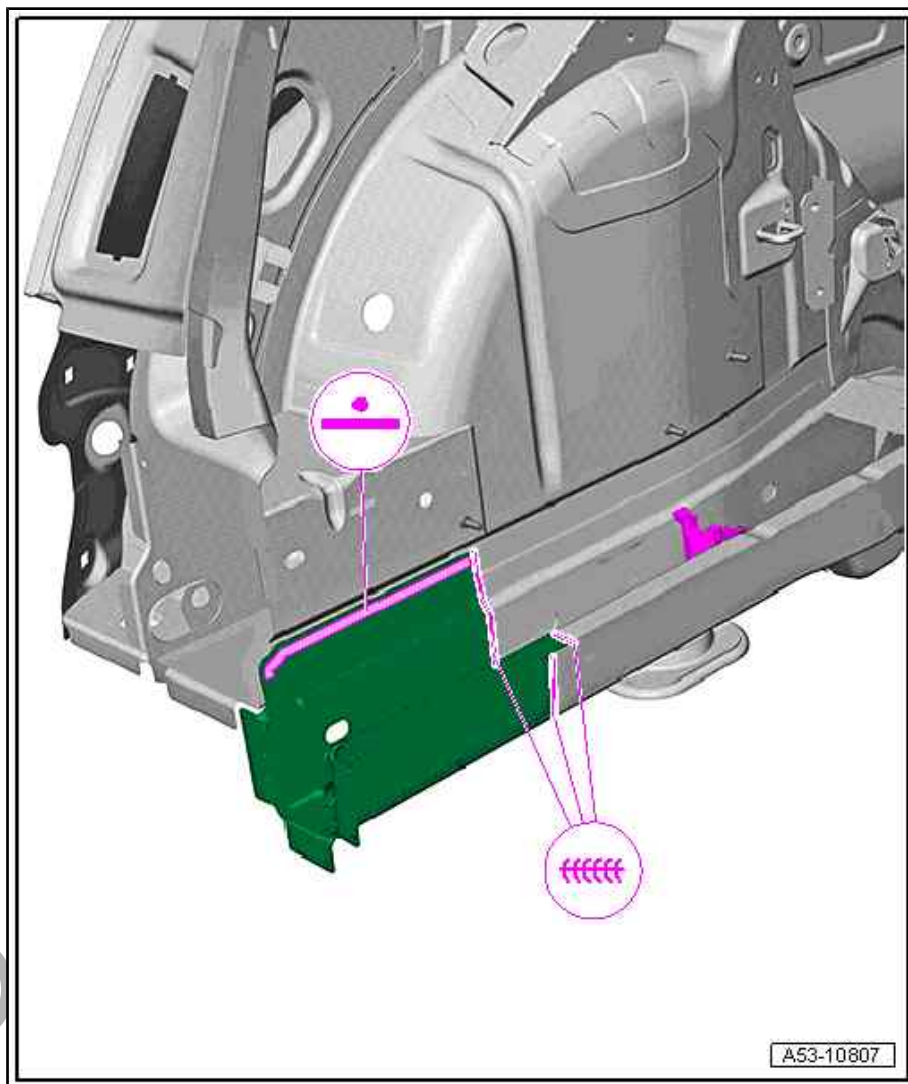
- Locate and secure section of longitudinal member on alignment bracket.
- Weld in longitudinal member using resistance spot welder : RP spot weld seam.
- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.



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- Weld in longitudinal 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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- Upper cross panel already removed ➔ [page 269](#)
- Cross panel reinforcement already removed ➔ [page 273](#)
- Luggage compartment floor already removed ➔ [page 349](#)
- Support bracket (rear left) already removed ➔ [page 289](#)
- Support bracket (rear right) already removed ➔ [page 293](#)



RO: 53 48 55 52

9 Rear longitudinal member - Partial renewal

Audi A1 and Audi A1 Sportback identical

1 - Longitudinal member (part section), right-side (modern high-strength steel)

2 - Joint in metal blank (right-side)

3 - Rear longitudinal member, right-side (ultra-high-strength hot-formed steel)

4 - Web plate

5 - Longitudinal member, part section, left-side (modern high-strength steel)

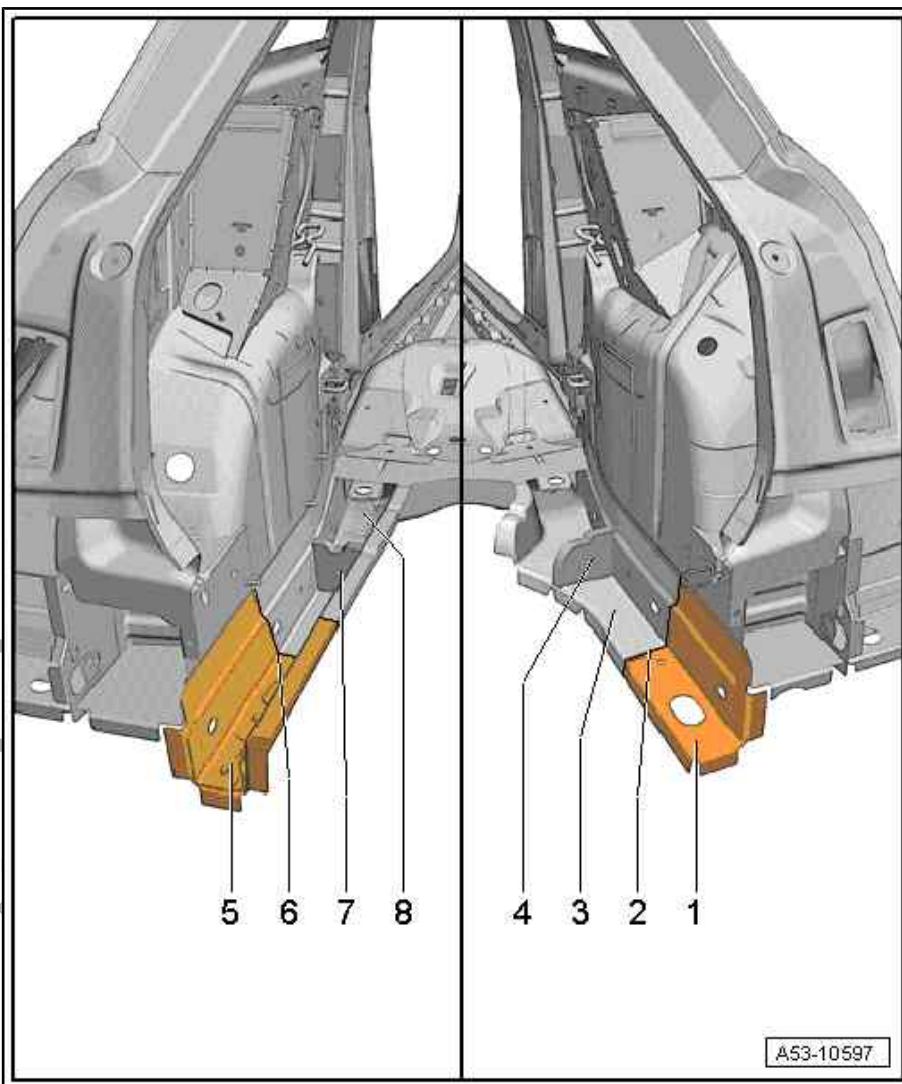
6 - Joint in metal blank (left-side)

7 - Rear longitudinal member, left-side (ultra-high-strength hot-formed steel)

8 - Web plate



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9.1 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 37](#) .



9.2 Procedure

- Rear upper cross panel already removed ⇒ [page 269](#)
- Cross panel reinforcement already removed ⇒ [page 273](#)
- Luggage compartment floor already removed ⇒ [page 344](#)
- Luggage compartment floor already removed (quattro)
⇒ [page 349](#)

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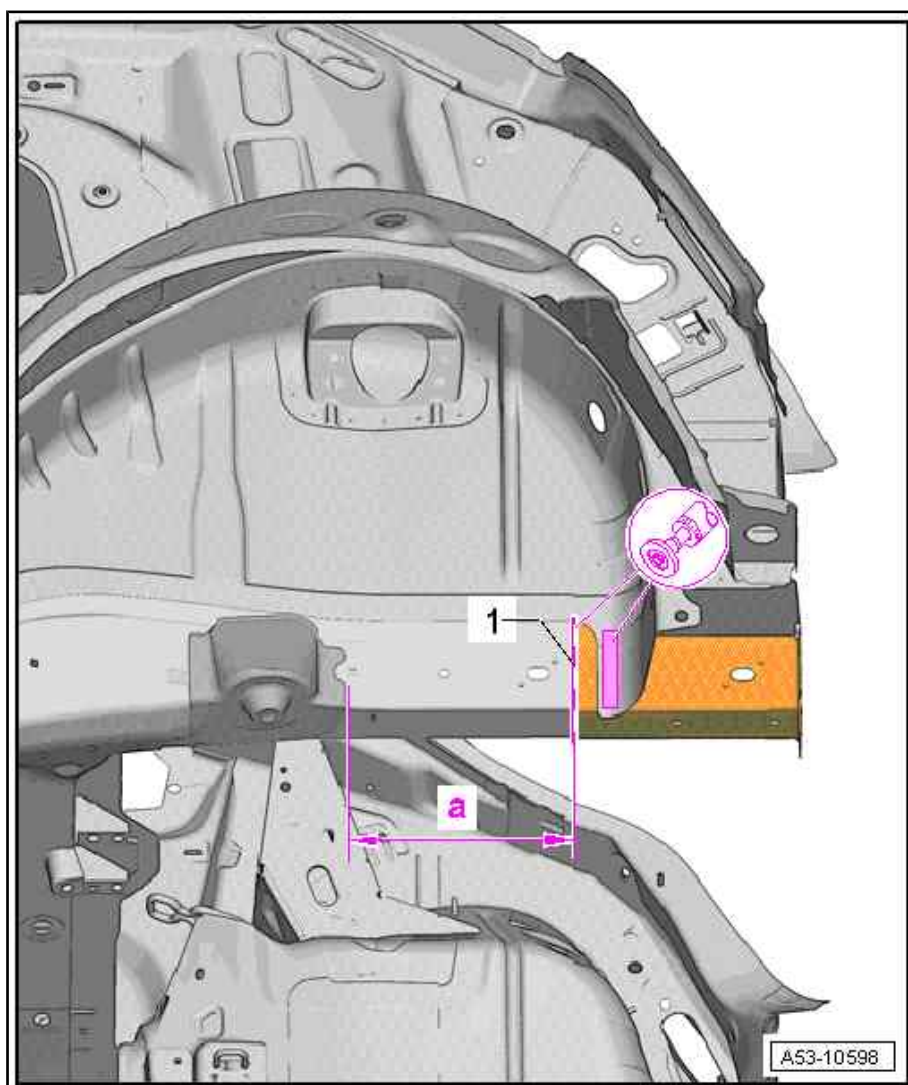
Cutting locations

Longitudinal member, part section (left-side)

- Mark separating cut -1- as per dimension -a- and cut out.

Dimension -a- = 220 mm

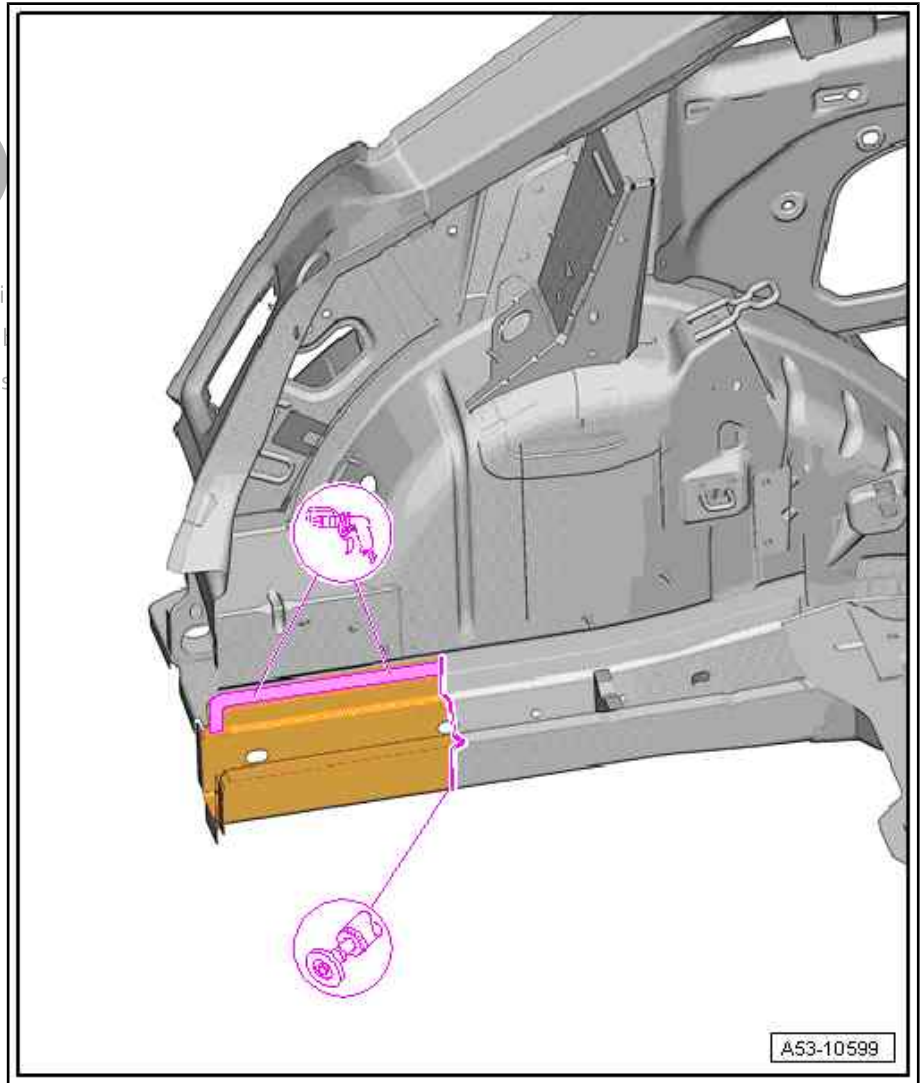
- Cut out longitudinal member part section using compact angle grinder .



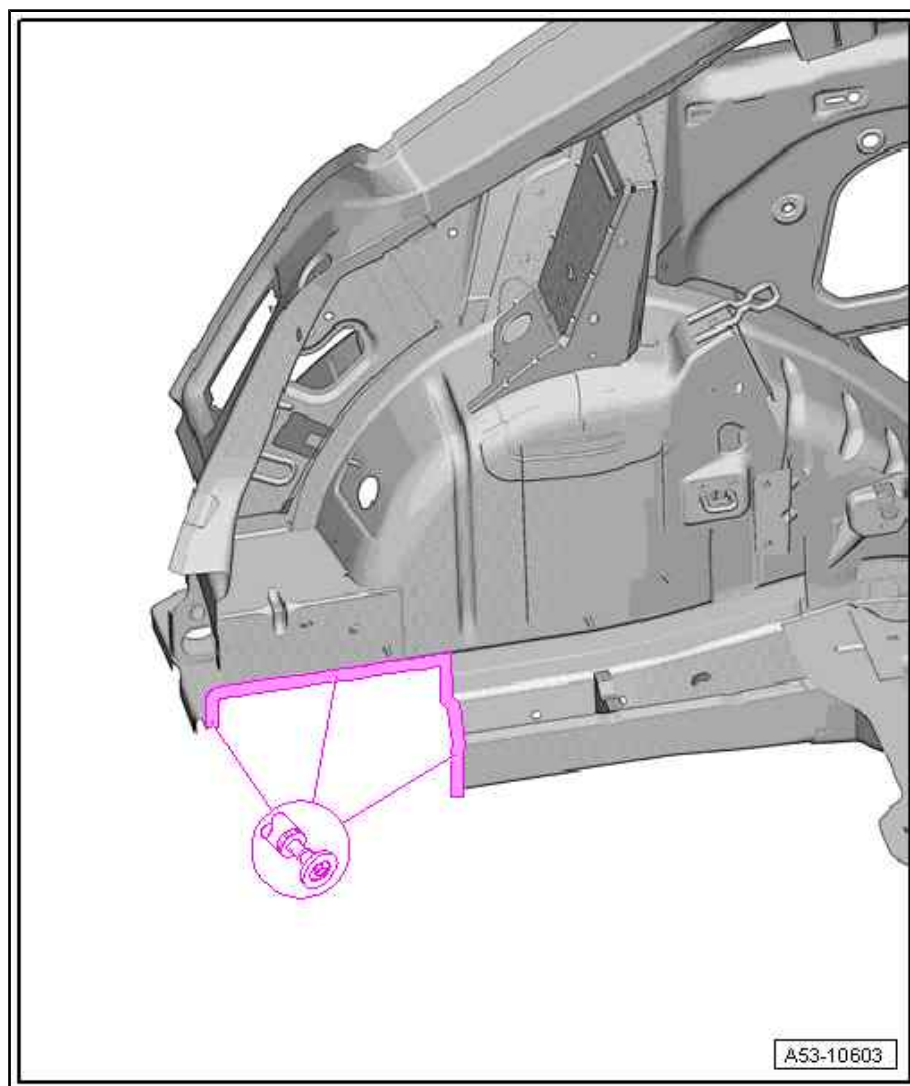
- Make separating cut in longitudinal member part section using compact angle grinder .
- Separate original joint using spot weld breaker .



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- Remove remaining material using compact angle grinder .



Longitudinal member, part section (right-side)

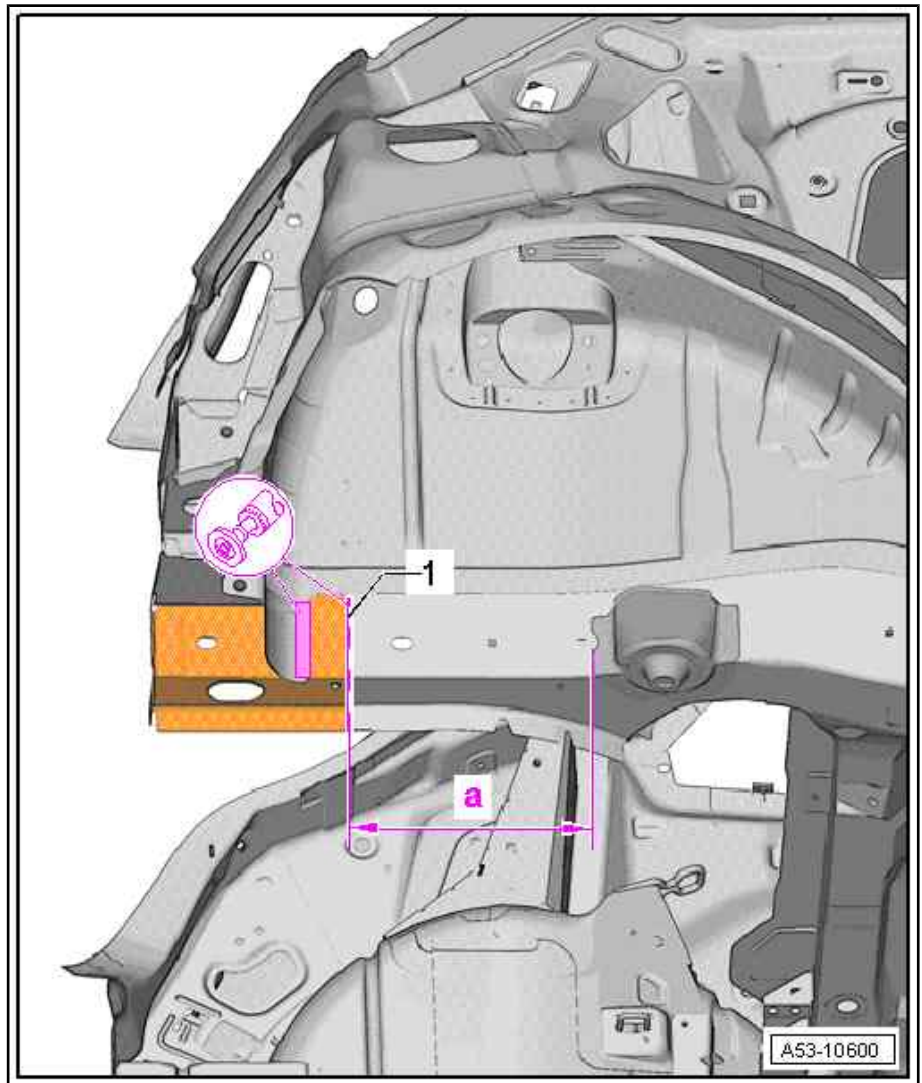
- Mark separating cut -1- as per dimension -a- and cut out.

Dimension -a- = 220 mm

- Cut out longitudinal member part section using compact angle grinder .
- Separate original joint using compact angle grinder .

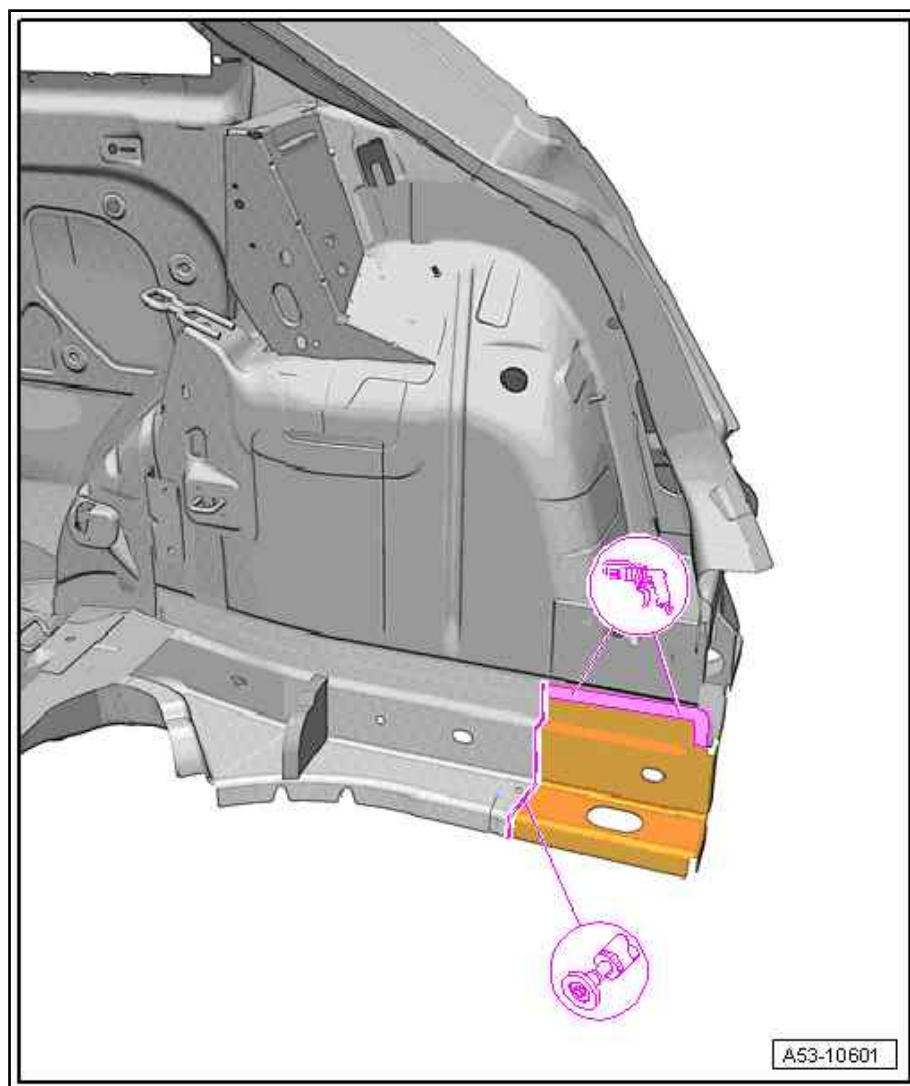


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- Make separating cut in longitudinal member part section using compact angle grinder .
- Separate original joint using spot weld breaker .

