Body Repairs
Audi A5 2016 ➤
Audi A5 Sportback 2017 ➤

Edition 12.2019

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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 Vehicle identification data

(AKI000313; Edition 12.2019)

1.1 Type plate and vehicle identification number

The vehicle identification number can be found in the infotainment system; it also appears on the vehicle data sticker, in the windscreen on the driver's side and on the right side of the engine compartment. The type plate is located on the A-pillar on the right side of the vehicle. Vehicles for certain export countries have no type plate.

Note

- *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- .*

1.2 Vehicle data sticker

The vehicle data sticker is located under the luggage compartment floor.

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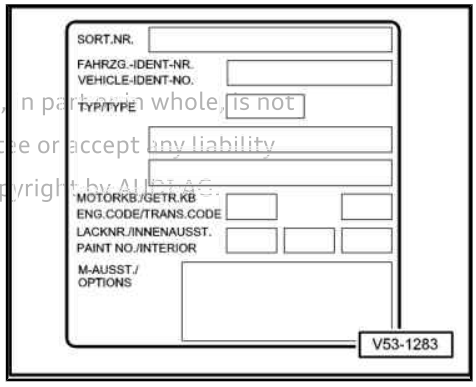

2 Important notes

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.

If no description is given for any sub-parts supplied, these should be matched up and butt welded with an SG continuous seam.

Please refer to the information in the Workshop Manual, General information, Body repairs.

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3 Safety precautions

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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Please refer to the information in the Workshop Manual, General Information - Body Repairs.

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

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

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

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

The extraction system must be cleaned at regular intervals.

In addition, the relevant country-specific legislation must be complied with.

WARNING

Risk of explosion due to concentration of aluminium and steel dust caused by welding and cutting work.

Danger of severe or fatal injuries due to explosion.

- **Before starting work, check that extraction system is working properly and clean it.**
- **Remove any dust caused by sanding using the vacuum cleaner approved for the corresponding material.**
- **Always separate dust from different materials (separation of aluminium, steel, CFRP).**
- **Keep work station free of aluminium and steel dust. Remove any accumulation of dust.**
- **Do not use compressed air to remove dust deposits.**
- **Do not perform simultaneous welding and grinding work in the same working area.**
- **To prevent external sparks, use only compressed-air grinding and cutting devices (as far as possible).**
- **Empty extraction system after use.**

Danger due to gases which are hazardous to health

Sparks are generated during welding and cutting work. Gases which are hazardous to health are generated if sparks make contact with foam-filled areas within the vehicle body.

- Do not use spark-generating tools to perform welding and cutting work in the vicinity of foam-filled areas.

WARNING

Danger of explosion if sanding, welding or cutting work is performed near fuel tank or components carrying fuel.

Risk of severe injuries and burns.

– Remove fuel tank or components carrying fuel before performing sanding, welding or cutting work in the vicinity of the fuel system.

CAUTION

Risk of injury caused by flying metal shavings.

Eyes and skin can suffer irritation or injuries.

– Put on safety goggles.
– Put on protective gloves.

CAUTION

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

– If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
– Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

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DANGER

Risk of explosion due to escaping natural gas - risk of death! Uncontrolled escape of natural gas may occur if the manual fuel tank shut-off valve is defective. In addition, third parties may activate the natural gas system unintentionally. Danger of severe or fatal injuries due to explosion.

– Shut off natural gas fuel tanks electrically and manually.

4 Repair instructions

⇒ “4.1 Routing and attachment of pipes, hoses and wiring”, page 5

⇒ “4.2 Contact corrosion”, page 5

⇒ “4.3 Bonding surfaces for adhesive strips ”, page 5

⇒ “4.4 Self-locking bolts”, page 5

⇒ “4.5 Identification plates”, page 5

⇒ “4.6 Impact wrenches”, page 6

4.1 Routing and attachment of pipes, hoses and wiring

Make sketches or take photographs when unfastening or removing and installing hydraulic and pneumatic lines or electrical wires. This helps to ensure that components are re-installed in their original positions.

4.2 Contact corrosion

Contact corrosion can occur if unsuitable fasteners are used (e.g. bolts, nuts, washers, etc.).

For this reason, only fasteners with a special surface coating are fitted.

Additionally, all rubber and plastic parts and all adhesives are made of non-conductive materials.

Always install new parts as listed in the Electronic parts catalogue if you are not sure whether used parts can be refitted.

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Please note:

- We recommend using only genuine replacement parts: these have been fully tested and are compatible with aluminium.
- We recommend the use of Audi accessories.
- Damage caused by contact corrosion is not covered by the warranty.

4.3 Bonding surfaces for adhesive strips

- The vehicle must be at room temperature before fitting e.g. self-adhesive covers or door seals etc. with adhesive strips.
- Bonding surfaces on the body must be free of dust and grease.
- Clean bonding surfaces with cleaning solution - D 009 401 04- and allow to dry.
- After installation, press covers attached with adhesive strips on using a roller.
- Subsequently, check that components are attached securely by pulling them with your hand.

4.4 Self-locking bolts

If bolts secured with microencapsulation have been removed, they must be renewed, and the threaded holes must be cleaned with a suitable tap.

4.5 Identification plates

When renewing vehicle components, the identification plates on the old parts that have a replacement part number (see ⇒ Elec-

tronic parts catalogue) must be attached to the new parts due to approval regulations.

4.6 Impact wrenches

In general, it is permitted to use an impact wrench to unscrew bolts and nuts. An exception to this is when work is performed inside an open high-voltage battery. For this work, it is not permitted to use an impact wrench.

An impact wrench may be used to screw in bolts and nuts when performing repair work if the following requirements are observed. In general, electric and compressed-air impact wrenches should be used.

Requirements:

- Only screw in bolts with locking fluid or self-locking nuts at low speed.
- Use a suitable impact wrench with variable speed and adjustable torque range.
- Use suitable bits when working in the vicinity of sensitive surfaces, e.g. plastic-coated bits for aluminium rims.
- When working in the vicinity of natural gas systems, observe the information in the Workshop Manual “Natural gas engines - General information”.

Use:

- Fit bolts/nuts by hand.
- Only use an impact wrench to screw in bolts/nuts until the head of the bolt/nut makes contact and then continue tightening with a torque wrench.
- Clean threaded pins before unscrewing the bolt/nut.

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5 Extraction systems for steel/aluminium body repair station ("multi-material-mix" workplace)

WARNING

Risk of explosion due to concentration of aluminium and steel dust caused by welding and cutting work.

Danger of severe or fatal injuries due to explosion.

- **Before starting work, check that extraction system is working properly and clean it.**
- **Remove any dust caused by sanding using the vacuum cleaner approved for the corresponding material.**
- **Always separate dust from different materials (separation of aluminium, steel, CFRP).**
- **Keep work station free of aluminium and steel dust. Remove any accumulation of dust.**
- **Do not use compressed air to remove dust deposits.**
- **Do not perform simultaneous welding and grinding work in the same working area.**
- **To prevent external sparks, use only compressed-air grinding and cutting devices (as far as possible).**
- **Empty extraction system after use.**

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Note

The extraction units VAS 6572/1 and VAS 6572/2 must be emptied every time before and after use.

Fine aluminium dust

Fine particles of aluminium dust are flammable and/or explosive. Extraction systems for aluminium dust must therefore be designed to prevent any external ignition sources from entering the filter or dust collector. The stationary extraction systems used up until 2009 (which are "pure" aluminium extractors, manufactured by Dansk Klimablock / Aeroweld or Nederman) do not have this protection and cannot be modified to include it. All these extraction systems and the systems available on the market for aluminium are of the type that require all ignition sources to be avoided. For this reason, since the possibility of sparks originating from steel parts cannot be entirely ruled out, vehicles with any steel body panels must NOT be repaired at these repair stations.

The mobile extractors VAS 6572/1 used since 2009 (meeting German dust filtration class M) and VAS 6572/2 (class H) have threefold protection against sparks being drawn in if steel is being worked on in the vicinity. This protection consists of a 5-metre long anti-static intake hose, a spark trap and a 5-metre long settling section. This ensures that, even if steel panels are inadvertently sanded or ground, the glowing sparks are cooled well below the temperature required to ignite aluminium dust. The system is TÜV-certified for steel sparks, which are much hotter and glow for longer than aluminium.

A second possible risk is the static charge which can build up in the metal particles due to friction in the intake hoses and pipes and which can be a source of ignition in the same way as a glowing spark. The connections on the extractor system and the intake hoses have Storz C-type fire hose couplings to ensure that only

the anti-static "OHM"-type hoses can be connected and no other types of hose will fit.

The third risk is that the extractor itself can be an ignition source affecting the surroundings. However, since these extractors are based on industrial systems, they automatically possess all design features required for zone 22 and to avoid any effects as an ignition source affecting the surroundings. In any case, accident repair methods such as cutting, grinding and welding will generally produce far more ignition sources than are likely to originate from an extraction system.

Fine steel dust

Steel sparks and steel dust present no risk in themselves. However, in a multi-material-mix workplace it is the flying steel sparks which constitute the greatest risk potential for the aluminium dust powder. For this reason, and in order to meet the requirement of keeping the processes separate, it is essential in all cases to have an extractor for steel that is allocated exclusively to that body workbay. If one were to always use the extractor for aluminium for all types of work (because it has a certified spark trap) this would in effect amount to an extreme test of its ability to prevent an explosion - right next to the person at the workplace! The extractor VAS 6571/1 is similar in design to the basic unit VAS 6572/2, but does not have the 3-stage spark trap. It is also suitable for use in zone 22. The filter meets the requirements of class "M", which is sufficient for metal dust.

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6 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 steel body panels may only be repaired using modern inverter technology, otherwise maximum occupant protection will not be achieved after repairs. 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.

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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 this vehicle is partly manufactured from galvanised steel panels.

6.1 Ultra-high-strength hot-formed steel

For reasons of weight, ultra-high strength steels (hot-formed) are used on the Audi A5. These panels may only be cut and butt-welded at the specified locations. The required repair method for these joints is indicated in this manual.

Spot-welding may only be performed with the factory-approved inverter welding equipment.

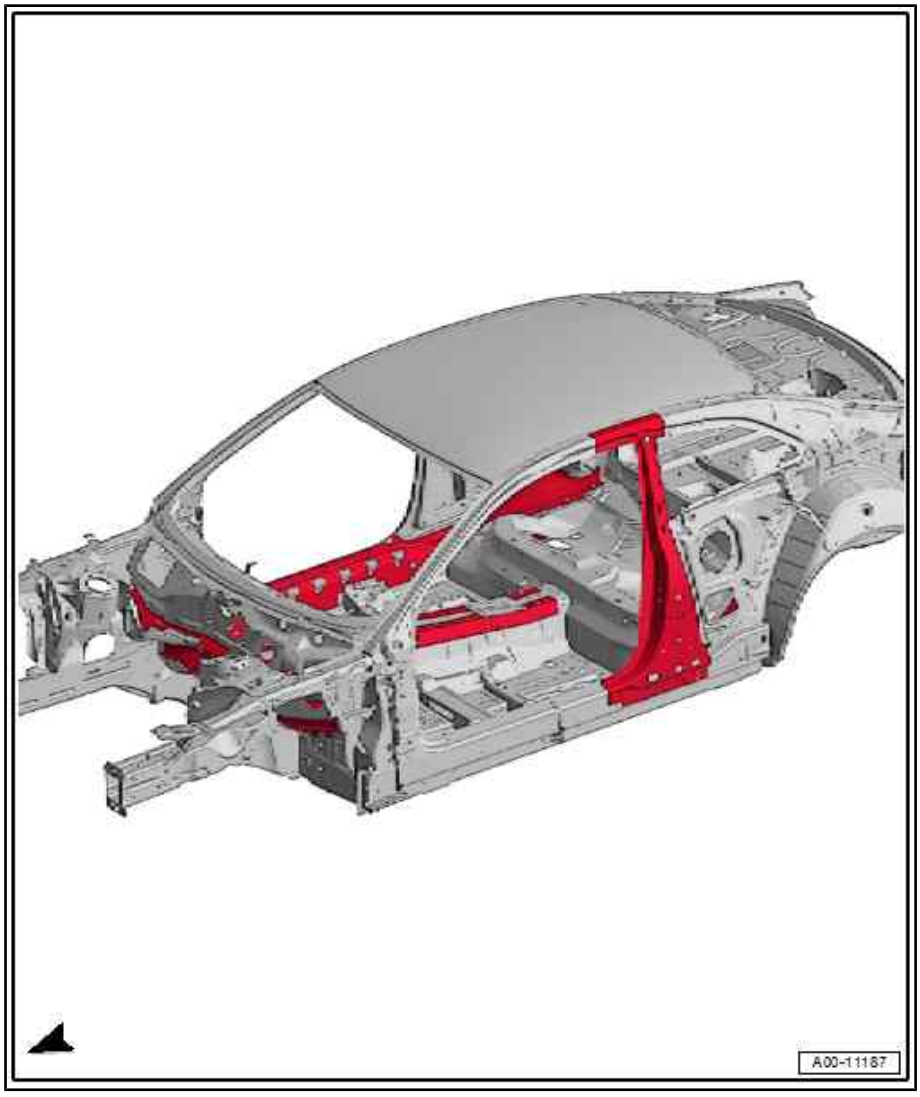
Upper outer A-pillar (left-side/right-side)

Inner B-pillar

Inner side member (left-side/right-side)

Outer bulkhead cross member (left-side/right-side)

Upper tunnel reinforcement



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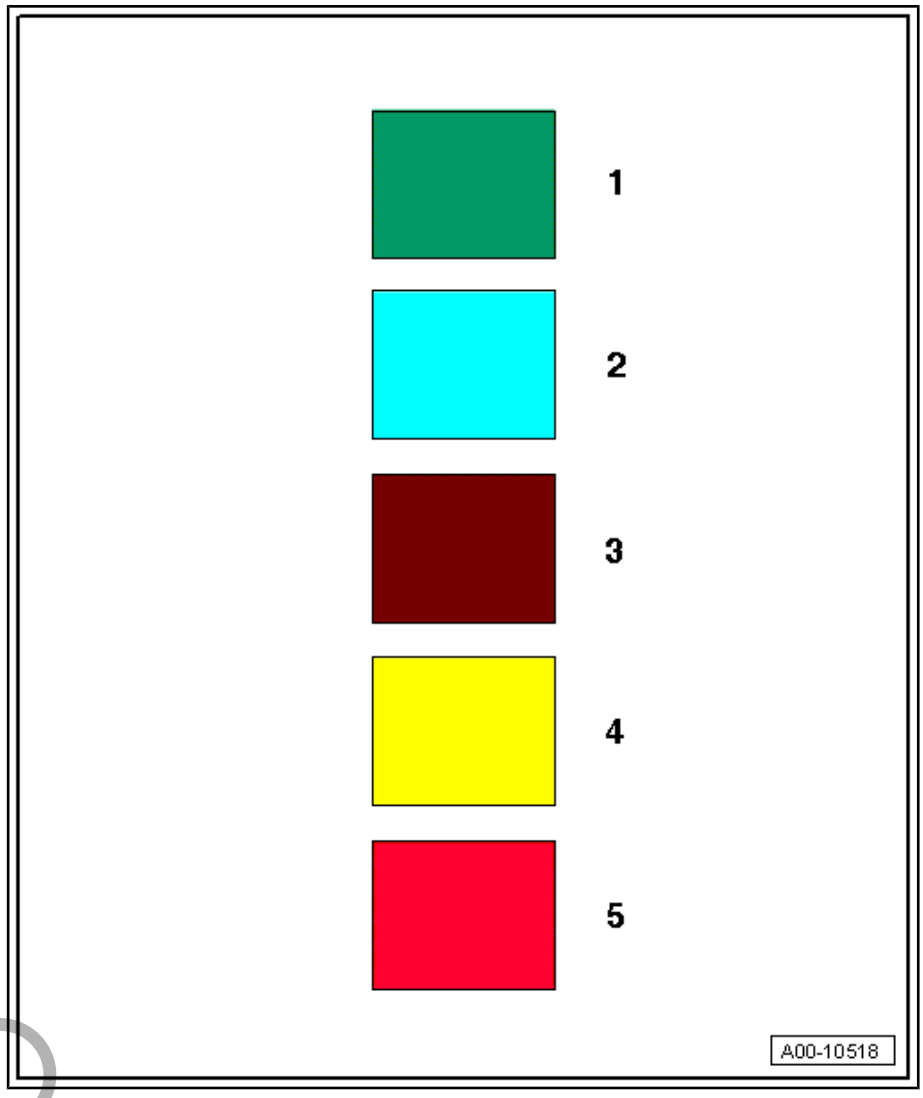
6.2 Aluminium panels



	Colour	Aluminium
1	Green	Aluminium sheet panels
2	Blue	Aluminium extrusions
3	Brown	Cast aluminium profiles

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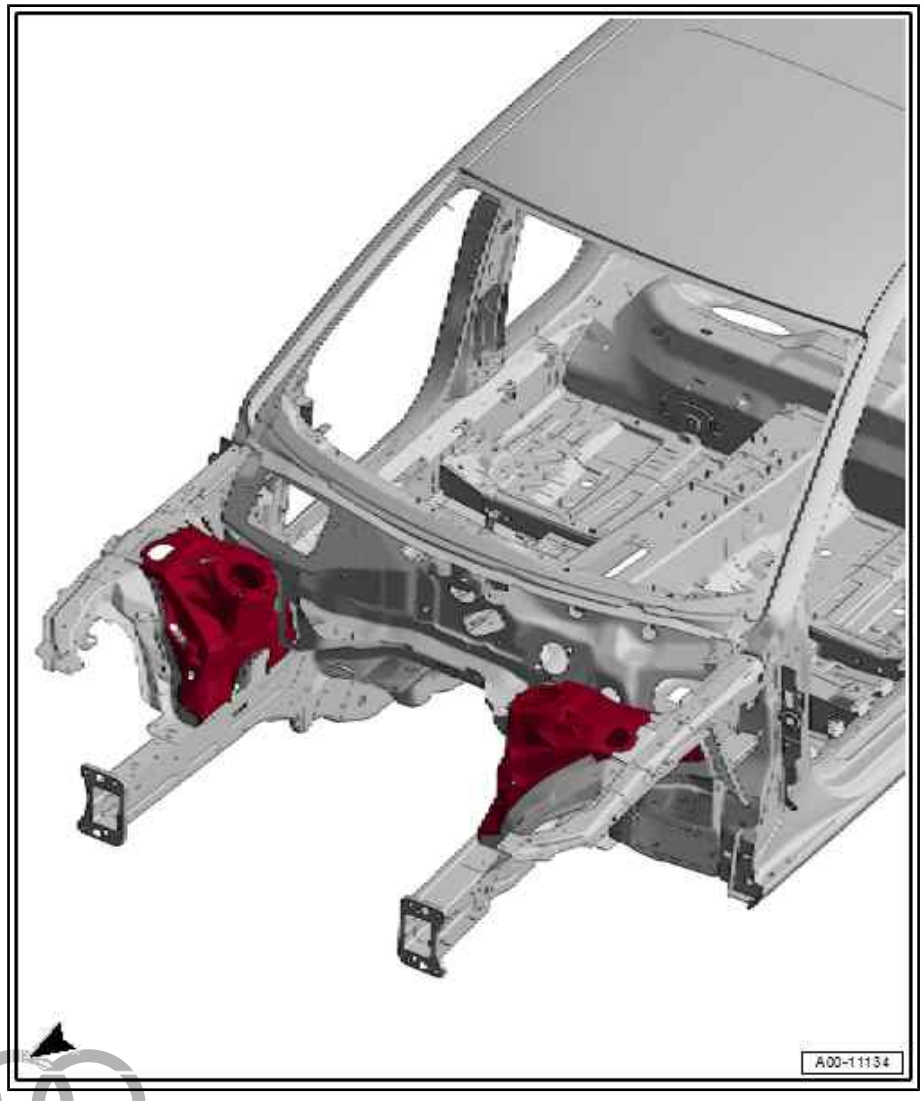
Suspension turret



6.3 CFRP components

RS 5 only

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7 Contact corrosion

Contact corrosion can occur if unsuitable fasteners (bolts, nuts, washers etc.) are used.

For this reason, only fasteners with a special surface coating are fitted.

In addition, all rubber and plastic parts and all adhesives are made of non-conductive materials.

Always renew parts if you are in any doubt as to whether the old part can be used again.

Note

Please note:

Always use genuine replacement parts (same as original equipment). These have been tested and are aluminium-compatible.

Accessories must be approved by AUDI AG.

Damage caused by contact corrosion is not covered by the warranty.

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8 Surface treatment

Only use stainless steel wire brushes.

Rough-filing discs must not be used because of the smear effect.

Use sanding discs of grit size P 80 to P 200.

Always use cleaning block D 009 802 with sanding discs, drill bits, millers and cutting discs.

Clean surface with paint thinner.

Surface treatment otherwise as for steel.

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Note

Aluminium components must be covered when grinding and welding steel parts. If metal swarf/dust makes contact with aluminium, remove immediately to avoid contact corrosion.

Note

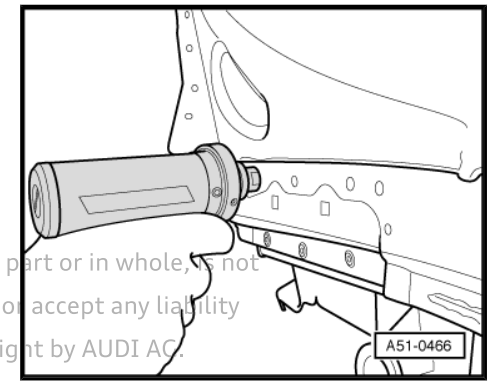
- *Use separate tools for steel and aluminium.*
- *Recommended: aluminium tool set with trolley -V.A.G 2010/2-*

9 Rivets accessible from one side only

– Remove paint and oxide layer from rivet head and attachment point for earth clamps.

– Attach earth clamps as close as possible to rivets.

– Weld on weld stud VAS 852 001/1 or VAS 852 001/2 using dent removal system - VAS 852 001- approved by AUDI AG.



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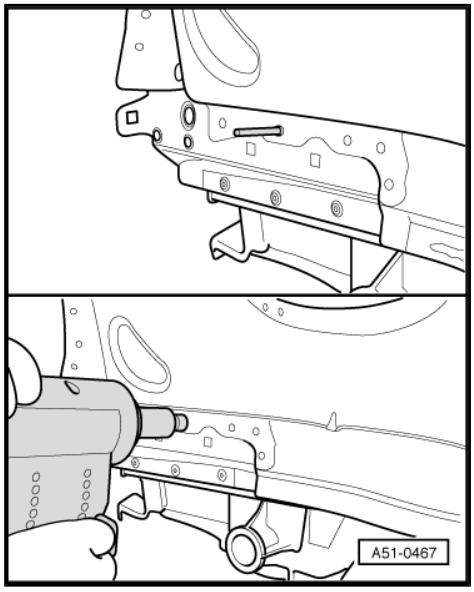
– Pull out weld stud VAS 852 001/1 or VAS 852 001/2 using compact riveter - VAS 6792- .



10 Bonded joints with aluminium

Note

Pre-treatment applies to old flange only.

– Remove remnants of adhesive, paint, wax, etc.

– Sand bonding surface down to bare metal using a clean sanding disc (grit size P 80 or P 100).

– Use clean brush to remove sanding dust.

– Clean bonding surfaces with cleaning solution - D 009 401 04- .

– Treat flanges with silicate stone - DA 009 800 - and holder - V.A.G 1931- .

– Apply a thin coat of aluminium primer - DA 009 801 - using applicator - D 009 500 25 - and allow to flash off.

A silicate adhesive layer is formed which ensures long-term durability of the bonded joint. The surface becomes matt.

Do NOT use solvents.

Note

Mask bonding surfaces when painting inner sides.

Parts must be joined and secured in position within 30 minutes as otherwise the formation of a surface skin will result in inadequate adhesion at the flanges.

– Fit rivets and wipe off emerging adhesive.

At temperatures up to 20° C, rivets must be fitted within 90 minutes and at temperatures above 20° C within 40 minutes starting from application of adhesive.

Note

- *For large parts, e.g. roof, the assistance of a second person is required, as otherwise the adhesive will dry before work is completed.*
- *In the event of interruptions lasting up to 30 minutes, press out and discard an approx. 100 mm long bead to ensure that new material is properly mixed. In the event of interruptions lasting longer than 30 minutes, replace mixing nozzle and press out a 100 mm long bead. If several cartridges are required for repair work, the same mixing nozzle can be used.*

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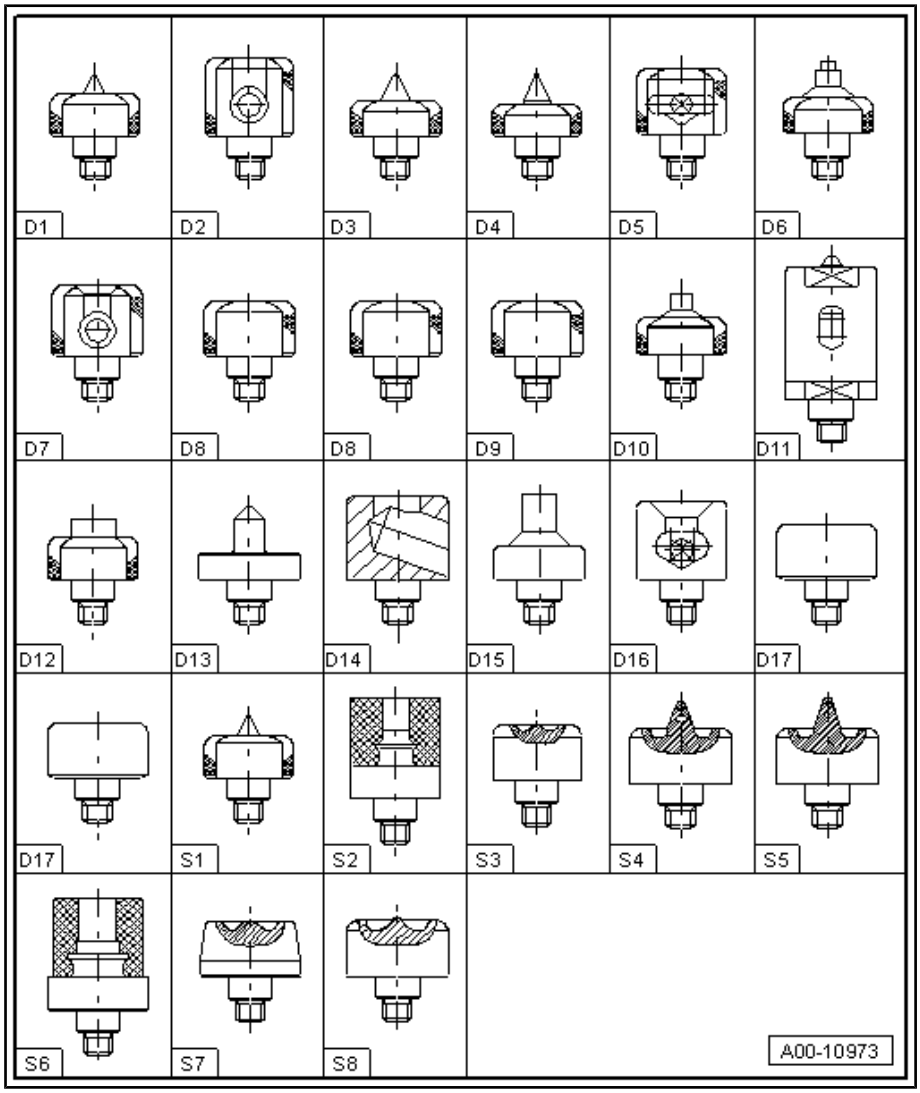
11 Overview of riveting attachments (pairs of tools)

Note

- *This list is intended for general information. Please refer to the operating instructions provided for a description of the procedure and areas of application.*
- *To increase the life of the riveting attachments, please use cutting oil (commercially available).*



D 1 + D 2 - Pressing out ∅ 3.2 mm punch rivet

D 2 + D 3 - Pressing out ∅ 3.2 mm punch rivet

D 2 + D 5 - Pressing out ∅ 5 mm punch rivet

D 3 + D 5 - Pressing out ∅ 5 mm punch rivet

D 4 + D 5 - Pressing out ∅ 5 mm punch rivet

D 5 + D 12 - Punching ∅ 8 mm hole for weld joint

D 6 + D 7 - Punching and countersinking hole for ∅ 4.8 mm pop rivet

D 8 + D 8 - Re-forming metal panel

D 8 + D 9 - Setting ∅ 4 mm solid rivet

D 10 + D 11 - Punching and countersinking hole for ∅ 4 mm solid rivet

D 13 + D 14 - Pressing out ∅ 5.3 x 7.5 mm punch rivet

D 17 + D 17 - Re-forming metal panel

D 15 + D 16 - Punching and countersinking hole for ∅ 6.0 mm solid rivet

D 17 + D 17 - Setting ∅ 6.0 mm solid rivet

S 1 + D 2 - Pressing out ∅ 3.2 mm punch rivet

S 2 + S 3 - Inserting and setting ∅ 3.2 mm punch rivet

S 4 + D 5 - Pressing out ∅ 5.3 x 5.5 mm punch rivet

S 5 + D 5 - Pressing out ∅ 5.3 x 6.5 mm punch rivet

S 6 + S 7 - Inserting and setting ∅ 5.3 x 5.5 mm punch rivet

S 6 + S 8 - Inserting and setting ∅ 5.3 x 6.5 mm punch rivet

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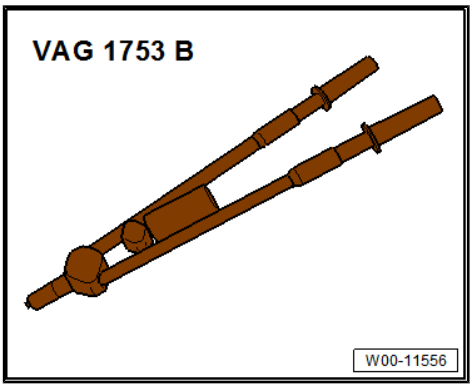
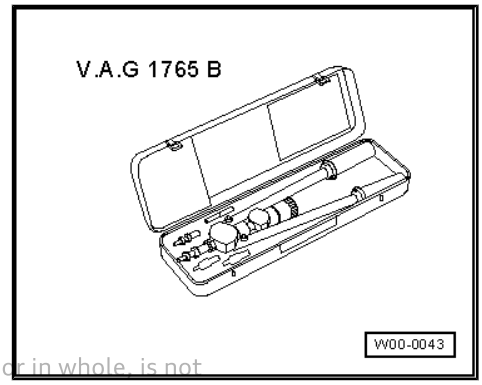
12 Overview of rivets and tools

Pop rivet pliers - VAG 1753 B-



Pop rivet nut pliers - V.A.G 1765-



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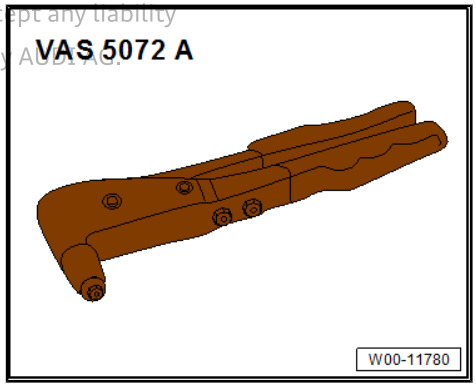
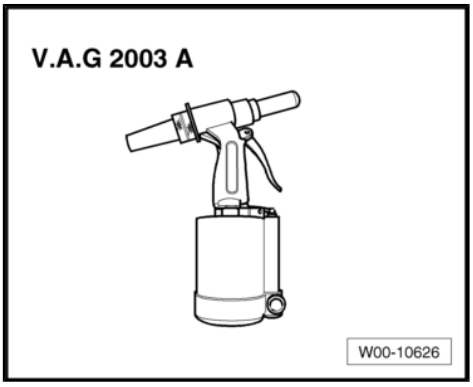
Pop rivet pliers - VAS 5072 A-



Pneumatic pop riveter - V.A.G 2003 A-

Pneumatic/hydraulic pop rivet pliers - VAS 6759-



Rechargeable riveter - VAS 5279 A-

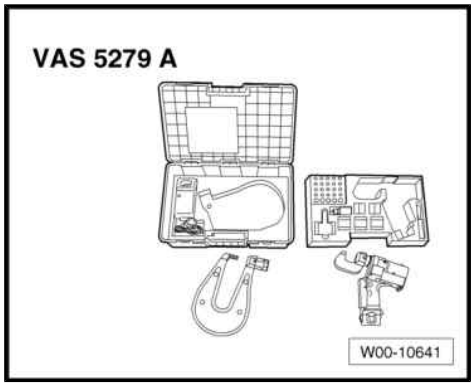
Rechargeable riveter - VAS 843 001-

Compact booster - VAS 6790-

Compact riveter - VAS 6792-

Socket for flow-drill screws - VAS 852 007-

Dent remover - VAS 852 001-



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Rivet	Order number Size	V.A.G 1765	VAS 5279	VAS 5072	VAG 1753B	VAG 2003A	VAS 6790	VAS 6792	VAS 843001	VAS 6759	VAS 8520 07	VAS 852001
Punch rivet	4D0 803 217 N 3.35 x 5 mm		x				x		x			
Punch rivet	4D0 803 217 Q 3.35 x 4 mm		x				x		x			
Punch rivet	4D0 803 217 L 5.3 x 5 mm		x				x		x			
Punch rivet	4D0 803 217 M 5.3 x 6.5 mm		x				x		x			
Punch rivet	N 909 261 02 5.3 x 6 mm		x				x		x			
Punch rivet	N 911 365 01 5.3 x 7.5 mm		x				x		x			
Punch rivet	N 911 348 01 5 x 4.2mm		x				x		x			
Solid aluminium rivet	N 103 239 01 4 x 8 mm		x				x		x			
Solid aluminium rivet	N 103 240 01 4 x 12 mm		x				x		x			
Solid aluminium rivet	N 107 440 01 6 x 10 mm		x				x		x			
Solid aluminium rivet	N 107 441 01 6 x 12 mm		x									
Aluminium pop rivet with countersunk head	4E0 809 864 A						x	x	x	x		

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Rivet	Order number Size	V.A.G 1765	VAS 5279	VAS 5072	VAG 1753 B	VAG 2003 A	VAS 6790	VAS 67792	VAS 8430001	VAS 67559	VAS 8520007	VAS 8520001
Aluminium pop rivet with round head	8Z0 809 864						x	x	x	x		
Flow-drill screws	WHT 003 873 M5 x 25										x	
Flow-drill screws	WHT 006 547 M5 x 20										x	
Flow-drill screws	WHT 007 052 M5 x 18										x	
Threaded rivet	N 907 163 01 14 mm				x	x	x	x	x	x		
Threaded rivet	N 907 162 01 10 mm				x	x	x	x	x	x		
Threaded rivet	N 907 161 01 22 mm				x	x	x	x	x	x		
Threaded rivet	N 907 160 01 6 mm				x	x	x	x	x	x		
Pop rivet	WHT 005 413 A 6.5 mm Panel thickness that can be riveted: 5 – 9 mm				x	x	x	x	x	x		
Pop rivet	WHT 005 697 6.5 mm Panel thickness that can be riveted: 3 – 4.8 mm				x	x	x	x	x	x		

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Rivet	Order number Size	V.A.G 1765	VAS 5279	VAS 5072	VAG 1753B	VAG 2003A	VAS 6790	VAS 67792	VAS 8430001	VAS 67759	VAS 8520007	VAS 8520001
Pop rivet	WHT 911 527 01 6.5 mm Panel thick-ness that can be rive-ted: 4.5 – 7.0 mm				x	x	x	x	x	x		
Pop rivet	N 909 236 01 4.8 mm Panel thick-ness that can be rive-ted: 2.4 – 4.8 mm				x	x	x	x	x	x		
Pop rivet	N 906 924 02 4.8 mm Panel thick-ness that can be rive-ted: 1.5 – 3.5 mm				x	x	x	x	x	x		
Pop rivet	4S0 843 658				x	x	x	x	x	x		
Pop rivet bolt	WHT 005 180	V.A.G 1765 C/2										
Pop rivet bolt	N 910 011 01	V.A.G 1765 C/4										
Pop rivet nut	N 910 377 01 M10	V.A.G 1765										
Pop rivet nut	N 908 568 02 M8	V.A.G 1765										

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Rivet	Order number Size	V.A.G 1765	VAS 5279	VAS 5072	VAG 1753B	VAG 2003A	VAS 6790	VAS 67792	VAS 8430001	VAS 67559	VAS 8520007	VAS 8520001
Weld stud	VAS 852 001/1 5 mm							x				x
Weld stud	VAS 852 001/2 4 mm							x				x

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13 Overview of rivets used for repair measures

In production	For repair measures	To be used
Punch rivet, ∅ 3.3	Aluminium/ aluminium	Solid aluminium rivet: ∅ 4 mm N.103.239.01 N.103.240.01
Punch rivet, ∅ 5.3	Aluminium/ aluminium	Solid aluminium rivet: ∅ 6 mm N.107.440.01 N.107.441.01
Punch rivet, ∅ 3.3 and friction elements	Aluminium/ steel	Pop rivet: ∅ 4.8 mm N.905.344.03 Panel thickness that can be riveted: 1.5 - 3.5 mm N.906.924.02 Panel thickness that can be riveted: 2.4 - 5.0 mm
Punch rivet, ∅ 5.3 and flow-drill screws (where applicable)	Aluminium/ steel	Pop rivet: ∅ 6.5 mm WHT.005.413.A Panel thickness that can be riveted: 3.35 - 5.35 mm WHT.005.697 Panel thickness that can be riveted: 2.8 - 4.8 mm N.911.527.01 Panel thickness that can be riveted: 4.5 - 7.0 mm N.904.692.02 Panel thickness that can be riveted: 2.4 - 5.0 mm

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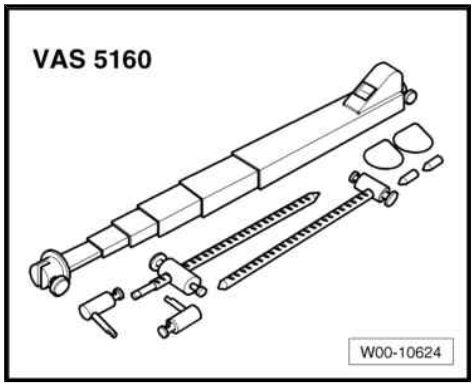
14 Body dimensions

Note

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

Special tools and workshop equipment required

- Measure body dimensions using telescopic gauge - VAS 5160- or telescopic gauge - VAS 5159- .



14.1 Body - front

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A - 1250 mm ± 2.0 mm

Distance between wing panel mountings

B - 1092 mm ± 2.0 mm

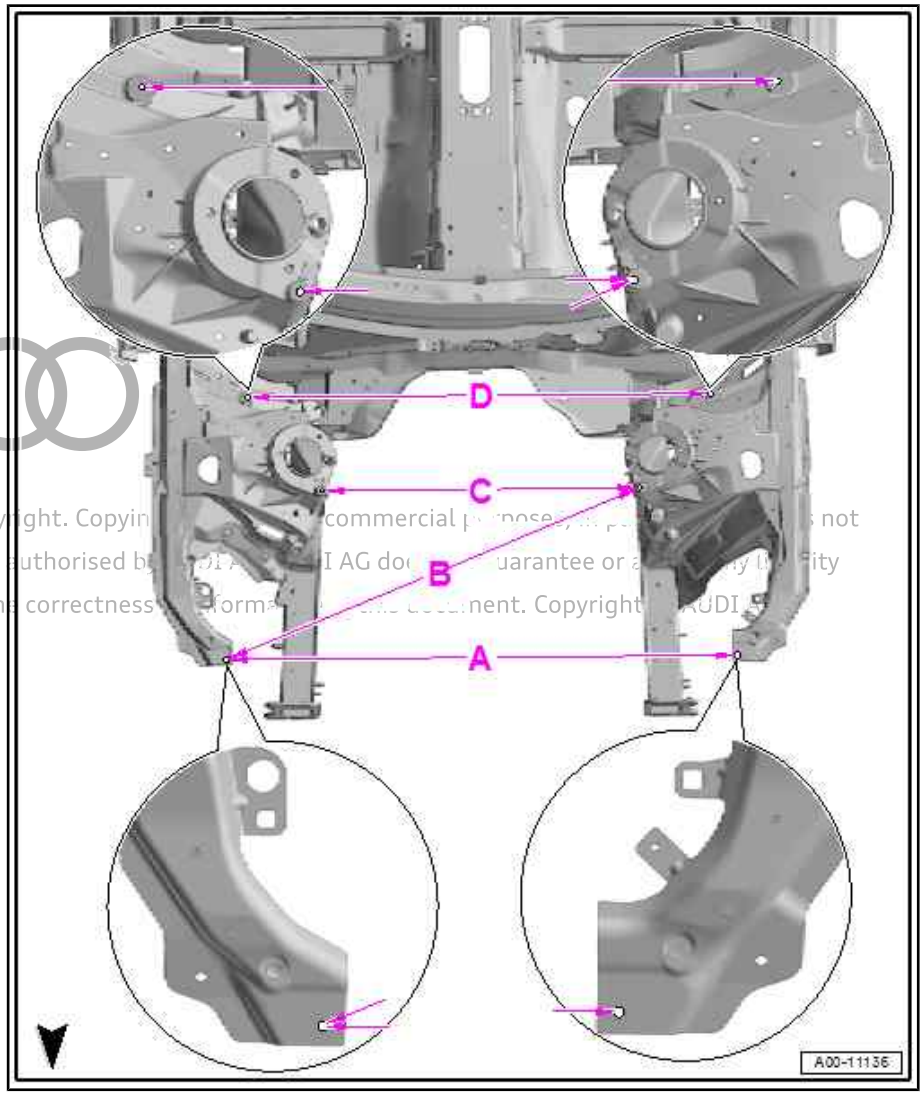
Diagonal distance between suspension strut mountings

C - 780 mm ± 2.0 mm

Distance between suspension strut mountings

C - 1130 mm ± 2.0 mm

Distance between suspension strut mountings (rear)



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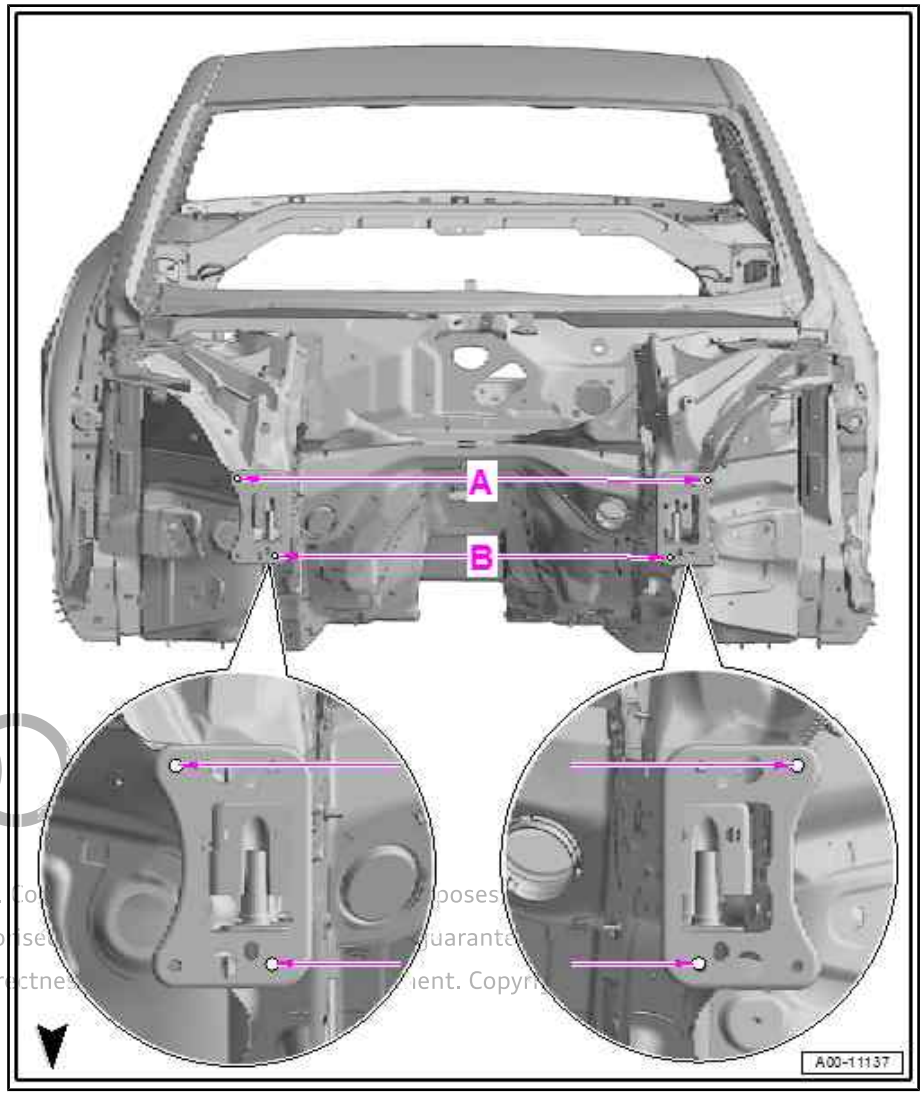
A - 1015 mm ± 2.0 mm

Distance between impact damper mountings

B - 853 mm ± 2.0 mm

Distance between impact damper mountings



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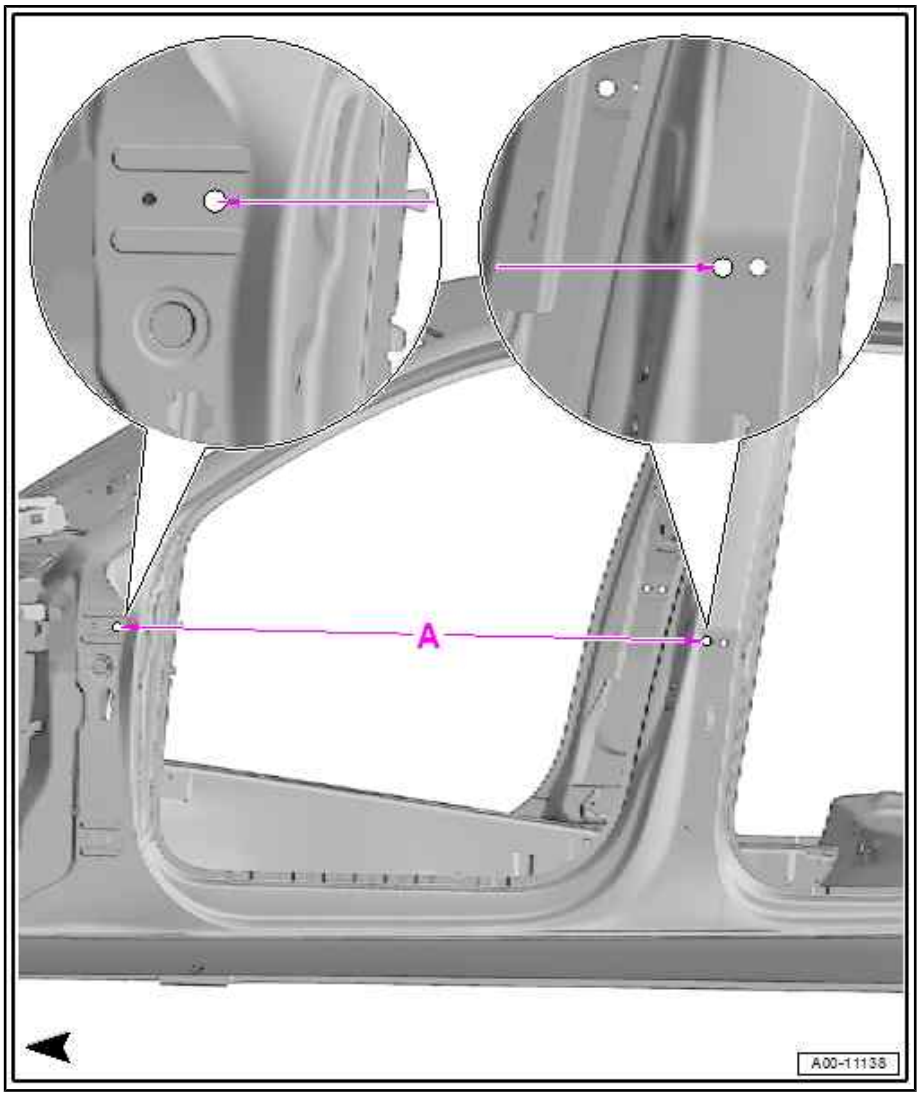
14.1.1 Body - centre

A - 1051 mm ± 2.0 mm

Distance between A-pillar and B-pillar



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14.1.2 Floor group, front

A - 872 mm ± 2.0 mm

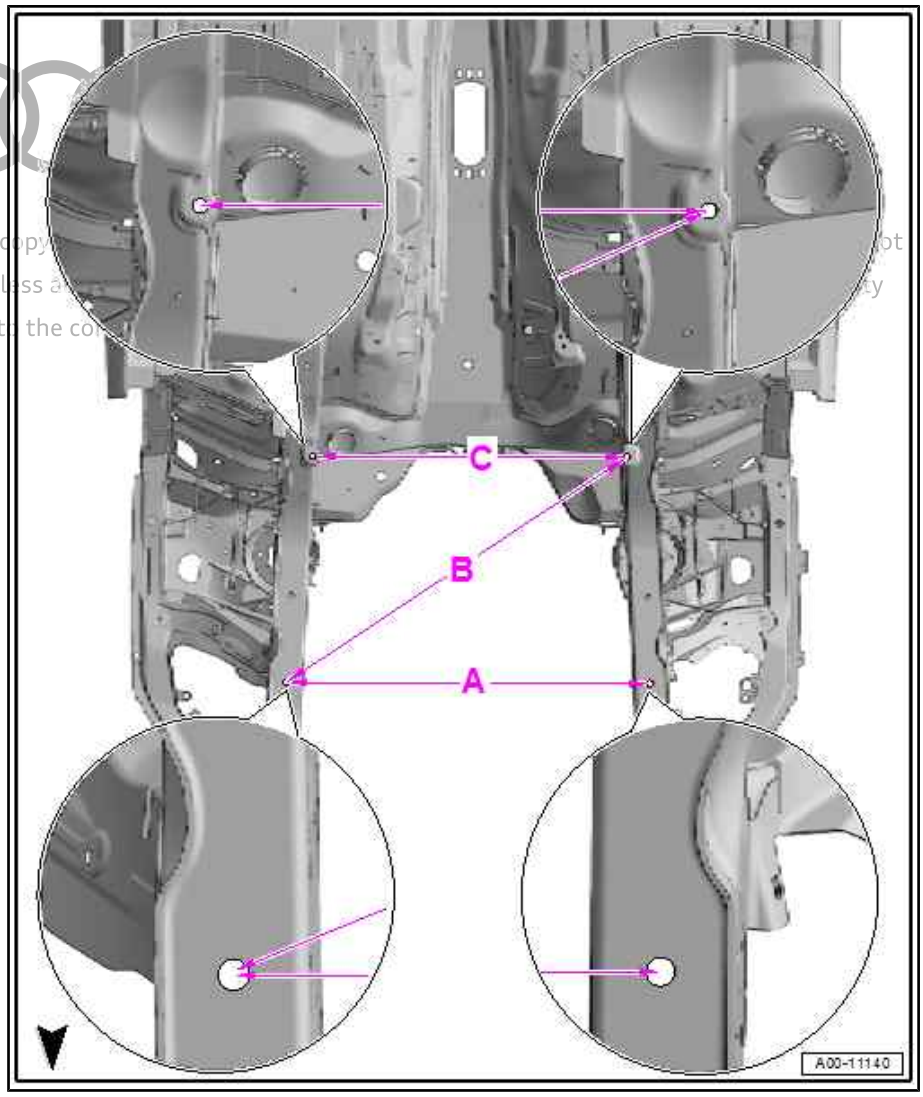
Distance between subframe attachment points

B - 980 mm ± 2.0 mm

Diagonal distance between subframe attachment points

C - 752 mm ± 2.0 mm

Distance between subframe attachment points



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14.1.3 Floor group, rear

A - 930 mm ± 2.0 mm

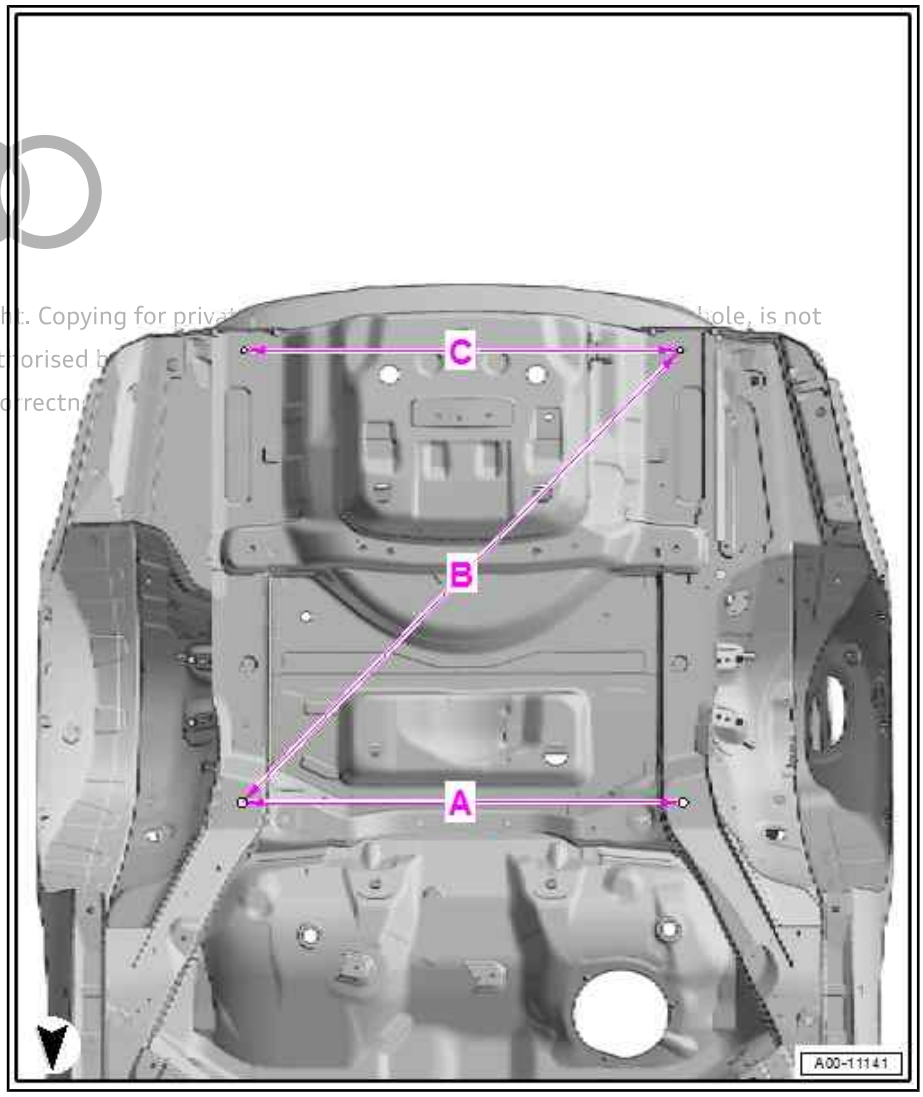
Distance between rear axle mountings

B - 1336 mm ± 2.0 mm

Diagonal distance between longitudinal members and axle mountings

C - 922 mm ± 2.0 mm

Distance between rear longitudinal members



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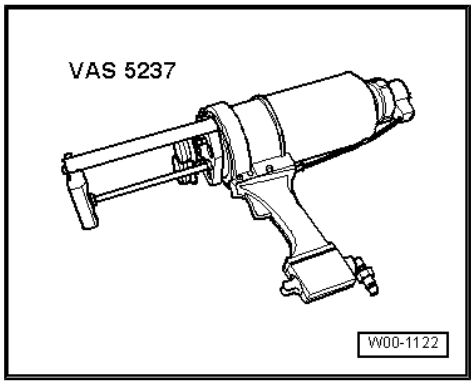
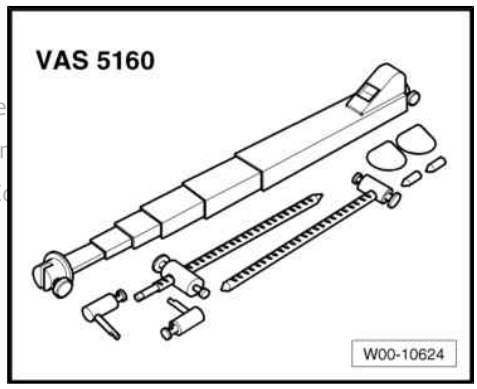
15 Tools

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 - VAS 6045- or -VAS 6044-
- Shielded arc welding equipment - VAS 6388-
- Socket for flow-drill screws - VAS 852 007-
- Hole finder - VAS 6631-
- Measuring and alignment system - VAS 6526- , basic
- Measuring and alignment system - VAS 6527- , professional
- Measuring and alignment system - VAS 6528- , professional plus
- Brush grinder - VAS 6446-
- Drill - VAS 6267 A-
- Flat scraper - VAS 5448-
- Compact booster - VAS 6790-
- Compact angle grinder - VAS 5167-
- Double cartridge gun - VAS 6453-
- Double cartridge gun - VAS 5237-



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



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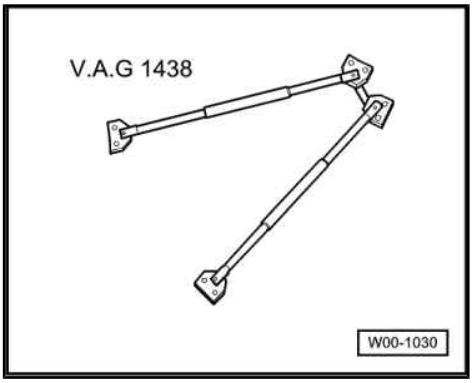
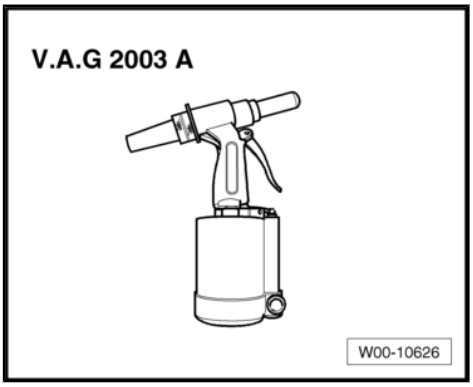
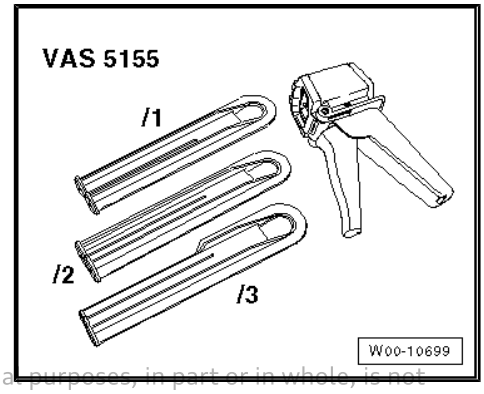
- Mechanical door tensioner - V.A.G 1438-



- Pneumatic pop riveter - V.A.G 2003 A-



- Hand cartridge gun - VAS 5155-



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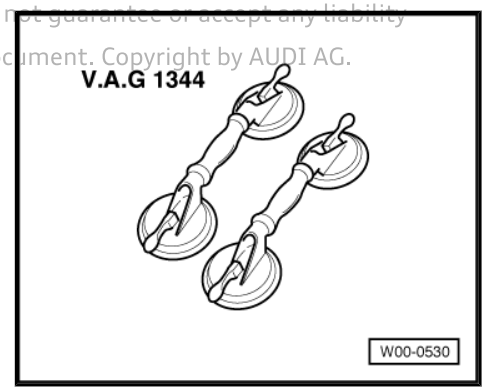
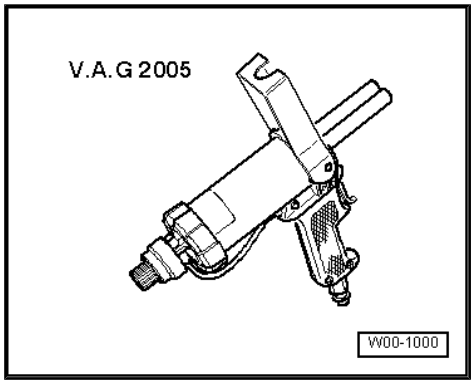
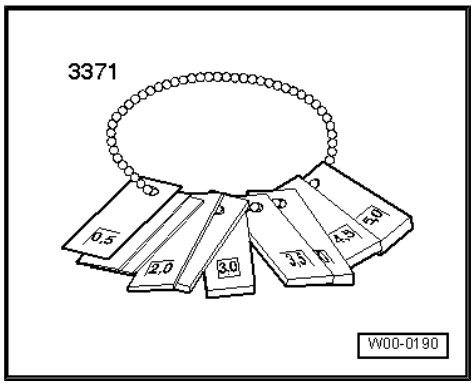
- Suction lifter - V.A.G 1344- or magnet - VAS 6739-



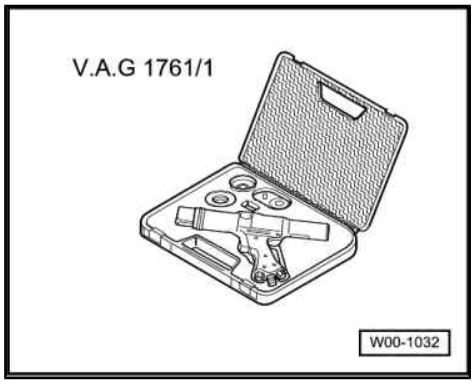
- Pneumatic glue gun - V.A.G 2005 B-



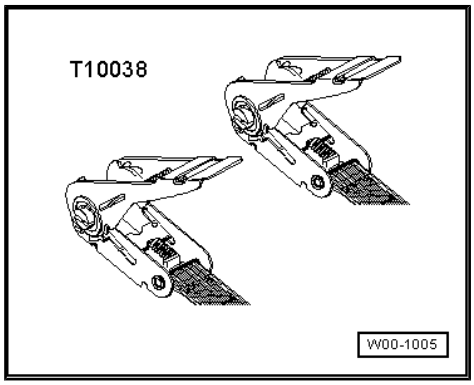
- Setting gauge - 3371-



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



- Tensioning strap - T 10038-



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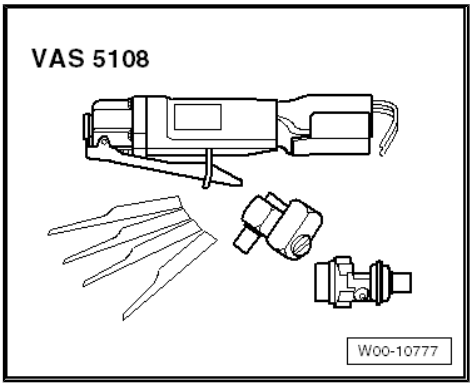
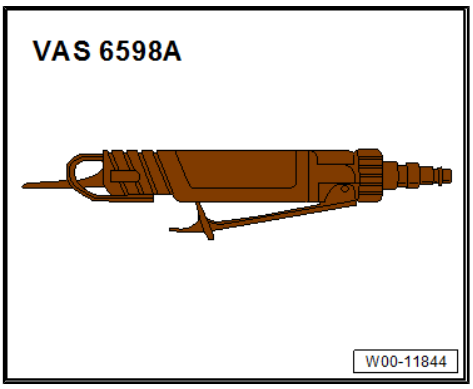
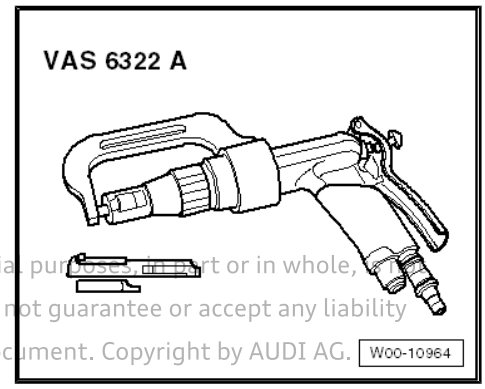
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-



- Body saw - VAS 6598A-



- Spot weld breaker - VAS 6322 A- or



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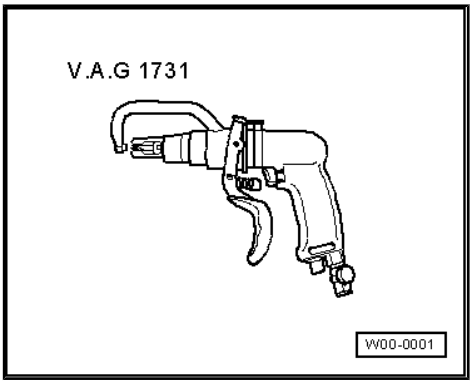
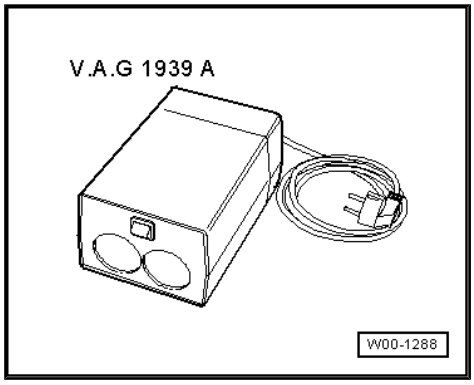
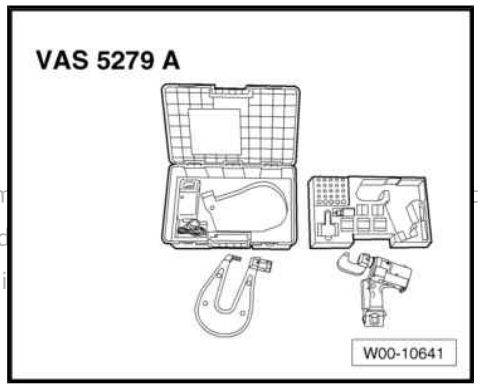
- Spot weld breaker - V.A.G 1731 -



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



Rechargeable riveter - VAS 843 001-



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16 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 - D 787 300 A2 -

For vehicles with aluminium body

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

Note

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

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Note

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

17 Moulded foam inserts

Various body cavities of the Audi A5 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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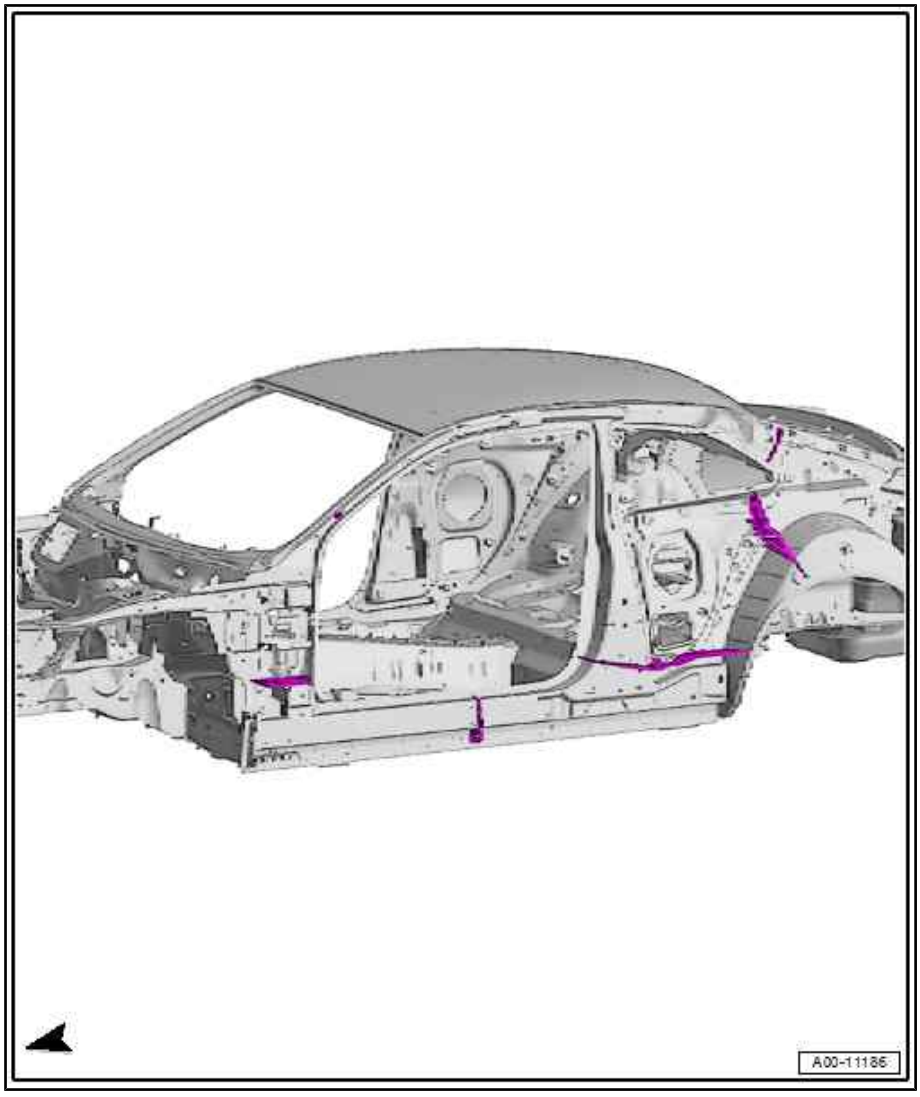

Note

- *The replacement foam inserts expand only after reaching about 180 °C. For this reason, an additional filler foam is used when performing repairs.*
- *Filler foam required for repairs: D 506 KD 1 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 filler foam - D 506 KD1 A3- to replacement part.

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

The foam hardens within 25 minutes.

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

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

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18 Laser welding

AUDI AG employs laser welding for the production of the Audi A5.

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

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

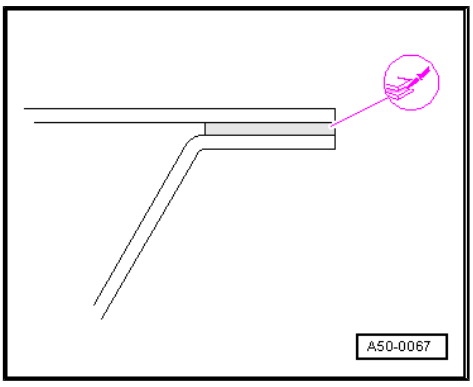
When performing repairs, laser weld seams are replaced by SG welds or pop rivets.

19 Bonded joints

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

19.1 Bonded joints

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

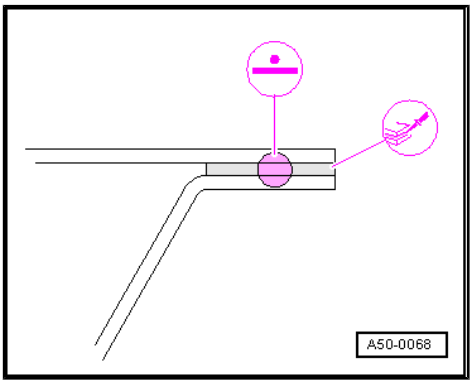


19.2 Spot-welded/bonded joints

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

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

Spot-weld bonding is not carried out in the service sector.



19.3 Inspecting and repairing bonded joints

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

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

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

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

19.4 Repair methods for replacing body parts

When performing repair work all spot-welded/bonded joints and some bonded joints can be replaced with welded joints.

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.

Ensure good root penetration at all joints.

Seal off repaired joint flanges and apply cavity sealing.

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20 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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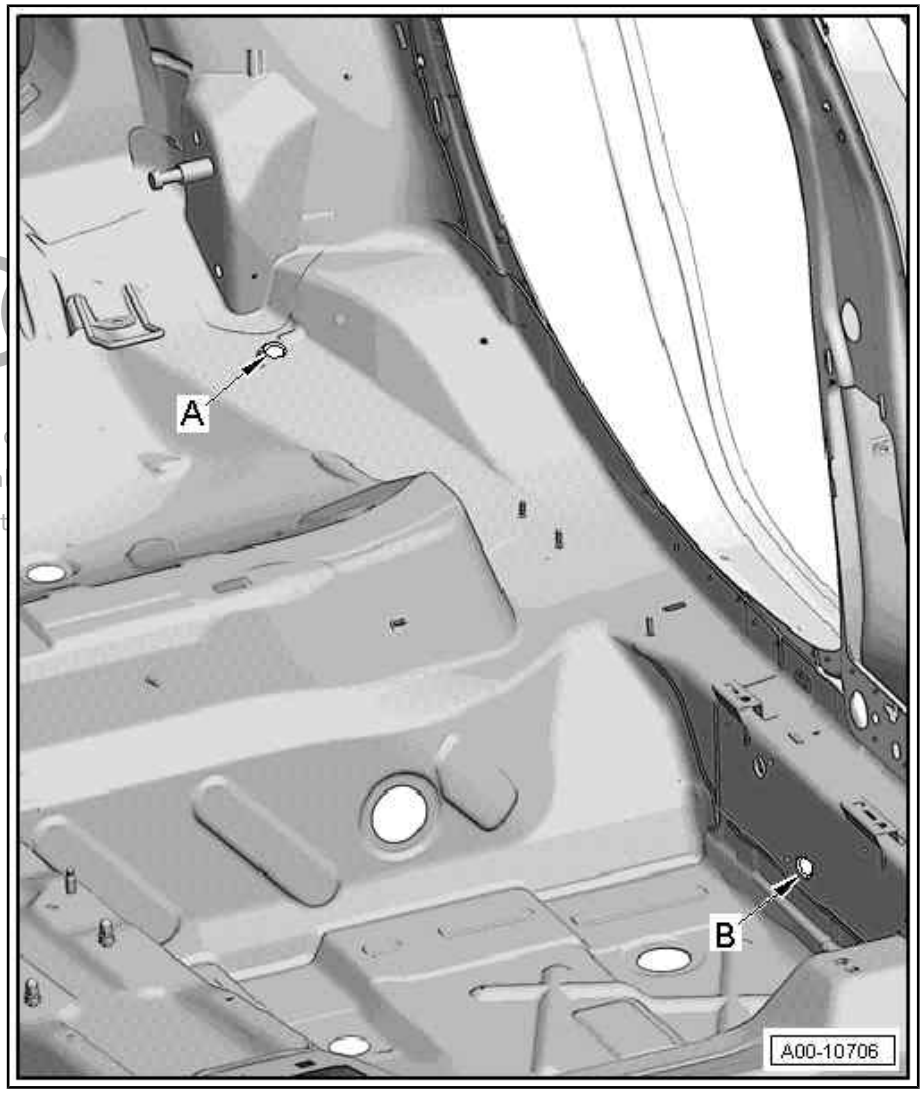
21 Repairing thread for seat belt anchorage

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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22 Straightening jig

Note

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

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Alignment bracket set supplement (alignment set, Audi A5 2016 - VAS 801 025-)

Portal gauge, Audi A5 2016

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

50 – Body - front

RO: 50 65 55 00

1 Impact damper mounting - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

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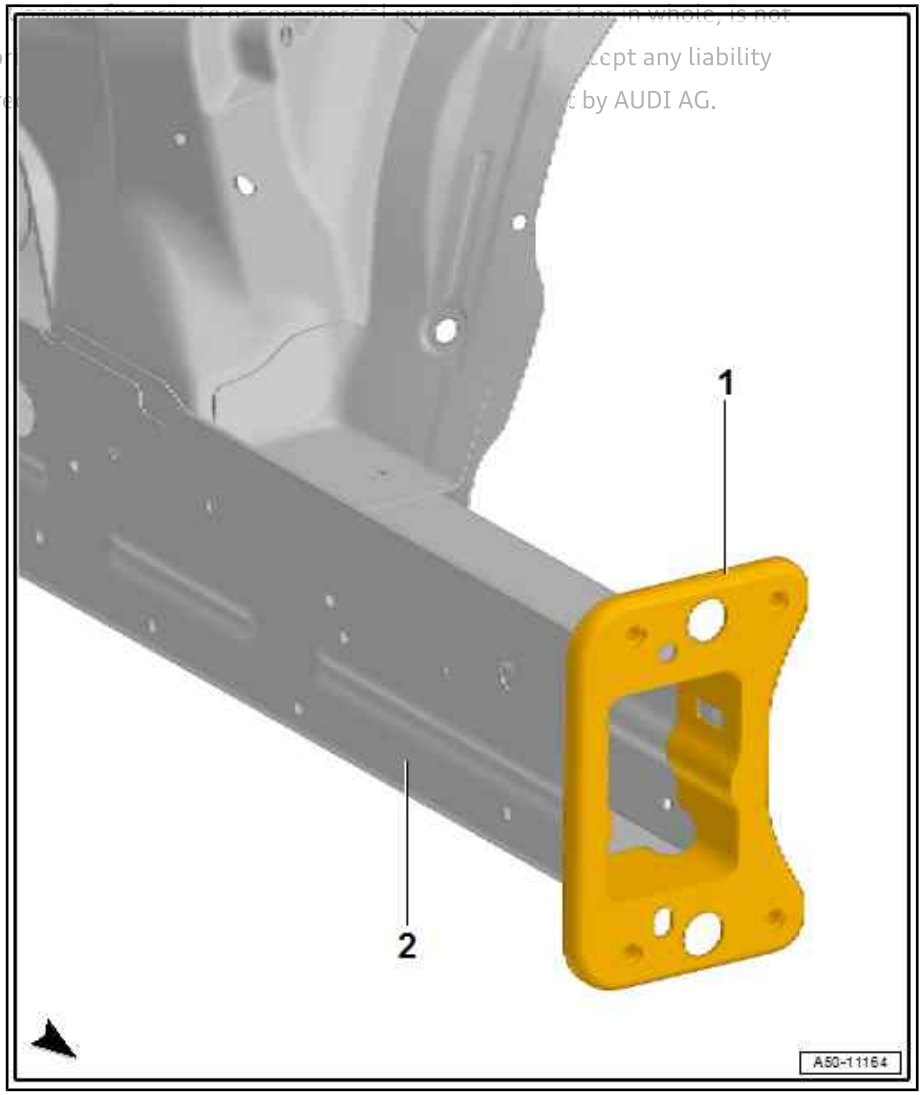
1 - Impact damper mounting

2 - Front longitudinal member



1.1 Tools

Special tools and workshop equipment required

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

♦ Drill

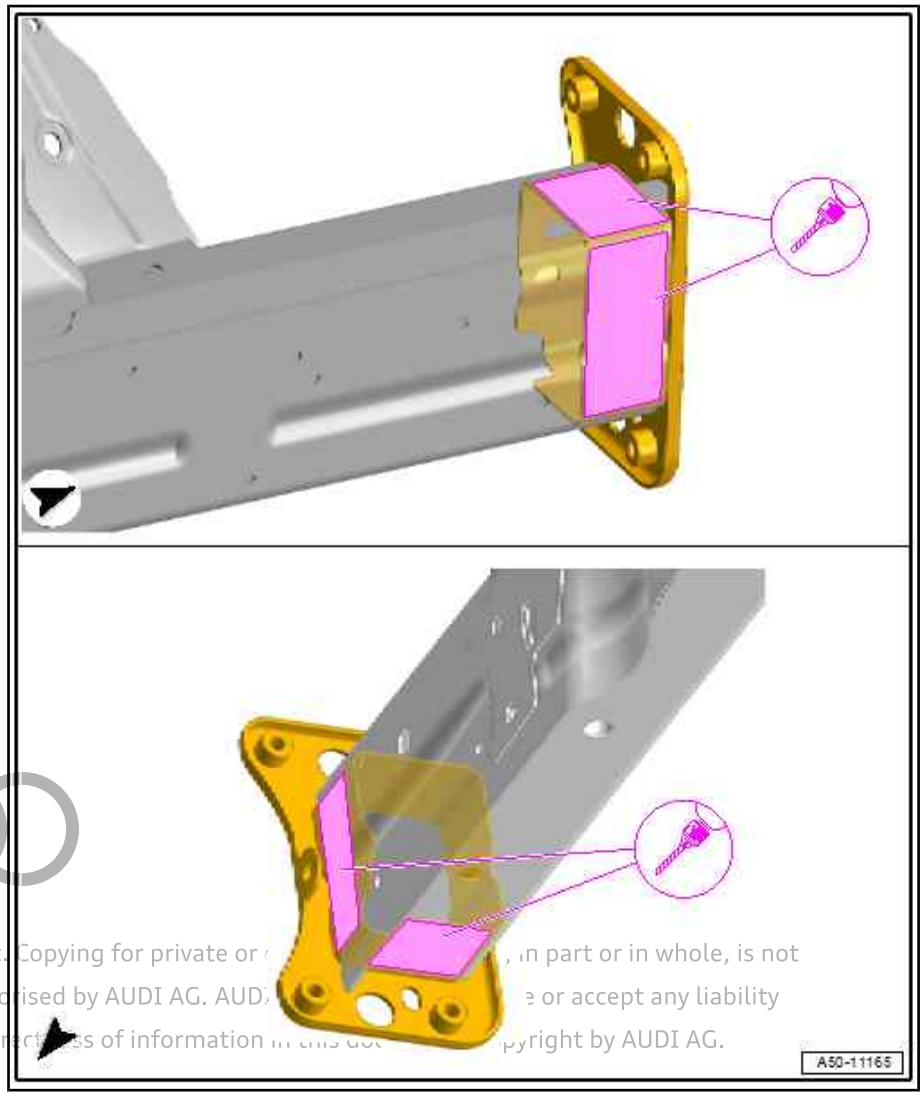
Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

1.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .



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– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.

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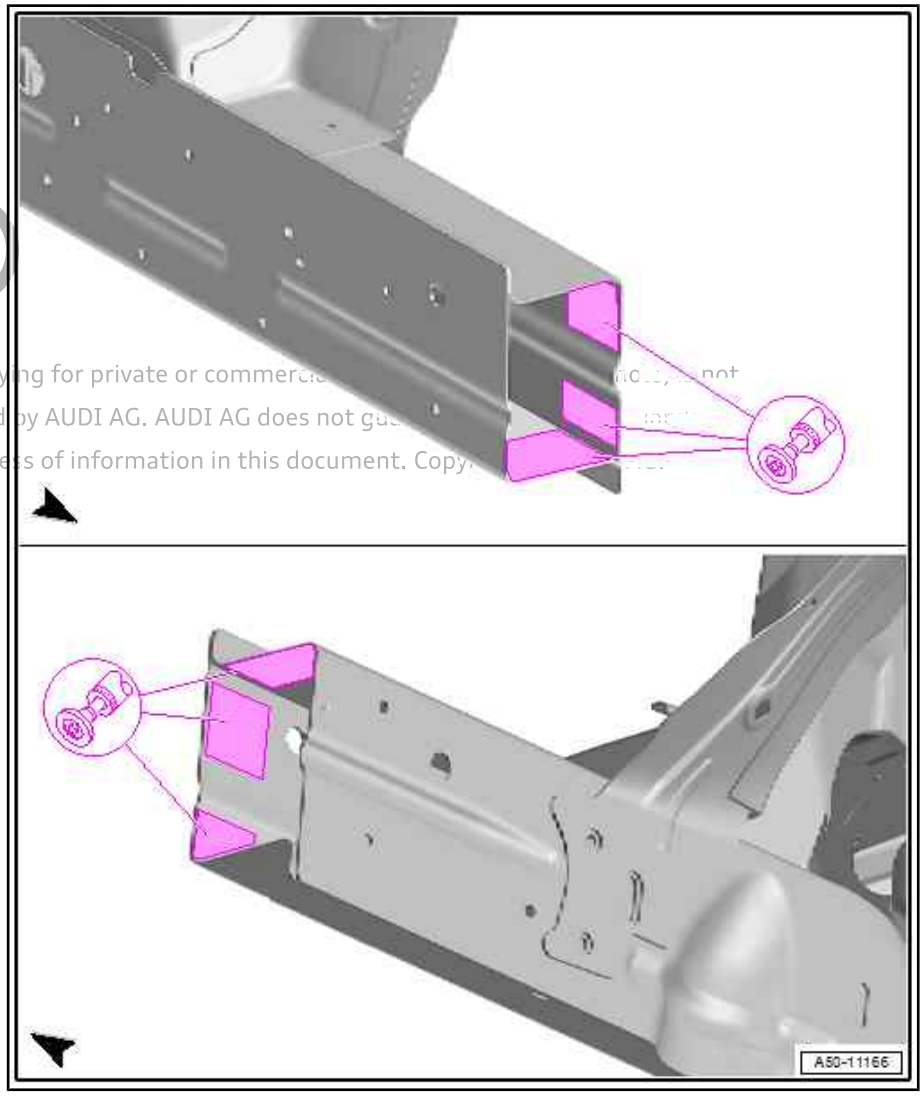


Replacement part

- Impact damper mounting

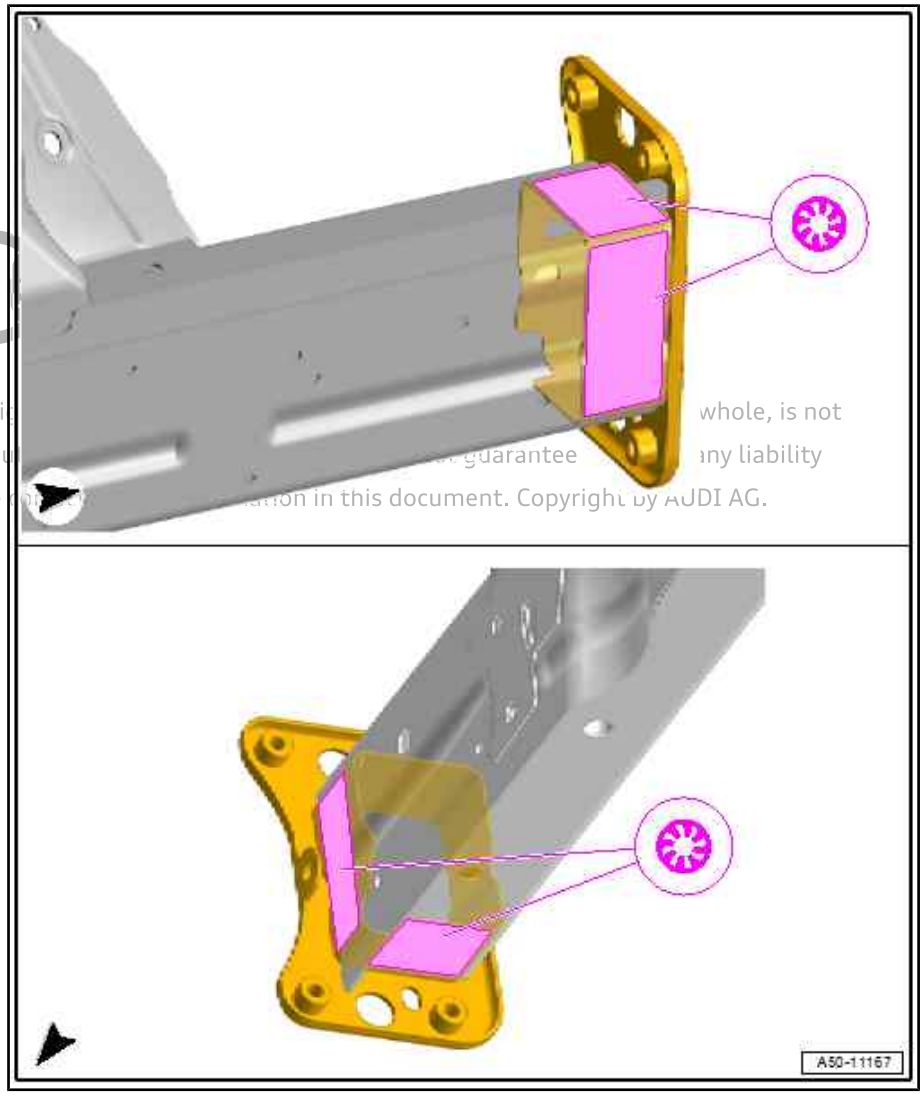
Note

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

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

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



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RO: 50 72 55 00

2 Upper longitudinal member for wheel housing - Partial renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Upper wheel housing longitudinal member

- ❑ Upper part

2 - Suspension turret

3 - Moulded foam insert

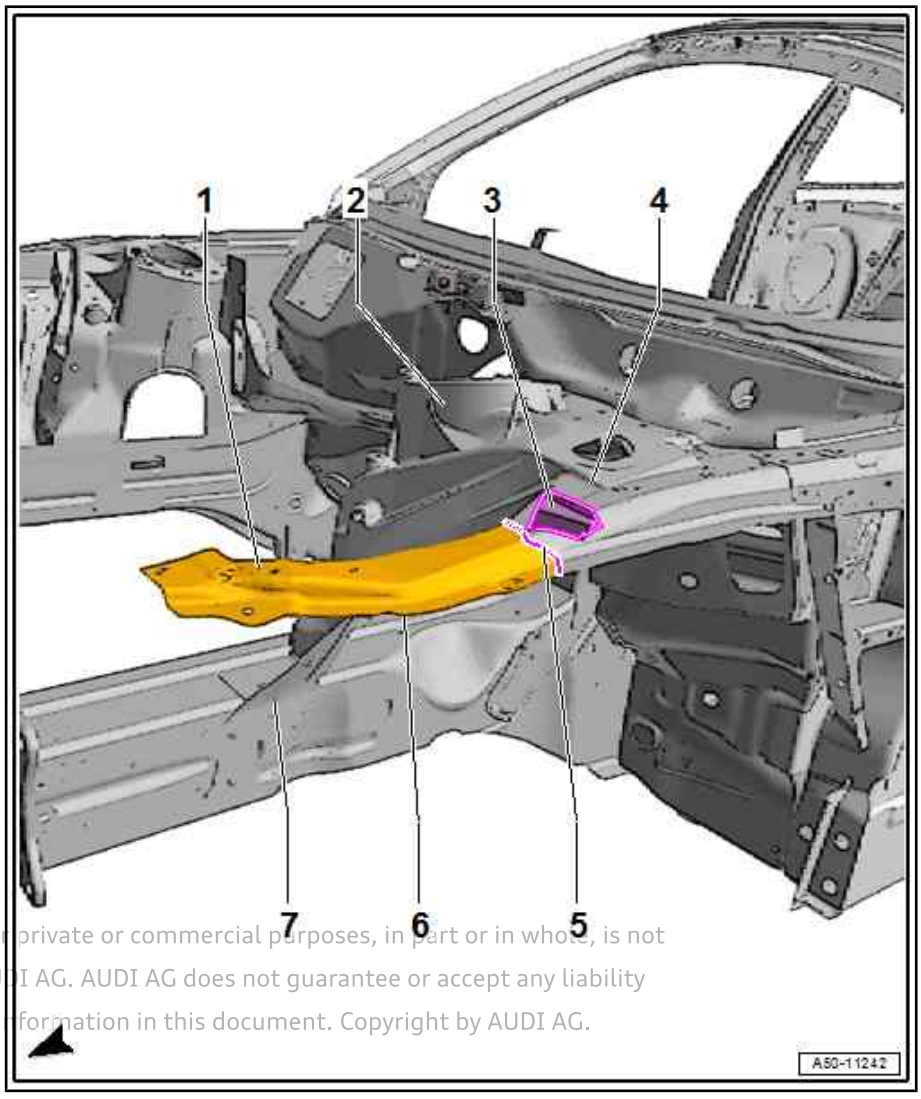
4 - A-pillar joint

5 - Separating cut

6 - Upper wheel housing longitudinal member

- ❑ Lower part

7 - Front wheel housing



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2.1 Tools

Special tools and workshop equipment required

- Resistance spot welder - VAS 6545A-
- Shielded arc welding equipment
- Compact angle grinder
- Body saw
- Spot weld breaker

- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

2.2 Procedure

Note

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

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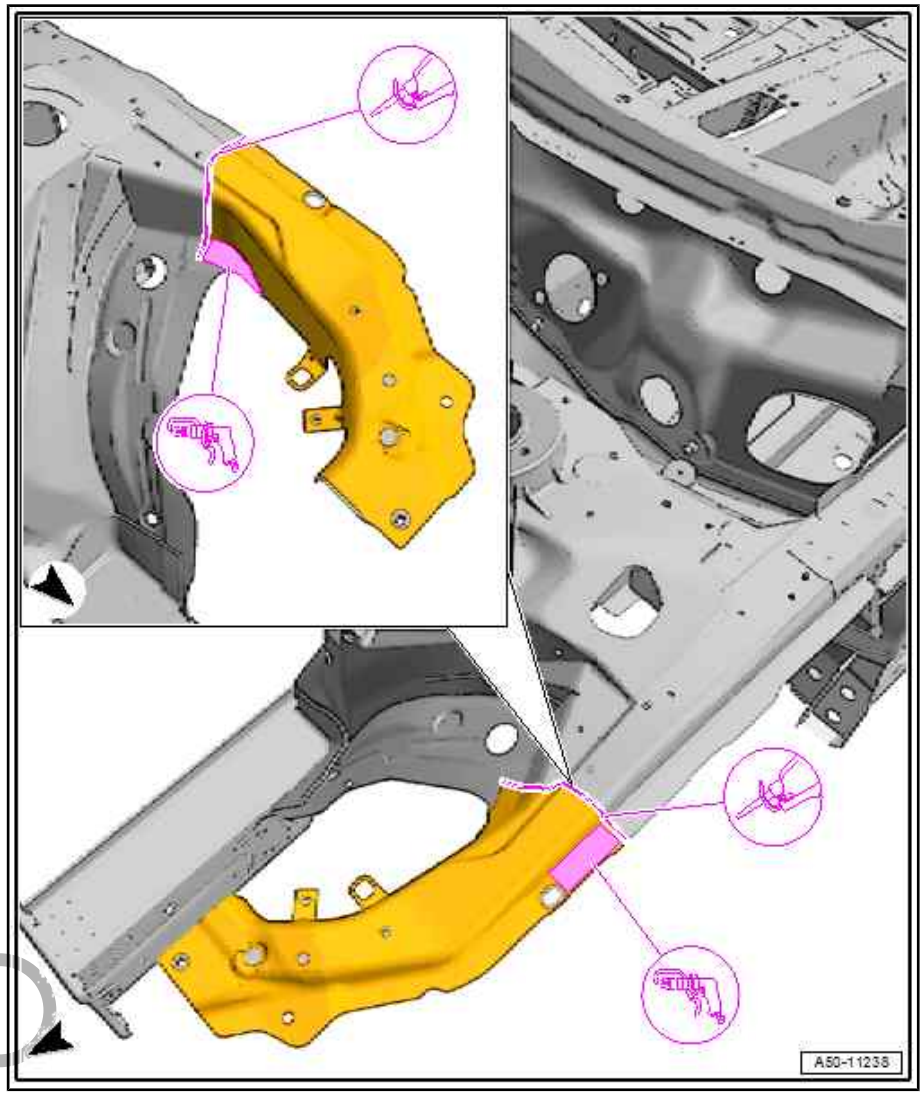
Cutting locations

Note

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

– The separating cuts at the top and bottom should be made as shown using the body saw so that they are offset; this will provide the necessary strength when welding in.
– Separate original joint using spot weld breaker .



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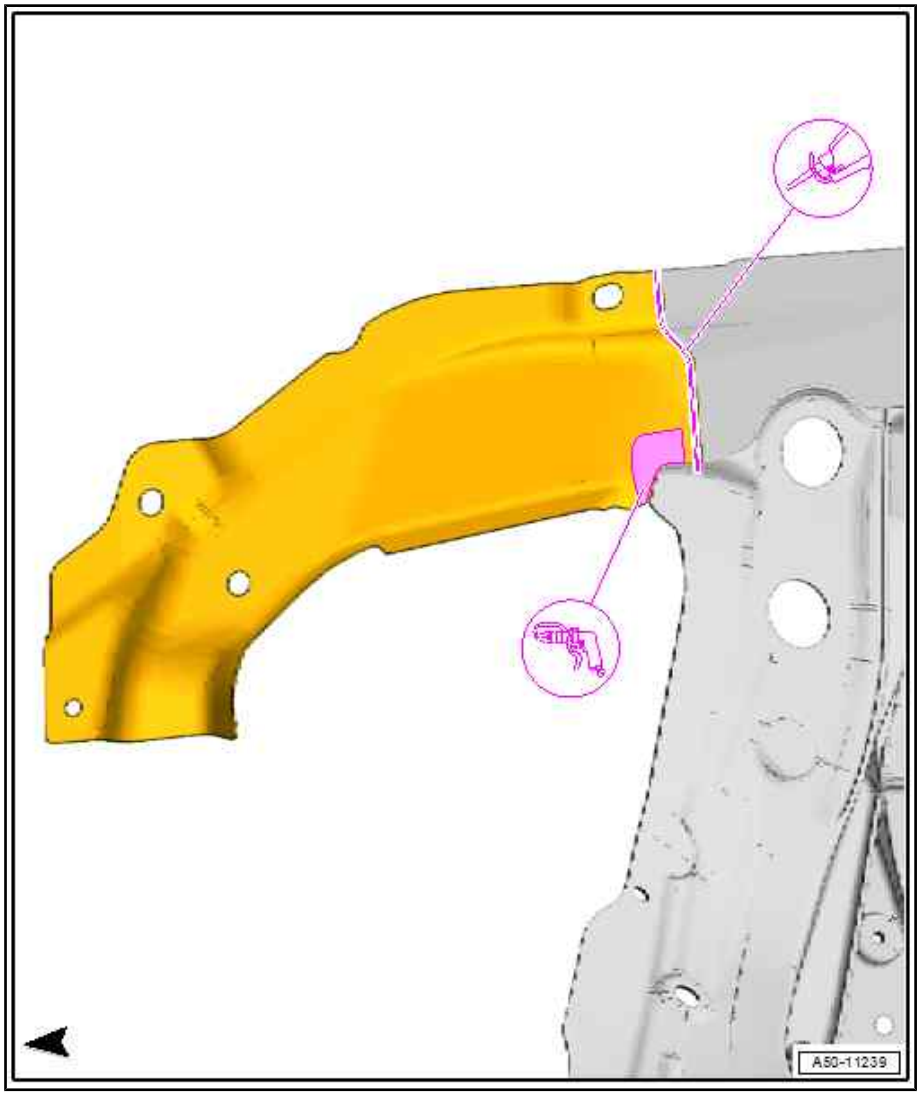
Note

Make separating cut in the lower panel so that it is offset from upper separating cut.

- Make separating cut in lower panel as shown using body saw . Take care not to damage wheel housing.
- Separate original joint using spot weld breaker .
- Detach upper part and lower part of longitudinal member for wheel housing.



– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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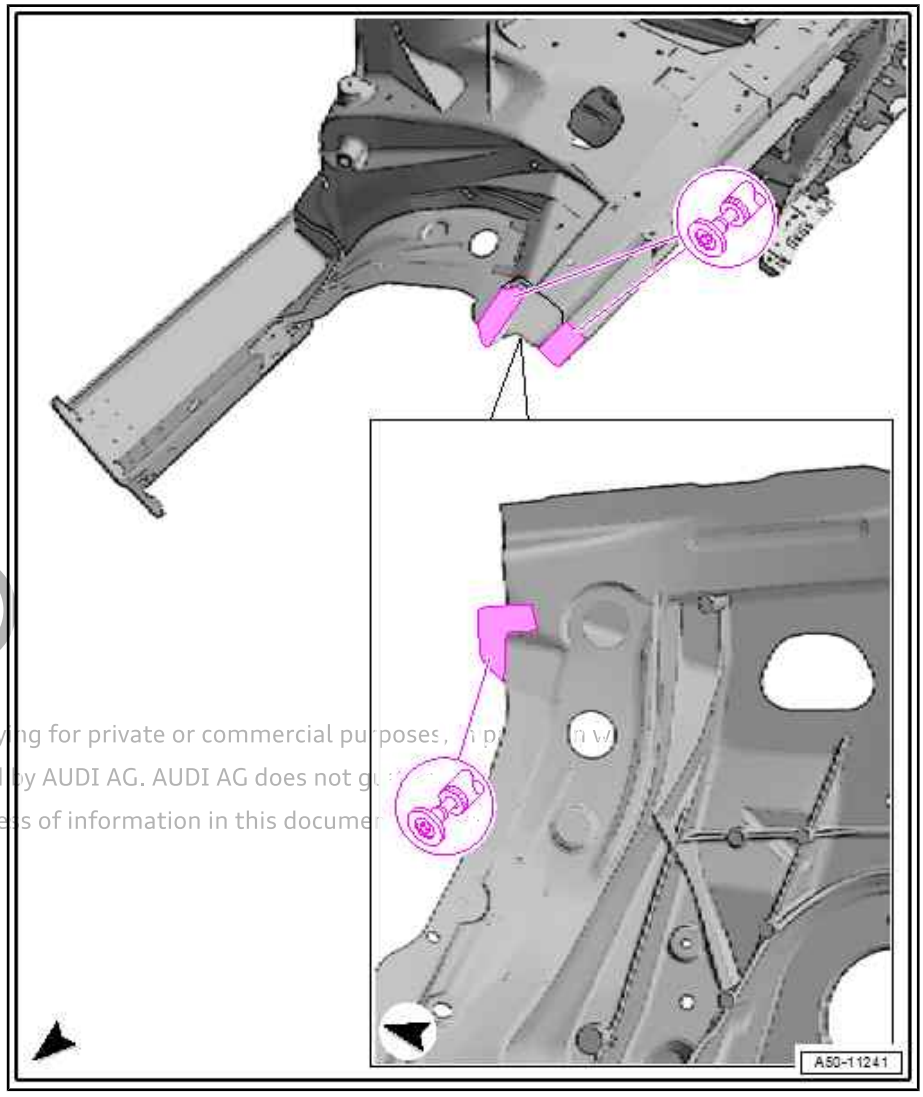

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Replacement parts

- Upper longitudinal member for wheel housing (upper part)
- Upper longitudinal member for wheel housing (lower part)

Preparing new part

– Transfer separating cuts to new part.
– Cut new part to size using body saw .
– Grind welding areas down to bare metal.

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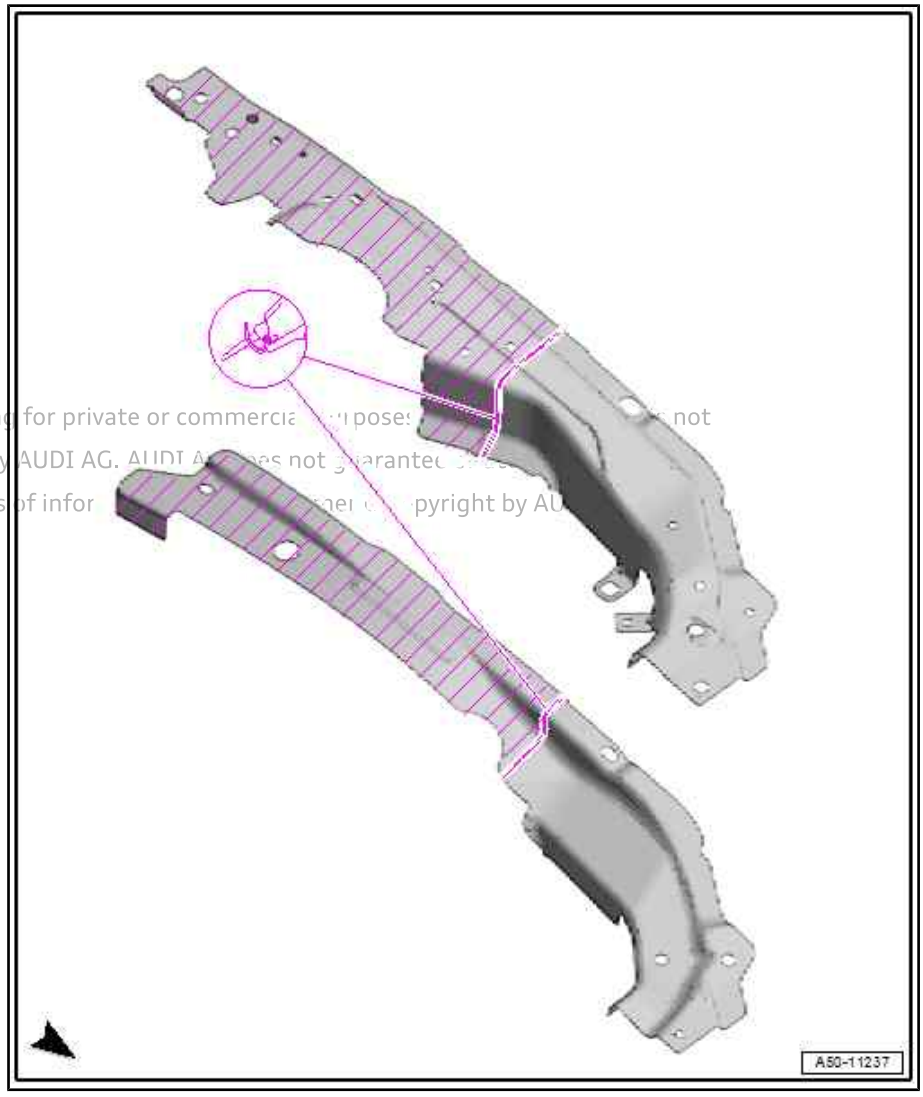
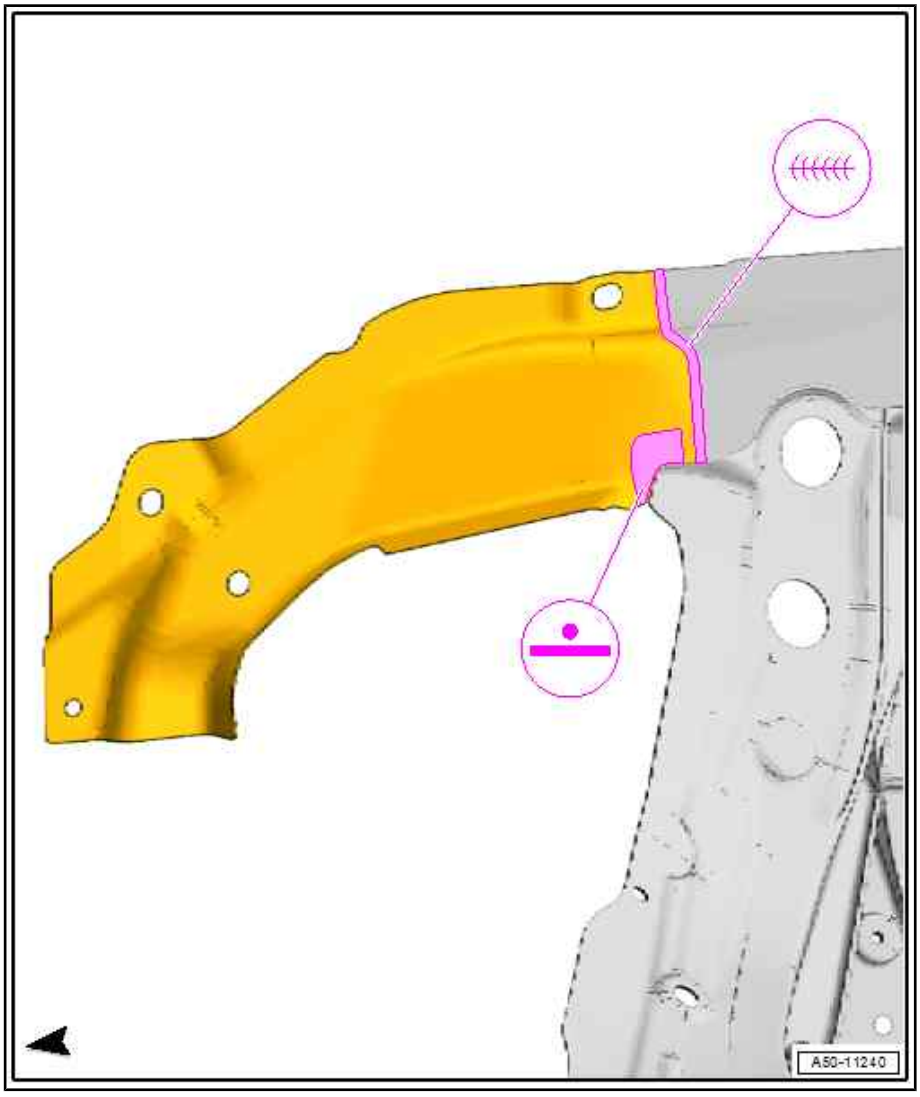


Note

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

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



– Match up longitudinal member for wheel housing (upper part) and fix in place.
– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.

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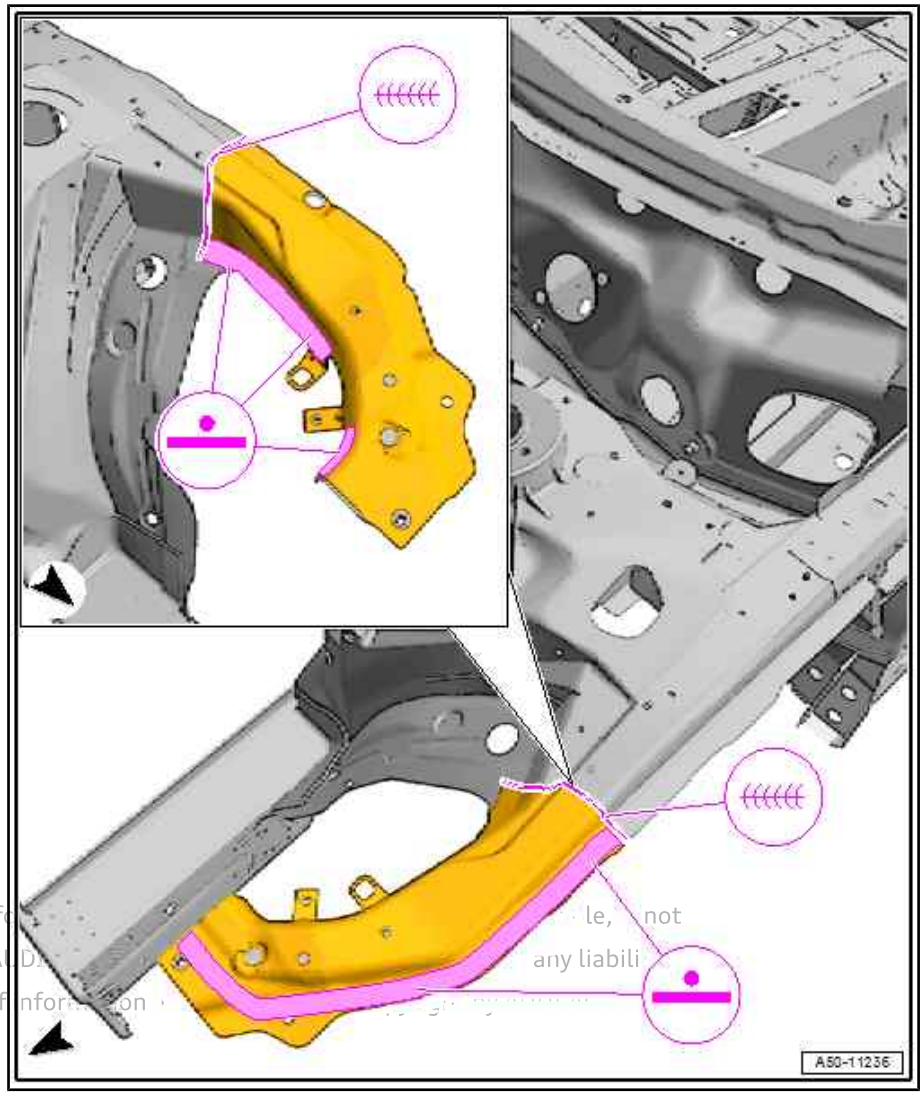

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RO: 50 72 55 00

3 Upper longitudinal member for wheel housing - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

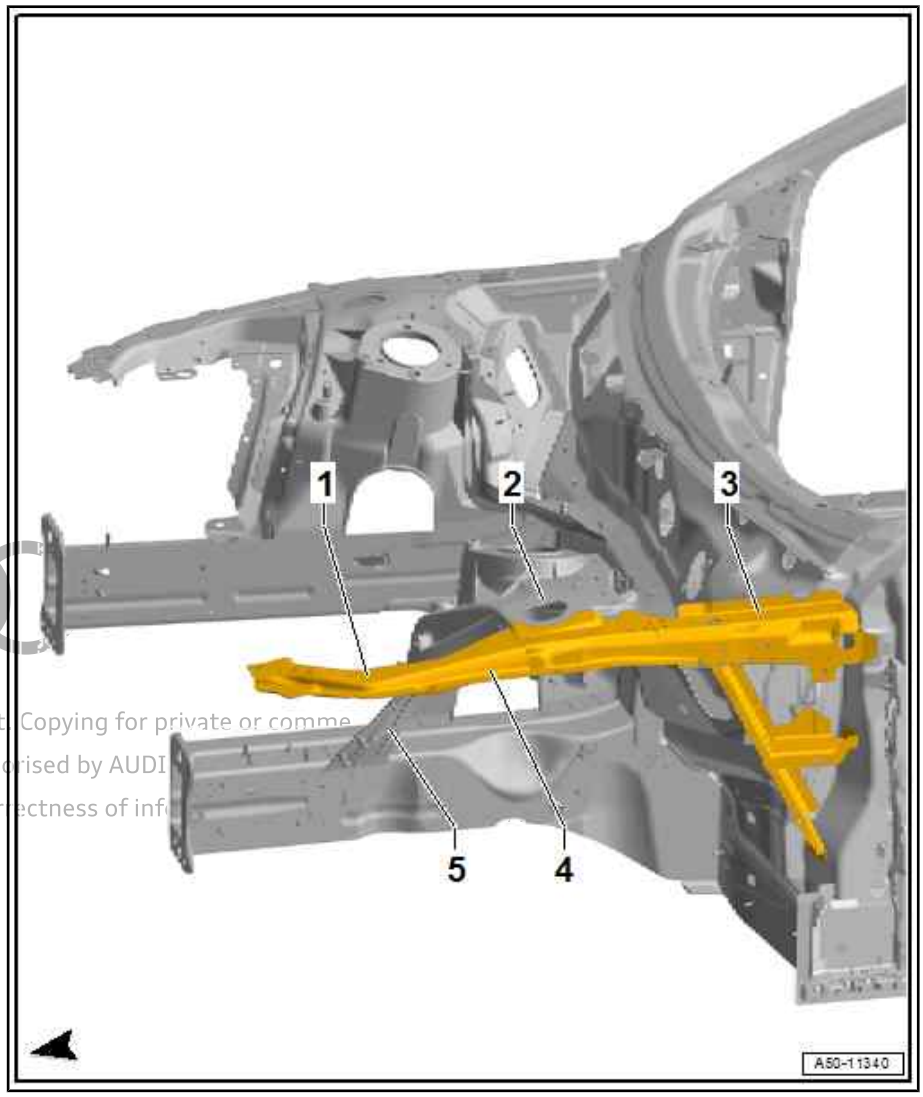
1 - Upper wheel housing longitudinal member
- ❑ Upper part

2 - Suspension turret

3 - A-pillar joint

4 - Upper wheel housing longitudinal member
- ❑ Lower part

5 - Front wheel housing



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3.1 Tools

Special tools and workshop equipment required

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

♦ Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

3.2 Procedure

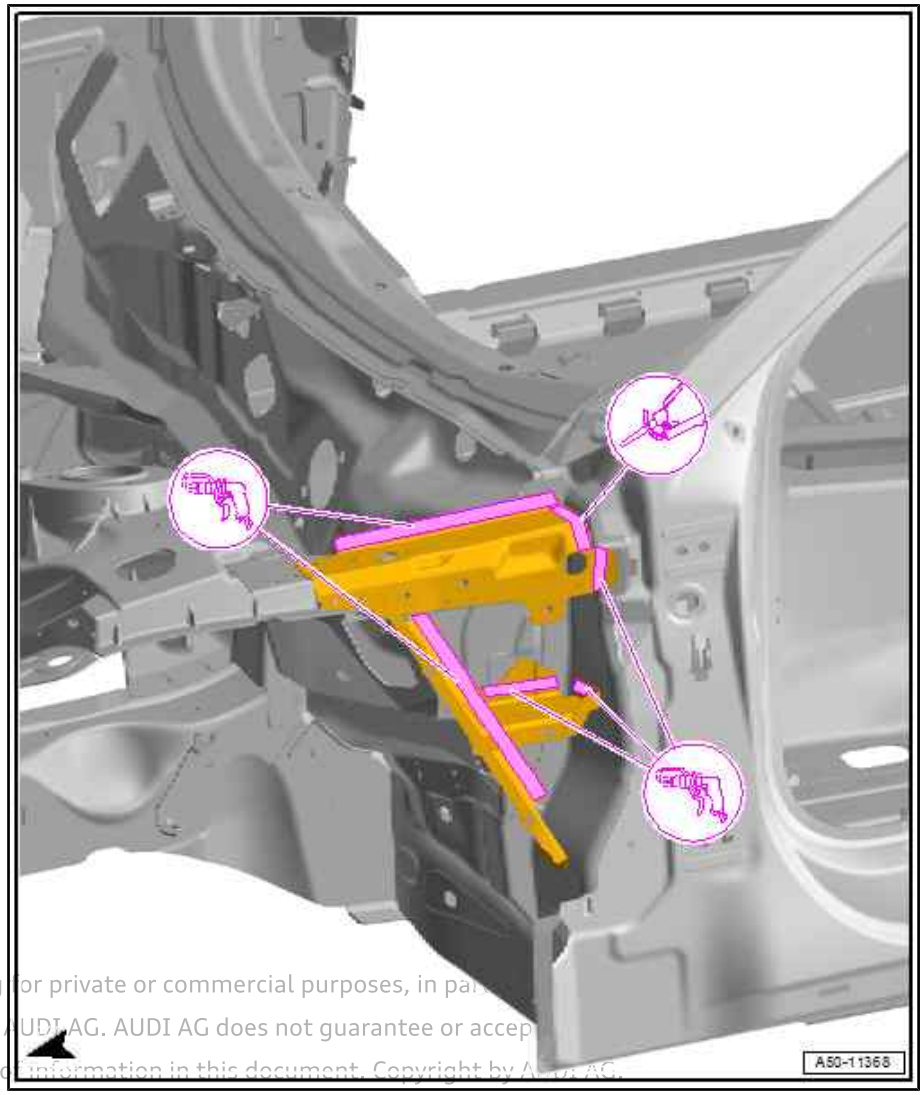
Note

Straightening and re-alignment work must not be carried out on the front section of the Audi A5 body, because this could cause cracking in the aluminium castings that may not be externally visible.

Cutting locations

– Separate original joint using body saw .

– Separate original joint using spot weld breaker .



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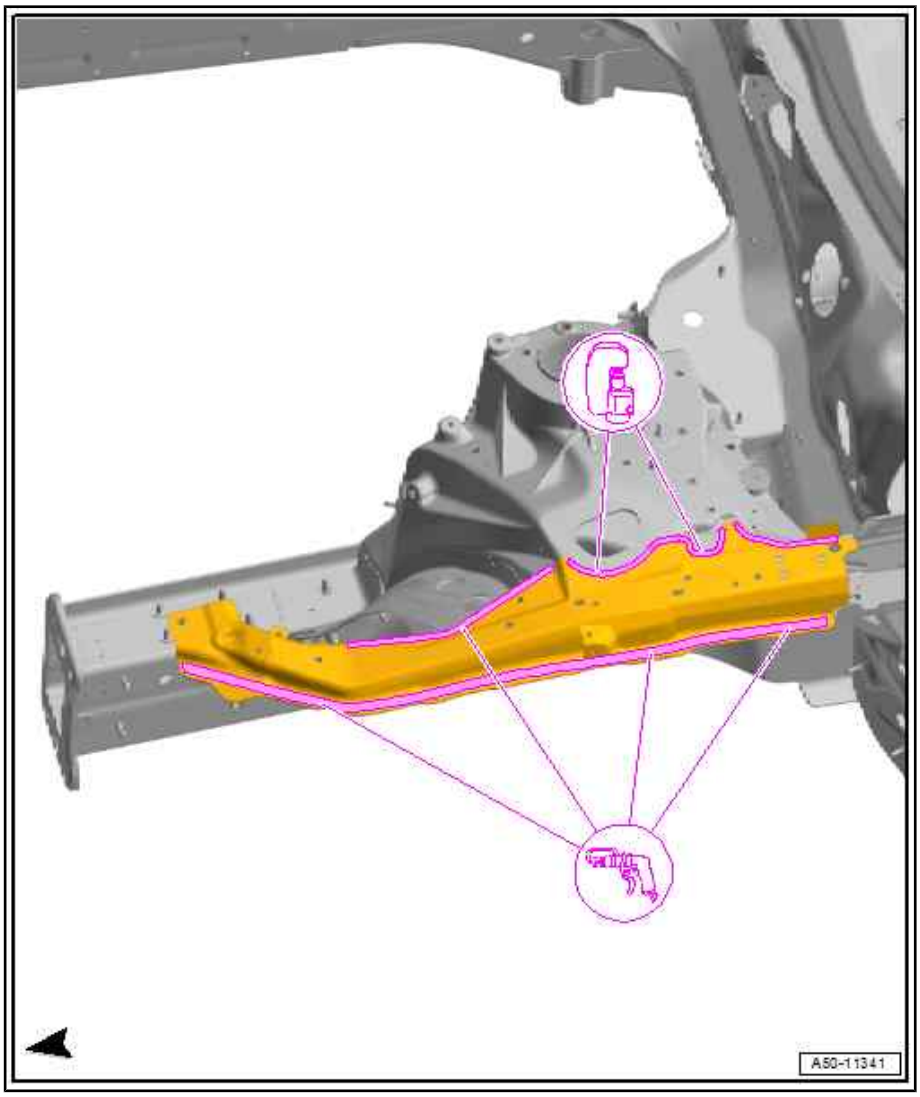
– Separate original joint using rechargeable riveter - VAS 843 001- or compact booster - VAS 6790/20- . Use attachment to do so.
– Separate original joint using spot weld breaker .



– Separate original joint using rechargeable riveter - VAS 843 001- or compact booster - VAS 6790/20- . Use attachment to do so.
– Separate original joint using spot weld breaker .

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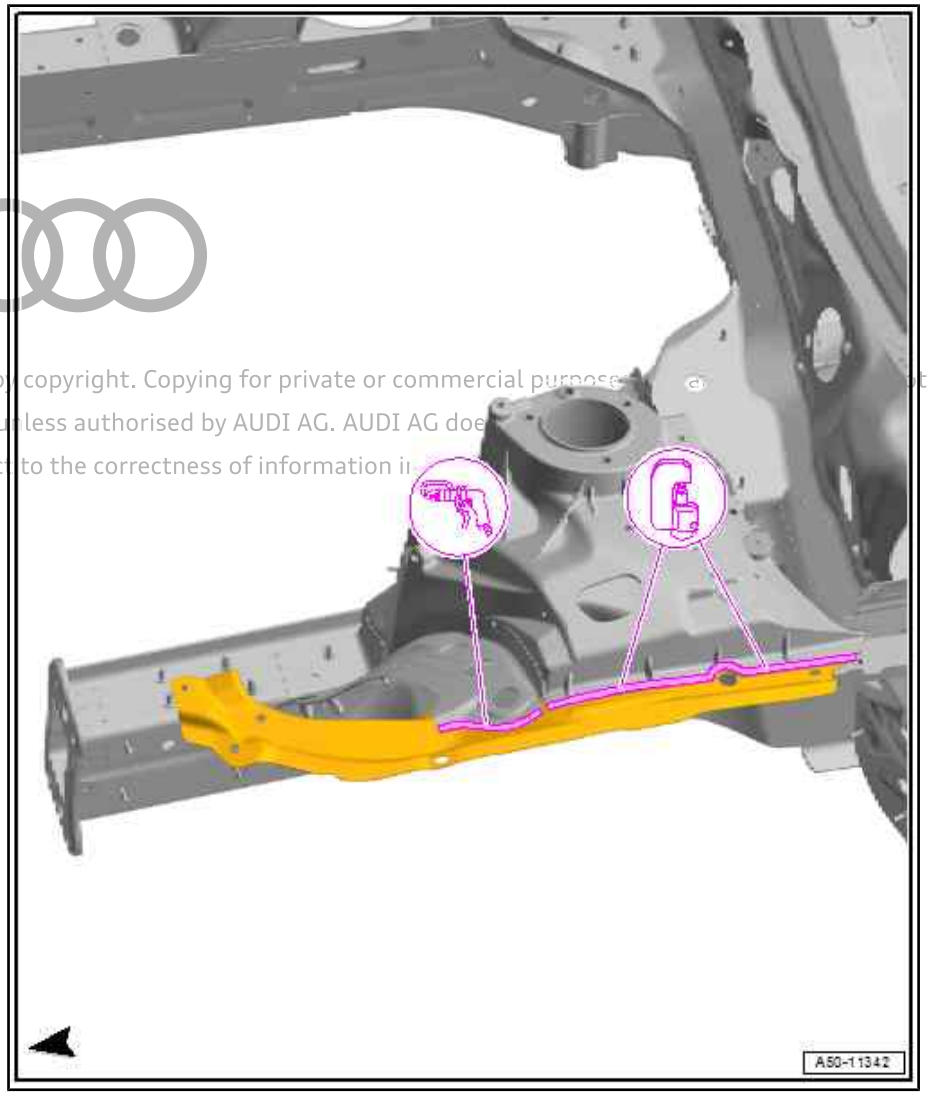

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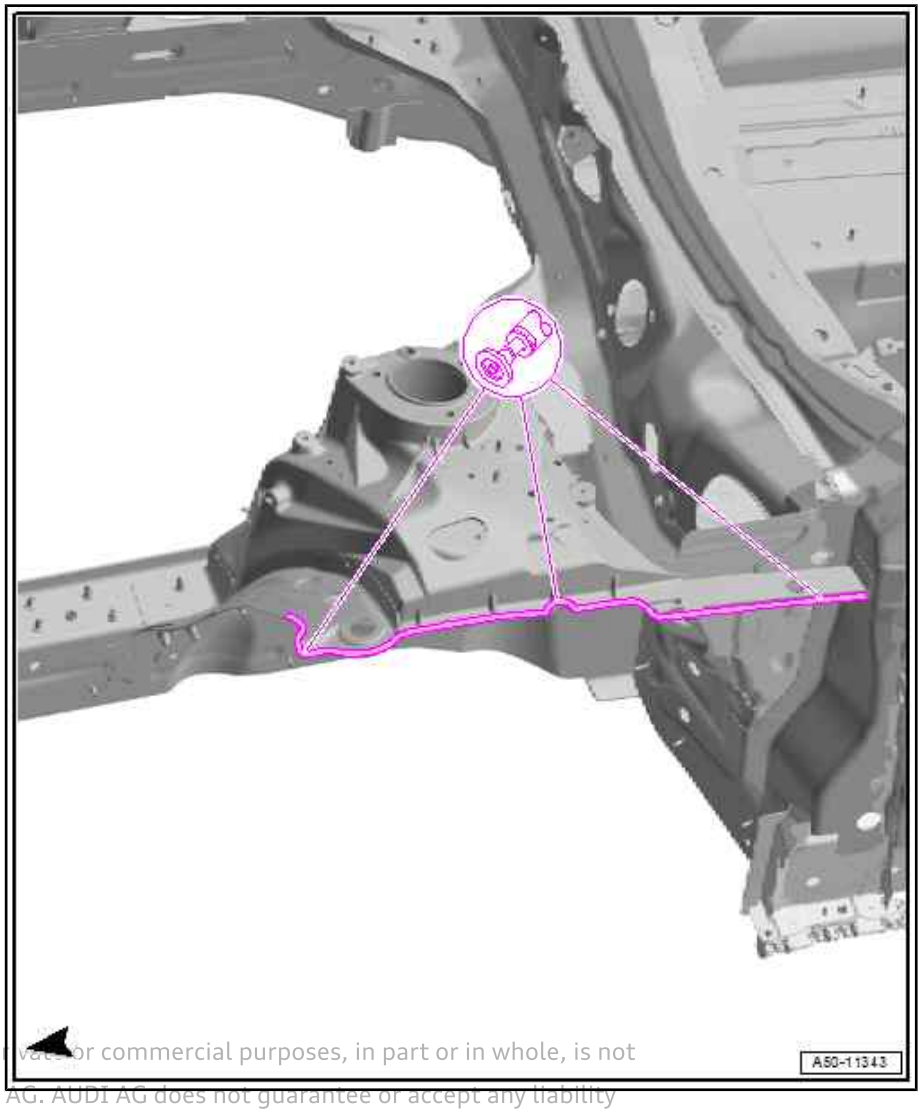
Note

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

– Remove remaining material using compact angle grinder .



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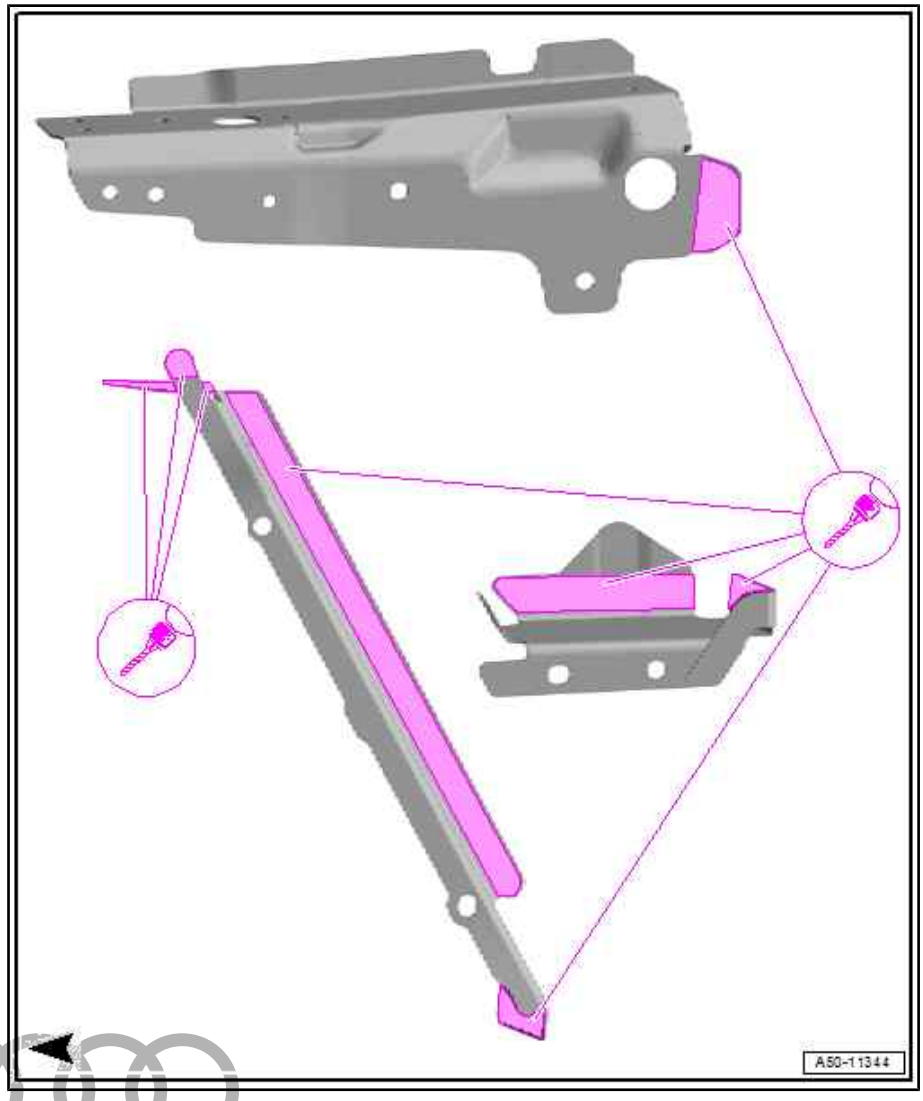
Replacement parts

- Upper longitudinal member for wheel housing (upper part)
- Upper longitudinal member for wheel housing (lower part)
- Closure plate
- Cleaning solution - D 009 401 04-
- Silicate stone - DA 009 800-
- Aluminium primer - DA 009 801-
- Applicator - D 009 500 25-
- 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges

Preparing new parts

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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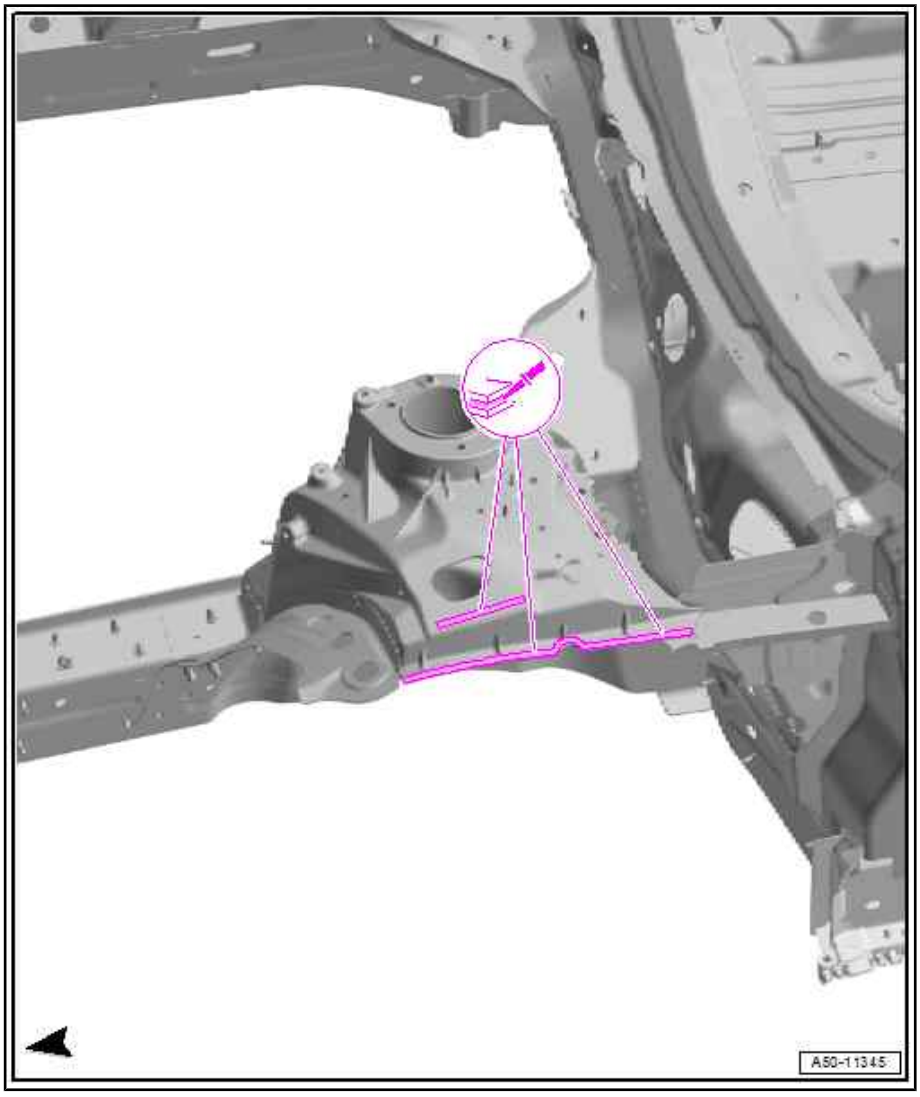
Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.

Welding in

- Clean bonding surfaces with cleaning solution - D 009 401 04- .
- Treat flanges with silicate stone - DA 009 800- and holder - V.A.G 1931- .
- Apply a thin coat of aluminium primer - DA 009 801- using applicator - D 009 500 25- and allow to flash off.

A silicate adhesive layer is formed which ensures long-term durability of the bonded joint. The surface becomes matt.

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



– Match up new part with vehicle positioned on alignment bracket set and fix in place.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.
– Drill 6.8 mm ∅ holes for pop rivets - WHT 005 413- in positions of punch rivets using drill .
– Rivet in new part using compact booster - VAS 6790/20 - and pop rivets - WHT 005 413- .

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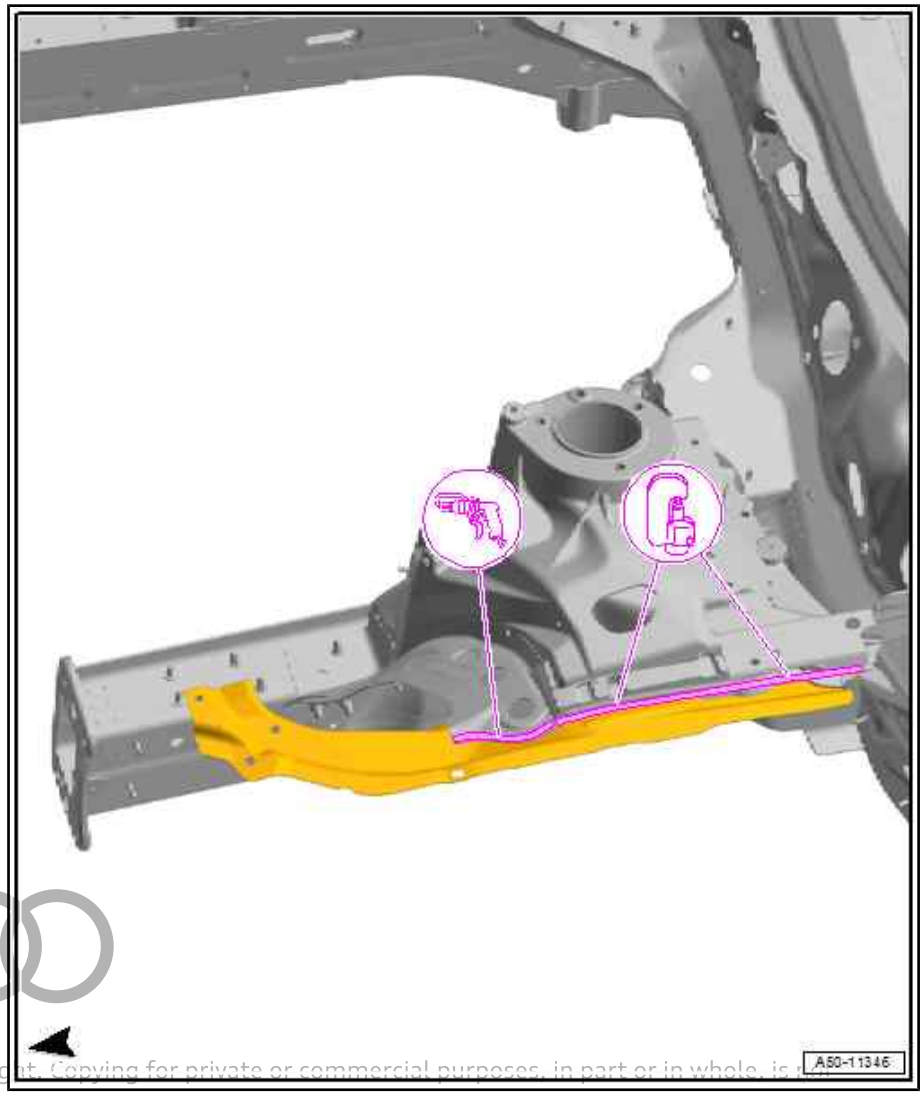

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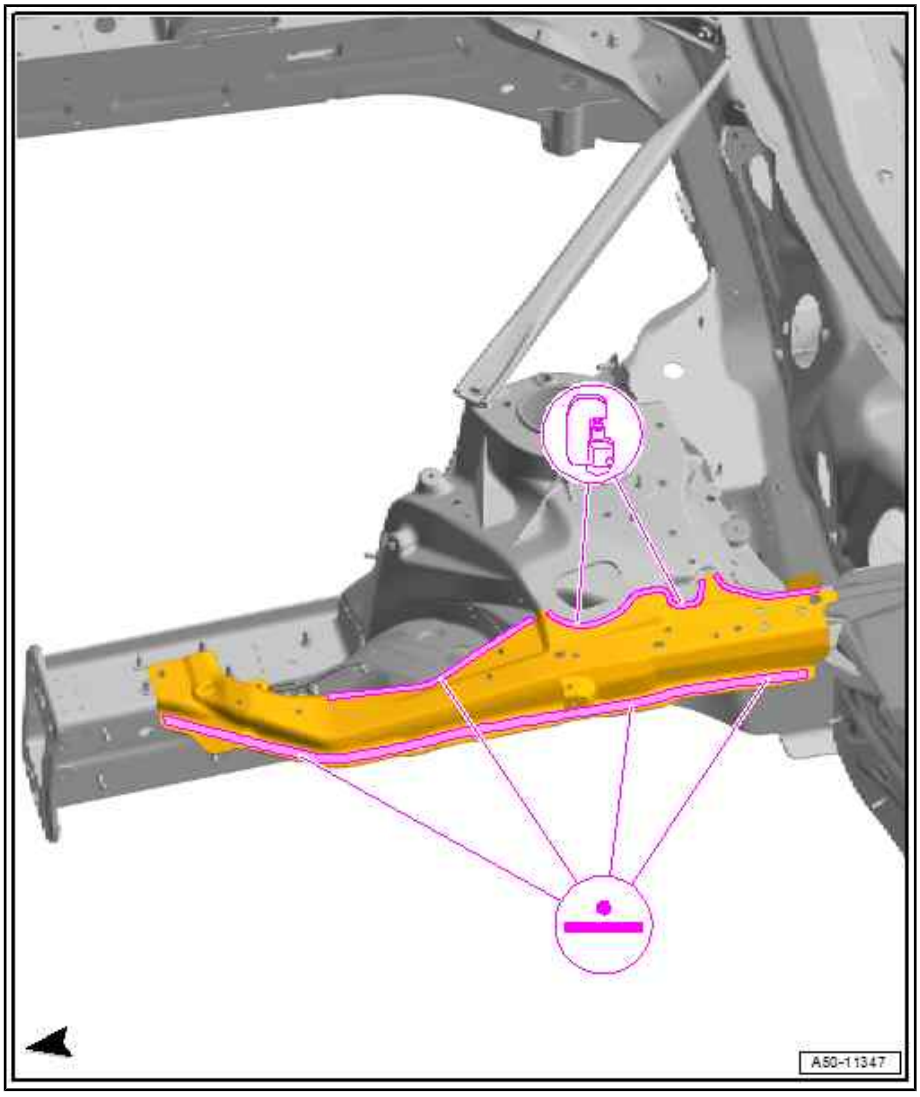
– Weld in new parts using resistance spot welder : RP spot weld seam.
– Drill 6.8 mm ∅ holes for pop rivets - WHT 005 413- in positions of punch rivets using drill .
– Rivet in new part using compact booster - VAS 6790/20 - and pop rivets - WHT 005 413- .



- Match up new parts and fix in position.
- Check fit relative to bolt-on parts.
- Weld in new parts using resistance spot welder : RP spot weld seam.
- Weld in new parts using shielded arc welding equipment : SG plug weld seam.

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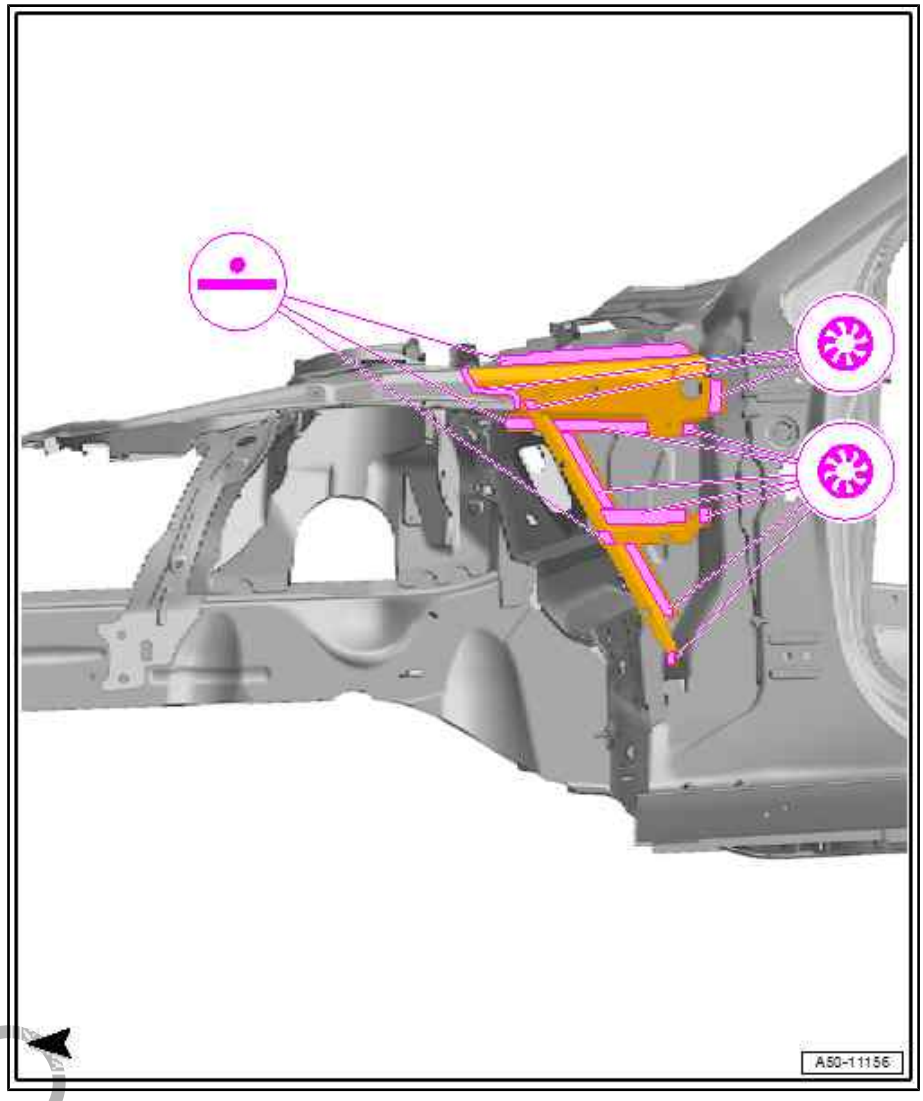

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RO: 50 79 55 02

4 Front longitudinal member - Partial renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Inner separating cut

2 - Front longitudinal member

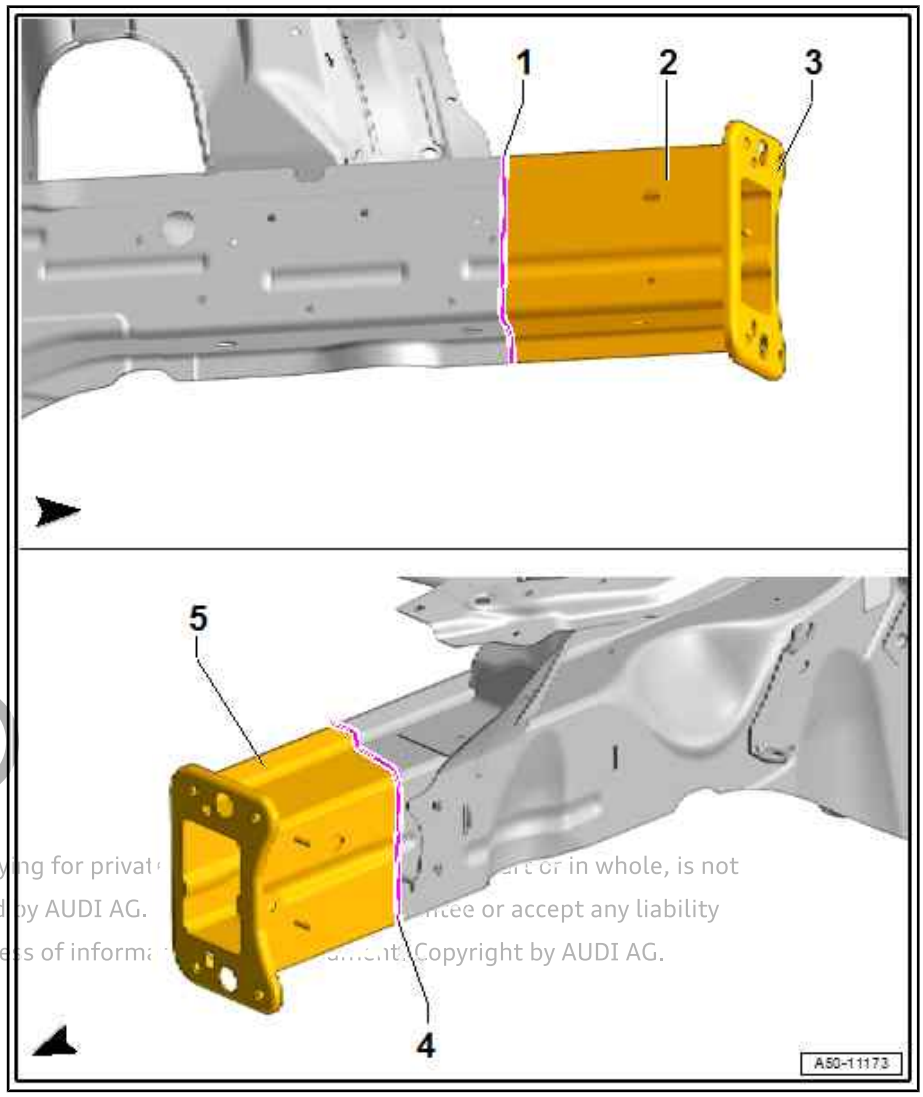
- ❑ Inner section

3 - Impact damper mounting

4 - Outer separating cut

5 - Closure plate for longitudinal member

- ❑ Outer part



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4.1 Tools

Special tools and workshop equipment required

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

- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 *.*

4.2 Procedure

Note

Straightening and re-alignment work must not be carried out on the front section of the Audi A5 body, because this could cause cracking in the aluminium castings that may not be externally visible.

