# Body Repairs
## Audi Q3 2012 ➤
## Audi Q3 China 2013 ➤

Edition 06.2016

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# Repair Group overview for Body Repairs

## Repair Group

00 - Technical data

50 - Body - front

51 - Body - centre

53 - Body - rear

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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.

All rights reserved.
No reproduction without prior agreement from publisher.

Copyright © 2016 Audi AG, Ingolstadt

# Contents

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**00 - Technical data** . . . . . 1
**1 General notes** . . . . . 1
**2 Vehicle identification data** . . . . . 2
2.1 Vehicle identification number . . . . . 2
2.2 Type plate . . . . . 2
2.3 Vehicle data sticker . . . . . 3
**3 Safety notes** . . . . . 4
**4 Galvanised body panels, high-strength and extra-high strength steel** . . . . . 5
4.1 Aluminium panels . . . . . 9
**5 Moulded foam inserts** . . . . . 12
**6 Body panel gaps/shut lines** . . . . . 14
**7 Laser welding** . . . . . 16
**8 Bonded joints** . . . . . 17
8.1 Bonded joints . . . . . 17
8.2 Inspecting and repairing bonded joints . . . . . 17
8.3 Repair methods for replacing body parts . . . . . 17
**9 Body dimensions** . . . . . 18
9.1 Body - front . . . . . 18
9.2 Body - centre . . . . . 21
9.3 Floor group . . . . . 27
9.4 Body - rear . . . . . 31
**10 Thread repair for M6 pop rivet nut** . . . . . 33
**11 Tools** . . . . . 34
**12 Matching the surface contour** . . . . . 38
**13 Straightening jig** . . . . . 39
13.1 Procedure for repairing structural body damage on Audi vehicles . . . . . 39

**50 - Body - front** . . . . . 40
**1 Support bracket (right-side) - Renewal** . . . . . 40
1.1 Tools . . . . . 40
1.2 Procedure . . . . . 41
**2 Support bracket (left-side) - Renewal** . . . . . 44
2.1 Tools . . . . . 44
2.2 Procedure . . . . . 45
**3 Mounting bracket (for subframe) - Renewal** . . . . . 50
3.1 Tools . . . . . 50
3.2 Procedure . . . . . 51
**4 Upper longitudinal member for wheel housing - Renewal** . . . . . 55
4.1 Tools . . . . . 55
4.2 Procedure . . . . . 56
**5 Front wheel housing - Renewal** . . . . . 63
5.1 Tools . . . . . 64
5.2 Procedure . . . . . 65
**6 Front longitudinal member - Renewal** . . . . . 71
6.1 Tools . . . . . 72
6.2 Procedure . . . . . 73
**7 Front longitudinal member - Partial renewal** . . . . . 85
7.1 Tools . . . . . 85
7.2 Procedure . . . . . 87

8 Repairing threads for attachment of subframe . . . 96
8.1 Tools . . . 96

51 - Body - centre . . . 102
1 Permitted separating cuts on complete side frame . . . 102
2 Roof - Renewal . . . 103
2.1 Tools . . . 103
2.2 Procedure . . . 111
3 Roof - Renewal (version with large sunroof) . . . 126
3.1 Tools . . . 126
3.2 Procedure . . . 128
4 Roof side member - Renewal . . . 141
4.1 Tools . . . 141
4.2 Procedure . . . 142
5 Front roof cross member - Renewal . . . 149
5.1 Tools . . . 149
5.2 Procedure . . . 150
6 Rear roof cross member - Renewal . . . 154
6.1 Tools . . . 154
6.2 Procedure . . . 155
7 Outer A-pillar - Renewal . . . 161
7.1 Tools . . . 161
7.2 Procedure . . . 162
8 Upper inner A-pillar - Partial renewal . . . 167
8.1 Tools . . . 167
8.2 Procedure . . . 168
9 Lower inner A-pillar - Partial renewal . . . 179
9.1 Tools . . . 179
9.2 Procedure . . . 180
10 Outer B-pillar - Renewal . . . 185
10.1 Tools . . . 185
10.2 Procedure . . . 186
11 Inner B-pillar - Partial renewal . . . 192
11.1 Tools . . . 192
11.2 Procedure . . . 194
12 Outer side member - Renewal . . . 207
12.1 Tools . . . 207
12.2 Procedure . . . 208
13 Inner side member - Renewal . . . 215
13.1 Tools . . . 215
13.2 Procedure . . . 216
14 Web plate for inner side member - Renewal . . . 222
14.1 Tools . . . 222
14.2 Procedure . . . 223
15 Inner side member reinforcement - Renewal . . . 227
15.1 Tools . . . 227
15.2 Procedure . . . 228
16 Mounting for seat cross member (outer) - Renewal . . . 232
16.1 Tools . . . 232
16.2 Procedure . . . 233
17 Centre seat cross member - Renewal . . . 238
17.1 Tools . . . 238
17.2 Procedure . . . 239

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**18 Mounting for seat cross member (inner) - Renewal . . . 244**
18.1 Tools . . . 244
18.2 Procedure . . . 245

**53 - Body - rear . . . 250**

**1 Permitted separating cuts on complete side frame . . . 250**
**2 Rear upper cross panel - Renewal . . . 251**
2.1 Tools . . . 251
2.2 Procedure . . . 252
**3 Rear cross panel - Renewal . . . 257**
3.1 Tools . . . 257
3.2 Procedure . . . 258
**4 Rear longitudinal member - Partial renewal . . . 262**
4.1 Tools . . . 262
4.2 Procedure . . . 263
**5 Side panel - Renewal . . . 268**
5.1 Tools . . . 268
5.2 Procedure . . . 270
**6 Luggage compartment floor - Renewal . . . 277**
6.1 Tools . . . 277
6.2 Procedure . . . 278
**7 Battery box - Renewal (RS model only) . . . 285**
7.1 Procedure . . . 286
**8 Rear wheel housing - Renewal . . . 291**
8.1 Tools . . . 291
8.2 Procedure . . . 292

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 00 – Technical data

## 1 General notes

(AKI000180; Edition 06.2016)

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.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

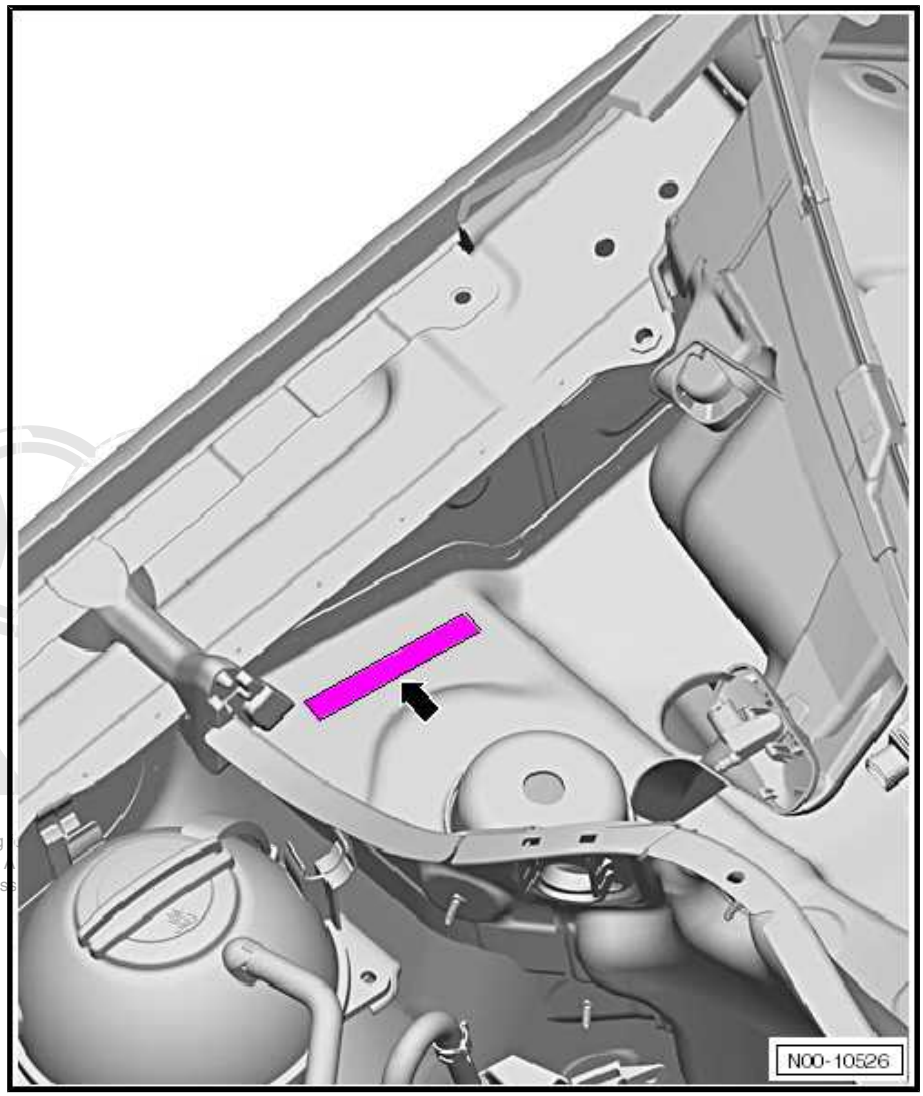
# 2 Vehicle identification data

## 2.1 Vehicle identification number

**Note**

- *If the bulkhead is renewed, the repairs must be documented according to the relevant national legislation.*
- *The vehicle identification number should be stamped before the bulkhead is welded in.*

The vehicle identification number (chassis number) -arrow- is located in the plenum chamber near the suspension strut mounting on the right side in the direction of travel.



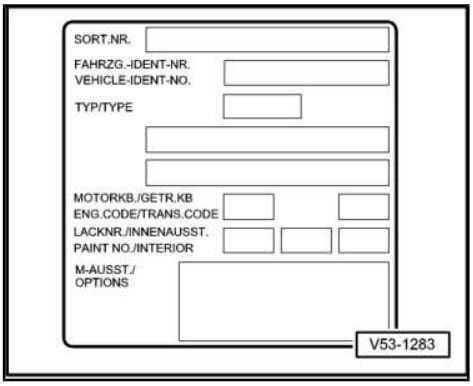

Protected by copyright. Copying
permitted unless authorised by
with respect to the correctness

## 2.2 Type plate

The type plate is located on the passenger-side door pillar. Vehicles for certain export countries have no type plate.

## 2.3 Vehicle data sticker

The vehicle data sticker is located in the spare wheel well under the luggage compartment floor (left-side in direction of travel).




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 3 Safety notes

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

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

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

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

**The extraction system must be cleaned at regular intervals.**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

**Note**

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

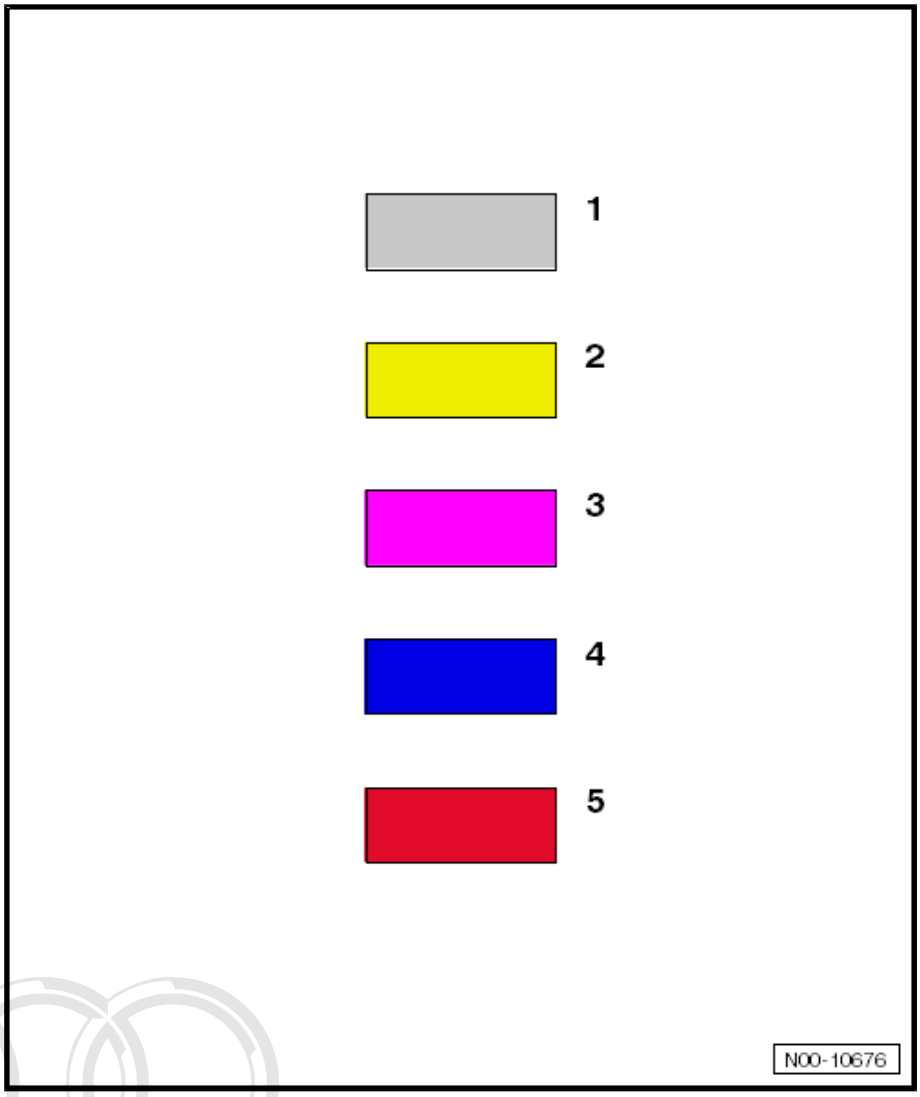
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Note**

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

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

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

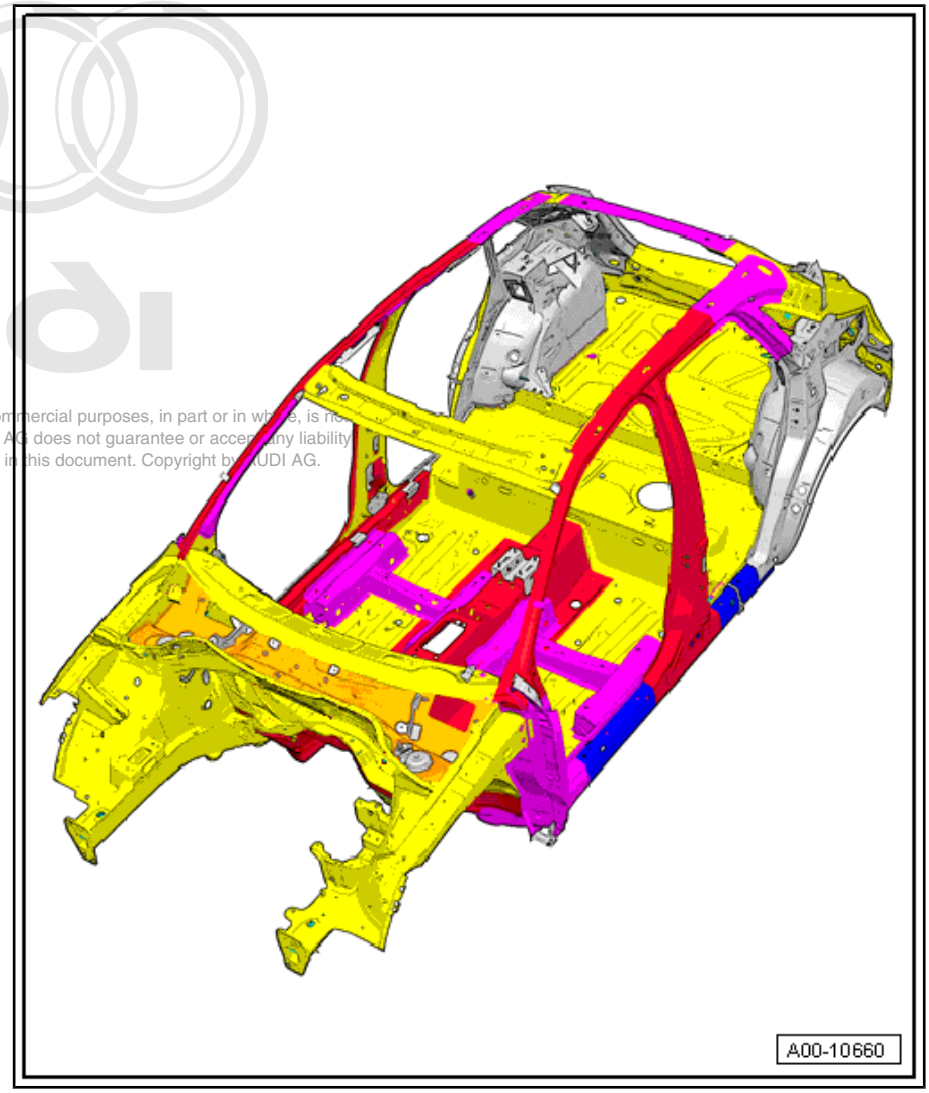



| | Colour | Type of steel | Tensile strength / minimum yield strength in MPa |
|---|---|---|---|
| 1 | Grey | Soft | < 350 |
| 2 | Yellow | High-strength steel | 300 - 590 |
| 3 | Magenta | Modern high-strength steel | 500 - 980 |
| 4 | Blue | Ultra-high-strength steel | 980 - 1150 |
| 5 | Red | Ultra-high-strength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

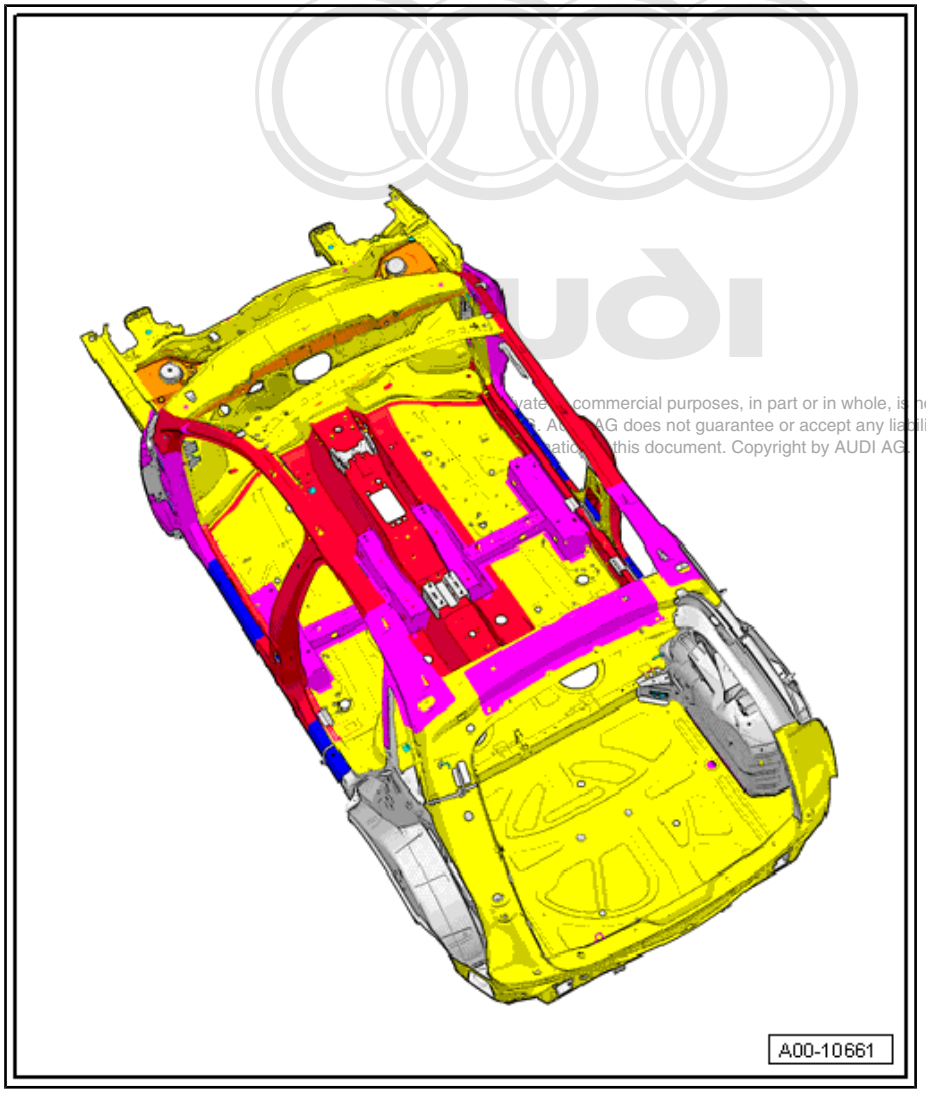
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

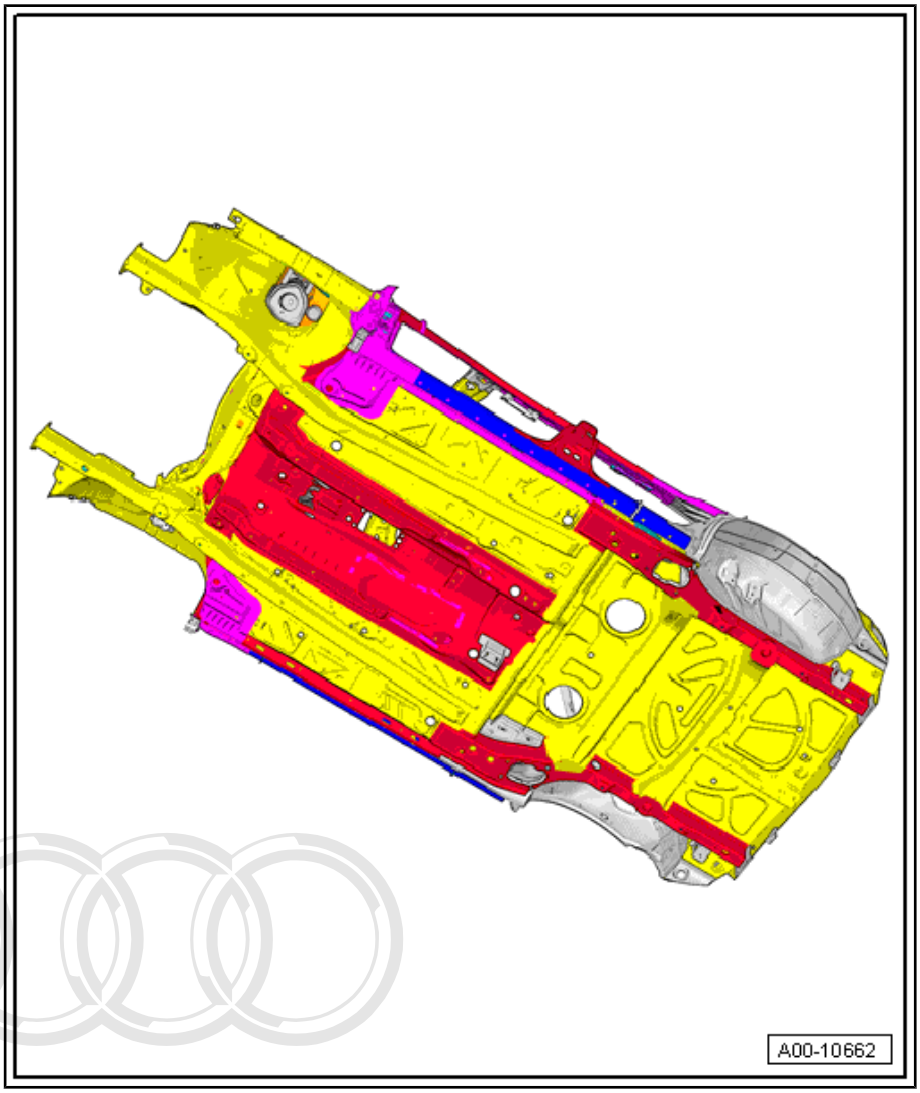



The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.




commercial purposes, in part or in whole, is not
AG does not guarantee or accept any liability
this document. Copyright by AUDI AG.

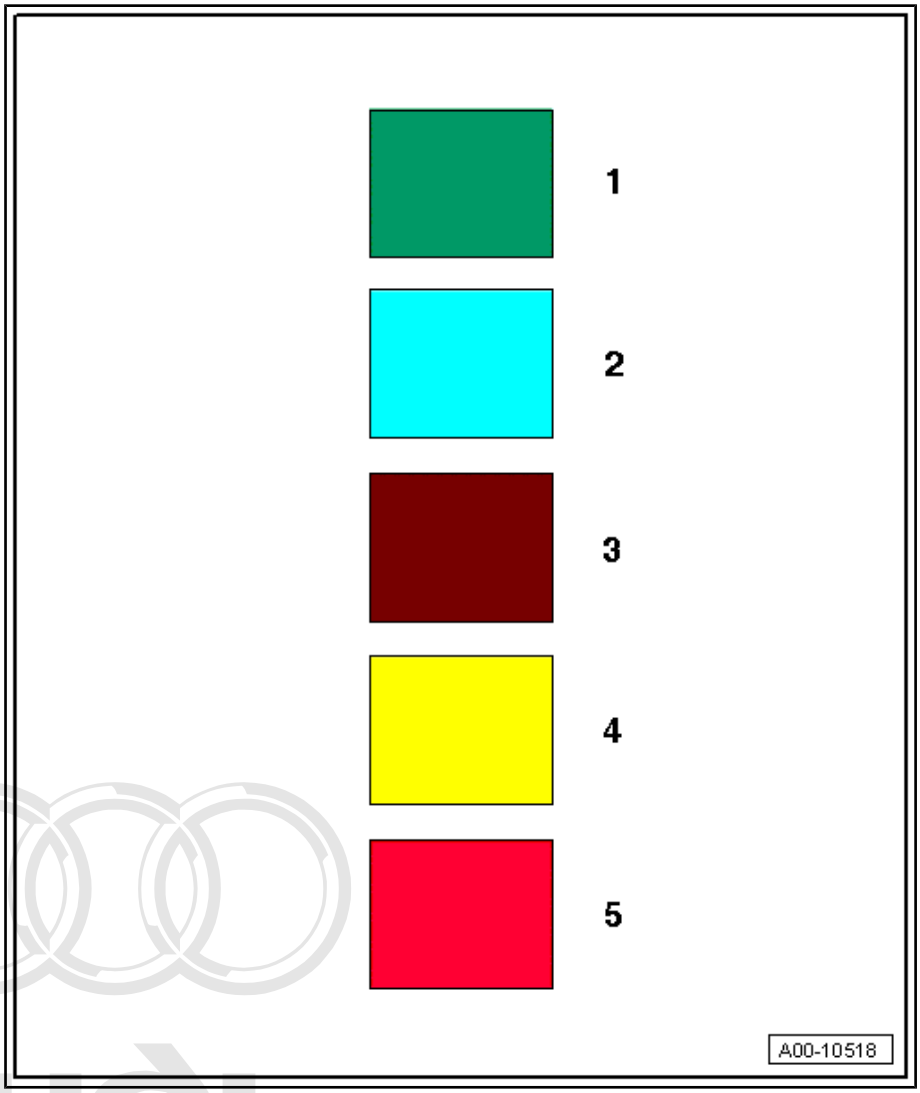
The outer side panel and roof are removed to give a clearer illustration. These panels consist of »normal« sheet metal.




## 4.1 Aluminium panels

The hang-on parts of this vehicle are made of aluminium.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying f
permitted unless authorised by A
with respect to the correctness



# 5 Moulded foam inserts

**WARNING**

***Always observe safety precautions.***

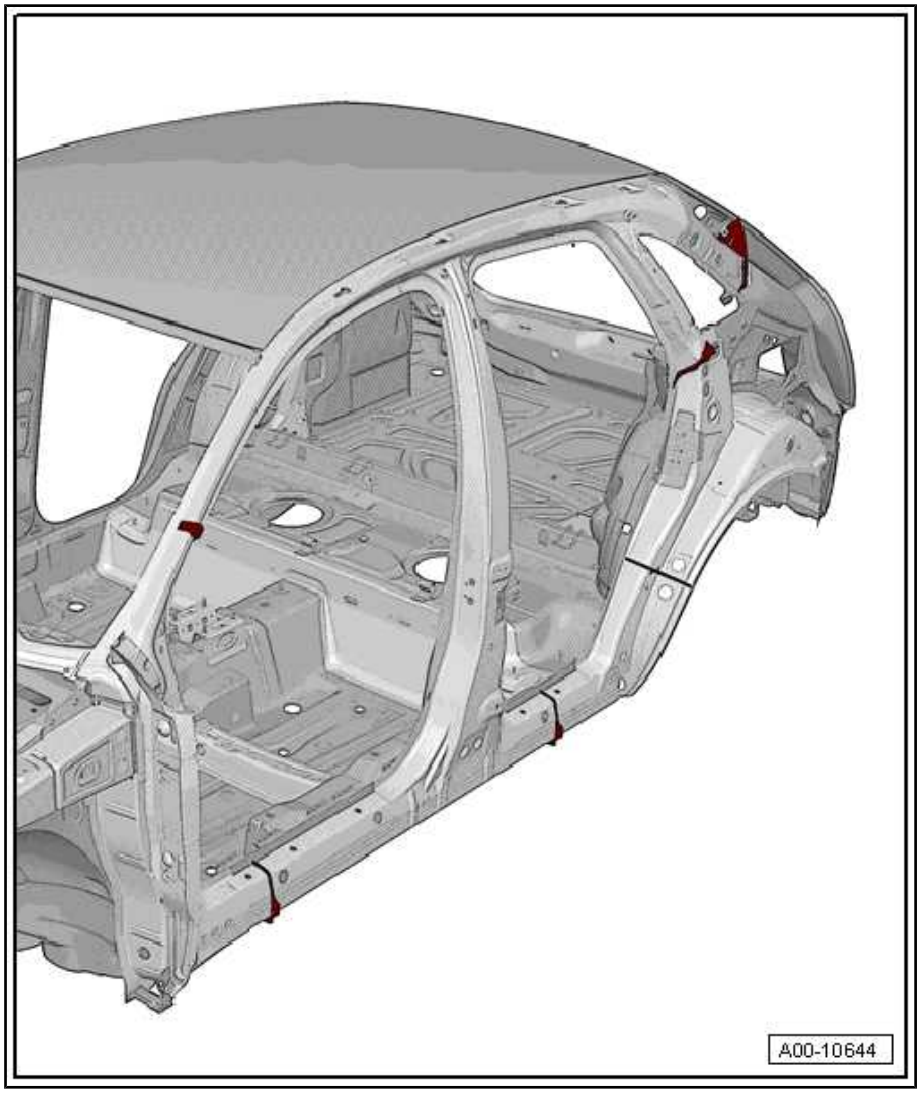
***Gases which damage the environment and are hazardous to health are given off if spark-generating tools for welding or cutting are used in the vicinity of foam material; do NOT use these methods in foam-filled areas.***

Safety notes ⇒ General Information; Body Repairs, General Body Repairs ; Safety notes .

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

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

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



**Caution**

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

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

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

Remove residue of foam material on vehicle.

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

**Requirement**

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

**Renewing moulded foam insert**

Fix moulded foam insert to vehicle.

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

Secure 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.

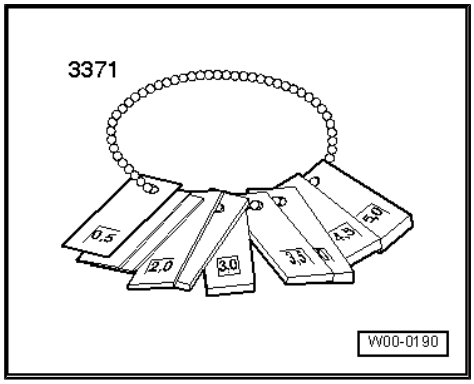
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 6 Body panel gaps/shut lines

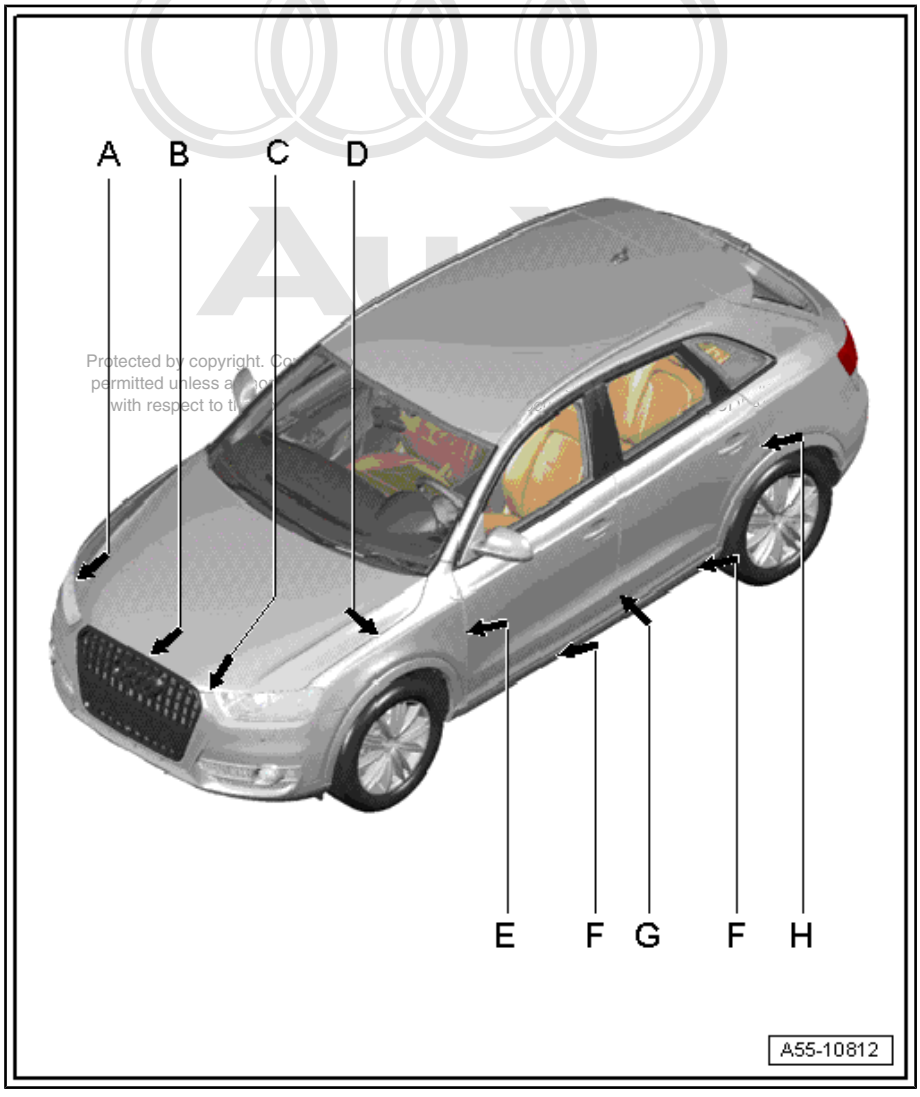
The panel gaps can be checked with setting gauge - 3371- .

**Special tools and workshop equipment required**

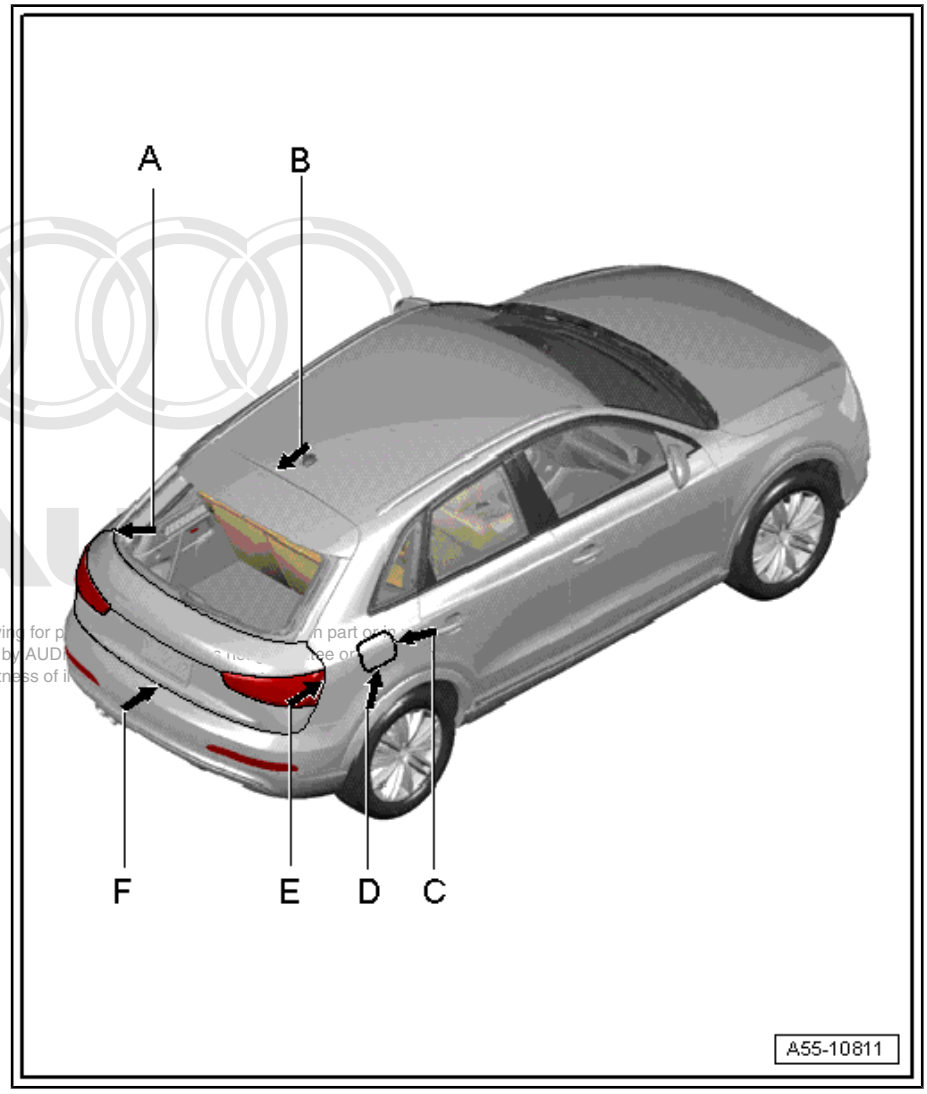
- Setting gauge - 3371-




**Panel gaps - front**




**Panel gaps - rear**




Protected by copyright. Copying for p
permitted unless authorised by AUDI
with respect to the correctness of i

# 7 Laser welding

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

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

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

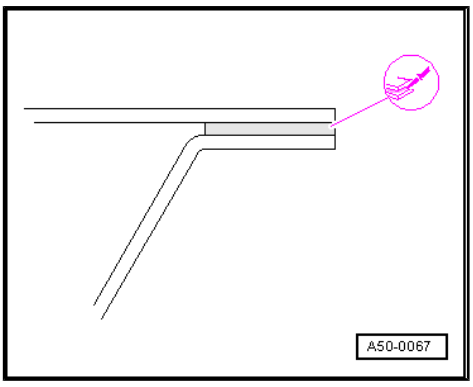
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 8 Bonded joints

The body of the Audi Q3 features bonded joints and spot-welded bonded joints for increased rigidity and strength.

## 8.1 Bonded joints

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 8.2 Inspecting and repairing bonded joints

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

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

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

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

## 8.3 Repair methods for replacing body parts

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

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

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

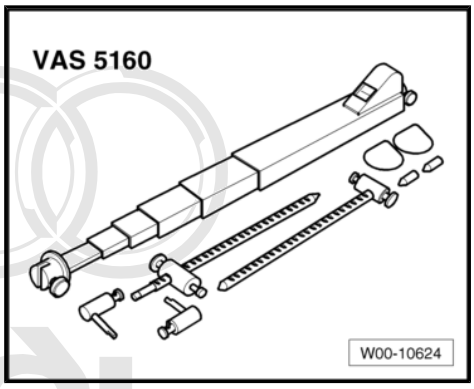
**Note**

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

Ensure good root penetration at all joints.

Seal off repaired joint flanges and apply cavity sealing.

# 9 Body dimensions




**Note**

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

**Body - front**

**WARNING**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 9.1 Body - front

**A - 1530 mm ± 2.0 mm**

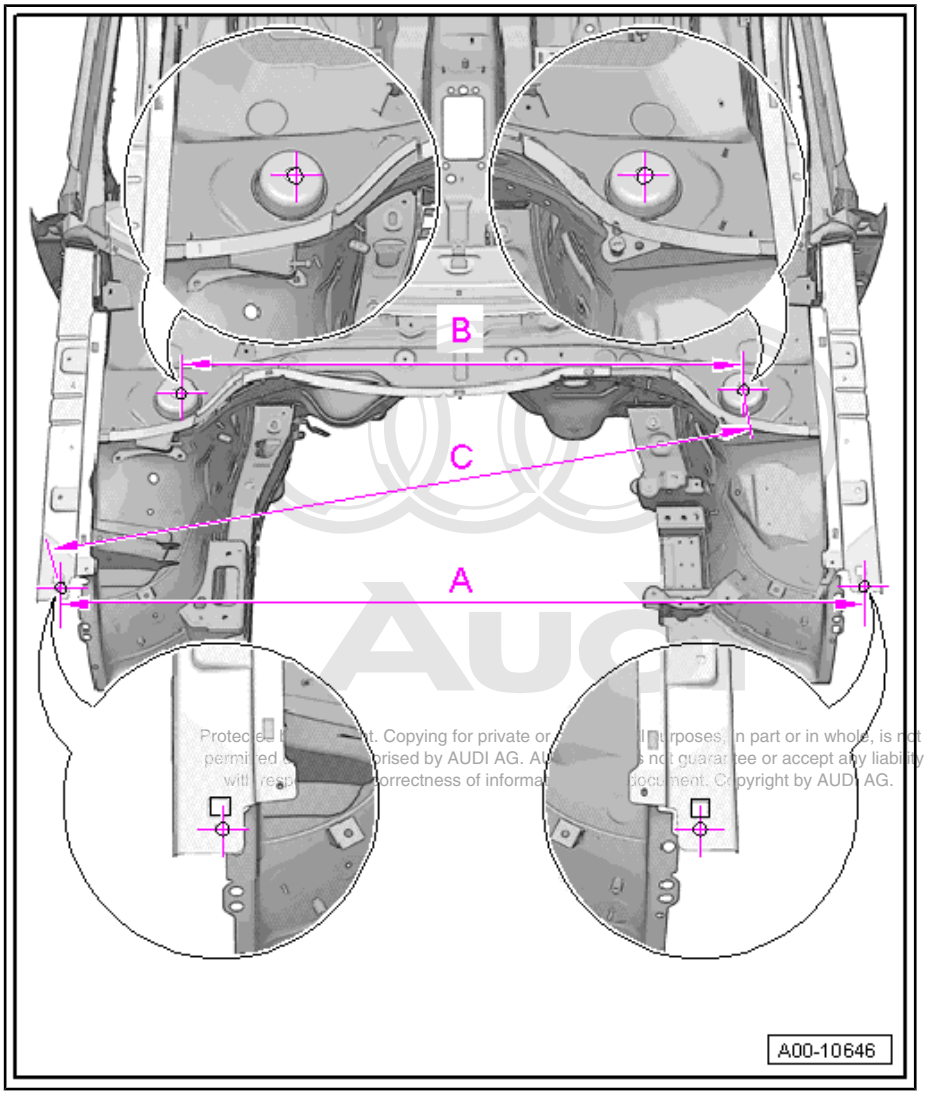
Distance between wing panel mountings

**B - 1120 mm ± 2.0 mm**

Distance between suspension strut mountings

**C - 1385 mm ± 2.0 mm**

Diagonal distance between suspension strut mountings



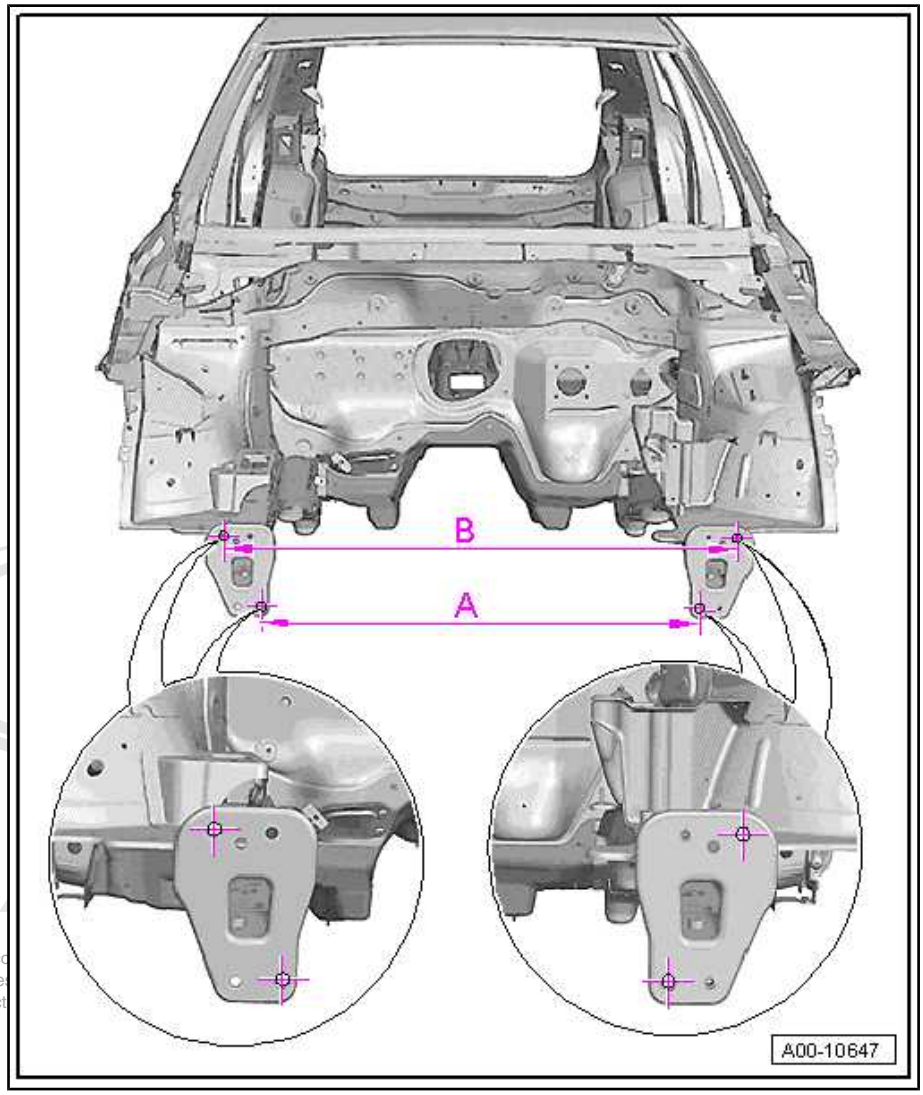

Protected document. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 893 mm ± 2.0 mm**

Distance between impact damper mountings

**B - 1036 mm ± 2.0 mm**

Distance between impact damper mountings




Protected by co
permitted unles
with respect

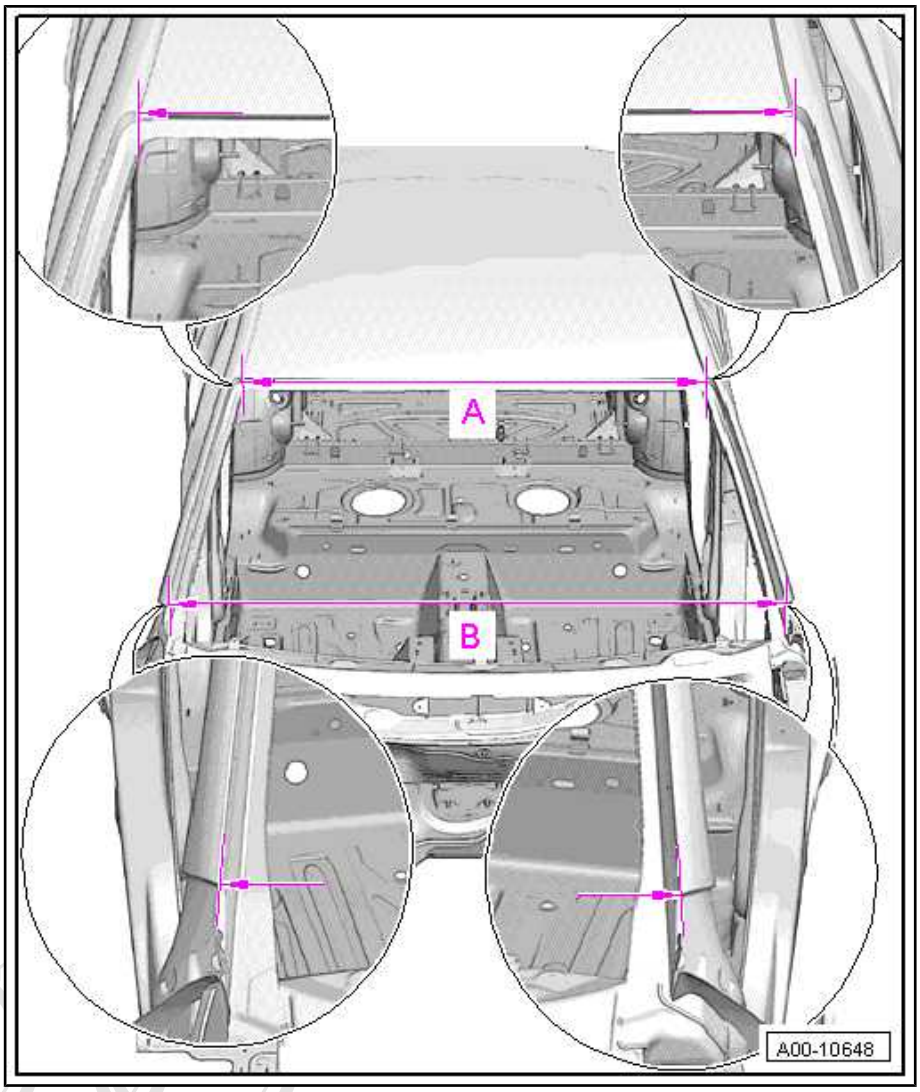
## 9.2 Body - centre

**A - 1177 mm ± 2.0 mm**

Windscreen opening (top)

**B - 1478 mm ± 2.0 mm**

Windscreen opening (bottom)

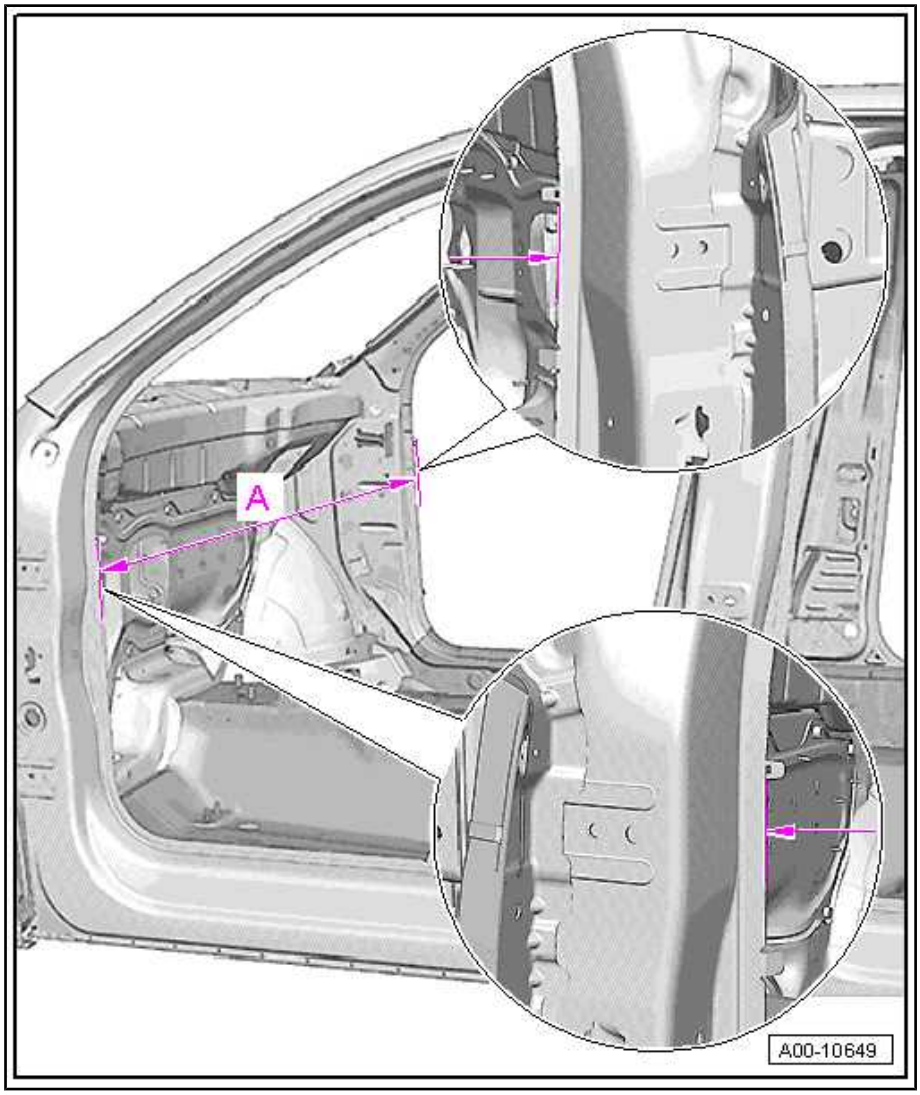



**Distance between A-pillars**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 1470 mm ± 2.0 mm**

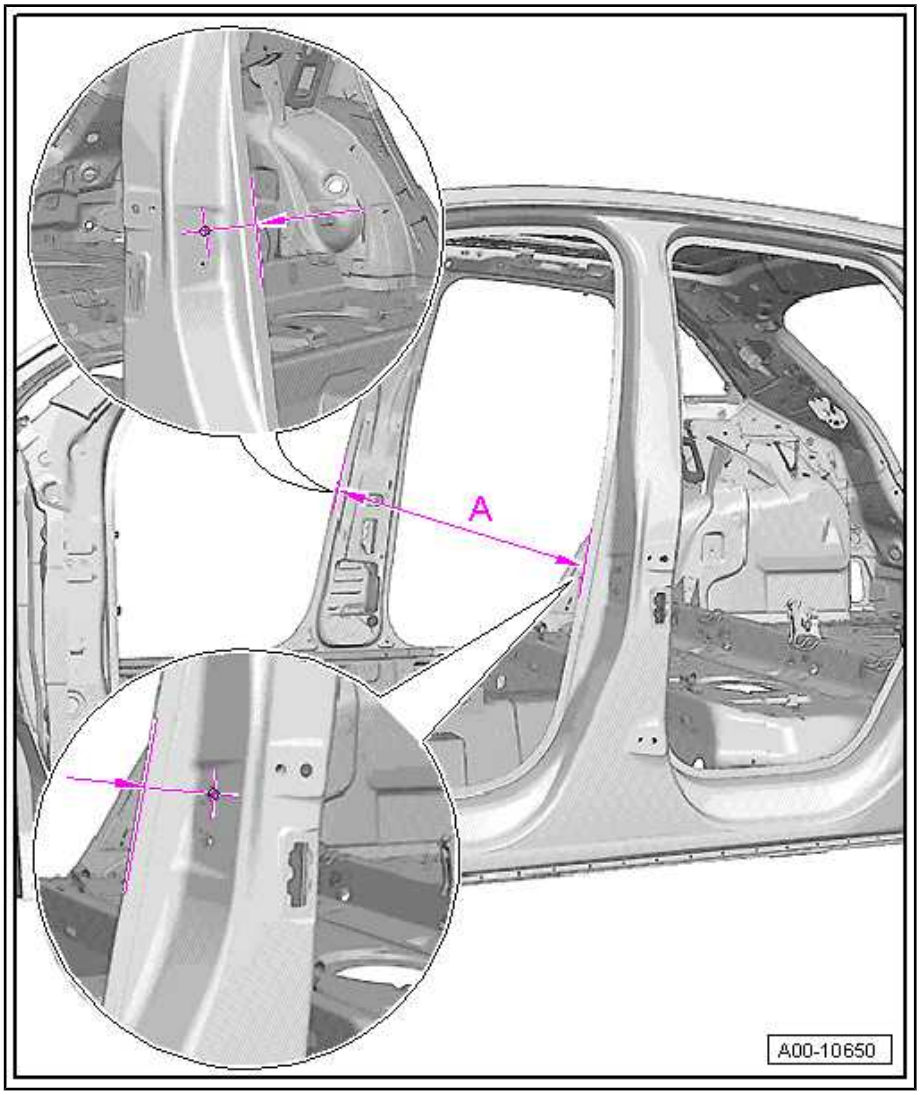
Distance between A-pillars




**Distance between B-pillars**

**A - 1459 mm ± 2.0 mm**

Distance between B-pillars



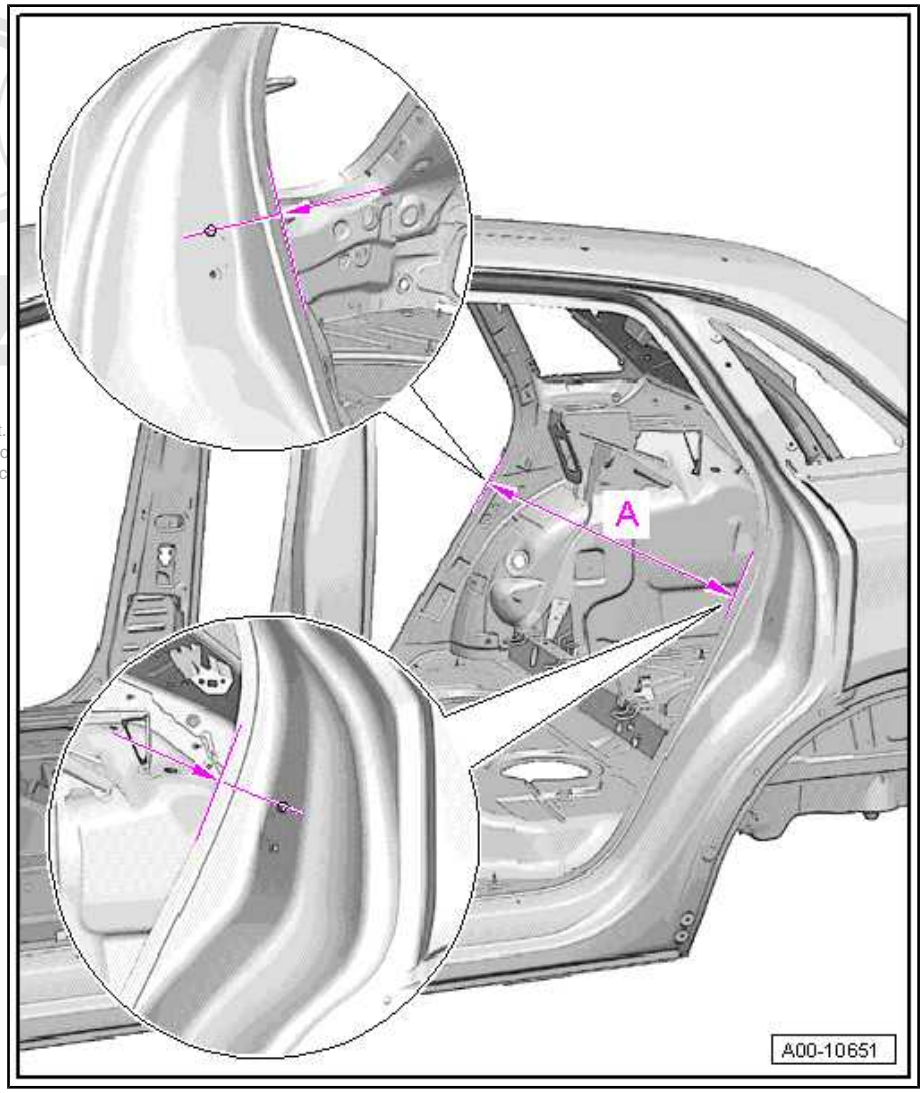

**Distance between C-pillars**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 1407 mm ± 2.0 mm**

Distance between C-pillars

Protected by copyright.
permitted unless autho
with respect to the c



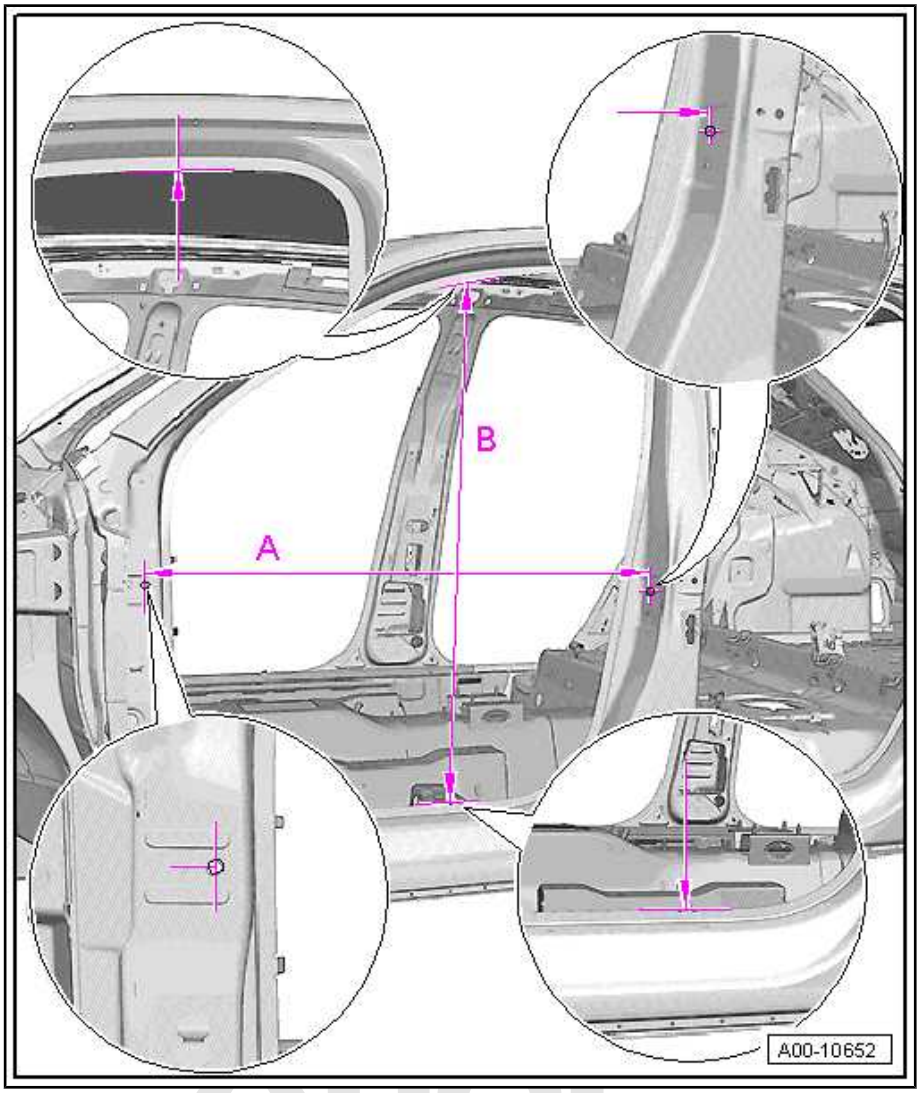

**Front door opening**

**A - 976 mm ± 2.0 mm**

Distance between A-pillar and B-pillar

**B - 1042 mm ± 2.0 mm**

Height of door opening




**Rear door opening**

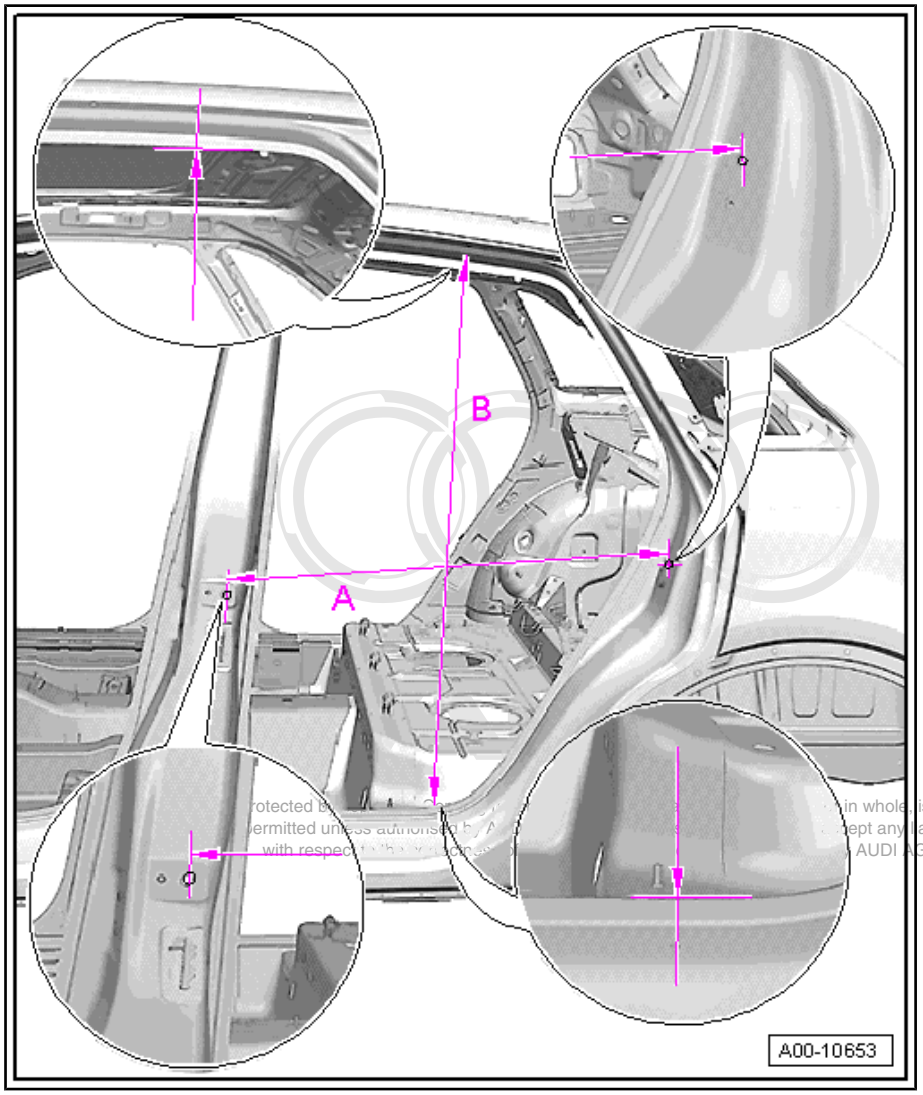
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 824 mm ± 2.0 mm**

Distance between B-pillar and C-pillar

**B - 1044 mm ± 2.0 mm**

Height of door opening




rotected b
ermitted unless authorised b
with respect
in whole is not
dept any liability
AUDI AG.