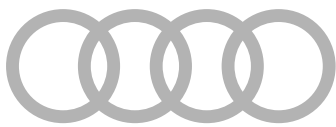
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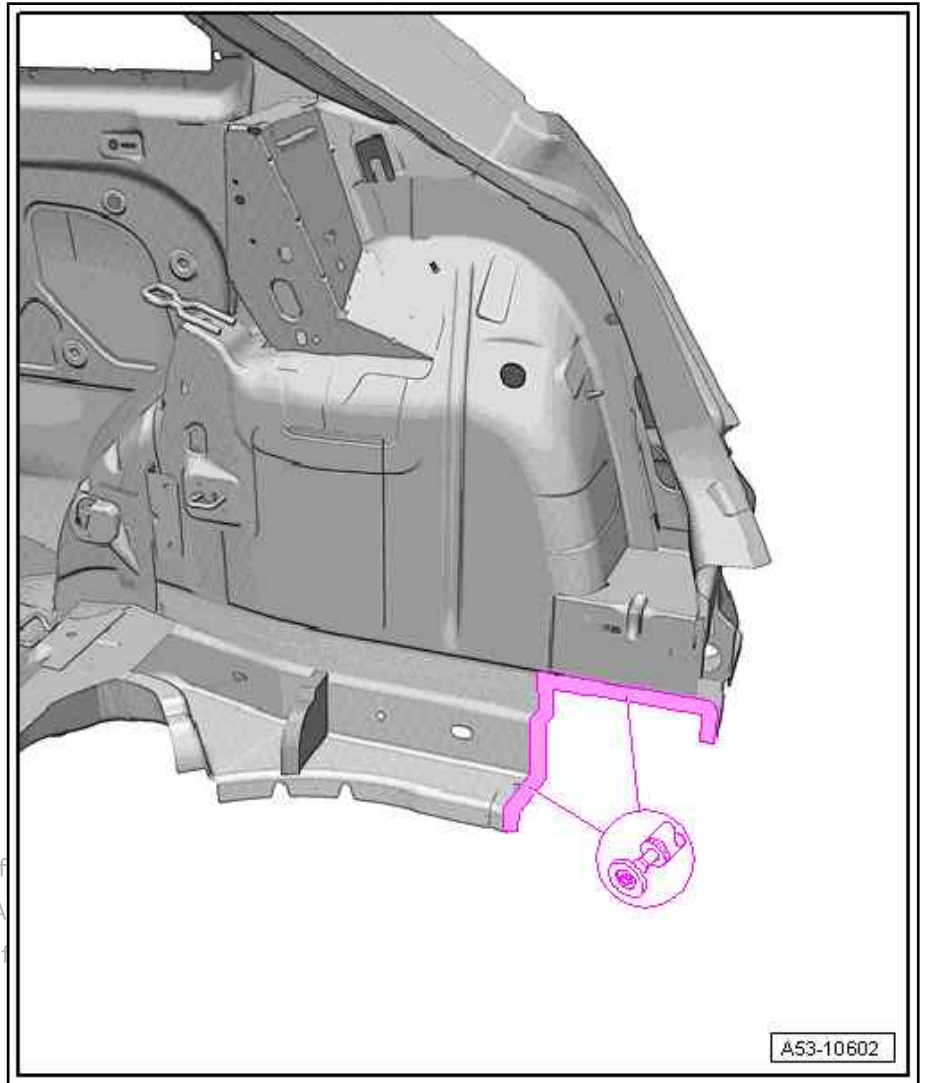
- Remove remaining material using compact angle grinder .



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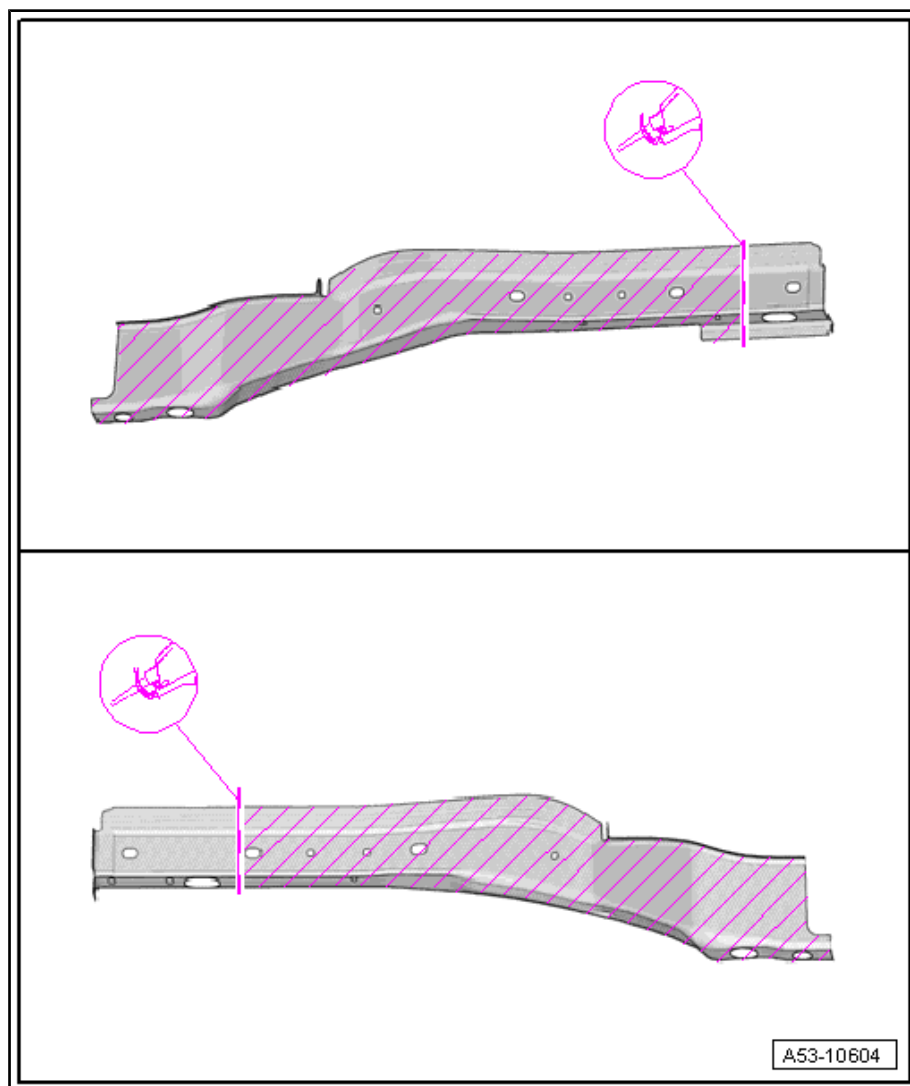


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Replacement part

- ◆ Longitudinal member
- Transfer separating cut to new part and cut to size using body saw .



Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

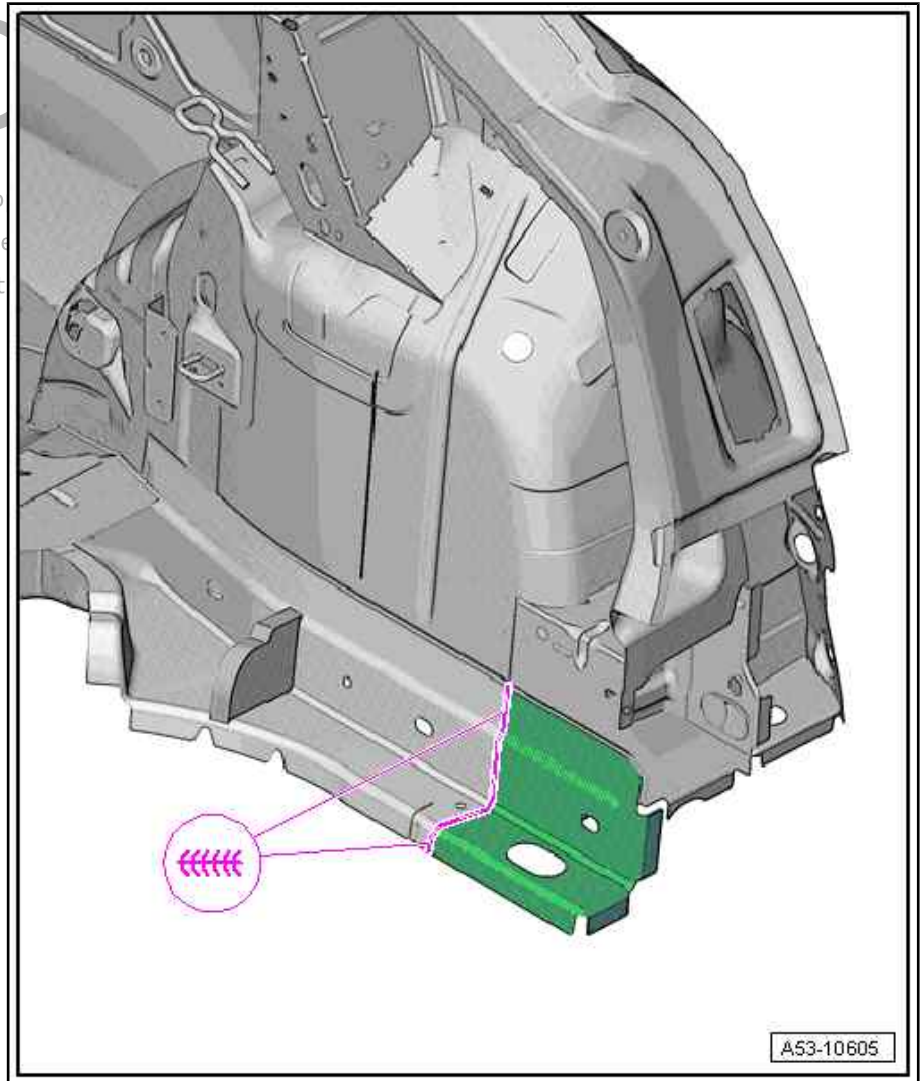
Welding in

- Locate and secure section of longitudinal member on alignment bracket.
- Butt weld longitudinal member using shielded arc welding equipment : SG continuous seam.

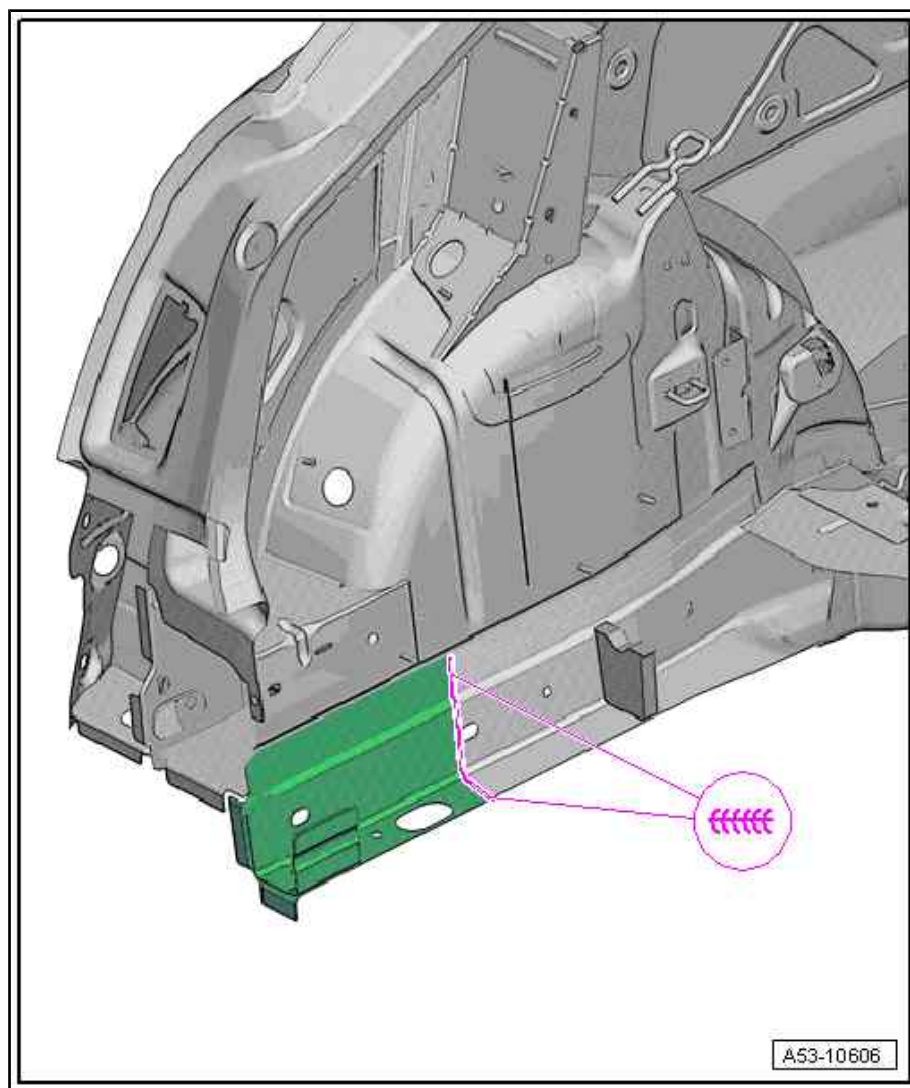
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- Butt weld longitudinal member using shielded arc welding equipment : SG continuous seam.



- Welding in rear upper cross panel ⇒ [page 269](#)
- Welding in cross panel reinforcement ⇒ [page 273](#)
- Welding in luggage compartment floor ⇒ [page 344](#)
- Welding in luggage compartment floor (quattro) ⇒ [page 349](#)



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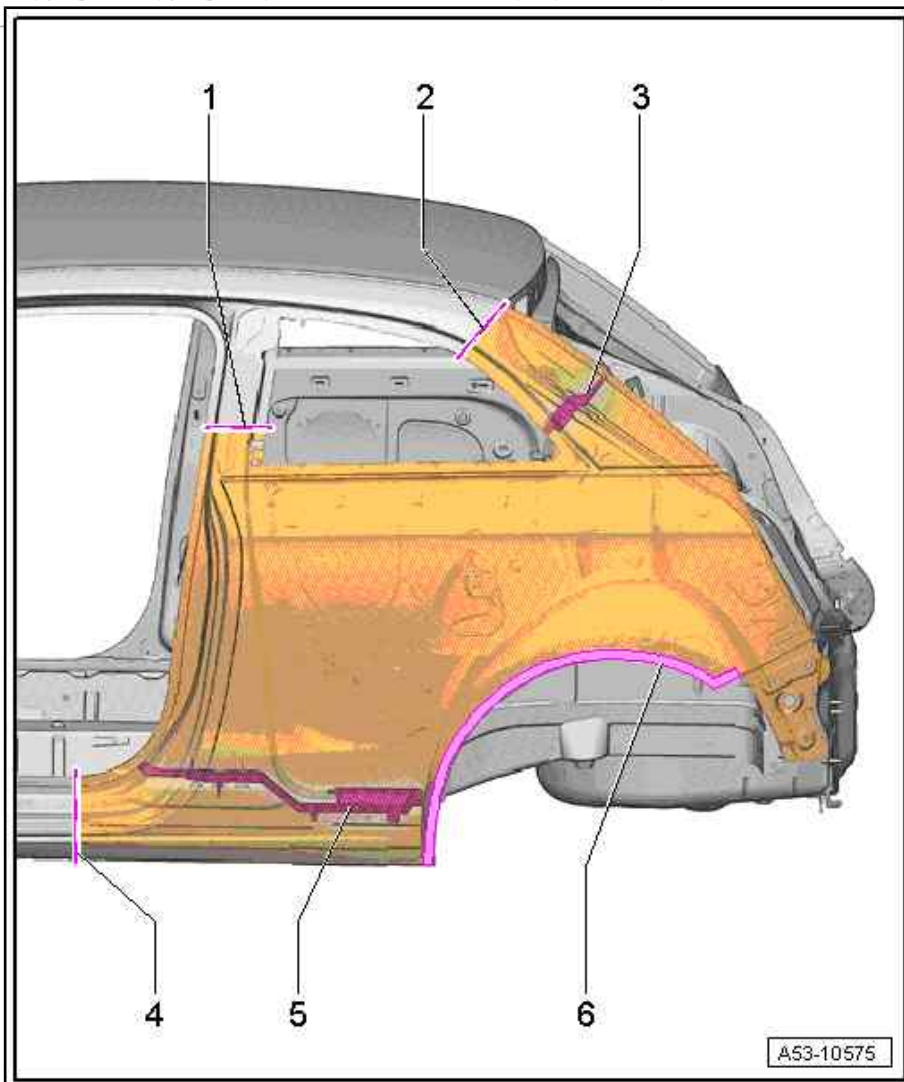
RO: 53 55 55 00

10 Side panel - Renewal

Includes rain channel and tail light mounting

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- 1 - Separating cut in B-pillar
- 2 - Separating cut in C-pillar
- 3 - Moulded foam insert
- 4 - Separating cut in side member
- 5 - Moulded foam insert
- 6 - Bonded area



10.1 Tools

Special tools and workshop equipment required

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

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➤ [page 37](#) .



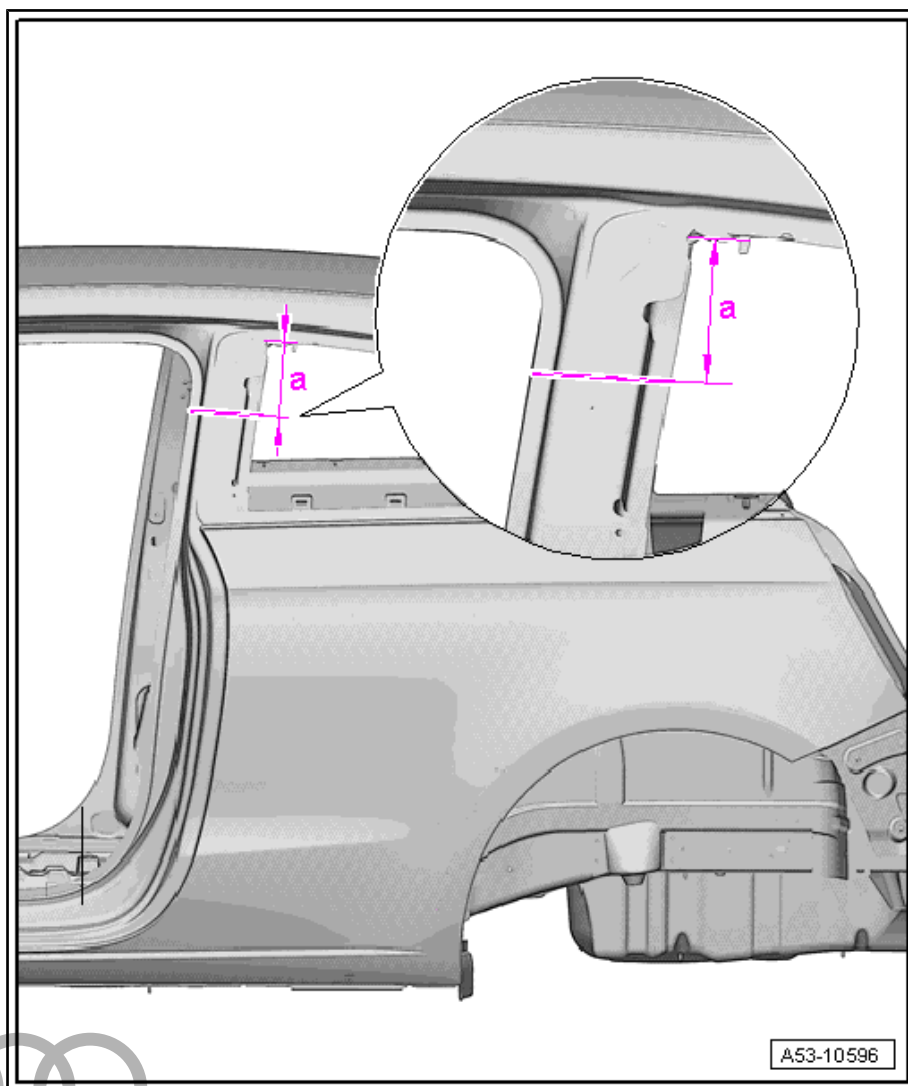
10.2 Procedure

Cutting locations

Permitted separating cuts on side panel ⇒ [page 267](#)

- If inner B-pillar is also being renewed, it is important to keep to dimension -a-.