Cutting locations

– Measure and mark separating cuts.

– Make separating cuts with body saw , as shown.

– Separate original joint using spot weld breaker .

- Dimension -a- = 200 mm
- Dimension -b- = 170 mm

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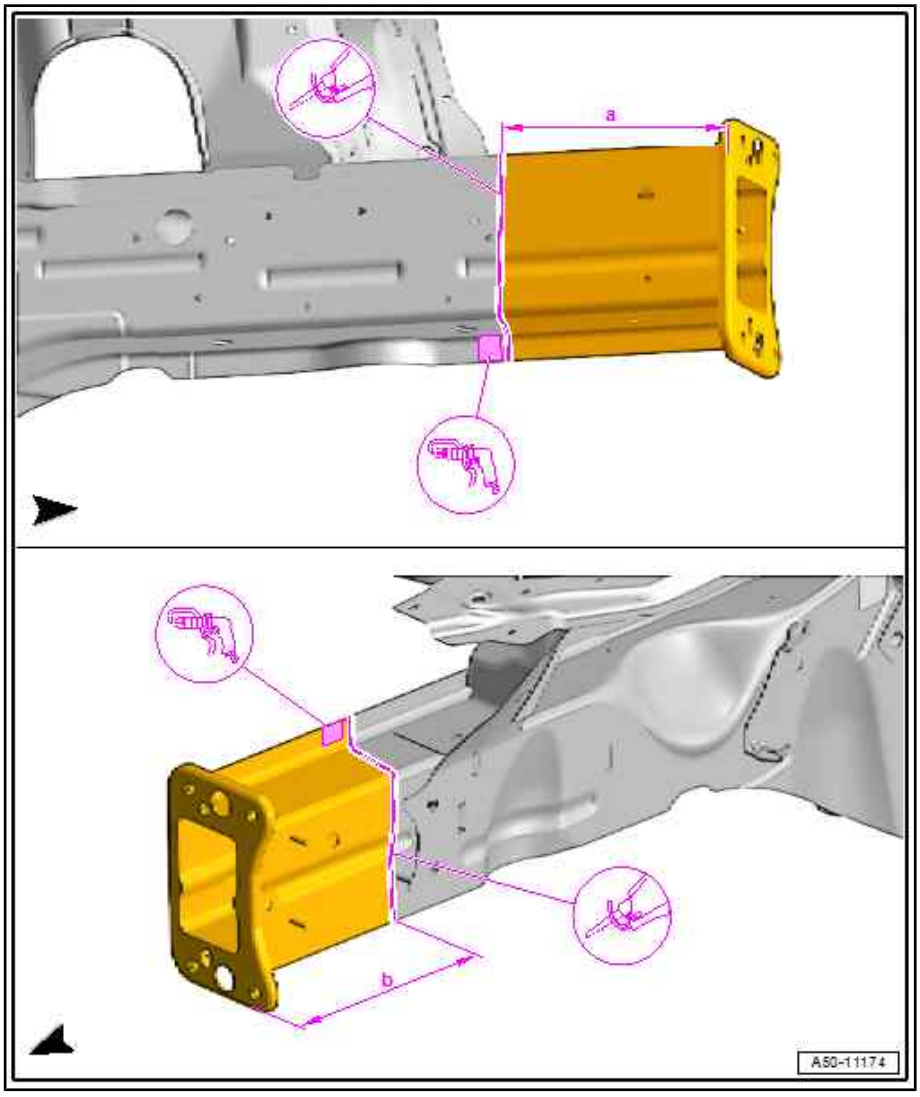

– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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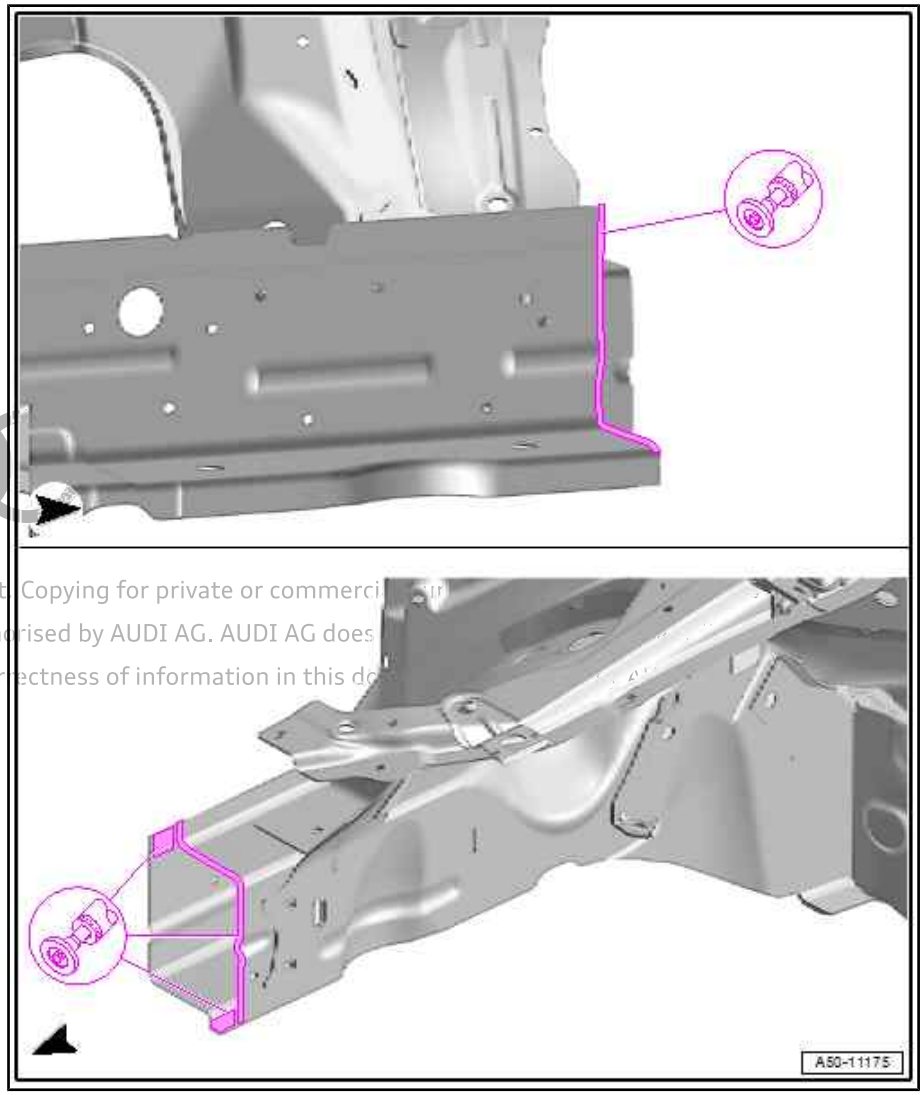

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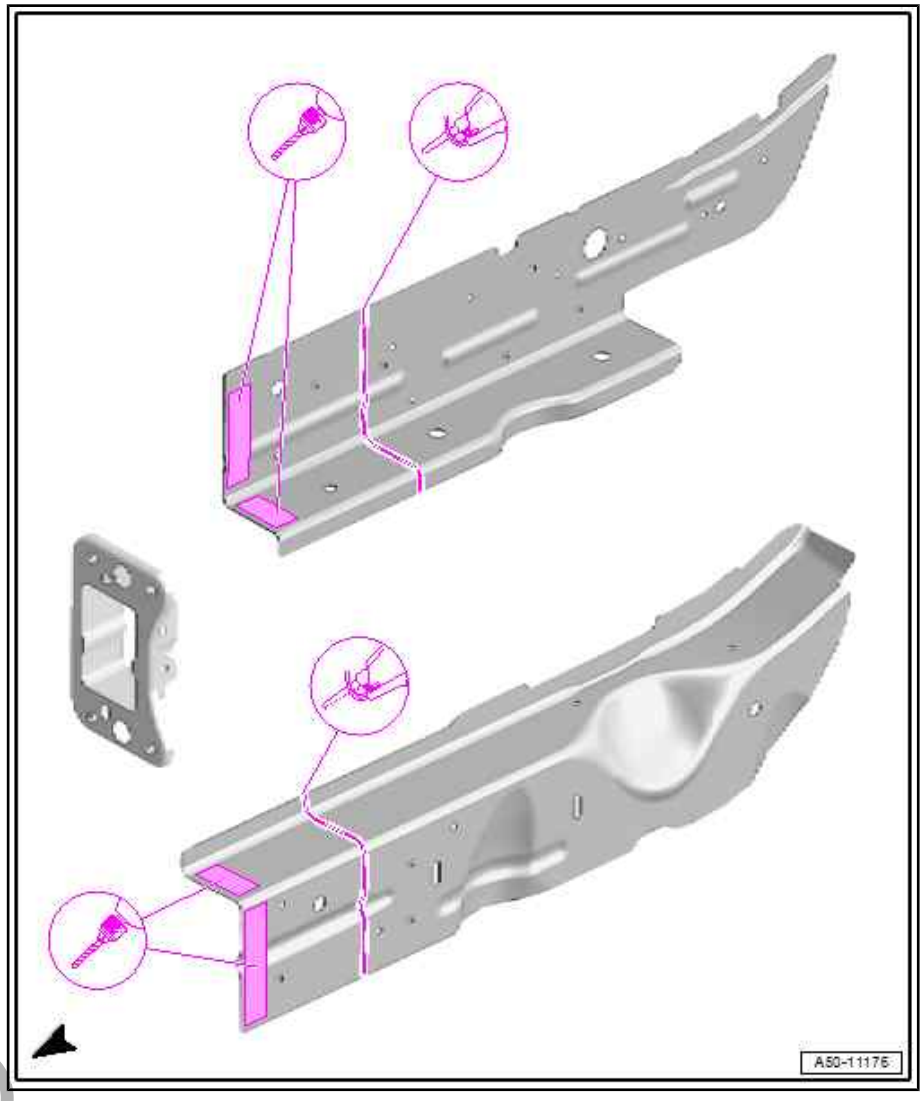
Replacement part

- Sub-part - front longitudinal member
- Sub-part - closure plate for front longitudinal member
- Impact damper mounting

Preparing new part

– Transfer separating cuts to new parts.
– Cut new parts to size using body saw .
– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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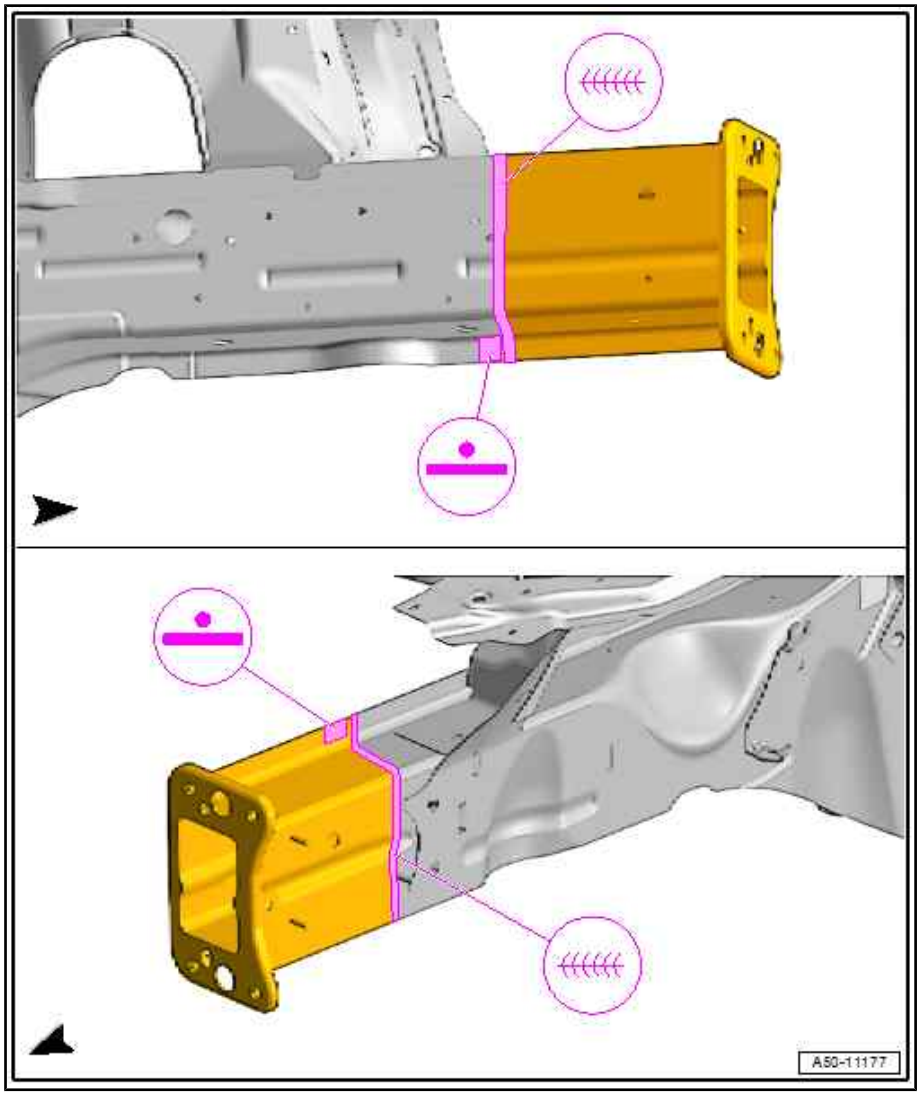
Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.

Welding in

- Match up new parts with vehicle positioned on alignment bracket set and fix in place.
- Check fit relative to bolt-on parts.
- Butt weld all around at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in new part using resistance spot welder : RP spot weld seam.



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RO: 50 74 55 04

5 Front longitudinal member with suspension turret - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Suspension turret

2 - Reinforcements at A-pillar

3 - Outer footwell cross member

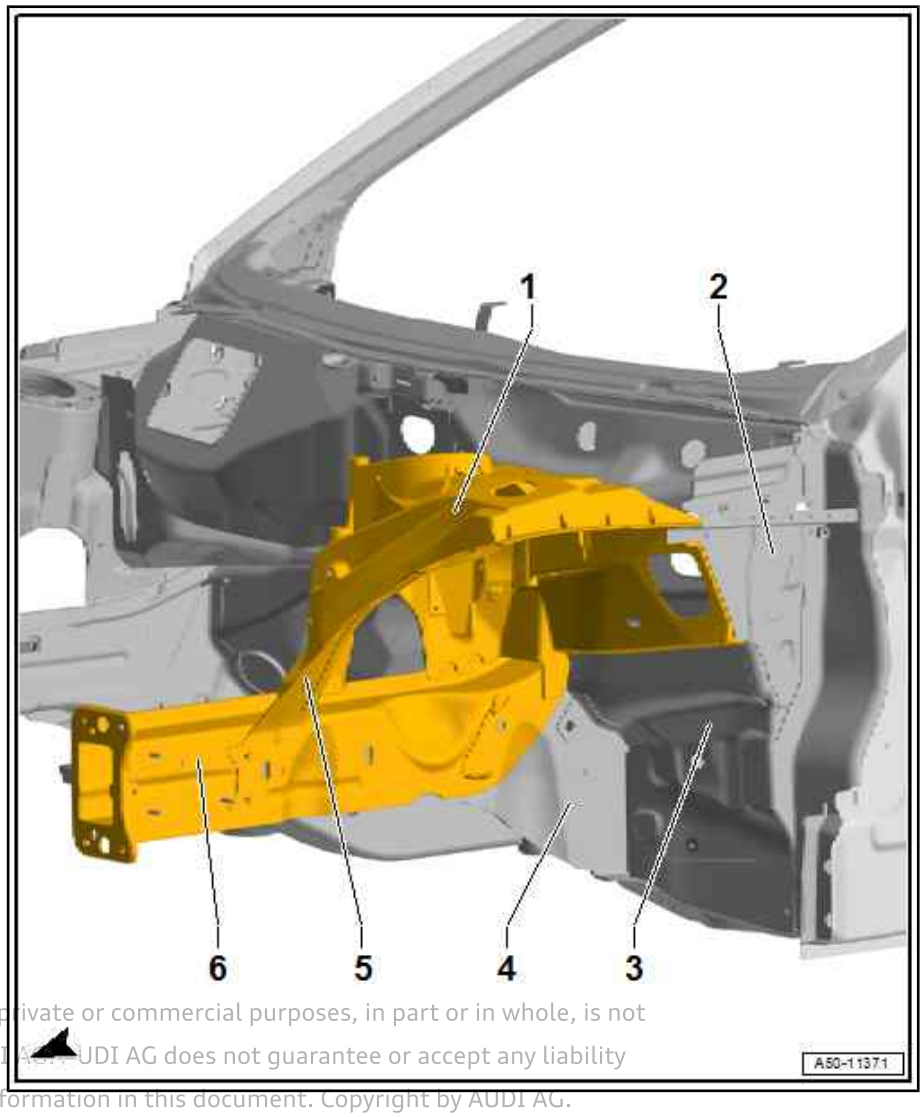
4 - Front longitudinal member

- ❑ Ultra-high strength steel (hot-formed)
- ❑ Rear part

5 - Front wheel housing

6 - Front longitudinal member

- ❑ Front part



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5.1 Tools

Special tools and workshop equipment required

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

- Drill
- Rechargeable riveter
- Compact booster
- Attachment
- Supplementary kit for rechargeable riveter

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

5.2 Procedure

- Upper longitudinal member for wheel housing already removed ⇒ page 57

Note

Straightening and re-alignment work must not be carried out on the front section of the Audi A5 body, because this could cause cracking in the aluminium castings that may not be externally visible.

Cutting locations

– Separate original joint using rechargeable riveter - VAS 843 001- or compact booster - VAS 6790/20- . Use attachment to do so.

– Separate original joint using spot weld breaker .

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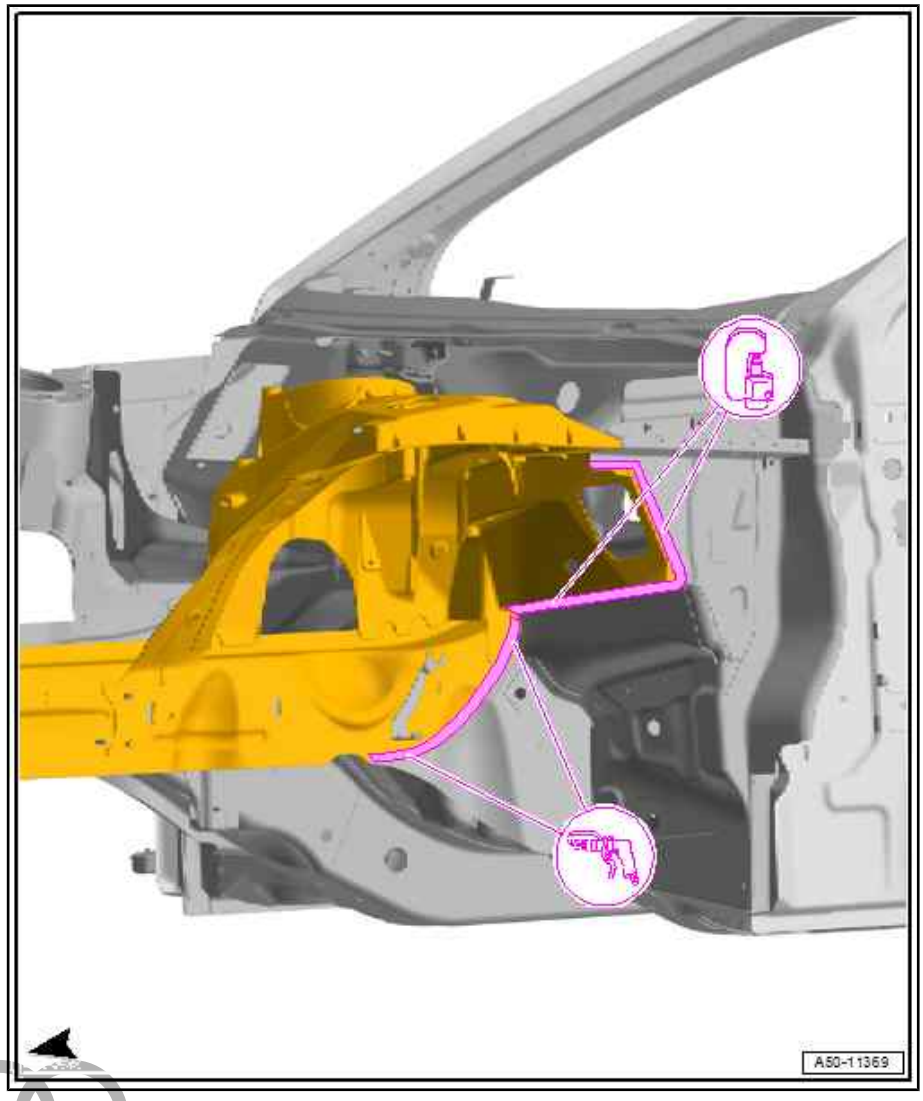

– Separate original joint using rechargeable riveter - VAS 843 001- or compact booster - VAS 6790/20- . Use attachment to do so.
– Separate original joint using spot weld breaker .

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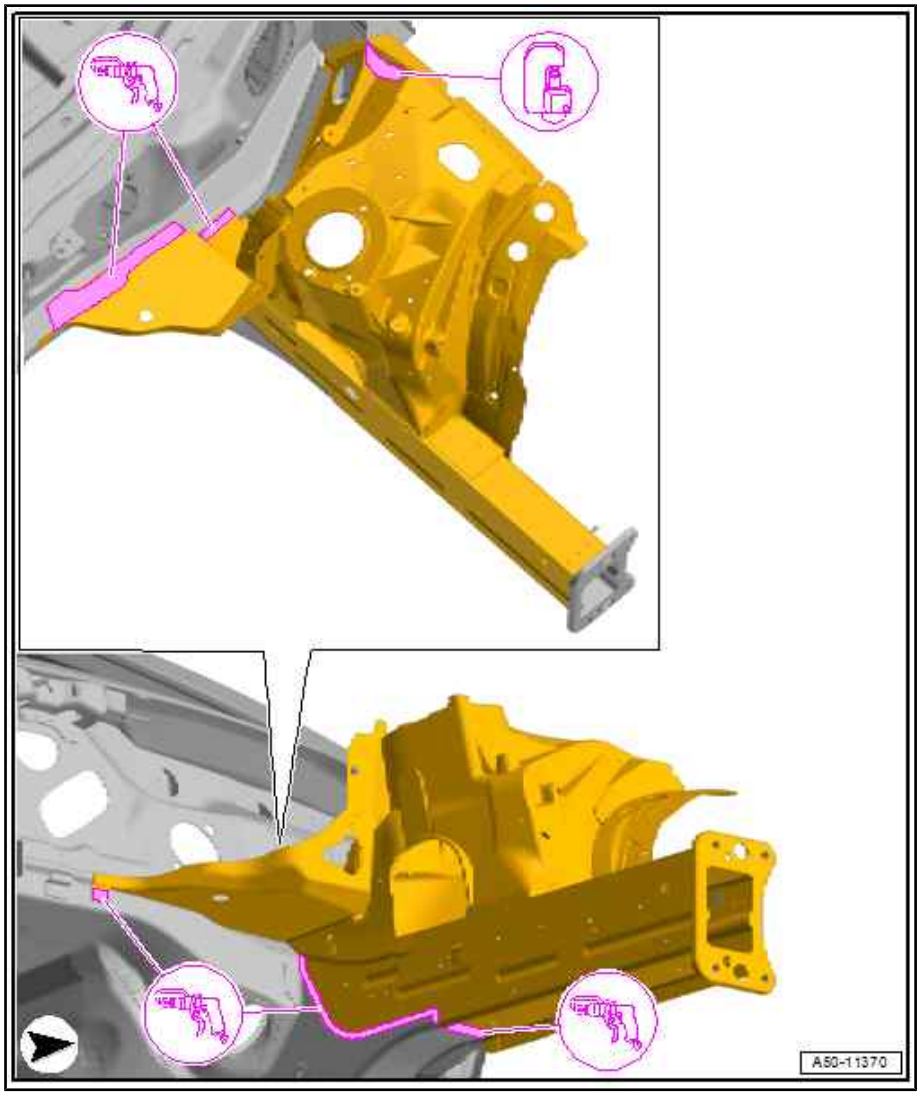

– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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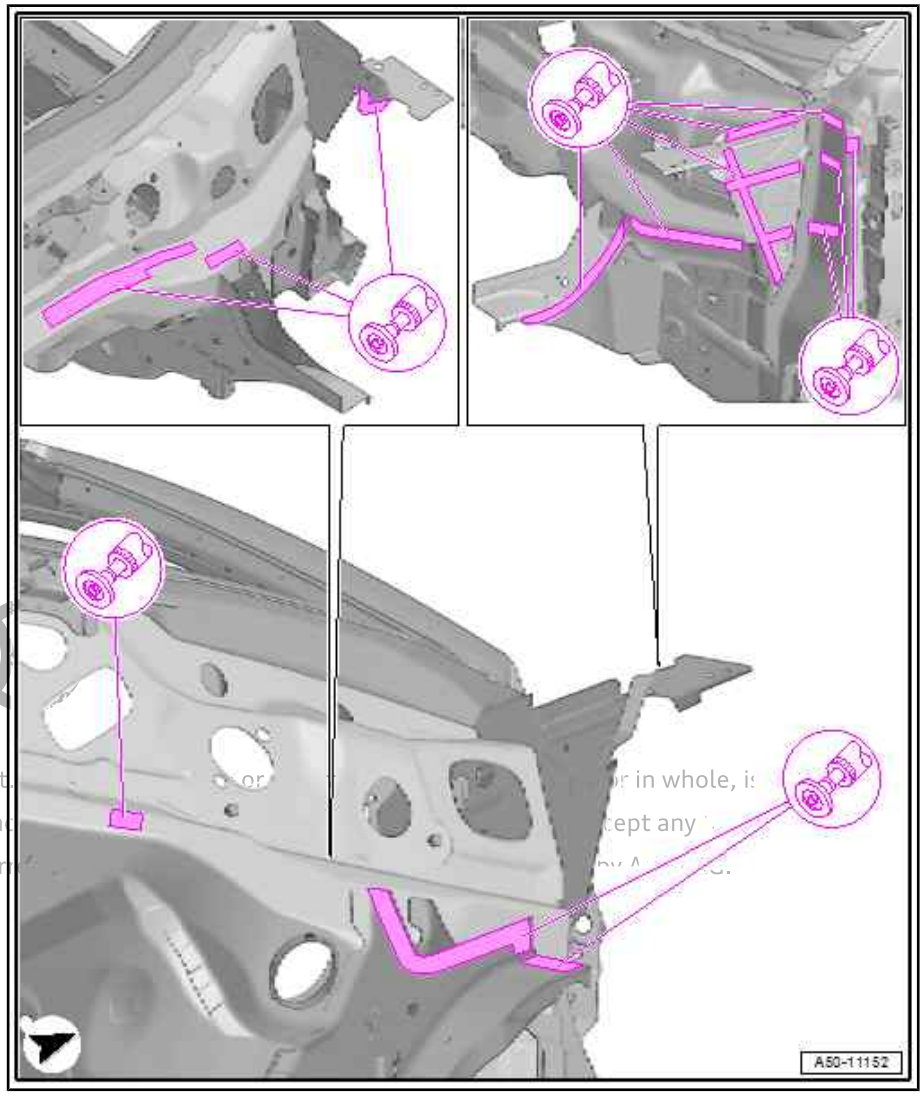

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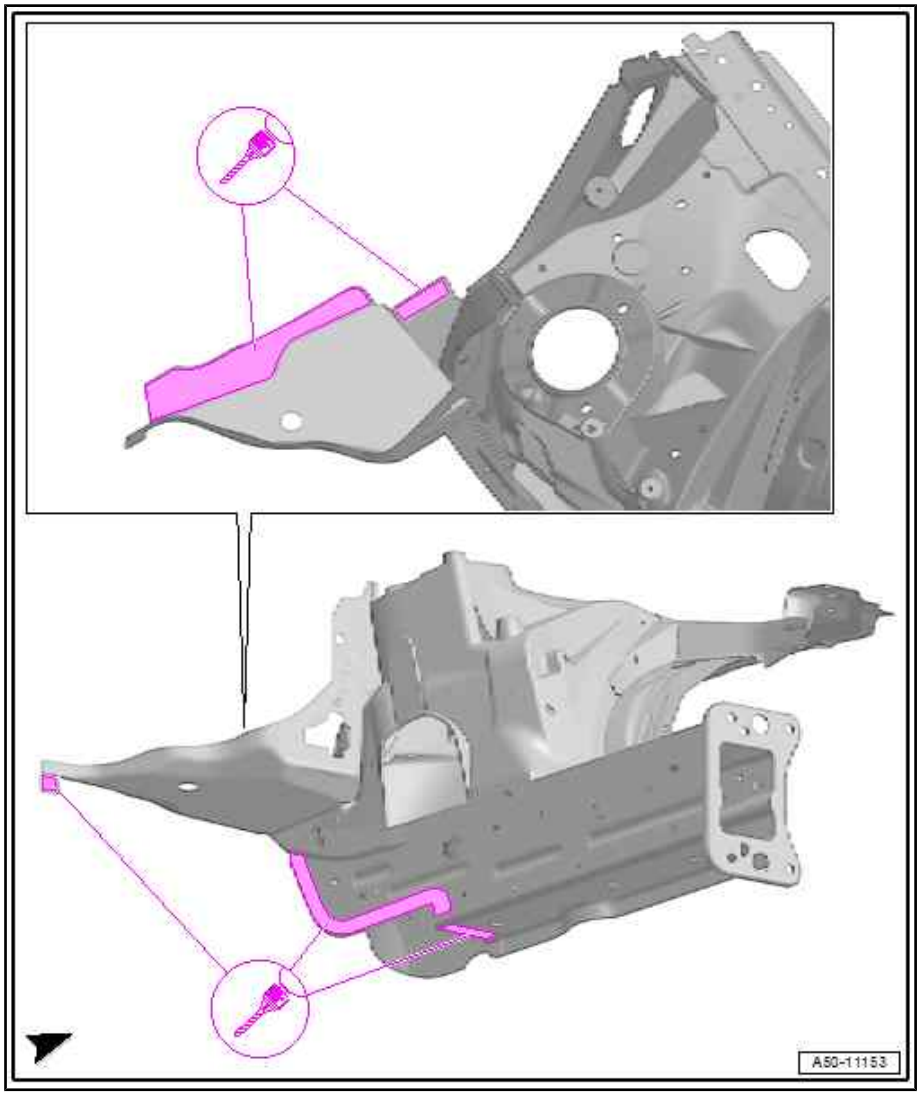
Replacement parts

- Longitudinal member with suspension turret
- Cleaning solution - D 009 401 04-
- Silicate stone - DA 009 800-
- Aluminium primer - DA 009 801-
- Applicator - D 009 500 25-
- 2-component epoxy adhesive - DA 001 730 A2- , 1 set of cartridges

Preparing new parts

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

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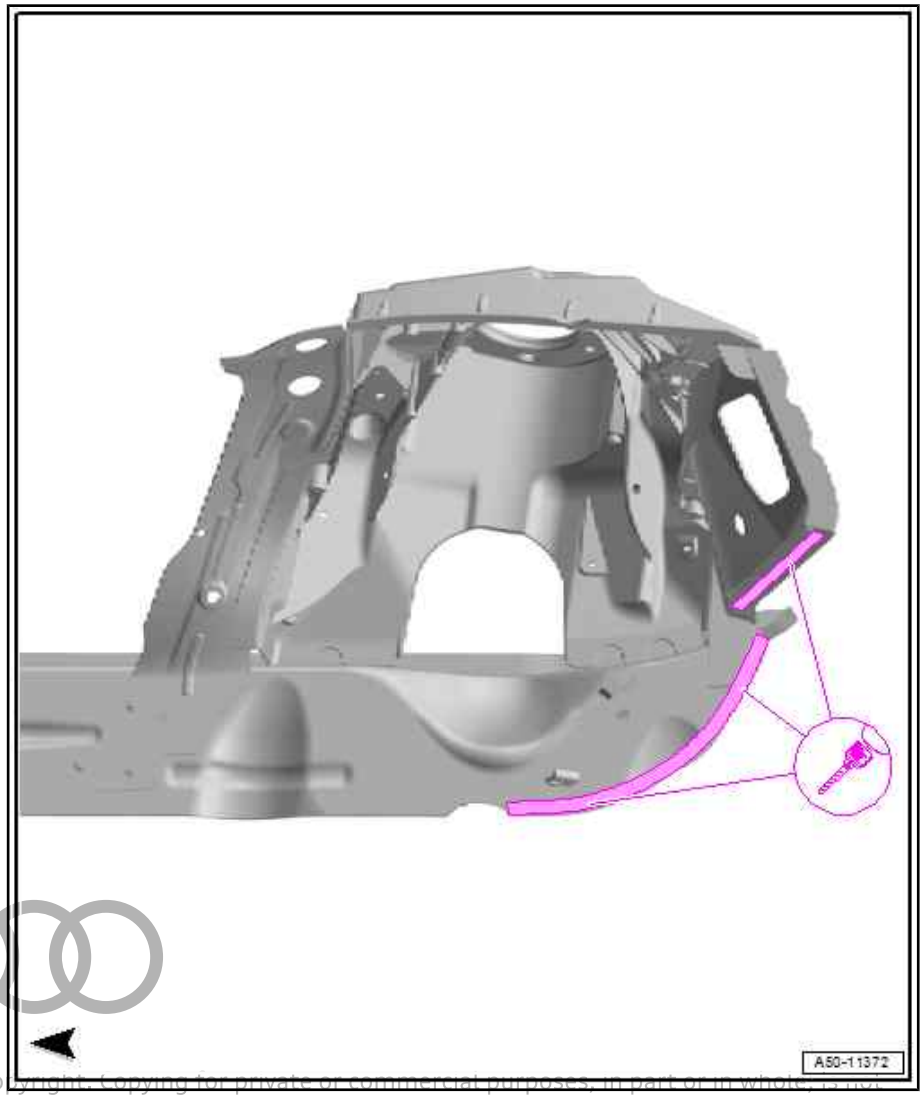

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Note

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

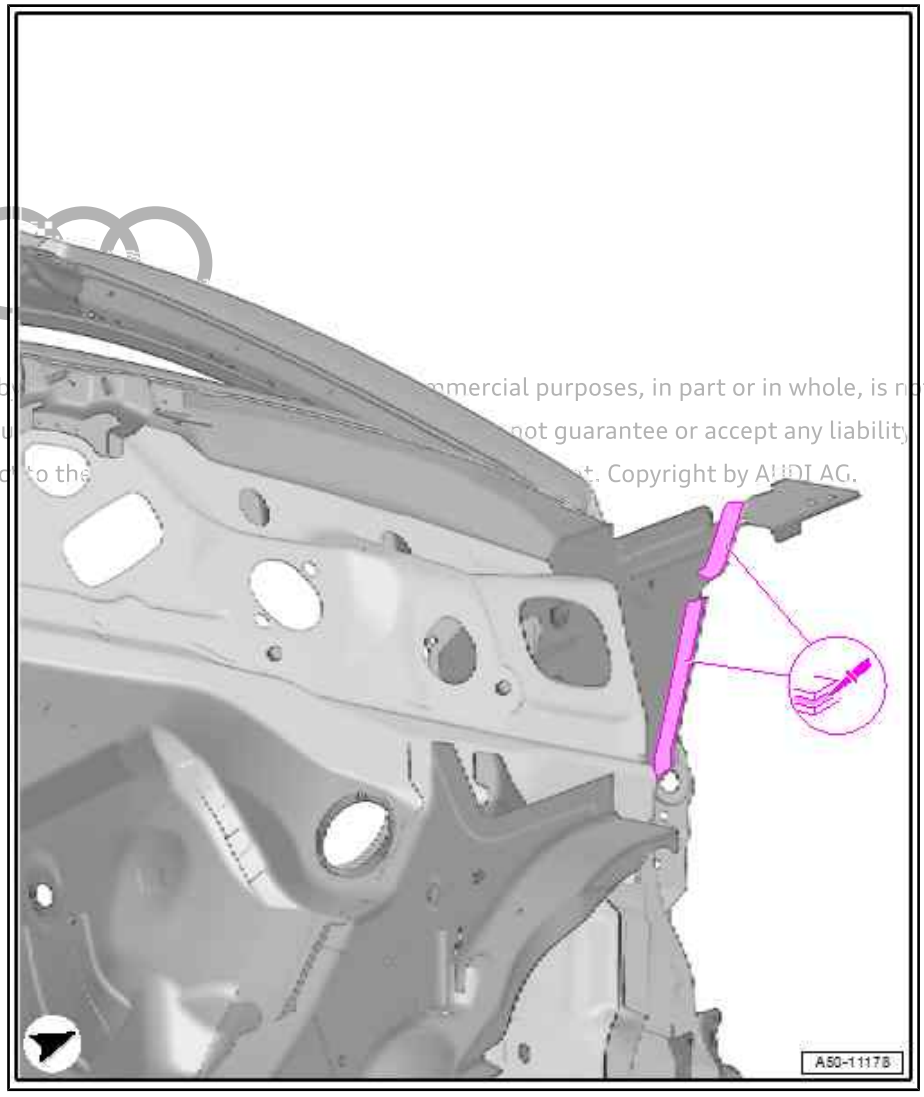
– Clean bonding surfaces with cleaning solution - D 009 401 04- .

– Treat flanges with silicate stone - DA 009 800- and holder - V.A.G 1931- .

– Apply a thin coat of aluminium primer - DA 009 801- using applicator - D 009 500 25- and allow to flash off.

A silicate adhesive layer is formed which ensures long-term durability of the bonded joint. The surface becomes matt.

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



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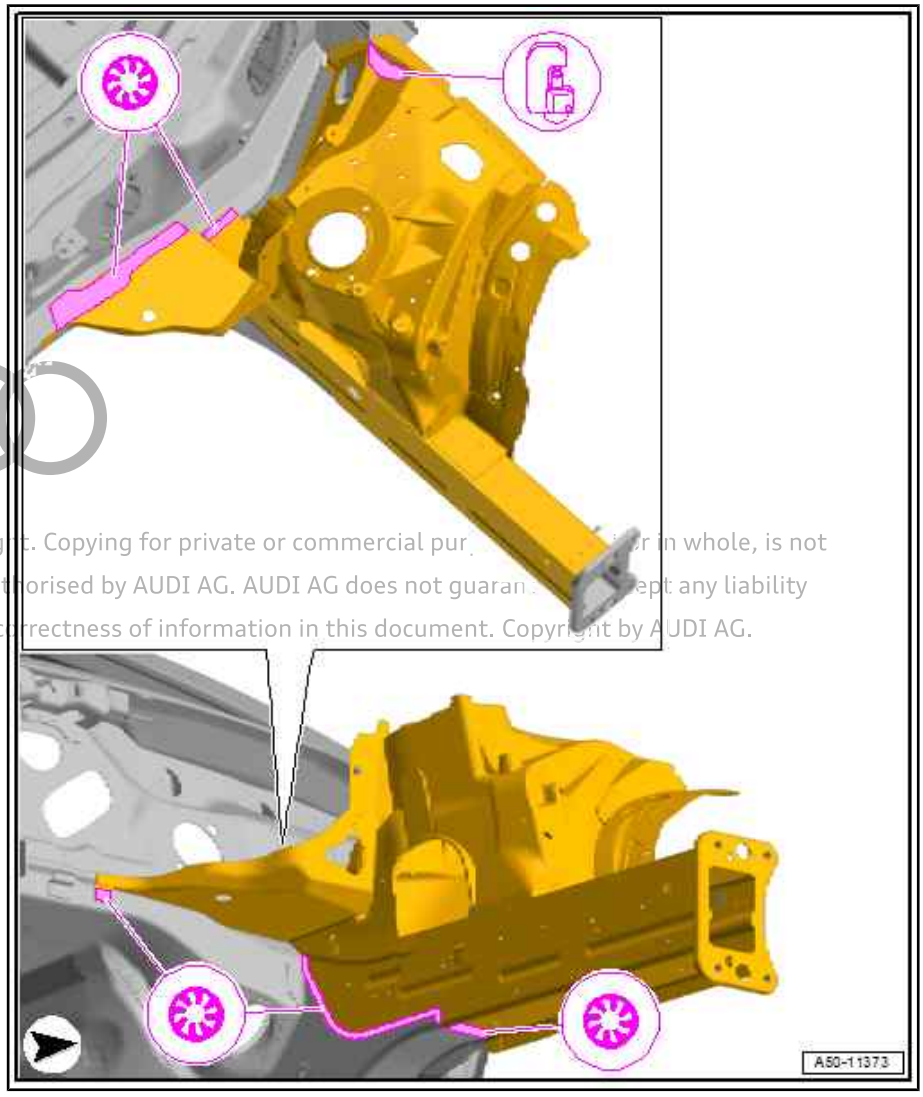
– Match up new part with vehicle positioned on alignment bracket set and fix in place.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.
– Drill 6.8 mm ∅ holes for pop rivets - WHT 005 413 A- in positions of punch rivets using drill .
– Rivet in new part using compact booster - VAS 6790/20 - and pop rivets - WHT 005 413 A- .



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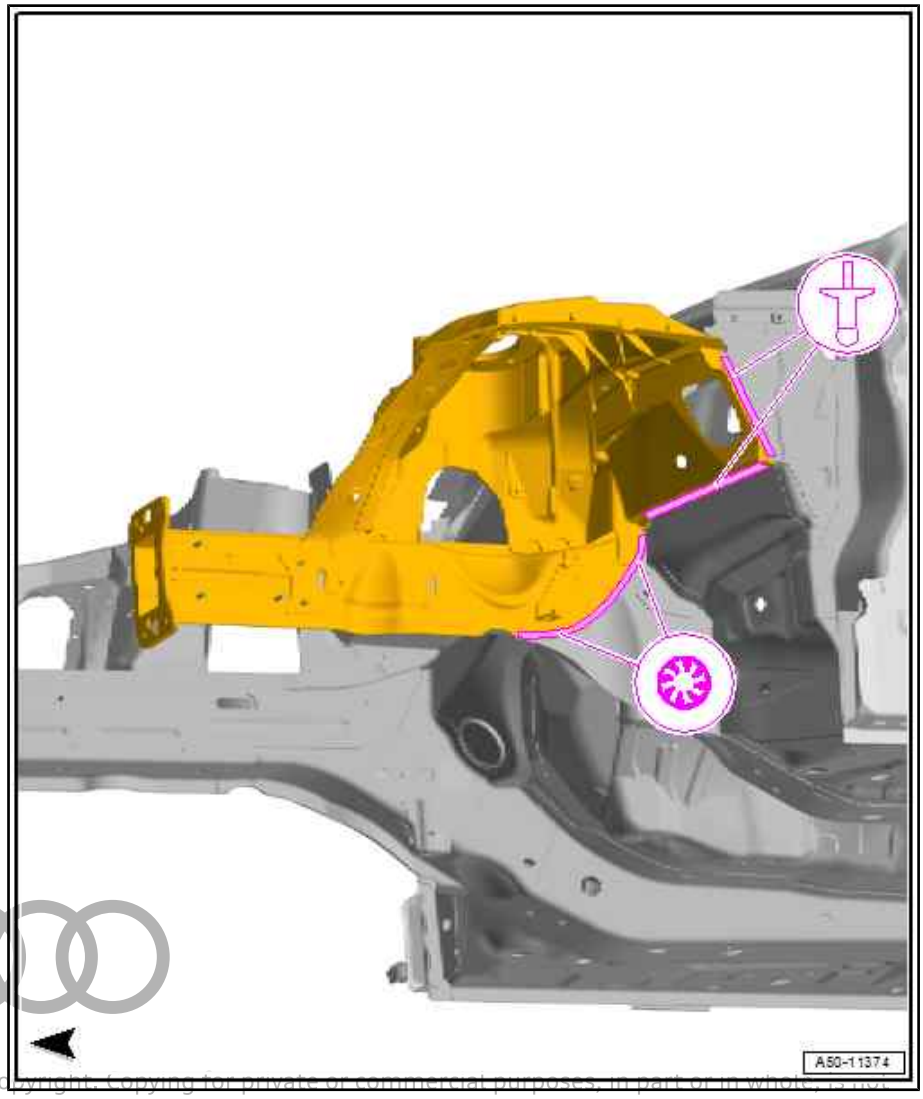
– Weld in new part using shielded arc welding equipment : SG plug weld seam.
– Drill 6.8 mm ∅ holes for pop rivets - WHT 005 413 A- in positions of punch rivets using drill .
– Rivet in new part using compact booster - VAS 6790/20- and pop rivets - WHT 005 413 A- .



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- Upper longitudinal member for wheel housing already removed ⇒ page 57

RO: 50 74 55 04

6 Front longitudinal member - Renewal

Note

Observe safety precautions ⇒ page 3 .

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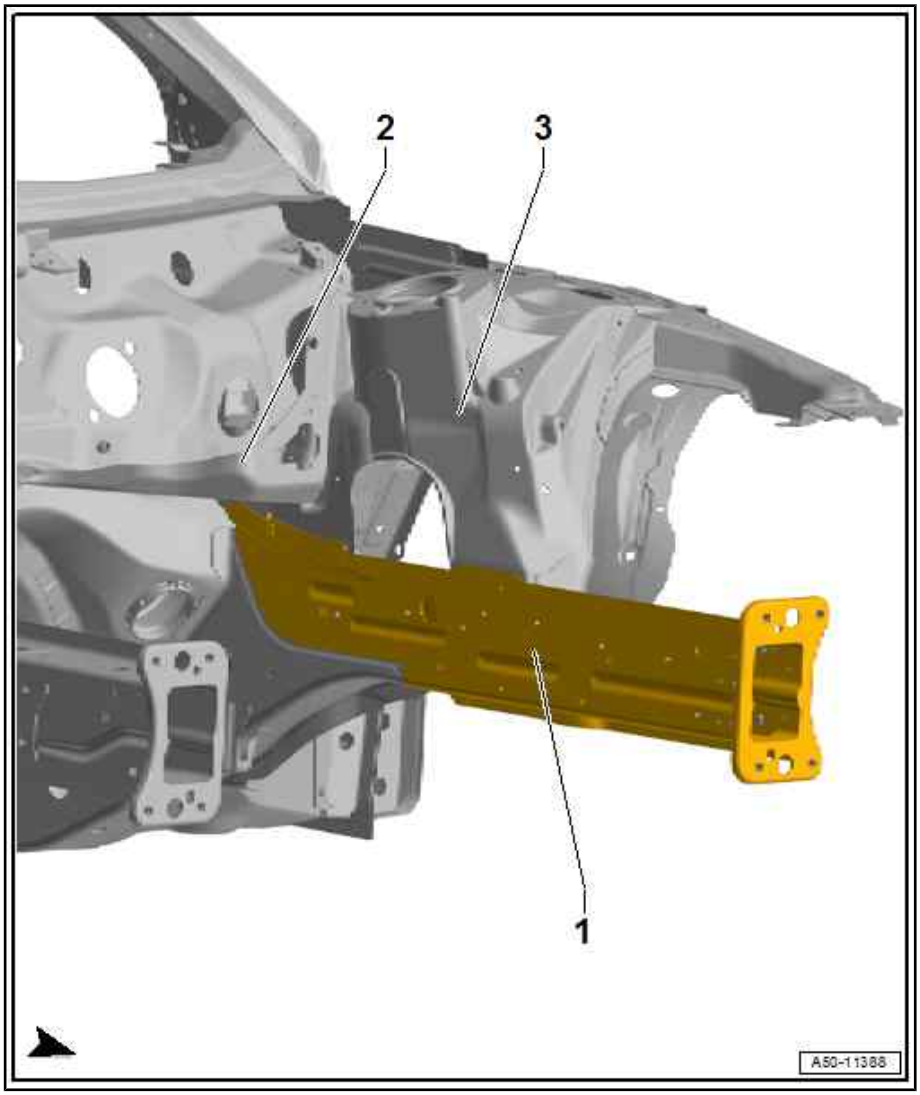
Note

Before renewing the longitudinal member, use crack detection kit V.A.G 2014 to check whether the suspension turret is damaged; if so, the suspension turret must also be renewed.

1 - Front longitudinal member

2 - Plenum chamber

3 - Suspension turret



6.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment

- Compact angle grinder
- Body saw
- Spot weld breaker
- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

6.2 Procedure

– Roughly cut out longitudinal member using body saw .

– Separate original joint using spot weld breaker .

– Detach inner longitudinal member.

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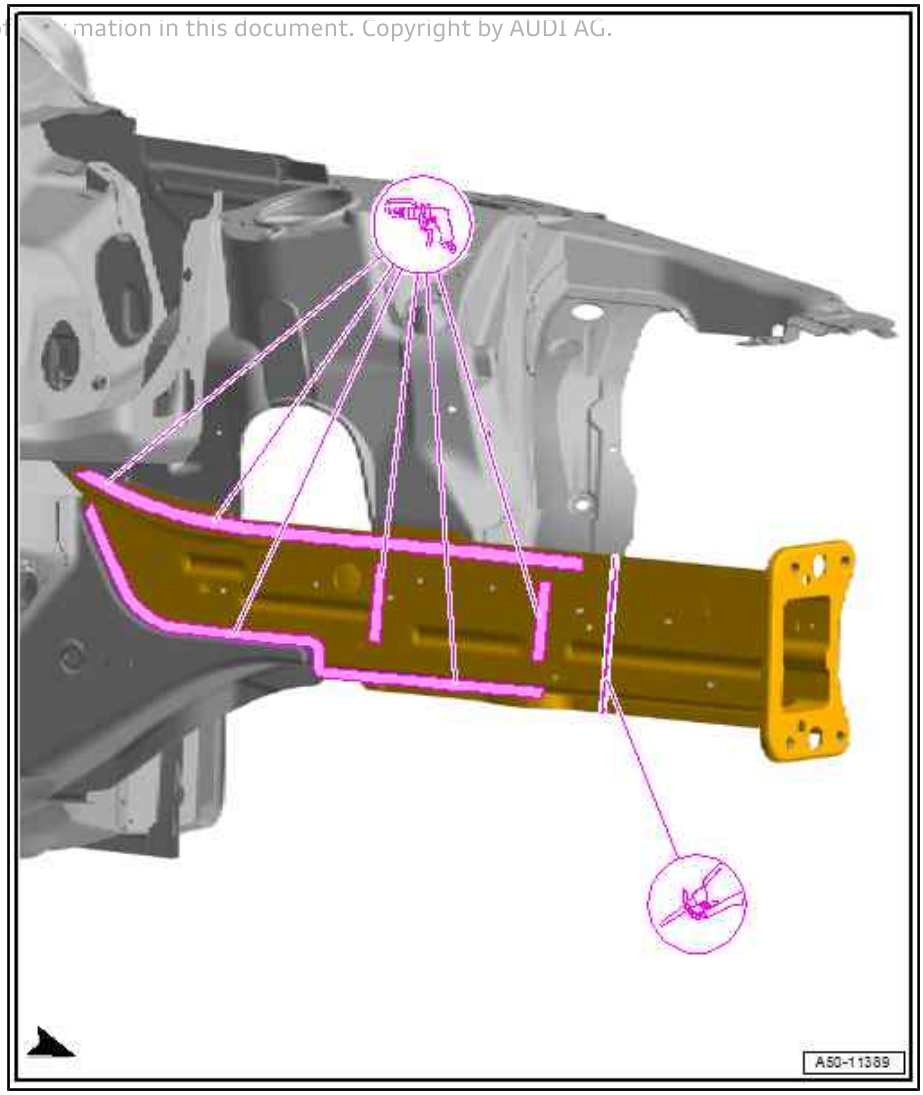

– Separate original joint using rechargeable riveter - VAS 843 001- or compact booster - VAS 6790- .

– Separate original joint using spot weld breaker .

– Separate longitudinal member using compact angle grinder .

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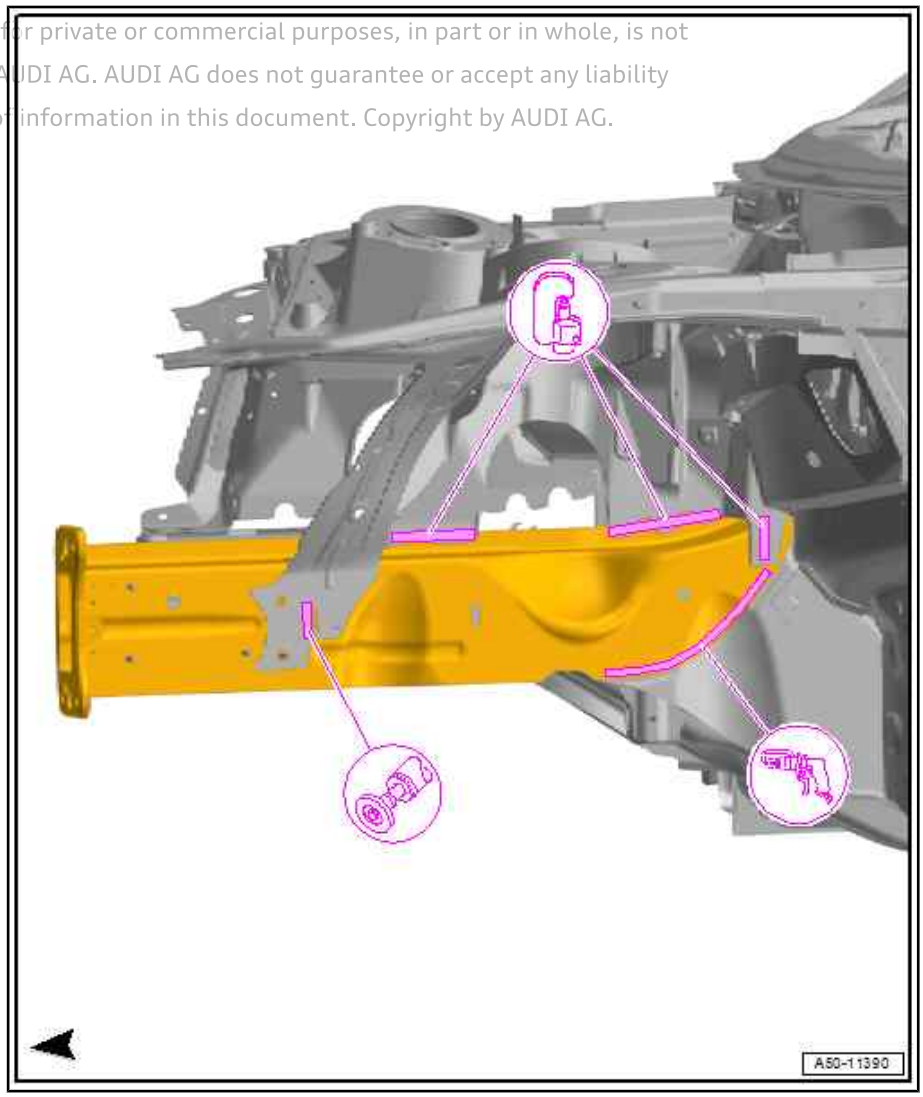


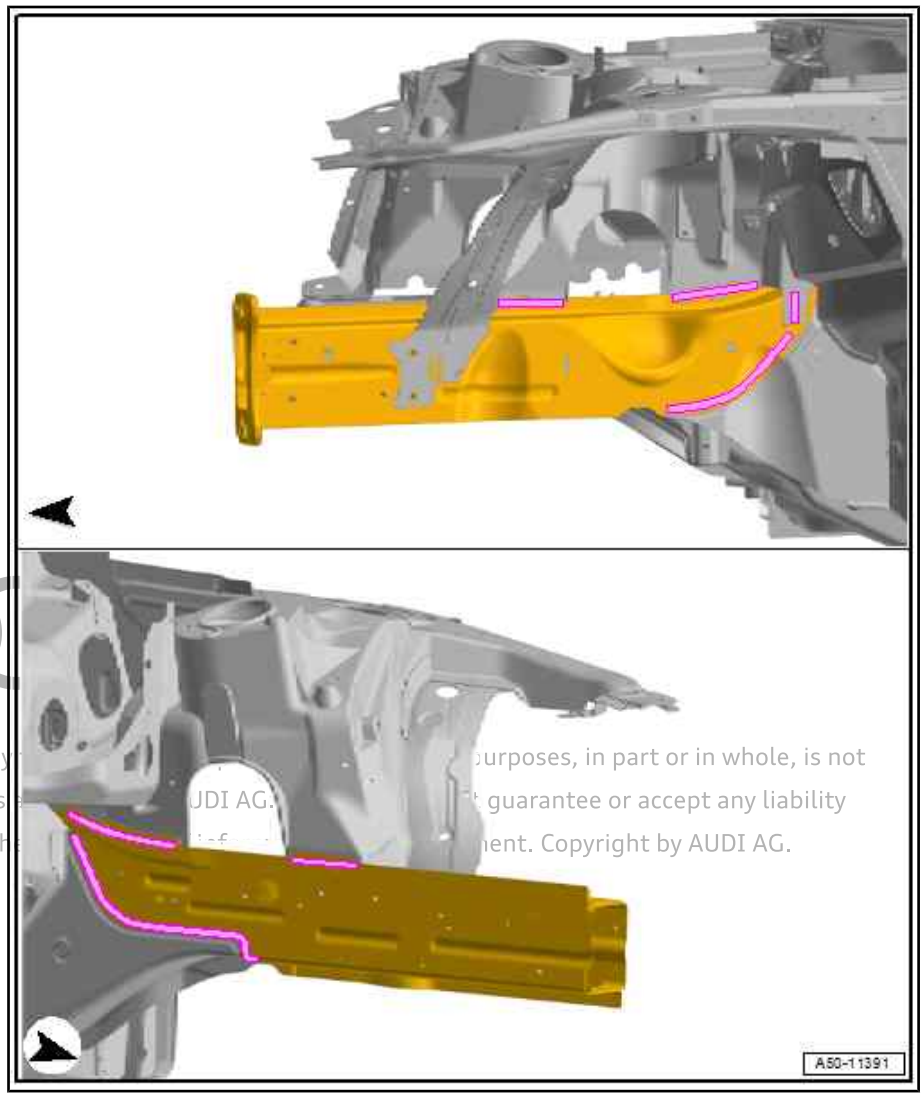
Replacement parts

- Longitudinal member with reinforcement sections
- Closure plate
- Impact damper mounting
- Moulded foam insert
- Pop rivet - WHT 005 413 A-
- 2-component epoxy adhesive - DA 001 730 A2-
- Cleaning solution - D.009.401.04-
- Silicate stone - DA.009.800-
- Aluminium primer - DA.009.801 -
- Applicator - D.009.500.25-

Preparing new part

– Fit longitudinal member using alignment set, Audi A4 2016 - VAS 801 025- and mark holes for SG plug weld seam and riveted joint.

– Detach part.



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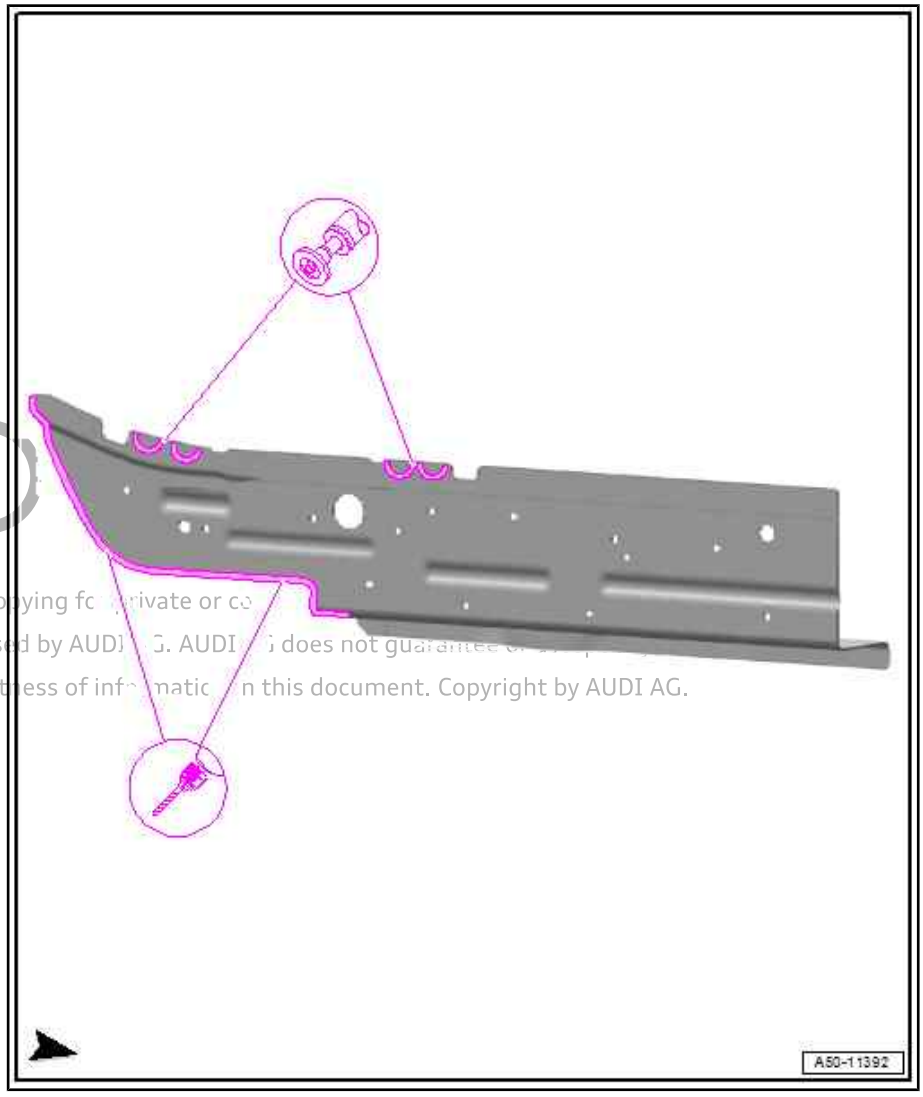
– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind down contact surface for pop rivets - WHT 005 413 A- so that it is clear using compact angle grinder .



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– Clean bonding surfaces with cleaning solution - D. 009.401.04- .
– Treat flanges with silicate stone - DA.009.800- and holder - V.A.G 1931- .
– Apply a thin coat of aluminium primer - DA.009.801 - using applicator - D.009.500.25- and allow to flash off.

A silicate adhesive layer is formed which ensures long-term durability of the bonded joint. The surface becomes matt.

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

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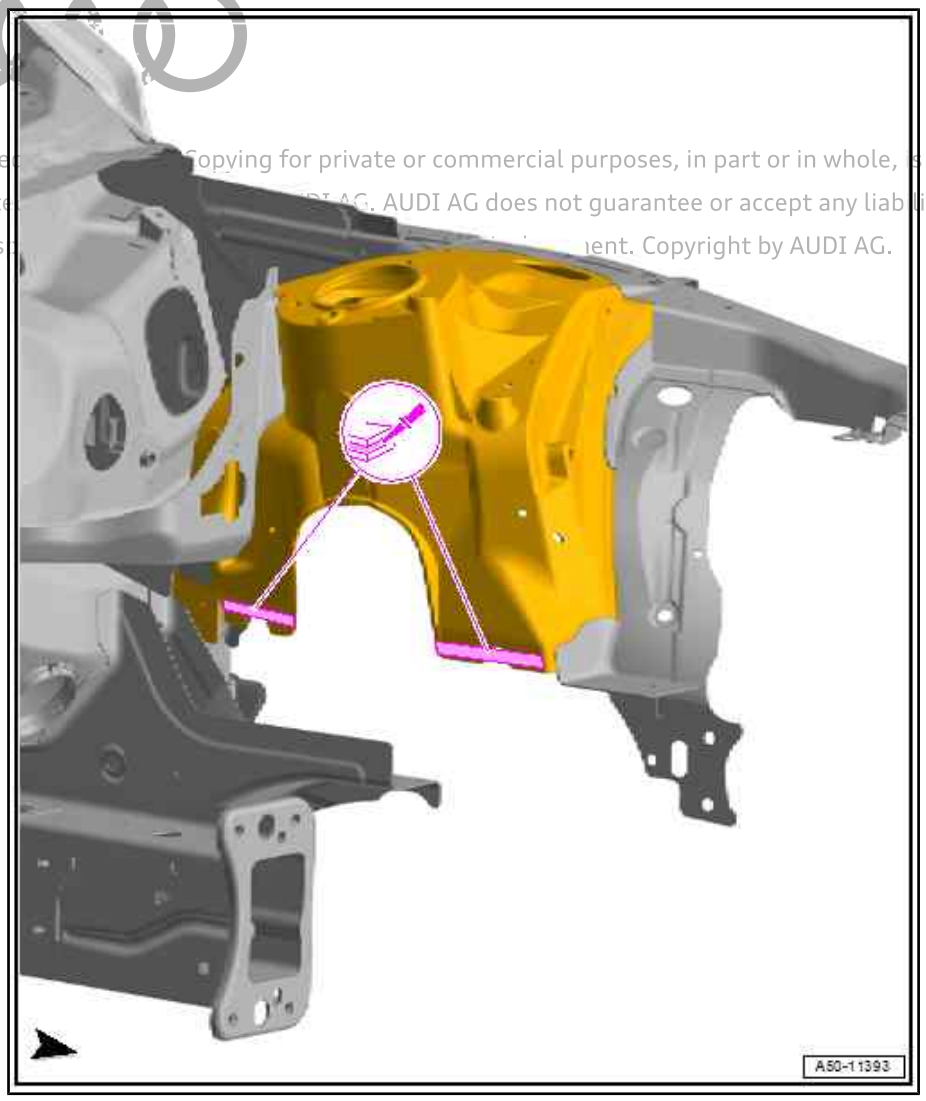
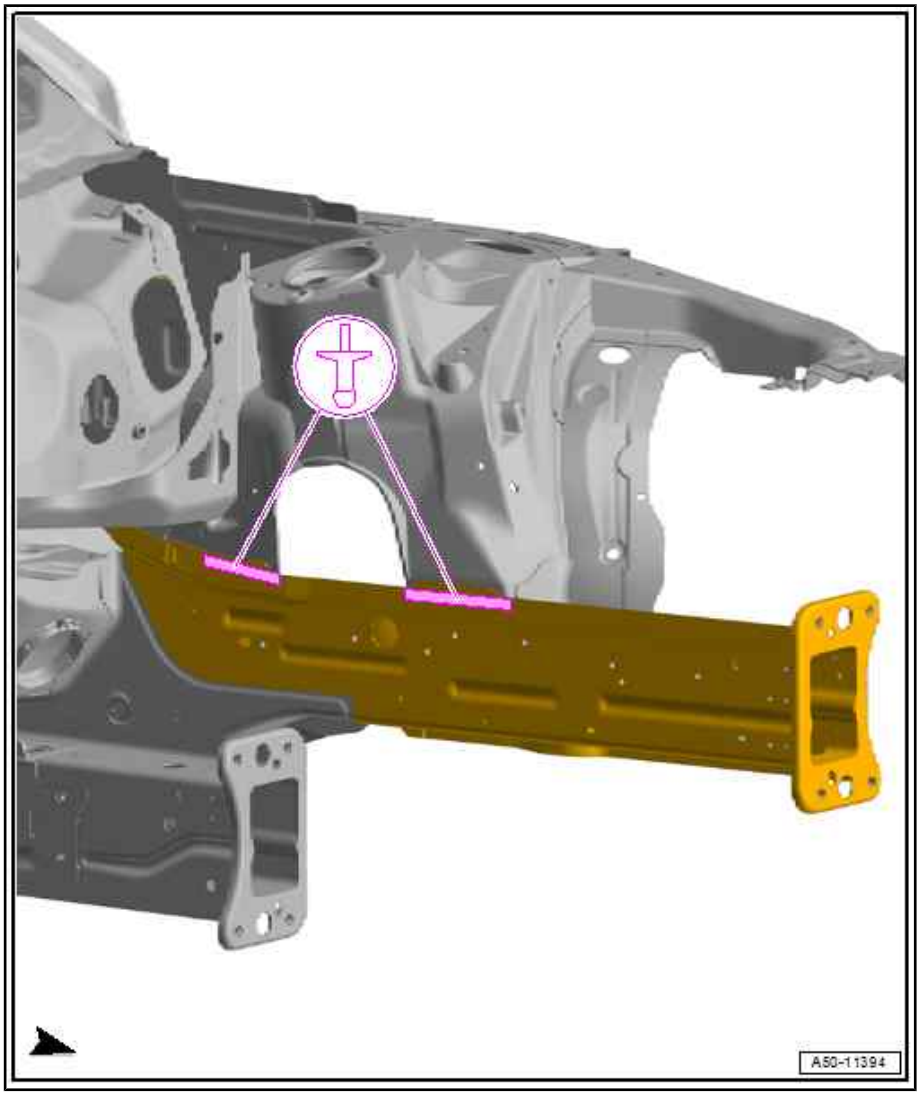


– Drill holes for pop rivets - WHT 005 413 A- (6.8 mm ∅) using drill .
– Rivet in new part with pop rivets - WHT 005 413 A- using compact booster - VAS 6790- .



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.

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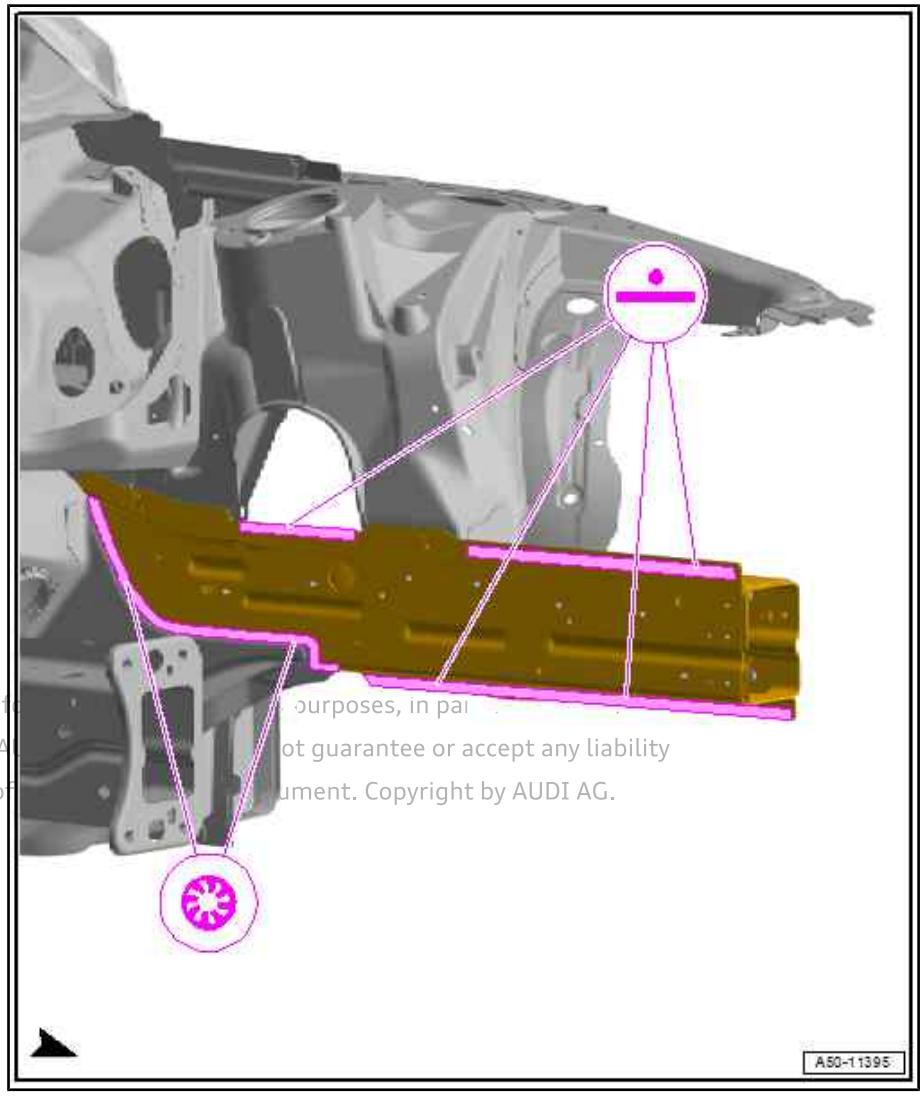
Welding in

– 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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– Weld in longitudinal member using shielded arc welding equipment : SG plug weld seam.
– Drill holes for pop rivets - WHT 005 413 A- (6.8 mm ∅) using drill .

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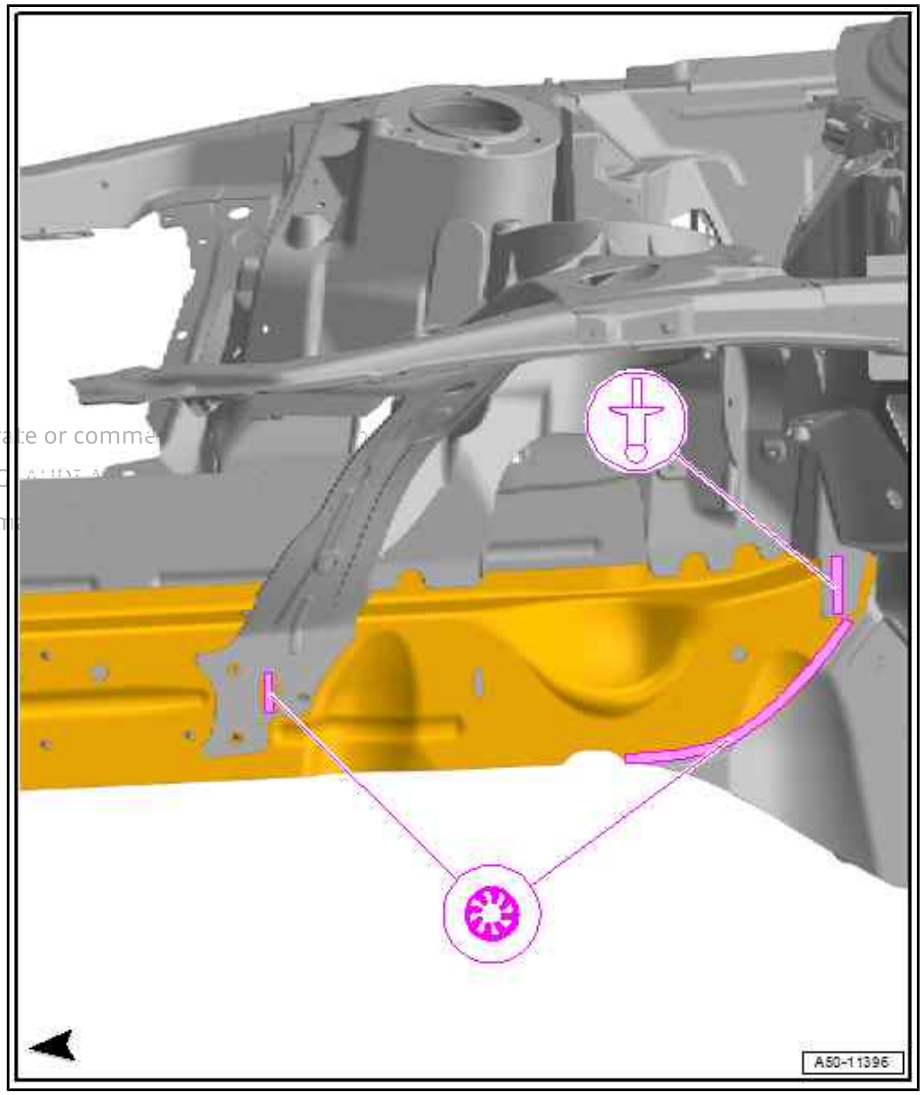

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7 Upper footwell cross member - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Upper footwell cross member

2 - Bulkhead

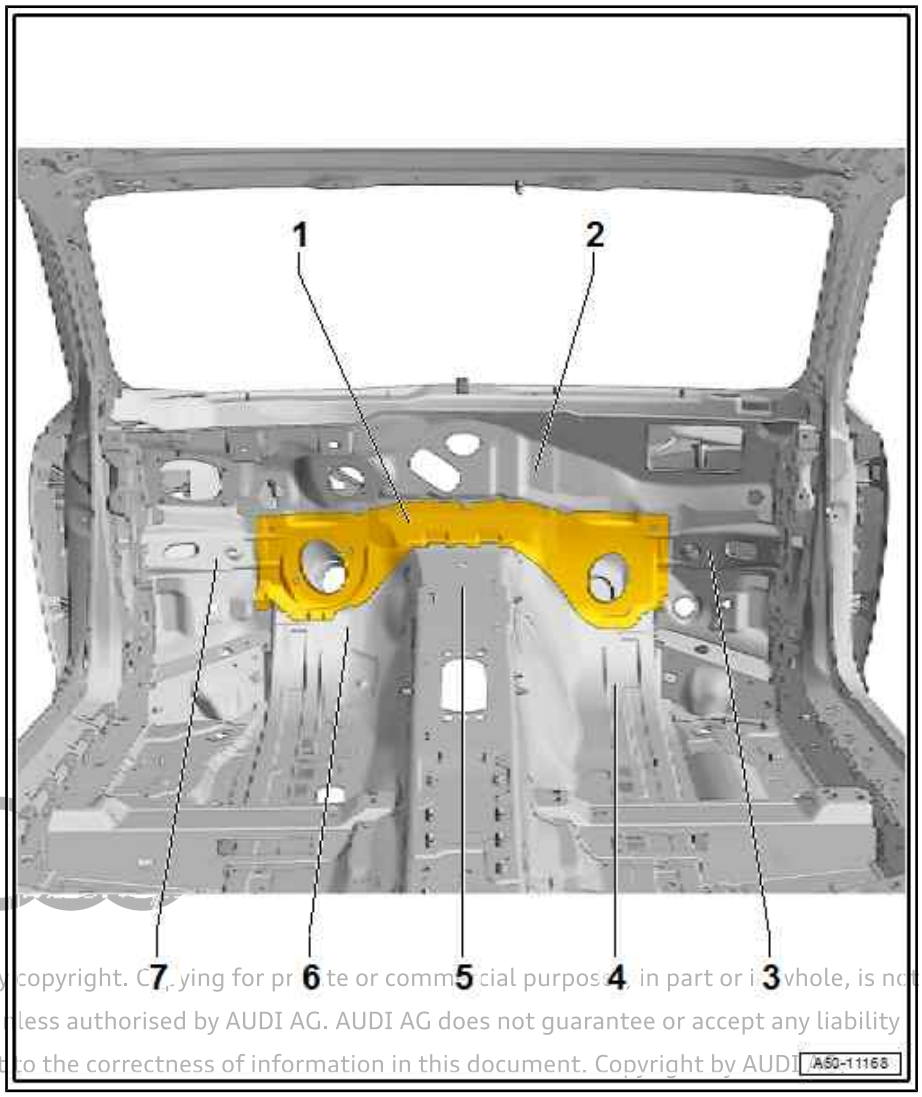
3 - A-pillar reinforcement

4 - Floor panel

5 - Tunnel

6 - Floor panel

7 - A-pillar reinforcement



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7.1 Tools

Special tools and workshop equipment required

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

♦ Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

7.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .
– Separate centre tunnel in area -1-.
– Lift out footwell cross member.

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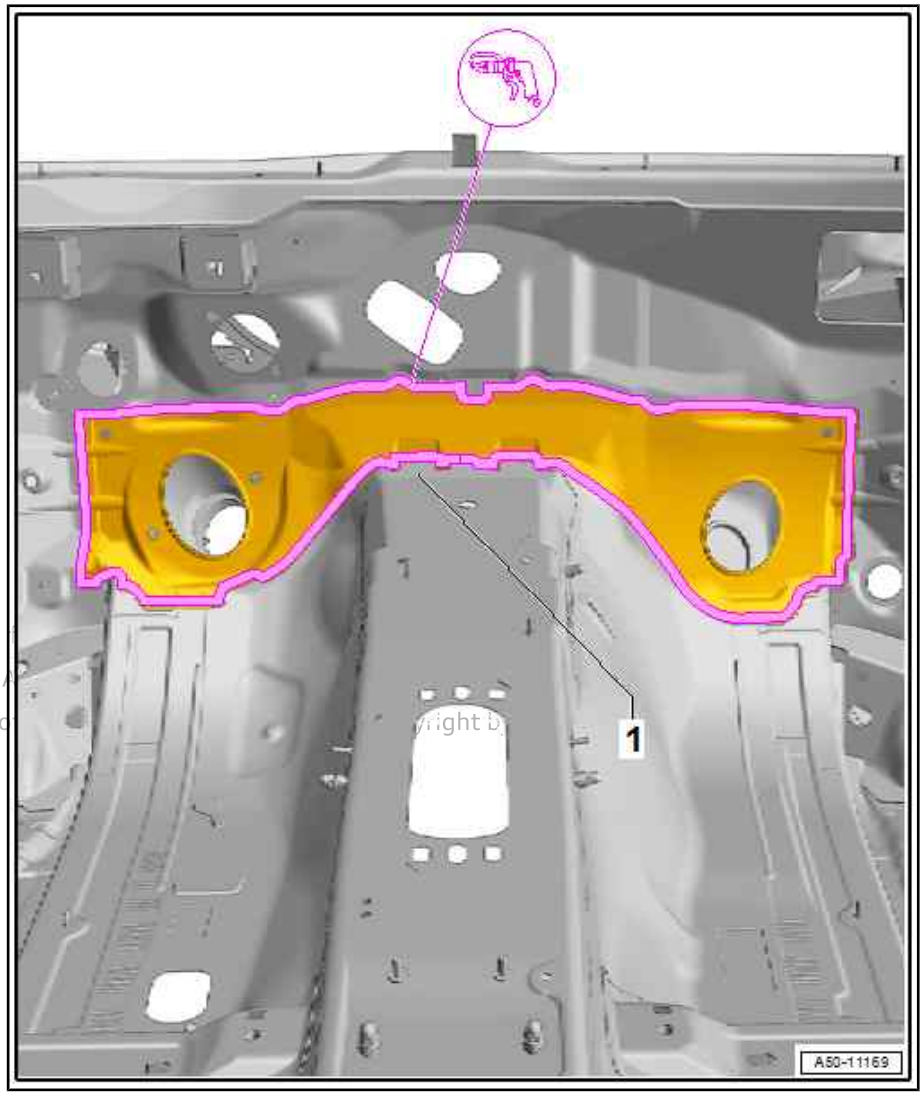
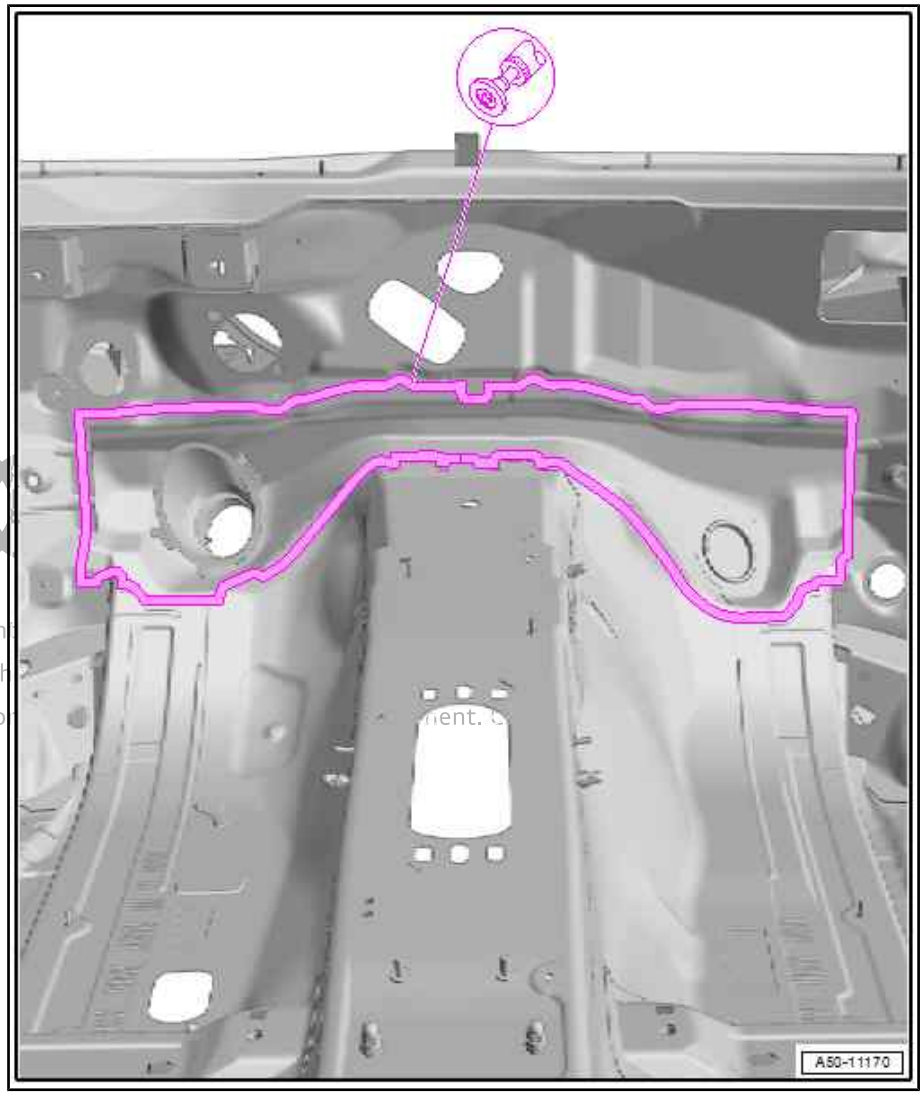


– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



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Replacement parts

- Upper footwell cross member

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.

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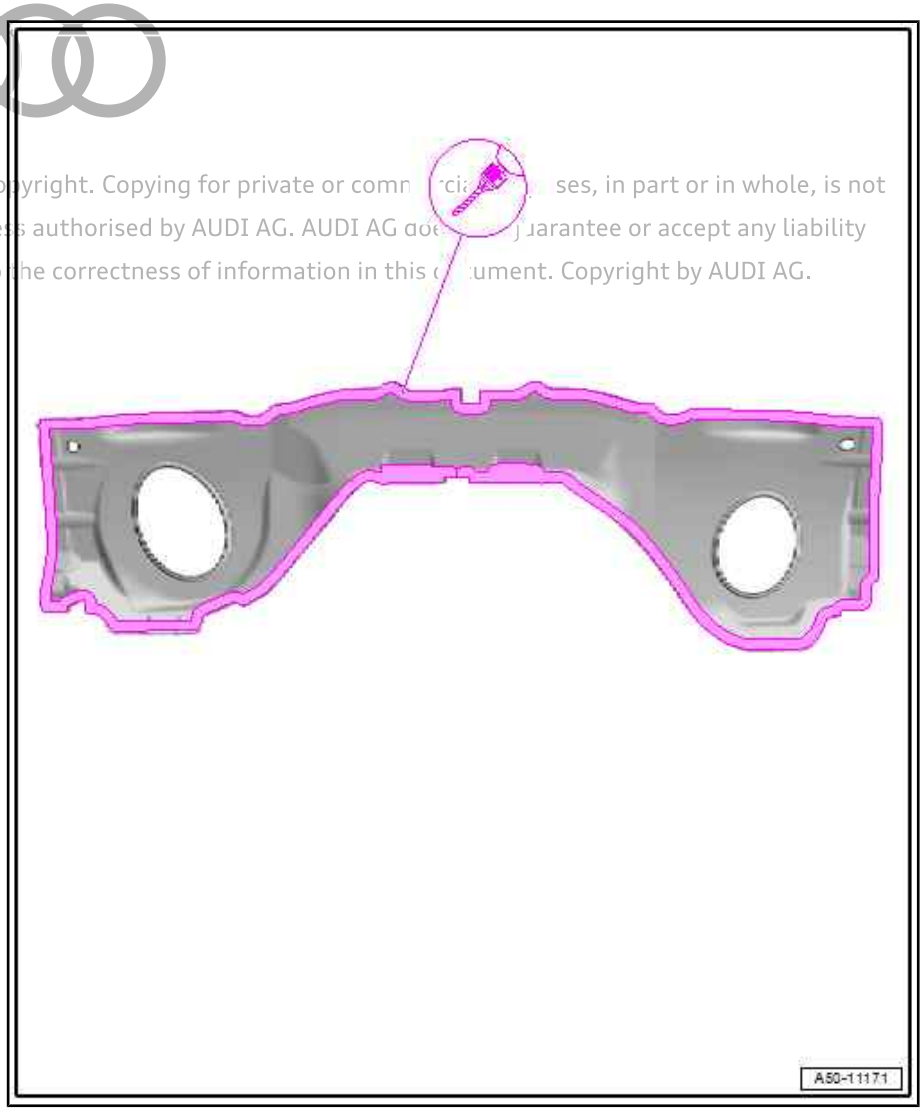
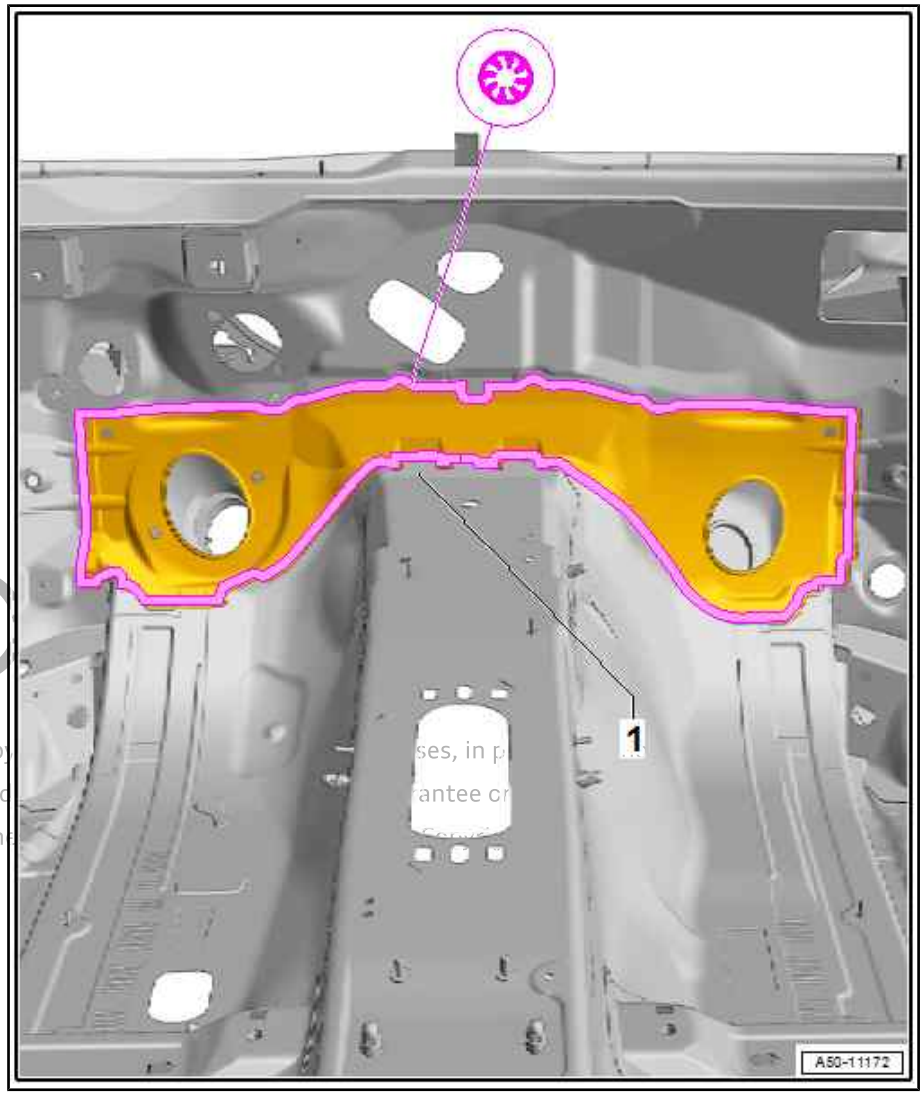


Note

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

– Match up and fix new part in position.
– Align centre tunnel in area -1-.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



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8 Repairing threads for attachment of subframe

Note

Observe safety precautions ⇒ page 3 .

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

Note

The following description shows the thread repair for the front subframe attachment; the procedure for the other attachments is basically the same.

8.1 Tools

Special tools and workshop equipment required

- Thread repair kit M12x1.5 - VAS 6058-
- Brush grinder
- Drill
- Compact angle grinder

CAUTION

Risk of injury caused by flying metal shavings.
Eyes and skin can suffer irritation or injuries.
– Put on safety goggles.
– Put on protective gloves.

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Note

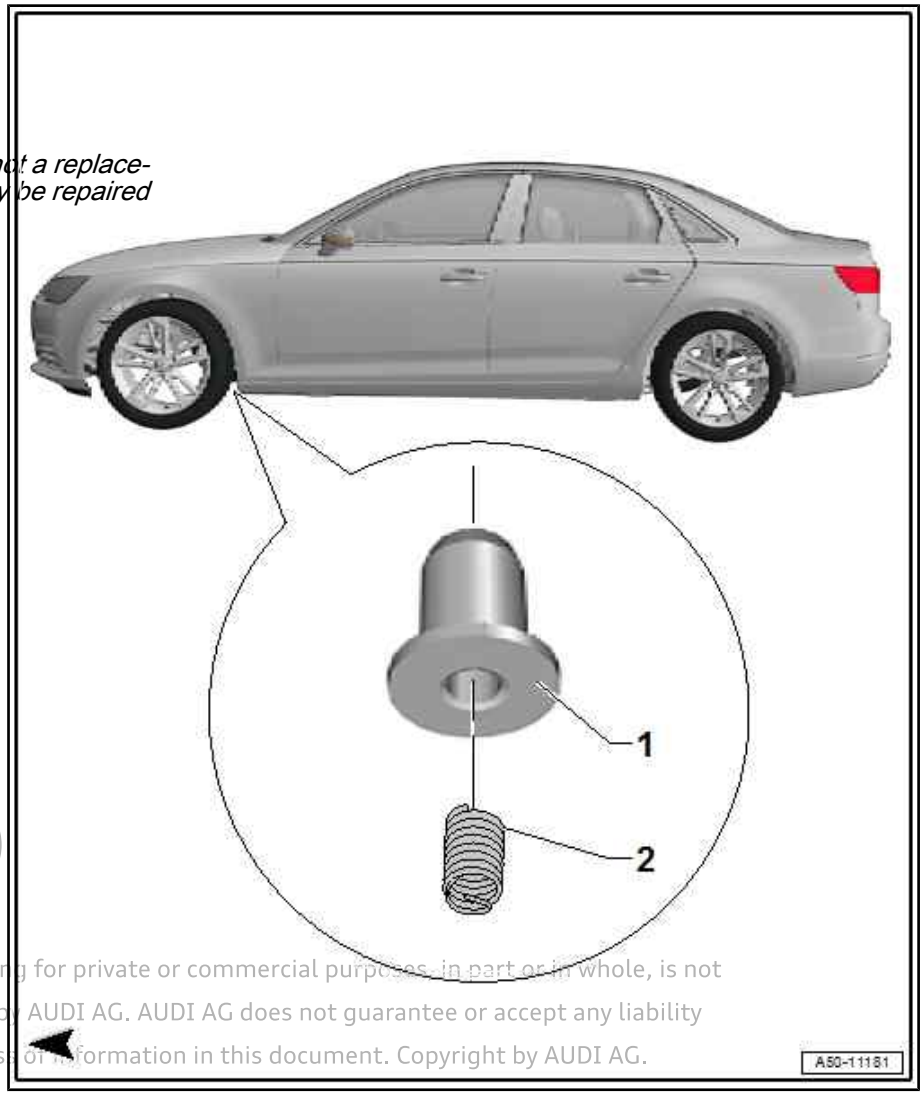
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

1 - Threaded plate (welded into subframe)

Note

The threaded plate is not a replacement part and may only be repaired once if damaged.

2 - Helicoil thread insert



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Contents of thread repair kit

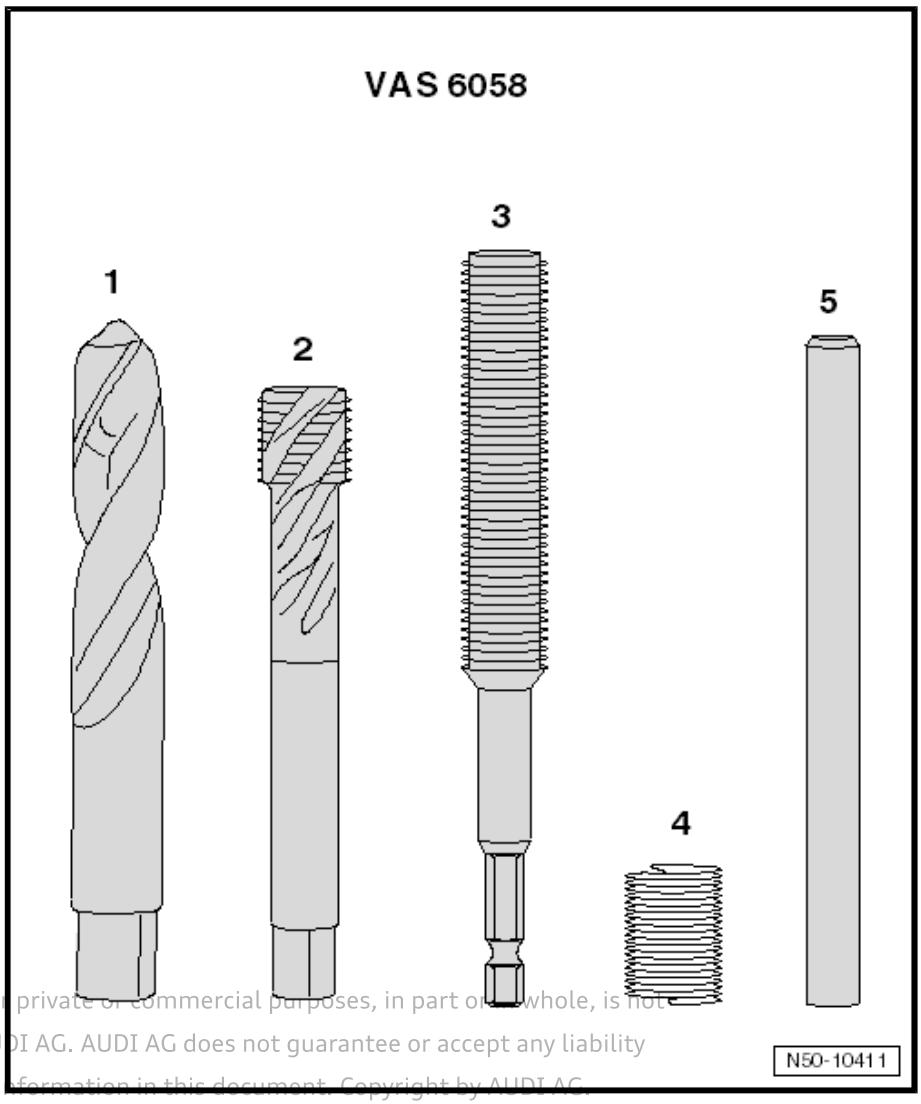
1 - Drill bit ∅ 12.5 mm

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



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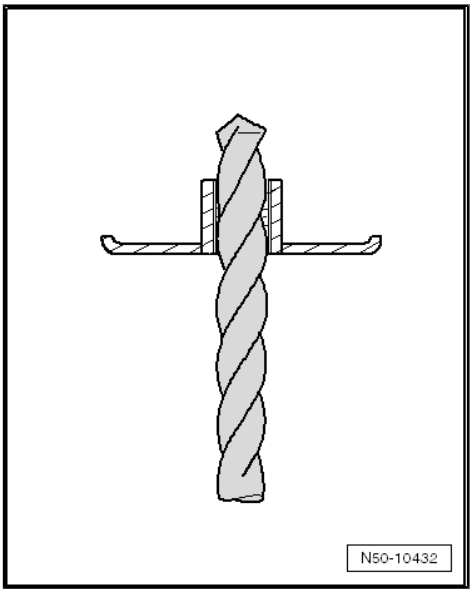
Repairing thread

Making drilling for thread

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



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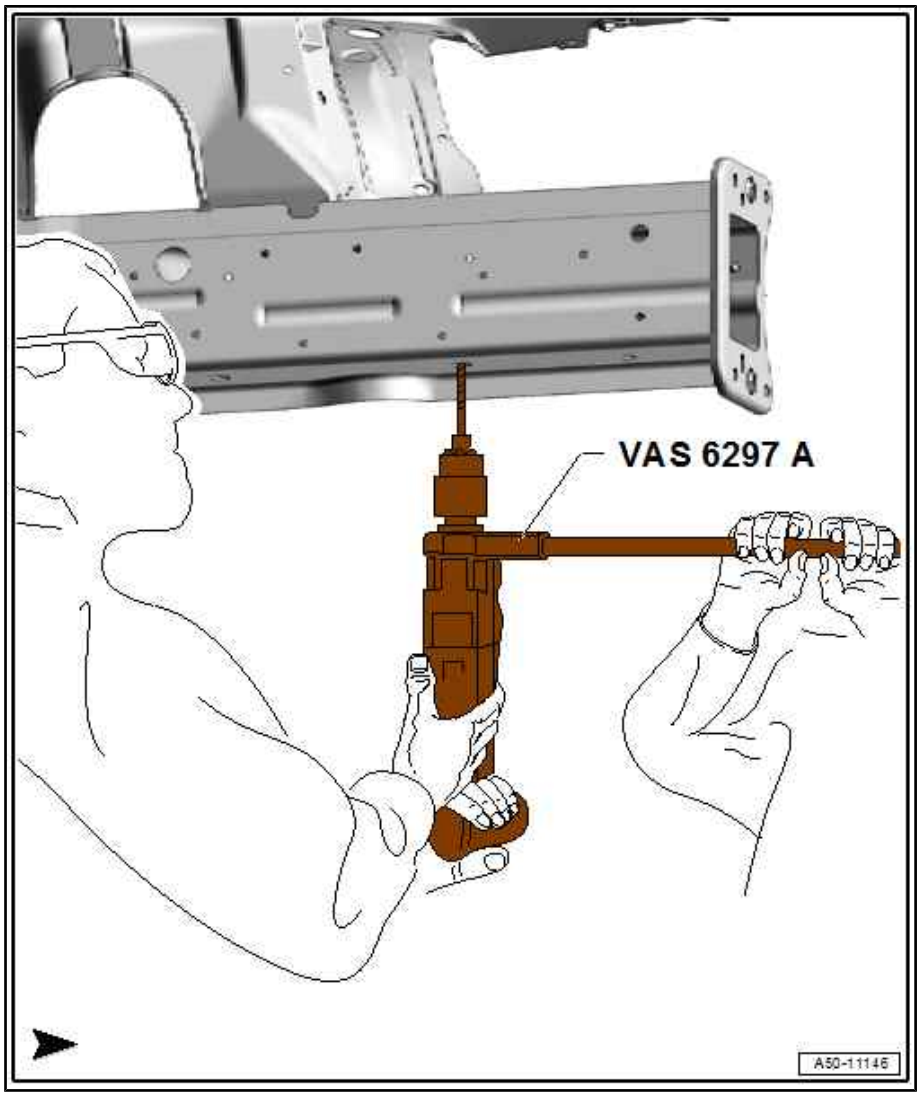
Note

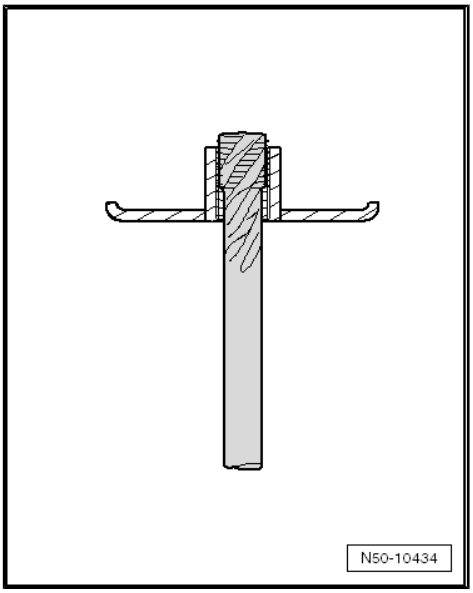
- *Use drill - VAS 6297 A- for drilling and cutting.*
- *The drill must be supported by a second mechanic using the additional handle.*
- *Take care to keep the drill straight.*



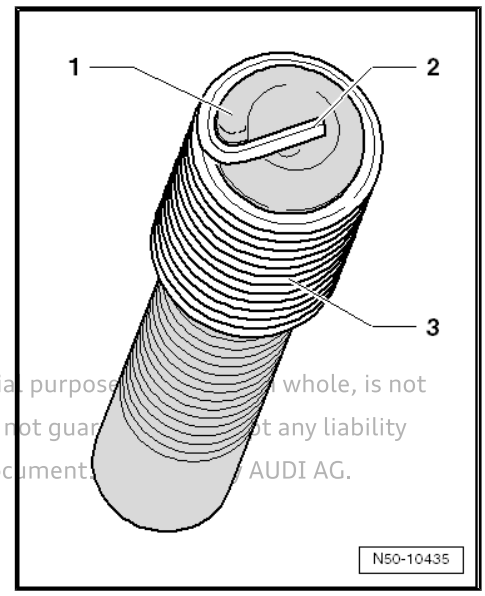
Cutting thread

– 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.



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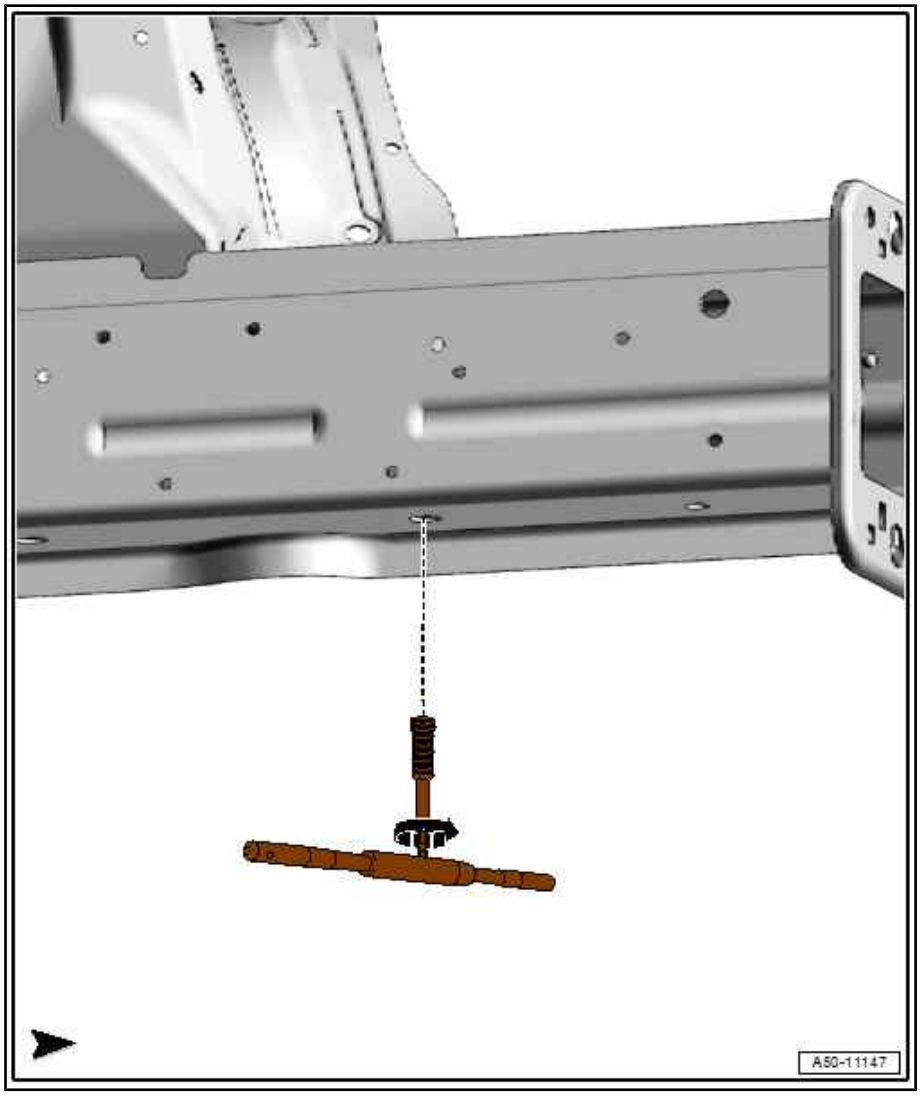
– Blow out threaded drilling with compressed air.

Note

The thread insert should screw in easily.

– Screw thread insert into threaded plate until it is flush with outside of threaded plate (visual check).



– Install subframe and tighten to specified torque ⇒ Running gear, axles, steering; Rep. gr. 40 ; Subframe, anti-roll bar, suspension links .

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51 – Body - centre

1 Permitted separating cuts on complete side panel

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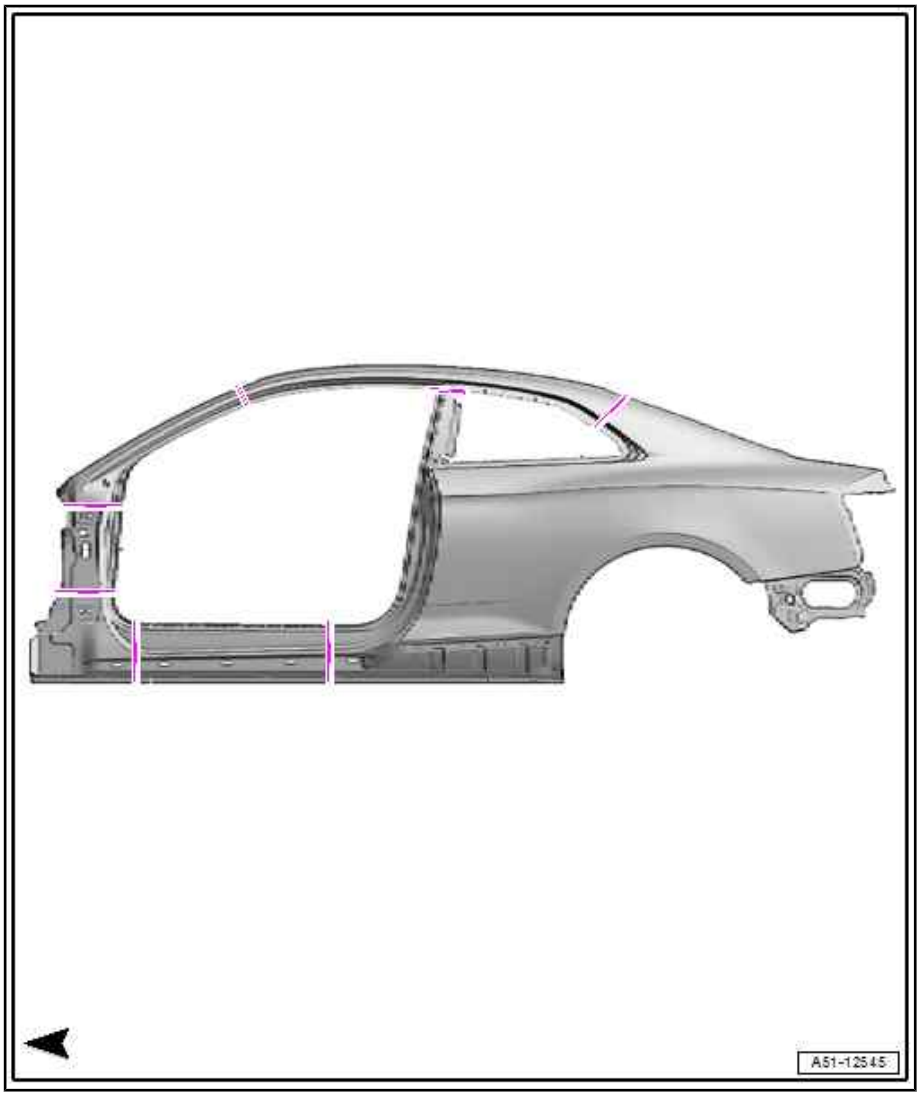
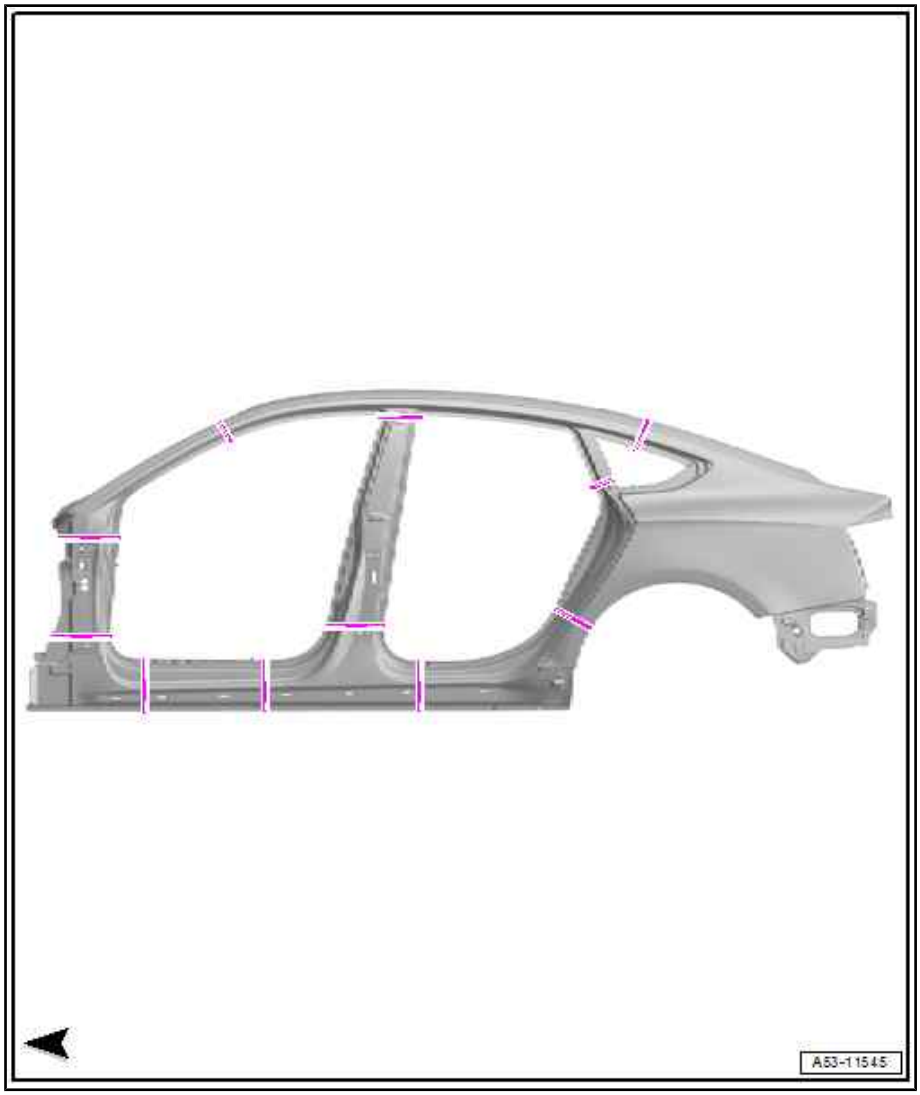
Note

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



Sportback



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RO: 51 03 55 00

2 Roof - Renewal (Coupé and Sportback identical)

Note

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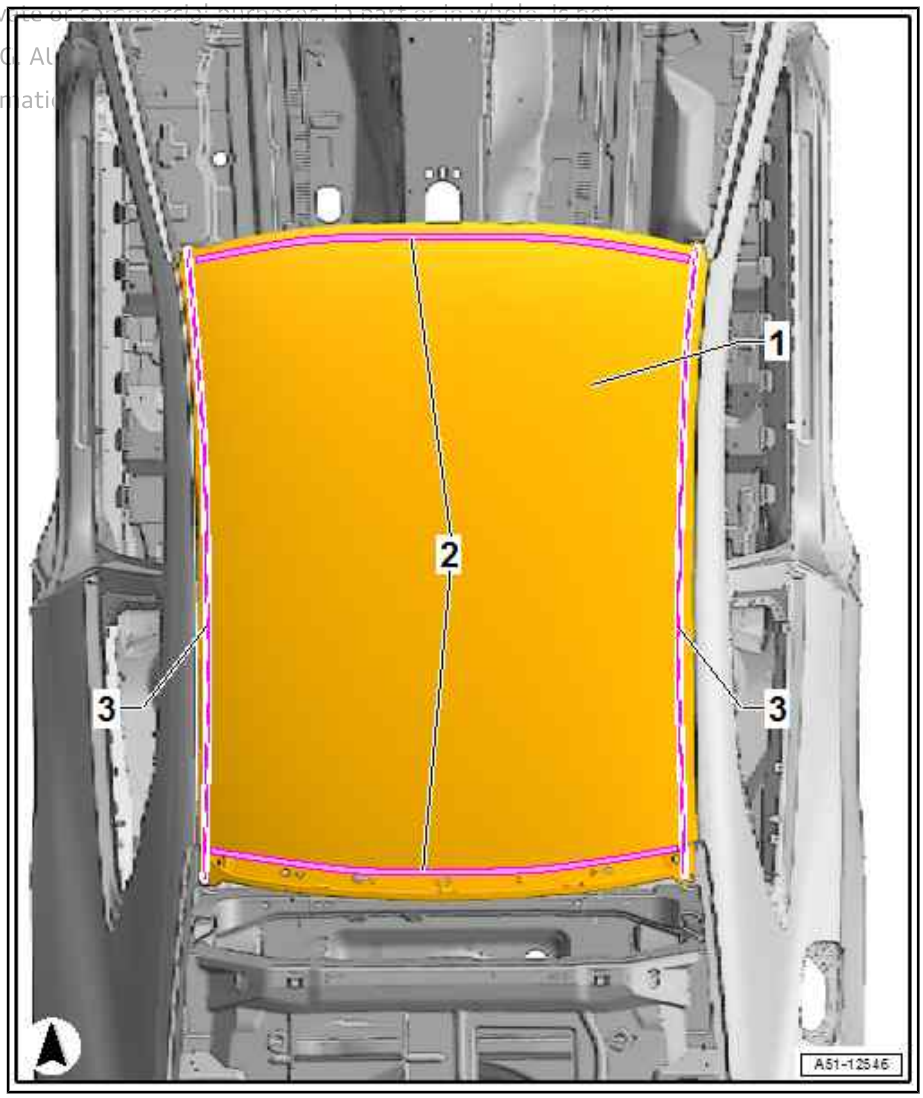
1 - Roof
2 - Bonded area
3 - Separating cut



2.1 Tools

Special tools and workshop equipment required

- Setting gauge
- Compact angle grinder
- Brush grinder
- Body saw
- Mole grips, 18-18
- Tensioning strap

- Compressed-air gun
- Double cartridge gun

Note

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One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

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

– Open cap.

2 - Static mixer

3 - Extension hose

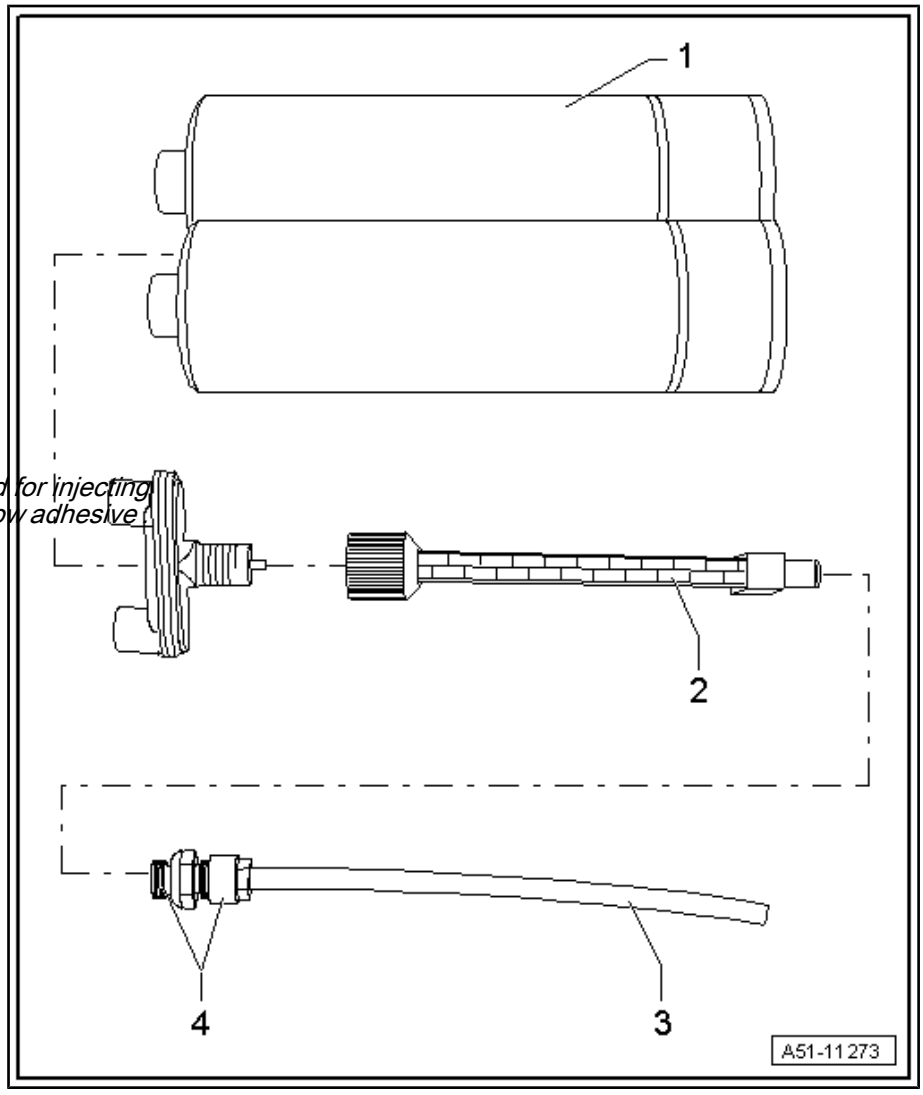
Part number 000 809 937

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

4 - Adapter

Note

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



2.2 Procedure

Cutting locations

Note

Mask the roof side members with adhesive tape to protect them from damage and dirt.

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

– Separate original joint using spot weld breaker .

– Working from passenger compartment, separate bonded joints between roof and roof cross members using electric cutter - V.A.G 1561 A- .

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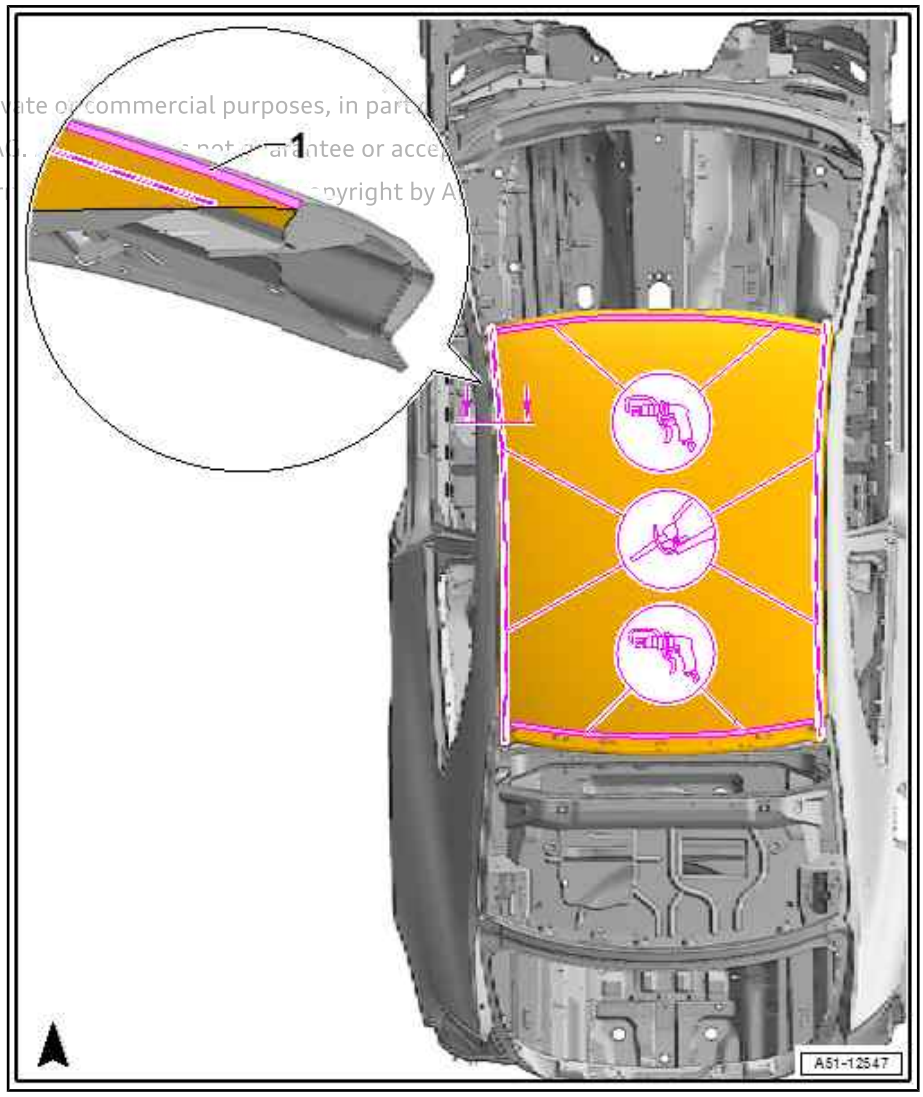
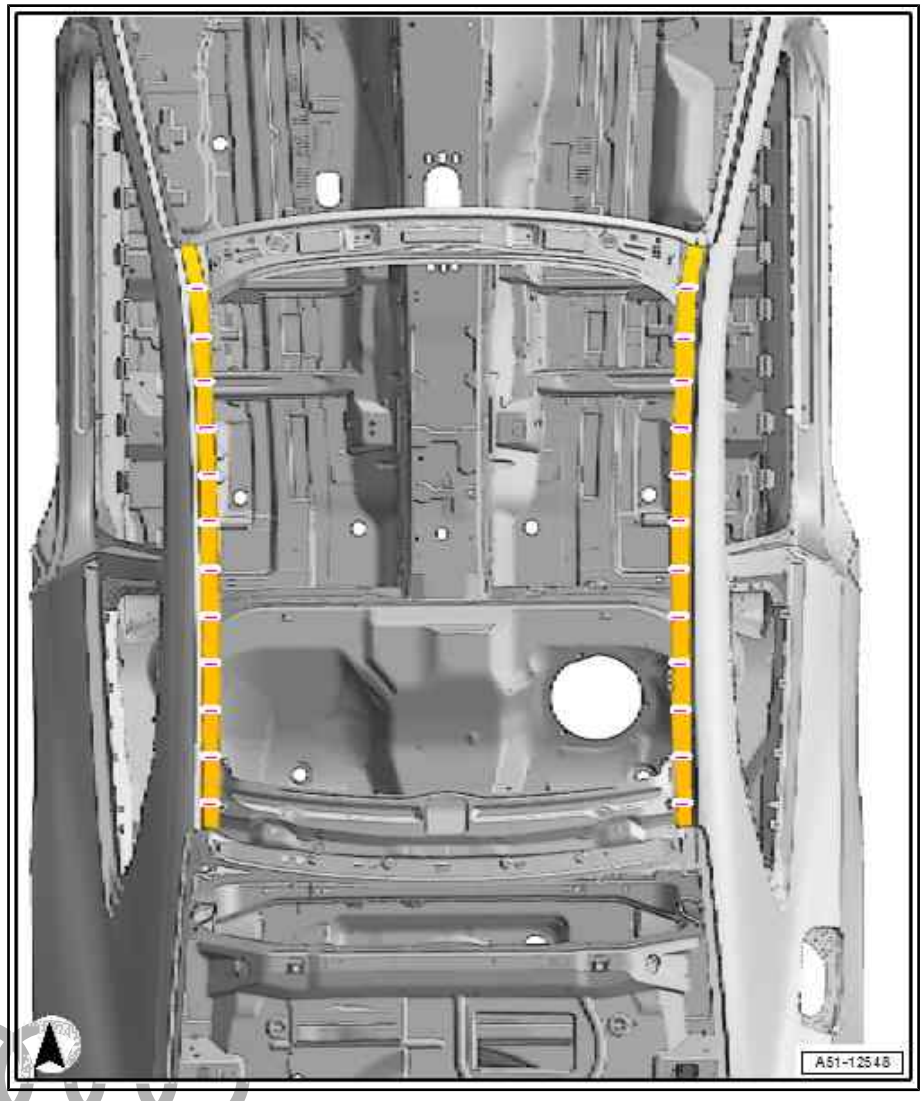


Note

- *When removing the remaining material from the roof, make sure that the side elements (side panels and side panel frames) are not damaged.*
- *Do not use cutting discs or rough-filing discs.*
- *Remove all adhesive residue and remaining sealing compound from the front and rear roof cross members.*

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

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



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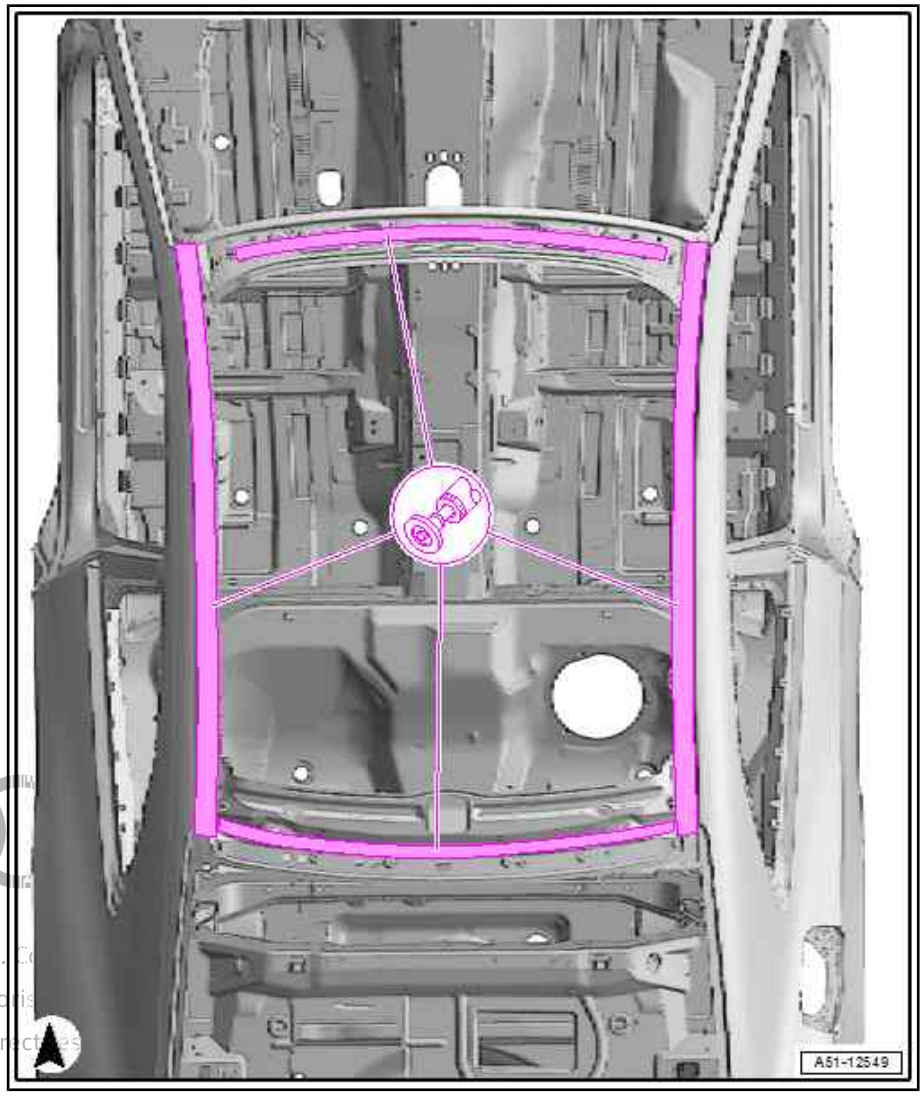
- *Take care not to damage the roof side members when removing the remaining sections of the roof.*
- *Use a suitable flap disc; do not use a cutting disc or rough-filing disc.*

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

– Remove remaining material using compact angle grinder .



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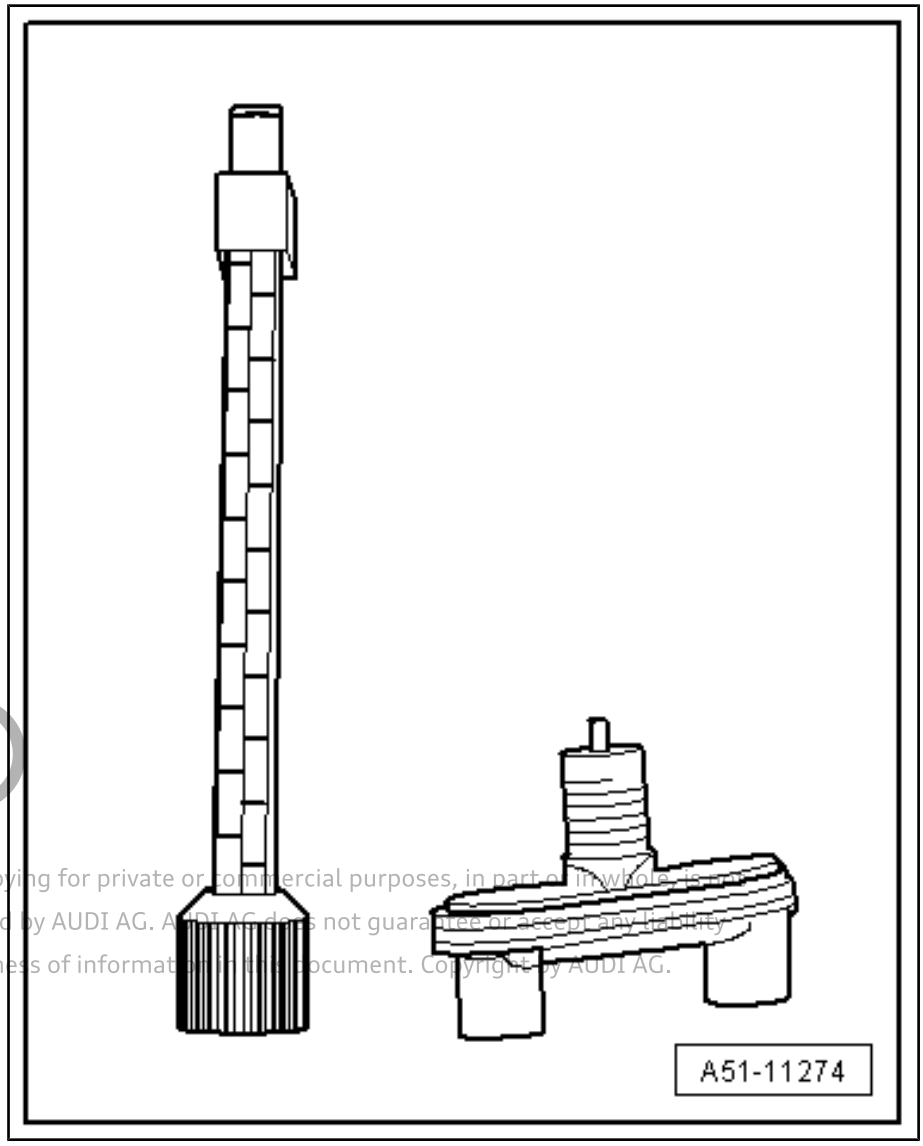
Replacement parts

- Roof
- Single-component assembly adhesive - D 190 MKD A3-
- 2-component epoxy adhesive - DA 180 A00 A2 - , 3 sets of cartridges
- Cleaning solution - D.009.401.04-
- 2-component window adhesive - D 004 660 M2 - , 3 sets of cartridges
- Glass and paint primer - D 009 200 02-

Preparing new part

Instructions for using extension hose for window adhesive

– Take static mixer out of window adhesive kit.



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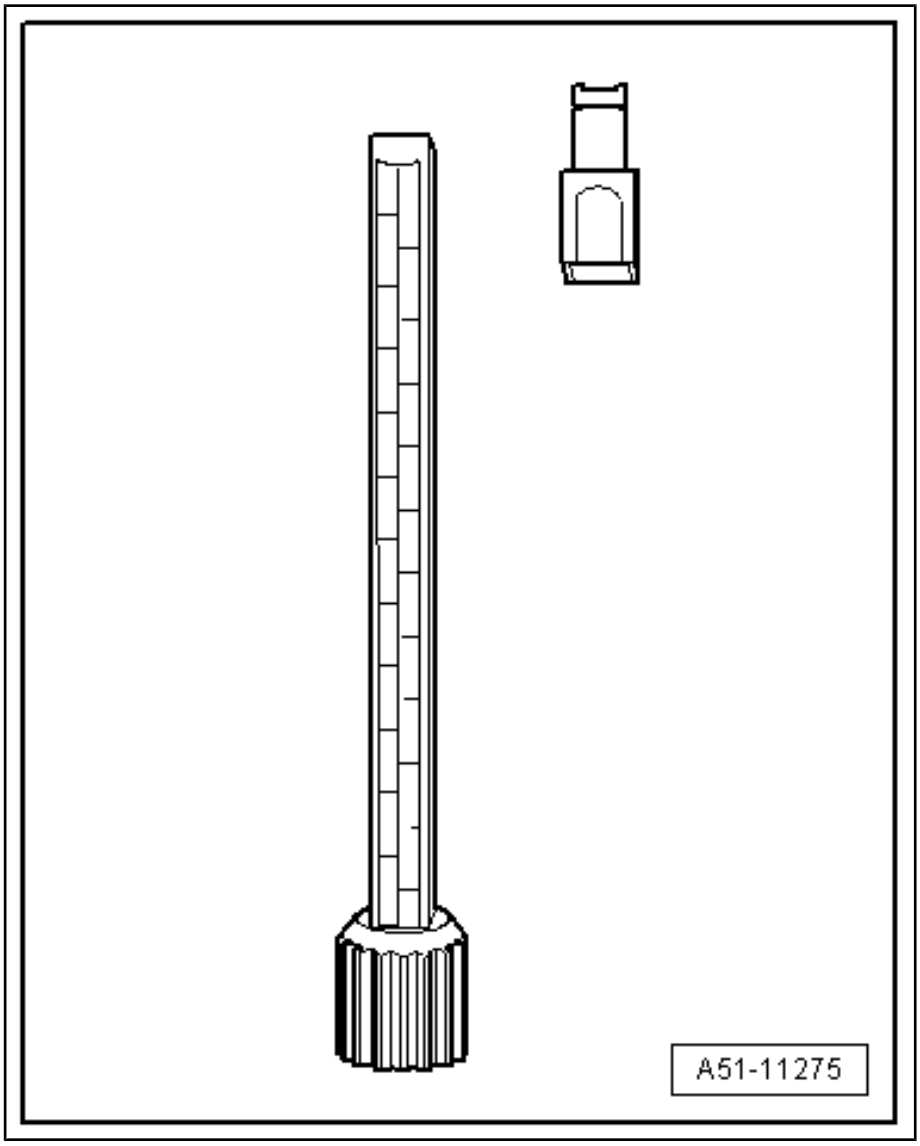
– Remove front cap from static mixer.



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

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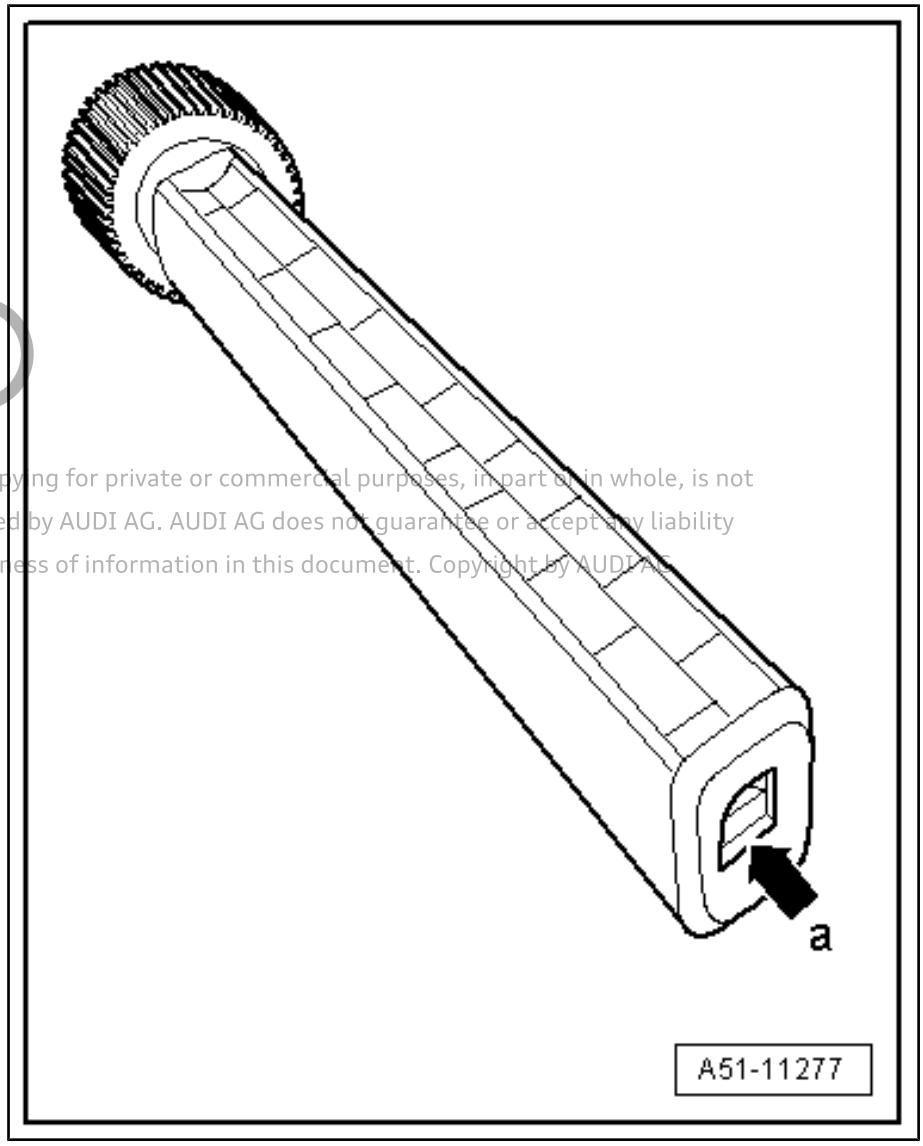

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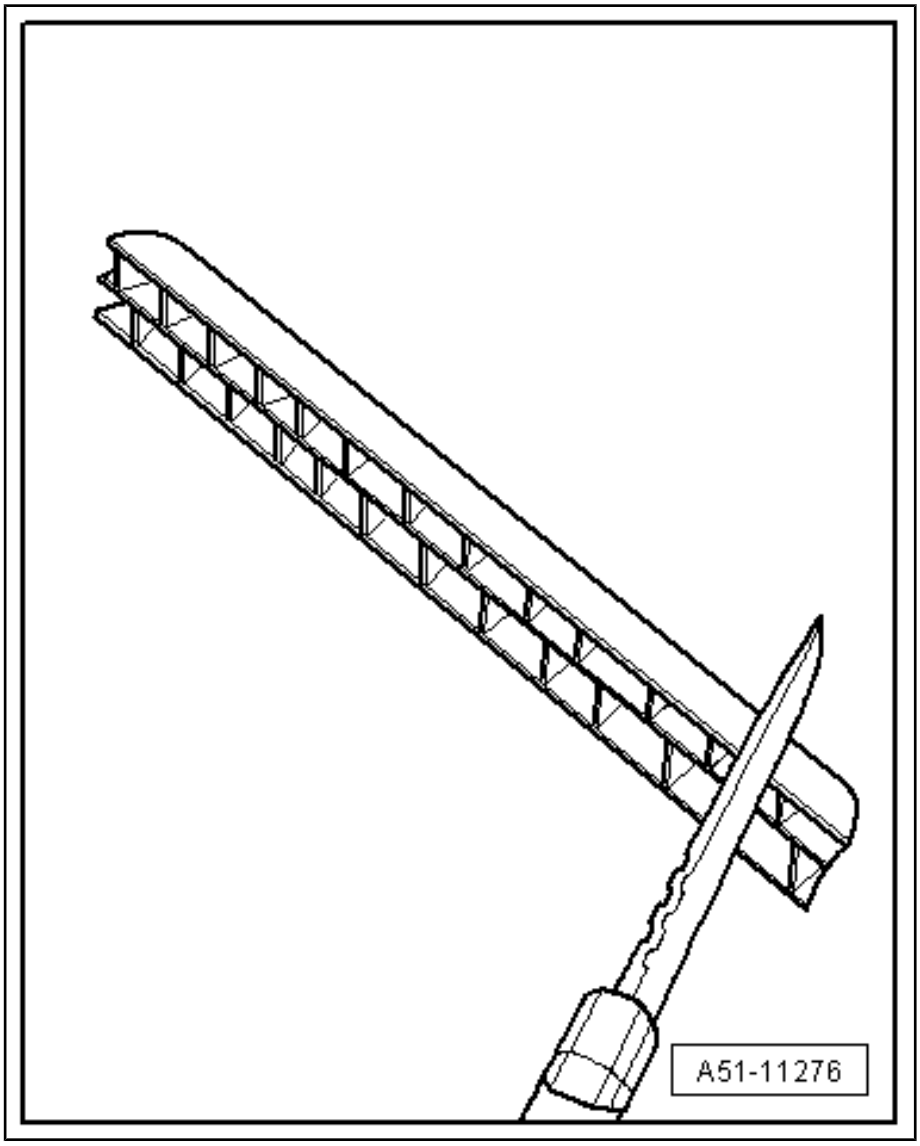
– Shorten inner section of mixer so that hose can be screwed in fully.



– Screw extension hose onto mixer.