## 9.3 Floor group

**A - 874 mm ± 2.0 mm**

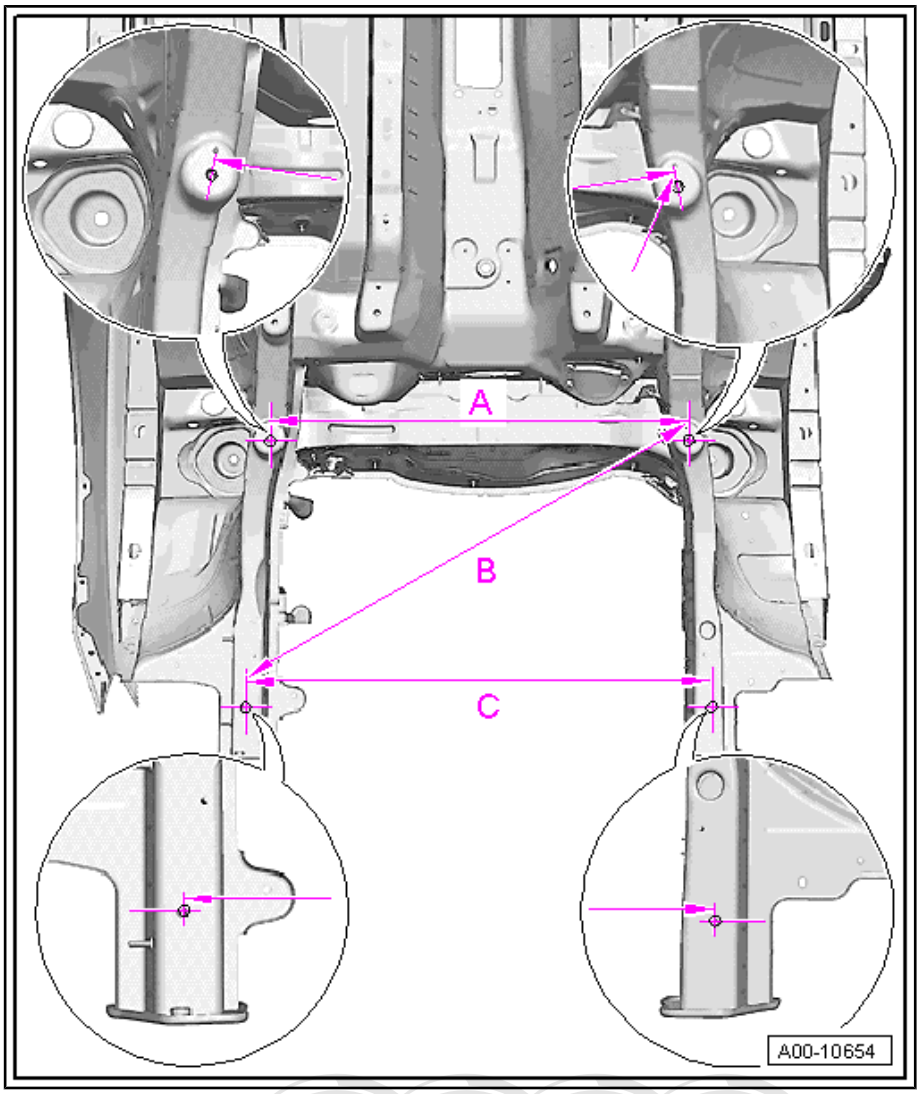
Distance between suspension strut mountings

**B - 1075 mm ± 2.0 mm**

Diagonal distance between front longitudinal members

**C - 970 mm ± 2.0 mm**

Distance between front longitudinal members



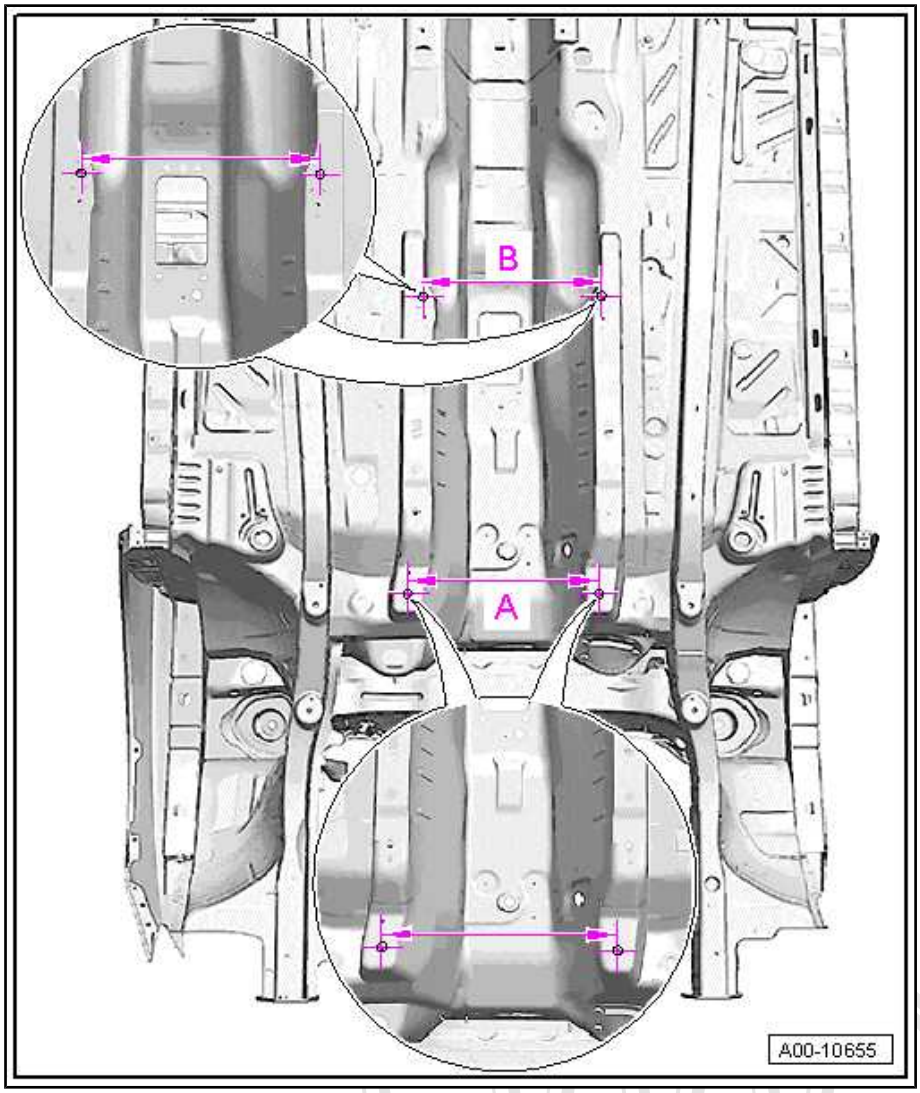

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 430 mm ± 2.0 mm**

Distance between suspension strut mountings

**B - 409 mm ± 2.0 mm**

Distance between propshaft mountings




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 1162 mm ± 2.0 mm**

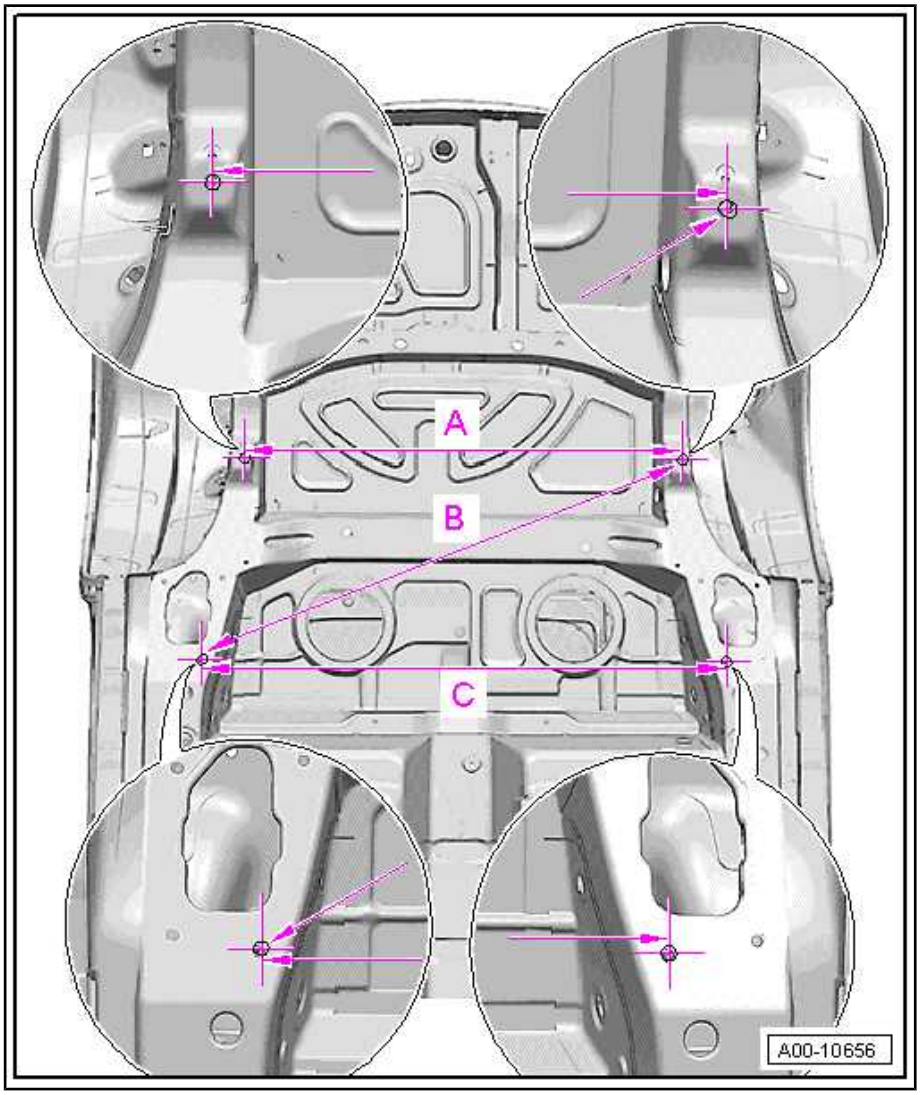
Distance between rear axle mountings

**B - 1179 mm ± 2.0 mm**

Diagonal distance between longitudinal members and axle mountings

**C - 1000 mm ± 2.0 mm**

Distance between rear axle mountings



**A - 987 mm ± 2.0 mm**

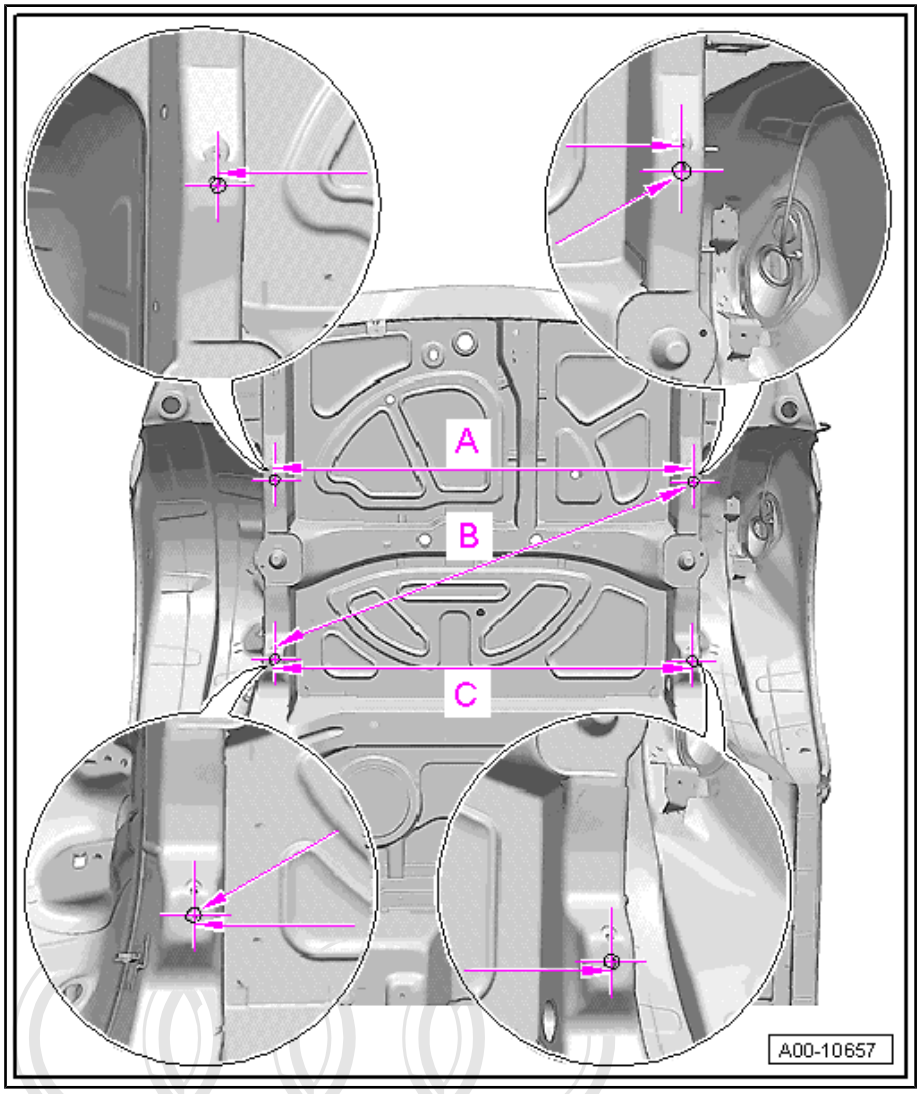
Distance between rear axle mountings

**B - 1085 mm ± 2.0 mm**

Diagonal distance between longitudinal members and axle mountings

**C - 1000 mm ± 2.0 mm**

Distance between rear axle mountings




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

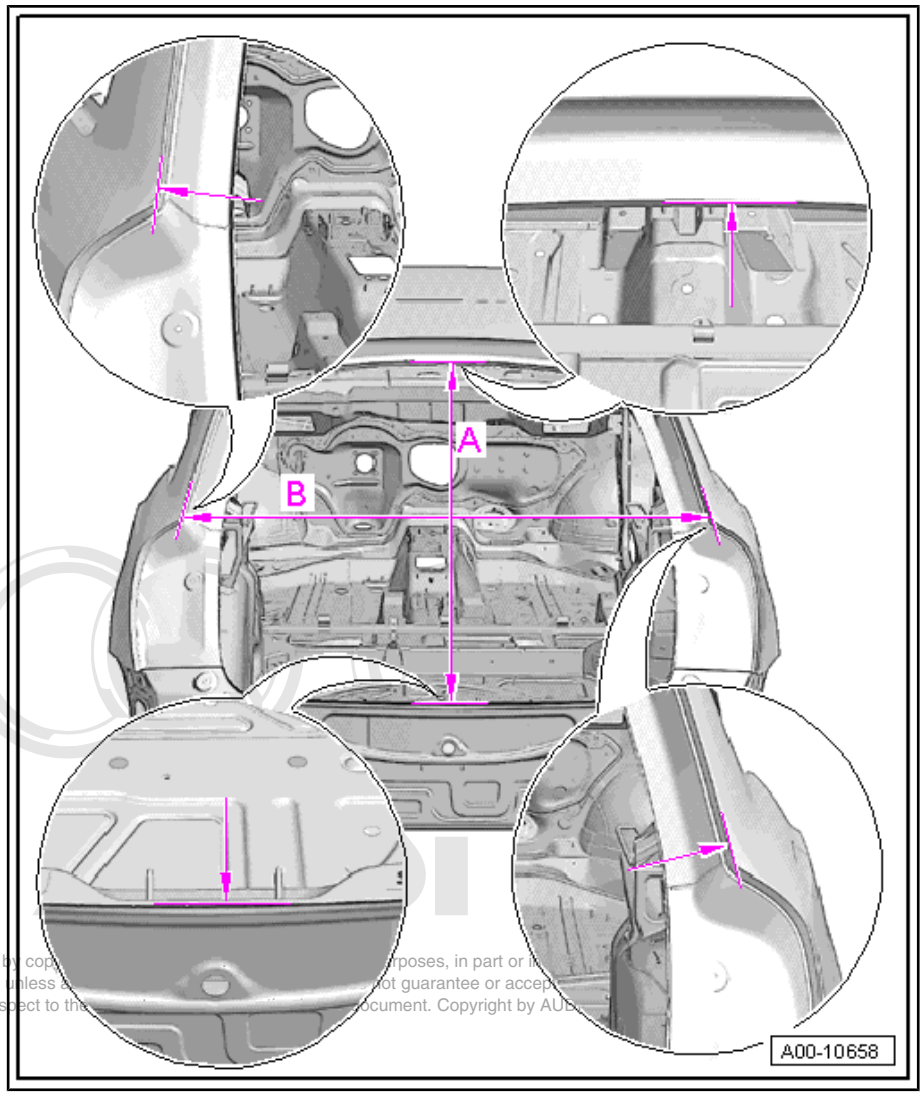
## 9.4 Body - rear

**A - 1043 mm ± 2.0 mm**

Distance between window cross member and rear upper cross panel

**B - 1352 mm ± 2.0 mm**

Distance between side panels



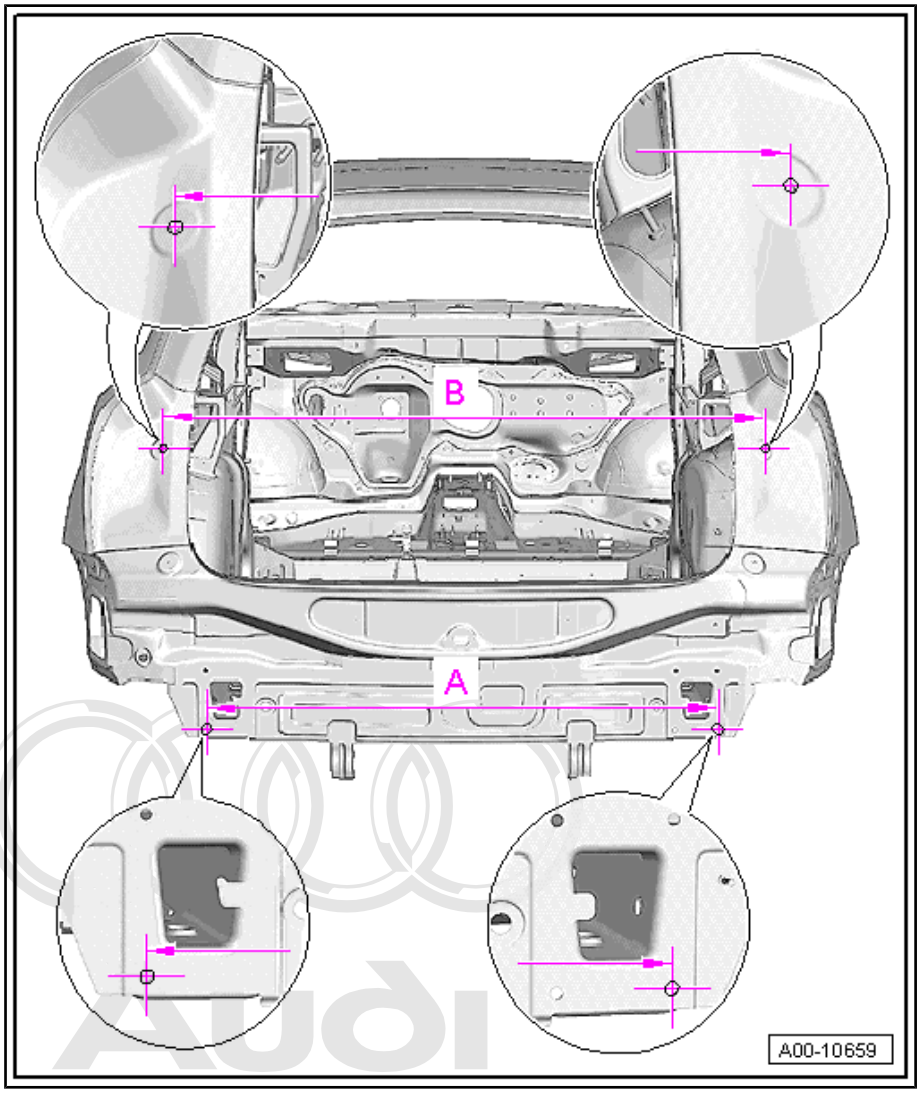

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**A - 1072 mm ± 2.0 mm**

Distance between longitudinal members

**B - 1284 mm ± 2.0 mm**

Distance between tail light mountings




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 10 Thread repair for M6 pop rivet nut

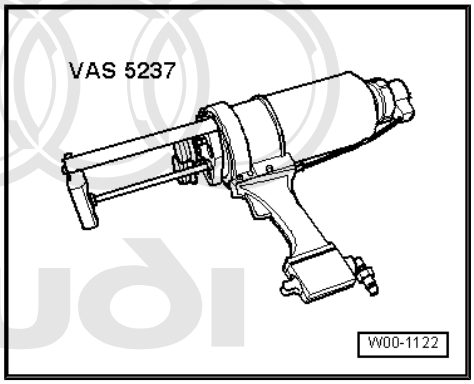
If the thread-forming screws WHT 002 605 or WHT 002 612 should fail to hold or are otherwise damaged, the repair screws WHT 006 778 can be used as a substitute. It is then not necessary to drill holes and set the pop rivet nuts.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 11 Tools

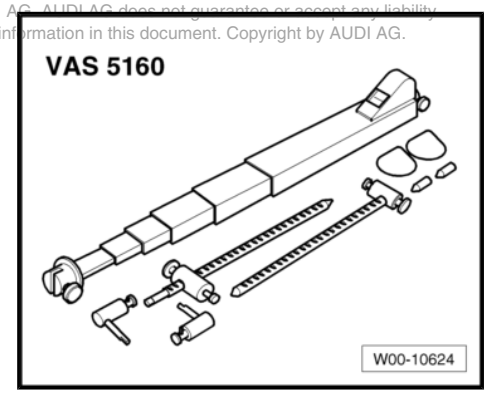
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Drill - VAS 6267 A-
- Scraper - VAS 5448-
- Compact angle grinder - VAS 5167-
- Double cartridge gun - VAS 6453-
- Double cartridge gun - VAS 5237-

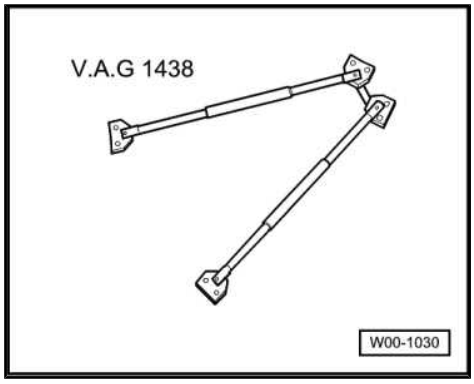



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

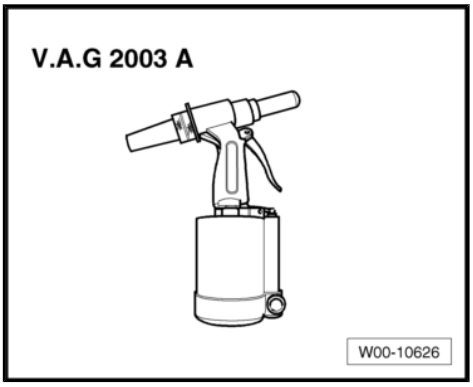
- Telescopic gauge - VAS 5159- or telescopic gauge - VAS 5160- .



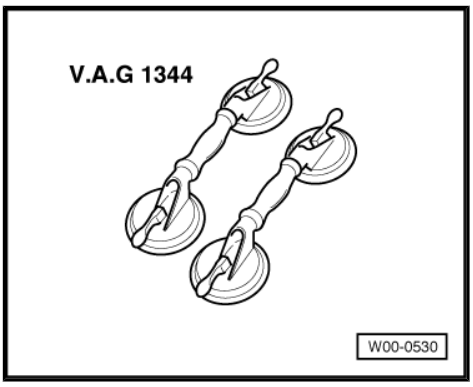

- Mechanical door tensioner - V.A.G 1438-



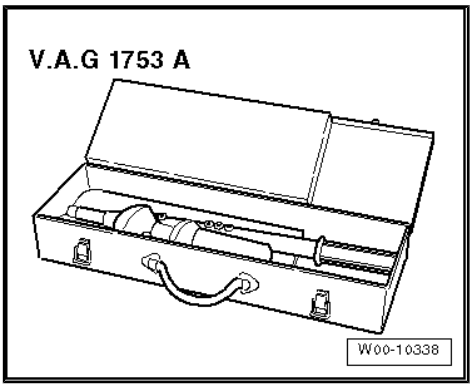
- Pneumatic pop riveter - V.A.G 2003 A-




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

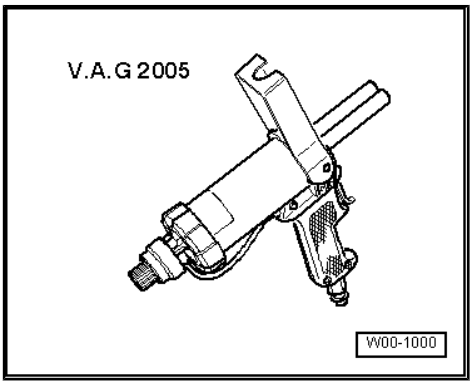



- Pop rivet pliers - 1753 A-

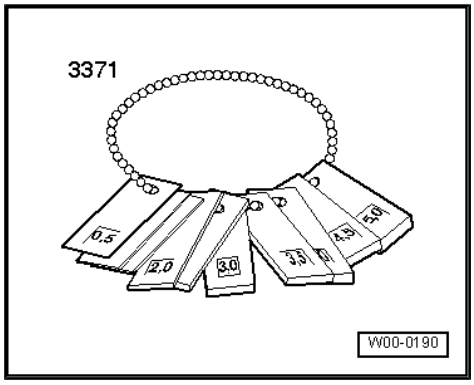



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

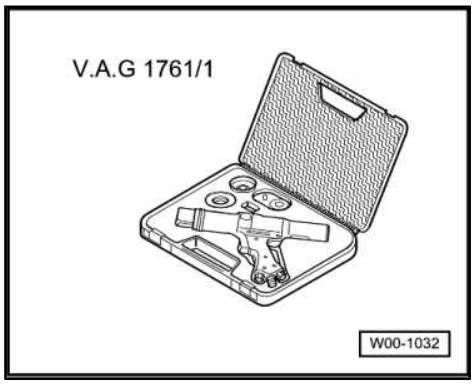
- Pneumatic glue gun - V.A.G 2005 B-



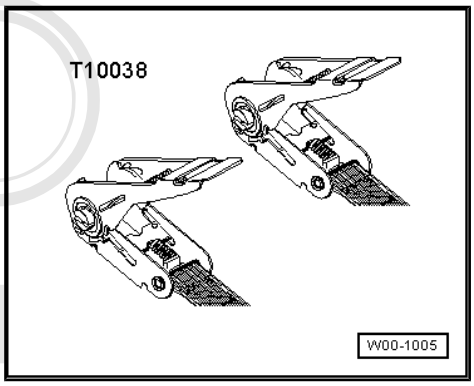
- Setting gauge - 3371-




- Pneumatic cartridge gun - V.A.G 1761/1-

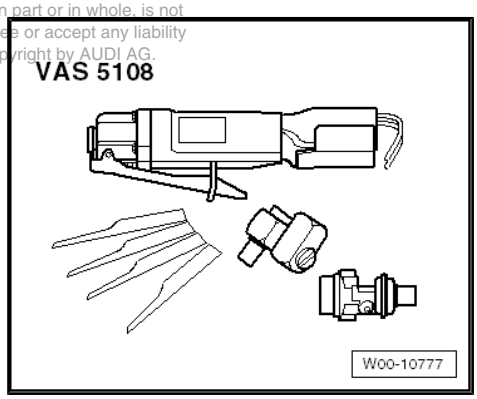



- Tensioning strap - T 10038-

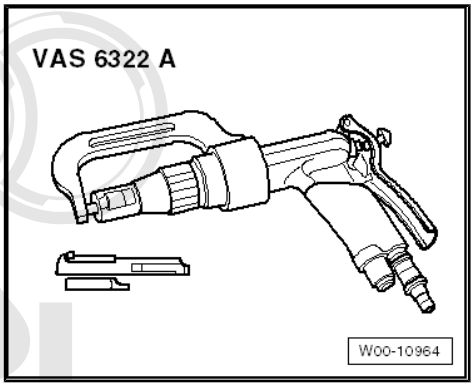



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not
permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability
with respect to the correctness of information in this document. Copyright by AUDI AG.

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

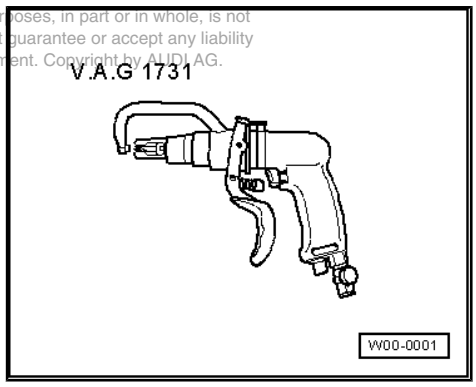


- Spot weld breaker - VAS 6322 A- or

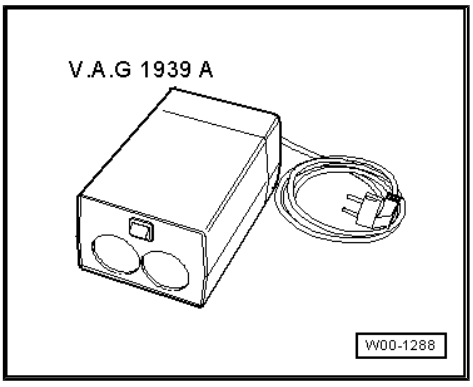



- Spot weld breaker - V.A.G 1731 -

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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



# 12 Matching the surface contour

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

**The following requirements must be met:**

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

**For the required surface contour use the following body fillers:**

**For vehicles with steel body**

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

**For vehicles with aluminium body**

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

**WARNING**

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

**Note**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

# 13 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.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Straightening bracket set - VAS 6752-

Portal gauge - VAS 5007/64-

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

## 13.1 Procedure for repairing structural body damage on Audi vehicles

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

**Definition of structural body damage:**

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

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

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

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

**Note**

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

**Note**

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

# 50 – Body - front

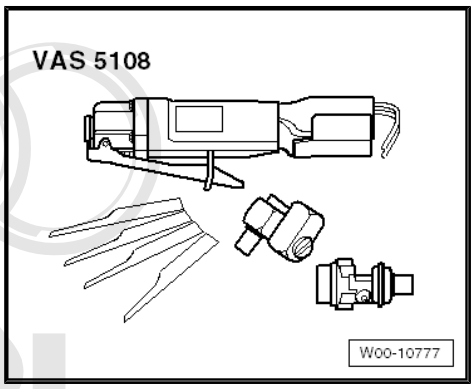
RO: 50 40 55 50

## 1 Support bracket (right-side) - Renewal

### 1.1 Tools

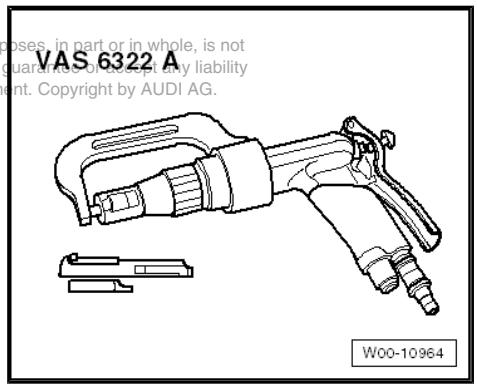
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

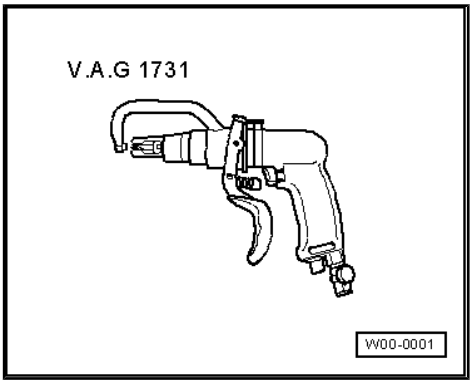



- Spot weld breaker - VAS 6322 A- or

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



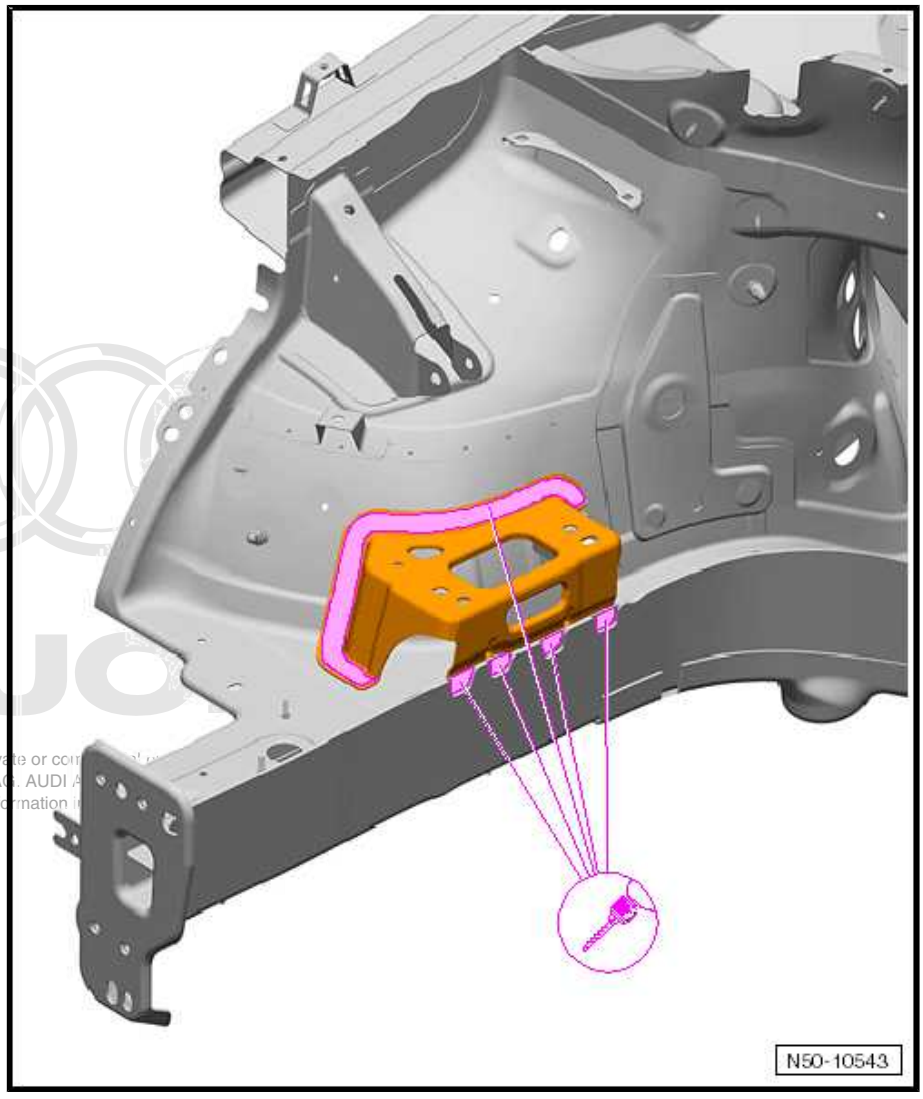
♦ Spot weld breaker - V.A.G 1731-




## 1.2 Procedure

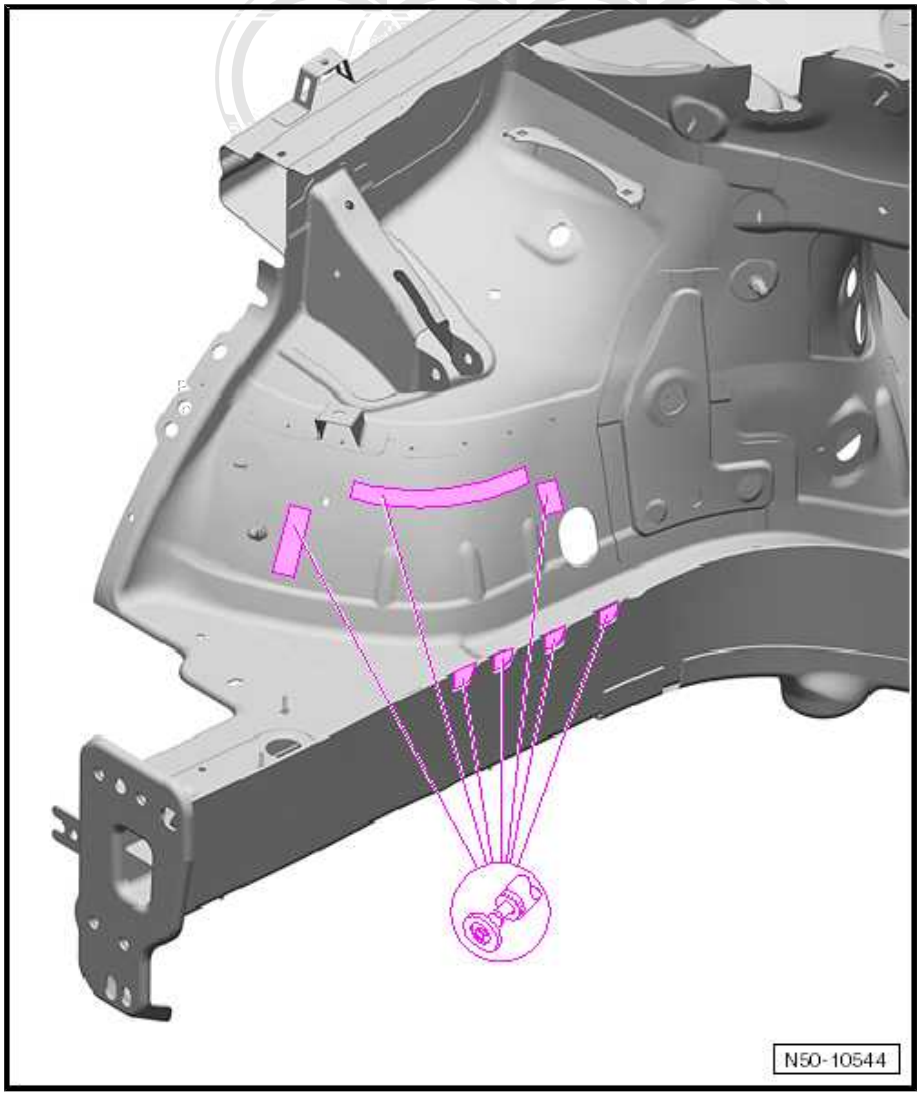
**Cutting locations**

– Separate original joint using spot weld breaker .




Protected by copyright. Copying for private or com
permitted unless authorised by AUDI AG. AUDI A
with respect to the correctness of information

– Remove remaining material using compact angle grinder .




**Replacement part**

- ♦ Support bracket (right-side)

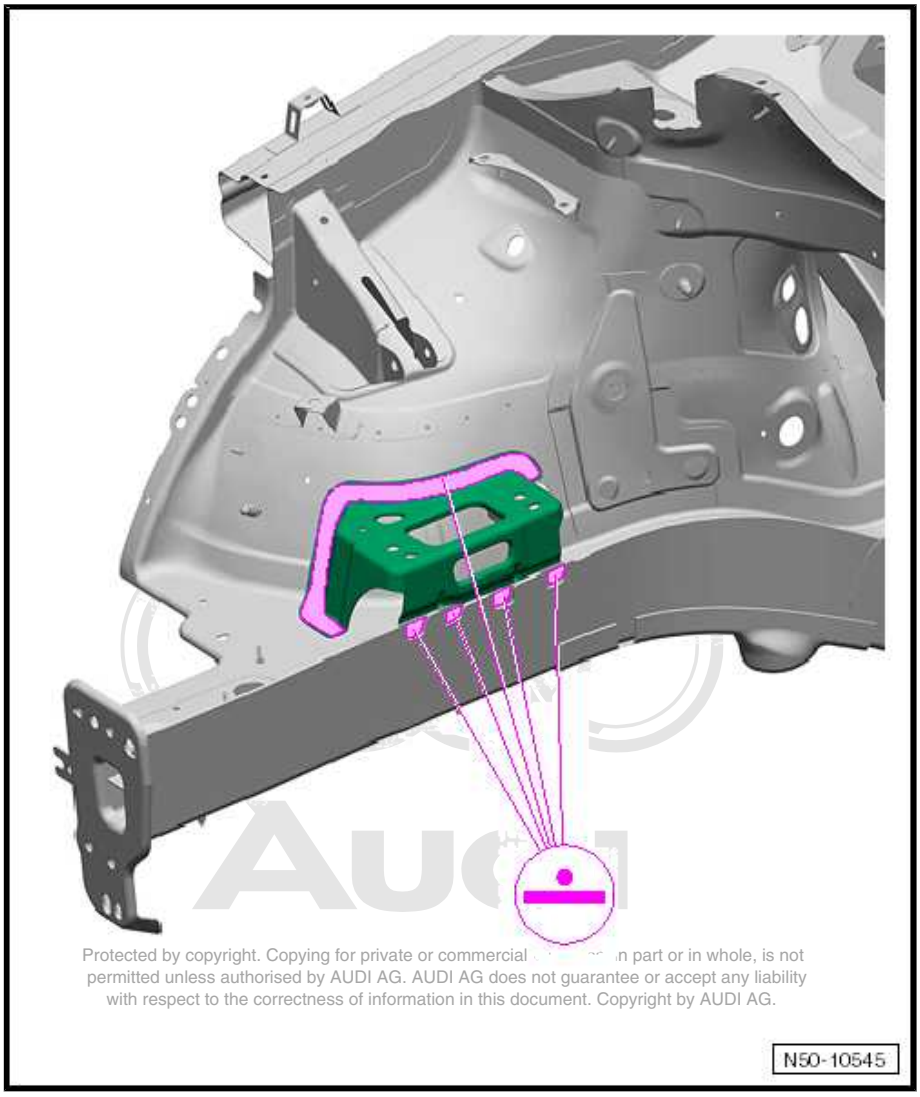
– Match up new part with vehicle positioned on alignment bracket set and fix in place.

**Note**

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

**Welding in**

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 50 40 55 56

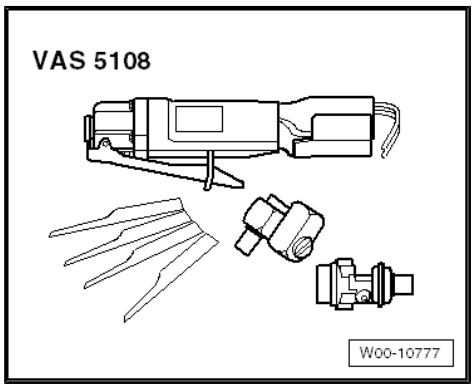
# 2 Support bracket (left-side) - Renewal

## 2.1 Tools

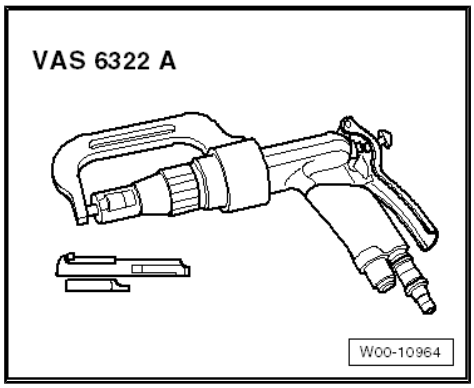
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Chisel - VAS 5300/34-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

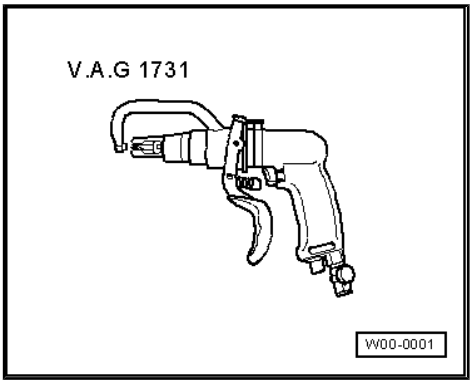
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




- Spot weld breaker - VAS 6322 A- or



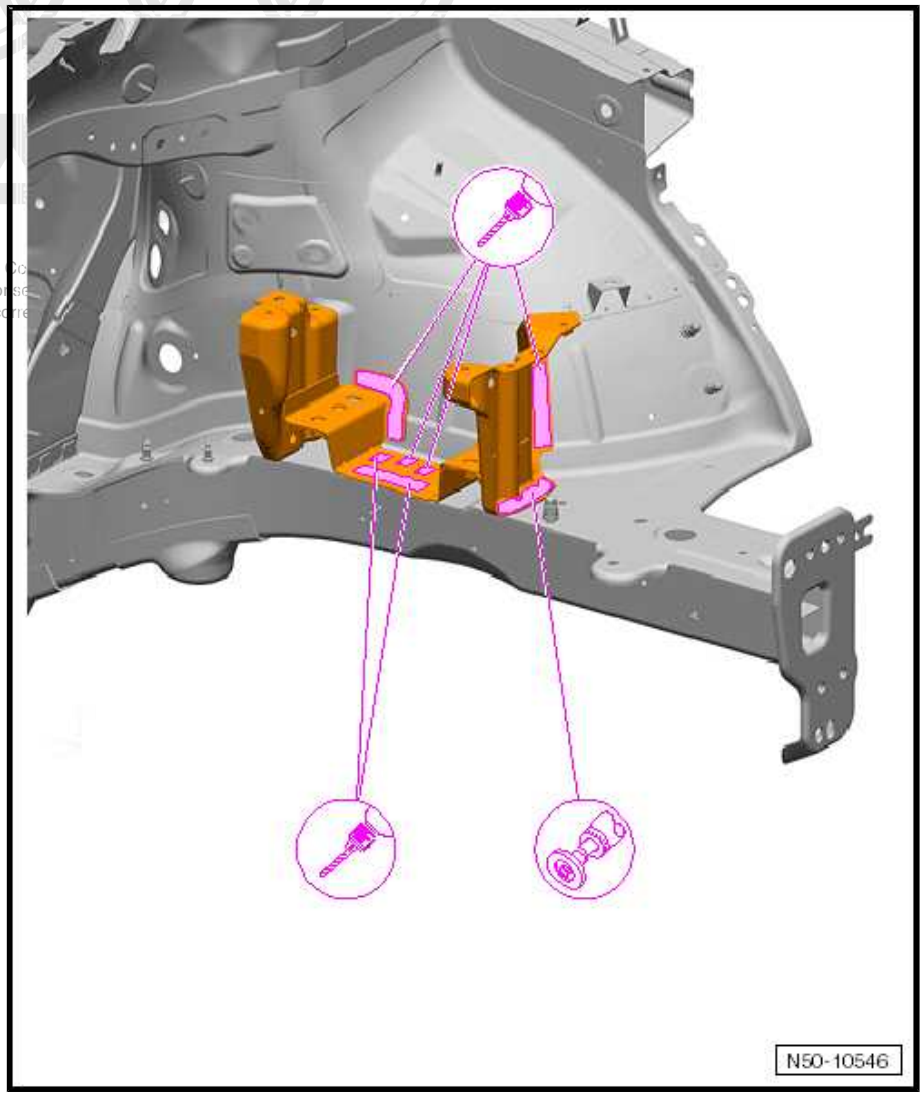
♦ Spot weld breaker - V.A.G 1731-




## 2.2 Procedure

**Cutting locations**

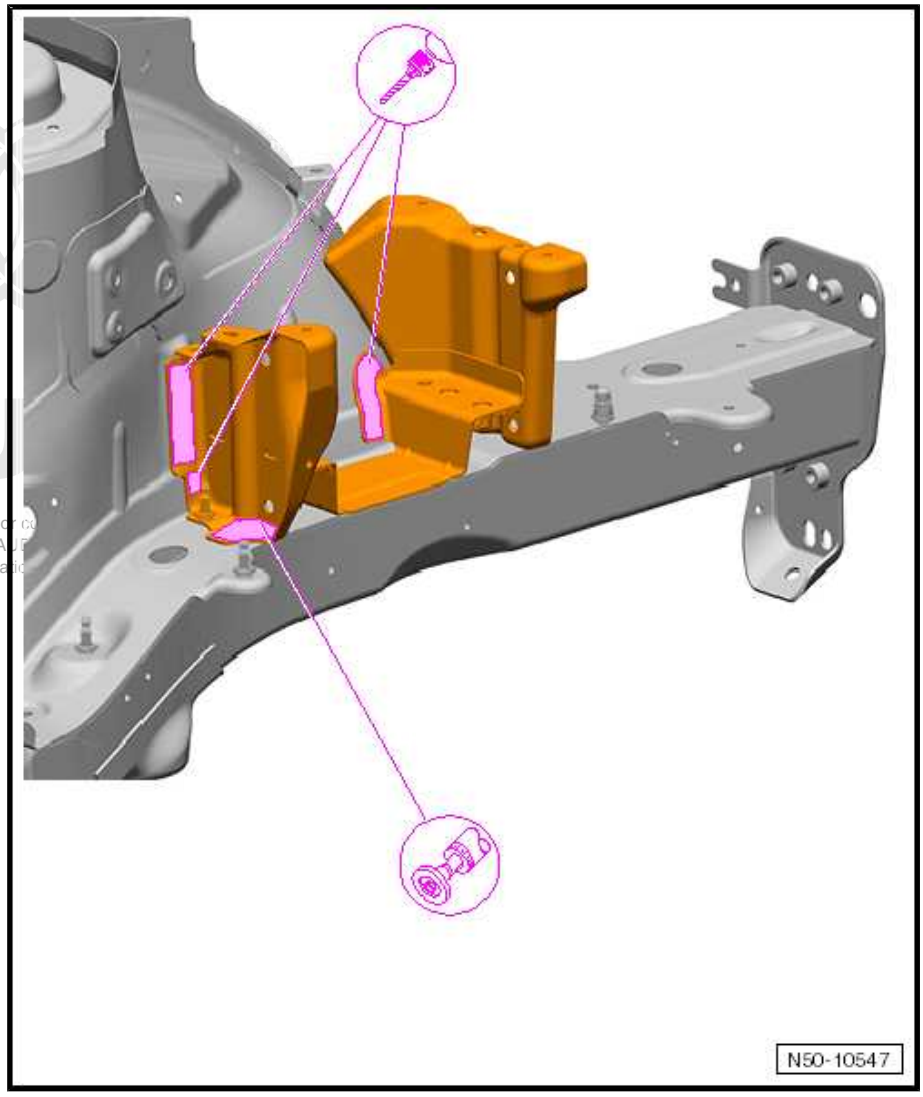
– Separate original joint using spot weld breaker .



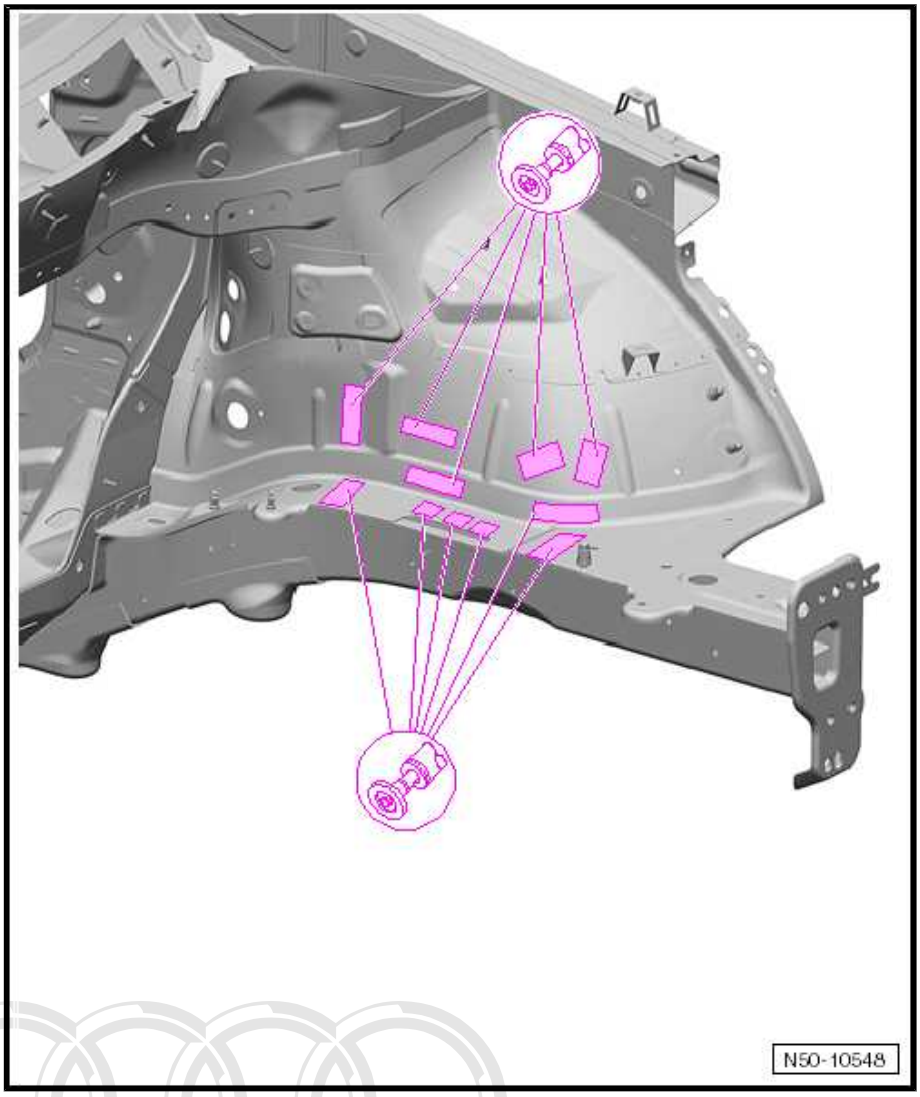

Protected by copyright. Co
permitted unless authorise
with respect to the corre

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or co
permitted unless authorised by AUDI AG. AU
with respect to the correctness of informa




– Remove remaining material using compact angle grinder .




**Replacement part**

- Support bracket (right-side)

**Preparing new part**

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

**Note**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

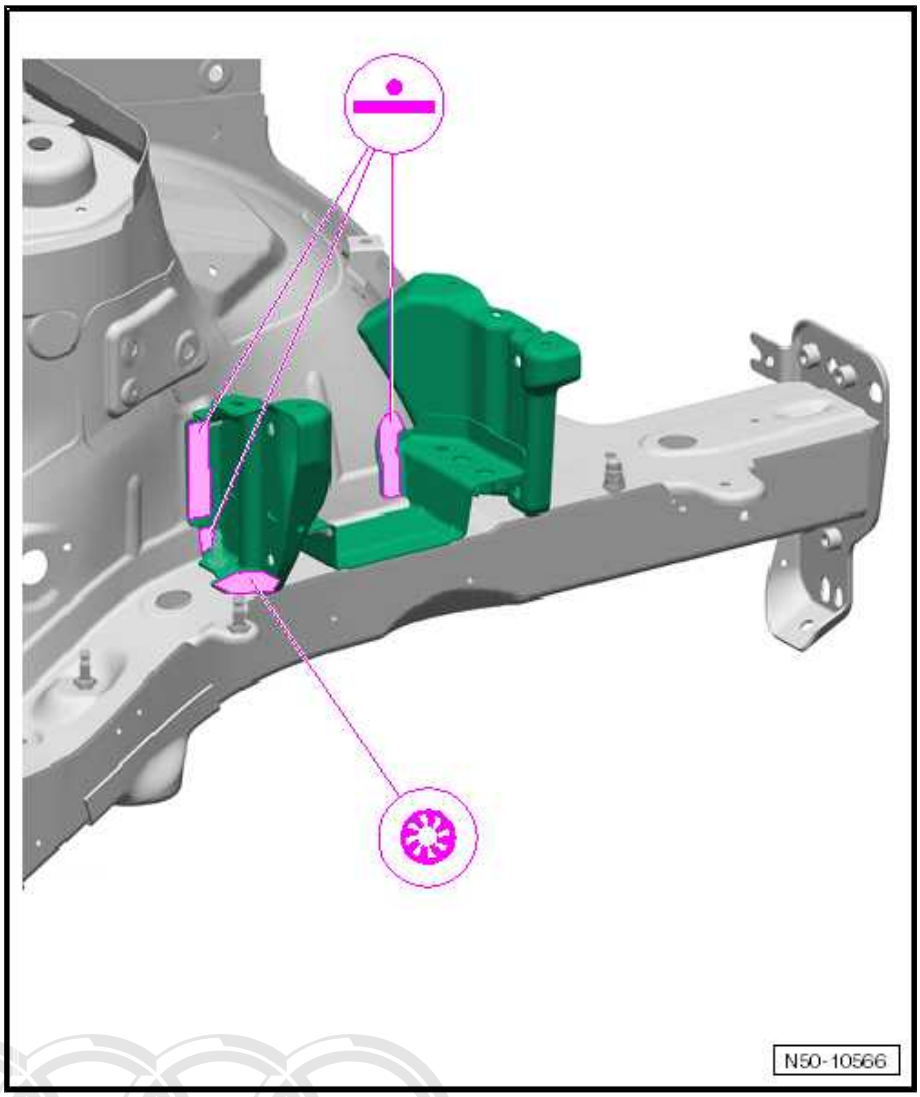
**Welding in**

**Note**

*The support bracket must be matched up and fixed in position with the ABS unit using the alignment bracket set.*

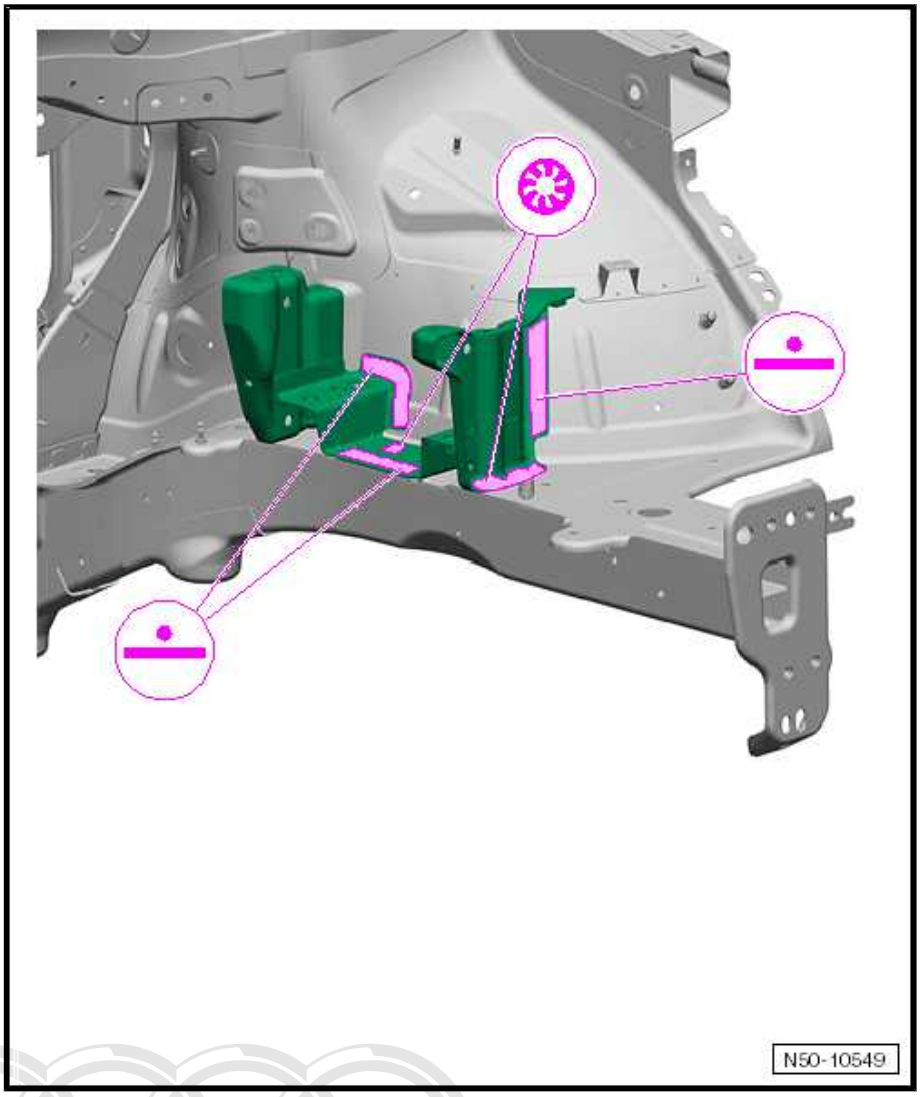
– Weld in support bracket using resistance spot welder : RP spot weld seam.