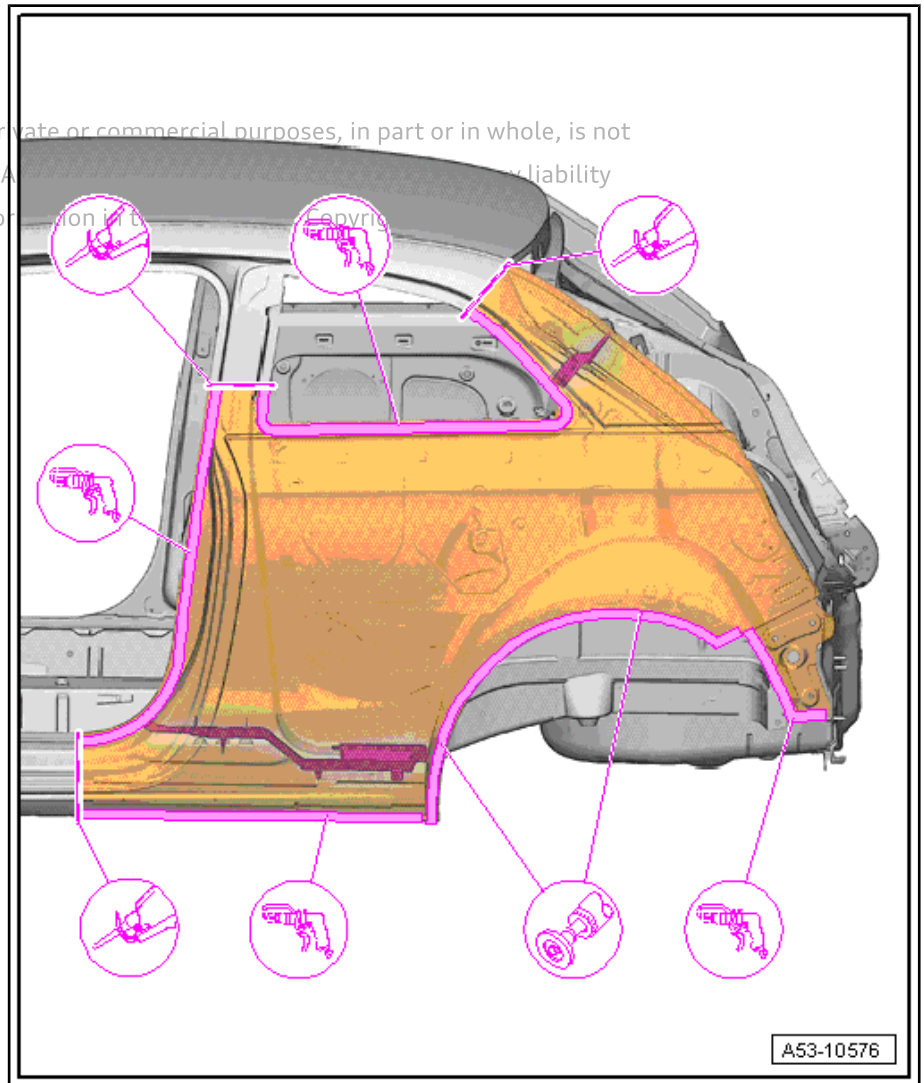
Dimension -a- = 120 mm



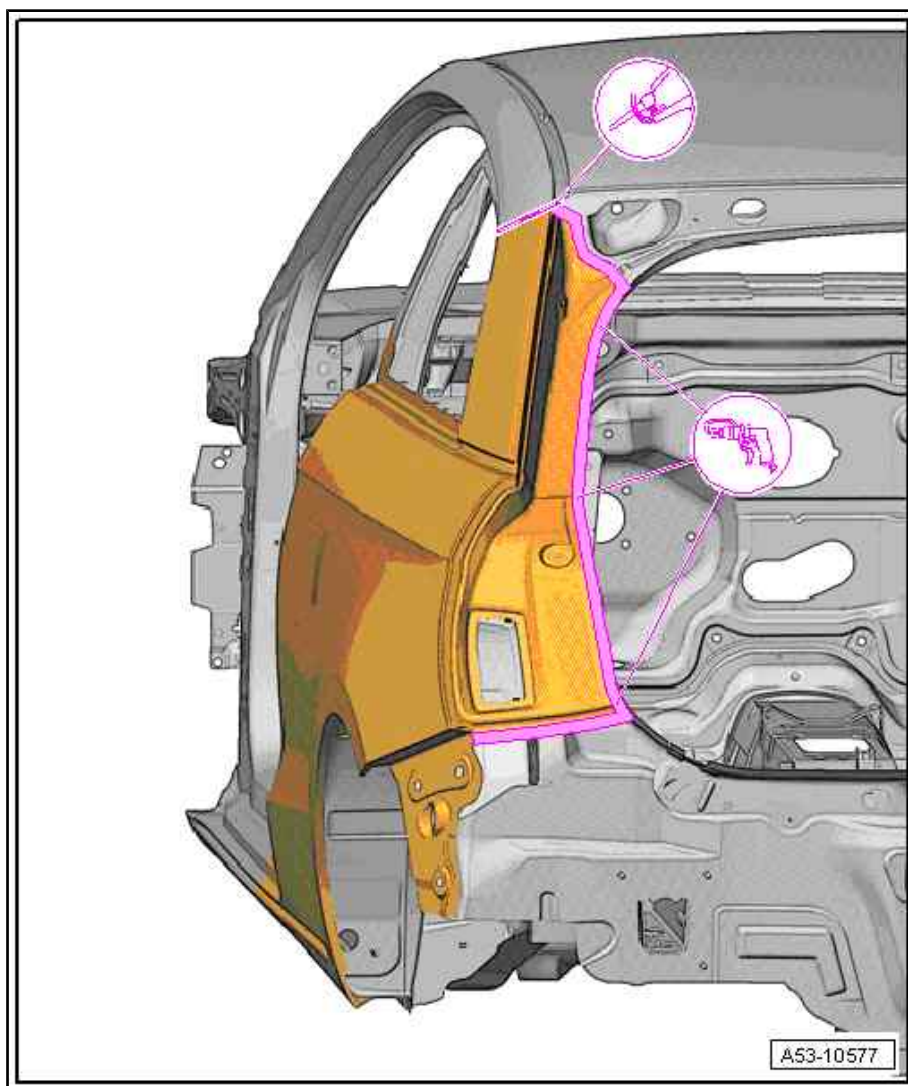
- Separate original joint using spot weld breaker .
- Grind through outer edge at wheel arch using compact angle grinder .
- Make separating cuts as shown using body saw . Take care not to damage internal reinforcement.



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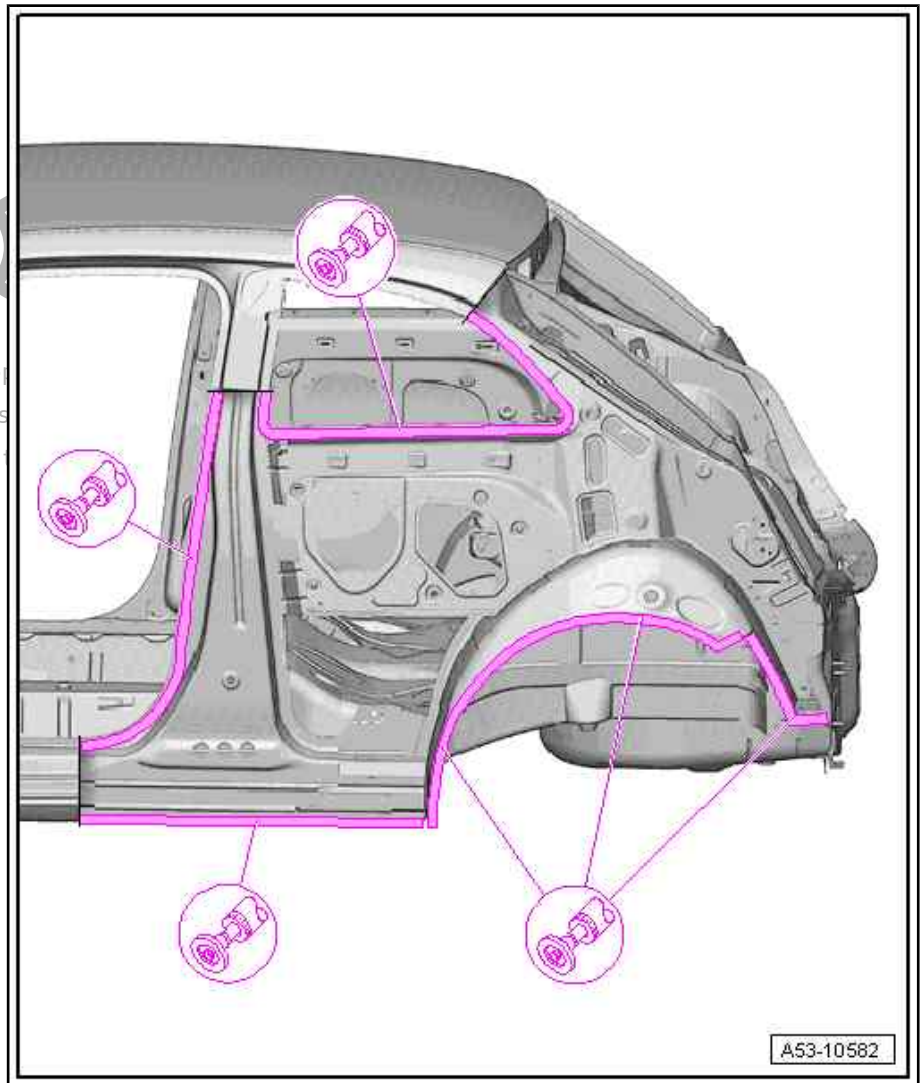
- Make separating cuts as shown using body saw . Take care not to damage internal reinforcement.
- Separate original joint using spot weld breaker .



- 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

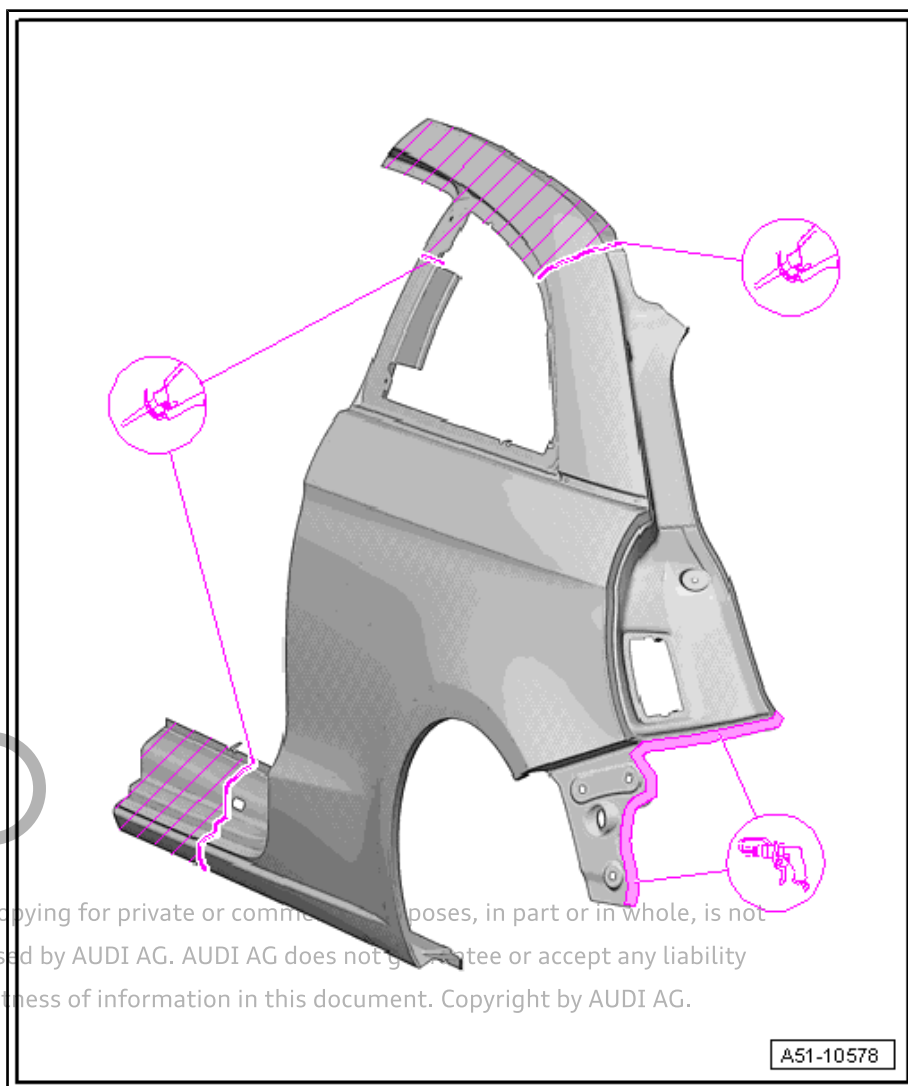
- ◆ Side panel
- ◆ Moulded foam inserts
- ◆ 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges
- ◆ Cleaning solution - D 009 401 04-

Preparing new part

- Transfer separating cut to new part and cut off hatched area using body saw .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .
- 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).



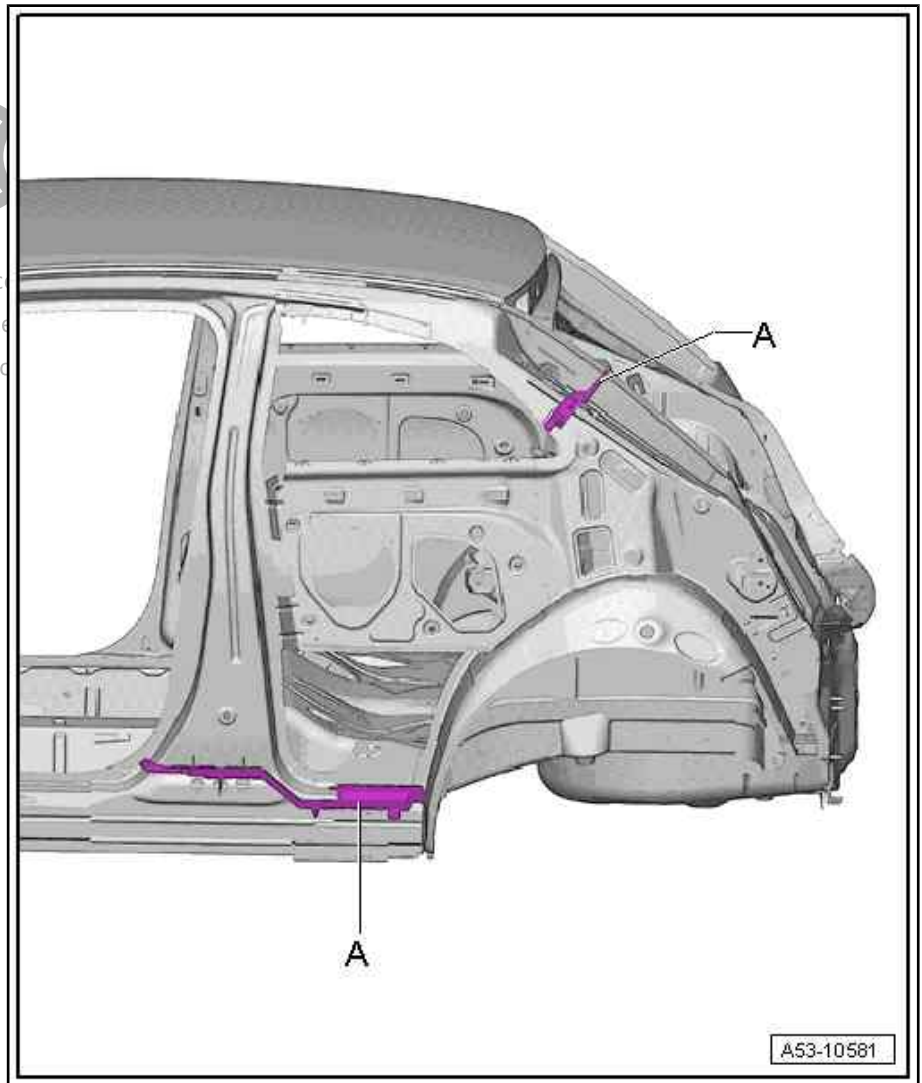
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Fit moulded foam inserts -a- ➔ [page 14](#) .



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Marking prohibited weld area

Note

Note areas where welding is not permitted -hatched areas-.

- In areas where welding is not permitted -hatched areas-, clamp panels together until 2-component epoxy adhesive - DA 001 730 A2- has cured.
- Make one RP spot weld above and below prohibited weld areas.
- Weld front and rear side member reinforcements to B-pillar reinforcement and web plates: RP spot weld seam (see illustration).

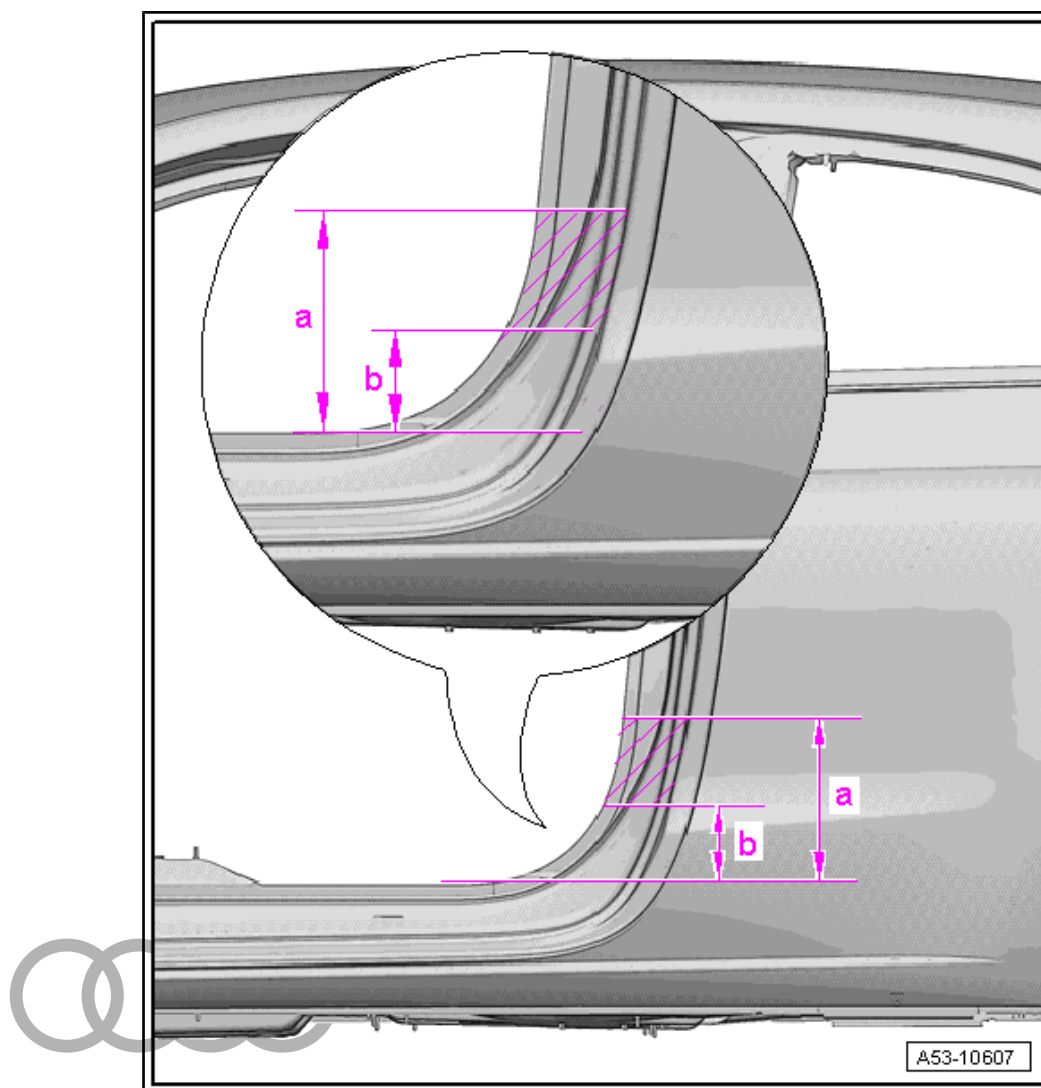
Note

For safety reasons (crash resistance), no welding work may be carried out in the prohibited weld areas as marked in the illustration above.



Dimension -a- = 215 mm

Dimension -b- = 65 mm



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Note

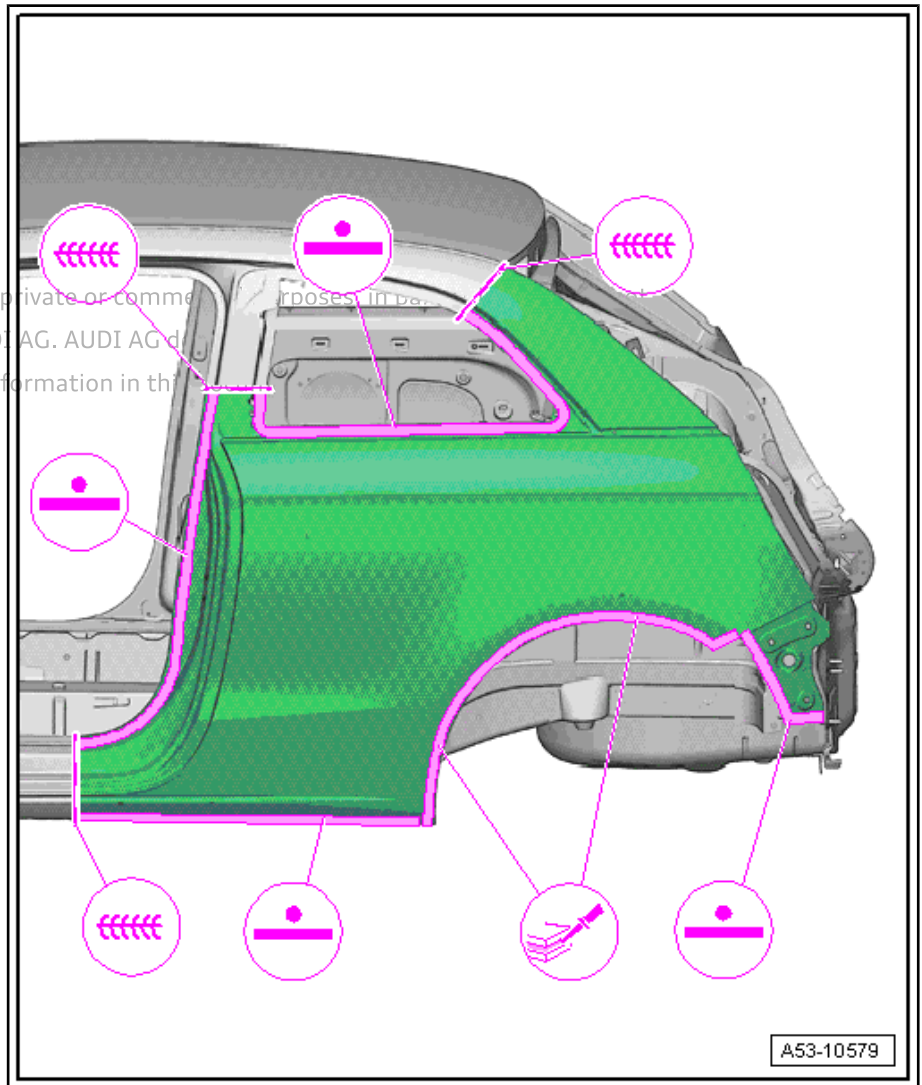
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

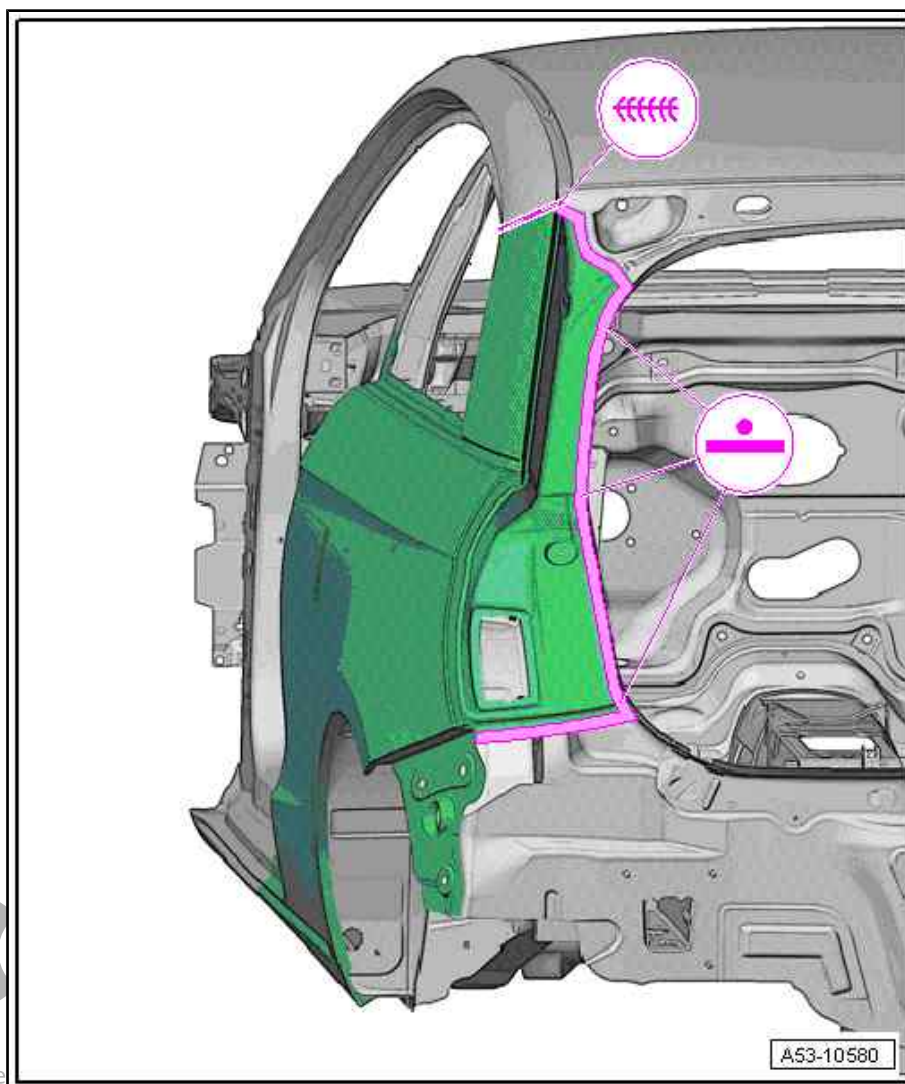
- Weld in at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in side panel using resistance spot welder : RP spot weld seam.
- Apply 2-component epoxy adhesive - DA 001 730 A2- to flange area of wheel housing and contact surface of inner B-pillar and side panel using pneumatic glue gun - V.A.G 2005 B- .