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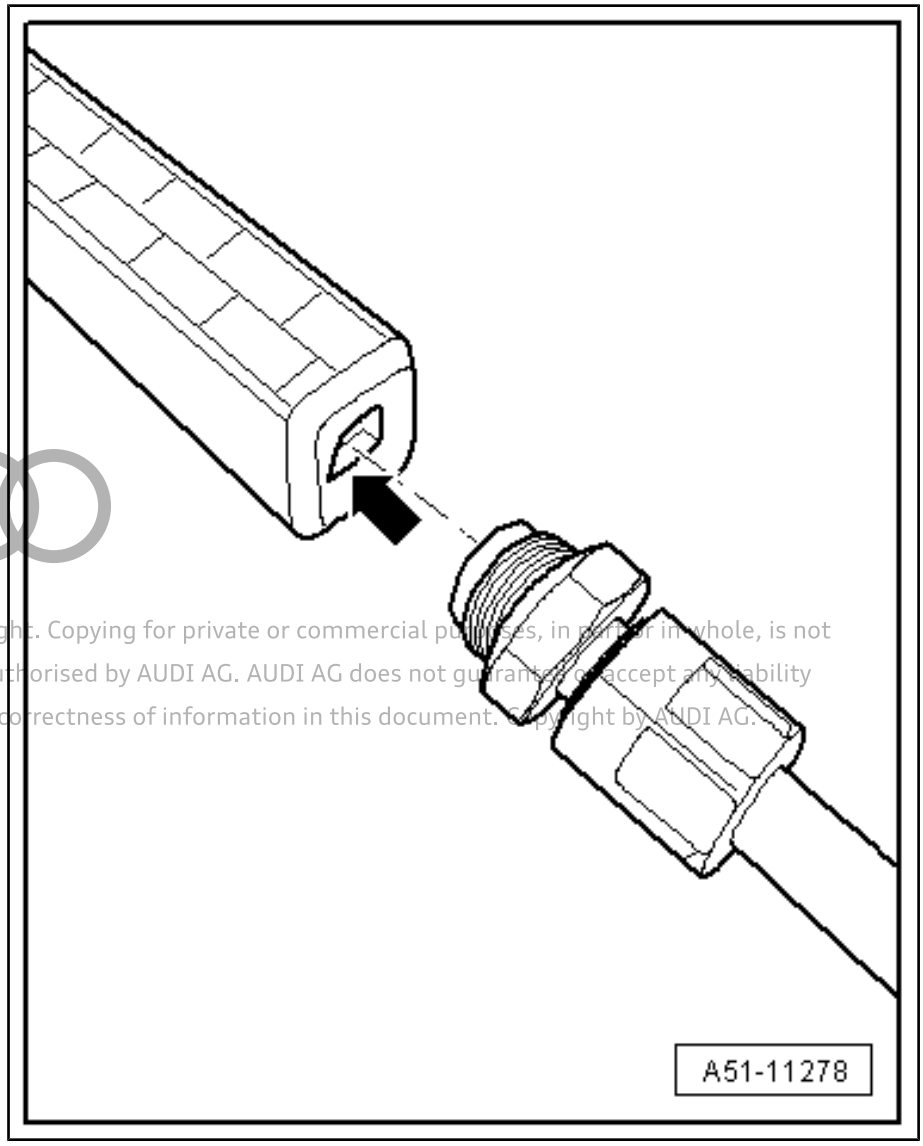

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Note

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

Note

Pre-treatment applies to old flange only.

Bonding in

– Position roof on roof frame and check alignment of roof with roof side members (visual inspection).

– Check fit of roof.

– Remove roof.

– Mask outside of roof panel parallel with side bonding area using adhesive tape.

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

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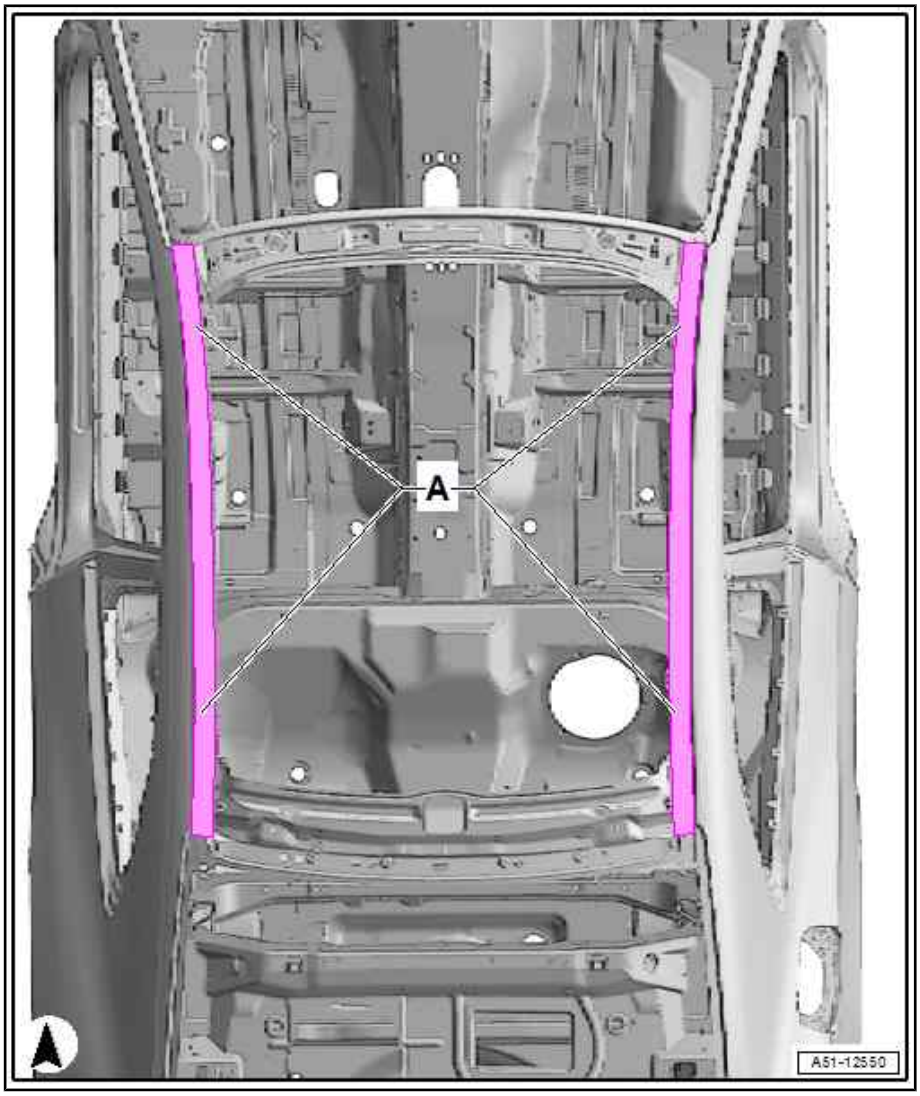
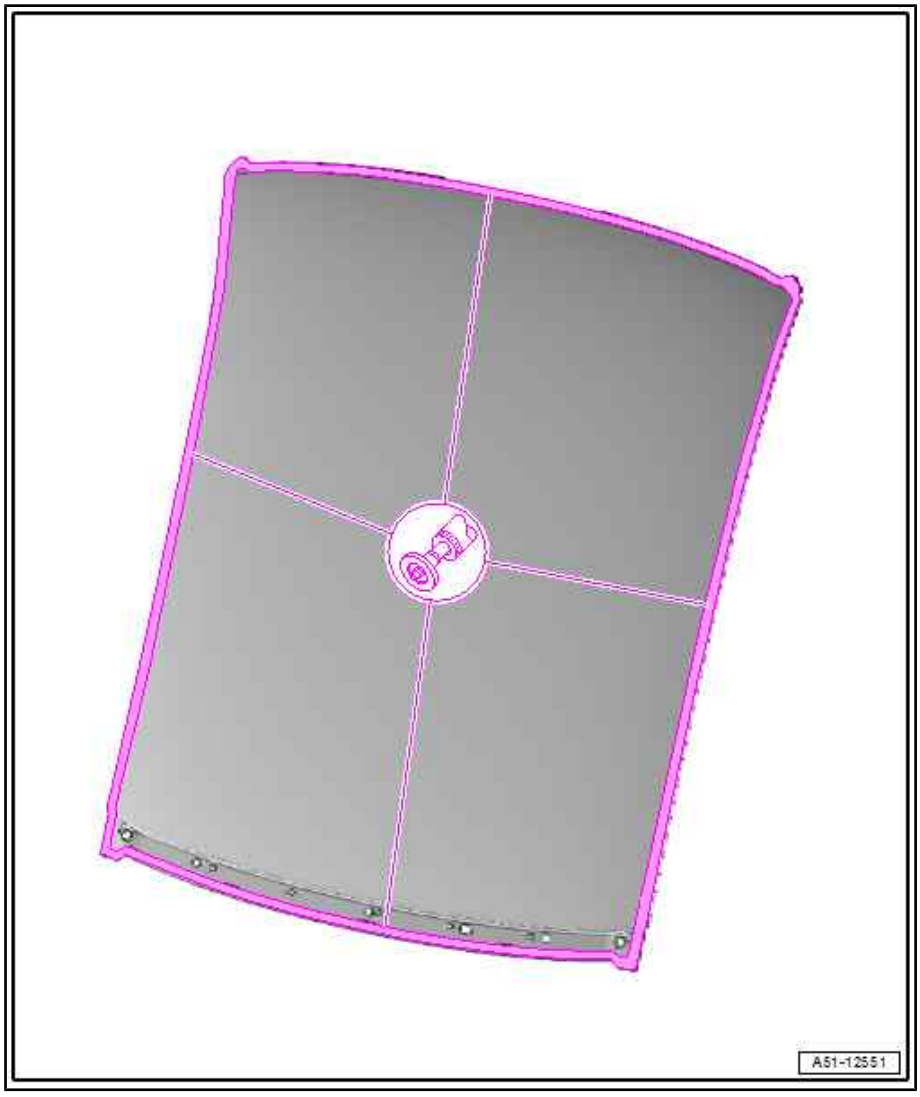


– Grind bonding areas on roof and roof reinforcement (left and right) down to bare metal; grind welding areas on roof cross members down to bare metal.

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- or magnets - VAS 6739- 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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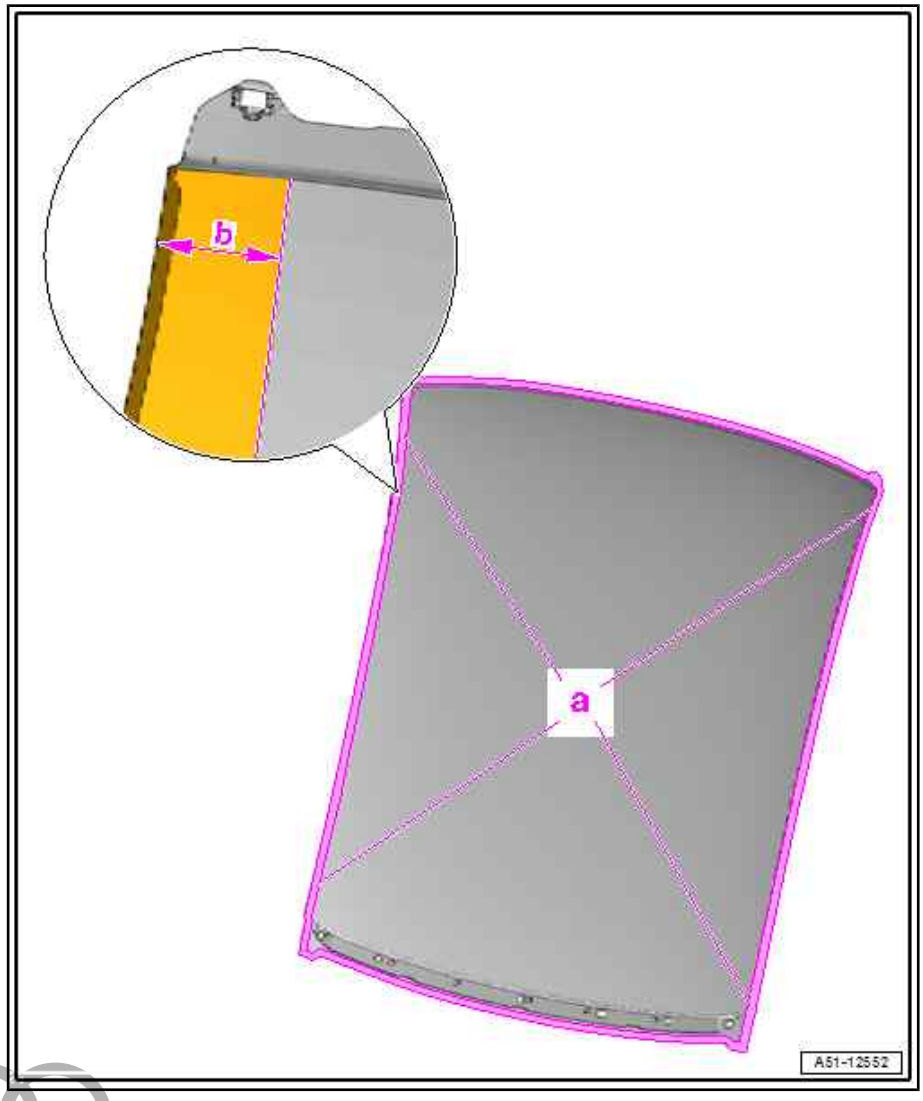
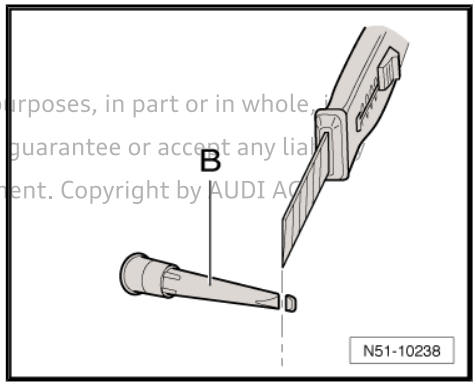


– Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.



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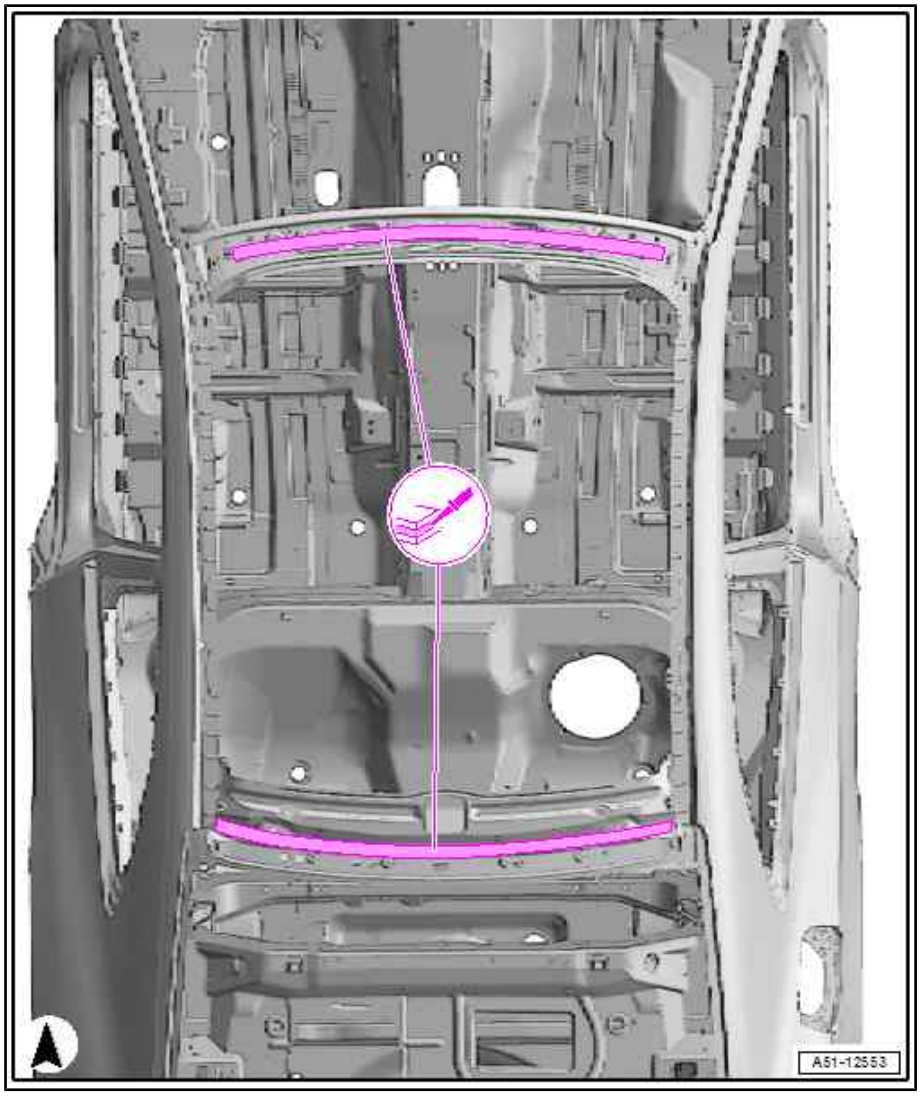
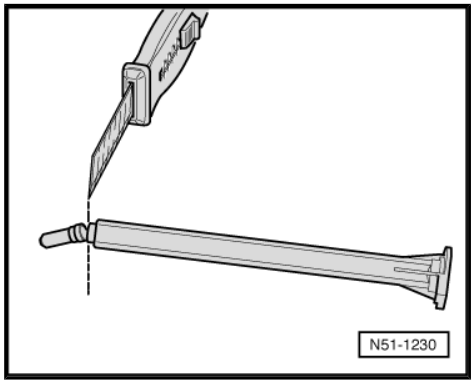
– Apply single-component assembly adhesive - D 190 MKD A3- to roof cross members in the area of the factory bonding location using pneumatic cartridge gun - V.A.G 1761/1- .



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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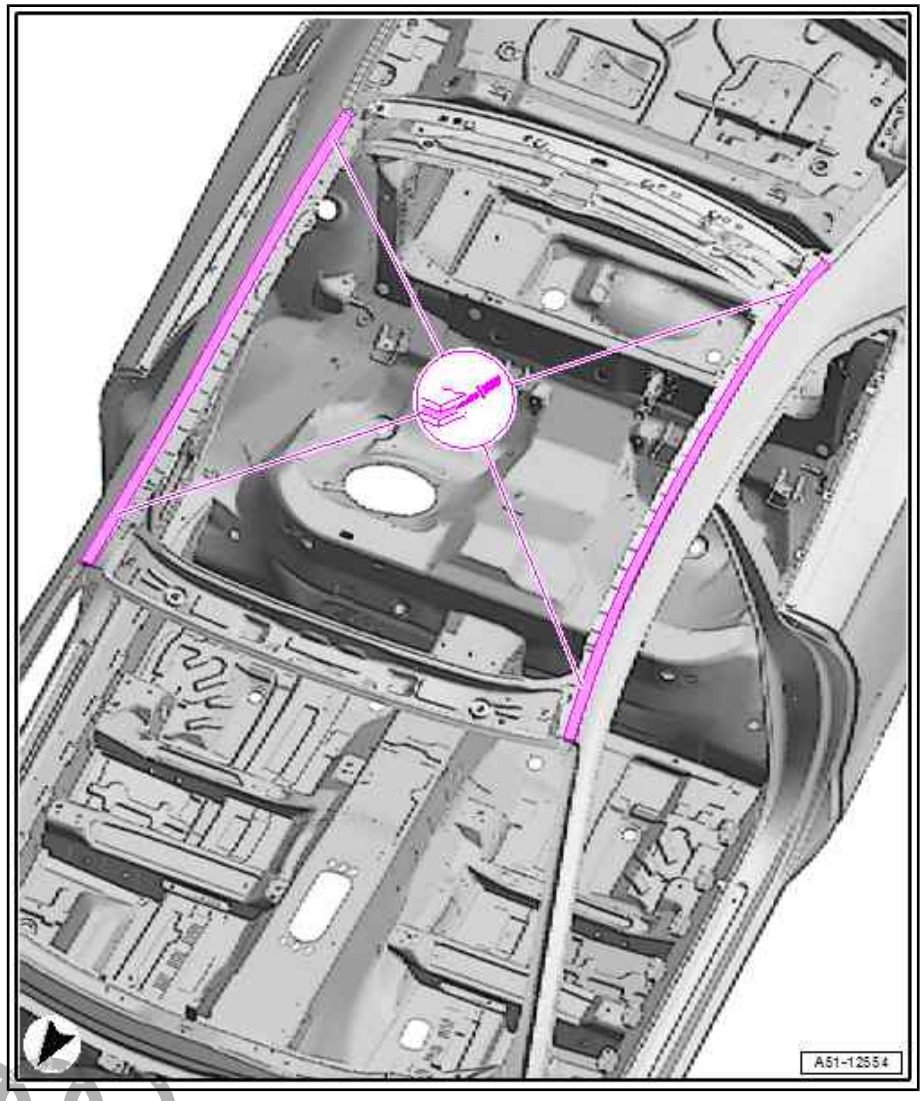

– Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2 - to side flanges of roof using double cartridge gun - VAS 6453- .

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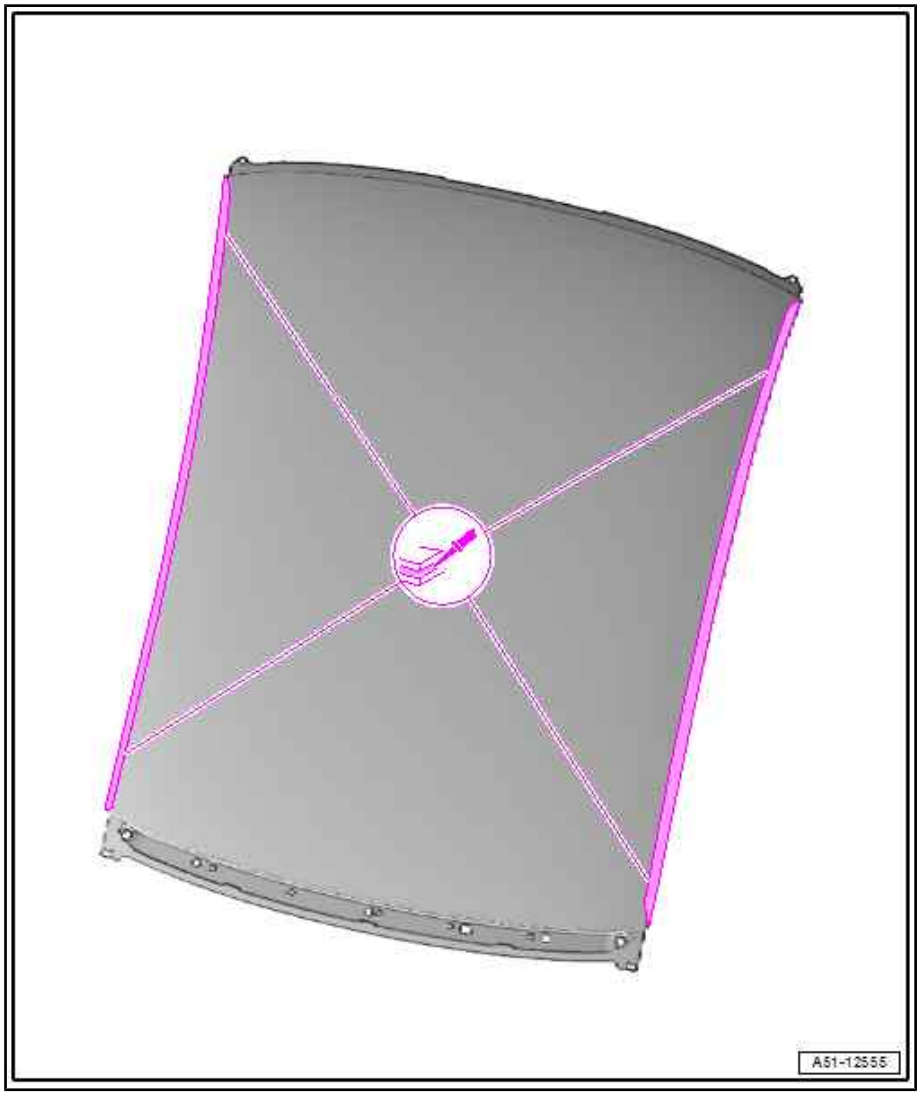

– Immediately fit and align roof.
– Fix roof in position with mole grips, 18-18 - VAS 5430/1- .

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 = 3.0 mm -

Depth setting in centre part of rear door -a = 2.5 mm -

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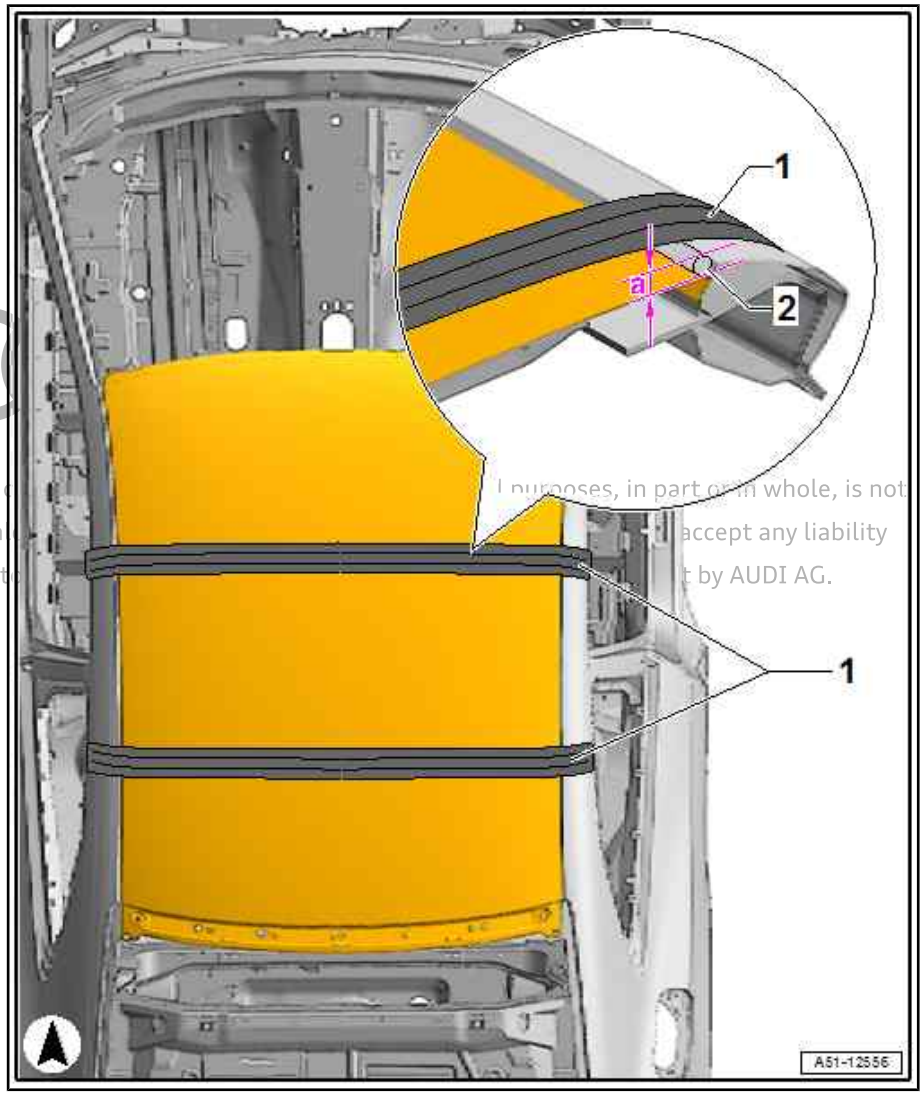

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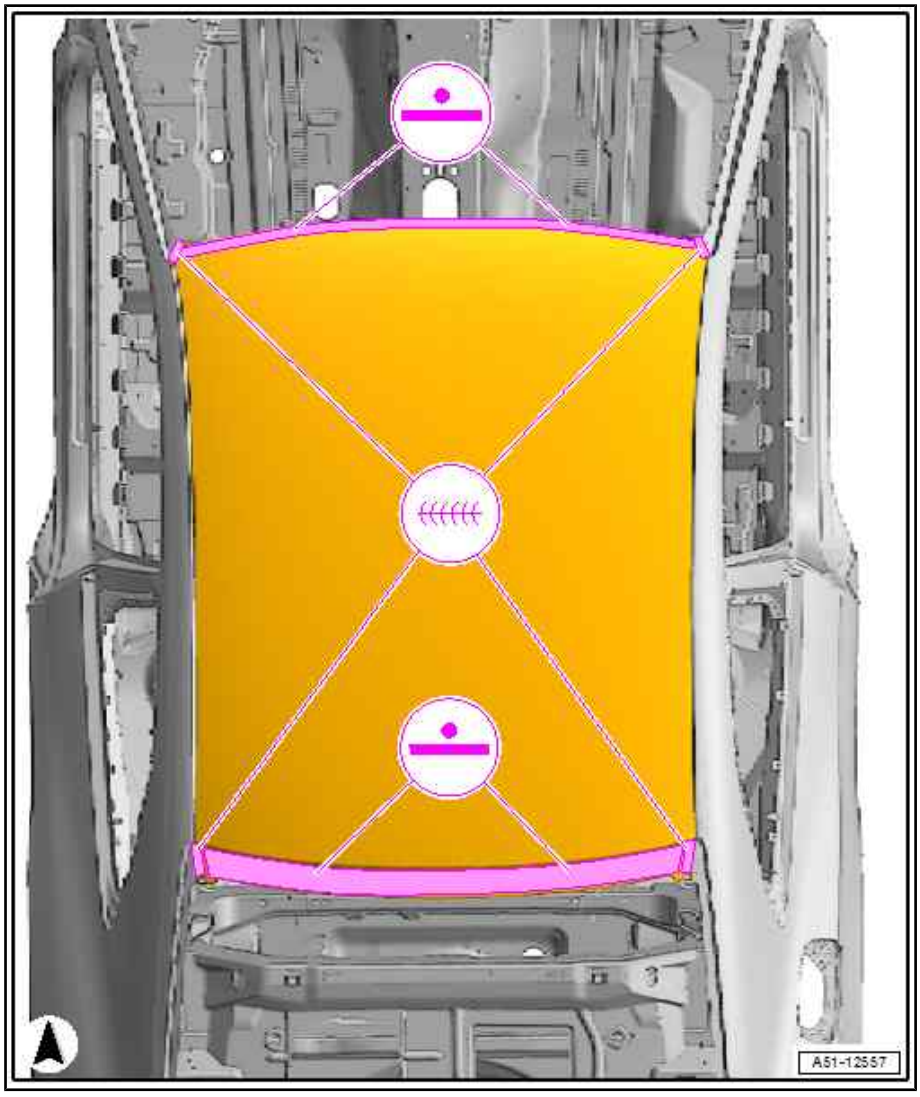
Note

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

– Make additional welds for roof using shielded arc welding equipment : SG continuous seam.
– Grind down SG continuous weld seams using compact angle grinder .
– Weld in roof using resistance spot welder : RP spot weld seam.



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

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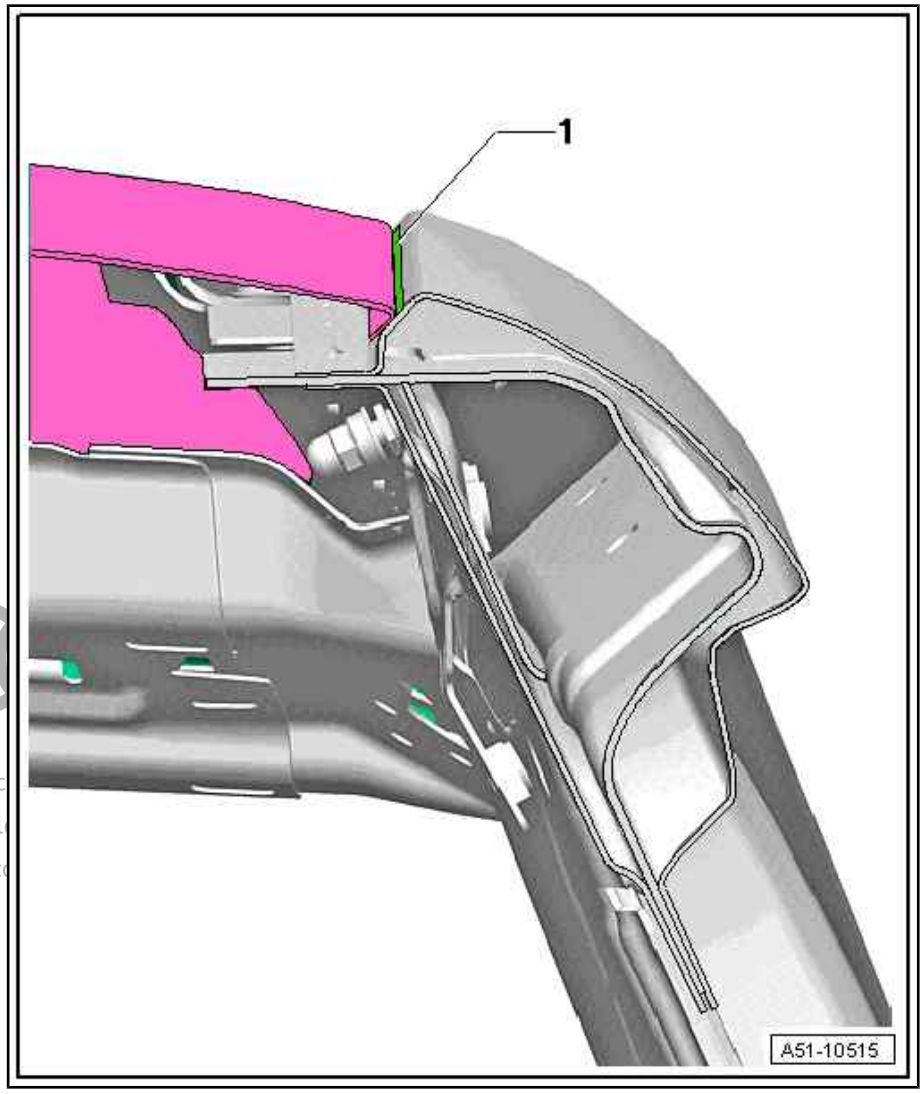

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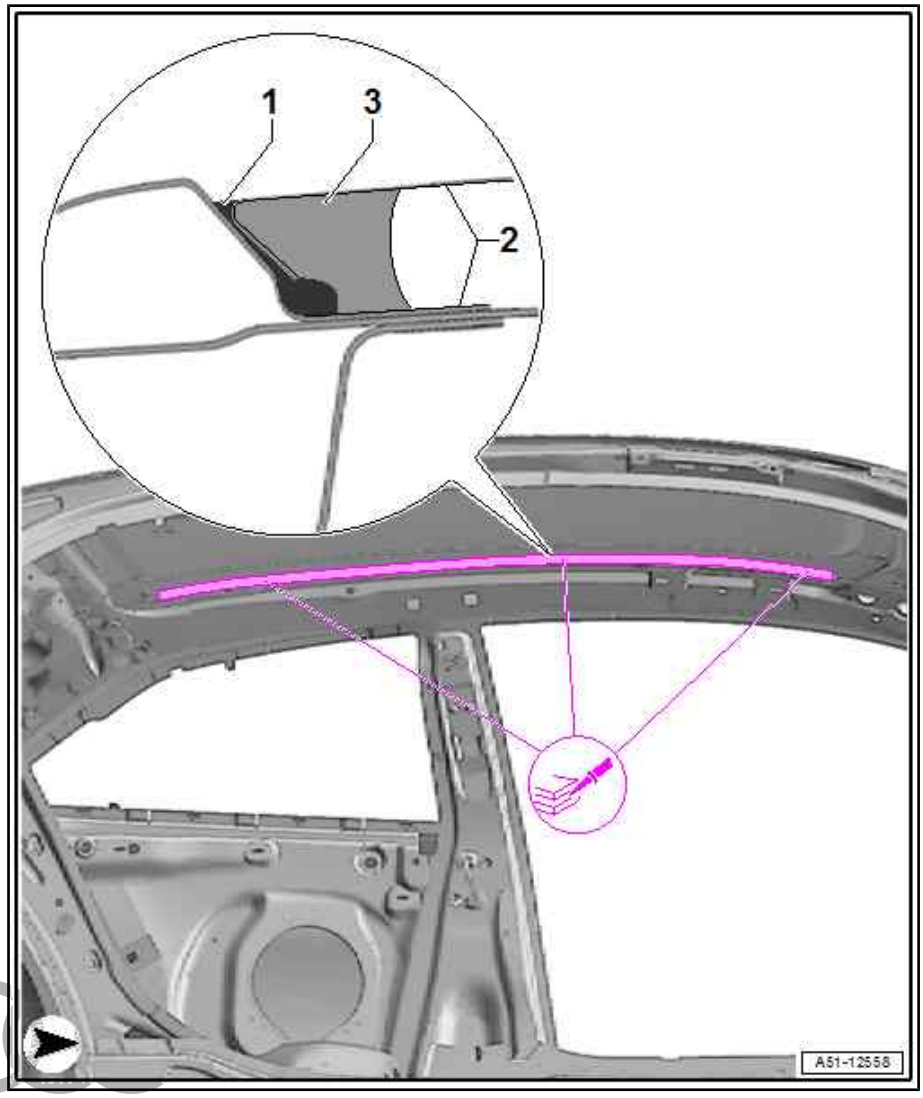
Note

Please note instructions for use: window adhesive should be applied at a temperature of approx. 20°C.

– Apply one cartridge of 2-component window adhesive - D 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 - D 004 660 M2 -



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2.3 Roof - Renewal (vehicles with panoramic tilting sunroof - Coupé and Sportback identical)

Note

Observe safety precautions ⇒ *page 3* .

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

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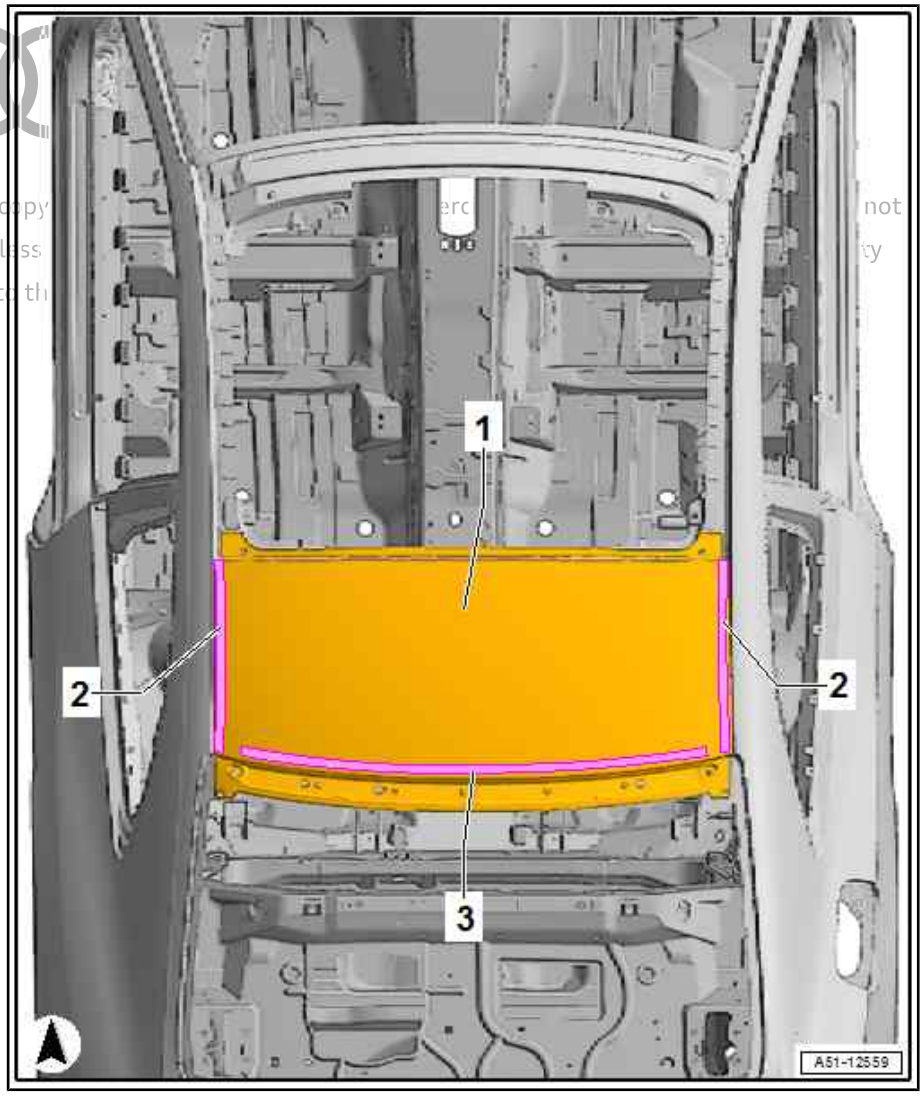


2.3.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

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

– Open cap.

2 - Static mixer

3 - Extension hose

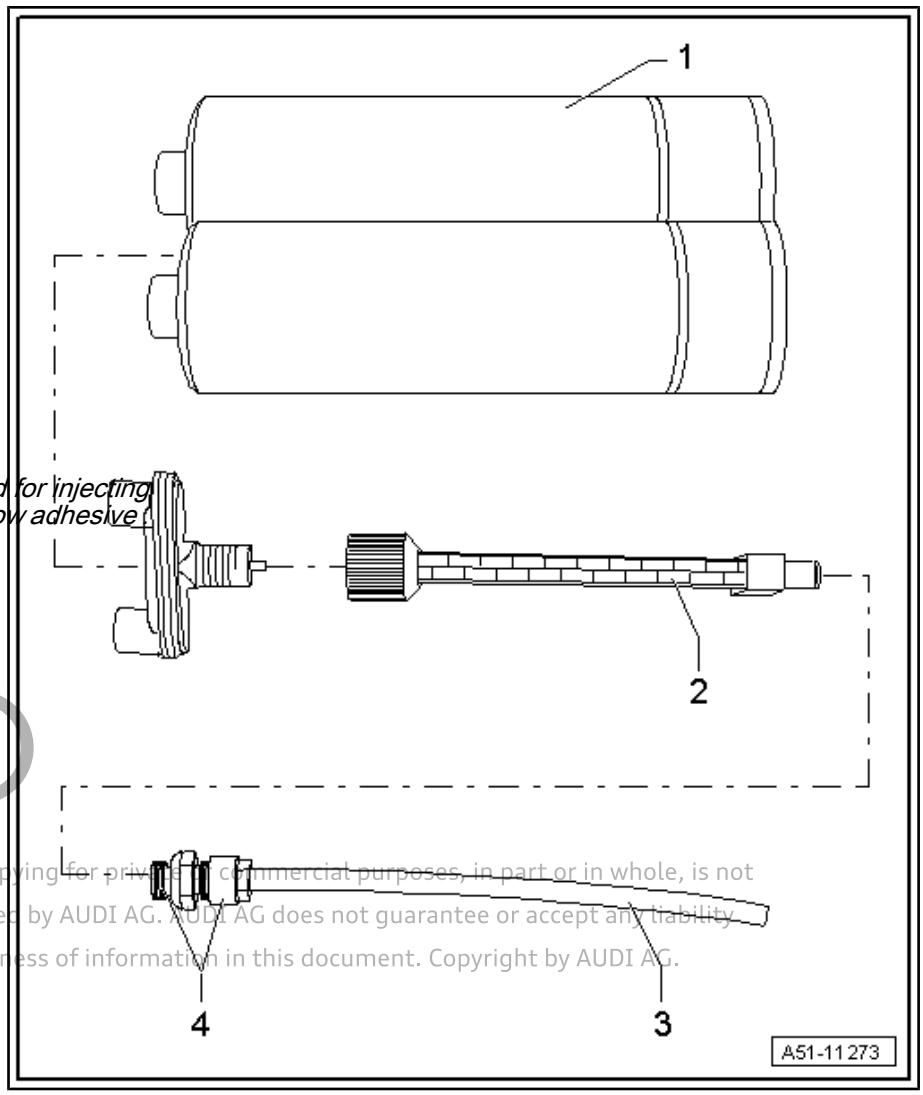
Part number 000 809 937

– 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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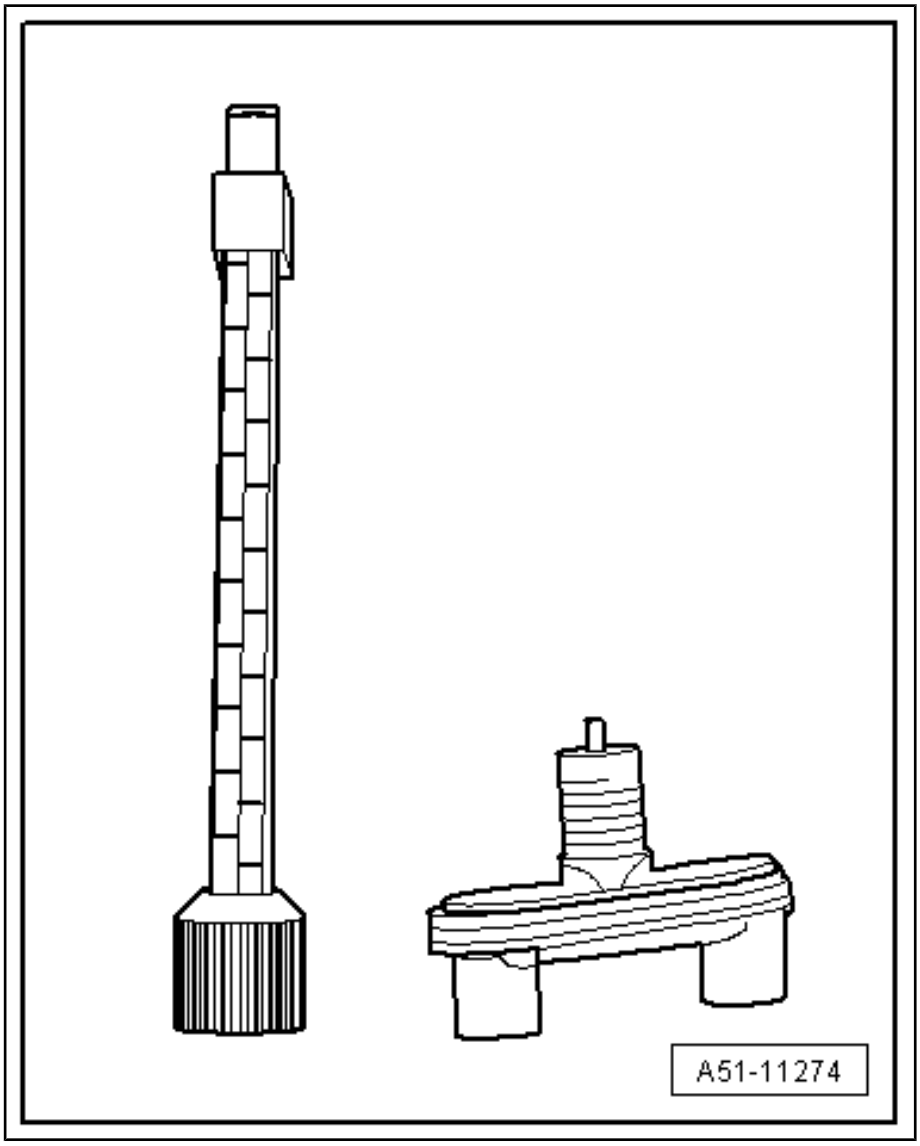
Instructions for using extension hose for window adhesive

– Take static mixer out of window adhesive kit.



– Remove front cap from static mixer.

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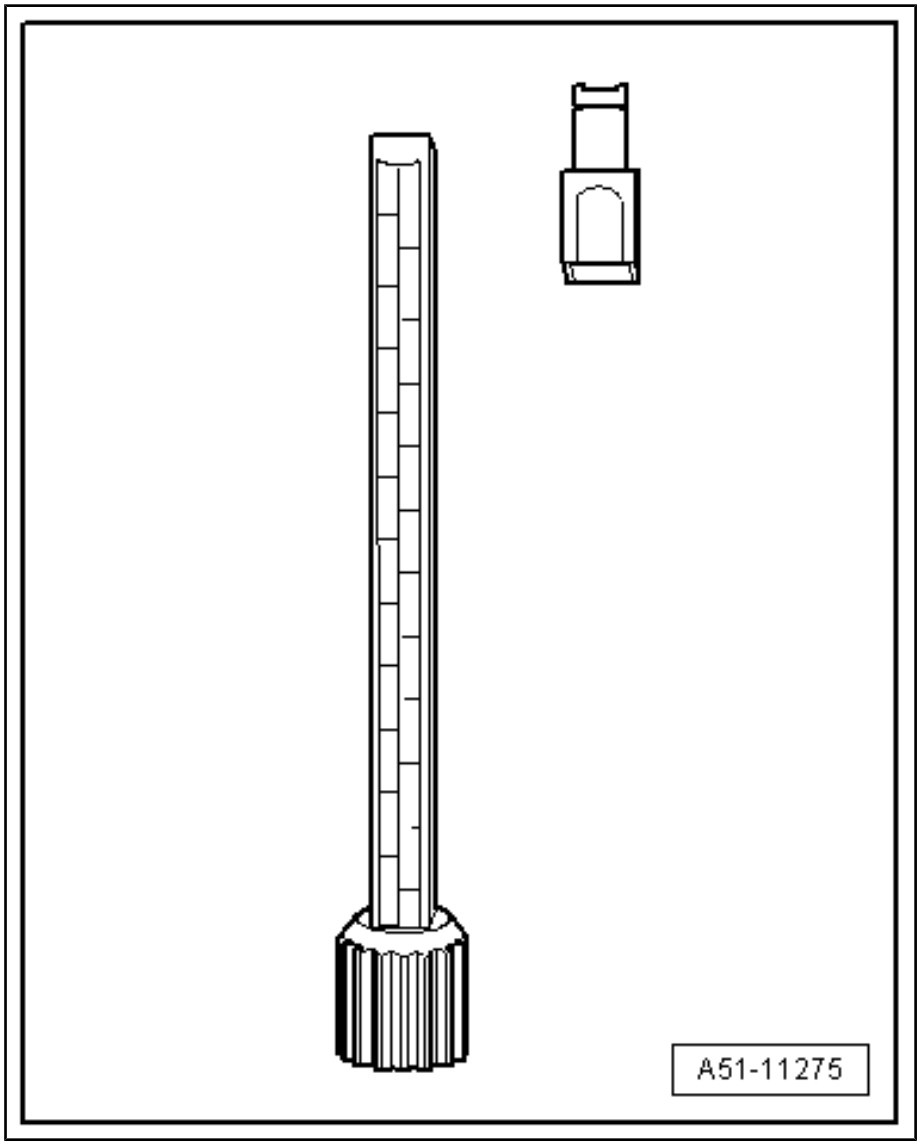

– Drill out opening in static mixer -a- to 9 mm ∅ using drill .

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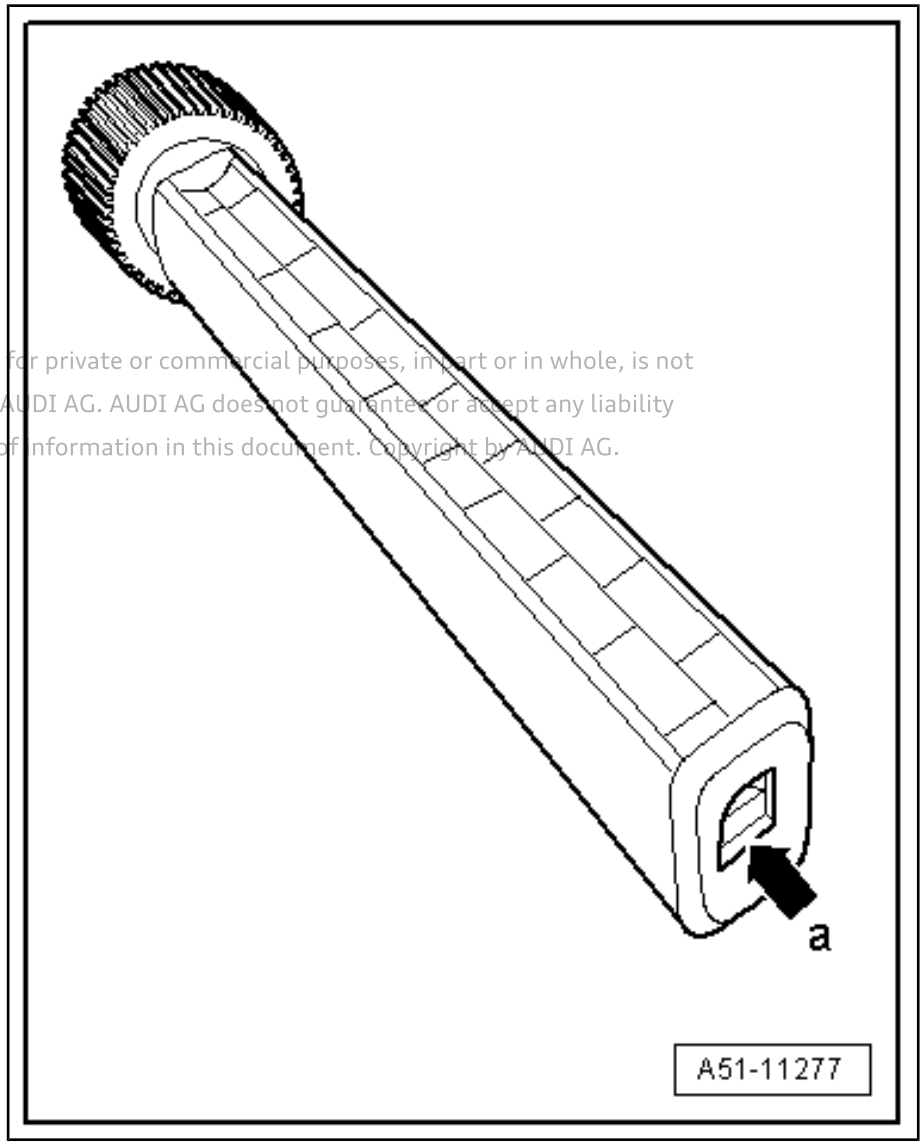
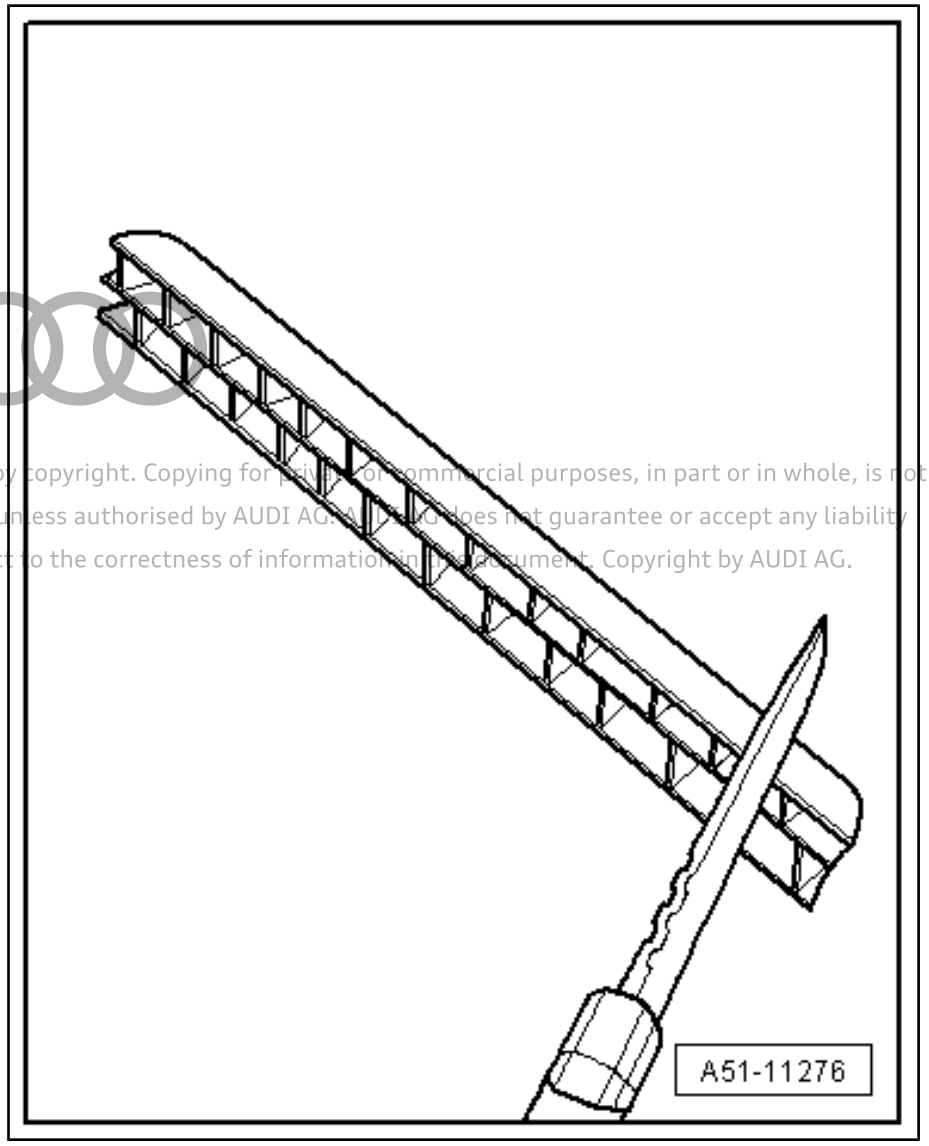


– Shorten inner section of mixer so that hose can be screwed in fully.



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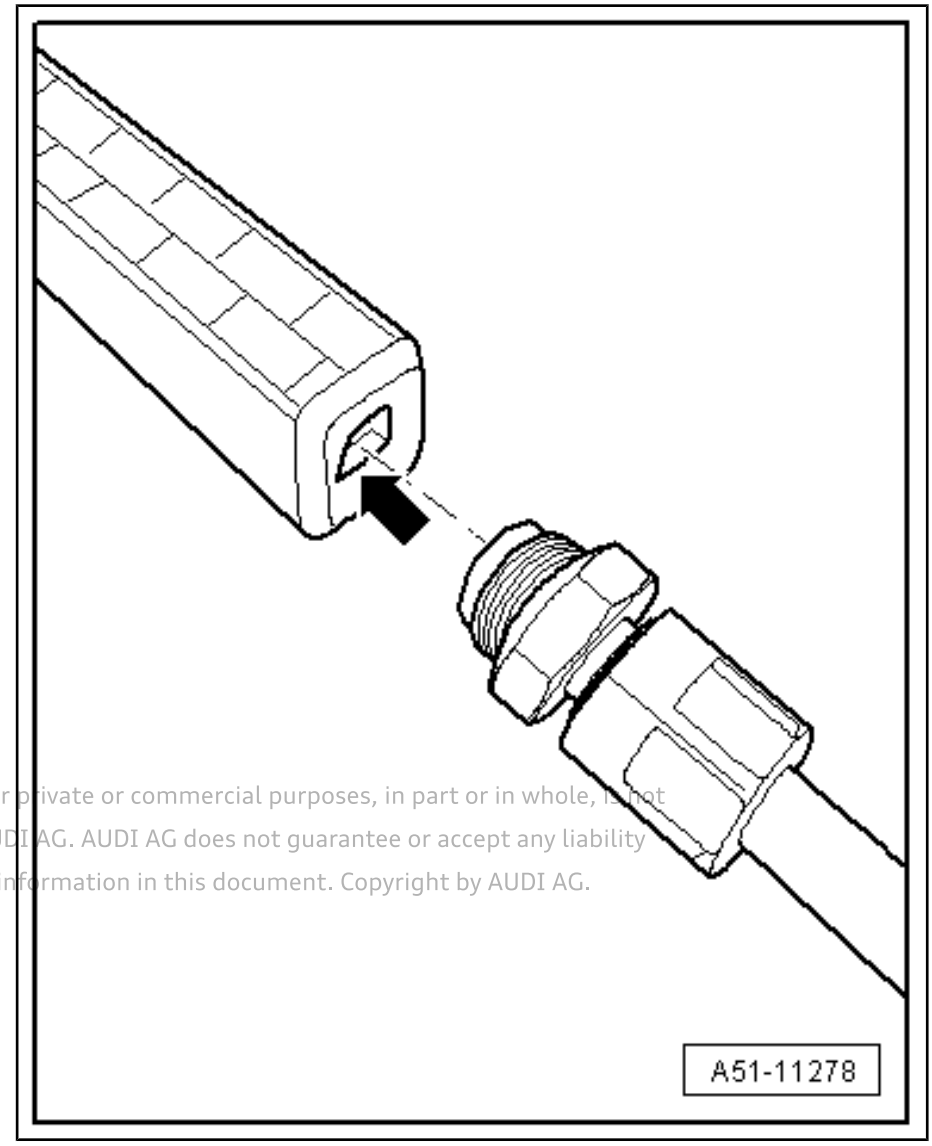
– Screw extension hose onto mixer.



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2.3.2 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 .

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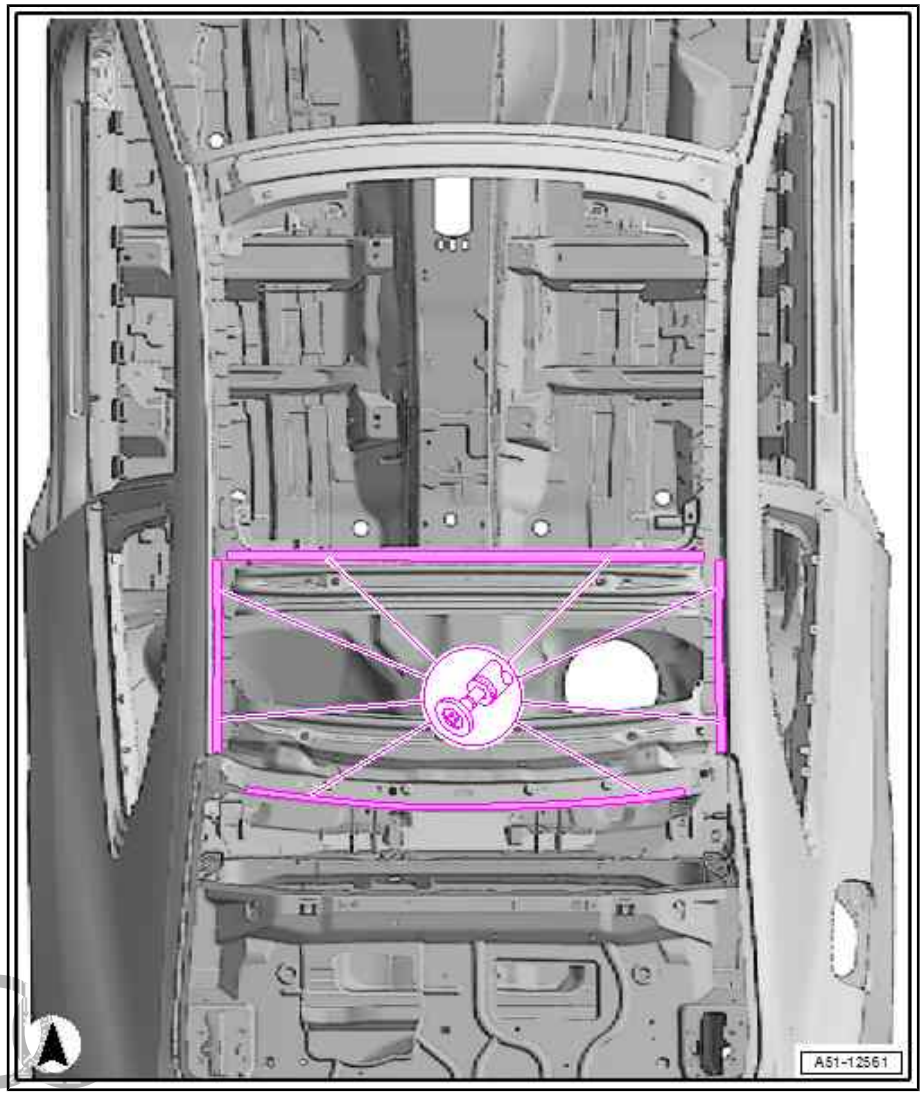
– Remove remaining material using compact angle grinder .

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

Do not use cutting discs or rough-filing discs.



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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

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 (surfacer) and painted before bonding in the roof.*
- *The adhesive materials must be applied very quickly.*
- *Make sure adhesive is applied before pot life is exceeded.*
- *Use a pneumatic cartridge gun to apply the bonding materials.*
- *Affixing adhesive tape to the roof parallel with the bonded seam on the side prevents soiling when bonding.*

A second mechanic is required for the next steps.

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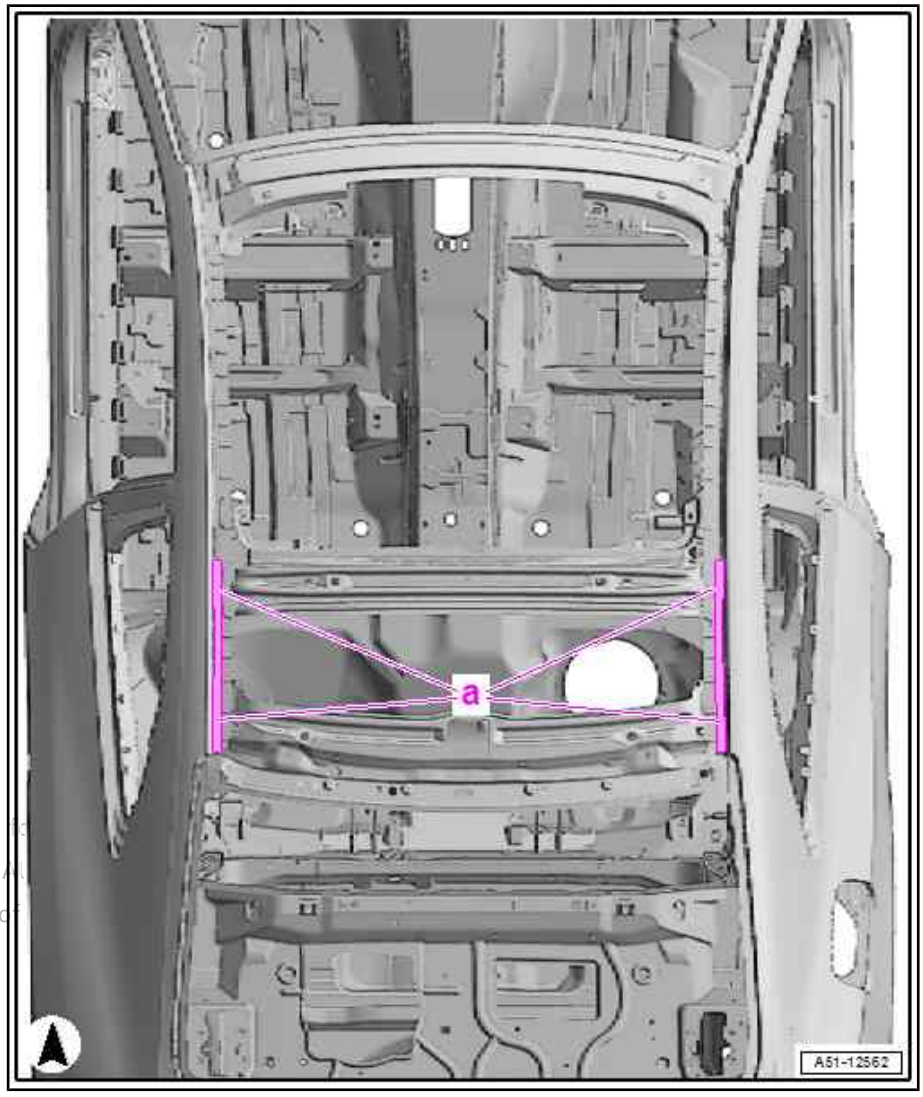
– Position roof on roof frame and check alignment of roof with roof side members (visual inspection).
– Check fit of roof with rear lid and glass roof.
– Fix roof in position in glass roof flange and sealing flange of rear lid using one self-tapping screw at each end.
– Remove roof.
– Apply glass and paint primer - D 009 200 02- in area of roof frame -a-.



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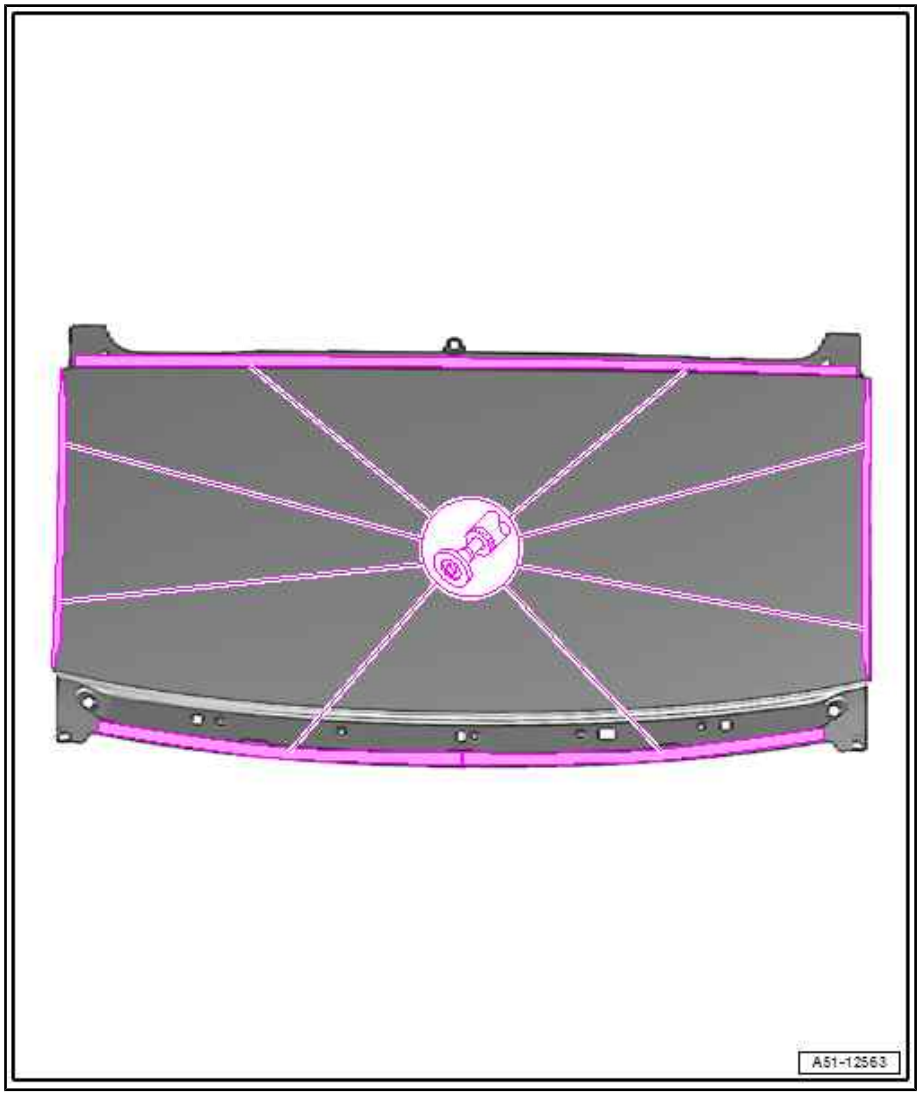
– Grind bonding areas on roof and roof reinforcement (left and right) down to bare metal; grind welding areas on roof cross members down to bare metal.
– Grind down outer sides of welding flanges to bare metal.

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-.

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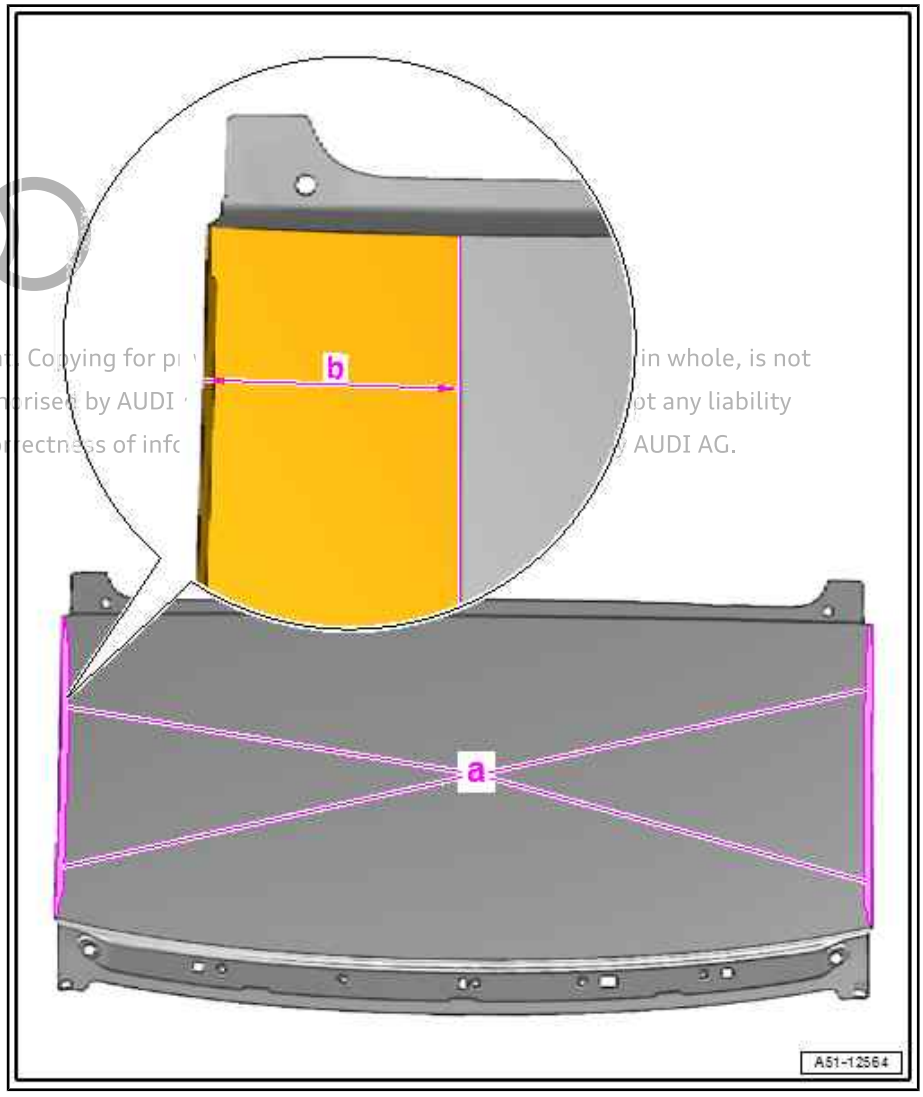
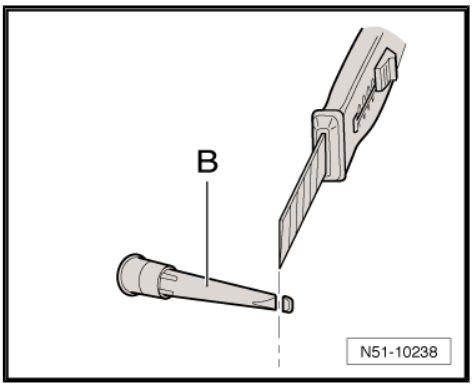
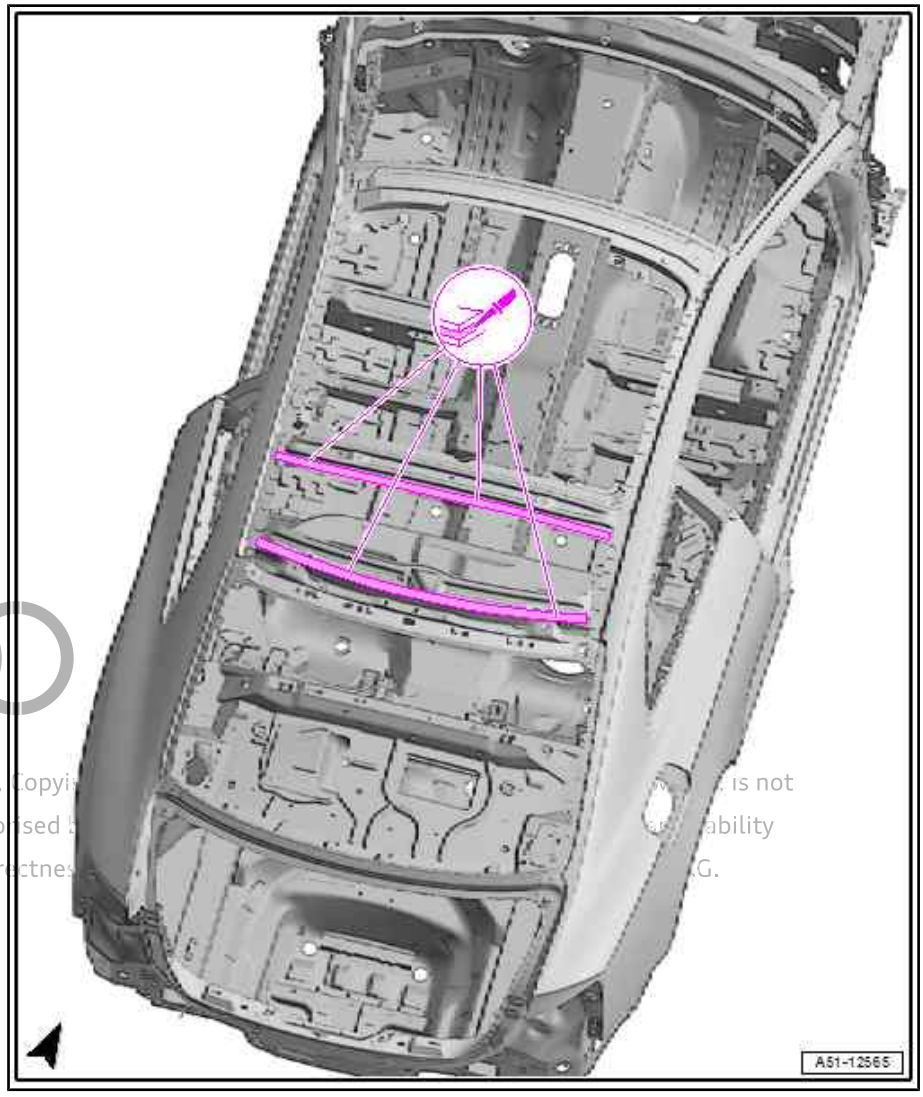


– Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.



– 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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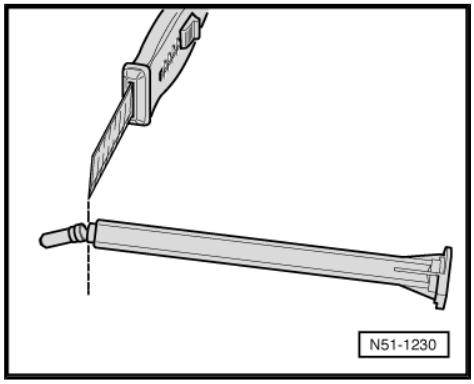
Preparing new part

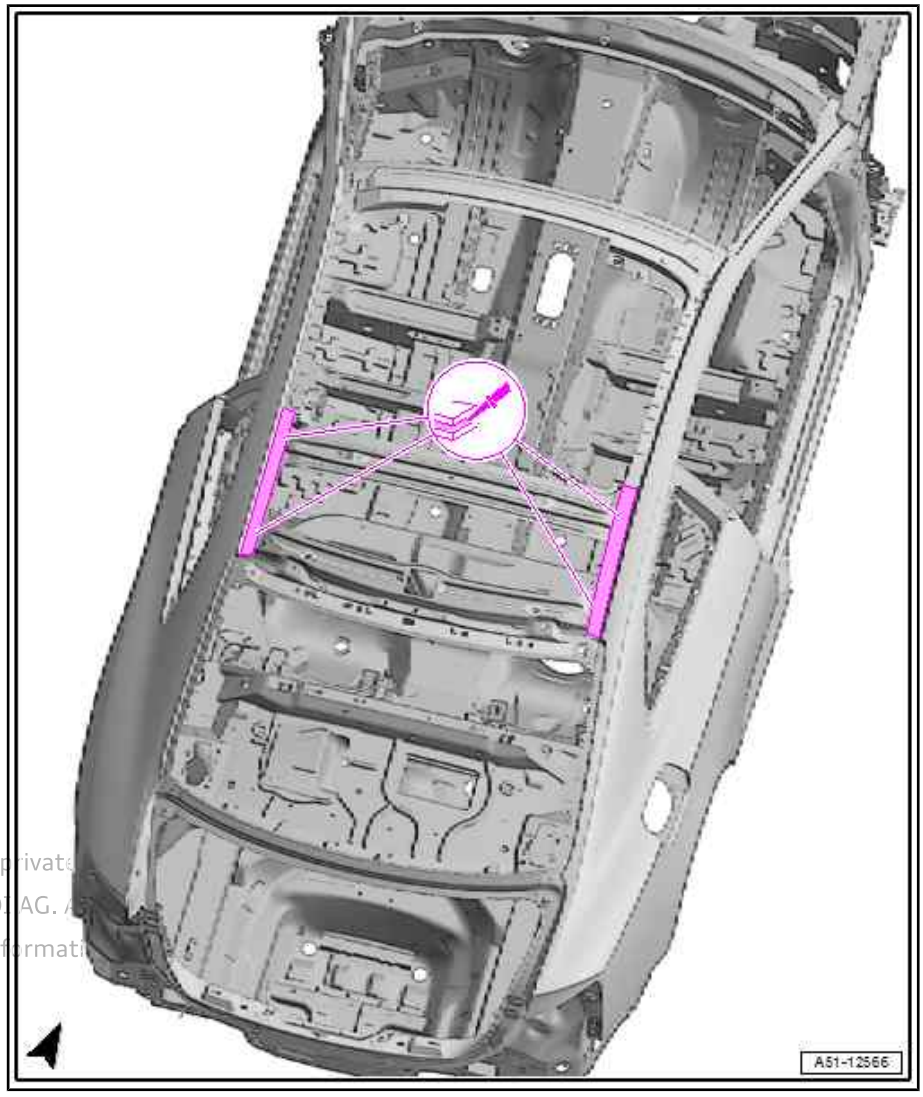
– Cut static mixer from 2-component epoxy adhesive set - DA 180 A00 A2 - down to 4th notch to obtain required bead cross section.



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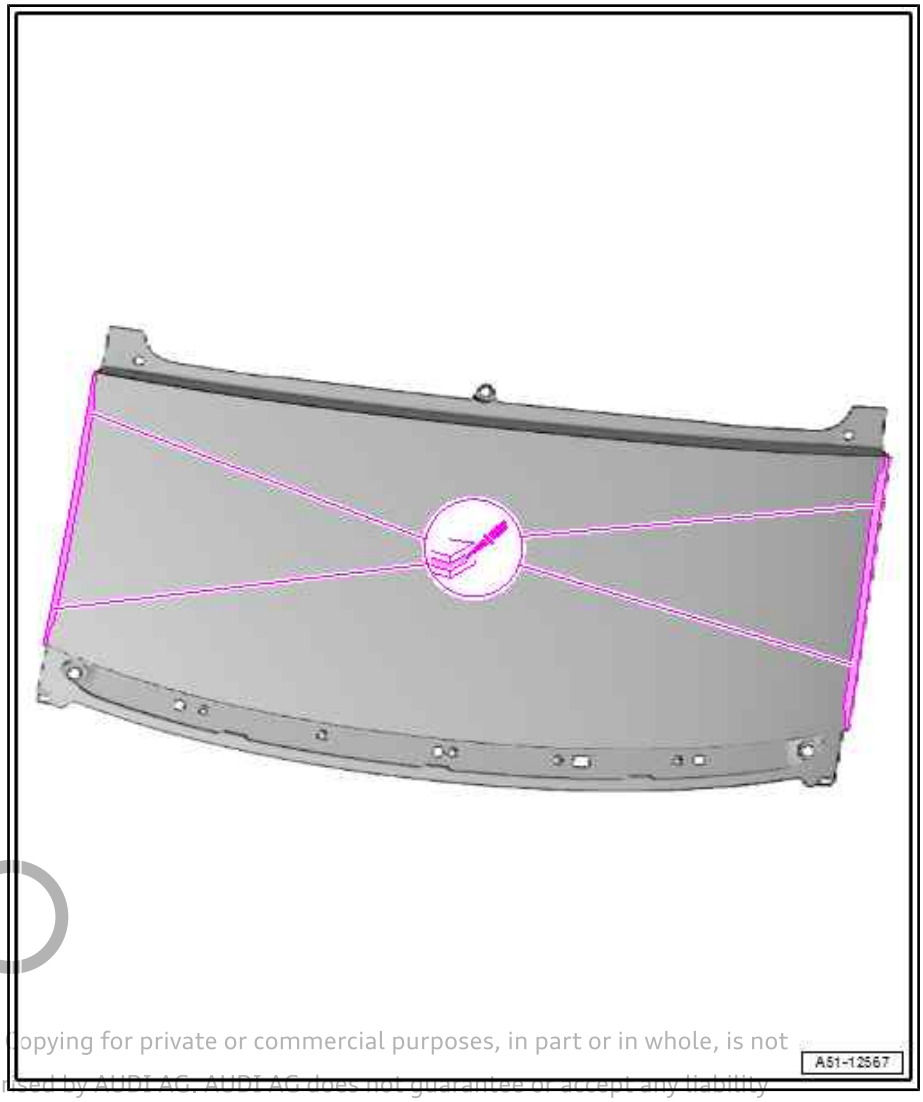
– Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2 - to side flanges of roof using double cartridge gun - VAS 6453- .



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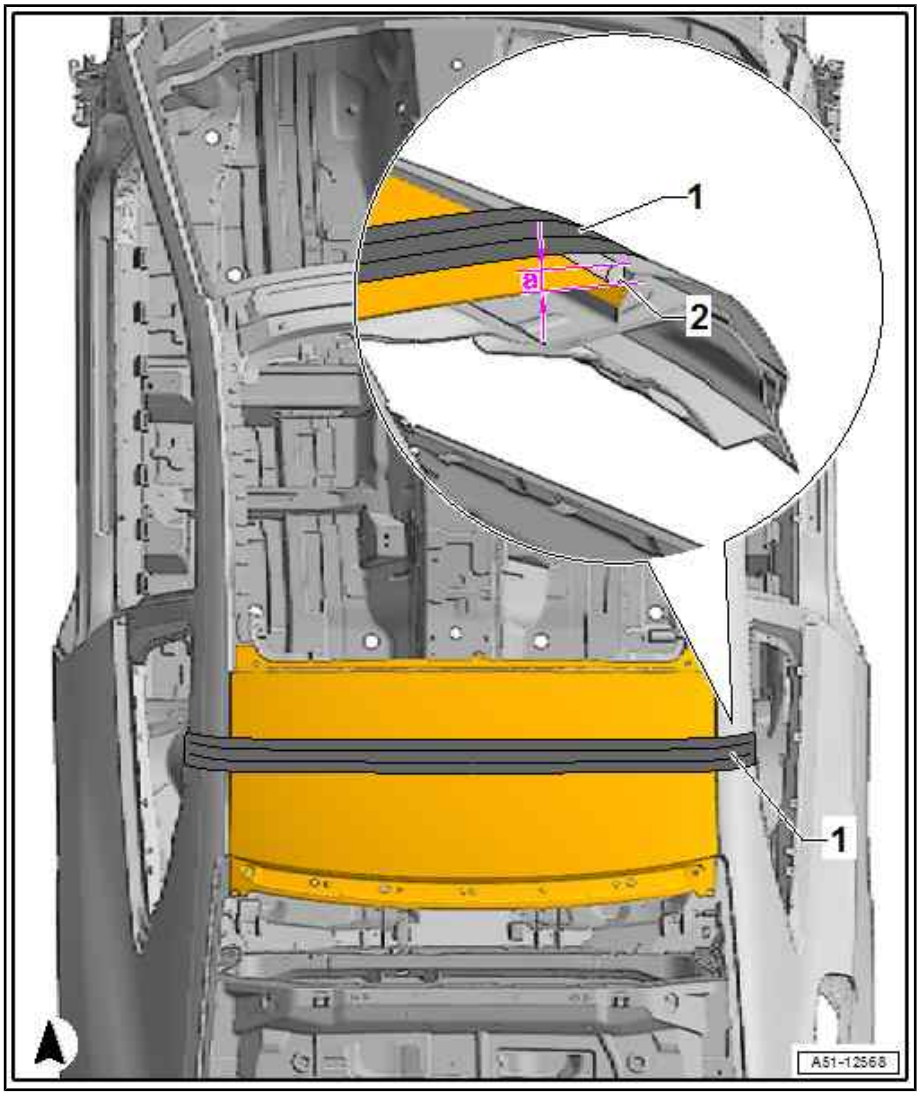
– Immediately fit and align roof.
– Use one self-tapping screw at each end to fix roof in position in centring hole in glass roof flange and sealing flange for rear lid.
– Fix roof in position with mole grips, 18-18 - VAS 5430/1- .

Adjusting roof depth

– Additionally fix roof in position with a 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.

Note

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 welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.

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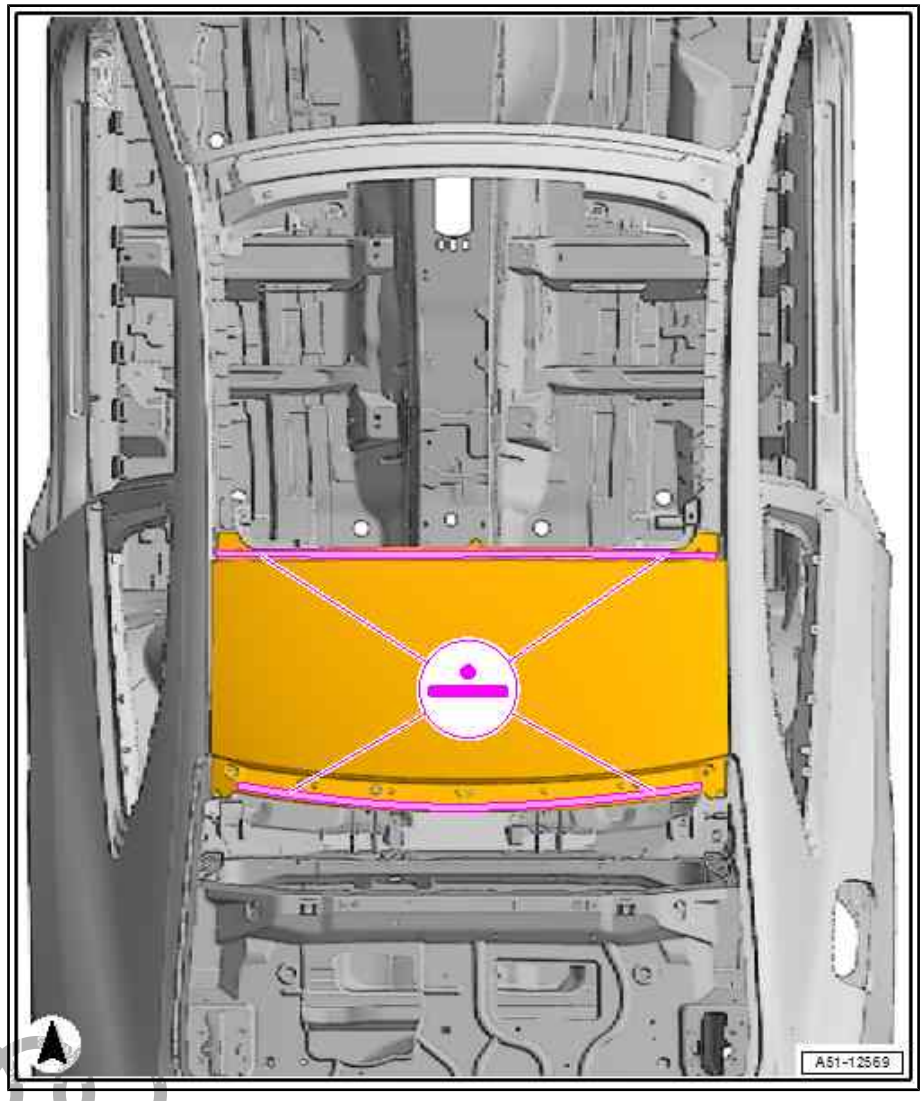
Welding in

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



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

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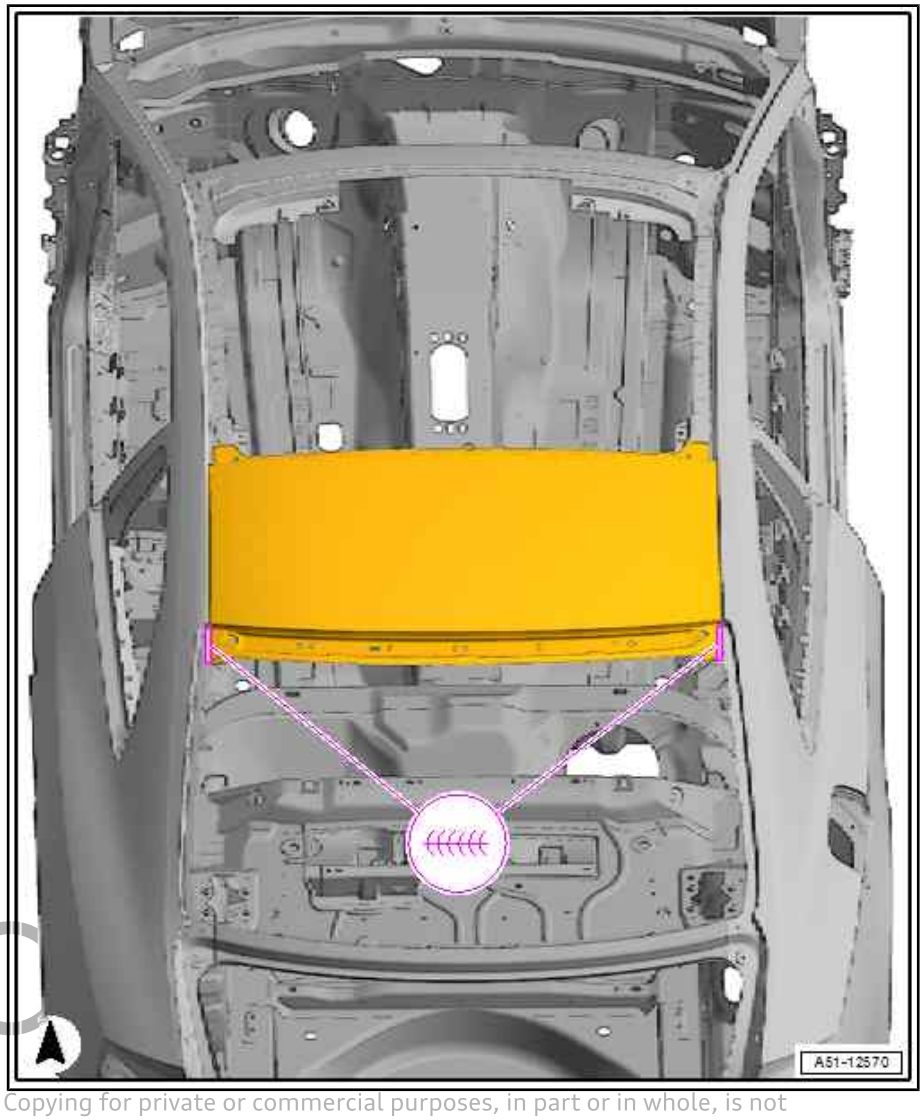

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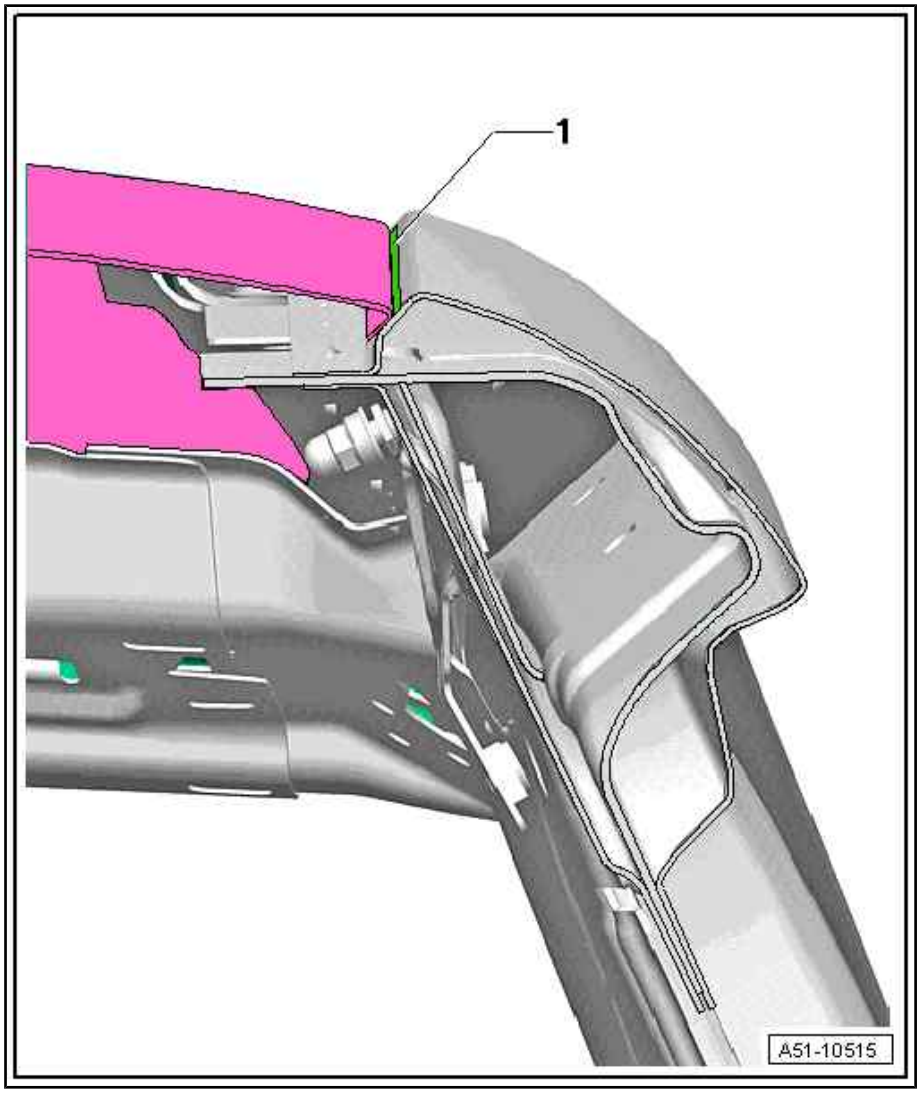
– Grind zero-gap joint -1- into shape (left and right).



– Apply one cartridge of 2-component window adhesive - D 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 - D 004 660 M2 -

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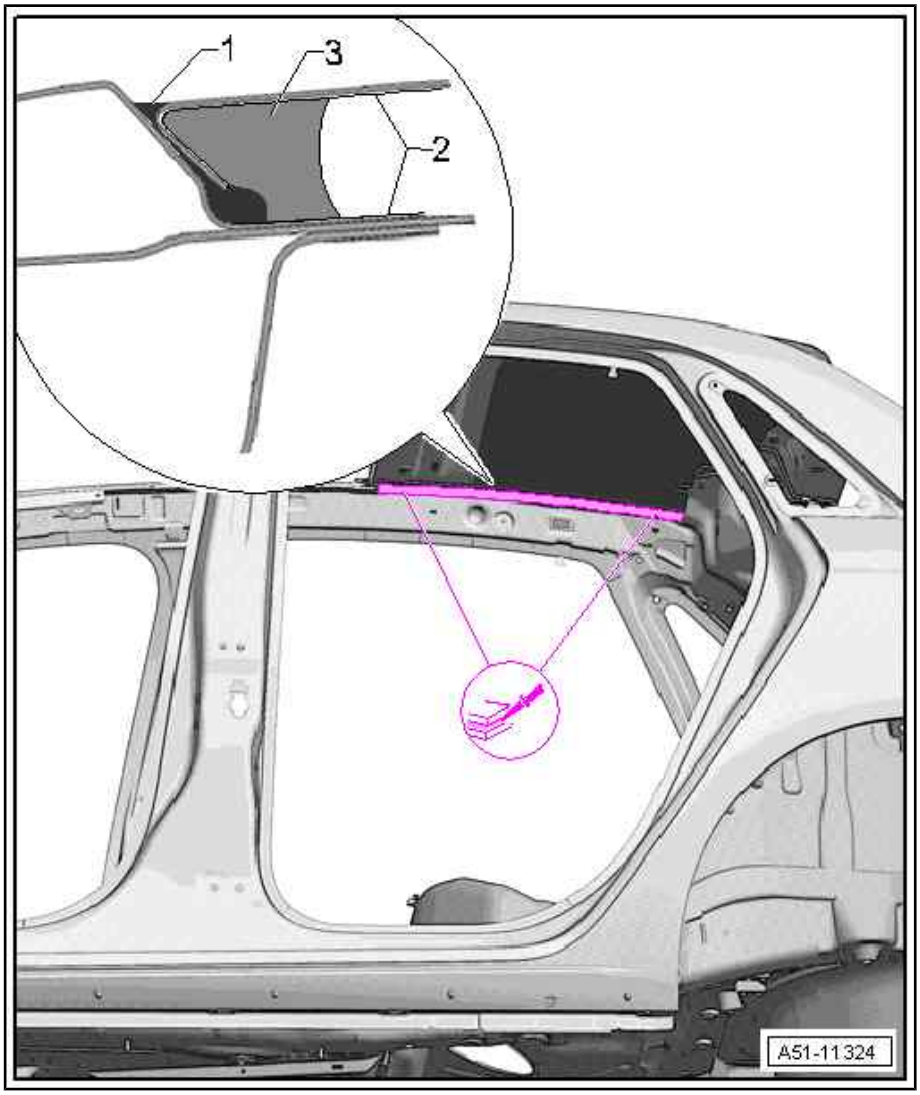

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3 Roof - Renewal (Coupé and Sportback identical)

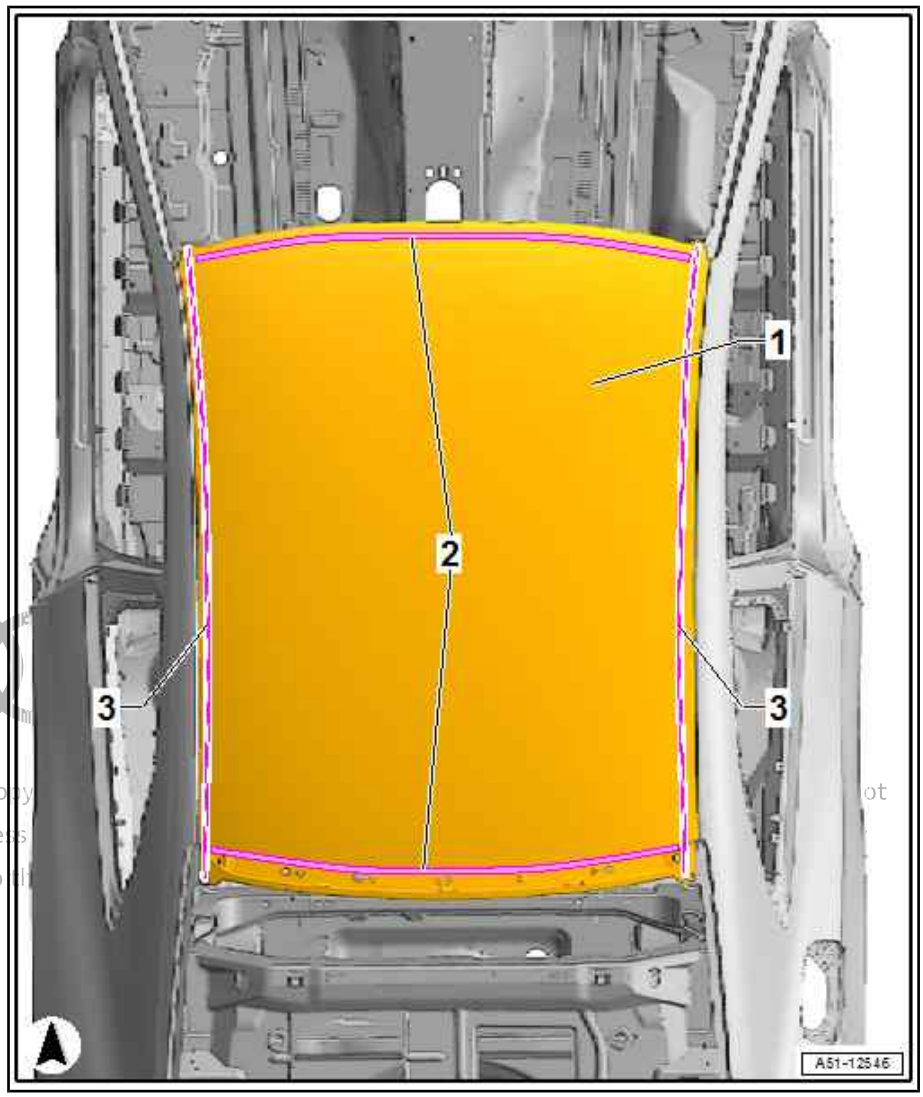
Note

Observe safety precautions ⇒ *page 3* .

1 - Roof

2 - Bonded area

3 - Separating cut



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3.1 Tools

Special tools and workshop equipment required

- Setting gauge
- Compact angle grinder
- Brush grinder
- Body saw
- Mole grips, 18-18
- Tensioning strap

- Compressed-air gun
- Double cartridge gun

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

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

– Open cap.

2 - Static mixer

3 - Extension hose

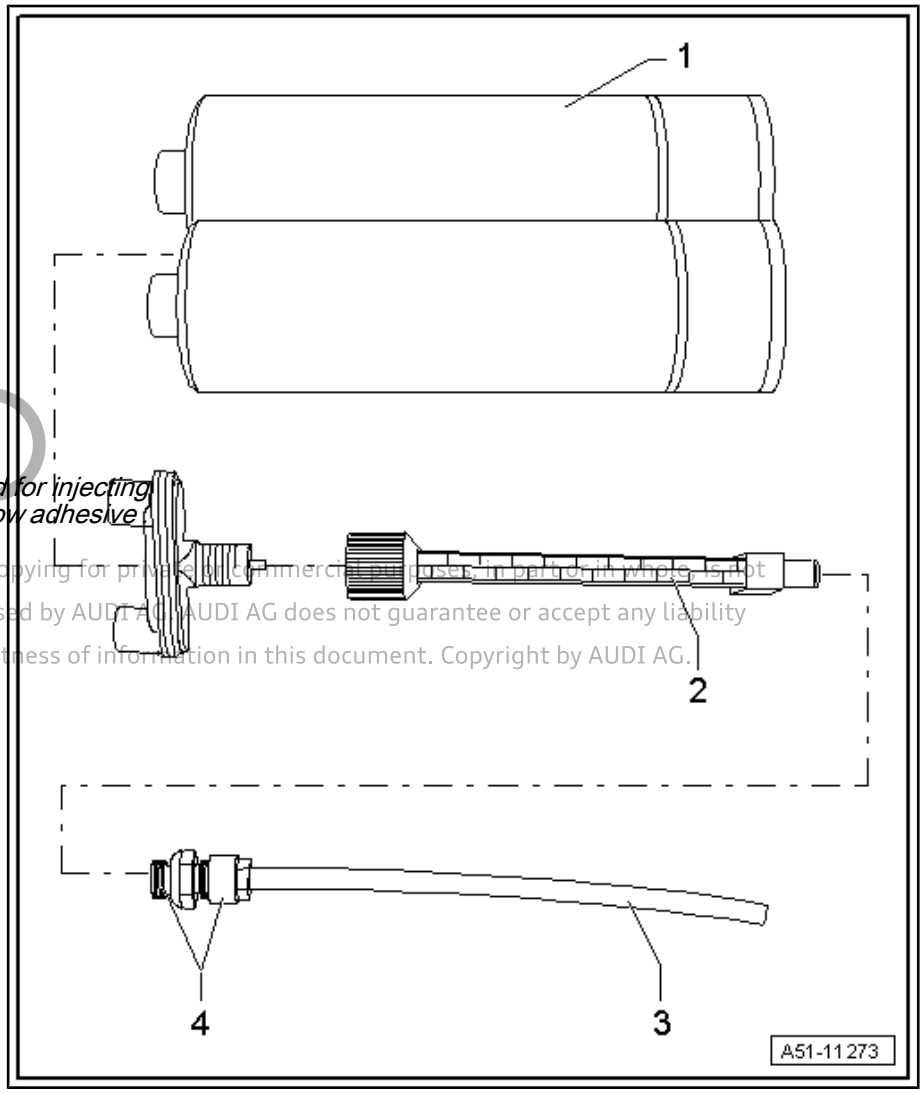
Part number 000 809 937

– 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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3.2 Procedure

Cutting locations

Note

Mask the roof side members with adhesive tape to protect them from damage and dirt.

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

– Separate original joint using spot weld breaker .

– Working from passenger compartment, separate bonded joints between roof and roof cross members using electric cutter - V.A.G 1561 A- .

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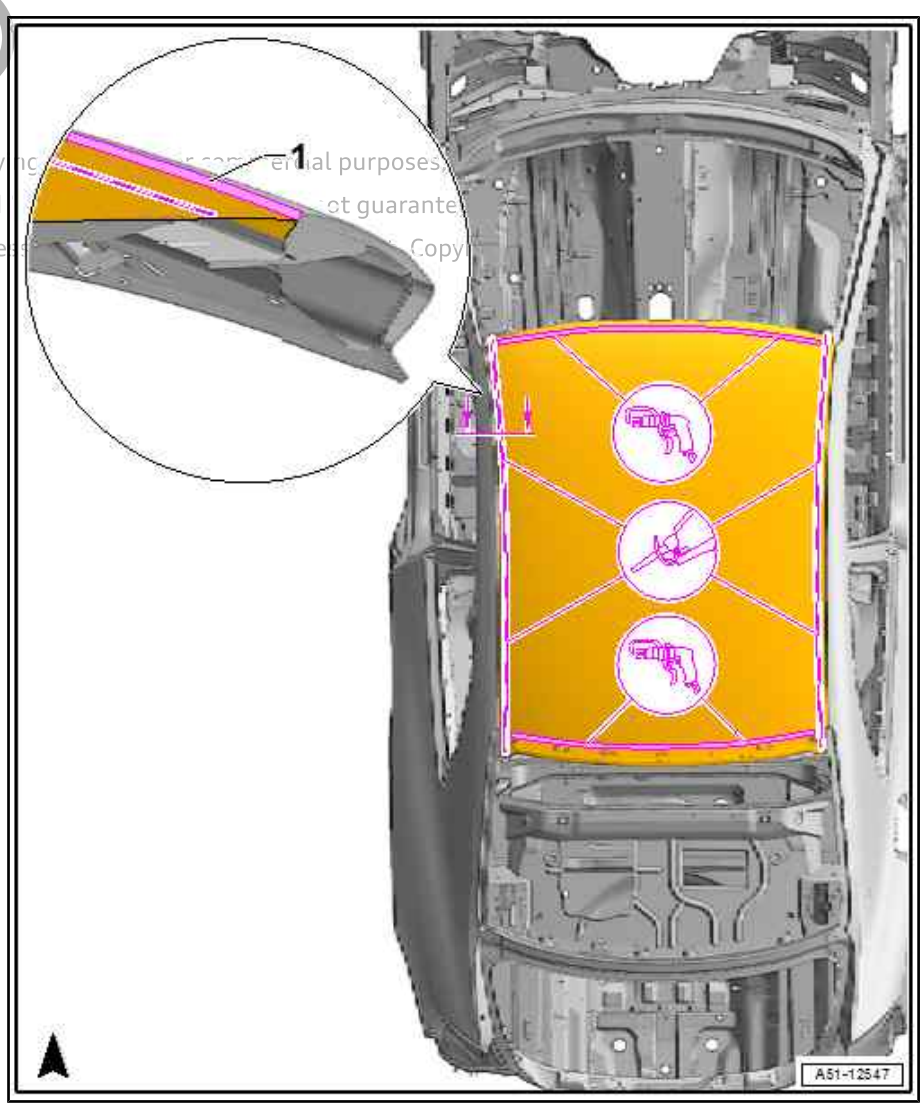
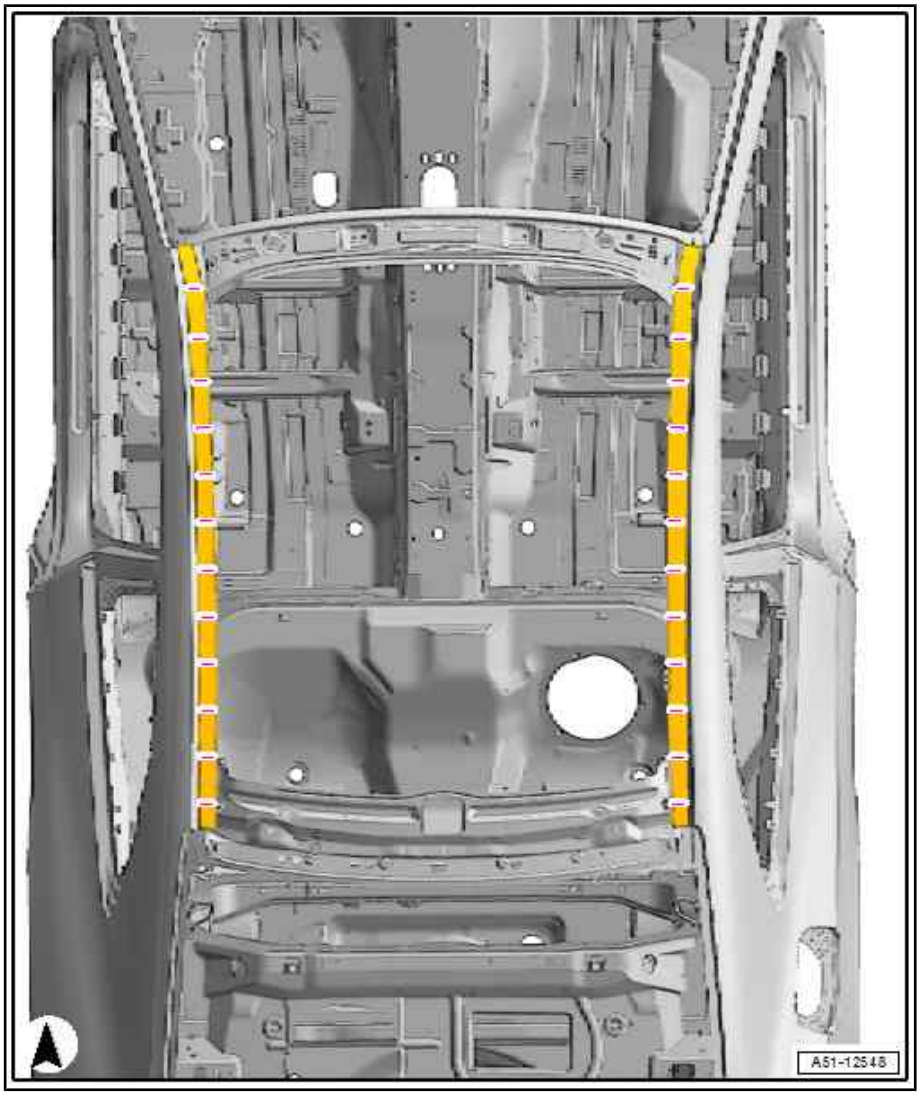


Note

- *When removing the remaining material from the roof, make sure that the side elements (side panels and side panel frames) are not damaged.*
- *Do not use cutting discs or rough-filing discs.*
- *Remove all adhesive residue and remaining sealing compound from the front and rear roof cross members.*

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

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



Note

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

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

– Remove remaining material using compact angle grinder .

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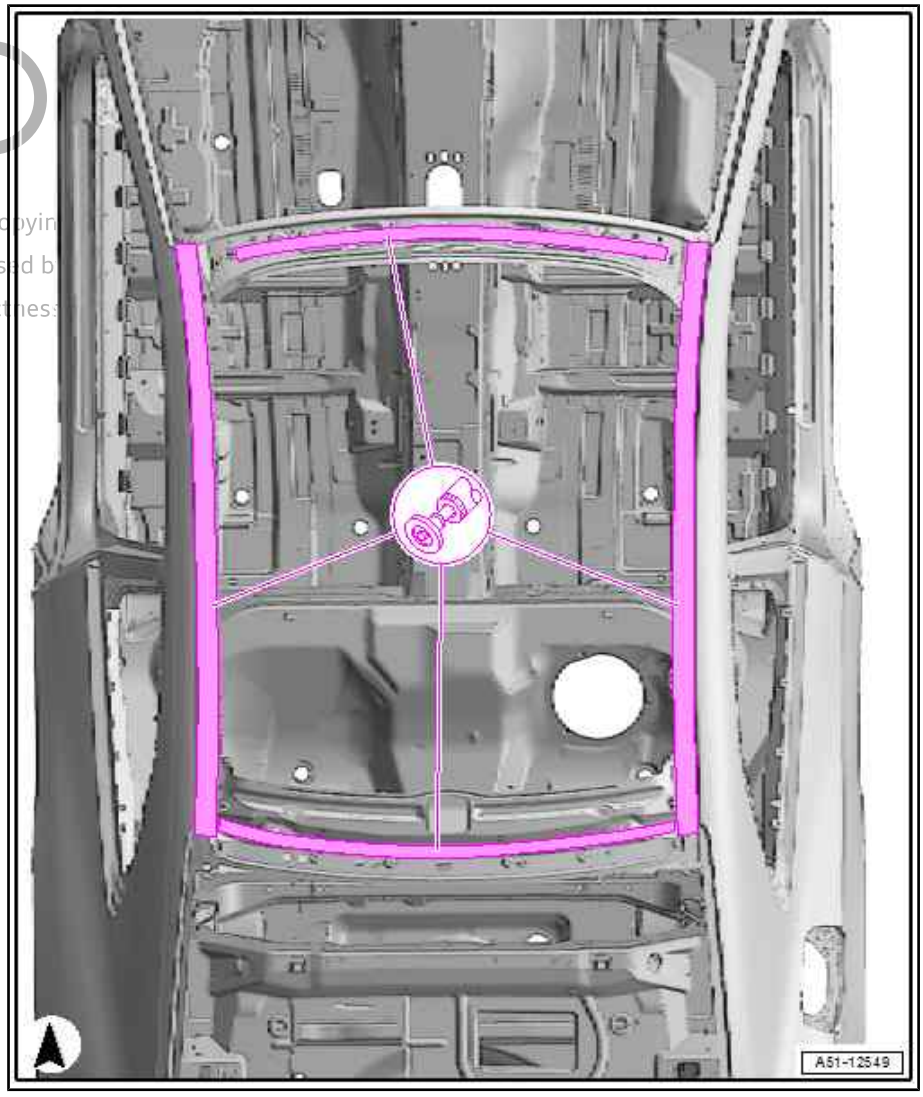

Replacement parts

- Roof
- Single-component assembly adhesive - D 190 MKD A3-
- 2-component epoxy adhesive - DA 180 A00 A2- , 3 sets of cartridges
- Cleaning solution - D.009.401.04-
- 2-component window adhesive - D 004 660 M2 - , 3 sets of cartridges
- Glass and paint primer - D 009 200 02-

Preparing new part

Instructions for using extension hose for window adhesive

– Take static mixer out of window adhesive kit.

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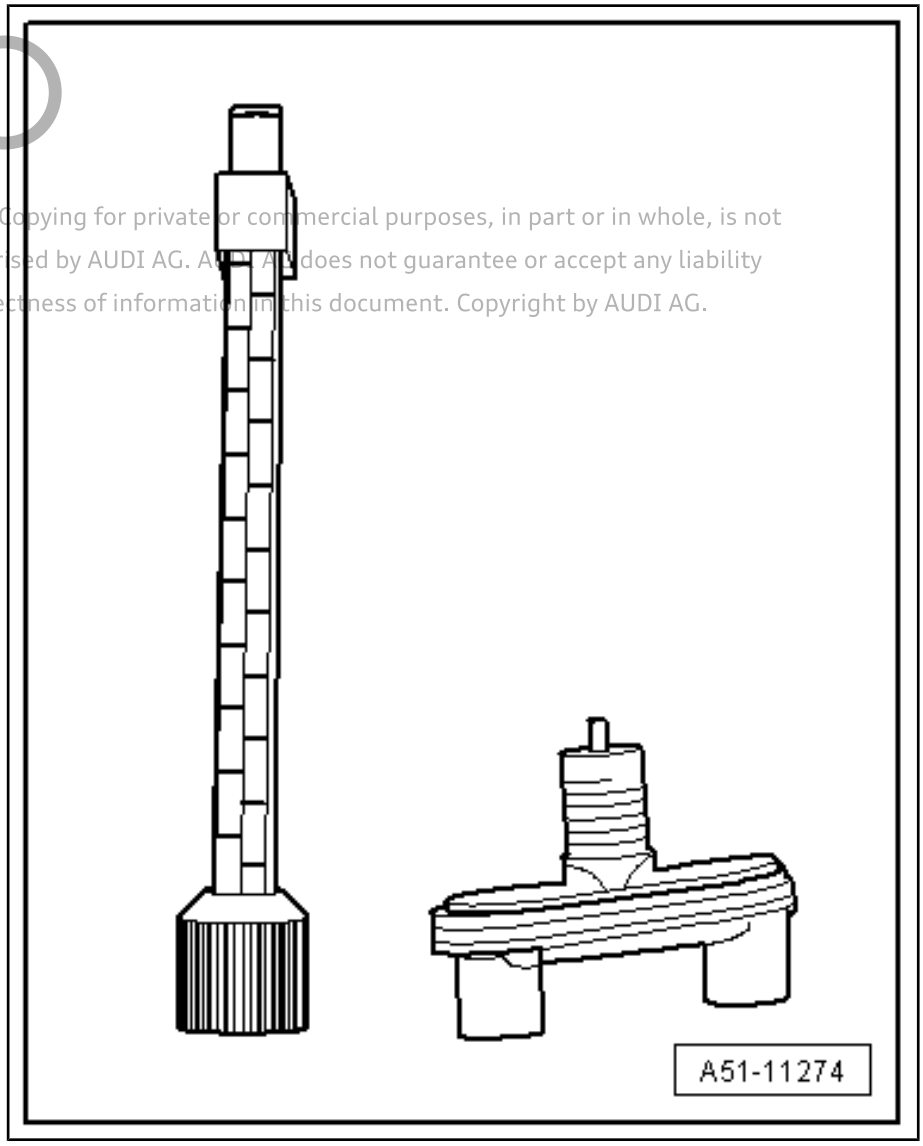
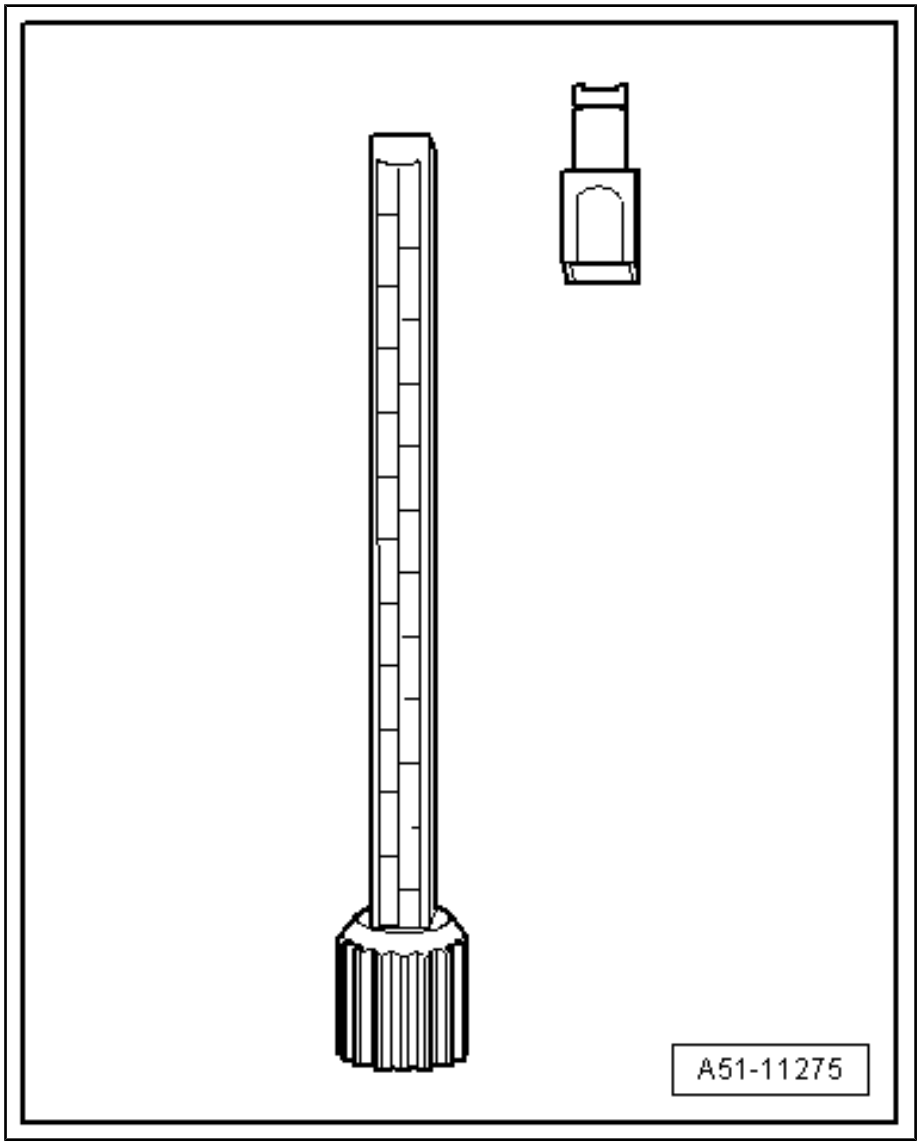


– Remove front cap from static mixer.



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

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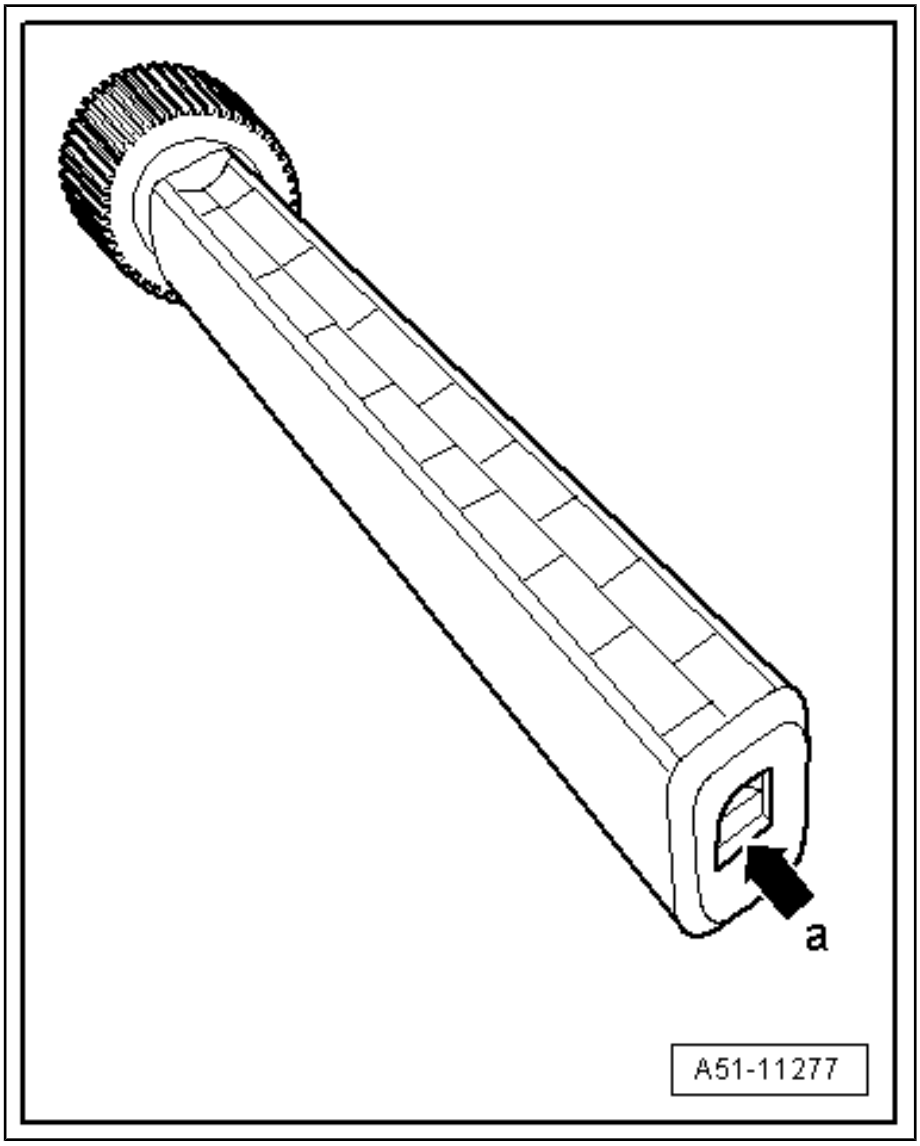

– Shorten inner section of mixer so that hose can be screwed in fully.

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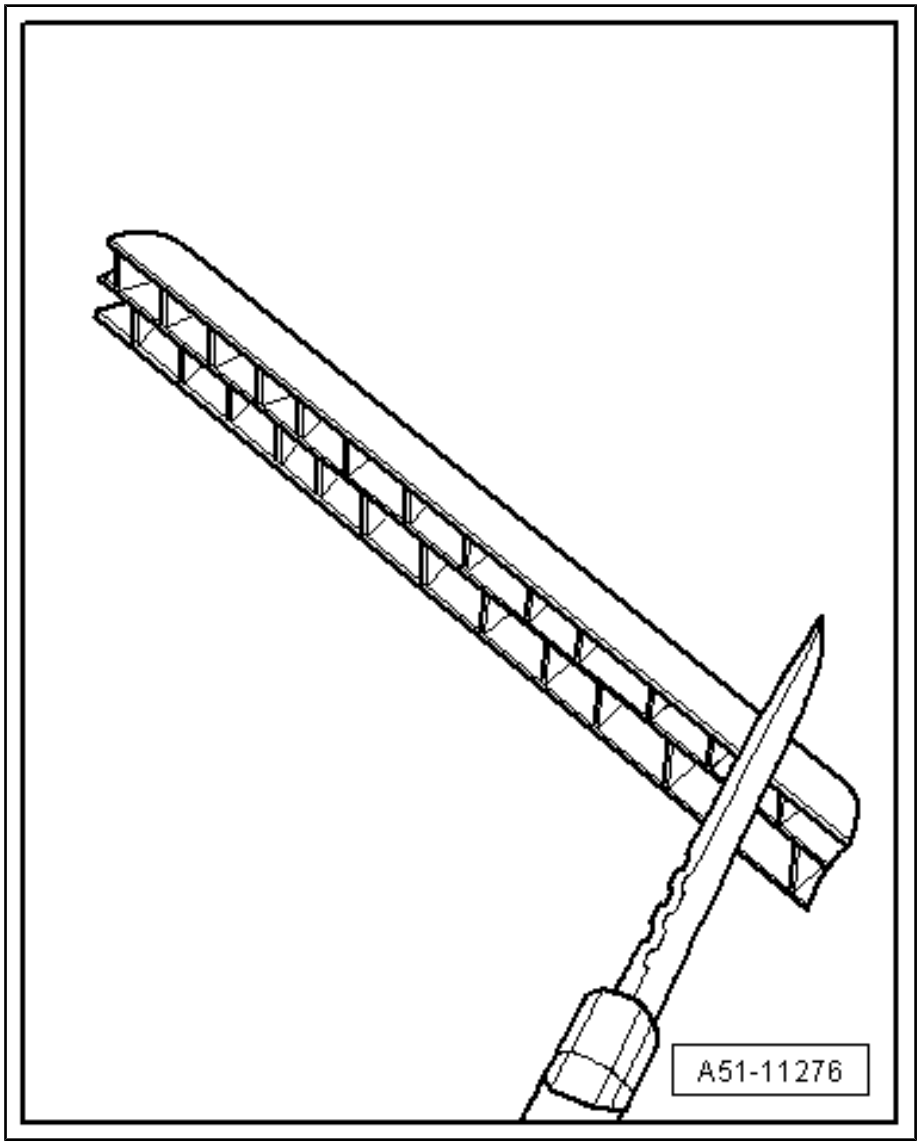

– Screw extension hose onto mixer.

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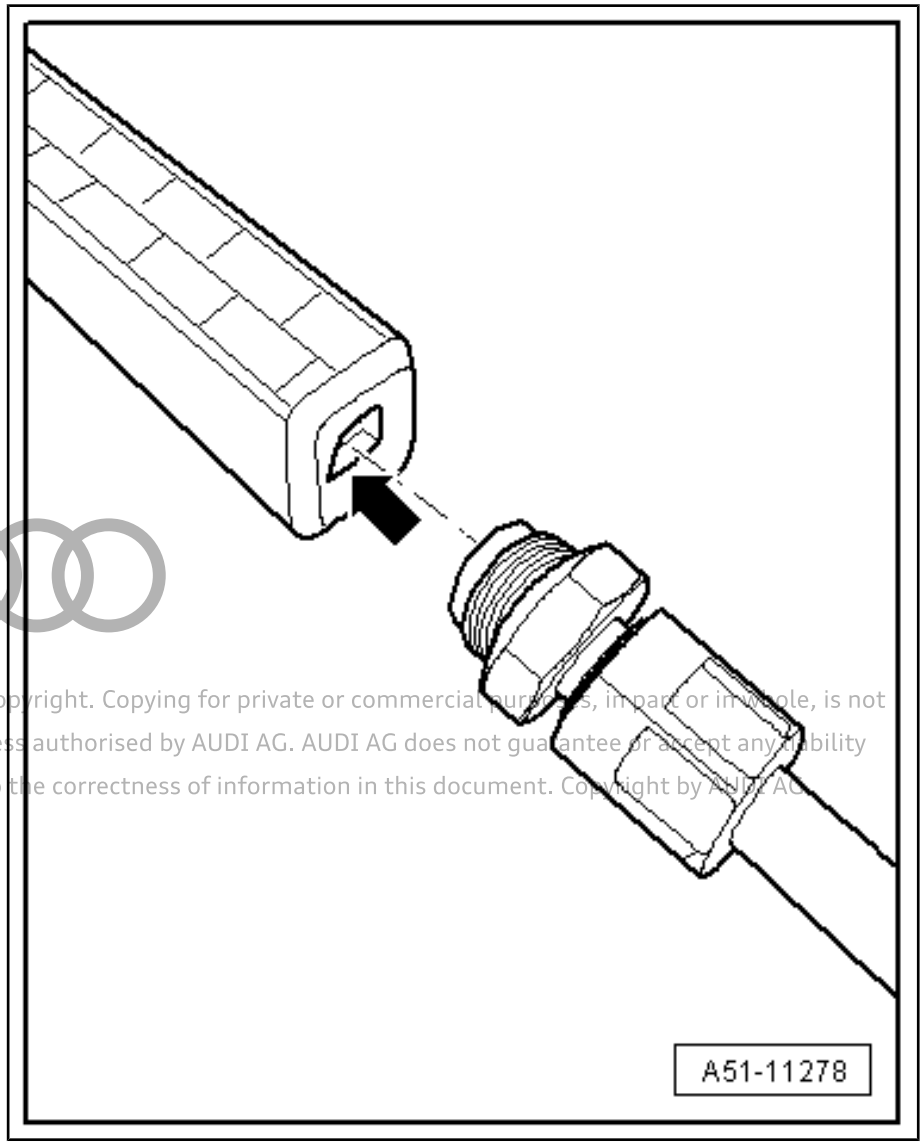

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Note

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

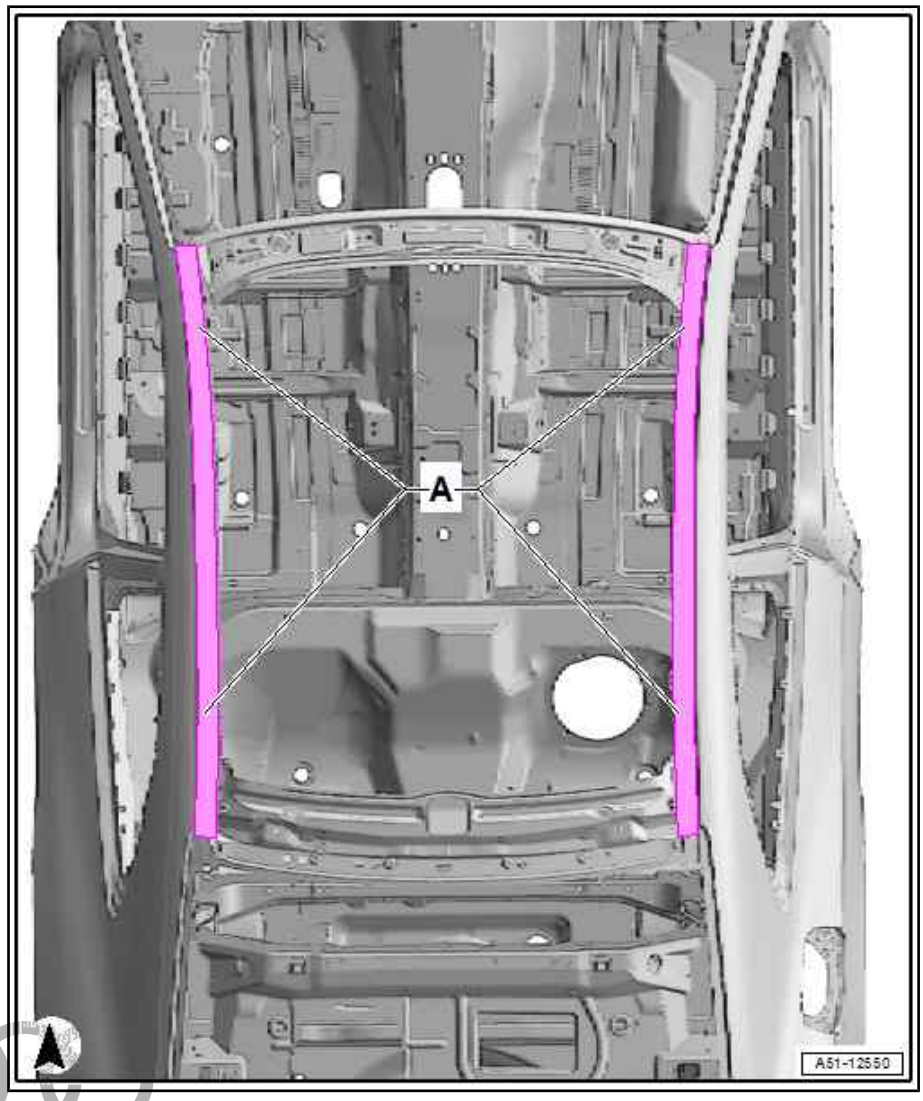
Bonding in

– Position roof on roof frame and check alignment of roof with roof side members (visual inspection).

– Check fit of roof.

– Remove roof.

– Mask outside of roof panel parallel with side bonding area using adhesive tape.
– Apply glass and paint primer - D 009 200 02- in area of roof frame -A-.



– 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.

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

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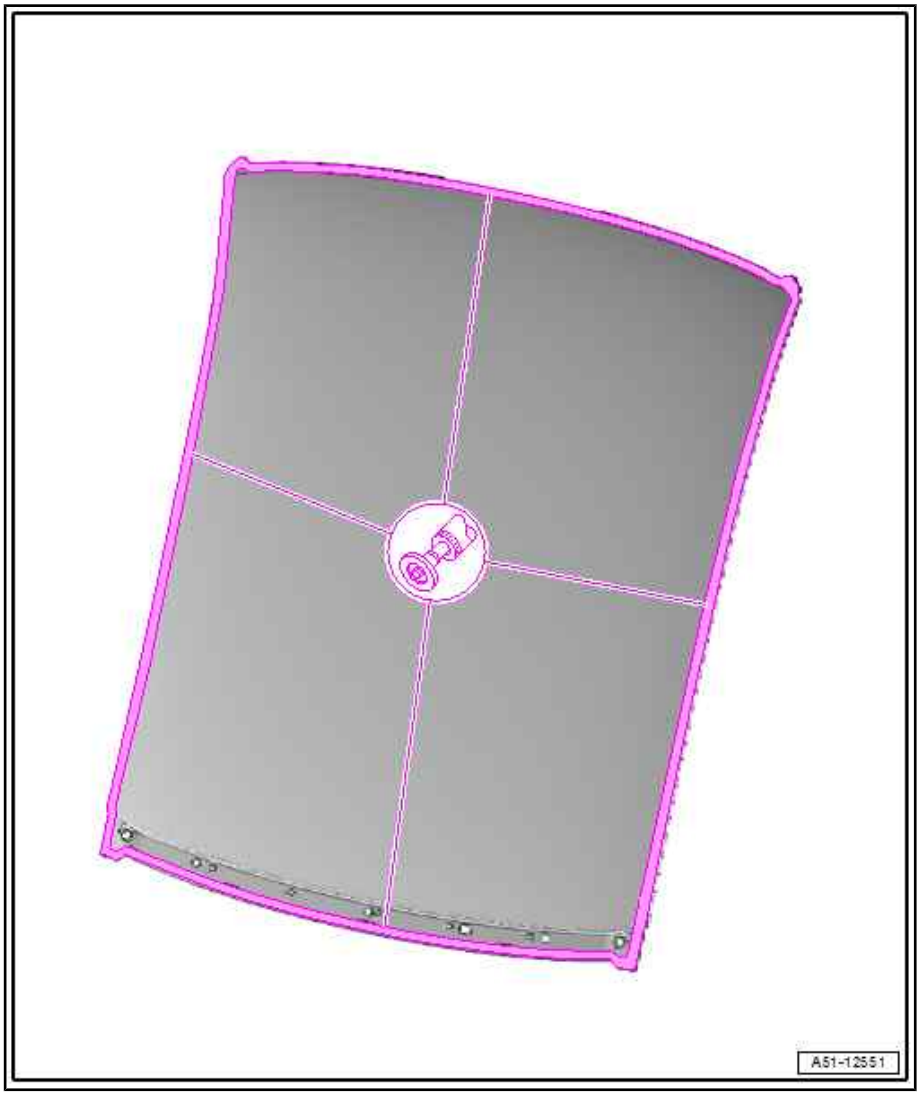

– Mask outside of roof panel parallel with side bonding area using adhesive tape.
– Attach four suction lifters - V.A.G 1344- or magnets - VAS 6739- to outside of roof panel.
– Clean roof frame, roof reinforcement and roof with cleaning solution - D 009 401 04-.
– Apply glass and paint primer - D 009 200 02- approx. 5 cm wide -b- on inner section of roof and inner side flange -a-.

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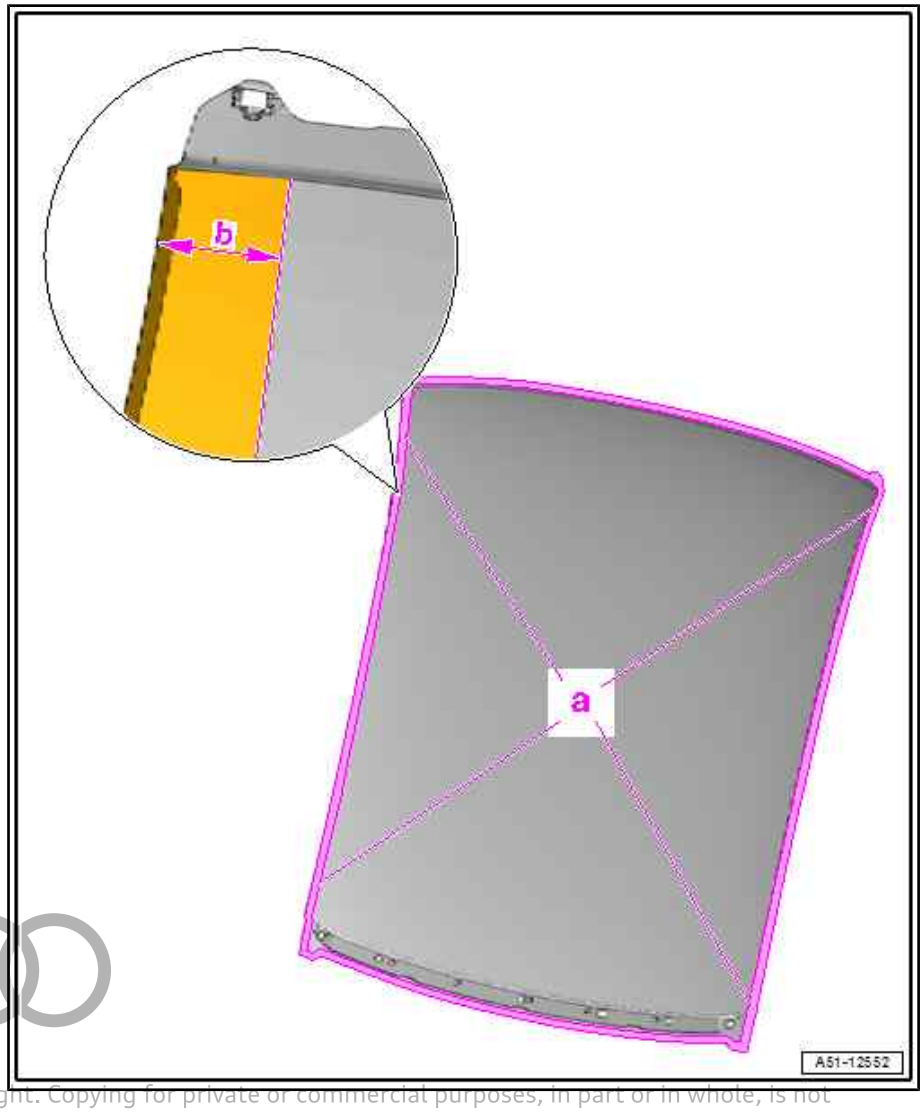

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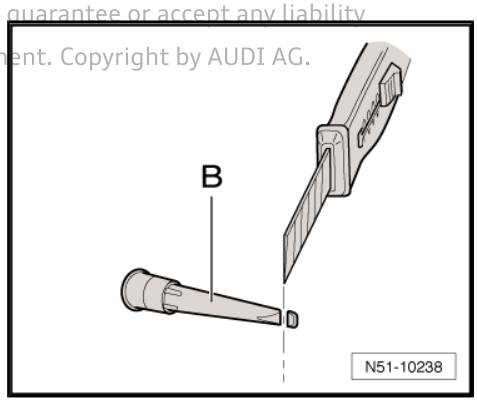
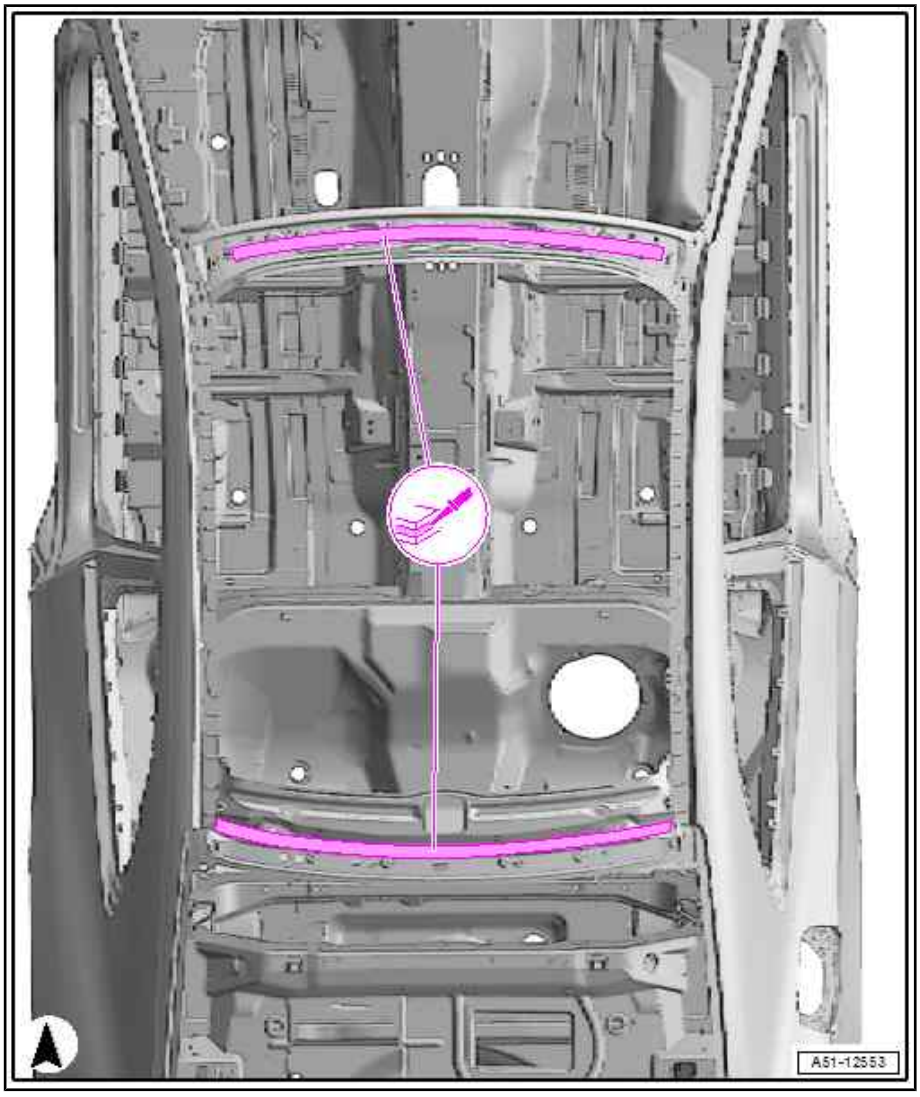
– Cut off approx. 2 mm from nozzle -B- to obtain appropriate bead geometry.