– Weld in support bracket using shielded arc welding equipment : SG plug weld seam.




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 50 43 55 00

# 3 Mounting bracket (for subframe) - Renewal

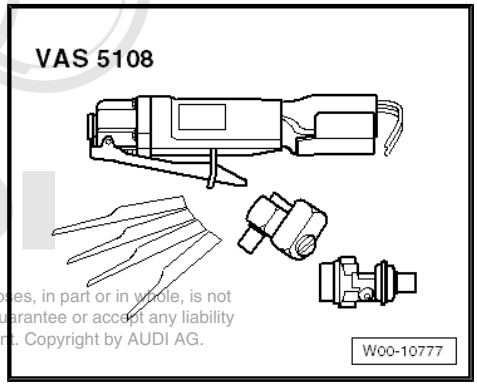
**Note**

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

## 3.1 Tools

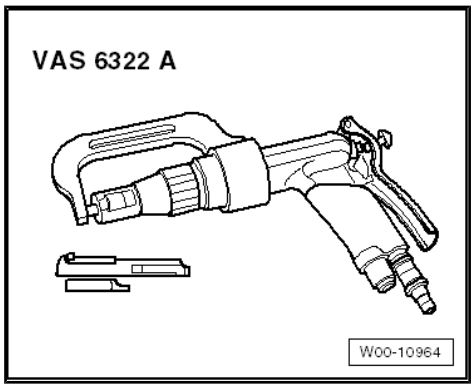
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Drill - VAS 5144-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

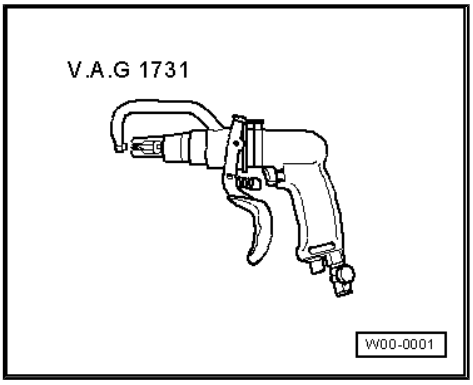



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Spot weld breaker - VAS 6322 A- or



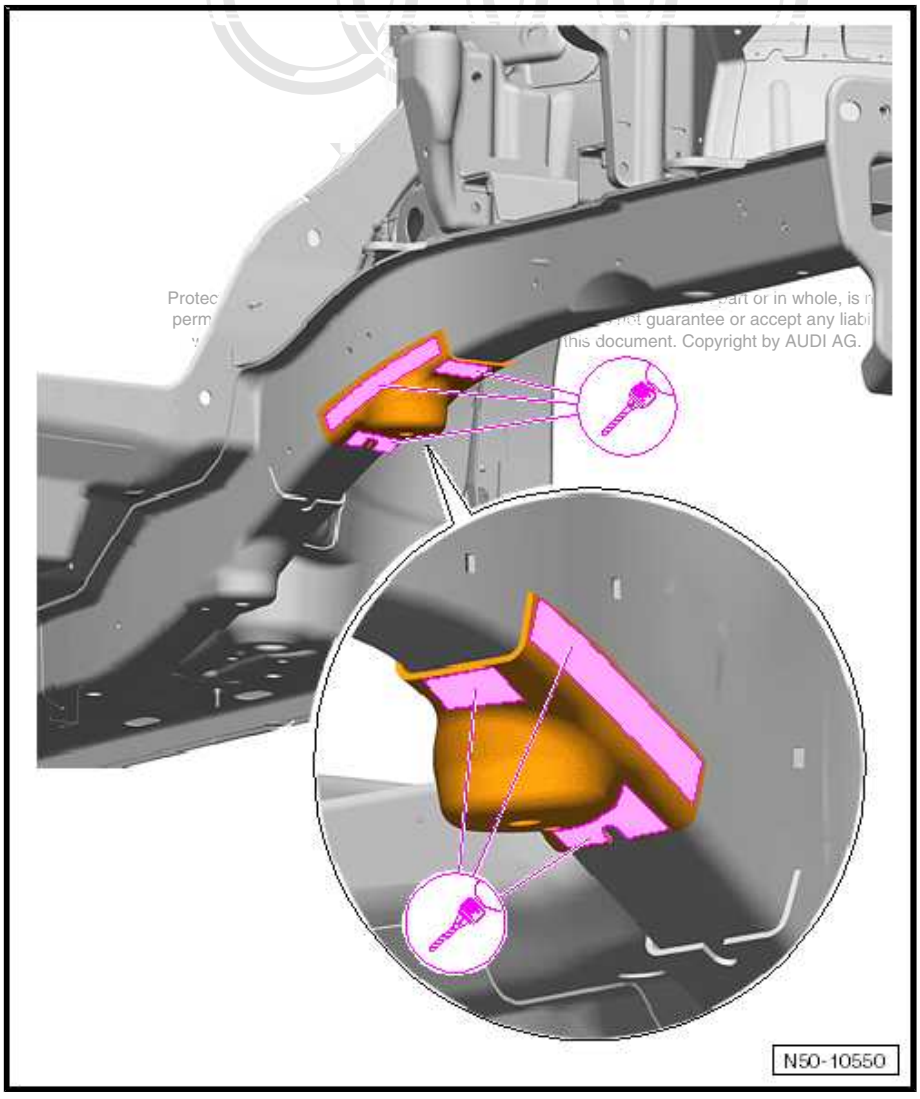
♦ Spot weld breaker - V.A.G 1731-



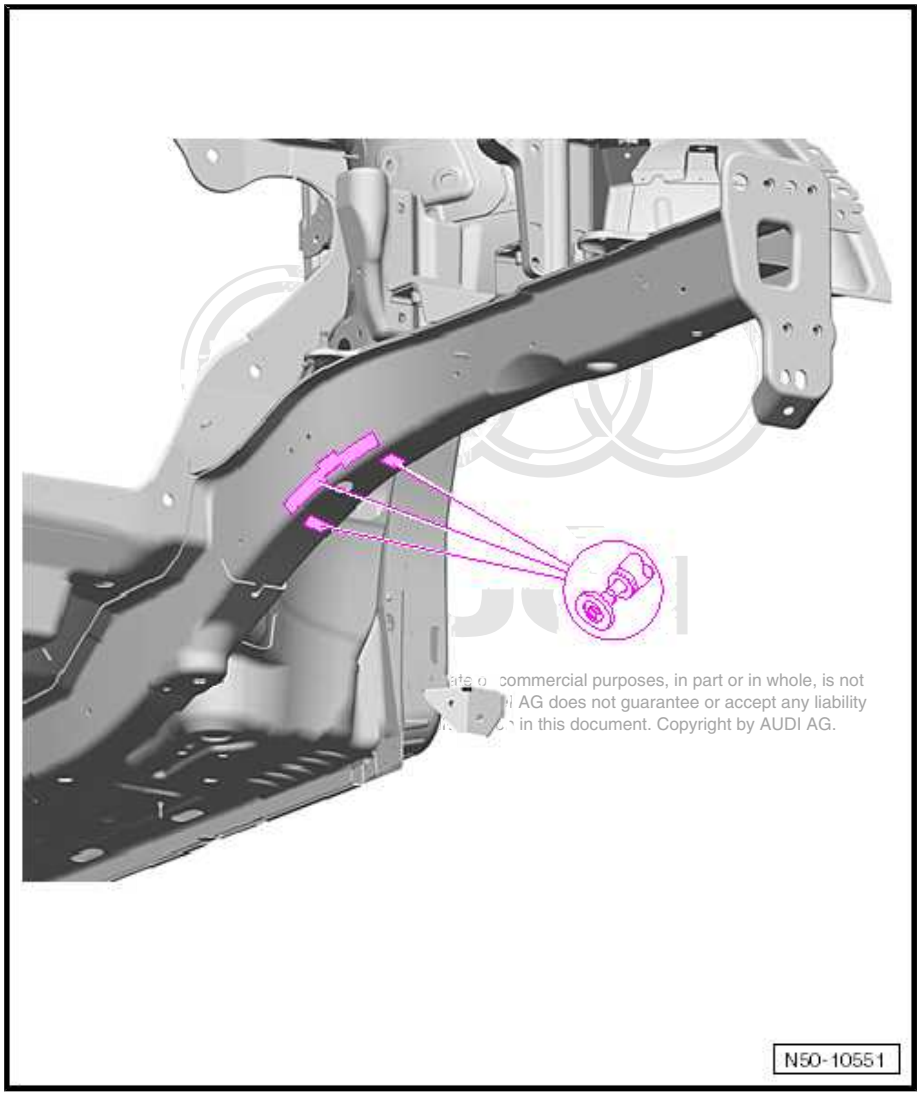

## 3.2 Procedure

**Cutting locations**

– Separate original joint using spot weld breaker .




– Remove remaining material using compact angle grinder .



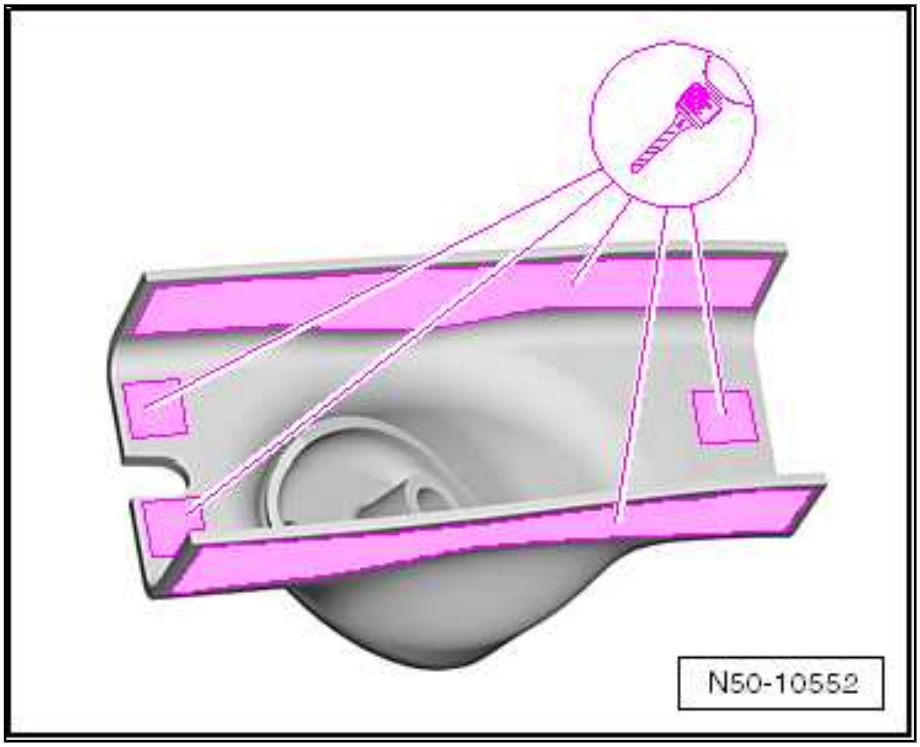

commercial purposes, in part or in whole, is not
AG does not guarantee or accept any liability
in this document. Copyright by AUDI AG.

**Replacement part**

- Front mounting bracket for subframe

**Preparing new part**

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




**Note**

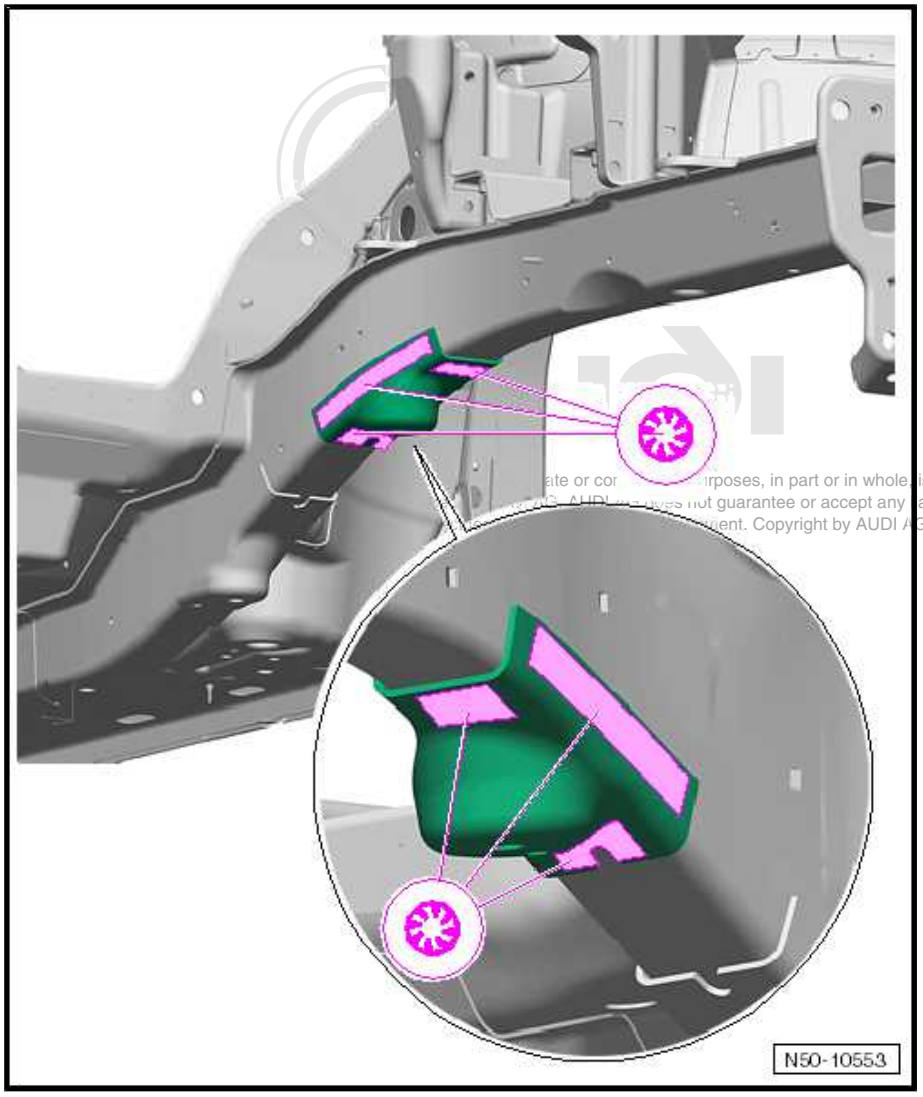
*Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.*

– Match up front mounting bracket for subframe with vehicle positioned on alignment bracket set and fix in place.

**Welding in**

– Weld in front mounting bracket for subframe using shielded arc welding equipment : SG plug weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




ate or cor rposes, in part or in whole is not
not guarantee or accept any liability
ent. Copyright by AUDI AG.

RO: 50 72 55 00

# 4 Upper longitudinal member for wheel housing - Renewal

**Includes: upper outer longitudinal member and wheel housing longitudinal member**

**1 - Cover for longitudinal member**

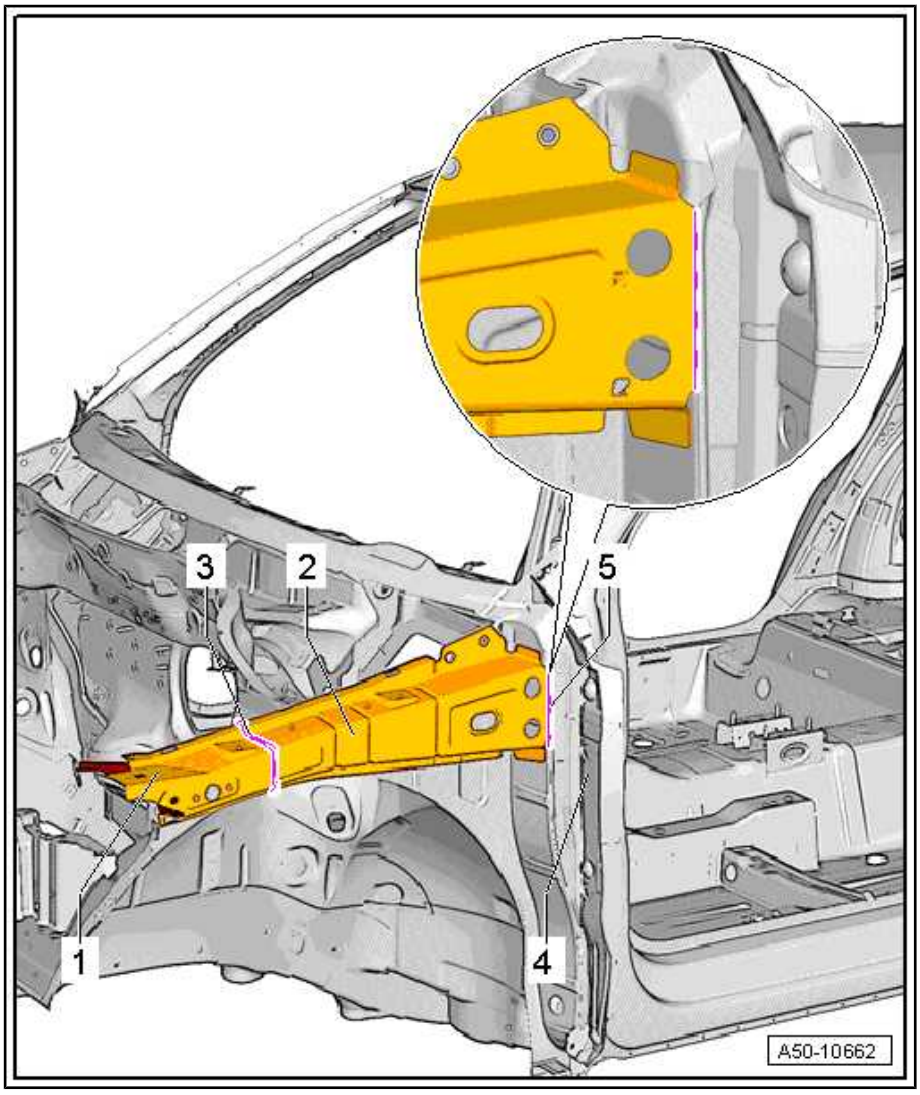
**2 - Longitudinal member for wheel housing**

**3 - Separating cut for partial renewal**

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

**4 - Outer A-pillar**

**5 - Separating cut**

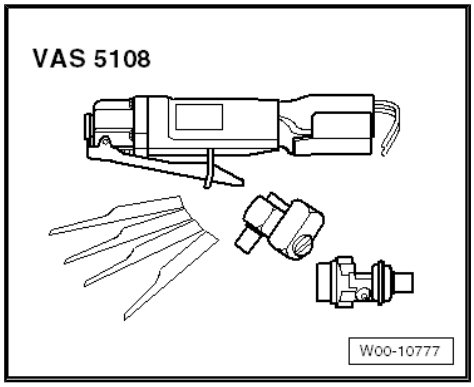



## 4.1 Tools

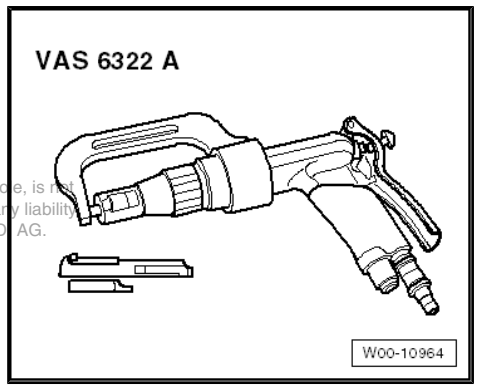
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

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

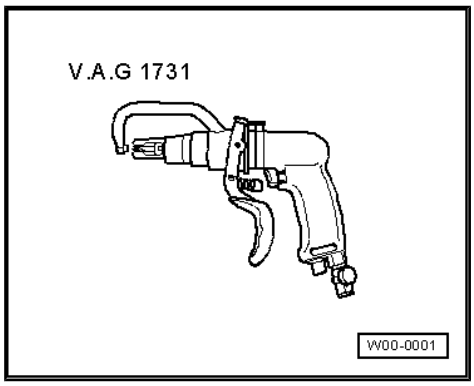



- Spot weld breaker - VAS 6322 A- or




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

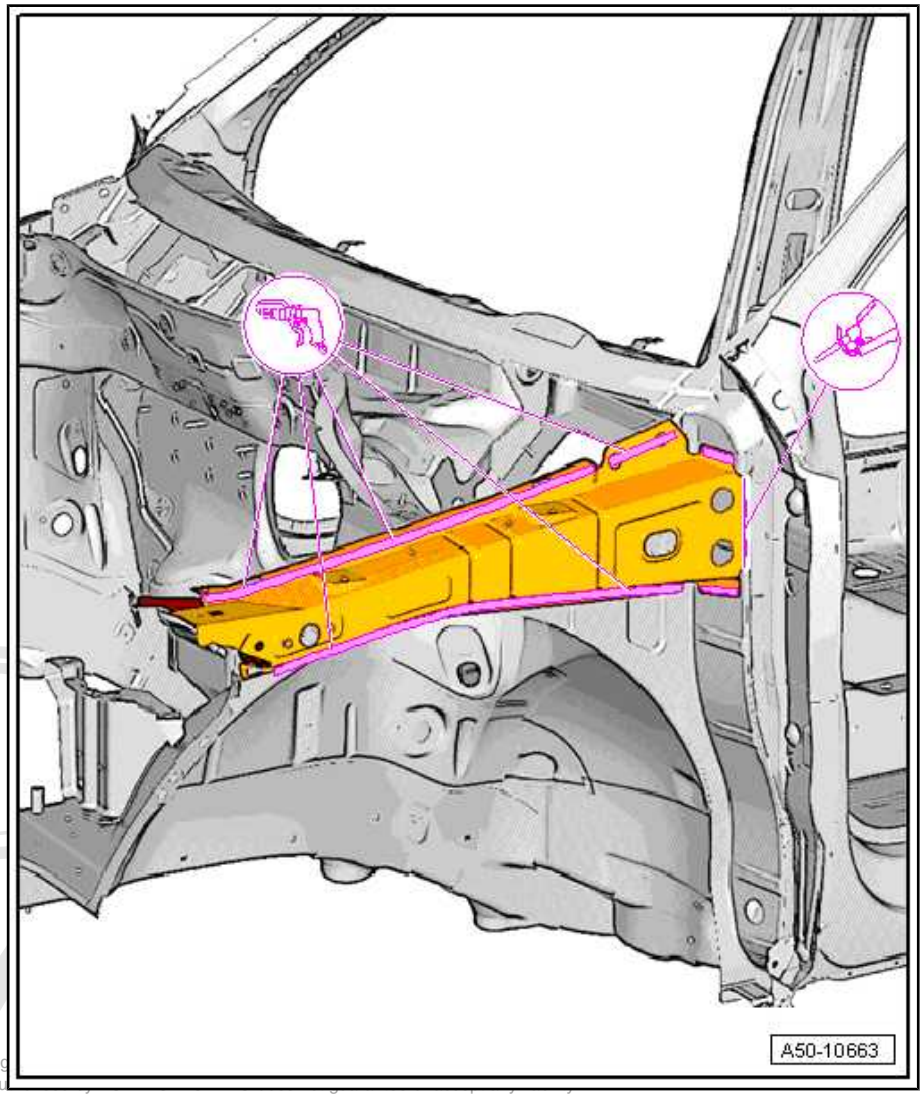



## 4.2 Procedure

**Cutting locations**

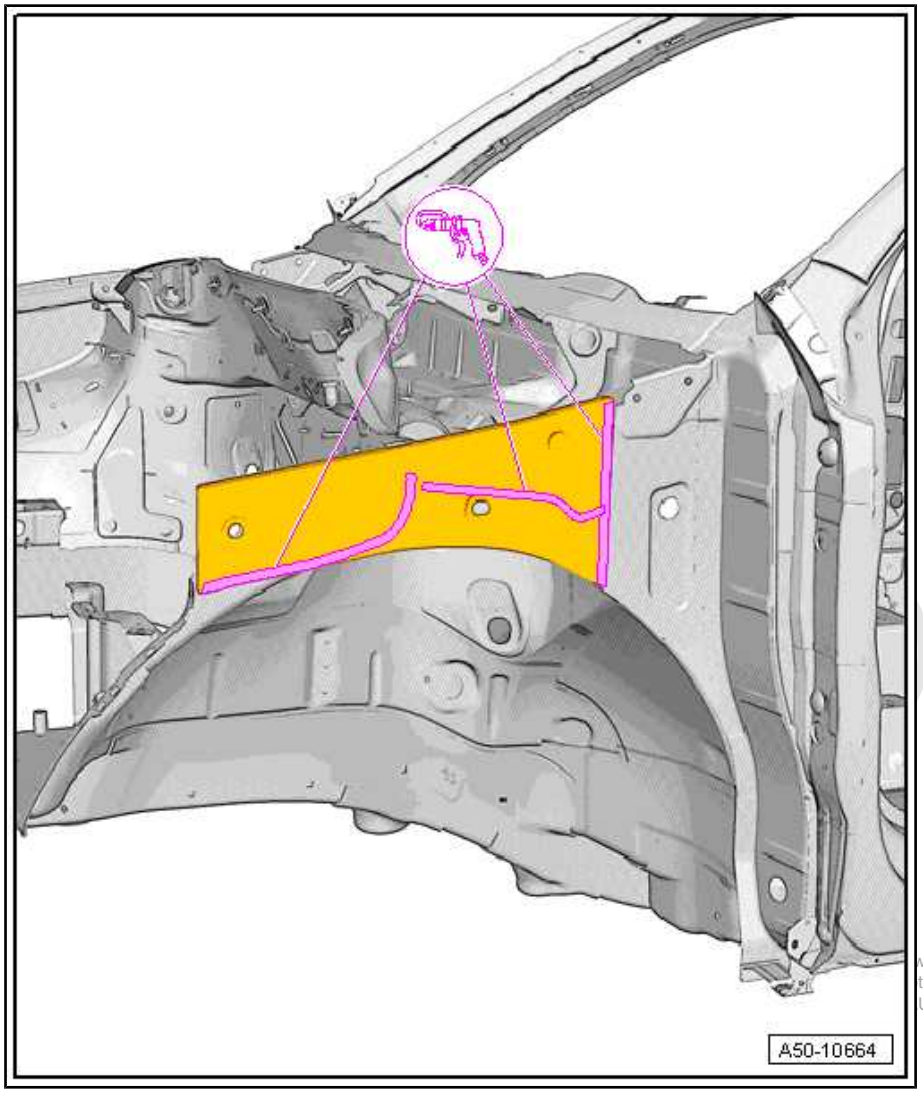
– Drill out original joint using spot weld breaker .

– Mark separating cut and make cut using body saw .



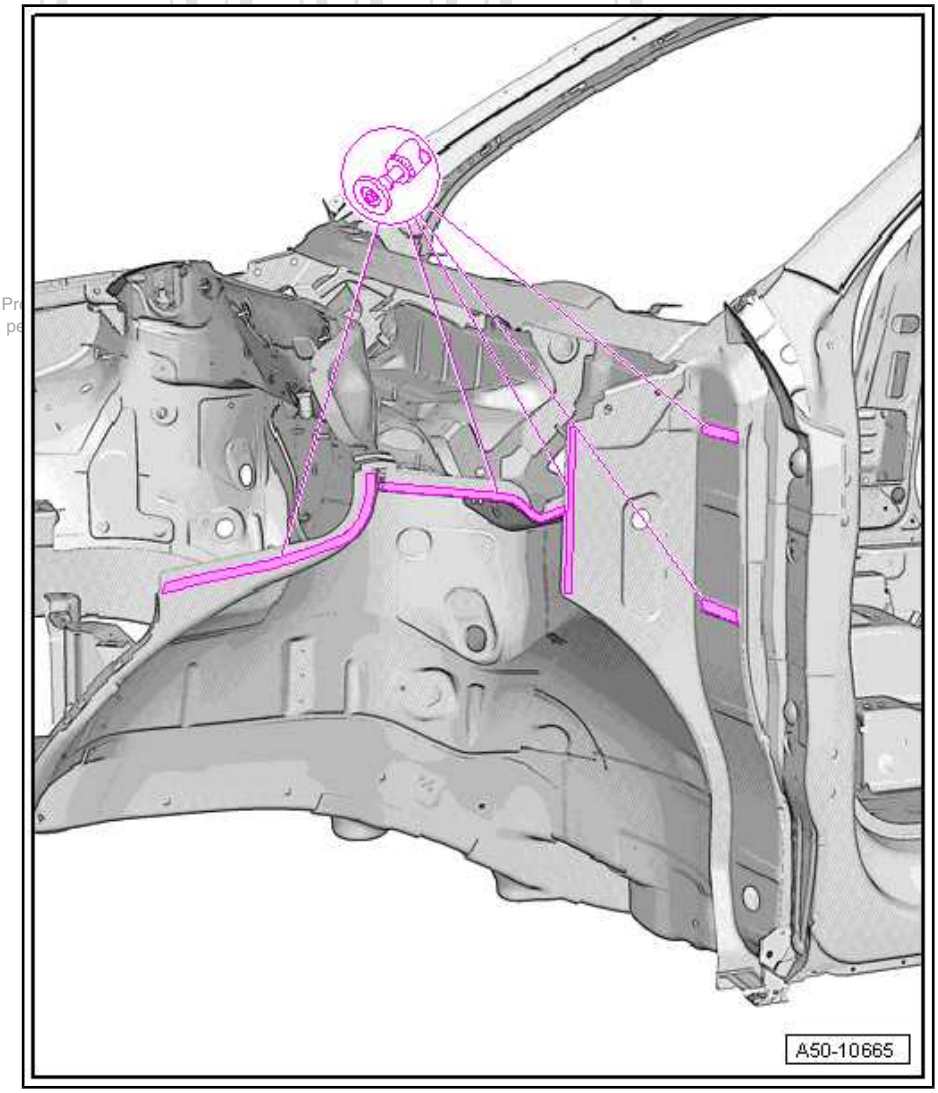

Protected by copyrig
permitted unless au
with respect to the correctness of information in this document. Copyright by AUDI AG.

– Drill out original joint using spot weld breaker .




whole, is not
t any liability
UDI AG.

– Remove remaining material using compact angle grinder .



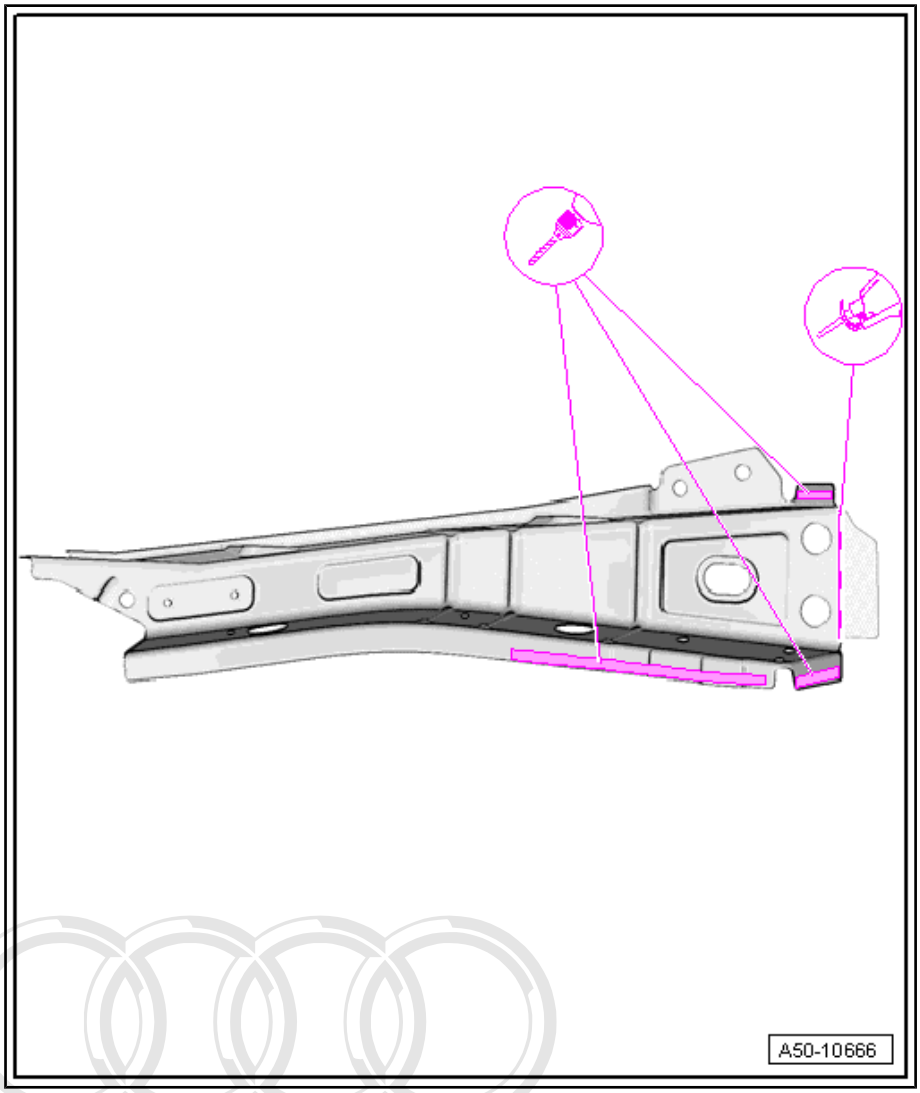

**Replacement part**

- Longitudinal member for wheel housing
- Upper longitudinal member

**Preparing new part**

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

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




**Note**

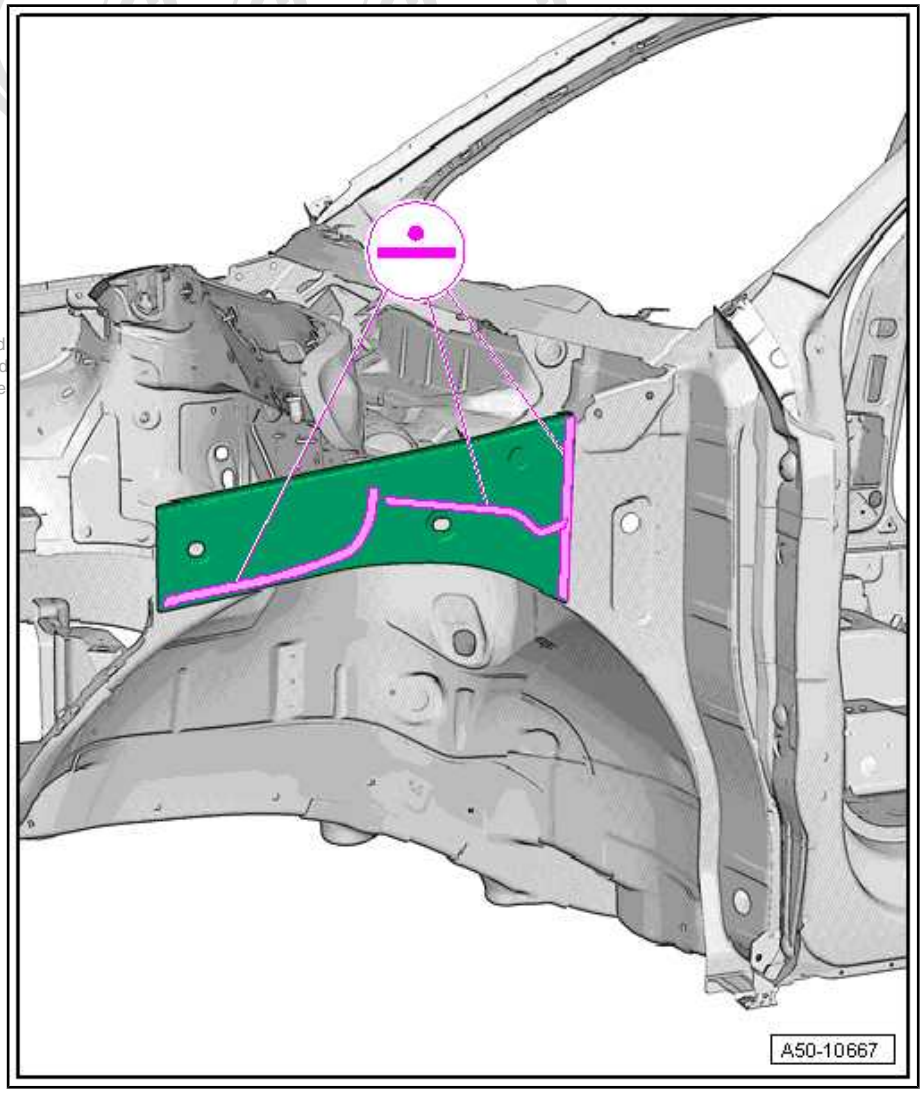
*Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

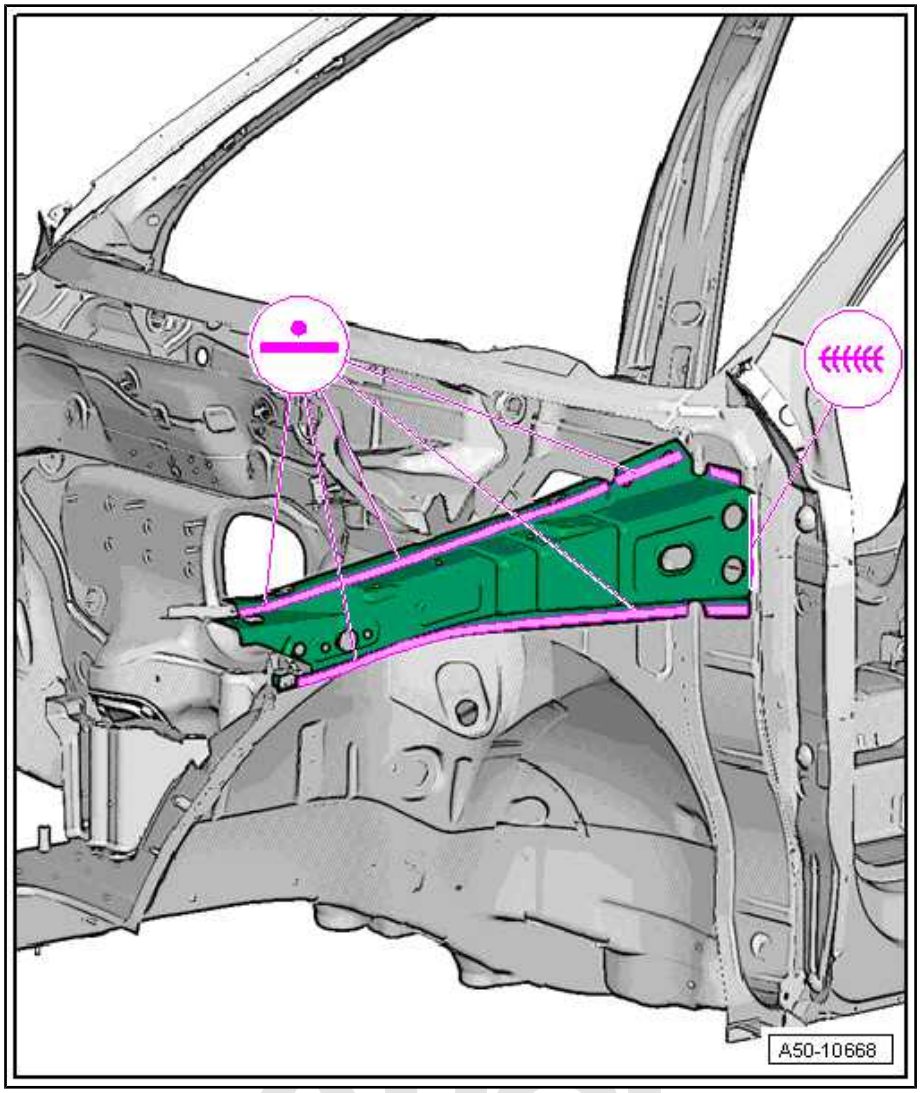
**Welding in**

– Weld in upper inner longitudinal member for wheel housing at suspension turret using resistance spot welder : RP spot weld seam.

Protected
permitted
with re




– Weld in separating cut at upper inner longitudinal member for wheel housing using shielded arc welding equipment : SG continuous seam.
– Weld in upper longitudinal member for wheel housing using resistance spot welder : RP spot weld seam.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 50 74 55 00

# 5 Front wheel housing - Renewal

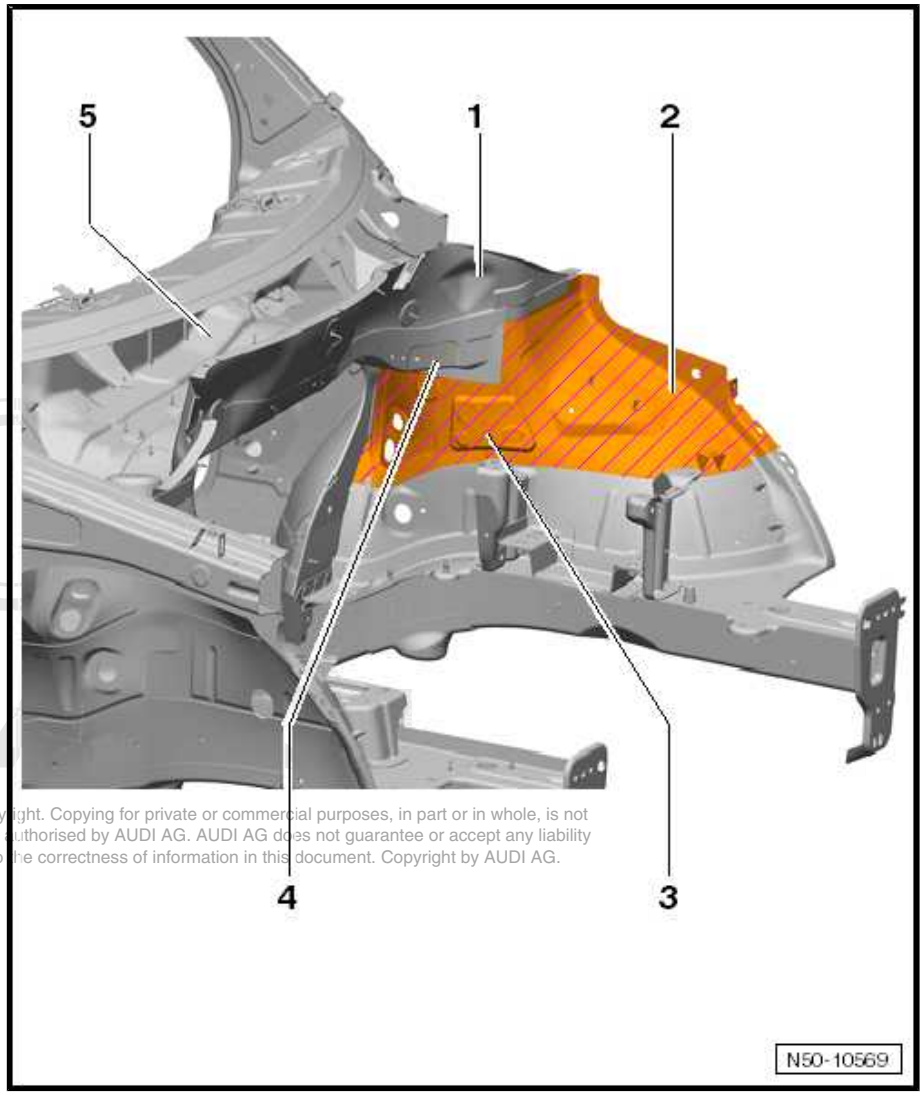
1 - Plenum chamber

2 - Front wheel housing

3 - Wheel housing reinforcement

4 - Flange plate

5 - Bulkhead with suspension strut mounting




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Note**

*The separating cuts shown in the illustration can be employed according to the degree of damage.*

1 - Partial renewal of plenum chamber

2 - Partial renewal of flange plate

3 - Partial renewal of wheel housing

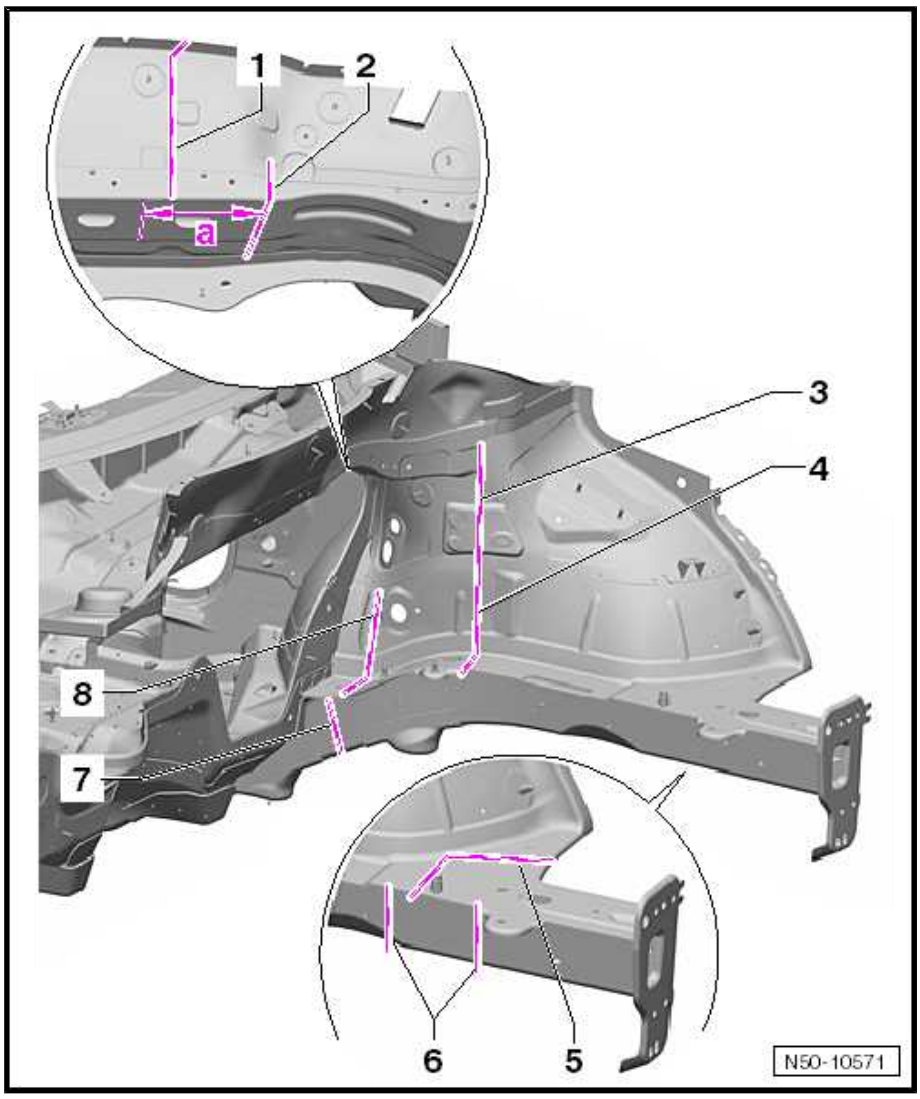
4 - Partial renewal of cover plate for longitudinal member

5 - Partial renewal of cover plate for longitudinal member

6 - Partial renewal of front longitudinal member

7 - Partial renewal of front longitudinal member

8 - Partial renewal of cover plate for front longitudinal member



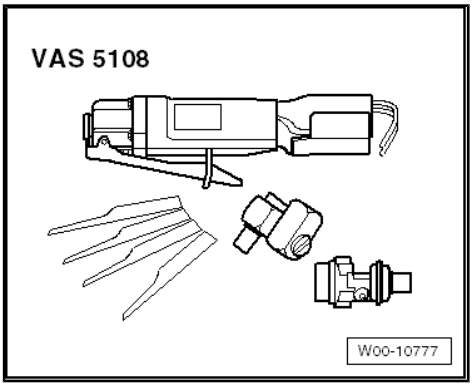

## 5.1 Tools

**Special tools and workshop equipment required**

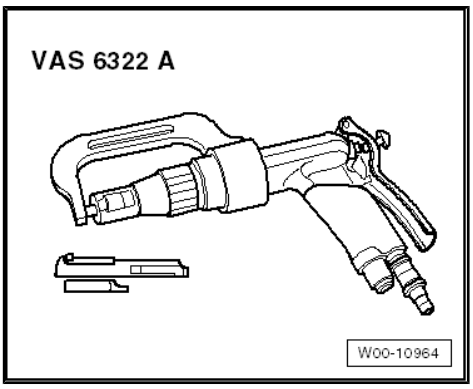
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

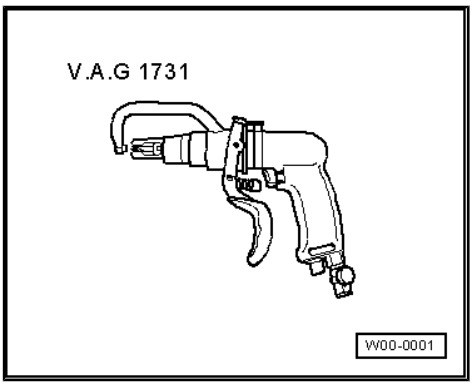
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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

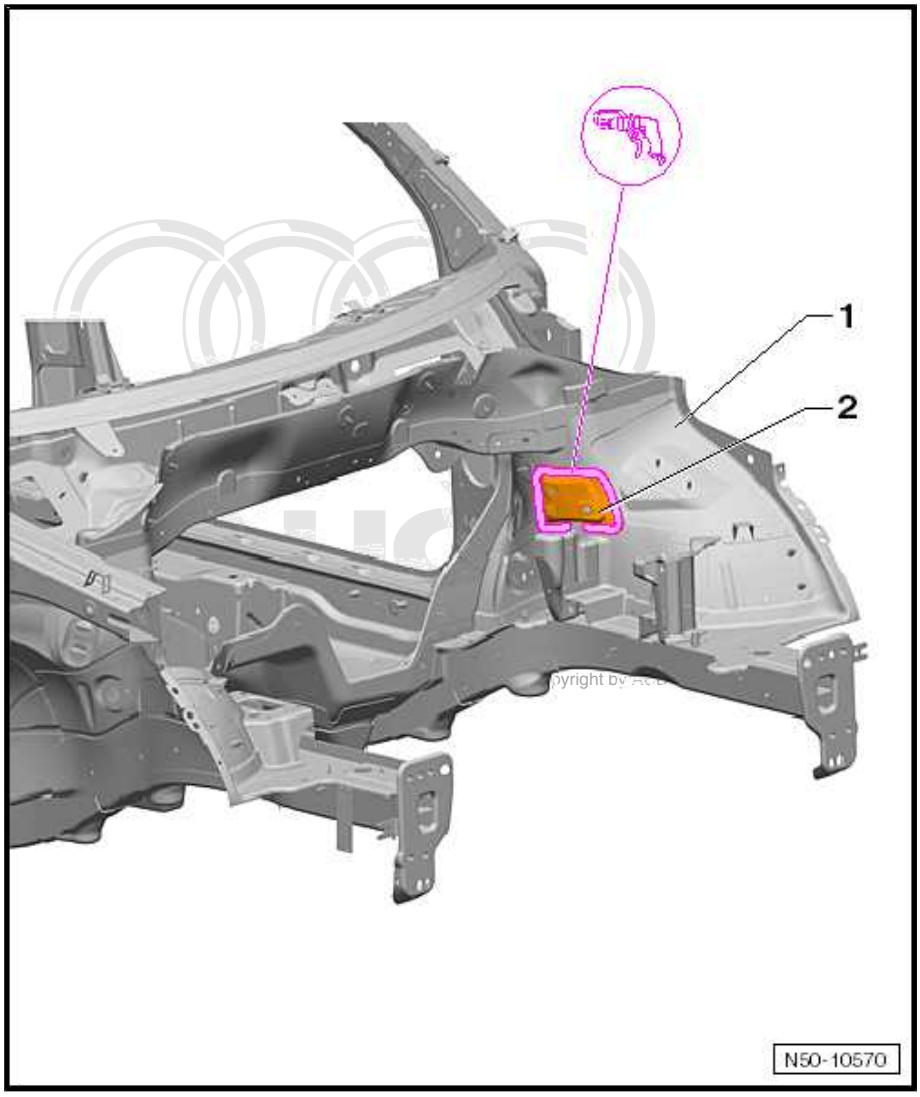



## 5.2 Procedure

**Cutting locations**

– Separate original joint between wheel housing reinforcement -2 - and wheel housing -1- using spot weld breaker .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Separate original joint between plenum chamber -1- and bulkhead -5-.

Partial renewal of the plenum chamber is possible using separating cut -4-.

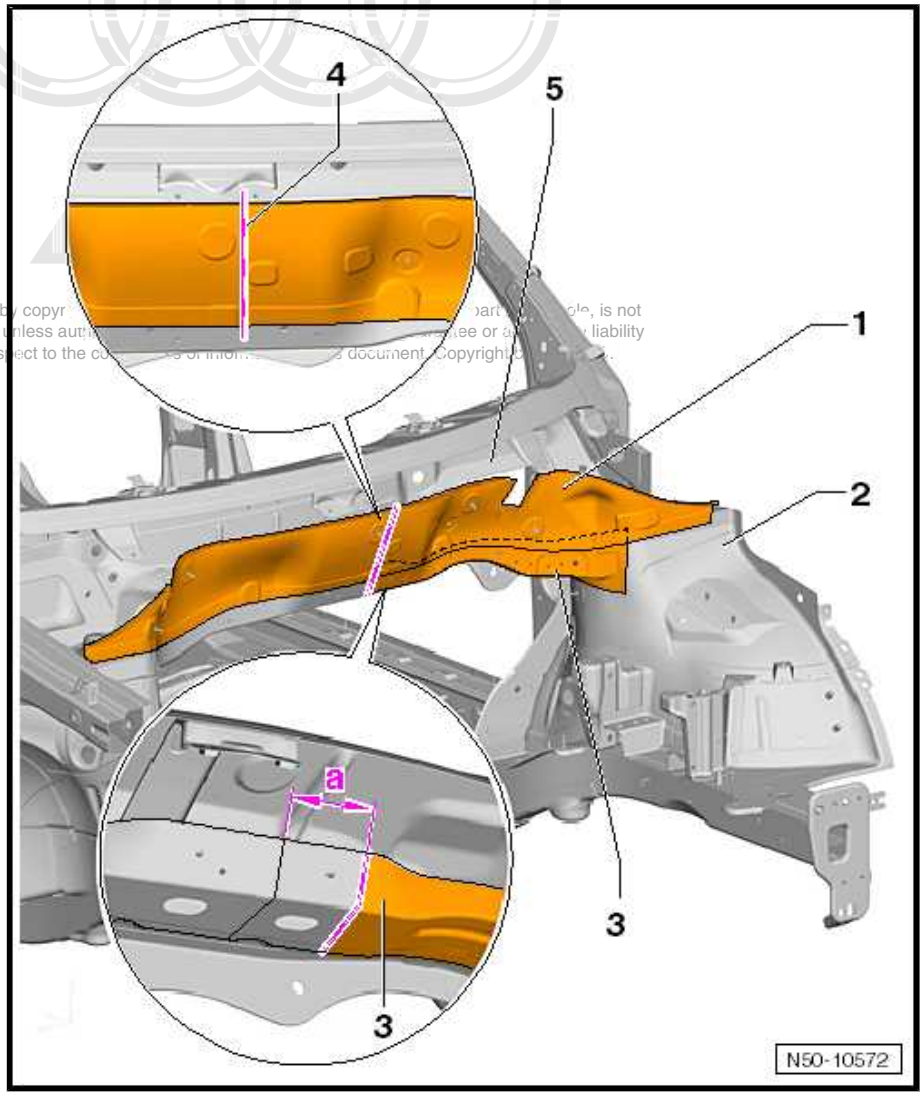
– Make separating cut at flange plate -3- as shown using body saw .

**Dimension -a- = 100 mm**

– Separate original joint between flange plate -3-, bulkhead -5- and front wheel housing -2- using spot weld breaker .

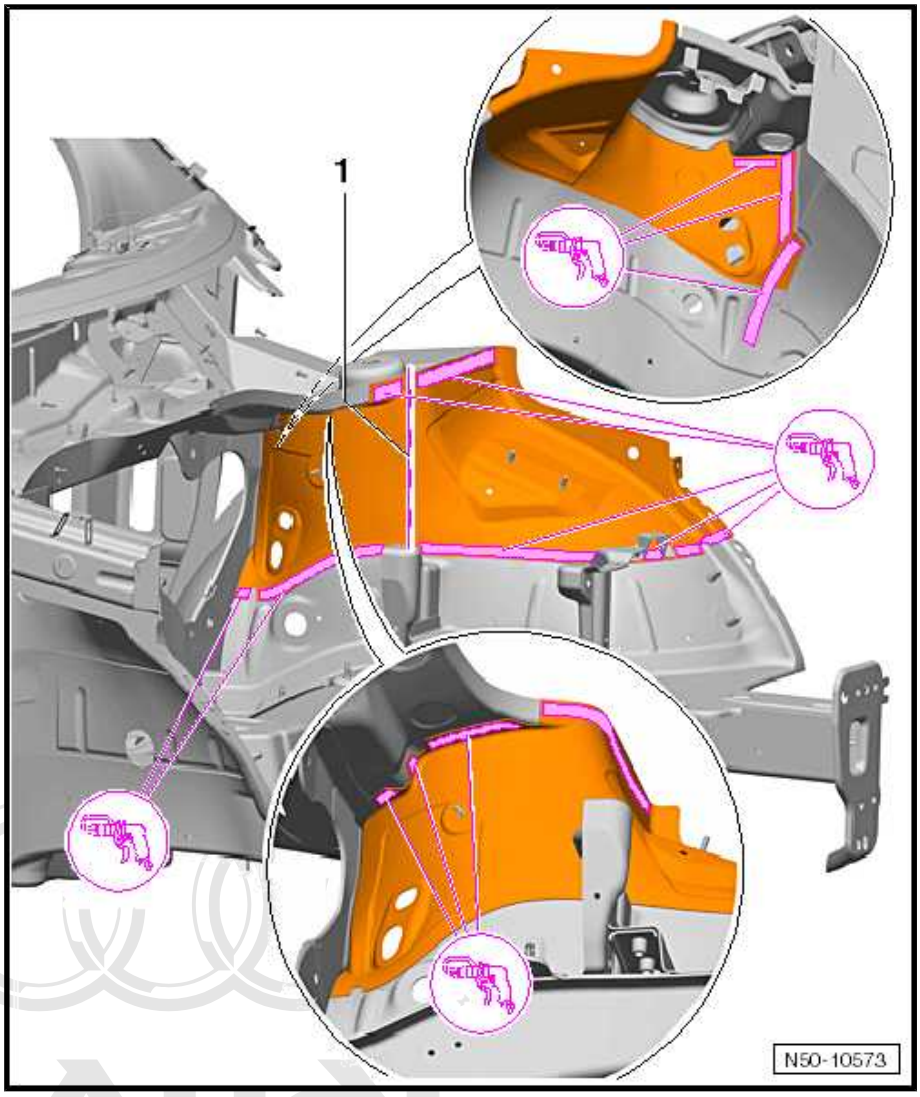
– Separate original joint at wheel housing reinforcement -2- using spot weld breaker .

Protected by copyr... permitted unless aut... with respect to the c... document. Copyright...



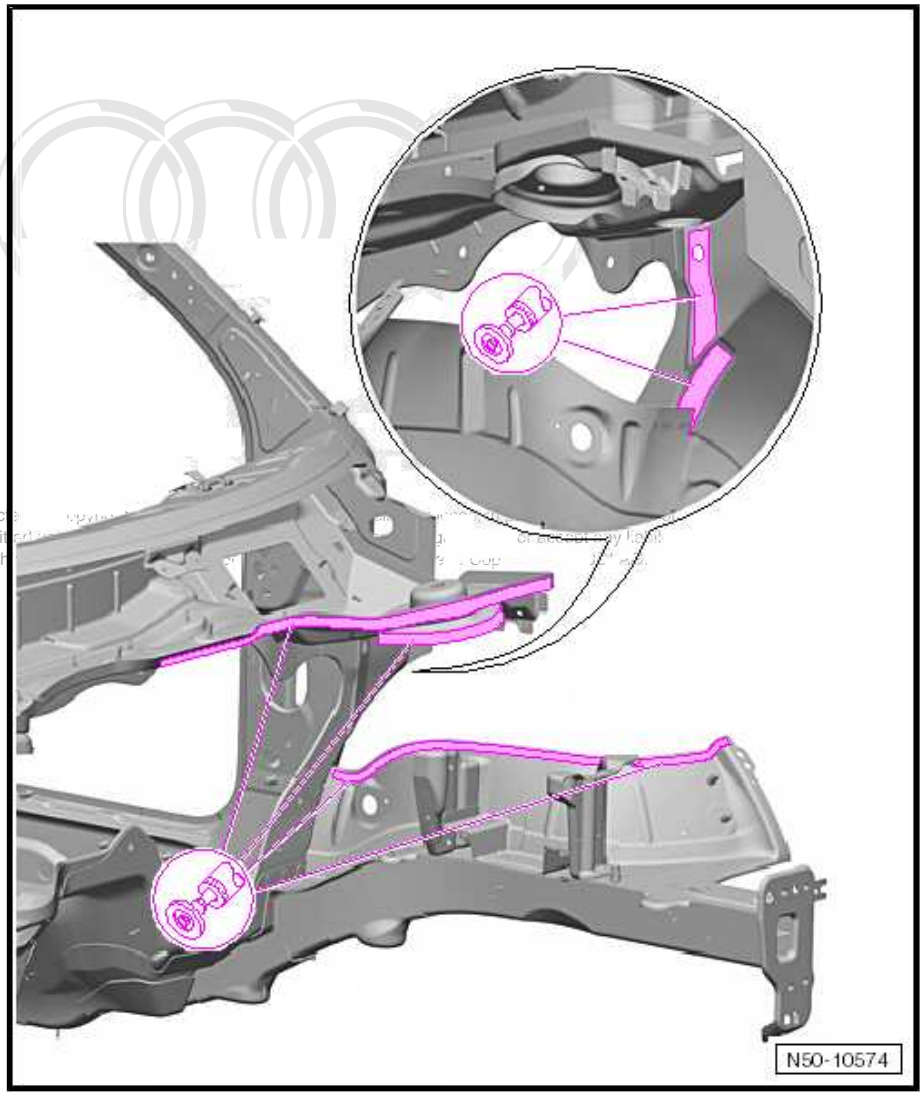

– Separate original joint between wheel housing, cover plate for longitudinal member and bulkhead using body saw .

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




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

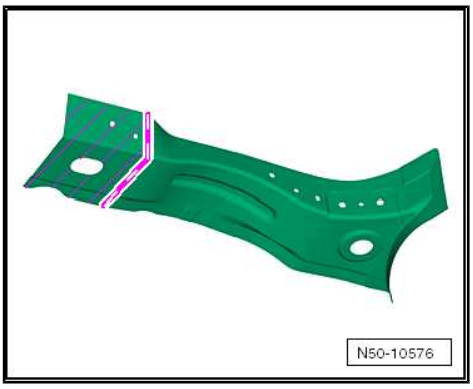



### Replacement parts

- Wheel housing
- Flange plate
- Plenum chamber

### Preparing new part

– Transfer separating cut to flange plate and cut to size using body saw .