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- Weld in at separating cut using shielded arc welding equipment : SG continuous seam.
- Weld in side panel using resistance spot welder : RP spot weld seam.



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Welding in rear upper cross panel ➤ [page 269](#) correctness of information in this document. Copyright by AUDI AG.

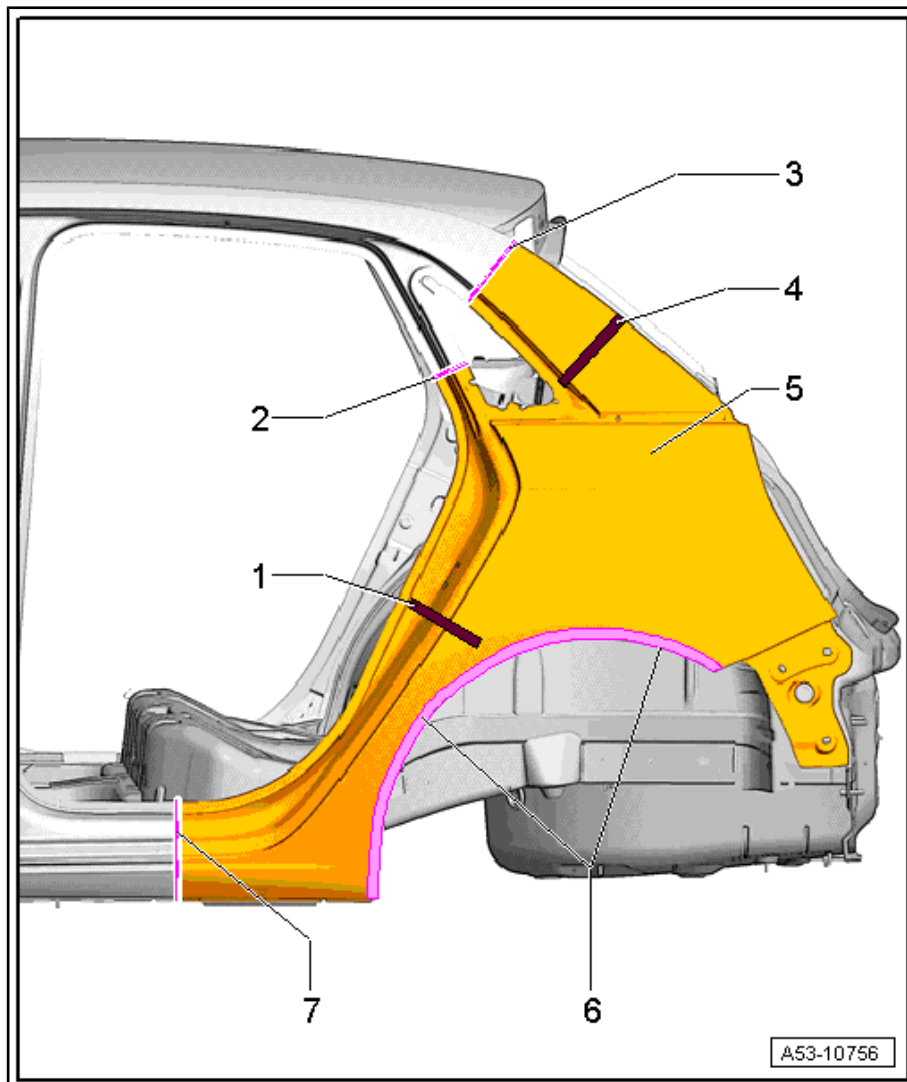


RO: 53 55 55 00

11 Side panel - Renewal (Sportback)

Includes rain channel and tail light mounting

- 1 - Moulded foam insert
- 2 - Separating cut in C-pillar
- 3 - Separating cut in D-pillar
- 4 - Moulded foam insert
- 5 - Side panel
- 6 - Bonded area
- 7 - Separating cut in side member



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
- ◆ Pneumatic glue gun

Tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ➤ [page 37](#).

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11.2 Procedure

- Cross panel already removed ⇒ [page 269](#)

Cutting locations

Permitted separating cuts on side panel ⇒ [page 267](#)



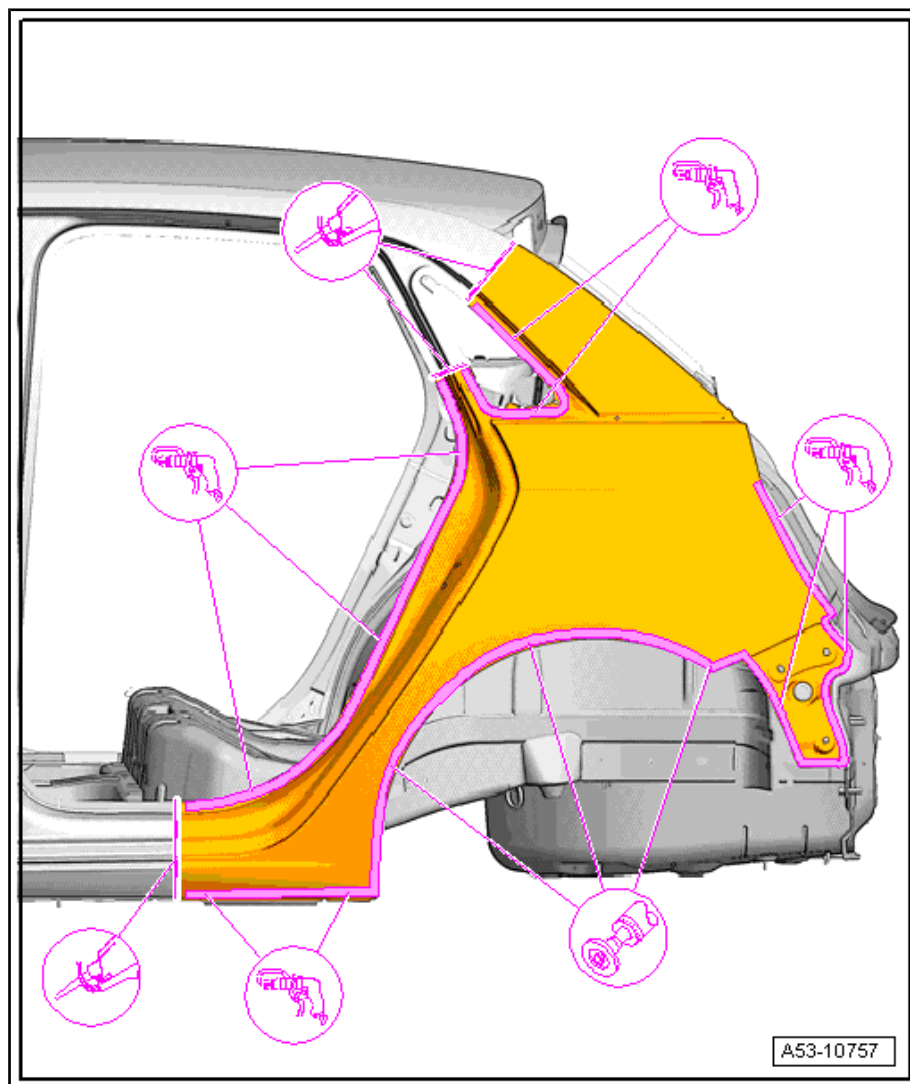
Note



Partial renewal is possible with the separating cuts illustrated.

- Separate original joint using spot weld breaker .
- Grind through outer edge at wheel arch using compact angle grinder .
- Make separating cuts as shown using body saw . Take care not to damage internal reinforcement.

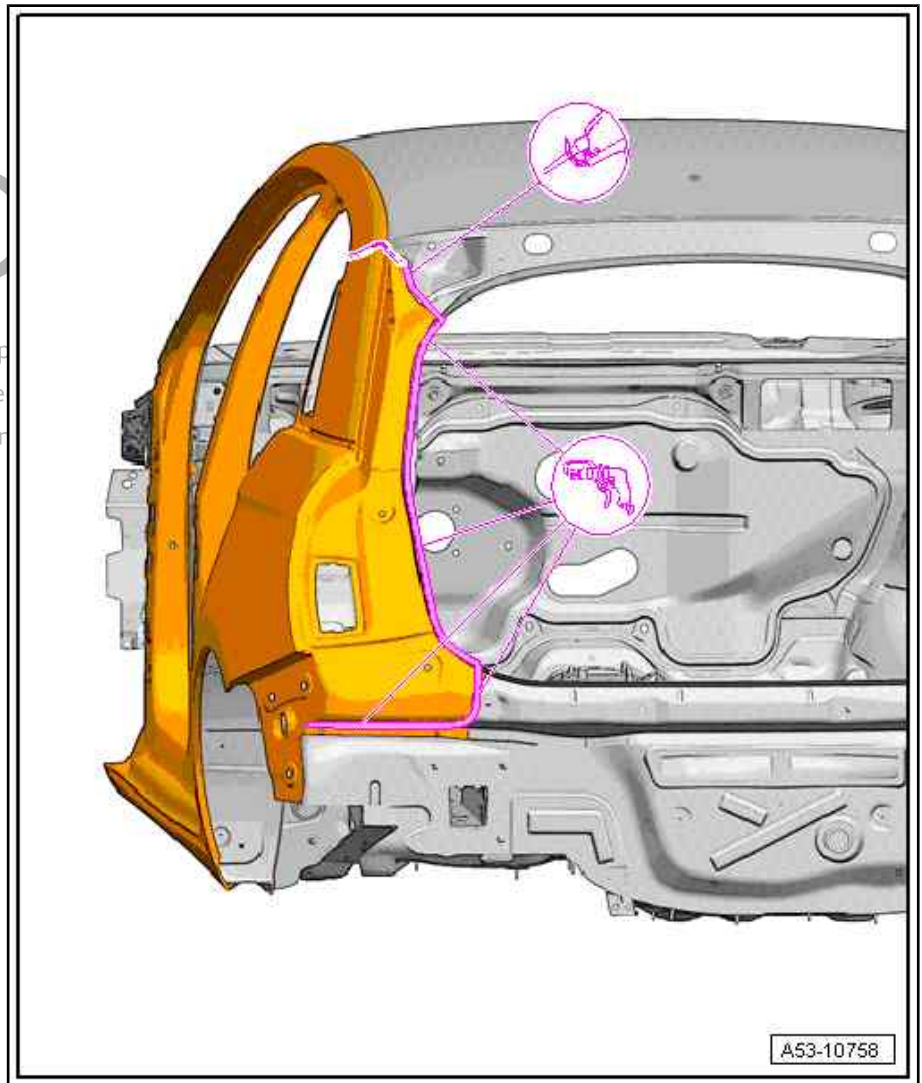
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- Make separating cut as shown using body saw . Take care not to damage internal reinforcement.
- Separate original joint using spot weld breaker .



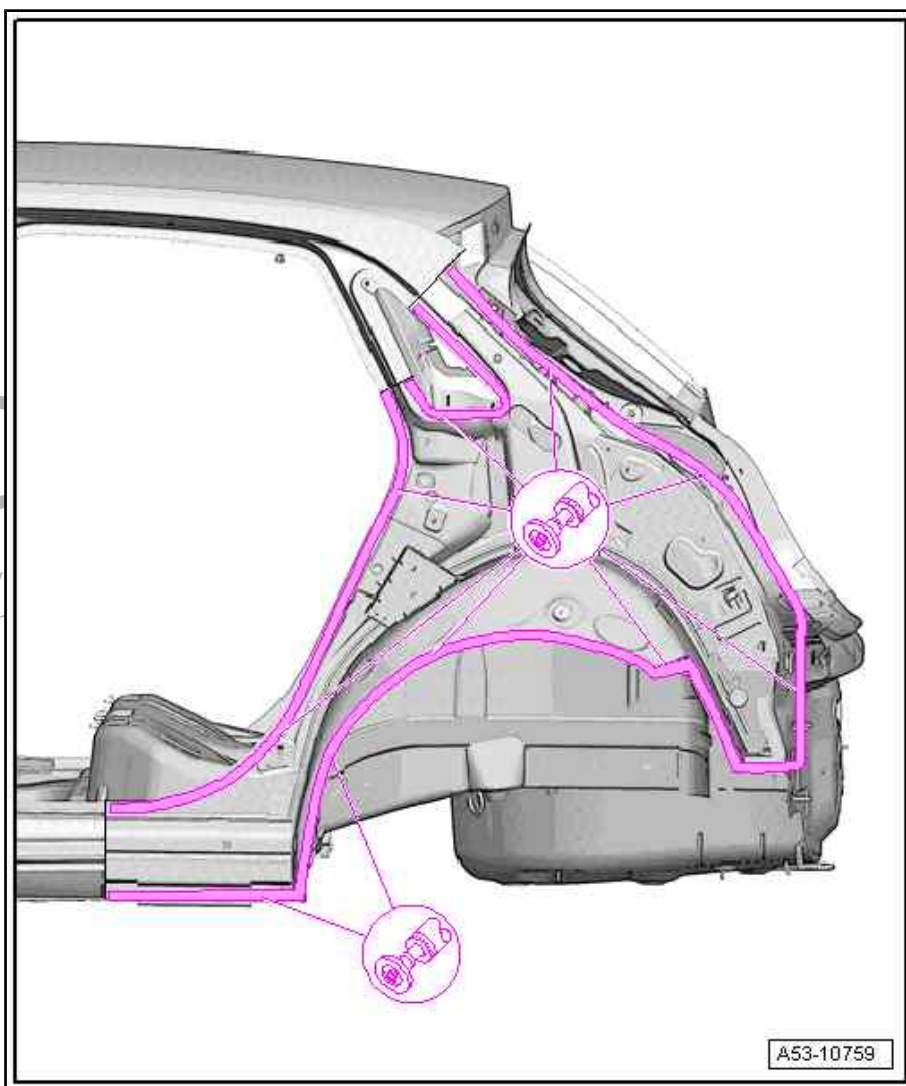
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- Remove remaining material using compact angle grinder .
- Remove remaining adhesive completely and sand bonding surfaces down to bare metal.
- Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).
- Clean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



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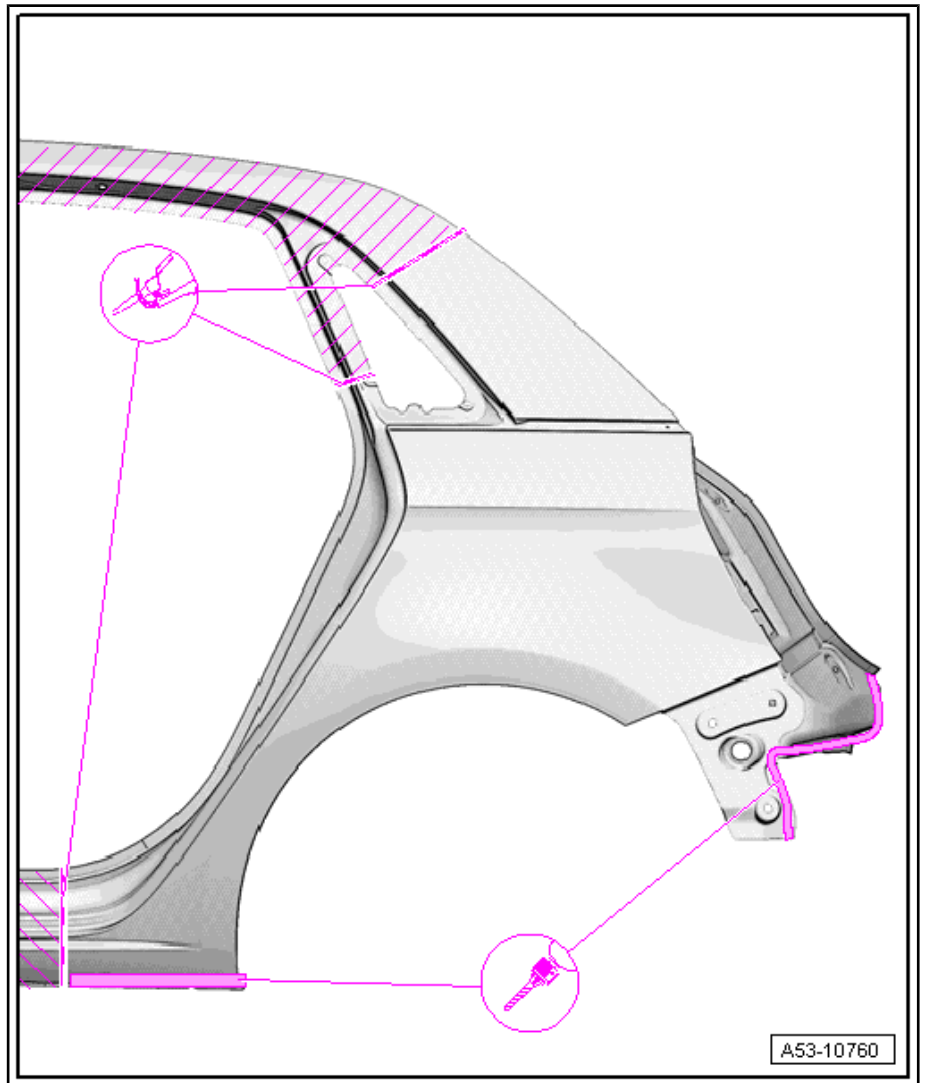
A53-10759

Replacement parts

- ◆ Side panel
- ◆ Moulded foam inserts
- ◆ 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges
- ◆ Cleaning solution - D 009 401 04-
- ◆ 2-component filler foam - D 506 KD1 A3-

Preparing new part

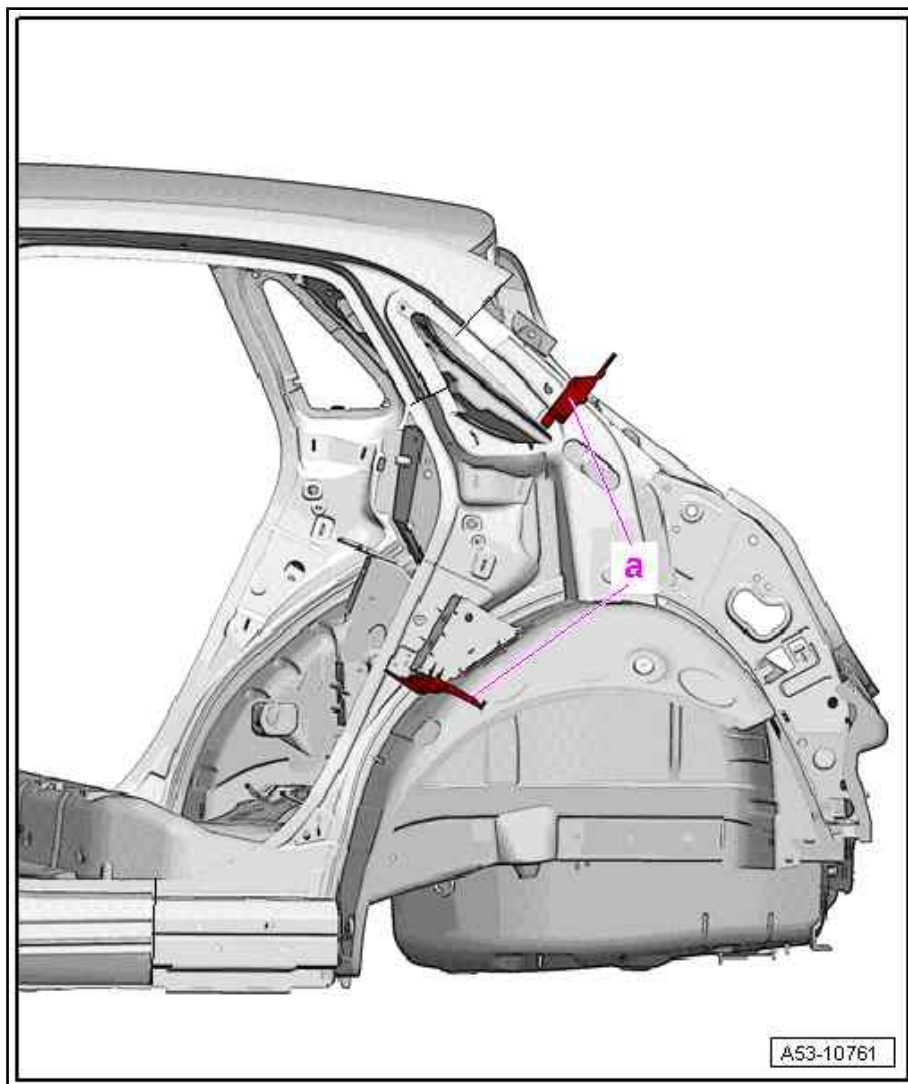
- Transfer separating cut to new part and cut off hatched area using body saw .
- Drill holes for SG plug weld seam, 8 mm Ø using drill .
- Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).
- Grind down bonding surface (on body side of joint) to bare metal.
- Clean beaded flange with cleaning solution - D 009 401 04- (it must be free of dust and grease).



Fit moulded foam inserts -a- ➤ [page 14](#) .



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- Match up side panel on portal gauge and fix in position.

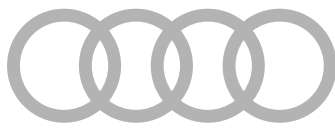


Note

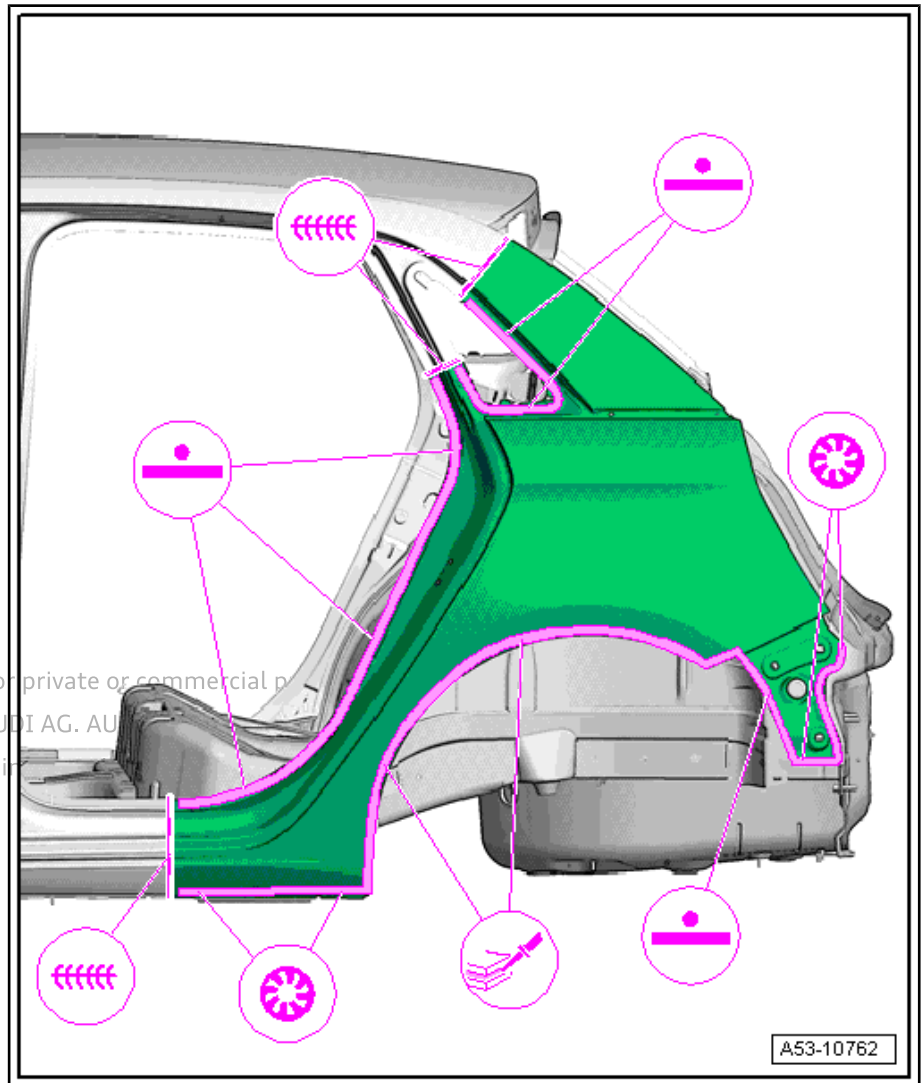
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

- Weld in at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in side panel using resistance spot welder : RP spot weld seam.
- Apply 2-component epoxy adhesive to side panel and flange area on wheel housing using pneumatic glue gun - V.A.G 2005 B- .
- Weld in side panel using shielded arc welding equipment : SG plug weld seam.