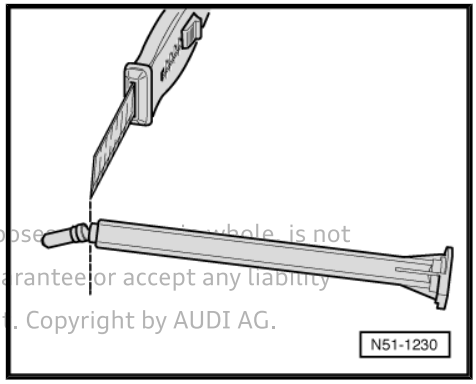


– Apply single-component assembly adhesive - D 190 MKD A3- to roof cross members in the area of the factory bonding location using pneumatic cartridge gun - V.A.G 1761/1- .



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.*

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– 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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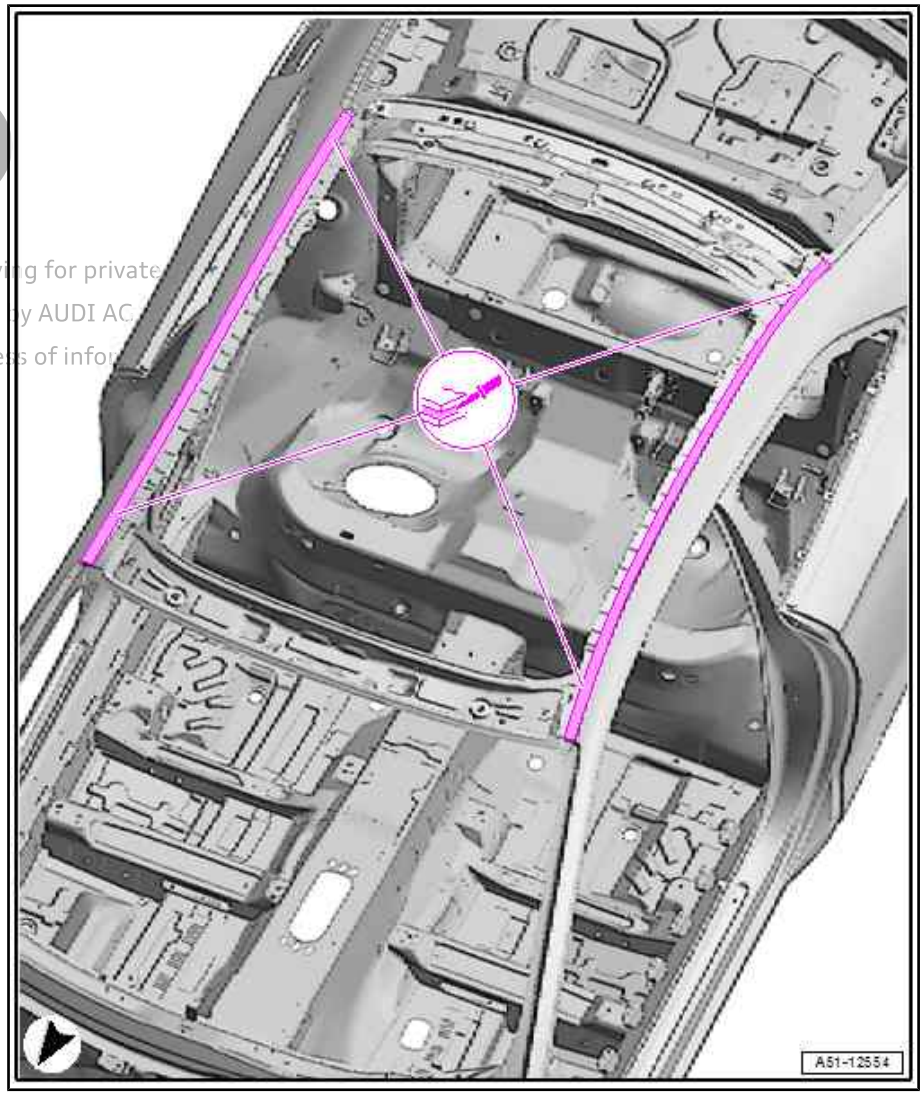
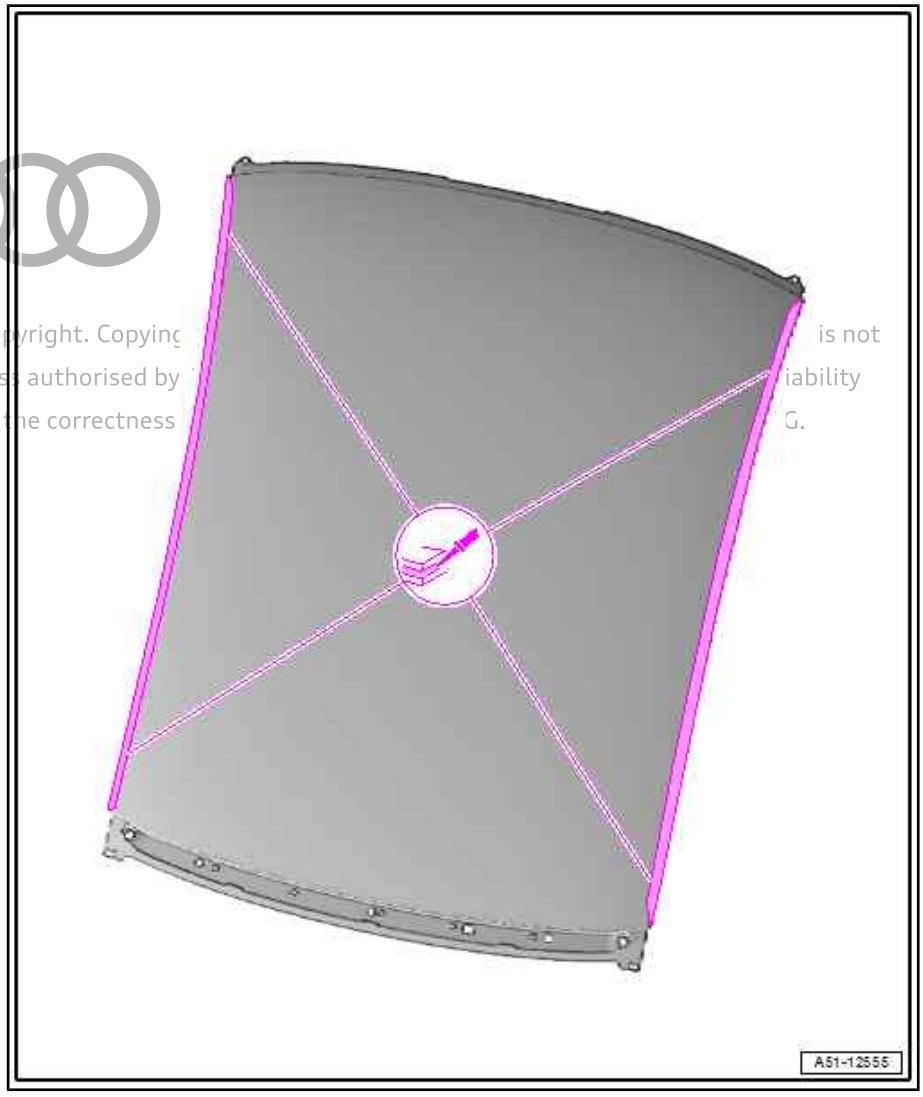


– Apply one continuous bead of 2-component epoxy adhesive - DA 180 A00 A2 - to side flanges of roof using double cartridge gun - VAS 6453- .



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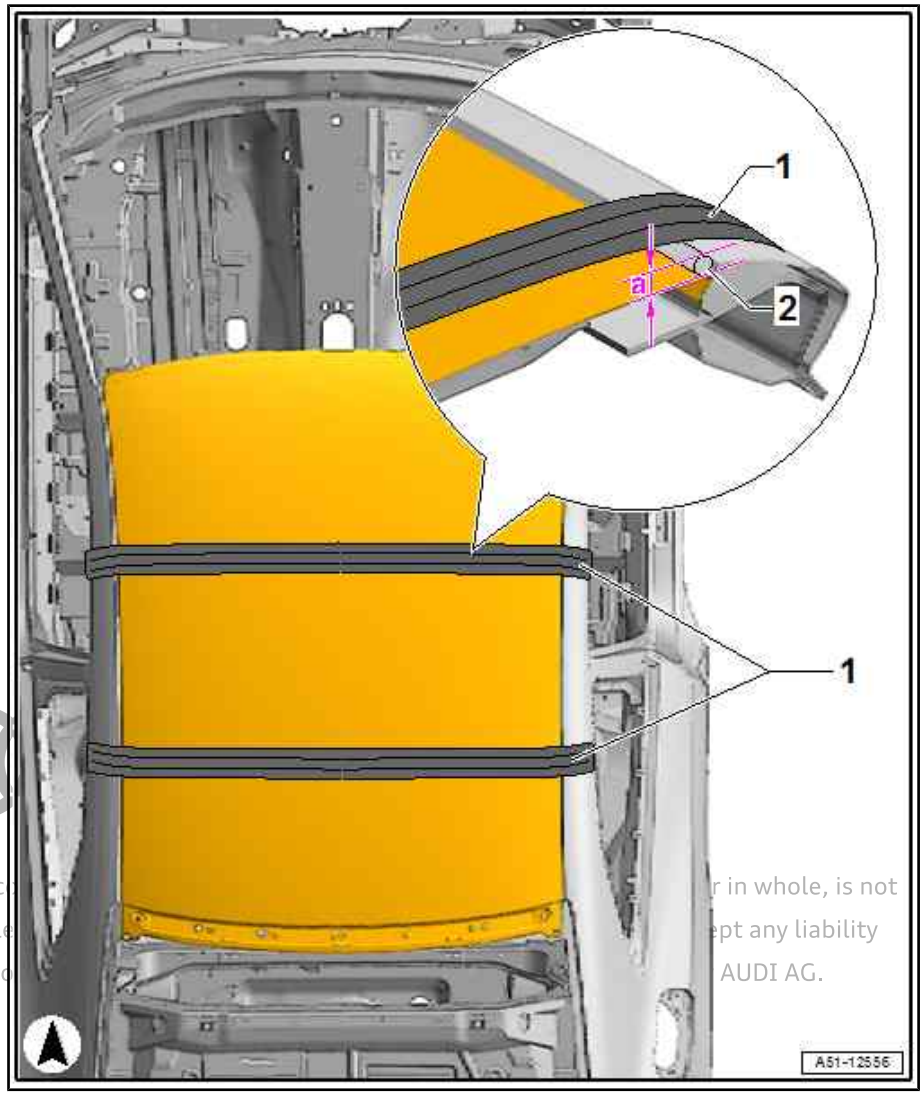
– Immediately fit and align roof.
– Fix roof in position with mole grips, 18-18 - VAS 5430/1- .

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 = 3.0 mm -

Depth setting in centre part of rear door -a = 2.5 mm -



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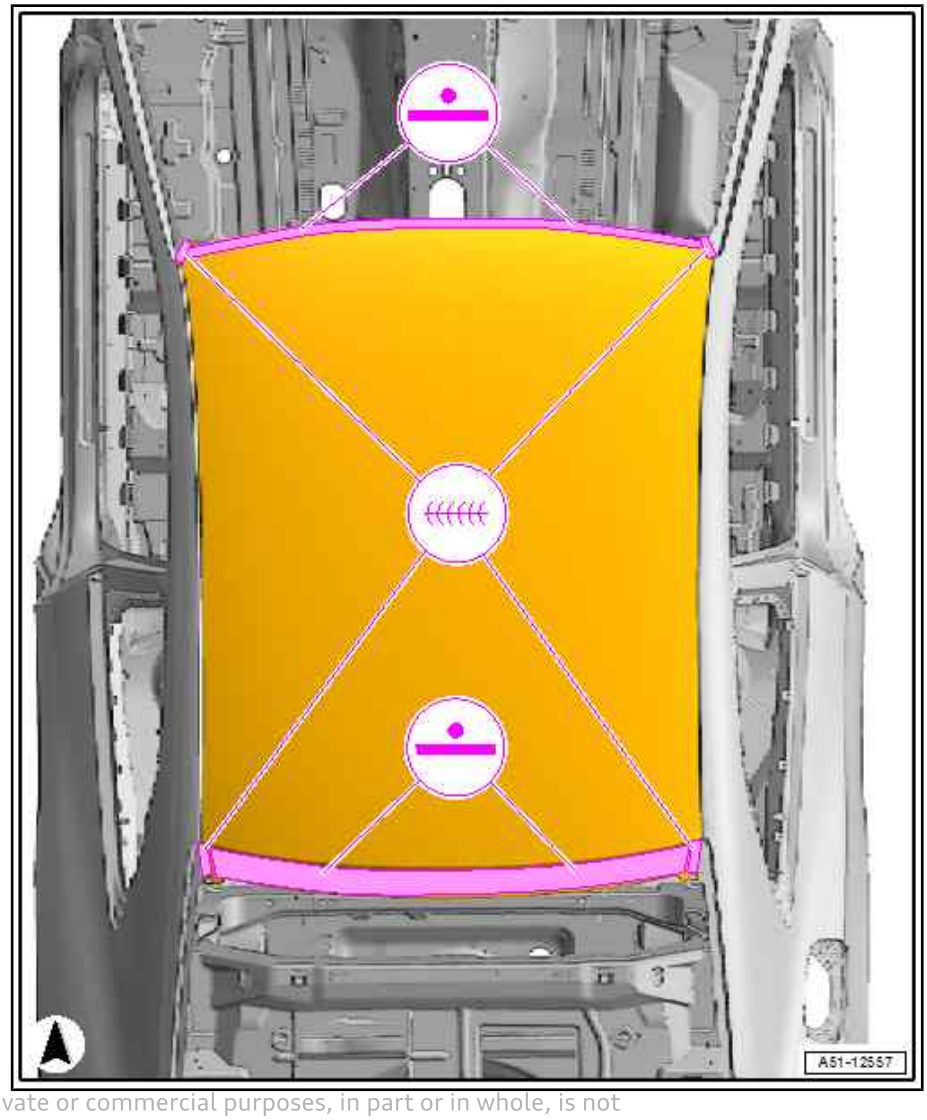
Note

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

– Make additional welds for roof using shielded arc welding equipment : SG continuous seam.
– Grind down SG continuous weld seams using compact angle grinder .
– Weld in roof using resistance spot welder : RP spot weld seam.



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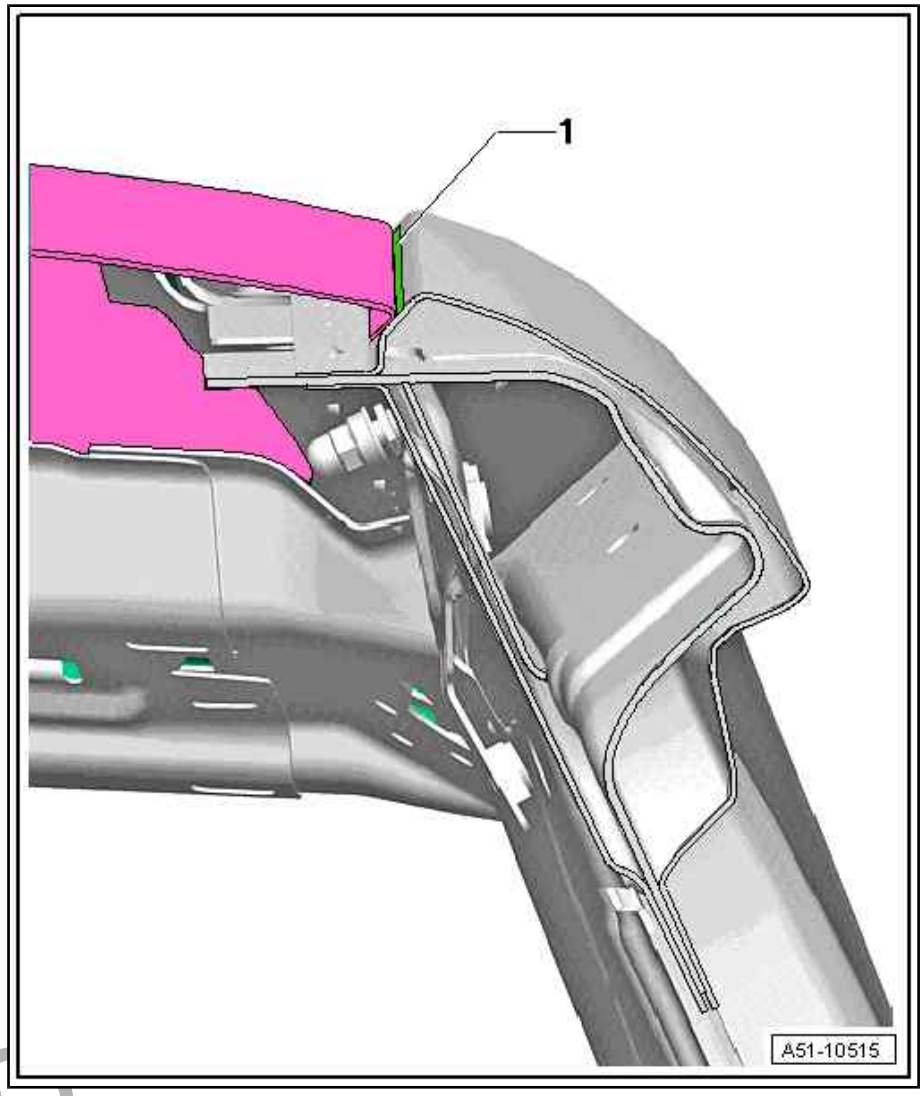
– Grind zero-gap joint -1- into shape (left and right).



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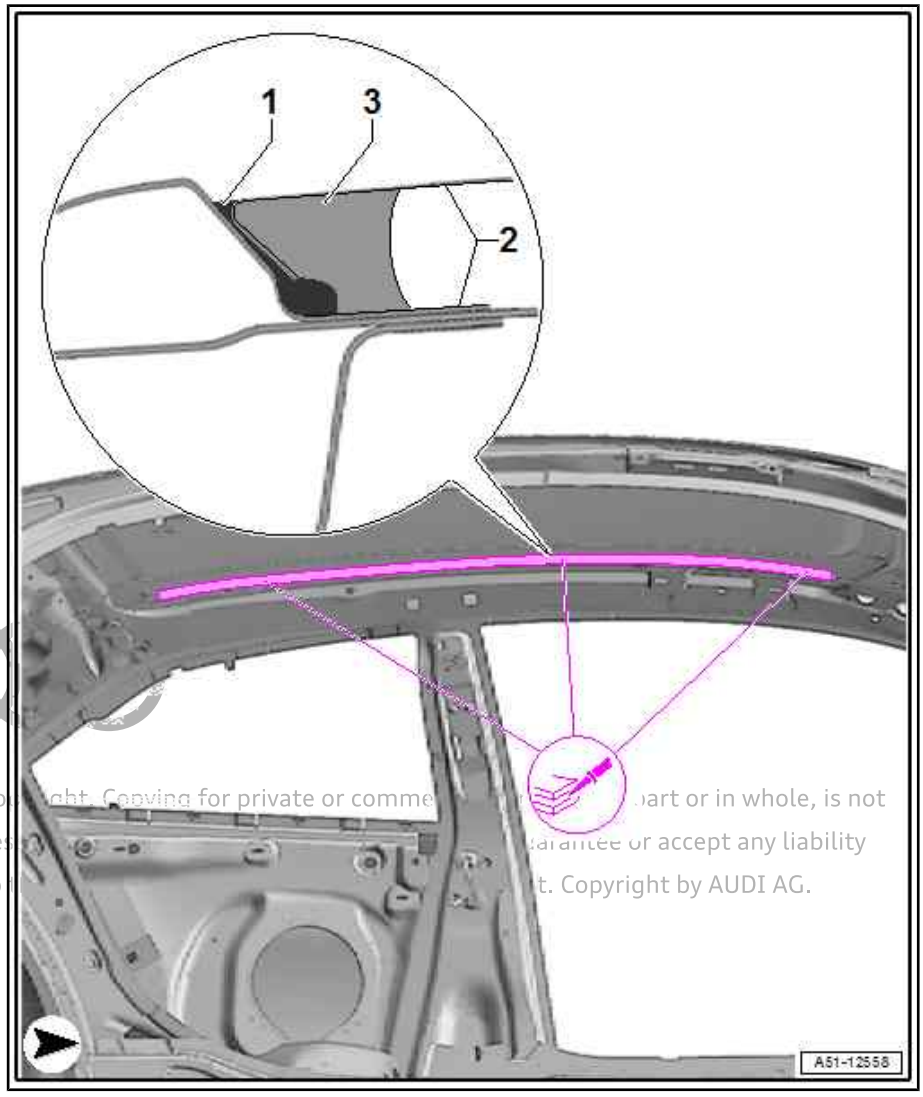
Please note instructions for use: window adhesive should be applied at a temperature of approx. 20 °C.

– Apply one cartridge of 2-component window adhesive - D 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 - D 004 660 M2 -



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RO: 51 23 55 00

4 Carbon roof - Renewal (RS 5)

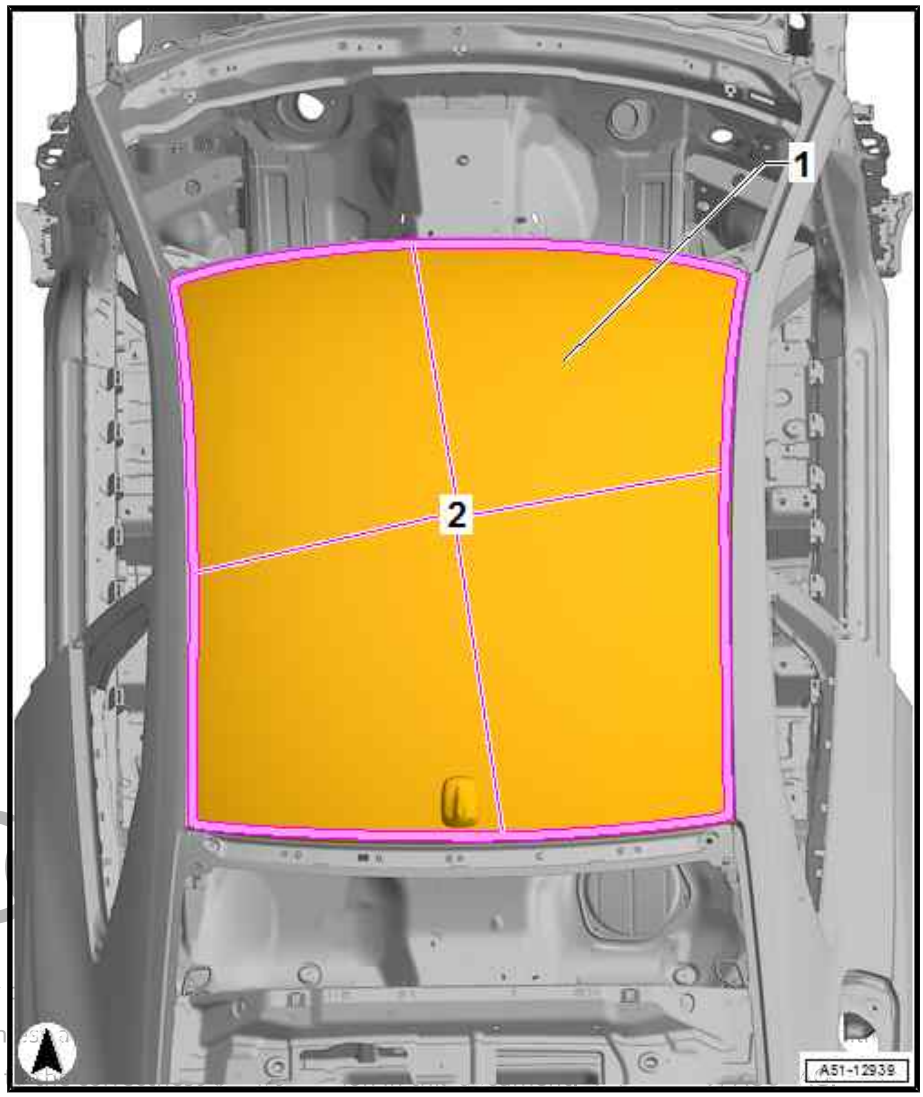
Note

Observe safety precautions *⇒ page 3* *.*

Specific to Audi RS 5 models

1 - Roof

2 - Bonded area



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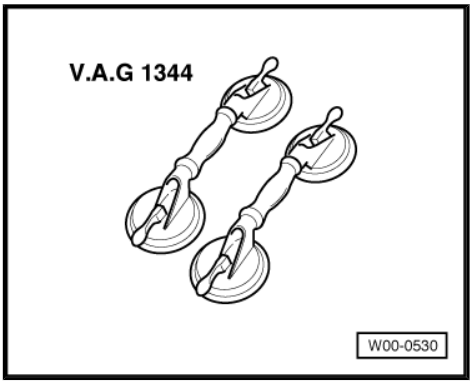
4.1 Tools

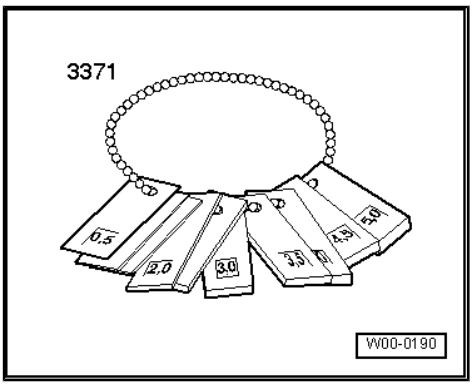
Special tools and workshop equipment required

- Cutting cord - 357 853 999 B-
- Window removal set - VAS 861 001 A-
- Double cartridge gun

- Suction lifter - V.A.G 1344- , 4x



- Setting gauge - 3371-



- Wedges - T10383-

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Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

4.2 Procedure

Cutting locations

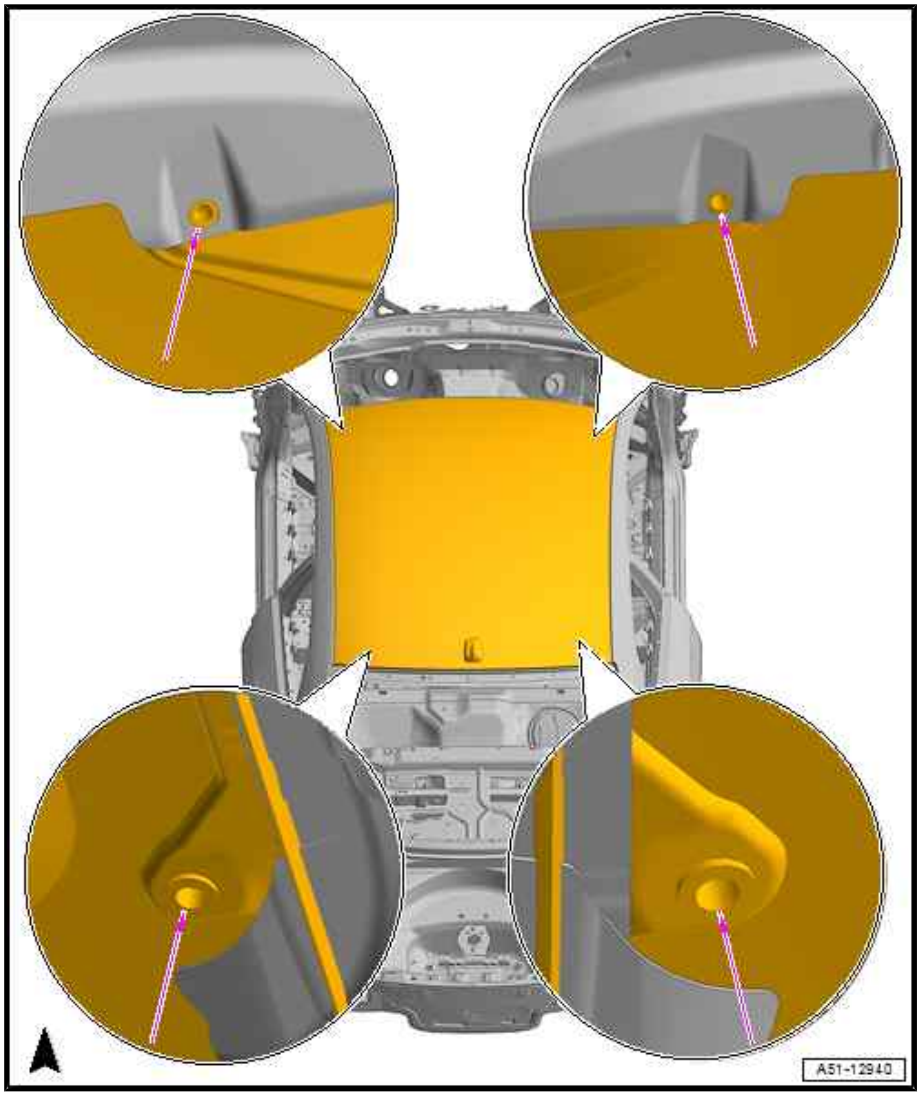
Glass trim already removed

Windscreen removed

Roof aerial removed

– Mask outside of roof panel parallel with side bonding area using adhesive tape.

– Separate bolted joints on inside of roof.



– Guide cutting cord - 357 853 999 B- through gap between roof and rear roof cross member at rear -arrow- using awl -1-.
– Separate adhesive bonds between roof and roof frame inside vehicle using cutting cord - 357 853 999 B- and window removal set - VAS 861 001 A- .

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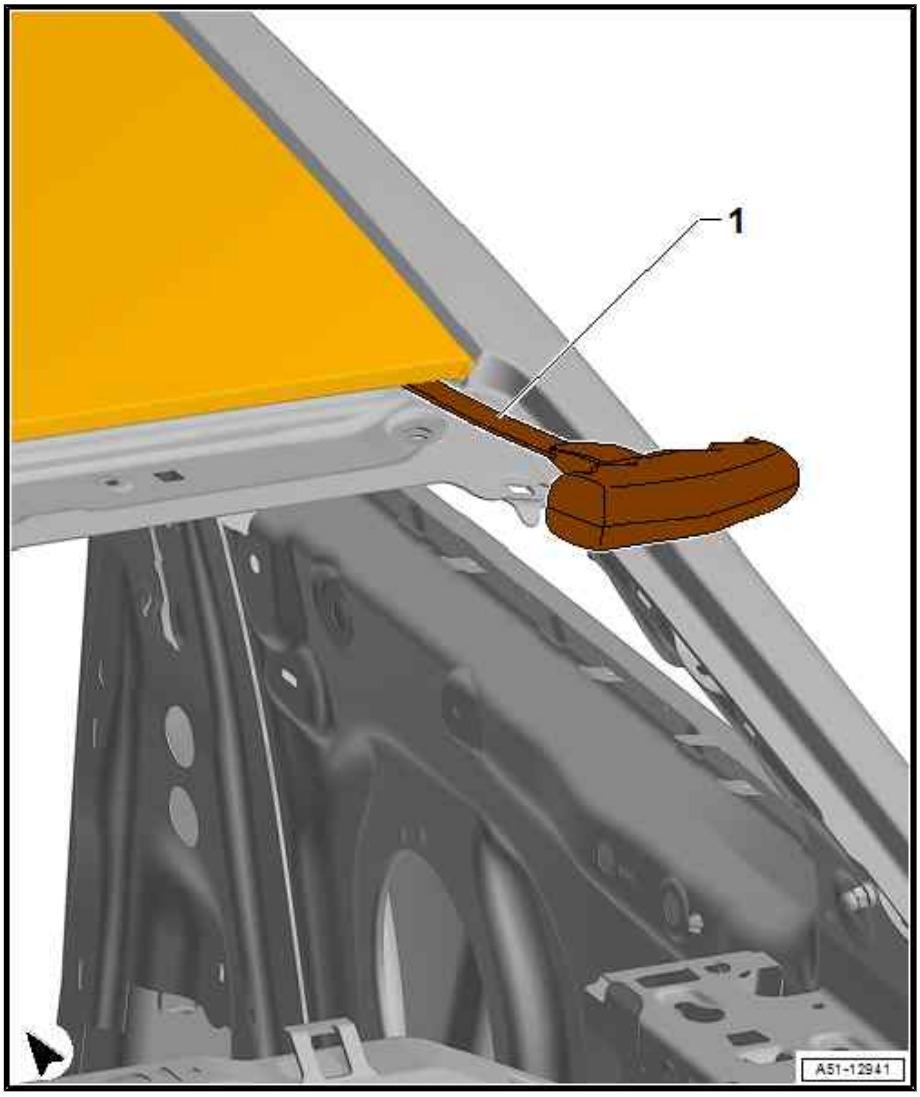

Replacement parts

- Carbon roof
- Cleaning solution - D 009 401 04-
- 2-component window adhesive - D 004 660 M2 - , 1 cartridge set
- Glass and paint primer - D 009 200 02-
- Applicator - D 009 500 25-
- Adhesive remover - D 002 000 A2-
- Cutting cord - 357 853 999 B-

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Preparing new part

– Clean all around bonding surface with cleaning solution - D 009 401 04- .

– Wipe clean surface with a dry, lint-free paper towel.

• The bonding surfaces must be free of dirt and grease.

• The glass must always be primed before applying adhesive sealant.

• If the glass/paint primer - D 009 200 02- has been allowed to flash off for more than 72 hours, primer must be re-applied.

- The sunroof frame must be fitted within 15 minutes after applying the adhesive.

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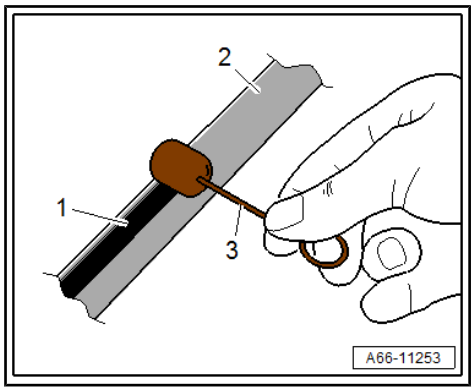
– Apply glass/paint primer - D 009 200 02- as described below.

Applying primer:

– Use applicator -3- to apply glass/paint primer -1- evenly and in one movement onto sunroof frame -2-.

- Width of primer coat: approx. 20 mm
- Apply glass/paint primer centrally in relation to adhesive bead.
- Flash-off time: 15 minutes



4.3 Preparing body flange for installation

- The bonding surfaces must be free of dirt and grease.
- Just before installation, cut back bonding surface for an even surface but do NOT remove it completely.

- Do not apply primer to bonding surface or treat with cleaning solution.

– Shortly before installing, use scraper (25 mm) - V.A.G 1561/8- to cut back remaining adhesive sealant on flange for an even surface, but do not remove completely.

Note

The remaining material serves as a bonding surface when applying the new adhesive sealing material.

– If body flange has been damaged, repaired or renewed, paintwork structure must be repaired and, if necessary, anti-corrosion measures must be taken.

– Clean treated area with cleaning solution - D 009 401 04- and then apply glass/paint primer - D 009 200 02- .

4.3.1 Cleaning off adhesive sealant

We recommend using adhesive remover - D 002 000 10- for cleaning. Observe safety precautions when handling.

Cleaning painted surfaces

– First clean painted surface with a dry cloth. Then clean off remaining adhesive sealant with adhesive remover - D 002 000 10-.

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4.4 Installing roof

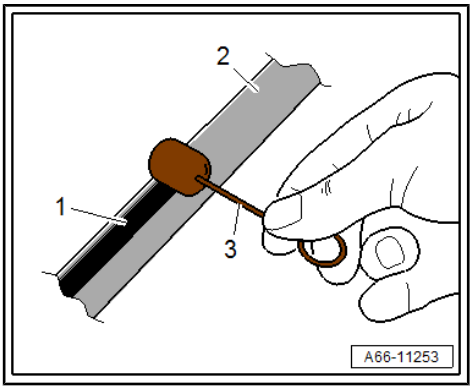
– Apply glass/paint primer - D 009 200 02- as described below.

Applying primer:

– Use applicator -3- to apply glass/paint primer -1- evenly and in one movement onto roof frame -2-.

– Start application with fully soaked felt.

- Width of primer coat: approx. 20 mm
- Apply glass/paint primer centrally in relation to adhesive bead.
- Flash-off time: 15 minutes



Applying adhesive:

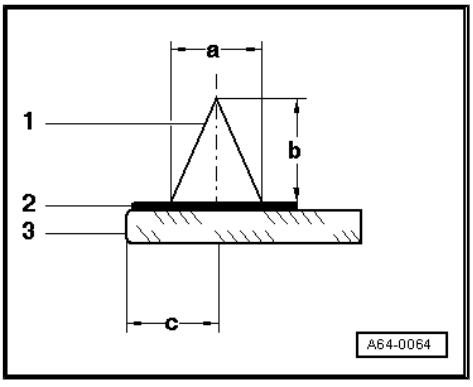
Dimensions for adhesive application:

1 - Adhesive bead

2 - Glass/paint primer

3 - Roof frame

- Dimension -a- = 8 mm
- Dimension -b- = 13.5 mm
- Dimension -c-: note different distances from roof frame.

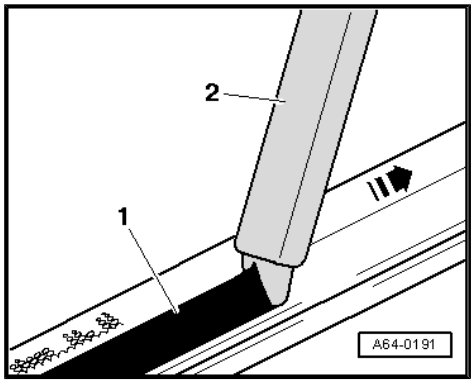


Note

The cross-section of the adhesive bead is determined by the size of the applicator nozzle opening and the rate of application.

– Apply full surface of nozzle -2- to roof frame.

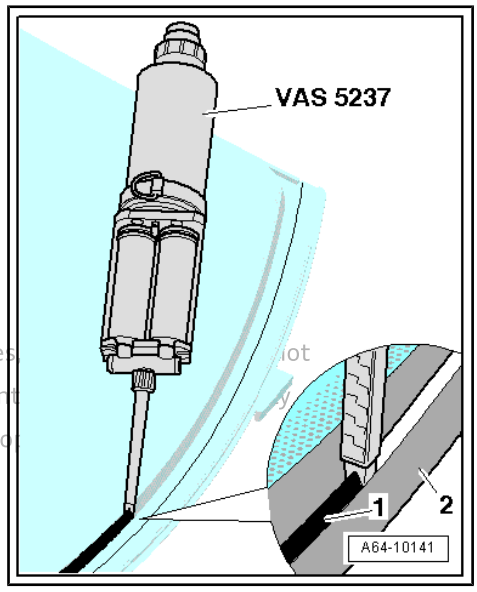
• Adhesive bead -1- is applied in direction indicated by -arrow-.



– Apply adhesive sealant -1- all around roof frame -2-.

– Fit roof in roof opening.

• The roof must be fitted within 15 minutes; otherwise the adhesive properties of the adhesive sealant will be impaired.



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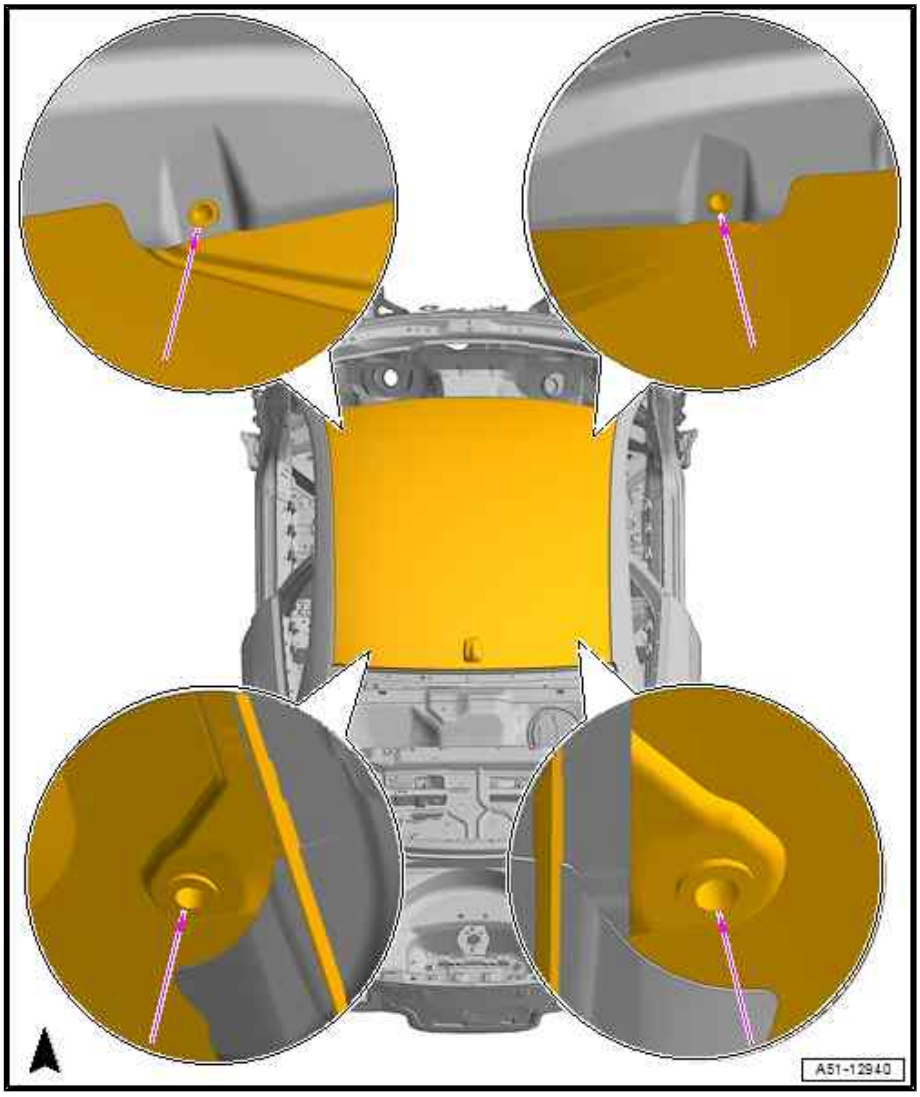
– Restore bolted connection on inside of roof.



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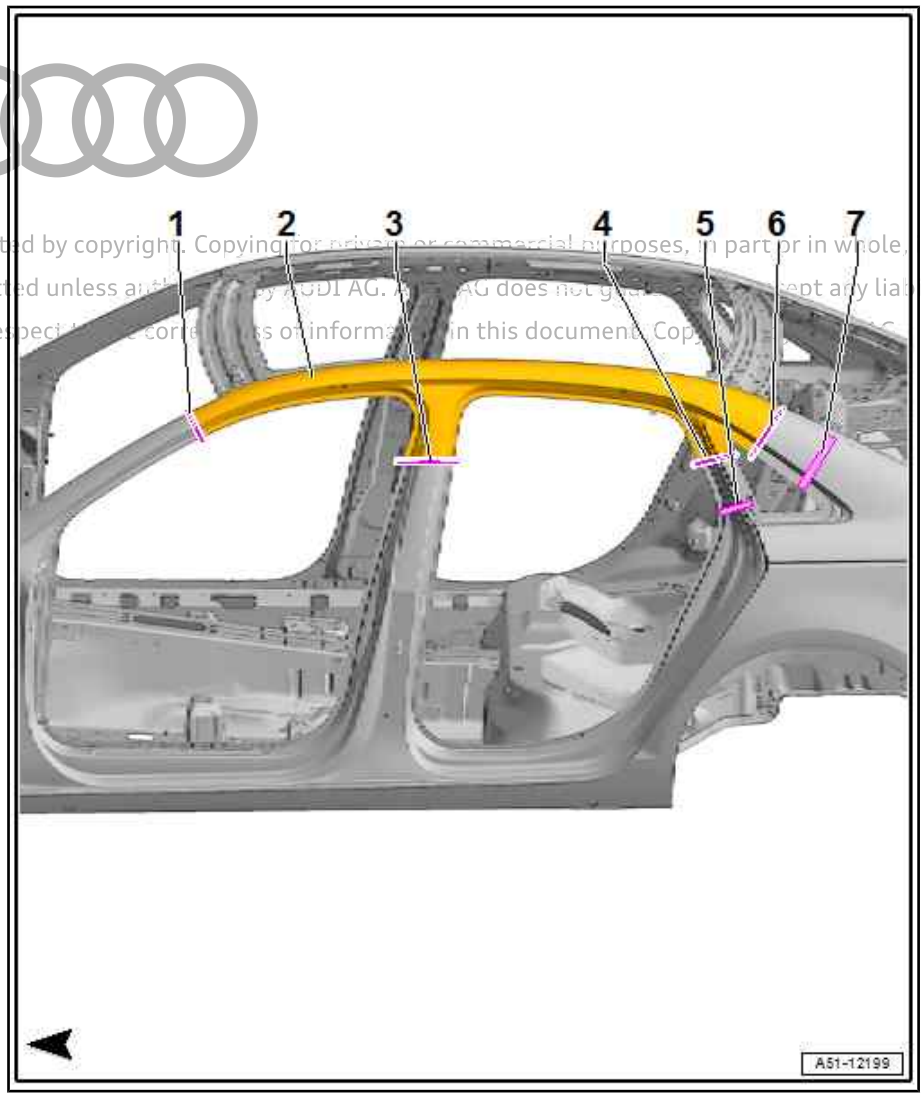
RO: 51 05 55 50

5 Roof side member - Renewal (Sportback)

Note

Observe safety precautions *⇒ page 3* *.*

1 - Separating cut in A-pillar
2 - Roof side member
3 - Separating cut in B-pillar
4 - Separating cut in C-pillar
5 - Moulded foam insert
6 - Separating cut in D-pillar
7 - Moulded foam insert



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5.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

5.2 Procedure

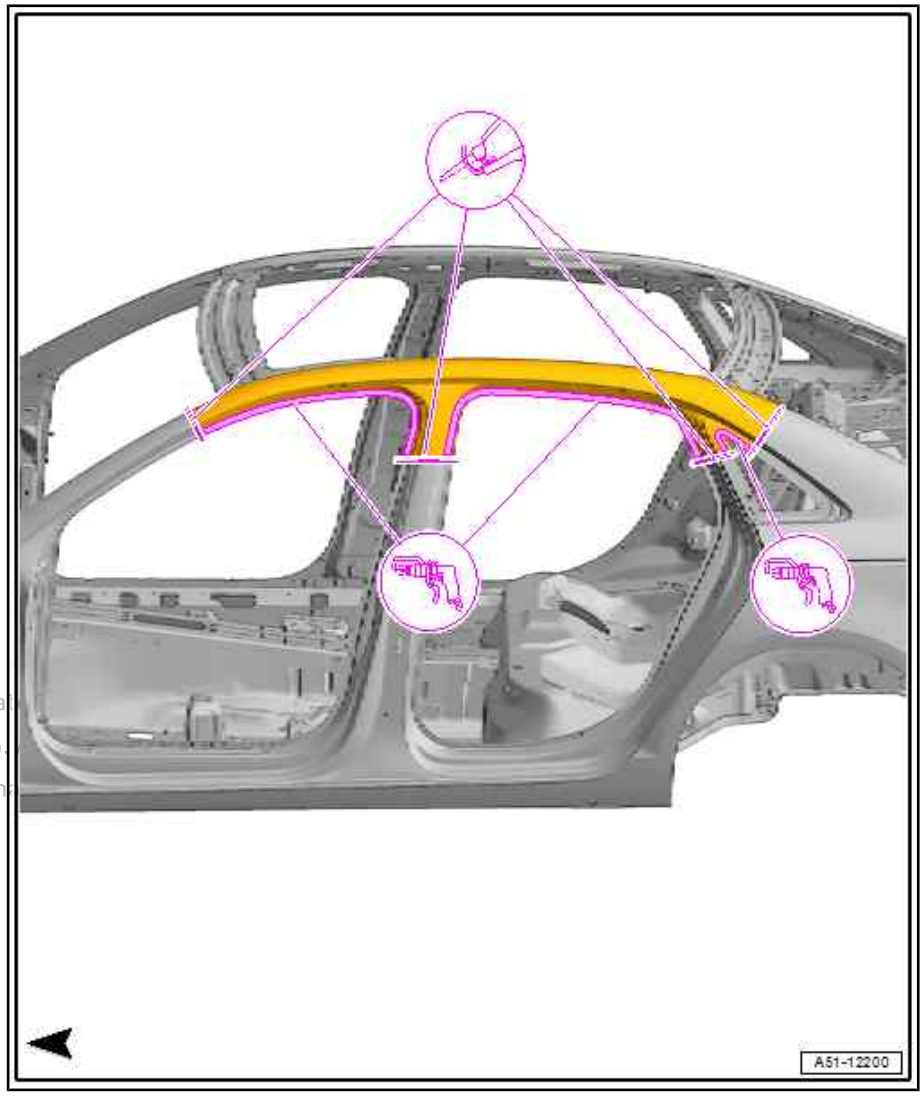
- Roof already removed (standard roof) ⇒ page 105
- Roof already removed (panoramic sunroof) ⇒ page 124

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

– 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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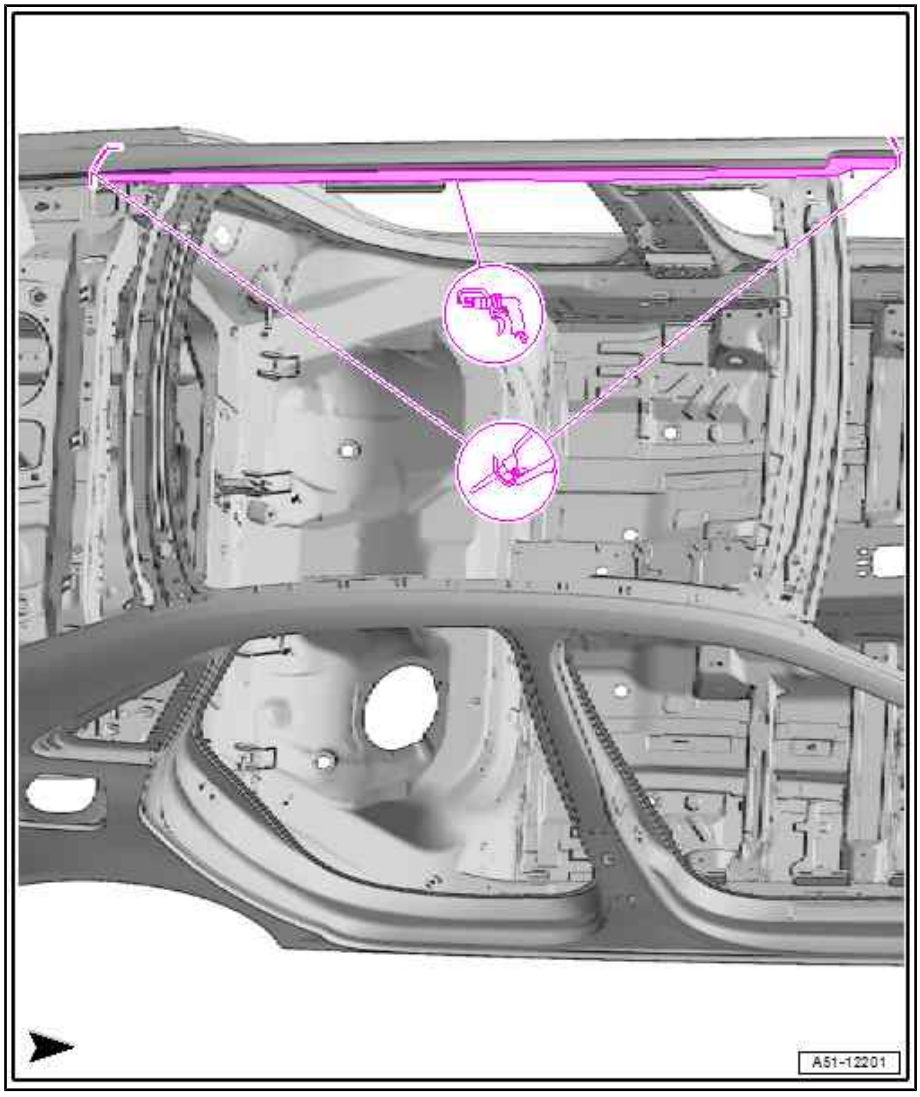
– Separate original joint using spot weld breaker .



– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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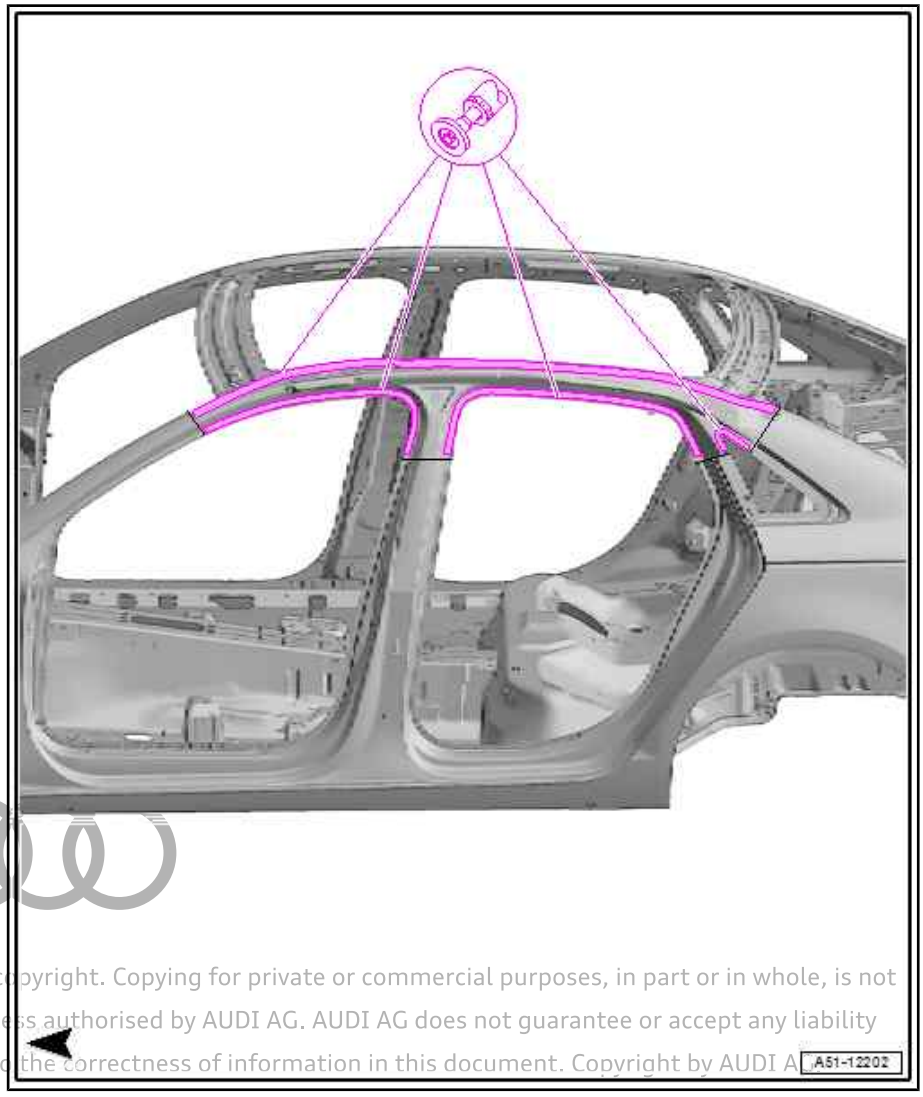

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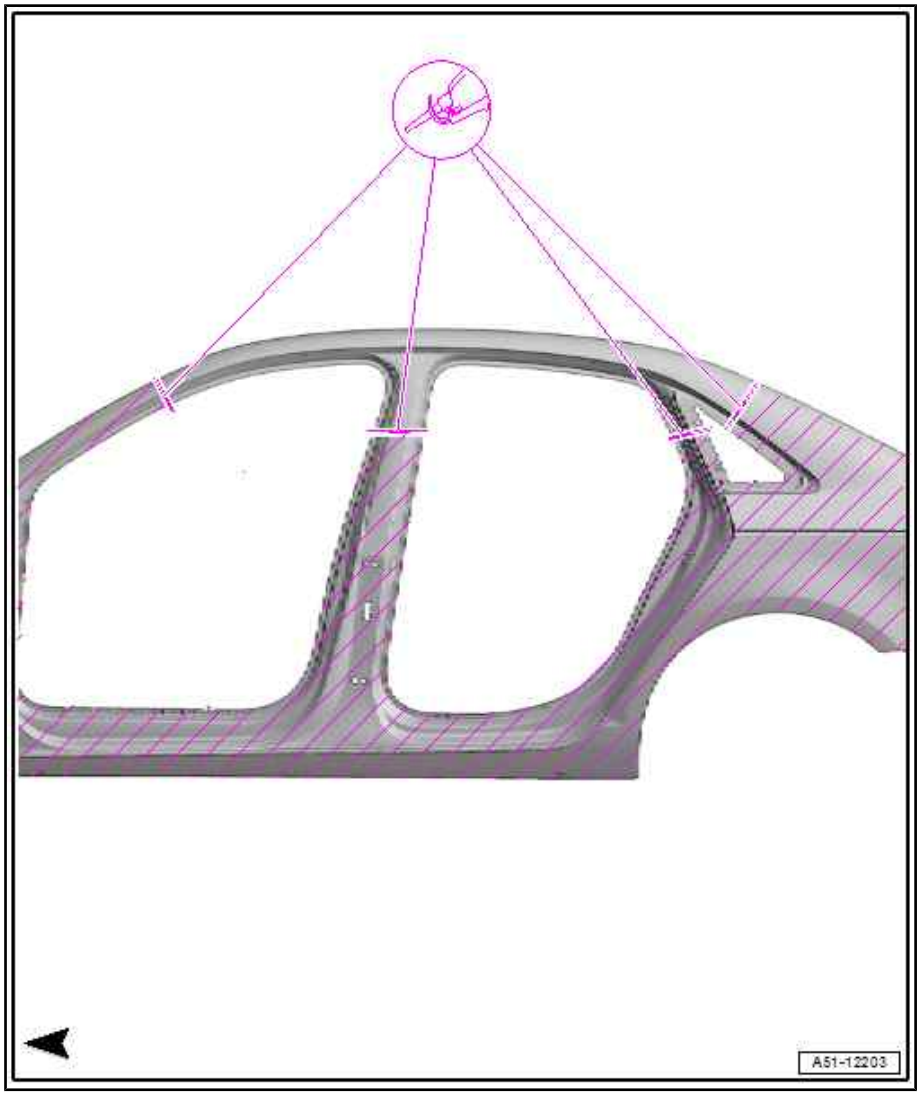
Replacement part

♦ Side panel

Preparing new part

– Transfer separating cuts to new part.

– Cut new part to size using body saw .



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.

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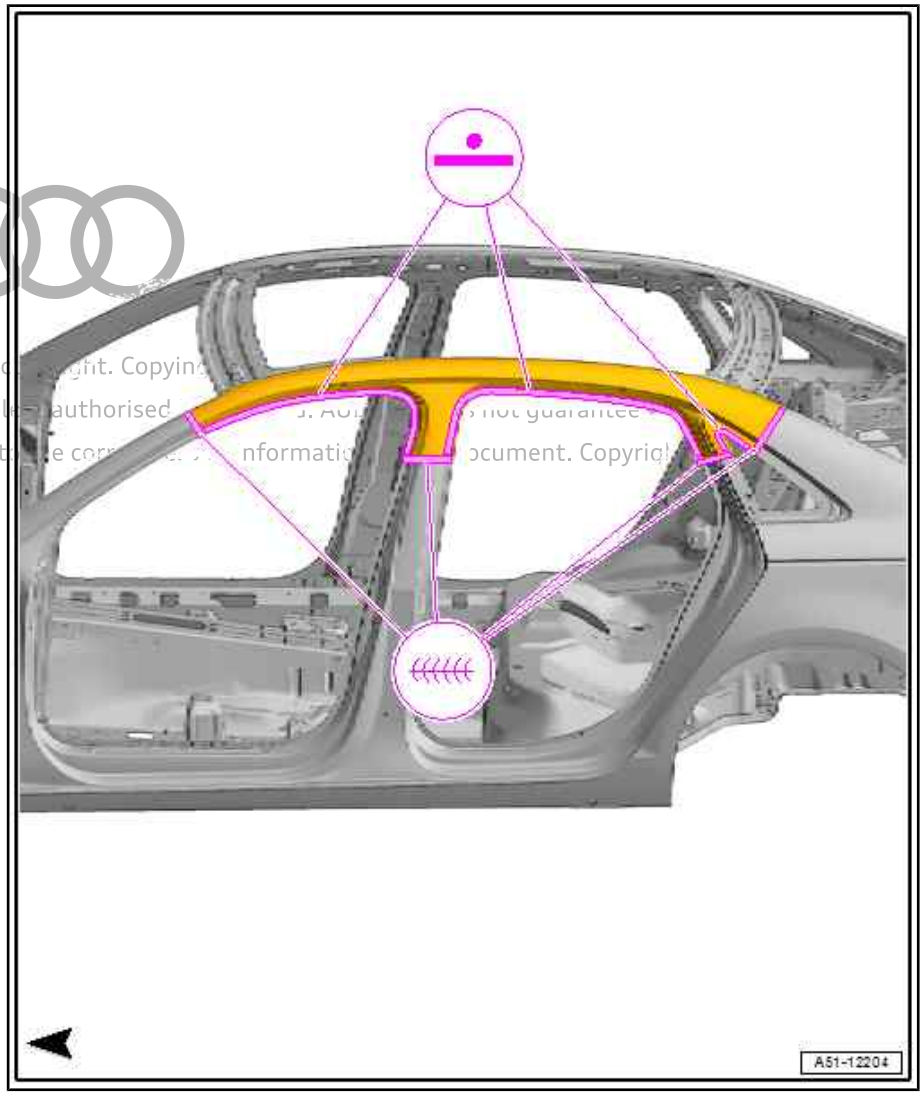
Welding in

– Match up and fix new part in position.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.



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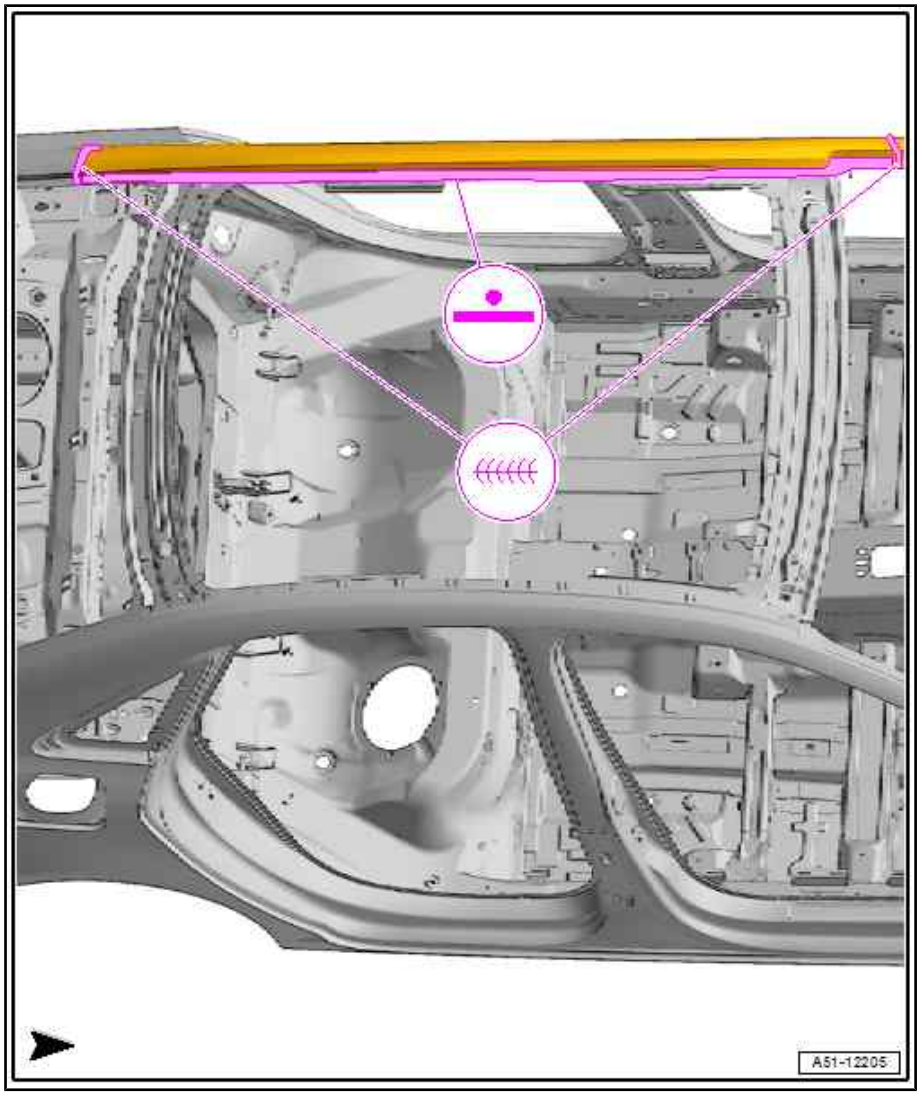
– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.



- Installing roof (standard roof) ⇒ page 105
- Installing roof (panoramic sunroof) ⇒ page 124

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RO: 51 05 55 50

6 Roof side member - Renewal (Coupé)

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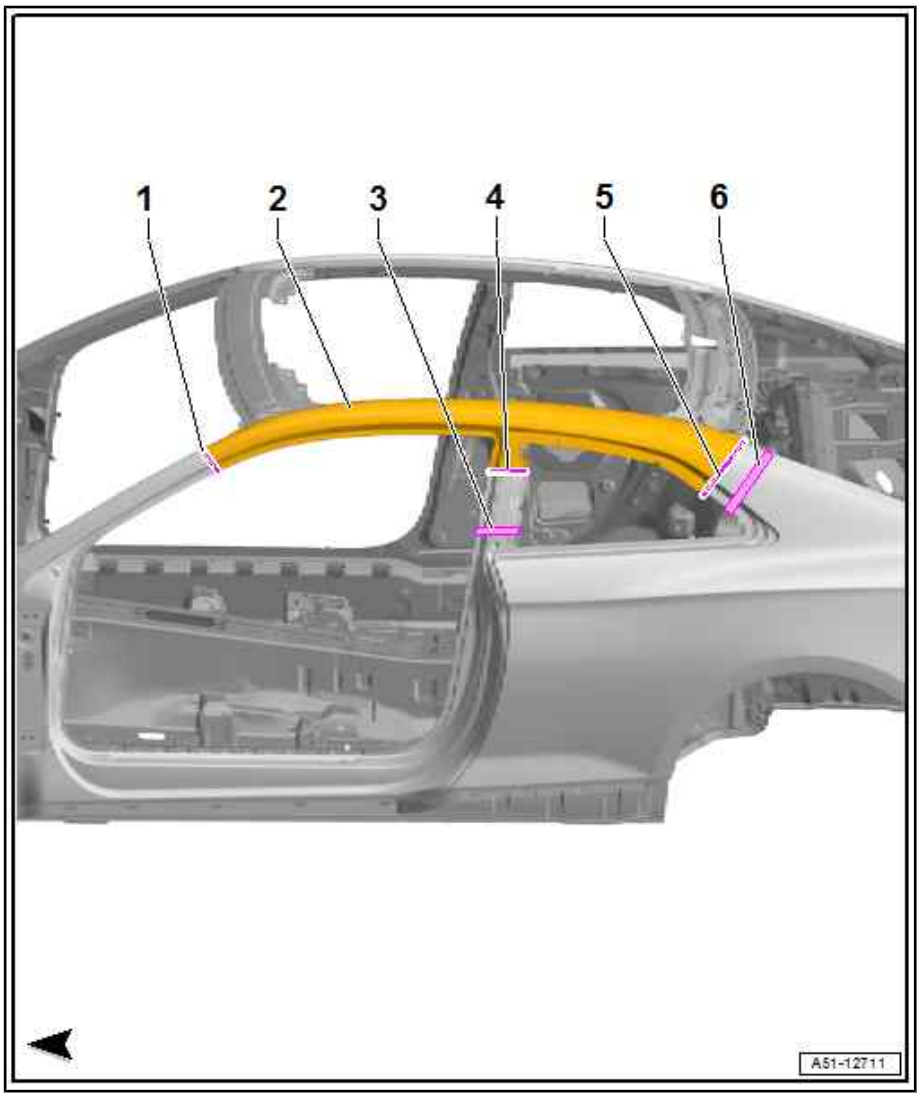
Note

Observe safety precautions *⇒ page 3* *.*

1 - Separating cut in A-pillar
2 - Roof side member
3 - Separating cut in B-pillar
4 - Separating cut in C-pillar
5 - Moulded foam insert
6 - Separating cut in D-pillar
7 - Moulded foam insert



7 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

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8 Procedure

- Roof already removed (standard roof) ⇒ page 105
- Roof already removed (panoramic sunroof) ⇒ page 124

Cutting locations

Permitted separating cuts on complete side panel

– 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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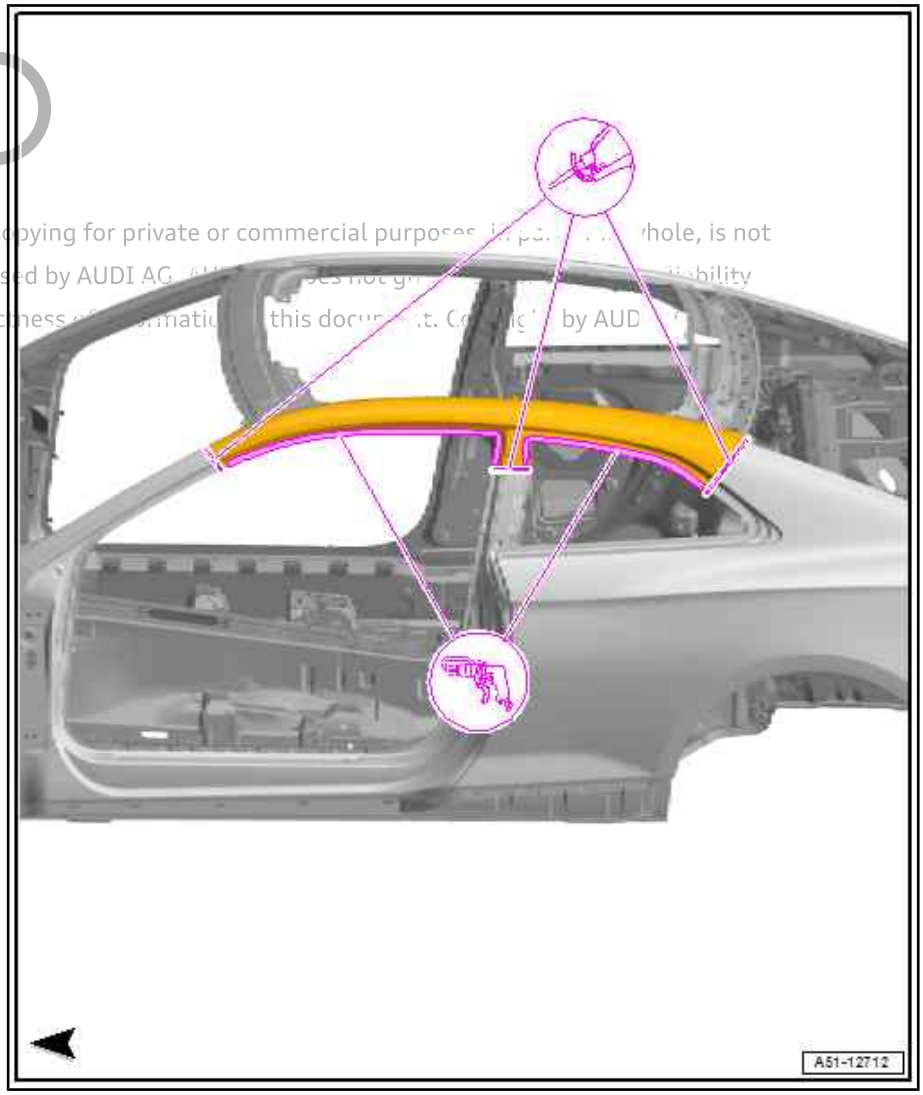
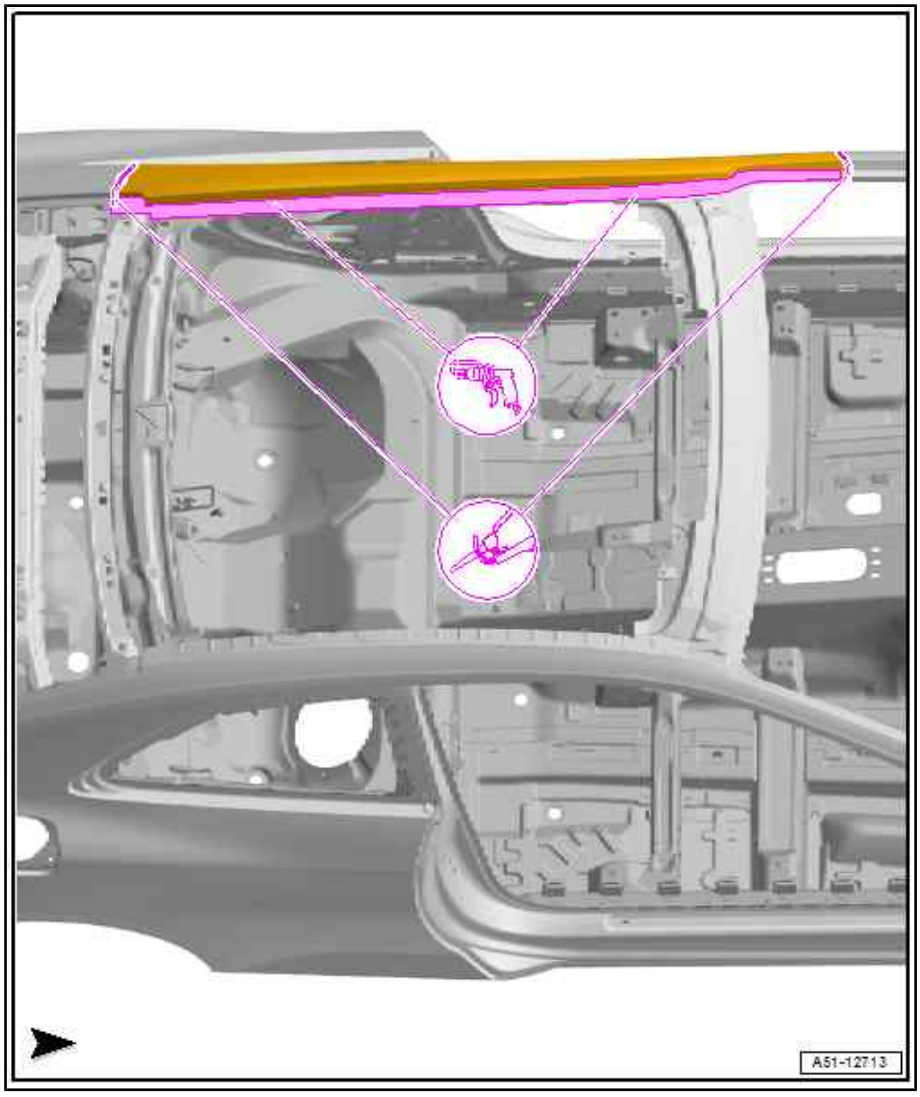


– Separate original joint using spot weld breaker .



– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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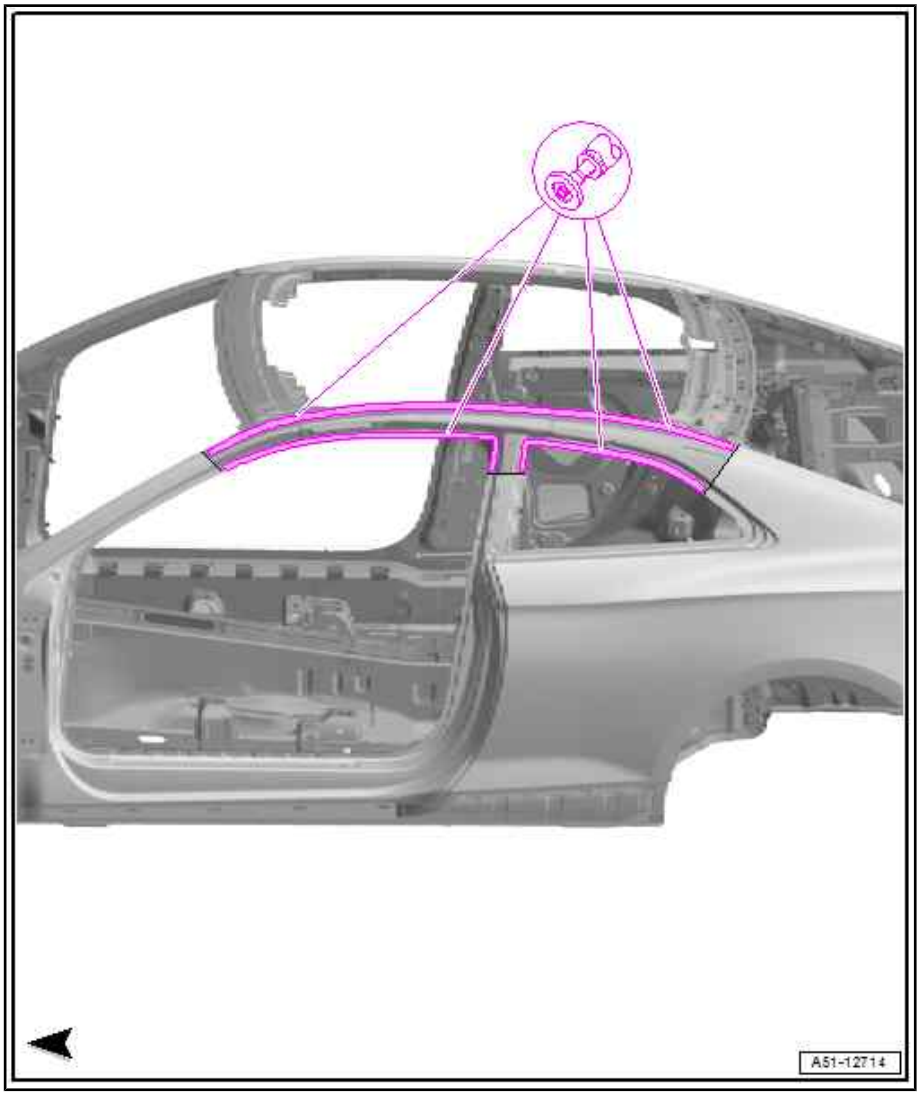

Replacement part

♦ Side panel

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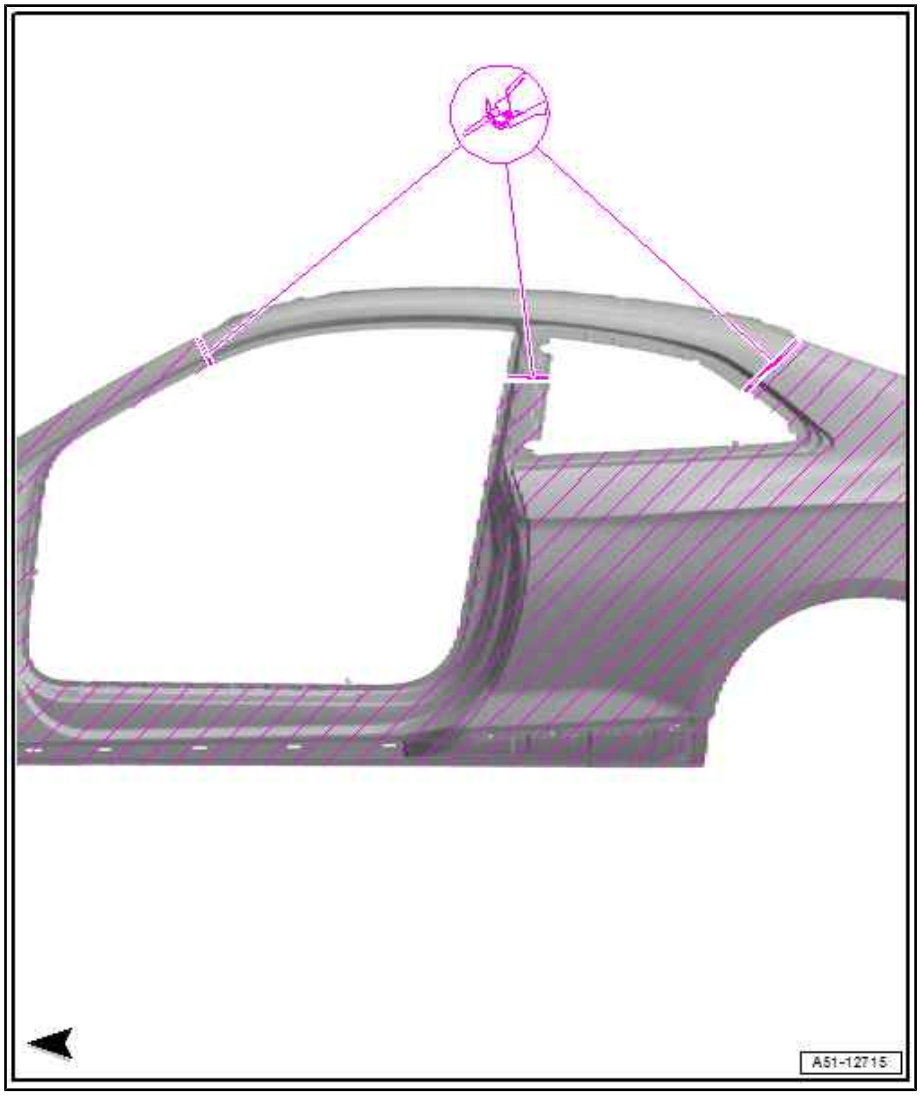
Preparing new part

– Transfer separating cuts to new part.

– Cut new part to size using body saw .



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

– Match up and fix new part in position.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.

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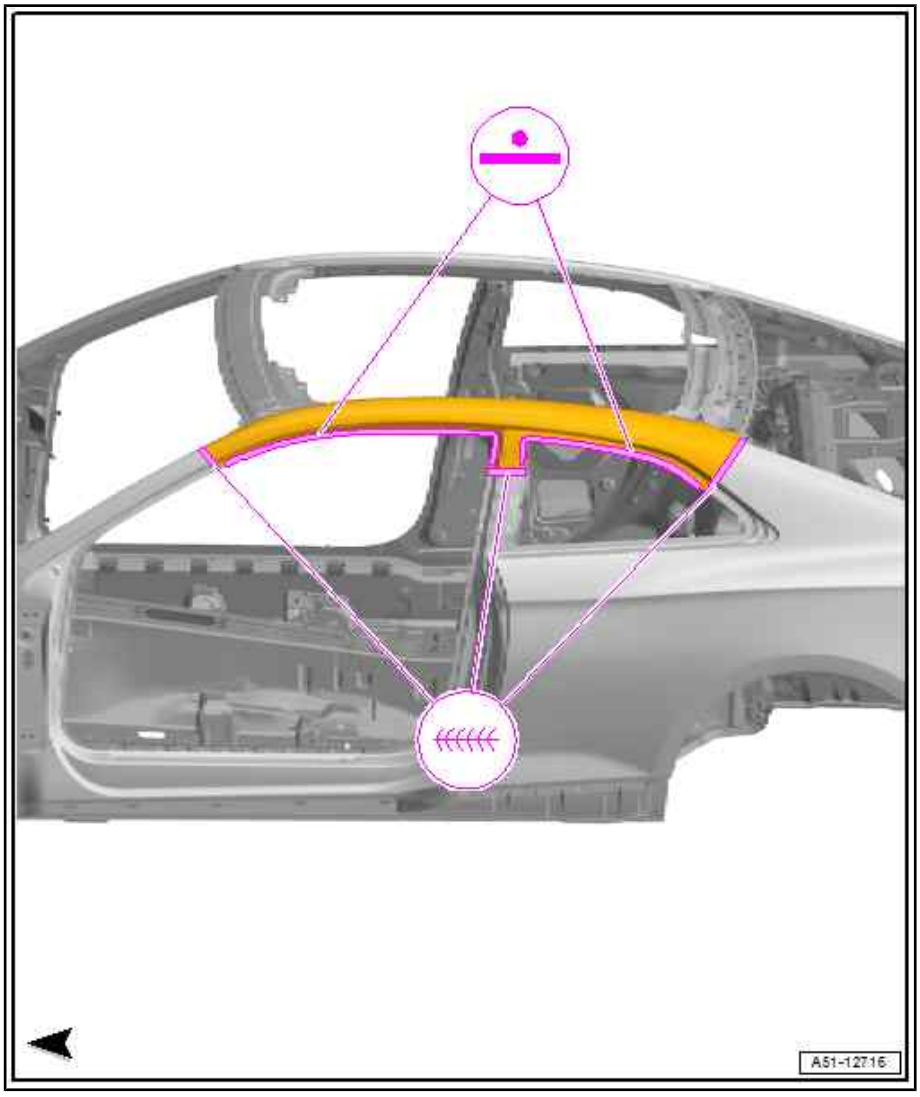

– Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.

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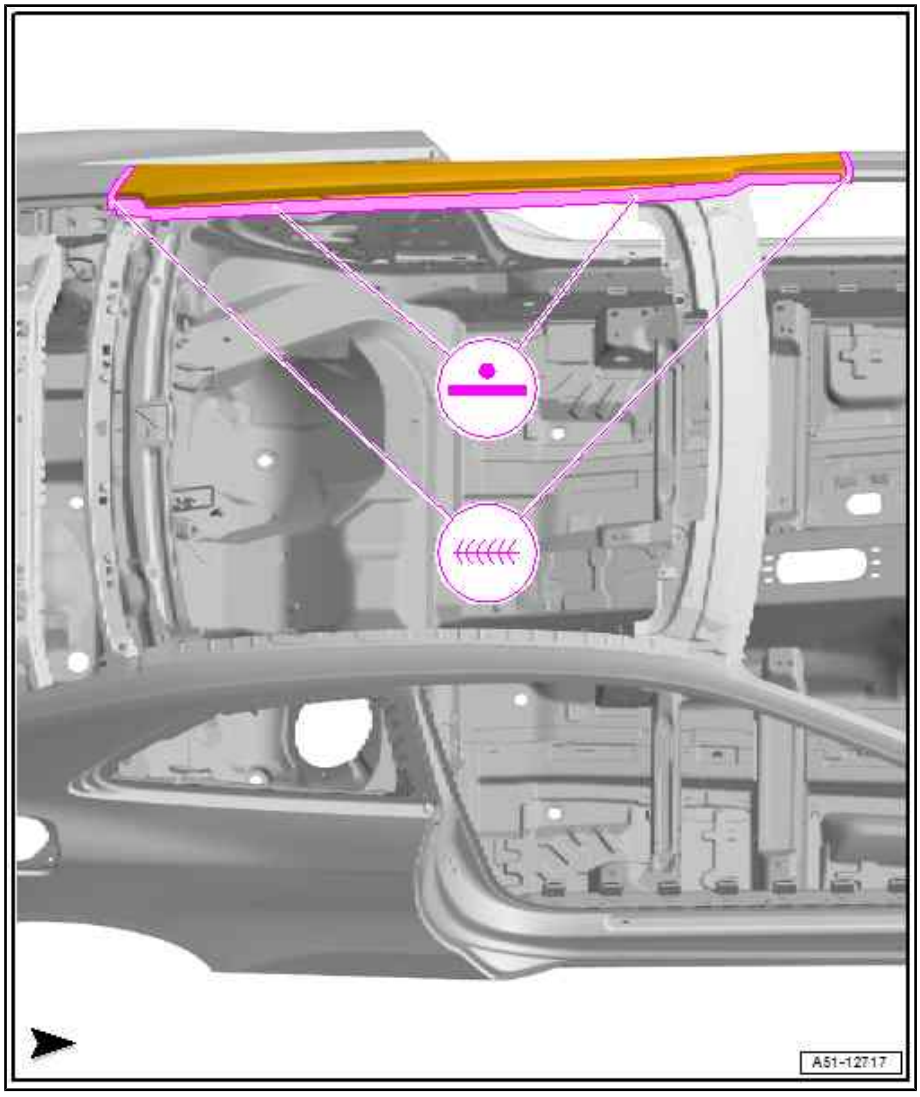

- Installing roof (standard roof) ⇒ page 105
- Installing roof (panoramic sunroof) ⇒ page 124

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RO: 51 07 55 50

9 Front roof cross member - Renewal (Coupé and Sportback identical)

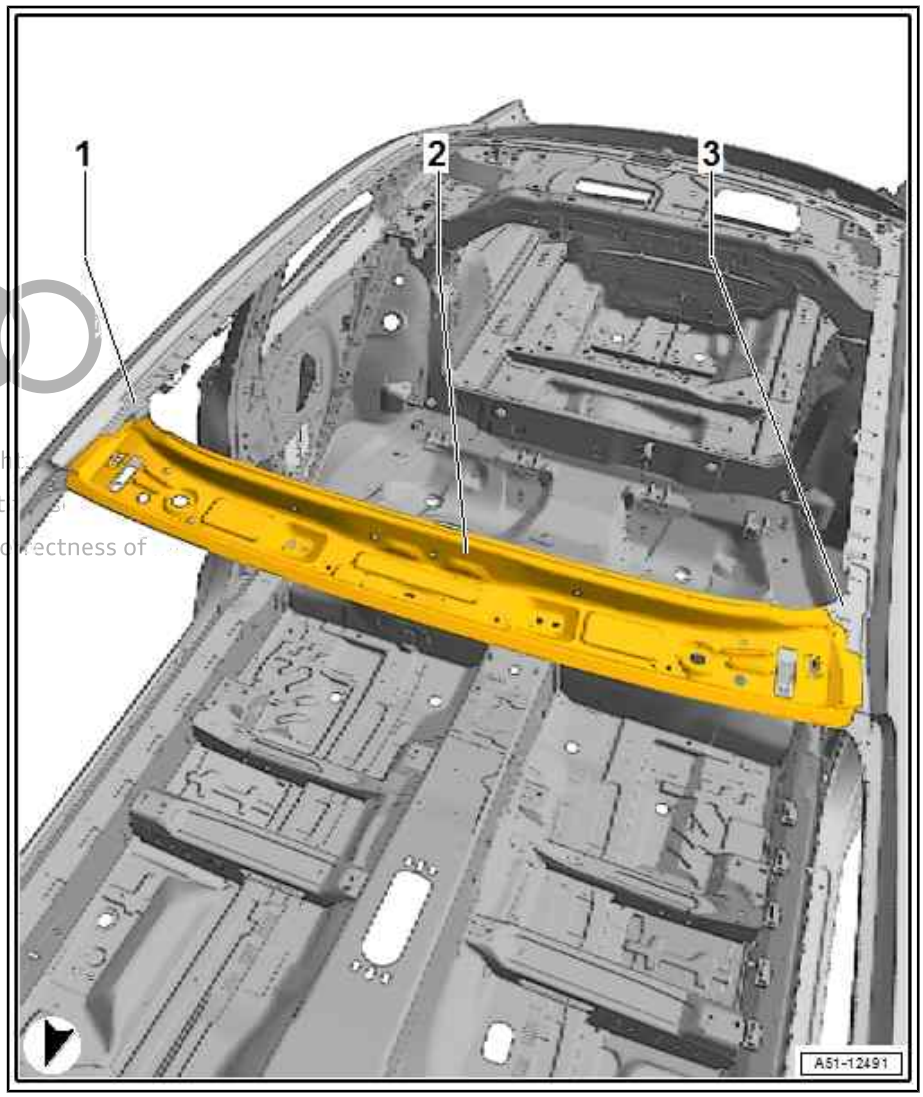
Note

Observe safety precautions ⇒ page 3 .

1 - Side frame (right-side)

2 - Roof cross member (front)

3 - Side frame (left-side)



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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
- Drill

Note

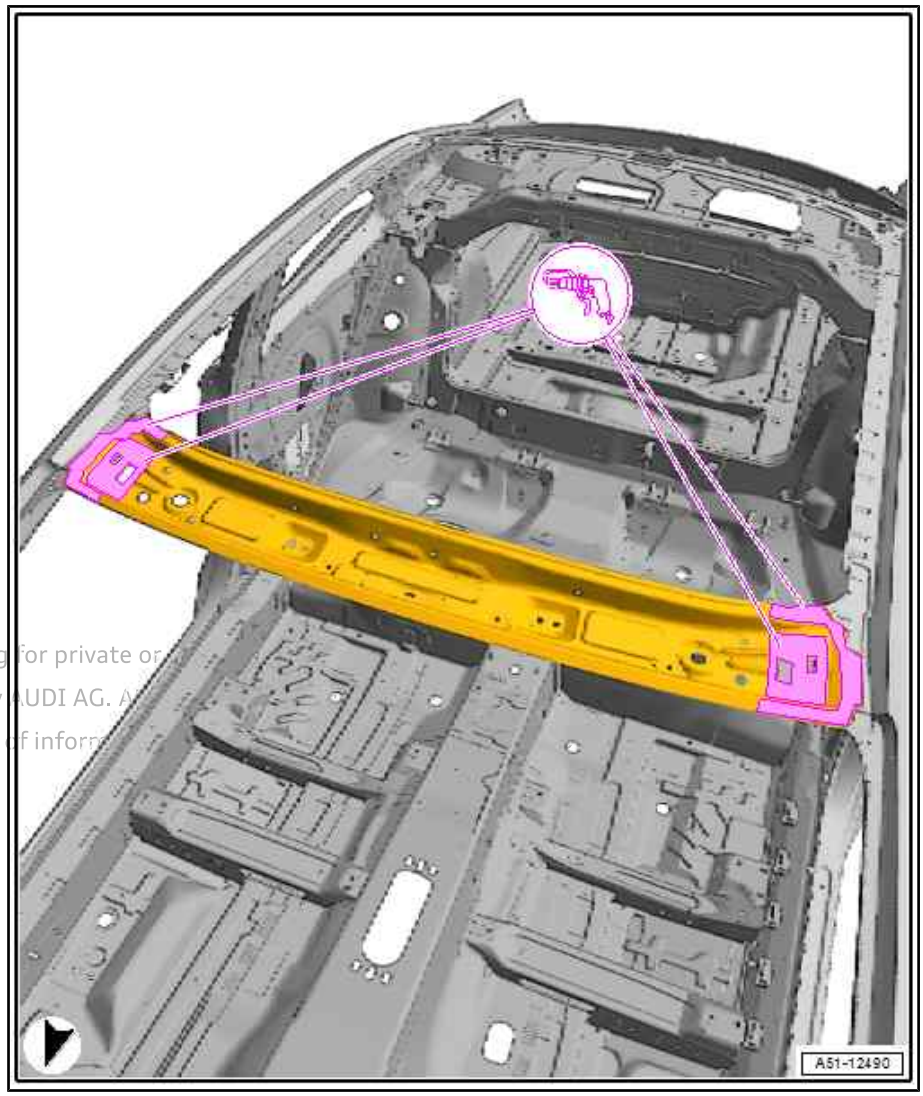
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

9.2 Procedure

- Roof already removed (standard roof) ⇒ page 105
- Roof already removed (panoramic sunroof) ⇒ page 124

Cutting locations

– Separate original joint using spot weld breaker .



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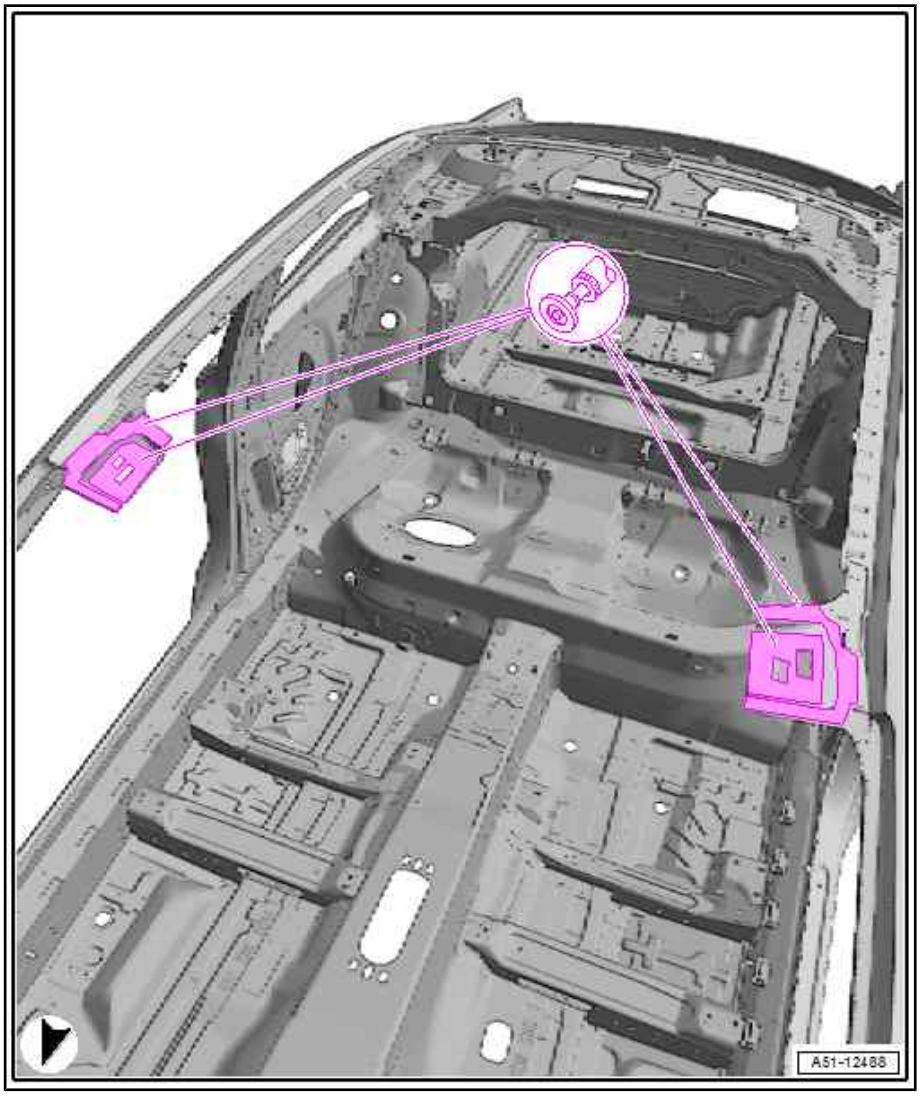
– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.



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Replacement part

♦ Roof cross member (front)

Preparing new part

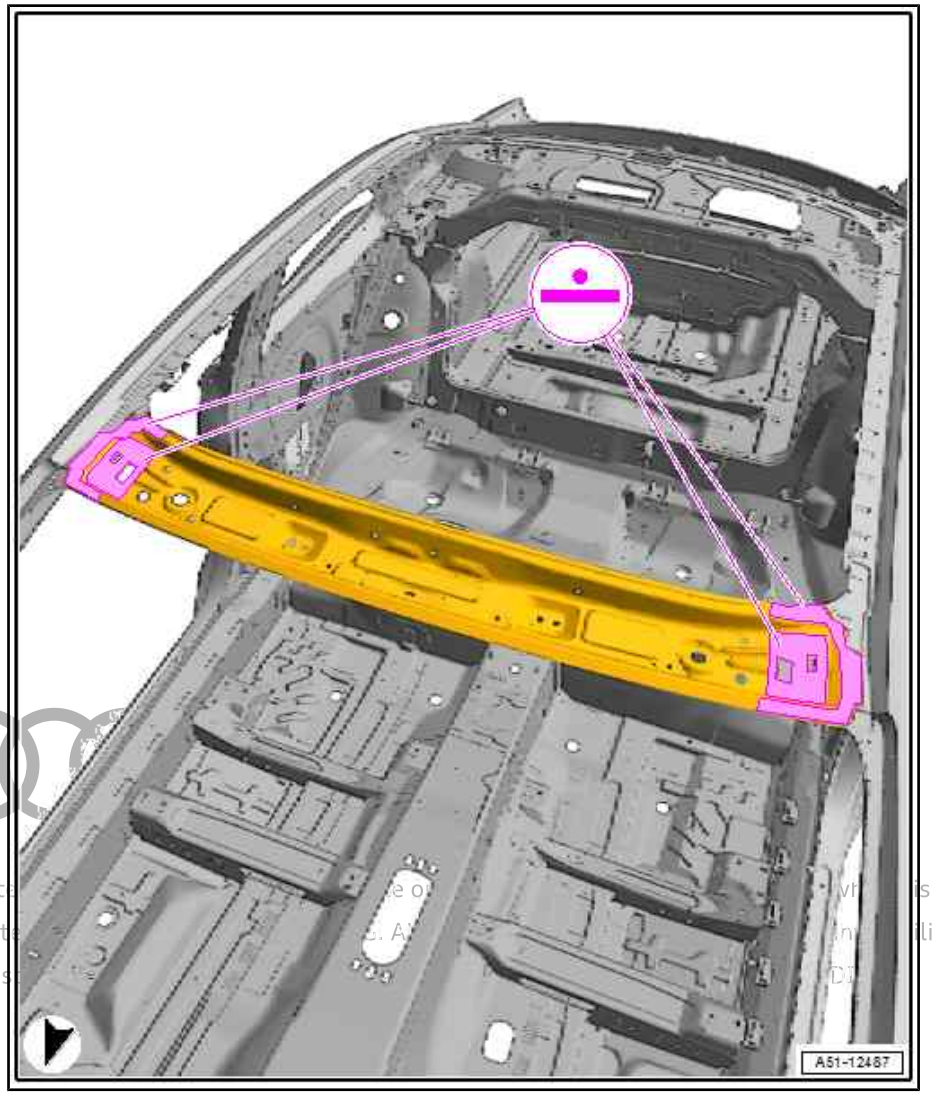
– Grind welding areas down to bare metal.

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

– Match up and fix new part in position.
– Check fit relative to roof.
– Weld in new part using resistance spot welder : RP spot weld seam.
– In place of original bonded joint, weld in roof cross member using shielded arc welding equipment : 2 x 20 mm SG continuous seam on both sides.



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- Installing roof (standard roof) ⇒ page 105
- Installing roof (panoramic sunroof) ⇒ page 124

RO: 51 09 55 50

10 Rear roof cross member - Renewal (Sportback)

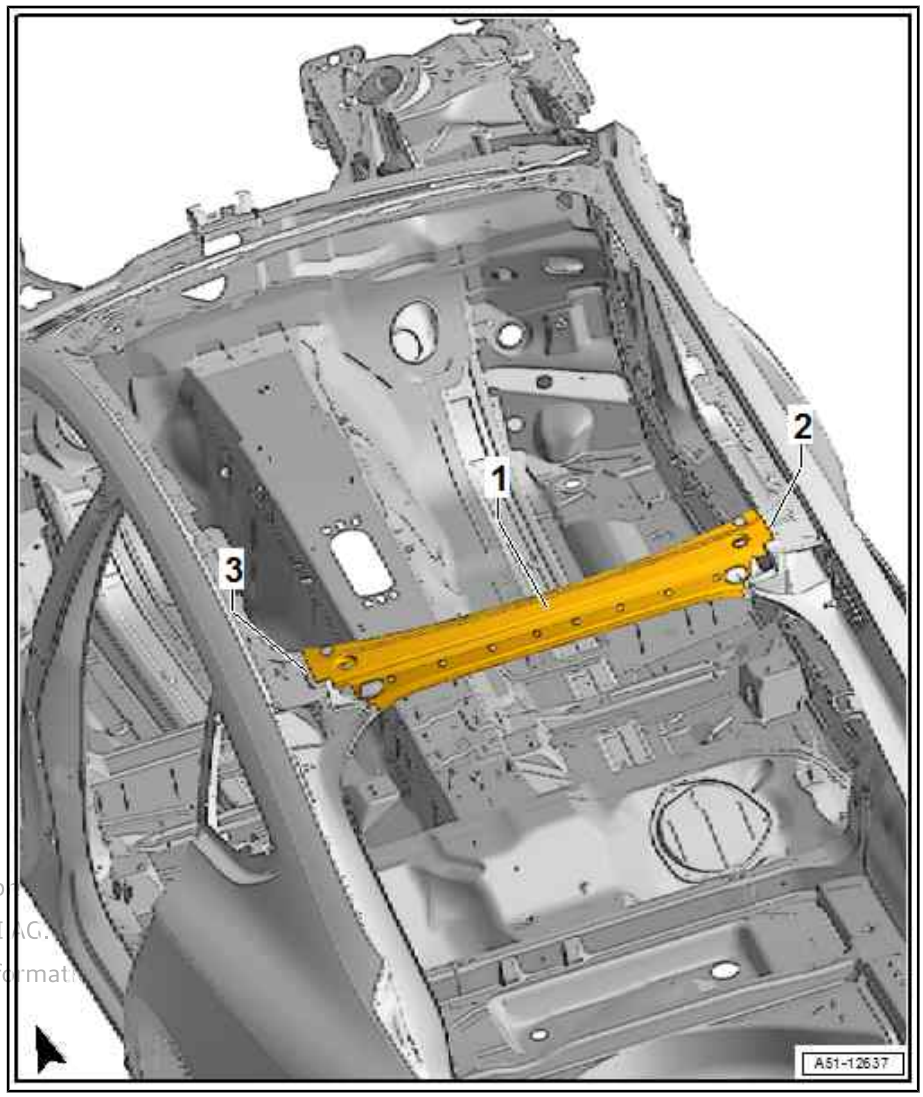
Note

Observe safety precautions *⇒ page 3* *.*

1 - Roof cross member

2 - Right roof frame connection

3 - Left roof frame connection



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10.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

10.2 Procedure

- Roof removed (standard roof) ⇒ page 105
- Roof removed (panoramic sunroof) ⇒ page 124

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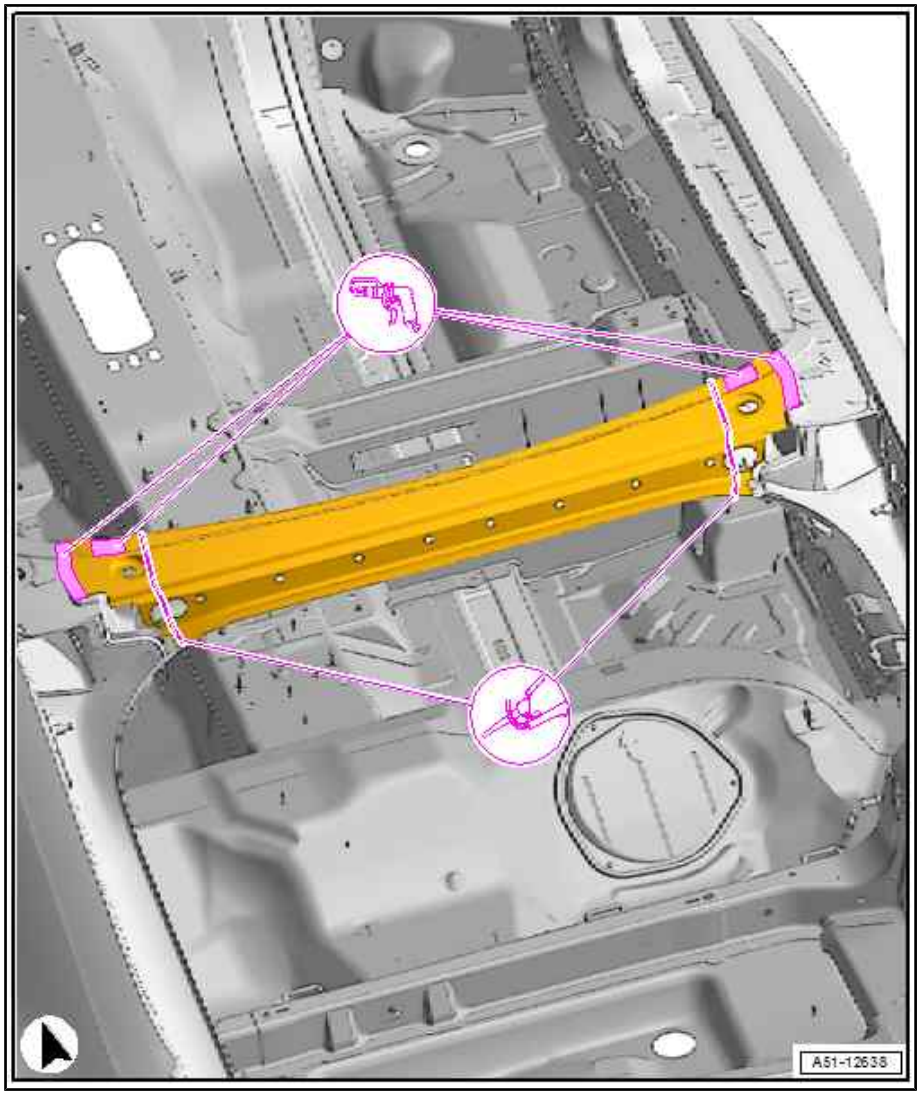
Cutting locations

– Mark off separating cuts as shown and make cuts using body saw .

– Separate original joint using spot weld breaker .



– Separate original joint using spot weld breaker .

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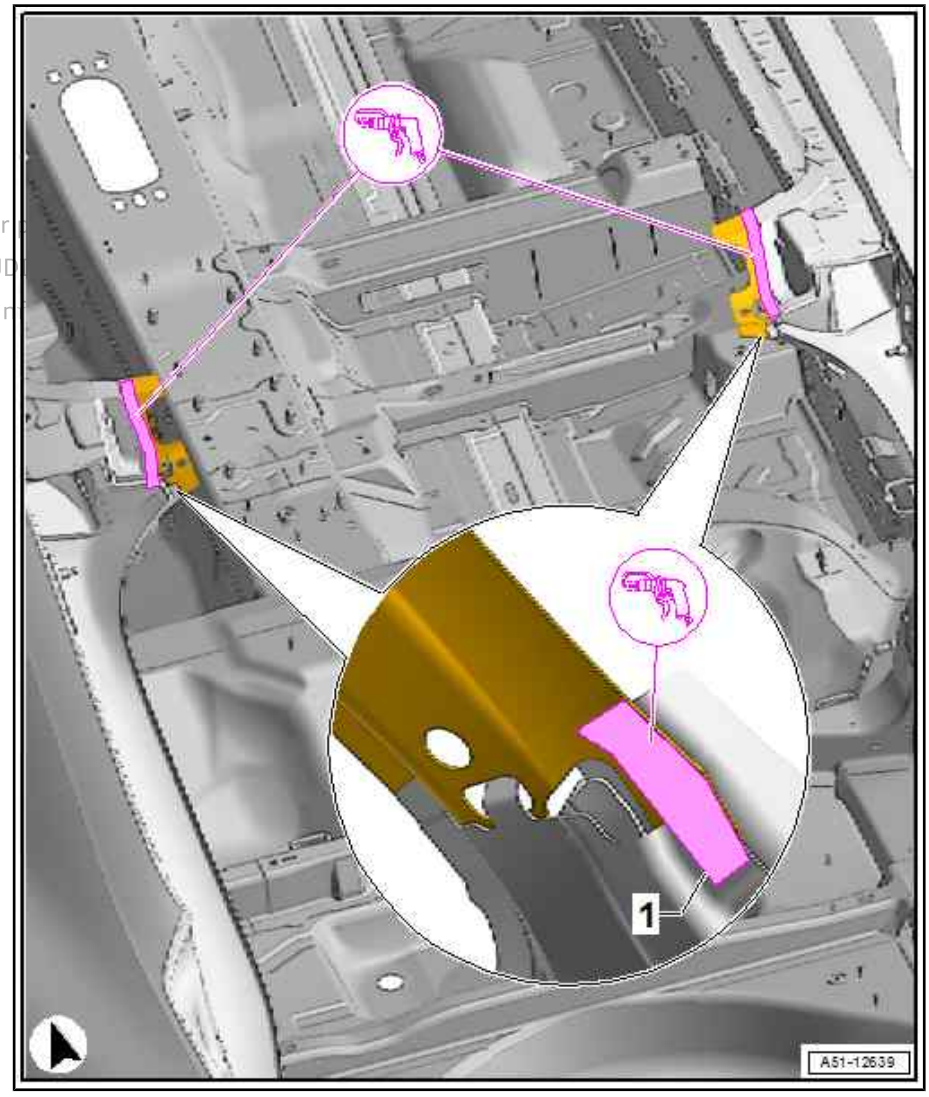
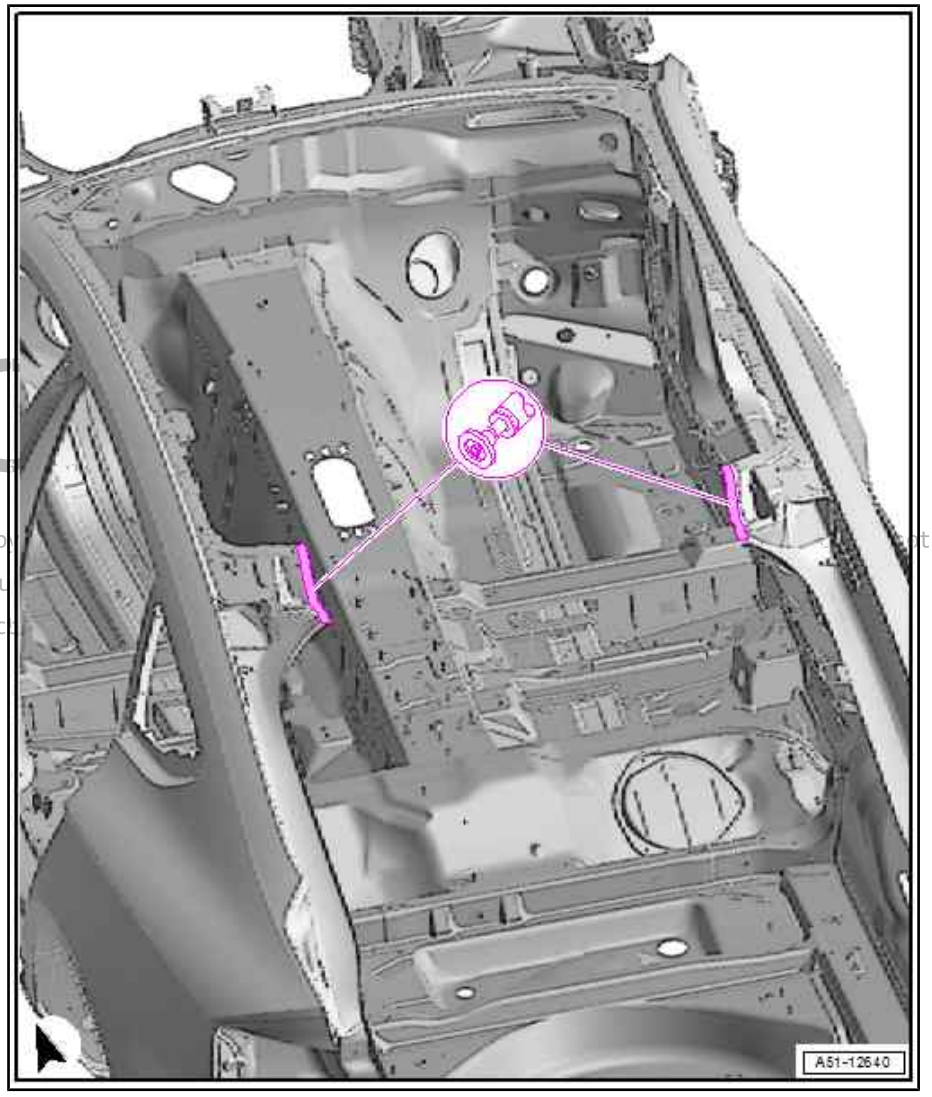


– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



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Replacement parts

- Roof cross member (rear)

Preparing new part

– Grind welding areas down to bare metal.

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

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

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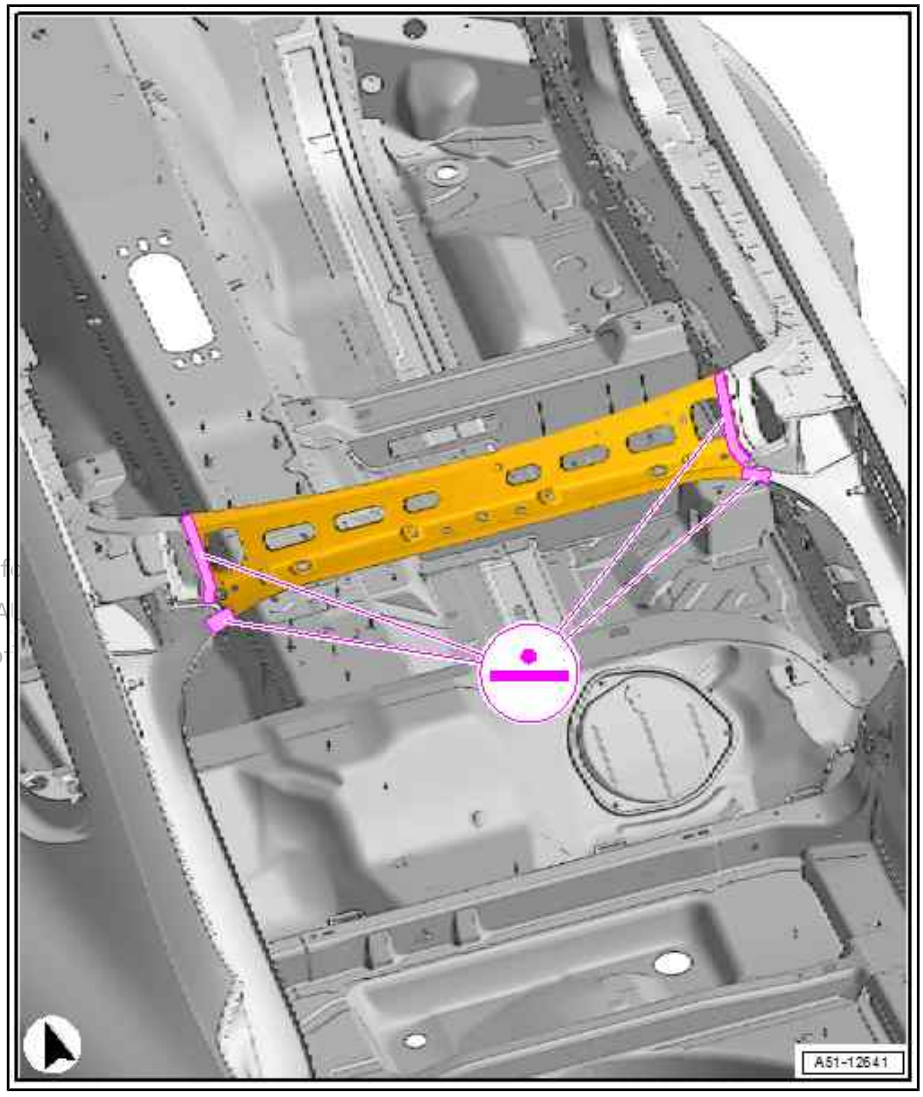
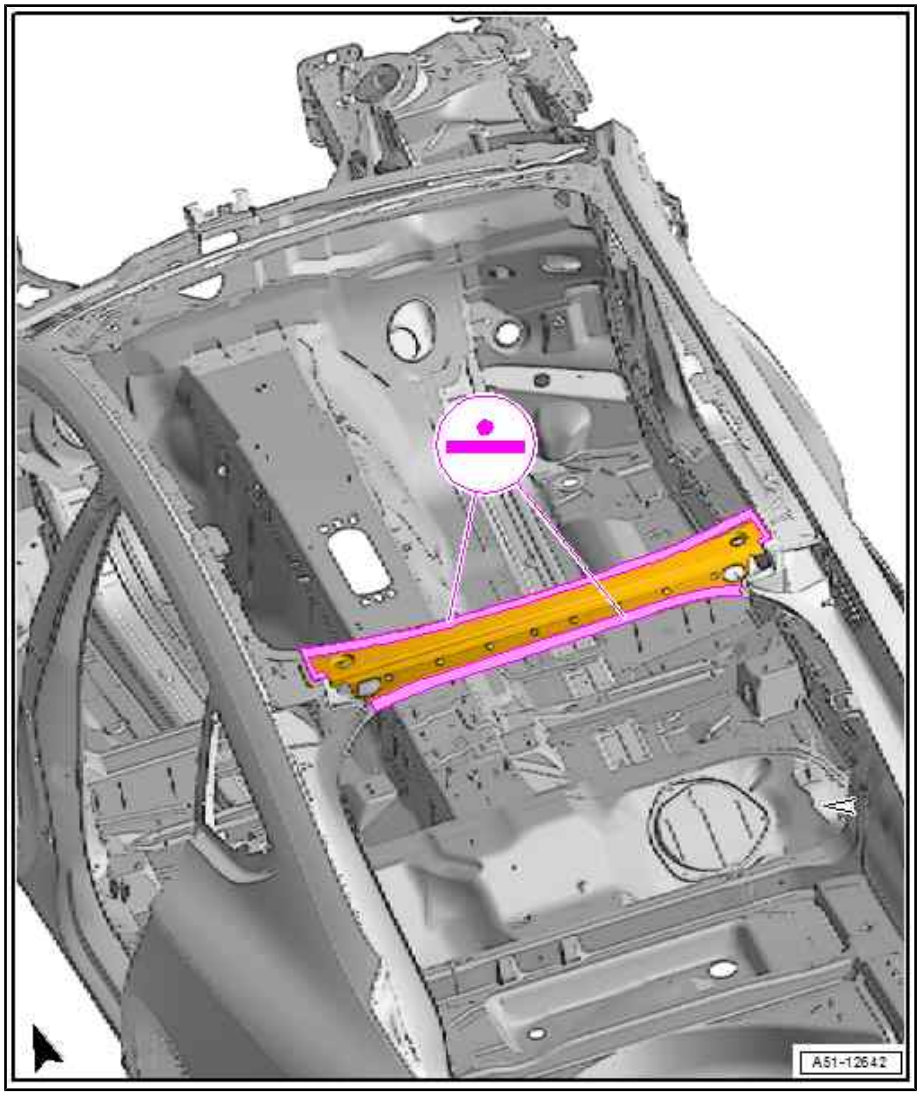


– Match up and fix new part in position.
– Weld in new part using resistance spot welder : RP spot weld seam.
– In place of original bonded joint, weld in roof cross member using shielded arc welding equipment : 2 x 10 mm SG continuous seam on both sides.



- Installing roof (standard roof) ⇒ page 105
- Installing roof (panoramic sunroof) ⇒ page 124

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RO: 51 37 55 02

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

Note

Observe safety precautions ⇒ page 3 .

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1 - Outer A-pillar

2 - Upper separating cut

3 - Separating cut in side member

4 - Separating cut for partial renewal

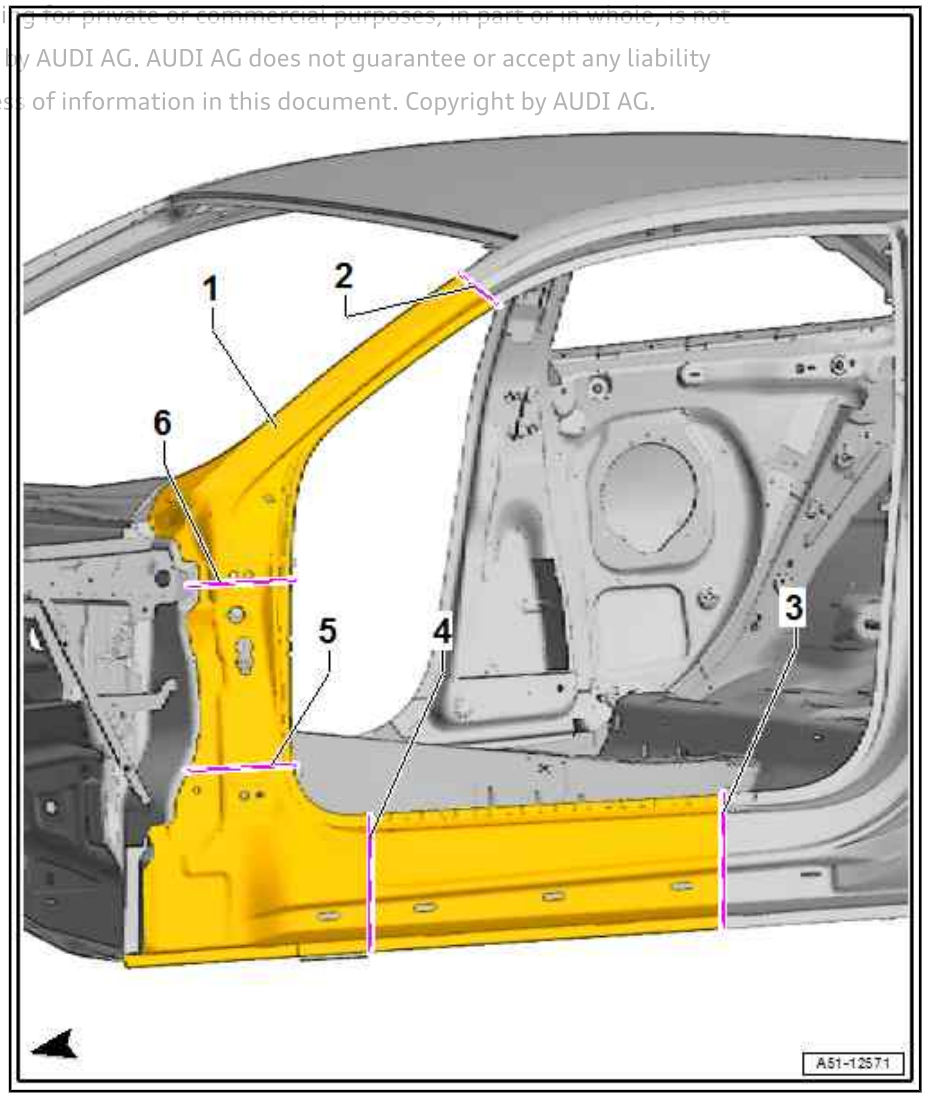
Partial renewal
Partial renewal of the A-pillar is possible using this separating cut.

5 - Separating cut for partial renewal

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

6 - Separating cut for partial renewal

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



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

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Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

11.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

Note

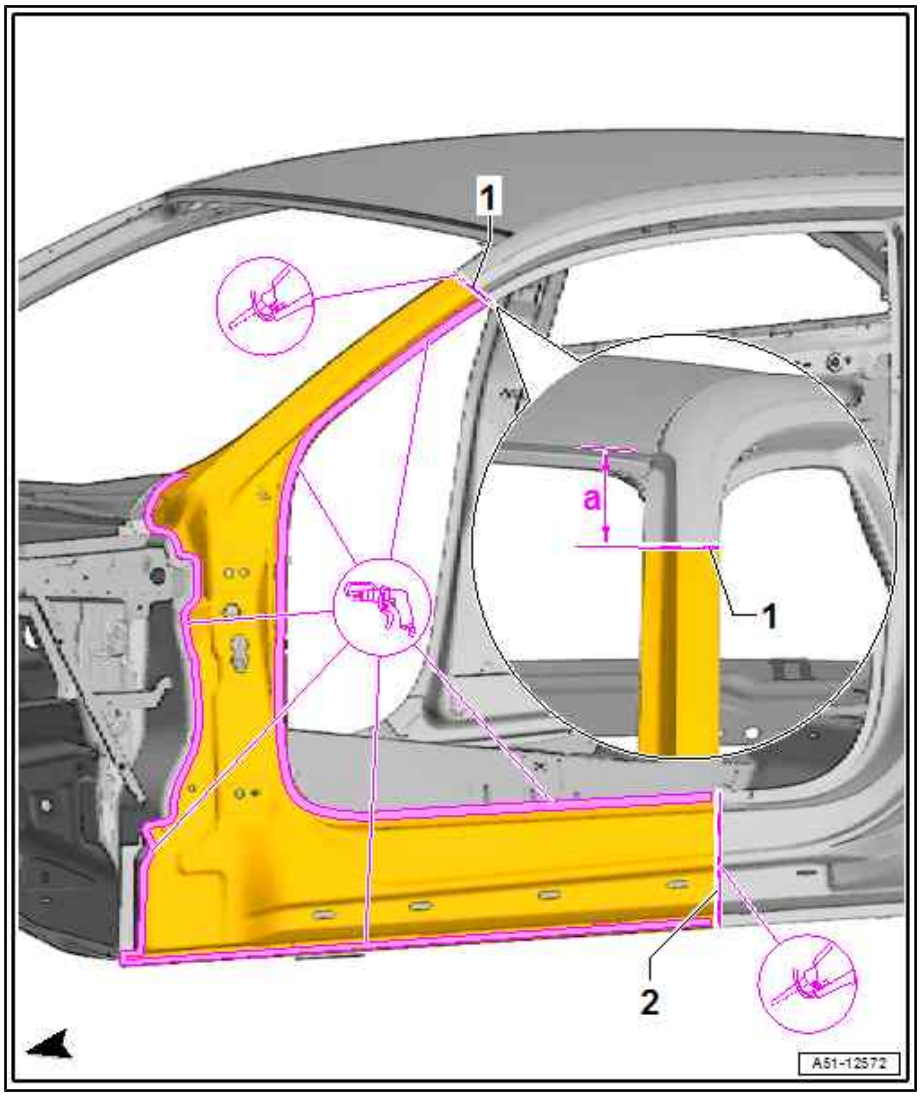
If the inner A-pillar is also being renewed, the separating cut -1- must be made at distance -a- from the edge of the roof.

Dimension -a- = 120 mm

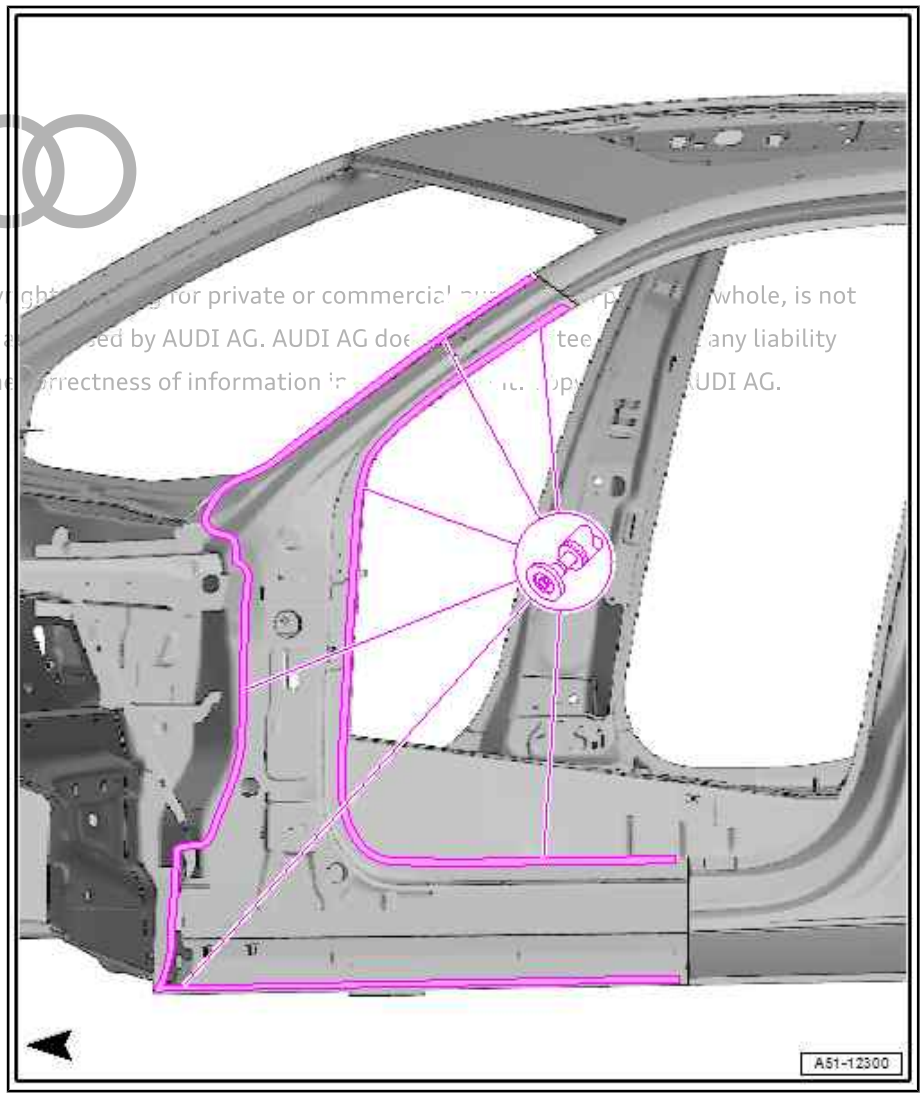
– Mark off separating cut -1- on outer A-pillar according to dimension indicated and make cut using body saw .

Dimension -a- = 80 mm

– Make separating cut on outer A-pillar -2- using body saw .



– Remove remaining material using compact angle grinder .



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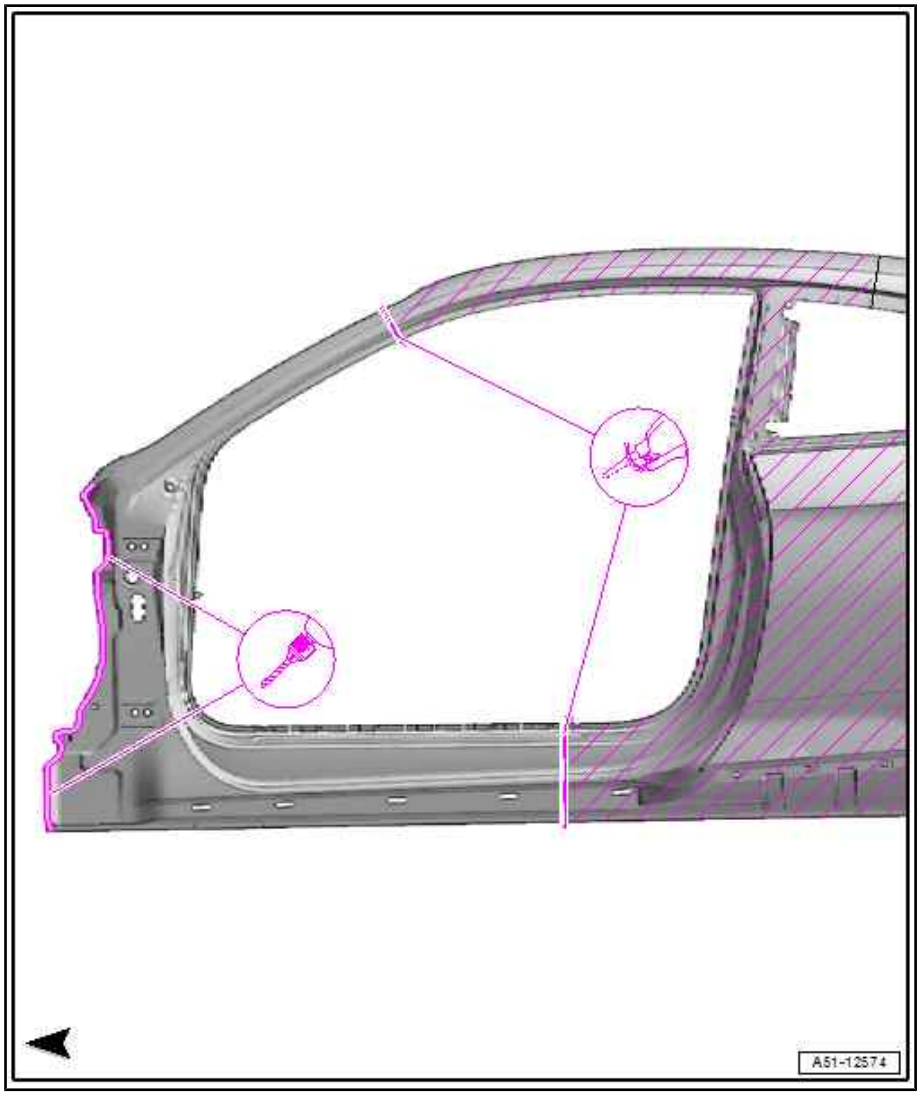
Replacement part

♦ 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 ∅ 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

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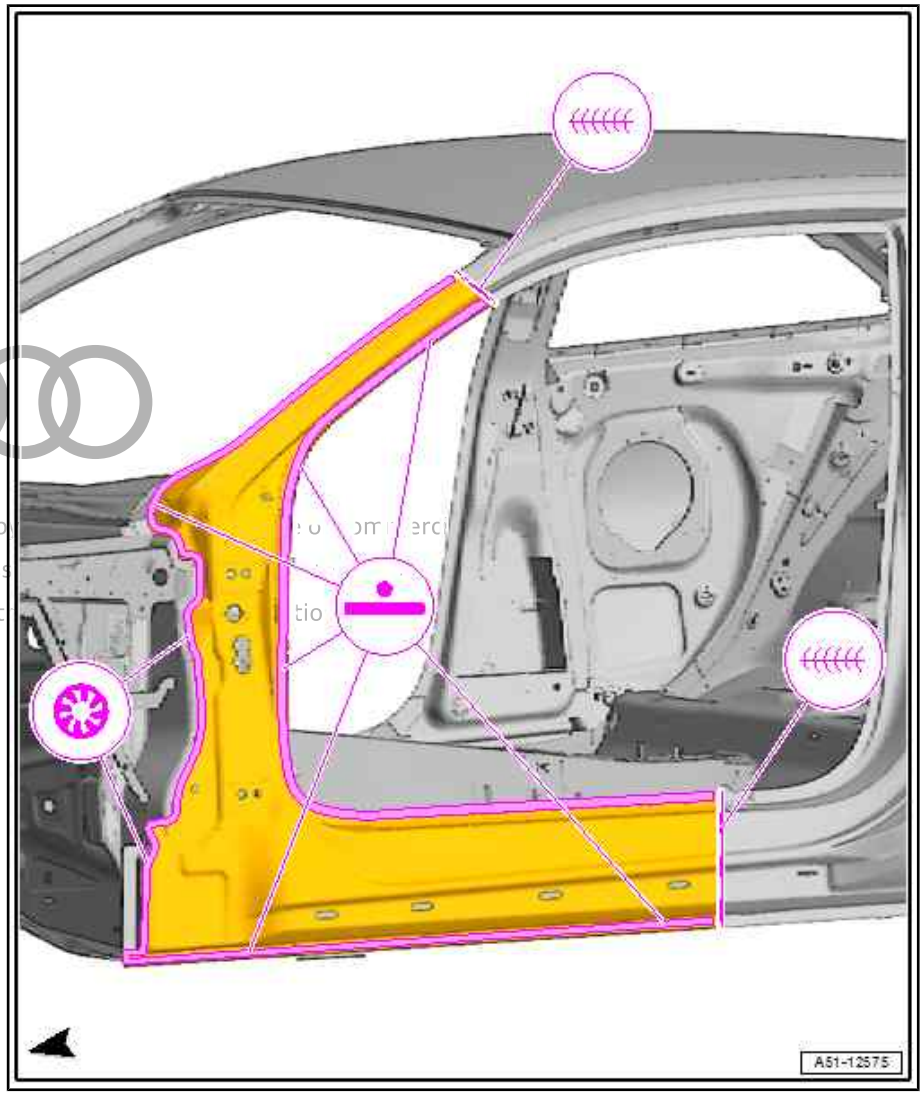

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RO: 51 38 55 50

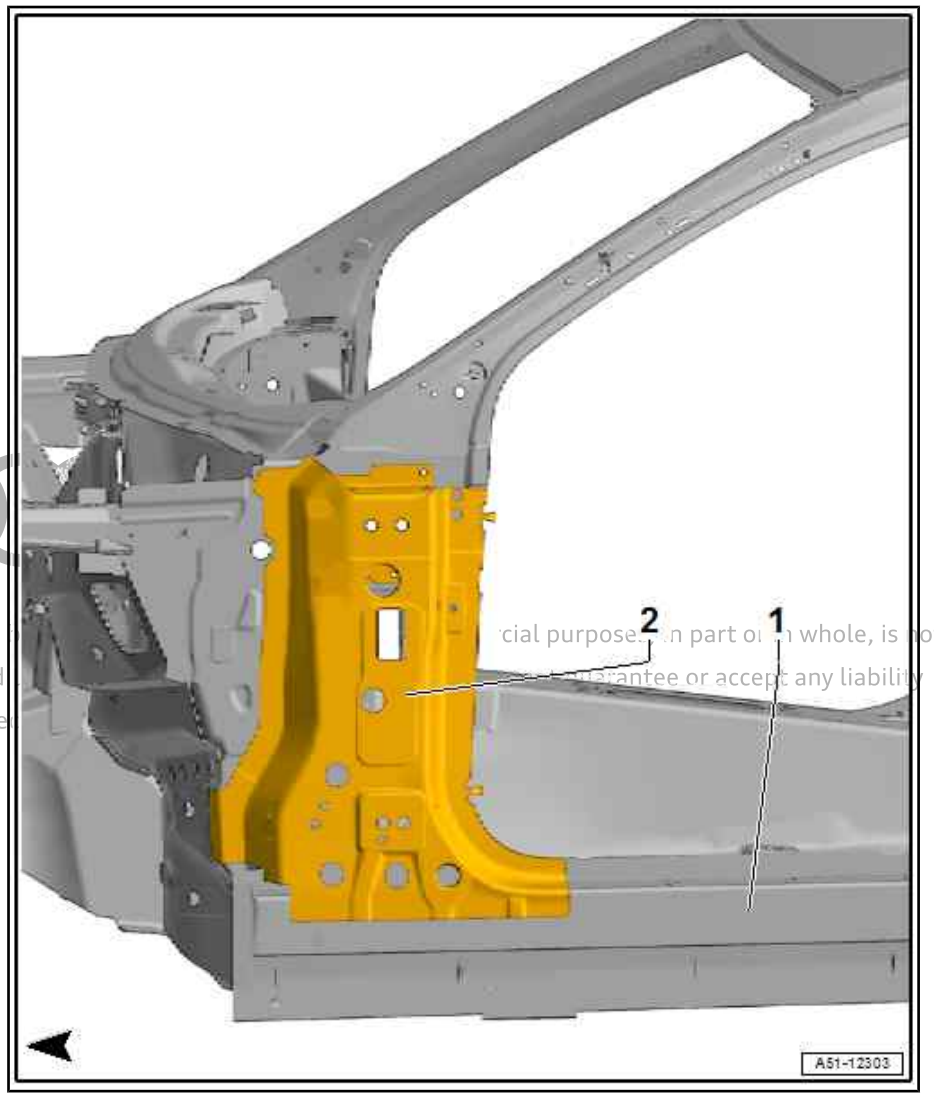
12 Inner A-pillar - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions *⇒ page 3* *.*

1 - Inner A-pillar

2 - Inner side member



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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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

12.2 Procedure

- Outer A-pillar already removed ⇒ page 199
- Upper inner A-pillar already removed ⇒ page 210

Cutting locations

– Separate original joint using spot weld breaker .

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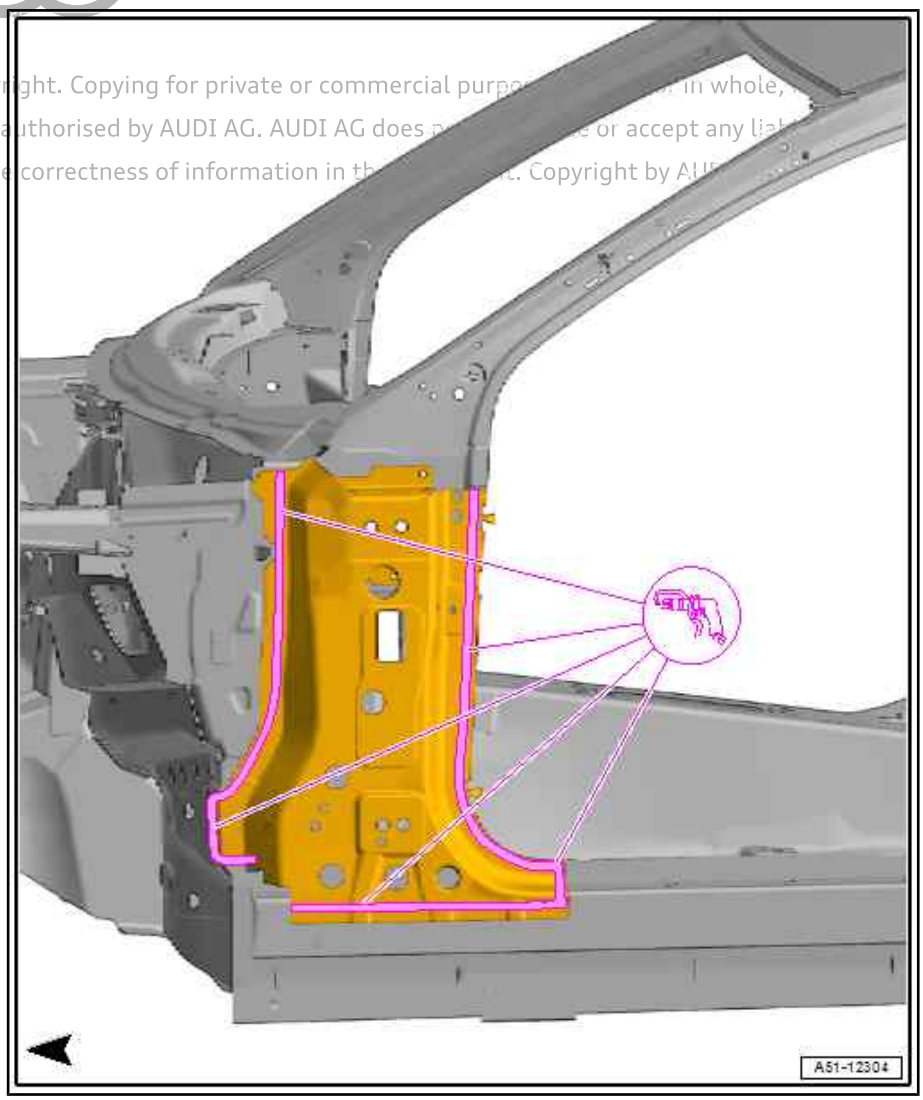
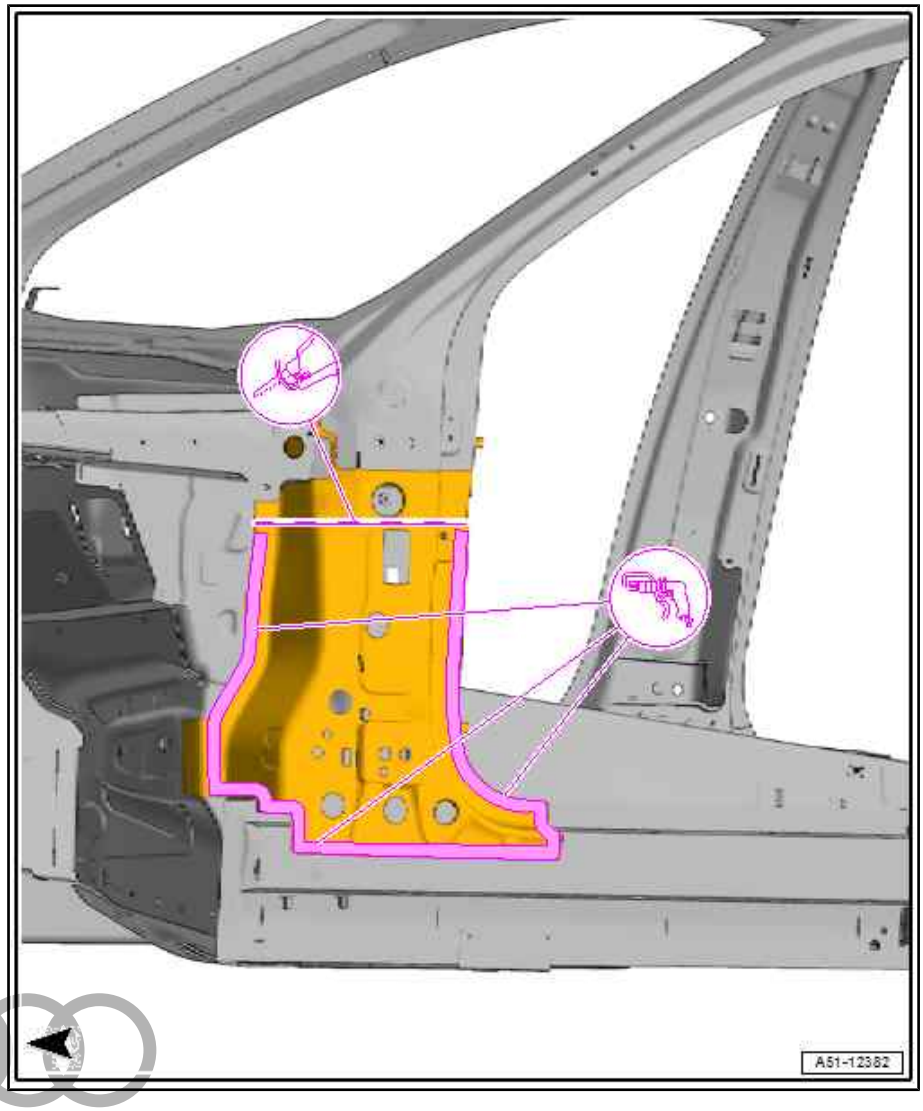


Partial renewal

A separating cut can be made here so that the upper A-pillar does not have to be removed.