**Note**

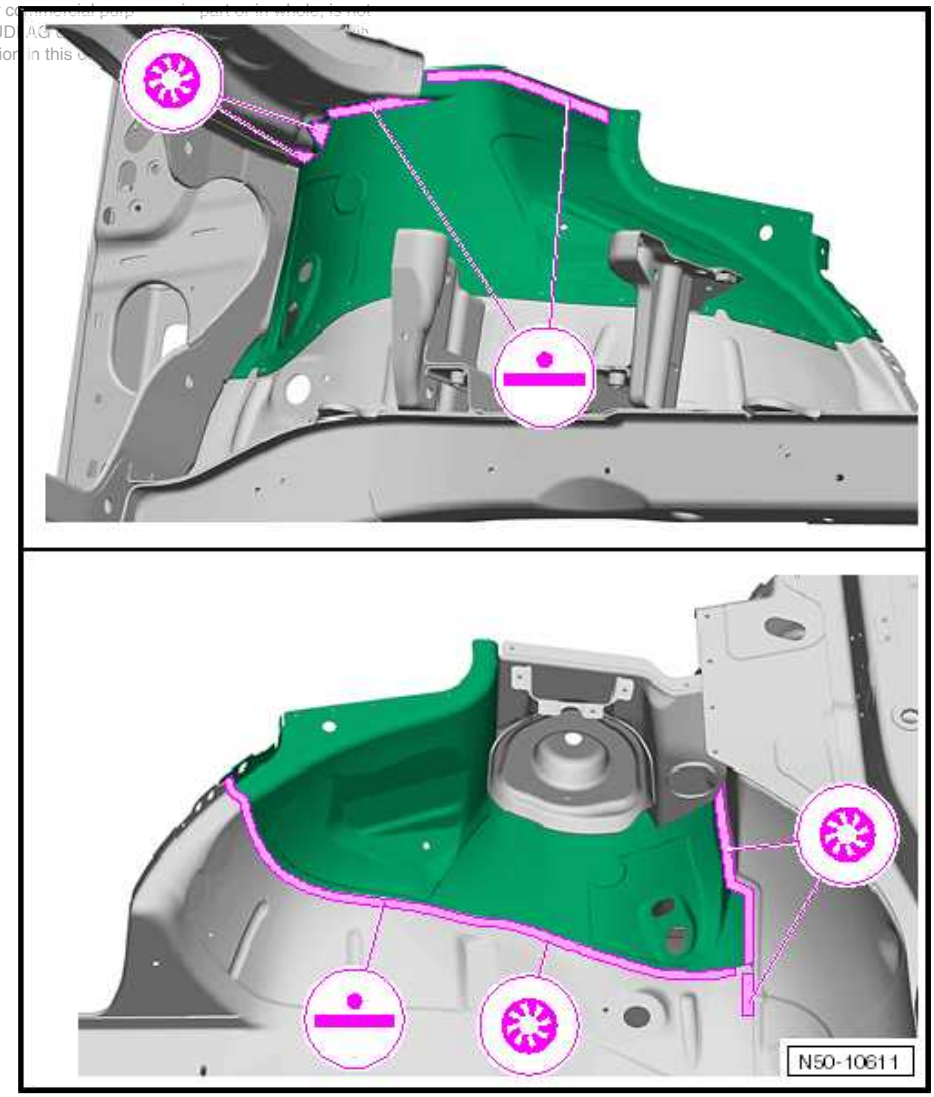
*Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed under "Tools" must be used to ensure correct results when spot welding.*

### Welding in

– Match up new parts with alignment bracket mountings and adjacent parts and fix in position.

– Weld in wheel housing using shielded arc welding equipment : SG plug weld seam.
– Weld in wheel housing using resistance spot welder : RP spot weld seam.
– Remake original joint between wheel housing and plenum chamber using shielded arc welding equipment : SG plug weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document.



RO: 50 79 55 00

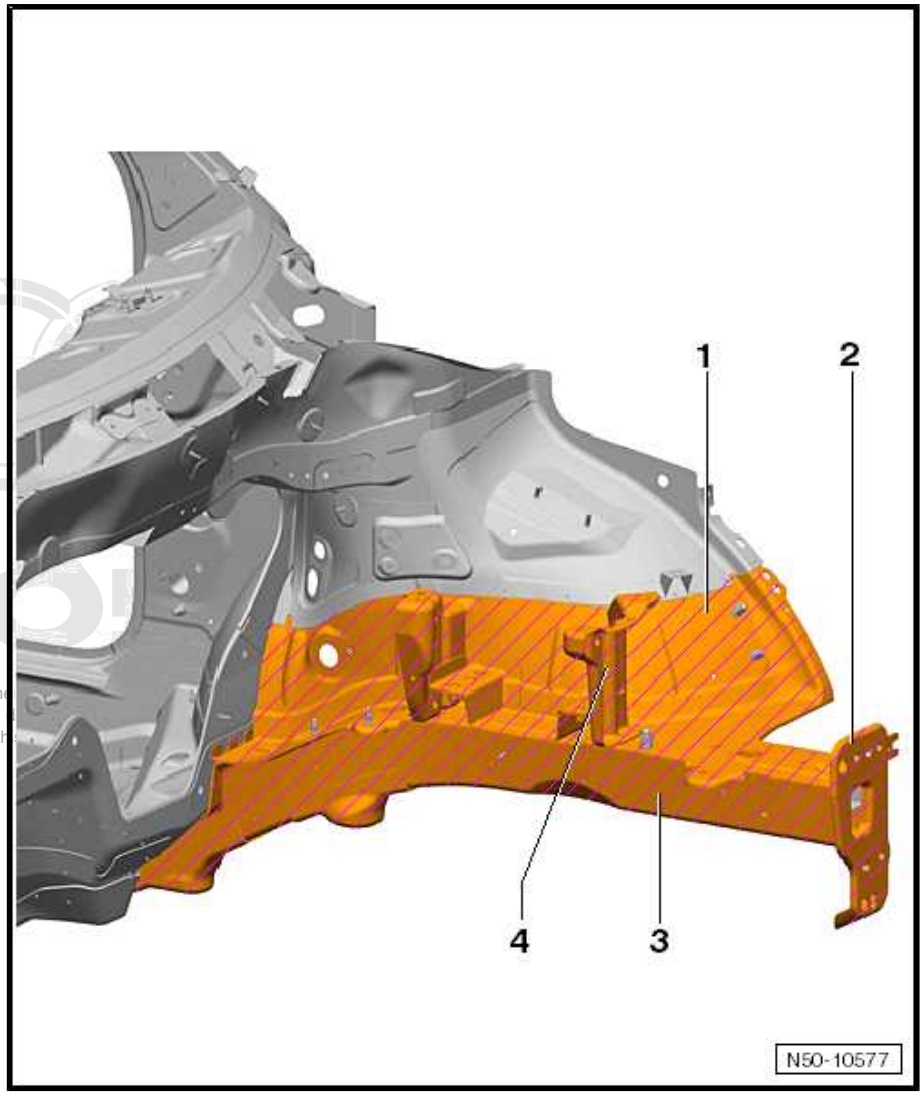
# 6 Front longitudinal member - Renewal

**1 - Cover plate for longitudinal member**

**2 - Bumper bracket**

**3 - Front longitudinal member**

**4 - Support bracket**




Protected by copyright. Copying for private or comme
permitted unless authorised by AUDI AG. AUDI AG
with respect to the correctness of information in th

Partial renewal

*The separating cuts shown in the illustration can be employed according to the degree of damage.*

**1 - Partial renewal of plenum chamber**

**2 - Partial renewal of flange plate**

**3 - Partial renewal of wheel housing**

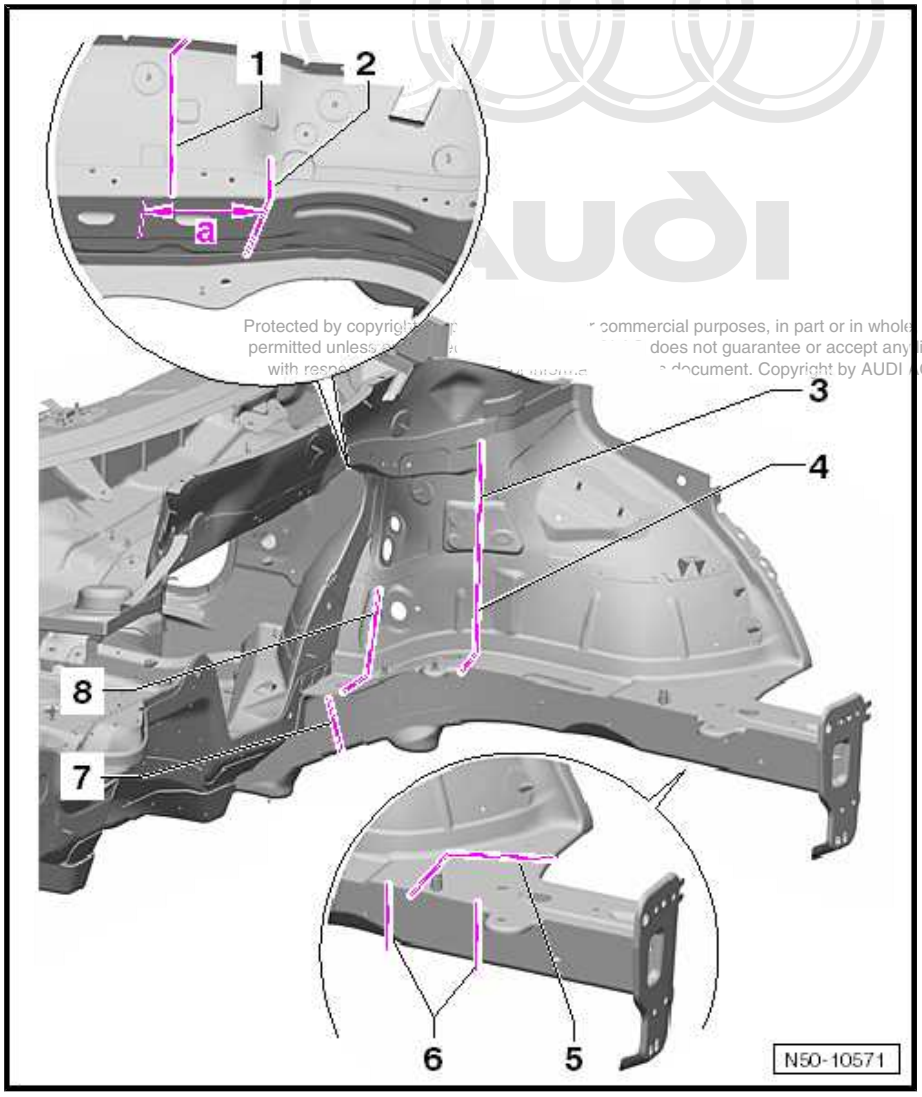
**4 - Partial renewal of cover plate for longitudinal member**

**5 - Partial renewal of cover plate for longitudinal member**

**6 - Partial renewal of front longitudinal member**

**7 - Partial renewal of front longitudinal member**

**8 - Partial renewal of cover plate for longitudinal member**



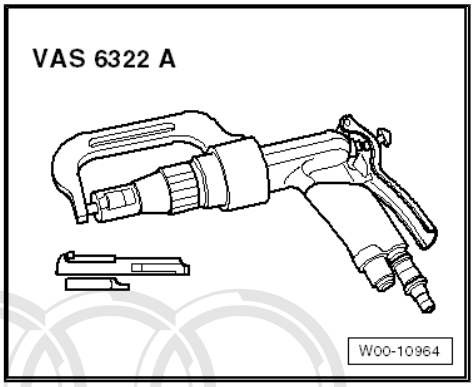

Protected by copyright. ... commercial purposes, in part or in whole is not permitted unless ... does not guarantee or accept any liability with respect ... document. Copyright by AUDI AG.

## 6.1 Tools

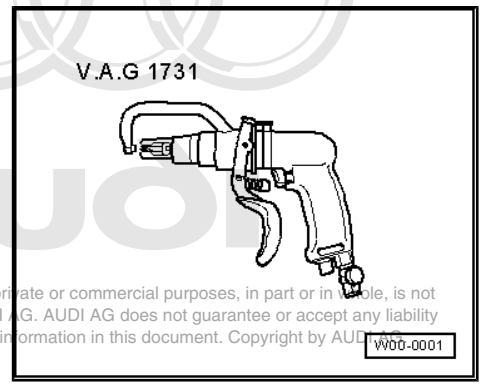
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Drill - VAS 5144-

- Spot weld breaker - VAS 6322 A- or




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

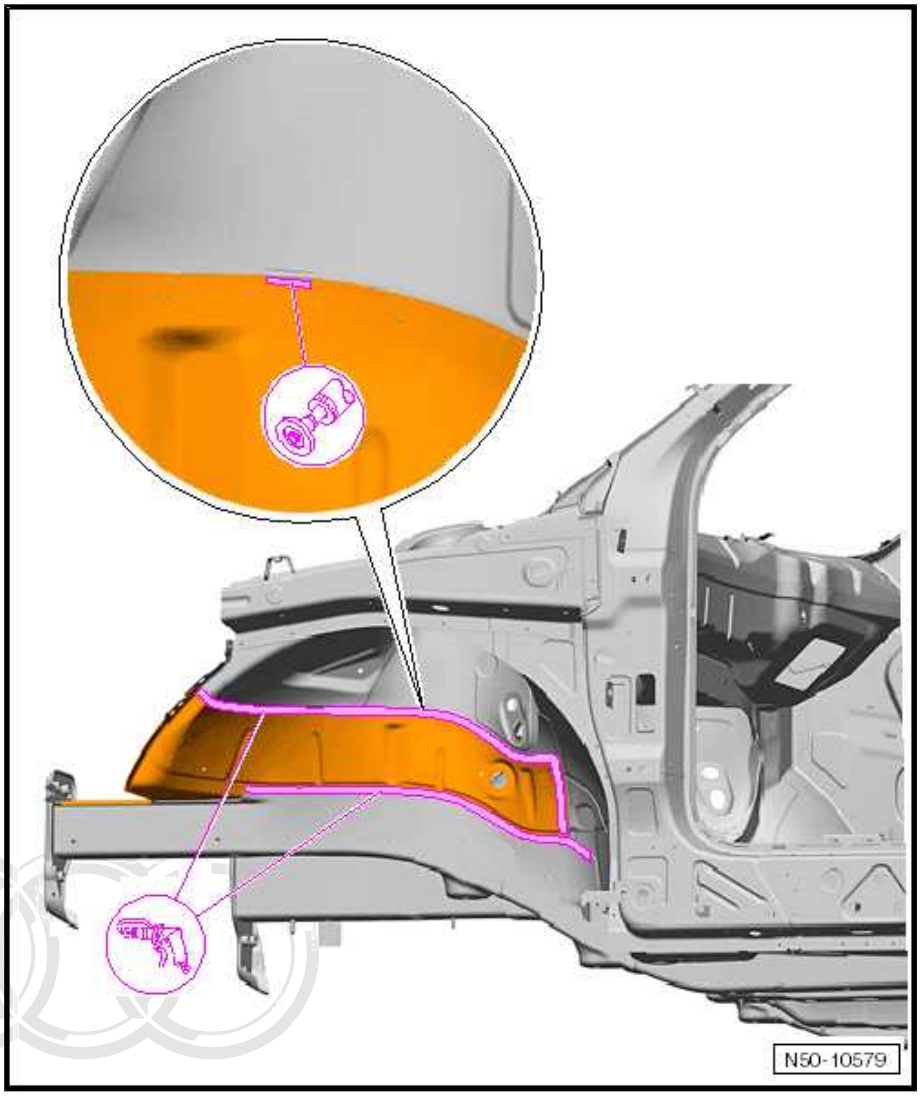



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 6.2 Procedure

**Cutting locations**

– Separate original joint using spot weld breaker .



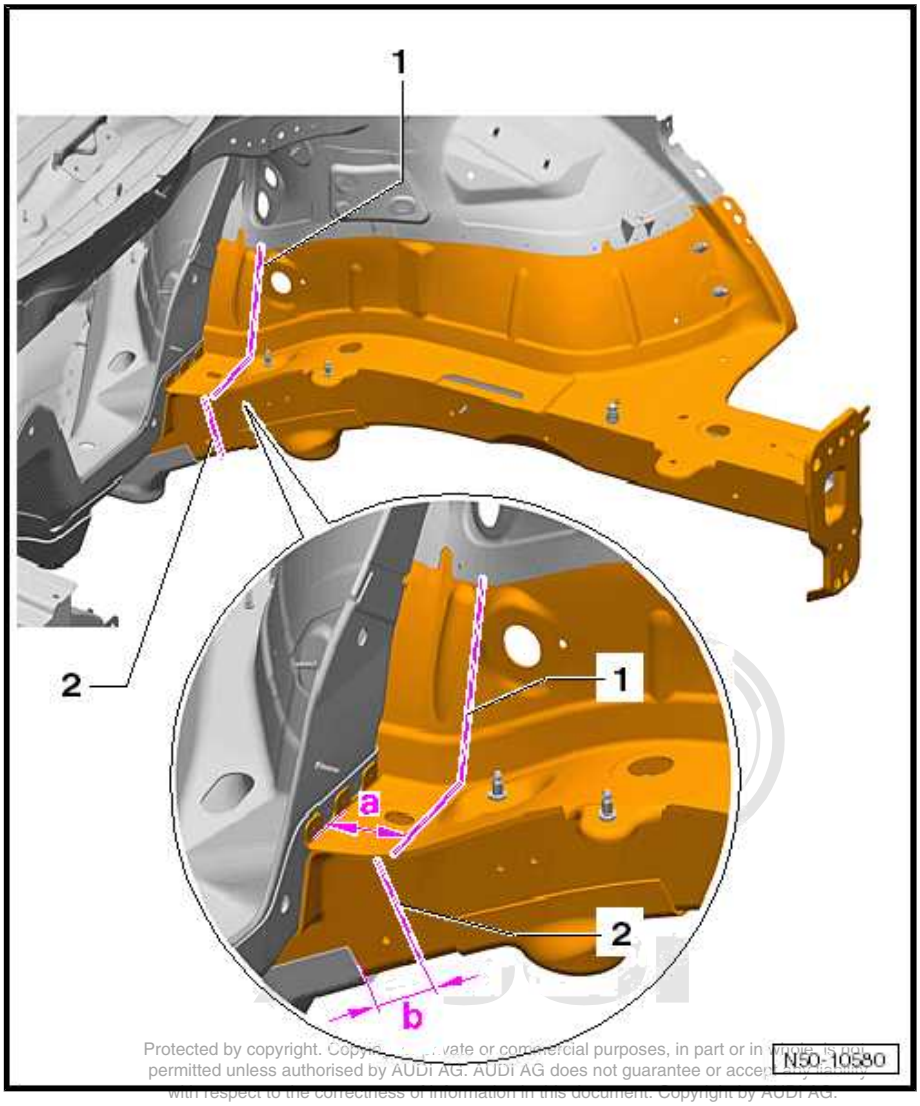

– Make separating cut -1- on cover plate for longitudinal member as shown using body saw .

**Dimension -a- = 50 mm**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

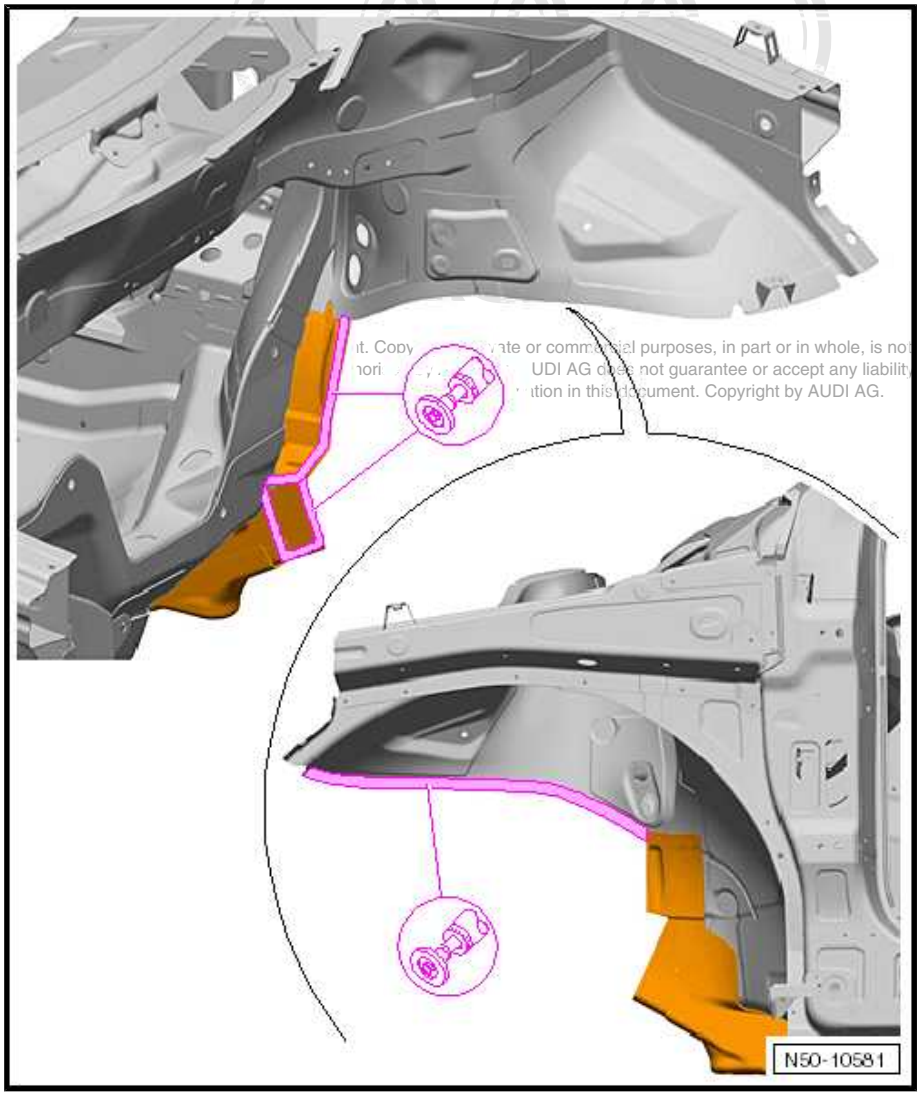
– Make separating cut -2- on front longitudinal member as shown using body saw .

**Dimension -b- = 50 mm**




Protected by copyright. Copyright by AUDI AG. Reproduction for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Remove remaining material using compact angle grinder .




it. Copy ate or comm el purposes, in part or in whole, is no
nori UDI AG d s not guarantee or accept any liabilit
tion in this ocument. Copyright by AUDI AG.

**Replacement parts**

- ♦ Cover plate for longitudinal member
- ♦ Support bracket (left-side)
- ♦ Longitudinal member reinforcement
- ♦ Bumper bracket
- ♦ Front longitudinal member

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

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

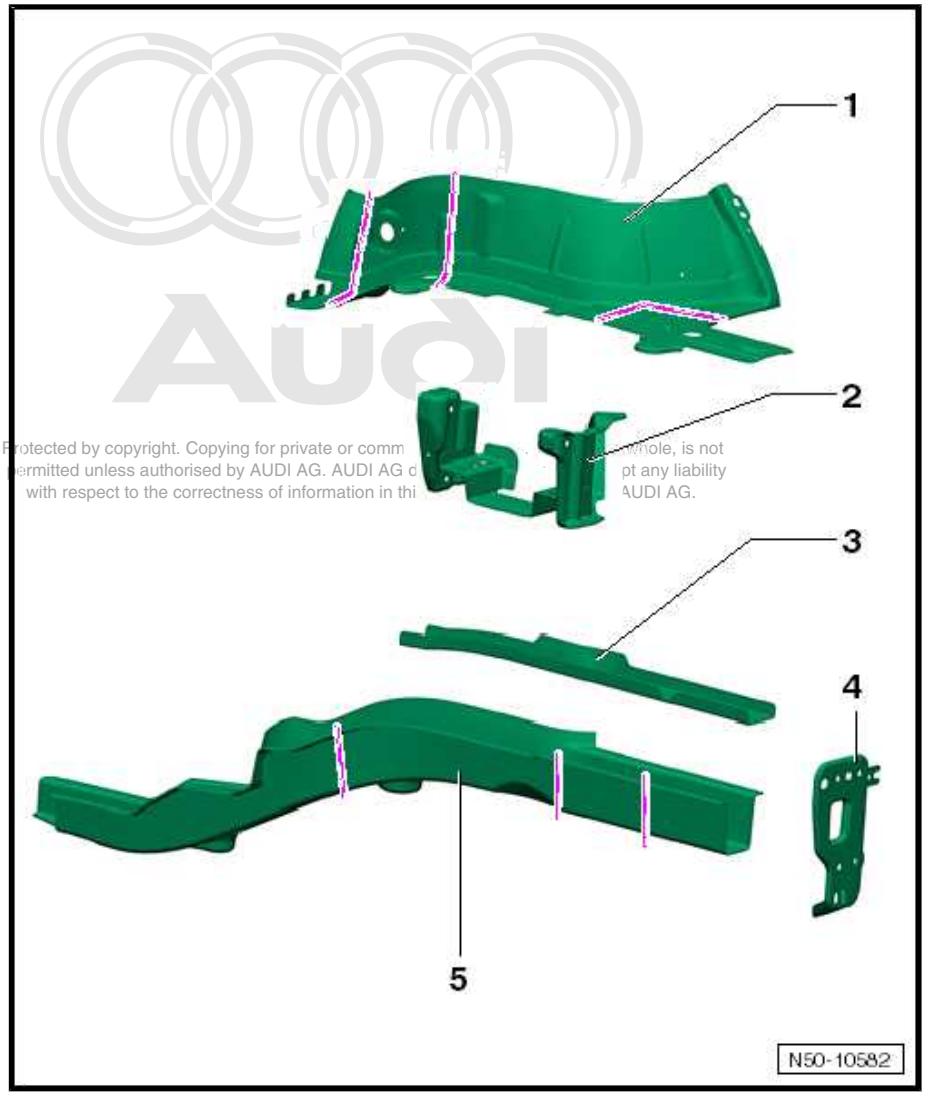
1 - Cover plate for longitudinal member

2 - Support bracket (left-side)

3 - Longitudinal member reinforcement

4 - Bumper bracket

5 - Front longitudinal member




Protected by copyright. Copying for private or comm ermitted unless authorised by AUDI AG. AUDI AG c with respect to the correctness of information in thi hole, is not pt any liability AUDI AG.

**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.*

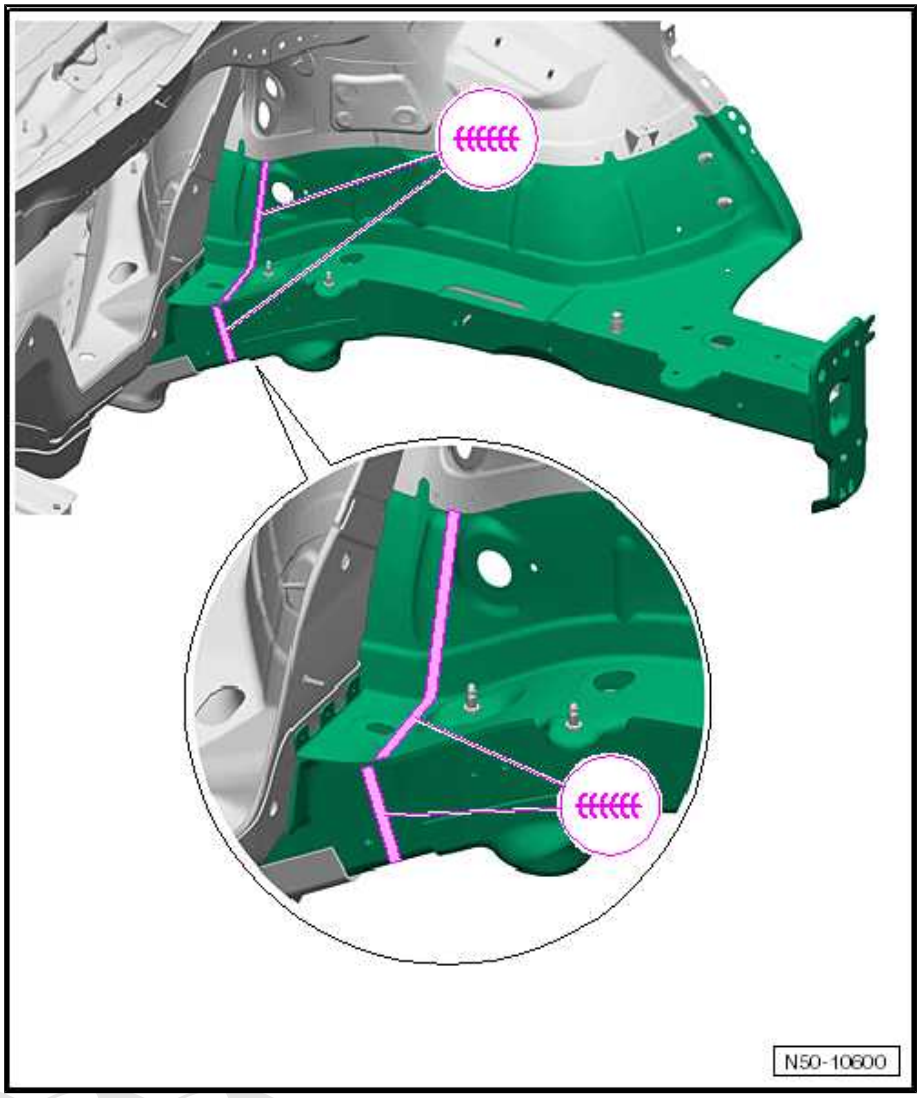
**Welding in**

– With vehicle standing on alignment bracket set, match up new part and fix in position.

– Check fit with adjacent parts.

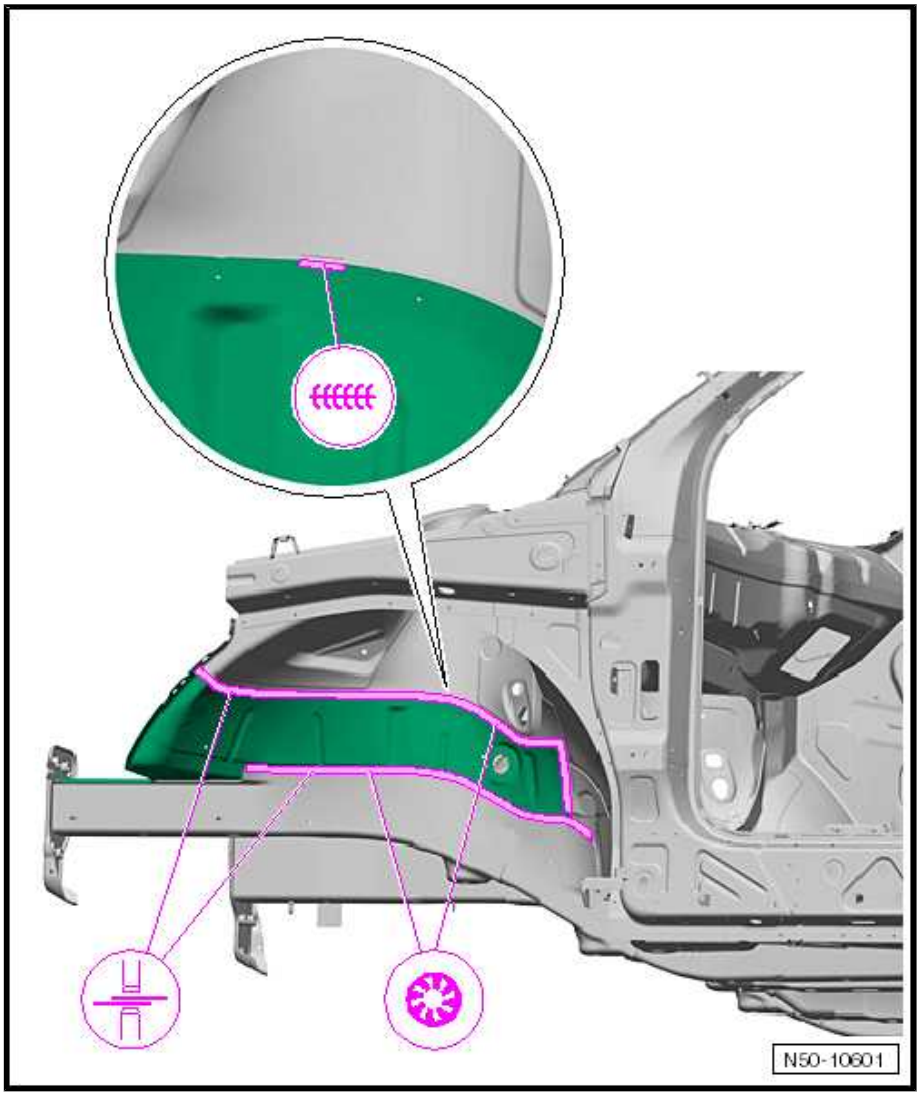
– Butt weld front longitudinal member all round at separating cut using shielded arc welding equipment : SG continuous seam.

– Butt weld cover plate for longitudinal member at separating cut using shielded arc welding equipment : SG continuous seam.




– Remake remaining joint using shielded arc welding equipment : SG plug weld seam.
– Weld in longitudinal member using resistance spot welder : RP spot weld seam.
– Make 3 cm SG continuous weld seam in area of wheel housing reinforcement using shielded arc welding equipment .

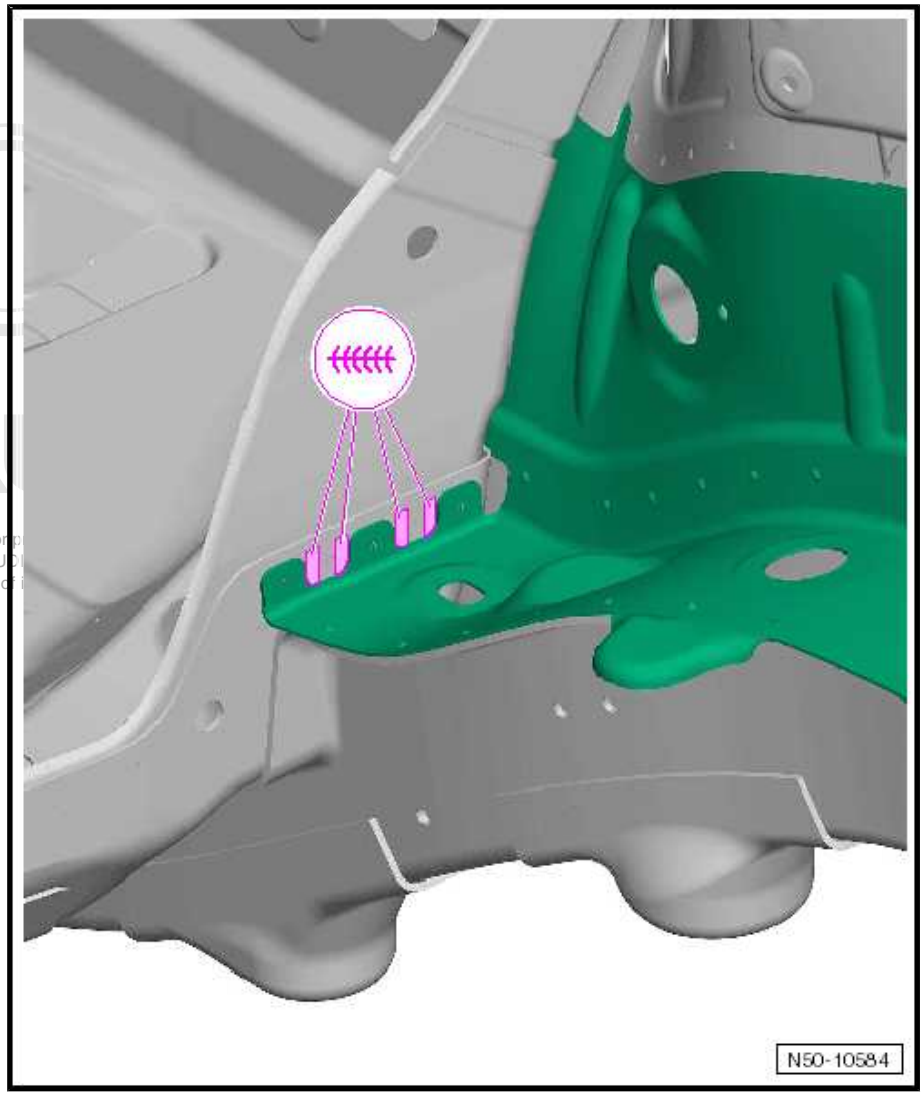
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– If cover plate for longitudinal member is being completely renewed, make 4 SG continuous weld seams in area adjoining front longitudinal member beam using shielded arc welding equipment .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for
permitted unless authorised by AU
with respect to the correctness of

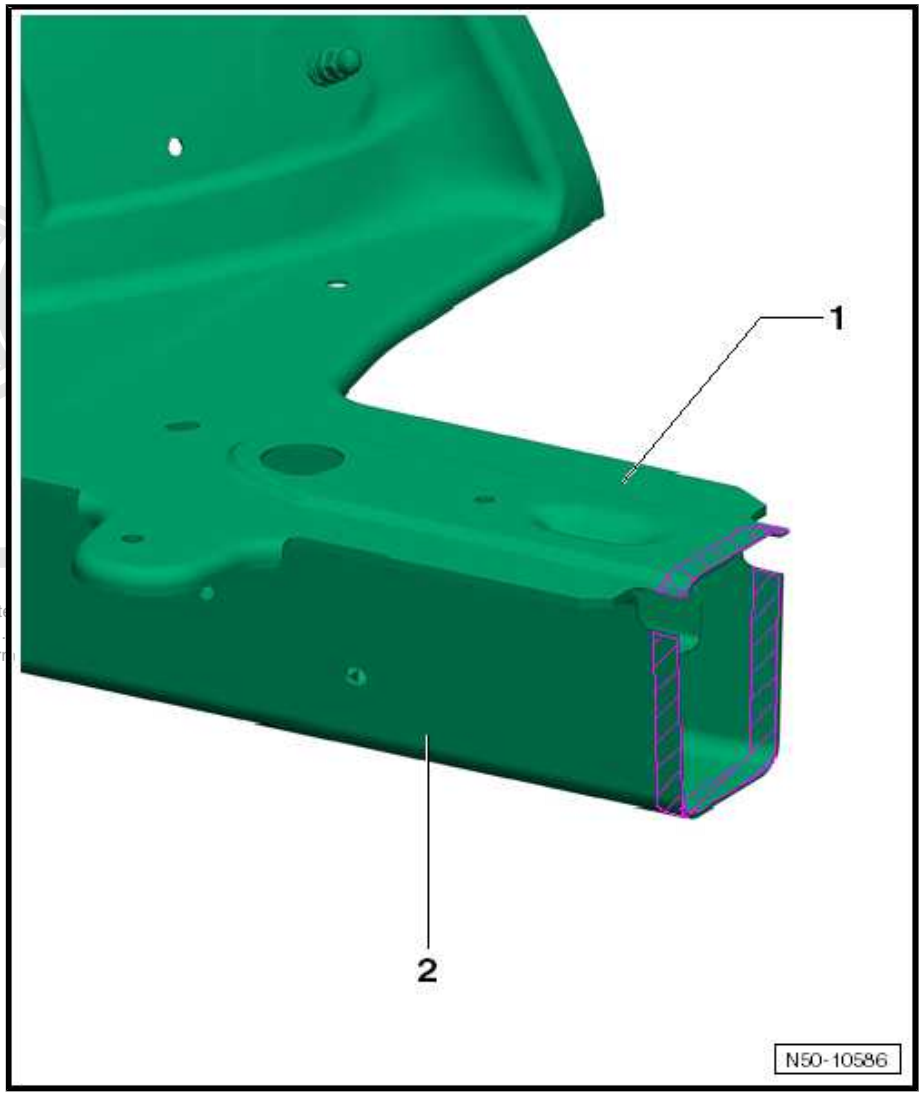



**Shortening longitudinal member (new part) with cover plate**

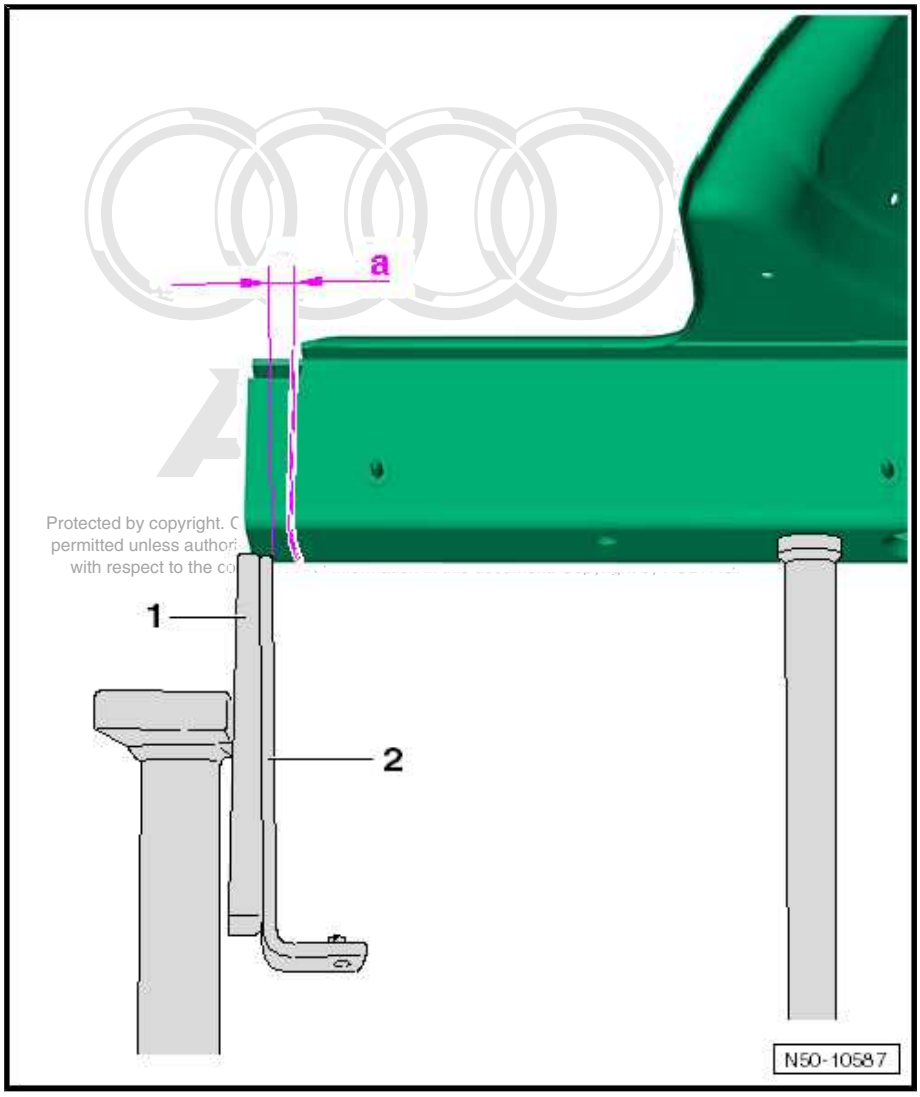
**Note**

*The front longitudinal member -2- with cover plate -1- (parts designation: longitudinal member) is too long at the front -hatched area- and must be shortened in order to match up and weld in the bumper bracket.*

Protected by copyright. Copying for private
permitted unless authorised by AUDI AG.
with respect to the correctness of inform



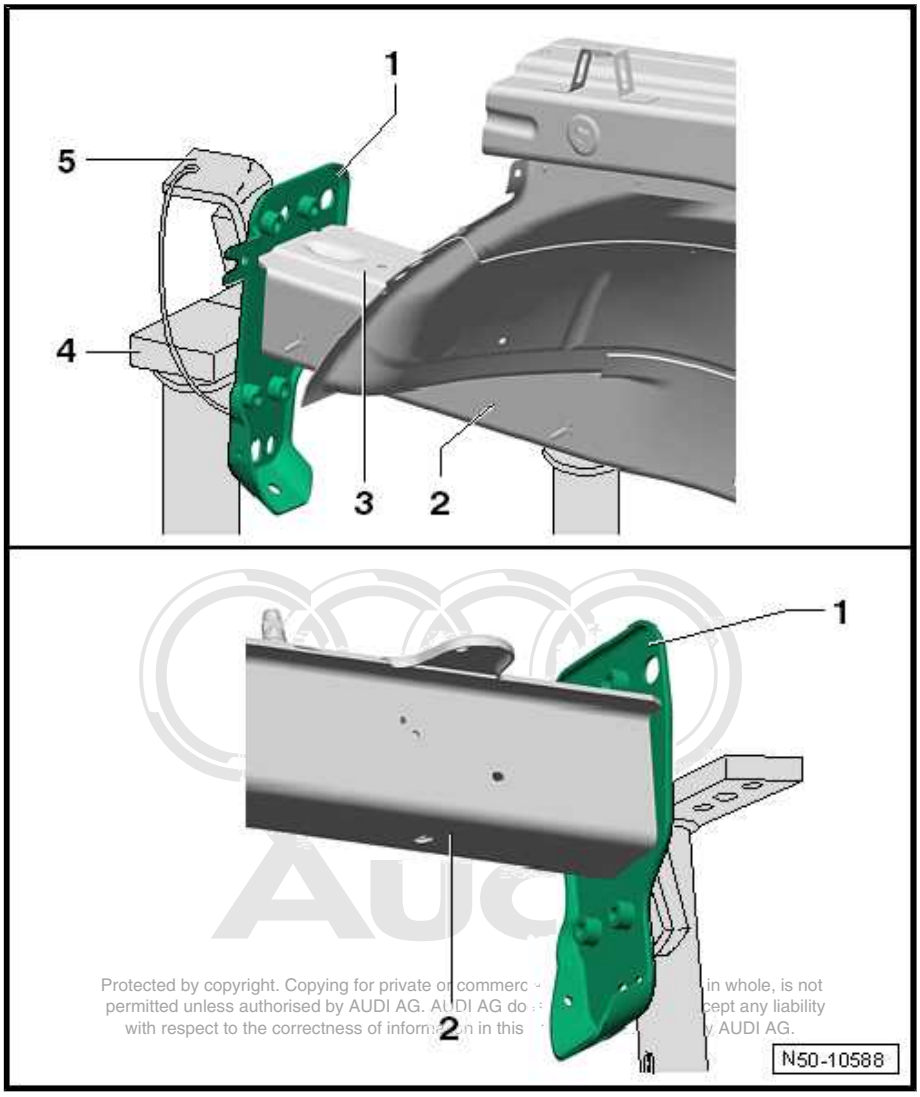

– Set up alignment bracket mounting for front longitudinal member -1- with spacer plate -2- and position against longitudinal member from below as shown.
– Mark off cutting line plus an allowance of 2 mm -a- on front longitudinal member and cover plate and cut off excess material.




– Fix front bumper bracket in position in front of front longitudinal member -2- using alignment bracket mounting for front longitudinal member -4- with spacer plate -5-.

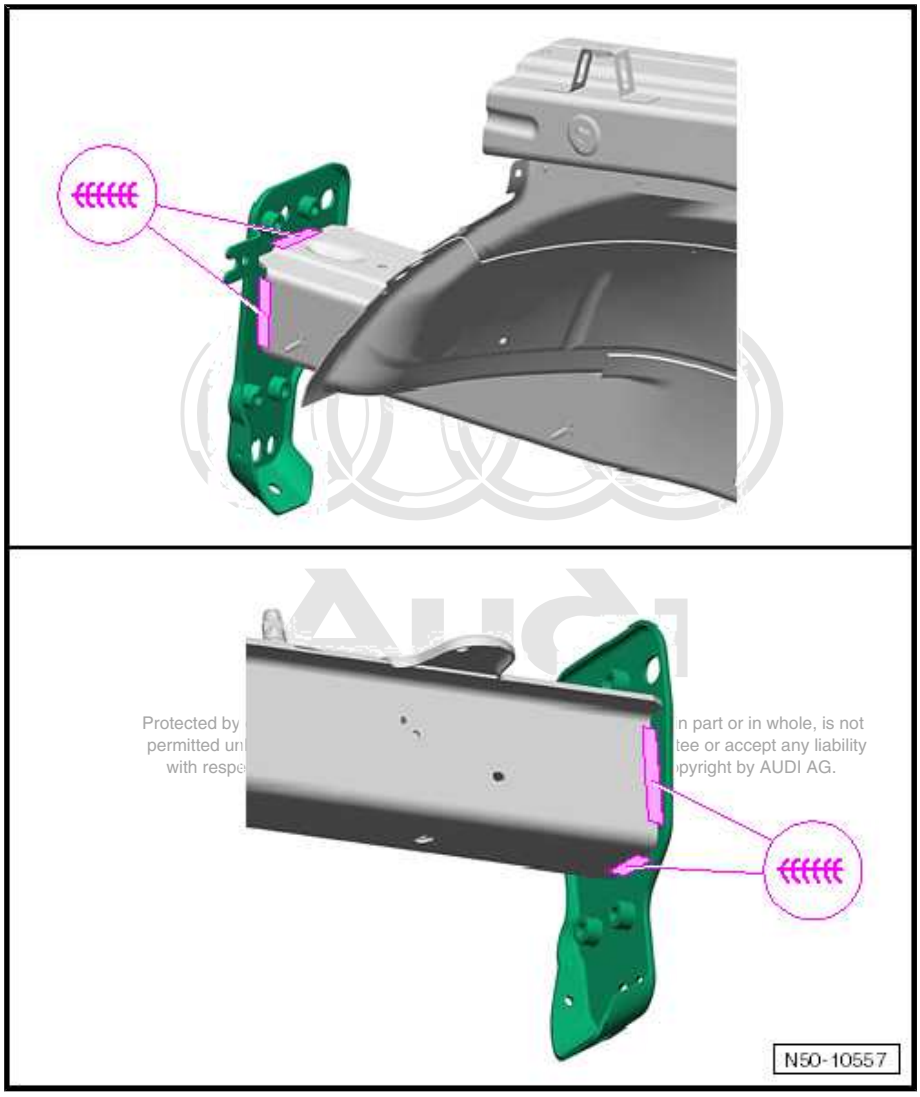
**Note**

*There should be a gap of 1-2 mm between bumper bracket -1- and front longitudinal member -2- with cover plate -3-.*




Protected by copyright. Copying for private or commerc in whole, is not permitted unless authorised by AUDI AG. AUDI AG do cept any liability with respect to the correctness of inform n in this y AUDI AG.

– Match up new part with vehicle standing on its wheels or on alignment bracket set and fix in position.
– Weld in bumper bracket using shielded arc welding equipment : SG continuous seam.




Protected by
permitted un
with respe
n part or in whole, is not
tee or accept any liability
pyright by AUDI AG.

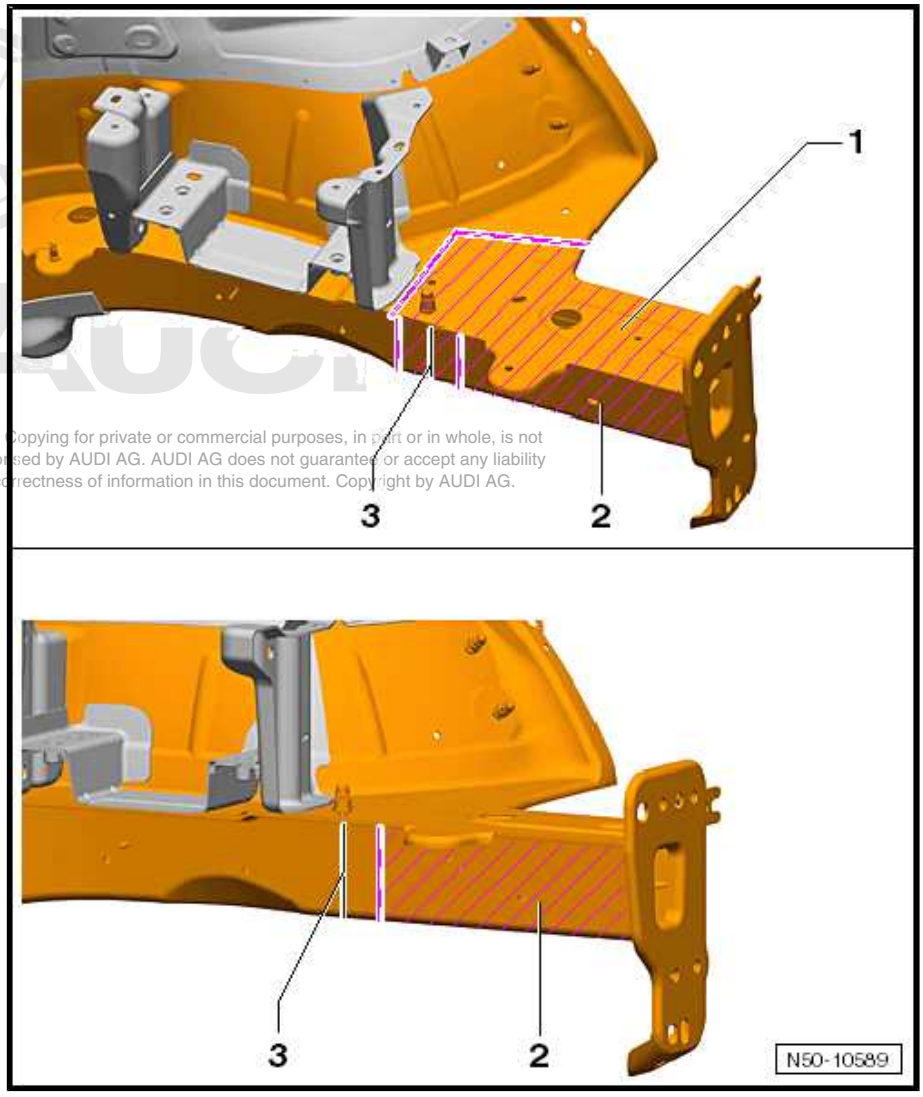
RO: 50 79 55 02

# 7 Front longitudinal member - Partial renewal

**1 - Cover plate for longitudinal member**

**2 - Front longitudinal member**

**3 - Laser weld seam**



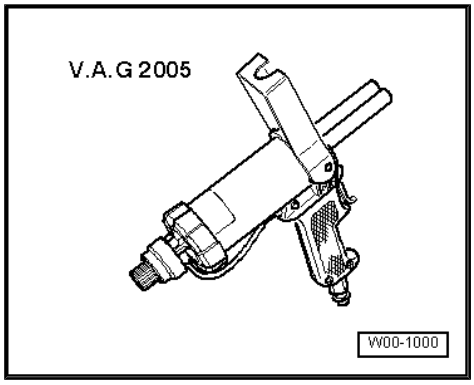

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 7.1 Tools

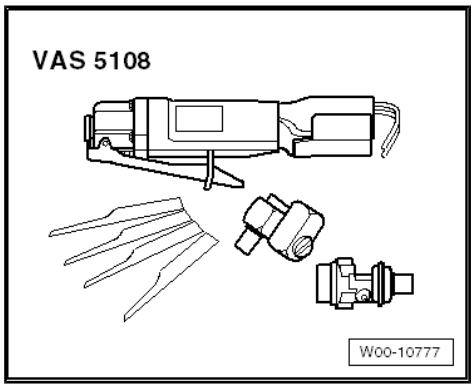
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

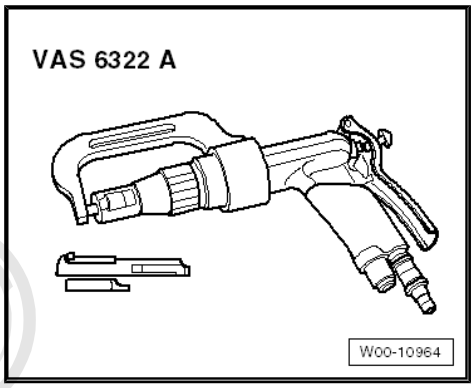
- Pneumatic glue gun - V.A.G 2005 B-



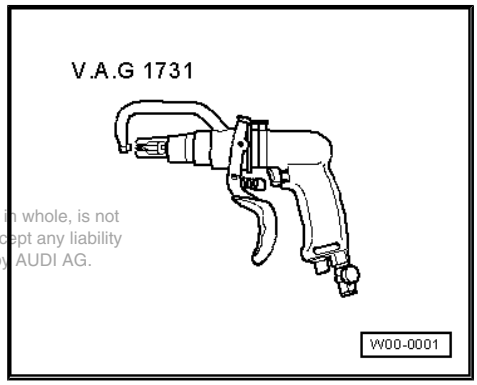

- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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



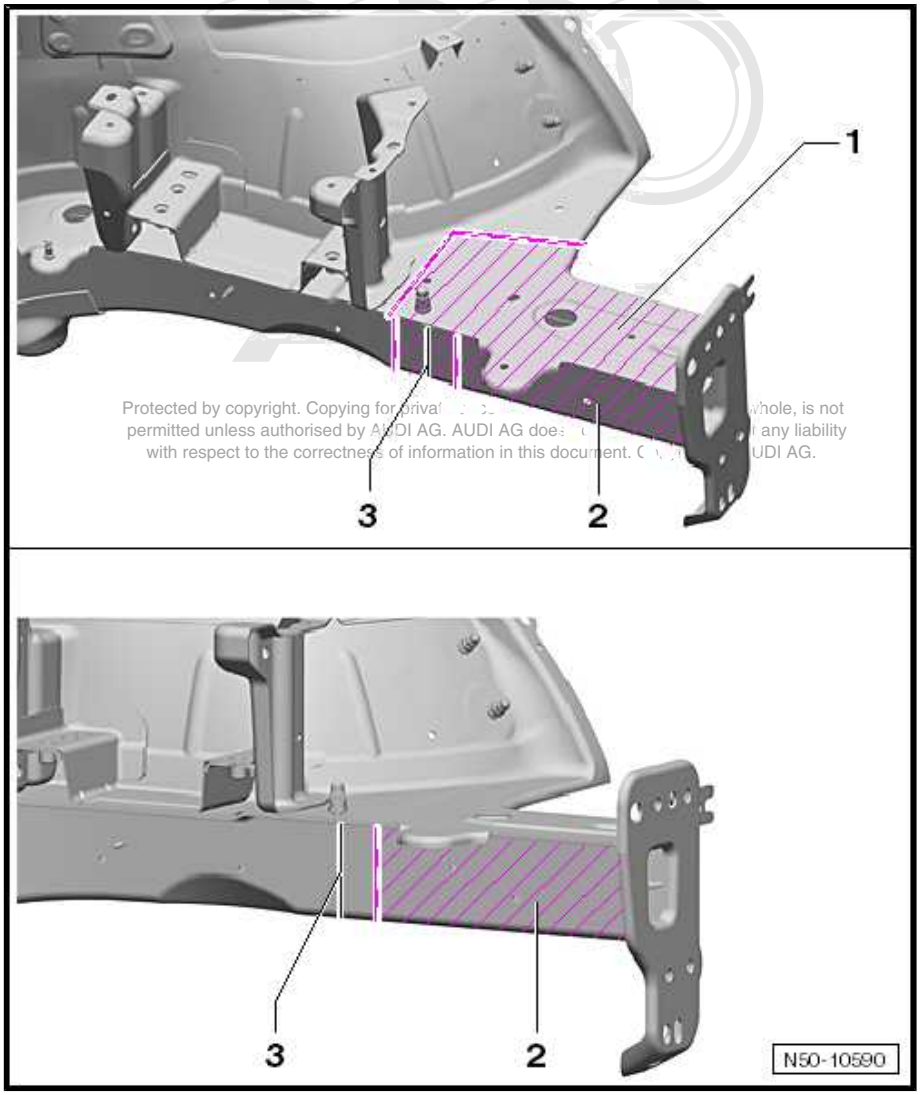

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 7.2 Procedure

### Cutting locations

**Note**

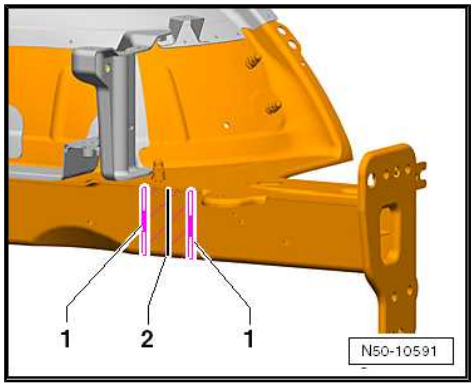
*The separating cuts for the longitudinal member cover plate -1- and the front longitudinal member -2- must be staggered.*




Protected by copyright. Copying for privat... whole, is not permitted unless authorised by AUDI AG. AUDI AG doe... any liability with respect to the correctness of information in this document. ... UDI AG.

**Note**

*Do not cut or weld within 50 mm on either side of laser weld seam -3- (shaded area).*

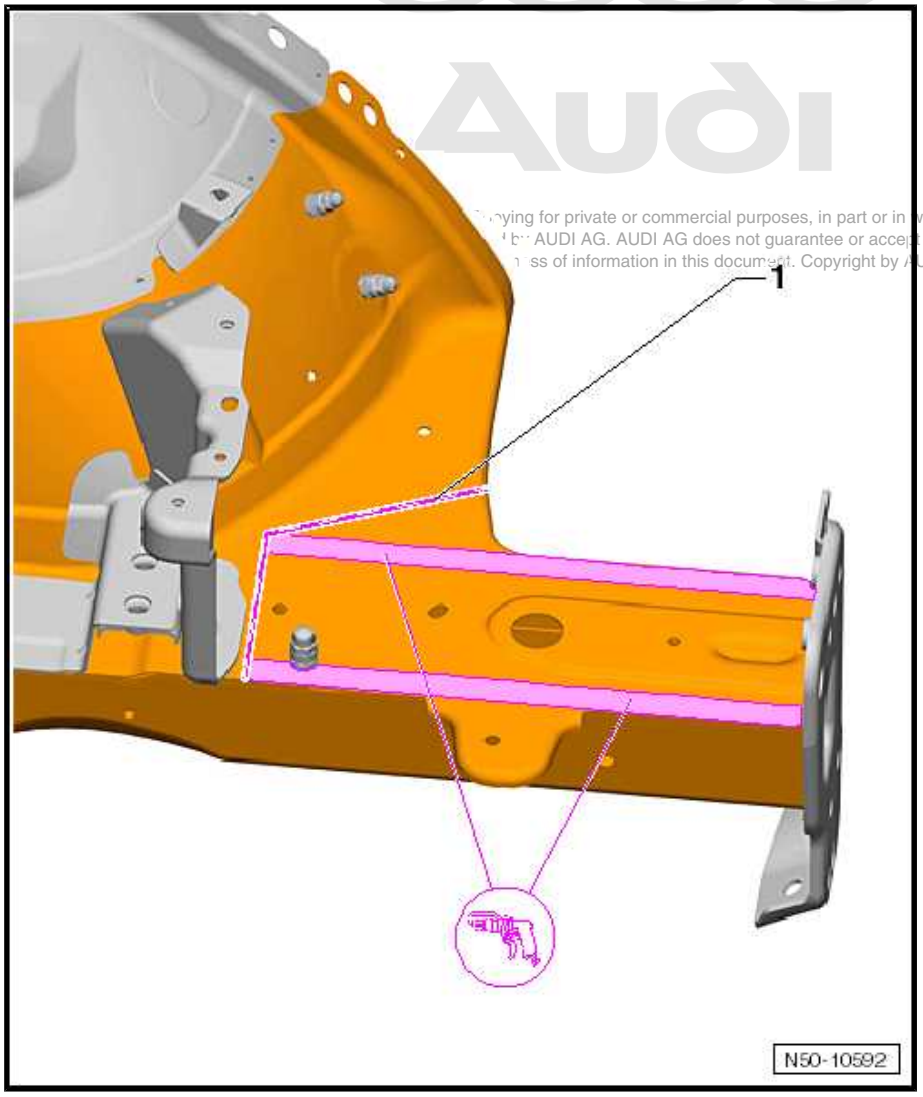



**Caution**

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

– Separate original joint using spot weld breaker .
– Make separating cuts -1- on front longitudinal member as shown using body saw .
– Remove cover plate.