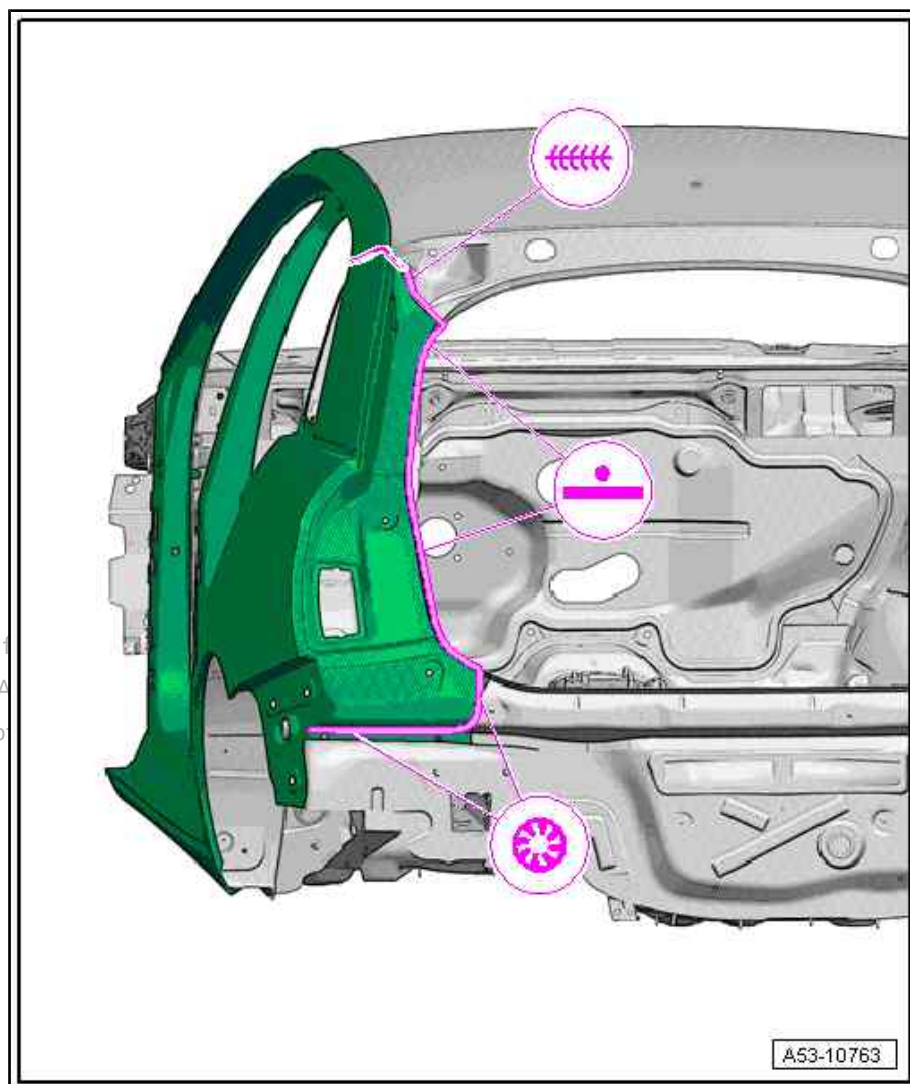
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- Weld in at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in side panel using resistance spot welder : RP spot weld seam.
- Weld in side panel using shielded arc welding equipment : SG plug weld seam.



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- Welding in rear upper cross panel ➤ [page 269](#)

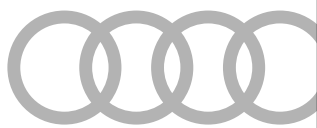


RO: 53 69 55 52

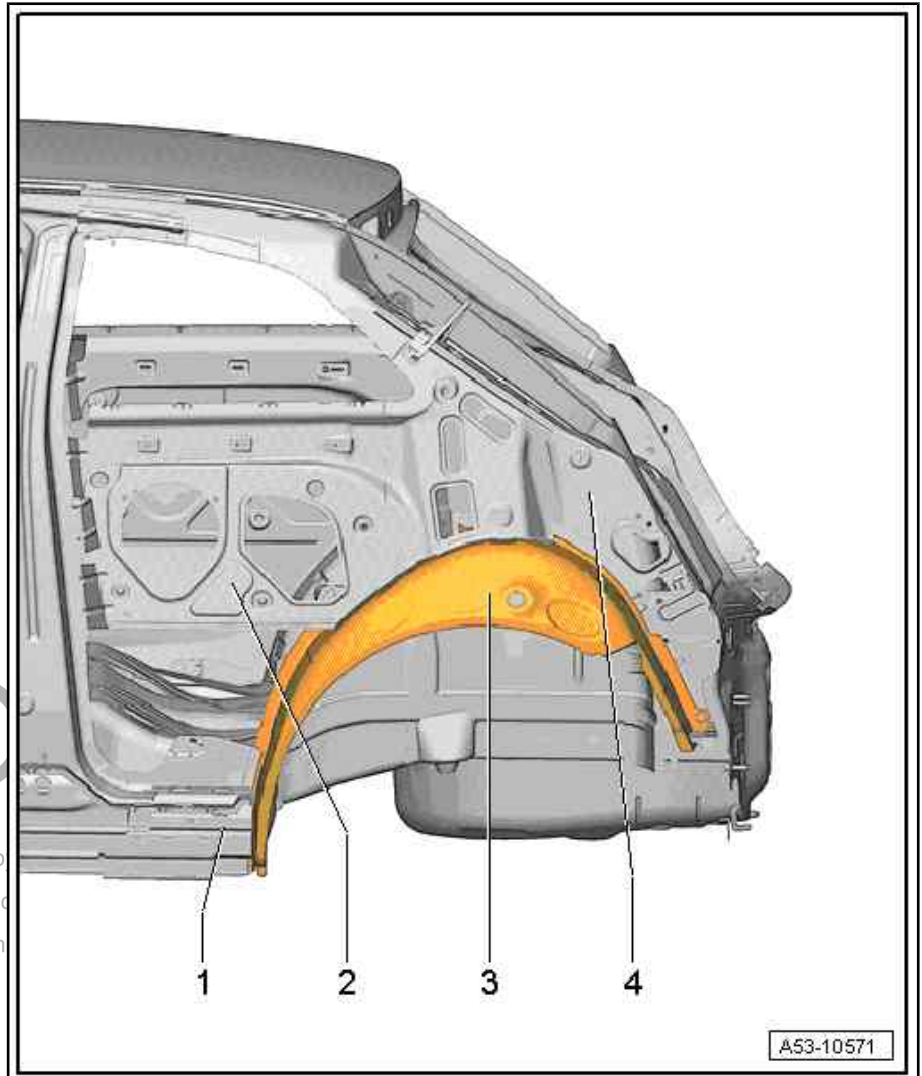
12 Outer wheel housing - Partial renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Side member
- 2 - Inner side panel
- 3 - Wheel housing
- 4 - D-pillar reinforcement



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12.1 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 37](#) .

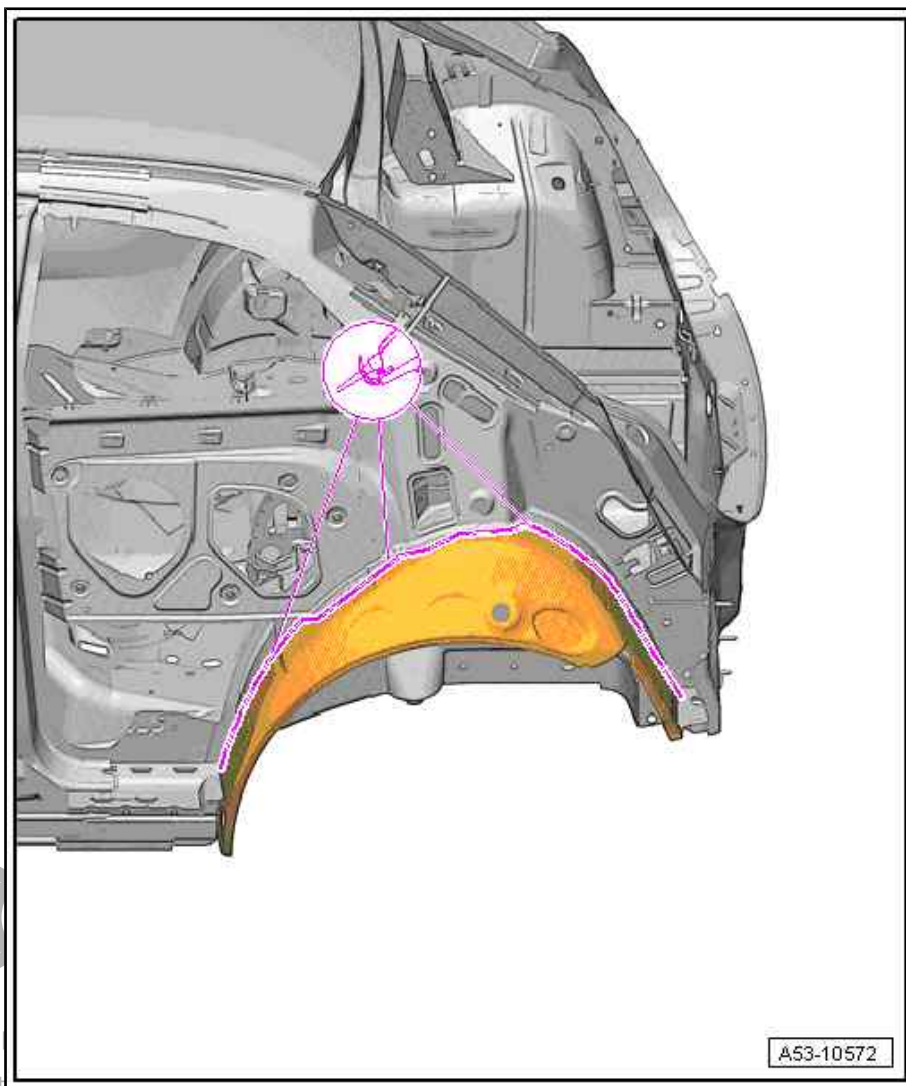


12.2 Procedure

- Side panel already removed ⇒ [page 317](#) .
- Side panel already removed (Sportback) ⇒ [page 327](#)

Cutting locations

- Make separating cuts as shown using body saw .



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Replacement part

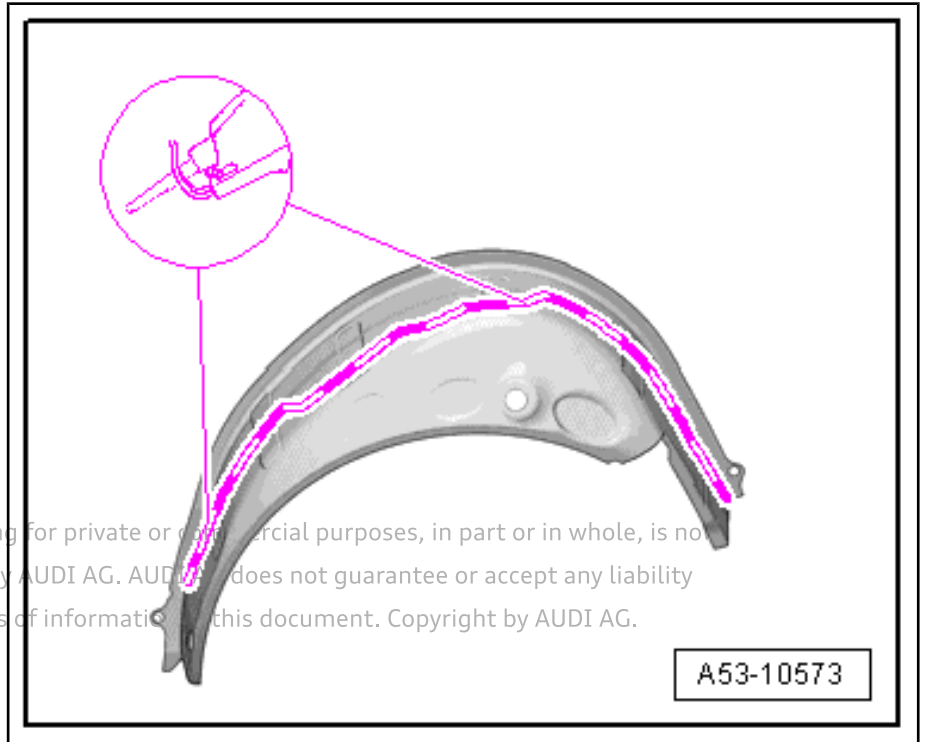
- ◆ Rear wheel housing liner

Preparing new part

- Step separating cut for joggle-joint (on body side of joint).
- Transfer separating cut plus 10 mm for overlap to new part and make cut using body saw .



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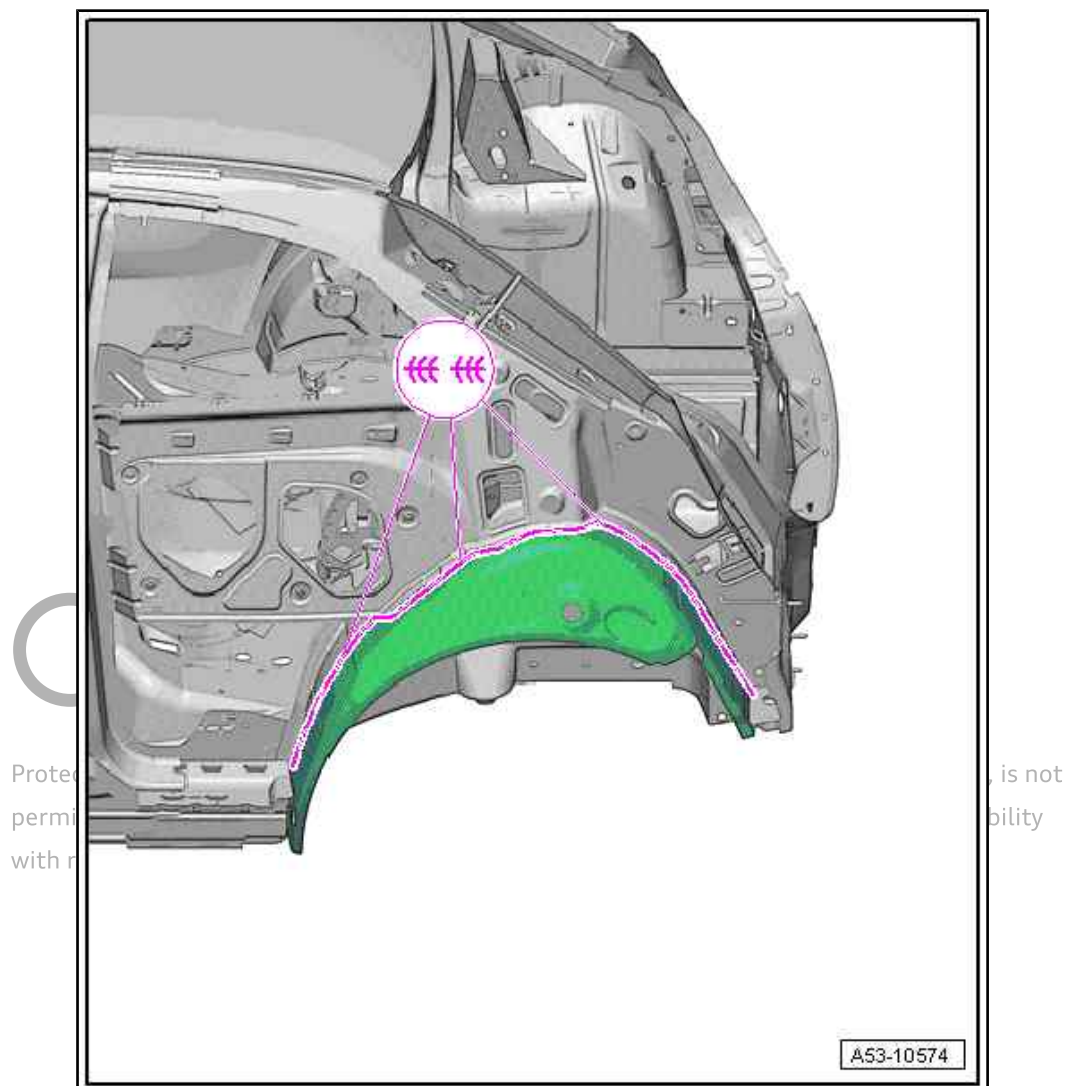


Note

Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

Welding in

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



- Welding in side panel ⇒ [page 317](#)
- Welding in side panel (Sportback) ⇒ [page 327](#)



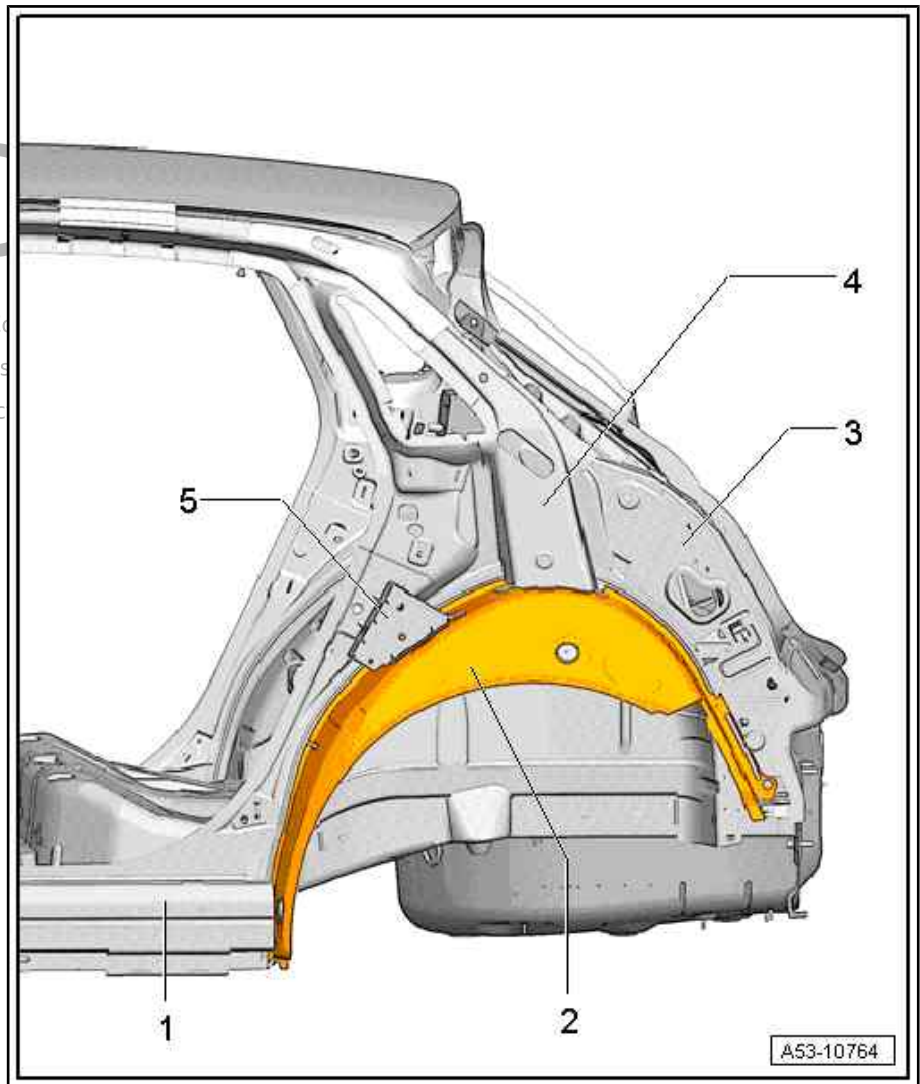
RO: 53 68 55 50

13 Outer wheel housing - Partial renewal (Sportback)

Audi A1 and Audi A1 Sportback identical

- 1 - Rear side member reinforcement
- 2 - Outer wheel housing
- 3 - Inner side panel
- 4 - D-pillar reinforcement
- 5 - Lock reinforcement

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13.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Drill
- ◆ 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 37](#) .