– Make separating cut as shown using body saw .

– Separate original joint using spot weld breaker .



– Remove remaining material using compact angle grinder .

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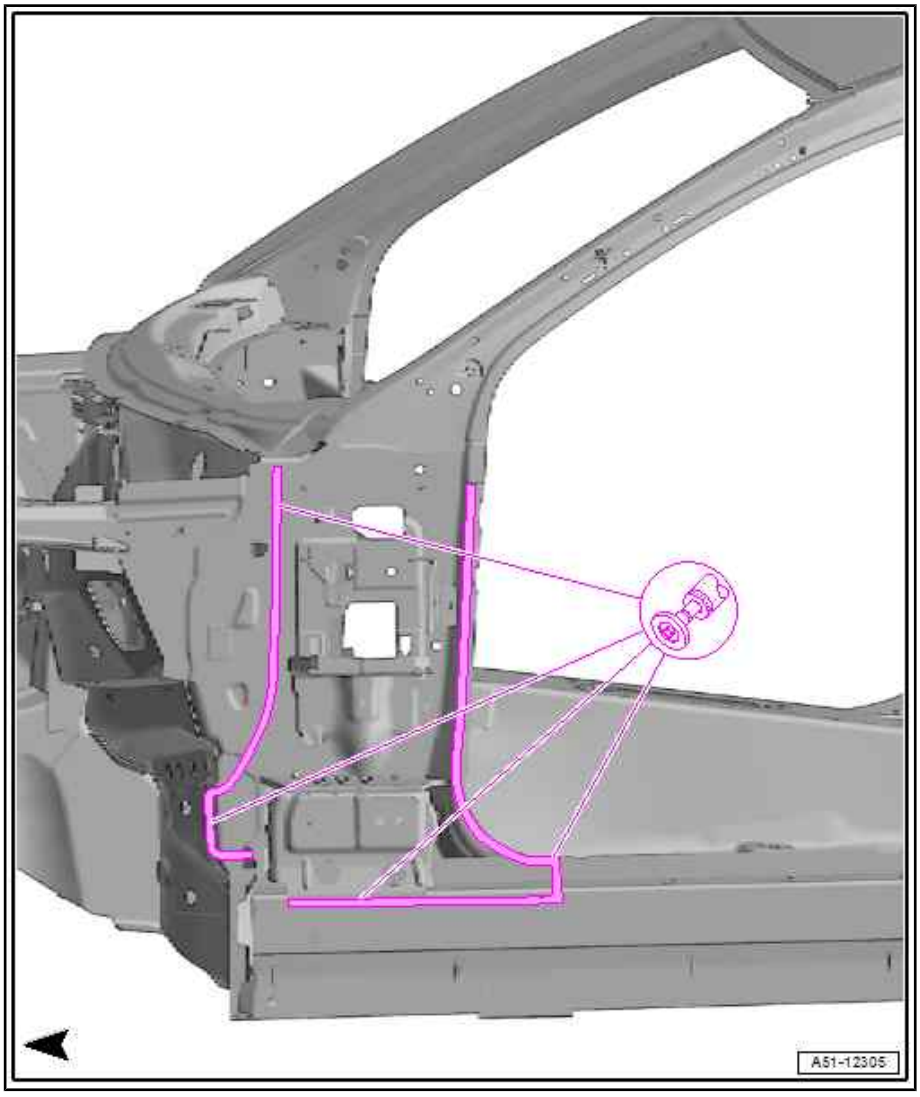

Replacement parts

- A-pillar reinforcement

Preparing new part

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

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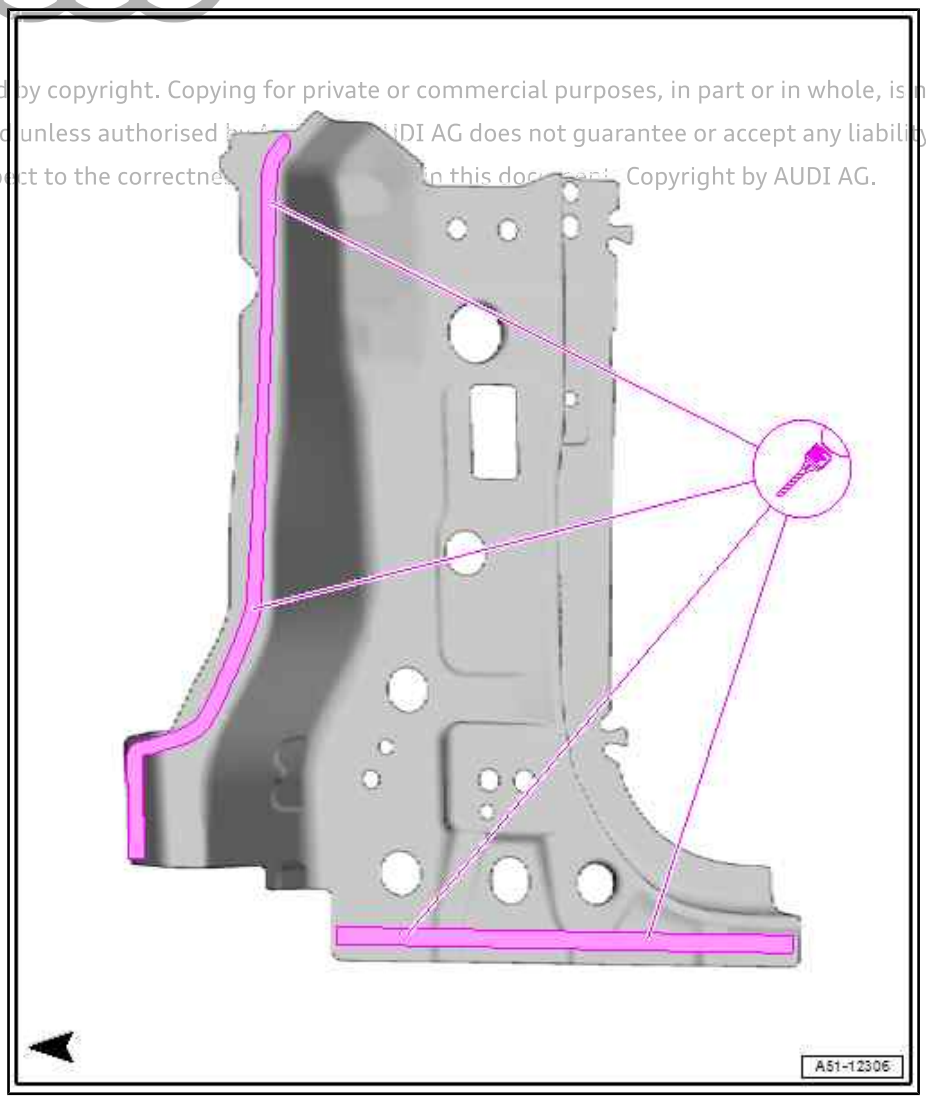
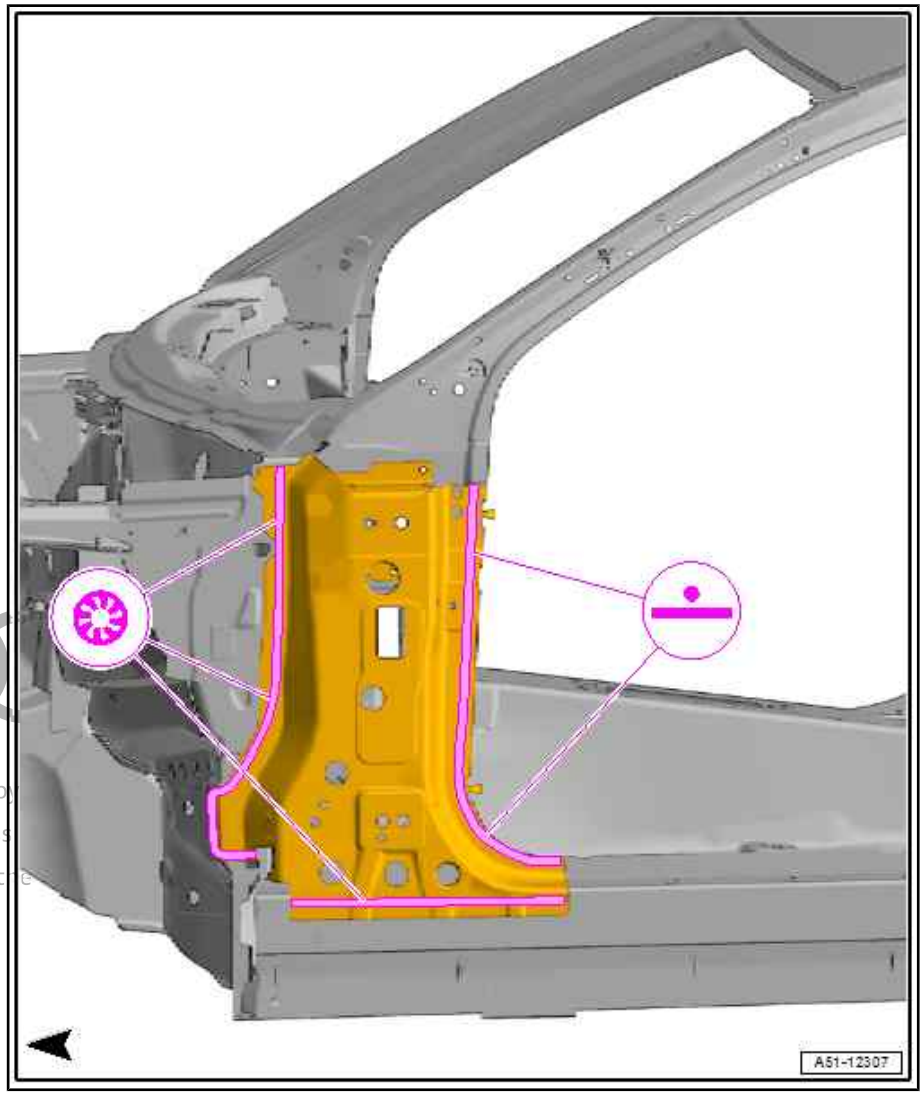


– Weld in inner A-pillar reinforcement using resistance spot welder : RP spot weld seam.
– Weld in inner A-pillar reinforcement using shielded arc welding equipment : SG plug weld seam.



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- Welding in outer A-pillar ⇒ page 199
- Welding in upper inner A-pillar ⇒ page 210

RO: 51 38 55 53

13 Upper inner A-pillar - Partial renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Upper inner A-pillar

2 - Separating cut, inner A-pillar

3 - Side frame

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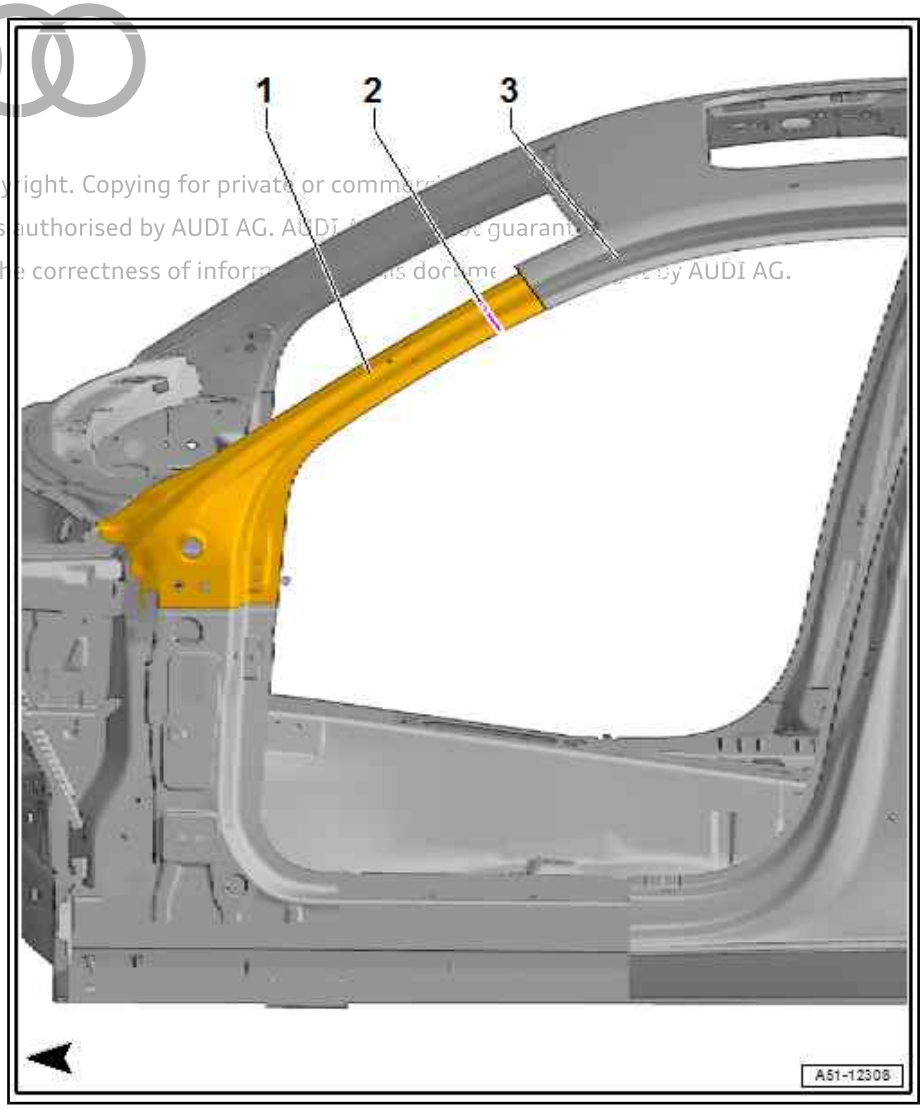


13.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

13.2 Procedure

- Outer A-pillar cut out ⇒ page 199

Cutting locations

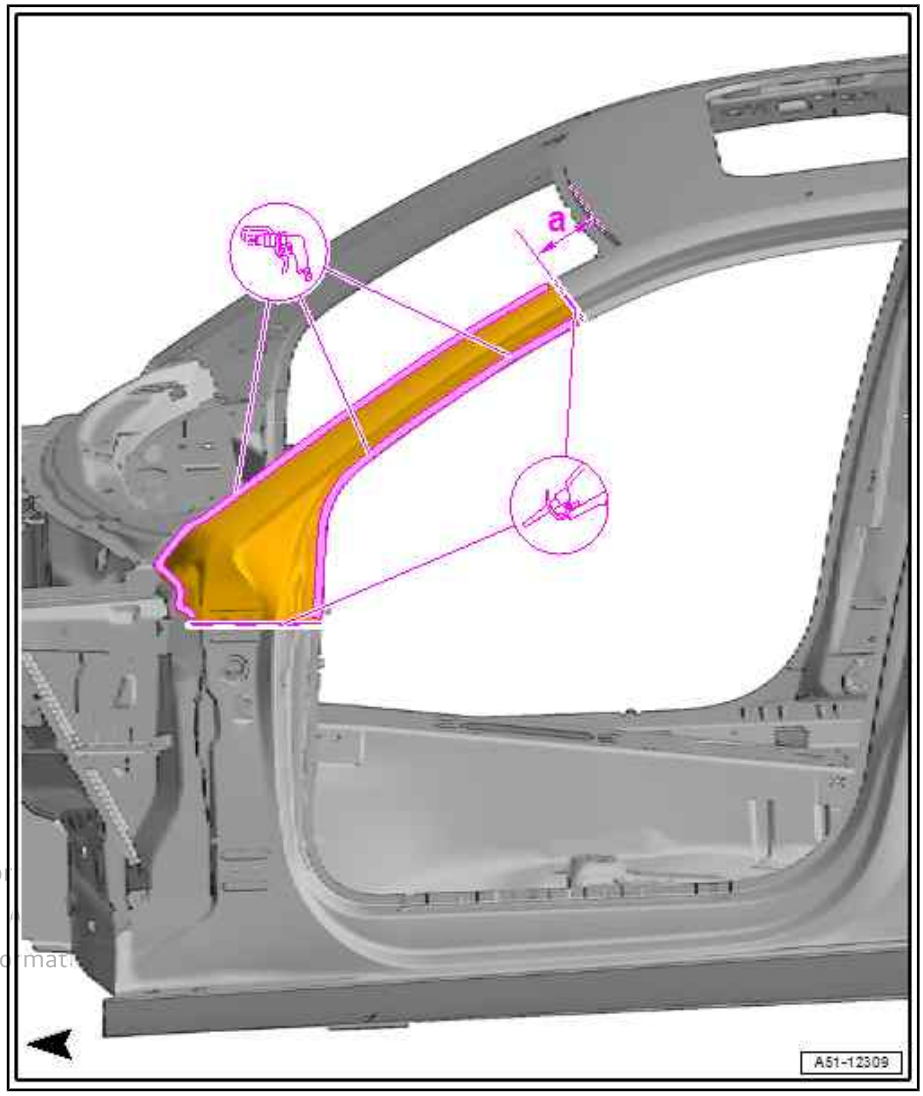
Note

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

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

Dimension -a- = 110 mm

– Separate original joint using spot weld breaker .



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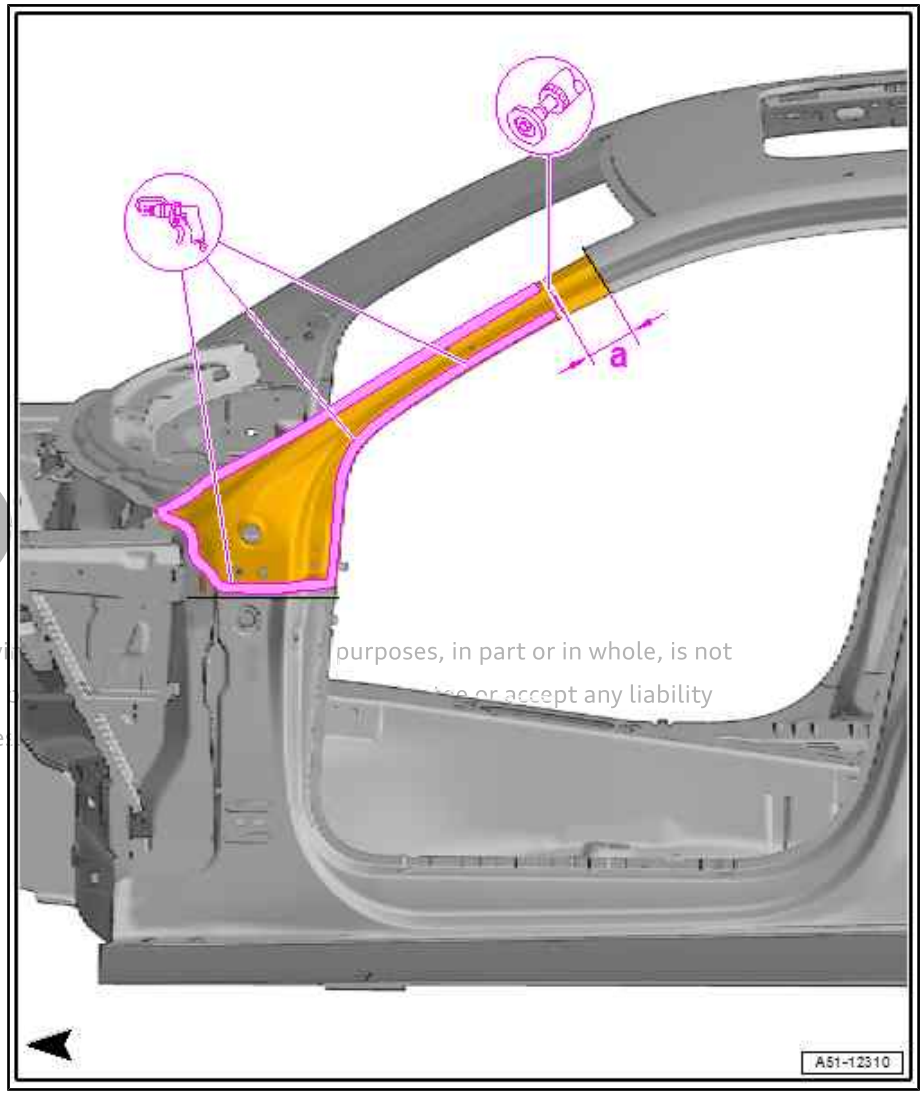
– Cut through inner A-pillar using compact angle grinder (keep to dimension -a- for separating cut).

Dimension -a- = 110 mm

– Separate original joint using spot weld breaker .



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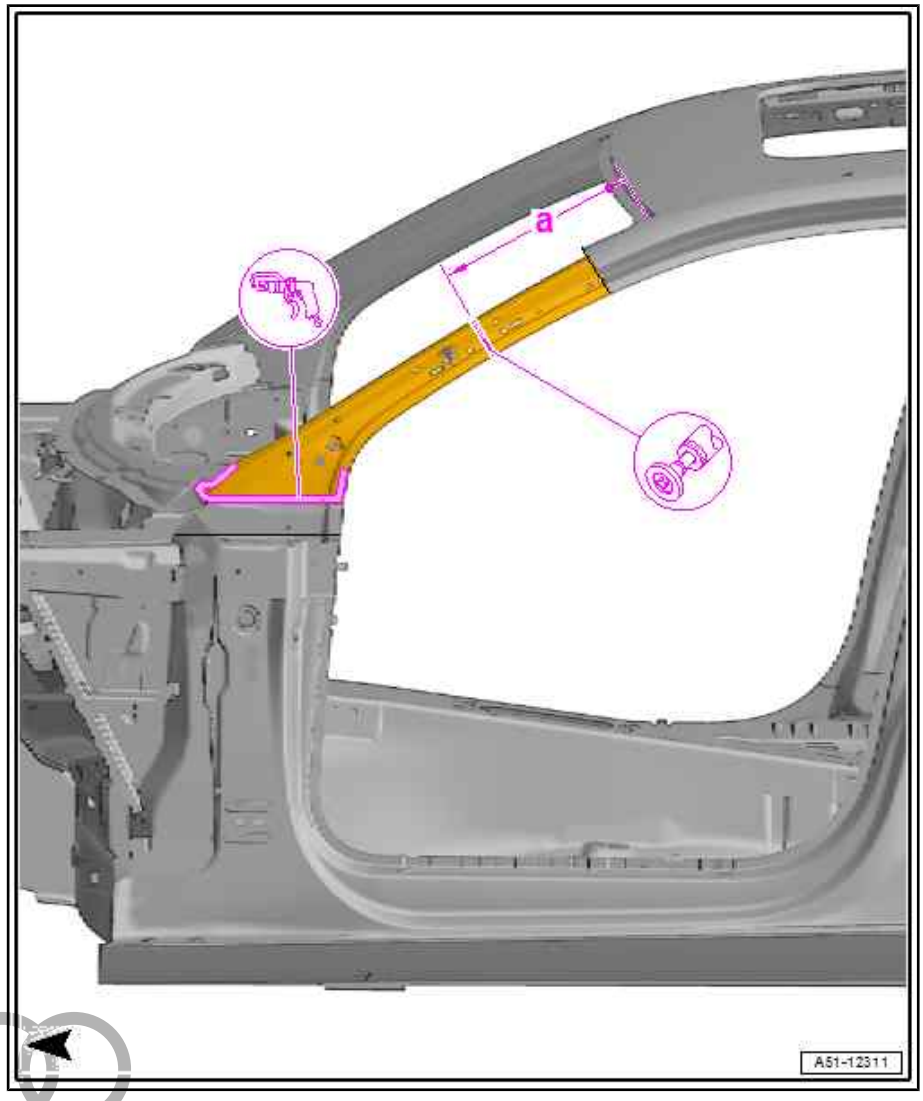
– Cut through inner cover plate using compact angle grinder (keep to dimension -a- for separating cut).

Dimension -a- = 230 mm

– Separate original joint using spot weld breaker .



– Remove remaining material using compact angle grinder .

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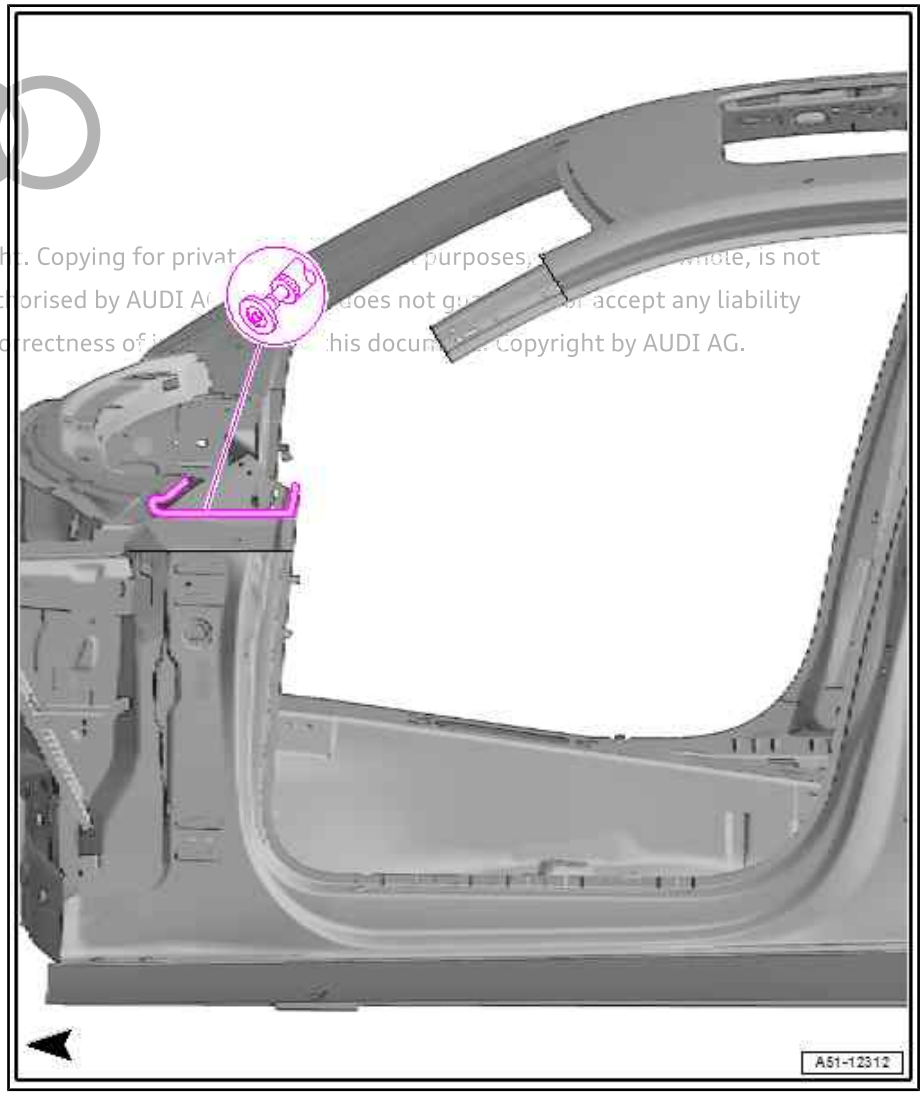


Replacement parts

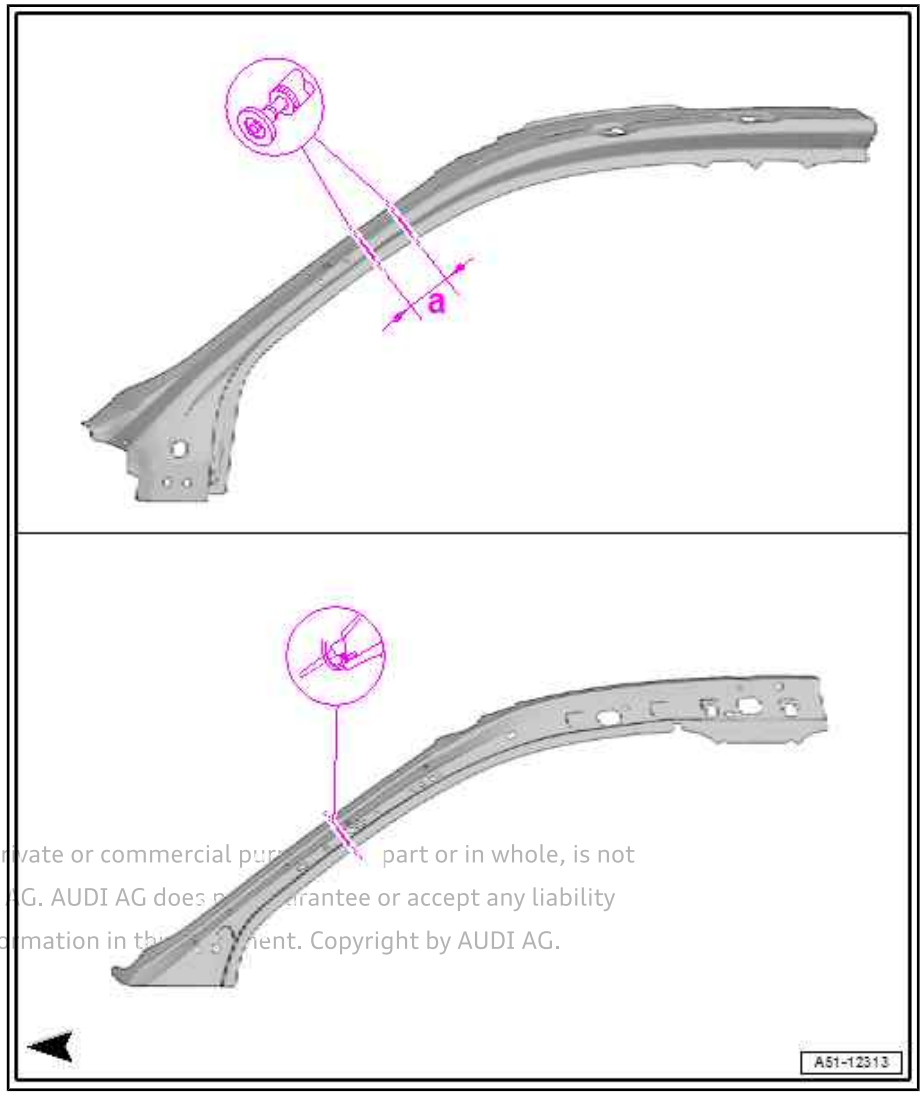
Upper inner A-pillar

Inner A-pillar cover plate

Preparing new part

– Transfer separating cut for inner A-pillar to new part and cut to size using body saw .

– It is important to maintain dimension -a = 140 mm- for separating cut for backing plate.



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– Drill holes for SG plug weld seam, 8 mm ∅ using drill .
– Grind down welding area for SG continuous weld seam using compact angle grinder .
– Prepare backing plate for inner A-pillar -140 mm- using compact angle grinder .
– Drill 12 holes for SG plug weld seam (8 mm ∅) in backing plate for inner A-pillar using drill .

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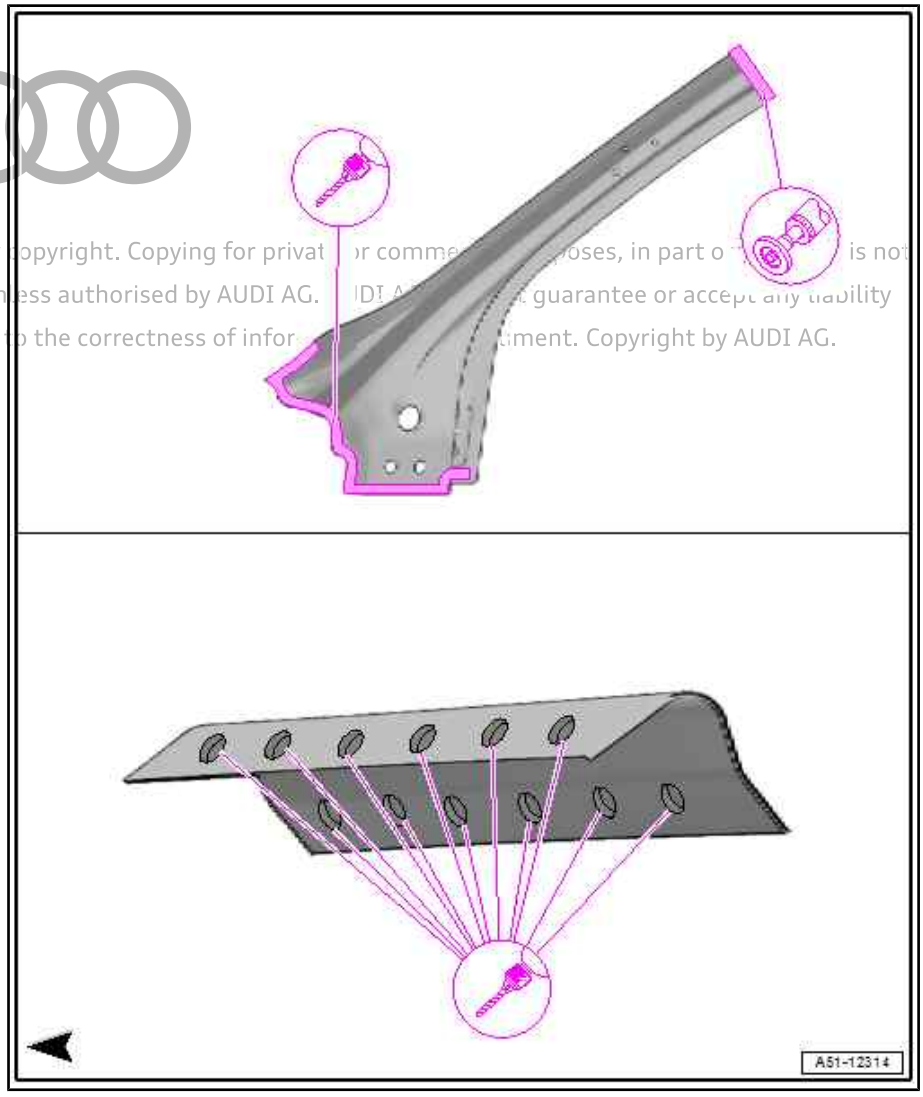


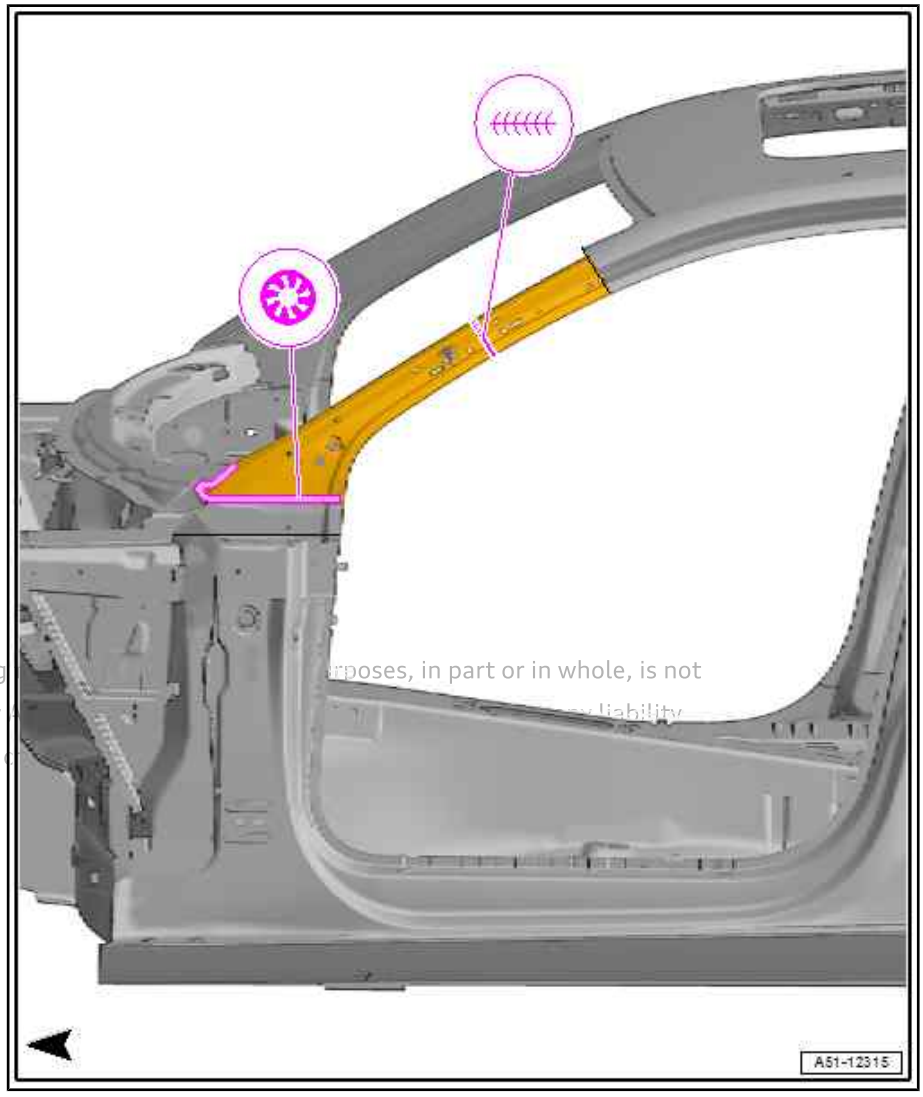
Note

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

Welding in

– Weld in inner A-pillar cover plate at separating cut from inside to outside using shielded arc welding equipment : SG continuous seam.

– Weld in lower cover plate for inner A-pillar using shielded arc welding equipment : SG plug weld seam.



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– Weld in inner A-pillar at separating cut from inside to outside using shielded arc welding equipment : SG continuous seam.
– Weld in inner A-pillar using shielded arc welding equipment : SG plug weld seam.

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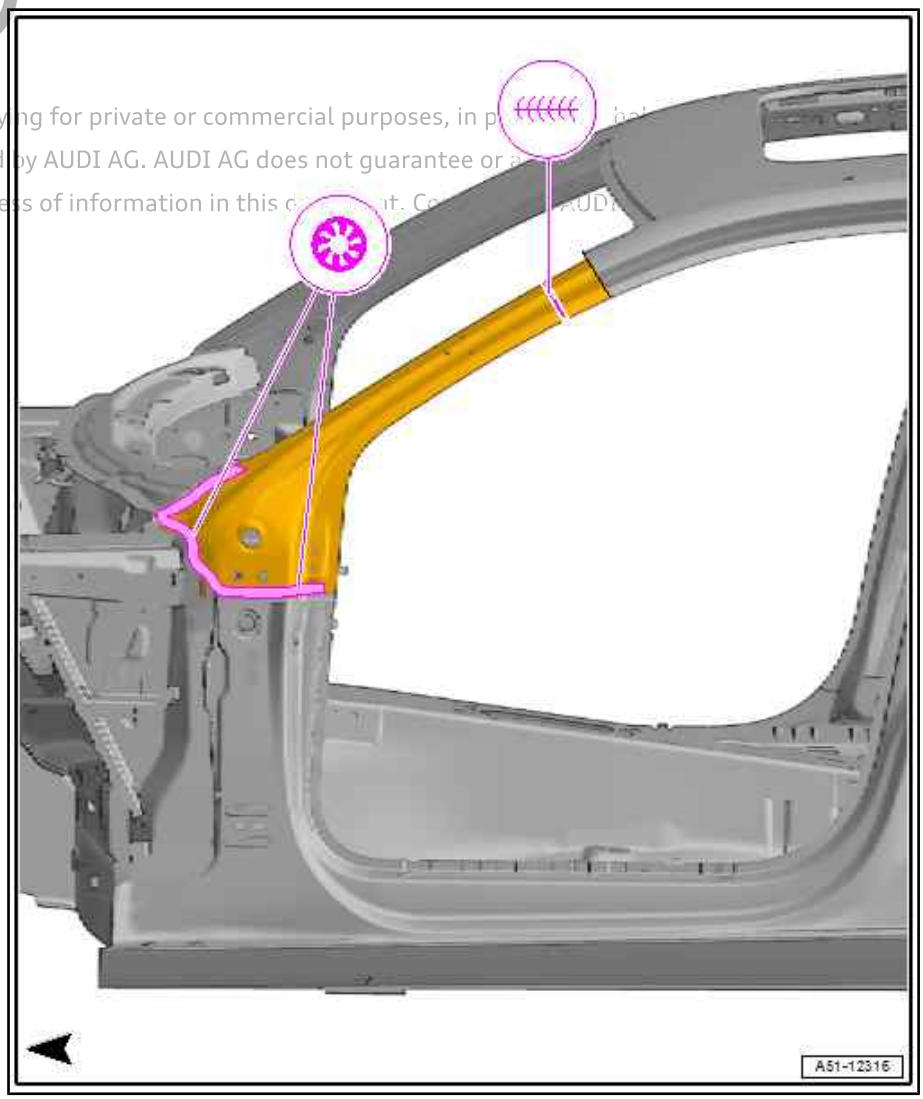
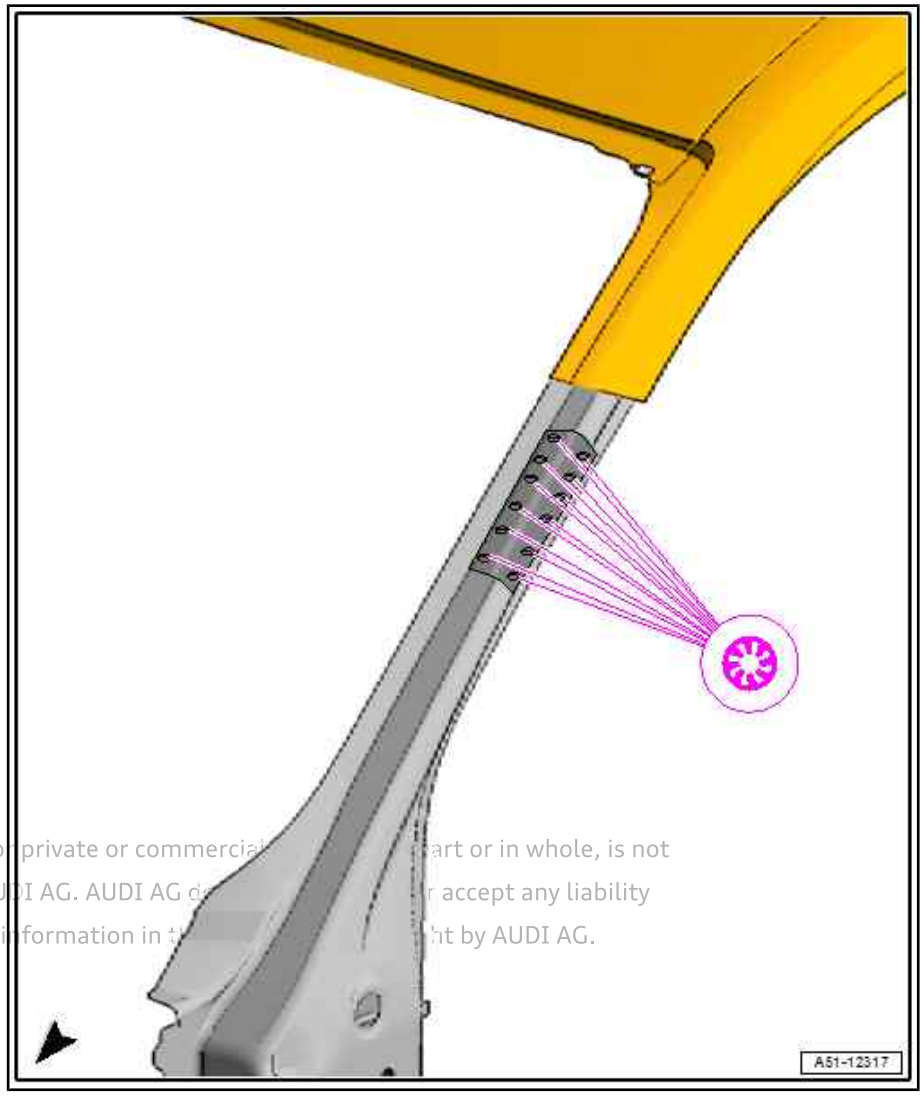


– Weld in backing plate using shielded arc welding equipment :
6x SG plug weld seam on each side.



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- Welding in outer A-pillar ⇒ page 199

RO: 51 41 55 02

14 Outer B-pillar - Renewal (Sportback)

Note

Observe safety precautions *⇒ page 3* *.*

1 - B-pillar

Outer B-pillar

2 - Upper separating cut

3 - Lower separating cut

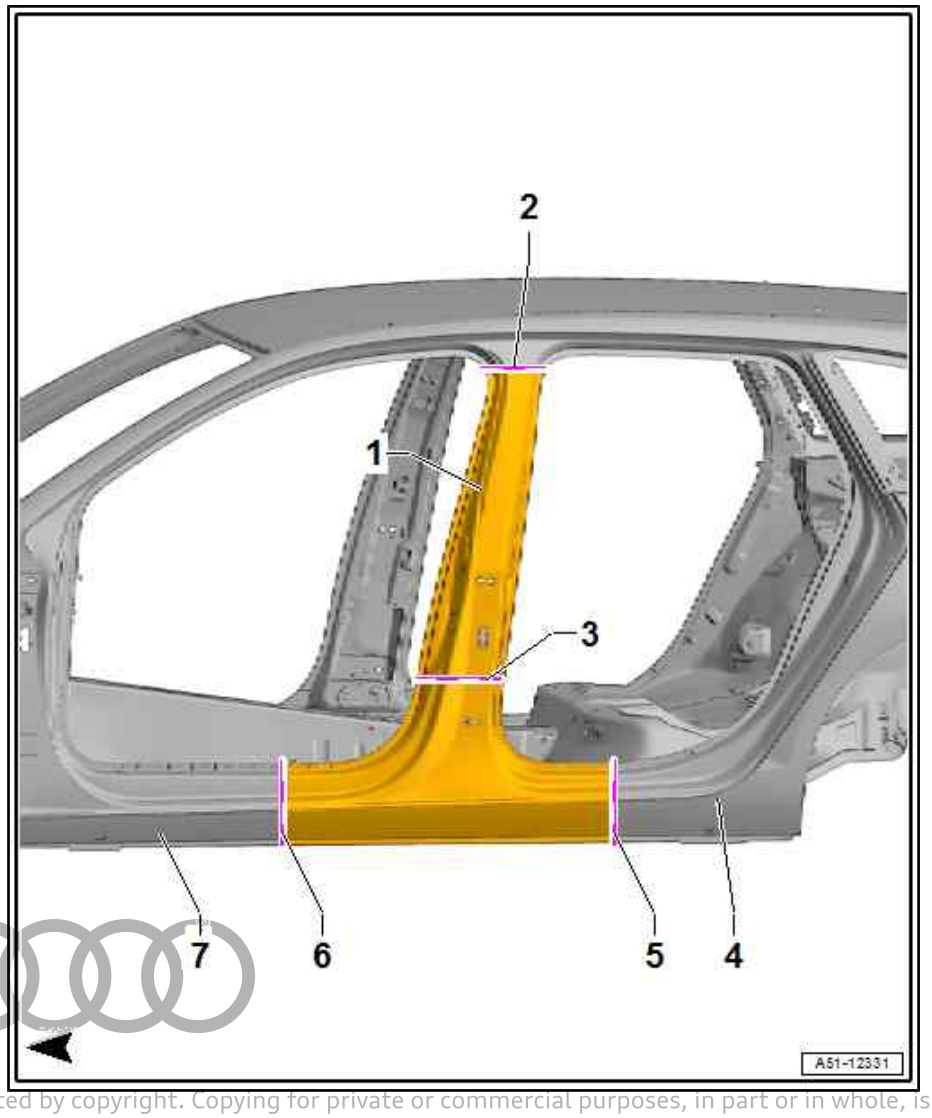
Partial renewal
Partial renewal is possible with this separating cut.

4 - Rear side member

5 - Separating cut in side member (rear)

6 - Separating cut in side member (front)

7 - Front side member



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14.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

14.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

Note

Part section repair is possible using separating cut -3-.

– Drill out original joint using spot weld breaker .
– Mark off separating cuts according to degree of damage and make cuts using body saw .

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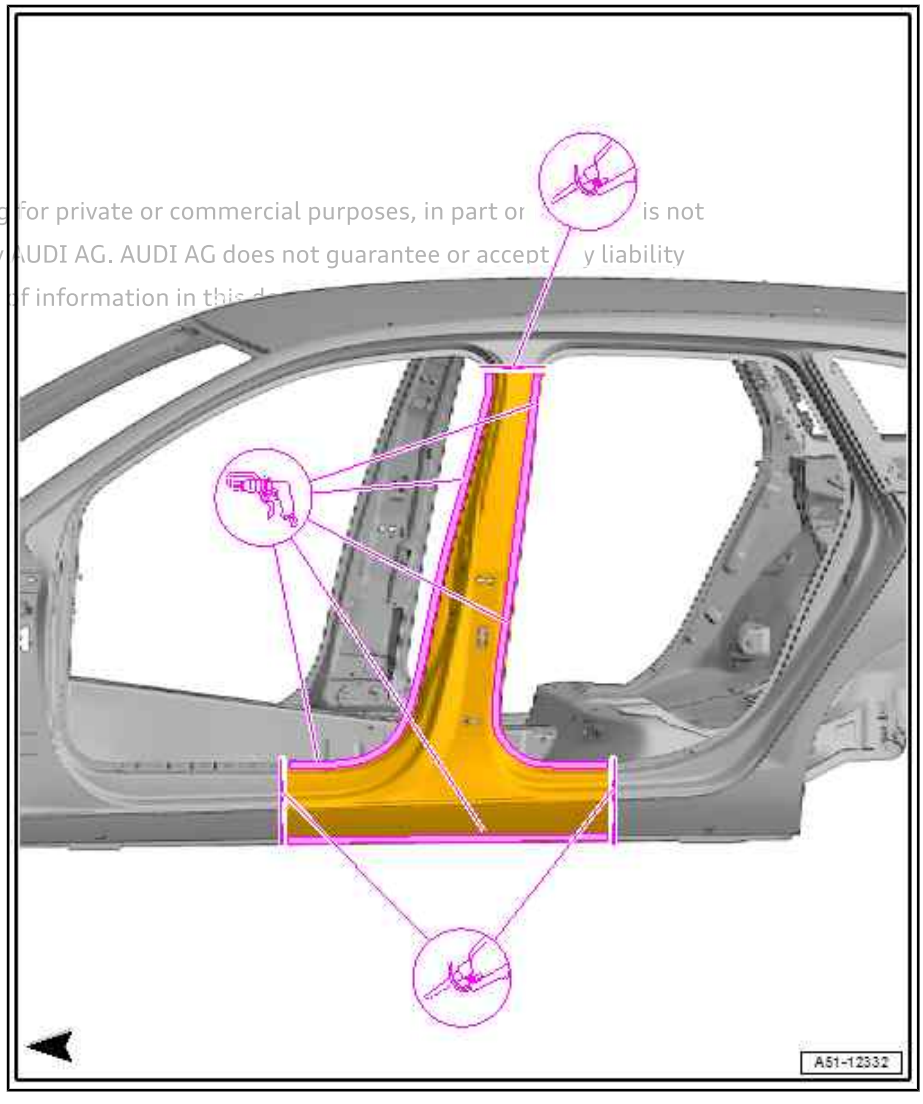
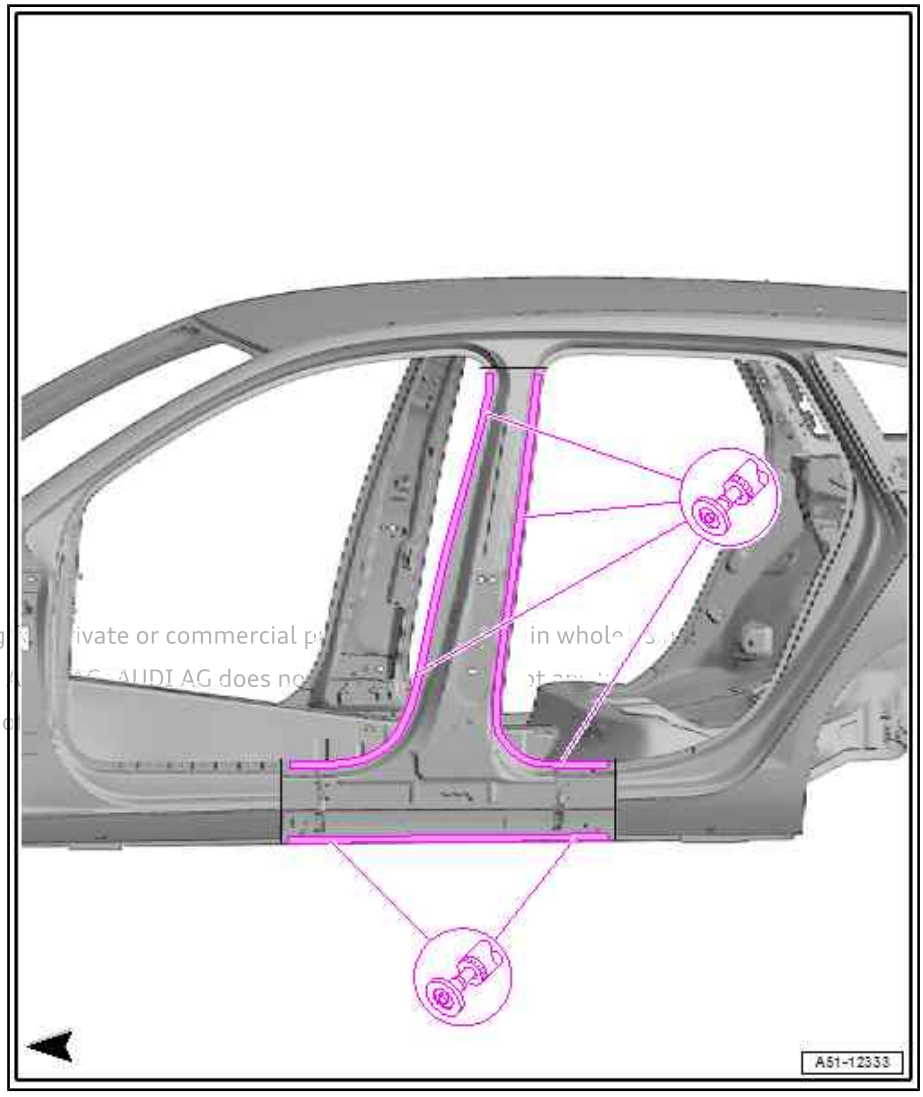


– Remove remaining material using compact angle grinder .



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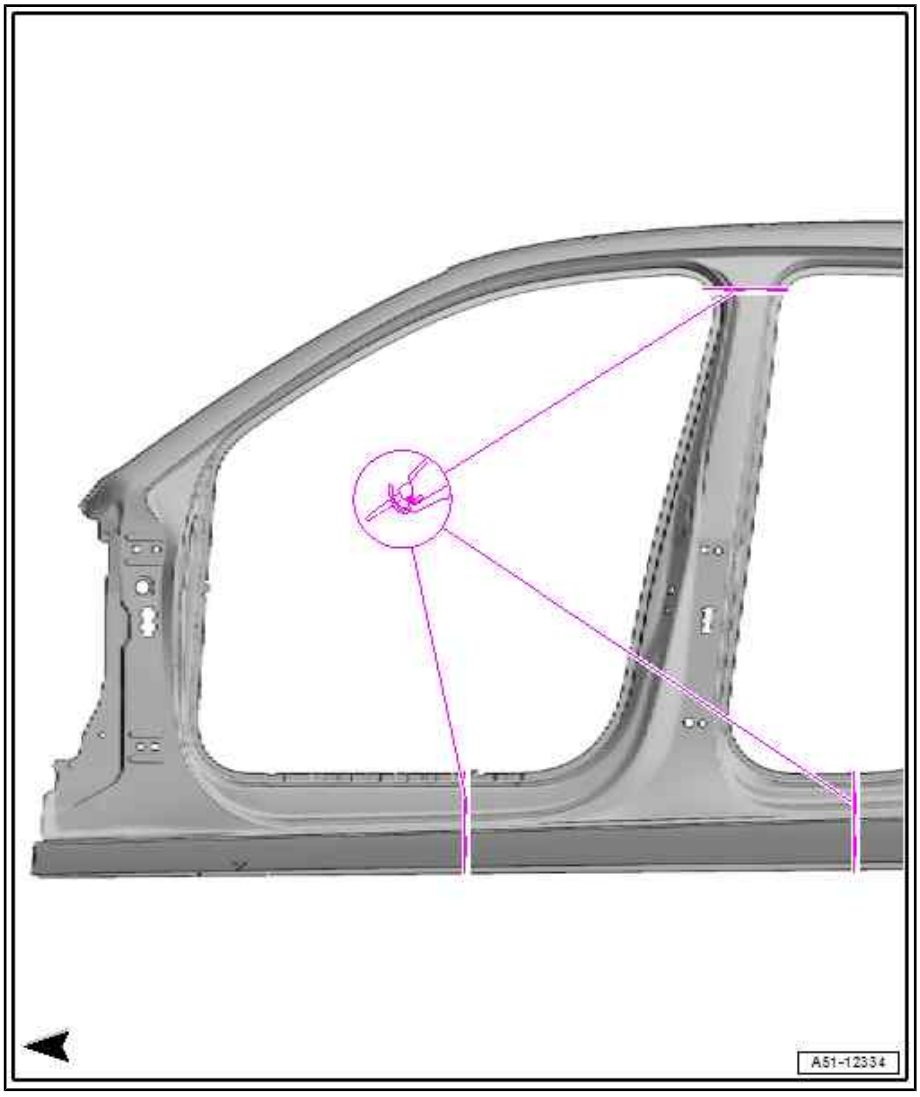
Replacement part

- B-pillar (sub-part)

Preparing new part

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



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

– Check fit relative to bolt-on parts.
– Weld in B-pillar using resistance spot welder : RP spot weld seam.

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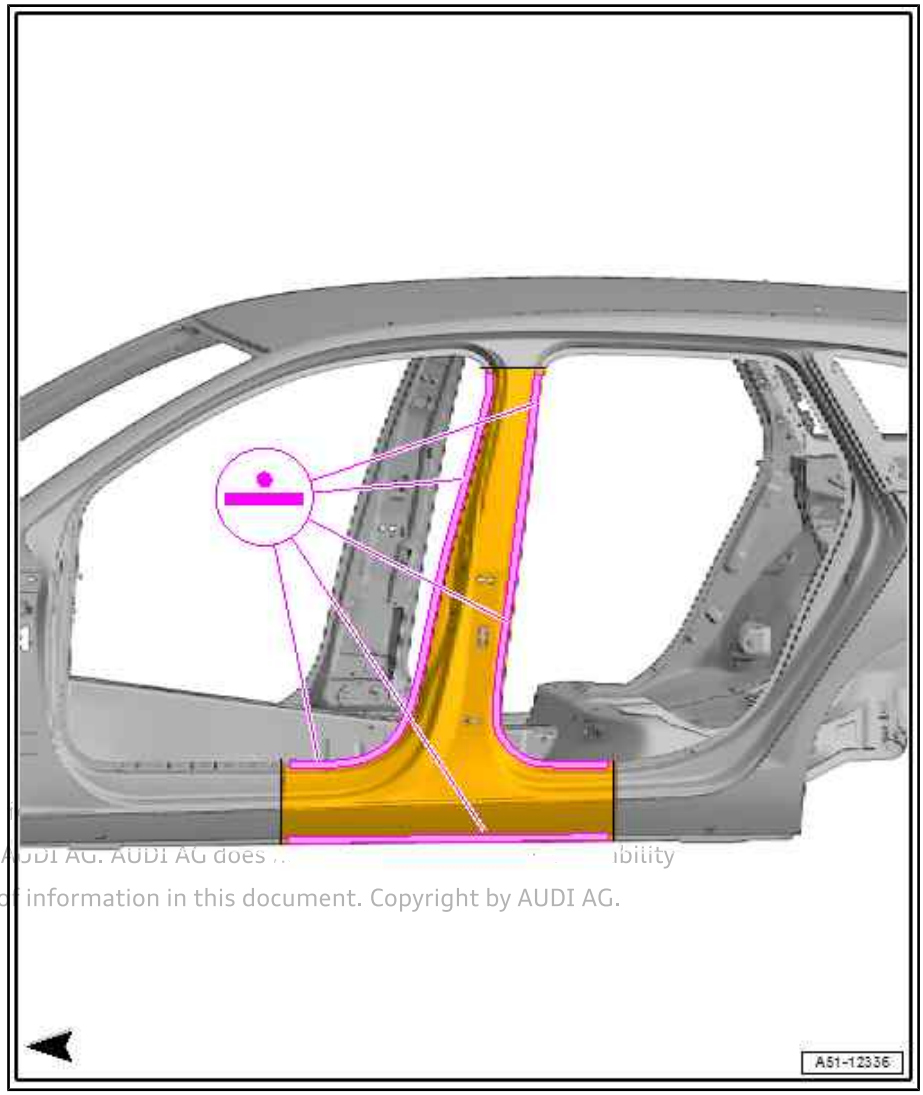

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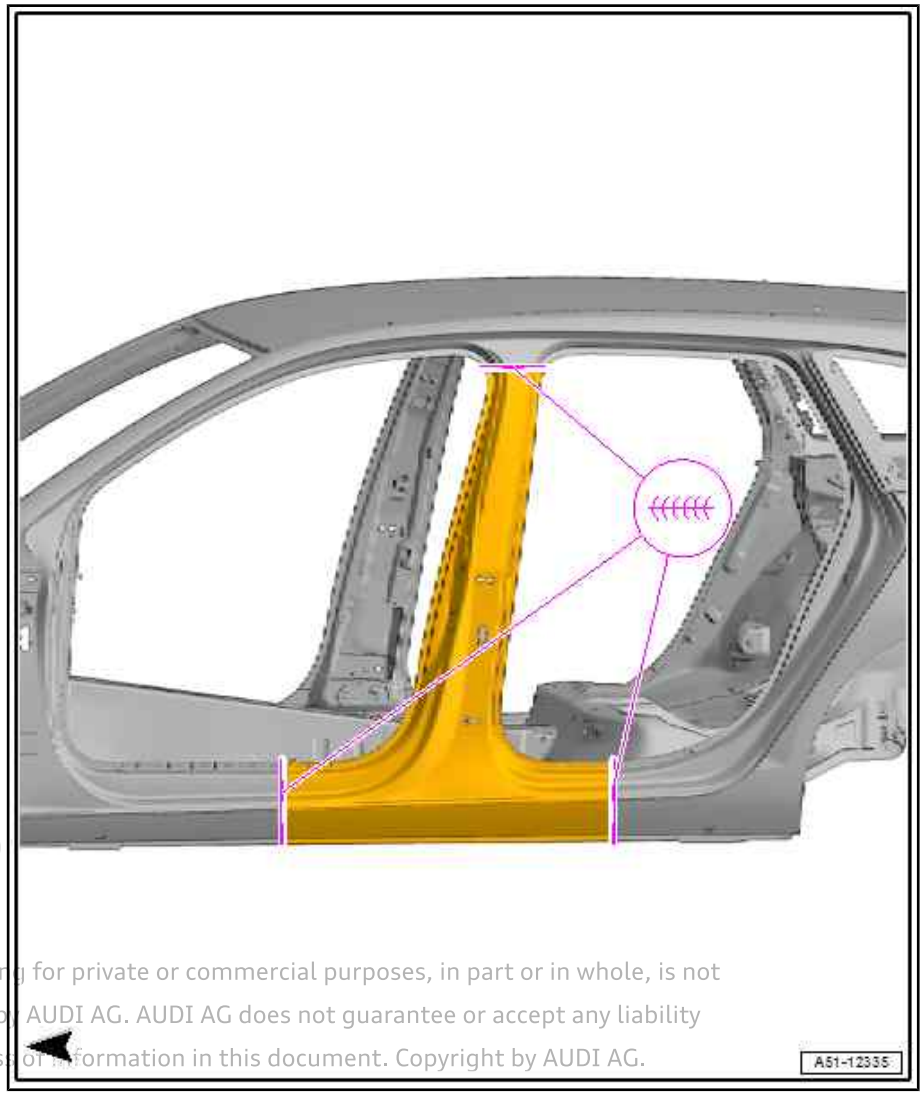
– Weld at separating cuts using shielded arc welding equipment : SG continuous seam.



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RO: 51425552

15 Inner B-pillar - Partial renewal (Coupé)

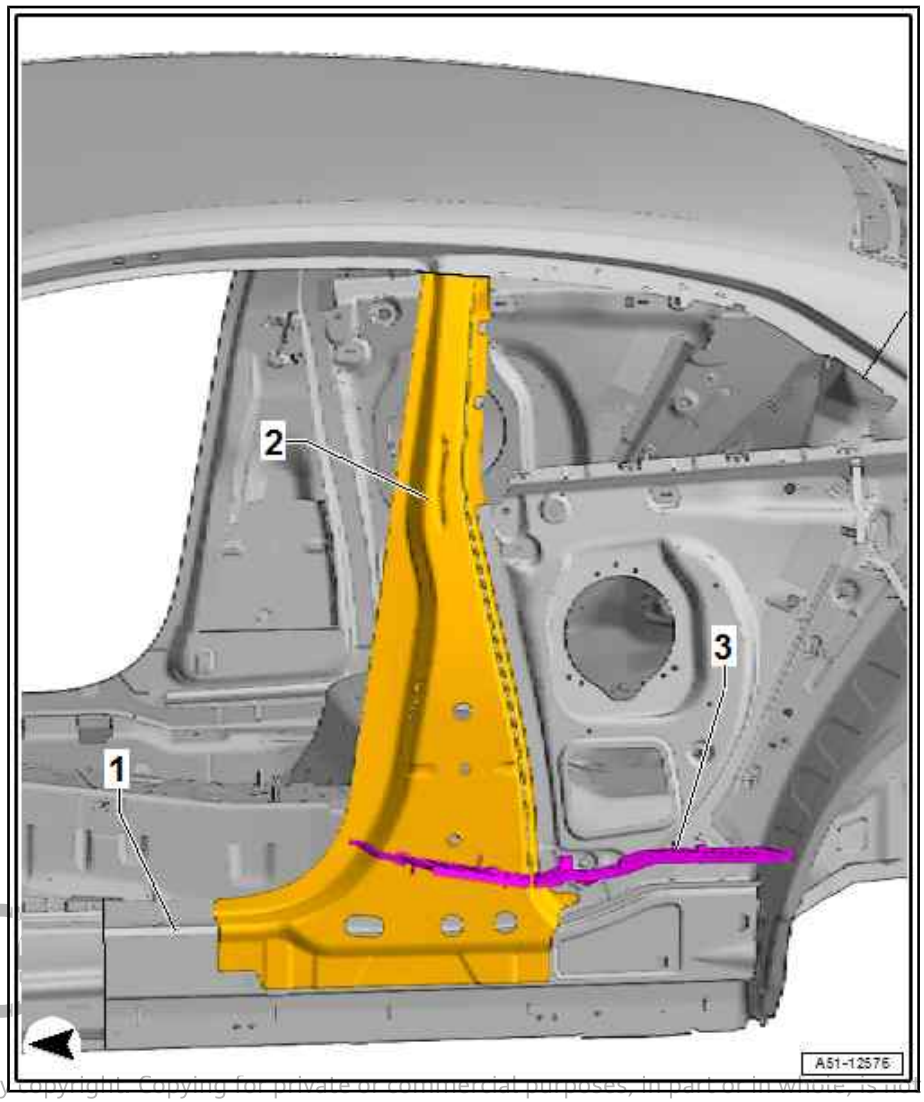
Note

Observe safety precautions *⇒ page 3* *.*

1 - Front side member

2 - Inner B-pillar

3 - Moulded foam insert



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15.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Brush grinder
- Compact angle grinder
- Mechanical door tensioner
- Body saw

♦ Spot weld breaker

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

15.2 Procedure

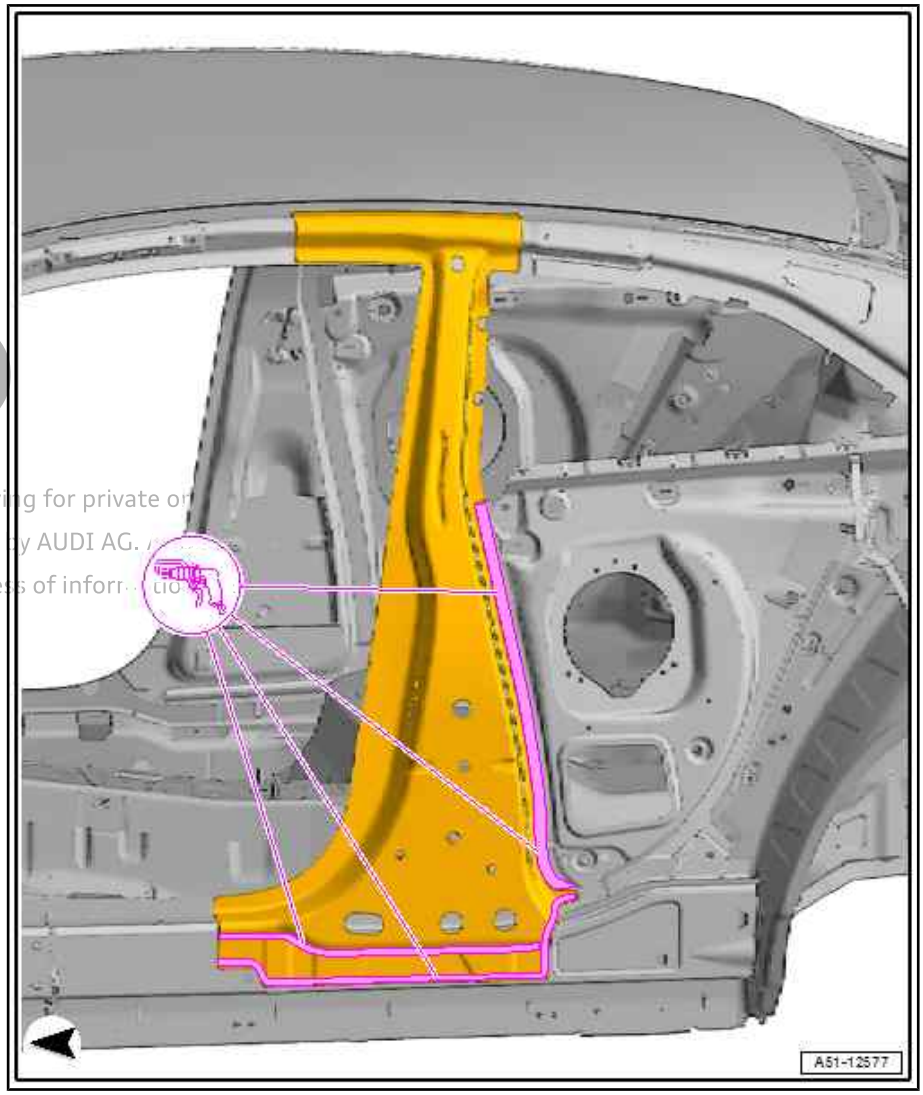
• Side panel already removed ⇒ page 336

Cutting locations

Note

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

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



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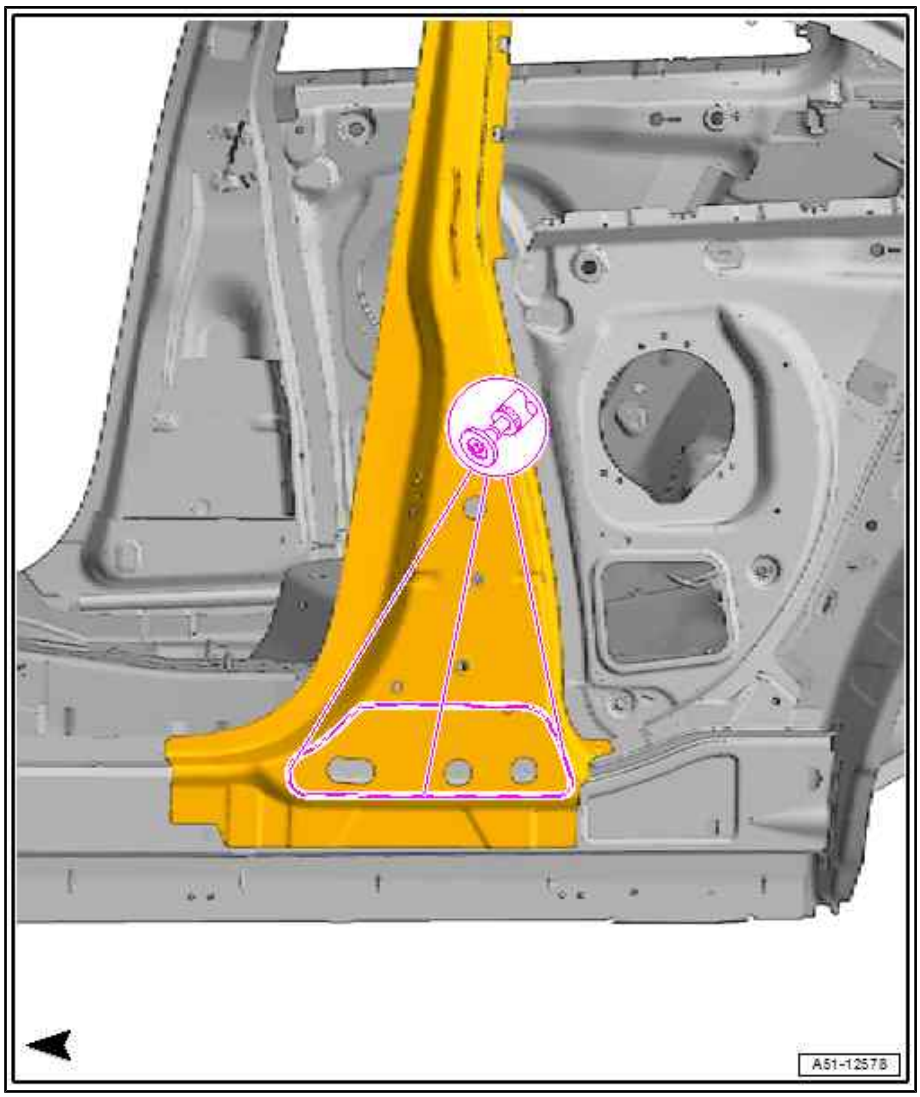
– Make separating cut as shown using compact angle grinder .
– Then separate inner spot welds using spot weld breaker .



– Separate original joint at B-pillar (bottom)/inner closure plate using spot weld breaker .

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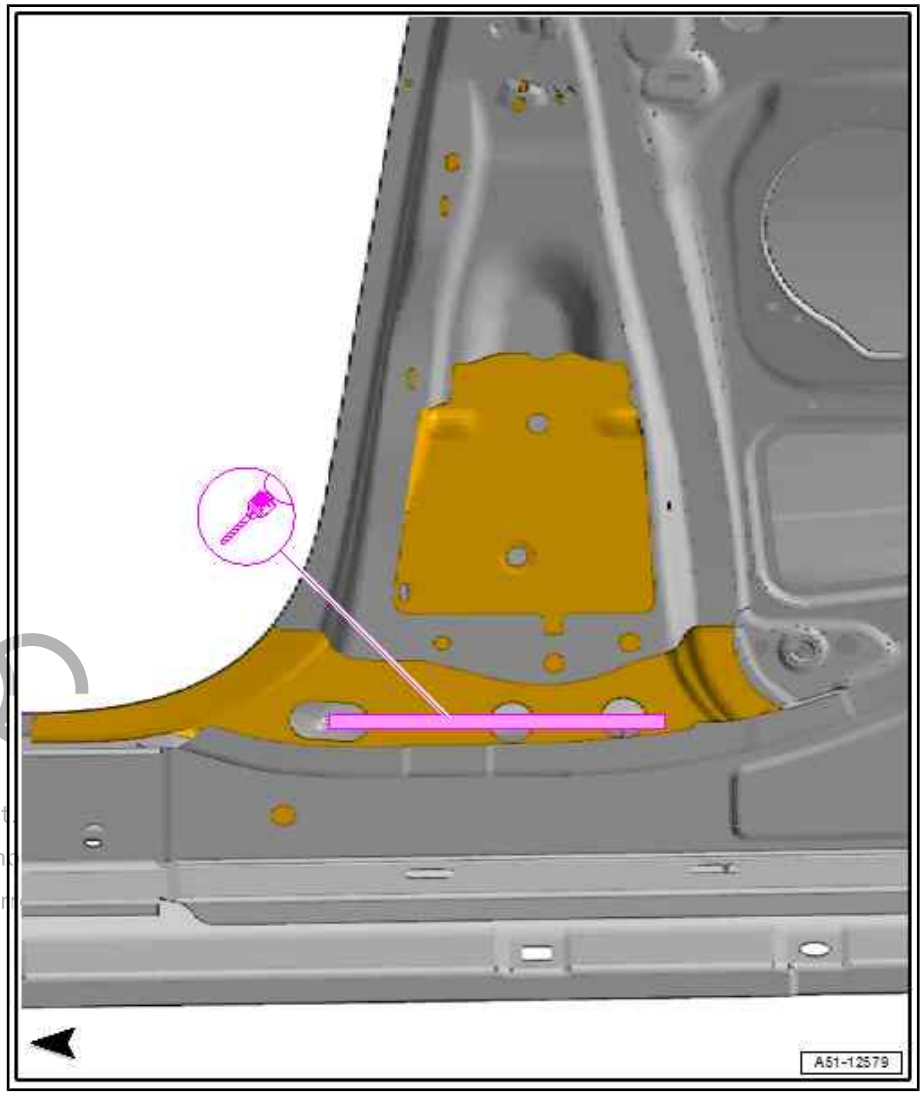

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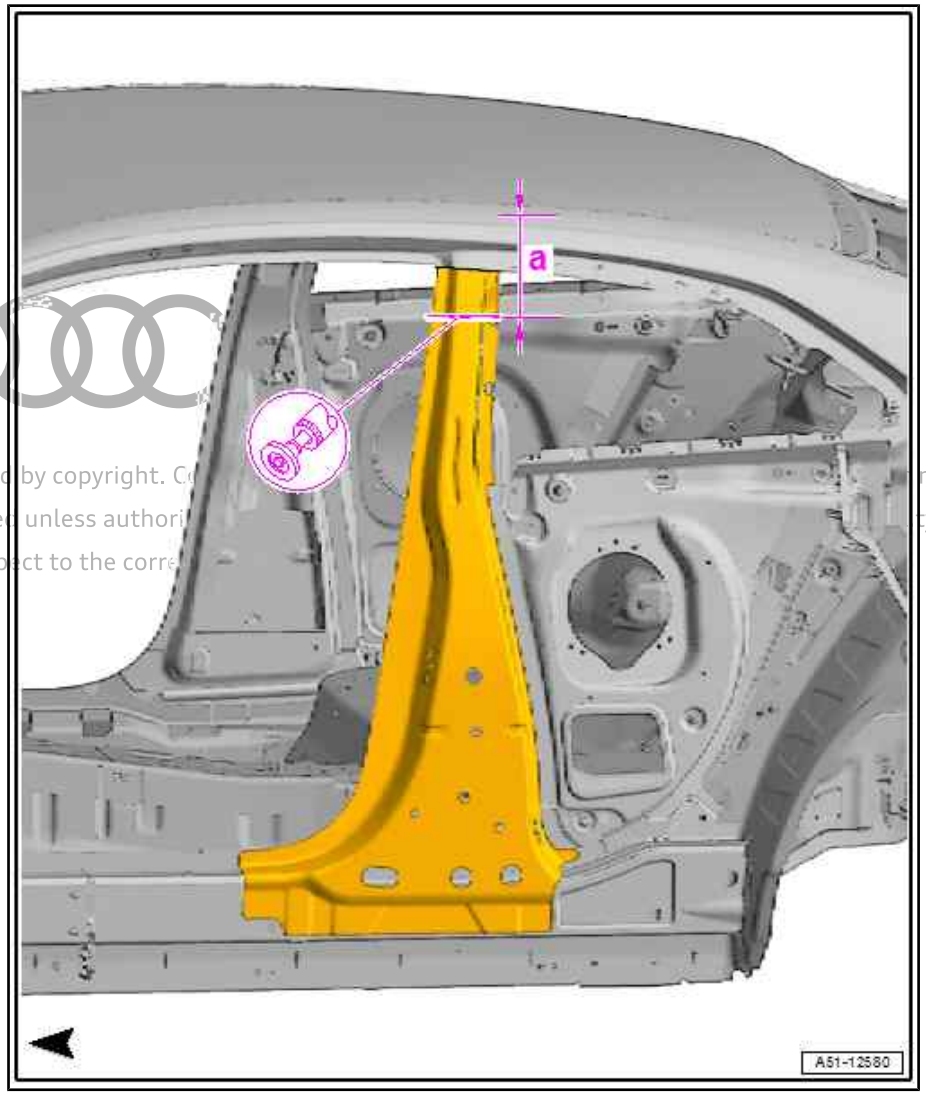
Note

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 compact angle grinder .

Dimension -a- = 100 mm



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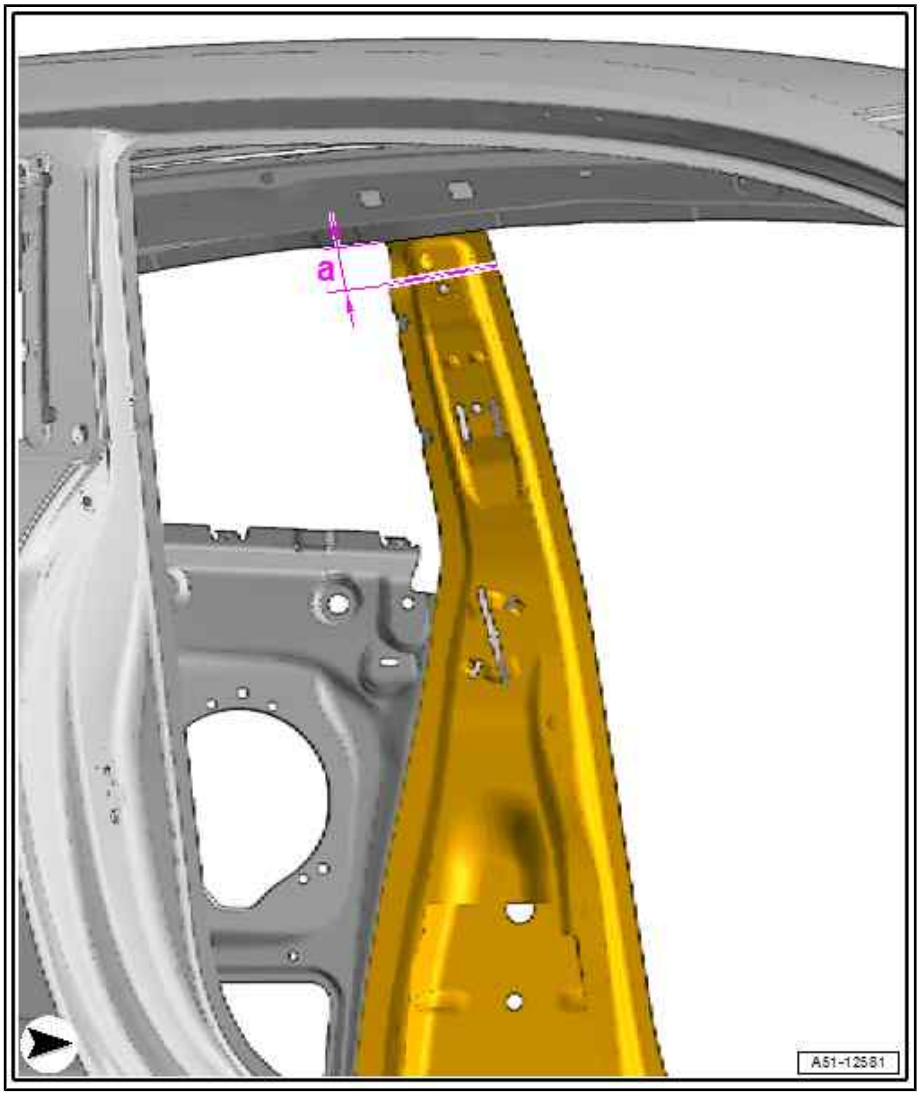
– Mark off separating cut on inner closure plate according to dimension -a- and make cut using compact angle grinder .

Dimension -a- = 33 mm



– Remove remaining material using compact angle grinder .
– Grind area around separating cut down to bare metal.

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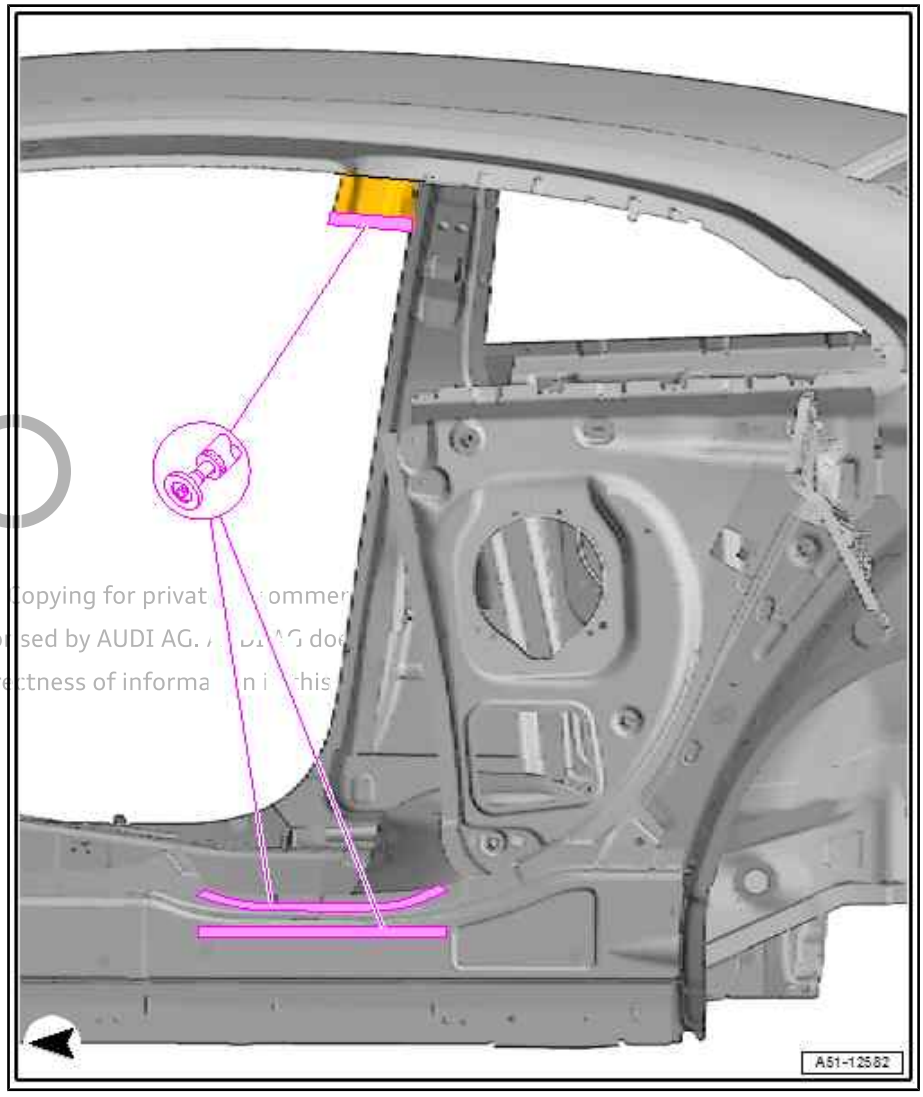

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Replacement parts

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

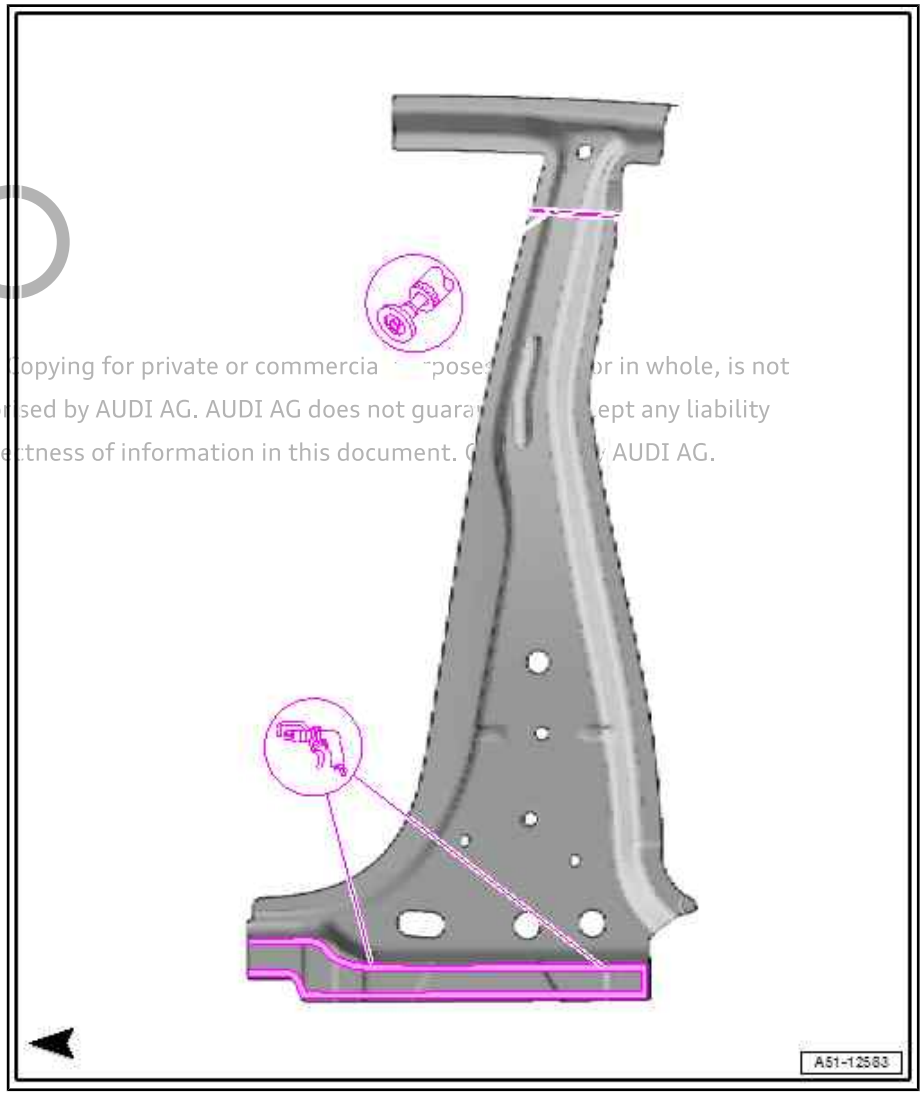
Preparing new part

– 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 holes for SG plug weld seam using drill as shown (8 mm ∅).

– Prepare flanges on new part for welding.



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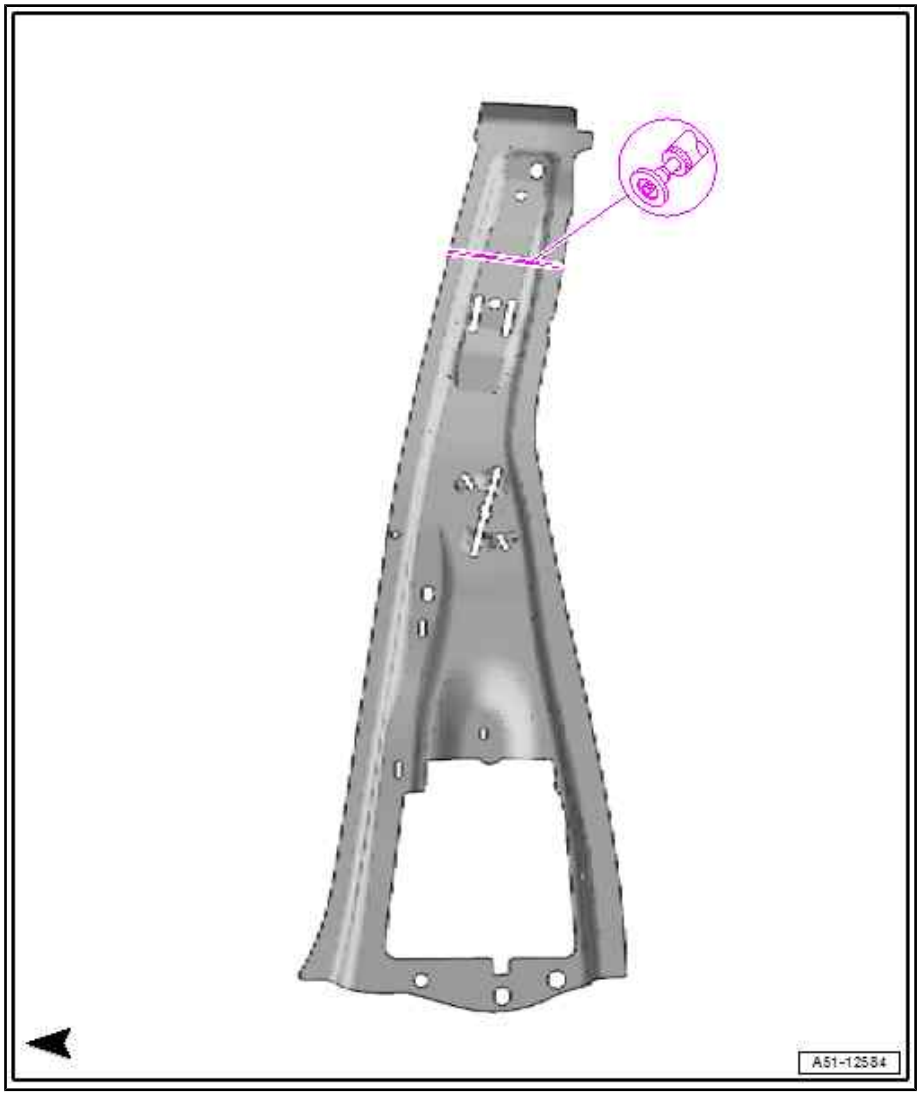
– Transfer separating cut to new part and cut off using compact angle grinder .
– Prepare flanges on new part for welding.
– Grind welding surfaces down to bare metal.



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

– Spot weld inner B-pillar using resistance spot welder .

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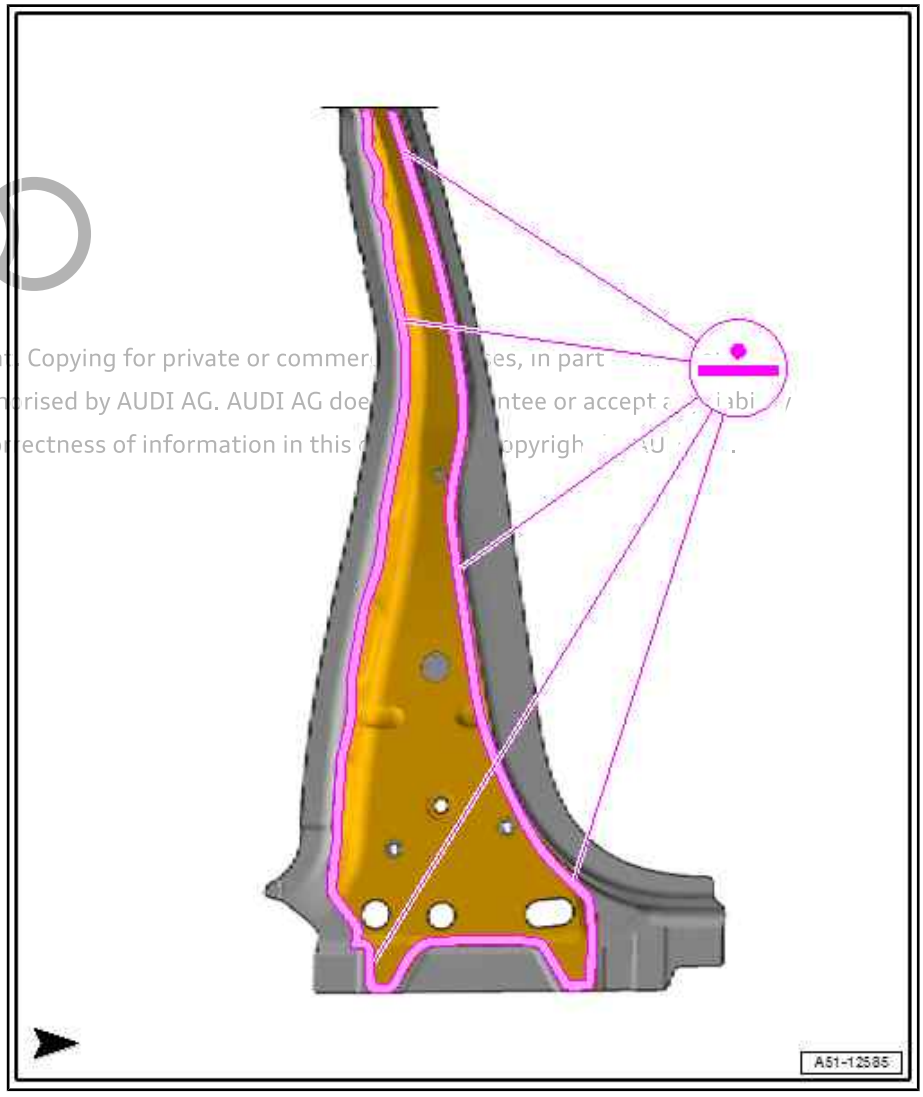

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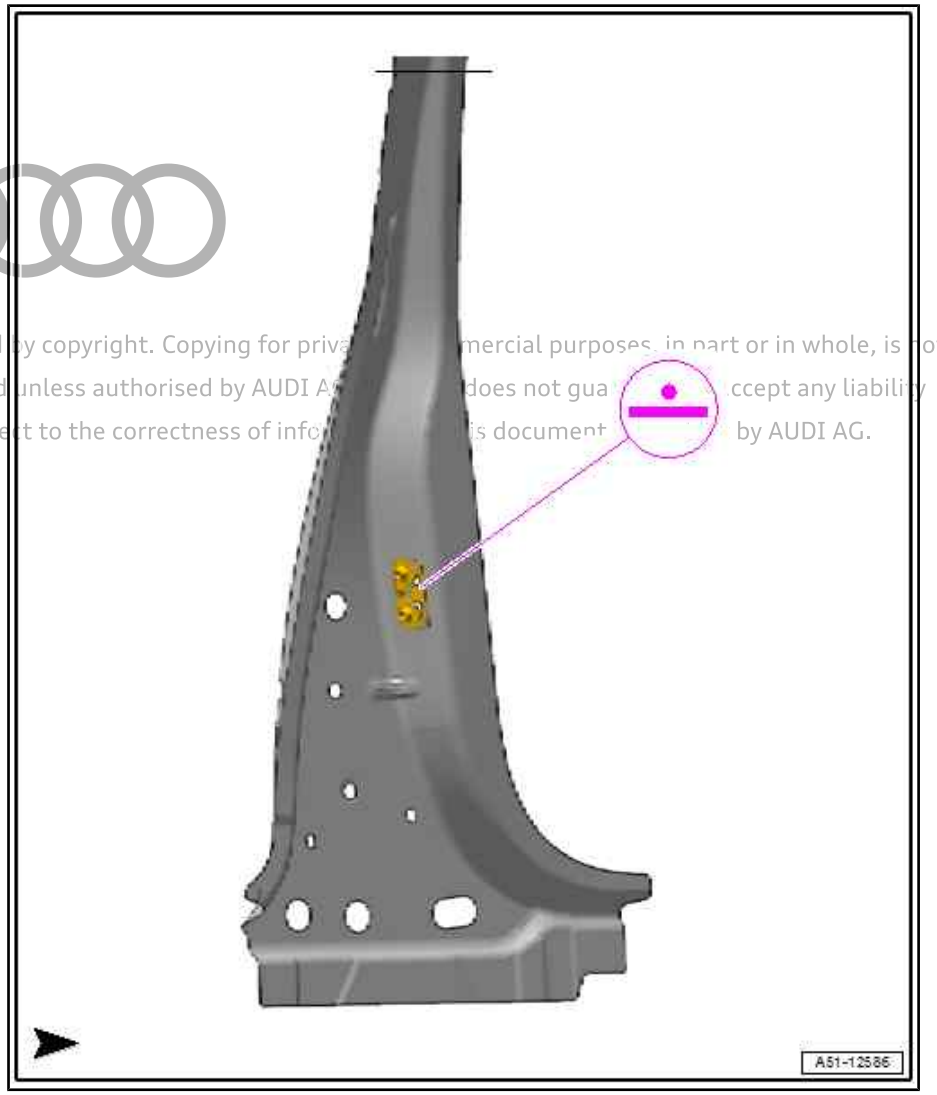
– Weld in striker plate using resistance spot welder : RP spot weld seam.



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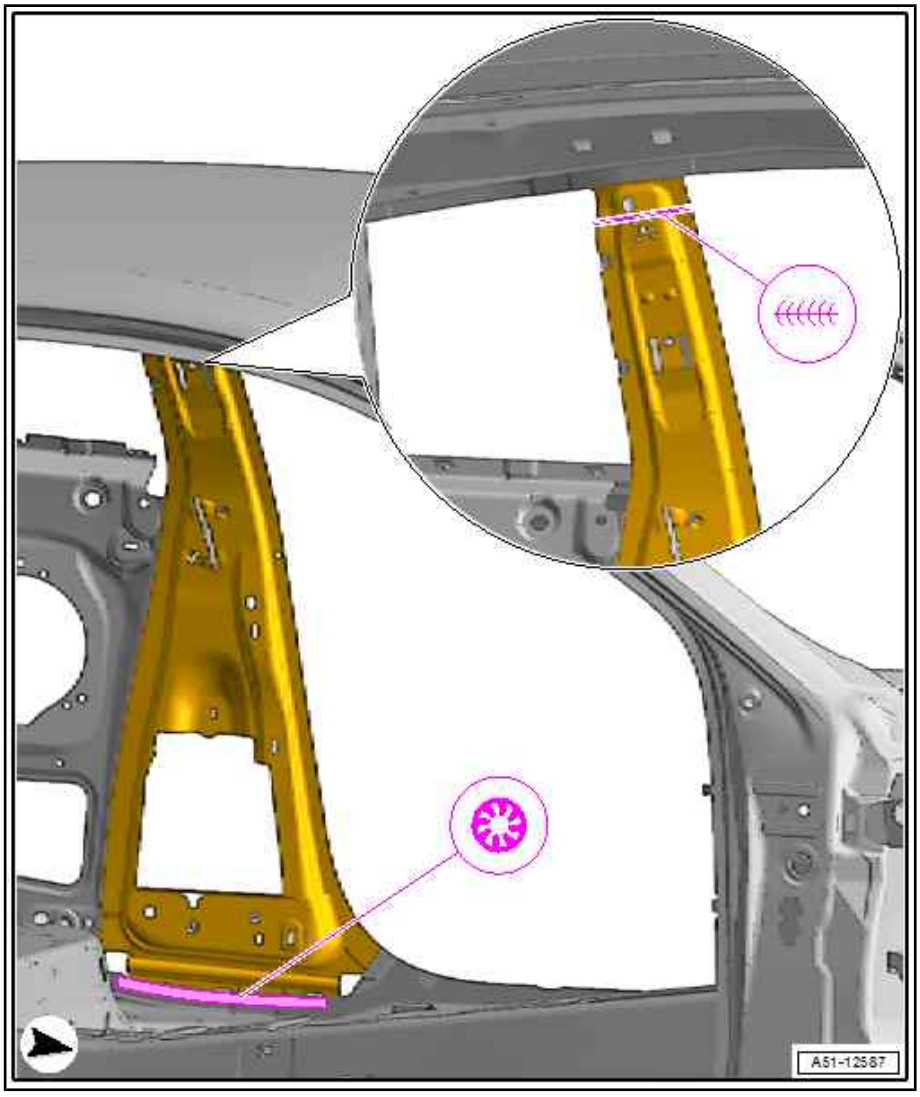
– Weld in closure plate at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in closure plate (bottom) using shielded arc welding equipment : SG plug weld seam.



– Weld in inner B-pillar from inside to outside using shielded arc welding equipment : SG continuous seam.
– Weld in lower B-pillar using shielded arc welding equipment : SG plug weld seam.
– Weld in inner side panel using resistance spot welder : RP spot weld seam.

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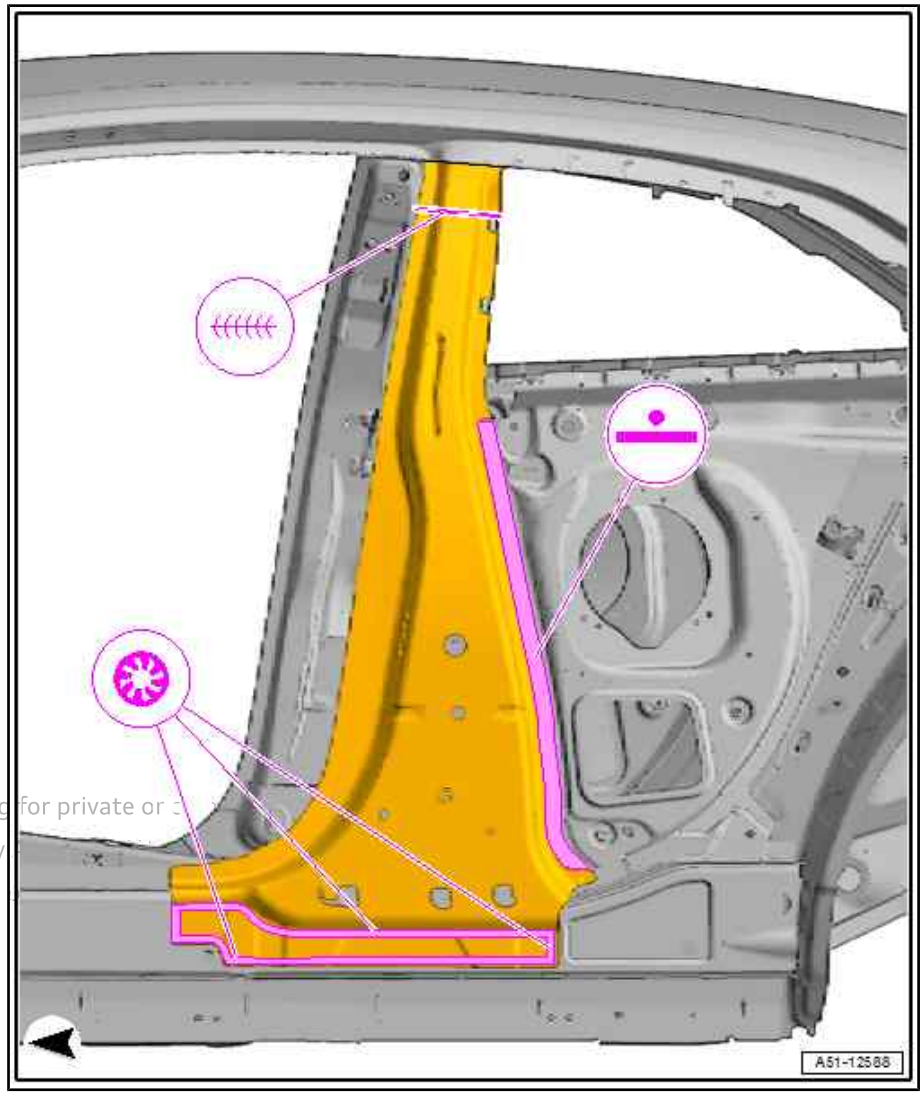

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– Renewing side panel ⇒ page 336

RO: 51 42 55 54

16 Inner B-pillar - Partial renewal (Sportback)

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Note

Observe safety precautions ⇒ page 3 .

1 - Front side member

2 - Separating cut in side member (front)

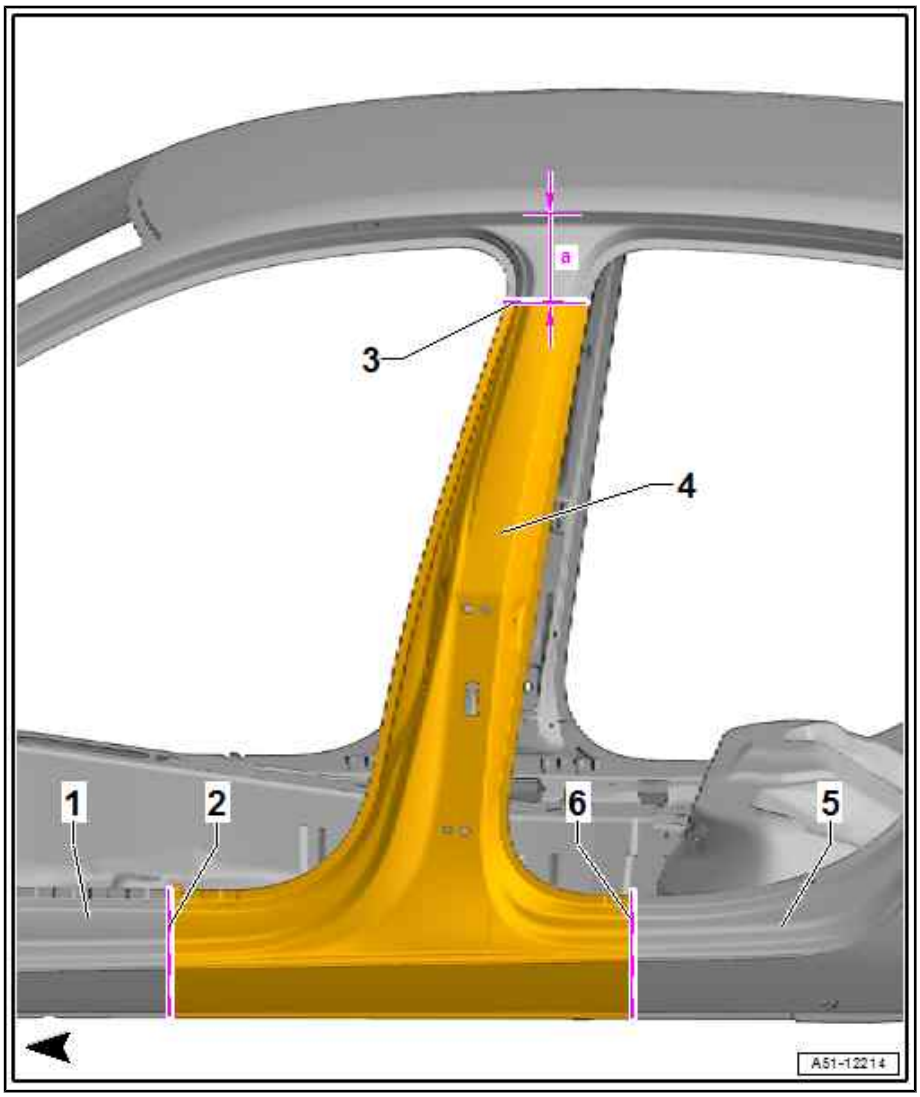
3 - Separating cut in B-pillar

Dimension -a- = 30 mm

4 - Outer B-pillar

5 - Rear side member

6 - Separating cut in side member (rear)



16.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Brush grinder
- Compact angle grinder
- Mechanical door tensioner
- Body saw

- Spot weld breaker

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 *.*

16.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

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

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- = 80 mm

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

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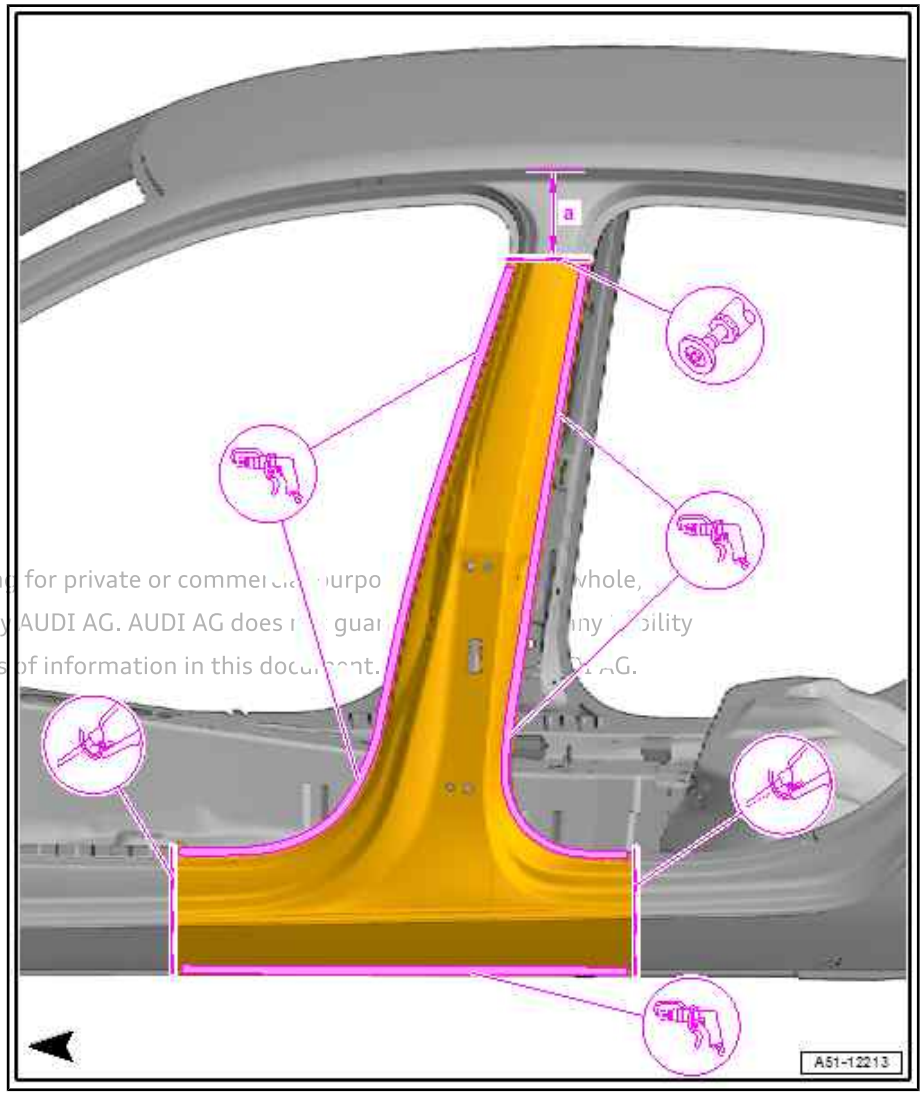

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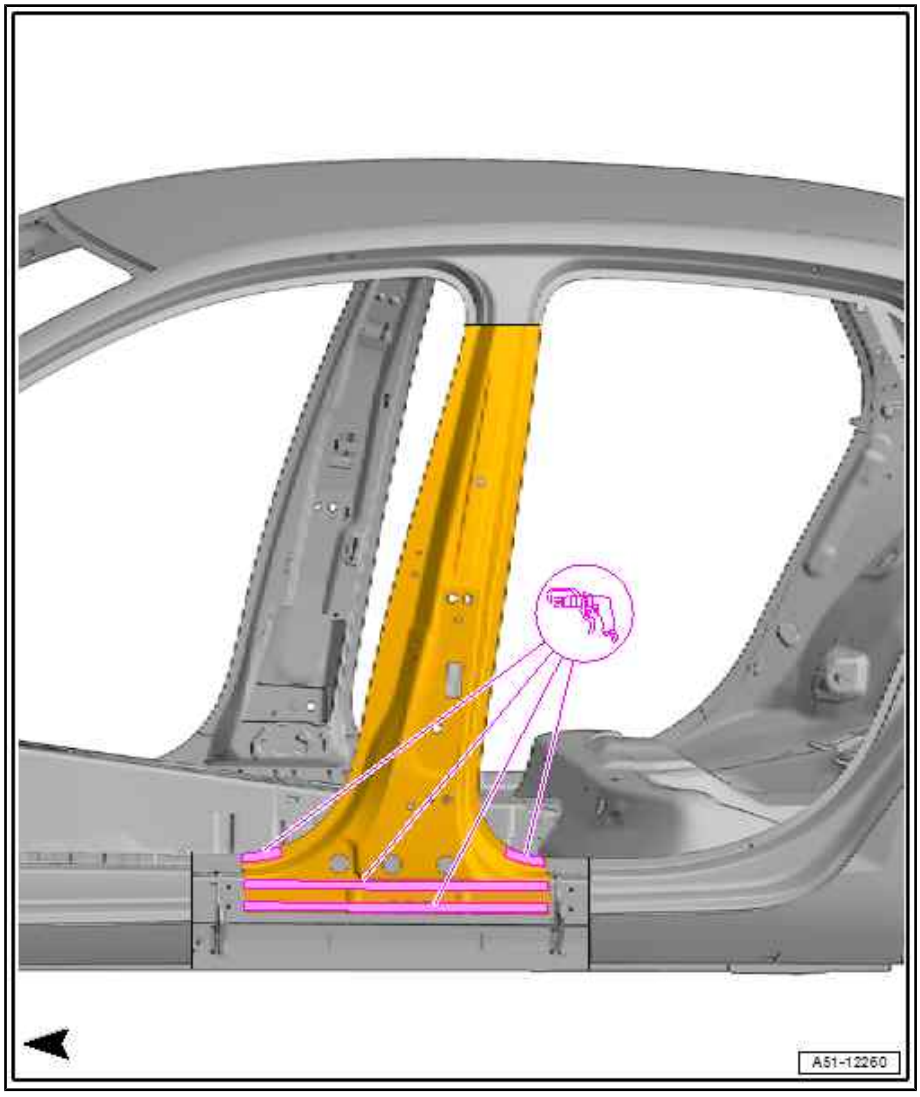
– Separate original joint at B-pillar (bottom)/inner side member using spot weld breaker .



– Separate original joint at inner closure plate using spot weld breaker .

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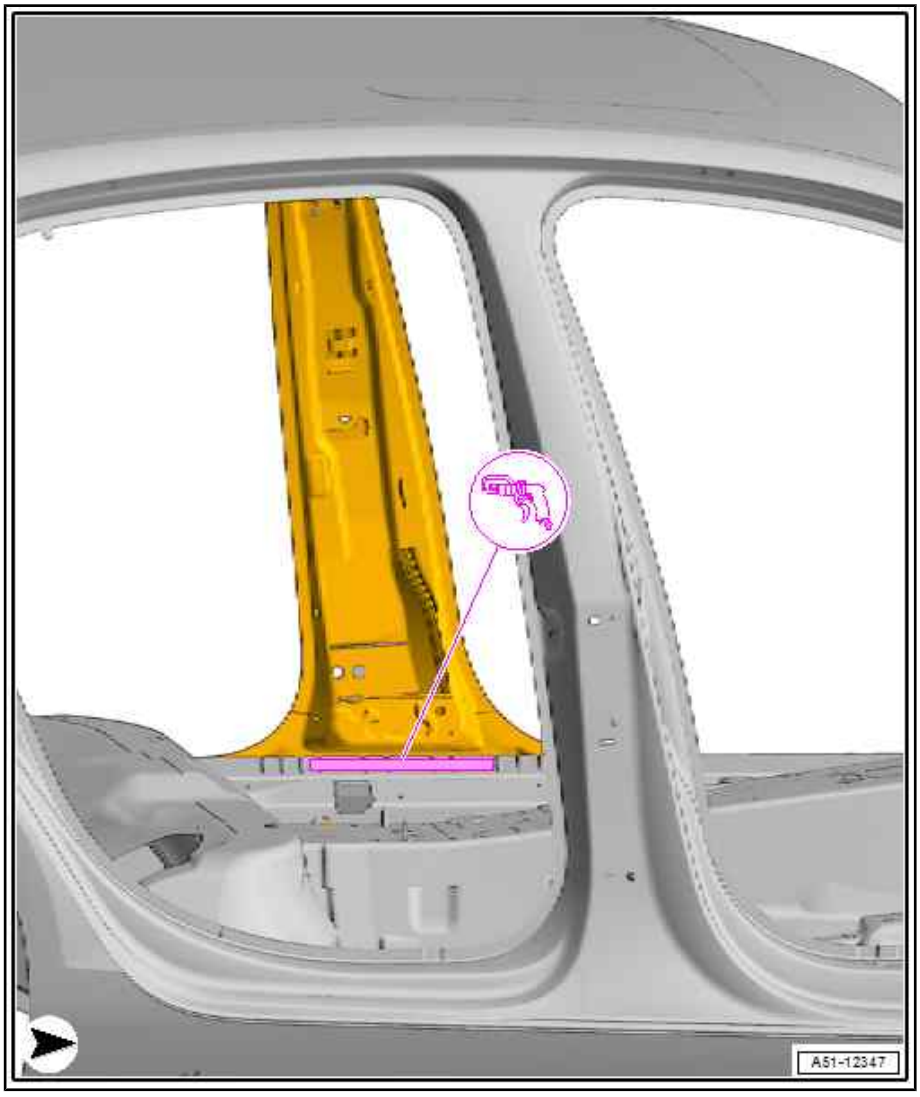

Note

A separating cut is only permissible at the location described.

– Separate original joint using spot weld breaker .
– Mark off separating cut on outer B-pillar according to dimension -a- and make cut using body saw .

Dimension -a- = 30 mm

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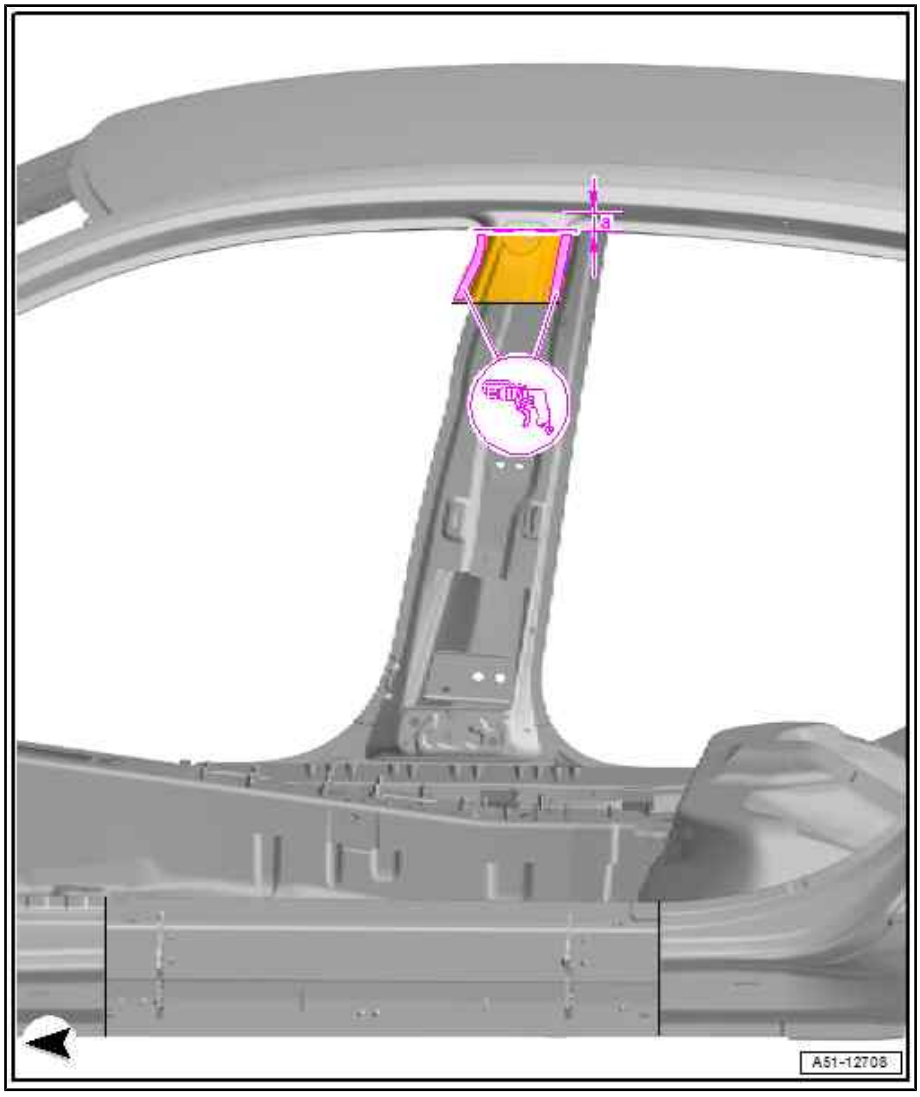

– Remove remaining material using compact angle grinder .
– Grind area around separating cut down to bare metal.

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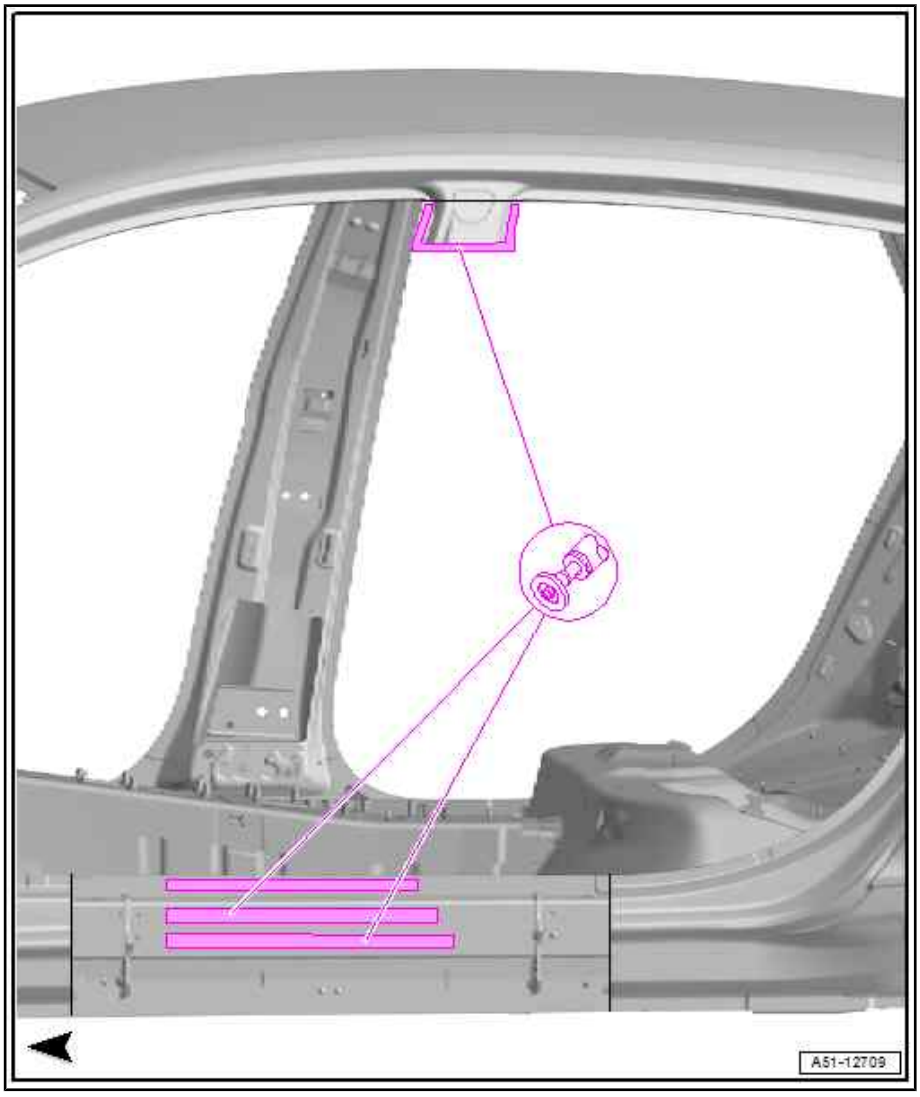

Replacement parts

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

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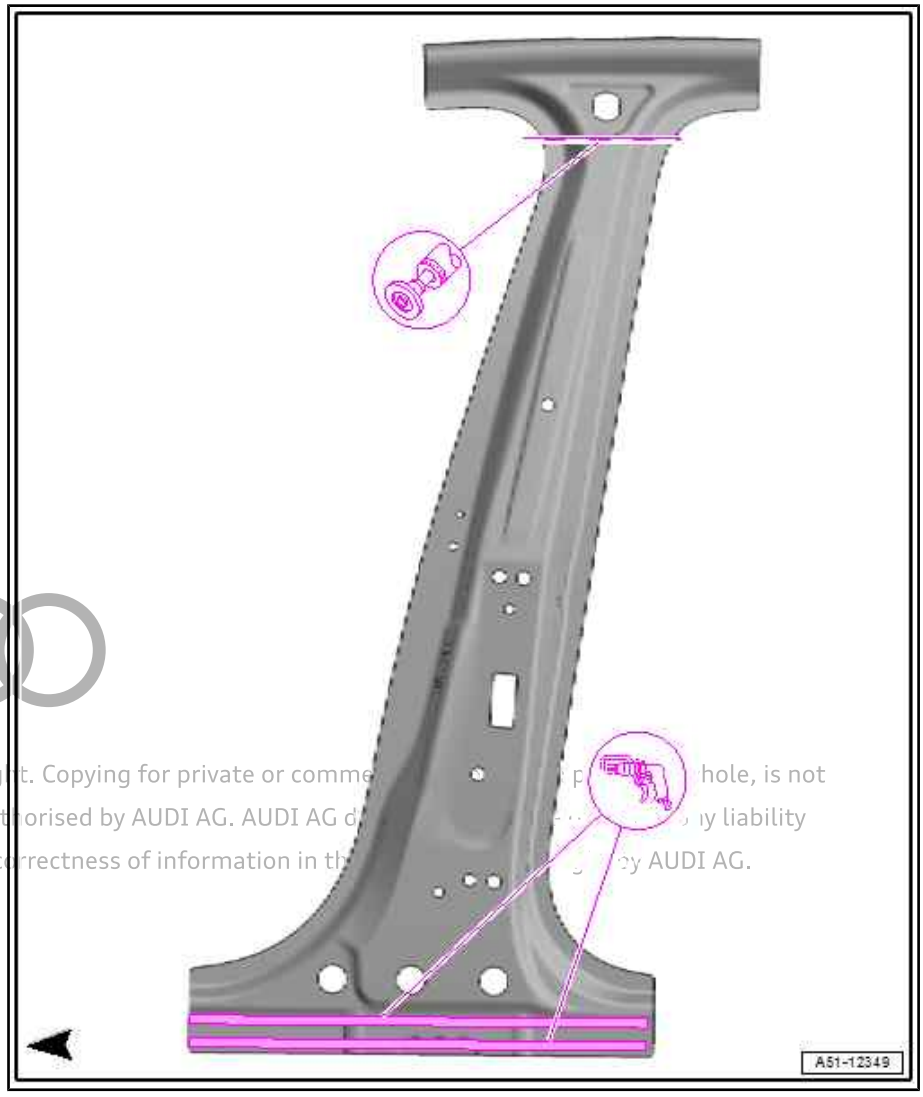
Preparing new part

– 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 19 holes for SG plug weld seam using drill as shown (8 mm ∅).

– Prepare flanges on new part for welding.



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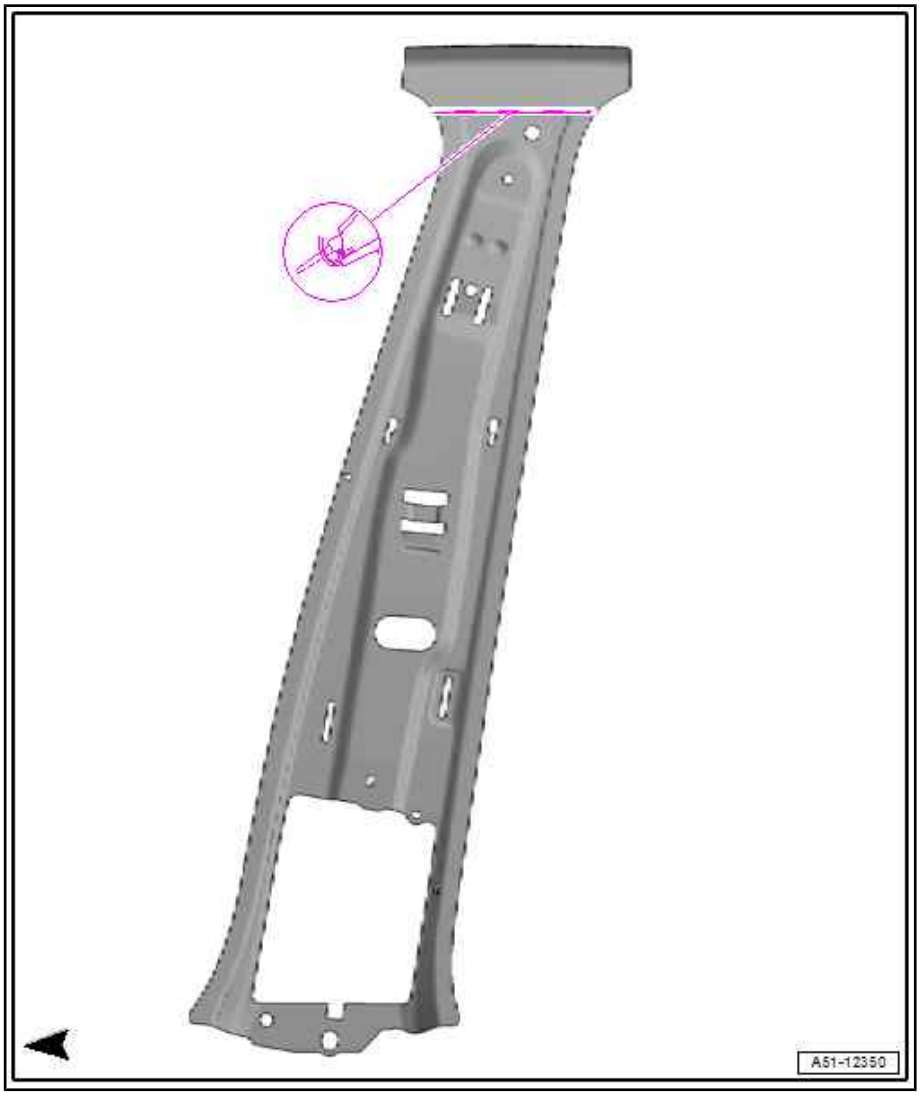
– Transfer separating cut to new part and cut off using compact angle grinder .
– Prepare flanges on new part for welding.
– Grind welding surfaces down to bare metal.



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.

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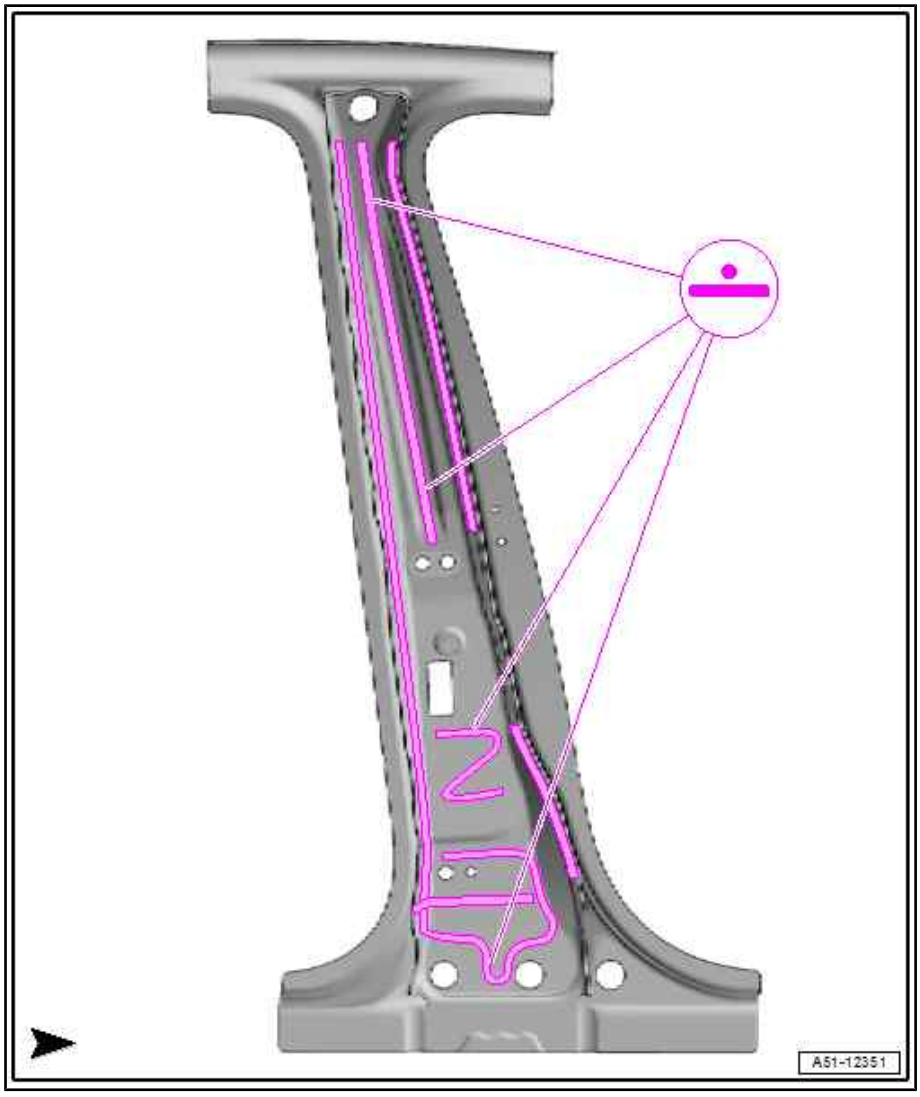
Welding in

– Spot weld inner B-pillar using resistance spot welder .



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

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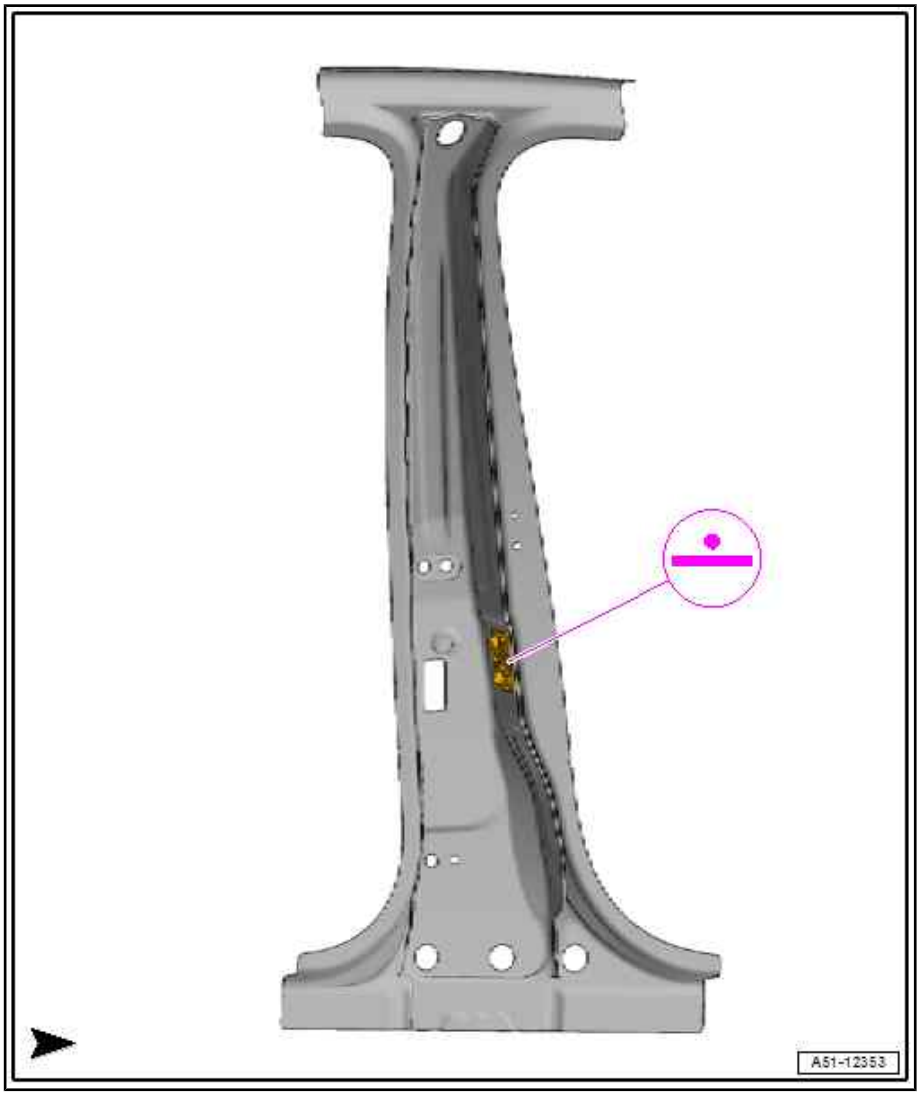

– Drill holes for SG plug weld seam in inner B-pillar and reinforcement using drill .

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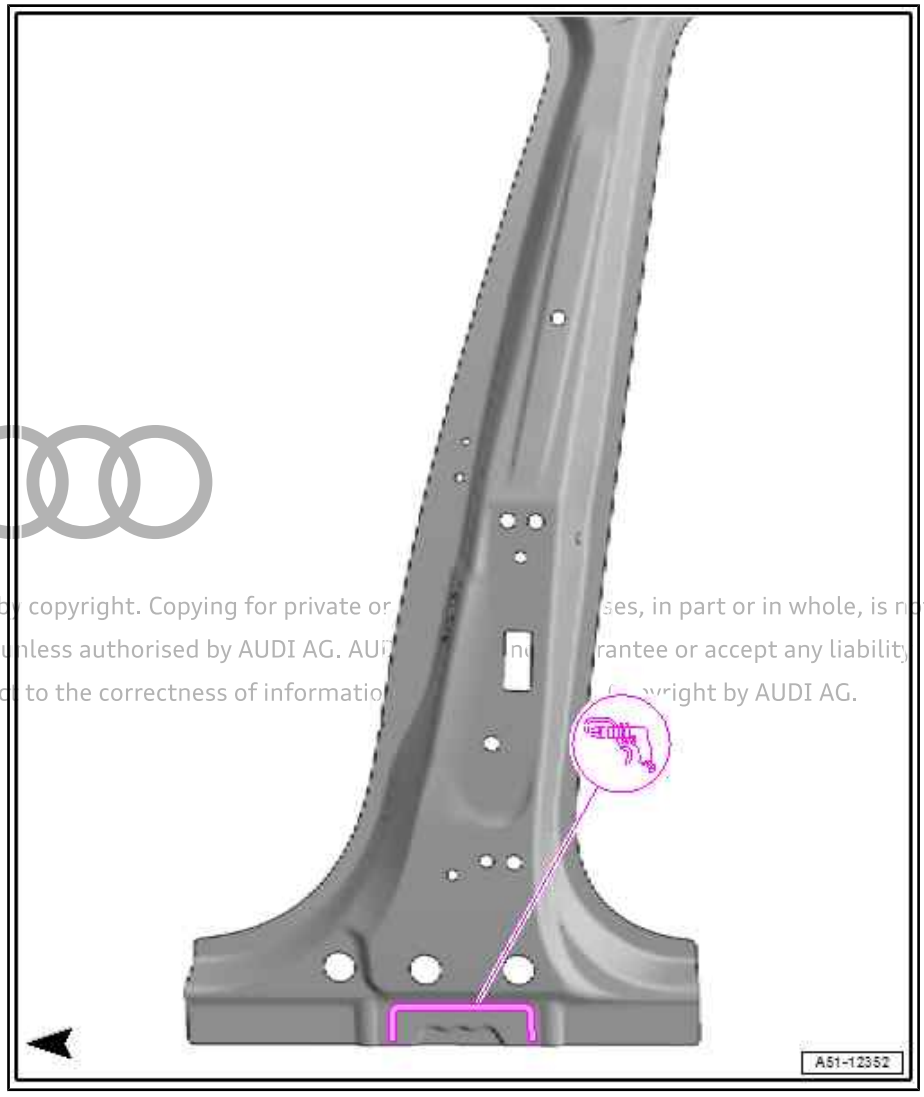

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– Weld in inner B-pillar from inside to outside using shielded arc welding equipment : SG continuous seam.
– Weld in lower and upper outer B-pillar using shielded arc welding equipment : SG plug weld seam.

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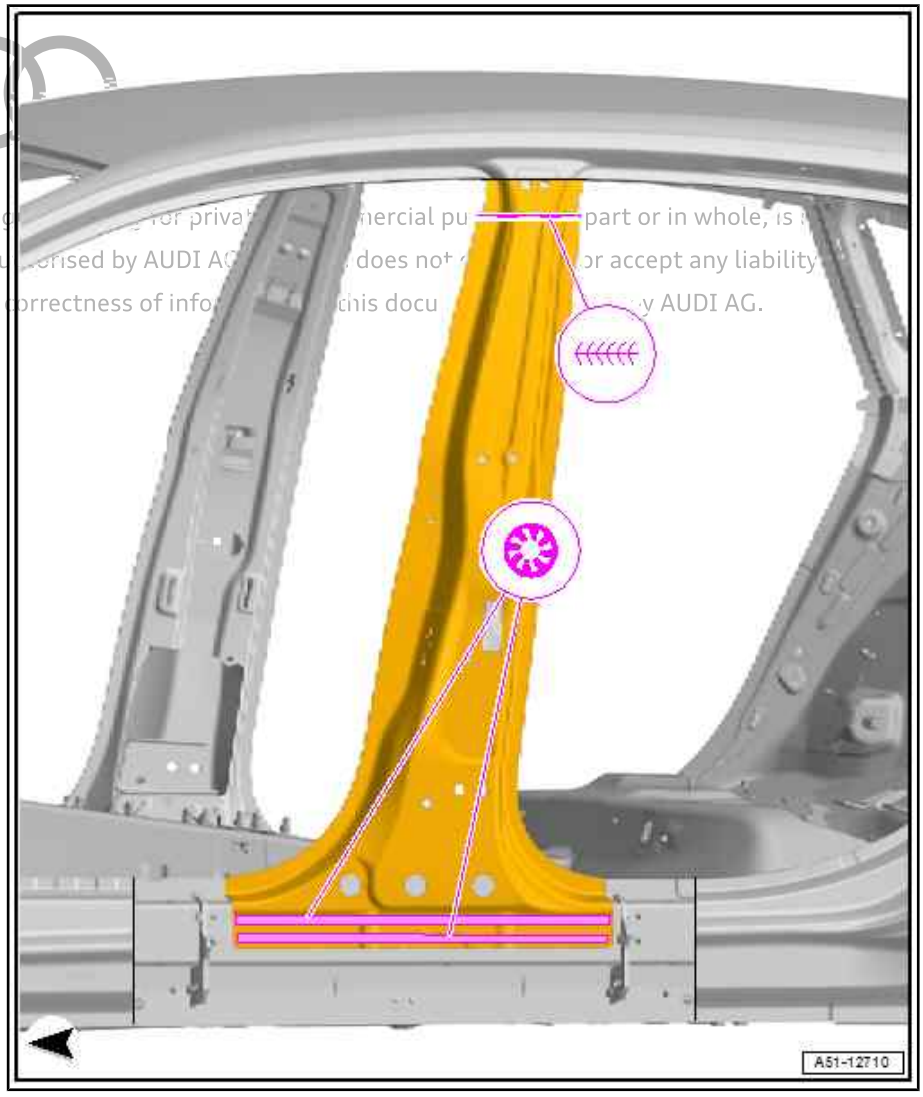
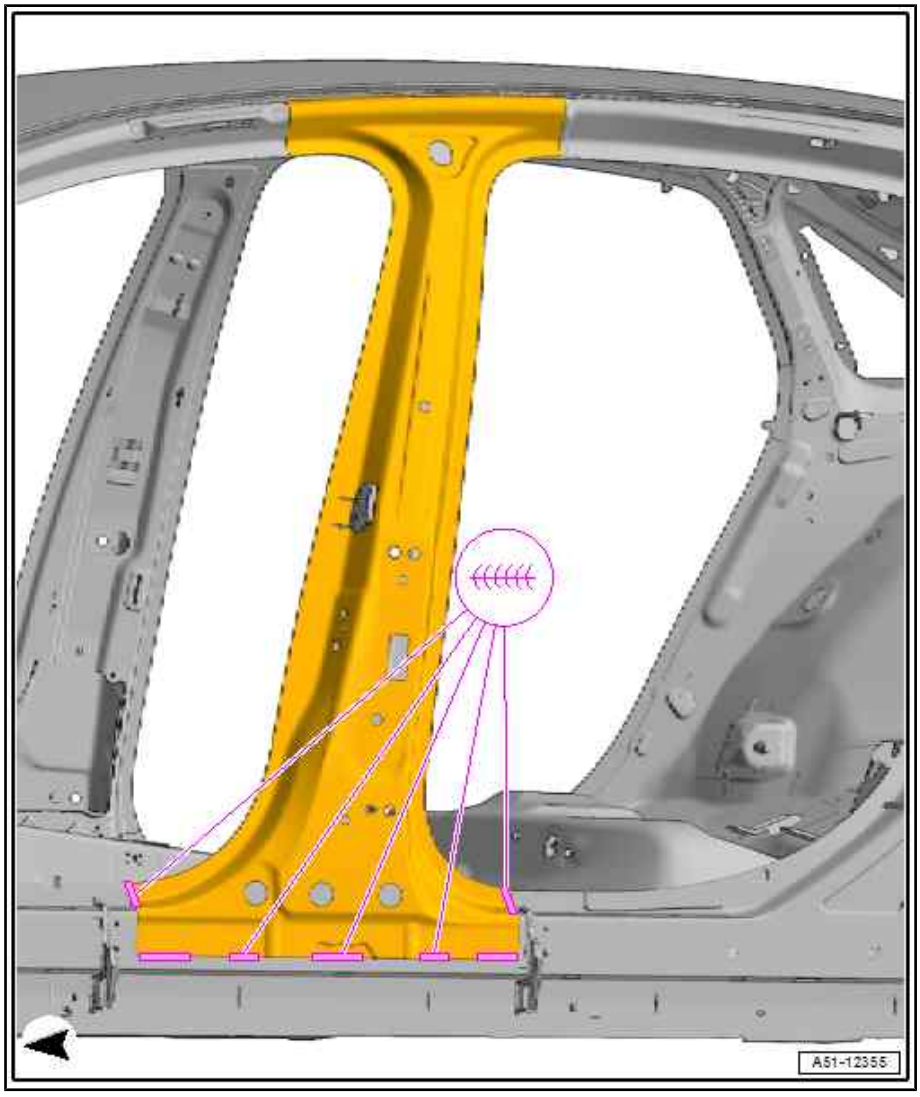


– Weld in lower B-pillar at separating cut using shielded arc welding equipment : SG continuous seam.