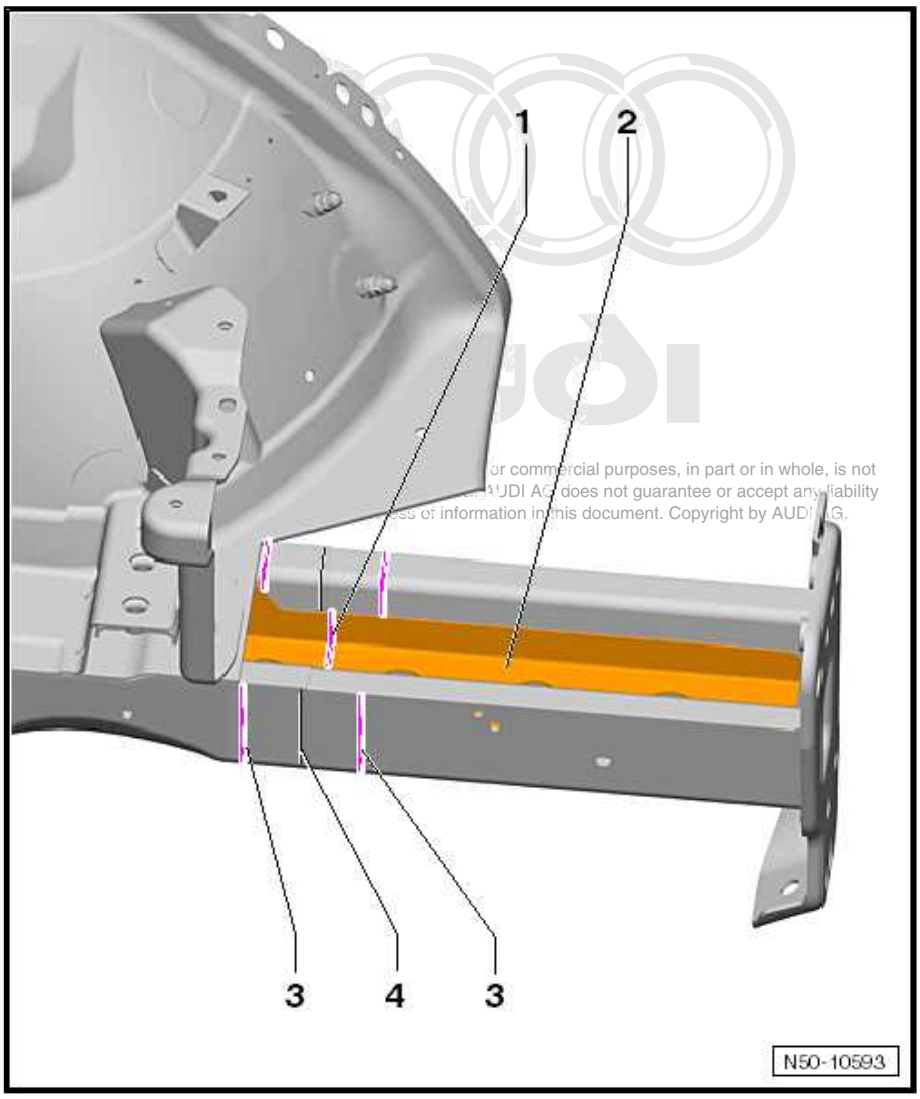
Audi
...ying for private or commercial purposes, in part or in whole, is not ... AUDI AG. AUDI AG does not guarantee or accept any liability ... ss of information in this document. Copyright by AUDI AG.




– Mark off separating cut -1- for longitudinal member reinforcement -2- so it is offset from separating cut for front longitudinal member -3- and make the cut using body saw .

**Note**

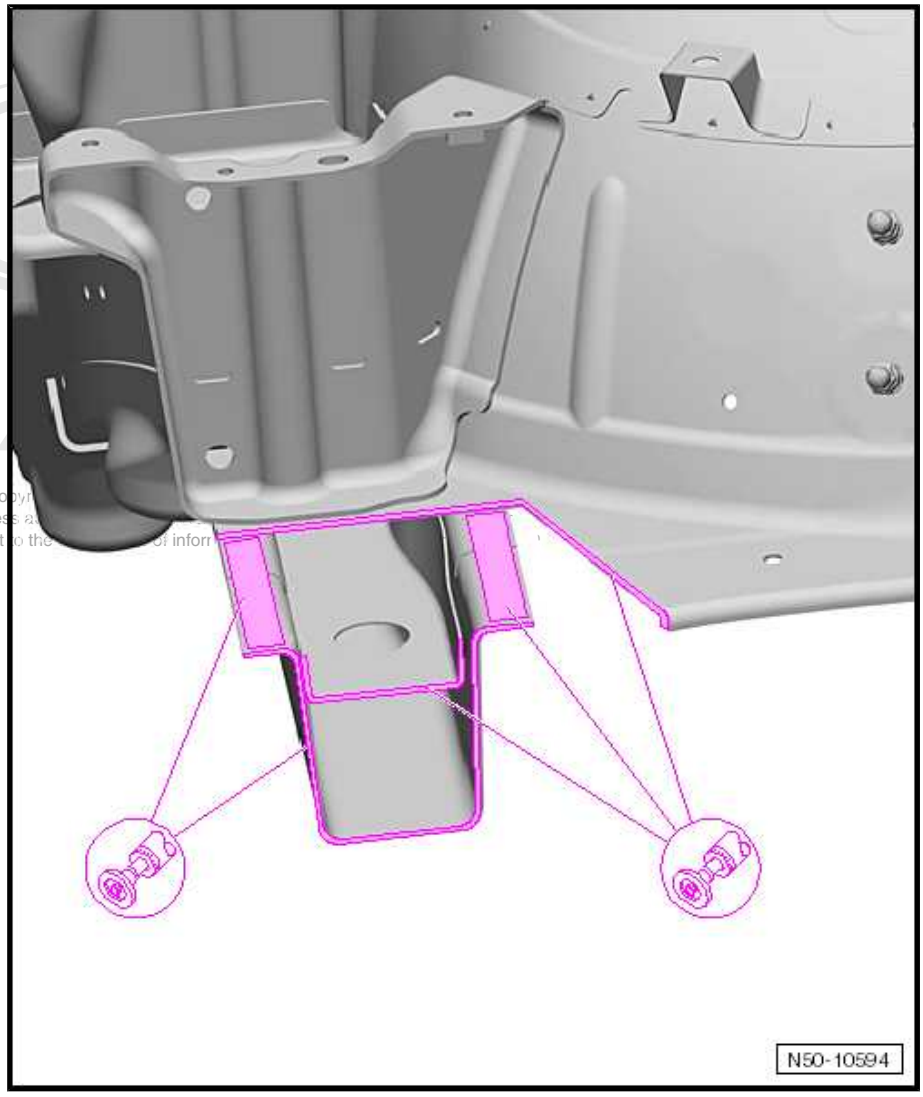
*Do not cut or weld within 50 mm on either side of laser weld seam -4- (shaded area).*




**Note**

*In this repair the reinforcement cannot be completely renewed.*

– Remove remaining material using compact angle grinder .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Replacement parts**

- Cover plate for longitudinal member
- Support bracket (left-side)
- Longitudinal member reinforcement
- Bumper bracket
- Front longitudinal member
- 2-component epoxy adhesive - DA 001 730 A2-

**Preparing new part**

– Transfer separating cuts to longitudinal member and to cover plate for front longitudinal member and cut parts to shape using body saw .

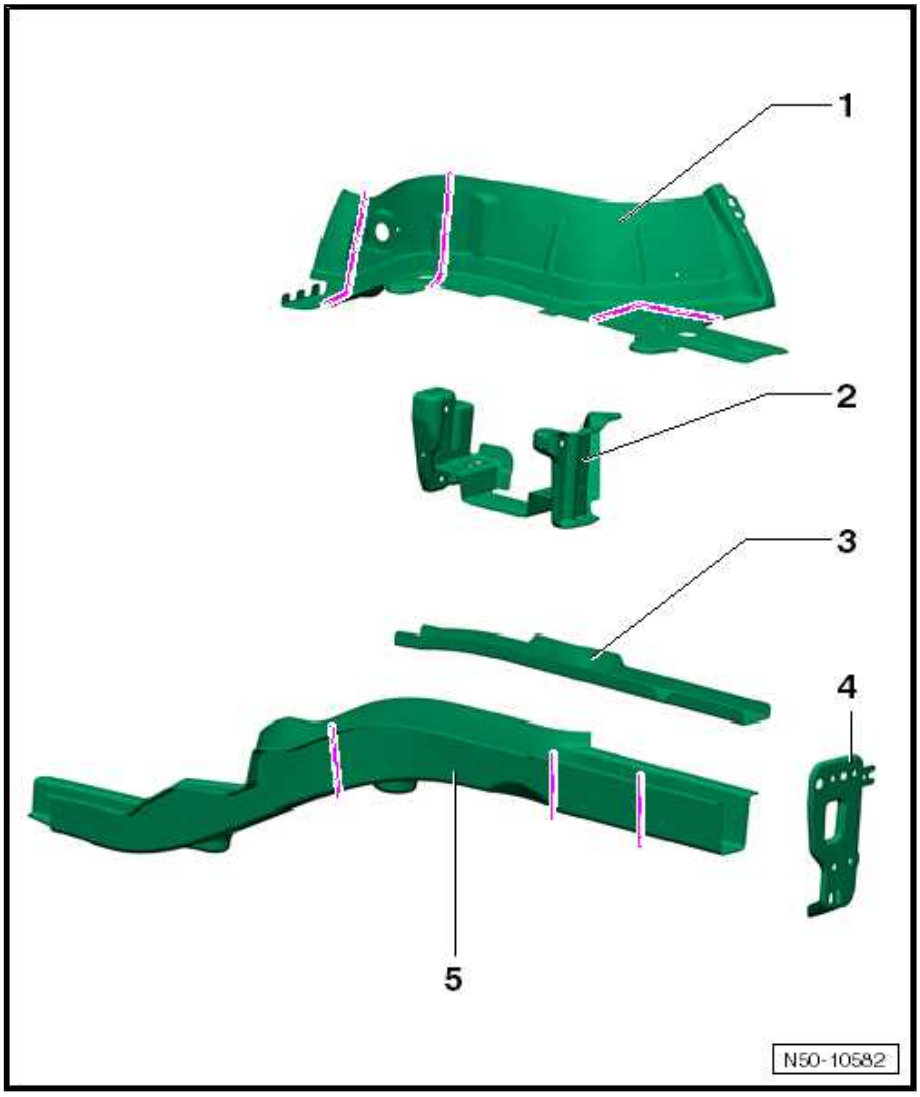
1 - Cover plate for longitudinal member

2 - Support bracket (left-side)

3 - Longitudinal member reinforcement

4 - Bumper bracket

5 - Front longitudinal member




**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**

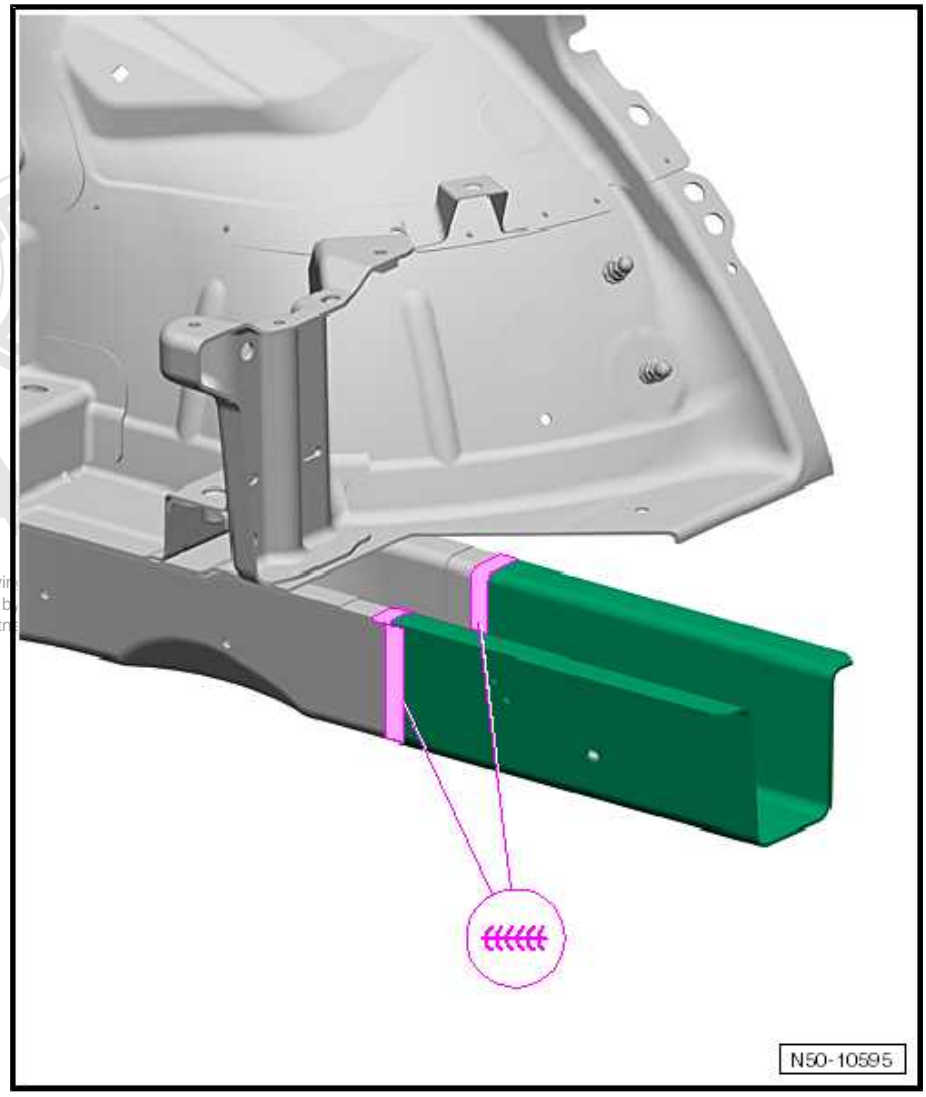
– With vehicle standing on alignment bracket set, match up new part and fix in position.

– Check fit relative to adjacent parts.

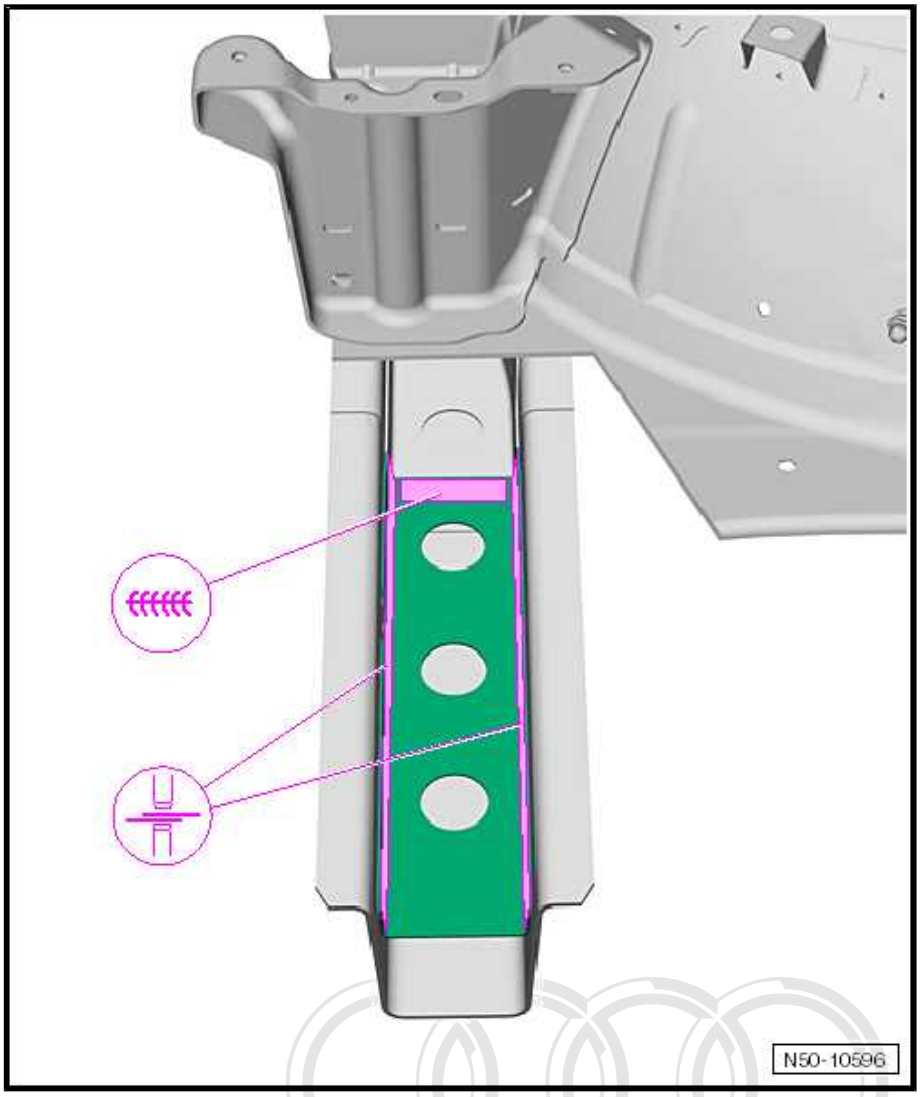
– Weld front longitudinal member all round at separating cut using shielded arc welding equipment : SG continuous seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copyin
permitted unless authorised b
with respect to the correctn

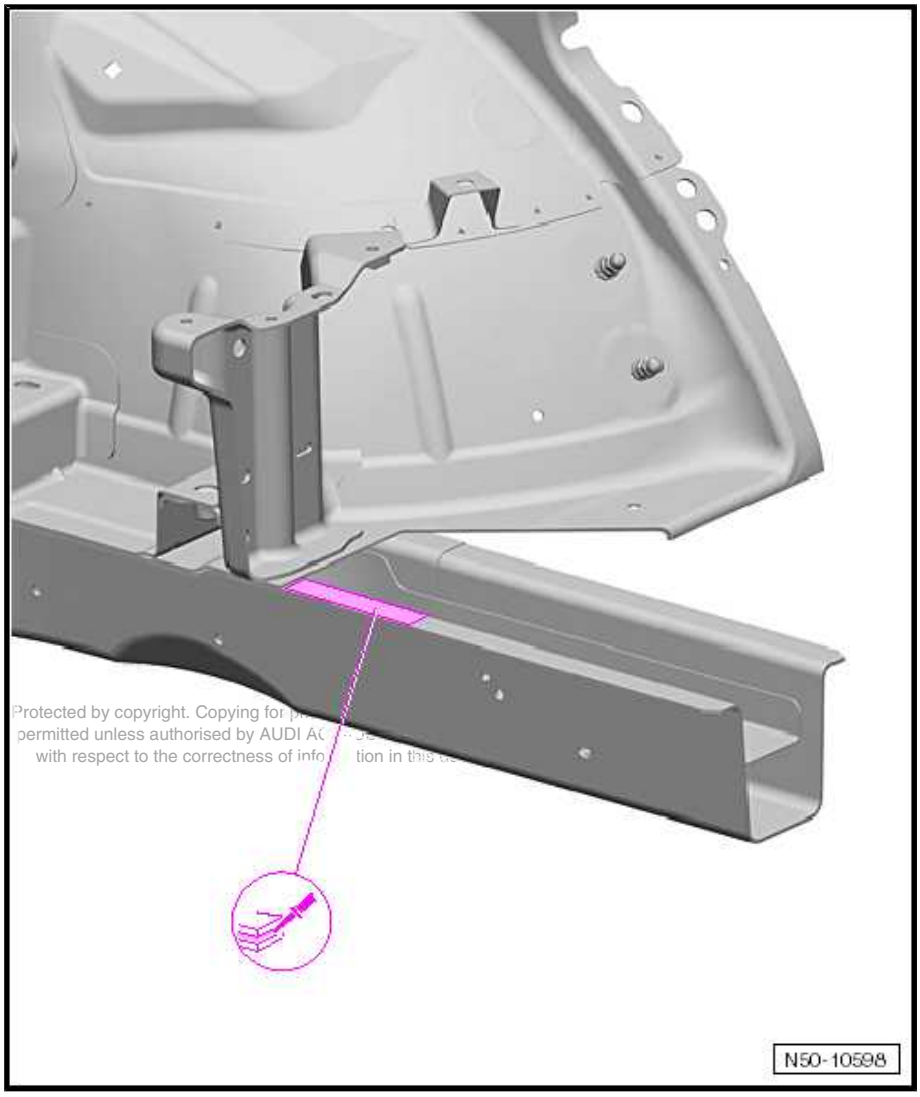



– Weld in longitudinal member reinforcement using resistance spot welder : RP spot weld seam.
– Weld in longitudinal member reinforcement using shielded arc welding equipment : SG continuous seam.




– Apply 2-component epoxy adhesive - DA 001 730 A2- in bonding area for front longitudinal member and cover plate for longitudinal member using pneumatic glue gun - V.A.G 2005 B- .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



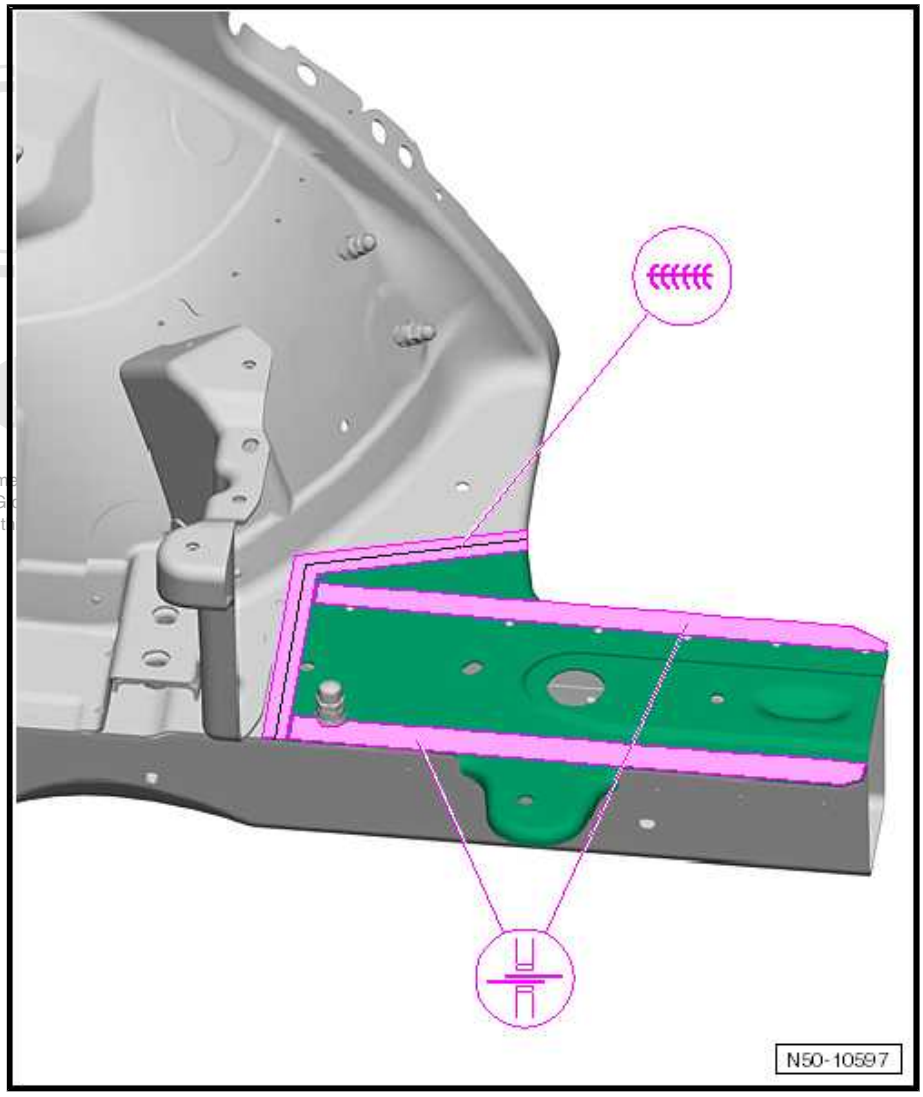

Protected by copyright. Copying for pr
permitted unless authorised by AUDI A
with respect to the correctness of info tion in this

– Weld in cover plate for longitudinal member at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in cover plate for longitudinal member using resistance spot welder : RP spot weld seam.

**Note**

*Spacing between spot welds approx. 35 - 40 mm.*

Protected by copyright. Copying for private or comm
permitted unless authorised by AUDI AG. AUDI AG
with respect to the correctness of information in t




– Shorten longitudinal member sub-part and cover plate for longitudinal member.

RO: 50 79 49 50

# 8 Repairing threads for attachment of subframe

- Subframe already removed ⇒ Running gear, suspension, 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.*

Audi
Copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 8.1 Tools

**Special tools and workshop equipment required**

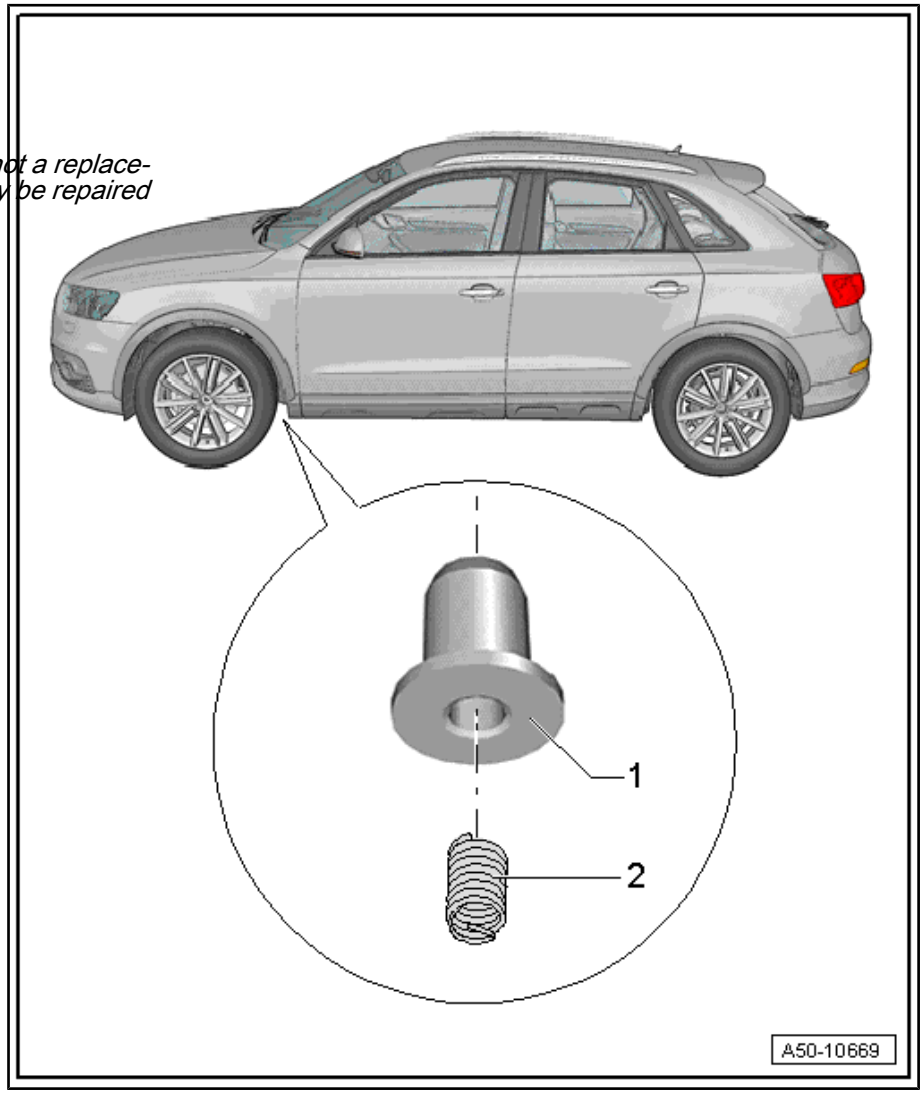
- Thread repair kit M12x1.5 - VAS 6058-
- Drill - VAS 6267-
- Compact angle grinder - VAS 5167-

**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**



**Contents of thread repair kit**

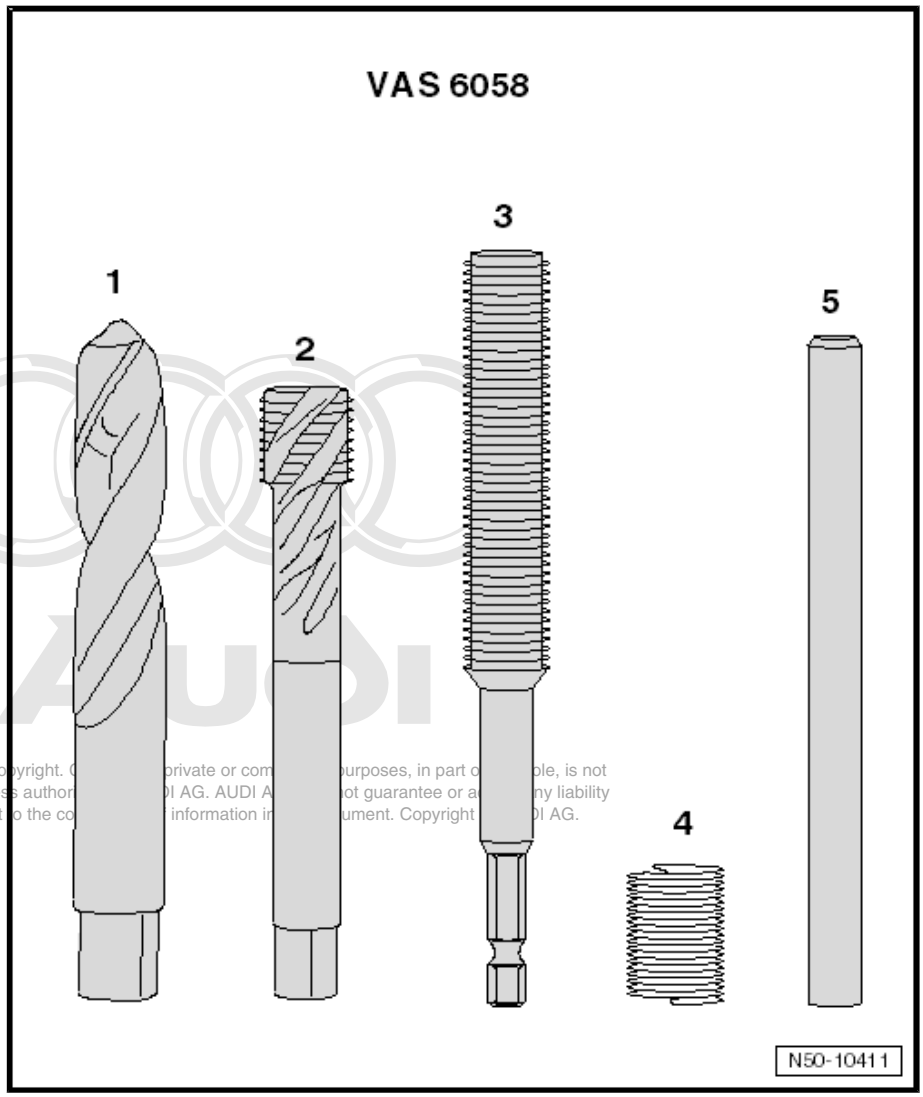
**1 - Drill bit ∅ 12.5 mm**

**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**

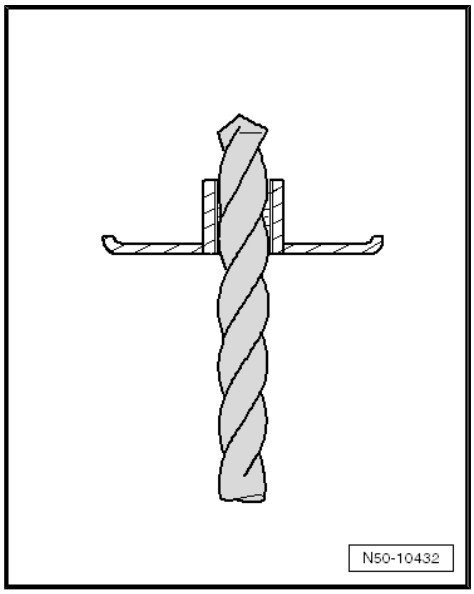



Protected by copyright. C... private or com... purposes, in part o...ble, is not permitted unless author...DI AG. AUDI A... ot guarantee or a...ny liability with respect to the co... information in...ument. Copyright ...DI AG.

### Repairing thread

### Making drilling for thread

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




**Note**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




**Cutting thread**

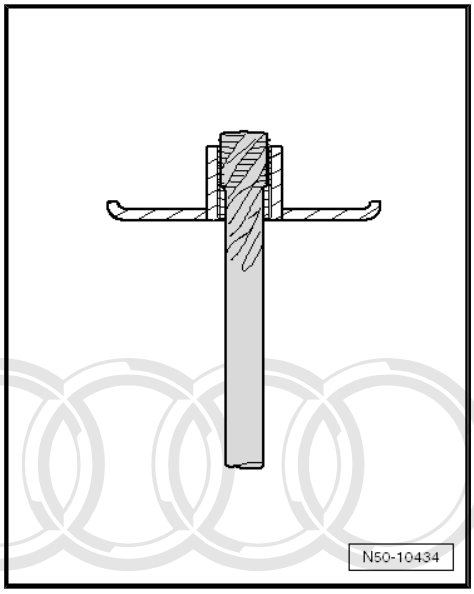
**Caution**

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

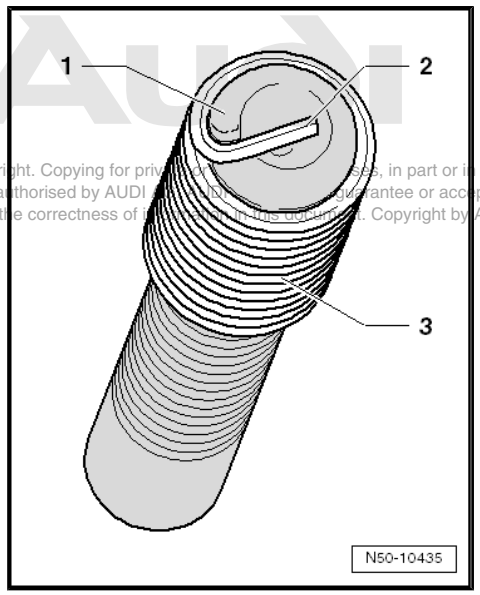
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– 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.



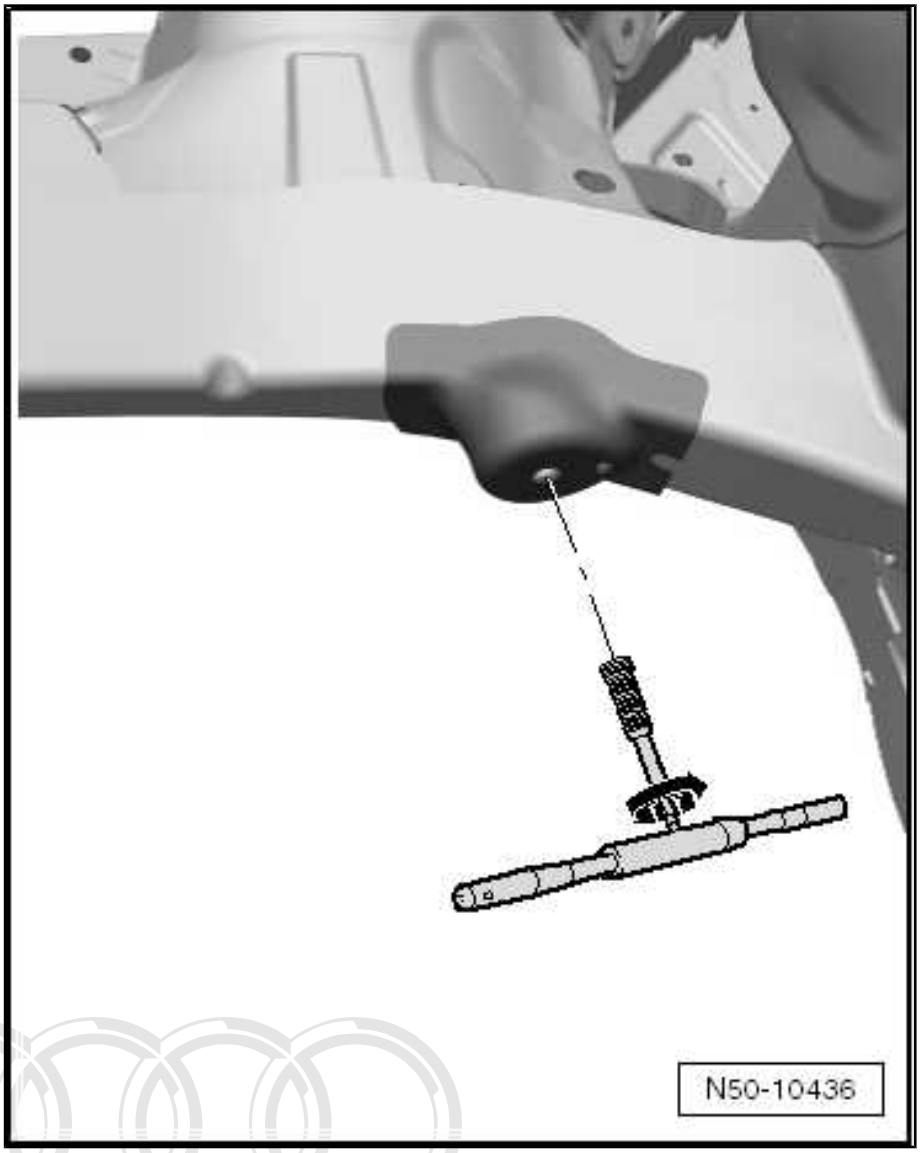

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– 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 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

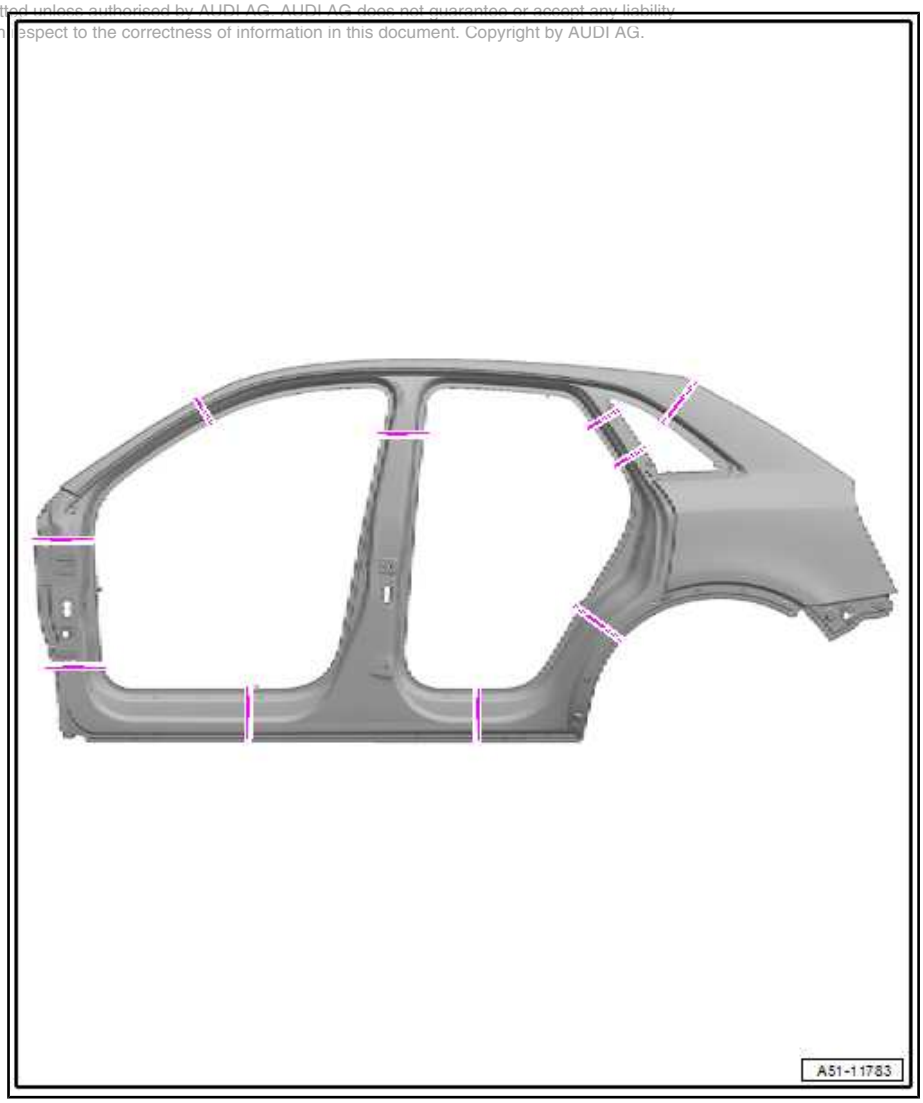
# 51 – Body - centre

## 1 Permitted separating cuts on complete side frame

**Note**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



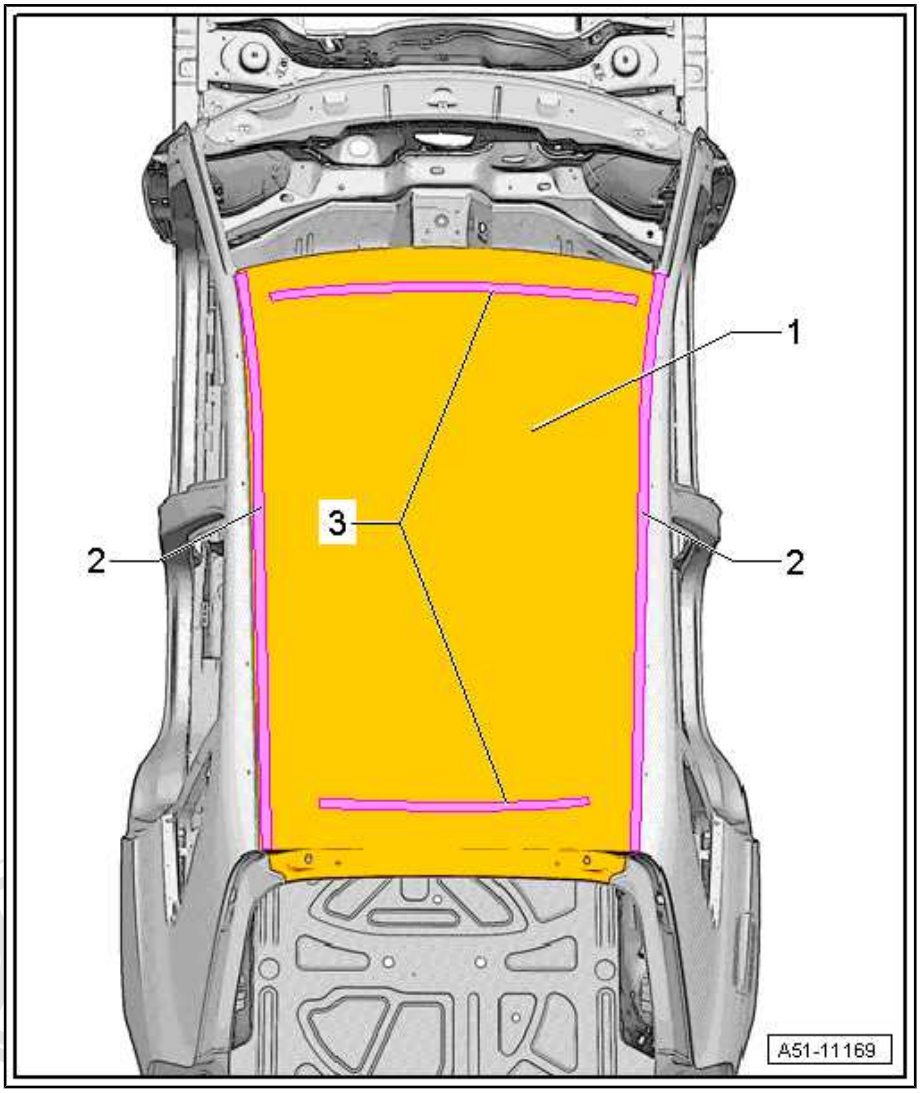
RO: 51 03 55 00

# 2 Roof - Renewal

1 - Roof

2 - Plasmatron weld seam

3 - Bonded area



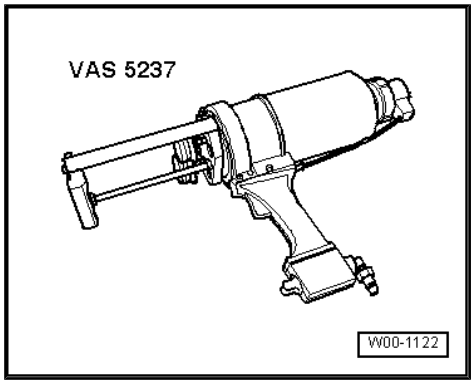

## 2.1 Tools

**Special tools and workshop equipment required**

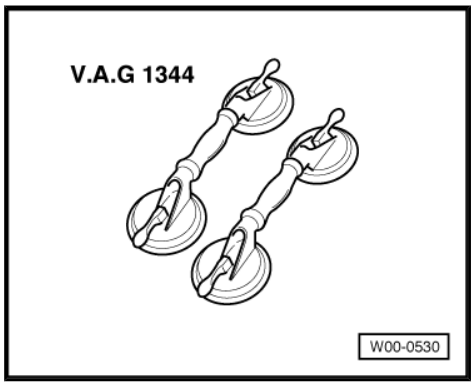
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Drill - VAS 5144-
- Double cartridge gun - VAS 6453-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

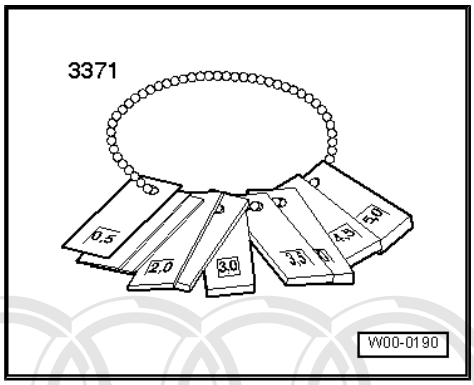
- Double cartridge gun - VAS 5237-



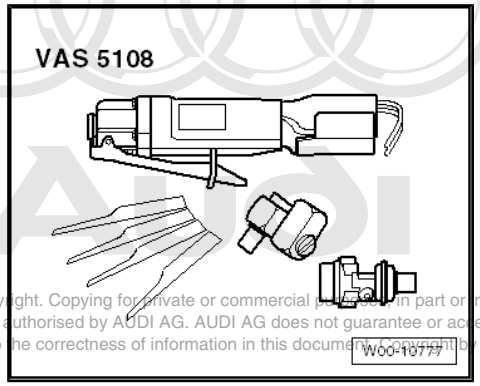

- Suction lifter - V.A.G 1344- or magnet - VAS 6739-




- Setting gauge - 3371-

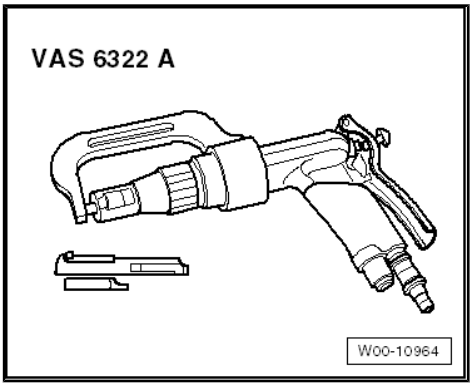



- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

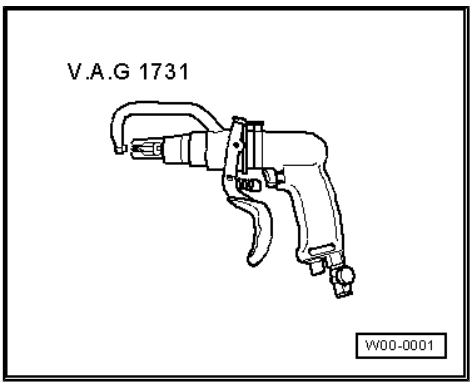



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Spot weld breaker - VAS 6322 A- or



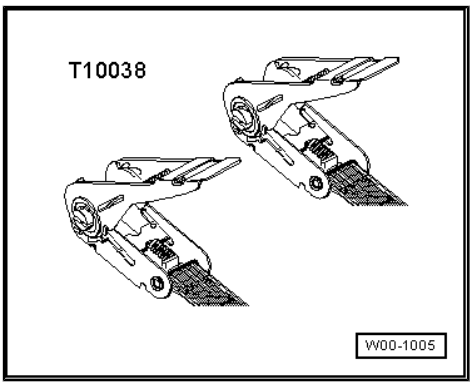

- Spot weld breaker - V.A.G 1731-




- Pneumatic cartridge gun - V.A.G 1761/1-




- Mole grips, 18-18 - VAS 5430/1-
- Tensioning strap - T10038-




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

– Open cap.

**2 - Static mixer**

**3 - Extension hose**

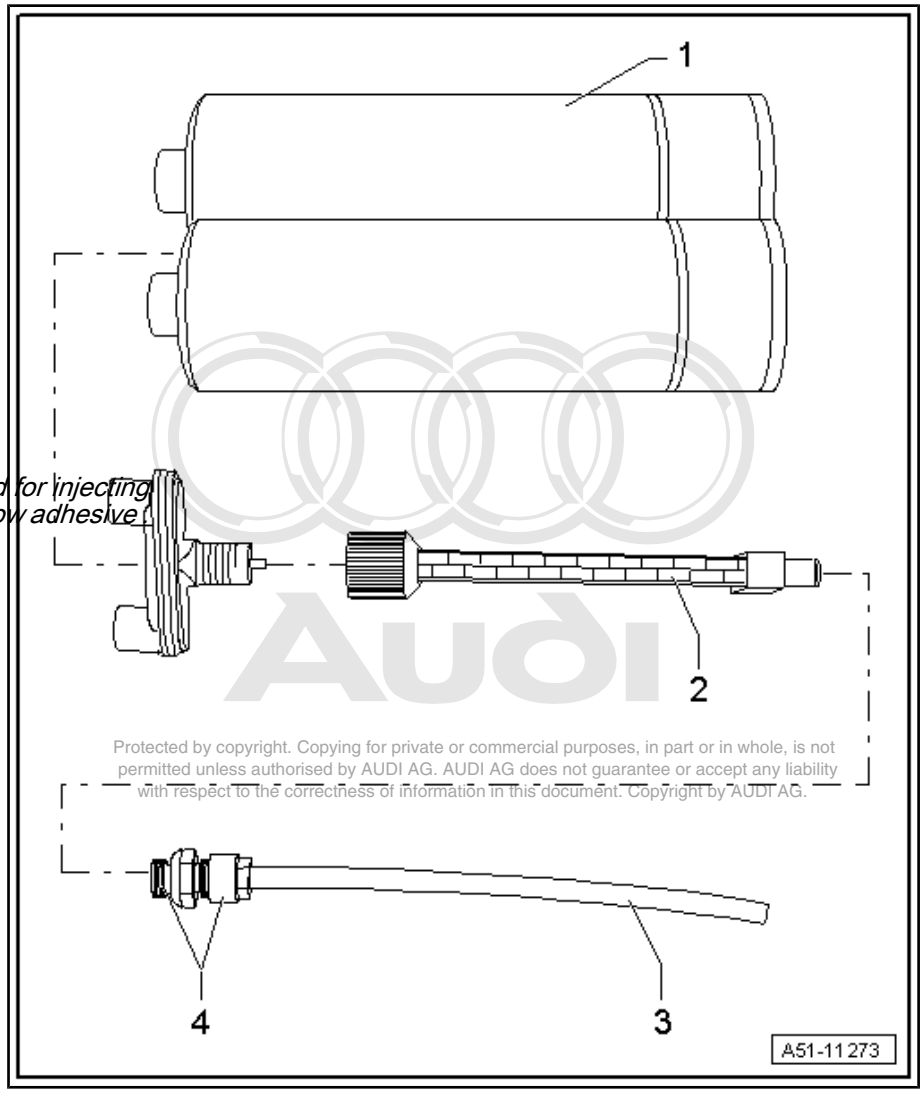
Part number 000 809 937

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

**4 - Adapter**

**Note**

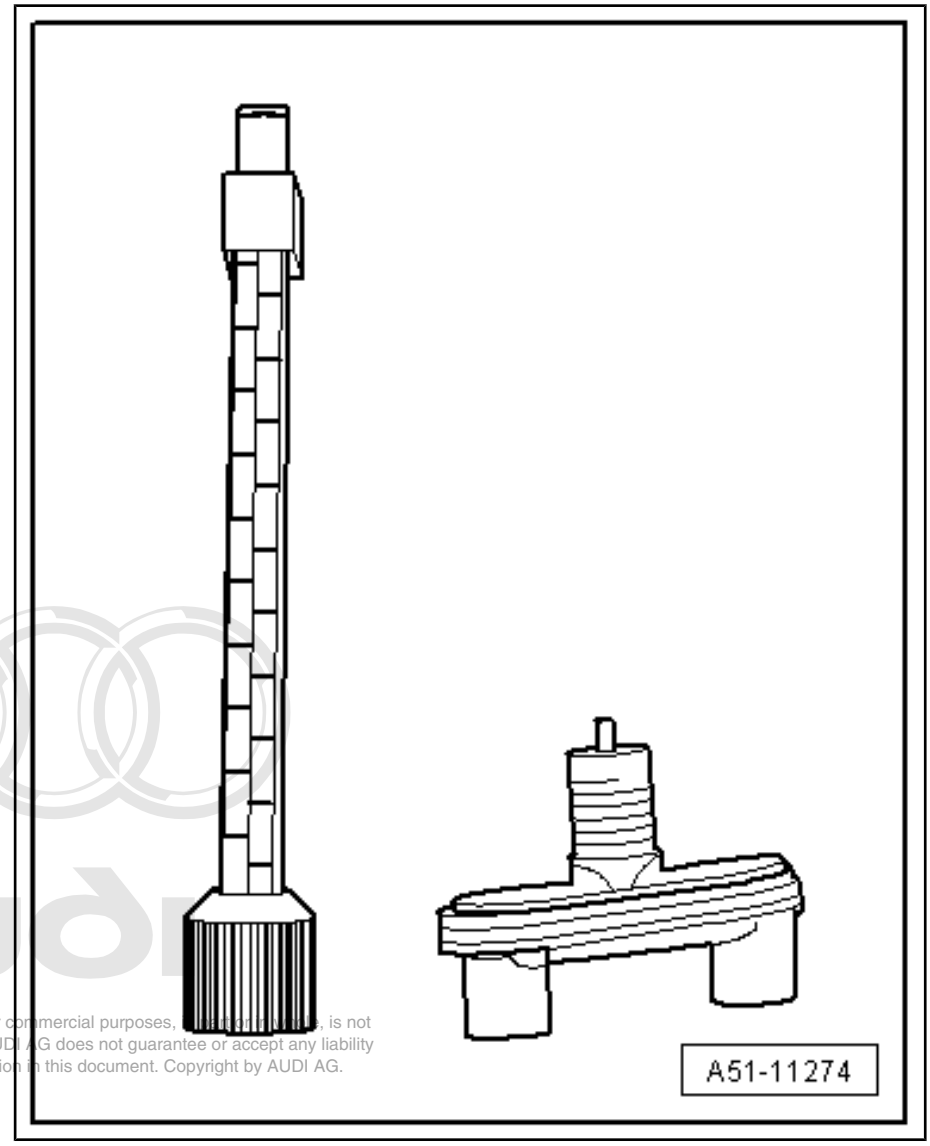
*The adapter is required for injecting the 2-component window adhesive.*




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

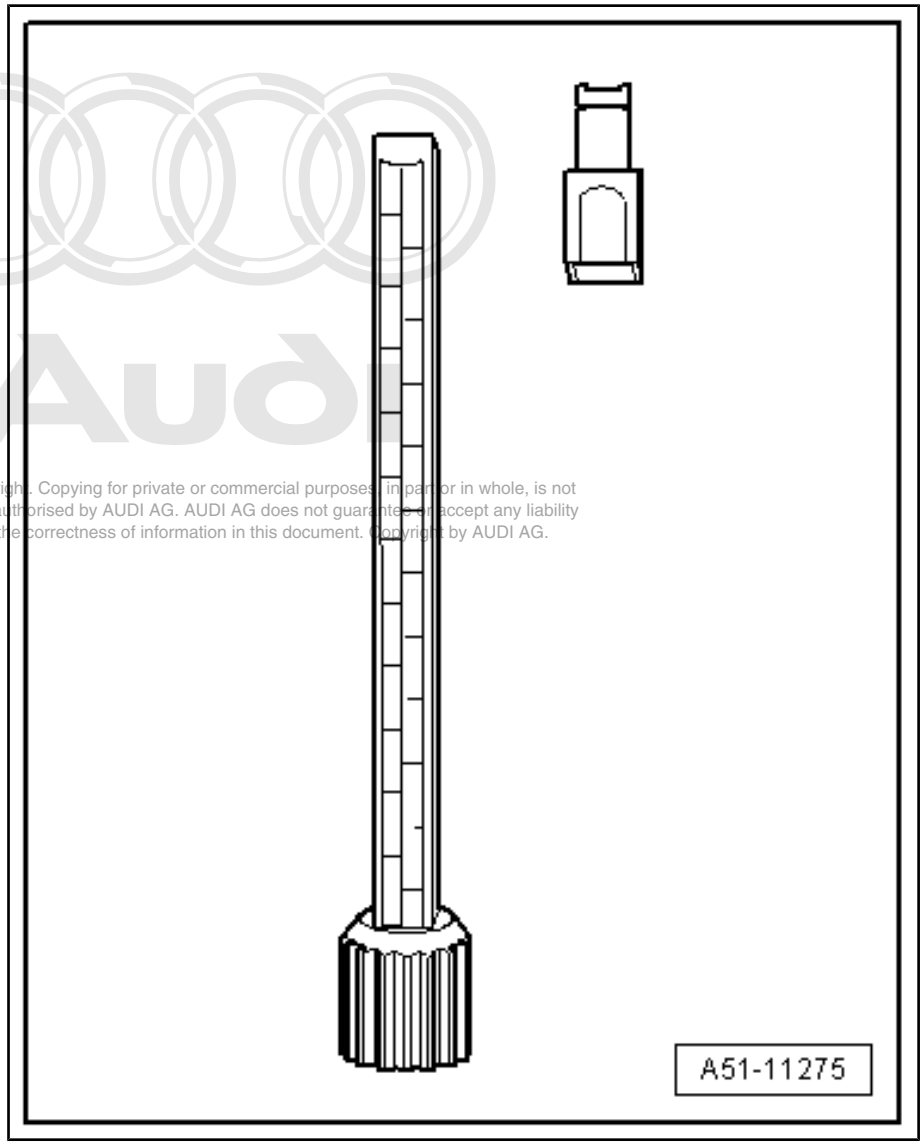
**Instructions for using extension hose for window adhesive**

– Take static mixer out of window adhesive kit.



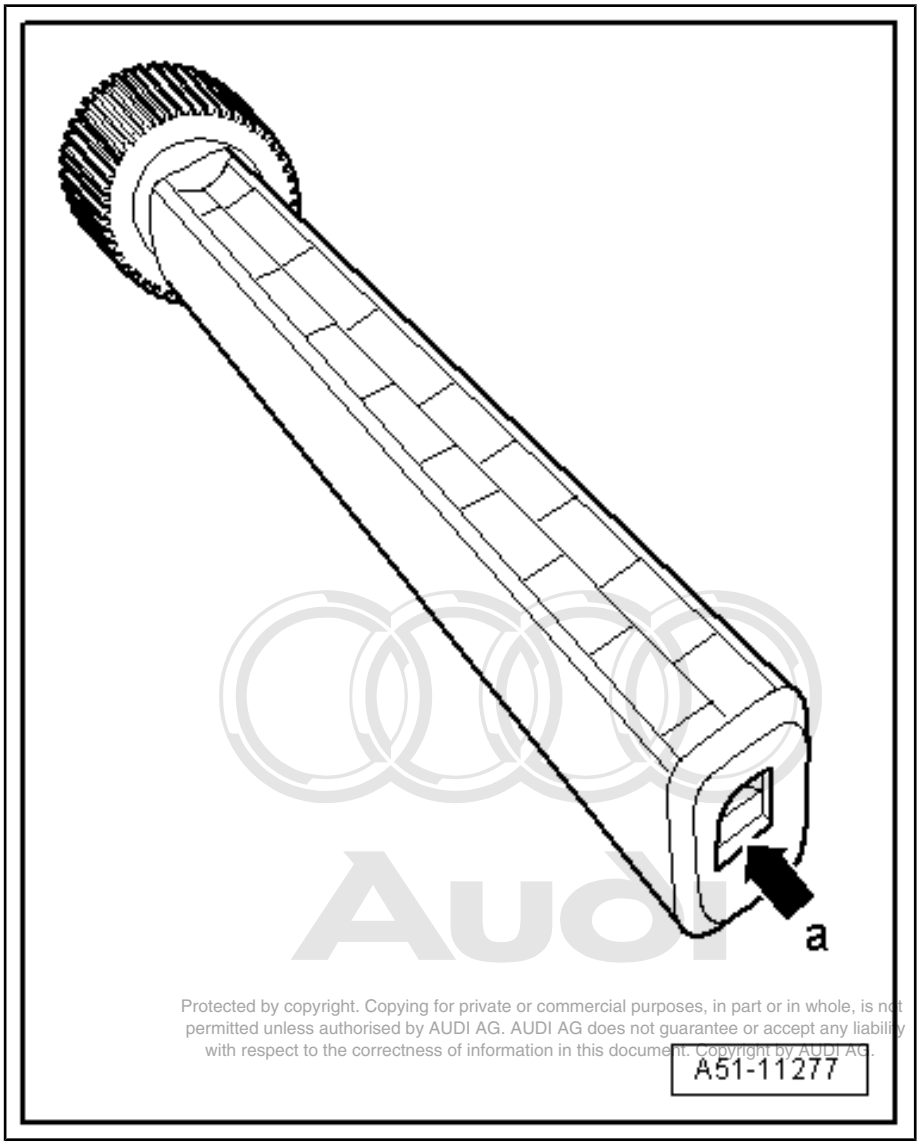

Protected by copyright. Copying for private or commercial purposes, [illegible], is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Remove front cap from static mixer.