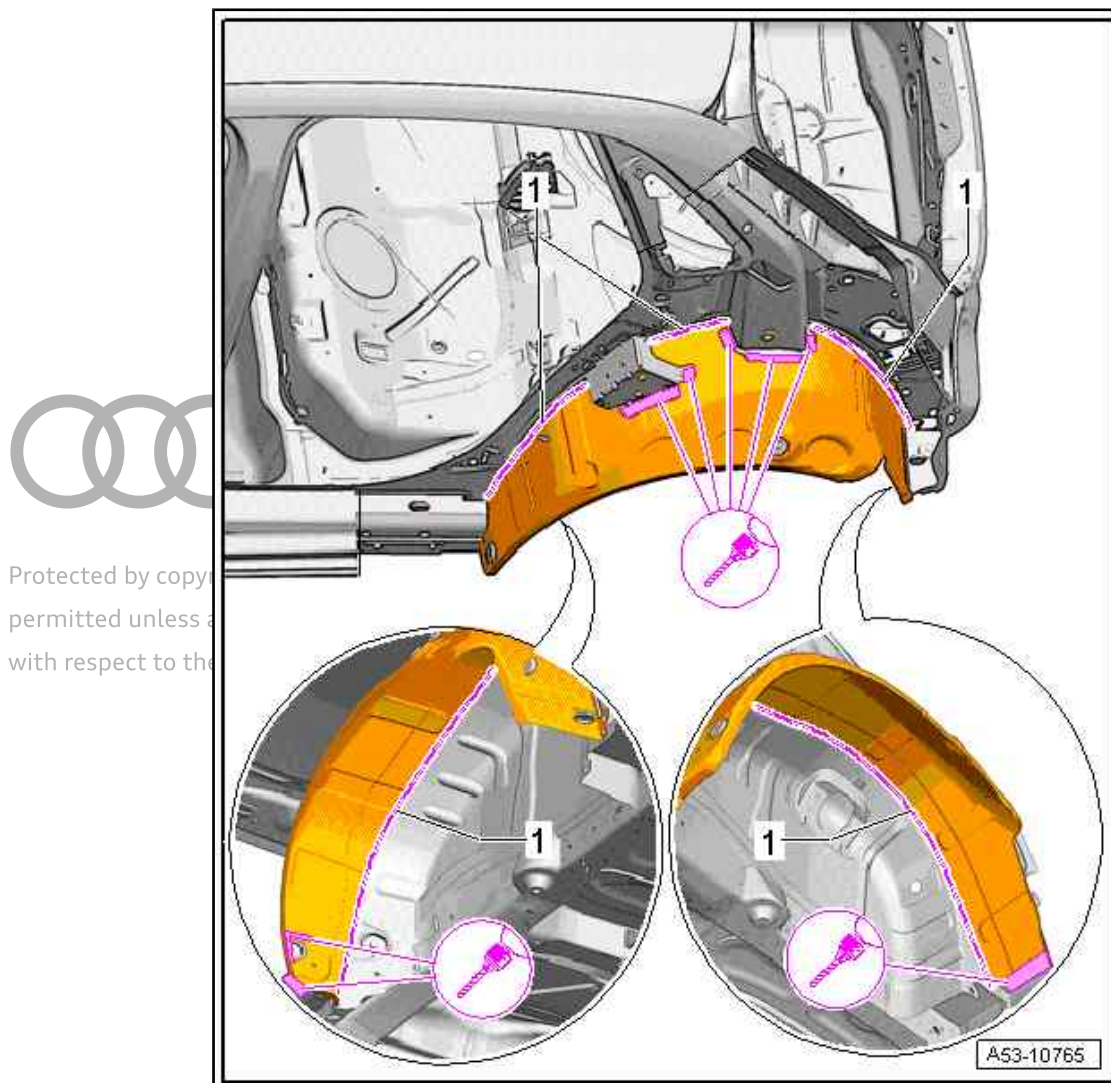


13.2 Procedure

- Side panel already removed (Sportback) ⇒ [page 327](#)

Cutting locations

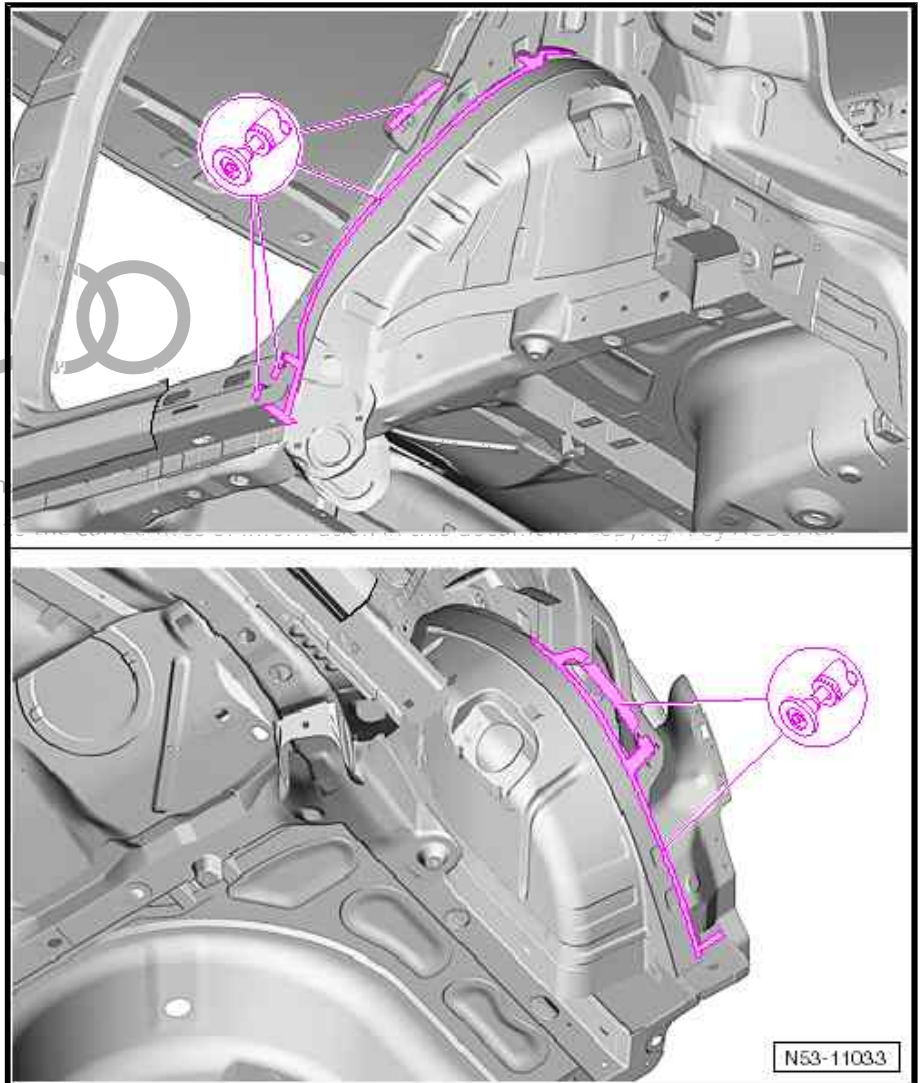
- Make separating cut -1- parallel to inner wheel housing using body saw .
- Separate joint to side member reinforcement, lock reinforcement, D-pillar reinforcement and rear closure plate using spot weld breaker .



- Remove remaining material using compact angle grinder .
- Remove remaining adhesive completely and sand bonding surfaces down to bare metal.



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Replacement parts

- ◆ Outer wheel housing
- ◆ 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges

Preparing new part



Note

When marking the separating cut -1-, include a material allowance of approx. 10 mm for overlap.

- Transfer separating cut to new part and cut off hatched area using body saw .
- Prepare new part for joggle-joint (stepped joint).



Note

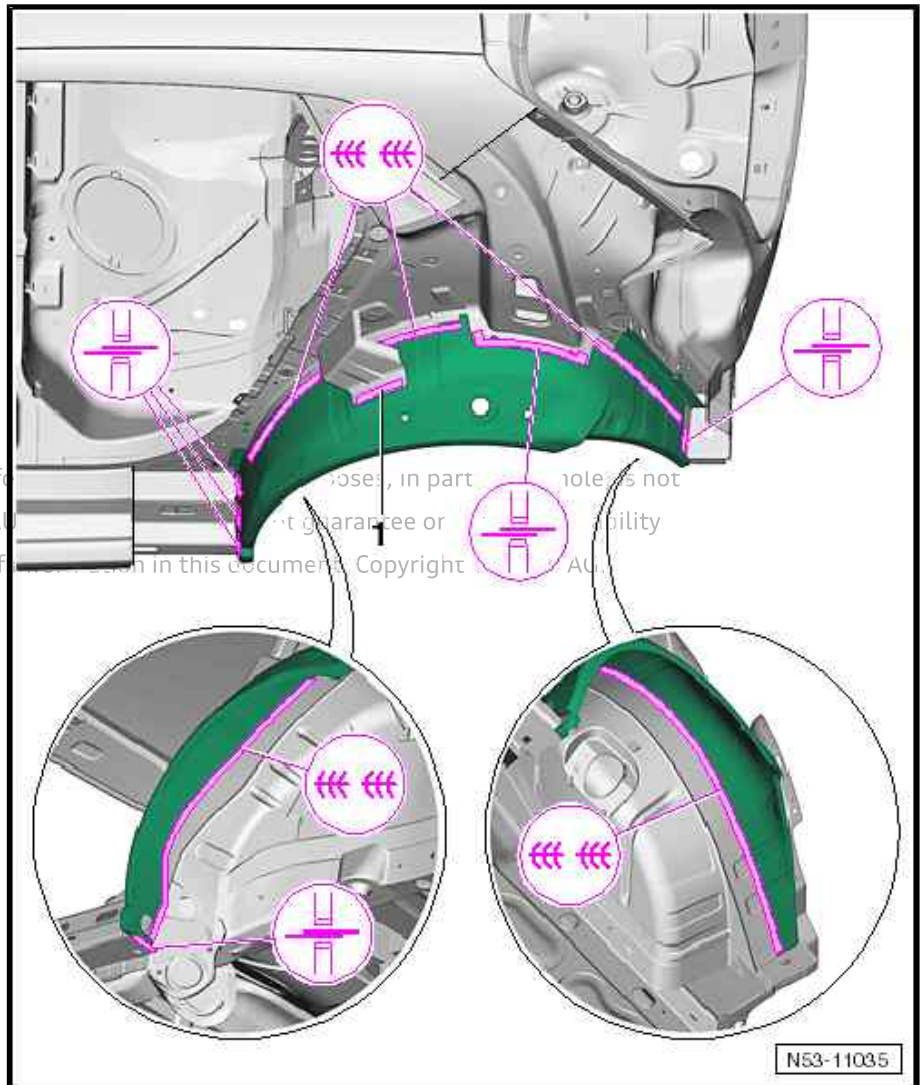
Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.

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- Weld outer wheel housing to inner wheel housing from above and below: SG continuous seam (staggered - with gaps).
- Weld outer wheel housing to side member reinforcement, lock reinforcement and D-pillar reinforcement: RP spot weld seam.
- Re-make original joint to rear closure plate: RP spot weld seam.



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- Welding in side panel (Sportback) ⇒ [page 327](#)

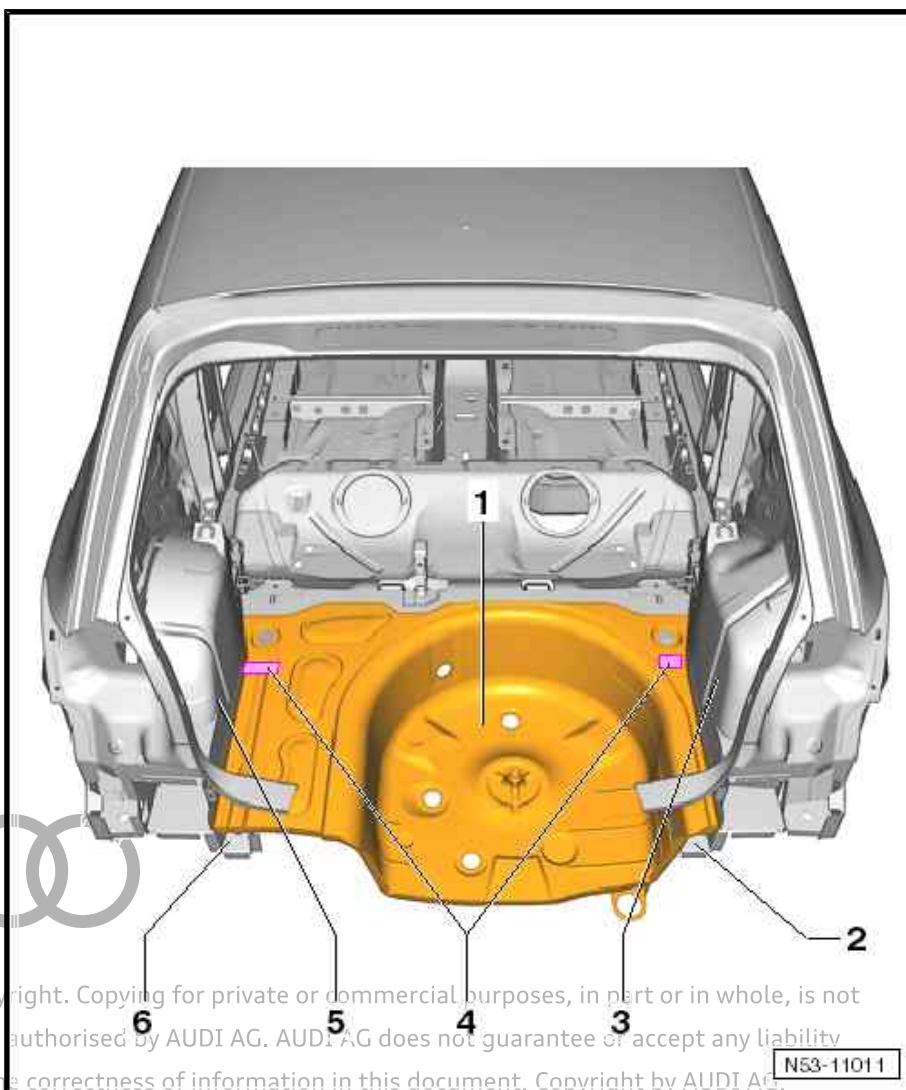


RO: 53 80 55 50

14 Luggage compartment floor - Renewal

Audi A1 and Audi A1 Sportback identical

- 1 - Luggage compartment floor
- 2 - Rear longitudinal member (right-side)
- 3 - Wheel housing (right-side)
- 4 - Moulded foam insert
- 5 - Wheel housing (left-side)
- 6 - Rear longitudinal member (left-side)



14.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Drill
- ◆ 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 37](#) .

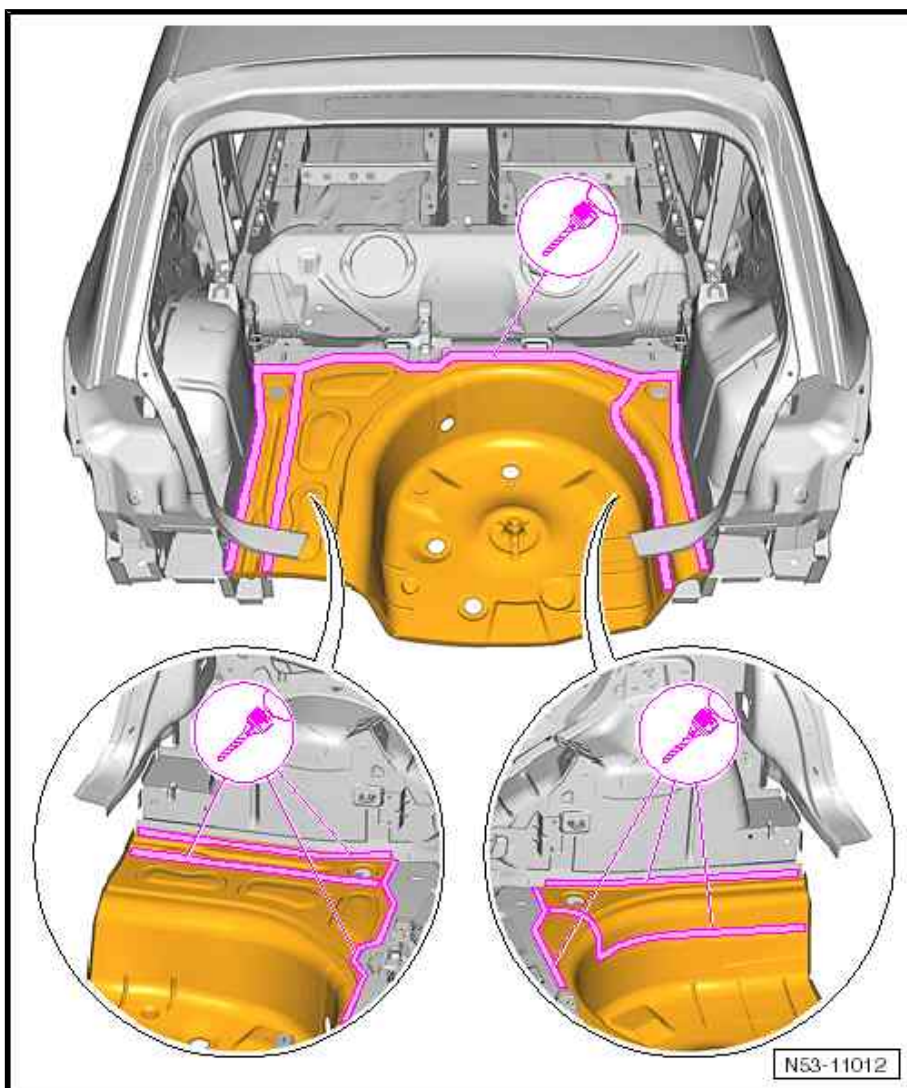


14.2 Procedure

- Rear upper cross panel already removed ⇒ [page 269](#)
- Cross panel reinforcement already removed ⇒ [page 273](#)

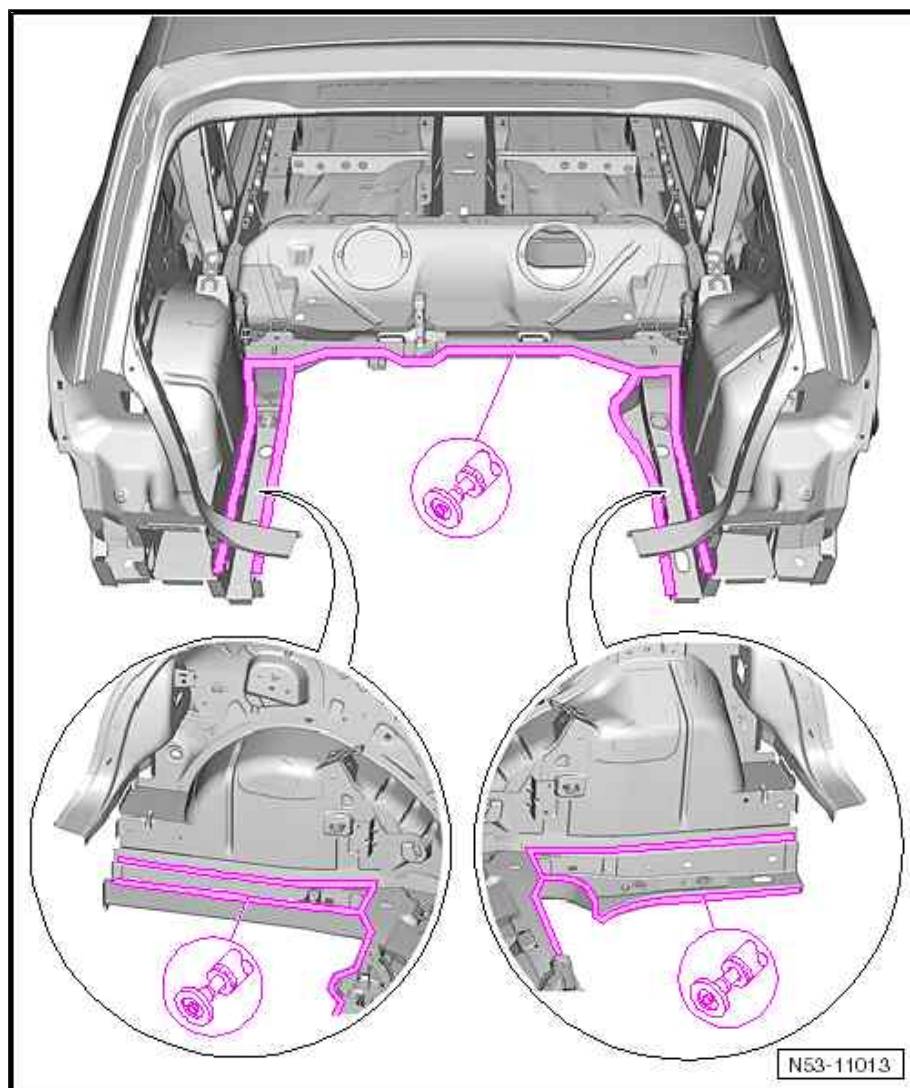
Cutting locations

- Separate original joint at floor panel (front) using spot weld breaker .
- Separate original joint at longitudinal members and wheel housings using spot weld breaker .



- Remove remaining material using compact angle grinder .

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Replacement part

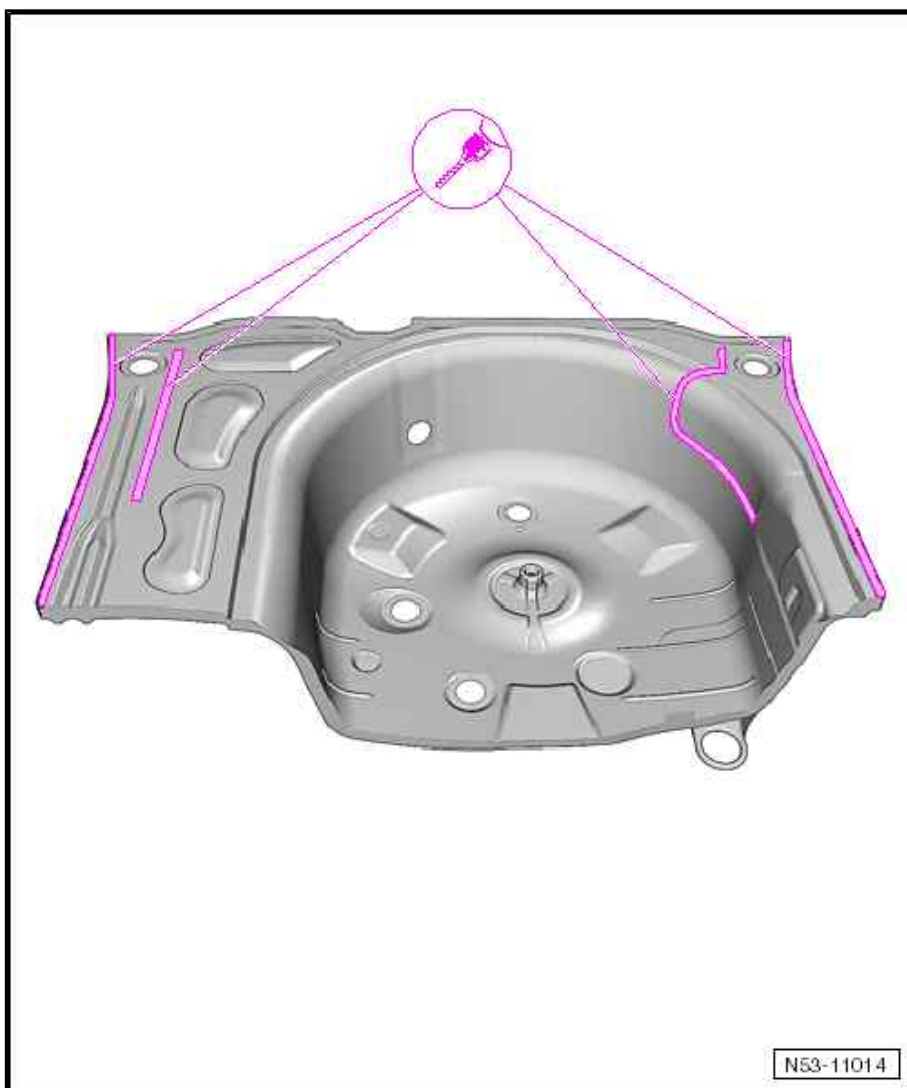
- ◆ Luggage compartment floor
- ◆ Moulded foam inserts

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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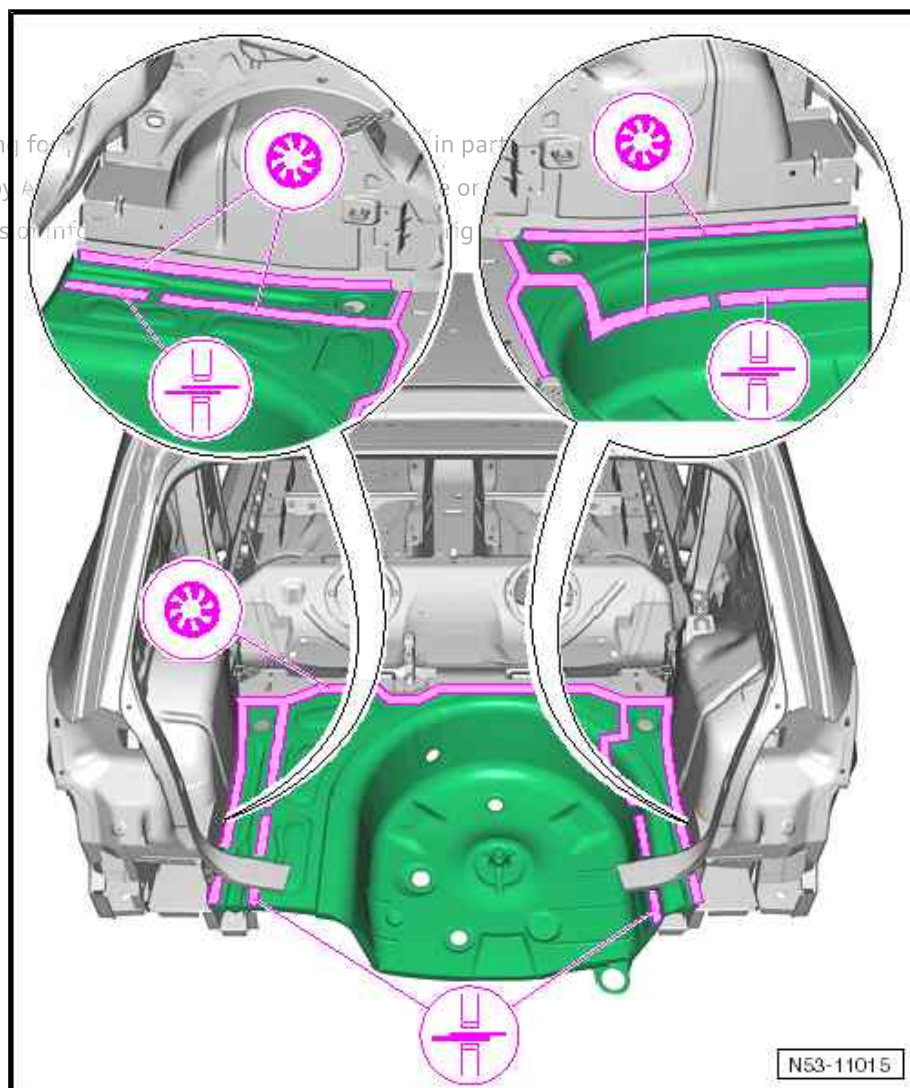
- Match up new part with vehicle standing on its wheels or on alignment bracket set and fix in position.
- Check fit relative to adjacent parts.