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

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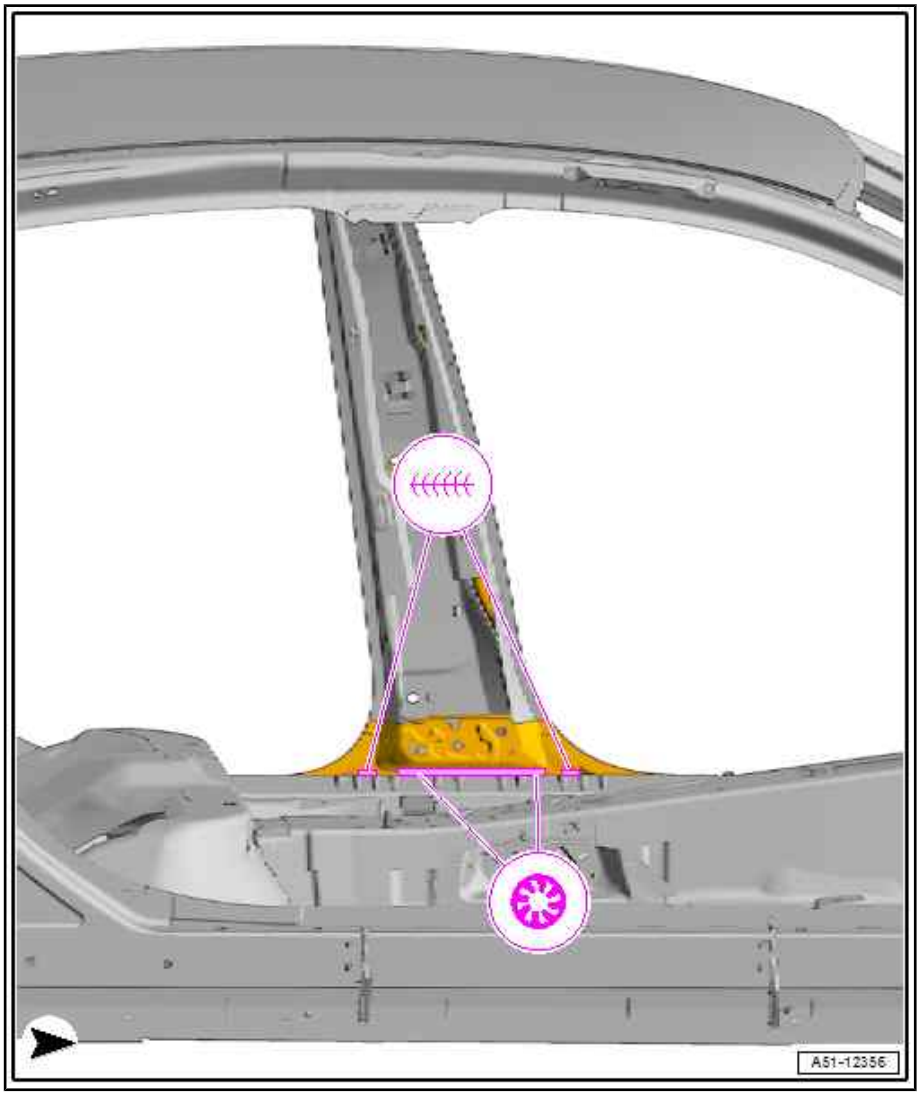

– Weld in inner closure plate using shielded arc welding equipment : SG continuous seam.

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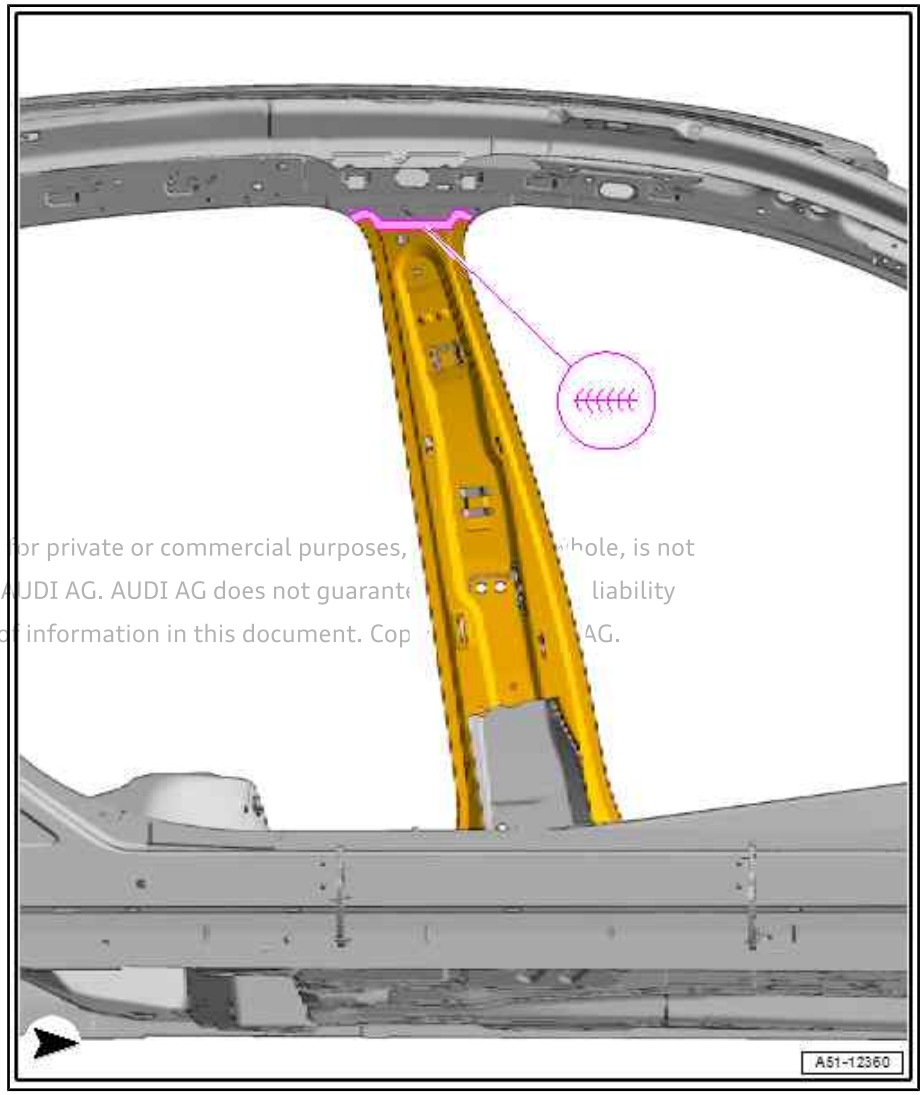

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– Outer B-pillar - Renewal

RO: 51 45 55 00

17 Outer side member - Renewal (Coupé)

Note

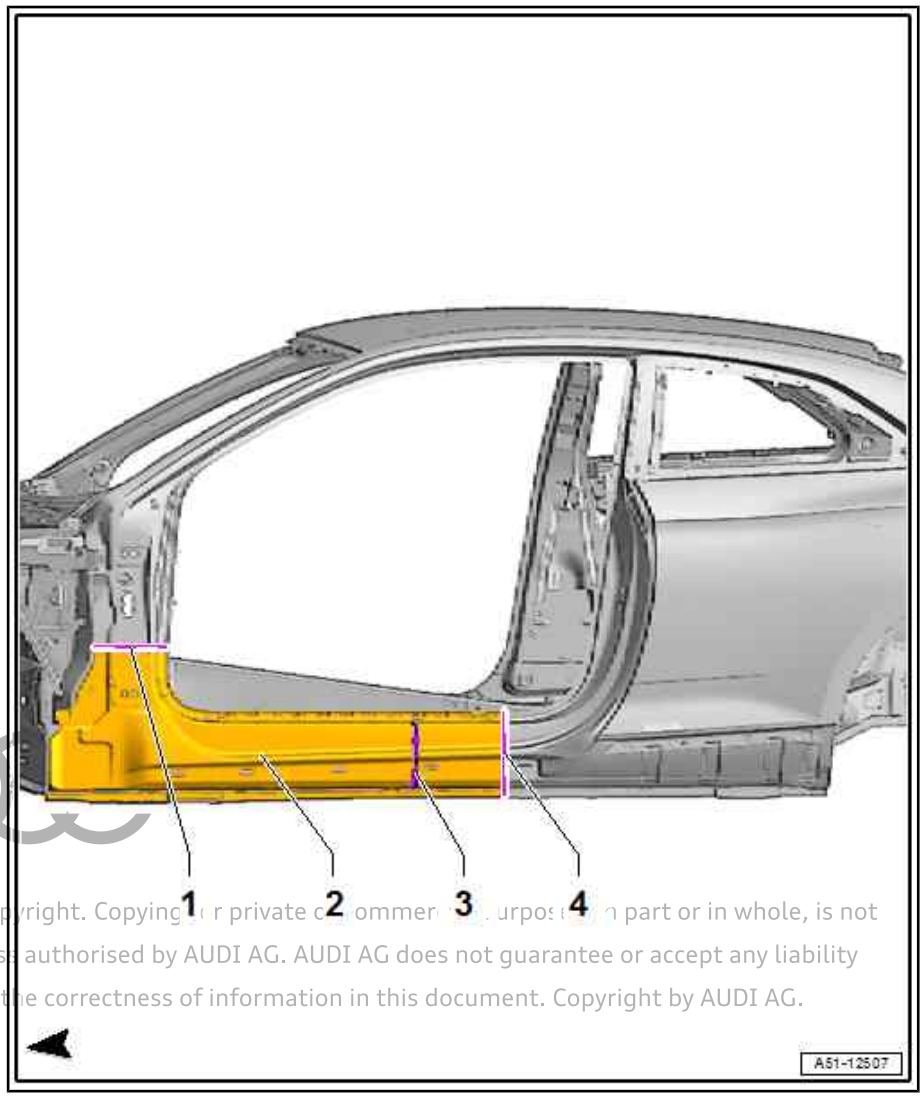
Observe safety precautions *⇒ page 3* *.*

1 - Separating cut in A-pillar

2 - Outer side member

3 - Moulded foam insert

4 - Separating cut in front of B-pillar



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17.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Brush grinder
- Chisel
- Compact angle grinder
- Body saw

- Spot weld breaker
- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

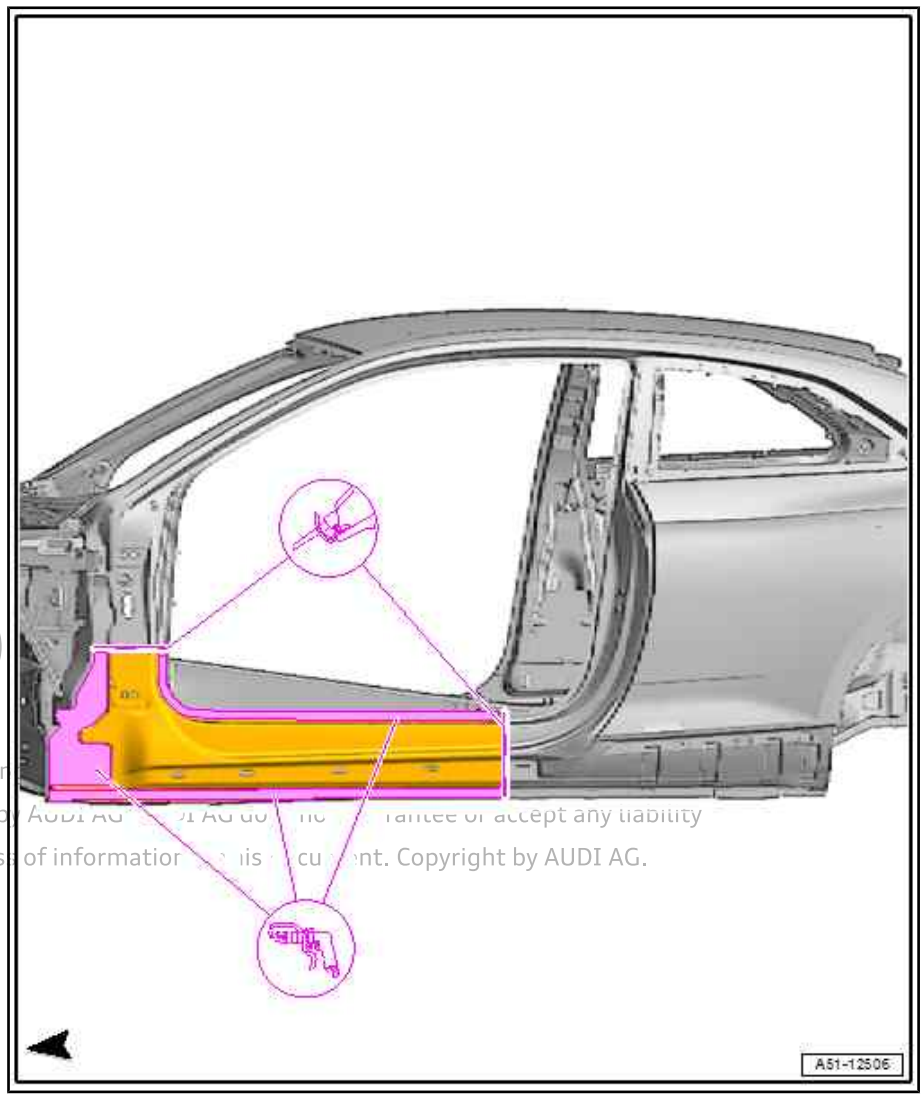
17.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

– 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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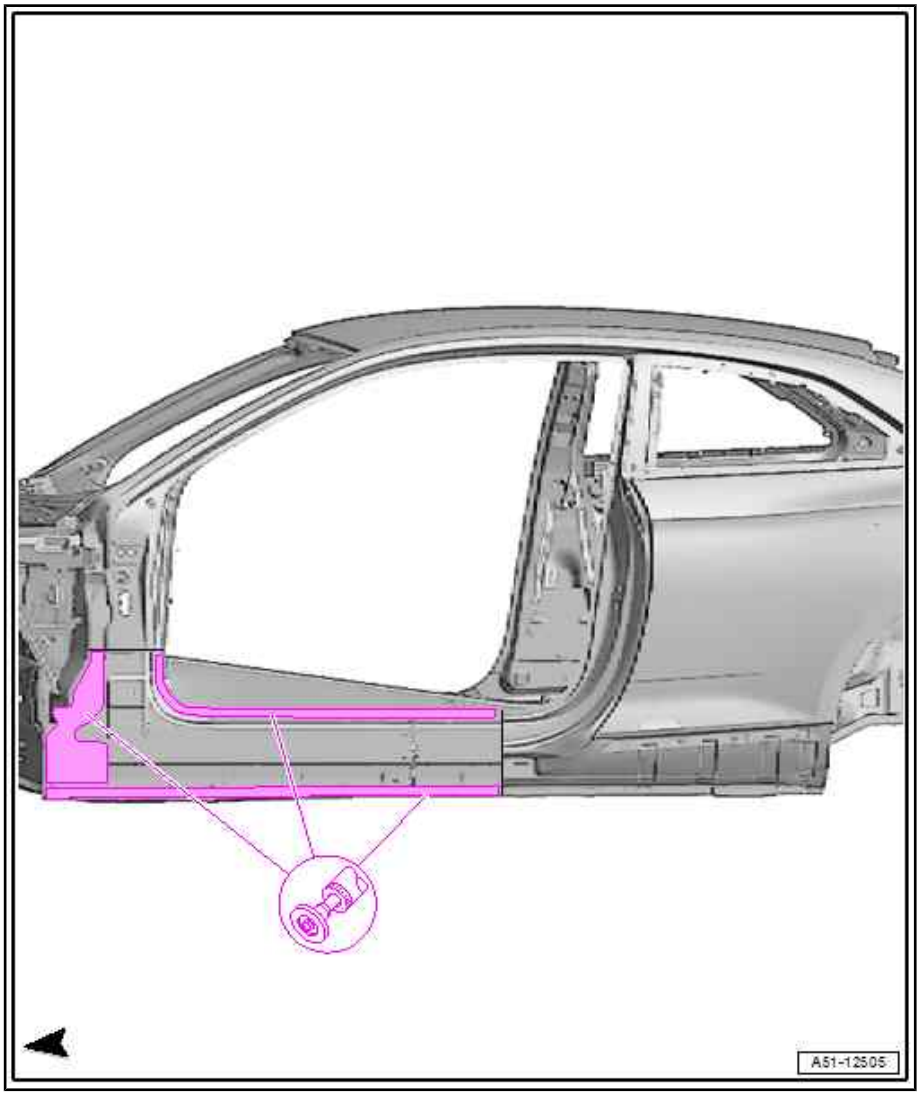
– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.



Replacement parts

- Side panel

Preparing new part

– Transfer separating cuts to new part.
– Cut new part to size using body saw .
– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.

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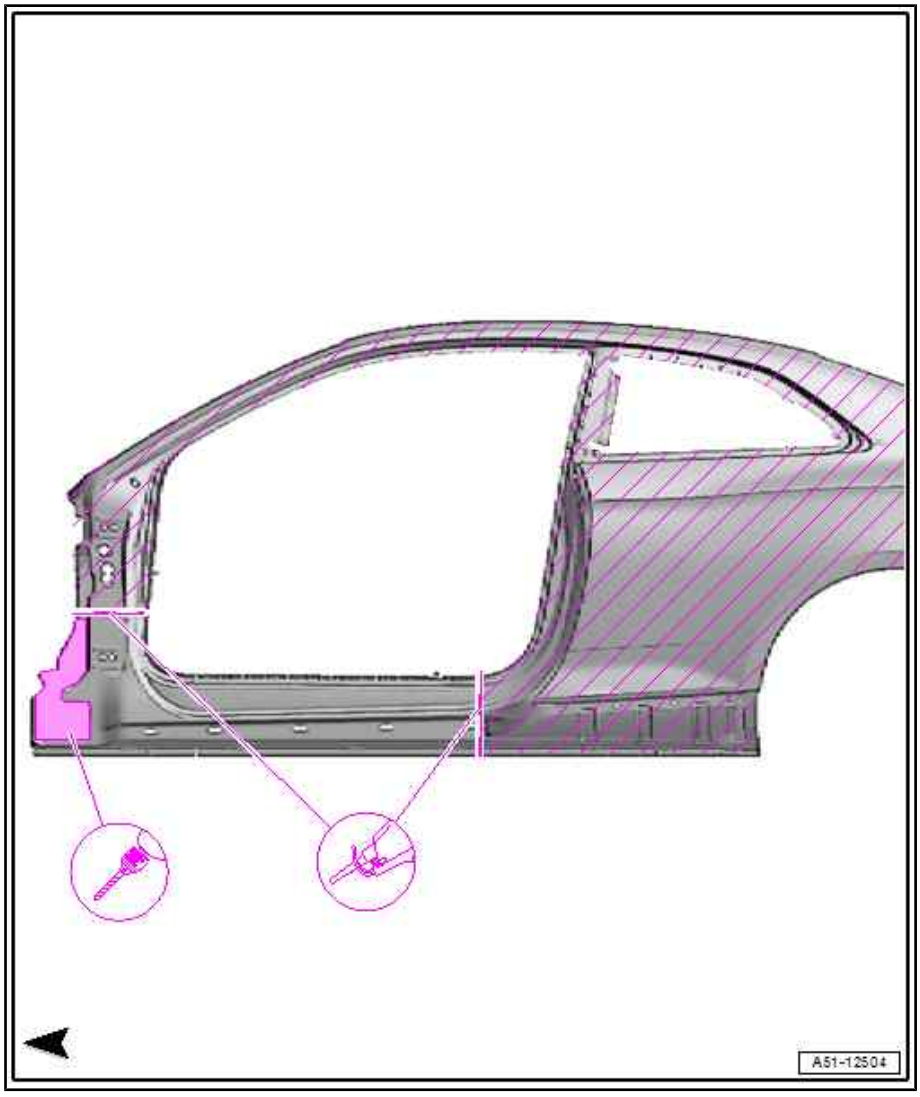

Note

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

- Insert moulded foam insert.
- Place backing plates of same material behind joints.
- Match up and fix new part in position.
- Check fit relative to adjacent parts.
- Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.

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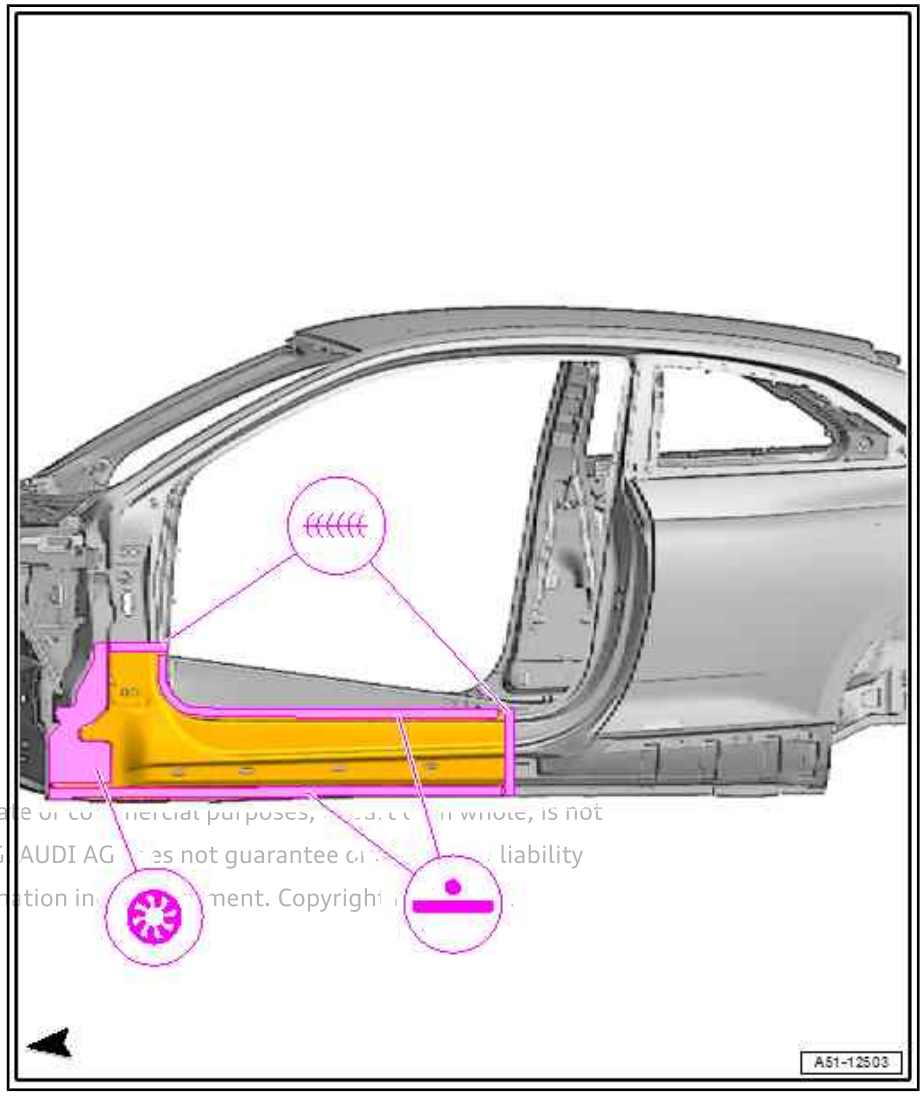

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RO: 51 45 55 00

18 Outer side member - Renewal (Sportback)

Note

Observe safety precautions ⇒ page 3 .

1 - Outer side member

2 - Separating cut in B-pillar

3 - Moulded foam insert

4 - Separating cut in C-pillar

5 - Separating cut in side member (rear)

Partial renewal
Partial renewal is possible with the separating cut shown.

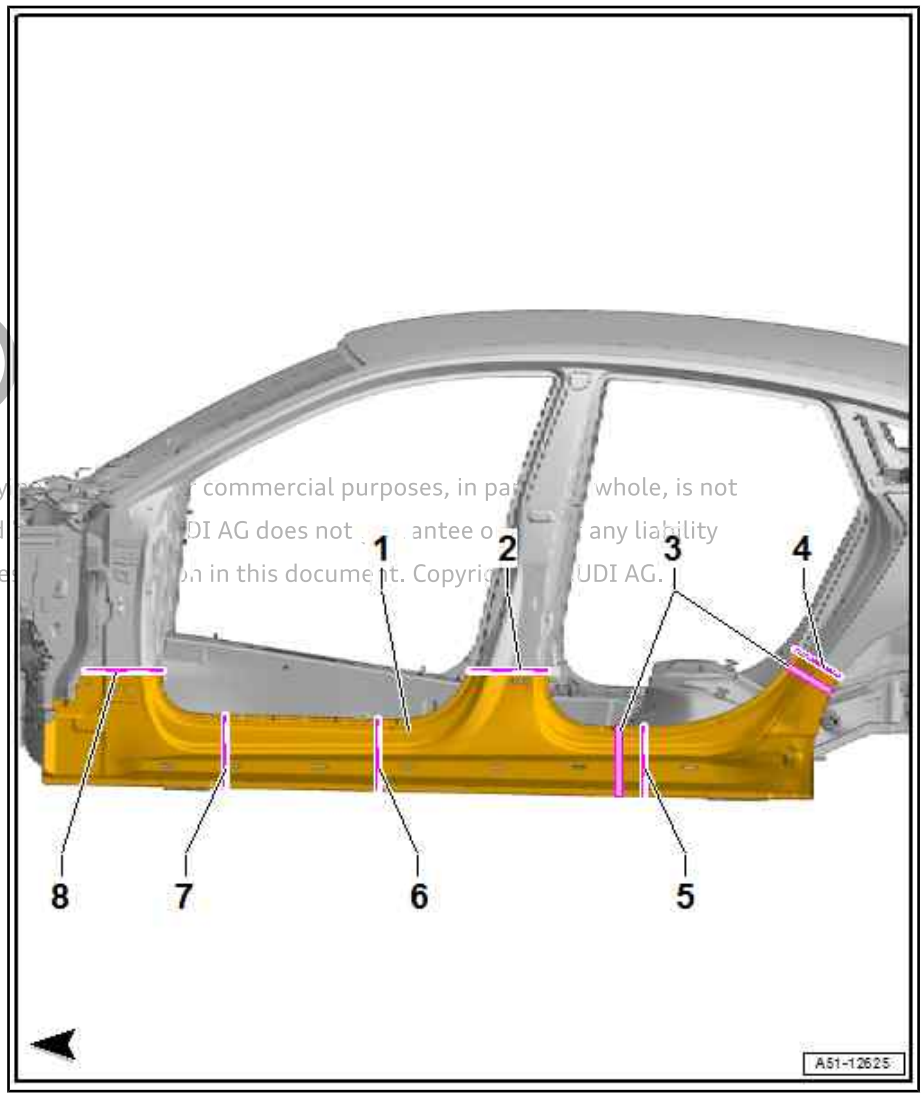
6 - Separating cut in front of B-pillar

Partial renewal
Partial renewal is possible with the separating cut shown.

7 - Separating cut in side member (front)

Partial renewal
Partial renewal is possible with the separating cut shown.

8 - Separating cut in A-pillar



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18.1 Tools

Special tools and workshop equipment required

- Resistance spot welder
- Shielded arc welding equipment
- Brush grinder
- Chisel
- Compact angle grinder
- Body saw

- Spot weld breaker
- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

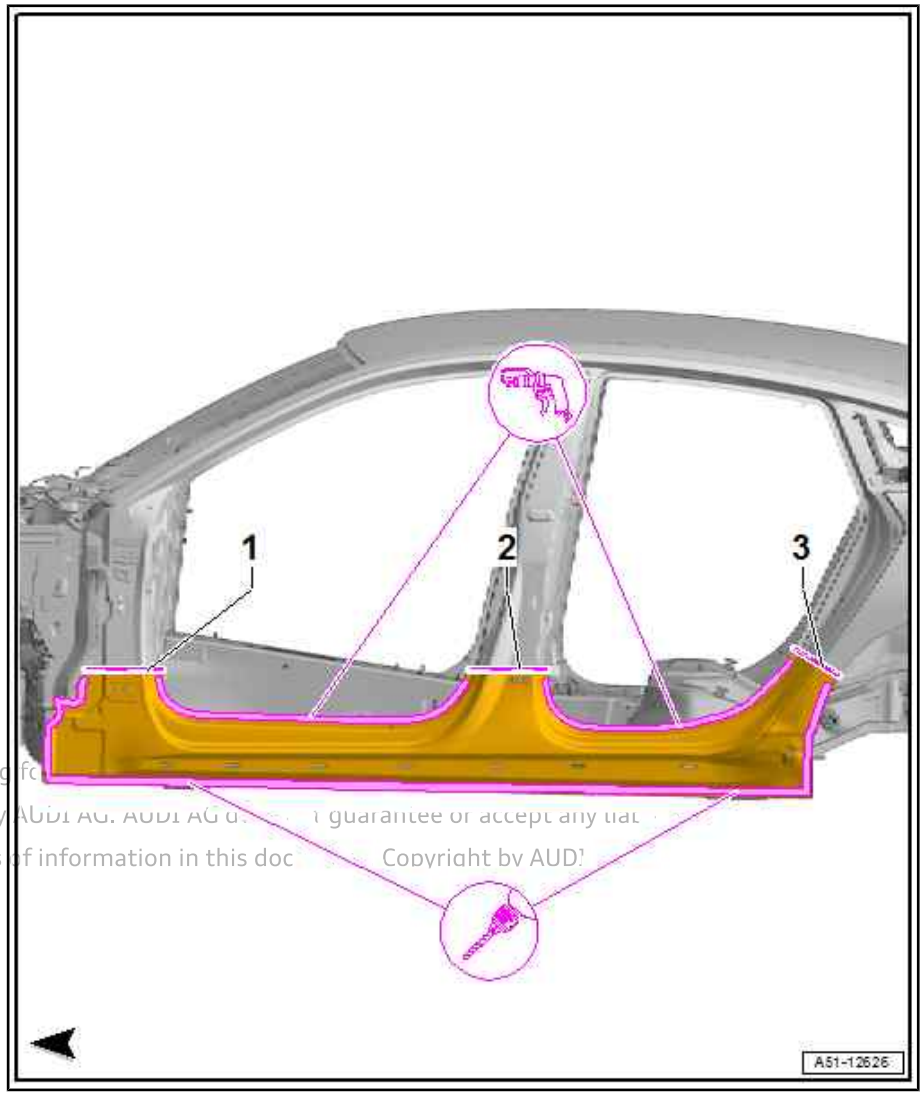
18.2 Procedure

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

– Mark off separating cuts -1-, -2- and -3- 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 .

– Grind welding areas down to bare metal.

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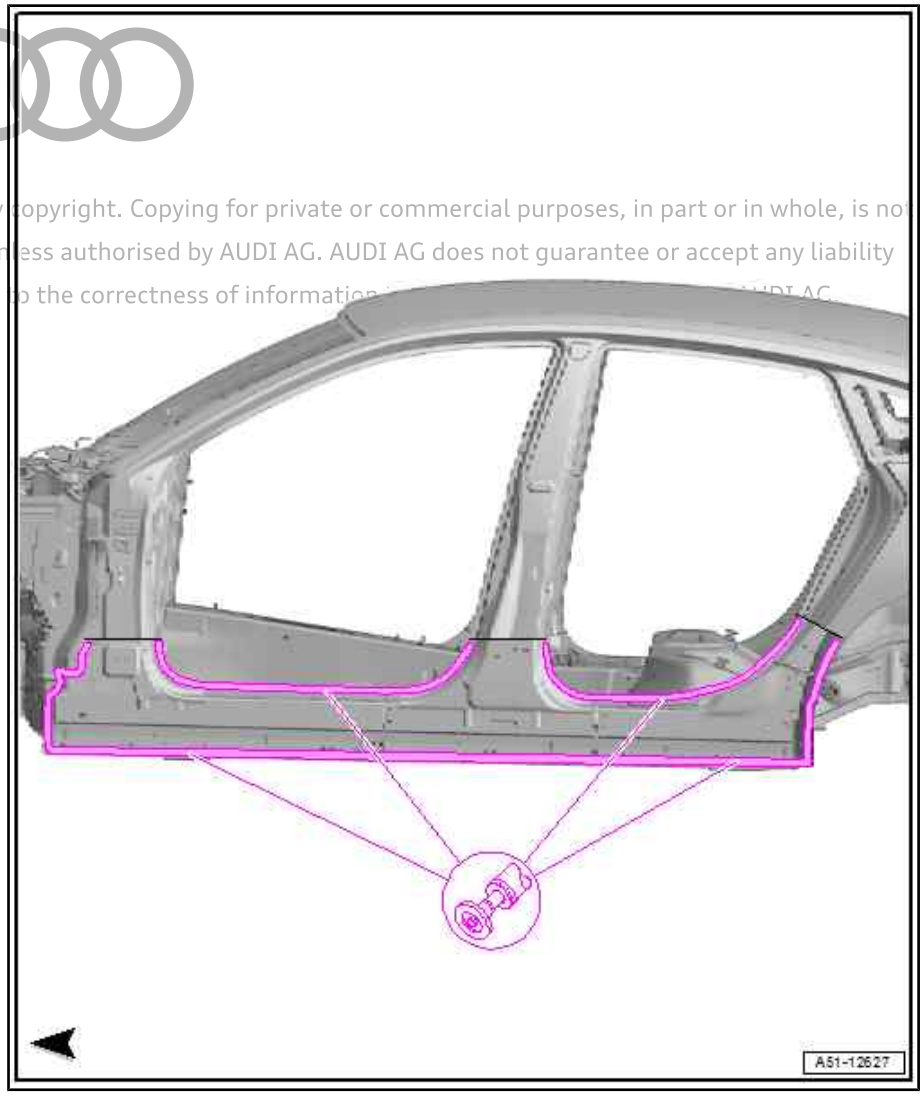
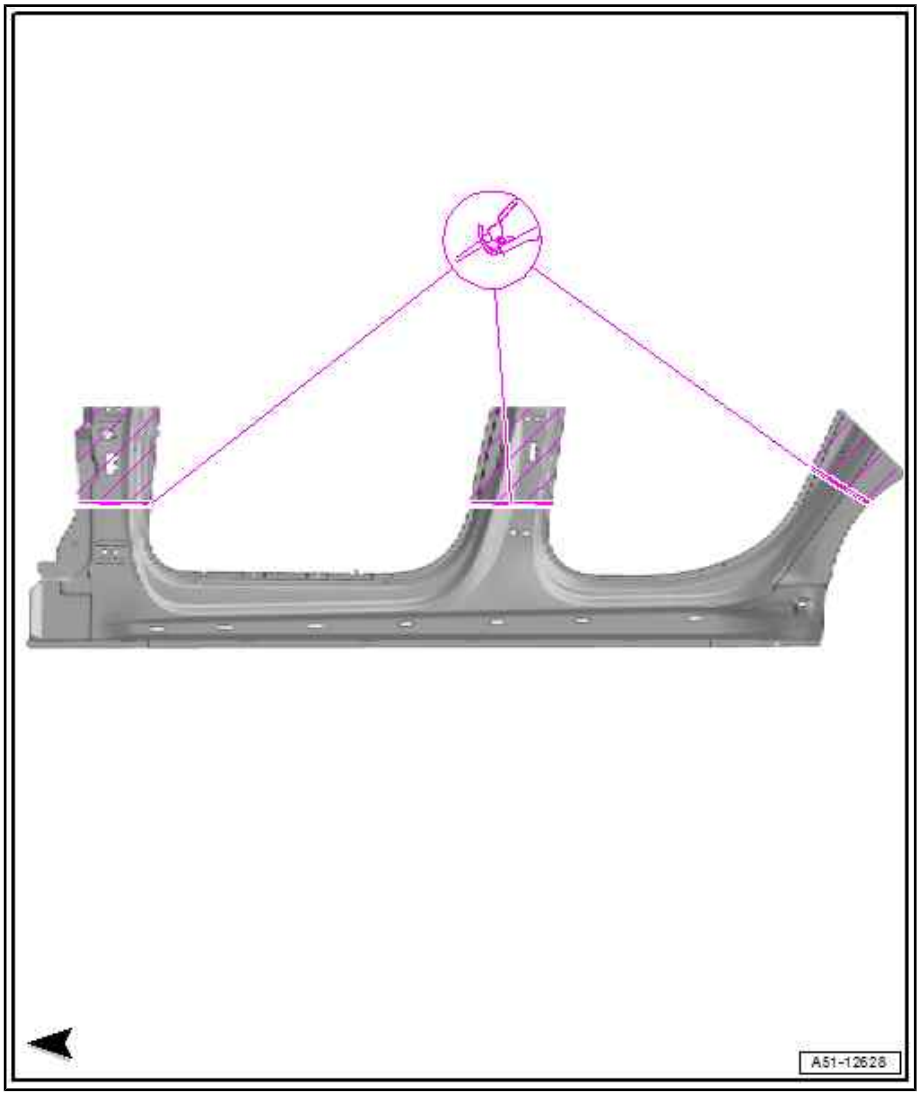


Replacement part

- Side panel

Preparing new part

– Transfer separating cuts to new part.
– Cut new part to size using body saw .
– Grind welding areas down to bare metal.



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

- Insert moulded foam insert.
- Place backing plates of same material behind joints.
- Match up and fix new part in position.
- Check fit relative to adjacent parts.
- Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in new part using resistance spot welder : RP spot weld seam.

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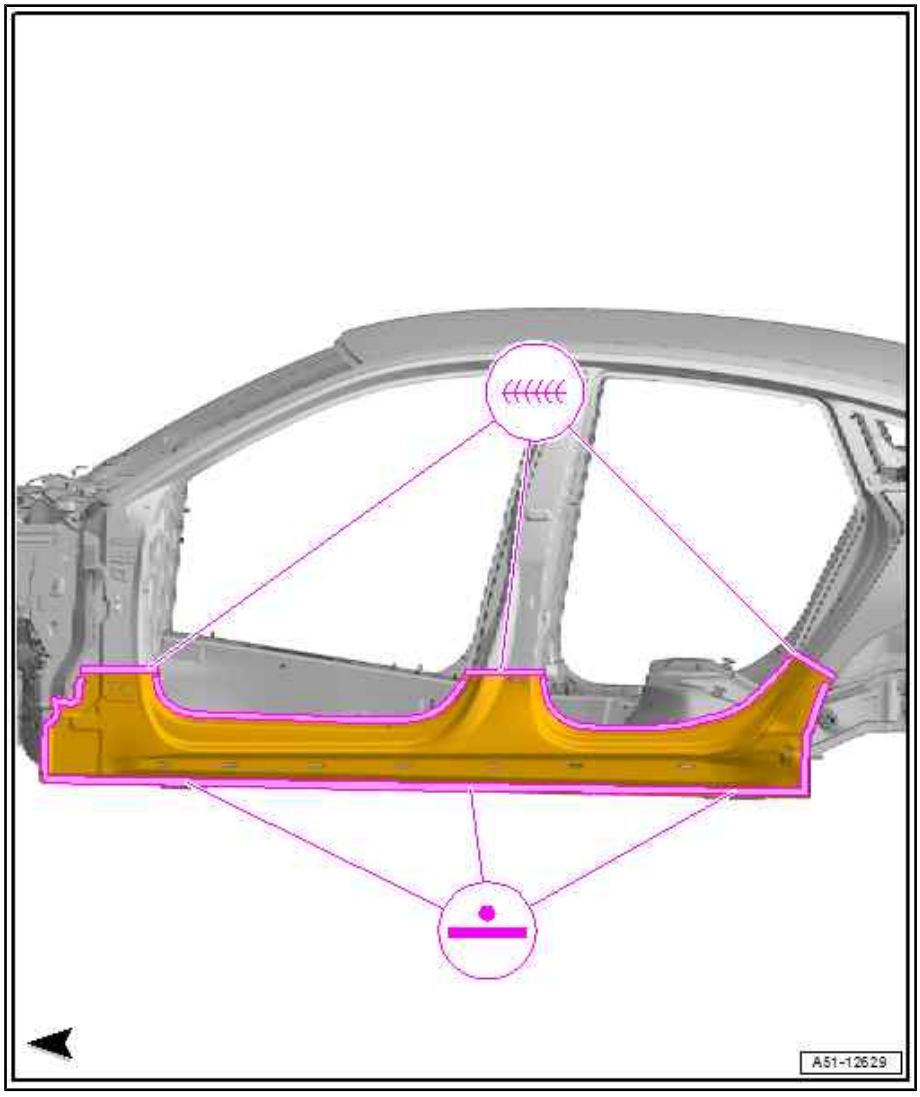

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RO: 51 47 55 50

19 Inner side member - Renewal (Coupé)

Note

Observe safety precautions *⇒ page 3* *.*

1 - A-pillar

2 - Separating cut

Partial renewal
Partial renewal is possible with the separating cut shown.

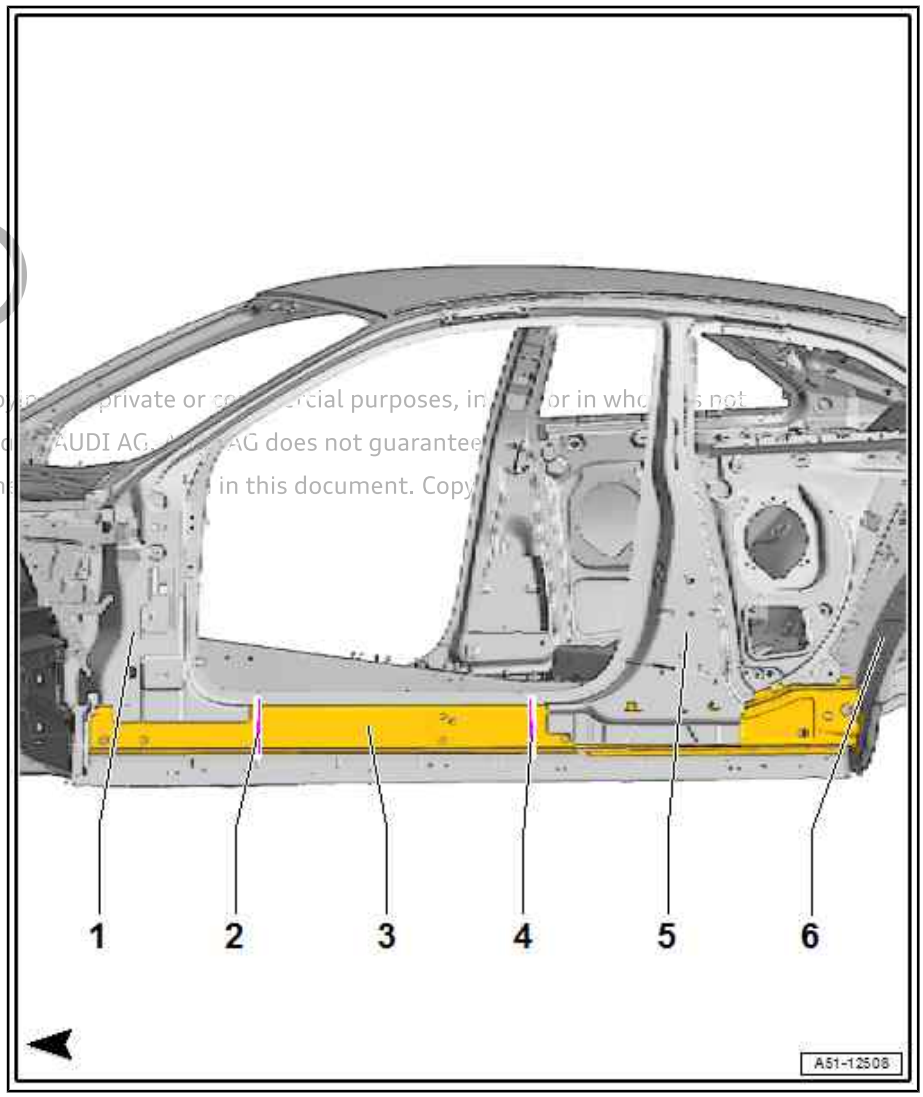
3 - Inner side member

4 - Separating cut

Partial renewal
Partial renewal is possible with the separating cut shown.

5 - B-pillar reinforcement

6 - Rear wheel housing



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19.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

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19.2 Procedure

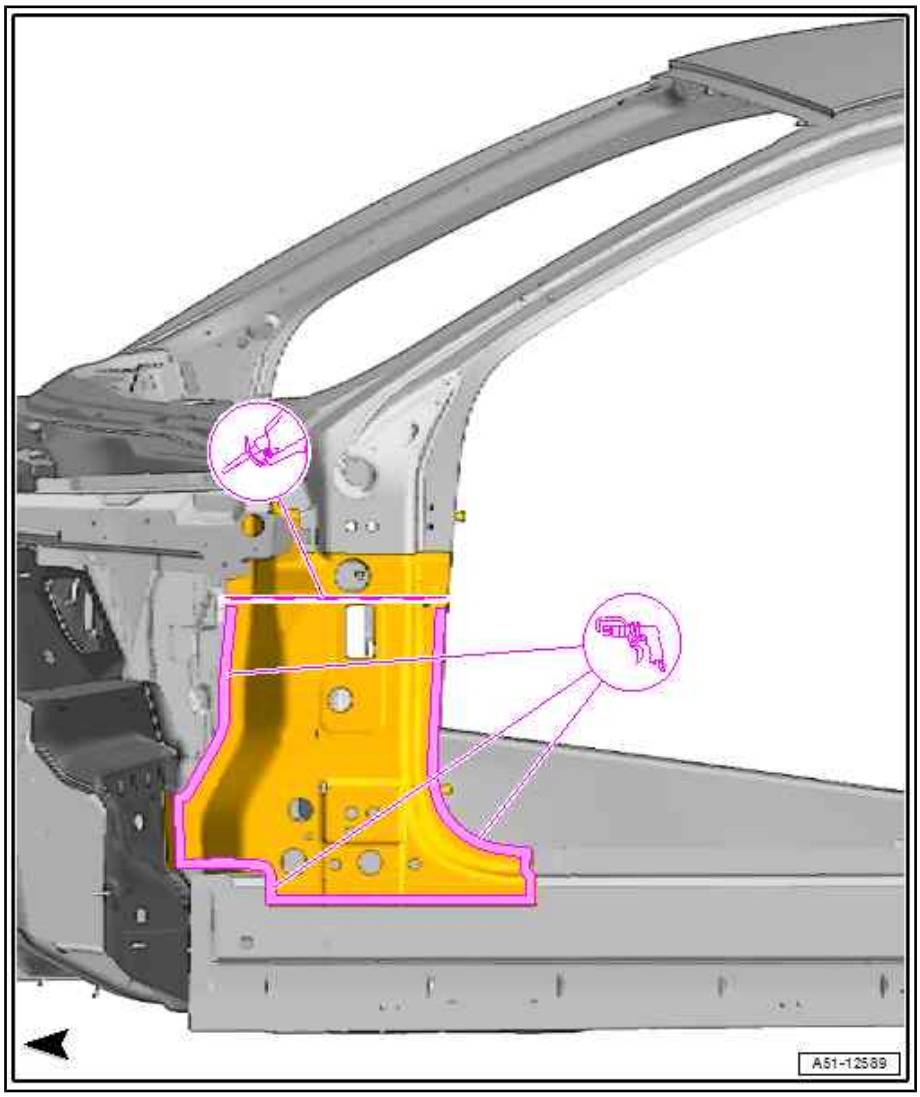
- Side panel already removed ⇒ page 336
- Outer side member already removed ⇒ page 255
- Outer A-pillar already removed ⇒ page 199
- Inner A-pillar (part section) already removed ⇒ page 204
- Inner B-pillar (part section) already removed ⇒ page 226

Cutting locations

A separating cut can be made here so that the upper A-pillar does not have to be removed.

– Make separating cut as shown using body saw .

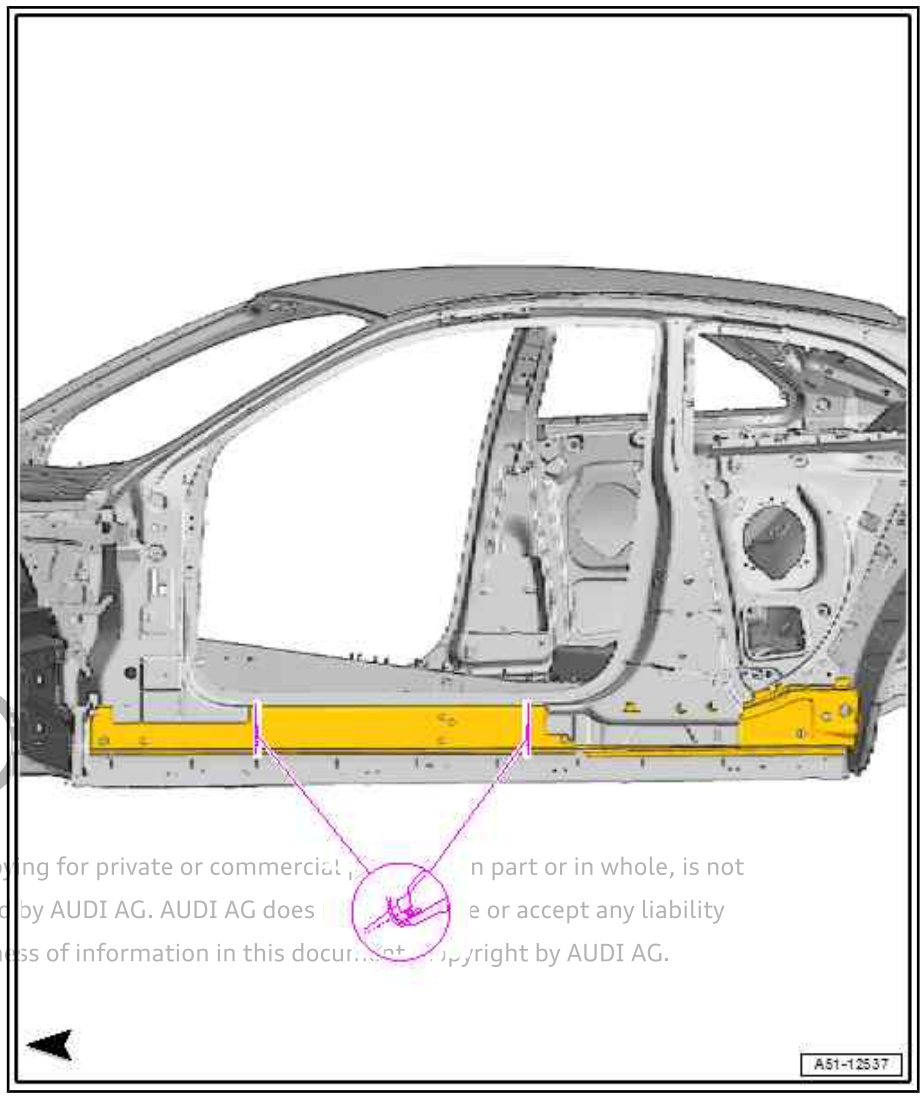
– Separate original joint using spot weld breaker .



Partial renewal

Partial renewal is possible using these separating cuts.

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



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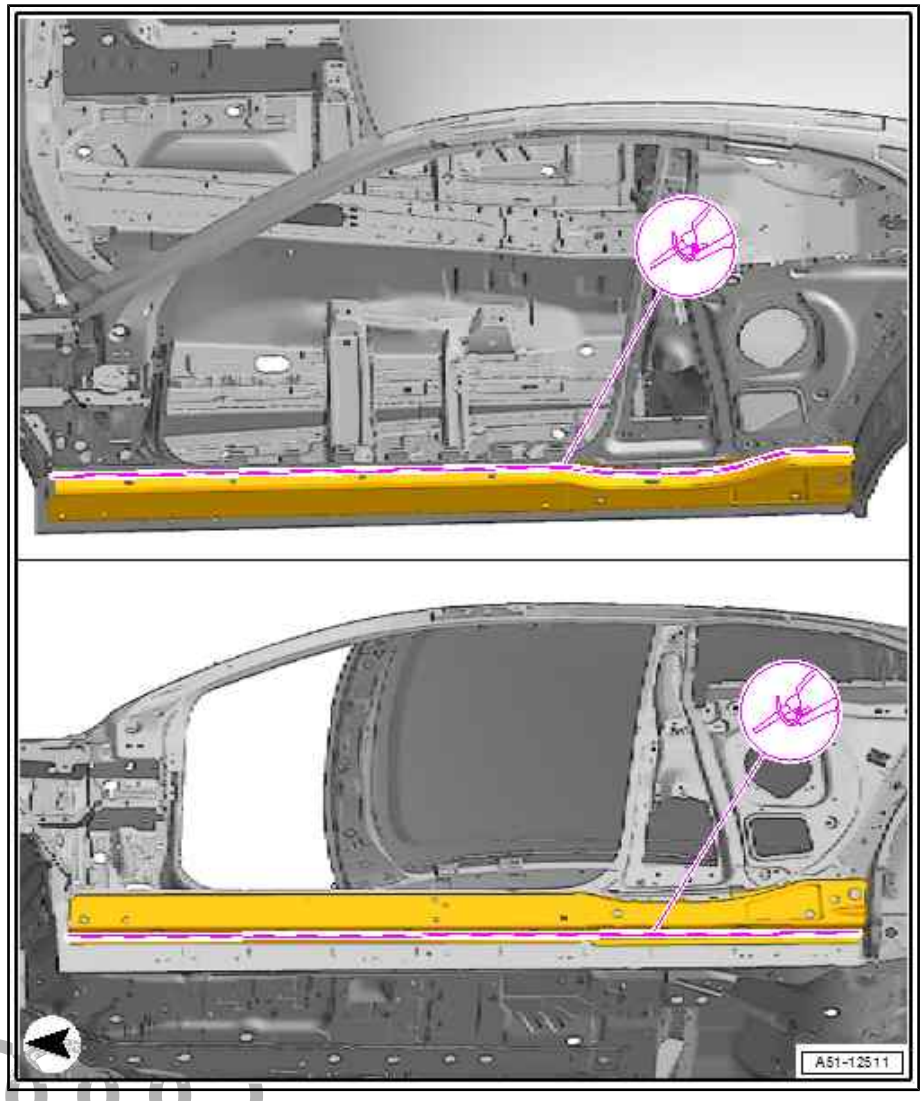
– Mark off separating cuts parallel to web plate for side member and make cuts using body saw .



– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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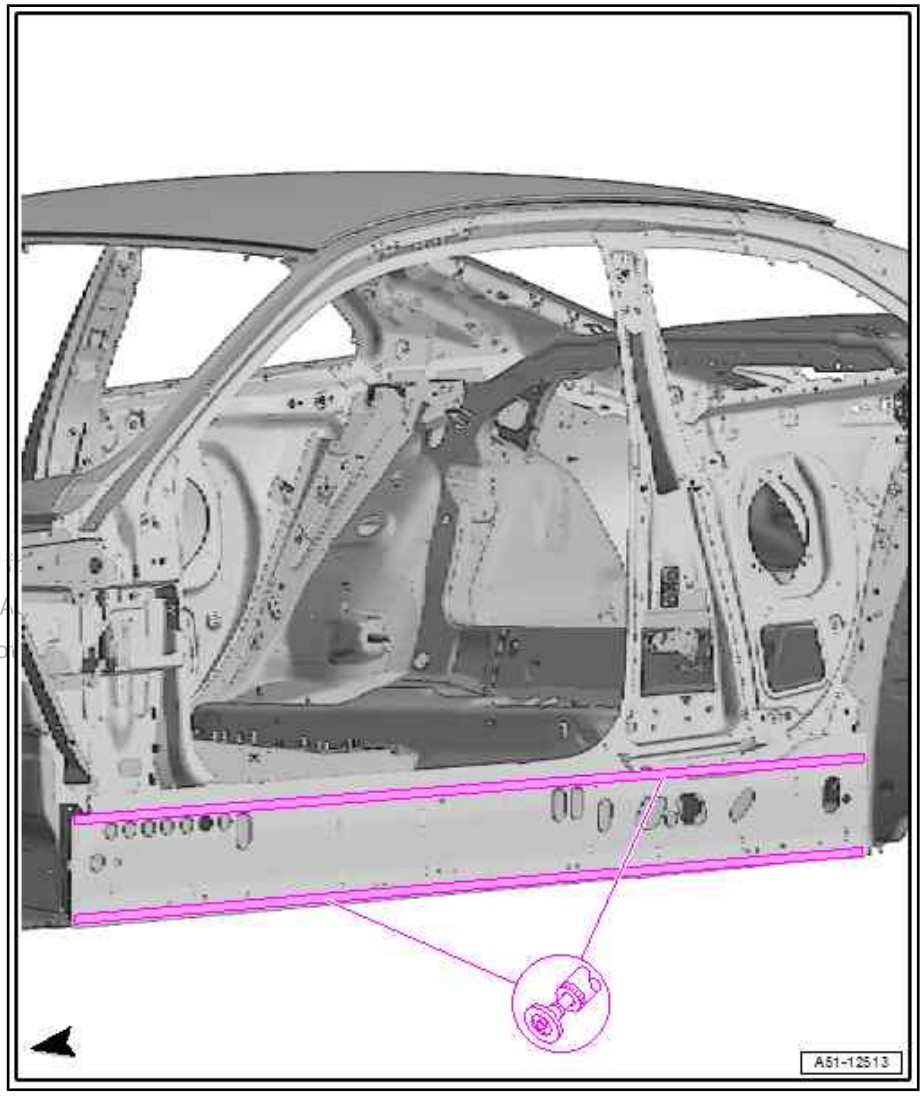

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Replacement part

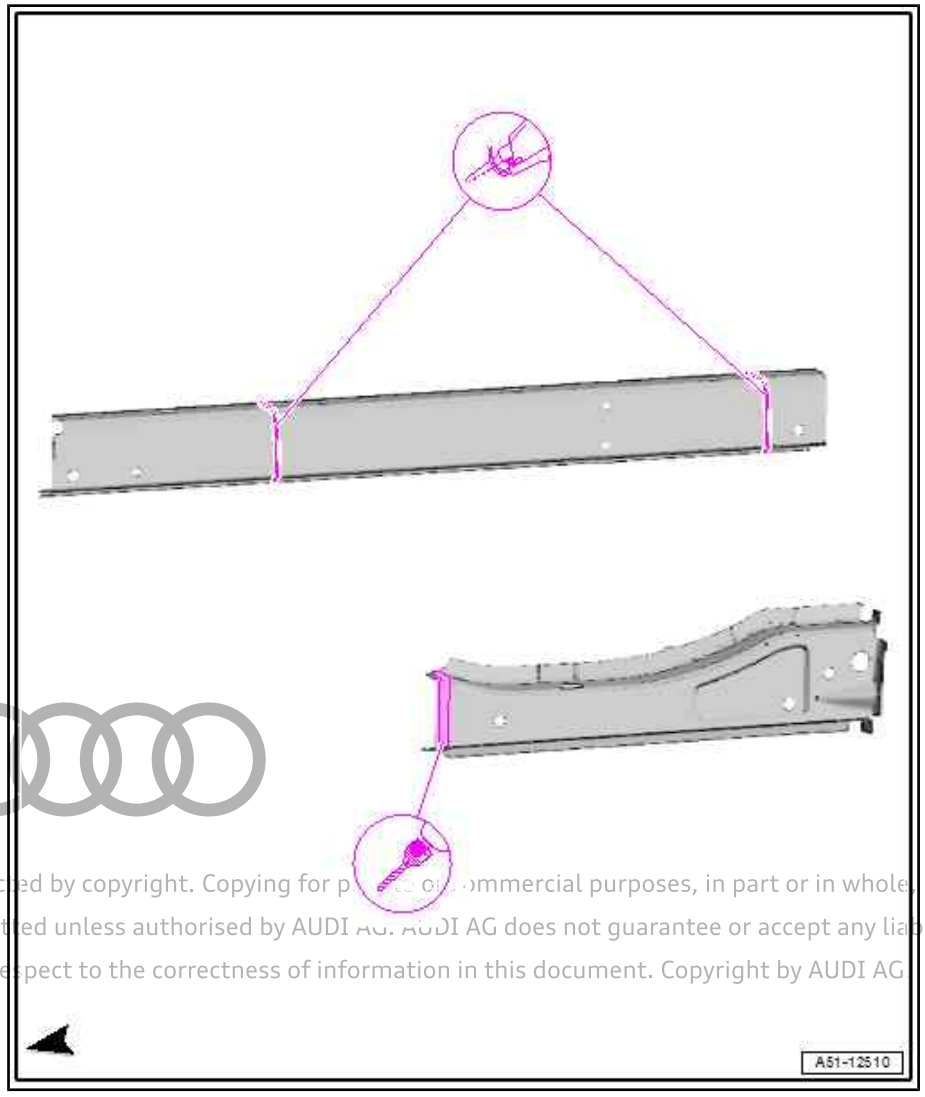
- Inner side member
- Rear side member extension

Preparing new part

Partial renewal

Transfer separating cuts to new part.

– Cut new part to size using body saw .
– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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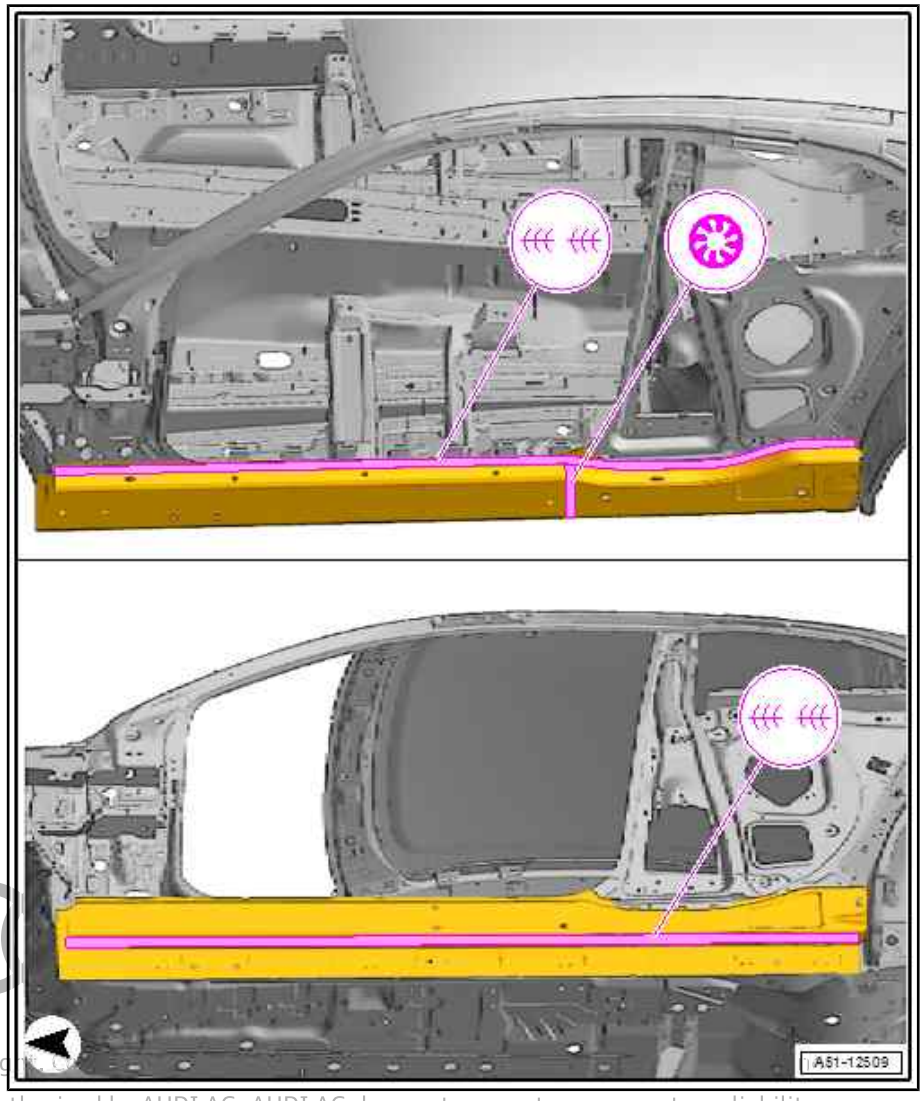
Note

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

Welding in

– Match up and fix new part in position.
– Check fit relative to adjacent parts.
– Weld in new part from above and below with fillet weld using shielded arc welding equipment : SG continuous seam (staggered - with gaps).



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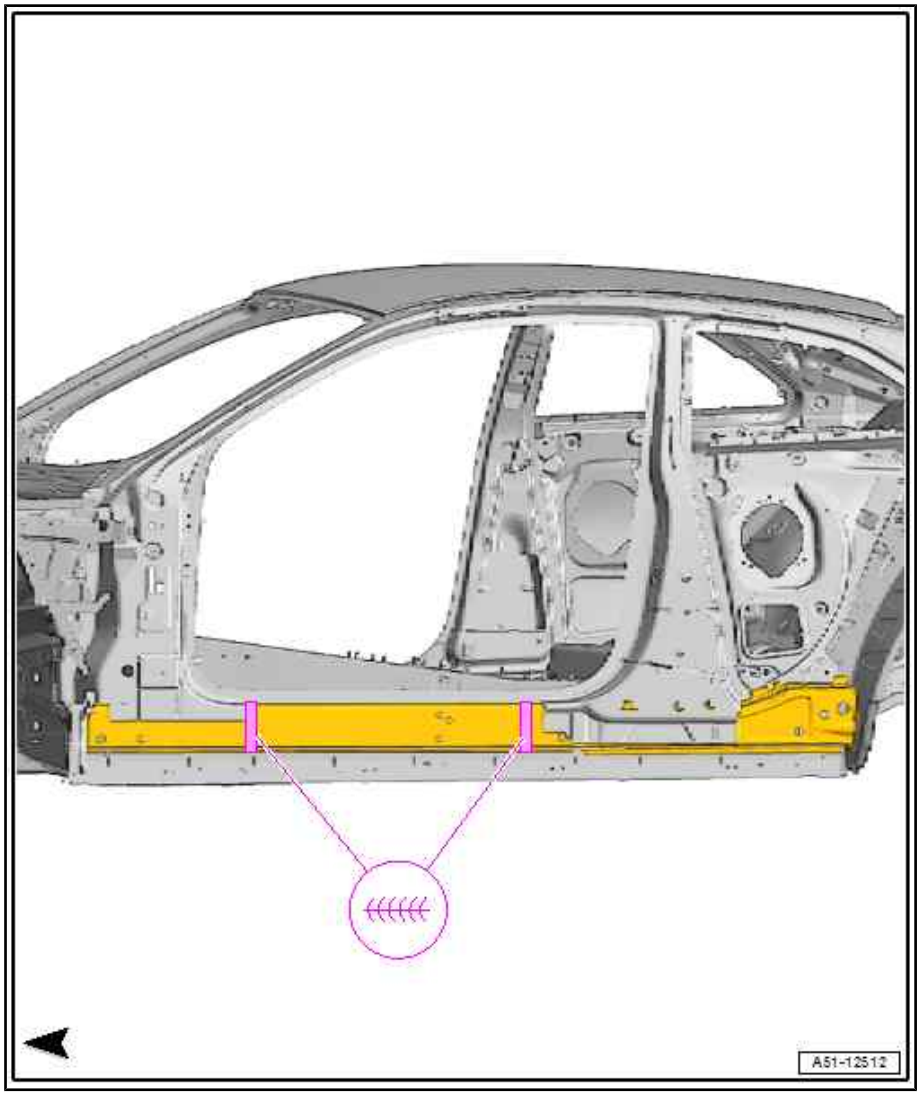
Partial renewal

Match up and fix new part in position.

Check fit relative to adjacent parts.

– Weld in new part from above and below with fillet weld using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
– Weld at separating cuts using shielded arc welding equipment : SG continuous seam.



- Install inner A-pillar ⇒ page 204 .
- Install outer A-pillar ⇒ page 199 .
- Install inner B-pillar (part section) ⇒ page 204 .
- Install outer side member ⇒ page 255 .
- Install side panel ⇒ page 336 .

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RO: 51 47 55 60

20 Inner side member - Renewal (Sportback)

Note

Observe safety precautions *⇒ page 3* *.*

1 - A-pillar

2 - Separating cut in front inner side member

Partial renewal
Partial renewal is possible with the separating cut shown.

3 - Inner side member

4 - Moulded foam insert

5 - Separating cut in front of B-pillar

Partial renewal
Partial renewal is possible with the separating cut shown.

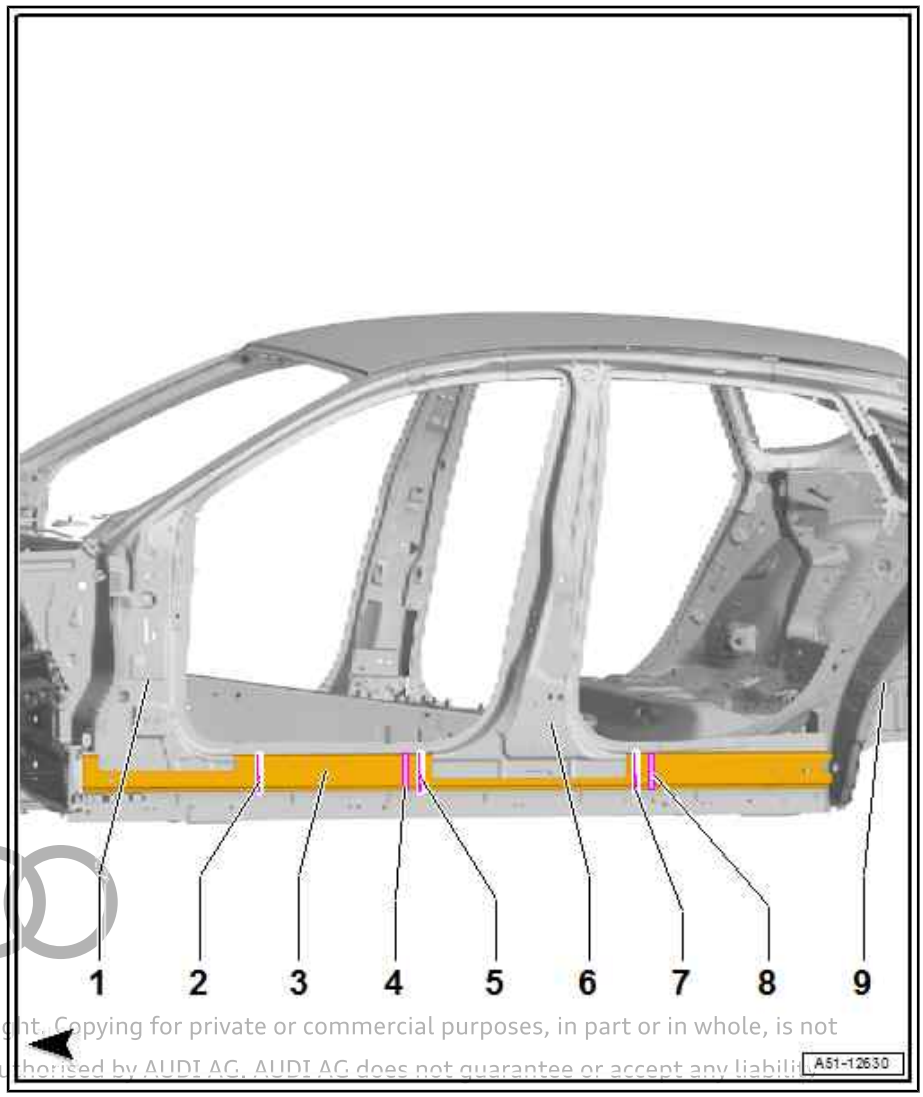
6 - B-pillar reinforcement

7 - Separating cut in rear inner side member

Partial renewal
Partial renewal is possible with the separating cut shown.

8 - Moulded foam insert

9 - Rear wheel housing



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20.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

20.2 Procedure

- Inner A-pillar already removed ⇒ page 204
- Outer A-pillar already removed ⇒ page 199
- Inner B-pillar (part section) already removed ⇒ page 239
- B-pillar already removed ⇒ page 220
- C-pillar reinforcement already removed ⇒ page 354
- Outer side member already removed ⇒ page 260
- Side panel already removed ⇒ page 336 .

Cutting locations

A separating cut can be made here so that the upper A-pillar does not have to be removed.

– Make separating cut as shown using body saw .

– Separate original joint using spot weld breaker .

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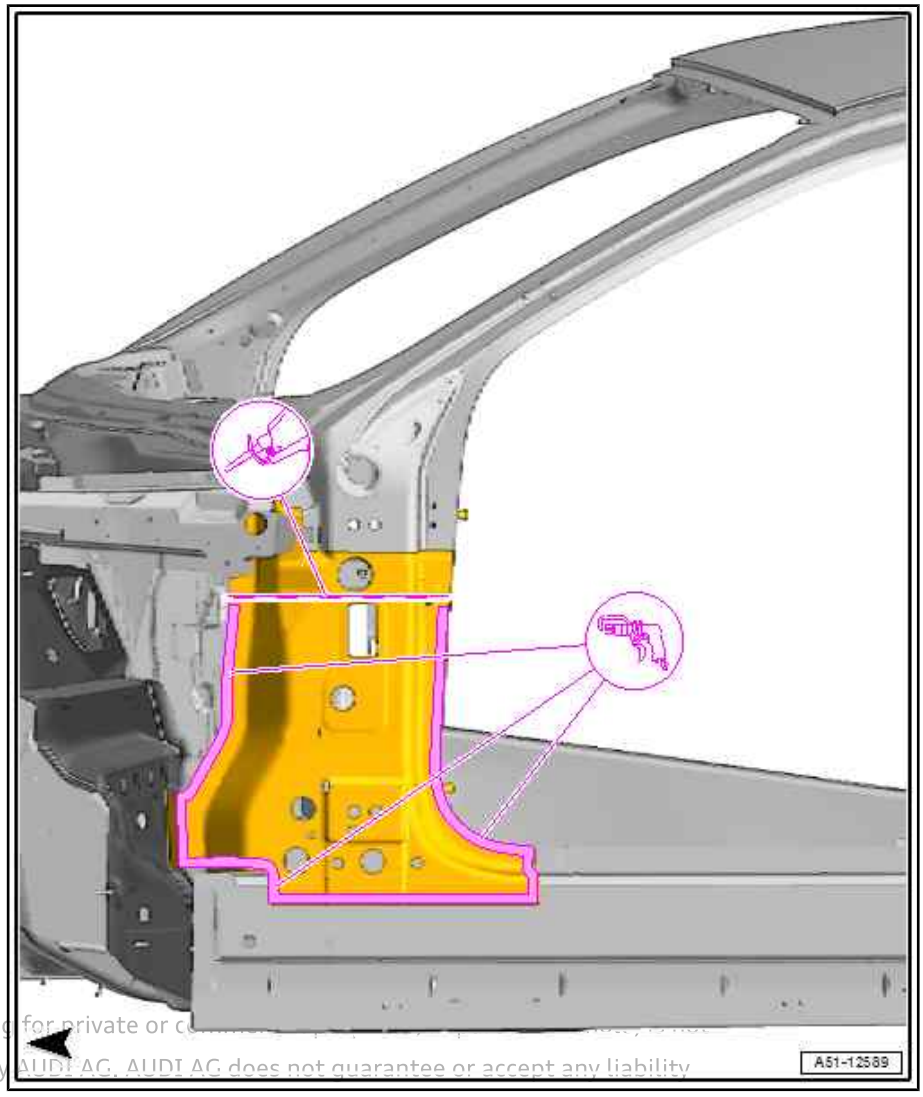

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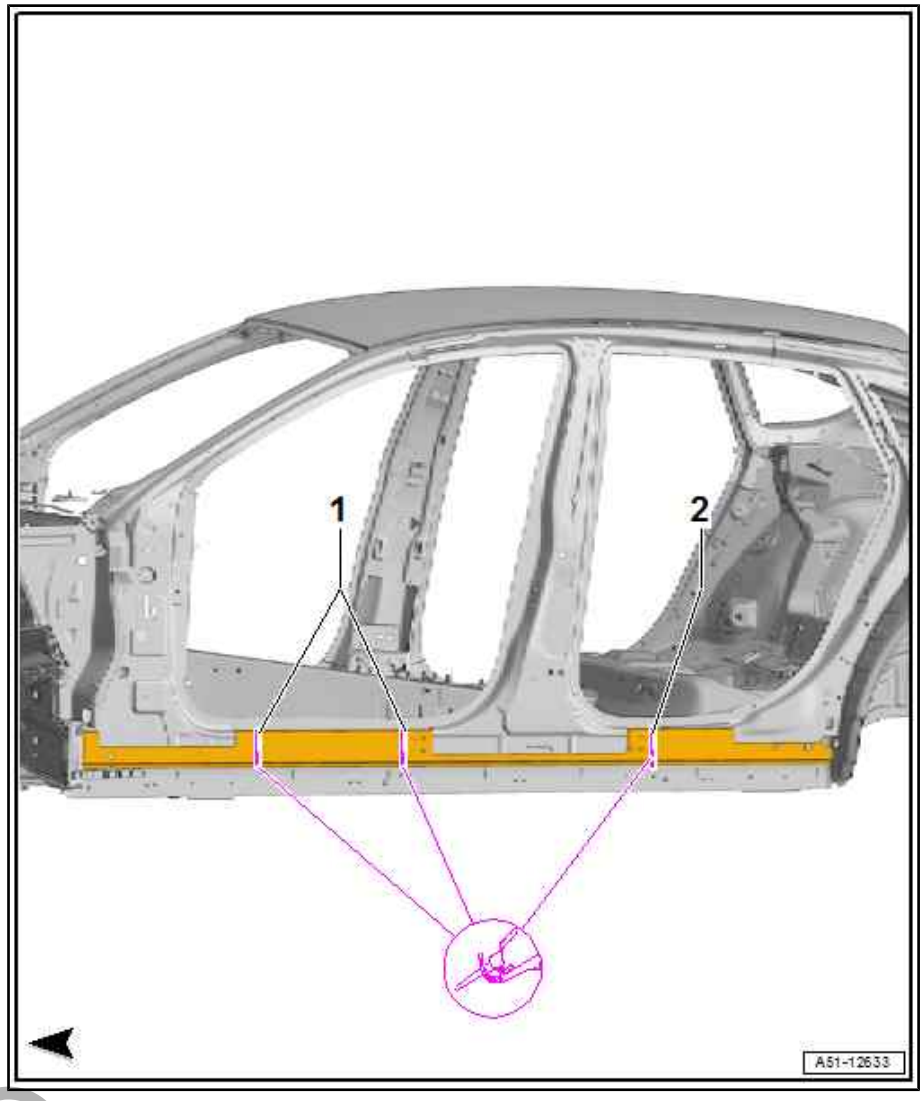
Partial renewal

Partial renewal is possible using separating cuts -1- and -2-.

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



– At the top, mark off separating cuts parallel to web plate for side member and make cuts using body saw .
– Separate original joint at the bottom using spot weld breaker .

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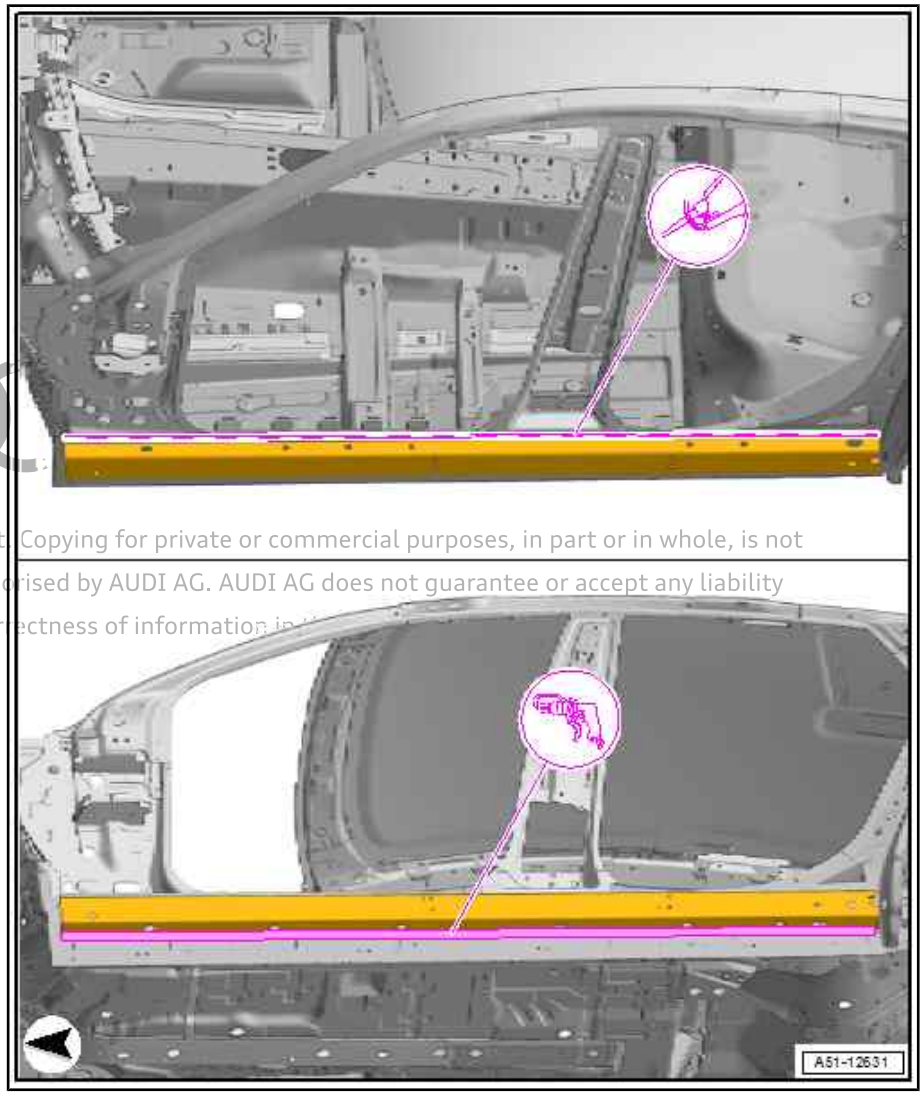

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– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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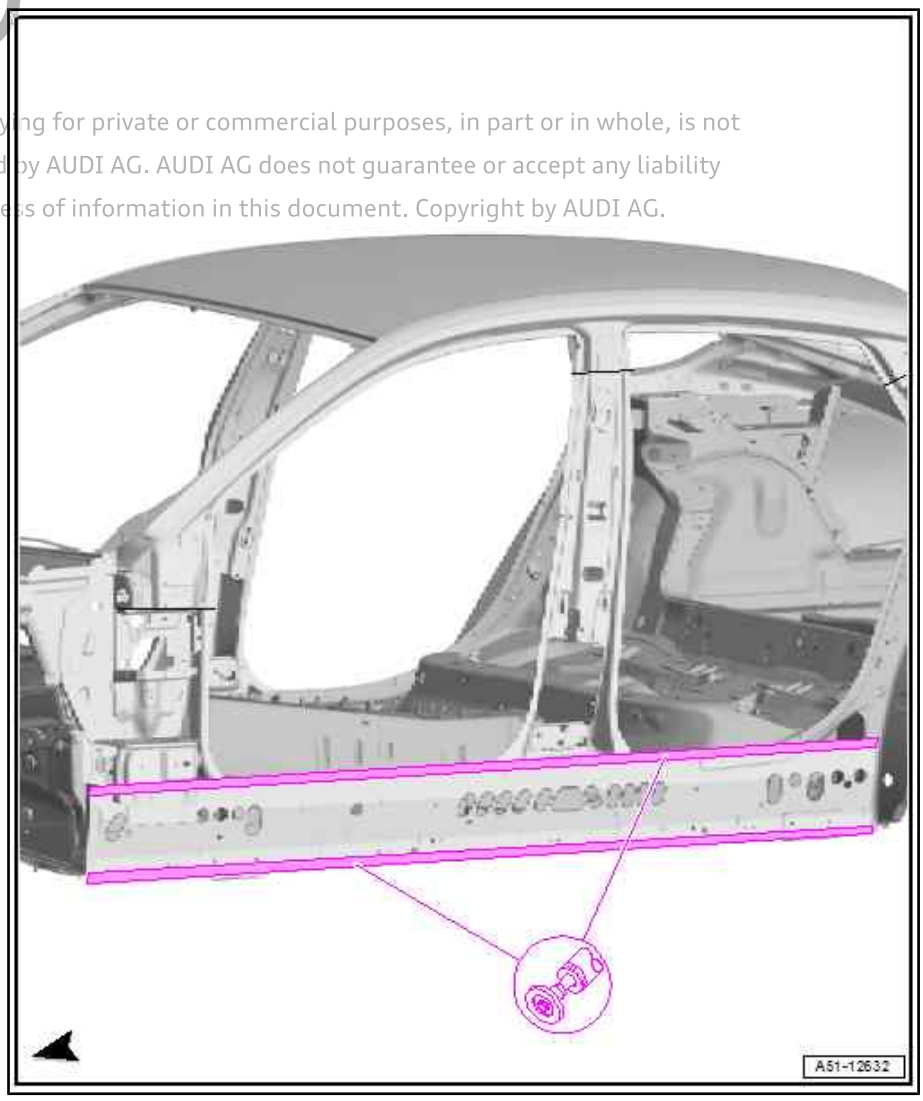


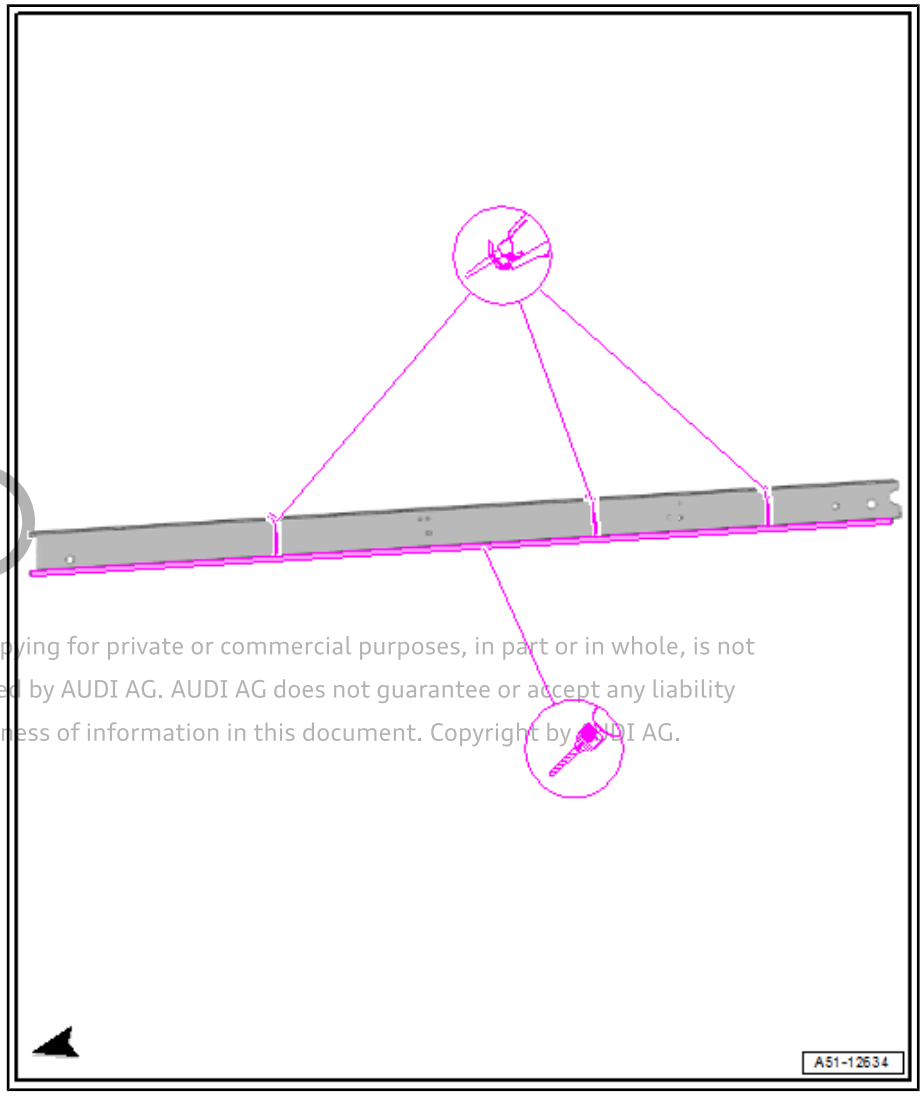
Replacement part

- Inner side member

Preparing new part

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

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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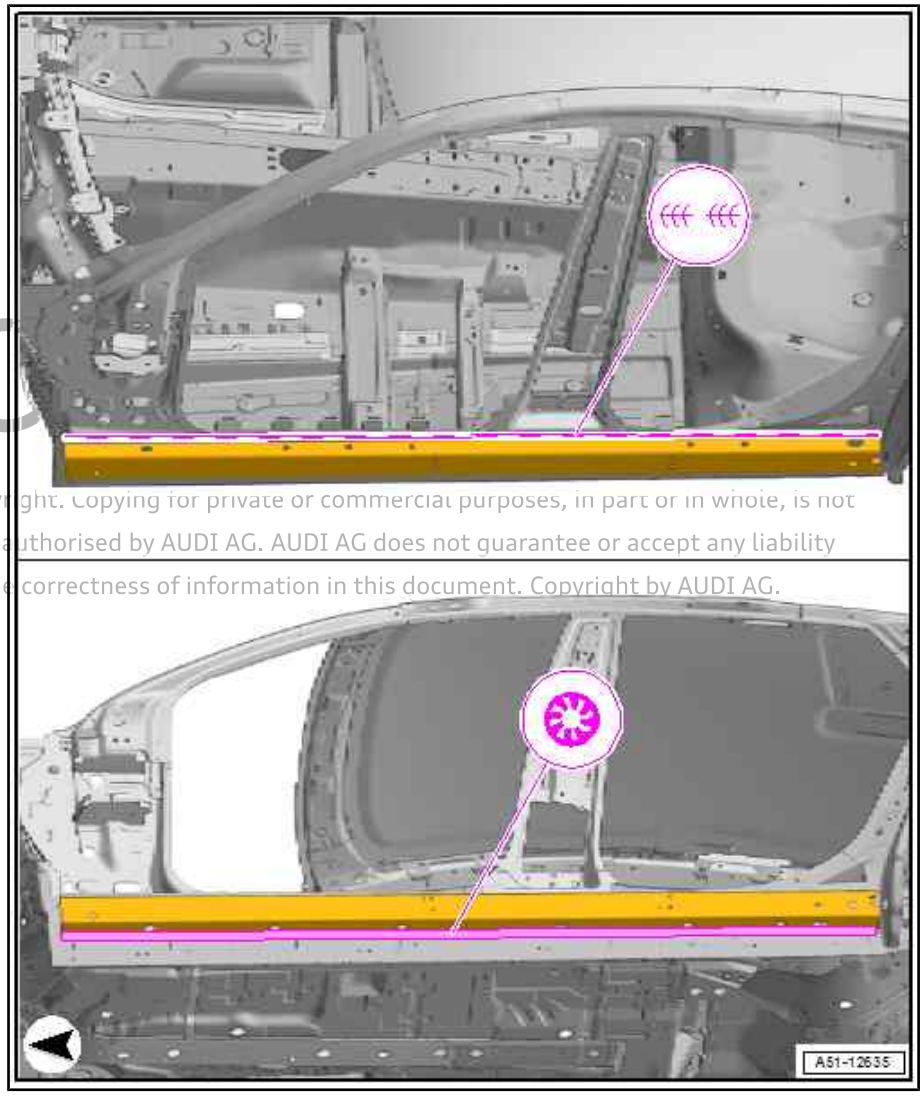
Note

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

Welding in

– Match up and fix new part in position.
– Check fit relative to adjacent parts.
– Weld in new part at the top using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
– Weld in new part at the bottom using shielded arc welding equipment : SG plug weld seam.



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Partial renewal

Match up and fix new part in position.

Check fit relative to adjacent parts.

Weld in new part at the top using shielded arc welding equipment :
SG continuous seam (staggered - with gaps).

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

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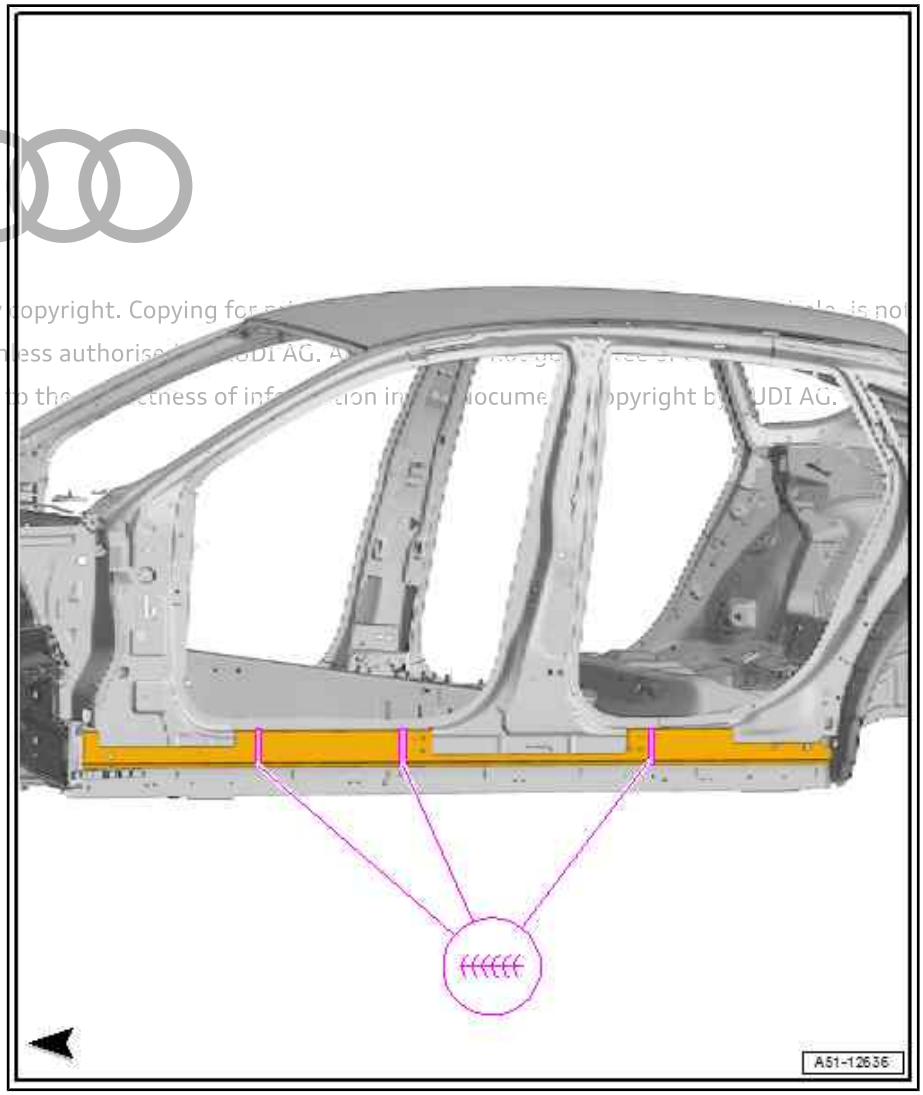


- Install inner A-pillar ⇒ page 204 .
- Install outer A-pillar ⇒ page 199 .
- Install inner B-pillar (part section) ⇒ page 239 .
- Install B-pillar ⇒ page 220 .
- Install C-pillar reinforcement ⇒ page 354 .
- Install outer side member ⇒ page 260 .
- Install side panel ⇒ page 336 .

RO: 51 46 55 01

21 Front seat cross member - Renewal (Coupé and Sportback identical)

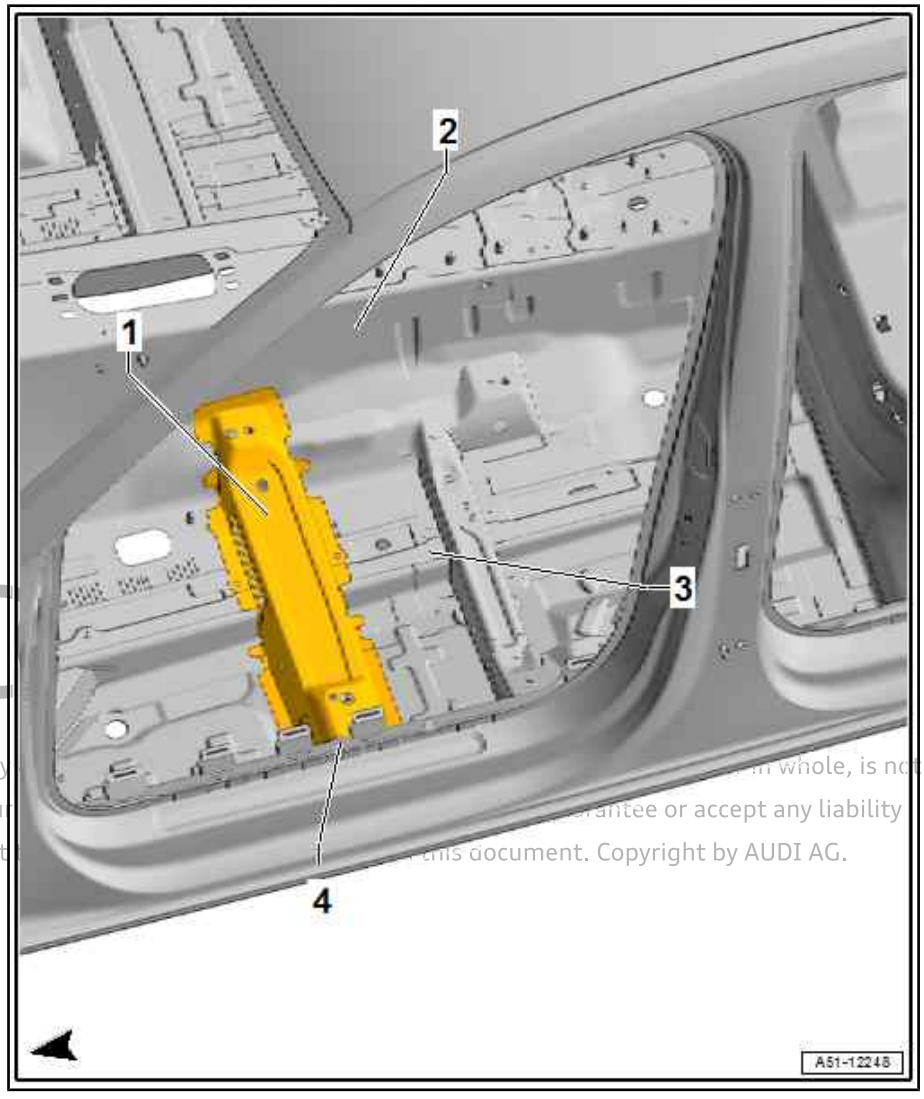
Note

Observe safety precautions ⇒ page 3 .

Note

- *If one of the threads in the seat cross member is damaged, the component must be renewed.*
- *The following instructions apply to the left side of the vehicle; the procedure for the right side is similar.*

1 - Front seat cross member
2 - Centre tunnel
3 - Floor panel
4 - Inner side member



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21.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ *page 32* .

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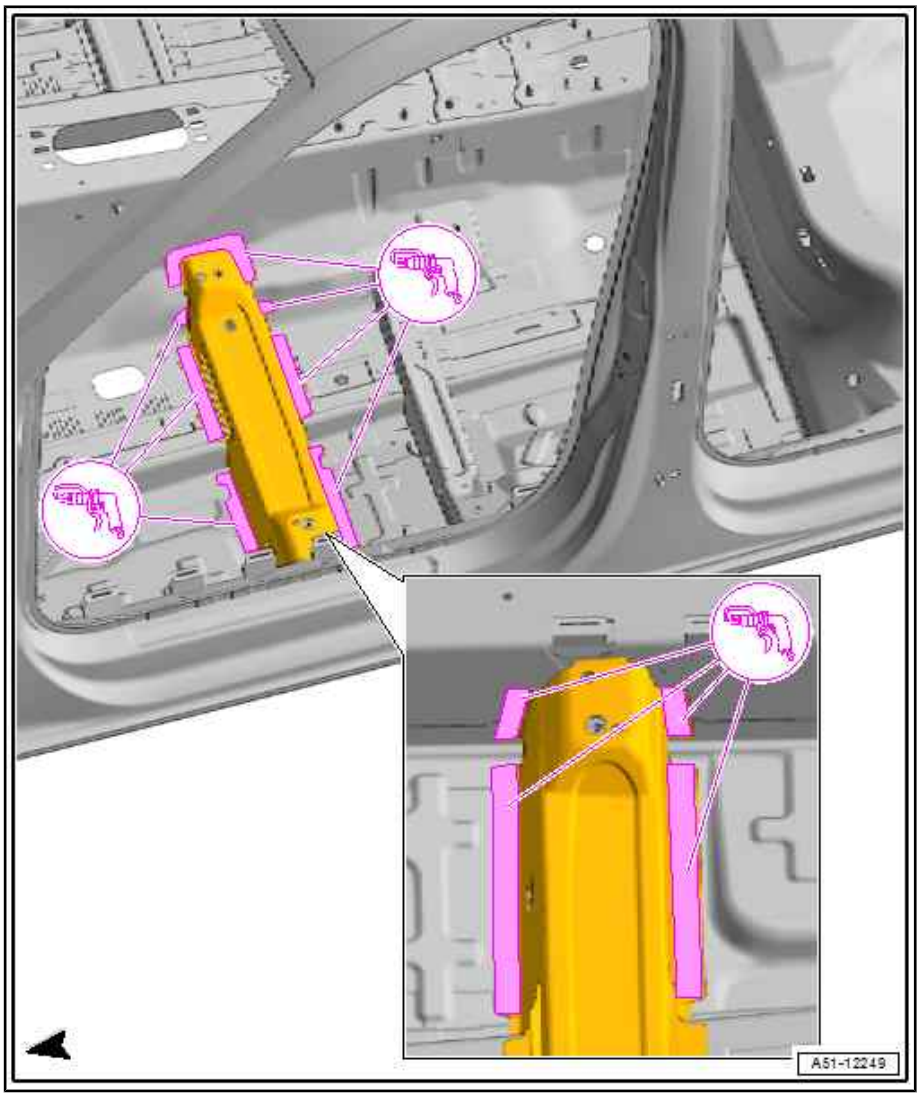
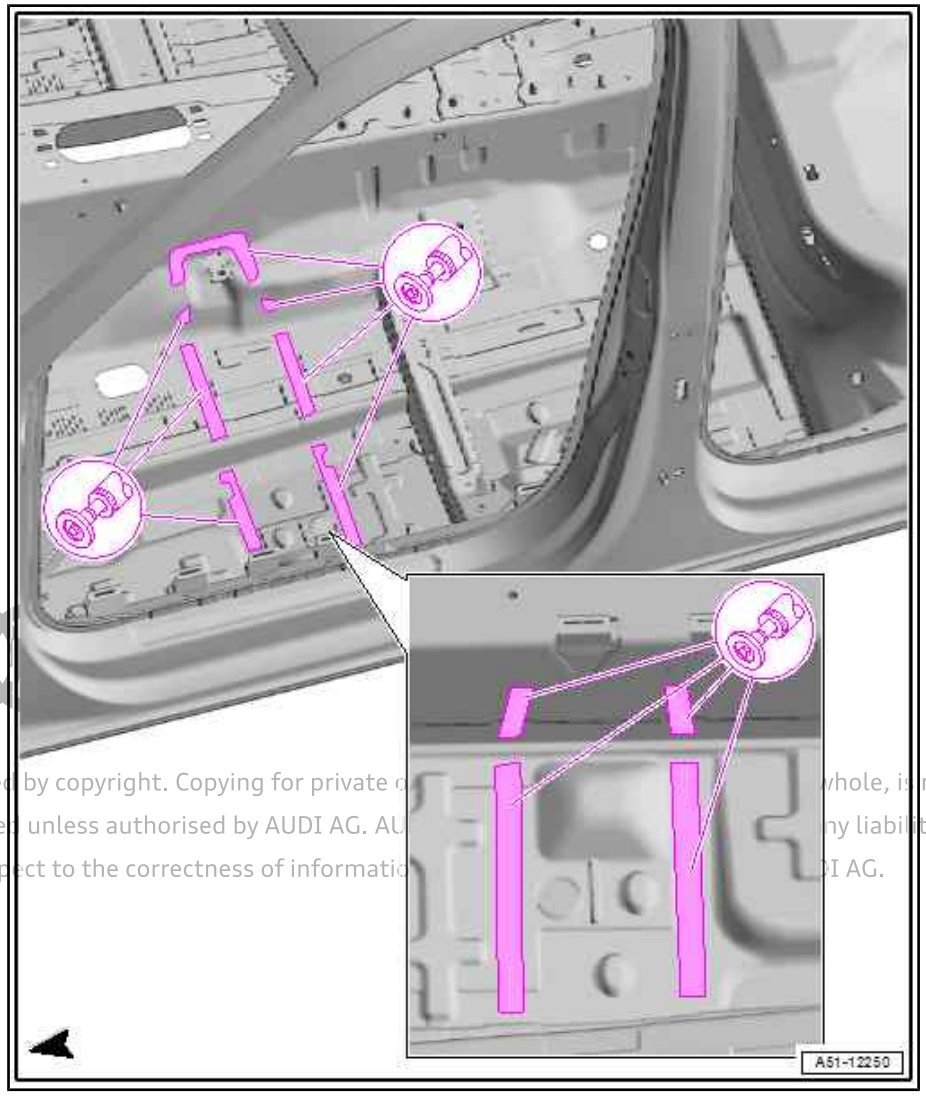
21.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .



– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



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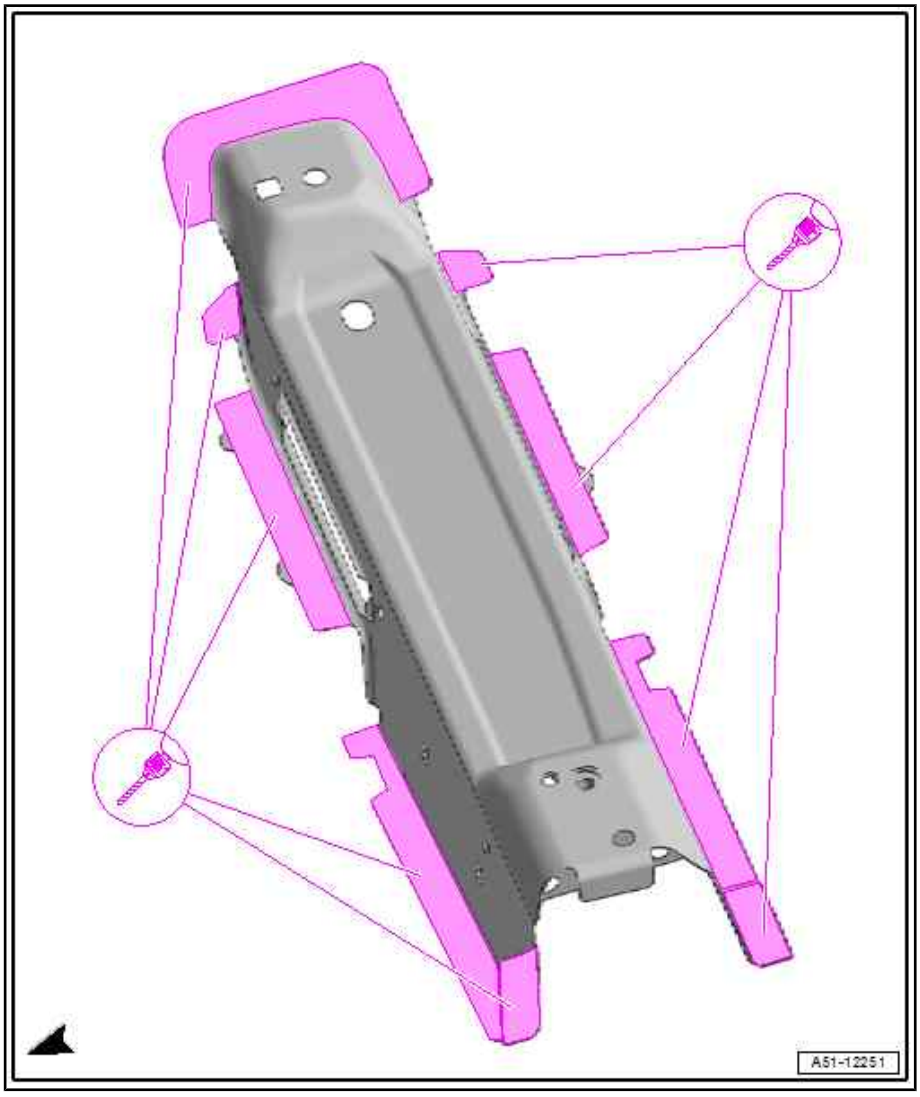
Replacement part

- Front seat cross member

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ 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

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

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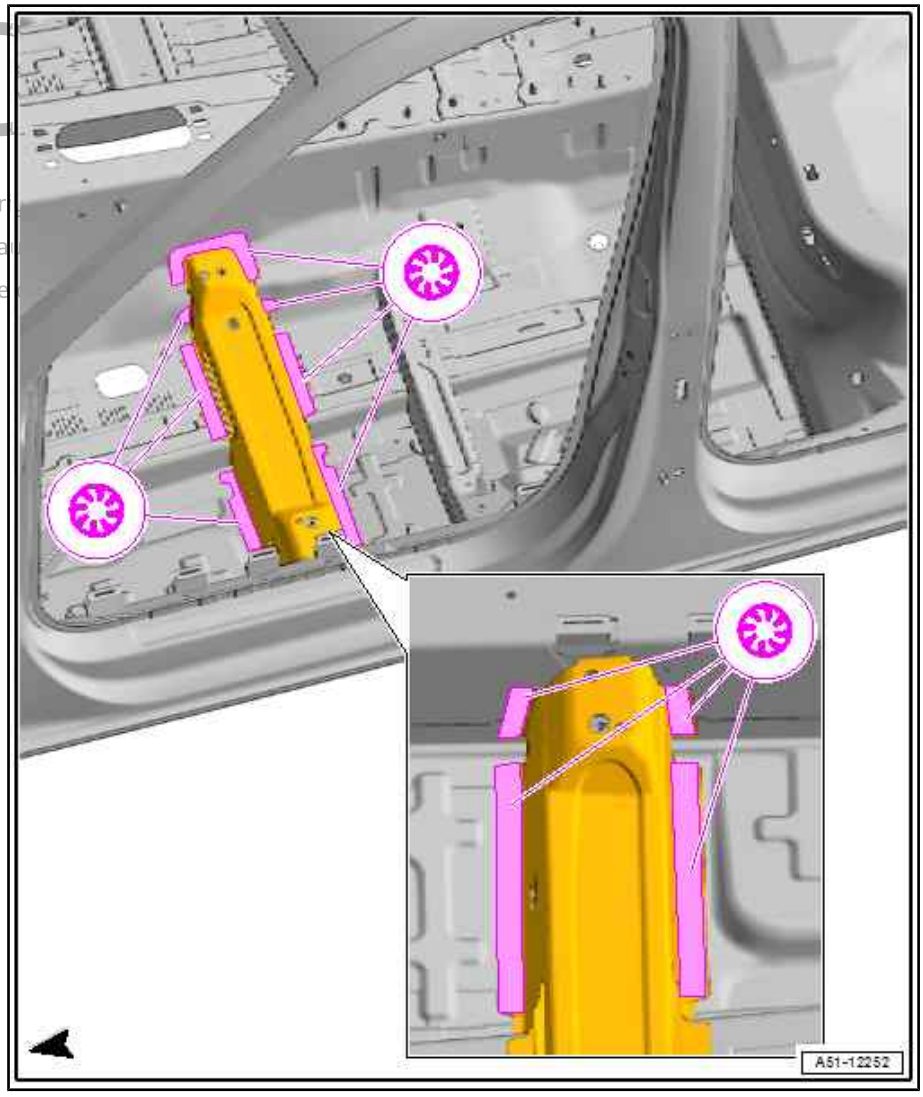


RO: 51 46 55 02

22 Rear seat cross member - Renewal (Coupé and Sportback identical)

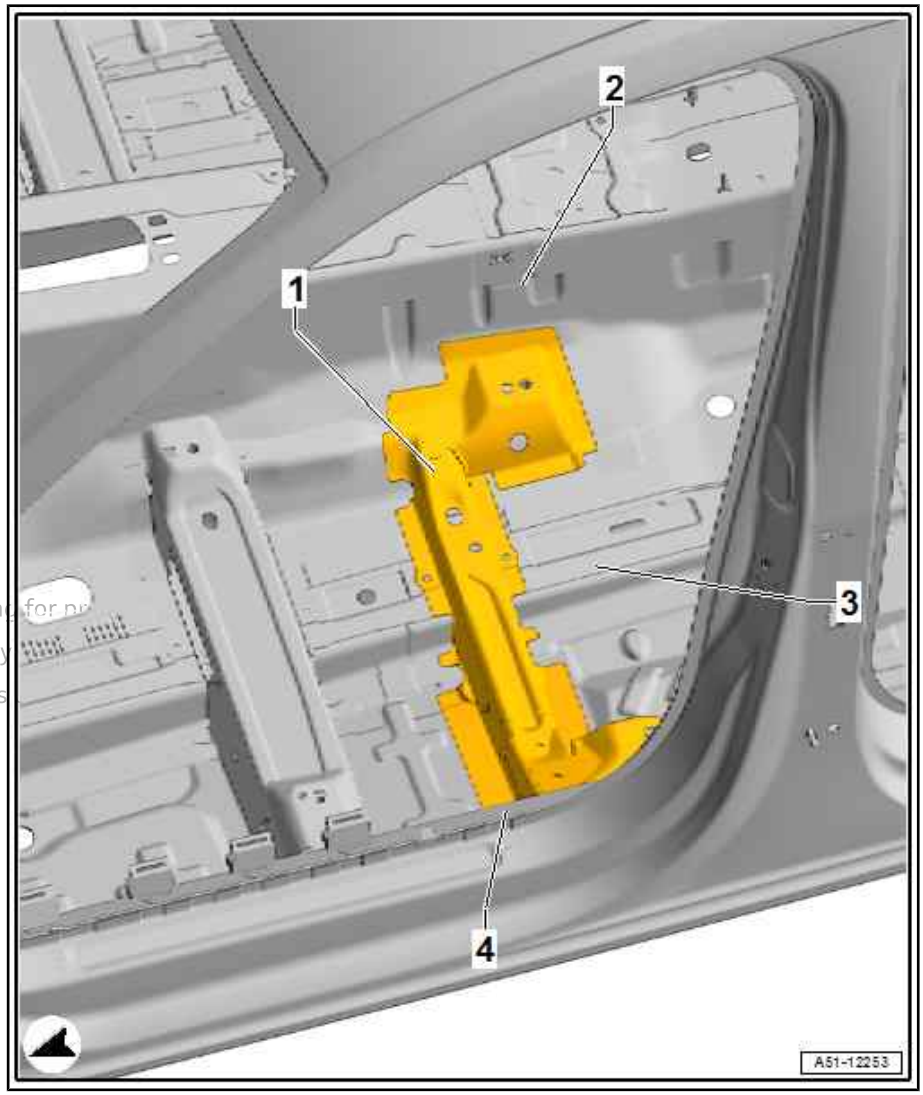
Note

Observe safety precautions ⇒ page 3 .

Note

- *If one of the threads in the seat cross member is damaged, the component must be renewed.*
- *The following instructions apply to the left side of the vehicle; the procedure for the right side is similar.*

1 - Rear seat cross member
2 - Centre tunnel
3 - Floor panel
4 - Inner side member



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22.1 Tools

Special tools and workshop equipment required

- Shielded arc welding equipment
- Brush grinder
- Spot weld breaker
- Drill

Note

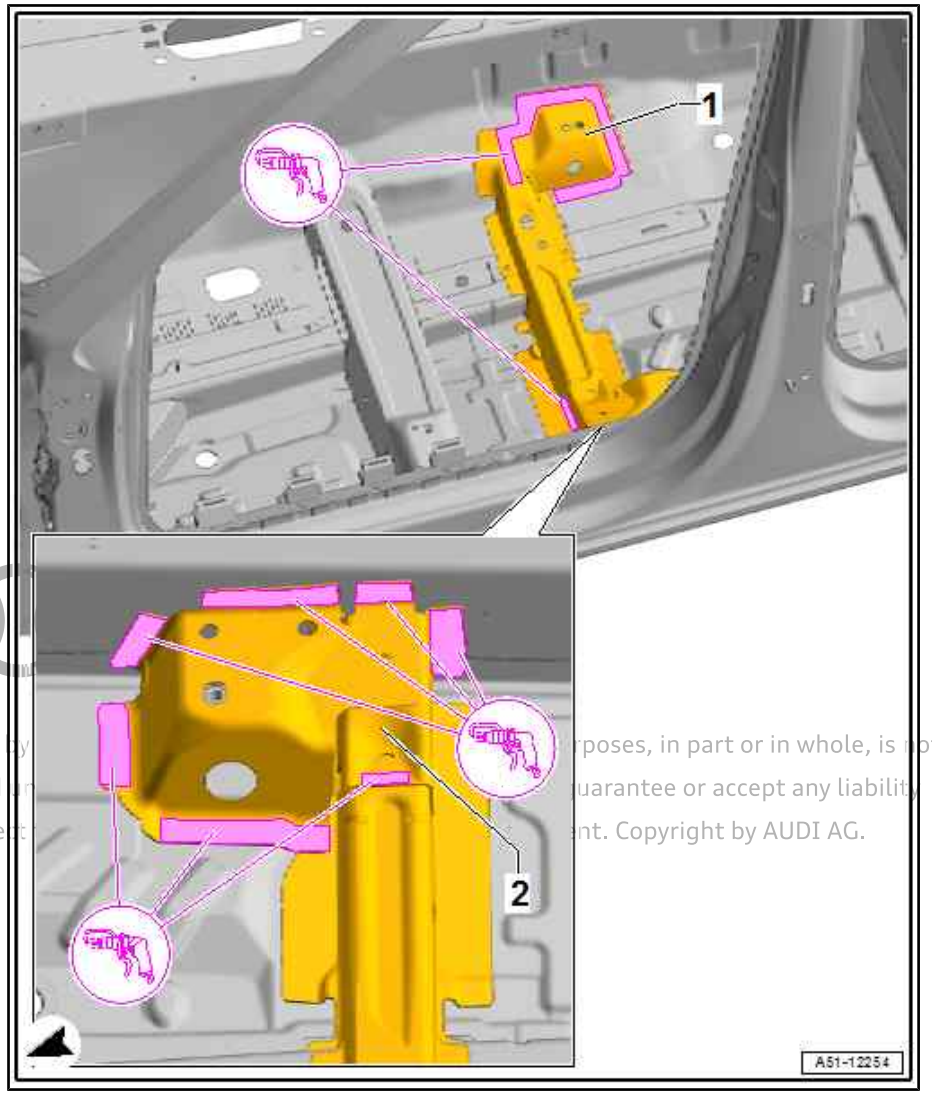
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

22.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .

– Detach seat mounting reinforcements -1- and -2-.



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– Separate original joint using spot weld breaker .

– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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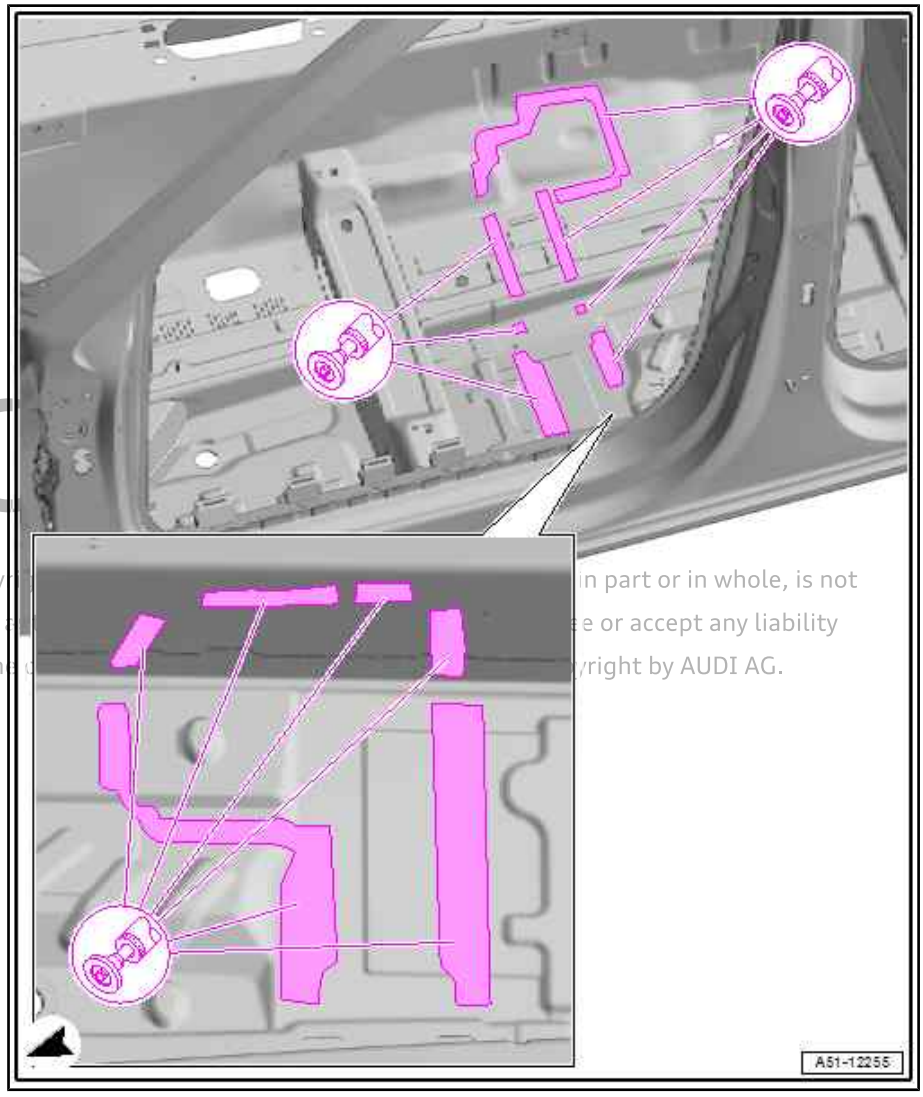

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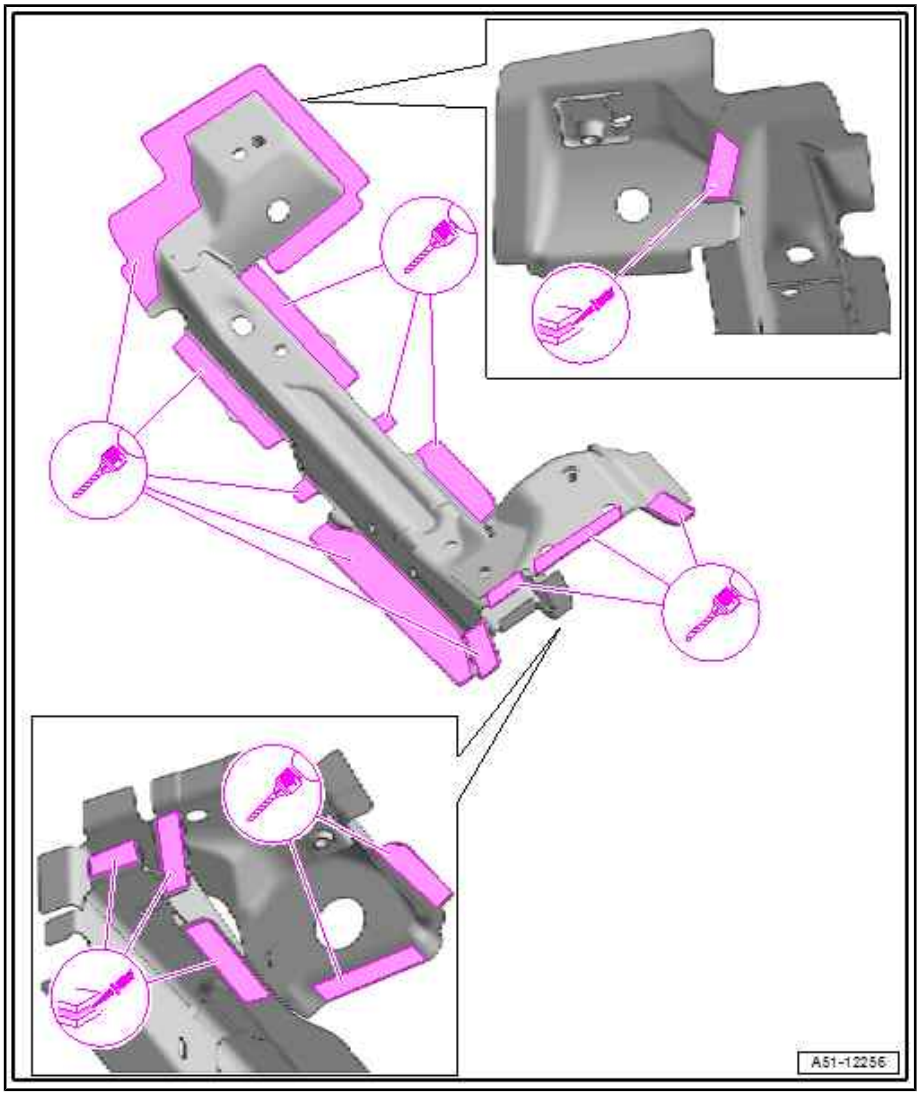
Replacement part

- Rear seat cross member

Preparing new parts

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

– Apply 2-component epoxy adhesive - DA 001 730 A2- (4 mm thick) using pneumatic glue gun - V.A.G 2005 B- .



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

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

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23 Centre tunnel - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

1 - Centre tunnel

- ❑ With ultra-high strength steel (hot-formed)

2 - Upper footwell cross member

3 - Longitudinal member (right-side)

4 - Front right seat cross member

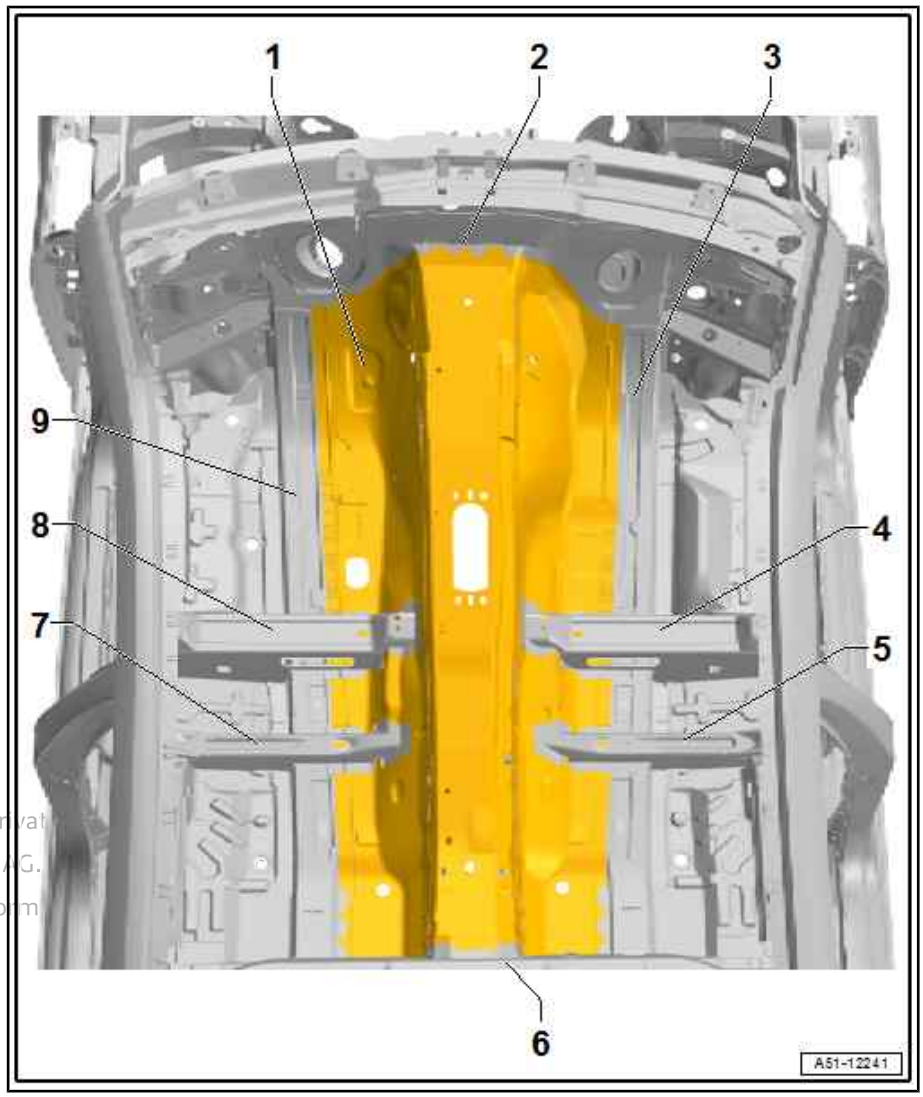
5 - Rear right seat cross member

6 - Seat cross member for rear seat bench

7 - Rear left seat cross member

8 - Front left seat cross member

9 - Longitudinal member (left-side)



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23.1 Tools

Special tools and workshop equipment required

- ♦ Shielded arc welding equipment
- ♦ Pneumatic brush grinder set
- ♦ Compact angle grinder
- ♦ Body saw
- ♦ Spot weld breaker
- ♦ Drill

Note

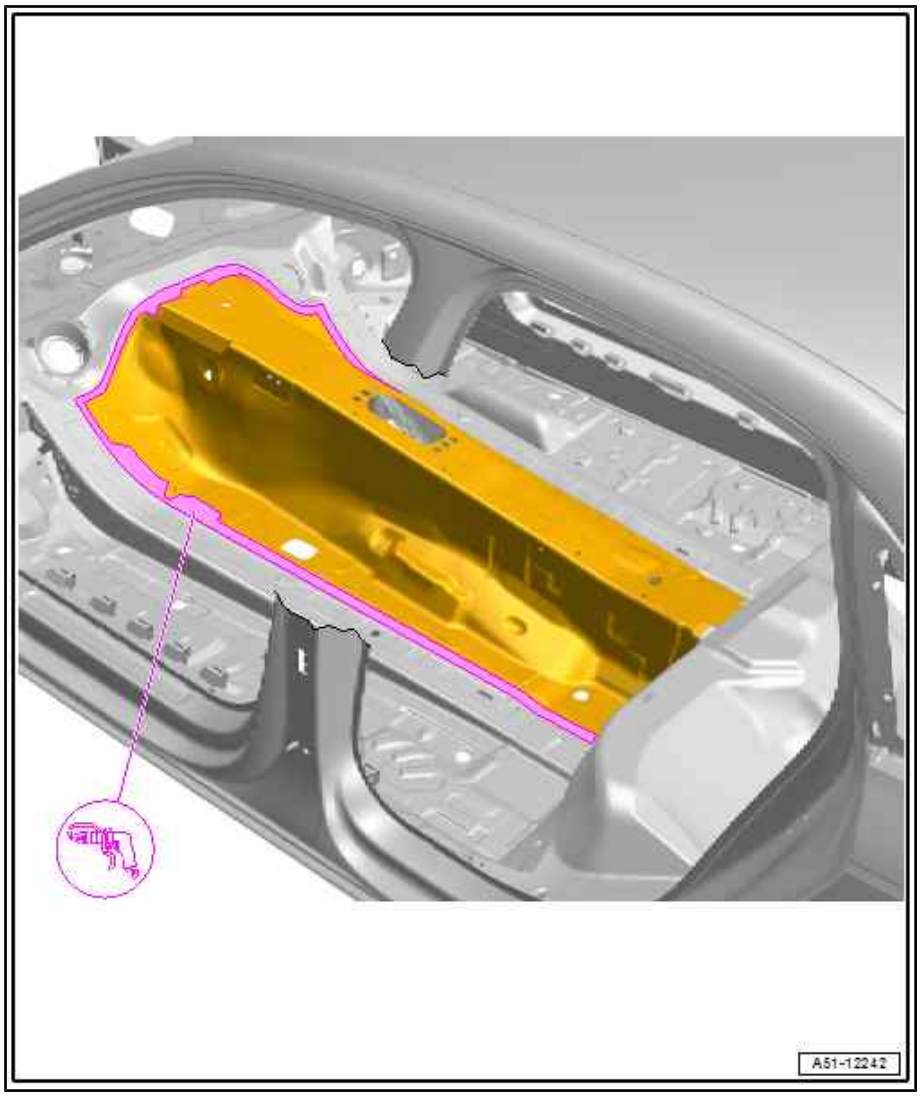
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

23.2 Procedure

- Front seat cross member already removed
  ⇒ “21 Front seat cross member - Renewal (Coupé and Sportback identical)”, page 282
- Rear seat cross member already removed ⇒ page 287
- Footwell cross member already removed
  ⇒ “7 Upper footwell cross member - Renewal (Coupé and Sportback identical)”, page 92

Cutting locations

– Separate original joint using spot weld breaker .



– Separate original joint using spot weld breaker .

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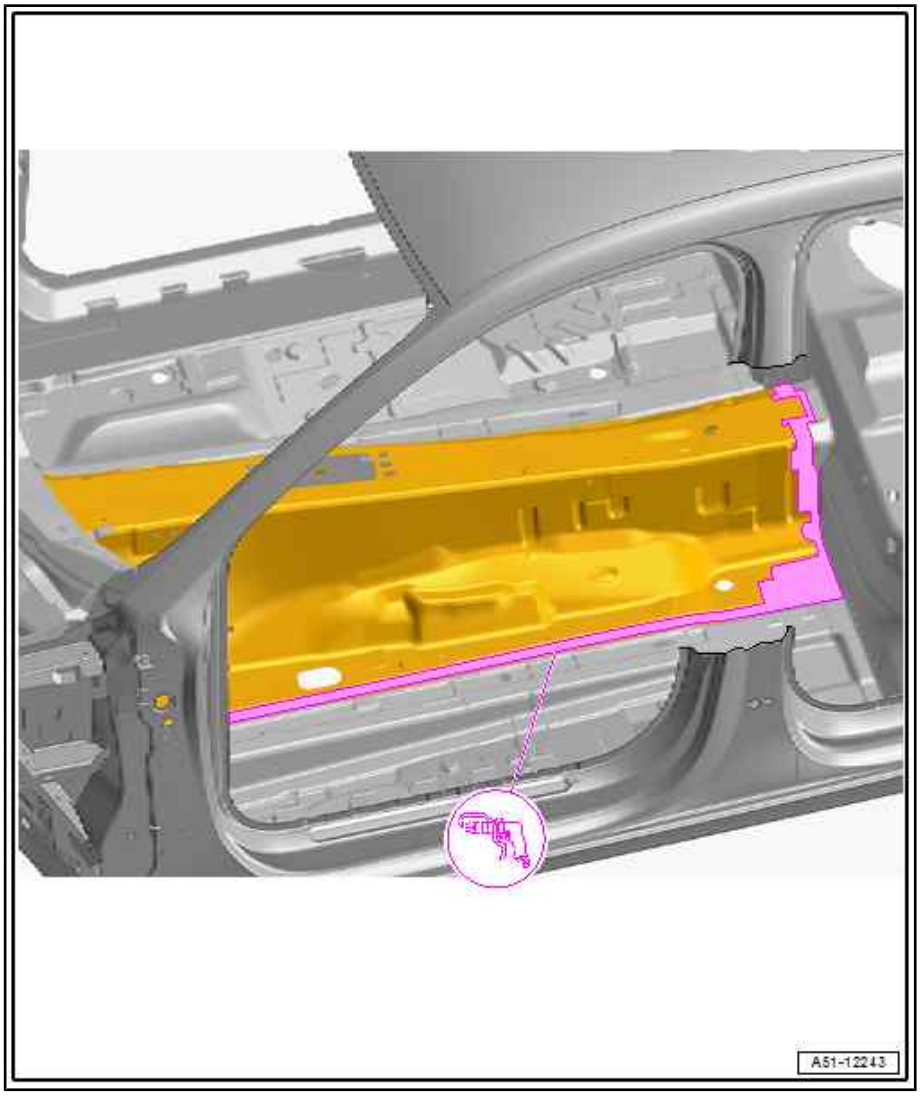

– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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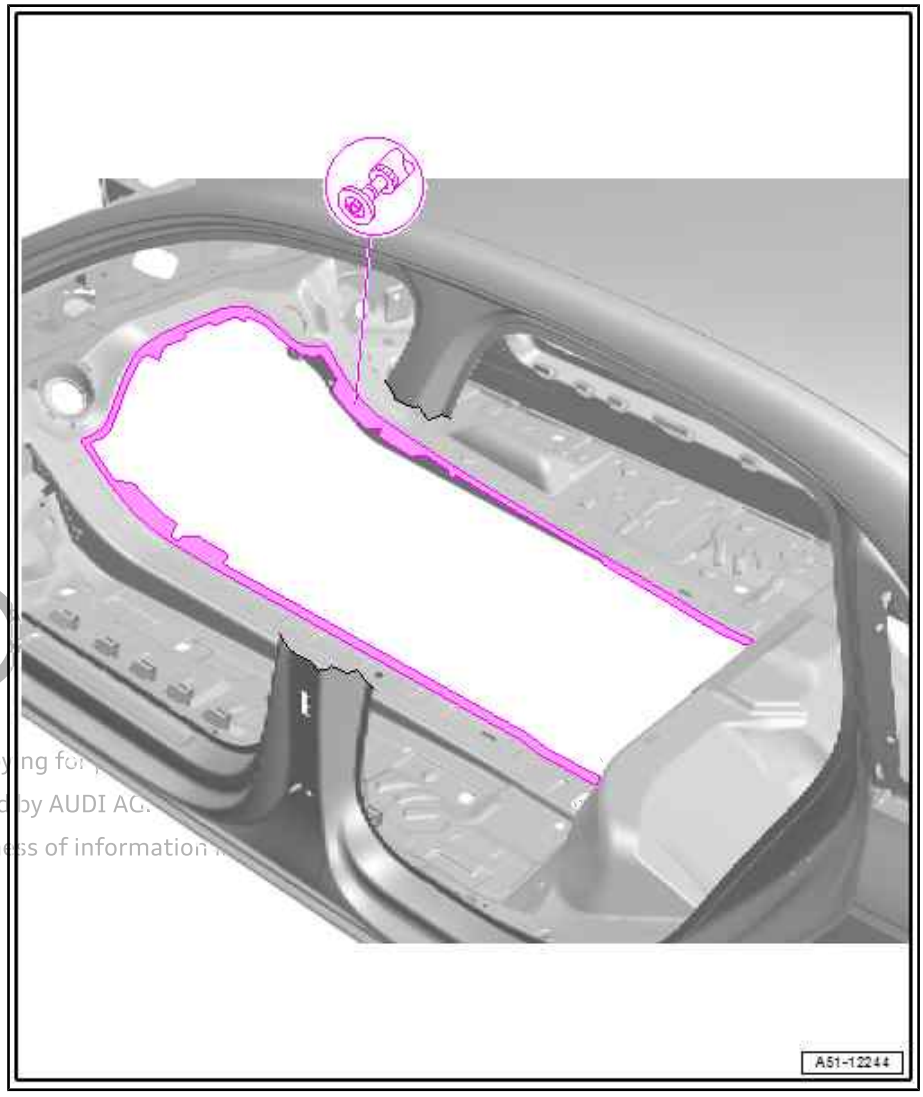

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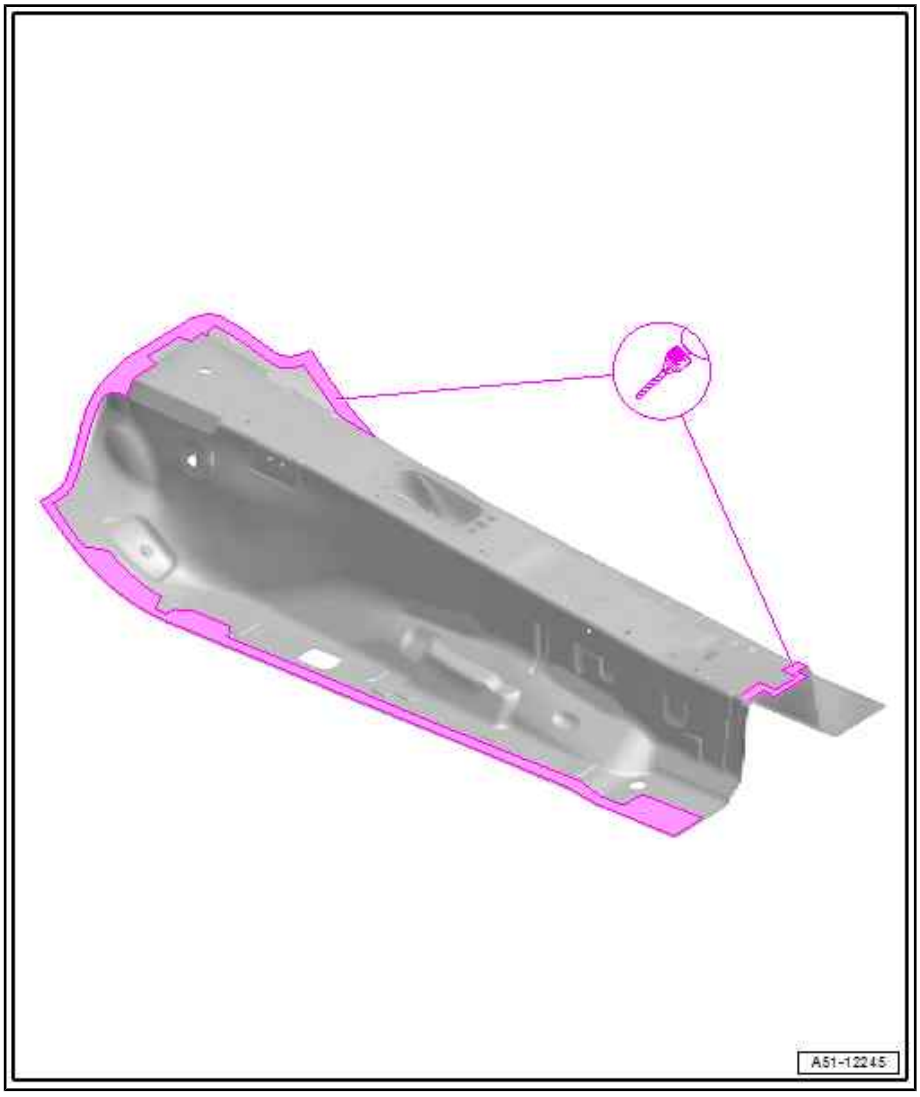
Replacement parts

- Tunnel

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ 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

– Match up new part with vehicle positioned on alignment bracket set and fix in place.
– Check fit relative to adjacent parts.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.

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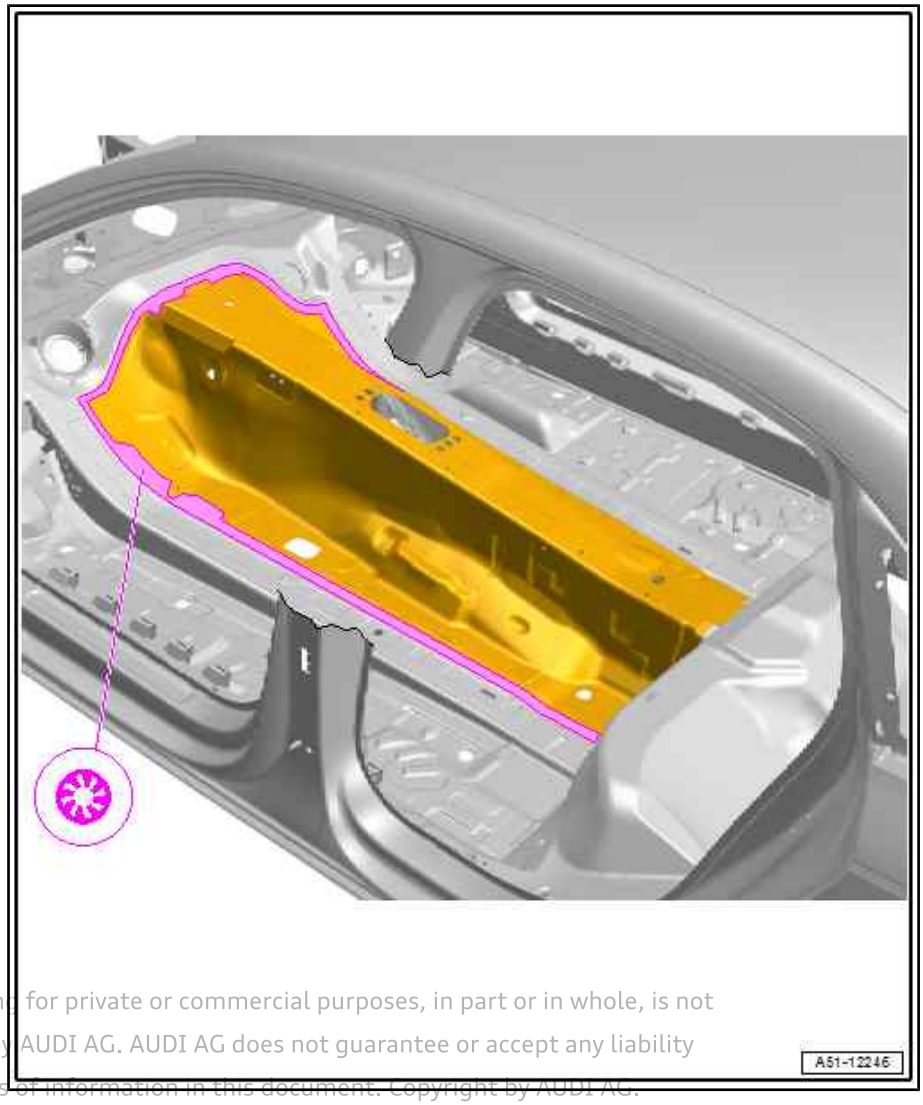

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– Weld in new part using shielded arc welding equipment : SG plug weld seam.