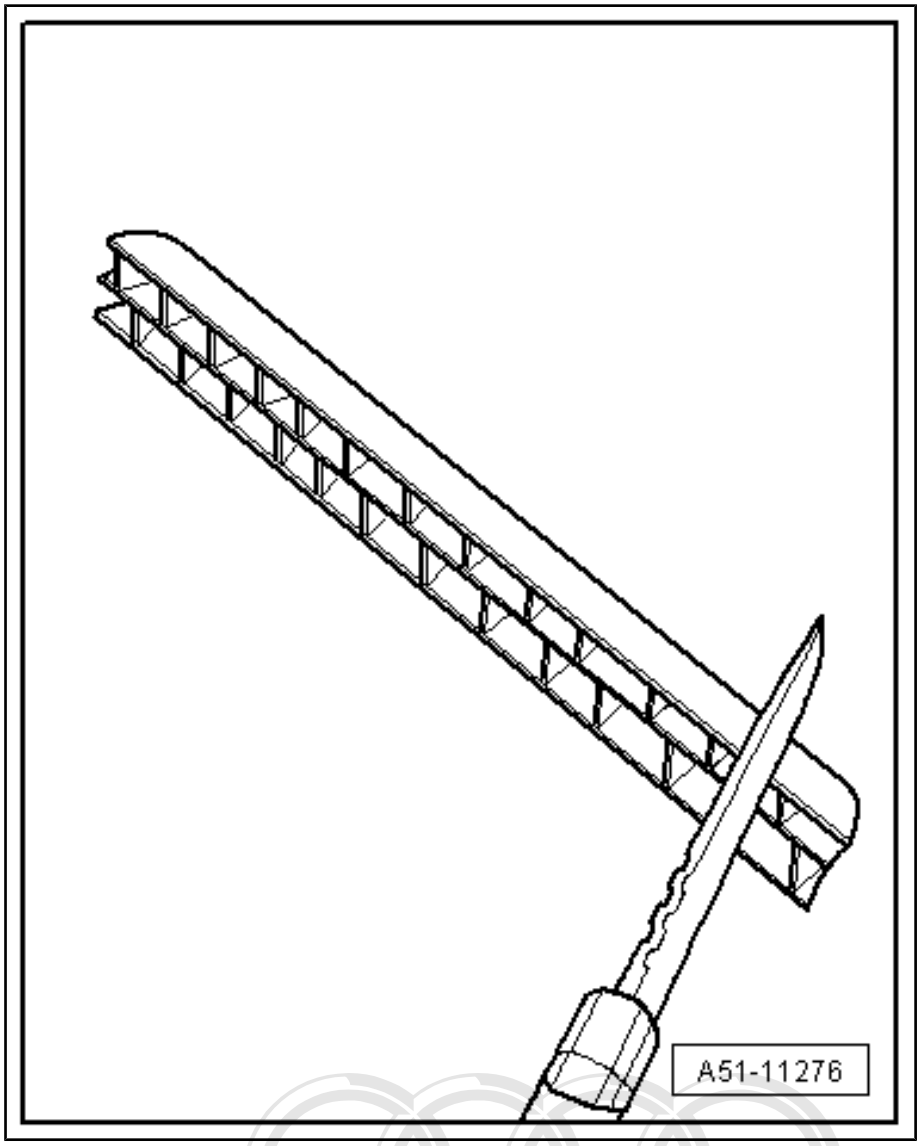

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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



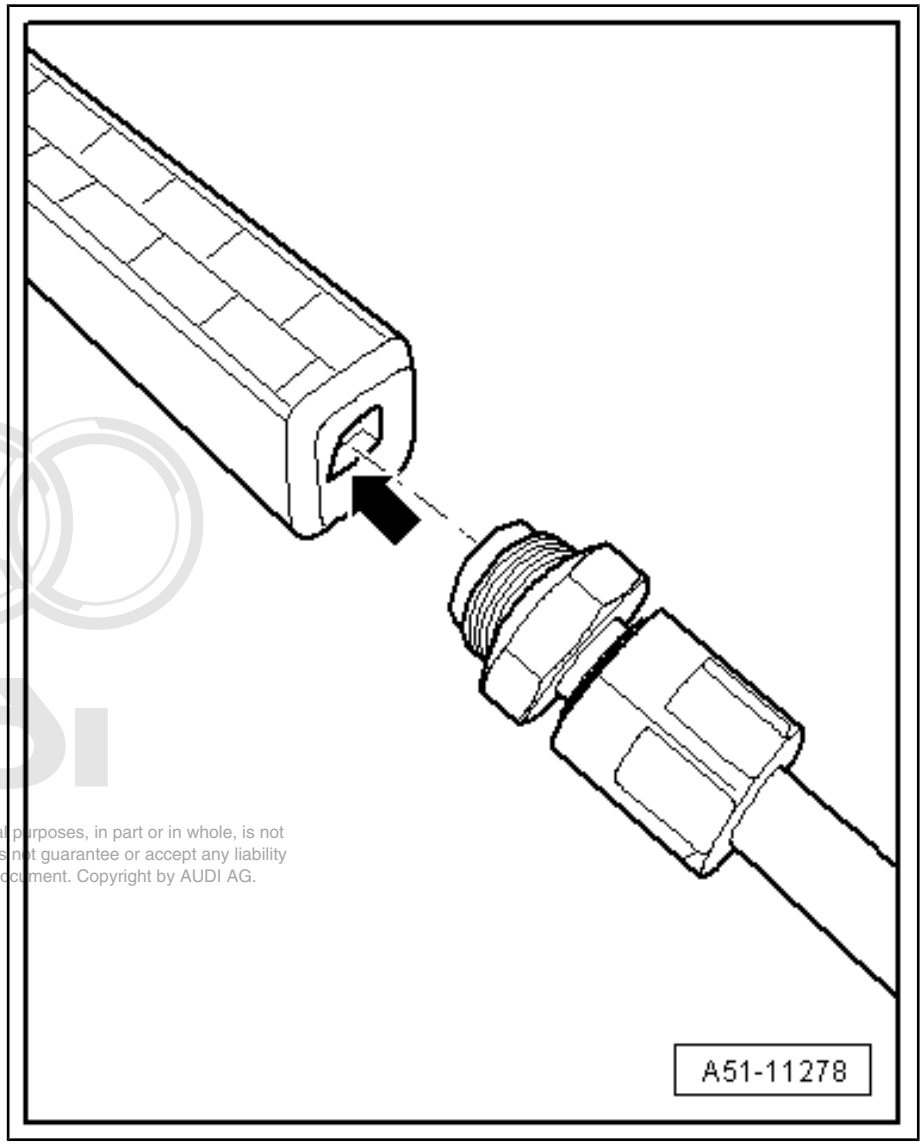

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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




– Screw extension hose onto mixer.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 2.2 Procedure

**Cutting locations**

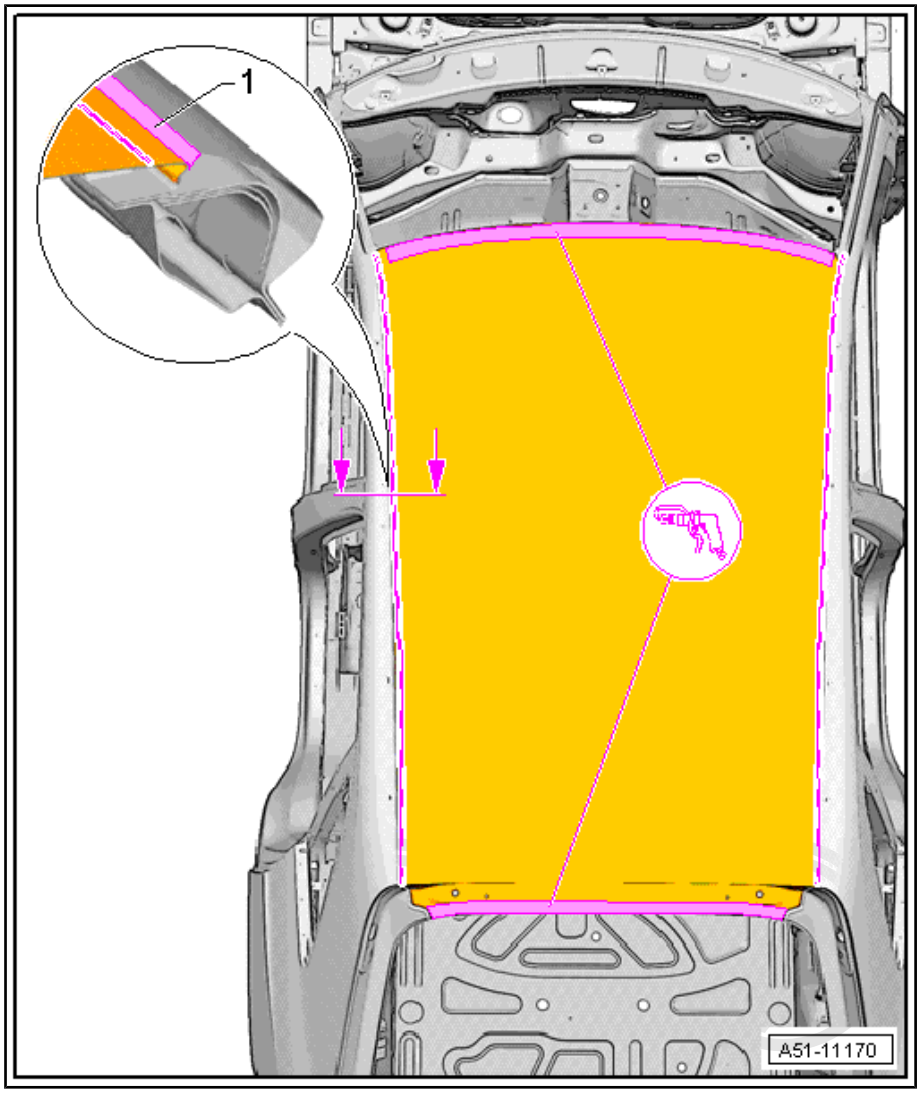
**WARNING**

*Do not damage roof cross member (front and rear) when separating.*

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

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

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

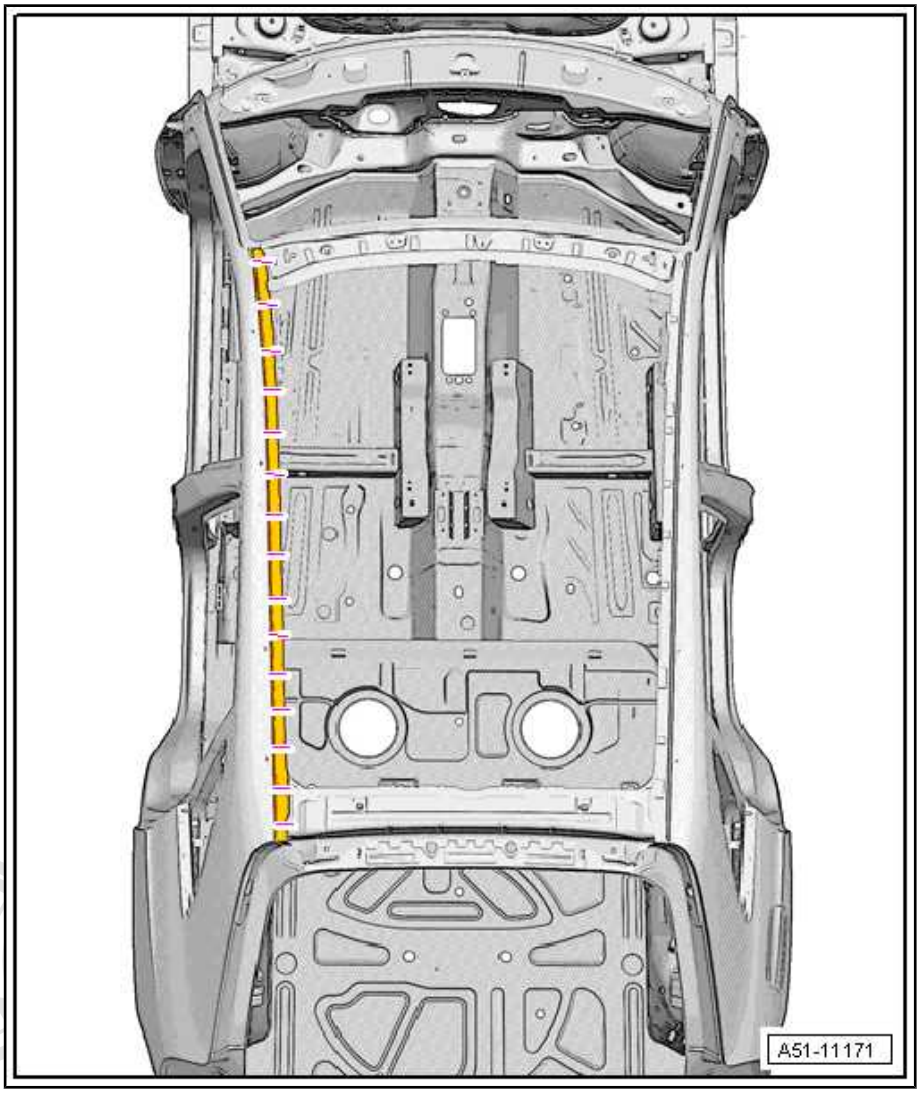



**Note**

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

Entire content copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Make cuts in remaining sections of roof using tin snips .
– Take hold of remaining sections with pliers and break open plasmatron weld seam by pulling up and down.

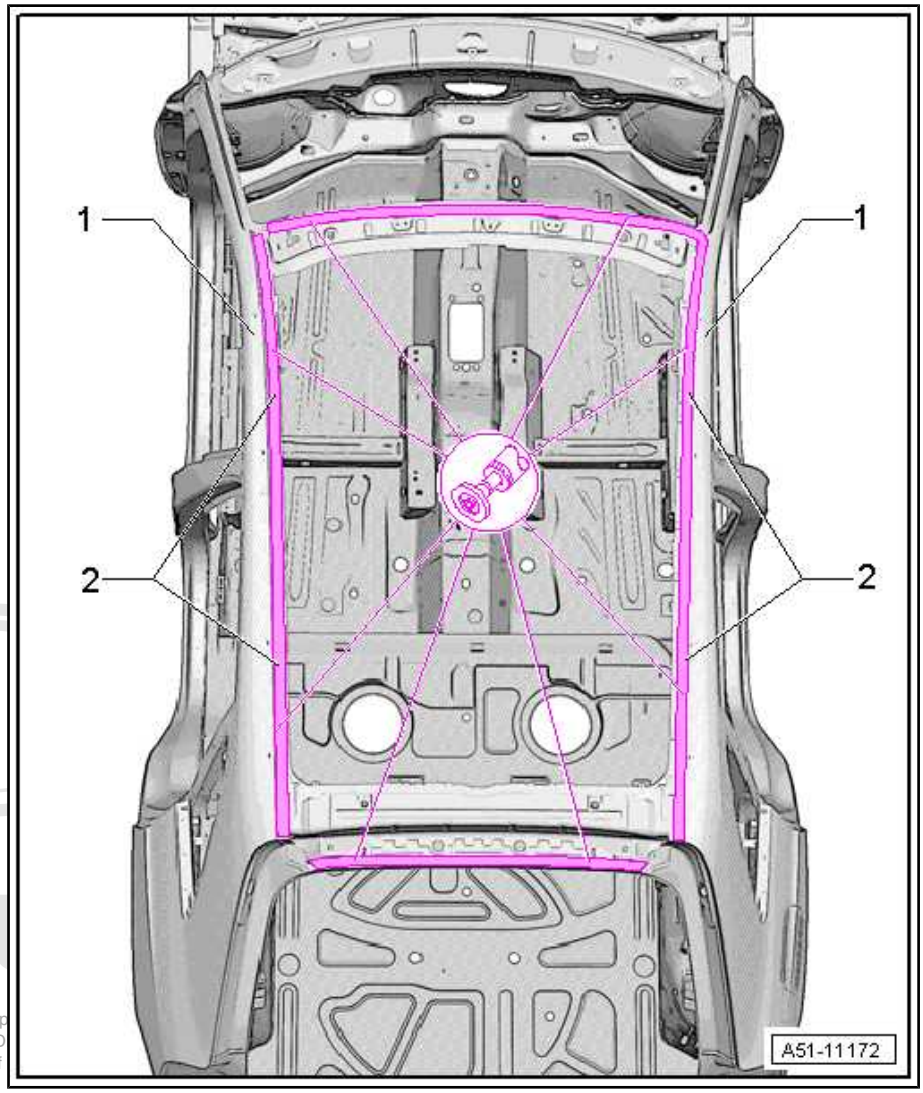



**Note**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Remove remaining material using compact angle grinder .
– Remove all residual adhesive and sealing compound from roof cross members at front and rear using scraper .
– Grind bonding areas down to bare metal.




Protected by copyright. Copying for p
permitted unless authorised by AUD
with respect to the correctness of

**Replacement parts**

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

**Preparing new part**

**Dimensions for renewing roof aerial (identical for standard roof and panorama roof)**

**Dimension - A - = 130 mm**

Mark dimension for roof aerial in centre of vehicle (keep to dimension).

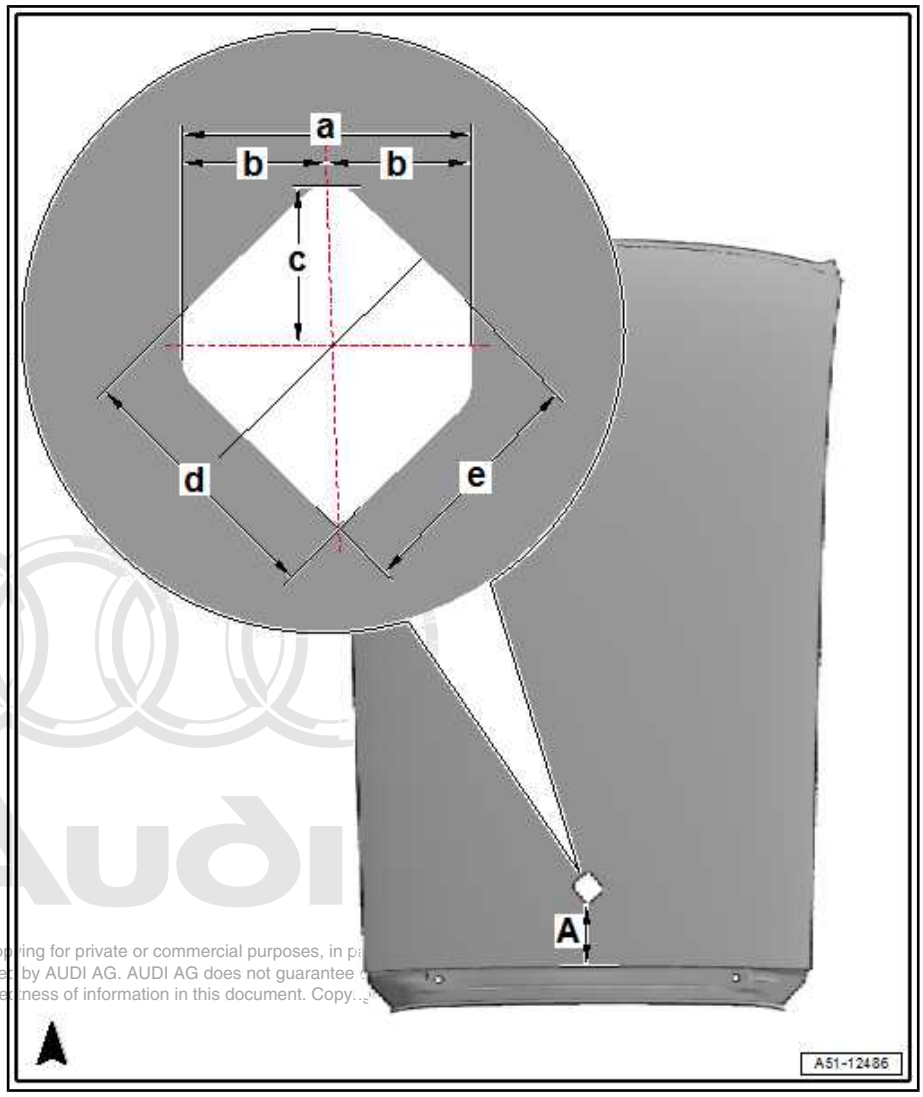
**Dimension - a- = 39 mm**

**Dimension -b- = 19.5 mm**

**Dimension -c- = 22 mm**

**Dimension -d- = 34 mm**

**Dimension -e- = 32 mm**




Protected by copyright. Copying for private or commercial purposes, in p
permitted unless authorised by AUDI AG. AUDI AG does not guarantee
with respect to the correctness of information in this document. Copy

**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**

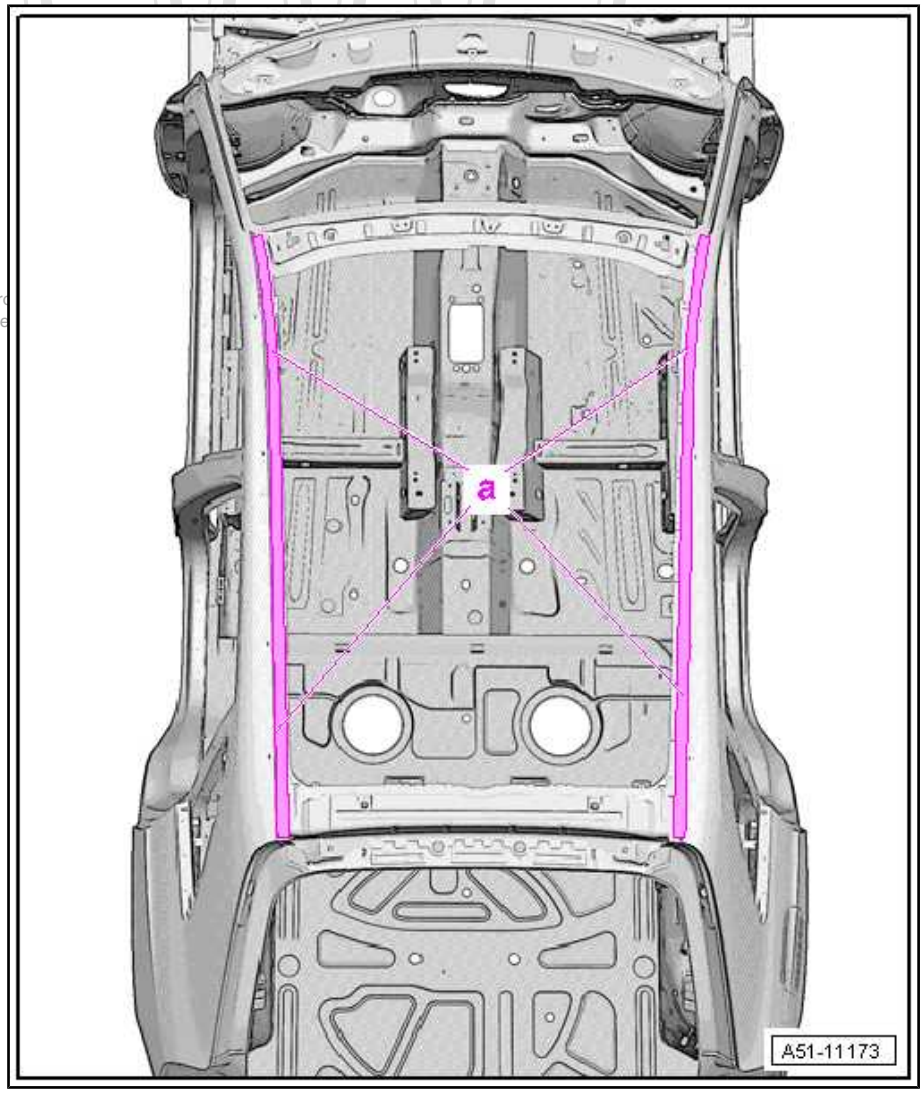
– Position roof on roof frame and check alignment of roof with roof side members (visual inspection).

– Check fit of roof with rear lid and windscreen.

– Fix roof in position in windscreen flange and sealing flange of rear lid using one self-tapping screw at each end.

– Remove roof.

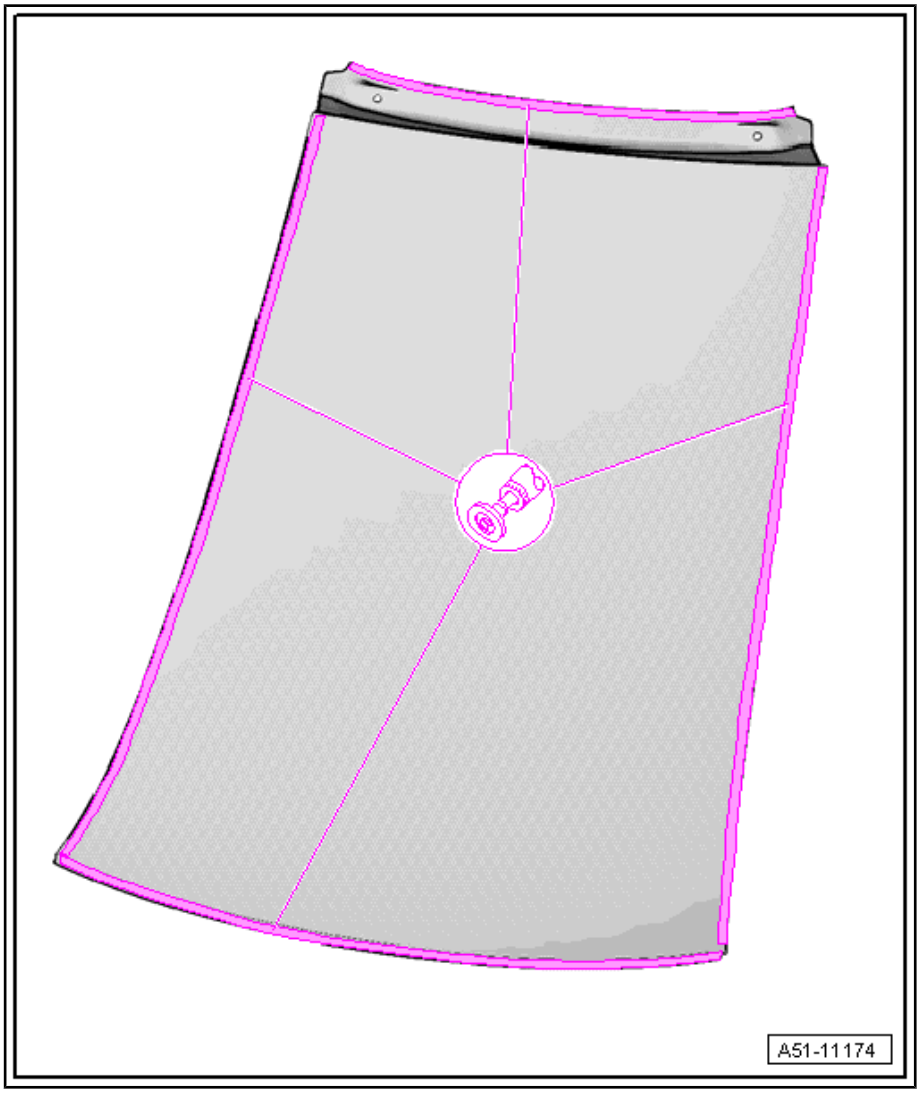
– Apply glass and paint primer - D 009 200 02- in area of roof frame -a-.




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

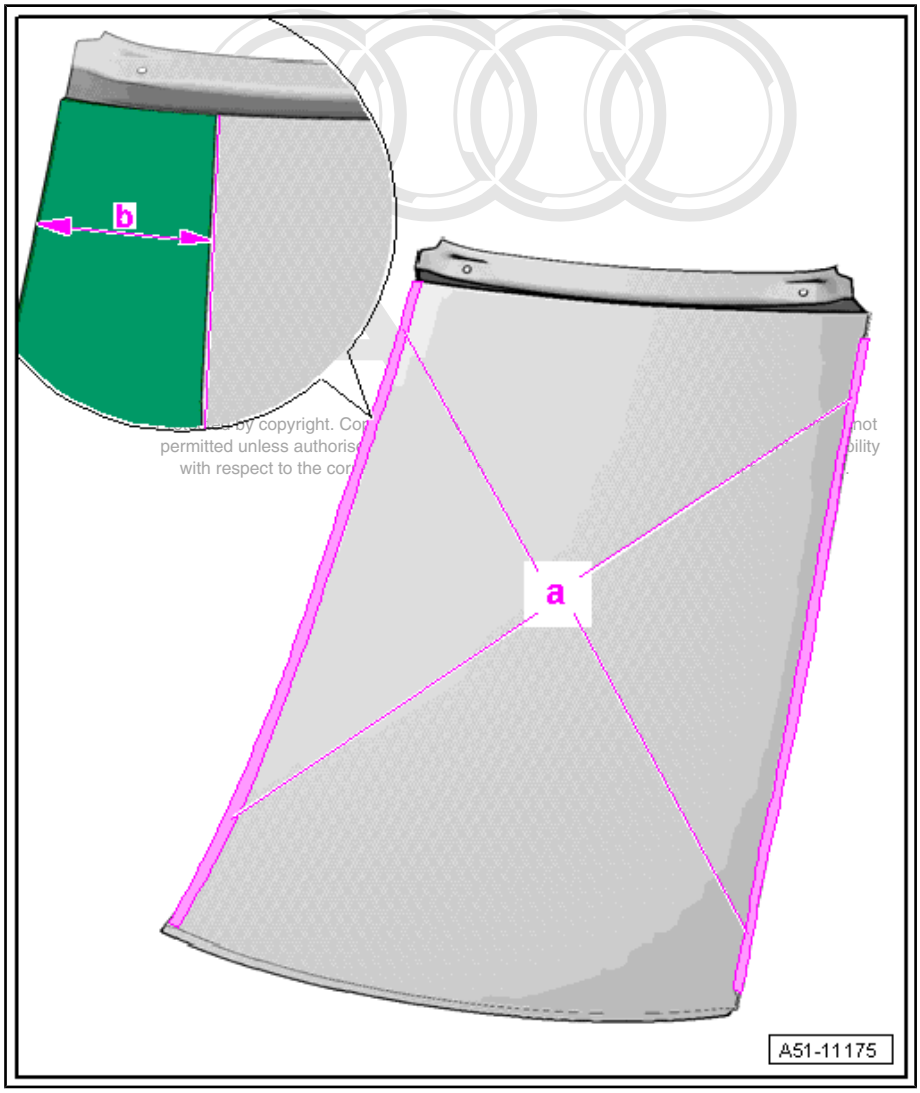
– Grind outside of welding flanges at windscreen opening and rear lid opening down to bare metal.

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

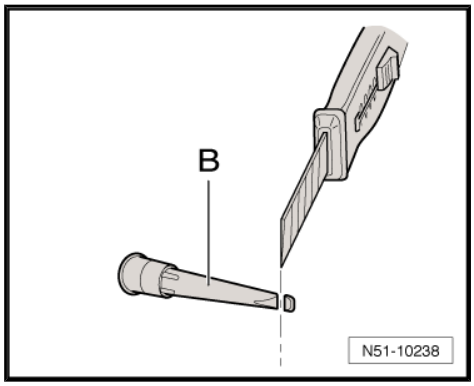



– Mask outside of roof panel parallel with side bonding area using adhesive tape.
– Attach four suction lifters - V.A.G 1344- or magnets - VAS 6739- to outside of roof panel.
– Clean roof frame, roof reinforcement and roof with cleaning solution - D 009 401 04- .
– Apply glass and paint primer - D 009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

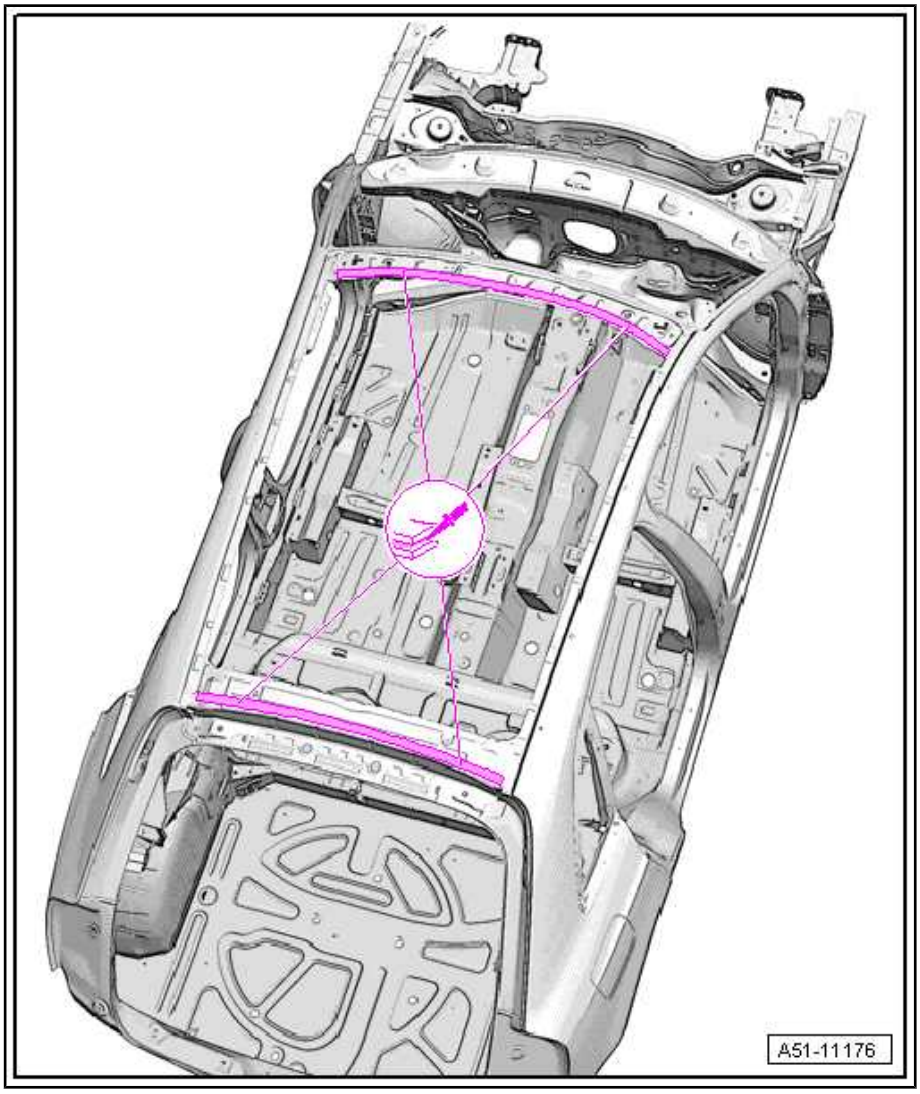
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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

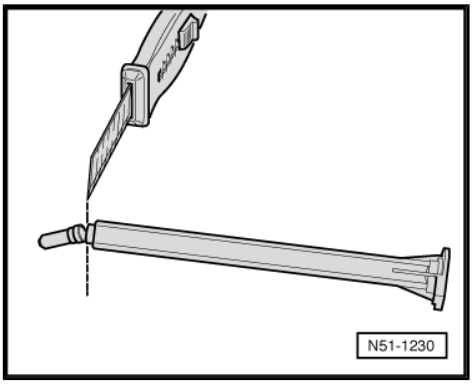



– Apply single-component assembly adhesive - D 190 MKD A3- to roof cross members in the area of the factory bonding location using pneumatic cartridge gun - V.A.G 1761/1- .




**Preparing new part**

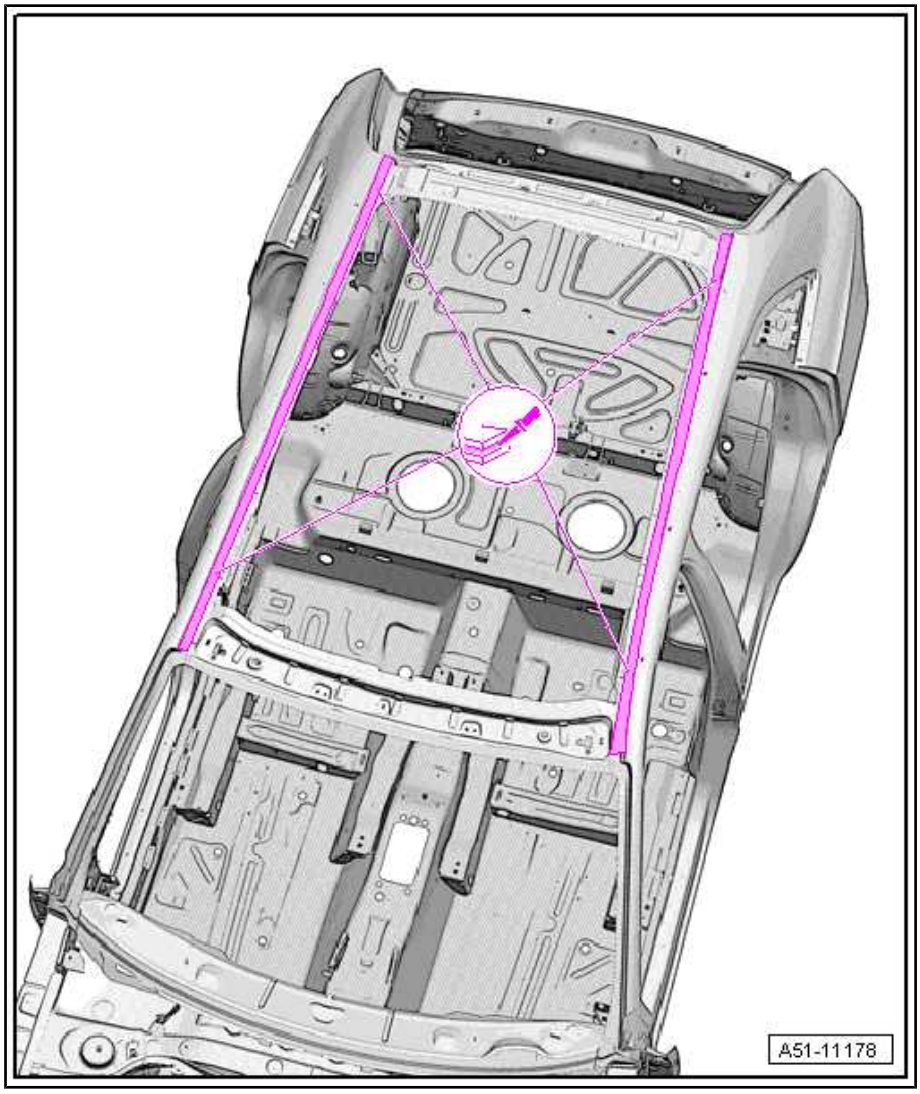
– Cut static mixer from 2-component epoxy adhesive set - DA 180 A00 A2 - down to 4th notch to obtain required bead cross section.



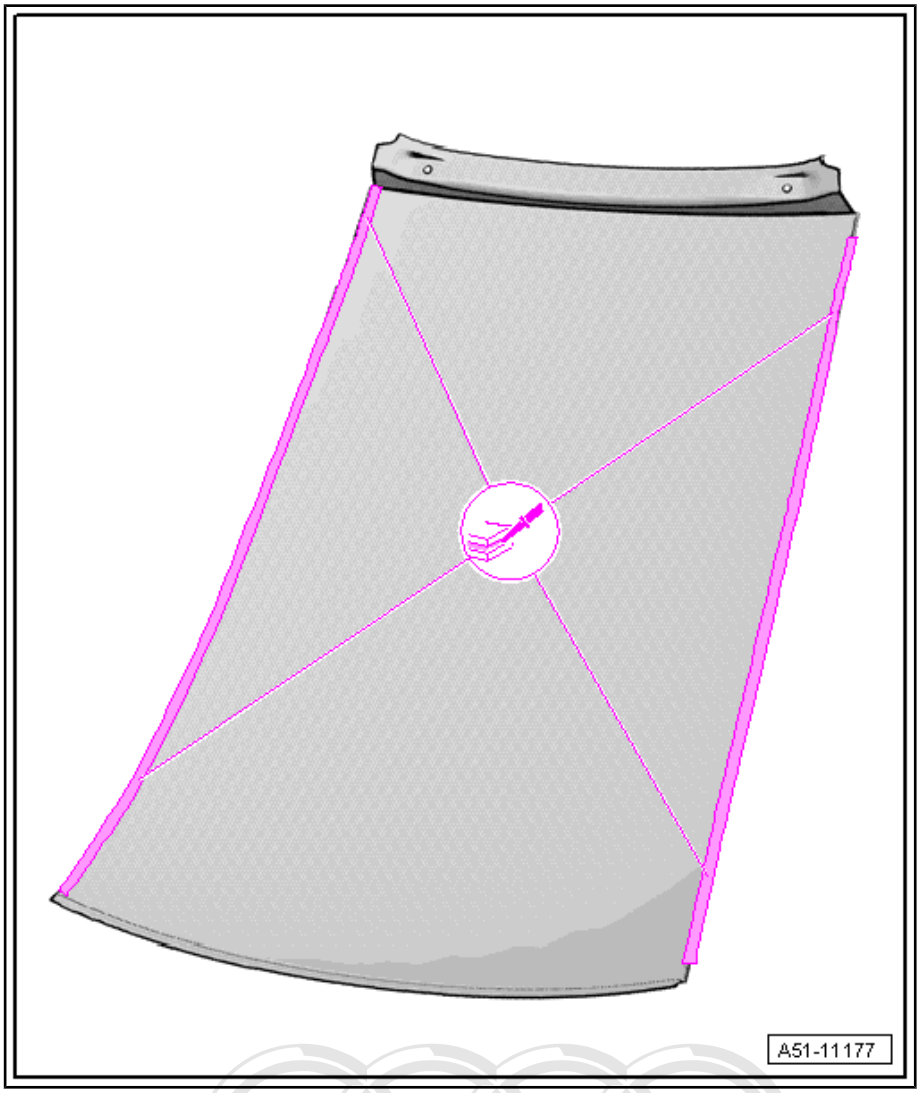

**Note**

- *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.*

– 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- .




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




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

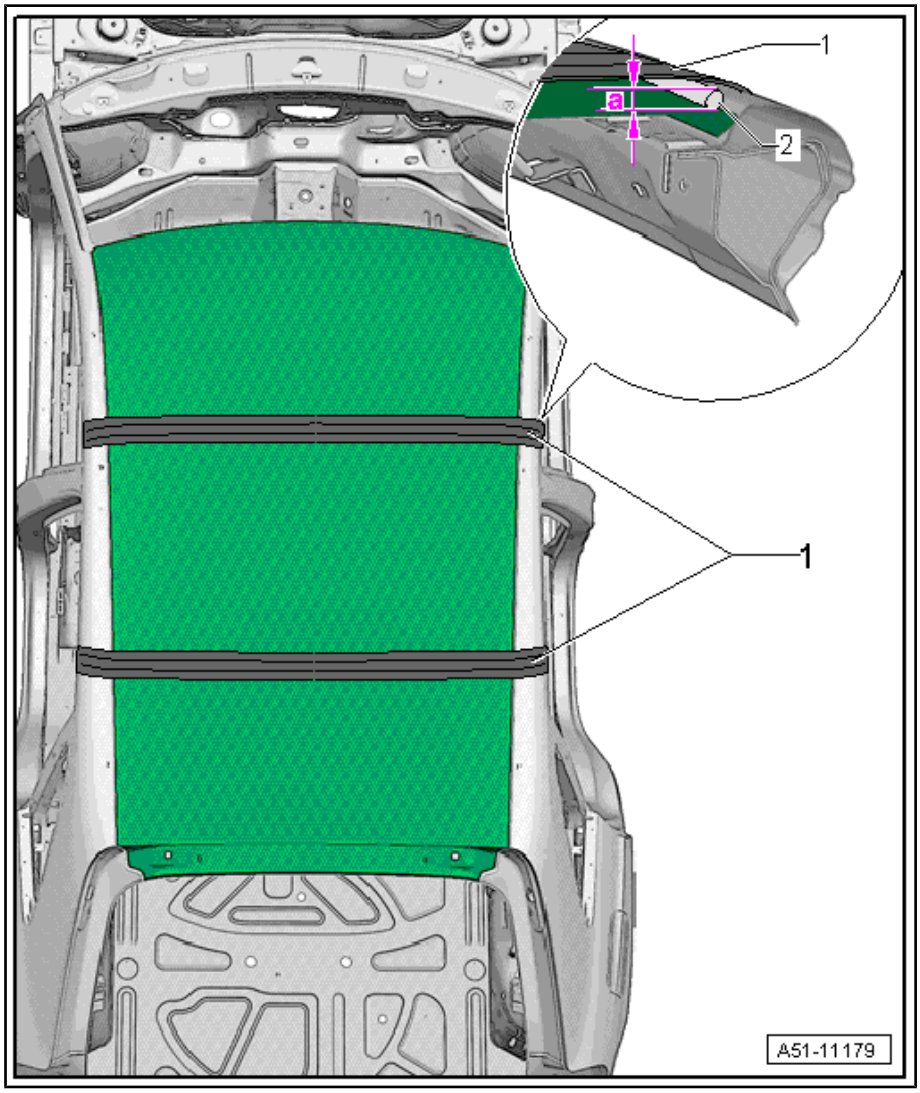
**Adjusting roof depth**

– Additionally fix roof in position with two tensioning straps - T10038- -1-.
– Set required depth using drill bit or suitable wooden spacer, etc -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 -

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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

**Note**

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

**WARNING**

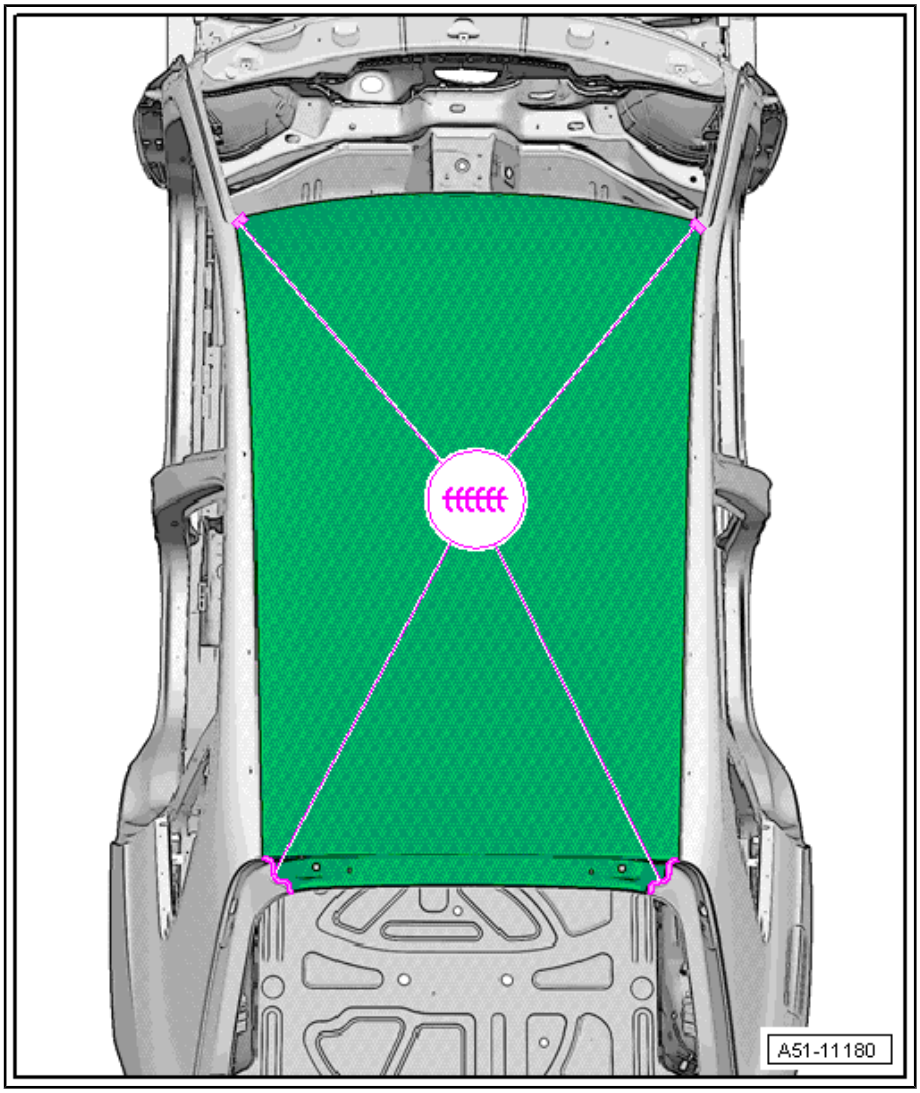
***Allow bonded joint on roof to harden for 60 minutes at approx. 65° to 80° C with radiant heater. Check temperature constantly with temperature sensor.***

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Welding in**

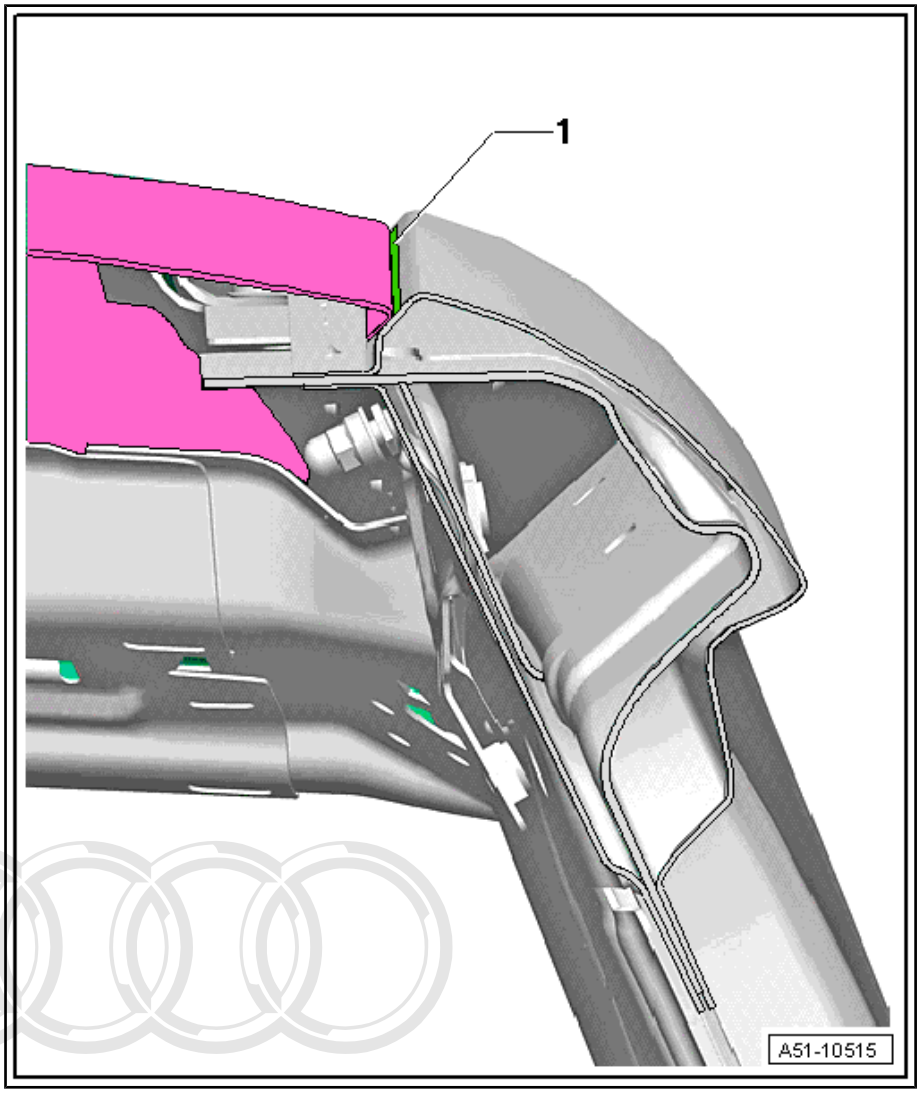
– Make additional welds for roof using shielded arc welding equipment : SG continuous seam.

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




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

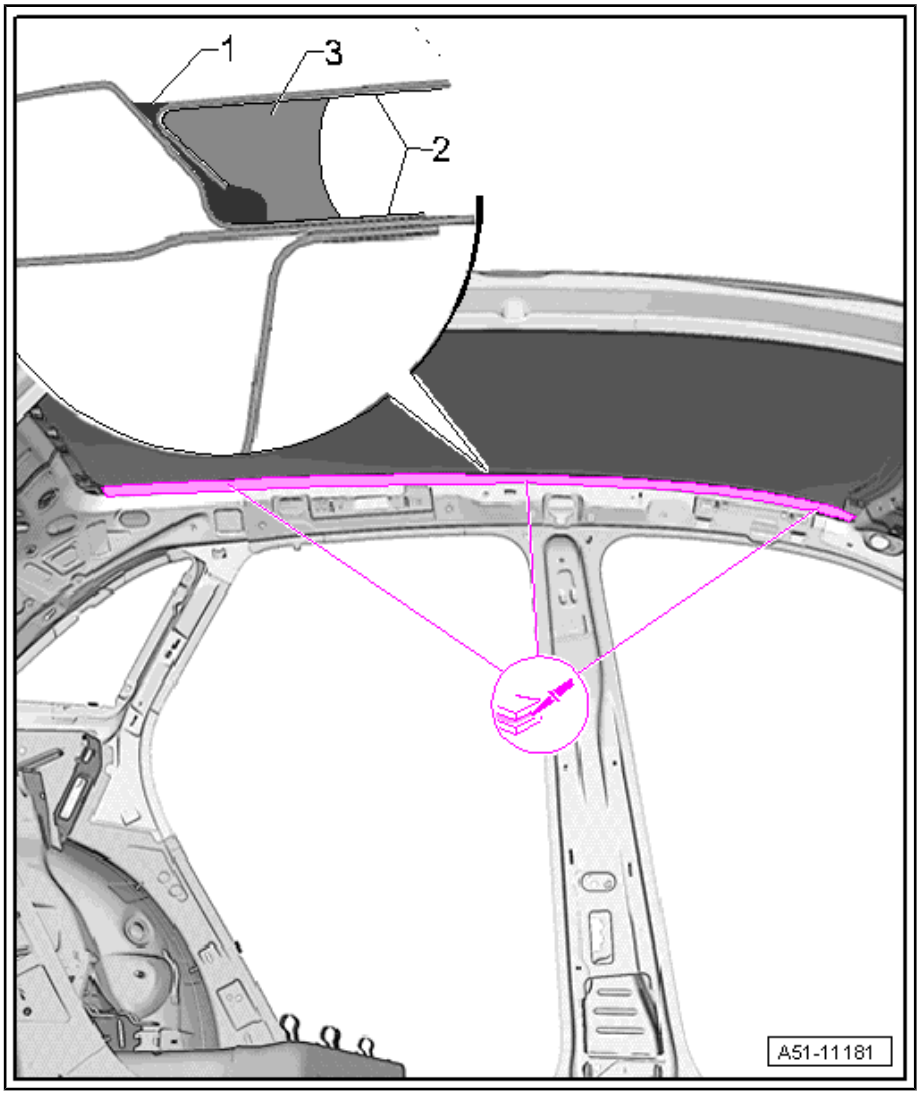



**Note**

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

Copyright by AUDI AG. The reproduction, distribution and utilization of this document, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

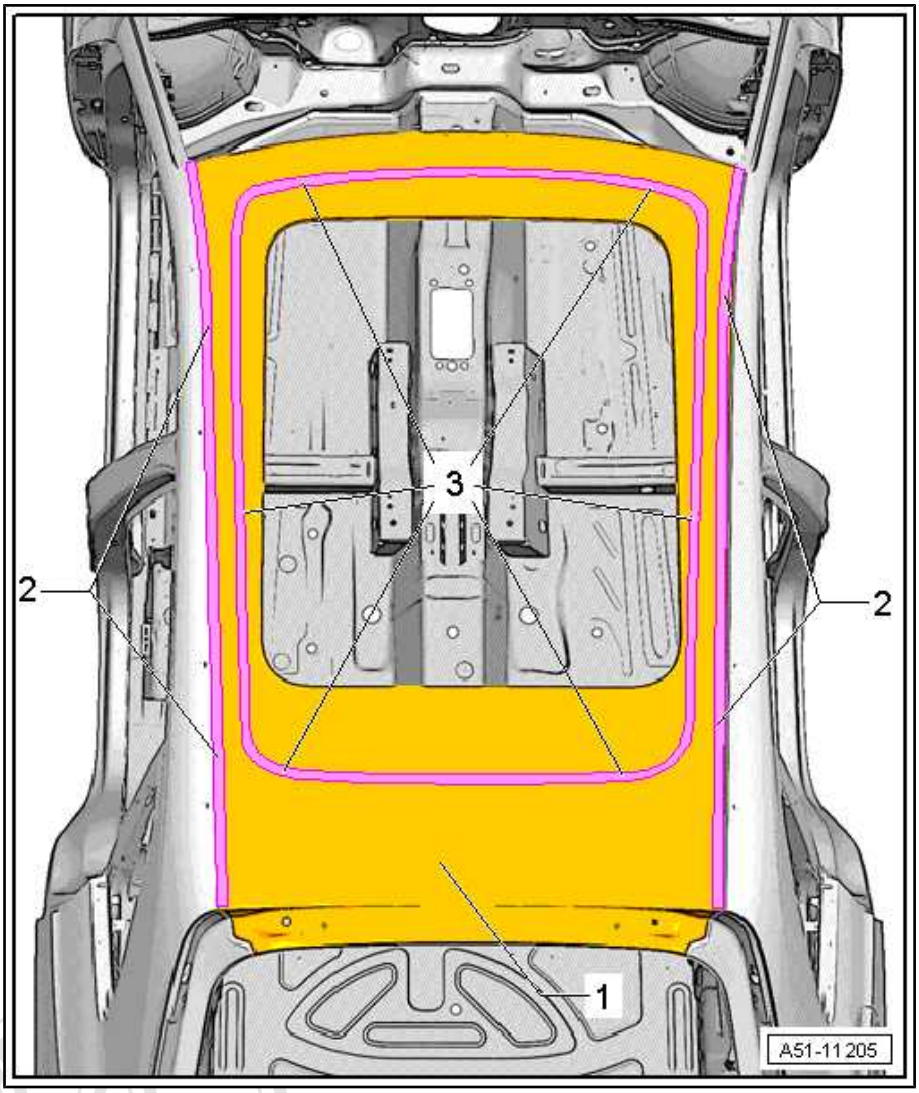
RO: 51 03 55 00

# 3 Roof - Renewal (version with large sunroof)

1 - Roof

2 - Plasmatron weld seam

3 - Bonded area



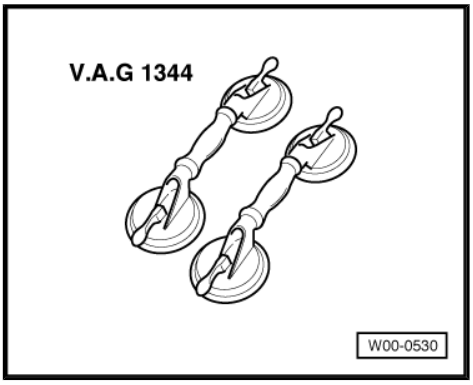

## 3.1 Tools

**Special tools and workshop equipment required**

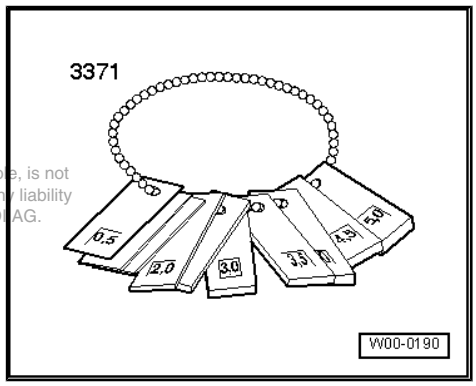
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Pneumatic pop riveter - V.A.G 2003 A-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

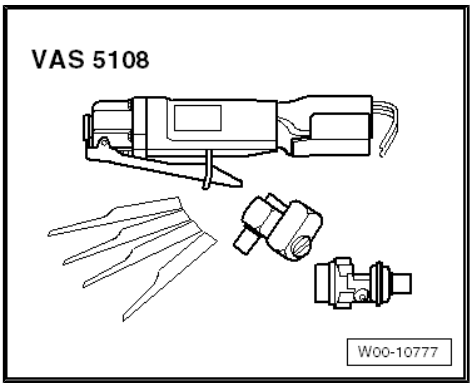



- Setting gauge - 3371-

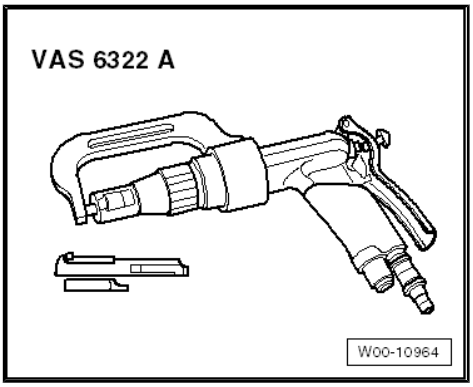



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

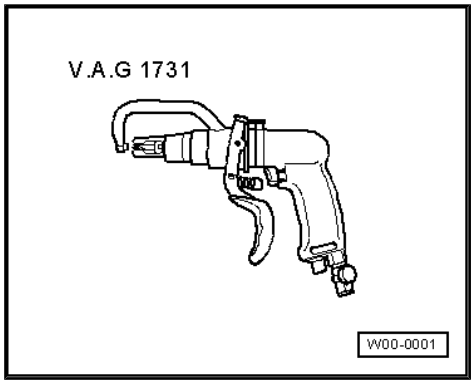
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or



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



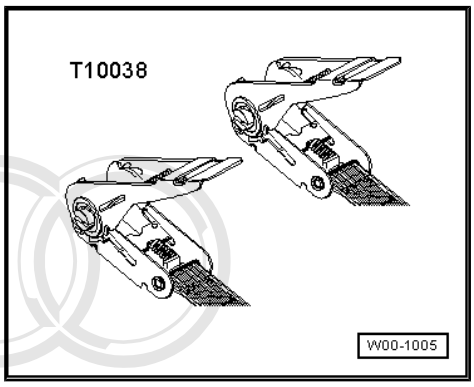

Mole grips, 18-18 - VAS 5430/1-

Tensioning strap - T10038-

Pneumatic cartridge gun - V.A.G 1761/1-

Cartridge heater - V.A.G 1939 A-

Double cartridge gun - VAS 6453-




## 3.2 Procedure

**Cutting locations**

**WARNING**

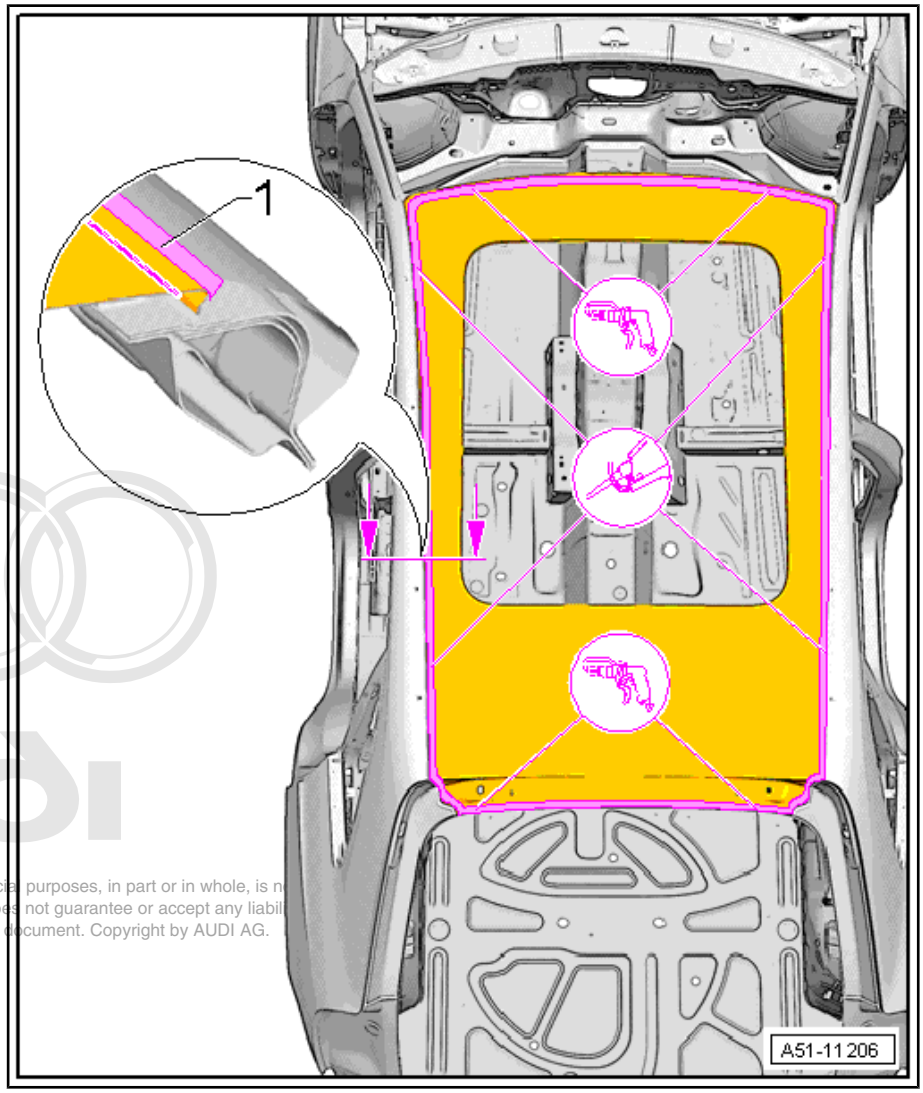
***Do not damage roof cross member (front and rear) when separating.***

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the accuracy of the information in this document. Copyright by AUDI AG.