Welding in

- Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam.
- Weld in luggage compartment floor using resistance spot welder : RP spot weld seam.



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- Welding in rear cross member ➤ [page 269](#)
- Welding in cross panel ➤ [page 273](#)

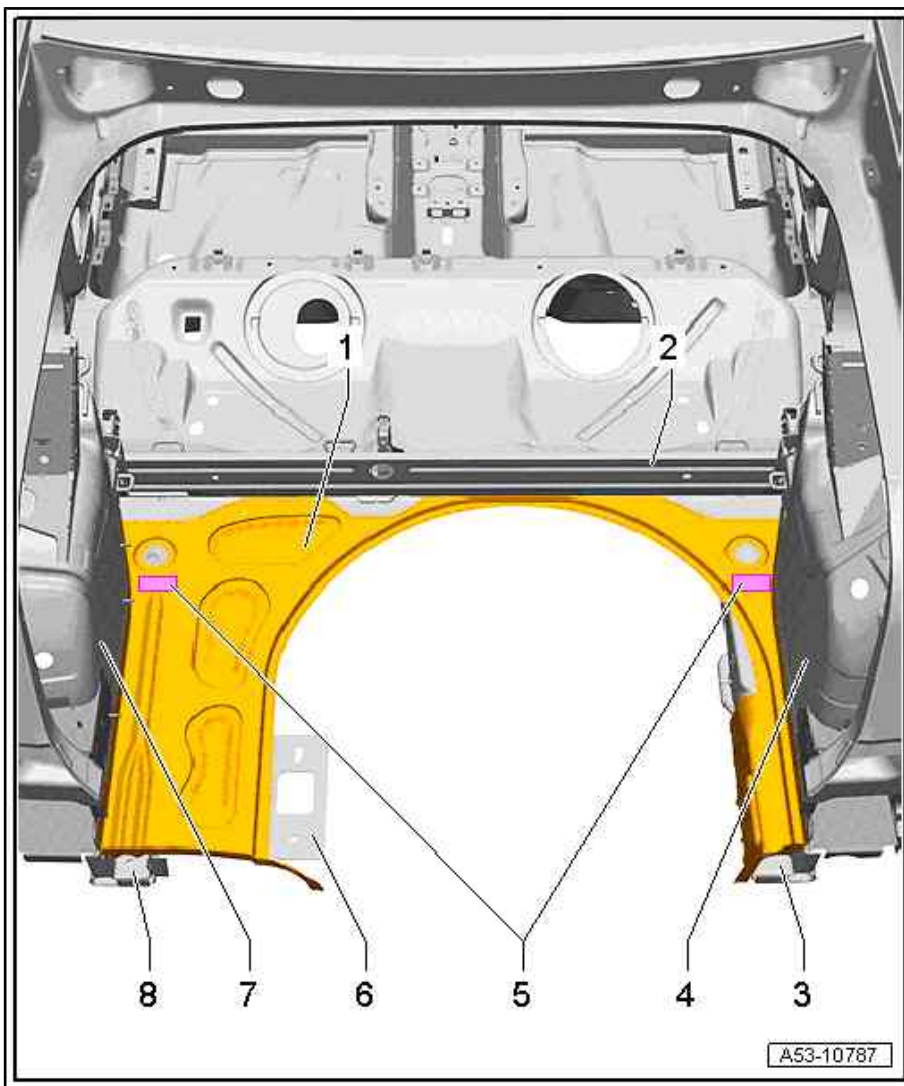


RO: 53 80 55 55

15 Luggage compartment floor - Renewal (quattro)

Includes: bracket for heat shield

- 1 - Luggage compartment floor
- 2 - Cross piece
- 3 - Rear longitudinal member (right-side)
- 4 - Wheel housing (right-side)
- 5 - Moulded foam insert
- 6 - Bracket for heat shield
- 7 - Wheel housing (left-side)
- 8 - Rear longitudinal member (left-side)



15.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Drill
- ◆ Shielded arc welding equipment
- ◆ 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 37](#).

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15.2 Procedure

- Rear cross member already removed ⇒ [page 269](#)
- Cross panel reinforcement already removed ⇒ [page 273](#)
- Spare wheel well (quattro) already removed ⇒ [page 356](#)

Cutting locations

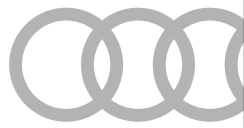
- Separate original joint at floor panel (front) using spot weld breaker .
- Separate original joint at longitudinal members and wheel housings using spot weld breaker and compact angle grinder .



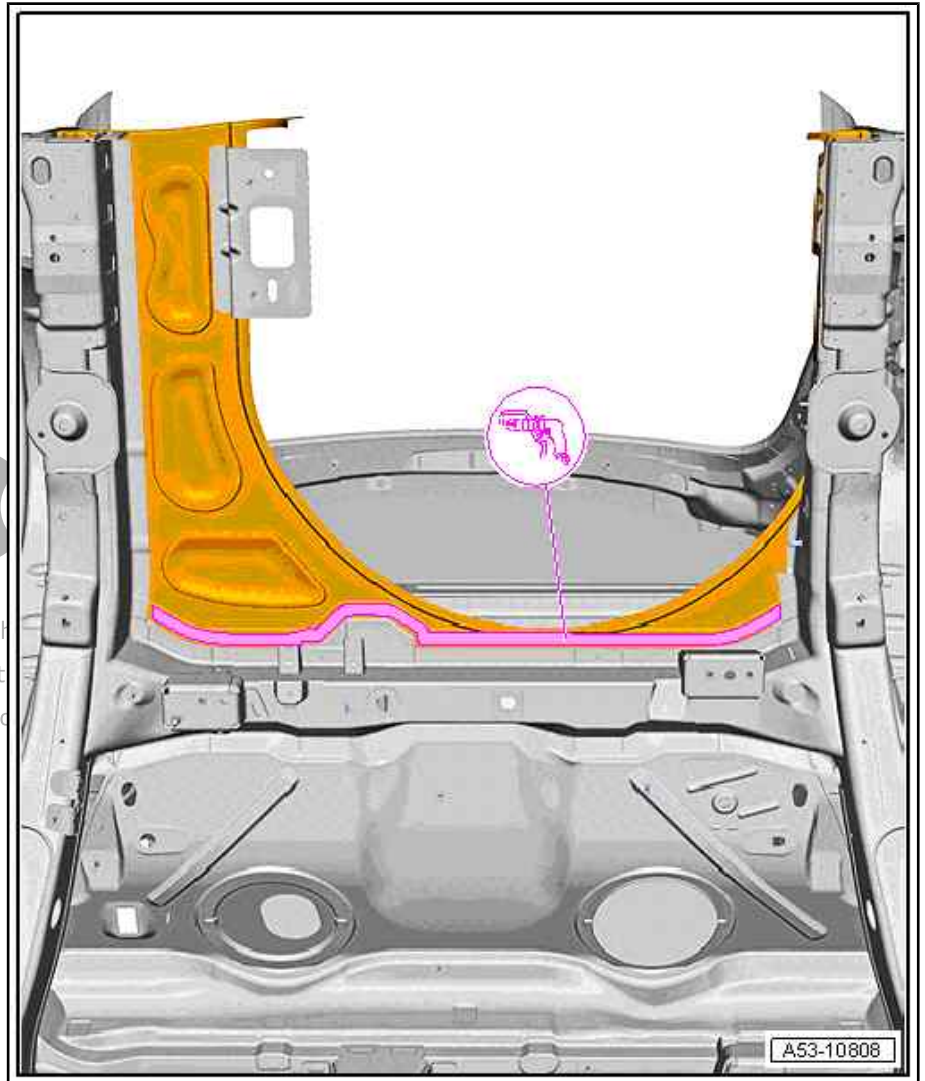
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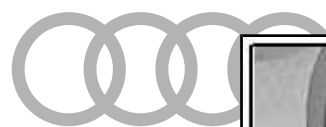
- Separate remaining joint at floor panel (front) from below using spot weld breaker .



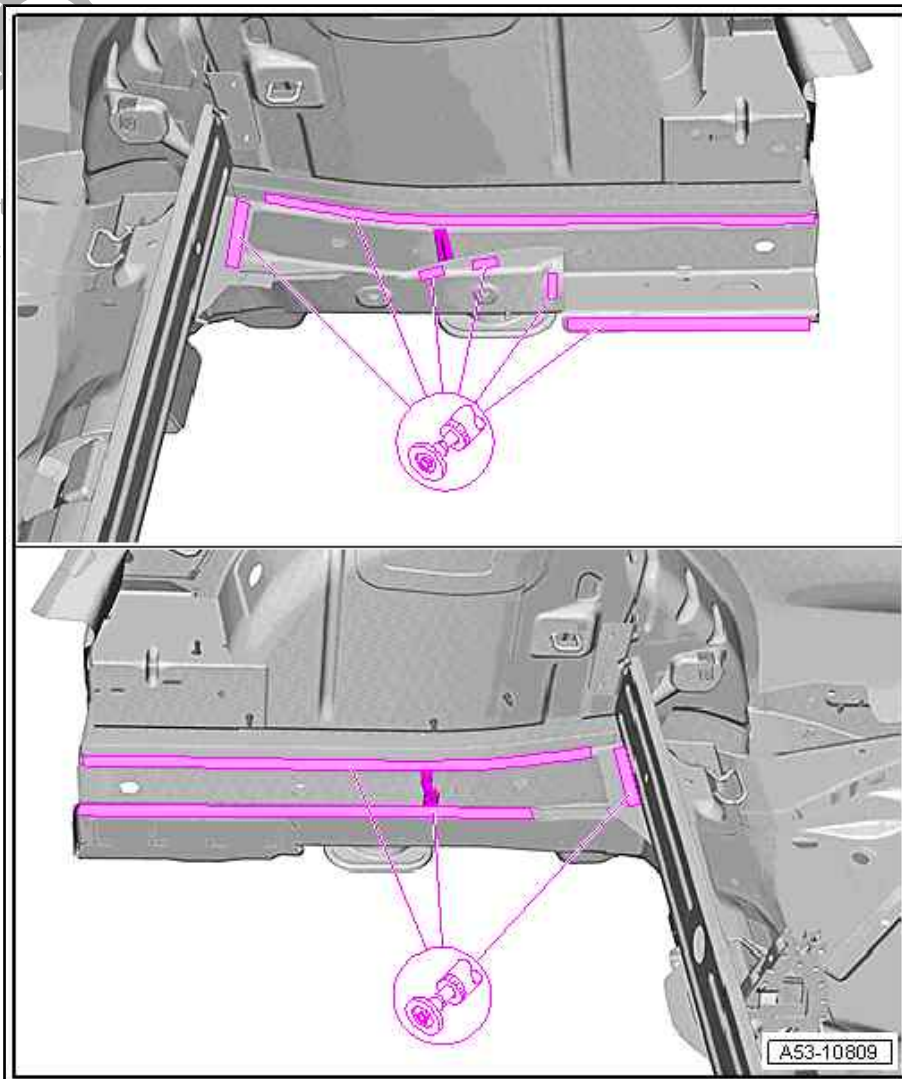
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- Remove remaining material using compact angle grinder .



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Replacement part

- ◆ Luggage compartment floor
- ◆ Spare wheel well
- ◆ Moulded foam inserts

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .

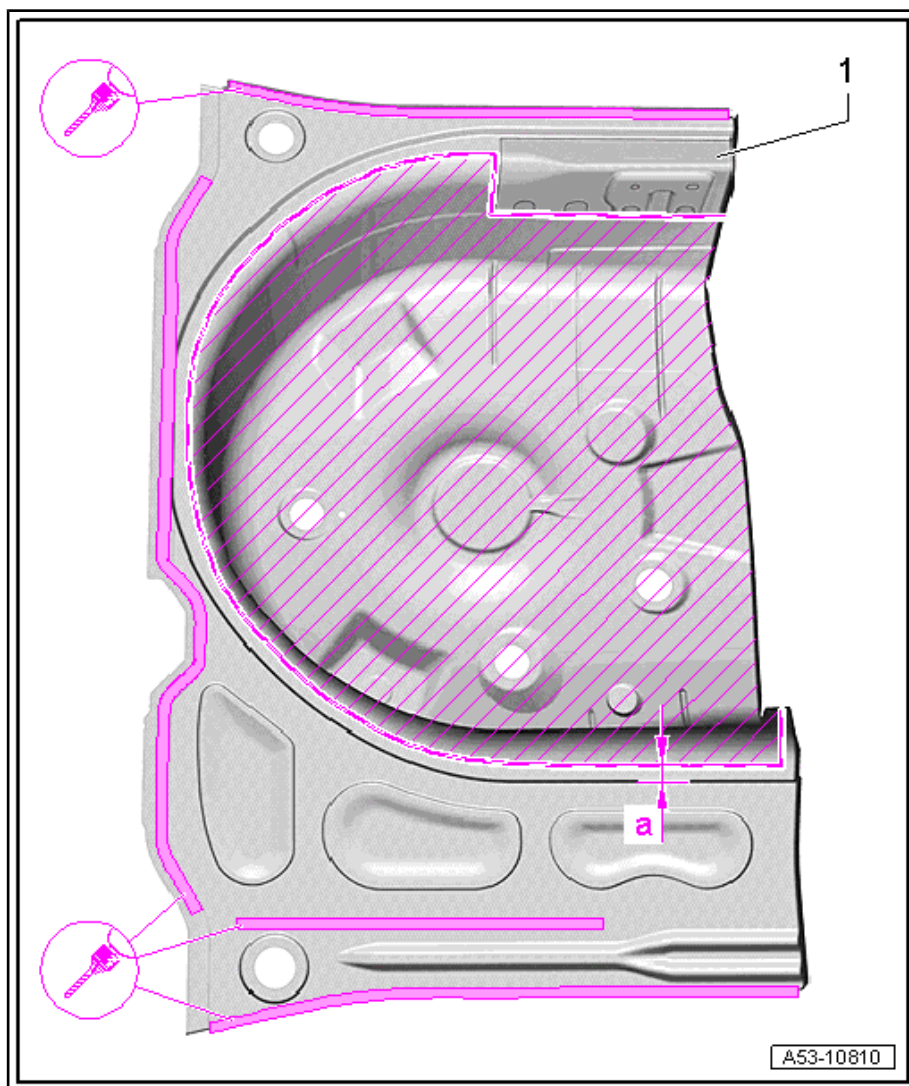


Note

For Audi A1 quattro vehicles the spare wheel well is cut out of the standard luggage compartment floor and is replaced with a shallower spare wheel well.

- Cut spare wheel well out of luggage compartment floor.
- Leave a flange for welding -dimension a- and reinforcement plate -1- in place.

Dimension -a- = 15 mm



Note

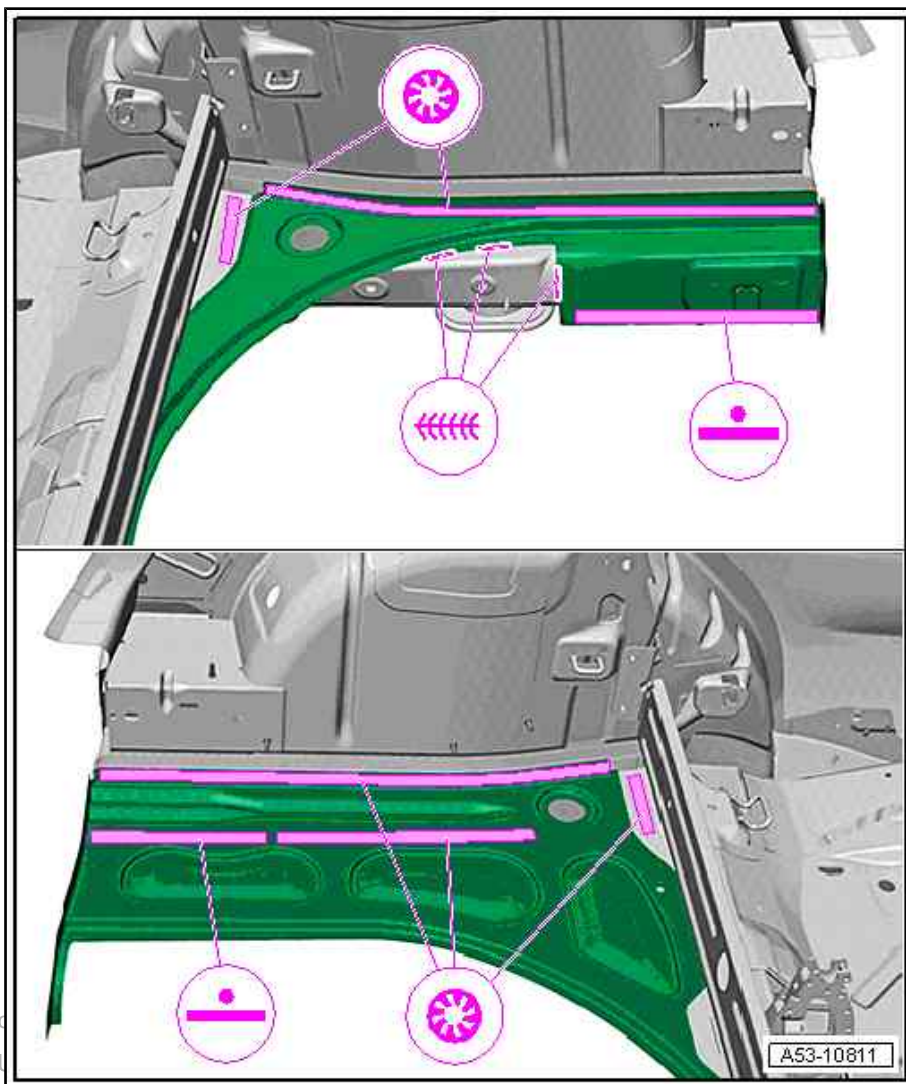
Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

- Match up new part with vehicle standing on its wheels or on alignment bracket set and fix in position.
- Check fit relative to adjacent parts.

Welding in

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- Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam and SG continuous seam.
- Weld in luggage compartment floor using resistance spot welder : RP spot weld seam.

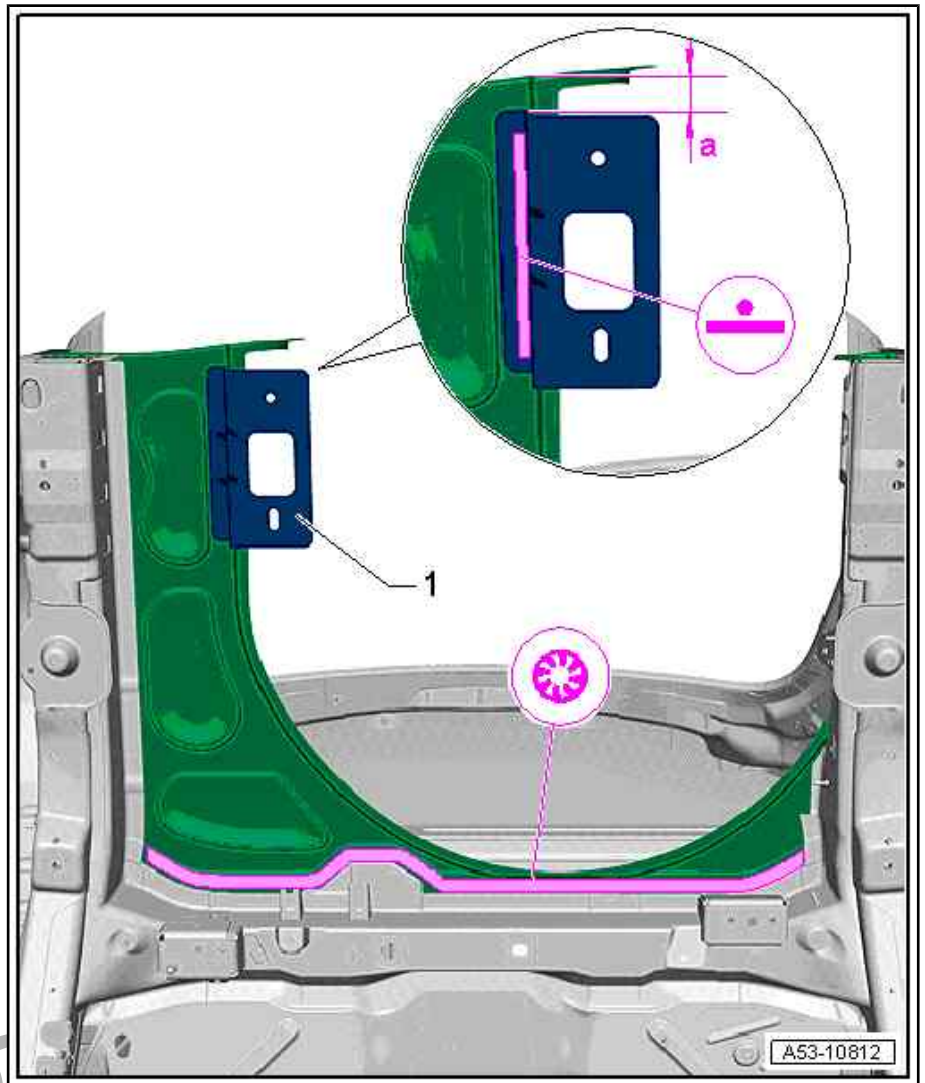


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- Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam.
- Fix bracket for heat shield -1- in position on luggage compartment floor according to -dimension a-.

Dimension -a- = 20 mm

- Weld in bracket for heat shield using resistance spot welder : RP spot weld seam.