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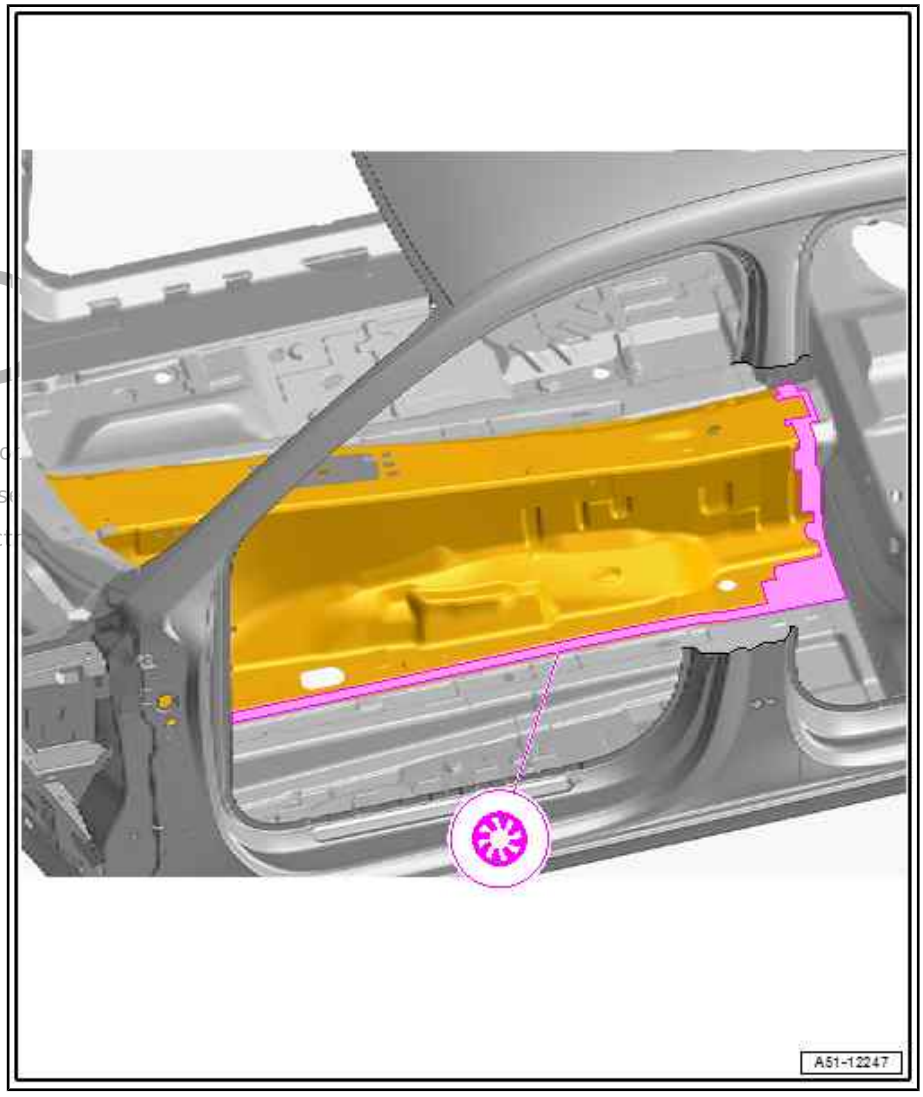


- Install footwell cross member
  ⇒ “7 Upper footwell cross member - Renewal (Coupé and Sportback identical)”, page 92 .
- Install rear seat cross member ⇒ page 287 .
- Install front seat cross member
  ⇒ “21 Front seat cross member - Renewal (Coupé and Sportback identical)”, page 282 .

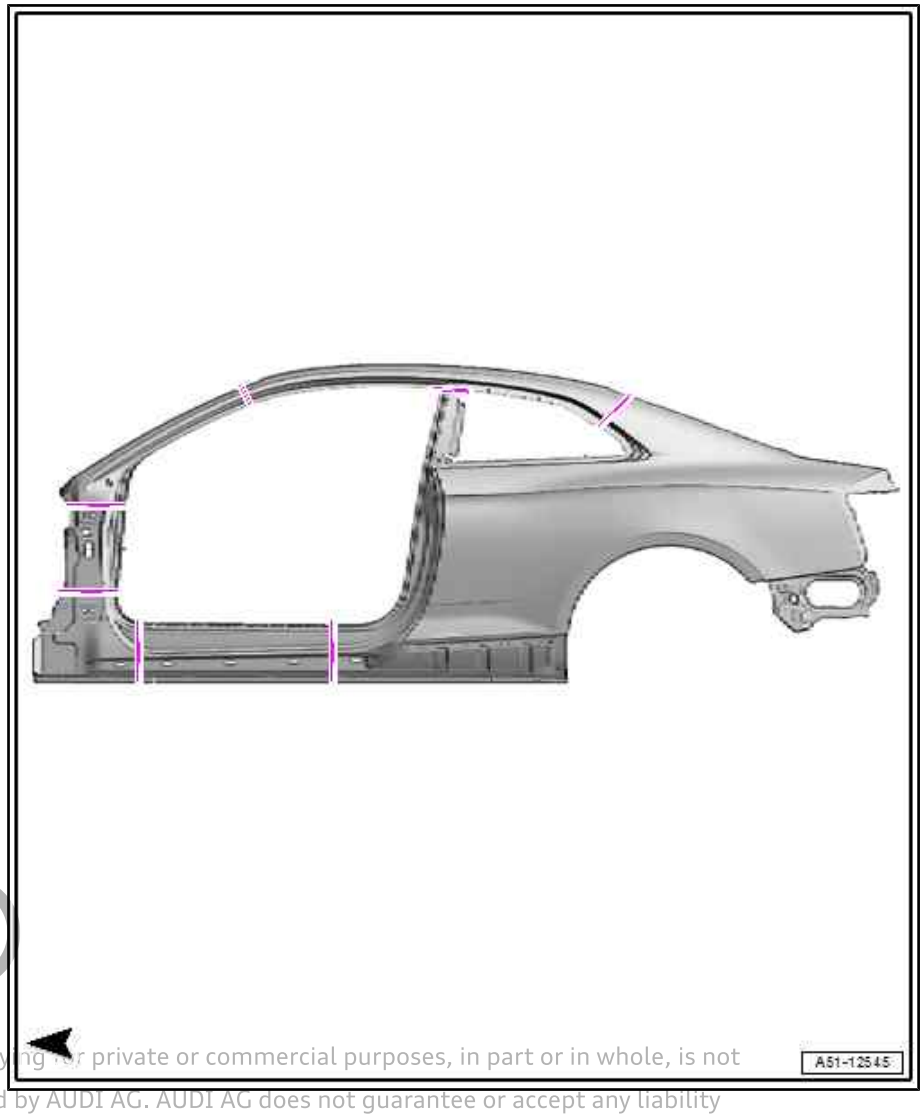
53 – Body - rear

1 Permitted separating cuts on complete side panel

Note

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

Coupé



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Sportback

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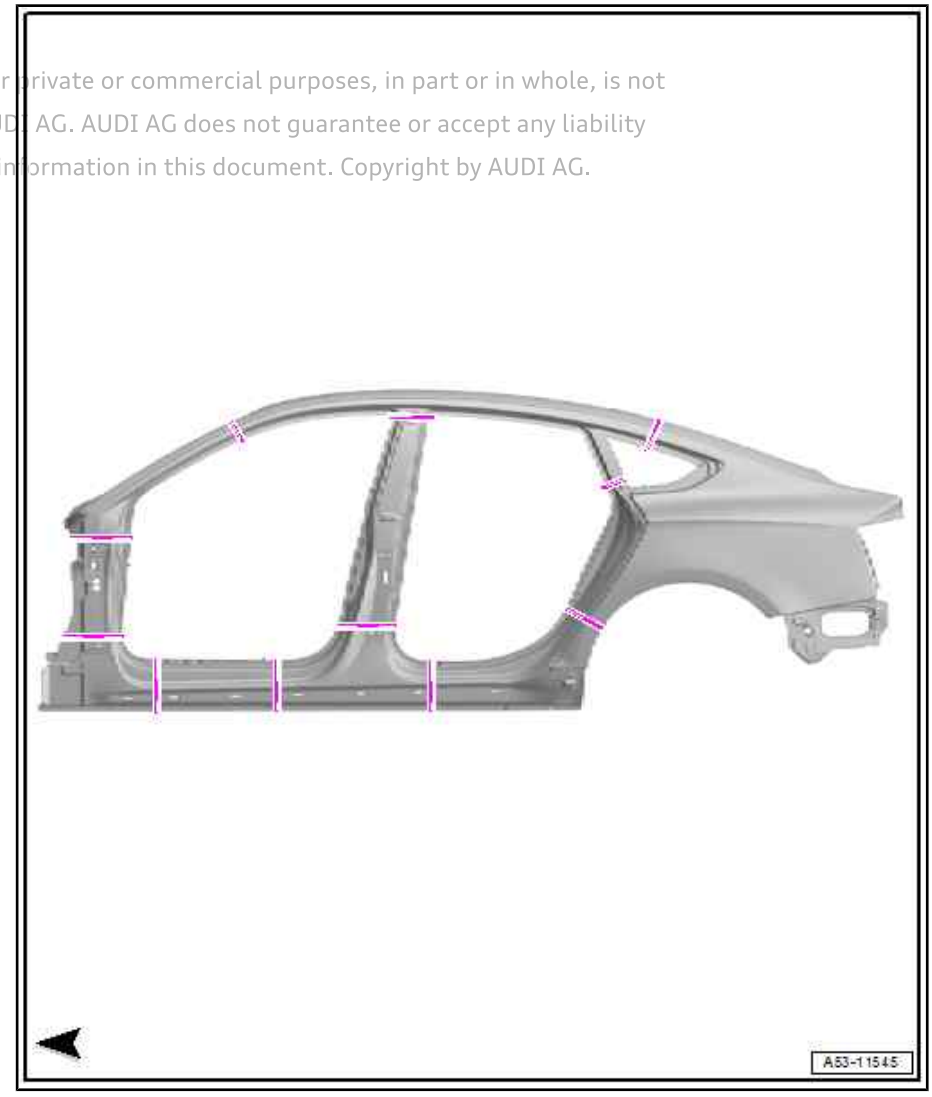

1. Permitted separating cuts on complete side panel

RO: 53 16 55 00

2 Cross panel - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- **If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.**
- **Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .**

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- **Never work on a natural gas system if you can hear gas escaping.**
- **Never drive the vehicle into the workshop if you can hear gas escaping.**
- **Park the vehicle outside and set up a protected area.**

Danger due to gases which are hazardous to health

Sparks are generated during welding and cutting work. Gases which are hazardous to health are generated if sparks make contact with foam-filled areas within the vehicle body.

- Do not use spark-generating tools to perform welding and cutting work in the vicinity of foam-filled areas.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

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DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

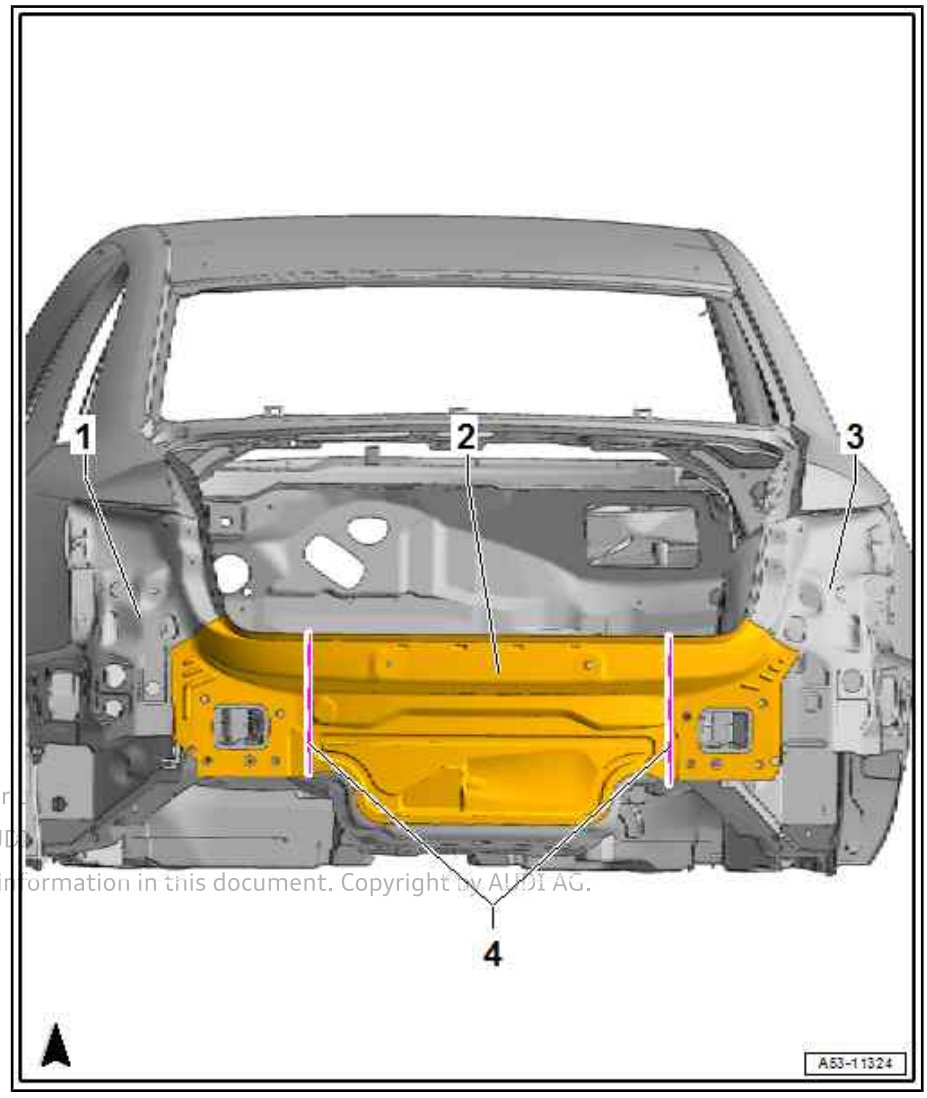
1 - Tail light mounting (left-side)

2 - Cross panel

3 - Tail light mounting (right-side)

4 - Separating cuts for cross panel

Partial renewal
Partial renewal is possible using the separating cuts shown.



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2.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

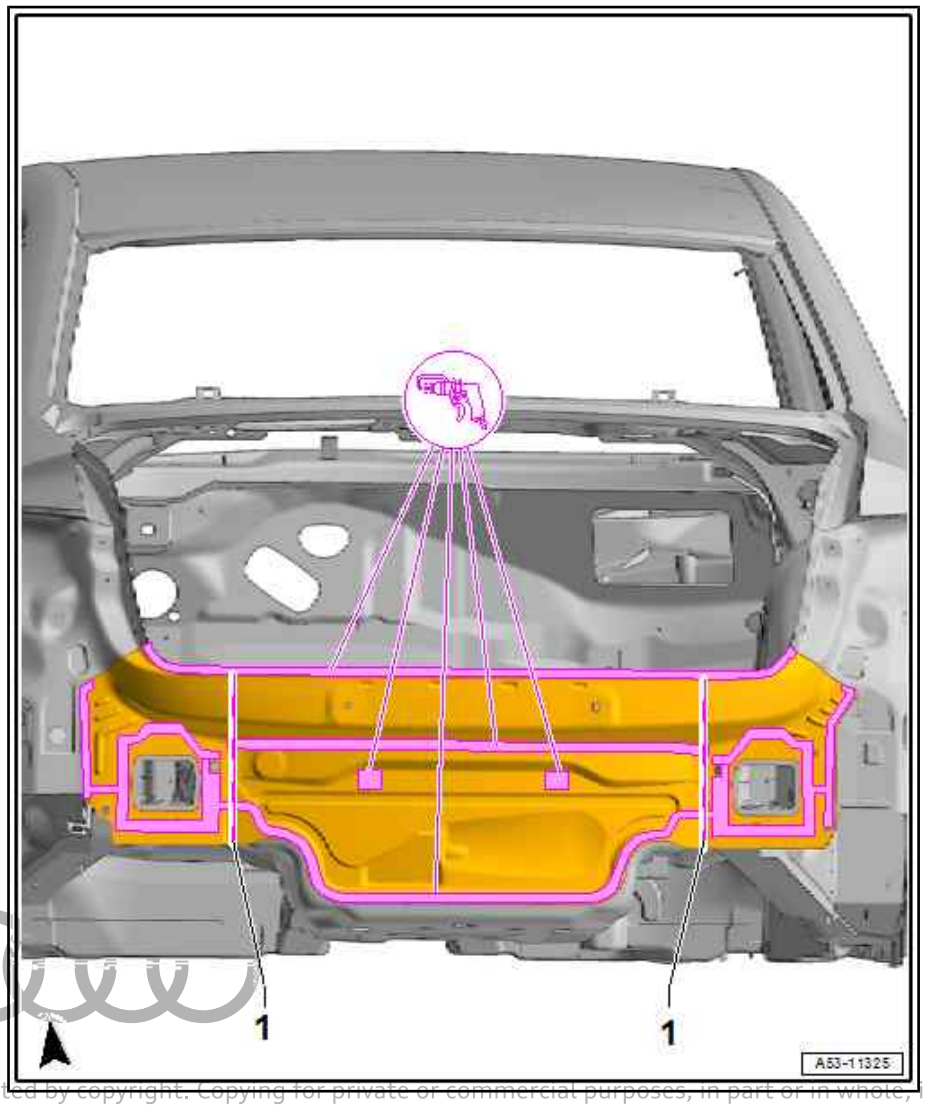
2.2 Procedure

Cutting locations

Partial renewal

Mark off separating cuts -1- 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 .
– Grind welding areas down to bare metal.

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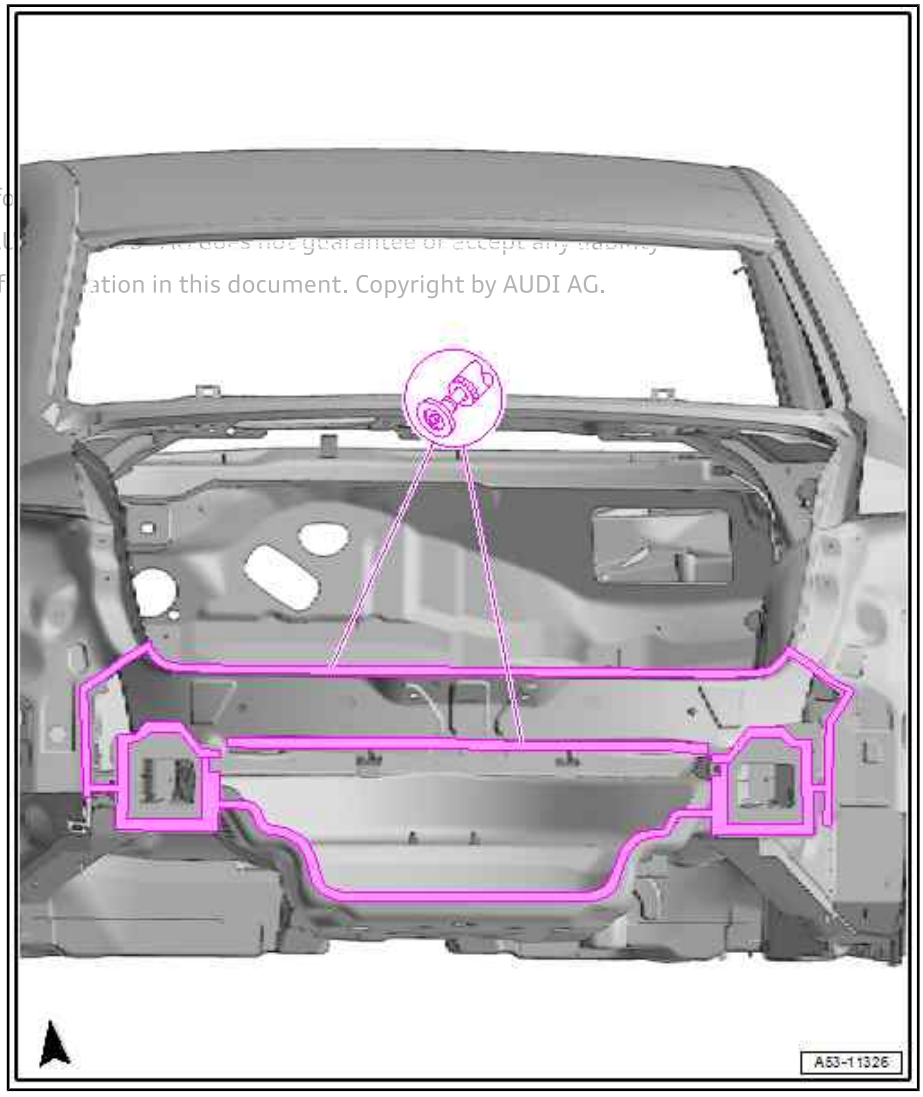


Replacement part

- Rear cross panel

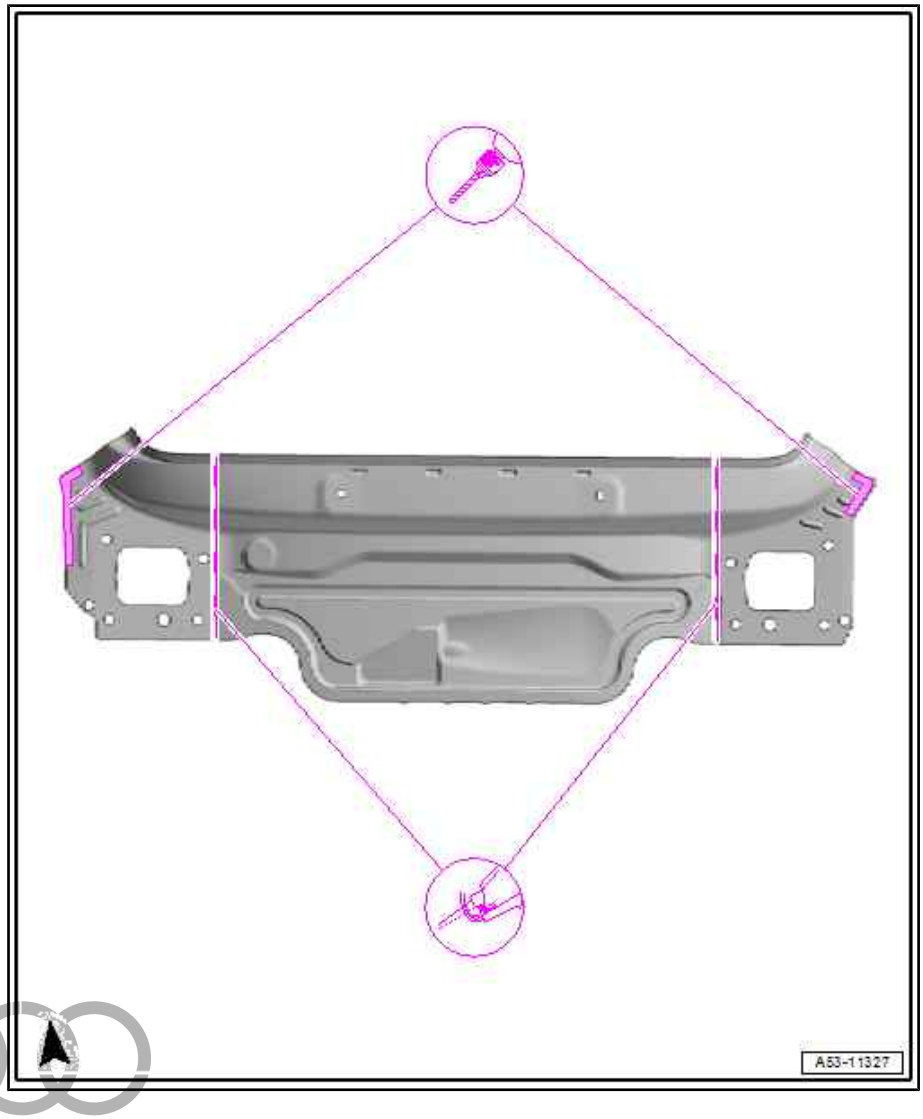
Preparing new part

Partial renewal

Transfer separating cuts to new part.

Cut new part to size using body saw .

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.



Note

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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

Partial renewal

Place a backing plate of the same material behind the joint and make SG continuous seam.

– Match up and fix new part in position.
– Check that rear lid closes properly.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.

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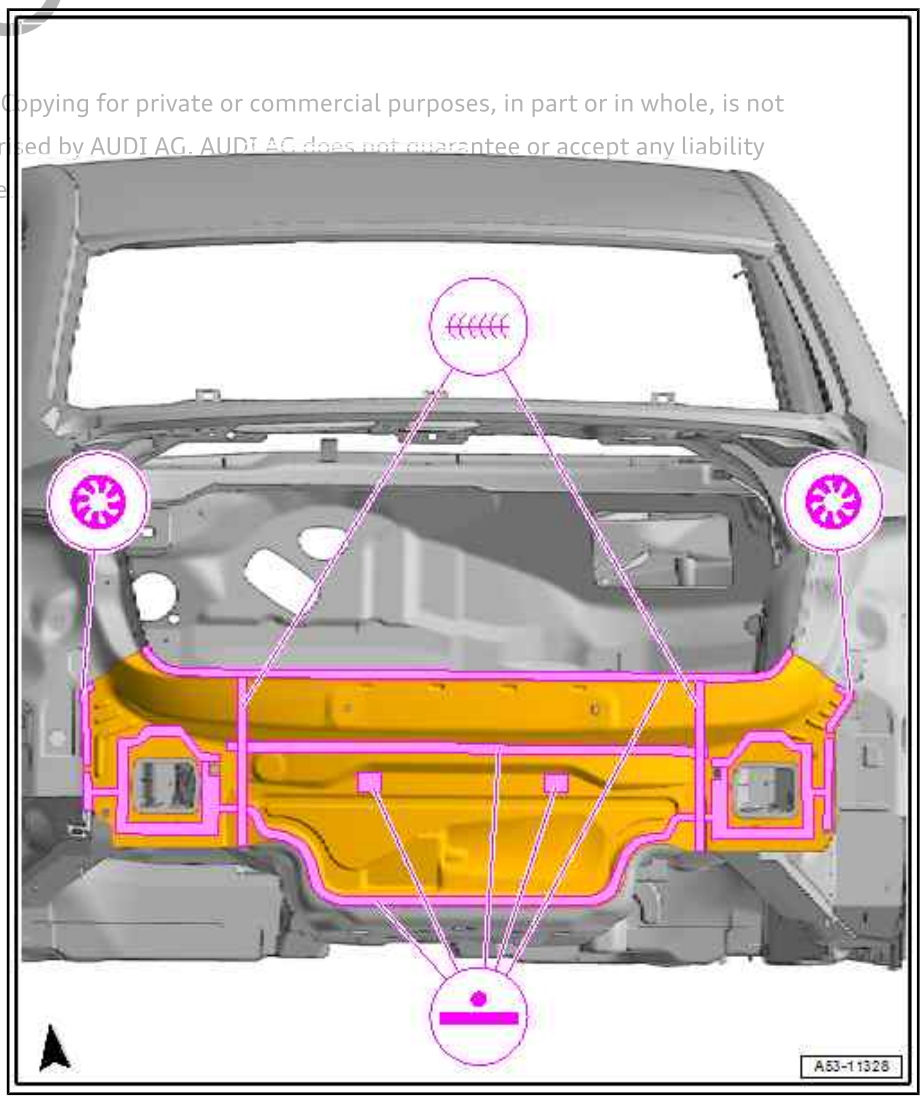

RO: 53 09 55 50

3 Lock carrier - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

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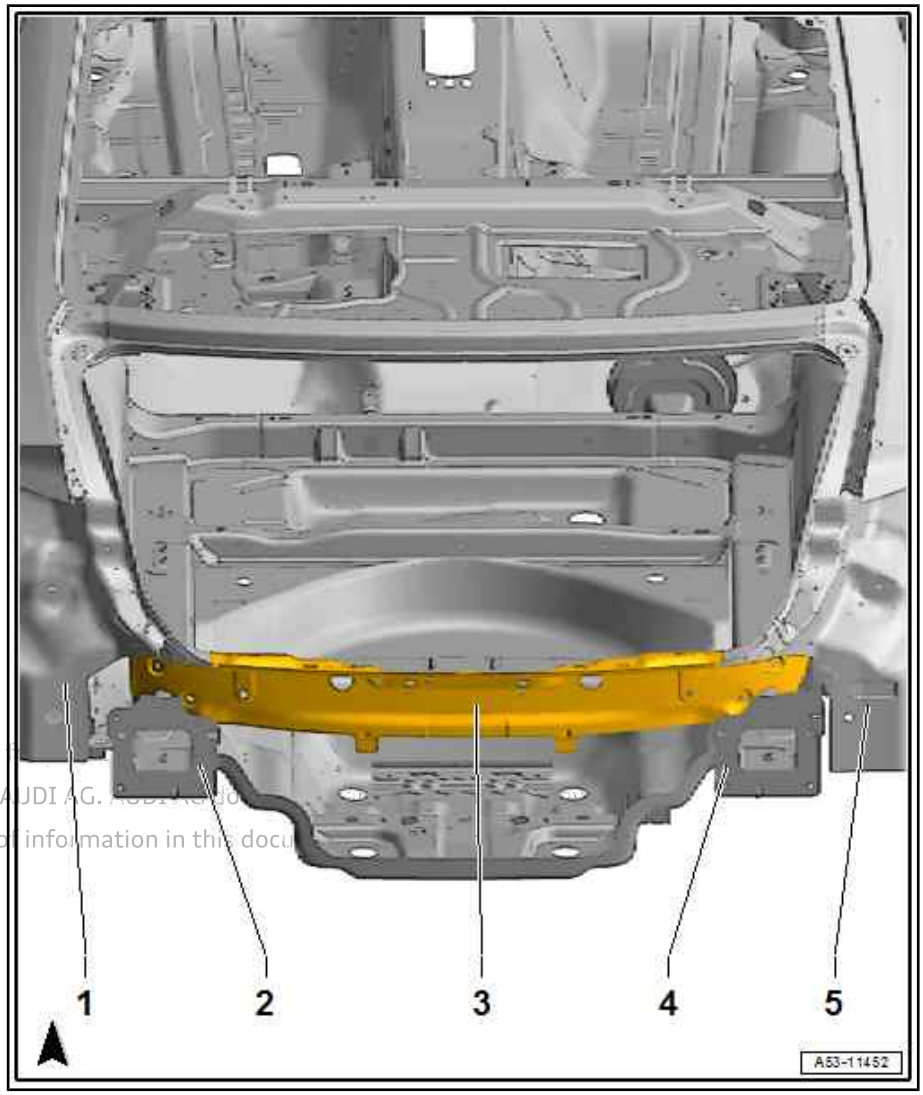
1 - Tail light mounting (left-side)

2 - Longitudinal member (left-side)

3 - Lock carrier

4 - Longitudinal member (right-side)

5 - Tail light mounting (right-side)



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3.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

3.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .

– Remove lock carrier -1- towards inside.

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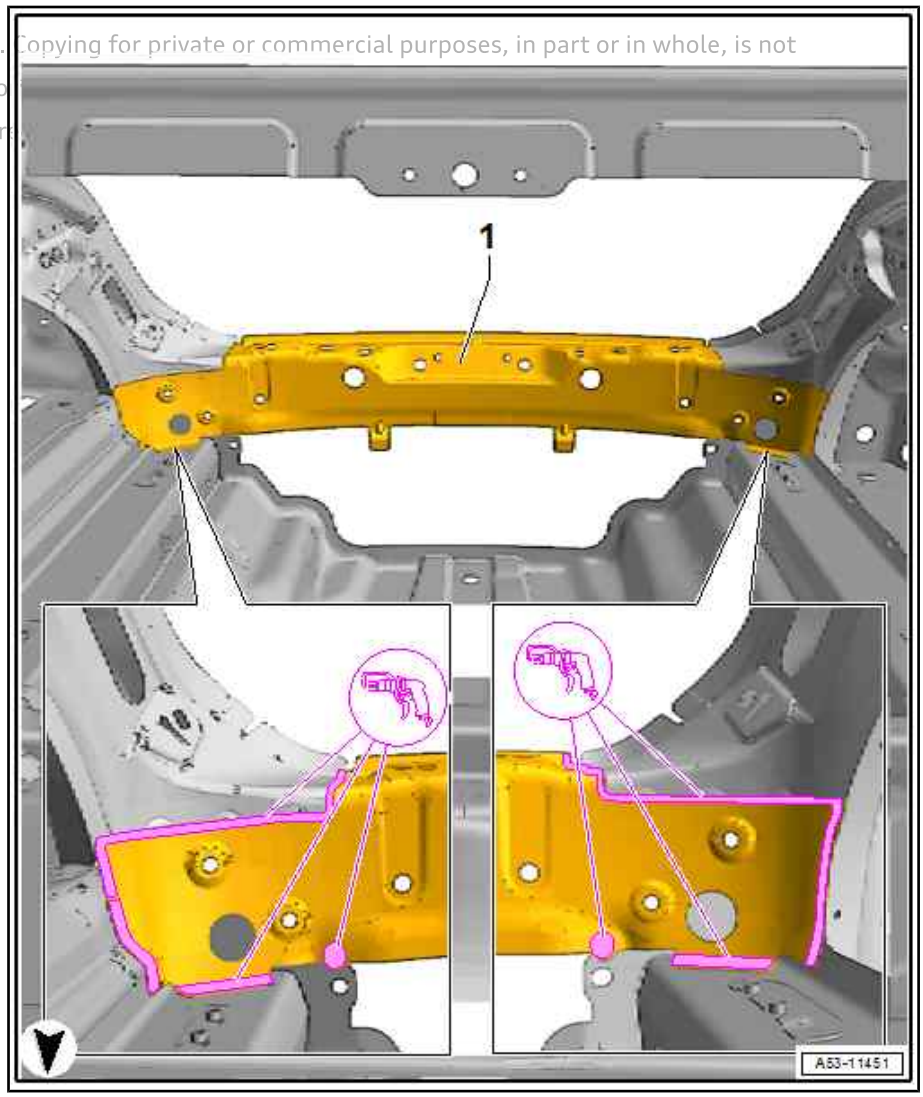
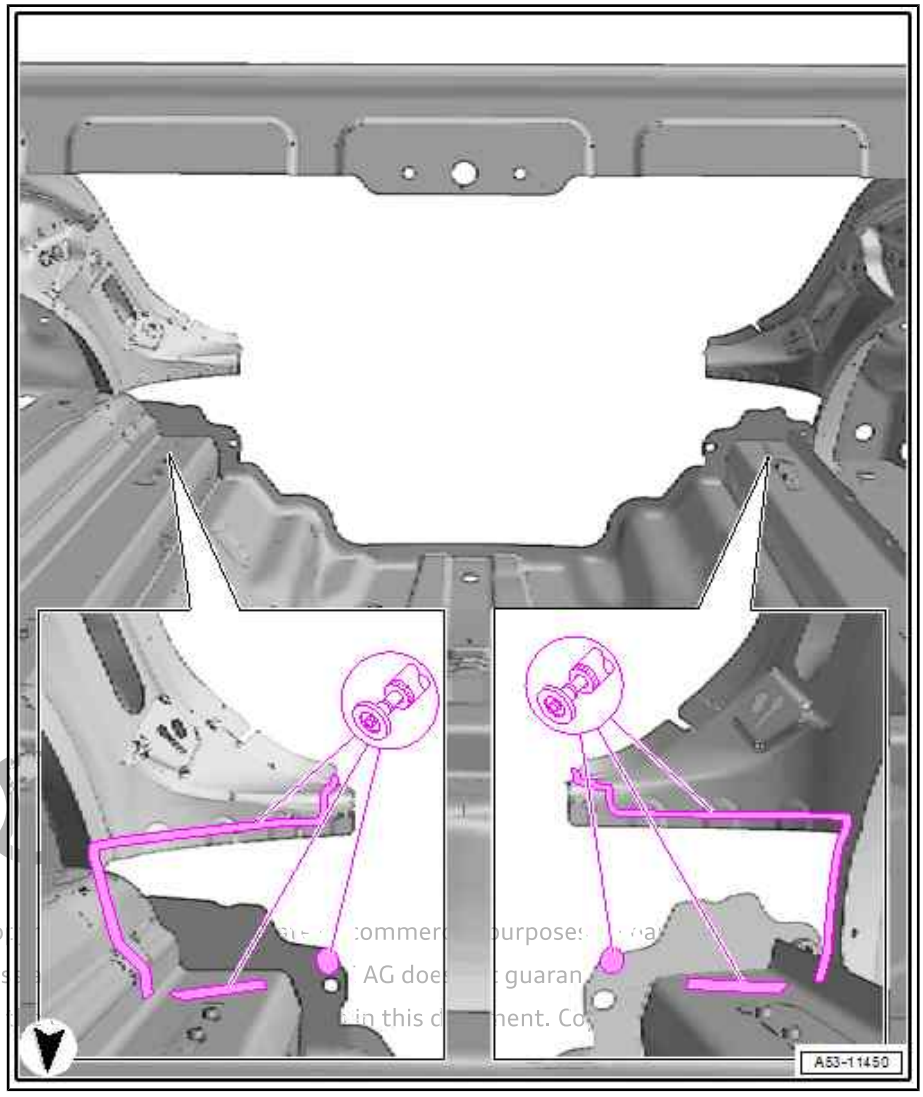


– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



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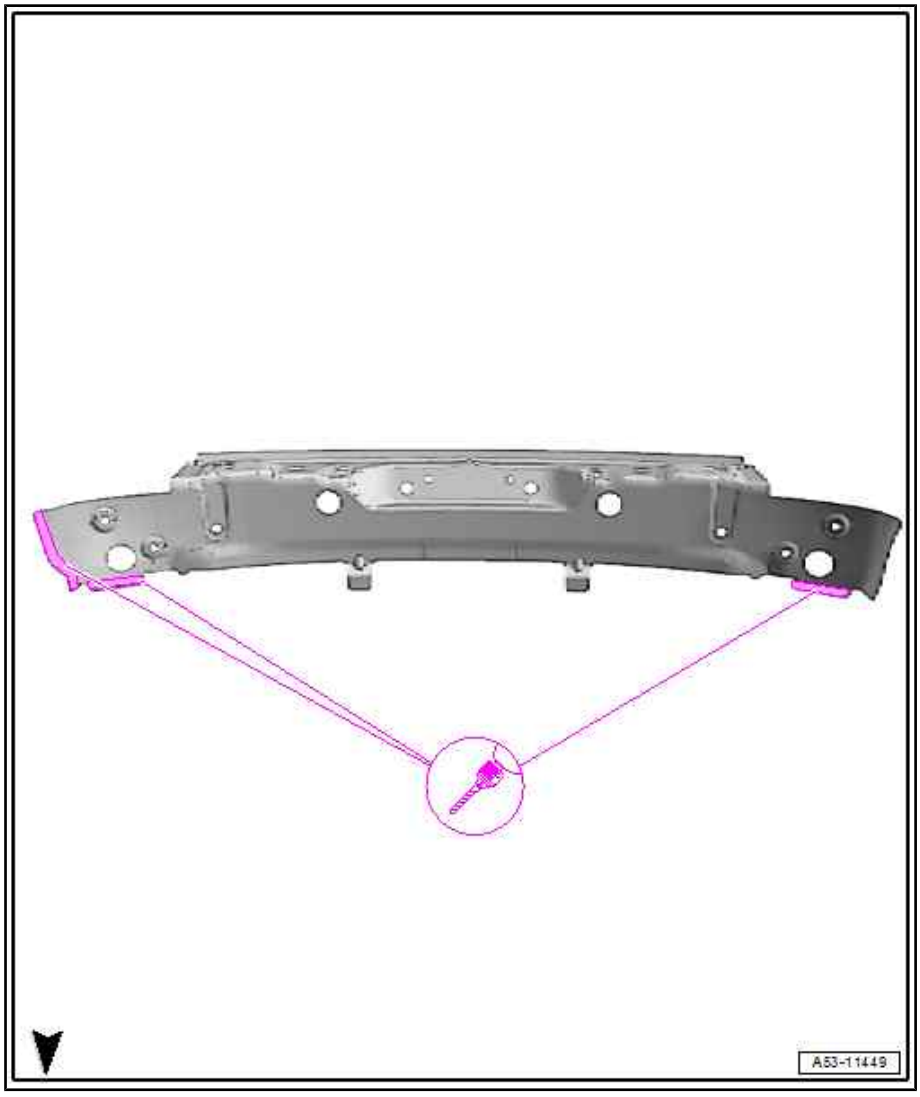
Replacement part

- Lock carrier

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.



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.

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Welding in

- Match up and fix new part in position.
- Check fit relative to adjacent parts.
- Check that rear lid closes properly.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.

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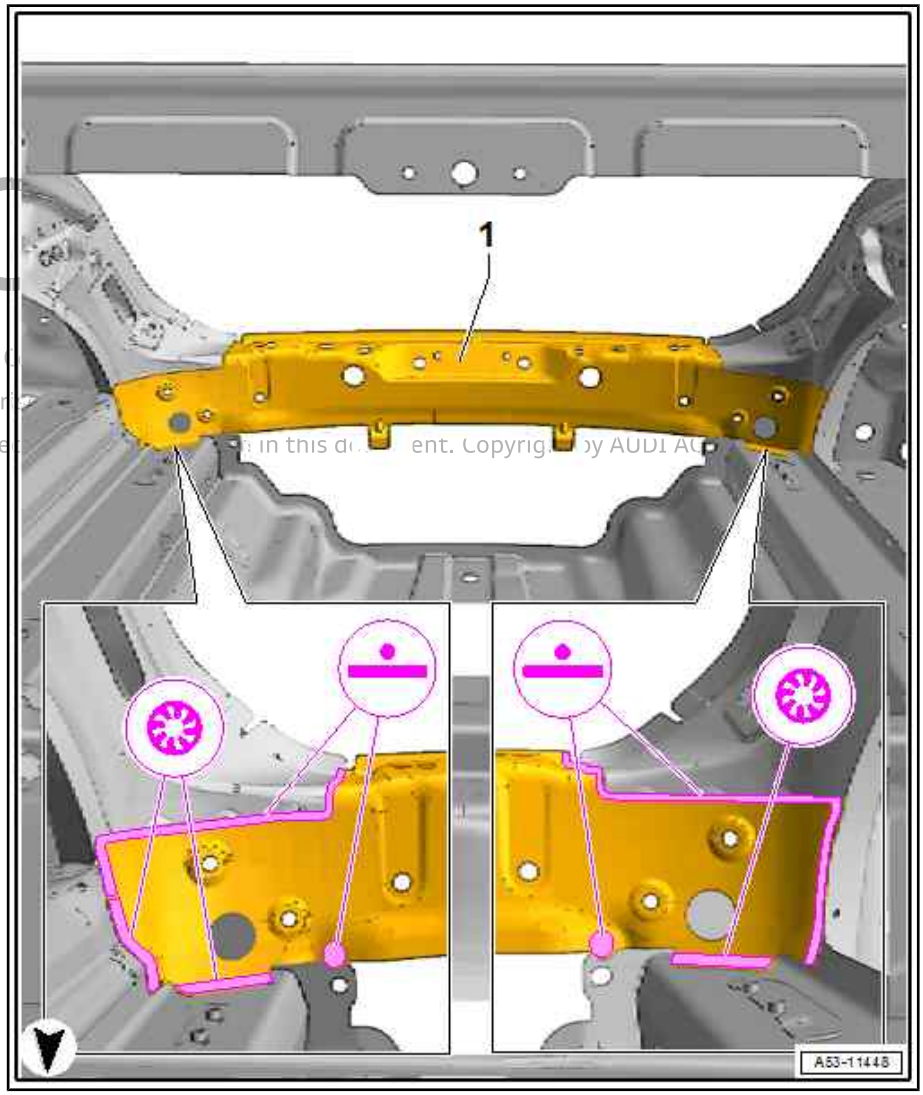

– Install cross panel ⇒ page 302 .

RO: 53 09 55 50

4 Lock carrier - Renewal (Sportback)

Note

Observe safety precautions ⇒ page 3 .

Danger due to gases which are hazardous to health

Sparks are generated during welding and cutting work. Gases which are hazardous to health are generated if sparks make contact with foam-filled areas within the vehicle body.

– Do not use spark-generating tools to perform welding and cutting work in the vicinity of foam-filled areas.

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

– **If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.**
– **Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .**

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

– **Never work on a natural gas system if you can hear gas escaping.**
– **Never drive the vehicle into the workshop if you can hear gas escaping.**
– **Park the vehicle outside and set up a protected area.**

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

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DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Tail light mounting (left-side)

2 - Longitudinal member (left-side)

3 - Lock carrier

4 - Longitudinal member (right-side)

5 - Tail light mounting (right-side)

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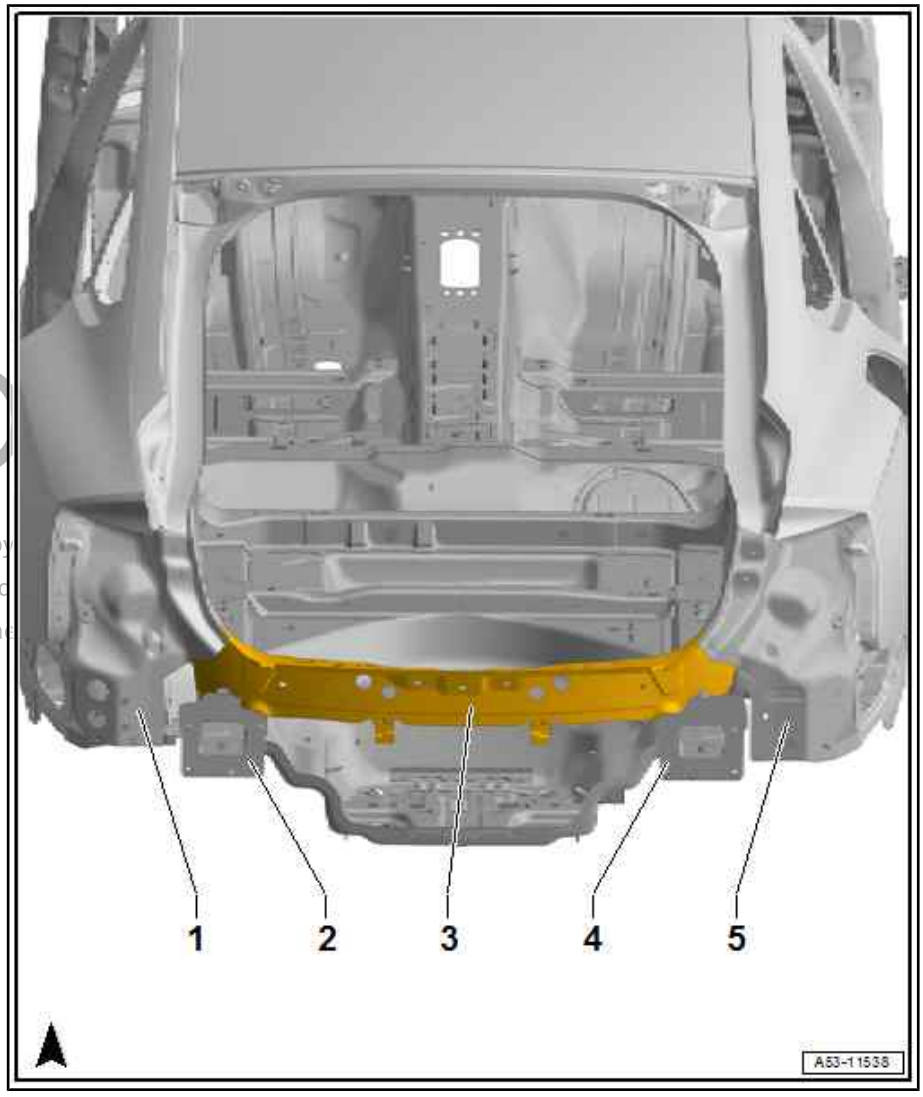


4.1 Tools

Special tools and workshop equipment required

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

Note

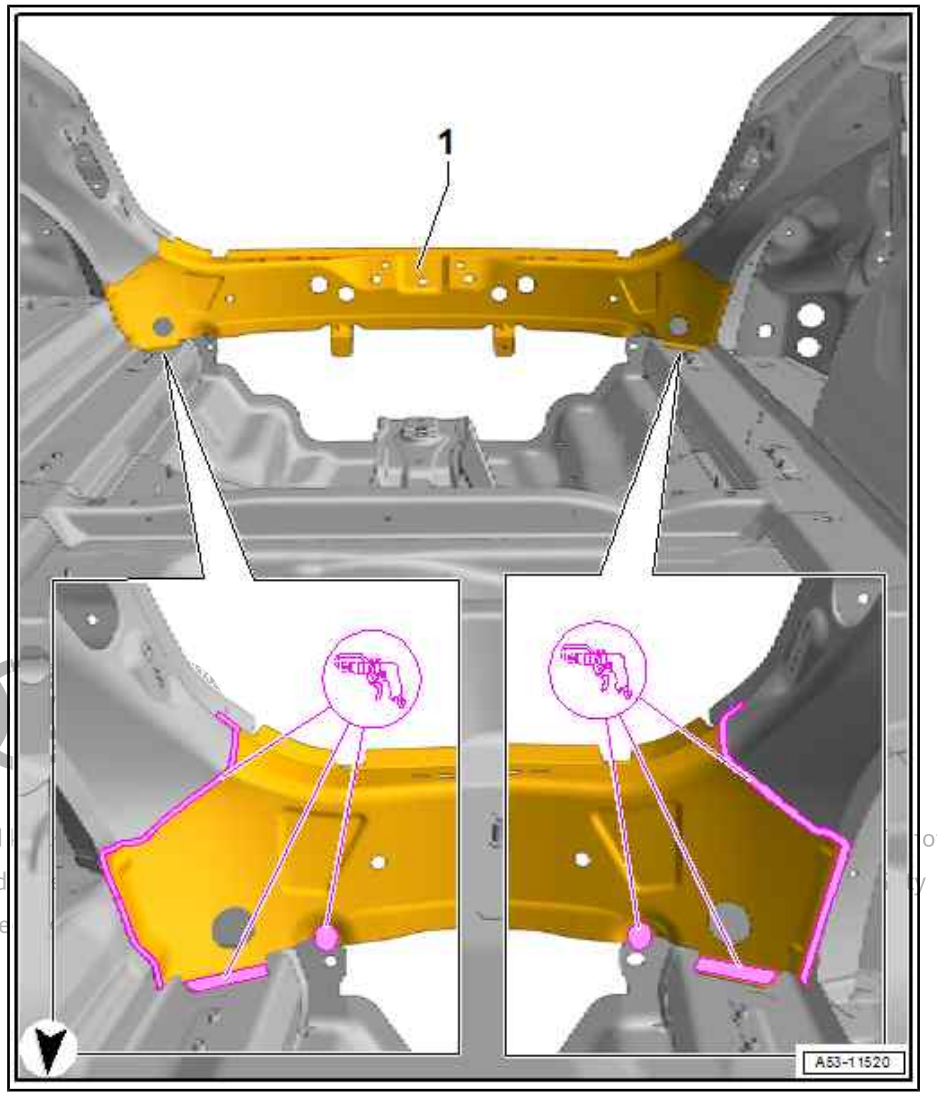
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

4.2 Procedure

Cutting locations

– Separate original joint using spot weld breaker .

– Remove lock carrier -1- towards inside.



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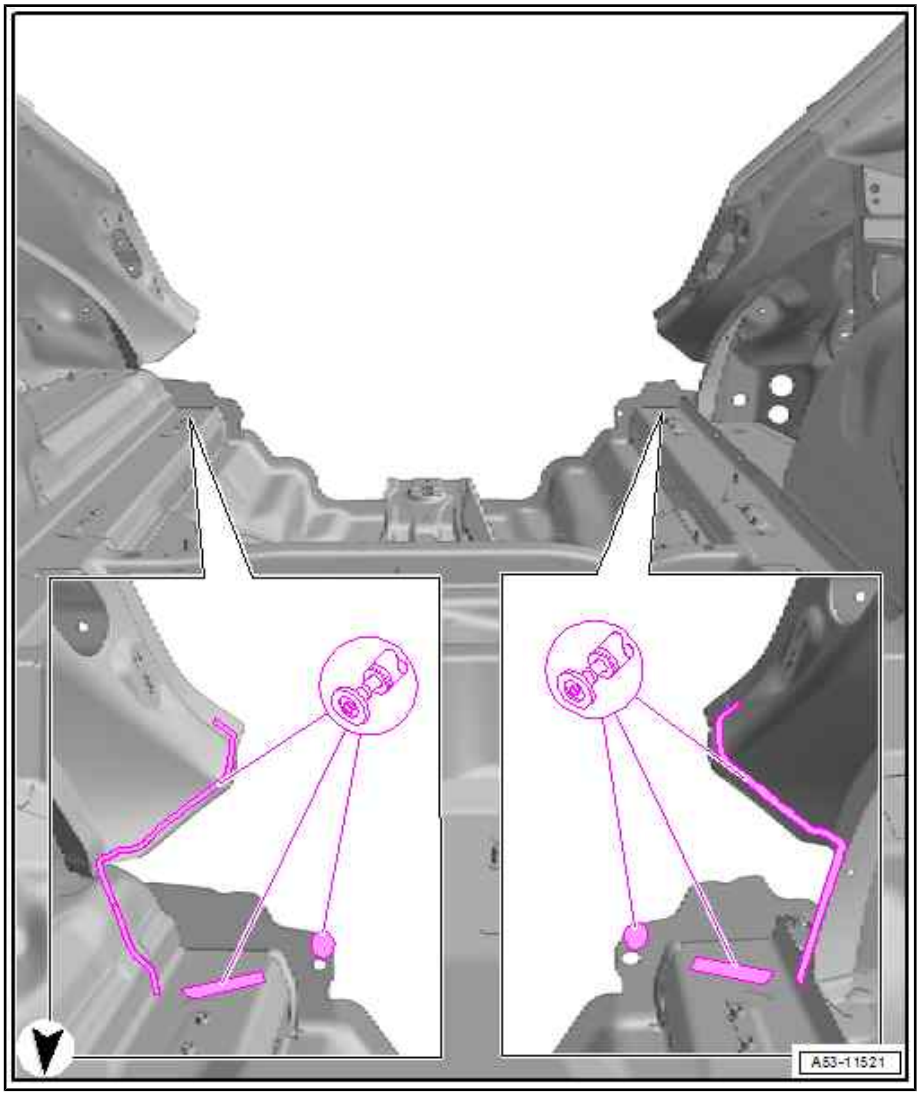
– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.



Replacement part

- Lock carrier

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

– Grind welding areas down to bare metal.

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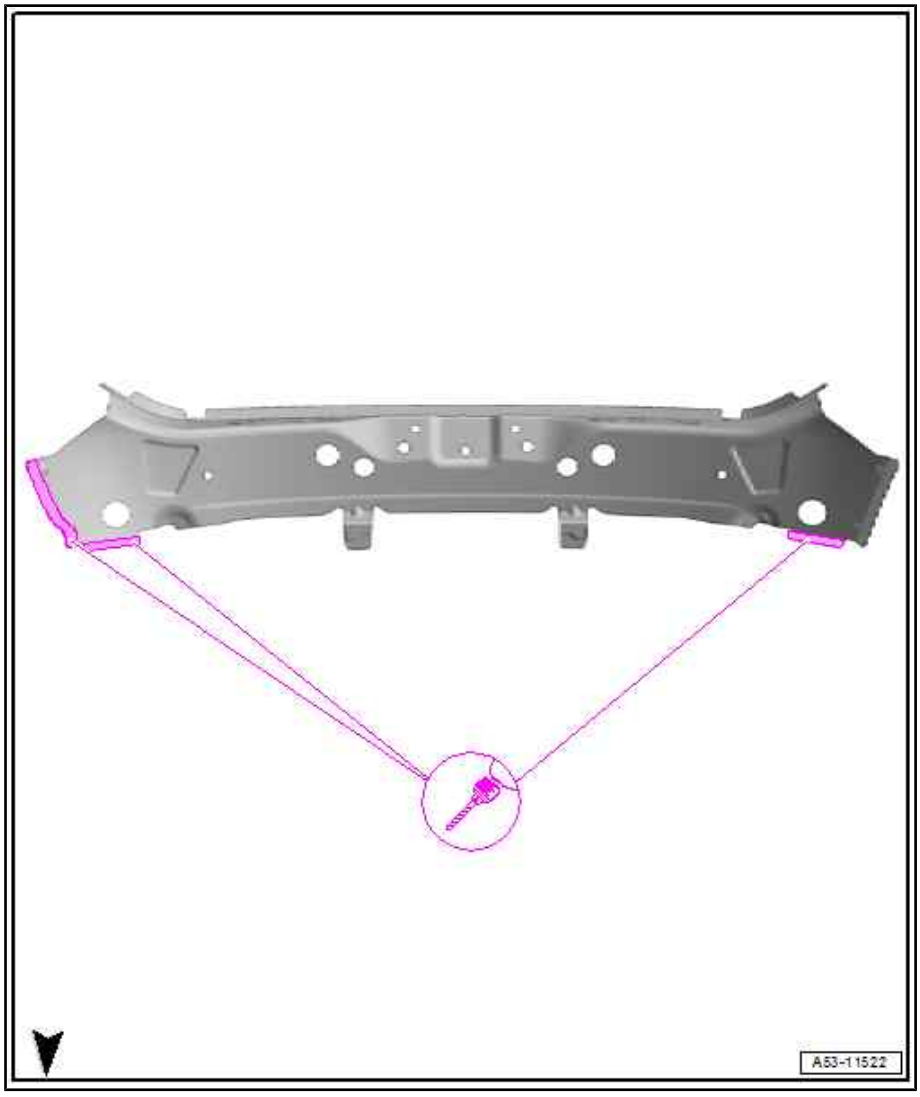

Note

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.

Welding in

- Match up and fix new part in position.
- Check fit relative to adjacent parts.
- Check that rear lid closes properly.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.

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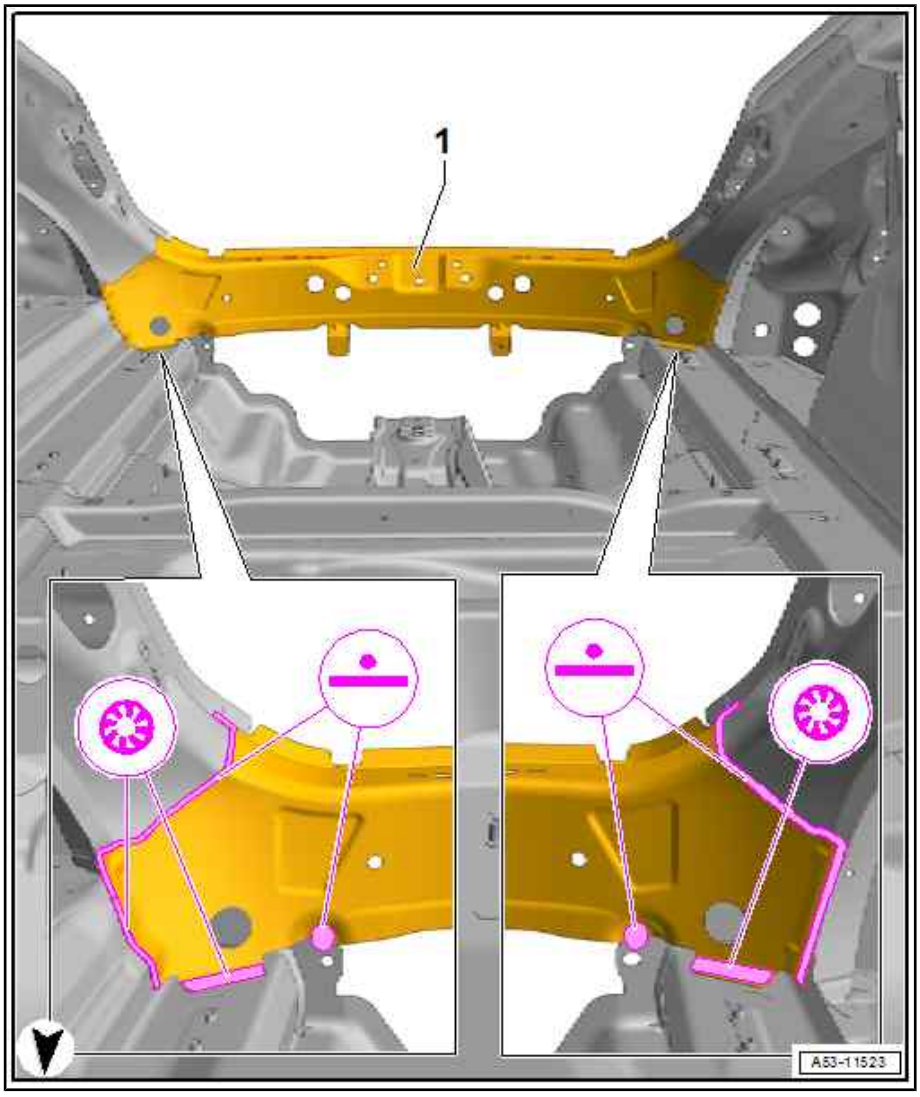

– Install cross panel.

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RO: 53 10 55 50

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

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

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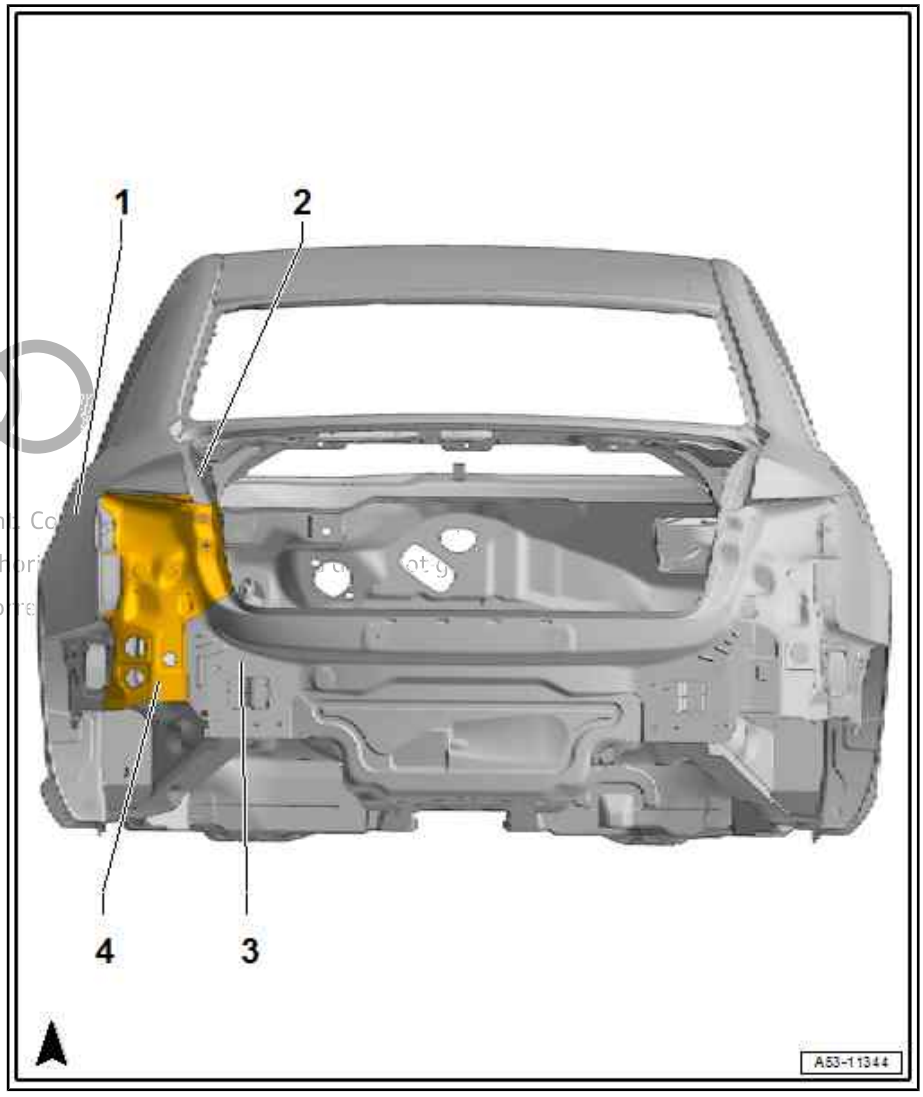
1 - Side panel
2 - Water channel
3 - Cross panel
4 - Tail light mounting



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5.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

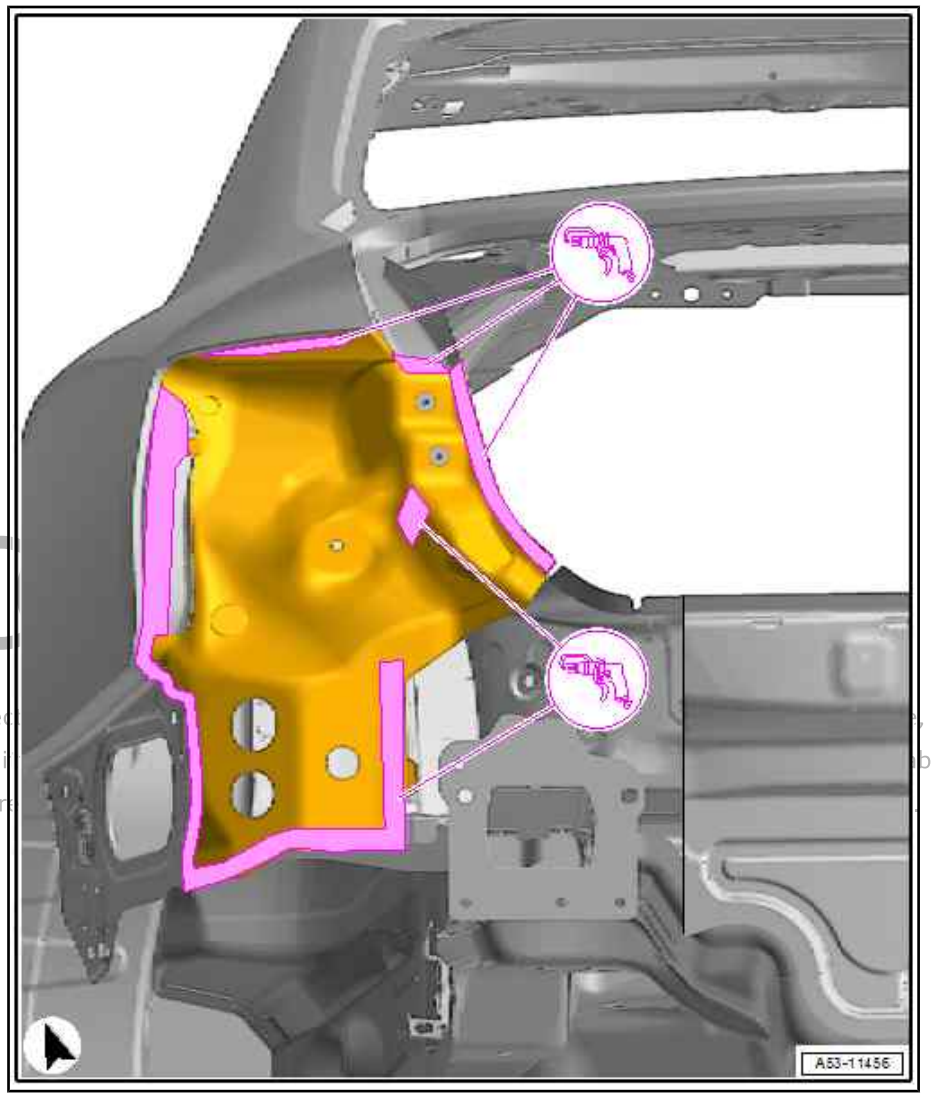
5.2 Procedure

- Cross panel (part section) already removed ⇒ page 302

Cutting locations

– Separate original joint using spot weld breaker .

– Pull out tail light mounting downwards.



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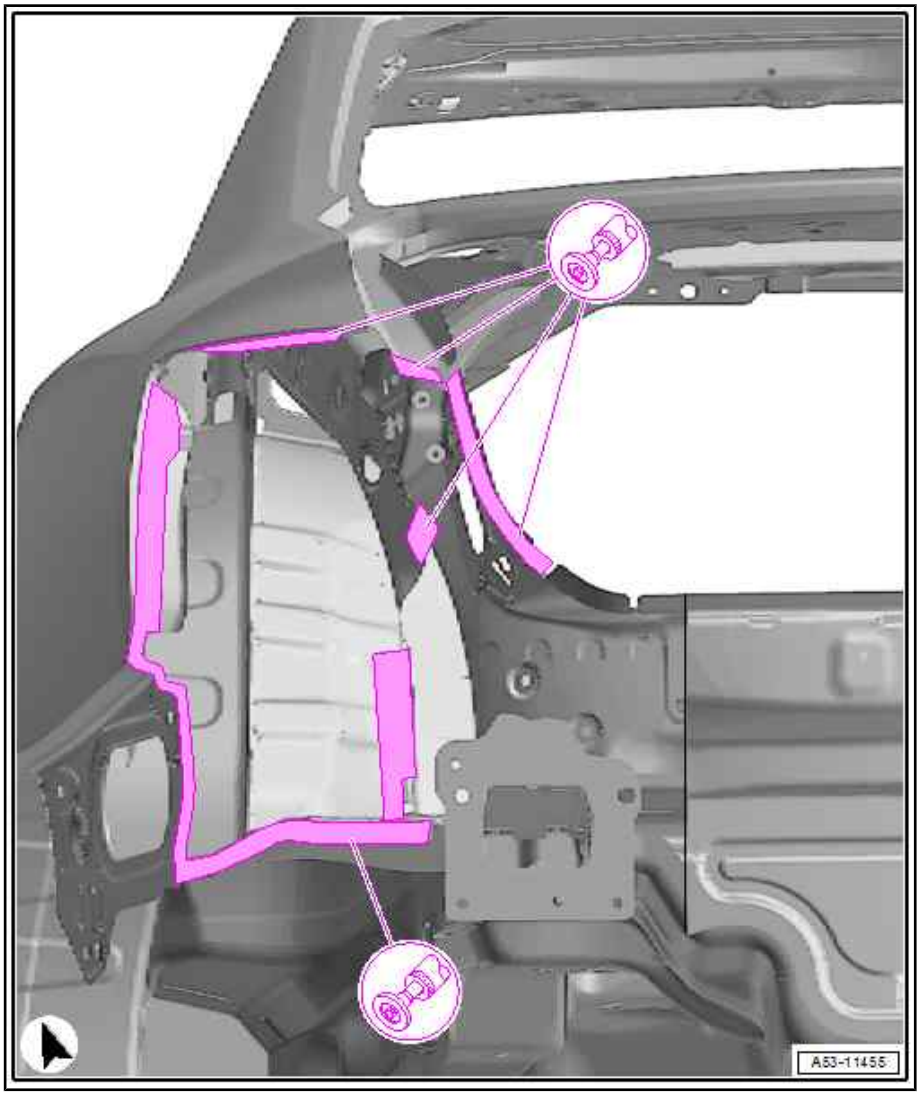
– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



Replacement part

- Tail light mounting

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.

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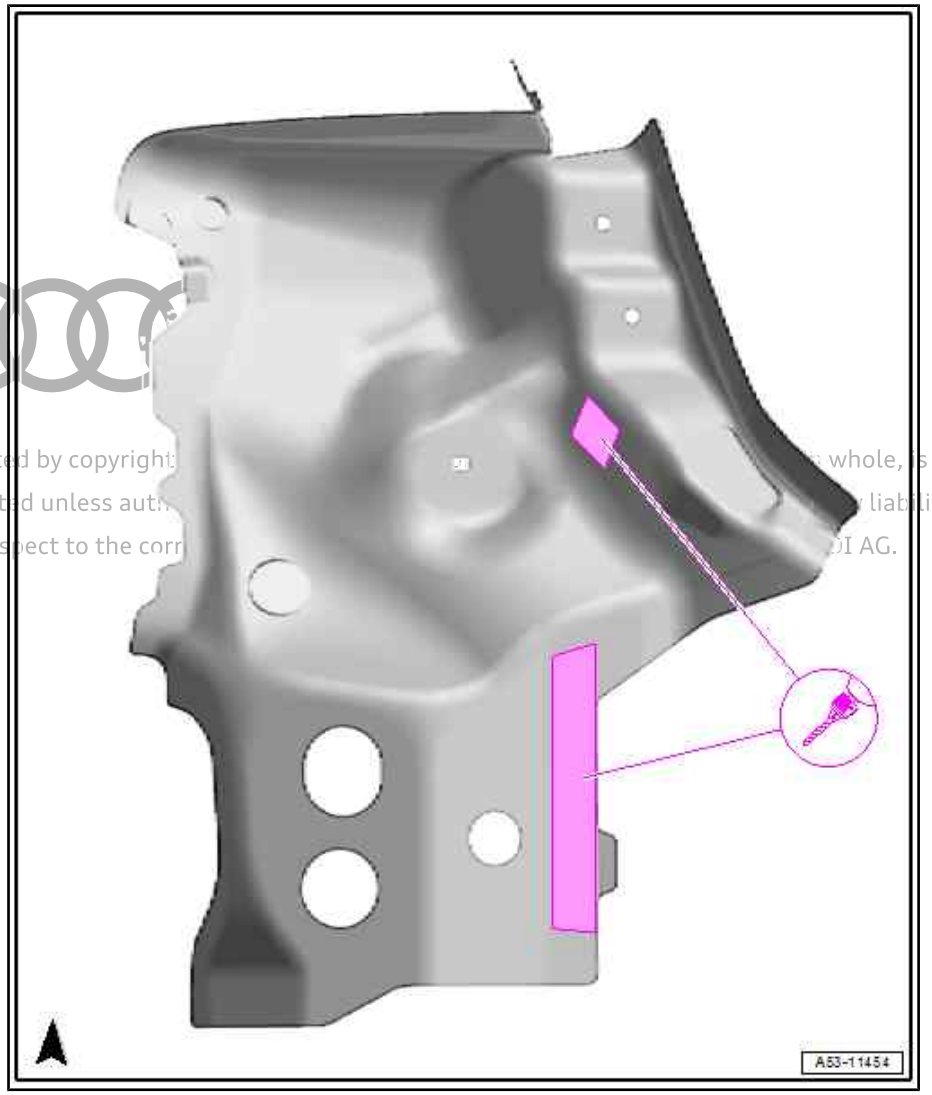

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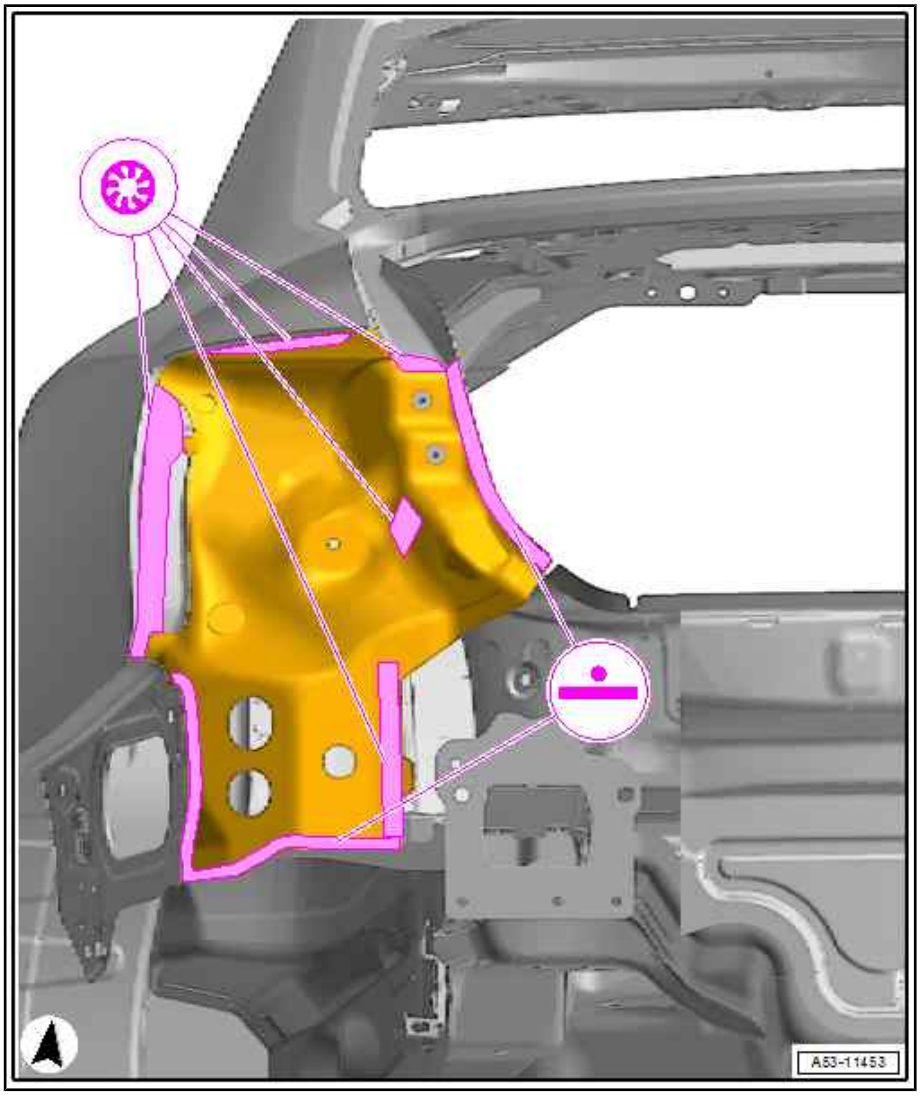
Note

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.

Welding in

- Match up and fix new part in position.
- Check fit relative to bolt-on parts.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.



- Install cross panel ⇒ page 302 .

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RO: 53 48 55 52

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

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

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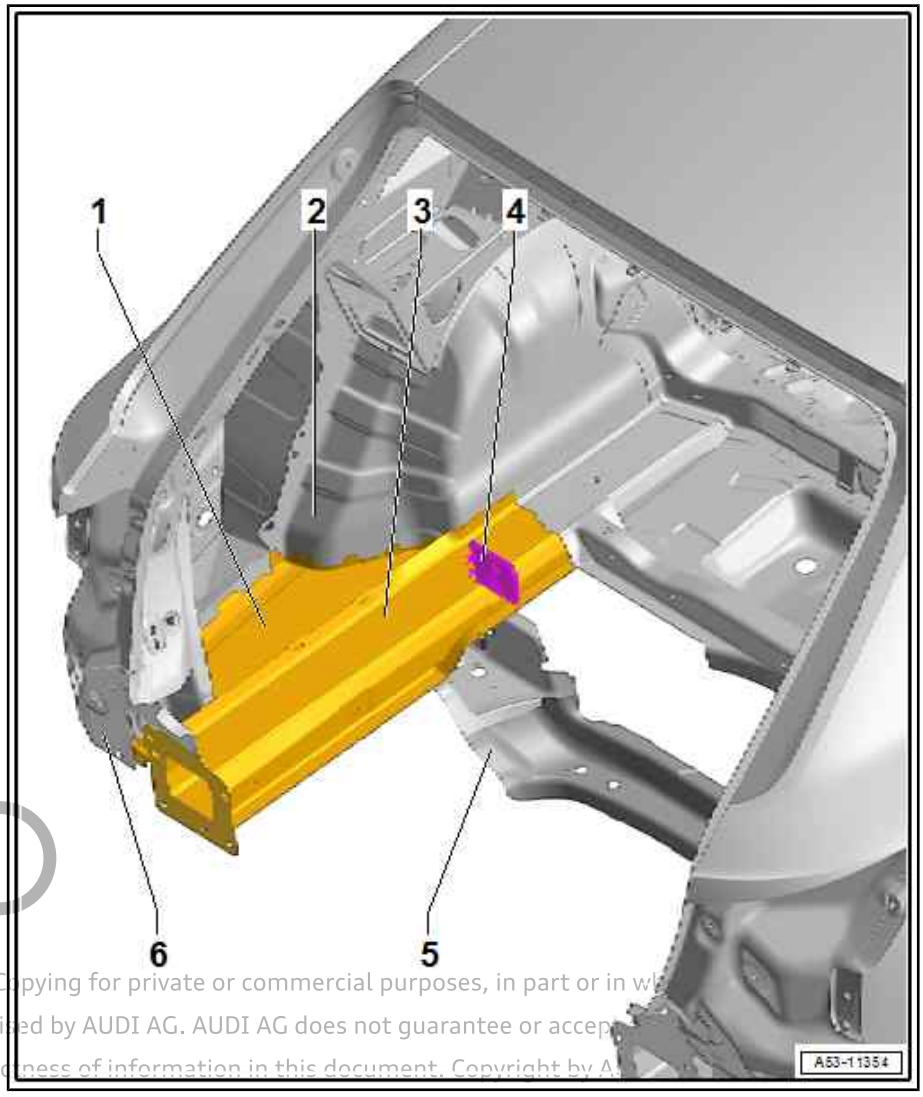
1 - Closure plate
2 - Inner wheel housing
3 - Rear longitudinal member
4 - Moulded foam insert
5 - Cross member for spare wheel well
6 - Tail light mounting



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6.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

6.2 Procedure

- Cross panel already removed ⇒ page 302 .

- Spare wheel well already removed
  ⇒ “13 Spare wheel well - Renewal (Coupé and Sportback identical)”, page 380

Cutting locations

– Make separating cut with body saw , as shown.

– Separate original joint using spot weld breaker .

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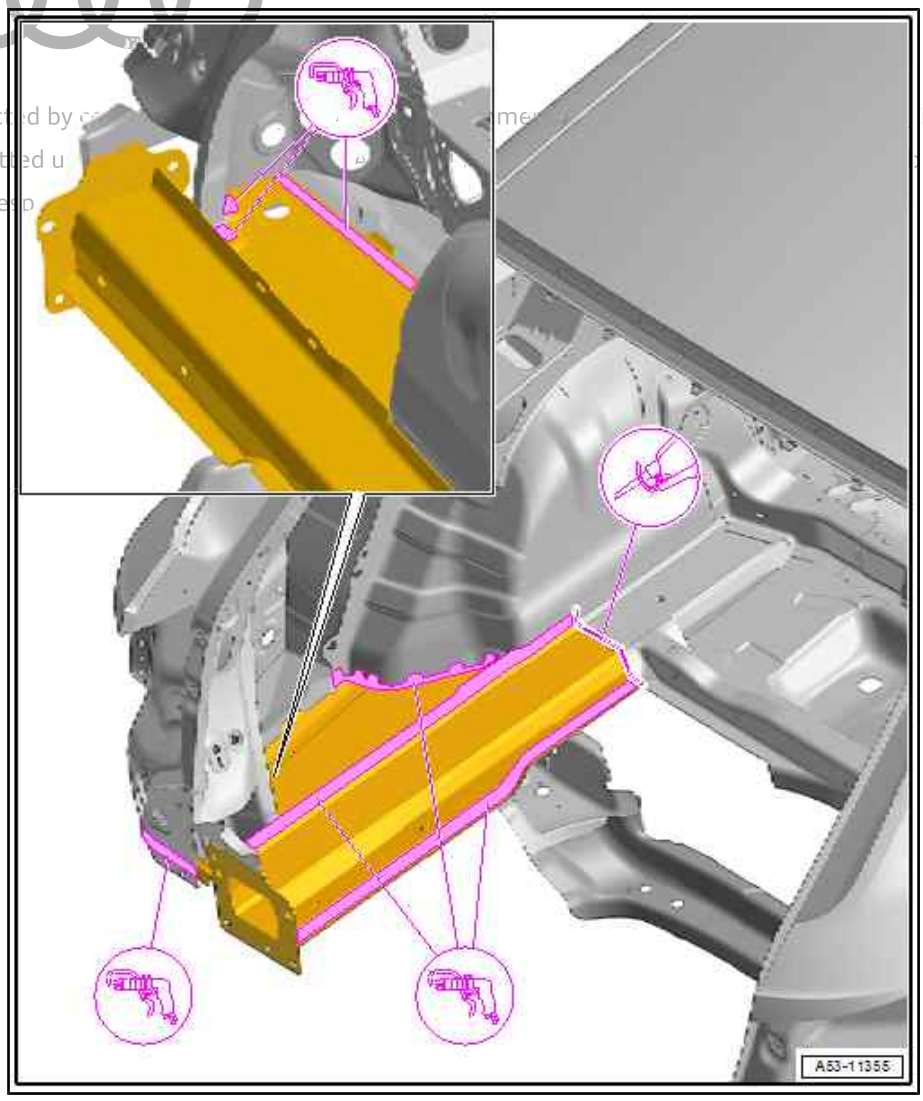
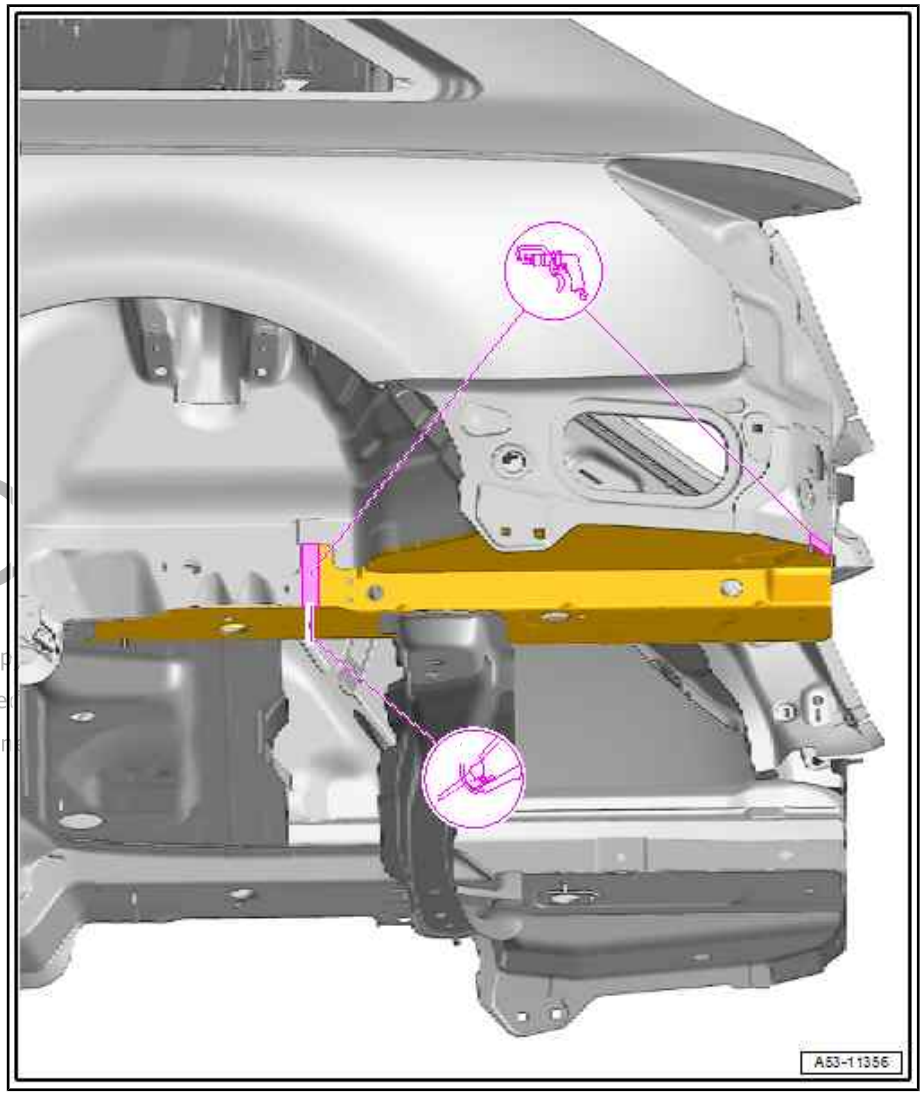


– Make separating cut with body saw , as shown.

– Separate original joint using spot weld breaker .



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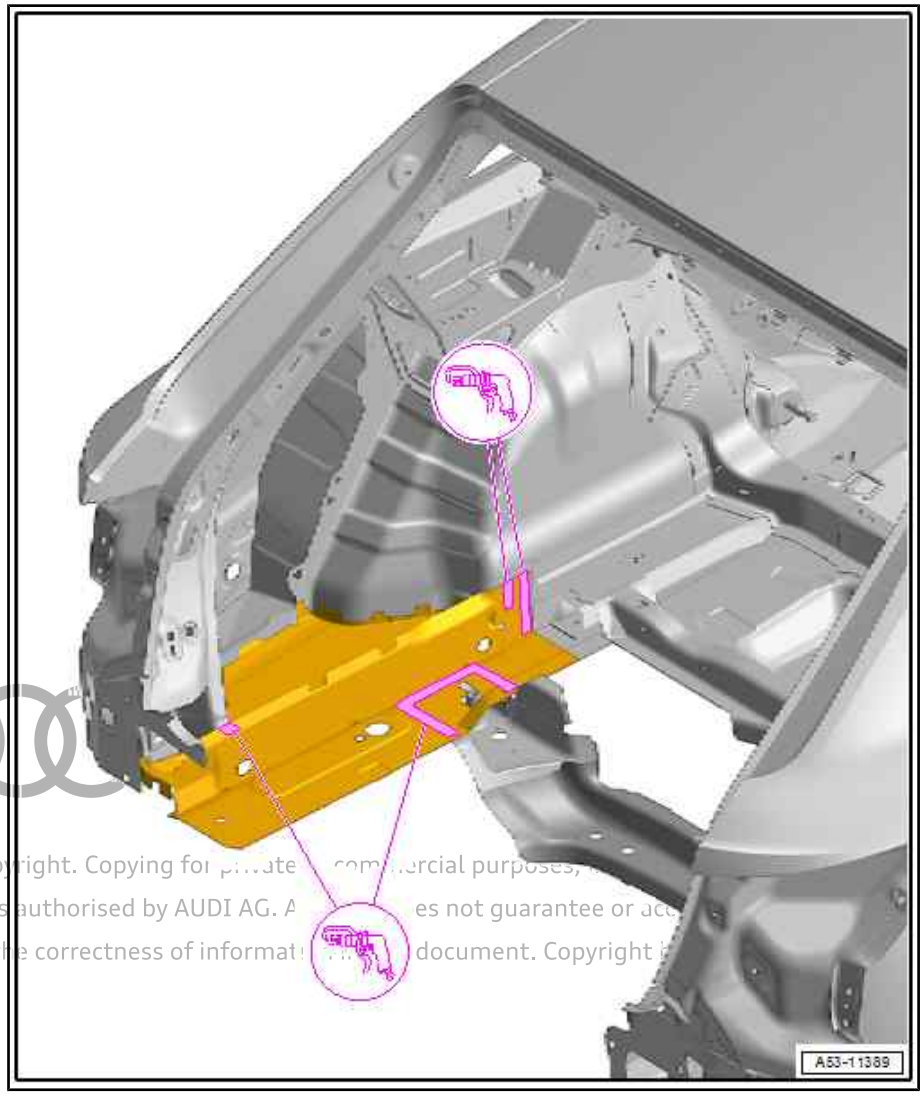
– Separate original joint using spot weld breaker .



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– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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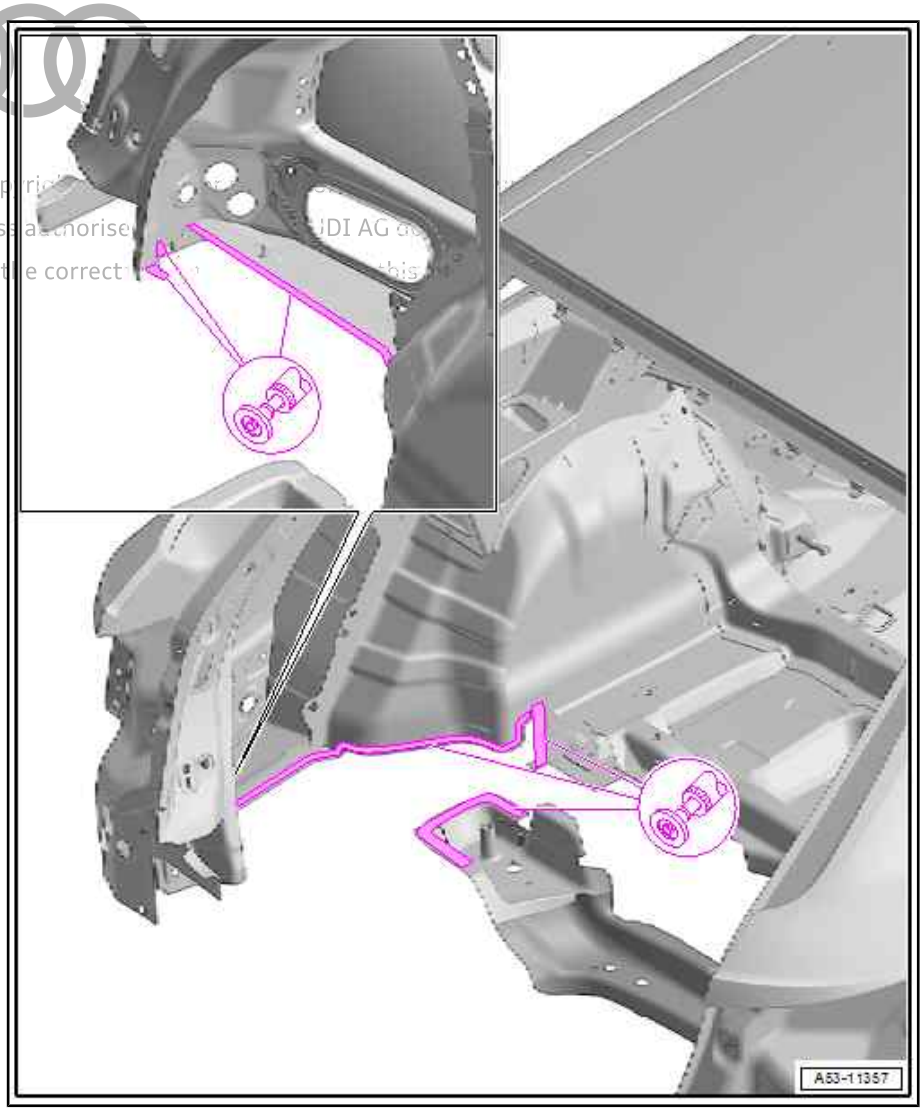
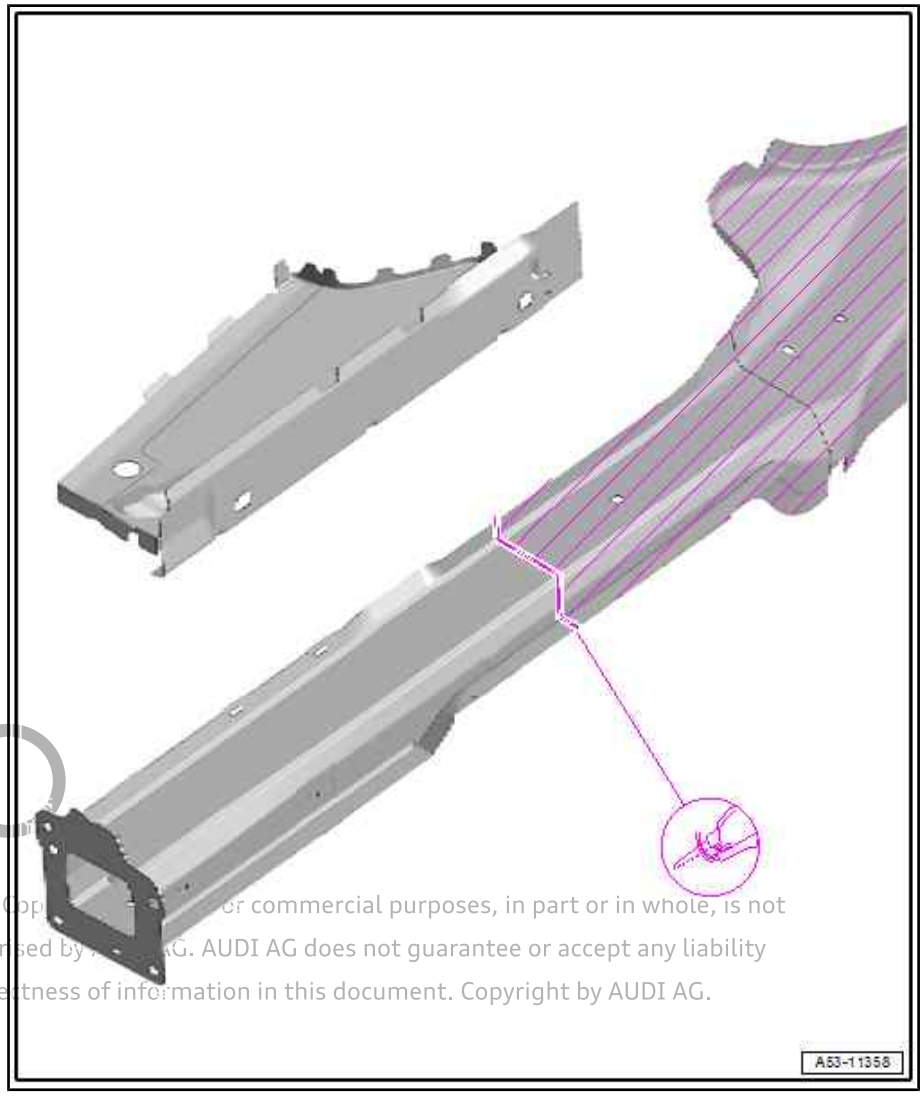


Replacement part

- Longitudinal member
- Floor plate, side section

Preparing new part

– Transfer separating cuts to new part.
– Cut new part to size using body saw .
– Grind welding areas down to bare metal.



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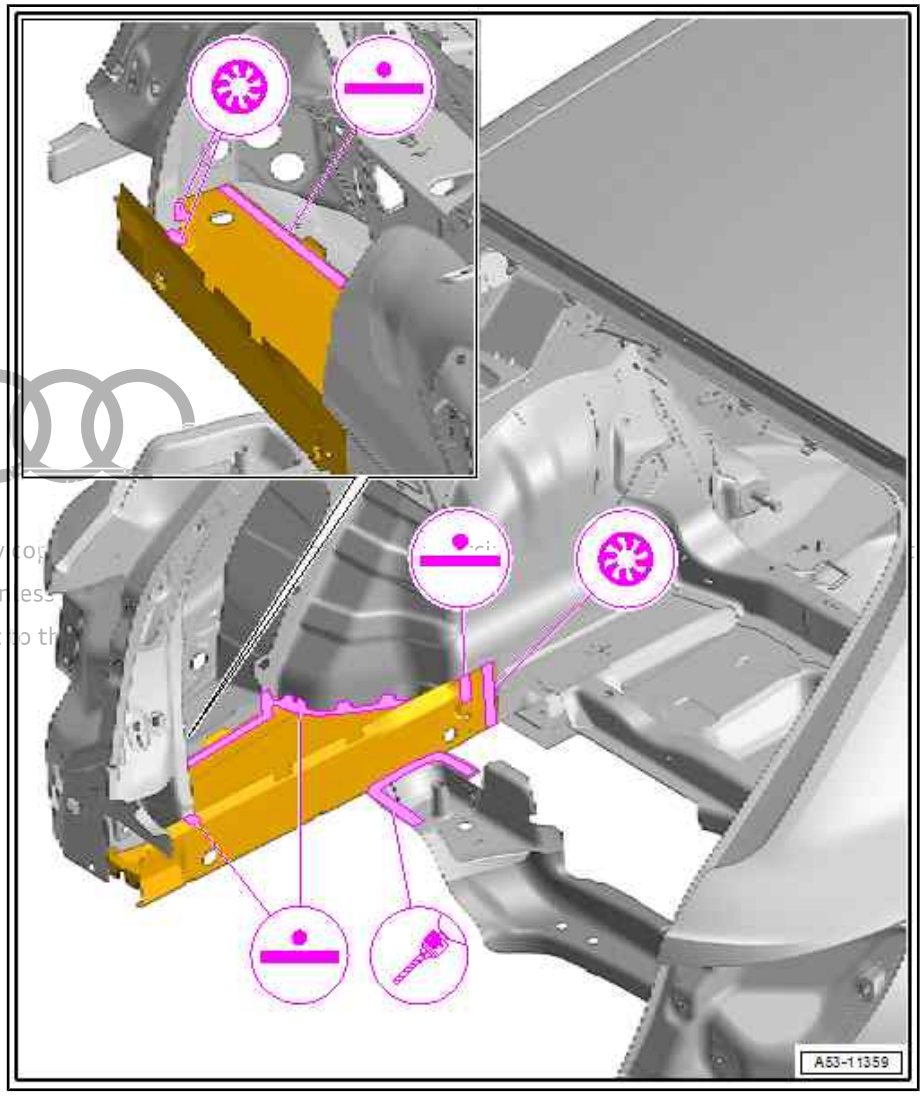
Note

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.

Welding in

- Match up new part with vehicle positioned on alignment bracket set and fix in place.
- Check fit relative to adjacent parts.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.
- Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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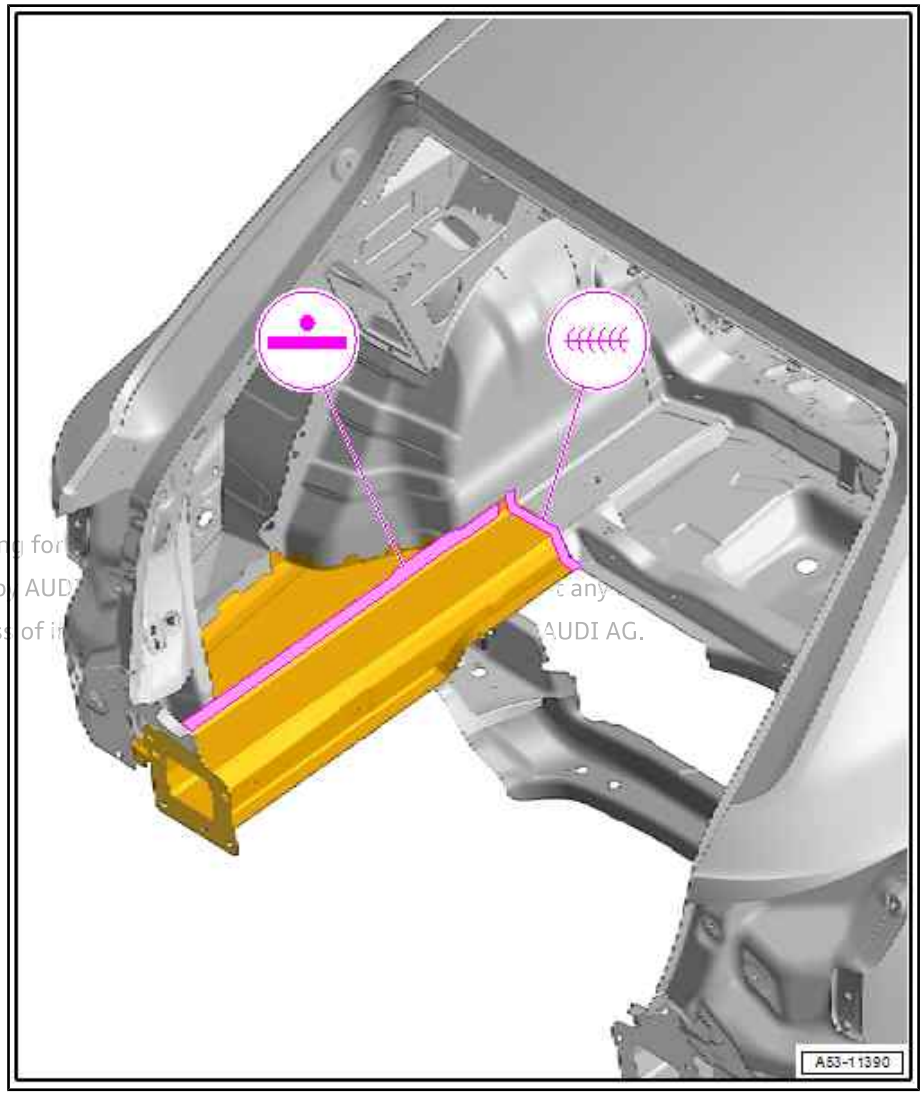
– Weld in new part using resistance spot welder : RP spot weld seam.
– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.



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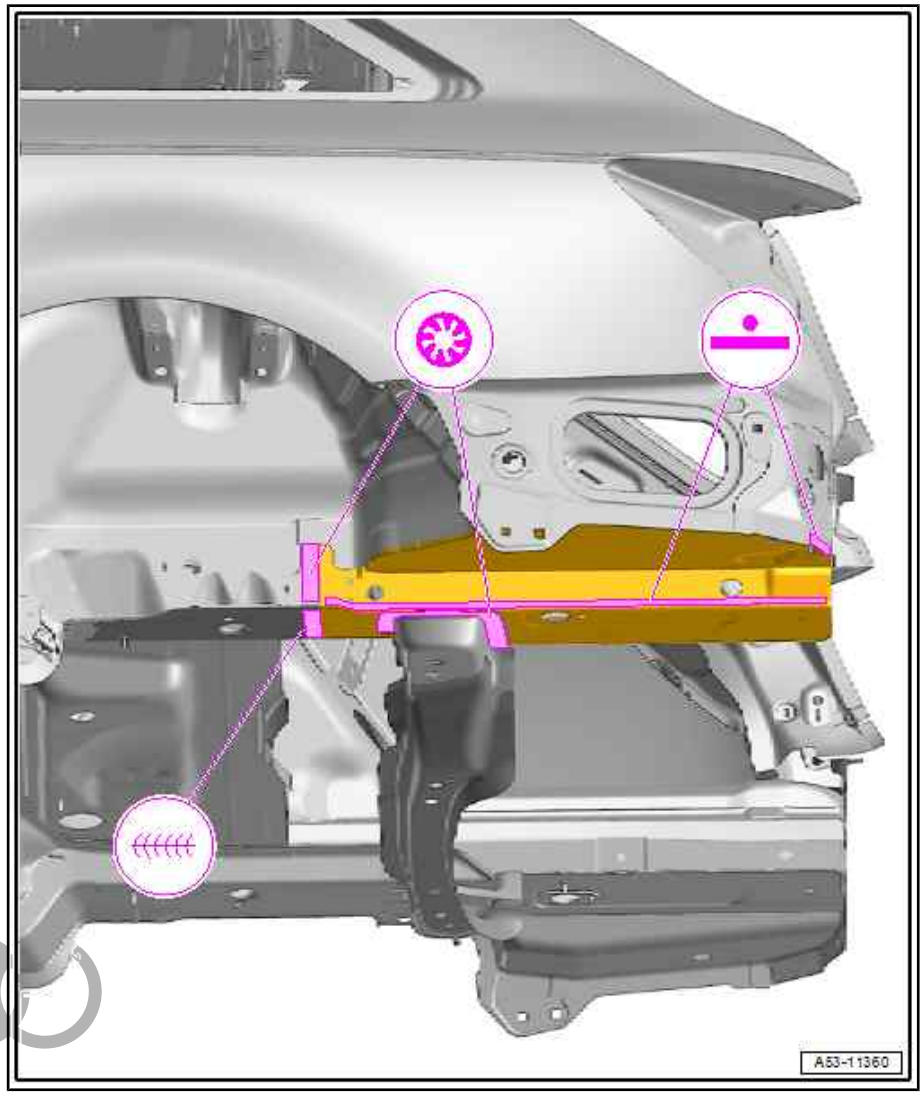
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.
– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.



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- Install cross panel ⇒ page 302 .
- Install spare wheel well ⇒ “13 Spare wheel well - Renewal (Coupé and Sportback identical)”, page 380 .

RO: 53 55 55 02

7 Side panel - Renewal (Coupé)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

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DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Separating cut in B-pillar

2 - Side panel

❑ Includes water channel and tail light mounting

3 - Separating cut in C-pillar

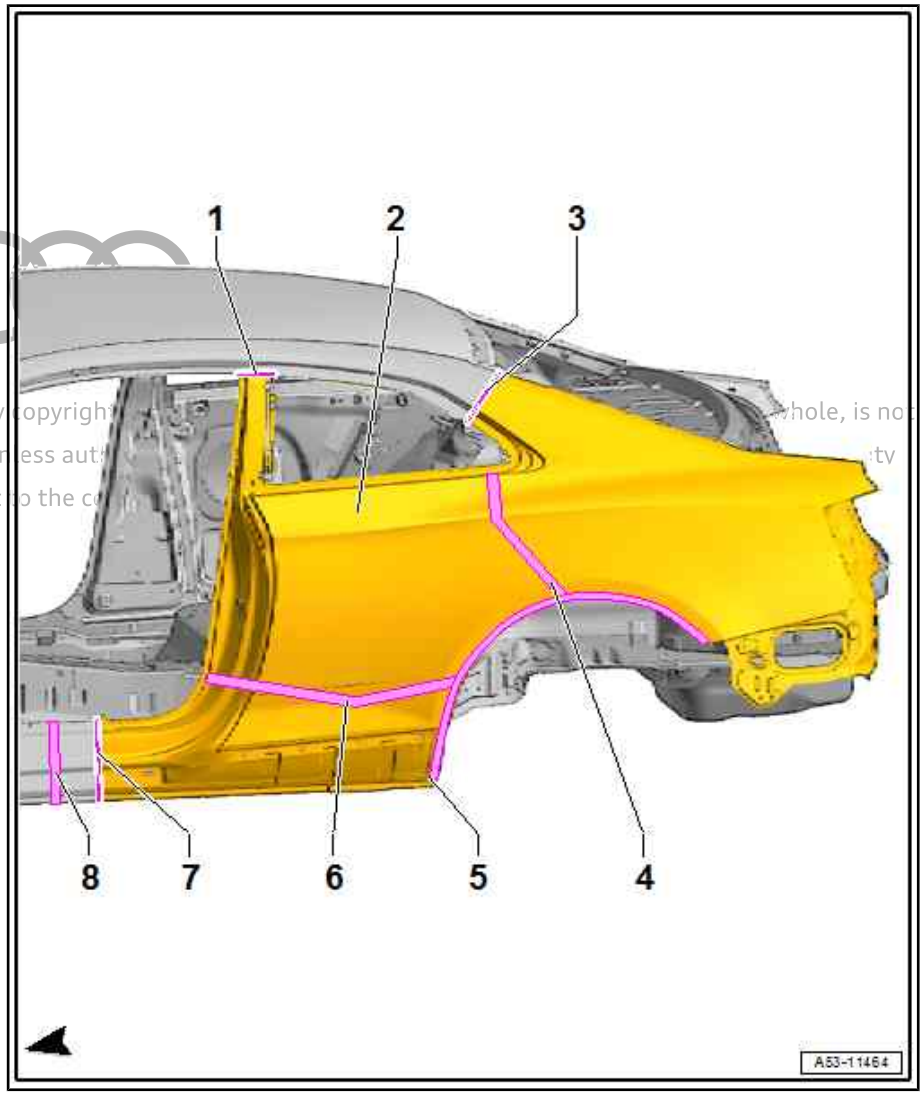
4 - Moulded foam insert

5 - Bonded area

6 - Moulded foam insert

7 - Separating cut in side member

8 - Moulded foam insert



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7.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 *.*

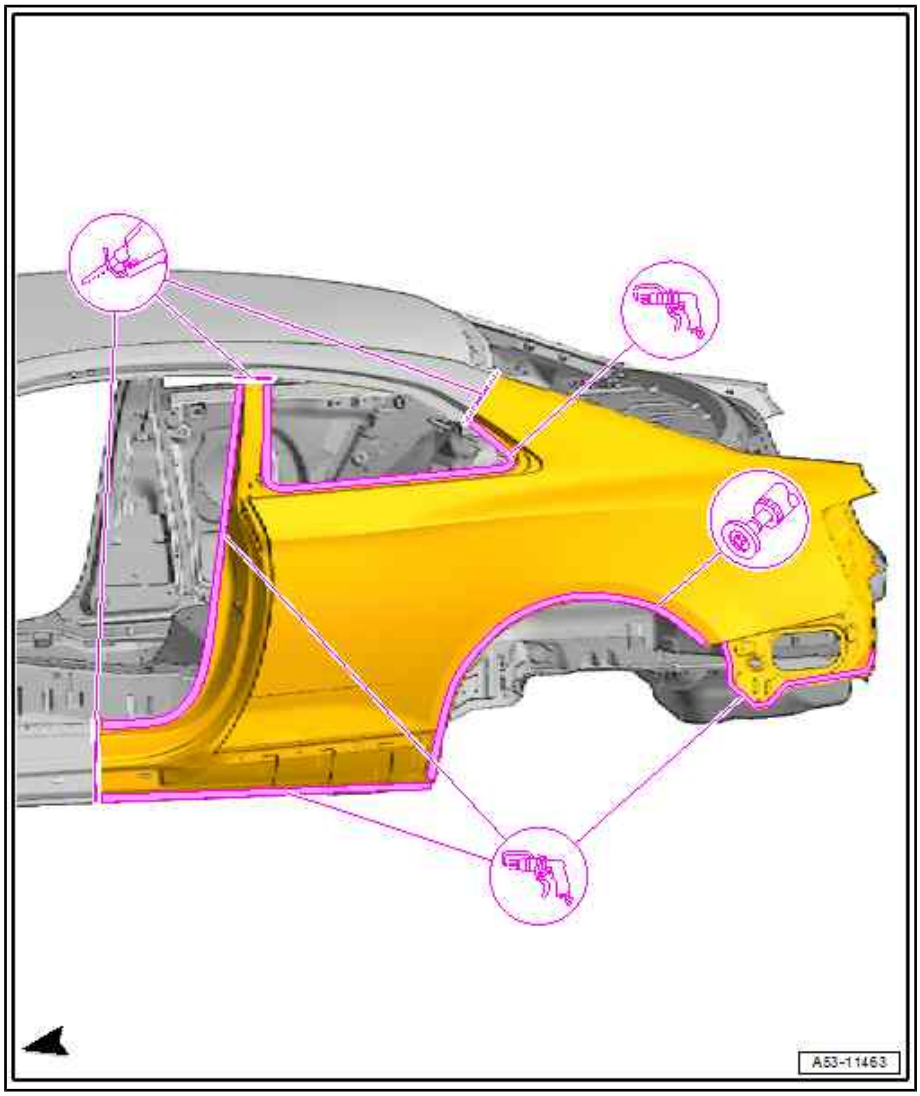
7.2 Procedure

- Cross panel (part section) already removed ⇒ page 302

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

– Separate original joint using spot weld breaker .
– Grind through outer edge at wheel arch using compact angle grinder .
– Make separating cuts with body saw , as shown.



– Make separating cut with body saw , as shown.
– Separate original joint using spot weld breaker .

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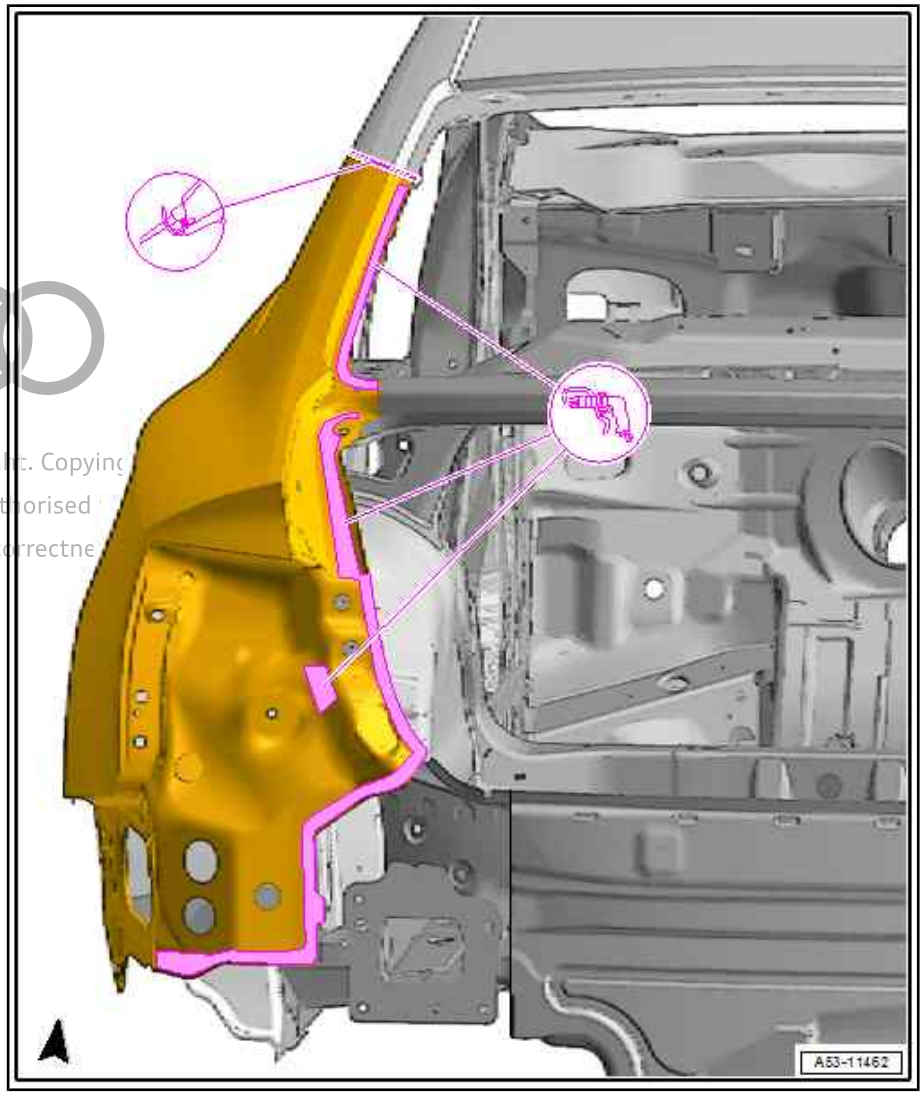

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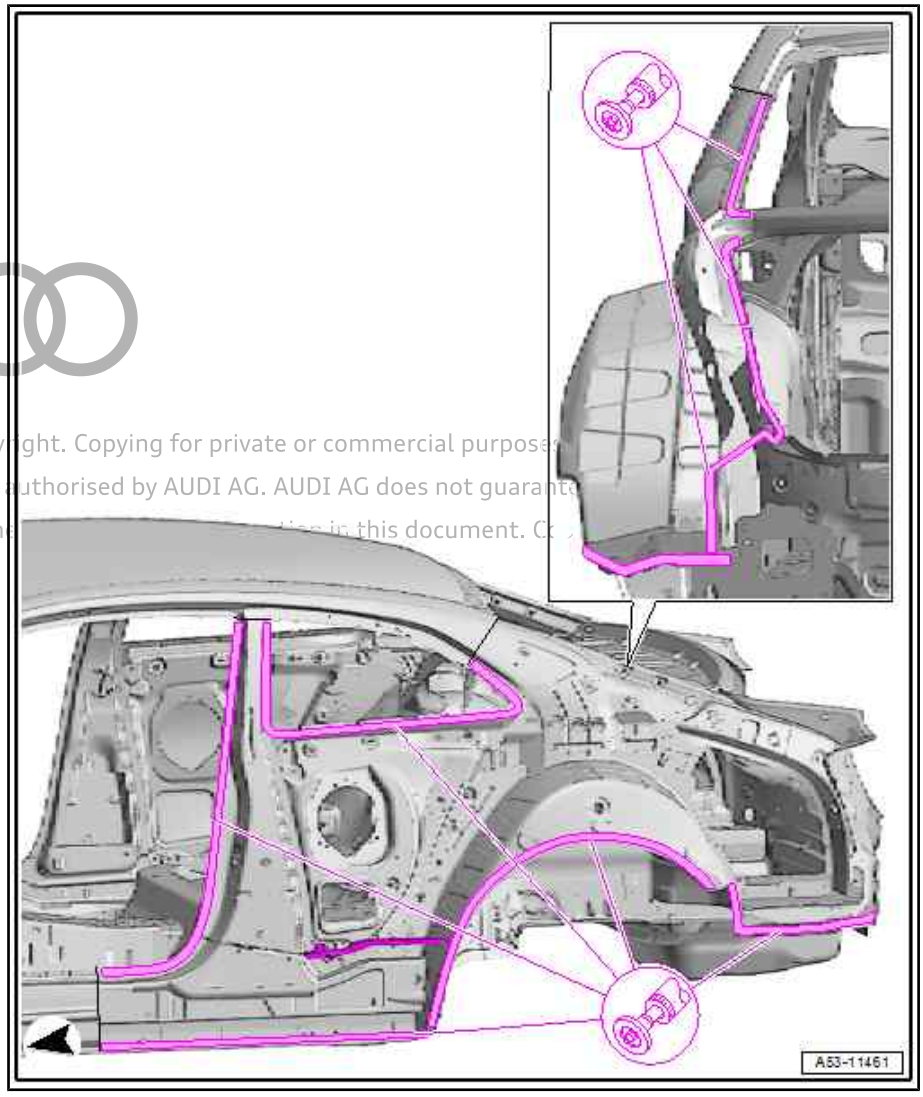
– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.
– Remove remaining adhesive completely and sand bonding surfaces down to bare metal.



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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 cuts to new part.

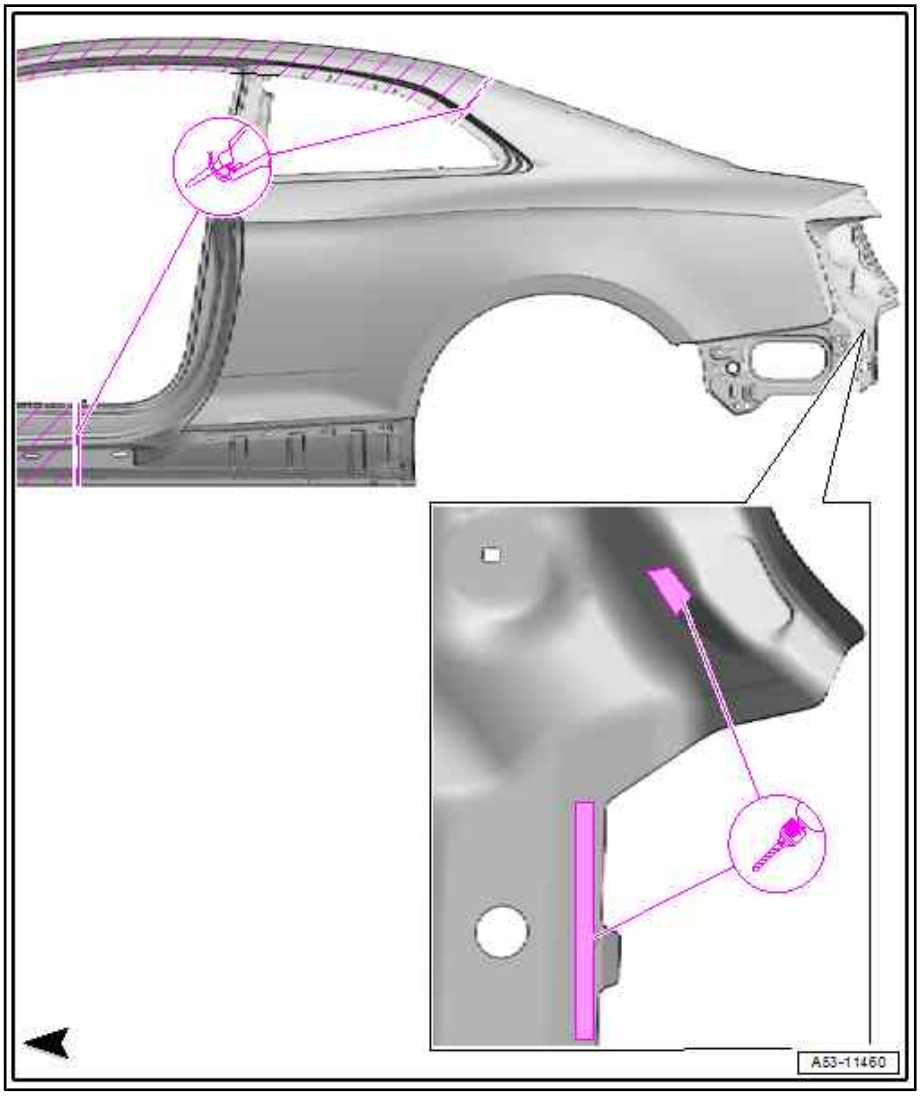
– Cut new part to size using body saw .

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

– Grind welding areas down to bare metal.

– Roughen bonding surface using a sanding disc (grit size P 80 or P 100).

– Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).



– Insert moulded foam inserts -1- .
– Apply 2-component epoxy adhesive - DA 001 730 A2- to area of original bonded joint using pneumatic glue gun - V.A.G 2005 B- .

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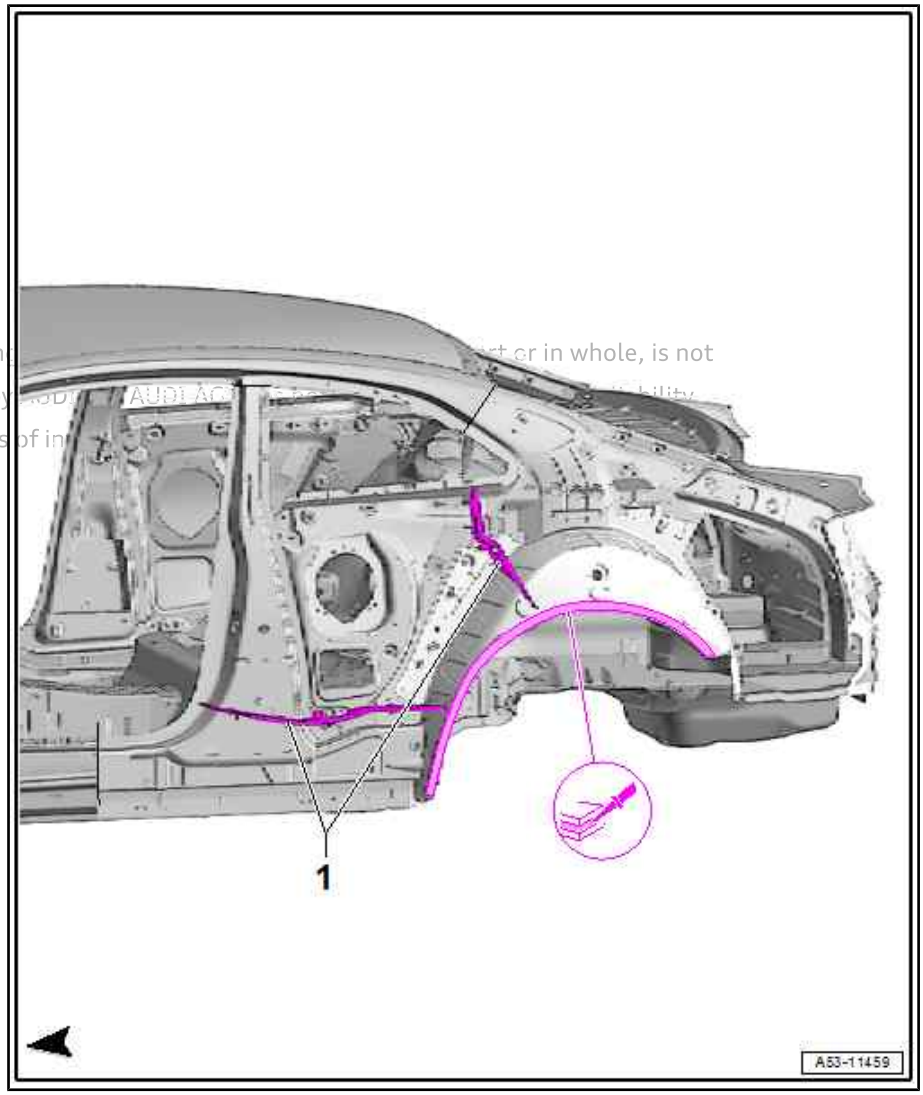

Note

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.

Welding in

- Match up new part with vehicle positioned on alignment bracket set and fix in place using portal gauge.
- Place backing plates of same material behind joints.
- Butt weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Fold over wheel arch flange -1-.

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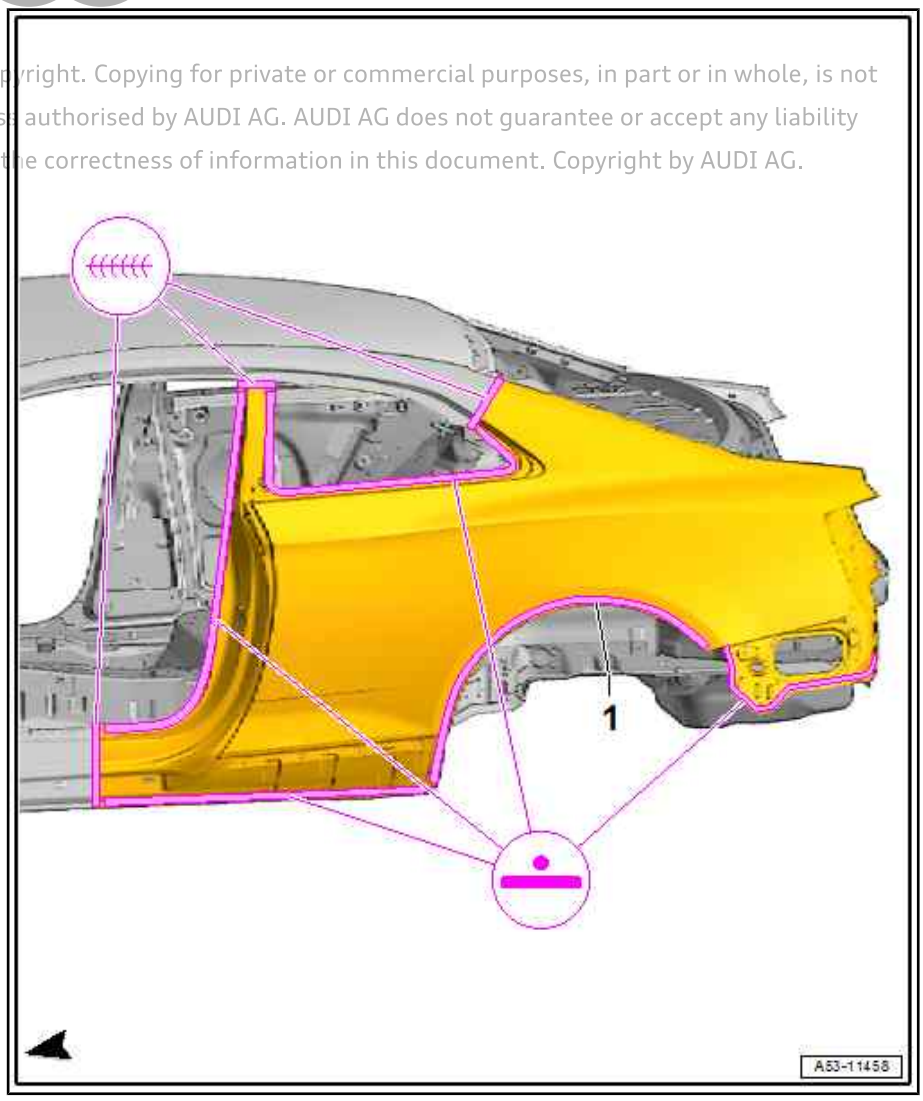

– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.

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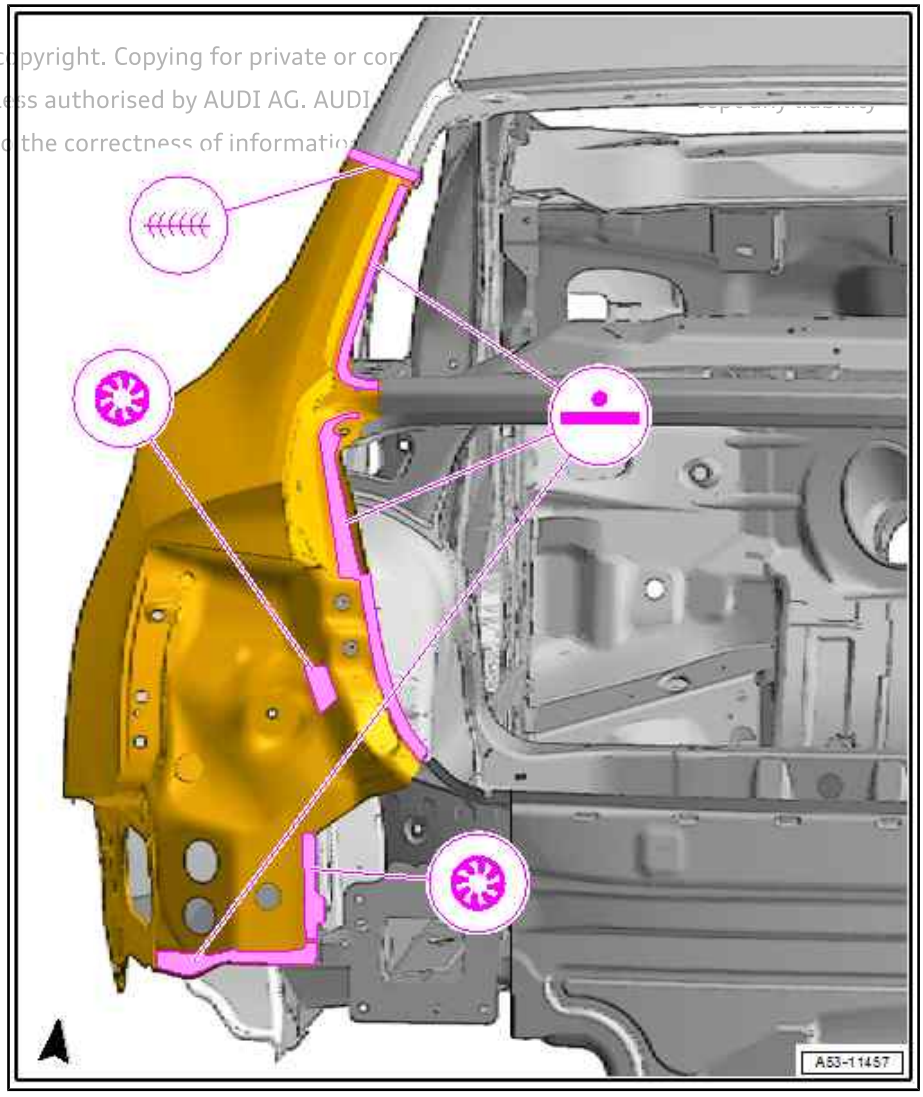

- Install cross panel ⇒ page 302 .

RO: 53 55 55 04

8 Side panel - Renewal (Sportback)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

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DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Side panel

- ❑ Includes water channel and tail light mounting

2 - Separating cut in D-pillar

3 - Moulded foam insert

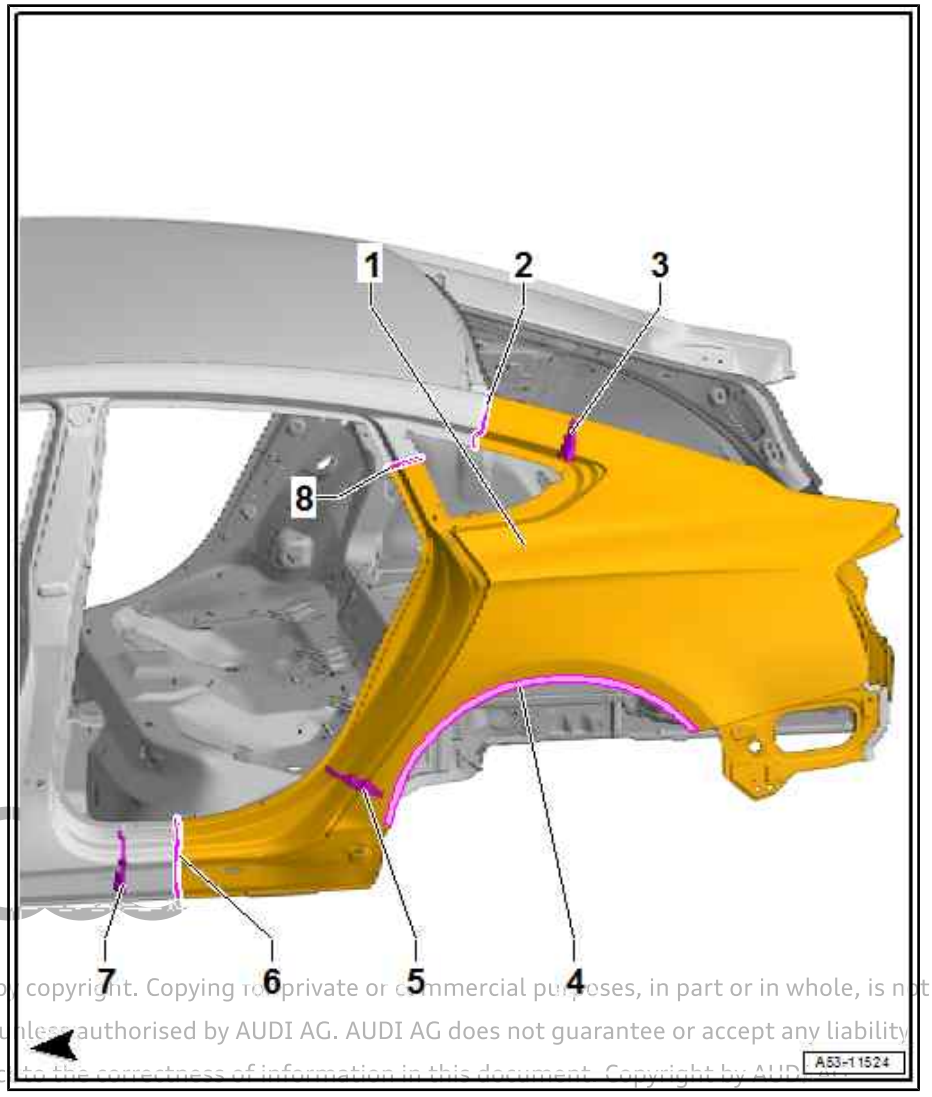
4 - Bonded area

5 - Moulded foam insert

6 - Separating cut in side member

7 - Moulded foam insert

8 - Separating cut in C-pillar



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8.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

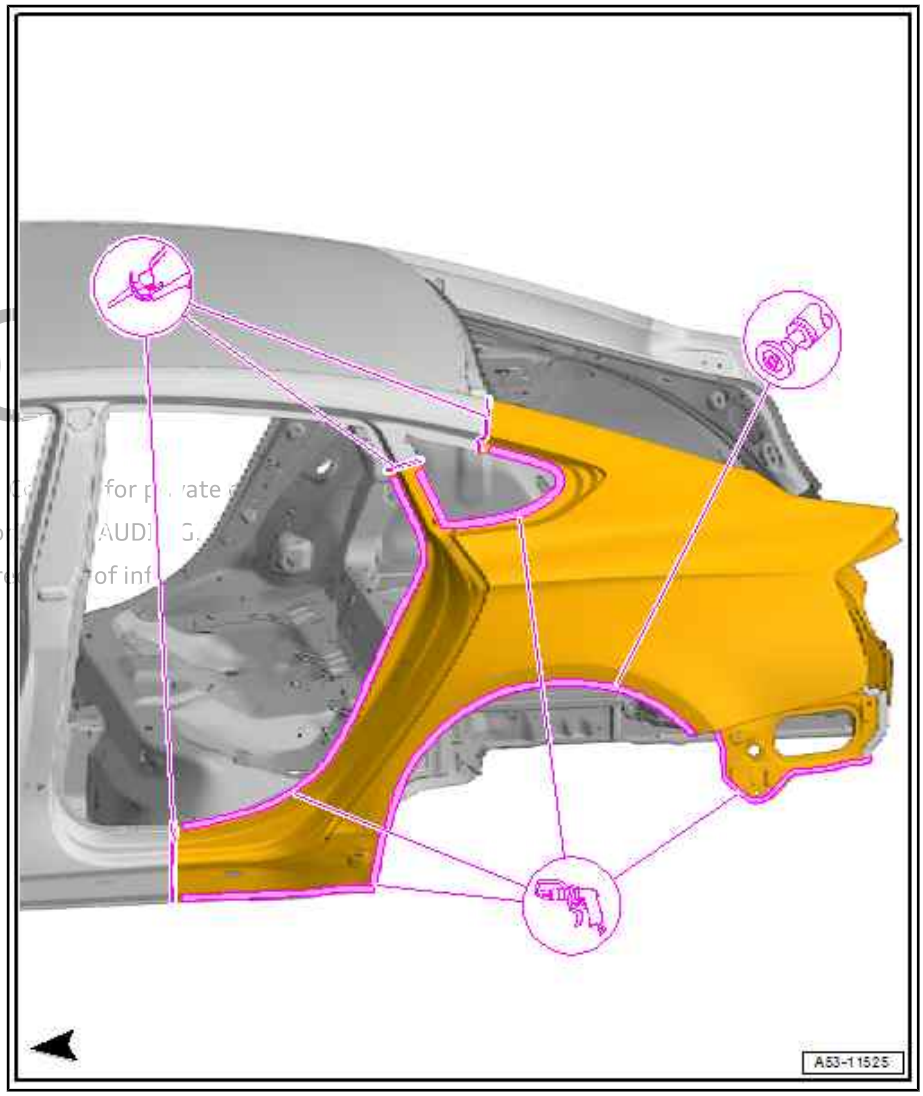
8.2 Procedure

- Cross panel (part section) already removed.

Cutting locations

Permitted separating cuts on complete side panel ⇒ page 103 .

– Separate original joint using spot weld breaker .
– Grind through outer edge at wheel arch using compact angle grinder .
– Make separating cuts with body saw , as shown.



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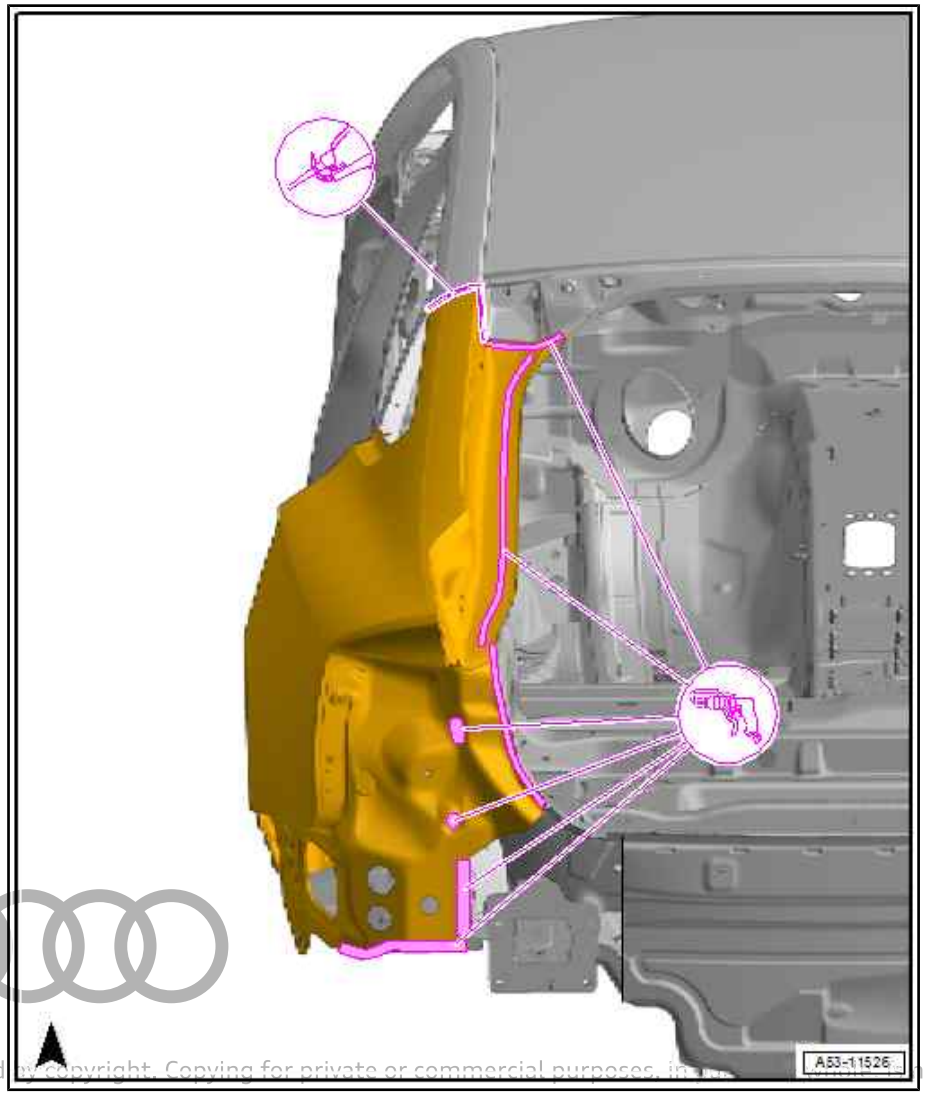
– Make separating cut with body saw , as shown.
– Separate original joint using spot weld breaker .



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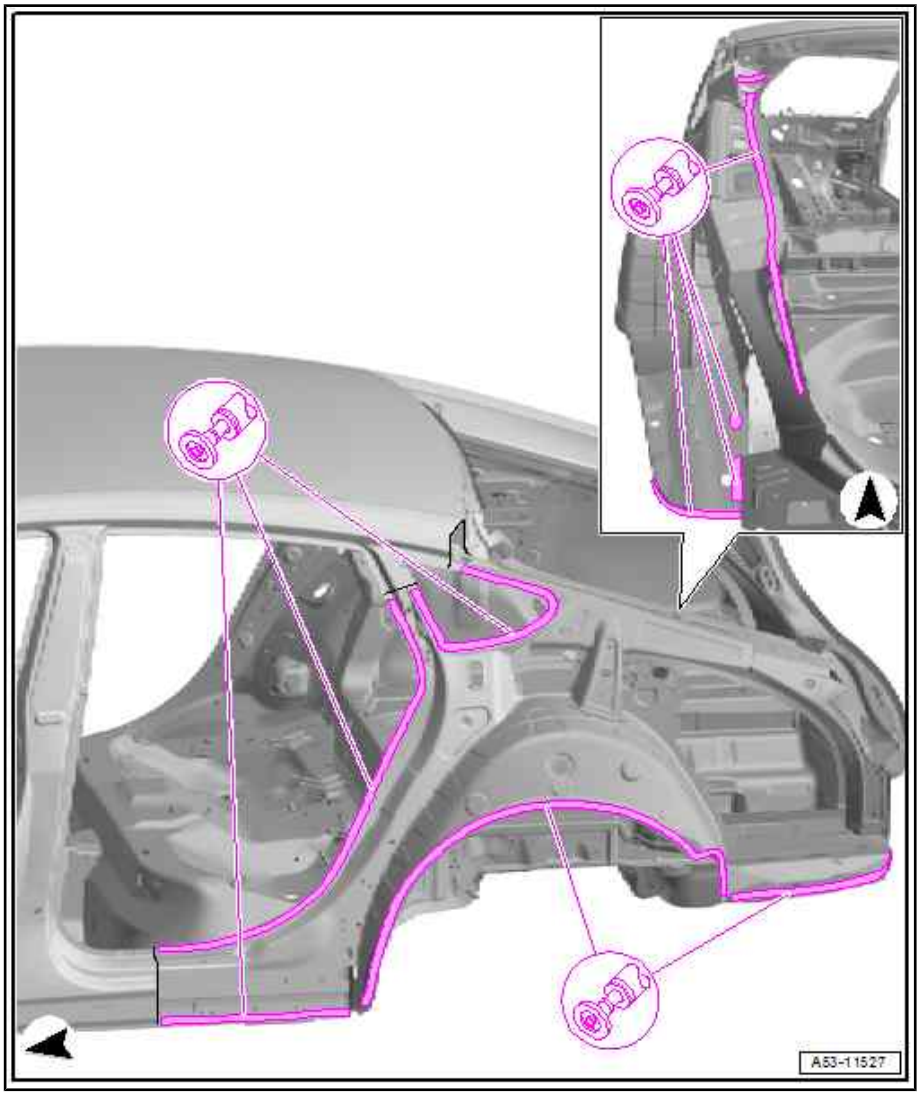
– Remove remaining material using compact angle grinder.
– Grind welding areas down to bare metal.
– Remove remaining adhesive completely and sand bonding surfaces down to bare metal.



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 cuts to new part.

– Cut new part to size using body saw .

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill.

– Grind welding areas down to bare metal.

– Roughen bonding surface using a sanding disc (grit size P 80 or P 100).

– Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).