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

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

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

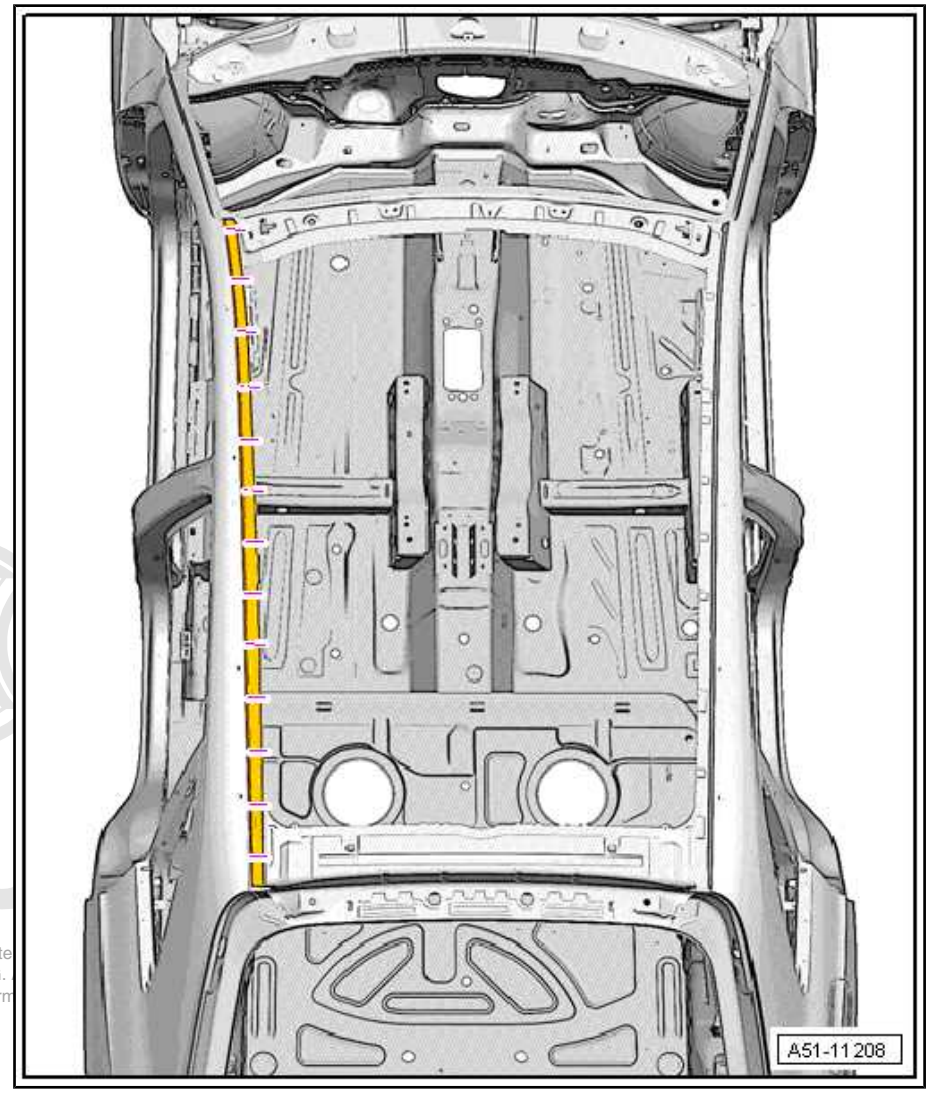



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Note**

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

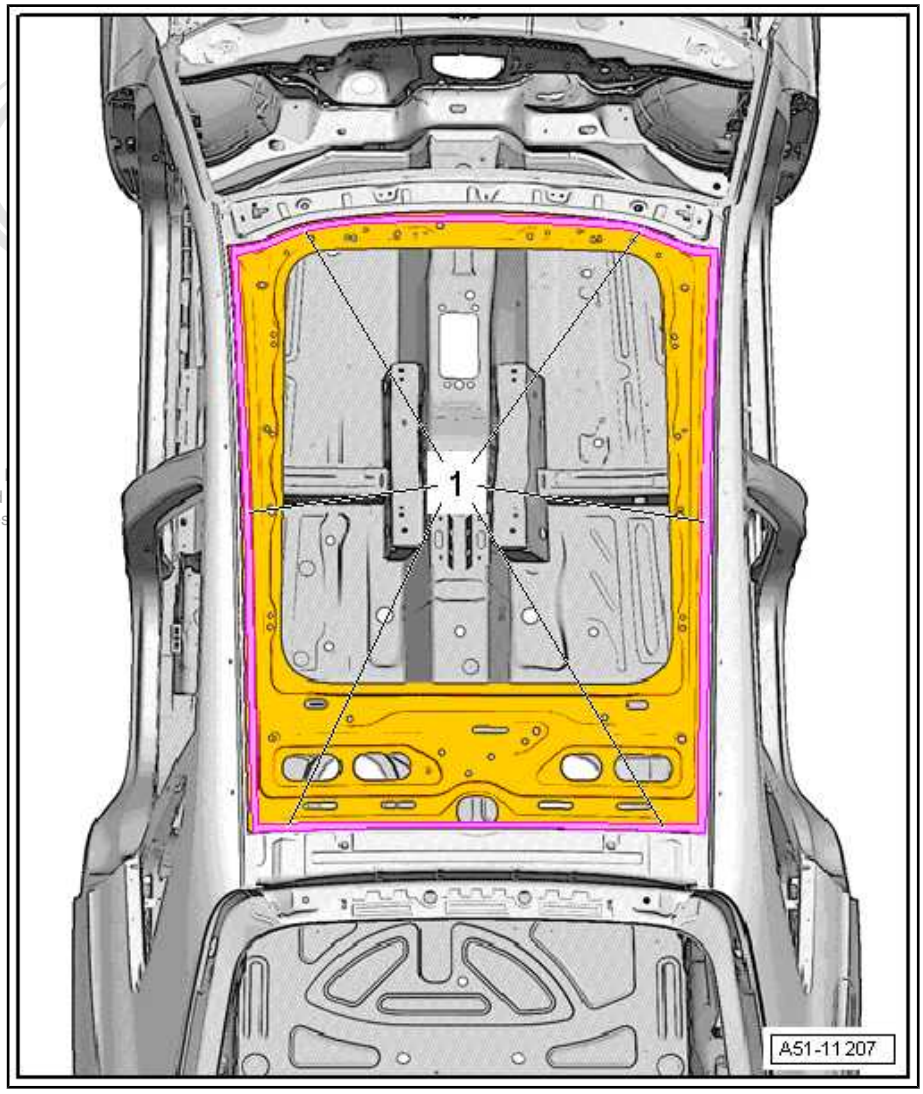
– Make cuts in remaining sections of roof using tin snips .
– Take hold of remaining sections with pliers and break open plasmatron weld seam by pulling up and down.




Protected by copyright. Copying for private
permitted unless authorised by AUDI AG.
with respect to the correctness of inform

– Open up original bonded joint -1- using chisel .

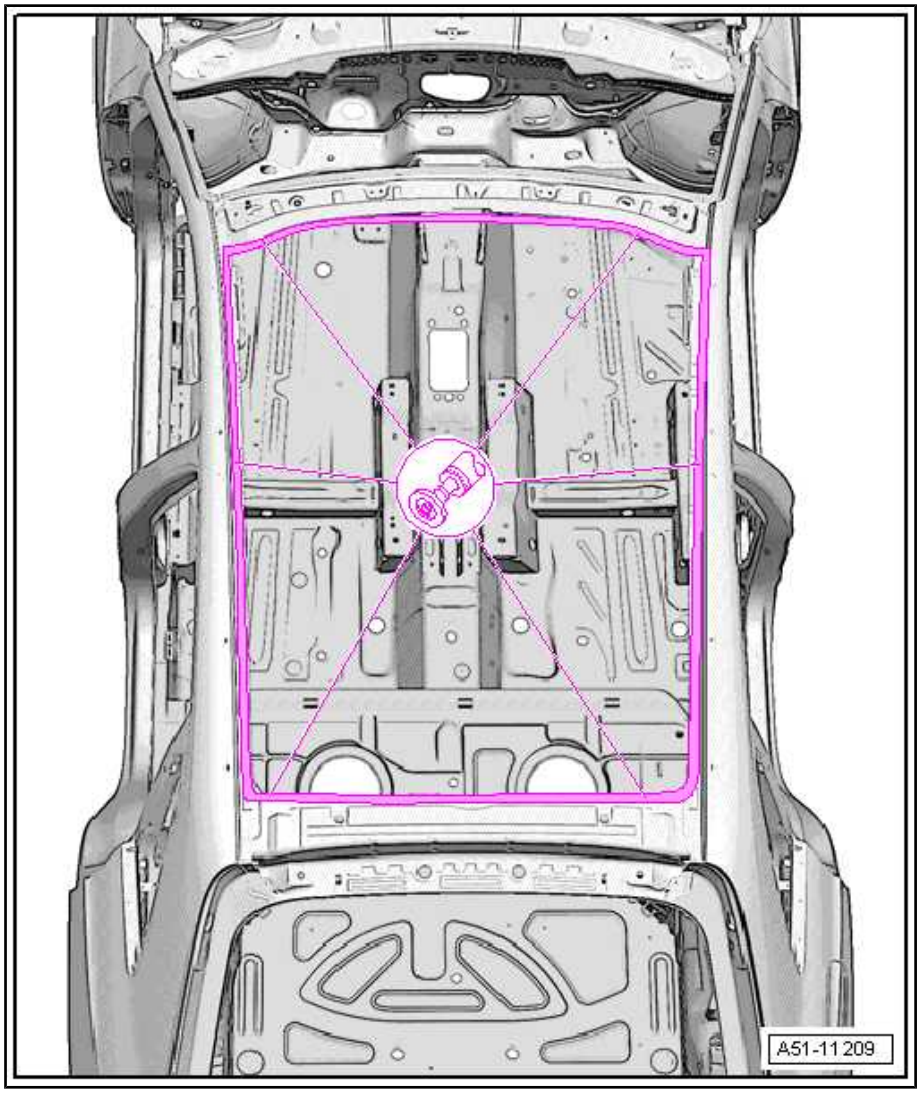
Protected
permitted
with res




– Remove remaining material using compact angle grinder .

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

Do not use cutting discs or rough-filing discs.




**Replacement parts**

- Cleaning solution - D 009 401 04-
- Roof (version with large sunroof)
- Single-component assembly adhesive - D 190 MKD A3 - , 1 cartridge
- 2-component epoxy adhesive - DA 180 A00 A2 - , 2 sets of cartridges

**Note**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Preparing new part**

**Dimensions for renewing roof aerial (identical for standard roof and panorama roof)**

**Dimension - A - = 130 mm**

Mark dimension for roof aerial in centre of vehicle (keep to dimension).

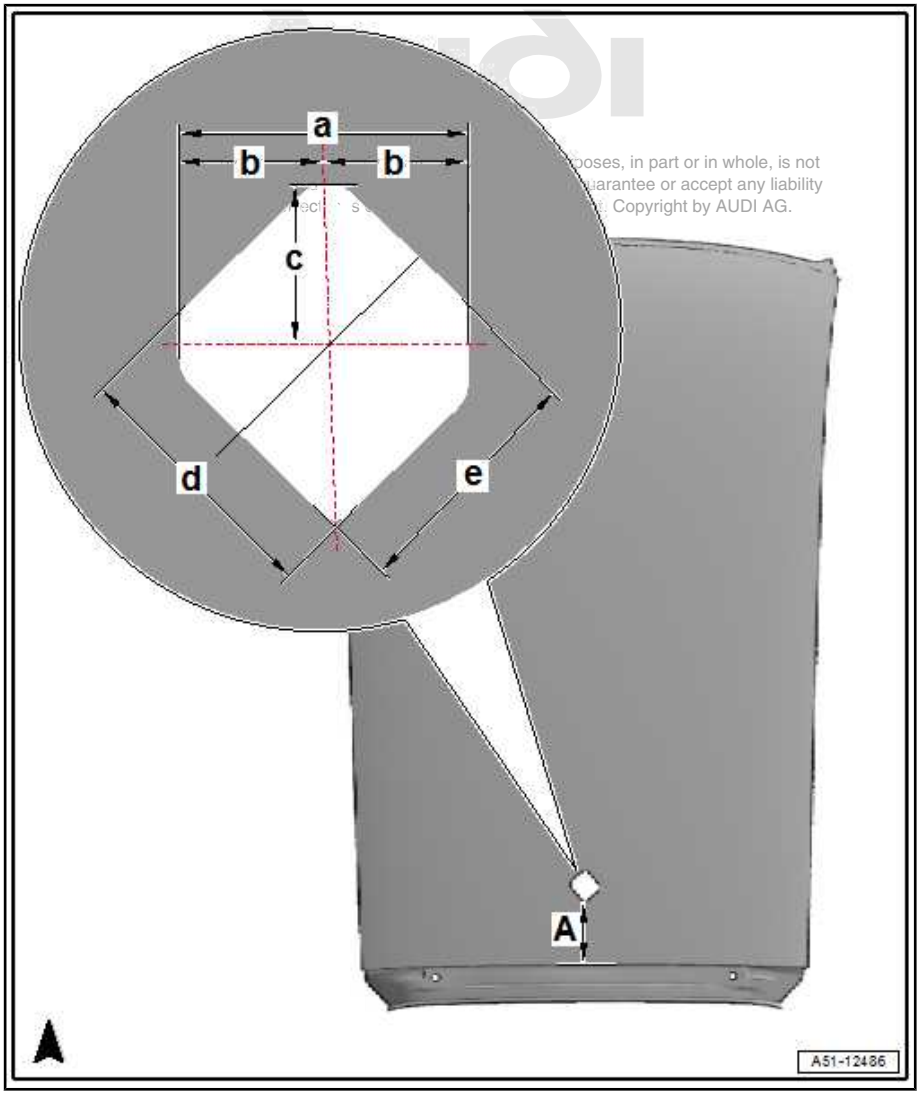
**Dimension - a- = 39 mm**

**Dimension -b- = 19.5 mm**

**Dimension -c- = 22 mm**

**Dimension -d- = 34 mm**

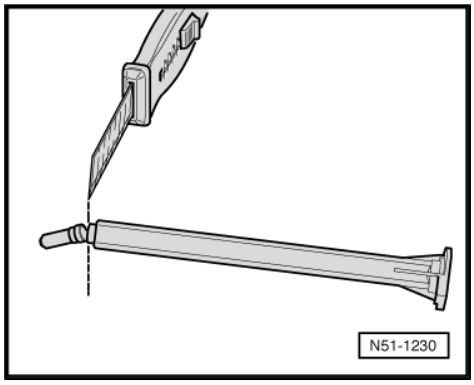
**Dimension -e- = 32 mm**



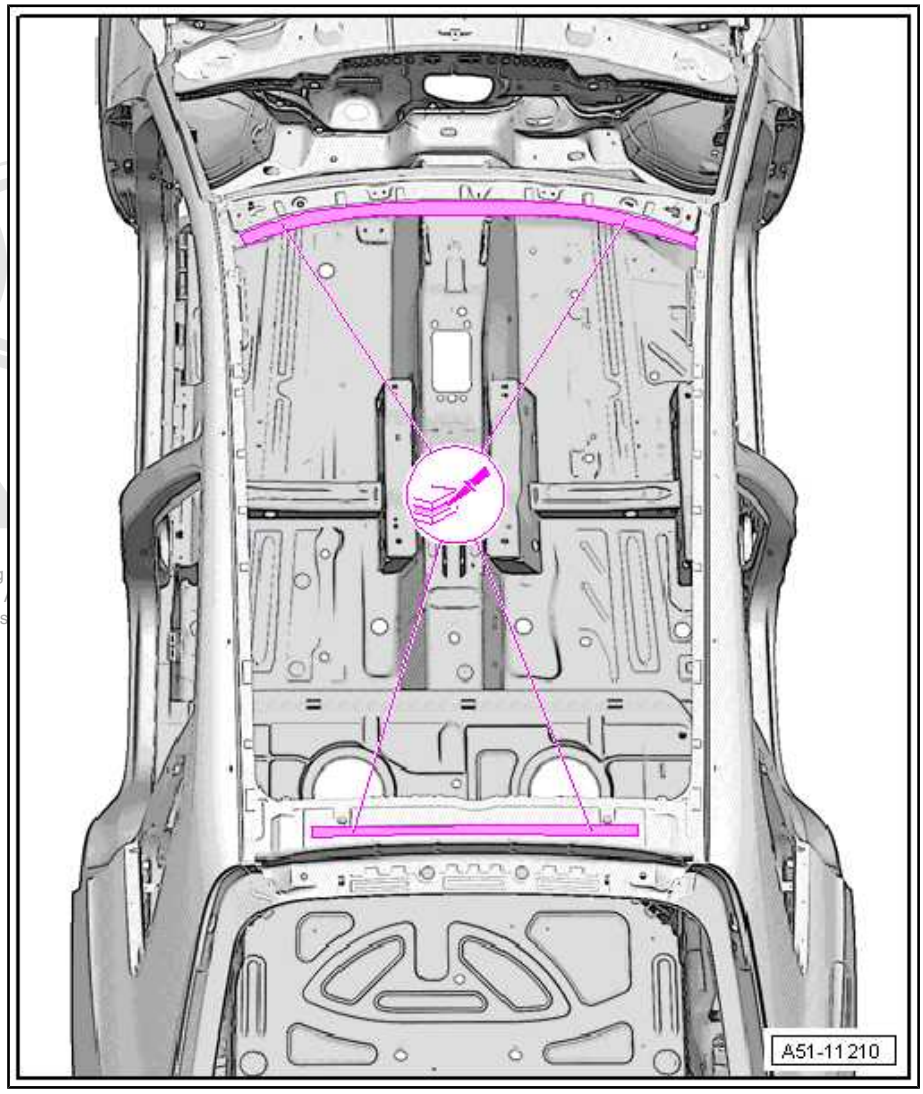

...poses, in part or in whole, is not ...arantee or accept any liability ... Copyright by AUDI AG.

– Prepare adhesive cartridges required for bonding.

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

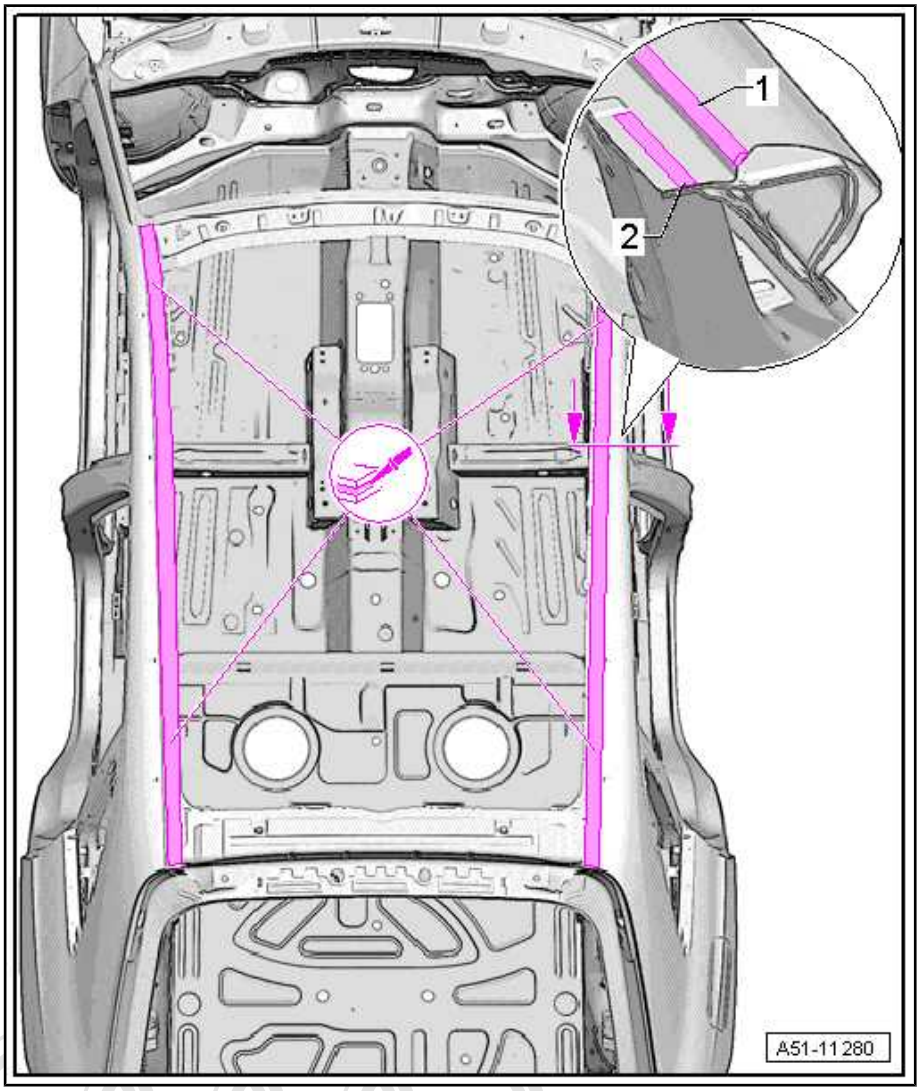



– Apply single component assembly adhesive - D 190 MKD A3 - to roof frame using pneumatic gun - V.A.G 1761/1- .



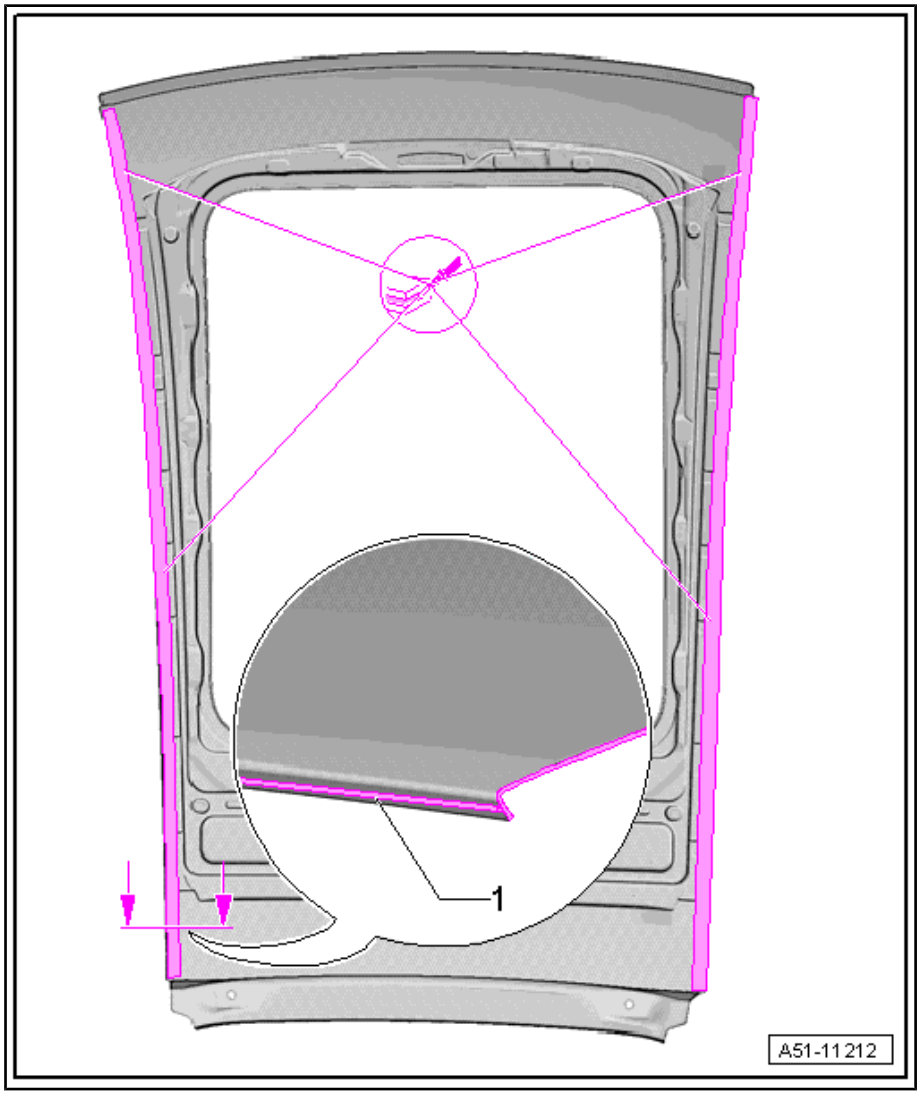

Protected by copyright. Copying
permitted unless authorised by
with respect to the correctnes

– Apply continuous bead -1- and -2- of 2-component epoxy adhesive - DA 180 A00 A2 - to roof side members using double-cartridge gun - VAS 6453- .




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Attach four suction lifters - V.A.G 1344- or magnets - VAS 6739- to outside of roof panel.
– Immediately fit and align roof.
– Use one self-tapping screw at each end to fix roof in position in centring hole in windscreen flange and sealing flange for rear lid.
– Fix roof in position at windscreen opening and rear window opening using mole grips, 18-18 - VAS 5430/1- .

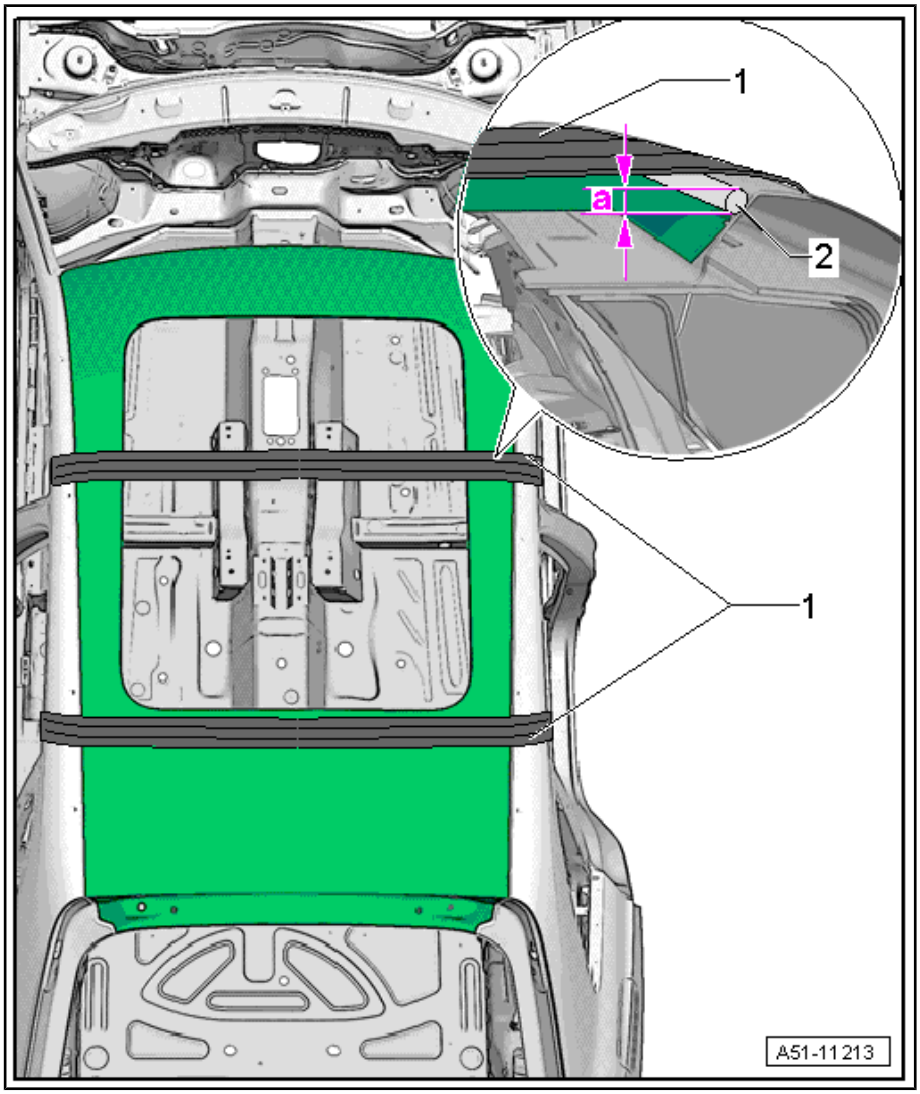
**Adjusting roof depth**

– Additionally fix roof in position with two tensioning straps - T10038- -1-.
– Set required depth using drill bit or suitable wooden spacer, etc -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 -

Reproduction or distribution of this document or any part thereof for commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




**WARNING**

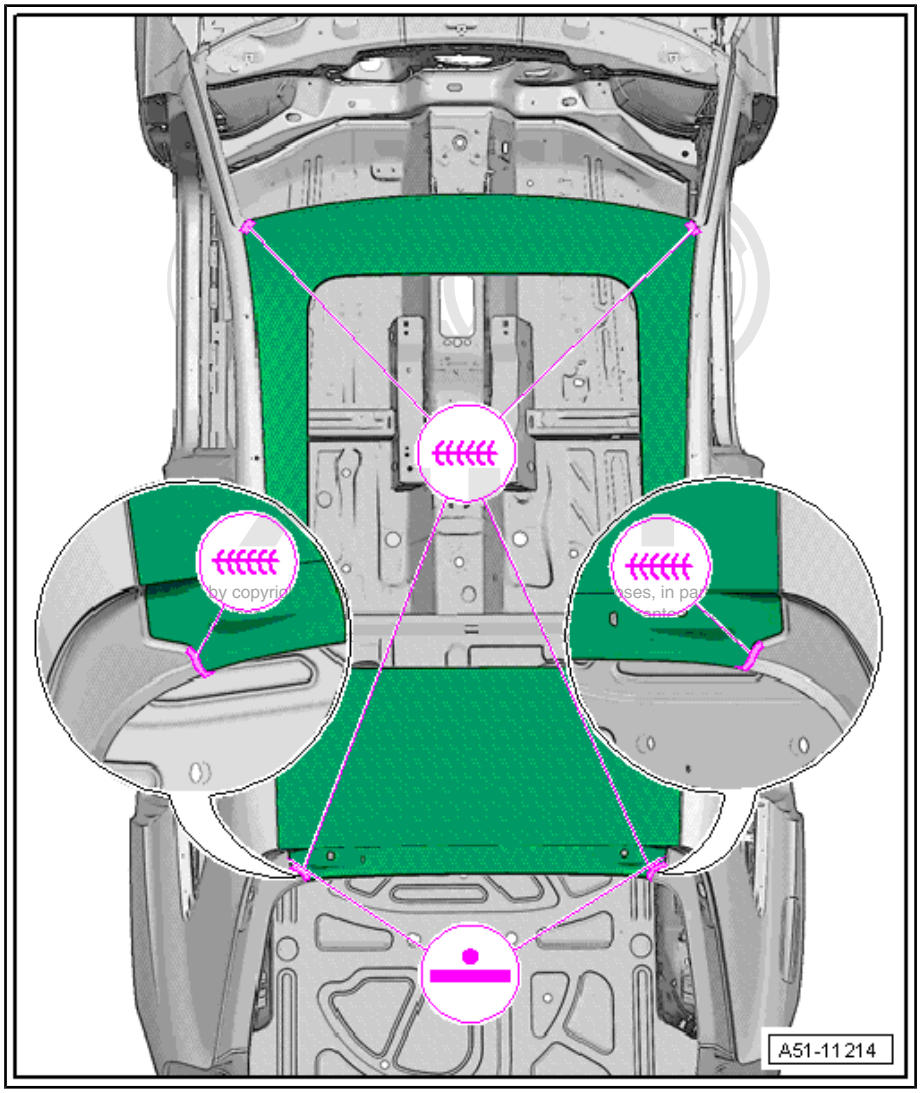
*Allow bonded joint on roof to harden for 60 minutes at approx. 65° to 80° C with radiant heater. Check temperature constantly with temperature sensor.*

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

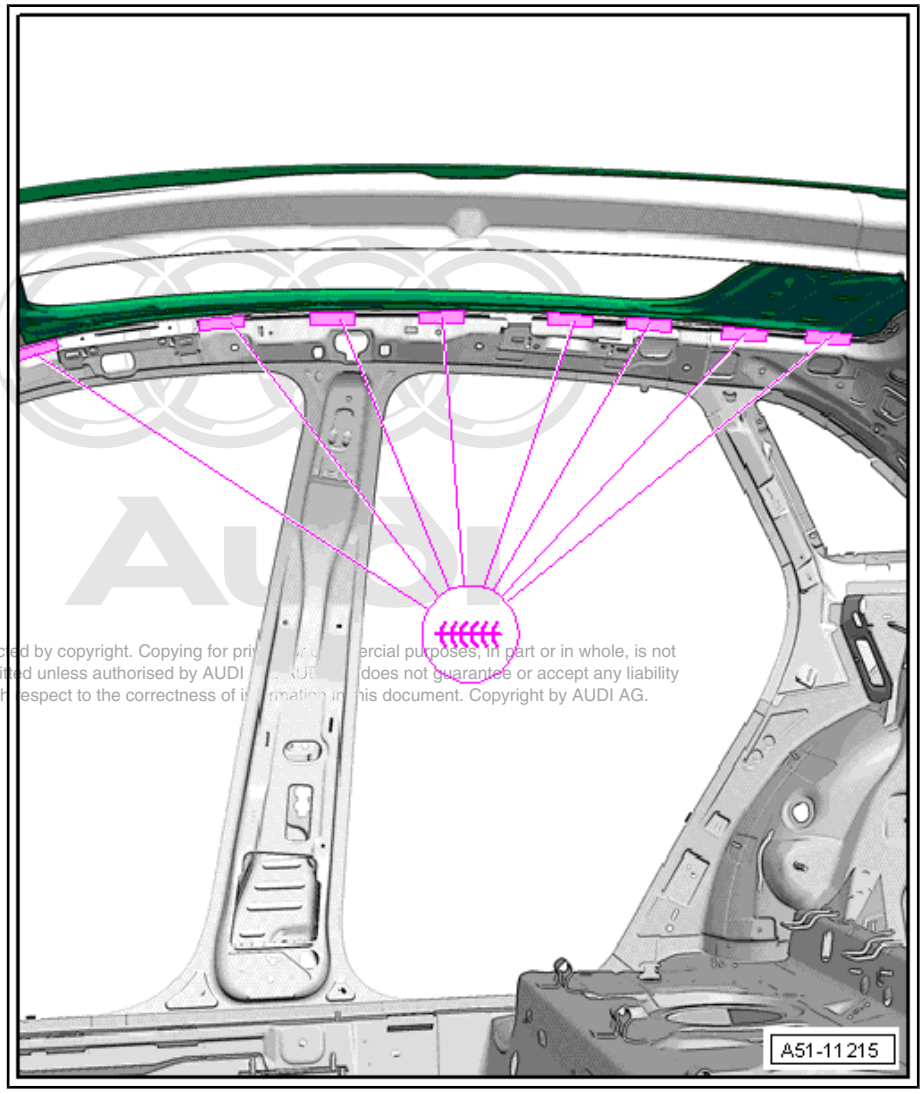
– Grind down SG continuous weld seams using compact angle grinder .

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

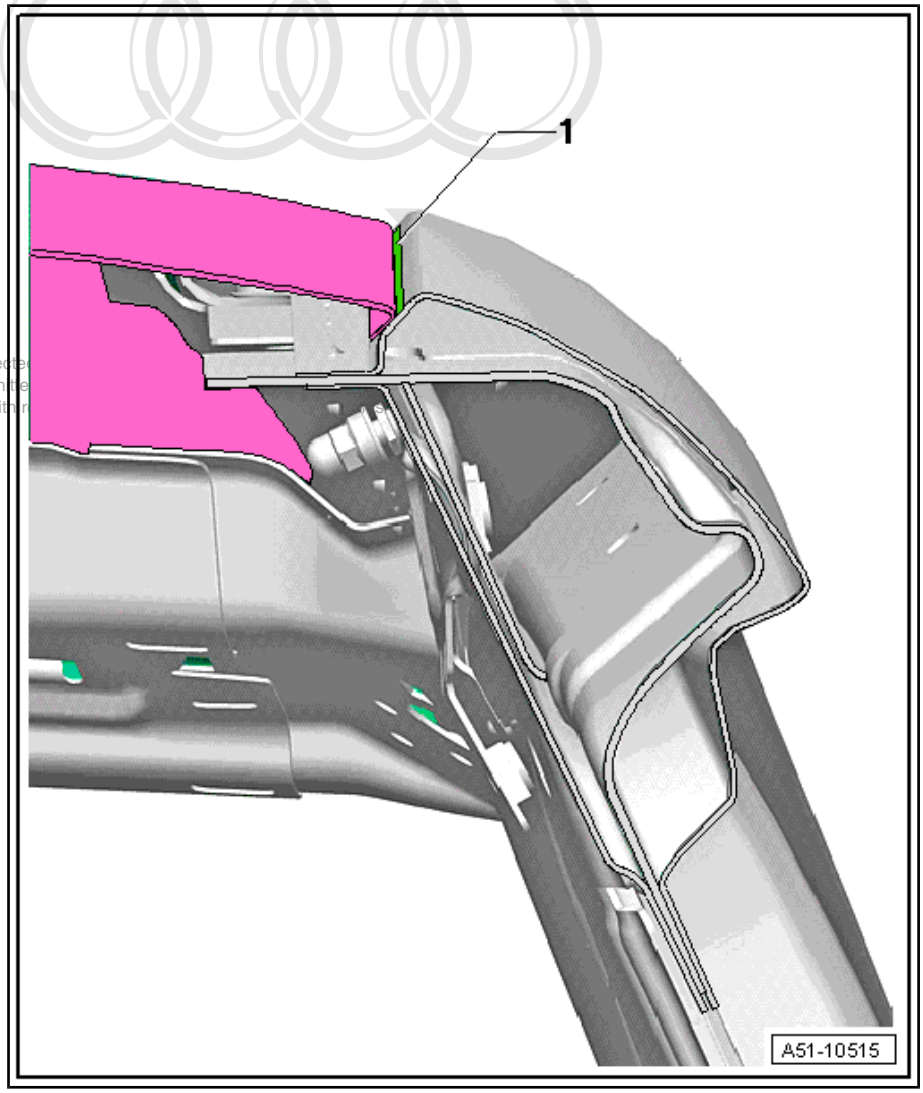



– Weld in reinforcement frame at inner side panel using shielded arc welding equipment : 9 x 15 mm SG continuous seam.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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


1
A51-10515

RO: 51 05 55 50

# 4 Roof side member - Renewal

**1 - Separating cut in A-pillar**

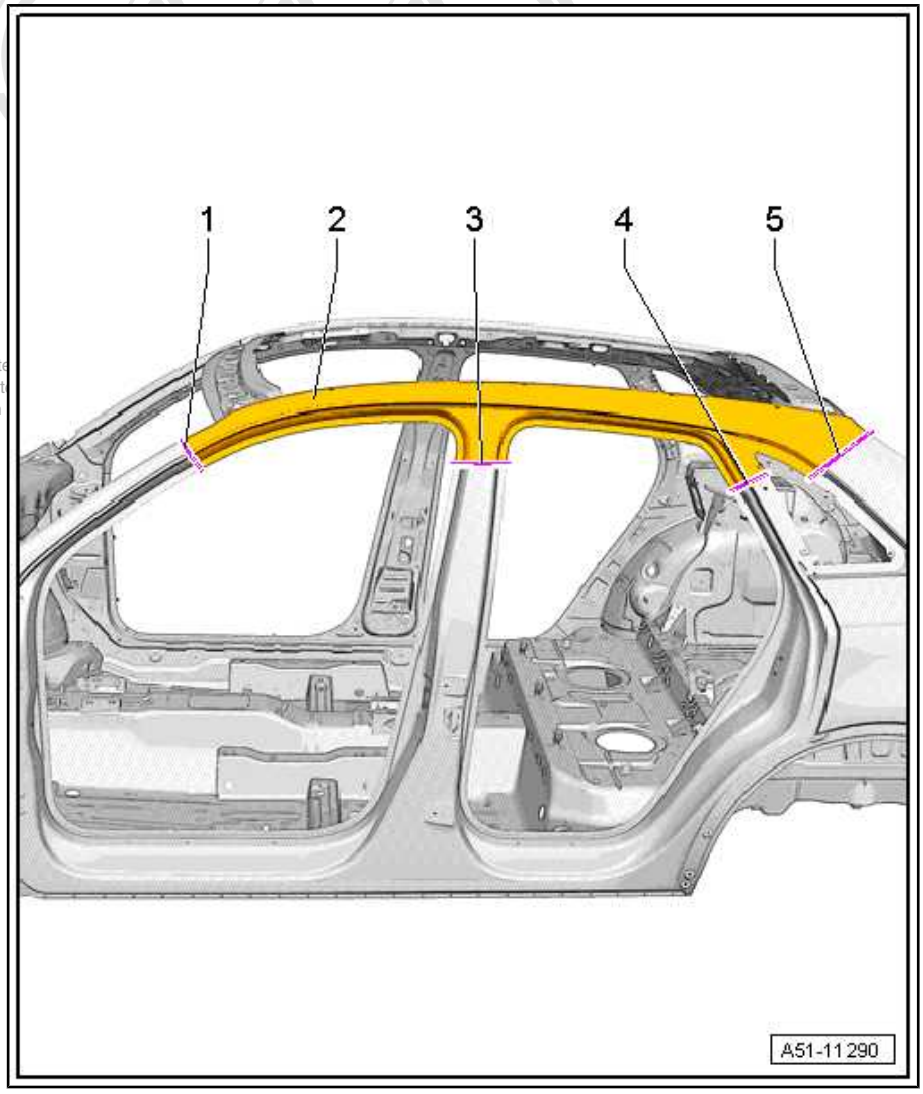
**2 - Roof side member**

**3 - Separating cut in B-pillar**

**4 - Separating cut in C-pillar**

**5 - Separating cut in D-pillar**

Protecte
permitt
with

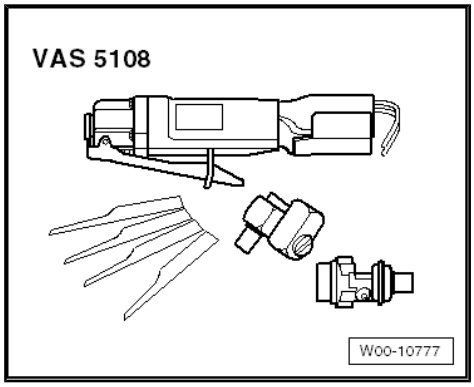



## 4.1 Tools

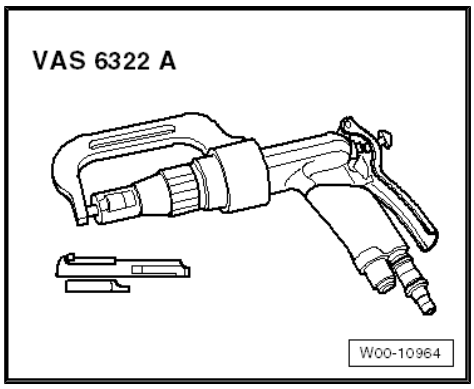
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-

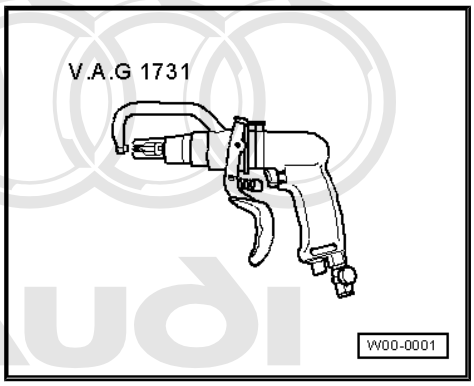
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 4.2 Procedure

- Roof removed (version with large sunroof) ⇒ page 126
- Roof removed ⇒ page 103

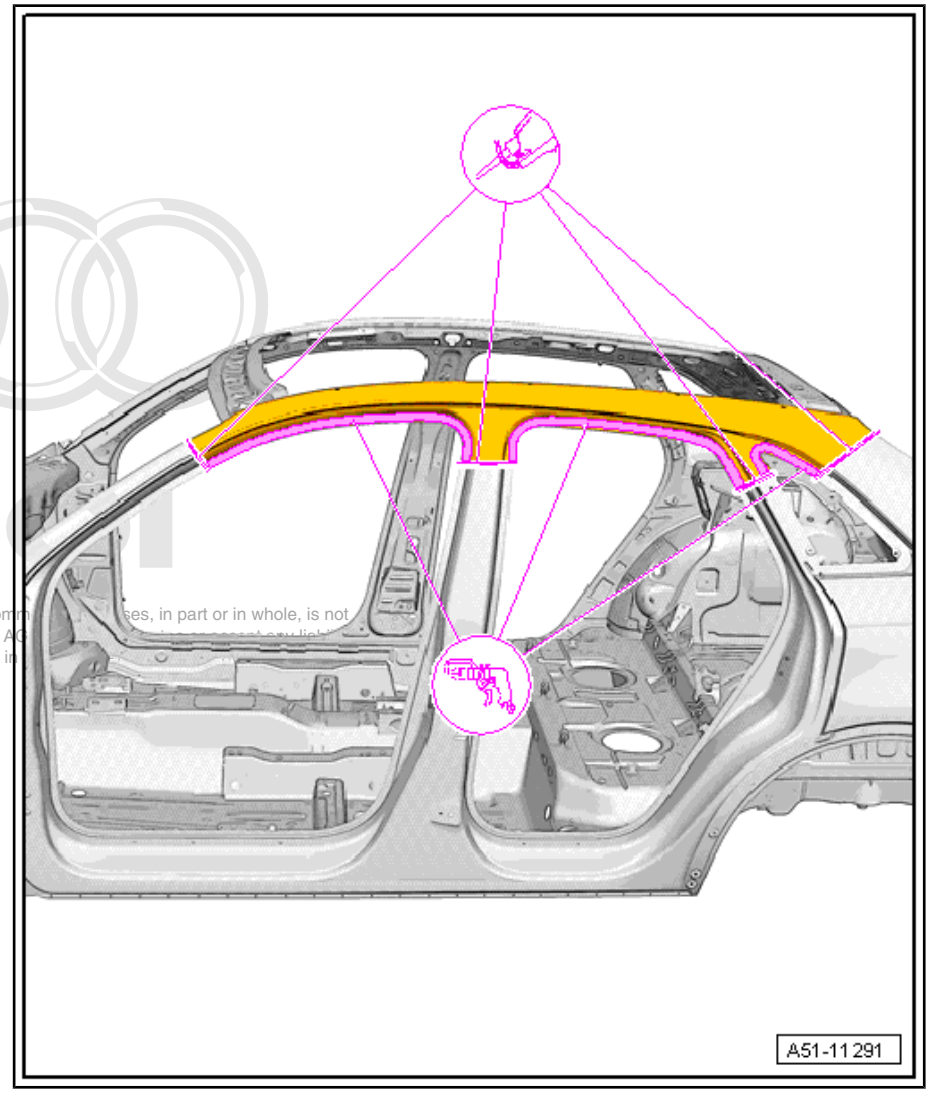
**Cutting locations**

Permitted separating cuts on complete side frame ⇒ page 102

– Make separating cuts 1 + 3 + 4 + 5 according to extent of damage using body saw .

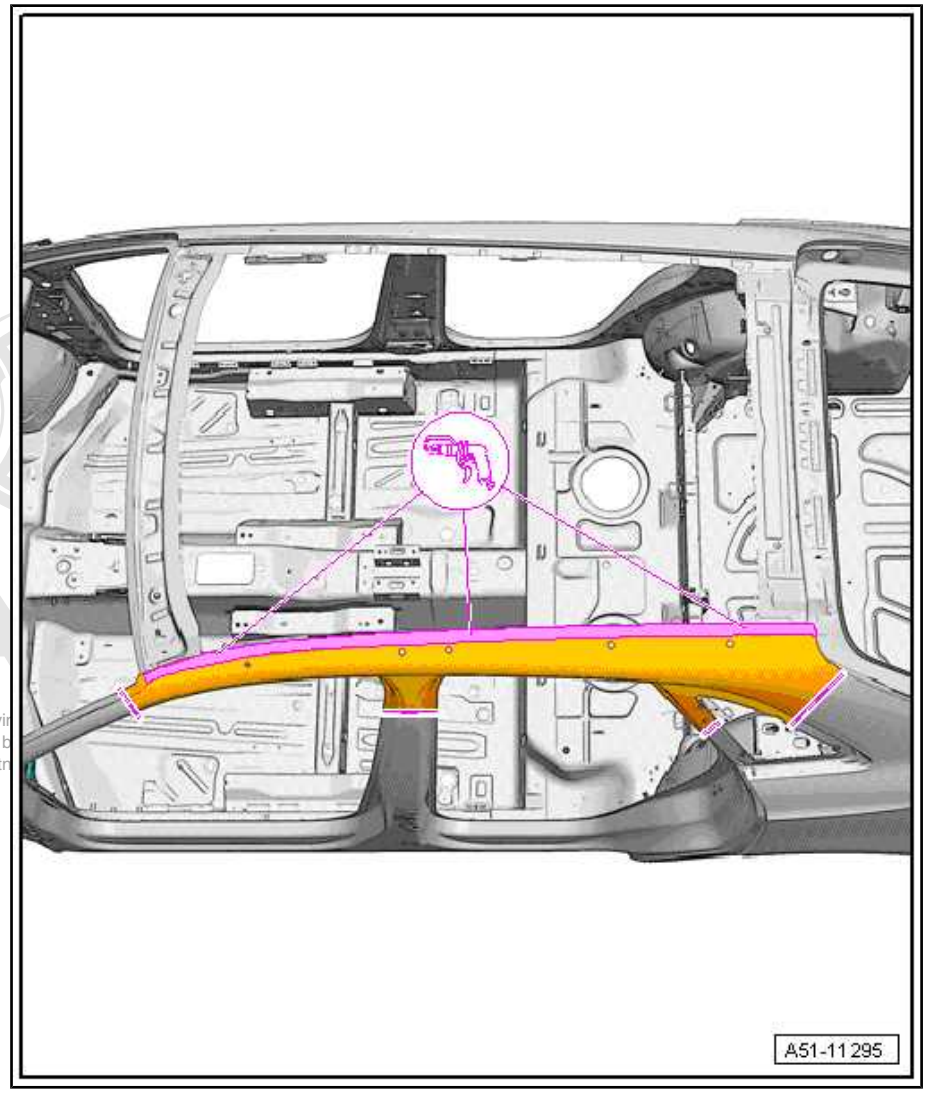
– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or comm ses, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG with respect to the correctness of information in

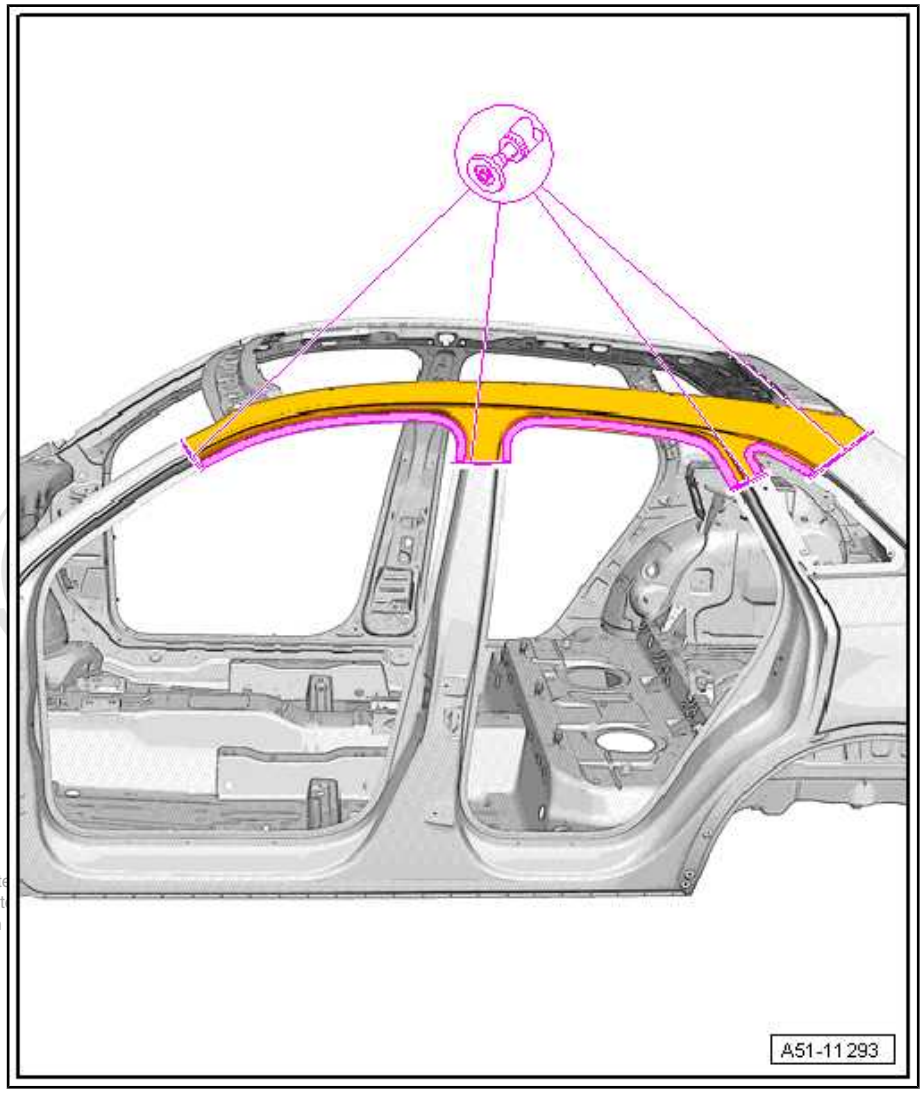



– Separate original joint using spot weld breaker .

Protected by copyright. Copyi
permitted unless authorised b
with respect to the correctn




– Remove remaining material using compact angle grinder .




Protecte
permitt
with

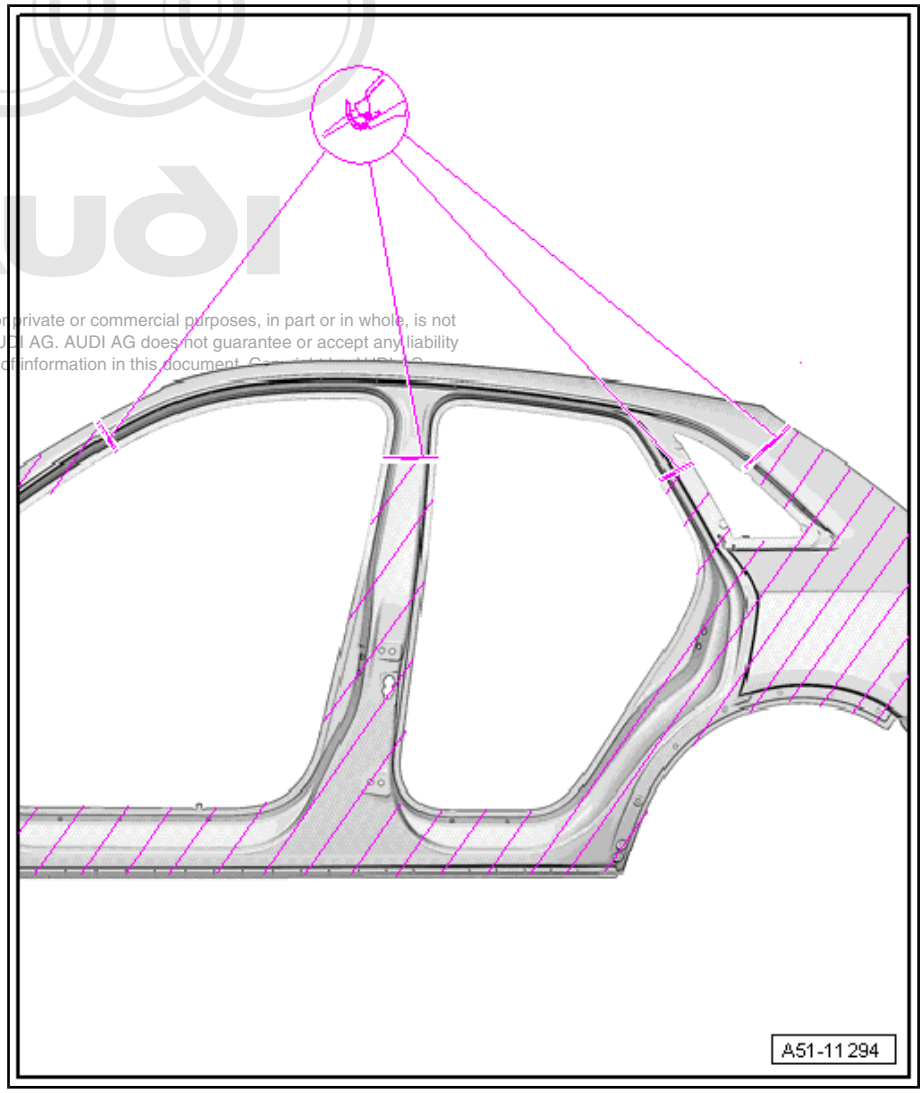
**Replacement part**

- Side panel

**Preparing new part**

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

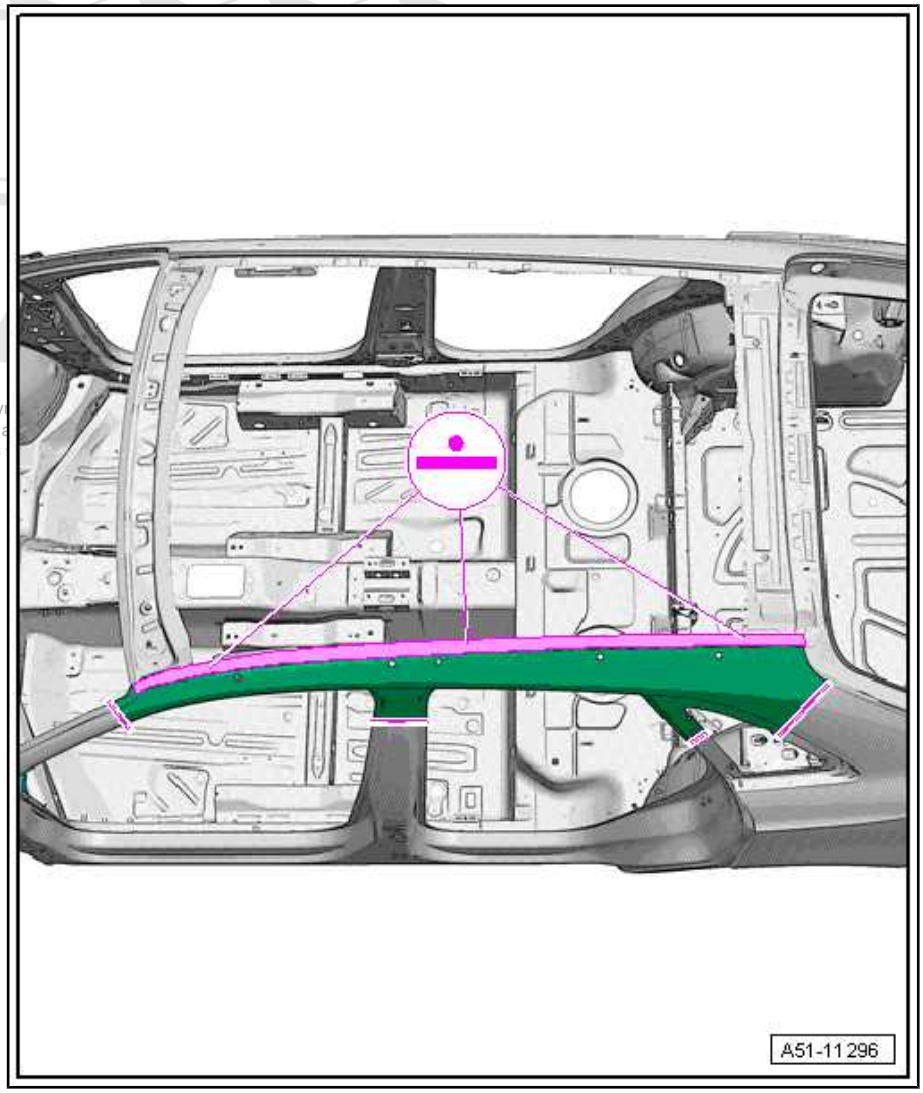
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document.