- Welding in rear cross member ⇒ [page 269](#)
- Welding in cross panel reinforcement ⇒ [page 273](#)

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RO: 53 80 55 57

16 Luggage compartment floor - Renewal (S1 quattro)

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1 - Luggage compartment floor

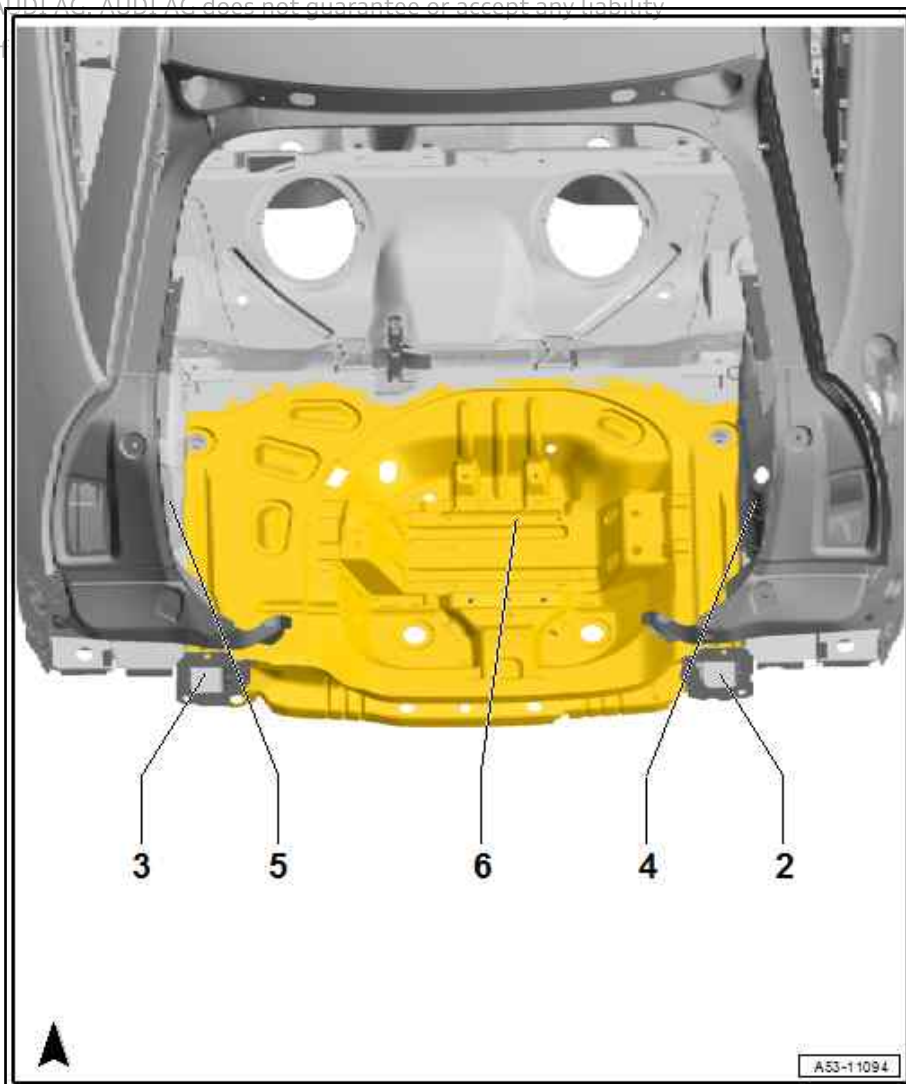
2 - Rear longitudinal member
(right-side)

3 - Rear longitudinal member
(left-side)

4 - Wheel housing (right-side)

5 - Wheel housing (left-side)

6 - Battery tray



16.1 Tools

Special tools and workshop equipment required

- ◆ Resistance spot welder
- ◆ Drill
- ◆ 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 37](#) .

16.2 Procedure

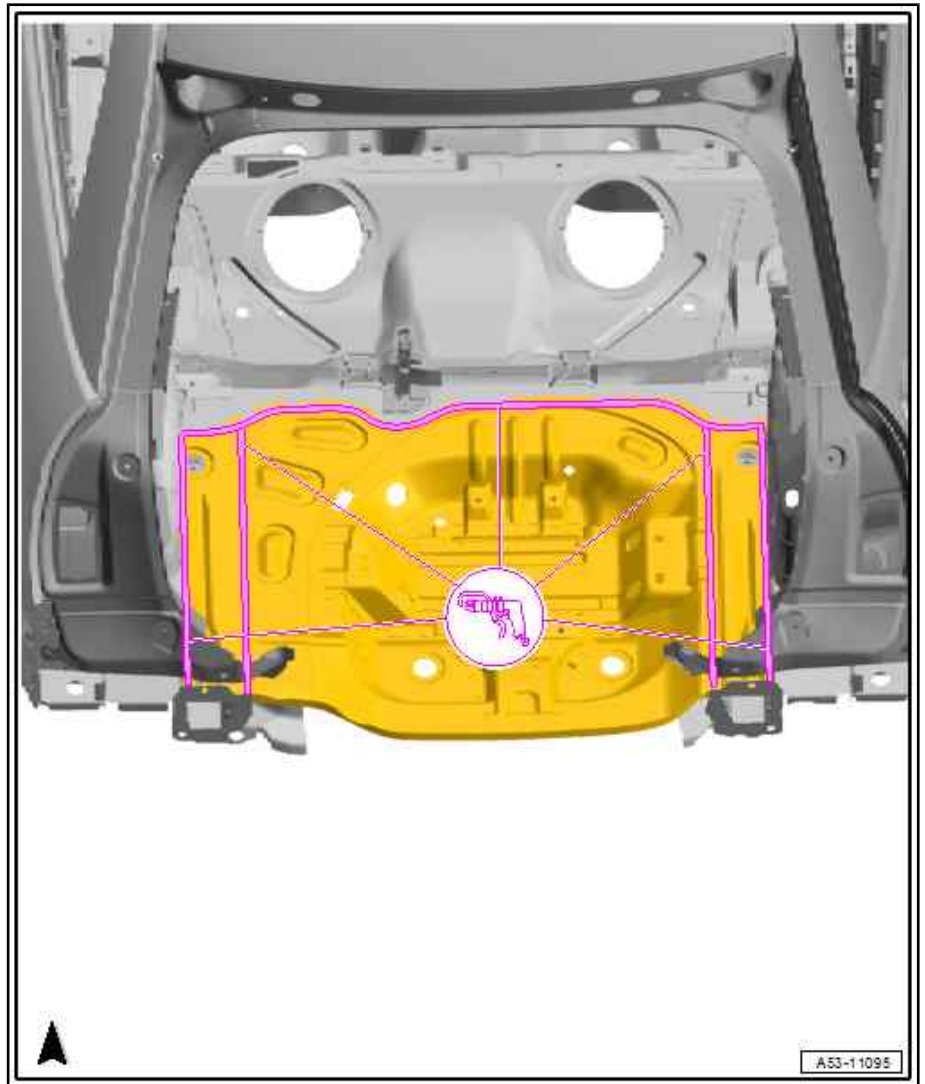
- Rear cross member already removed ⇒ [page 269](#)



- Cross panel reinforcement already removed ⇒ [page 273](#)

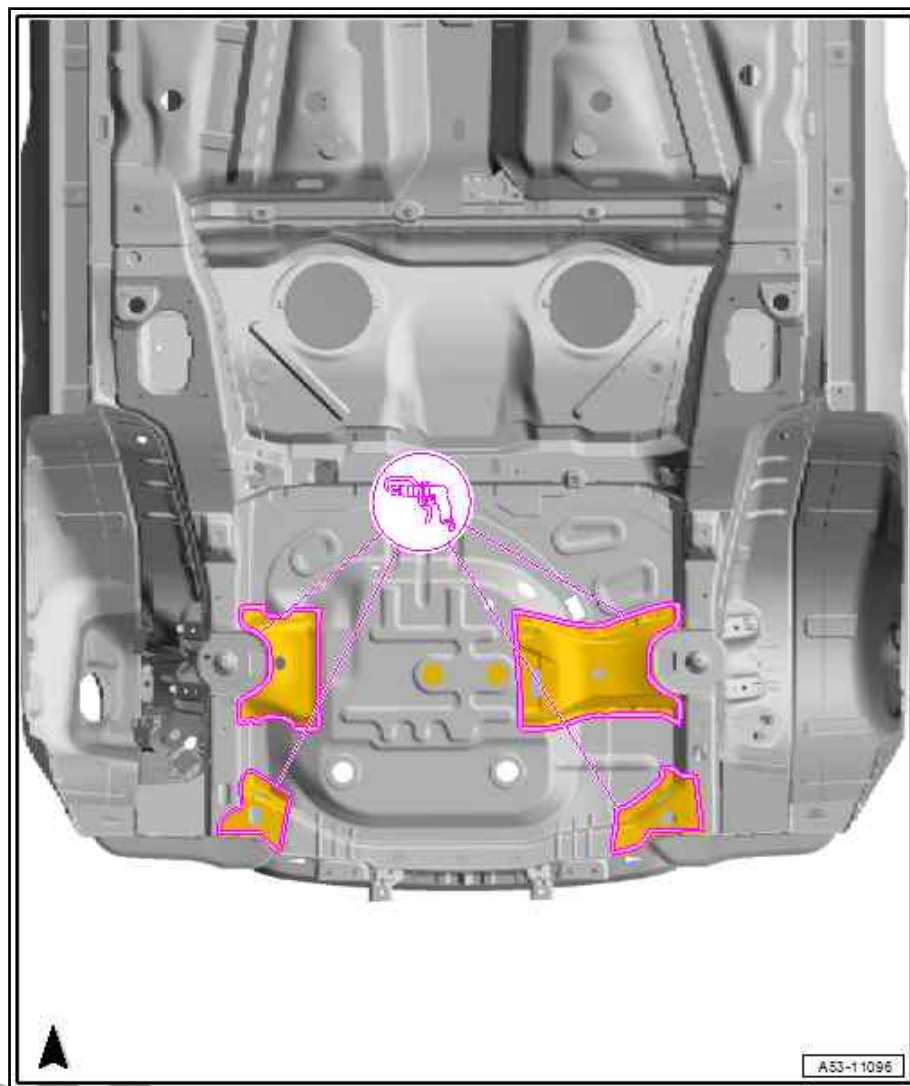
Cutting locations

- Separate original joint using spot weld breaker .



- Separate original joint using spot weld breaker .

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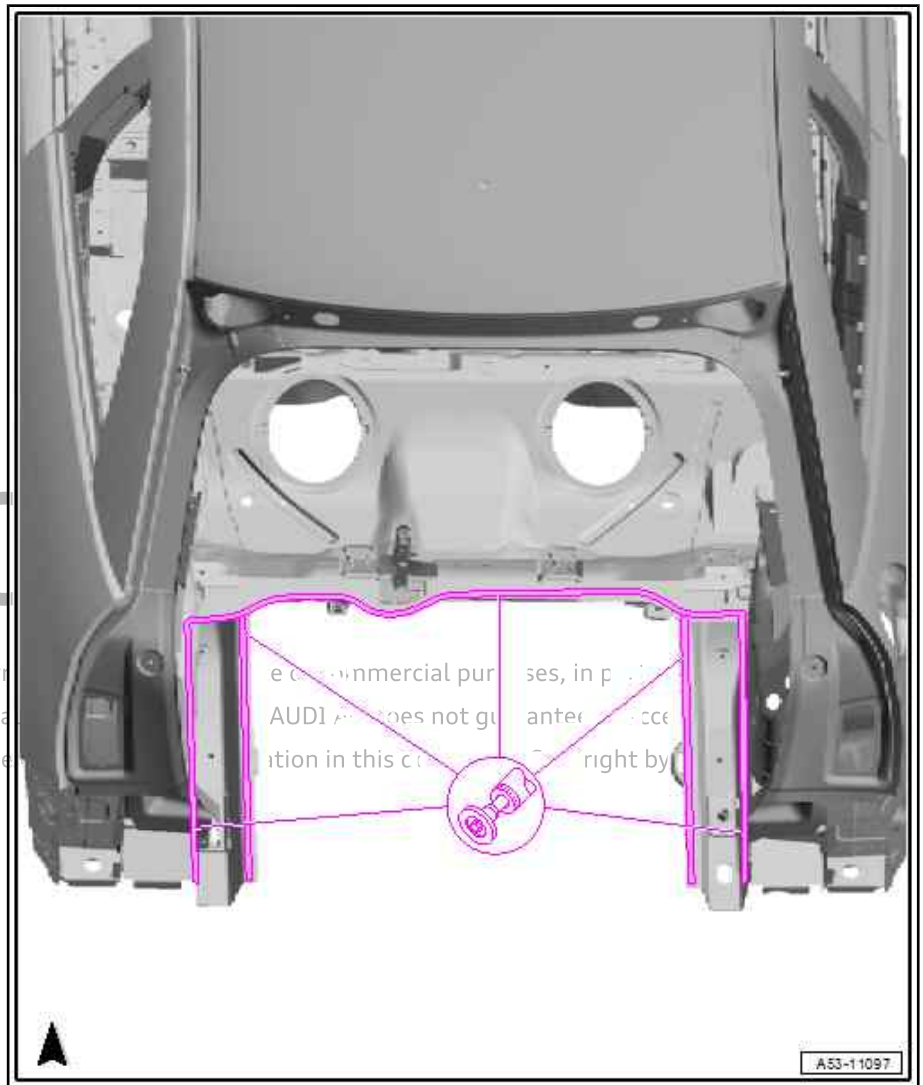


- Remove remaining material using compact angle grinder .

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Replacement part

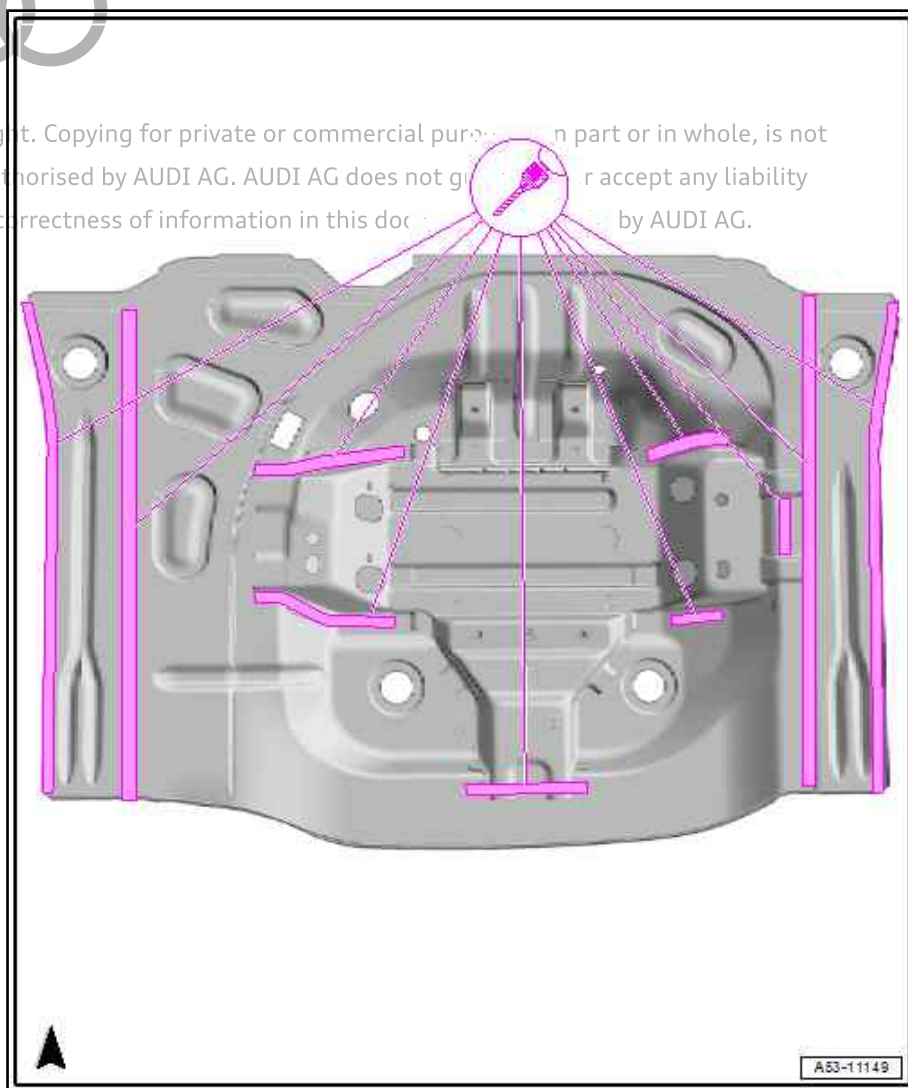
- ◆ Luggage compartment floor
- ◆ Moulded foam inserts

Preparing new part

- Drill holes for SG plug weld seam, 8 mm Ø using drill .



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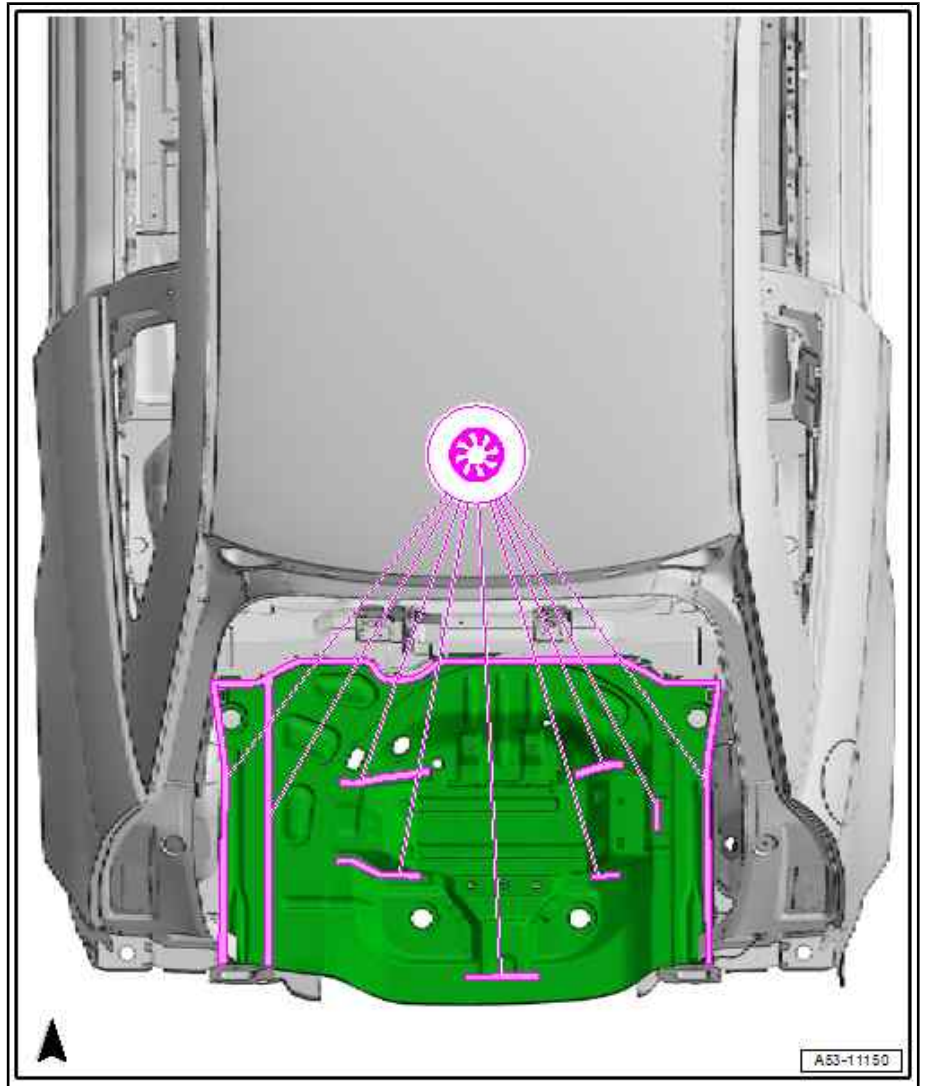
Note

Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.

- Match up new part with vehicle standing on its wheels or on alignment bracket set and fix in position.
- Check fit relative to adjacent parts.

Welding in

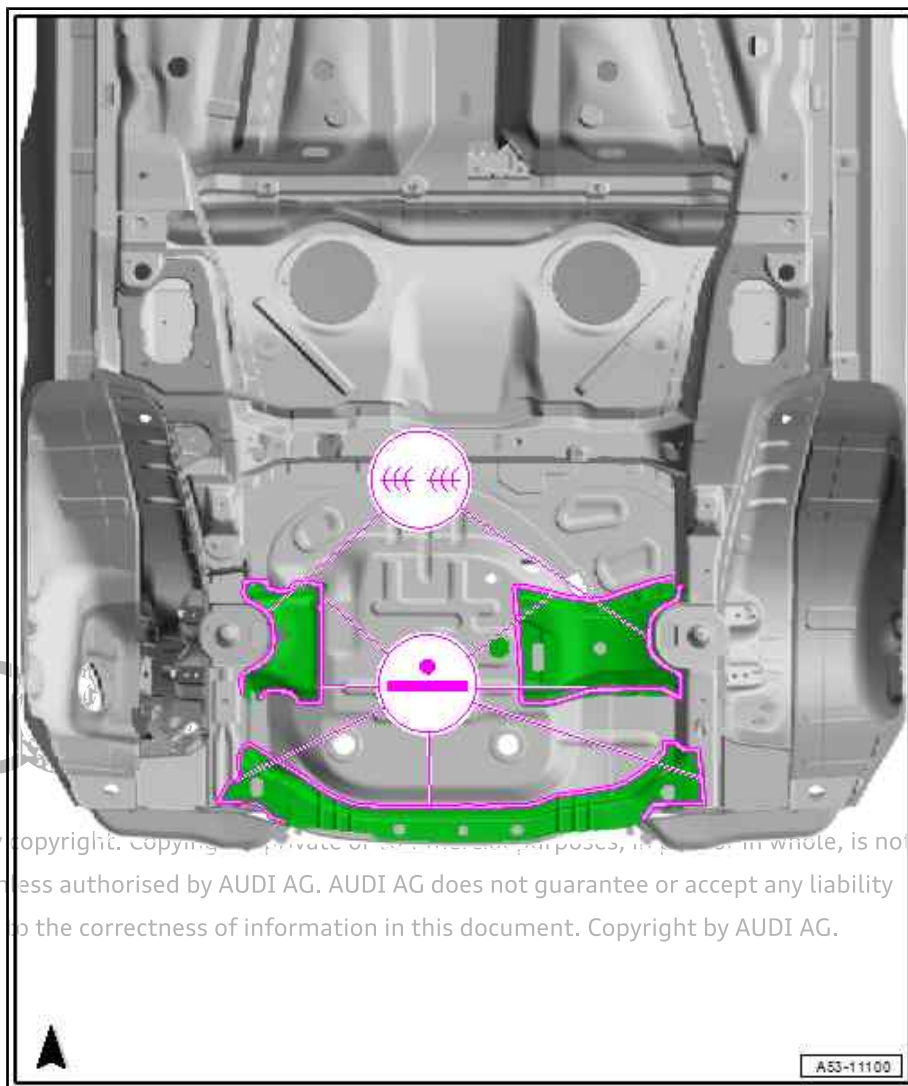
- Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam.



- Weld in cross member using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
- Weld in cross member using resistance spot welder : RP spot weld seam.



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- Welding in rear cross member ➔ [page 269](#)
- Welding in cross panel reinforcement ➔ [page 273](#)