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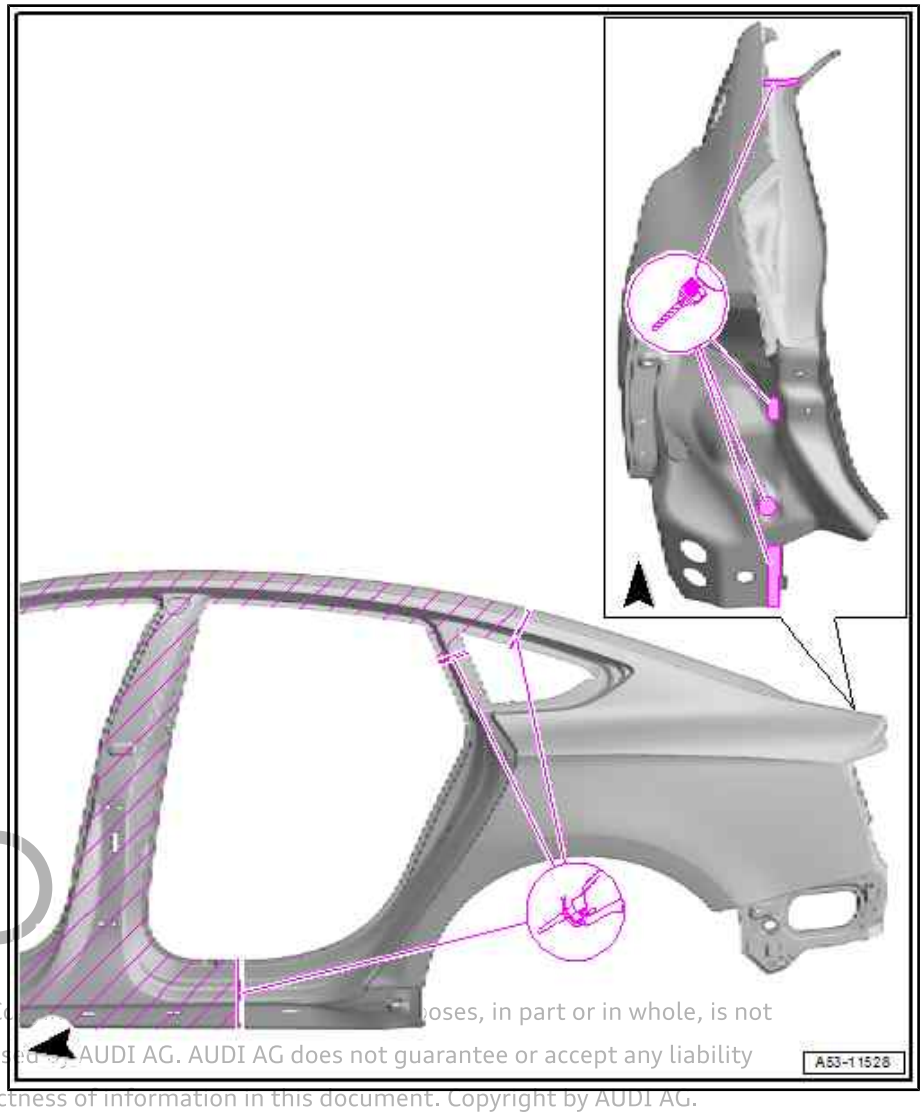

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– Insert moulded foam inserts -1- .
– Place backing plates of same material behind joints.
– Apply 2-component epoxy adhesive - DA 001 730 A2- to area of original bonded joint using pneumatic glue gun - V.A.G 2005 B- .

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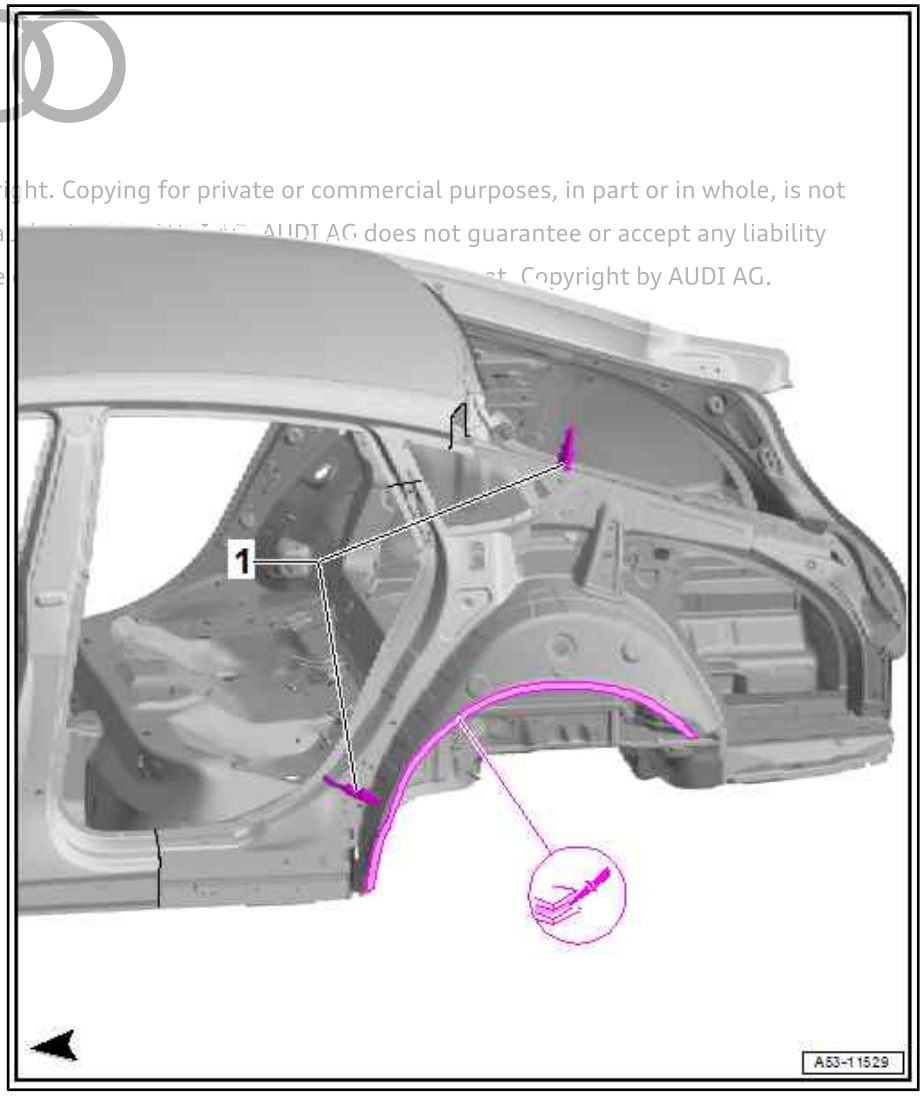
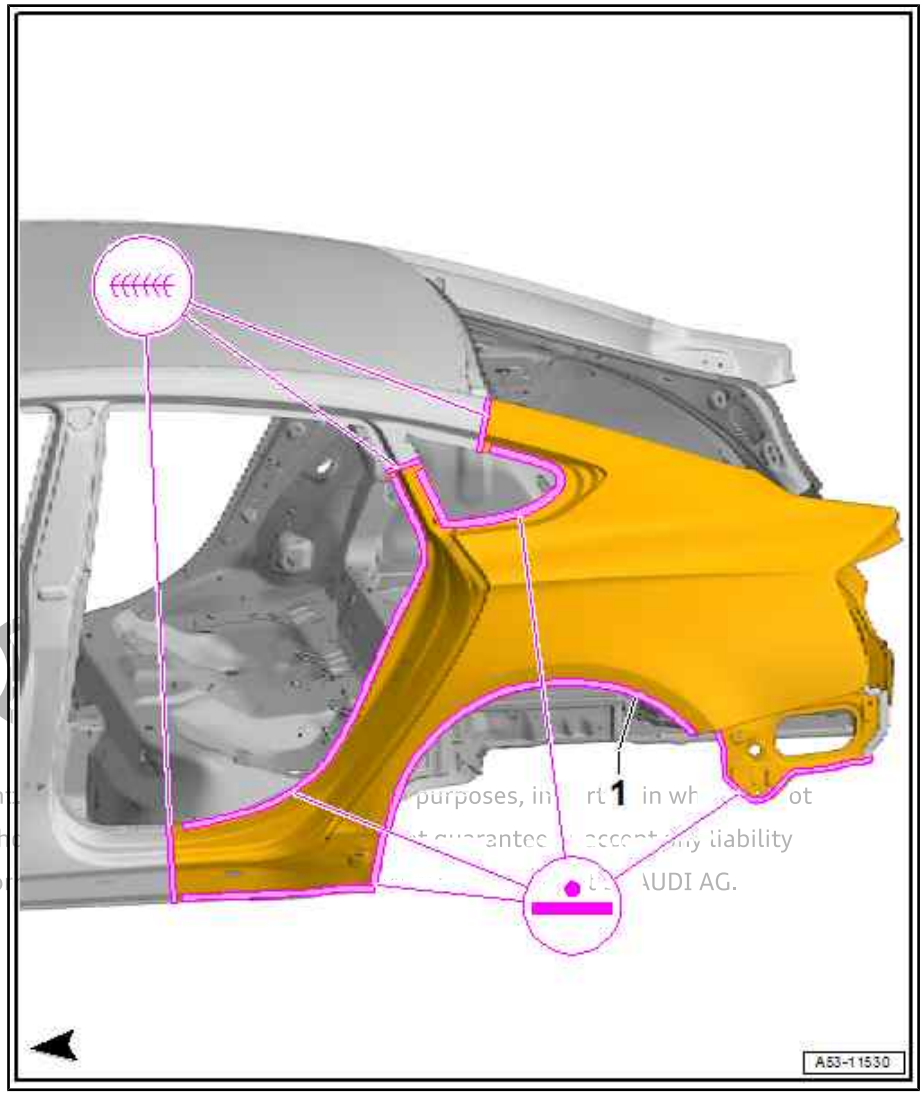


Note

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.

Welding in

– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.



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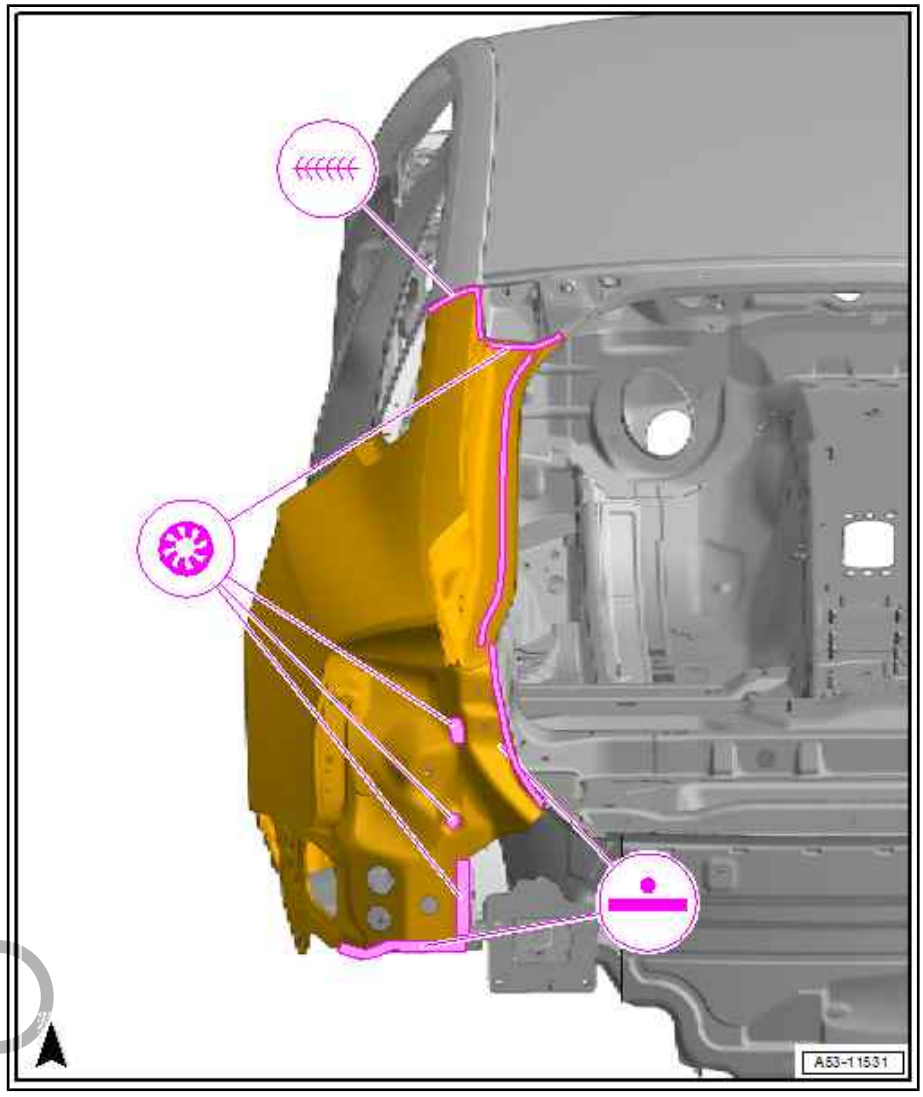
– Match up new part with vehicle positioned on alignment bracket set and fix in place using portal gauge.
– Fold over wheel arch flange -1-.
– Butt weld at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



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– Install cross panel.

RO: 53 29 55 52

9 C-pillar reinforcement - Renewal (Coupé)

Note

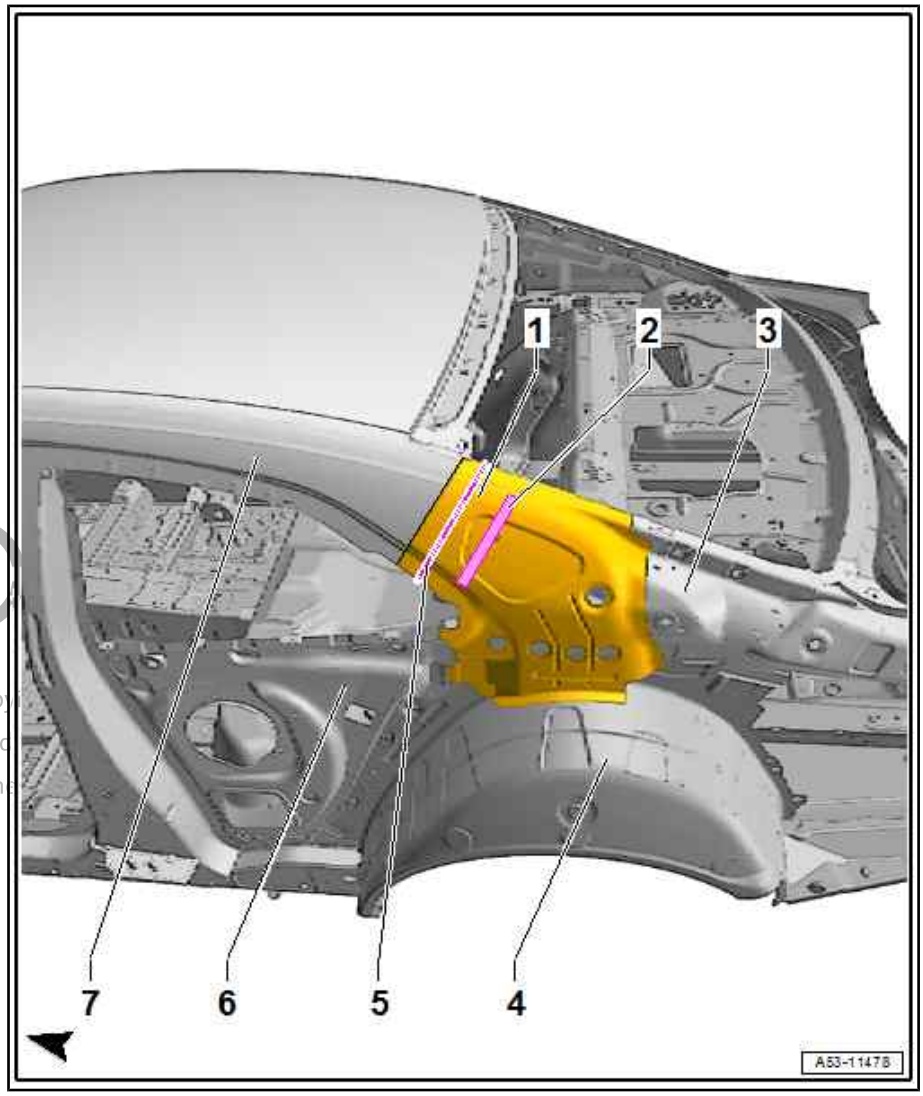
Observe safety precautions ⇒ page 3 .

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - C-pillar reinforcement
2 - Moulded foam insert
3 - Upper inner C-pillar
4 - Wheel housing
5 - Separating cut in C-pillar
6 - Inner side panel
7 - Roof side 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
- Drill

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

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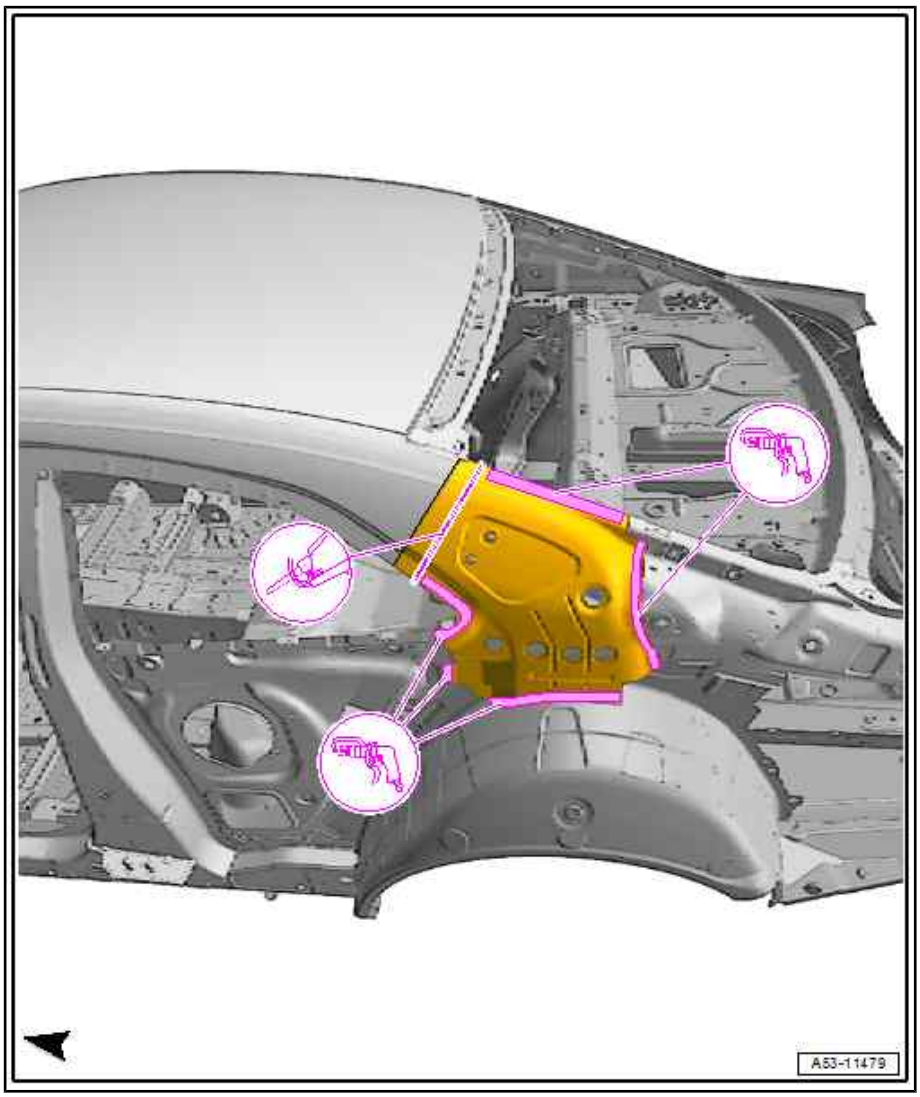
9.2 Procedure

- Side panel already removed ⇒ page 336

Cutting locations

– Separate original joint using spot weld breaker .

– Make separating cut with body saw .



– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.

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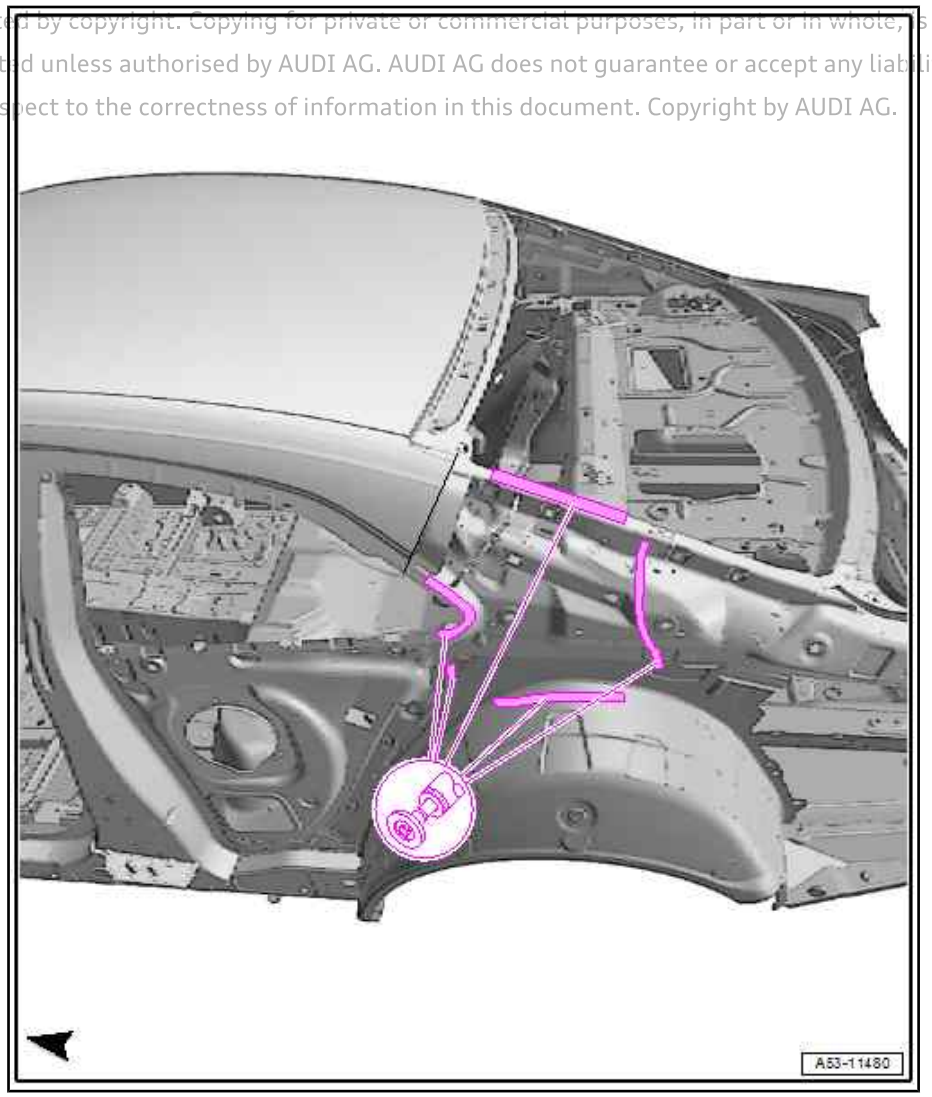
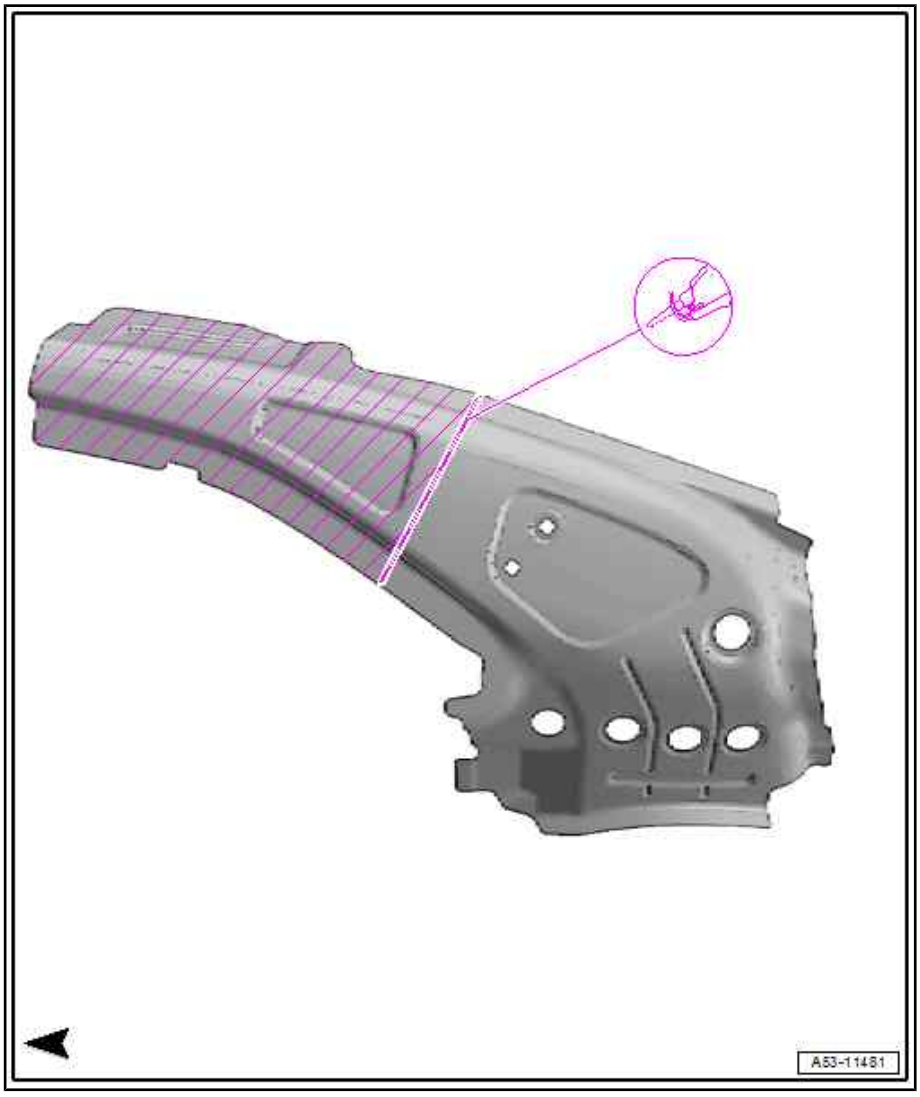


Replacement part

♦ C-pillar reinforcement

Preparing new part

– Transfer separating cut to new part.
– Cut new part to size using body saw .
– Drill holes for SG plug weld seam, 8.0 mm ∅ 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

- Match up and fix new part in position.
- Weld at separating cuts using shielded arc welding equipment : SG continuous seam.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in new part using shielded arc welding equipment : SG plug weld seam.

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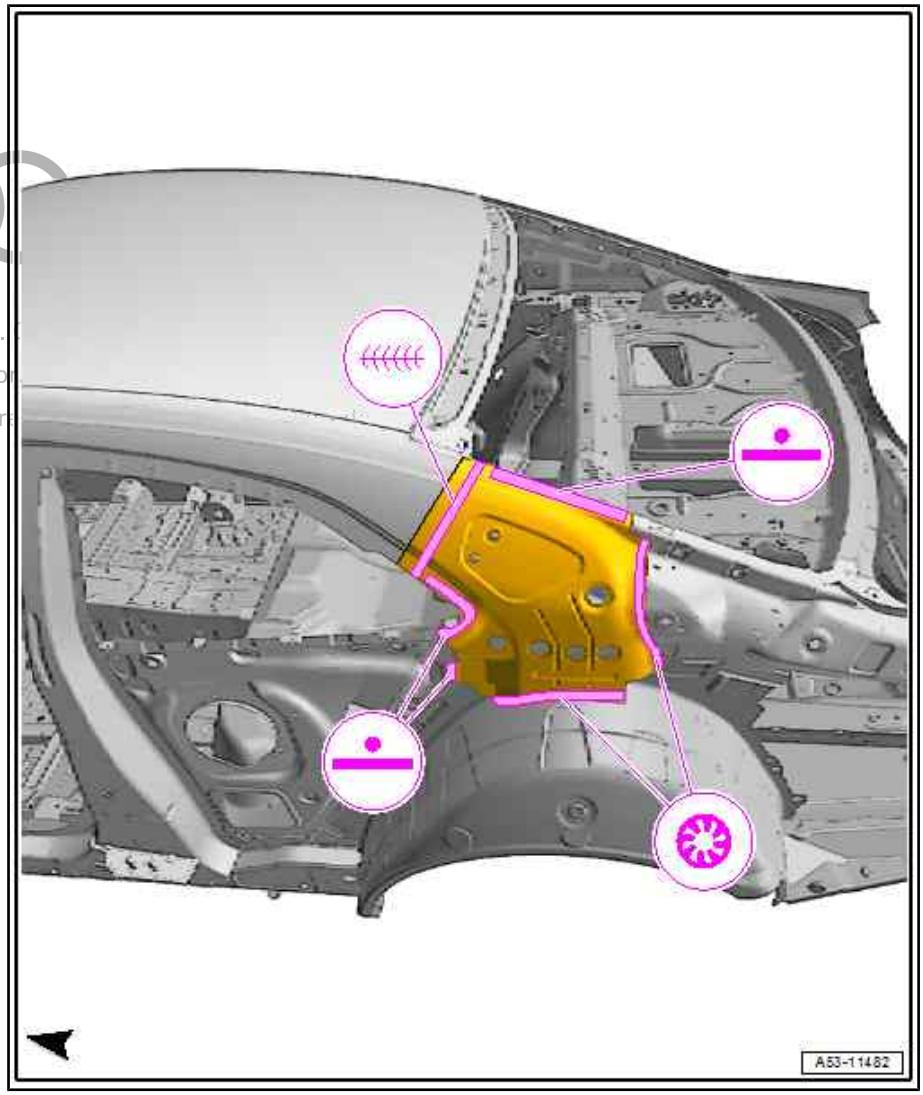

- Install side panel ⇒ page 336 .

RO: 53 29 55 54

10 C-pillar reinforcement - Renewal (Sportback)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - C-pillar reinforcement
2 - Moulded foam insert
3 - Inner side panel (top)
4 - Wheel housing
5 - Moulded foam insert
6 - Inner side member
7 - Outer side member

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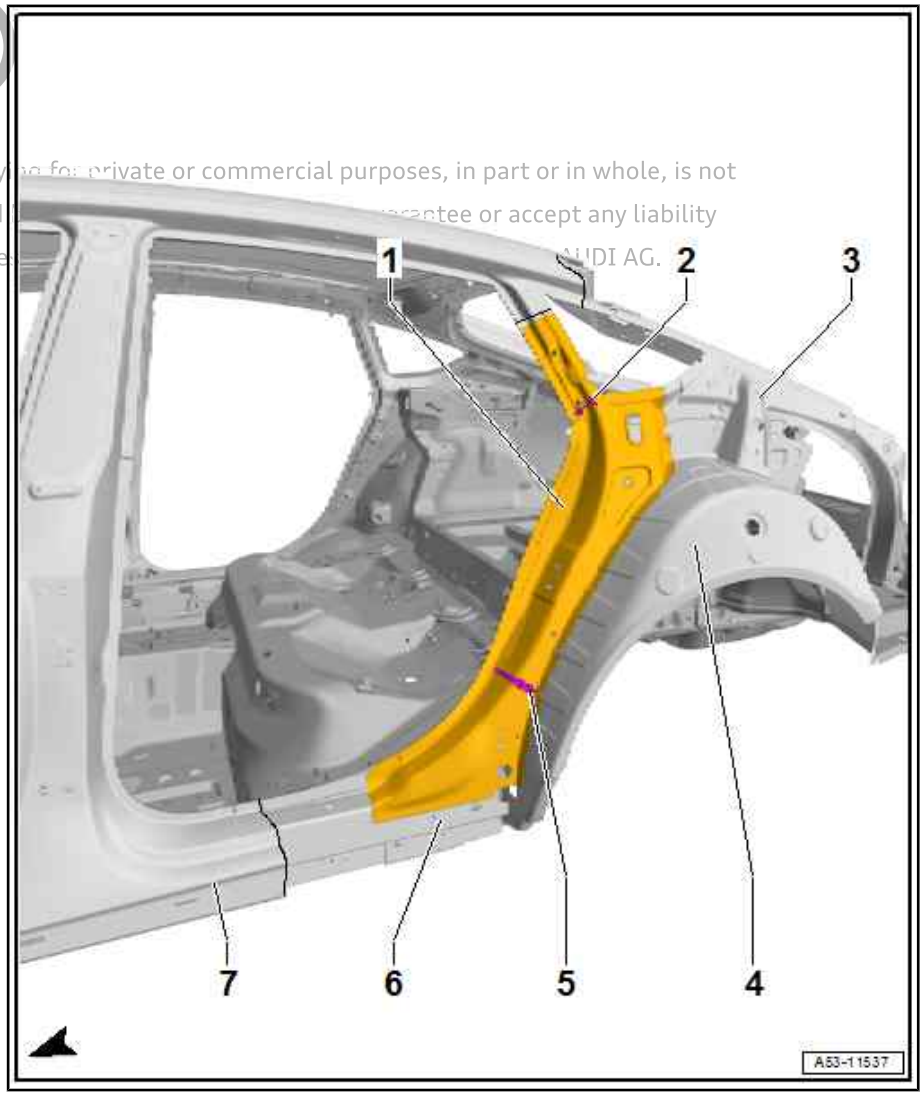


10.1 Tools

Special tools and workshop equipment required

- Resistance spot welder

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

Note

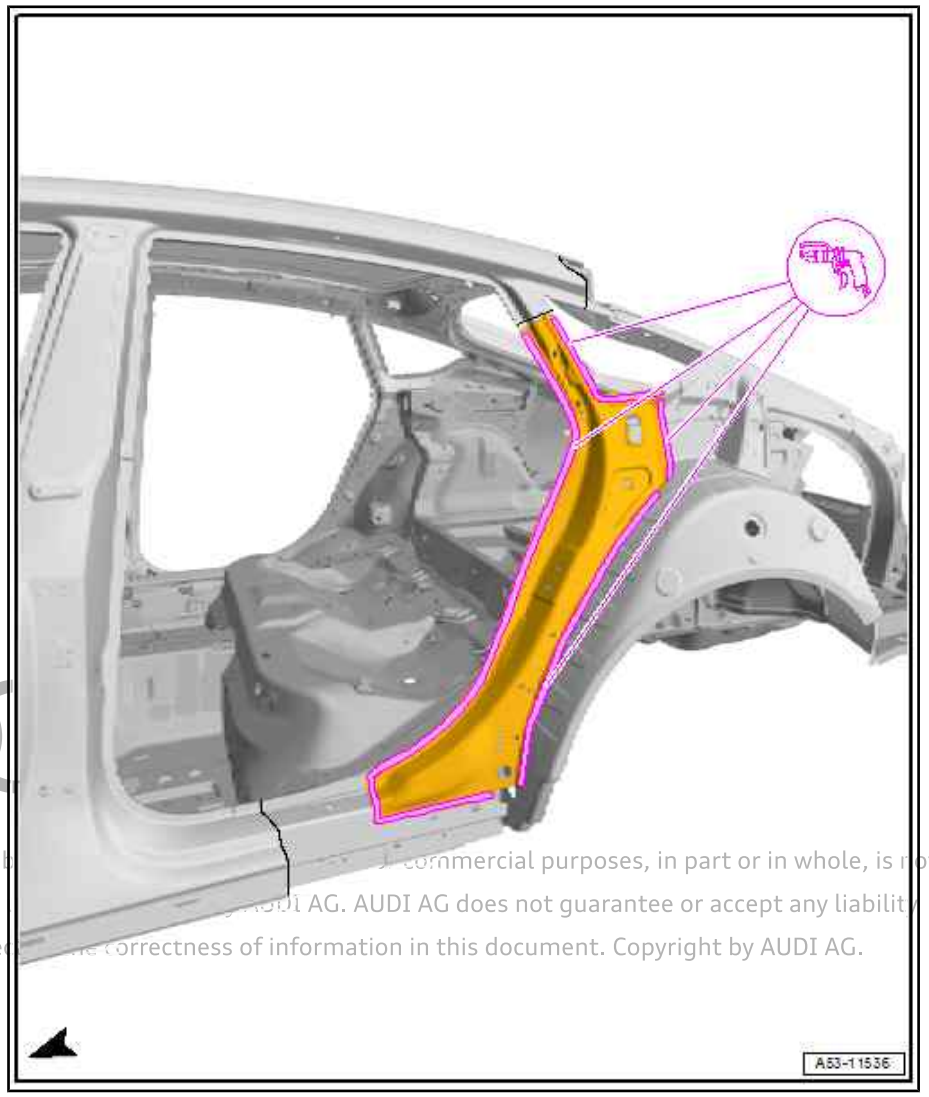
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work *⇒ page 32* *.*

10.2 Procedure

- Side panel already removed

Cutting locations

– Separate original joint using spot weld breaker .



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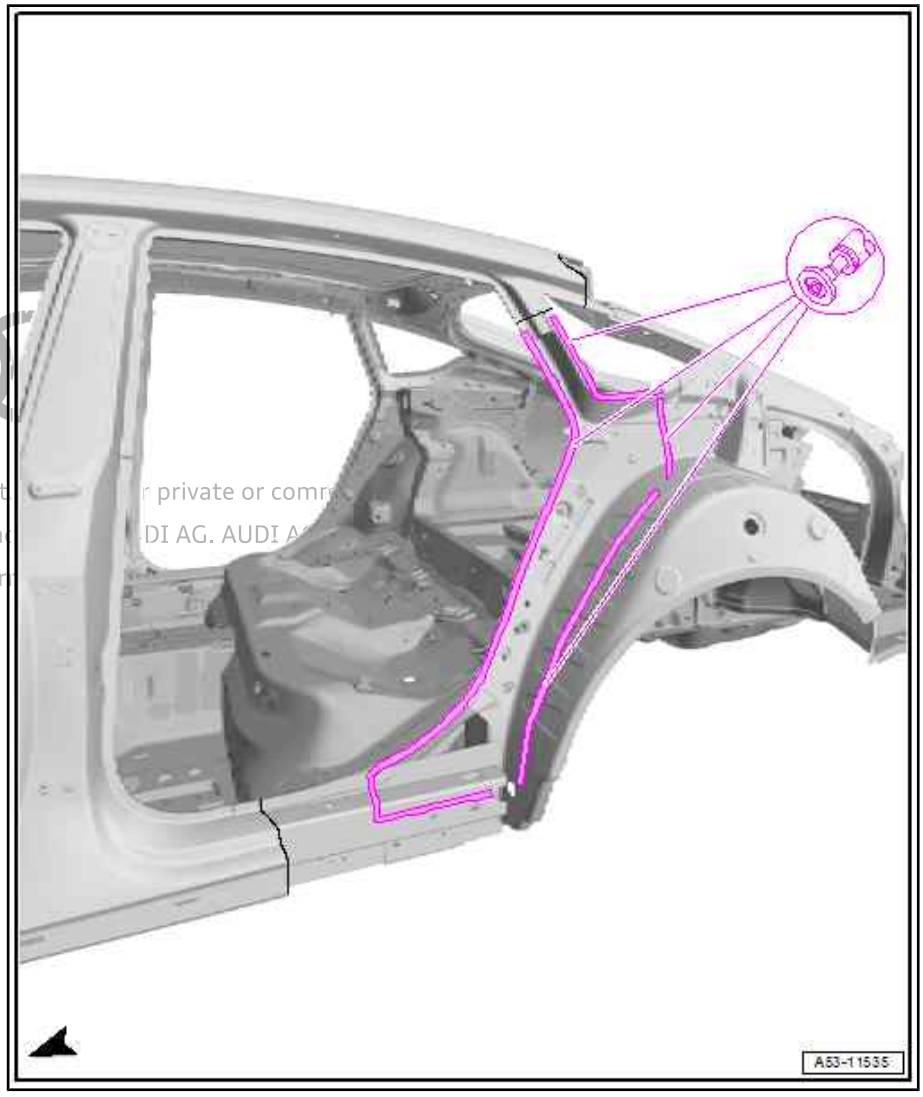
– Remove remaining material using compact angle grinder .

– Grind welding areas down to bare metal.



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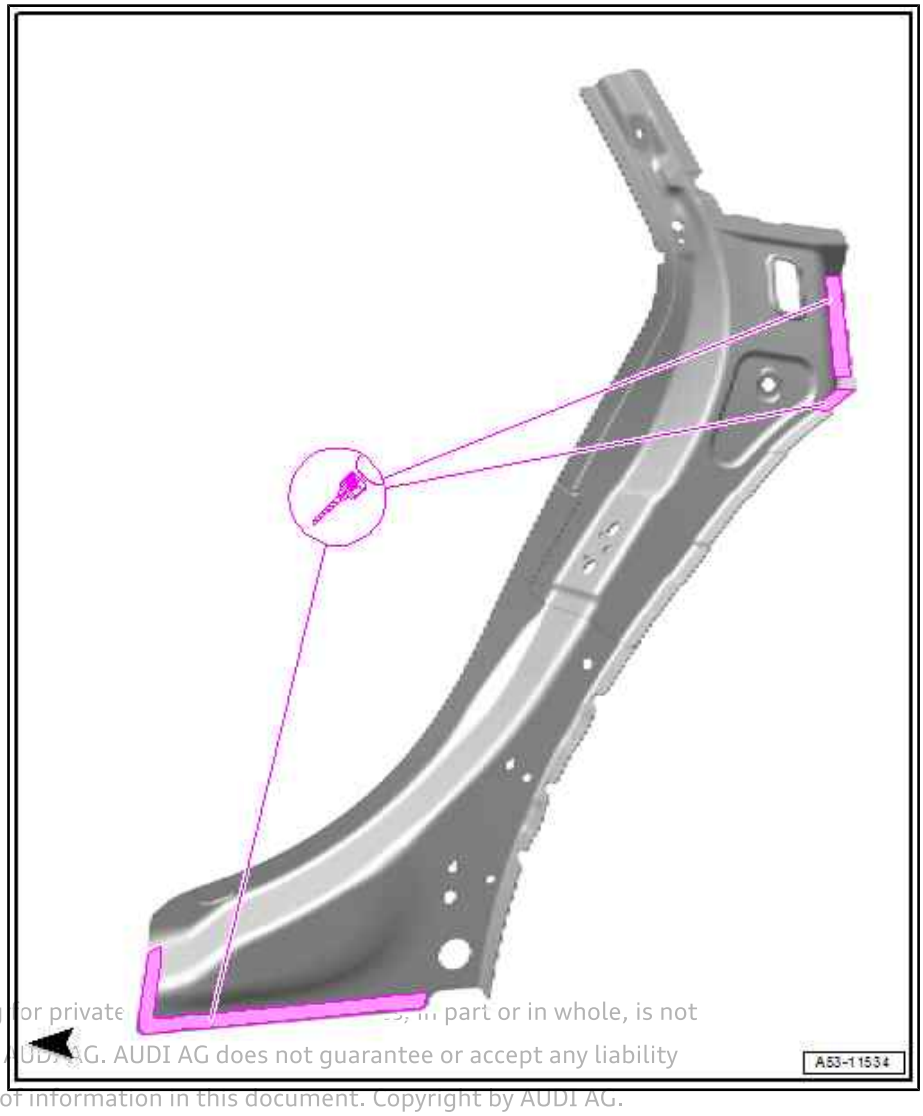
Replacement part

- C-pillar reinforcement

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .



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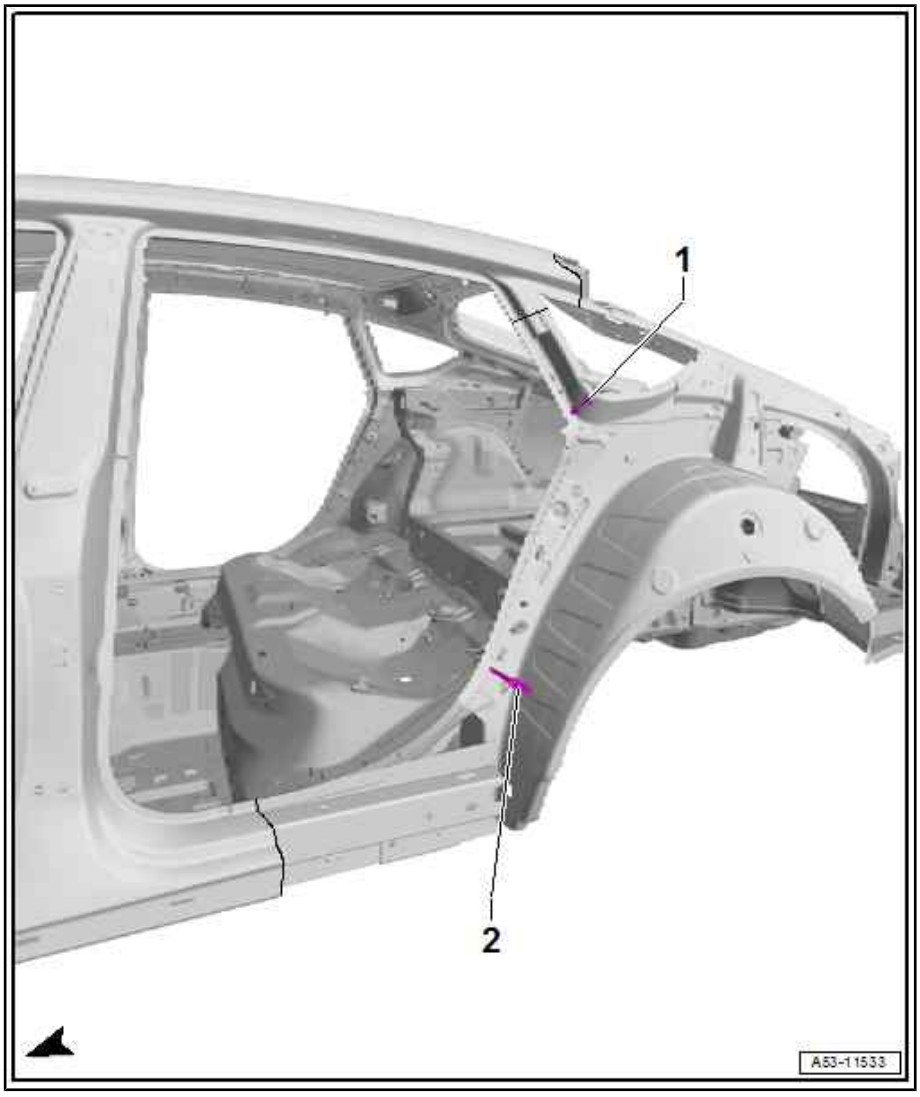
– Fit moulded foam inserts -1- and -2-.



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

– Match up new part with vehicle positioned on alignment bracket set and fix in place using portal gauge.
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.

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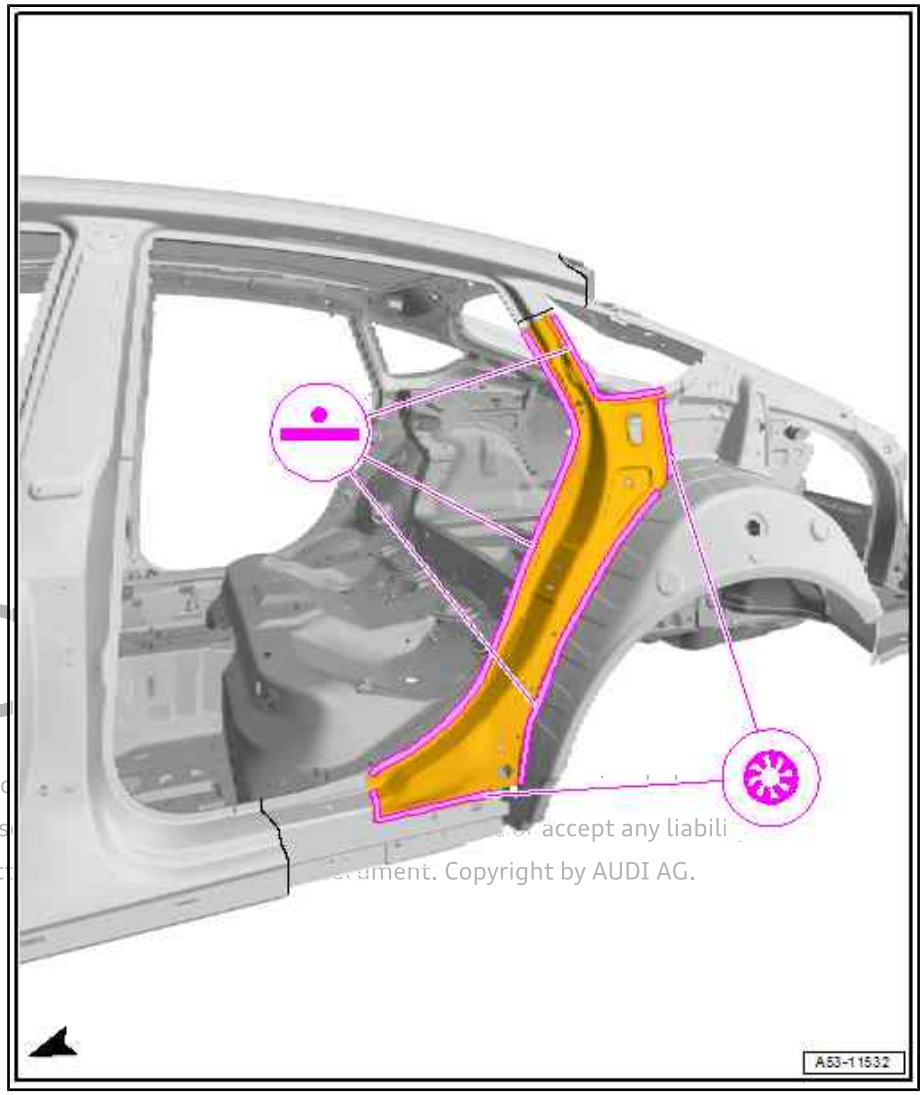

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– Install side panel.

RO: 53 69 55 02

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

Note

Observe safety precautions ⇒ *page 3* .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

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DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Wheel housing

2 - Inner side panel

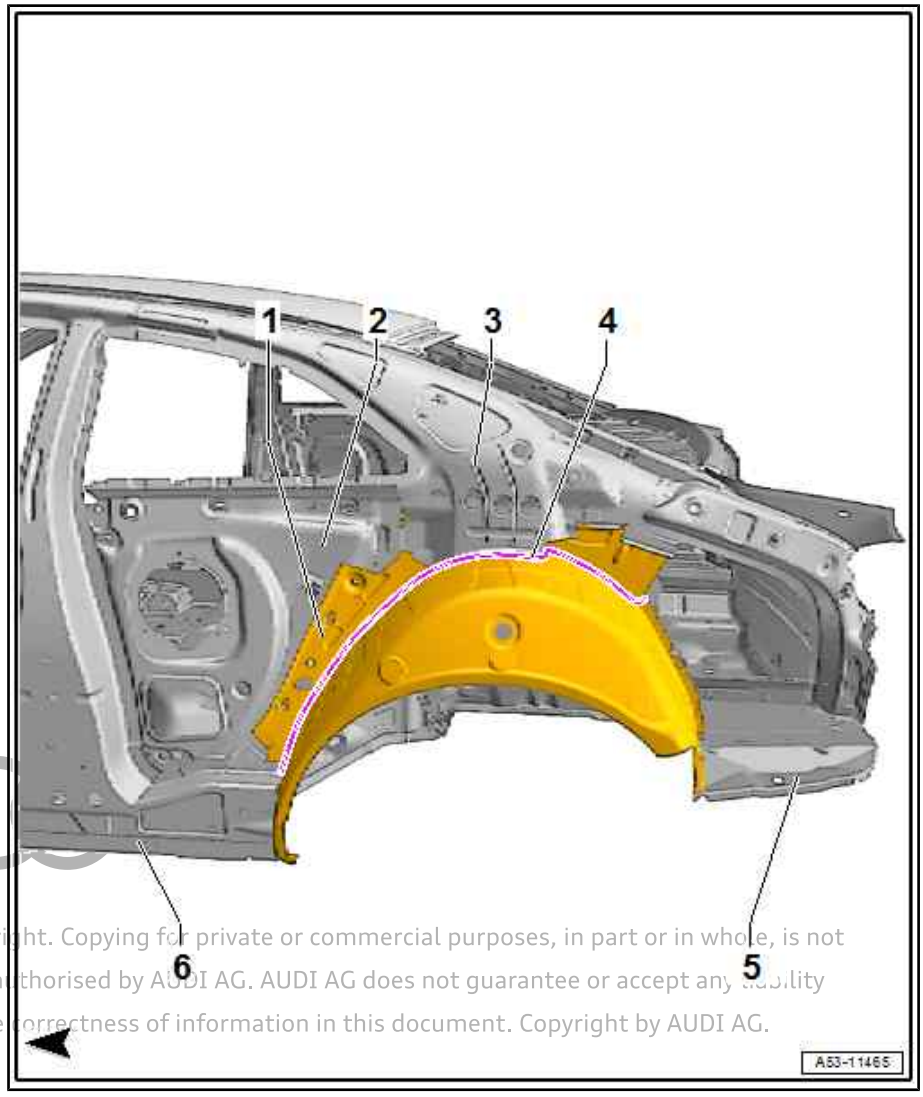
3 - C-pillar reinforcement

4 - Separating cut

Partial renewal
Partial renewal is possible using this separating cut. The C-pillar reinforcement does not need to be removed for this purpose.

5 - Floor plate, side section

6 - Inner side member



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11.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 *.*

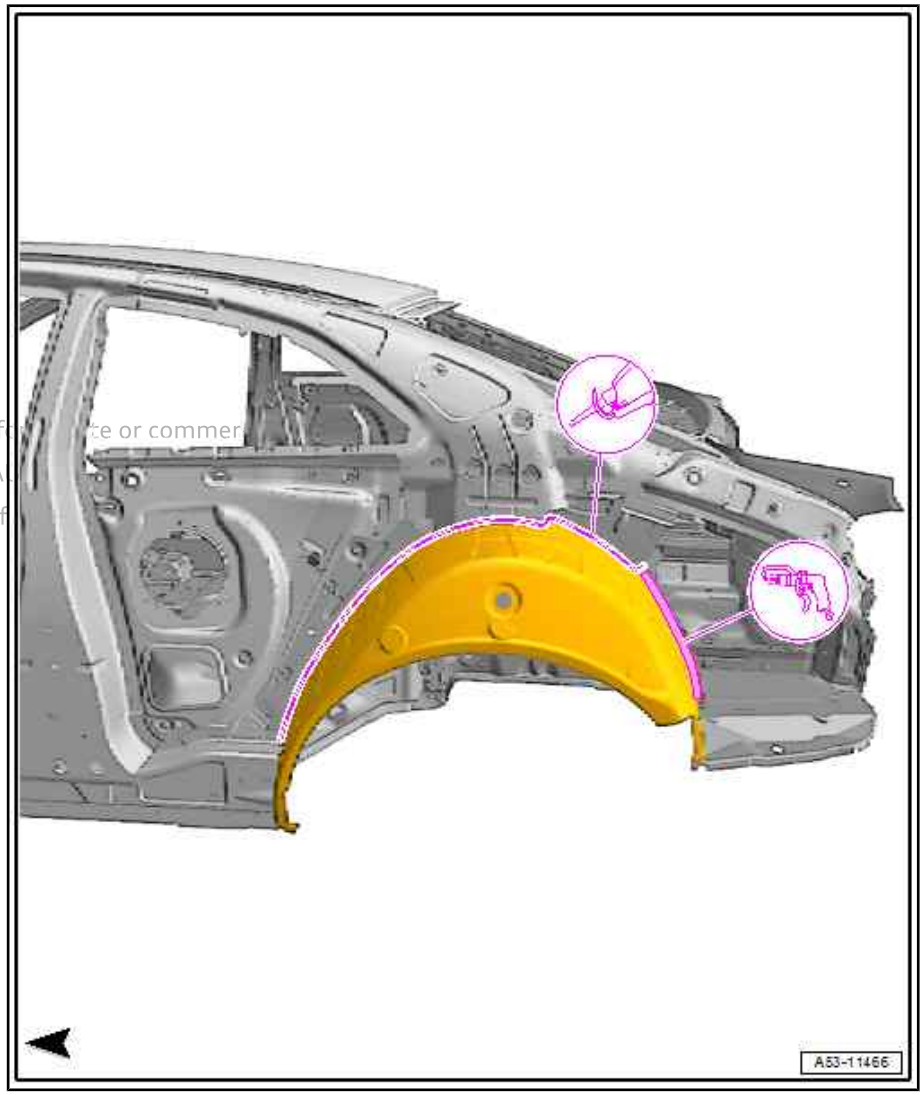
11.2 Procedure

- Side panel already removed ⇒ page 336

Cutting locations

– Make separating cuts with body saw .

– Separate original joint using spot weld breaker .



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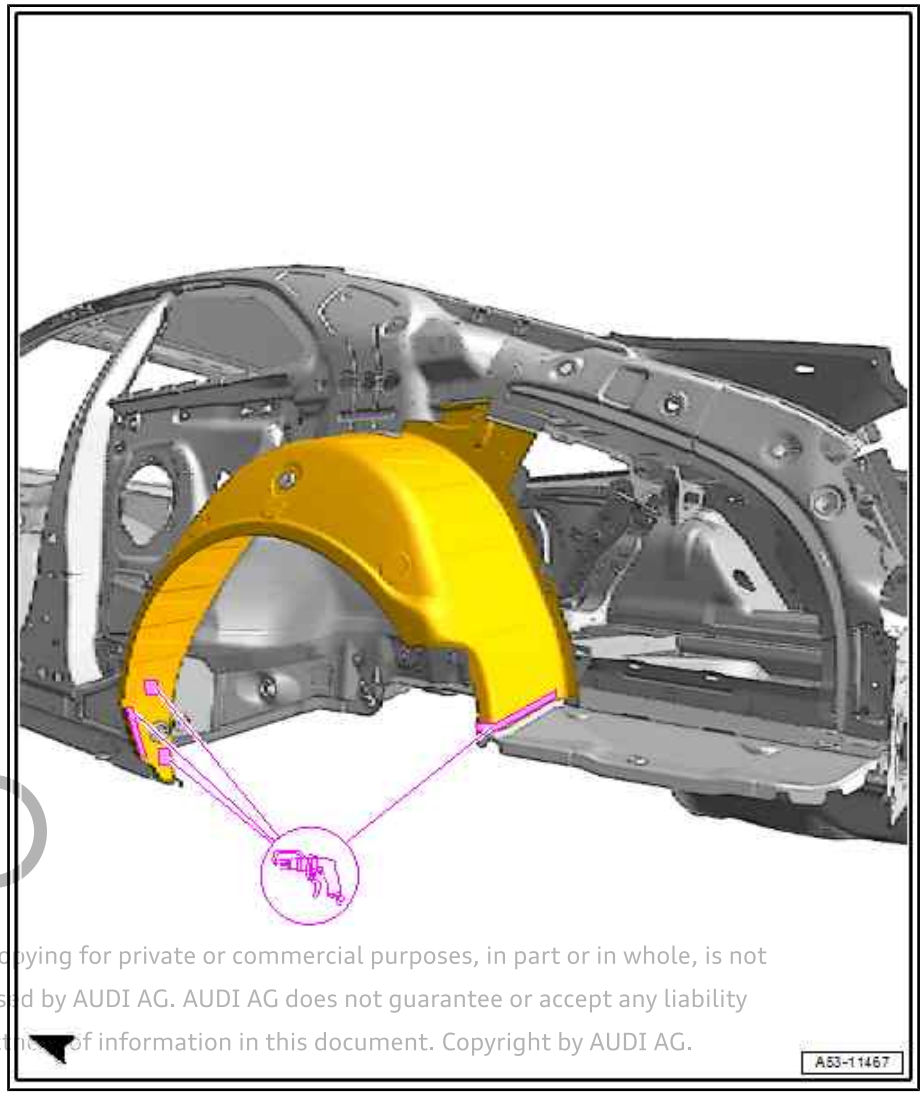
– Separate original joint using spot weld breaker .



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– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

Replacement part

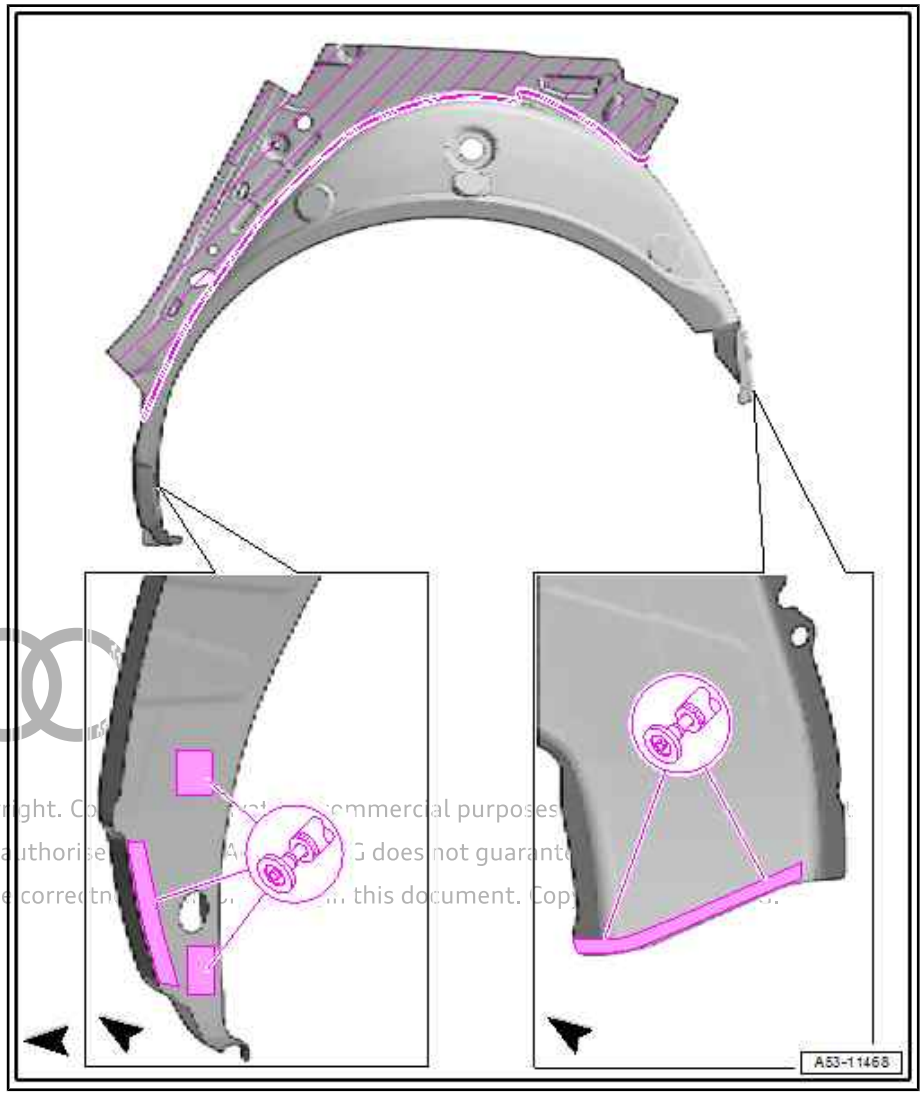
♦ Wheel housing liner (rear)

Preparing new part

Partial renewal

Partial renewal is possible using this separating cut (depending on extent of damage).

– Transfer separating cut to new part. Add an appropriate amount of material for overlap.
– Cut new part to size using body saw .
– Grind welding areas down to bare metal.



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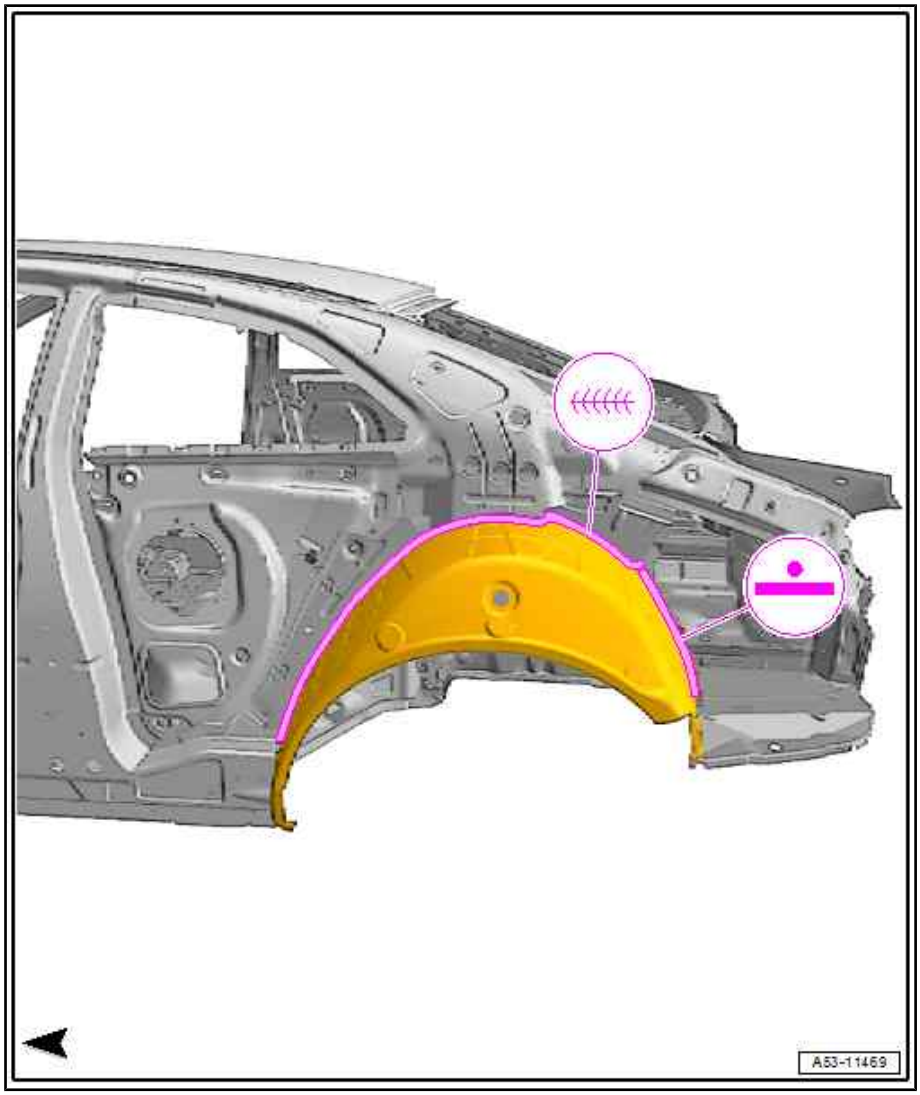
Note

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.

Welding in

- Match up new part (together with side panel) with vehicle positioned on alignment bracket set and fix in place using portal gauge.
- Weld in new part using resistance spot welder : RP spot weld seam.
- Weld in at separating cut from top and bottom using shielded arc welding equipment : SG continuous seam.



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

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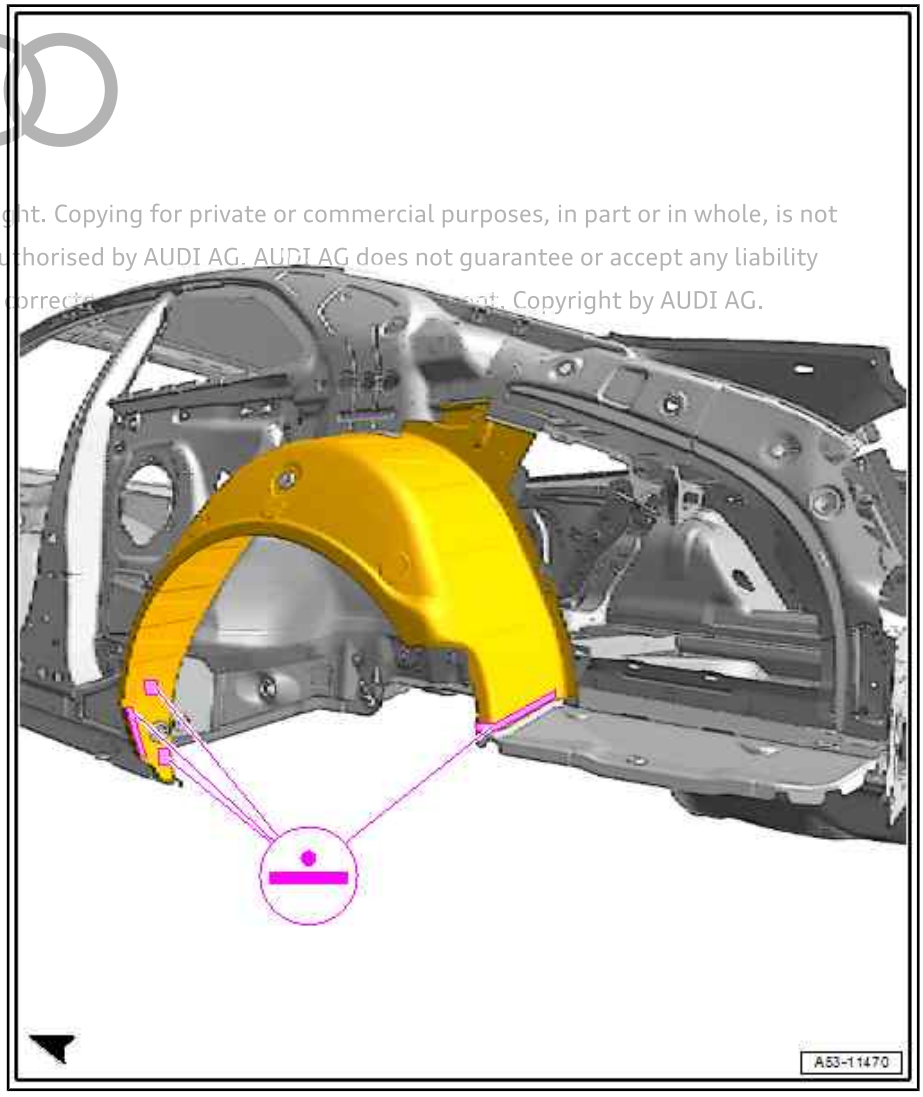

- Install side panel ⇒ page 336 .

RO: 53 68 55 50

12 Inner rear wheel housing - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

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DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

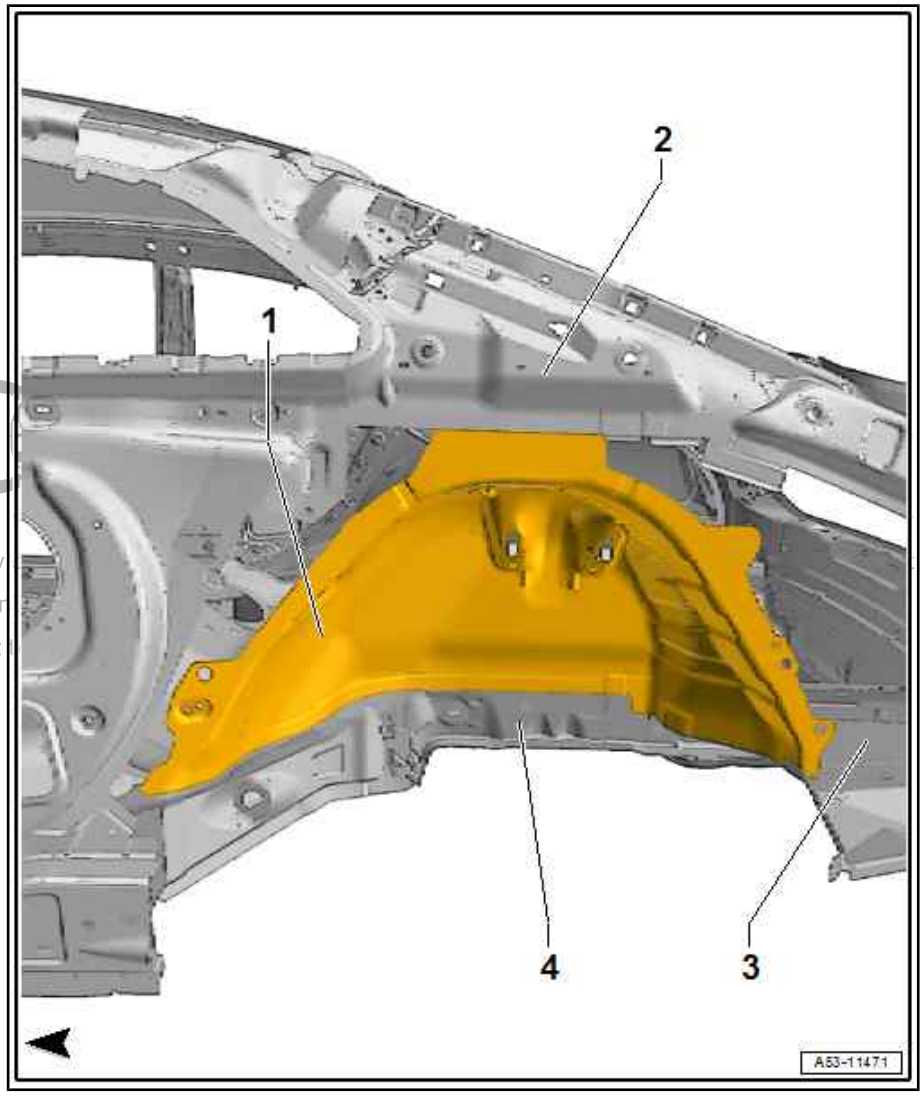
When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Inner wheel housing
2 - Inner C-pillar
3 - Floor plate, side section
4 - Rear longitudinal member



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12.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

12.2 Procedure

- Side panel already removed ⇒ page 336

- C-pillar reinforcement already removed ⇒ page 354 .

Cutting locations

– Separate original joint using spot weld breaker .

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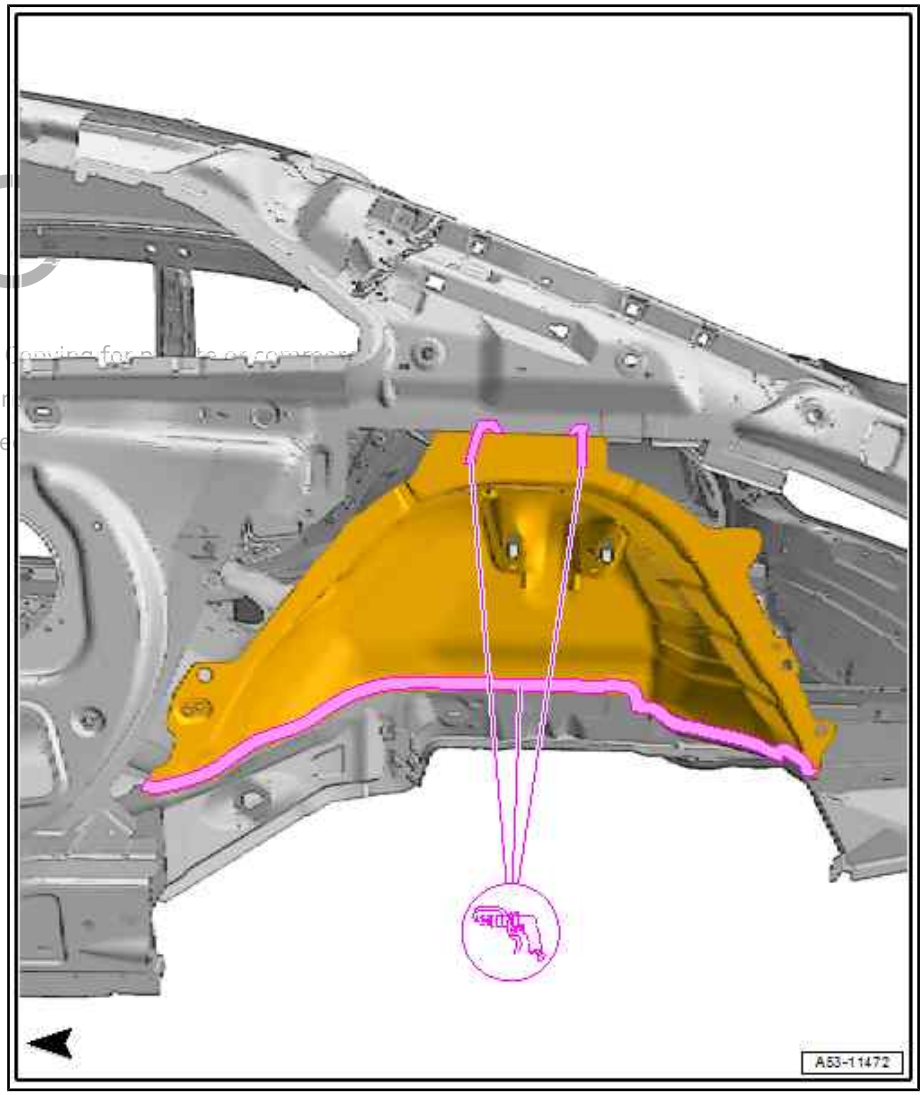

– Separate original joint using spot weld breaker .

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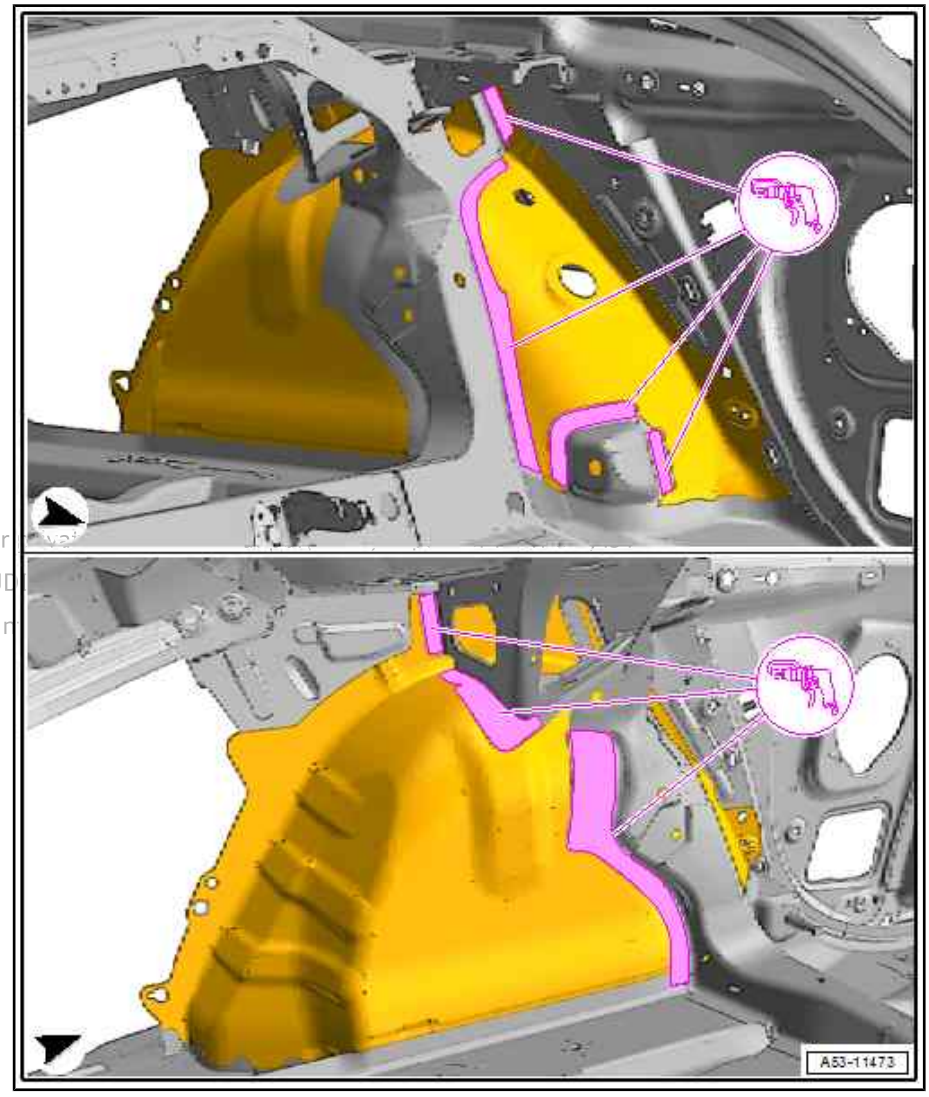
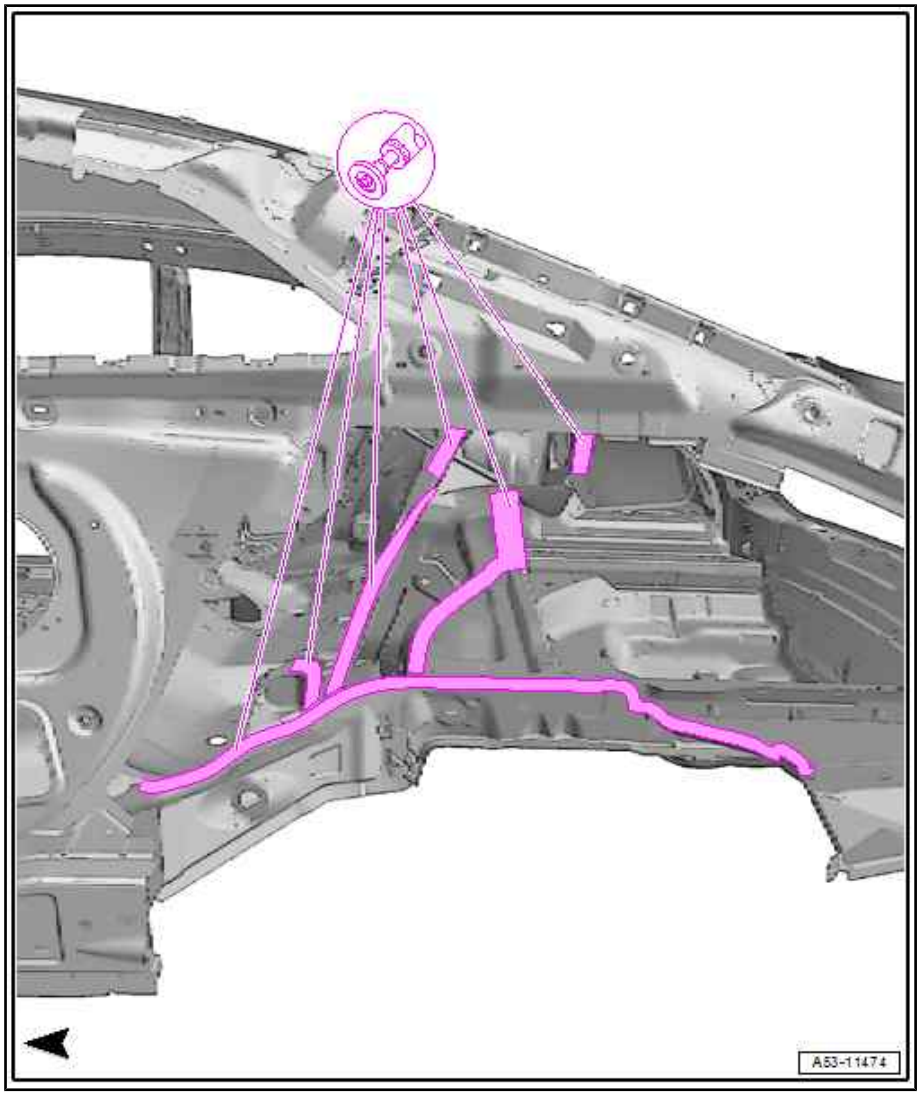


– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



Replacement part

- Inner wheel housing

Preparing new part

– Separate support bracket using spot weld breaker and detach.
– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .
– Grind welding areas down to bare metal.

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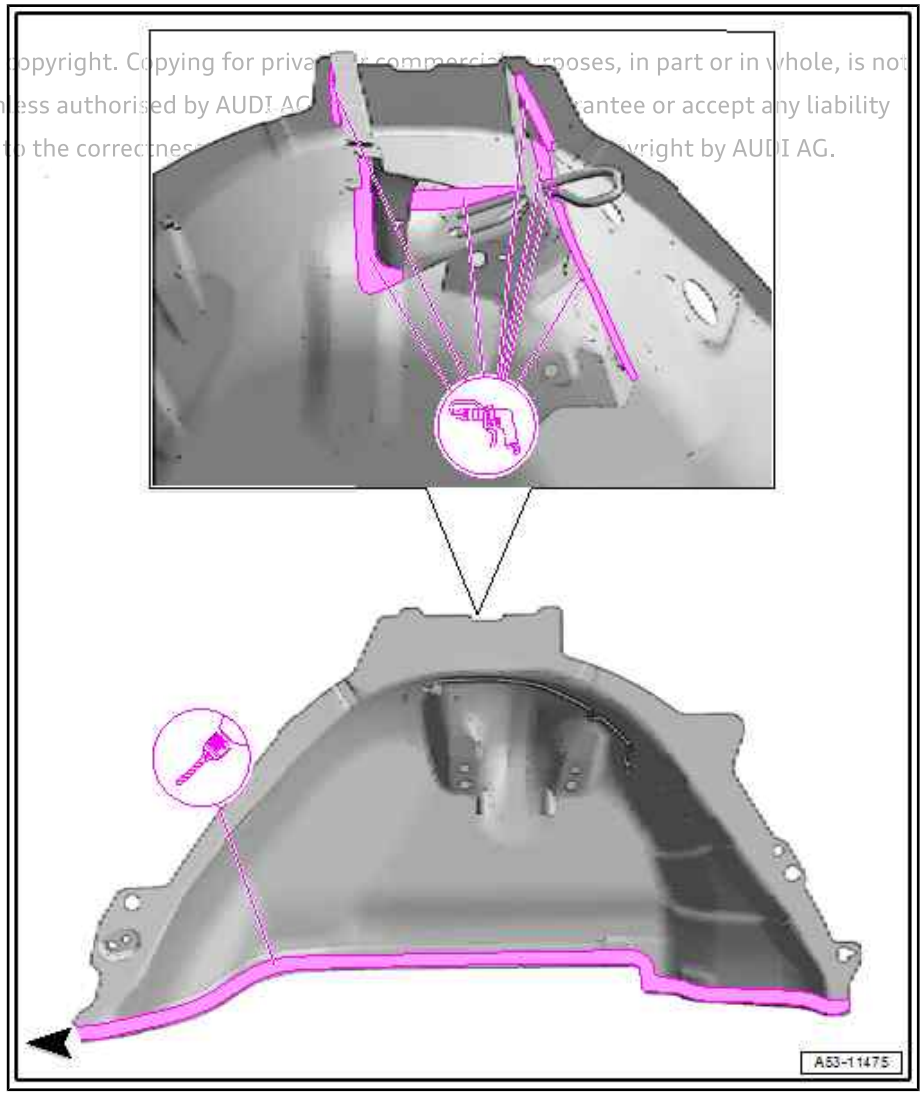
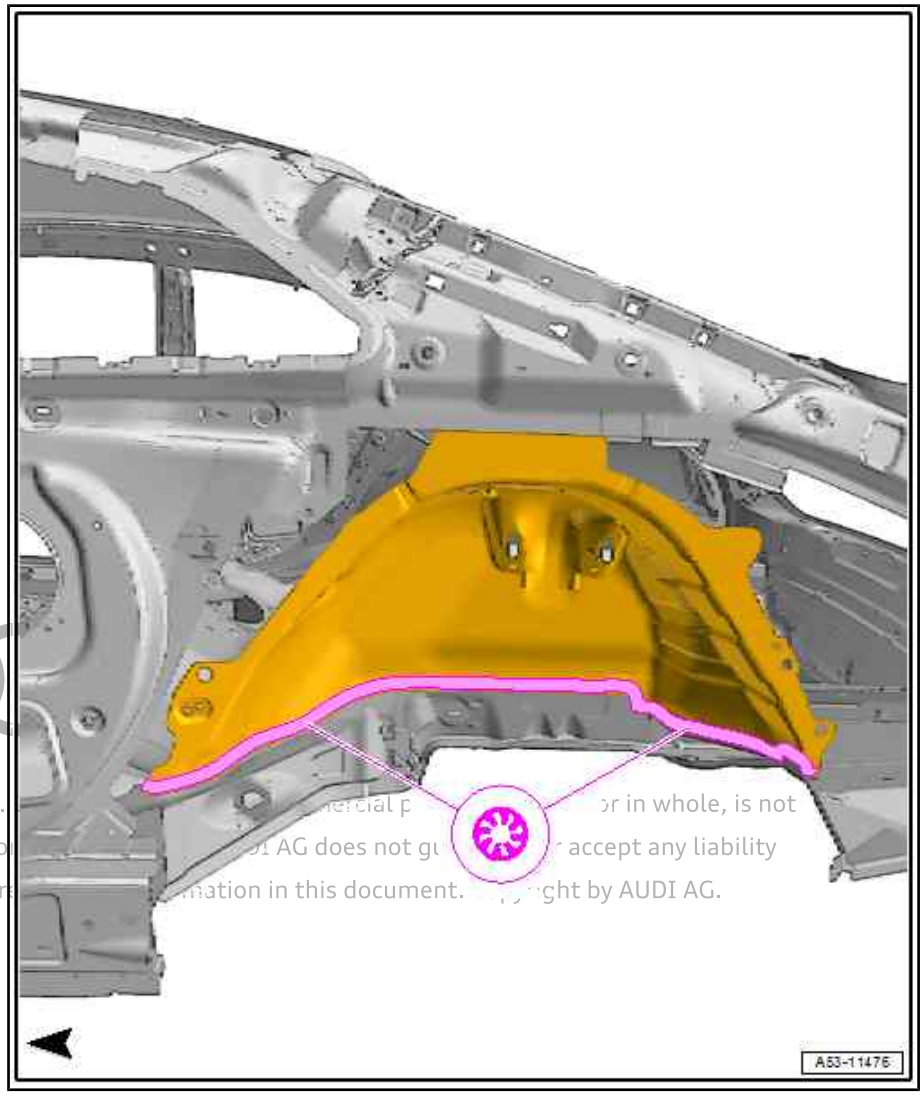


Note

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.

Welding in

– Match up new part with vehicle positioned on alignment bracket set and fix in place.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



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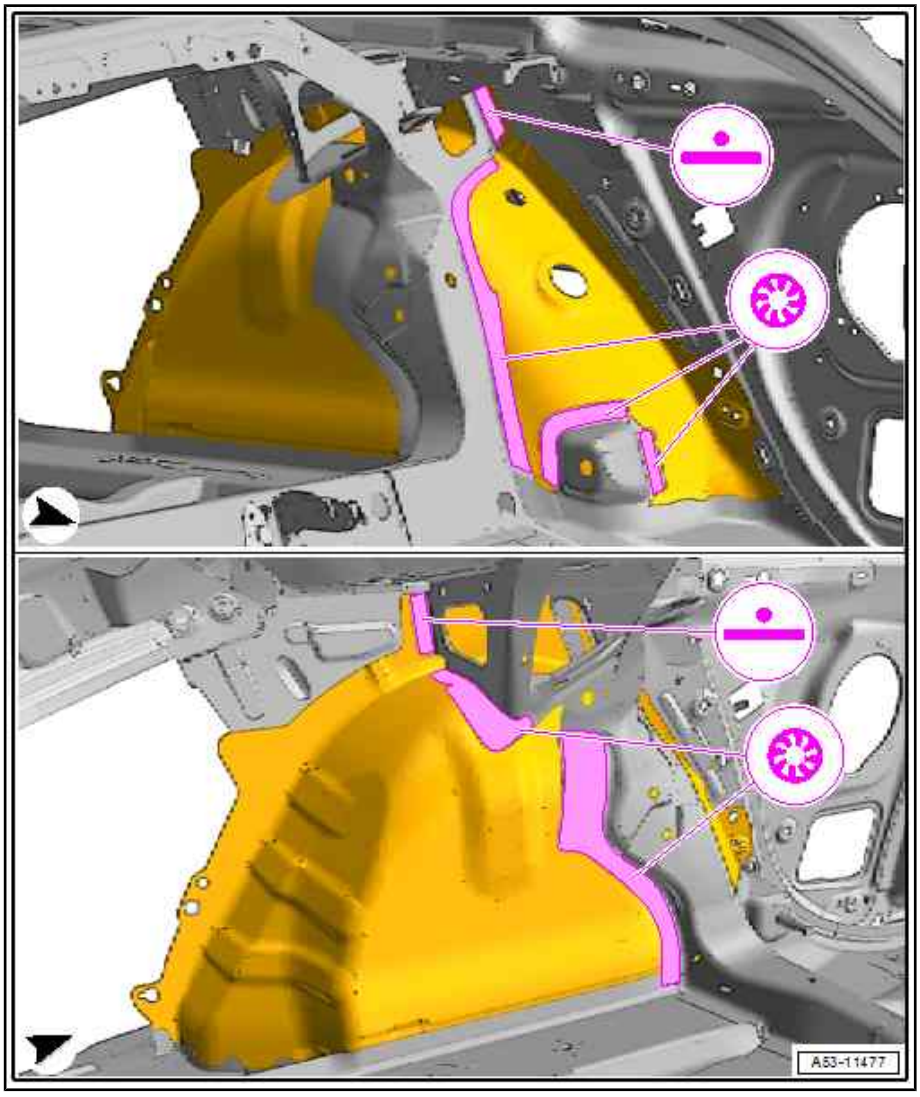
– Weld in new part using resistance spot welder : RP spot weld seam.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



- Welding in side panel ⇒ page 336
- Welding in C-pillar reinforcement ⇒ page 354

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RO: 53 80 55 50

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

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

- If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.
- Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

- Never work on a natural gas system if you can hear gas escaping.
- Never drive the vehicle into the workshop if you can hear gas escaping.
- Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

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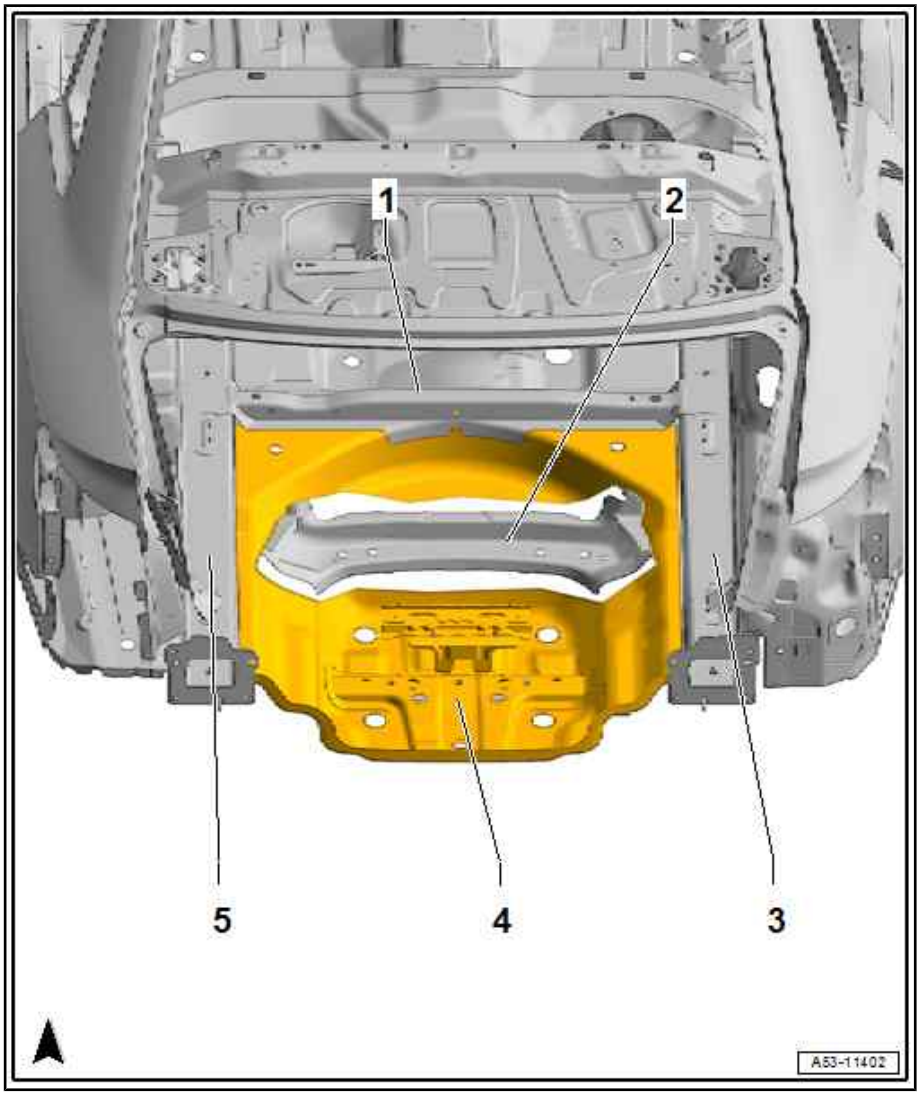
1 - Cross member for floor panel

2 - Cross member for spare wheel well

3 - Rear longitudinal member (right-side)

4 - Spare wheel well

5 - Rear longitudinal member (left-side)



13.1 Tools

Special tools and workshop equipment required

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

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Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

13.2 Procedure

- Lock carrier already removed ⇒ page 308 .
- Cross panel already removed ⇒ page 302 .

Cutting locations

– Separate original joint using spot weld breaker .
– Lift spare wheel well at rear.
– Remove spare wheel well towards rear.

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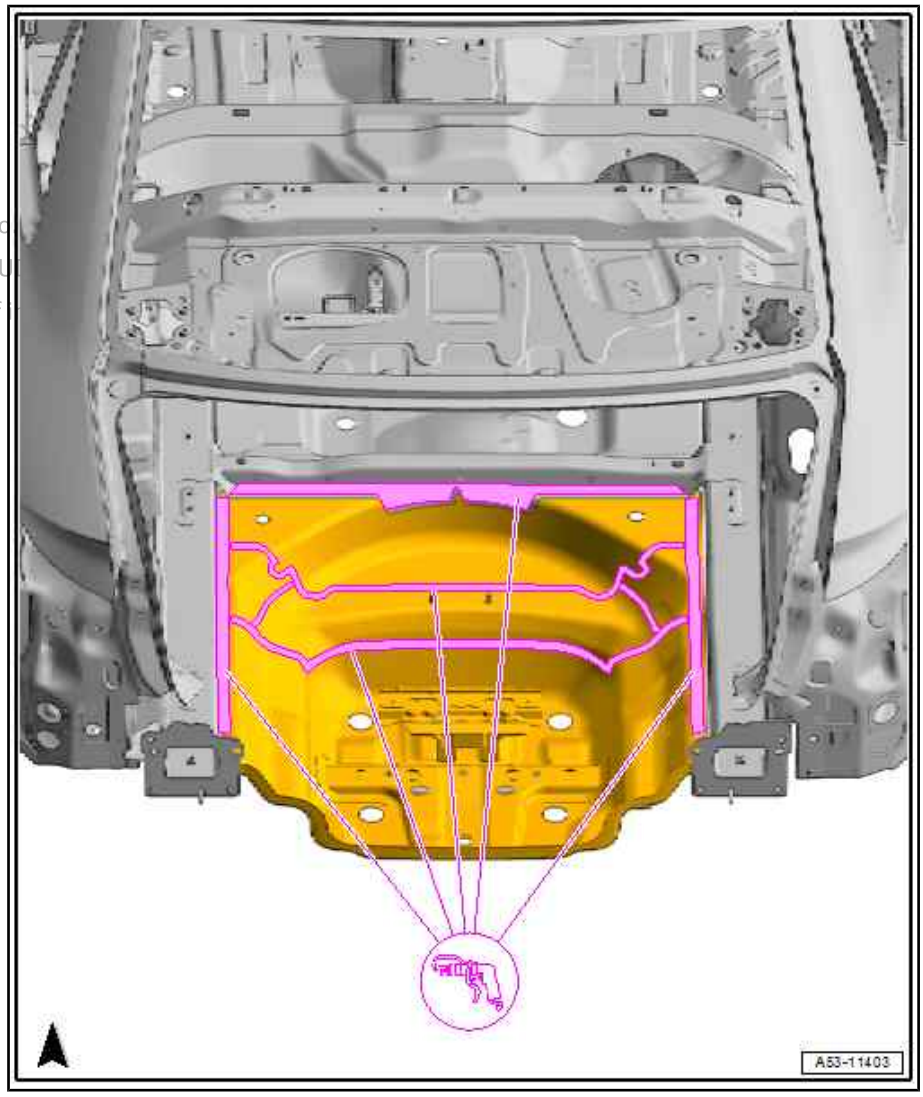
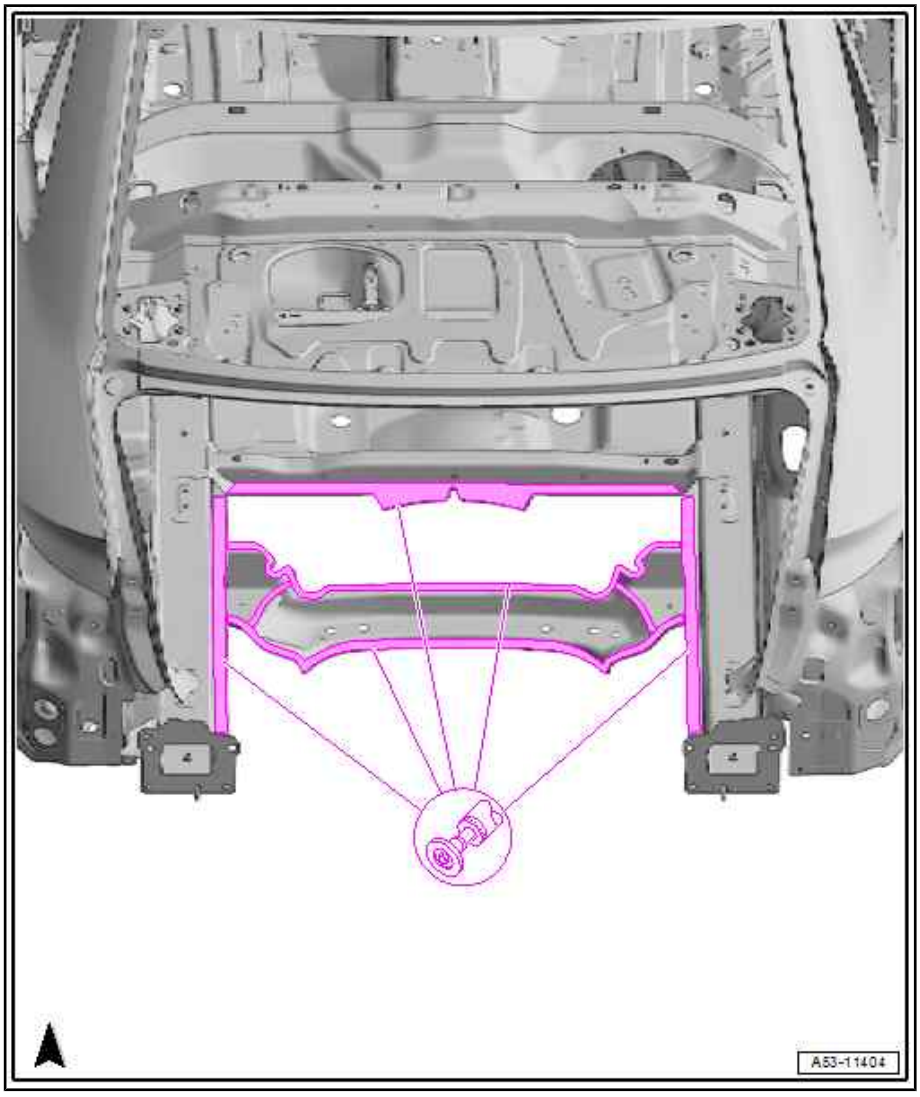


– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.



Replacement part

- Spare wheel well

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

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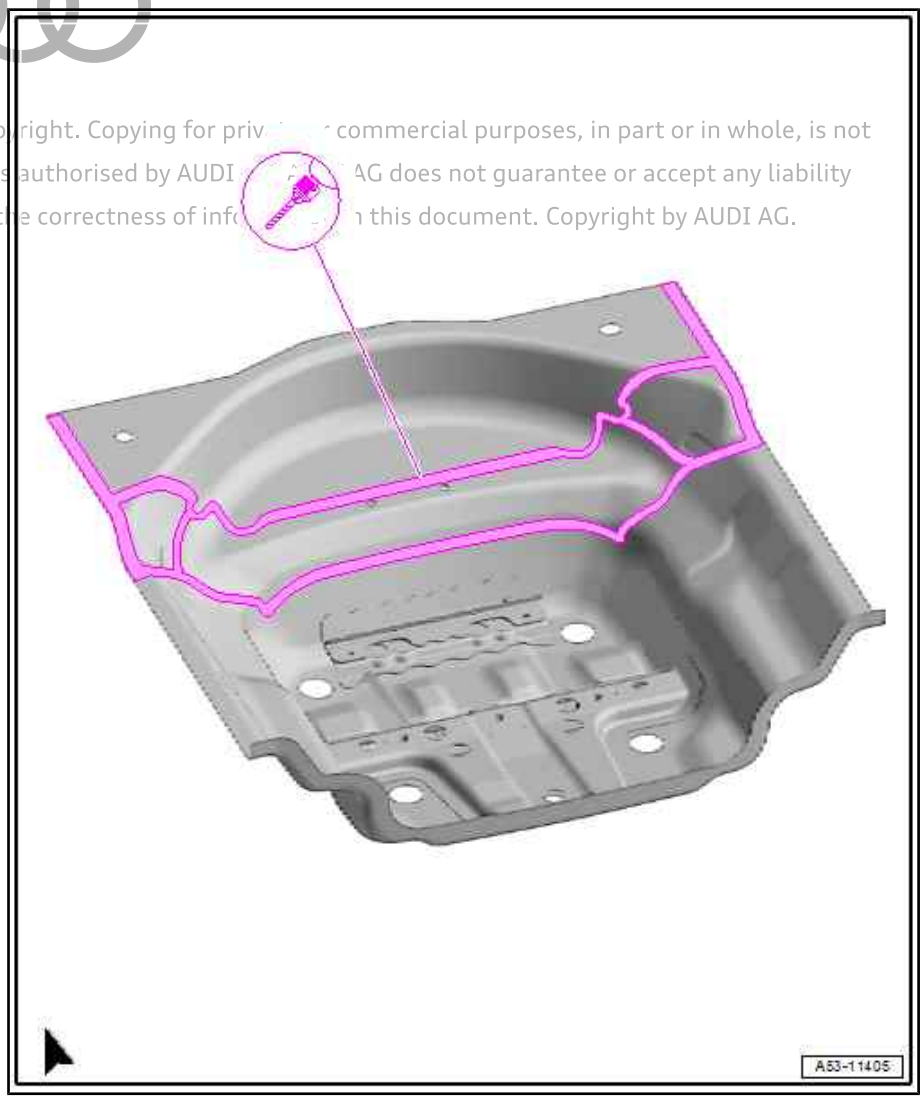
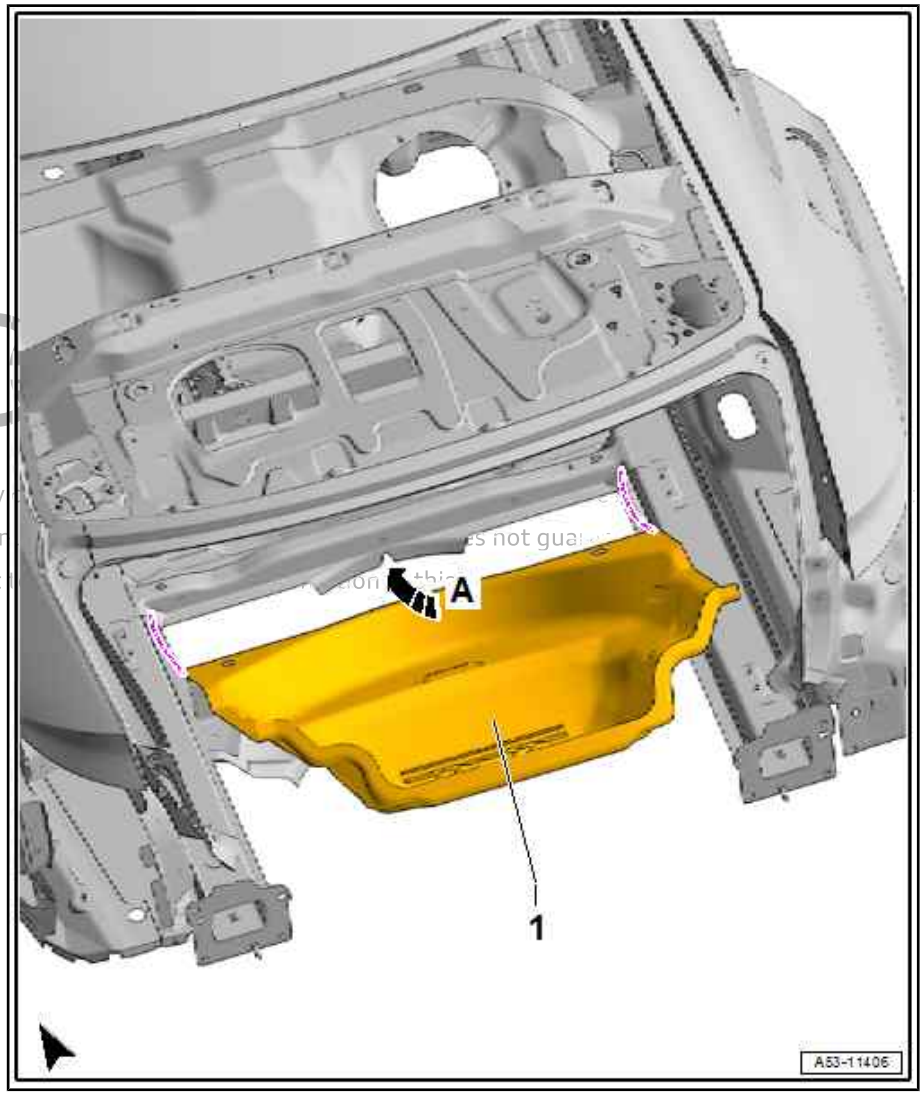


Note

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.

Welding in

– Insert front part of spare wheel well -1- under cross member in direction of arrow -A- and fold it down.
– 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.



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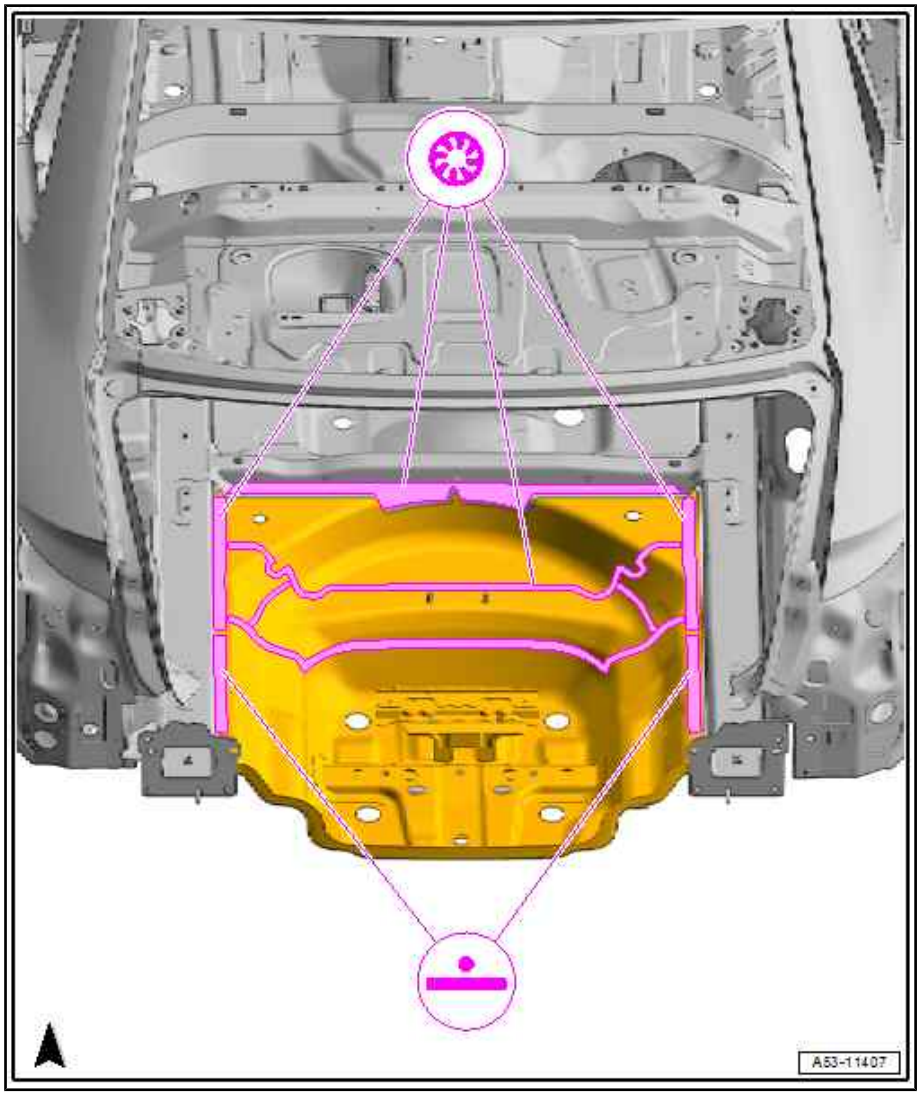
– Weld in new part using shielded arc welding equipment : SG plug weld seam.
– Weld in new part using resistance spot welder : RP spot weld seam.



- Install lock carrier ⇒ page 308 .
- Install cross panel ⇒ page 302 .

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RO: 53 80 55 50

14 Luggage compartment floor - Renewal (only for vehicles with natural gas technology)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Damaged natural gas fuel tanks constitute an explosion risk - risk of death!

– If components at the rear and/or rear side of the vehicle (e.g. bumper cover, rear lid, underbody trim, longitudinal member, rear cross panel, etc.) are removed due to accident damage, the natural gas fuel tanks must be checked for damage.

– Carry out assessment of damage to fuel tanks ⇒ Natural gas engines - General information; Rep. gr. 20 ; Assessing damage to fuel tanks .

DANGER

Risk of explosion due to escaping natural gas - risk of death! The sound of gas escaping indicates that there are leaks in the natural gas system. Leaks in the natural gas system can cause uncontrolled escape of natural gas.

Danger of severe or fatal injuries due to explosion.

– Never work on a natural gas system if you can hear gas escaping.

– Never drive the vehicle into the workshop if you can hear gas escaping.

– Park the vehicle outside and set up a protected area.

DANGER

Only for vehicles with natural gas technology

When performing welding, cutting or drilling work in the vicinity of components that convey gas, these components must either be removed or safely covered up before performing repairs.

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

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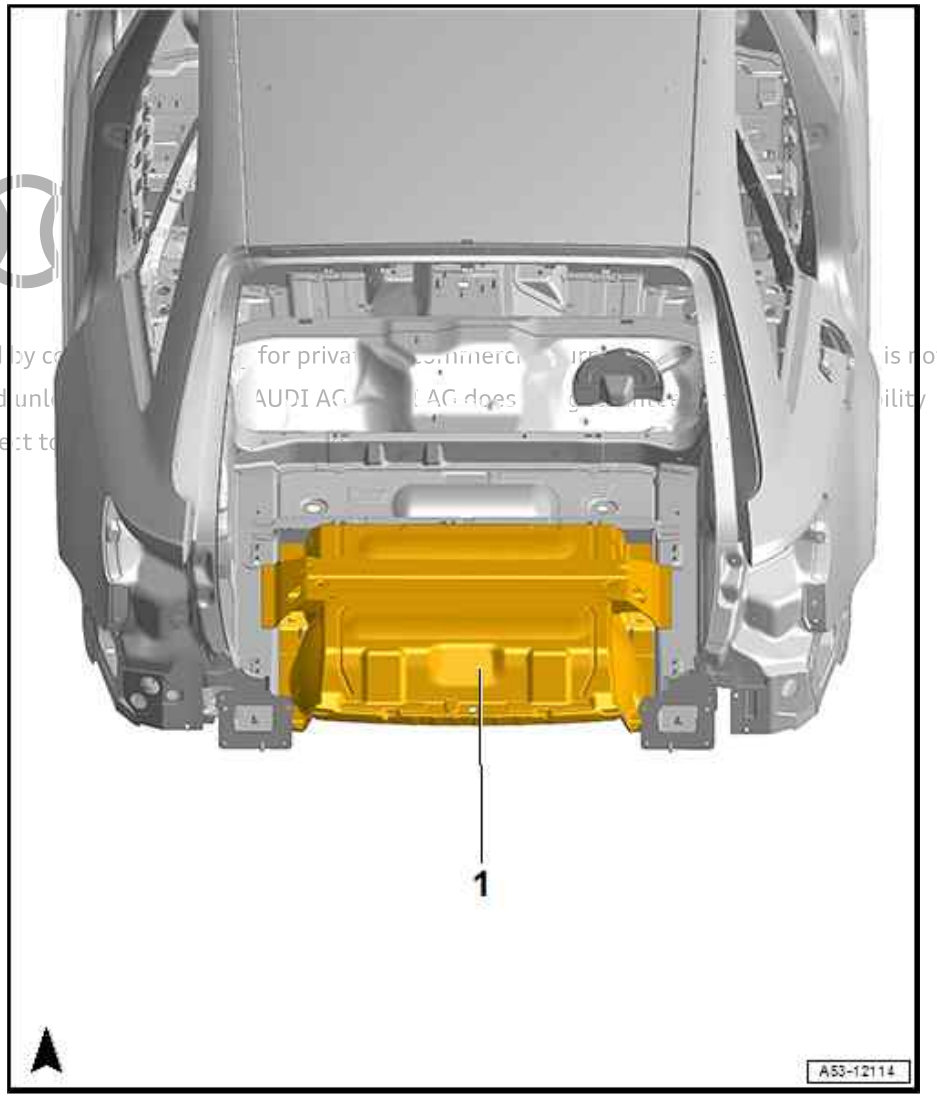
1 - Luggage compartment floor



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14.1 Tools

Special tools and workshop equipment required

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

Note

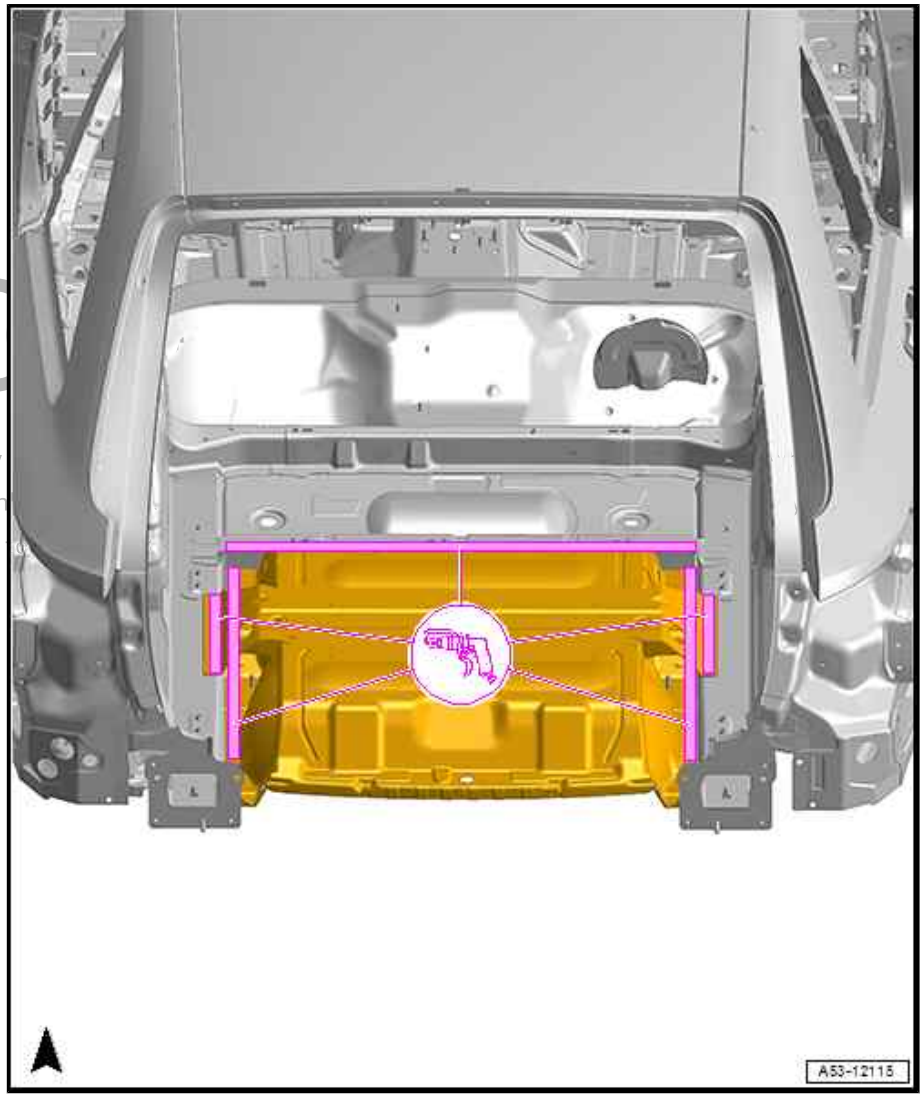
One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work.

14.2 Procedure

- Cross panel already removed ⇒ page 302 .
- Lock carrier already removed ⇒ page 308 .

Cutting locations

– Separate original joint using spot weld breaker .



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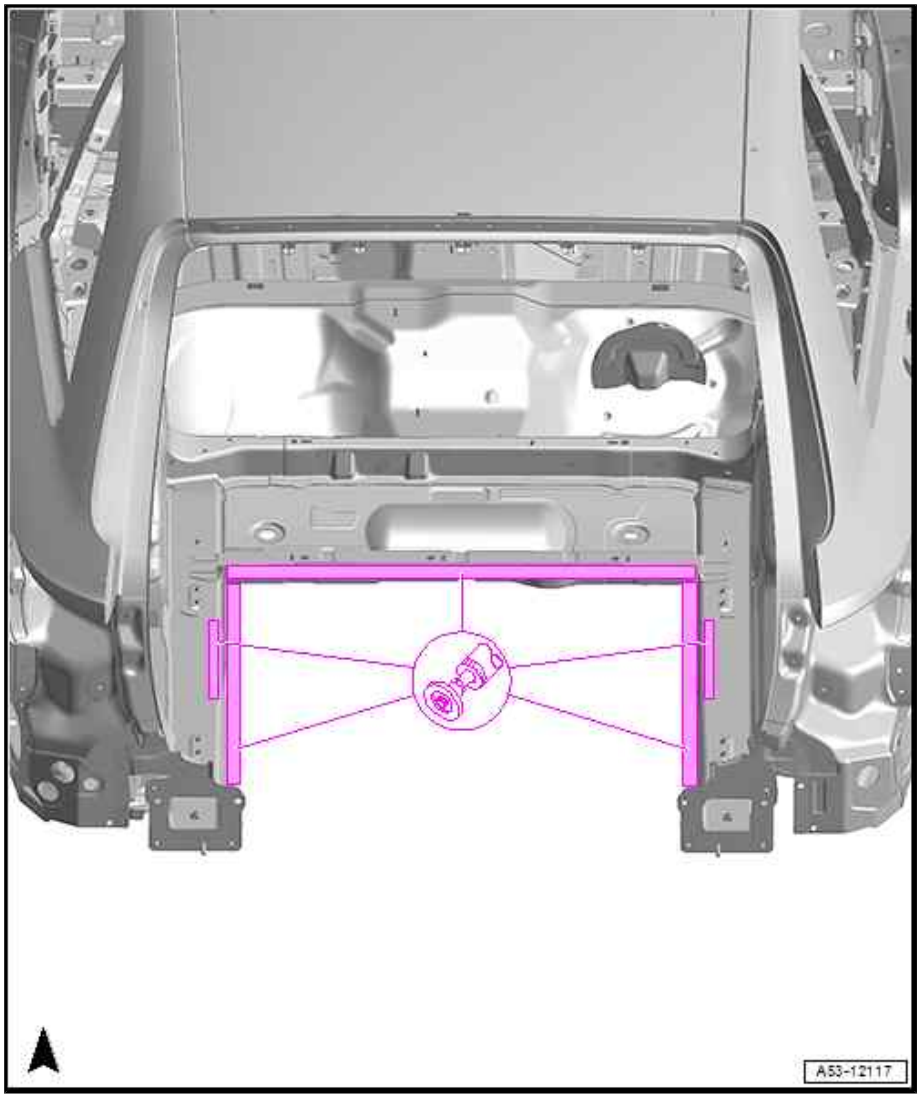
– Remove remaining material using compact angle grinder .



Replacement part

- Luggage compartment floor

Pre-treatment - applies to replacement part only

– Grind welding surfaces down to bare metal.

– Prepare flanges on new part for welding.

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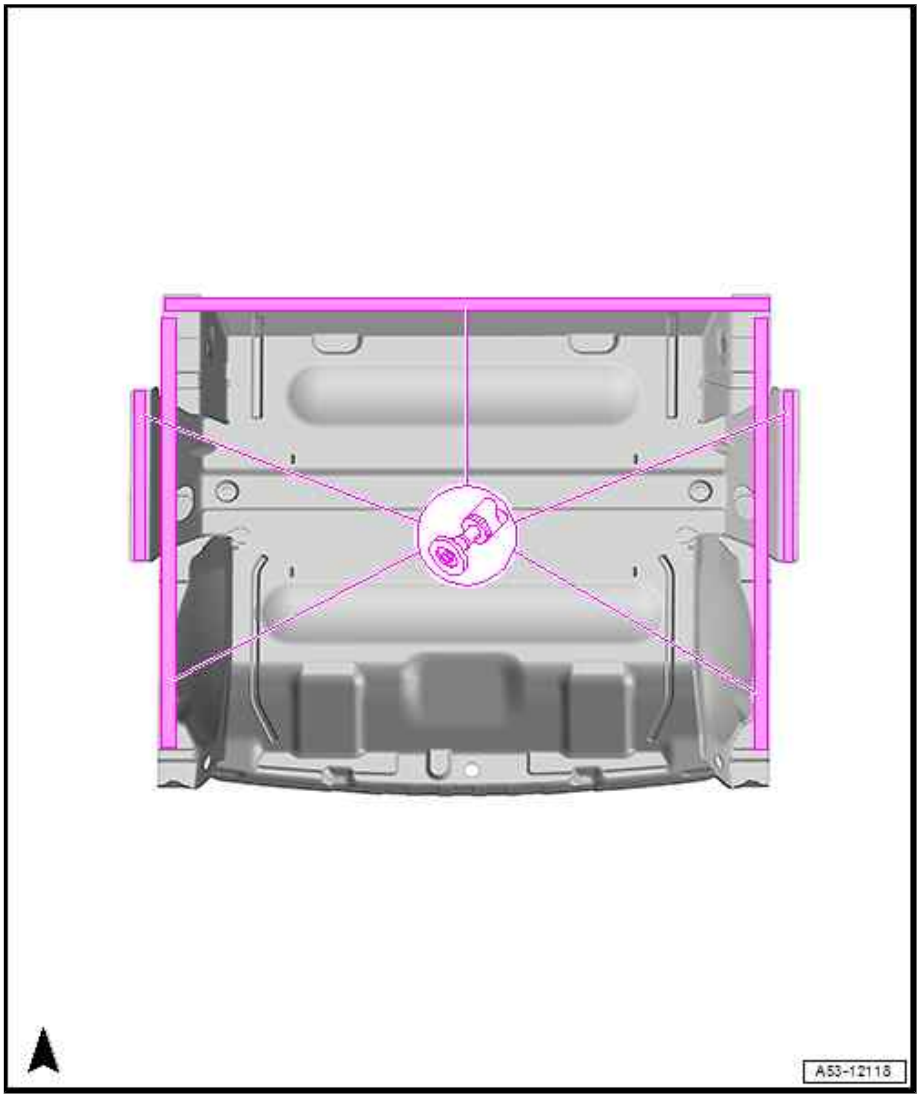
Preparing new part

– Drill holes for SG plug weld seam, 8 mm ∅ 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

- Match up luggage compartment floor with vehicle standing on its wheels or on alignment bracket set and fix in position.
- Match up bracket and fix in position.
- Check fit relative to cross panel.
- Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam.

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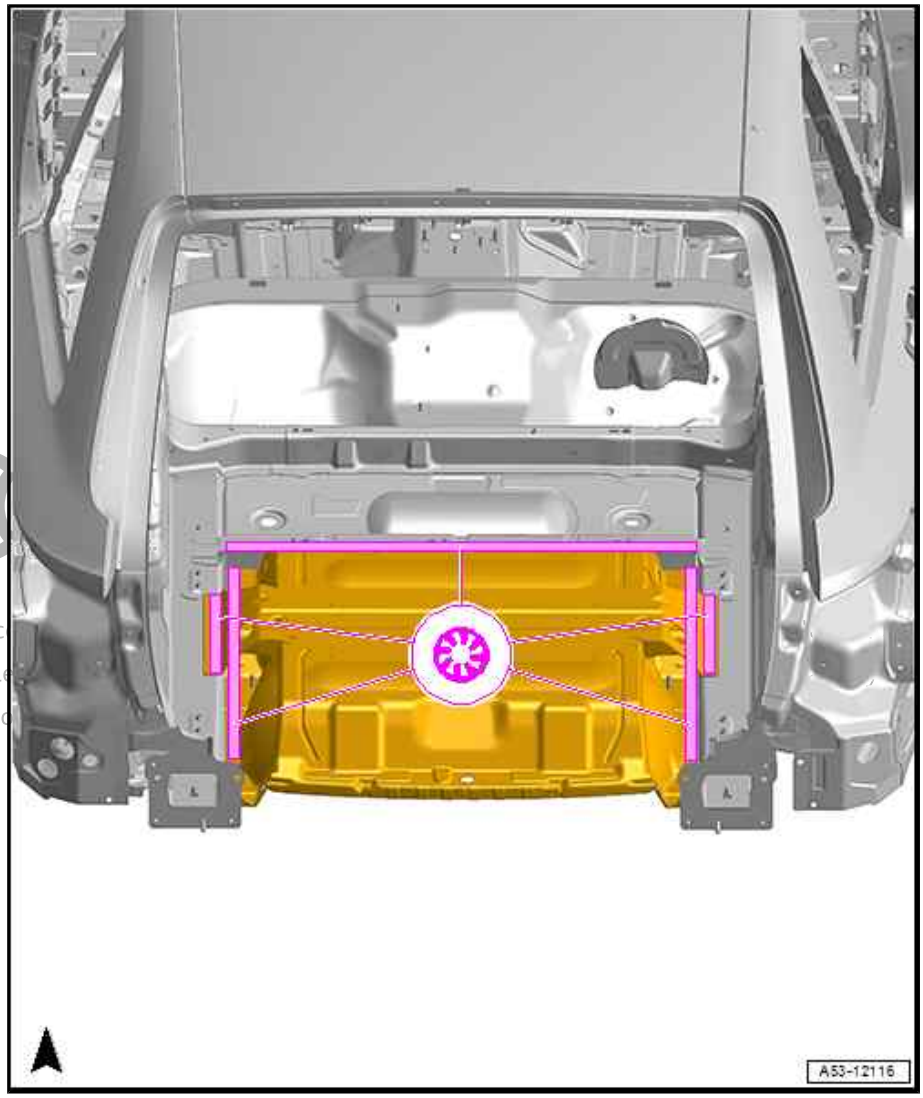

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- Welding in cross panel ⇒ page 302
- Welding in lock carrier ⇒ page 308

RO: 53 80 55 52

15 Cross member for spare wheel well - Renewal (Coupé and Sportback identical)

Note

Observe safety precautions ⇒ page 3 .

DANGER

Fuel tank and fuel pipes

Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.

1 - Support bracket (left-side) for cross member for spare wheel well

2 - Cross member for spare wheel well

3 - Support bracket (right-side) for cross member for spare wheel well

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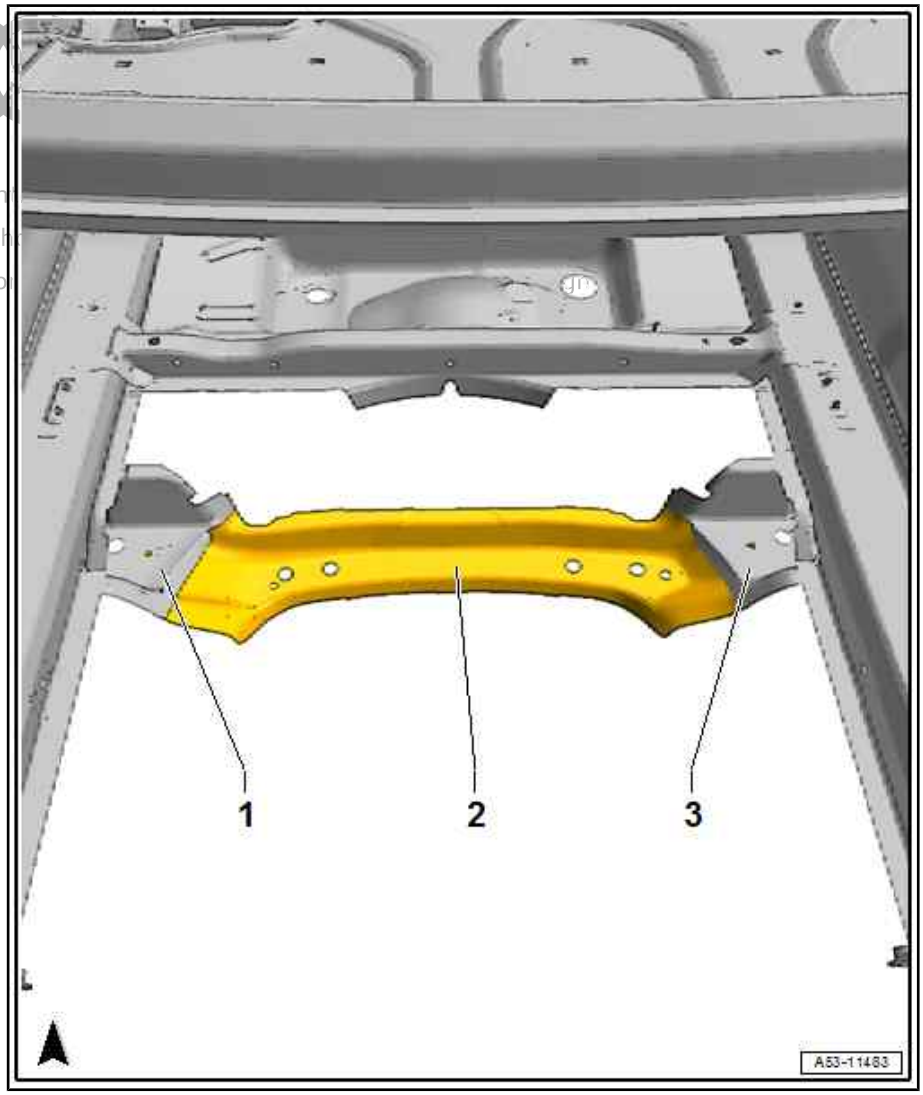

15.1 Tools

Special tools and workshop equipment required

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

Note

One of the tools approved by AUDI AG must be used to ensure correct results when carrying out repair work ⇒ page 32 .

15.2 Procedure

- Cross panel already removed ⇒ page 302 .
- Lock carrier already removed ⇒ page 308 .
- Spare wheel well already removed ⇒ page 380

Cutting locations

– Separate original joint using spot weld breaker .

– Detach cross member.

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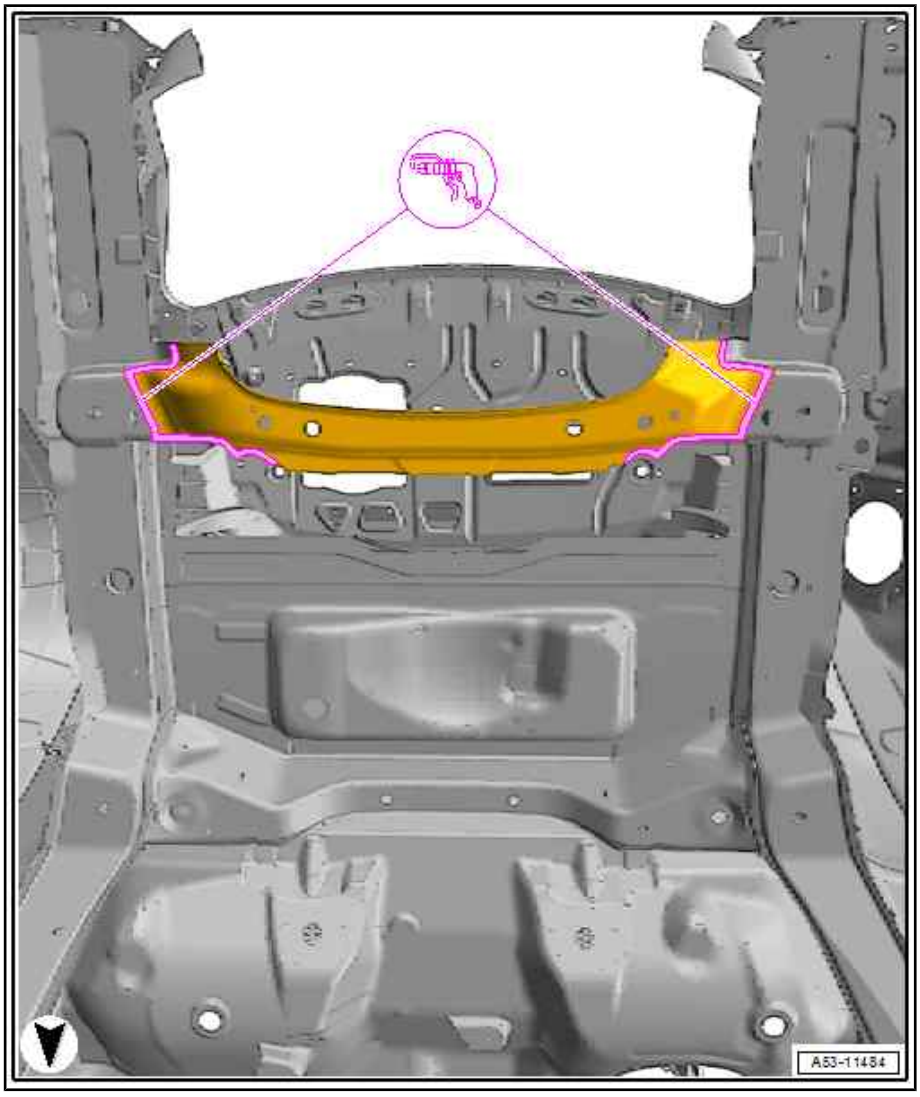

– Remove remaining material using compact angle grinder .
– Grind welding areas down to bare metal.

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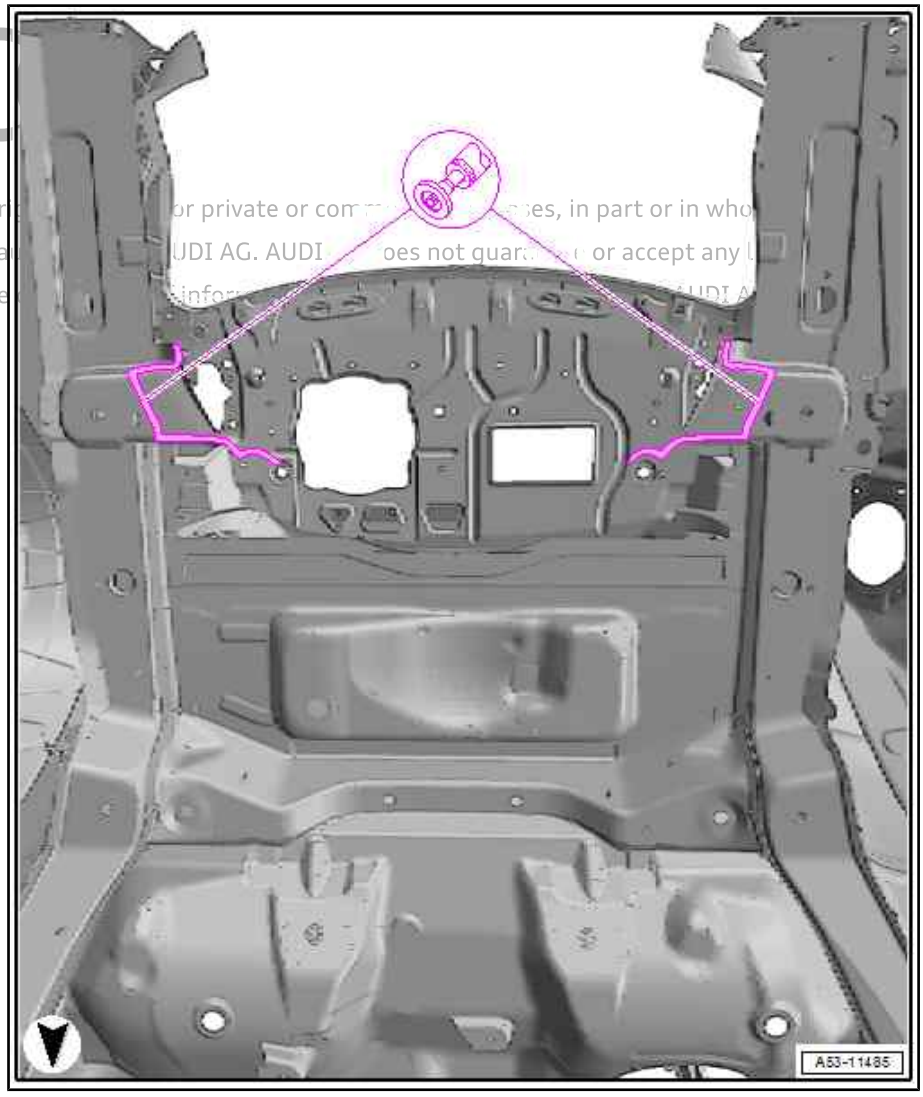

Replacement part

- Cross member for spare wheel well

Preparing new part

– Drill holes for SG plug weld seam, 8.0 mm ∅ using drill .

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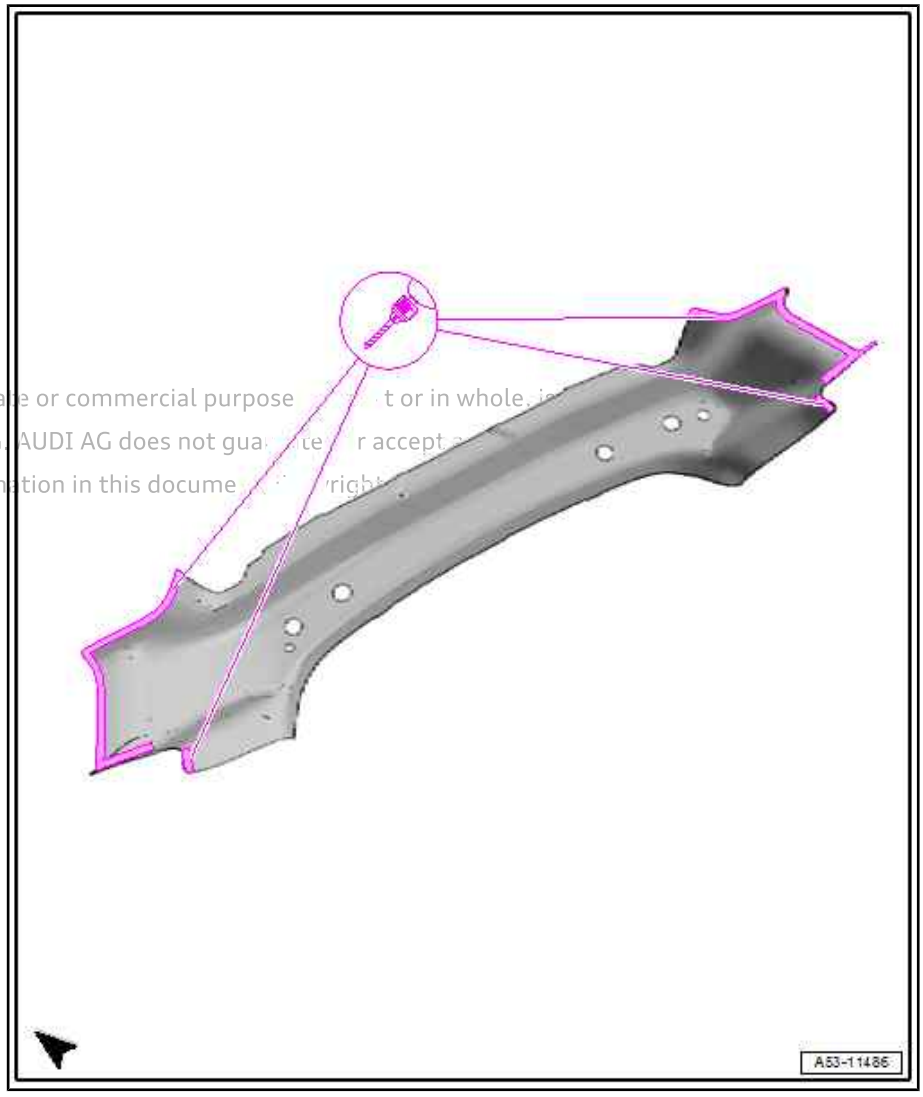
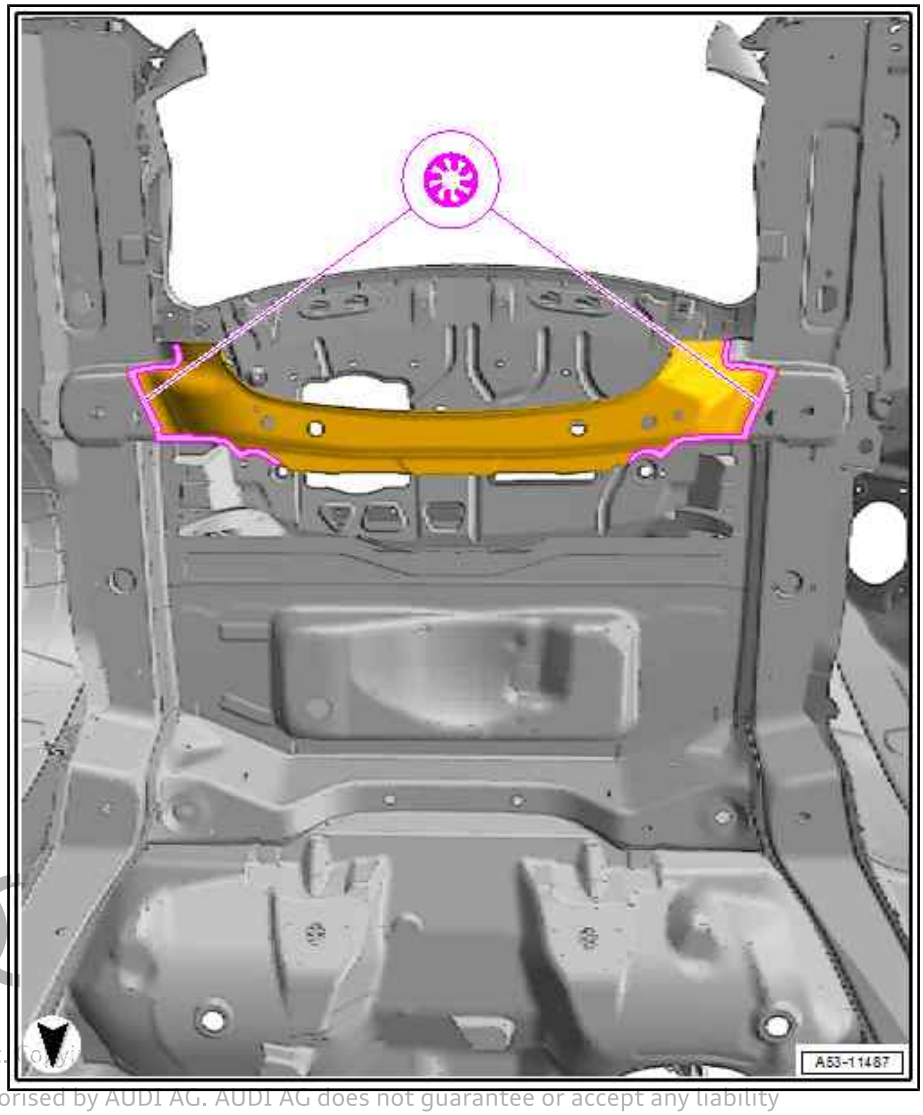


Note

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.

Welding in

– Match up and fix new part in position.
– Check fit relative to adjacent parts.
– Weld in new part using shielded arc welding equipment : SG plug weld seam.



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- Welding in cross panel ⇒ page 302
- Welding in lock carrier ⇒ page 308
- Welding in spare wheel well ⇒ page 380