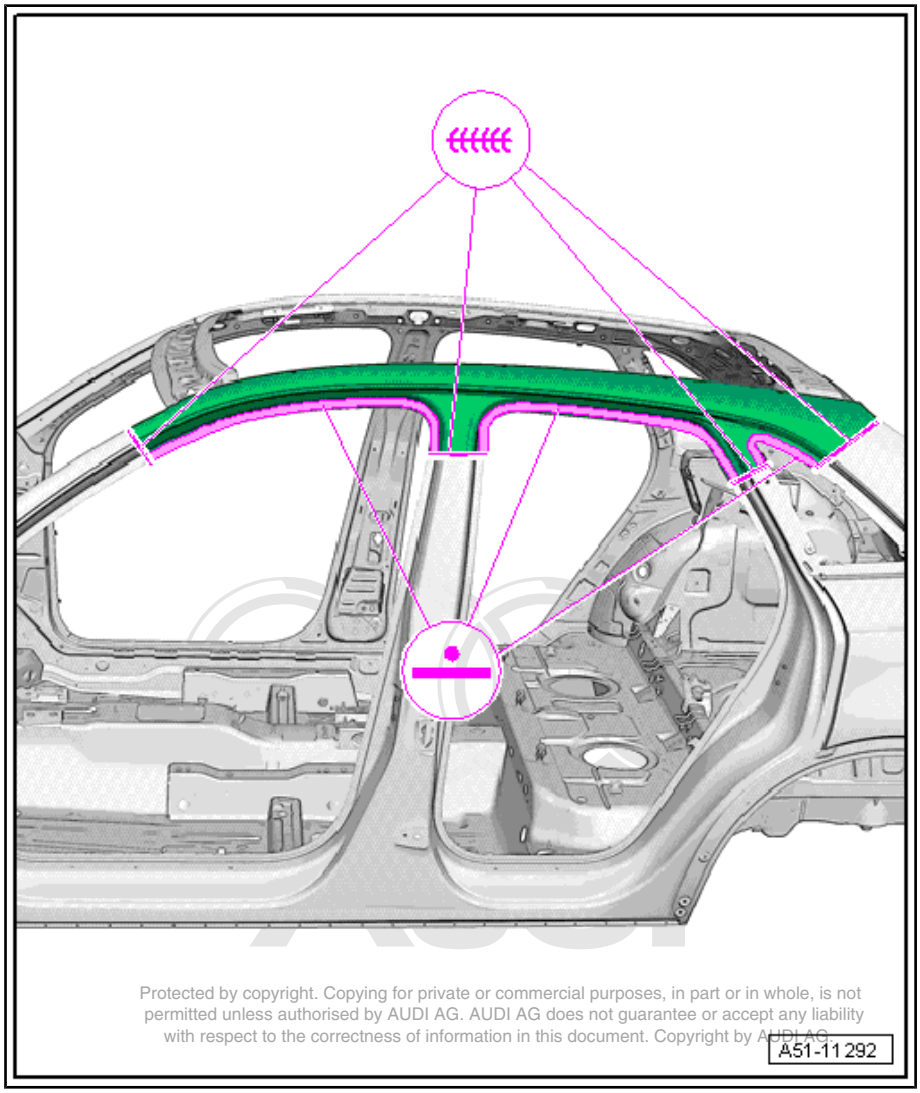

**Welding in**

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

Protected by copy
permitted unless a
with respect to




– Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.
– Weld in roof side member using resistance spot welder : RP spot weld seam.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Welding in roof (version with large sunroof) ⇒ page 126
- Welding in roof ⇒ page 103

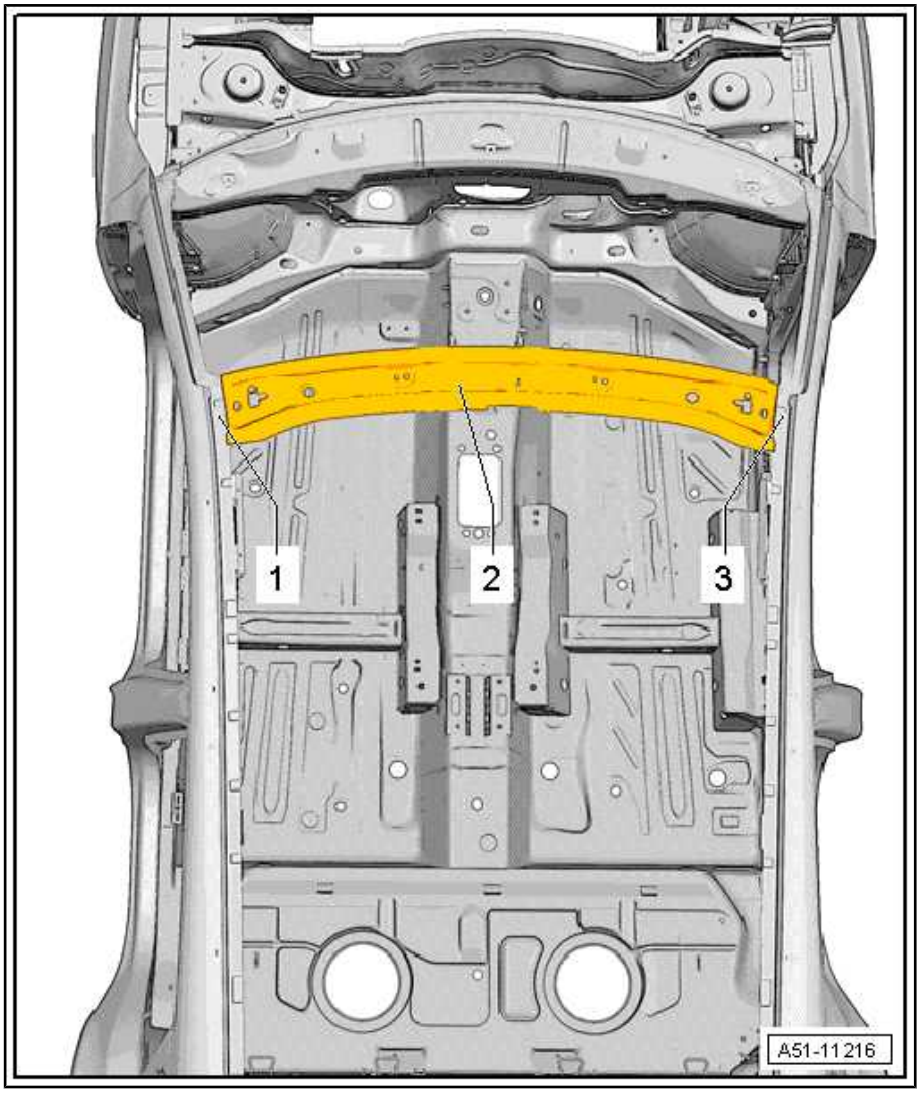
RO: 51 07 55 50

# 5 Front roof cross member - Renewal

1 - Side frame (left-side)

2 - Roof cross member (front)

3 - Side frame (right-side)



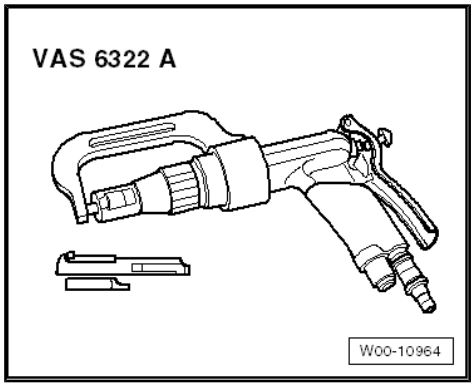

## 5.1 Tools

**Special tools and workshop equipment required**

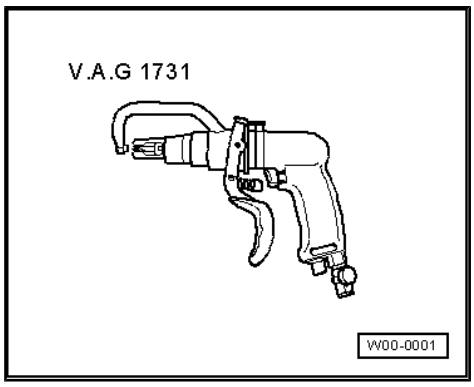
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

♦ Spot weld breaker - VAS 6322 A- or




♦ Spot weld breaker - V.A.G 1731-




## 5.2 Procedure

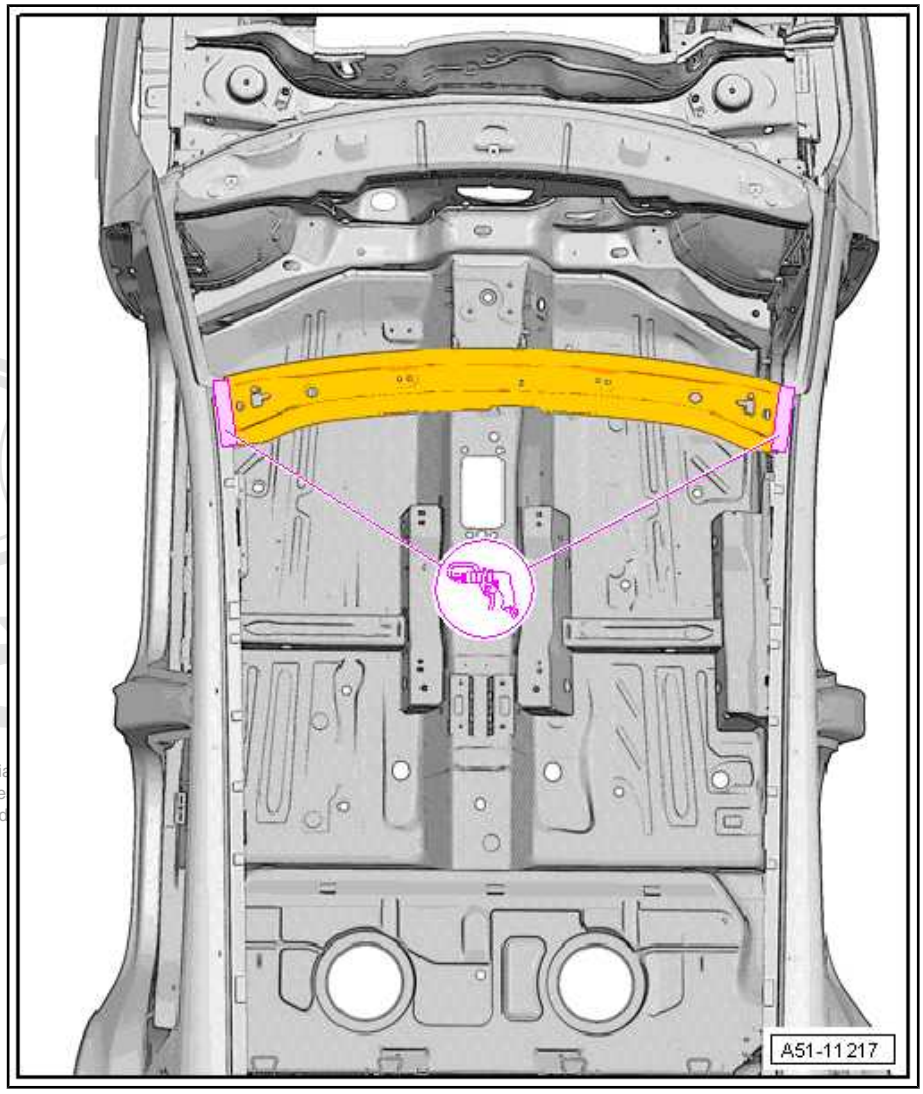
- Roof removed (version with large sunroof) ⇒ page 126
- Roof removed ⇒ page 103

**Cutting locations**

– Separate original joint using spot weld breaker .

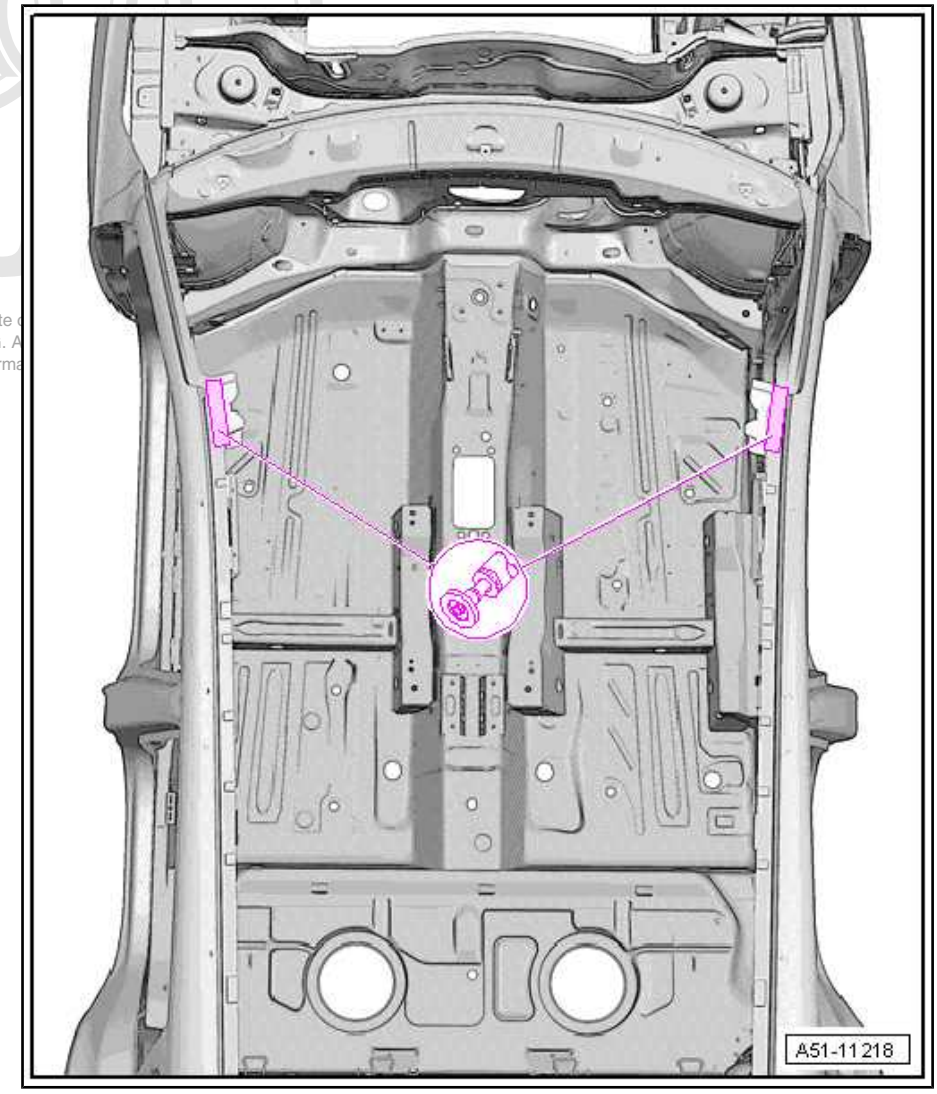
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or commercia
permitted unless authorised by AUDI AG. AUDI AG doe
with respect to the correctness of information in this d




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private
permitted unless authorised by AUDI AG.
with respect to the correctness of




### Replacement part

- Roof cross member

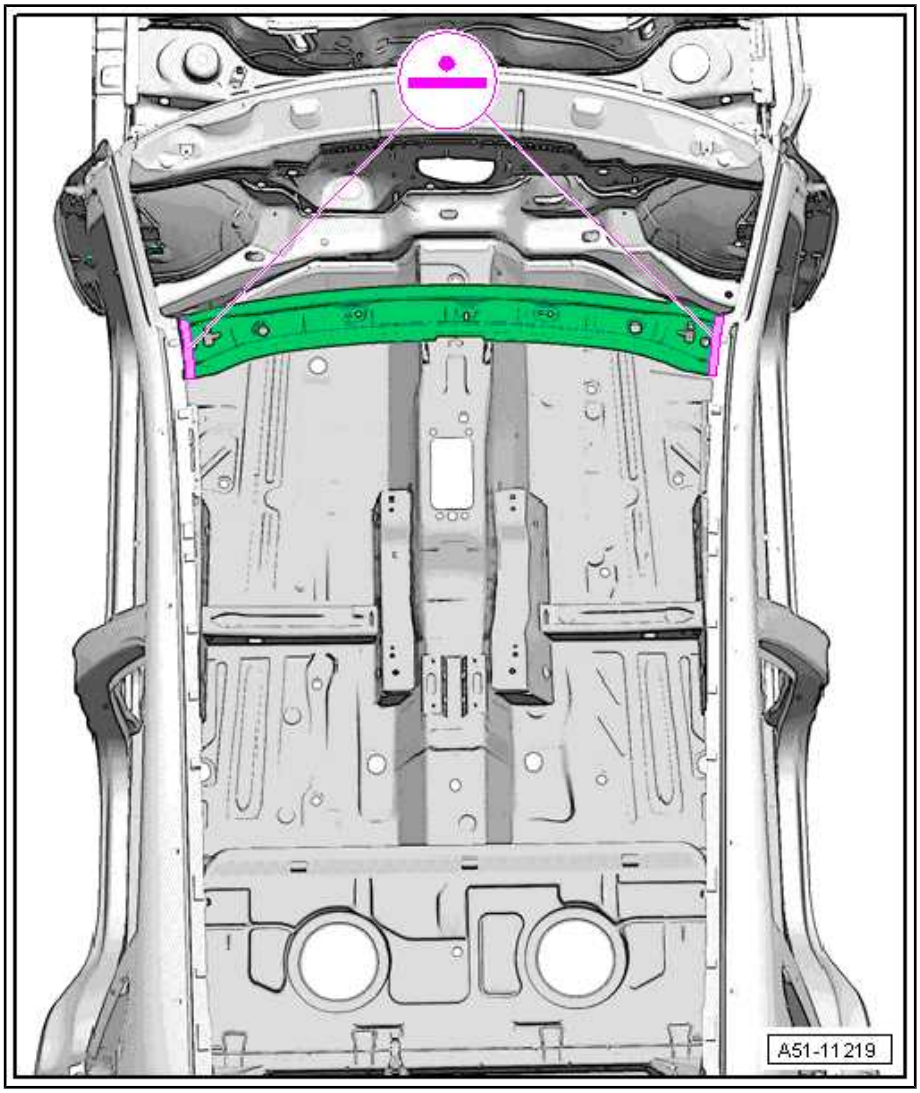
### Note

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

### Welding in

– Match up and fix new part in position.

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



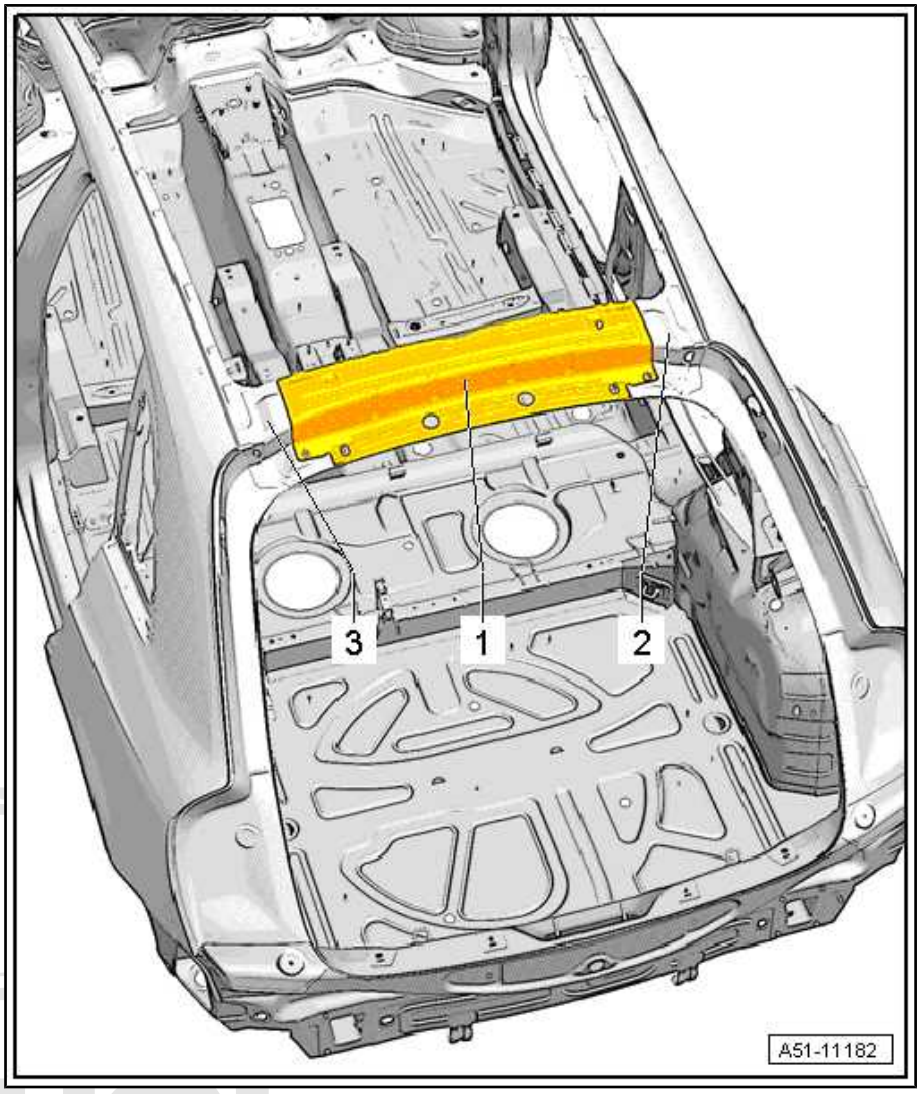

- Welding in roof (version with large sunroof) ⇒ page 126
- Welding in roof ⇒ page 103

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 51 09 55 50

# 6 Rear roof cross member - Renewal

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



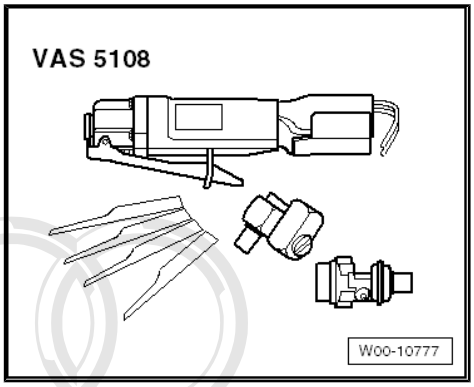

## 6.1 Tools

**Special tools and workshop equipment required**

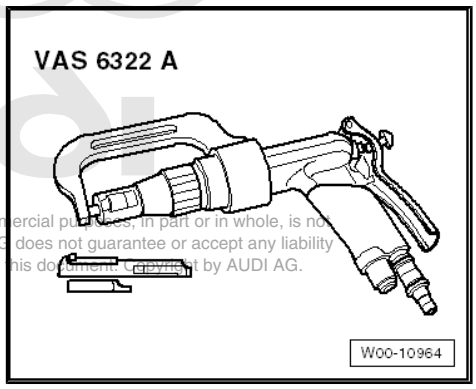
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

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

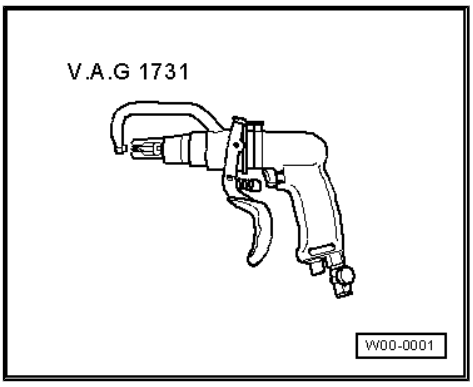



♦ Spot weld breaker - VAS 6322 A- or




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

♦ Spot weld breaker - V.A.G 1731-

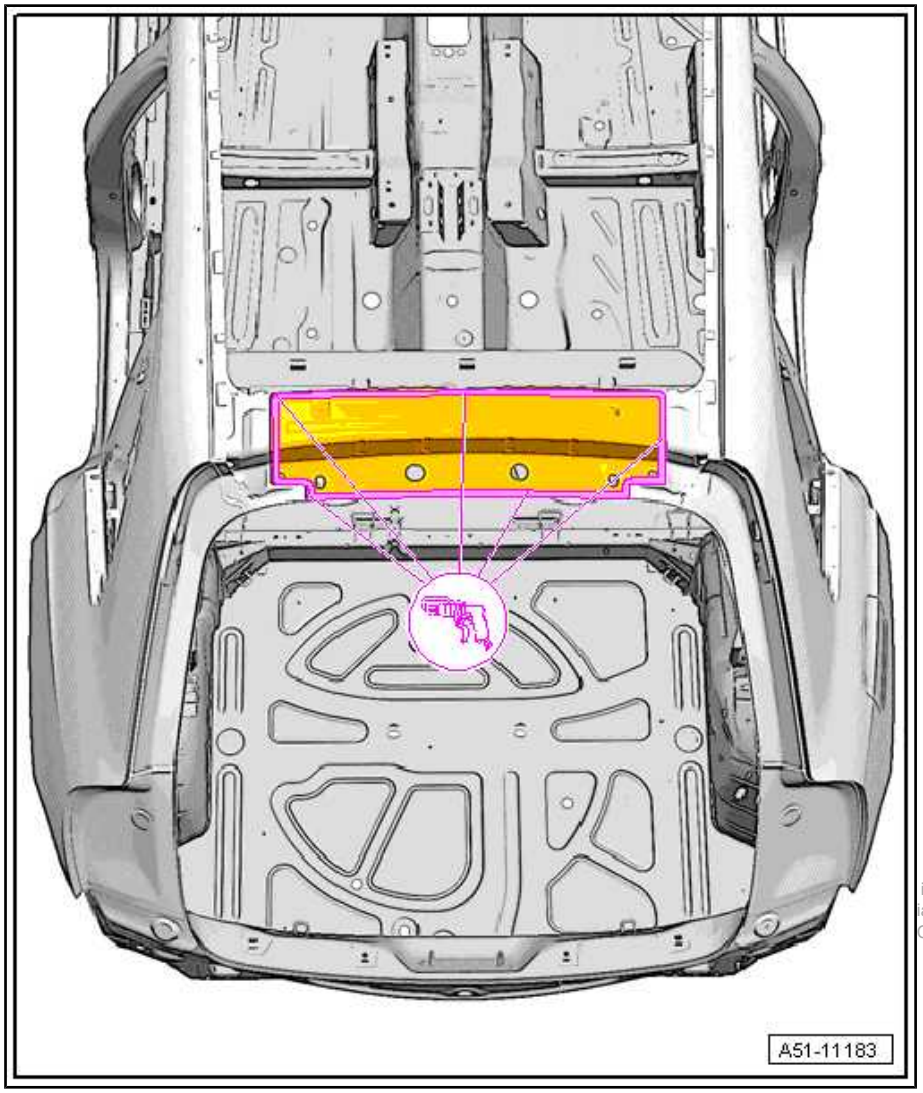



## 6.2 Procedure

- Roof removed (version with large sunroof) ⇒ page 126
- Roof removed ⇒ page 103

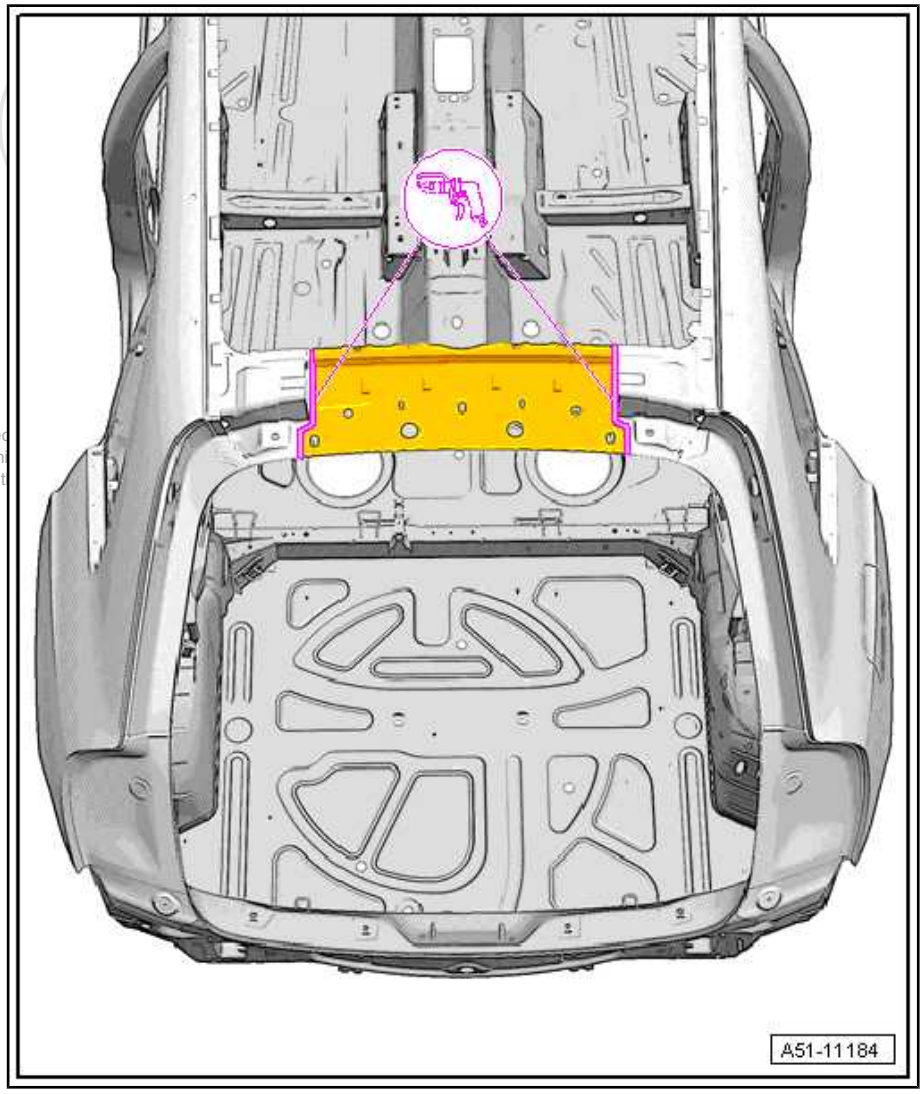
**Cutting locations**

– Separate original joint using spot weld breaker .

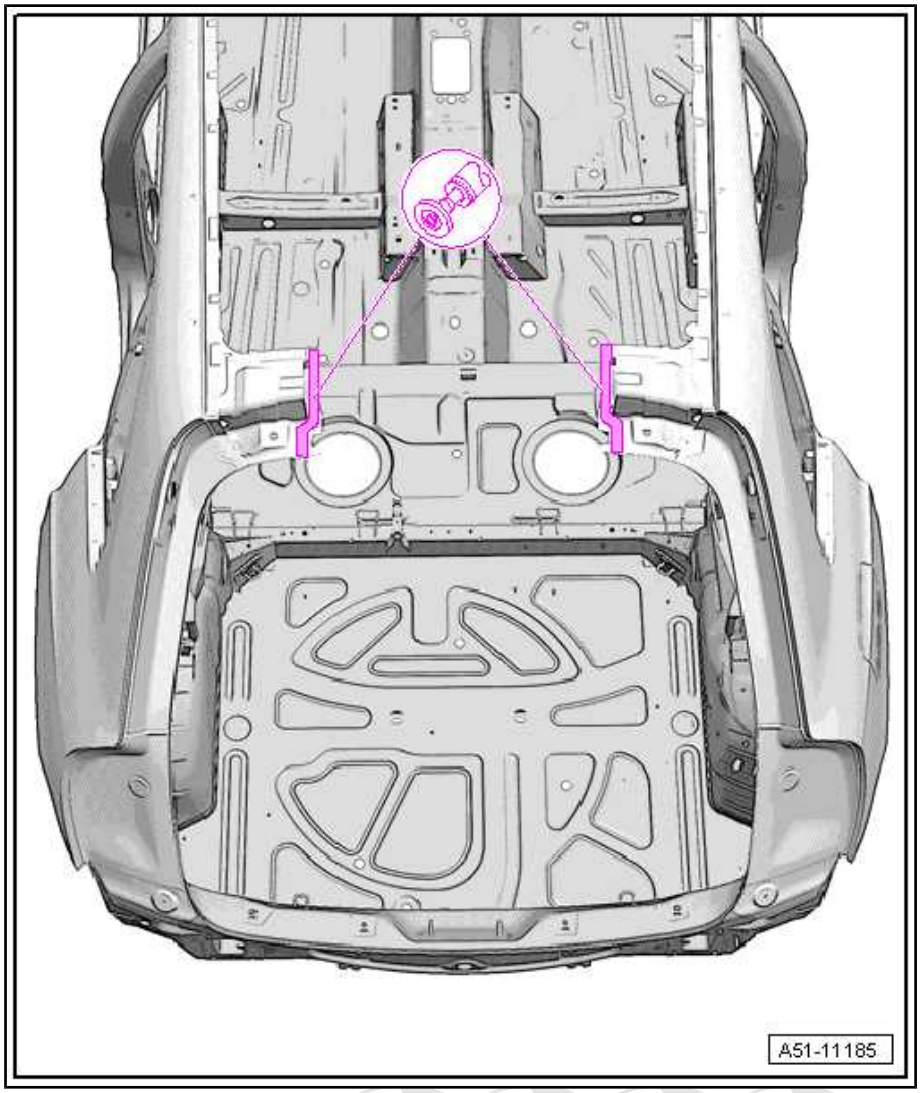



is not
iability
G.

– Separate original joint using spot weld breaker .




– Remove remaining material using compact angle grinder .




### Replacement parts

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

**Note**

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

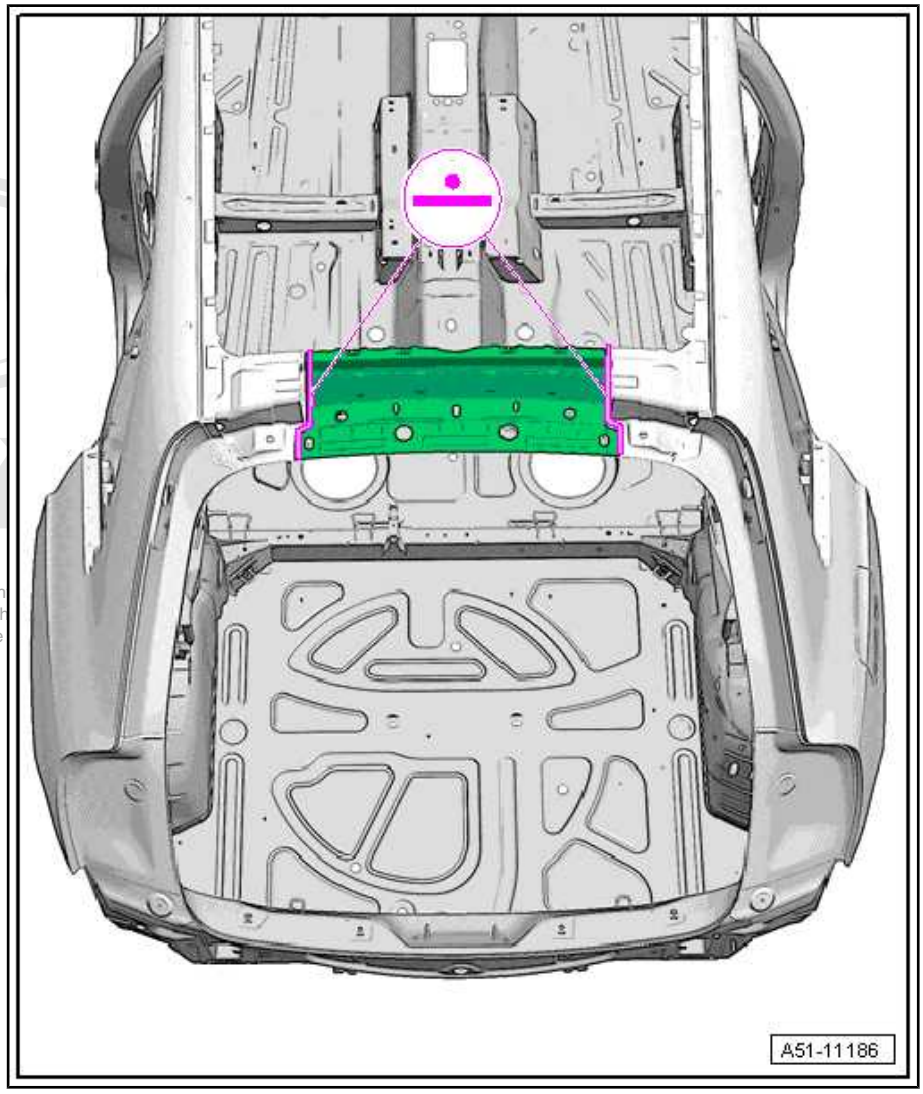
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

### Welding in

– Match up and fix new part in position.

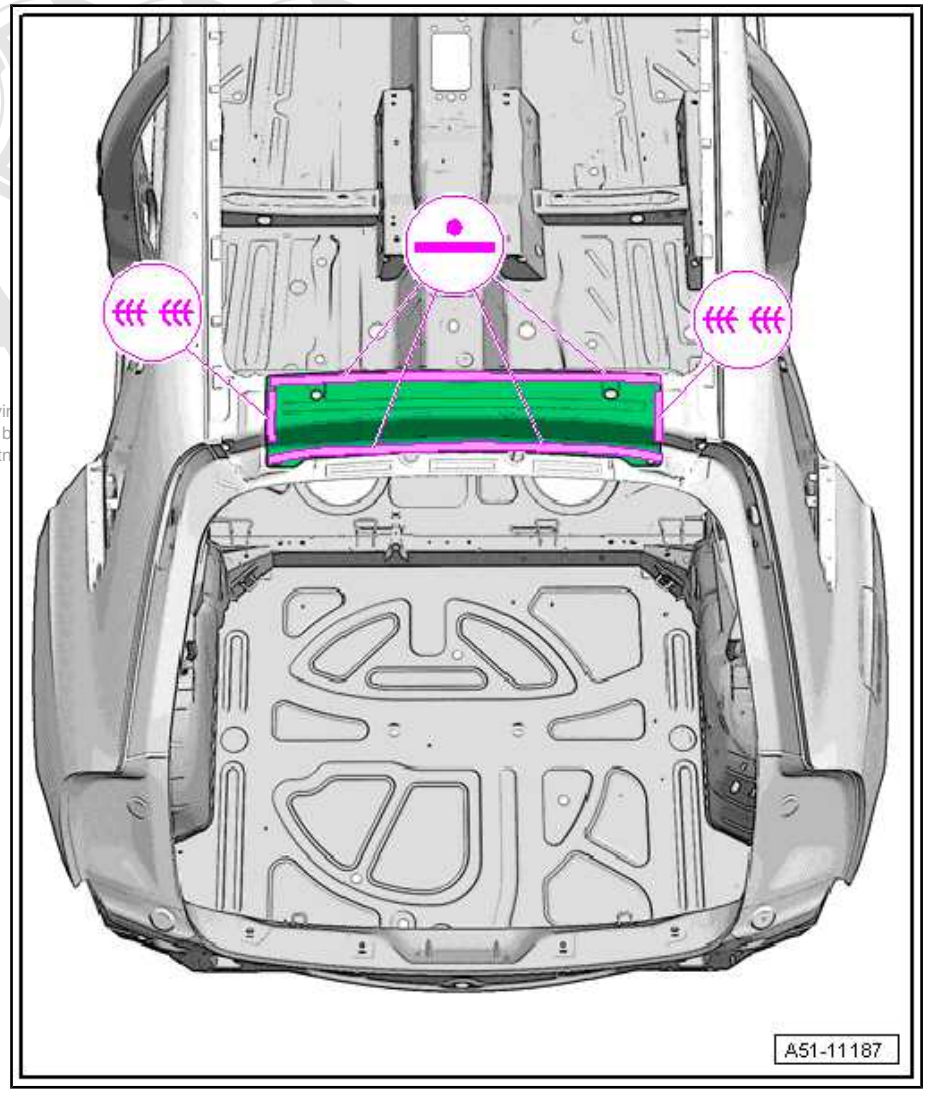
– Weld in new part using resistance spot welder : RP spot weld seam.

Protected by copyrigh
permitted unless auth
with respect to the




– Match up upper rear roof frame and fix in position.
– Check fit relative to roof.
– Weld in roof frame using resistance spot welder : RP spot weld seam.
– Weld in roof frame using shielded arc welding equipment : SG continuous seam (staggered - with gaps).

Protected by copyright. Copyi
permitted unless authorised b
with respect to the correctn




- Welding in roof (version with large sunroof) ⇒ page 126
- Welding in roof ⇒ page 103

RO: 51 37 55 00

# 7 Outer A-pillar - Renewal

**1 - Outer A-pillar**

**2 - Upper separating cut**

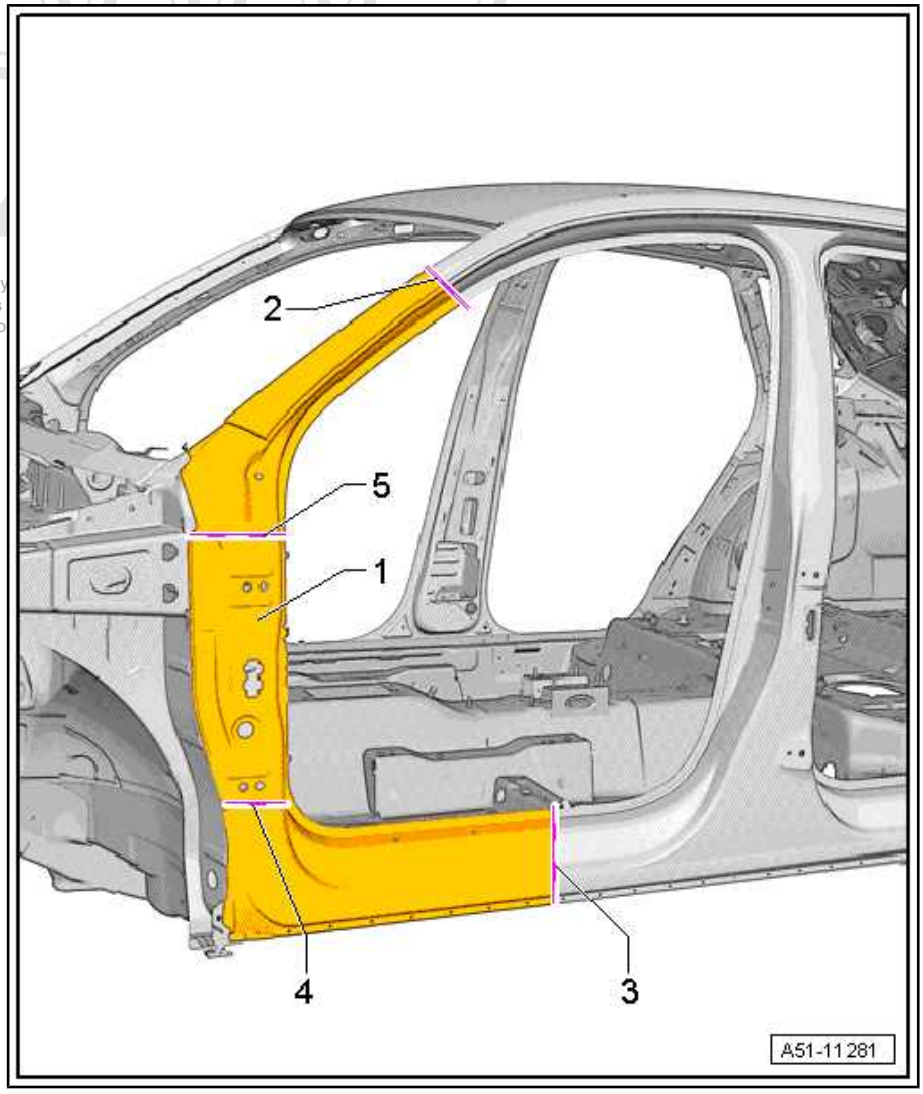
**3 - Separating cut in side member**

**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.*

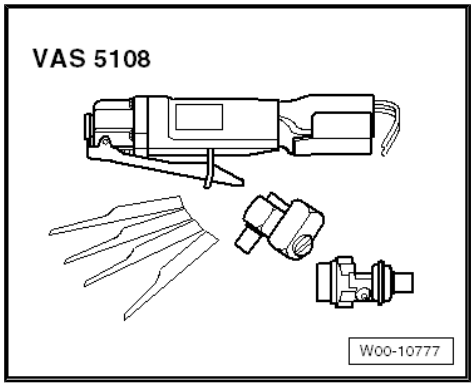



## 7.1 Tools

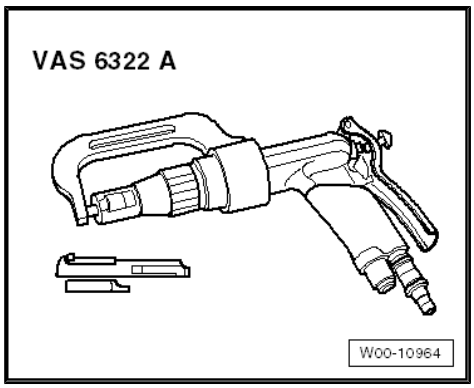
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

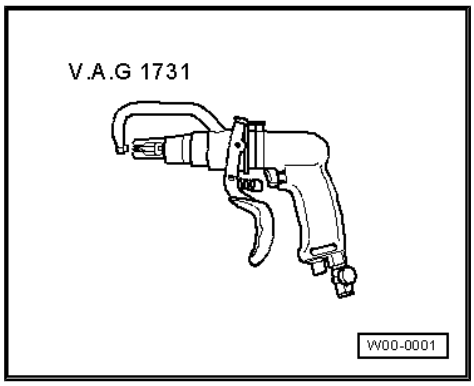
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




## 7.2 Procedure

**Cutting locations**

Permitted separating cuts on complete side frame ⇒ page 102

**Note**

*If the inner A-pillar is also being renewed, the separating cut -1- must be made at a distance of 80 mm -a- from the edge of the roof.*

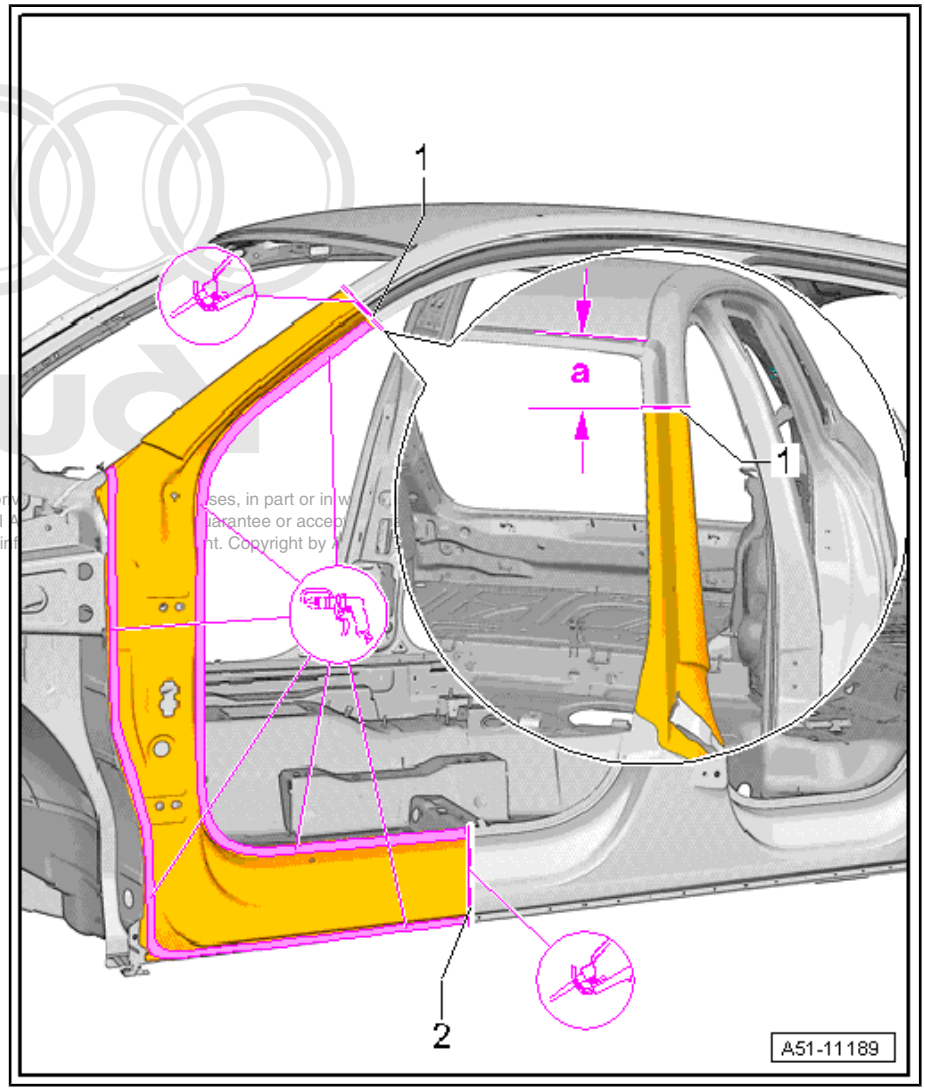
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

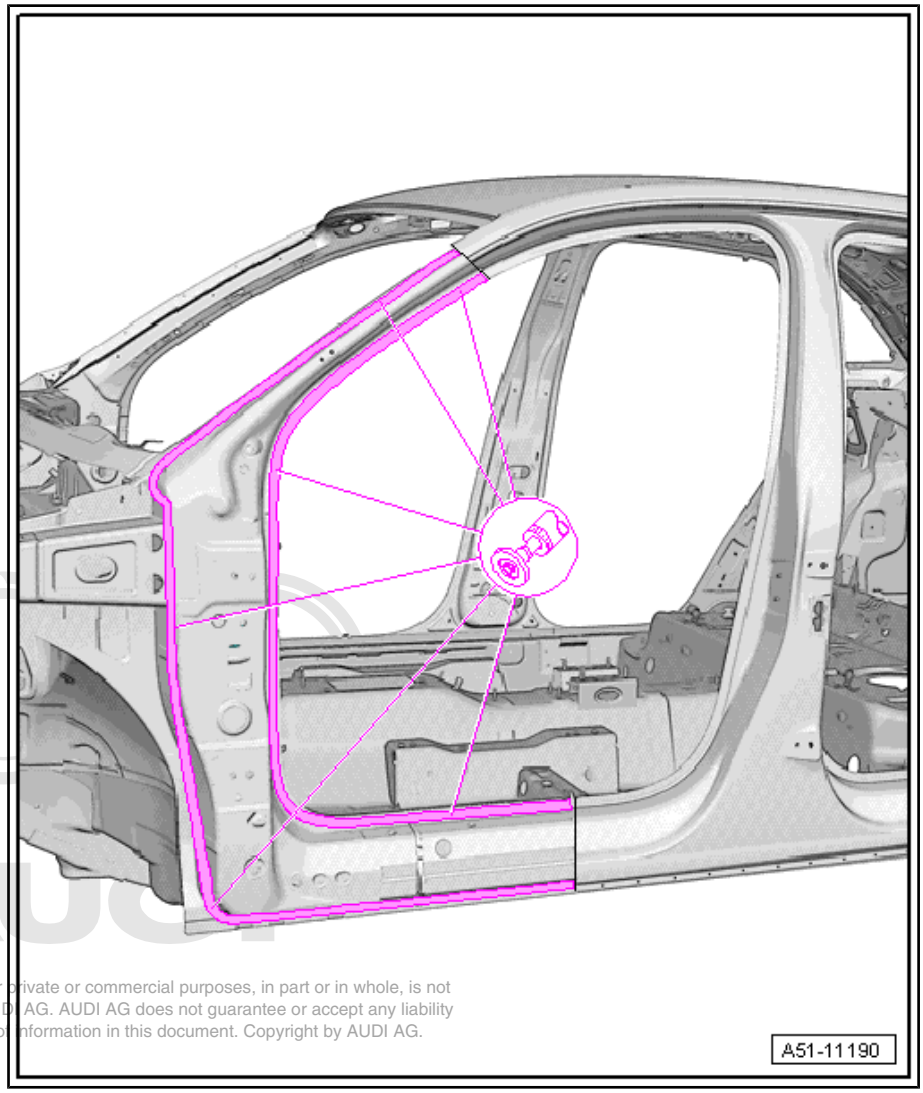
**Dimension -a- = 80 mm**

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

Protected by copyright. Copying for pr ses, in part or in w
permitted unless authorised by AUDI A arantee or accep
with respect to the correctness of in nt. Copyright by A




– Remove remaining material using compact angle grinder .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

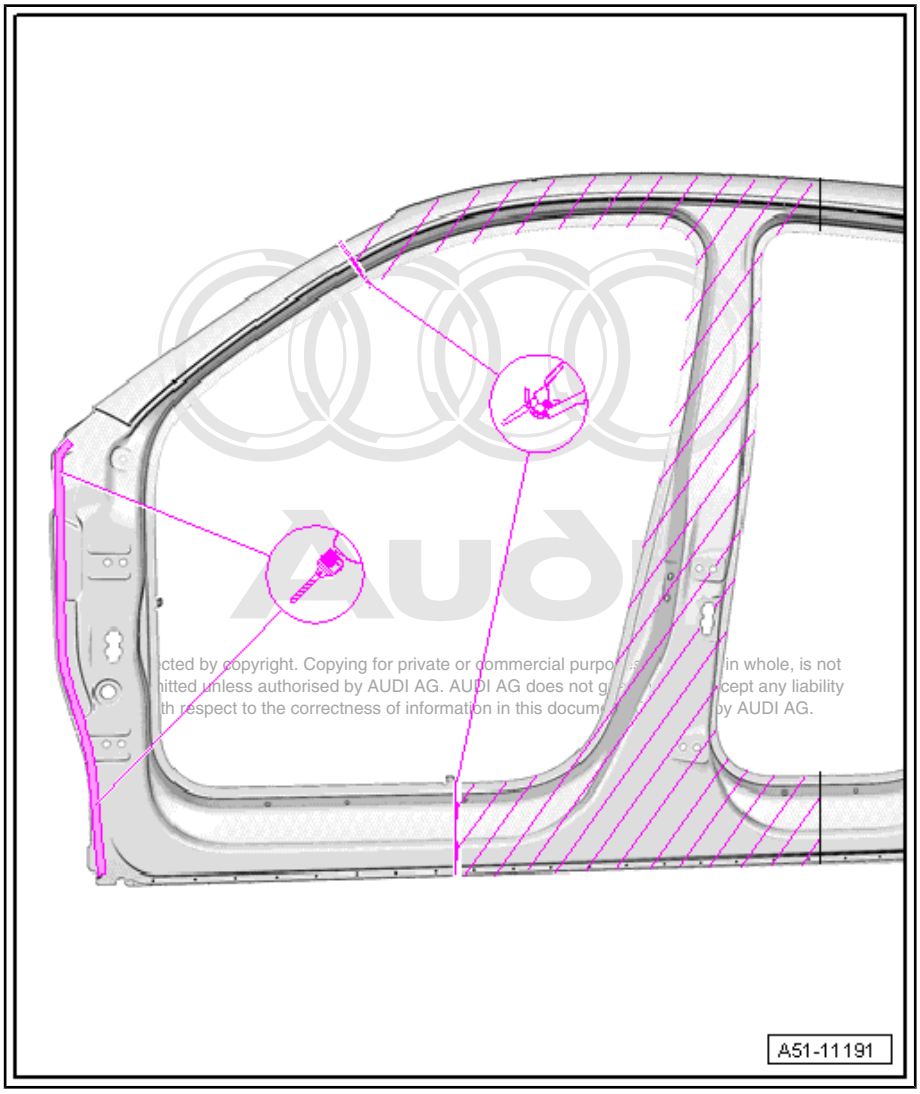
**Replacement part**

- 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 .



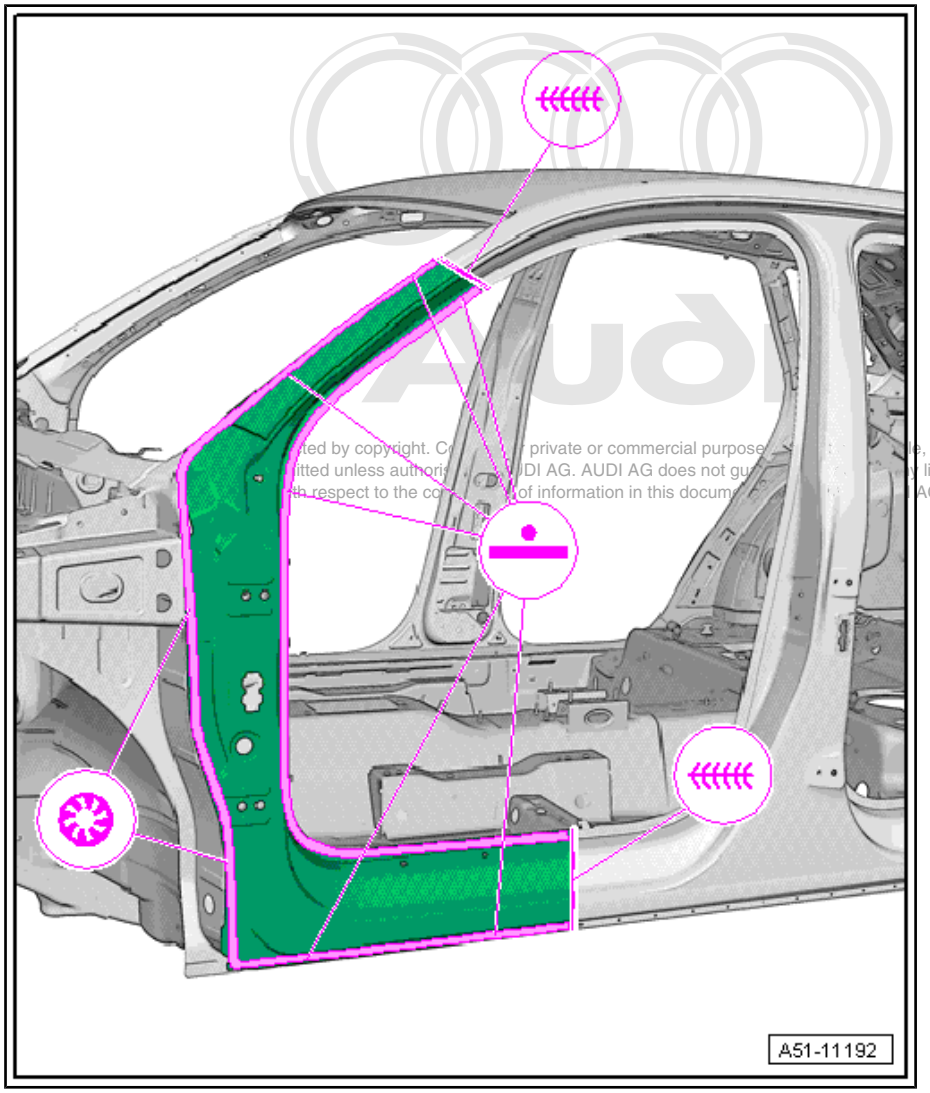

cted by copyright. Copying for private or commercial purpo in whole, is not
hitted unless authorised by AUDI AG. AUDI AG does not g cept any liability
th respect to the correctness of information in this docum by AUDI AG.

**Note**

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

**Welding in**

- Butt weld 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.




...ted by copyright. C... private or commercial purpose... ...e, is not
...itted unless authori... ...DI AG. AUDI AG does not gu... ...y liability
...th respect to the co... ...of information in this docum... ...AG.

RO: 51 38 55 50

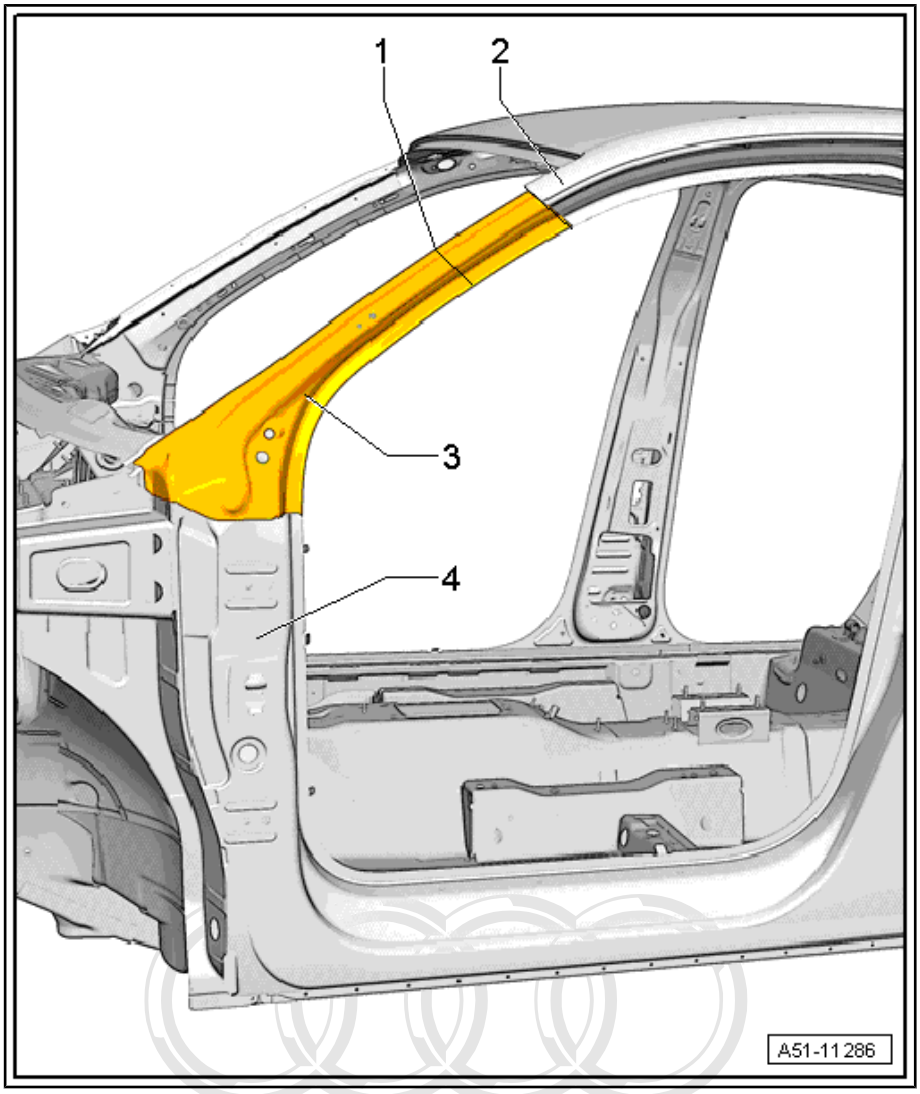
# 8 Upper inner A-pillar - Partial renewal

**1 - Separating cut, inner A-pillar**

**2 - Side panel**

**3 - Upper inner A-pillar**

**4 - Lower inner A-pillar**



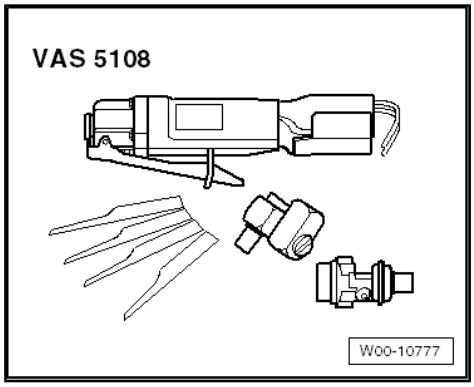

## 8.1 Tools

**Special tools and workshop equipment required**

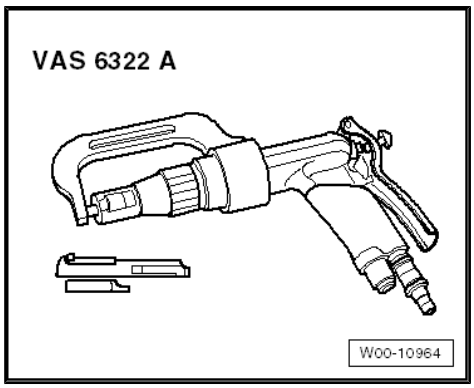
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

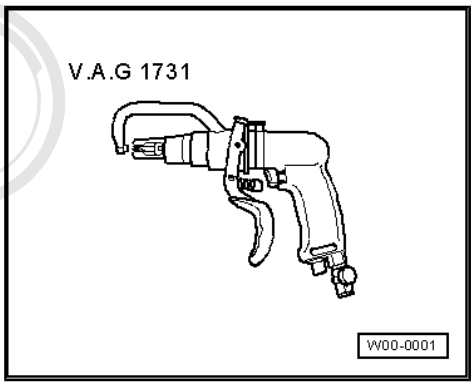
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 8.2 Procedure

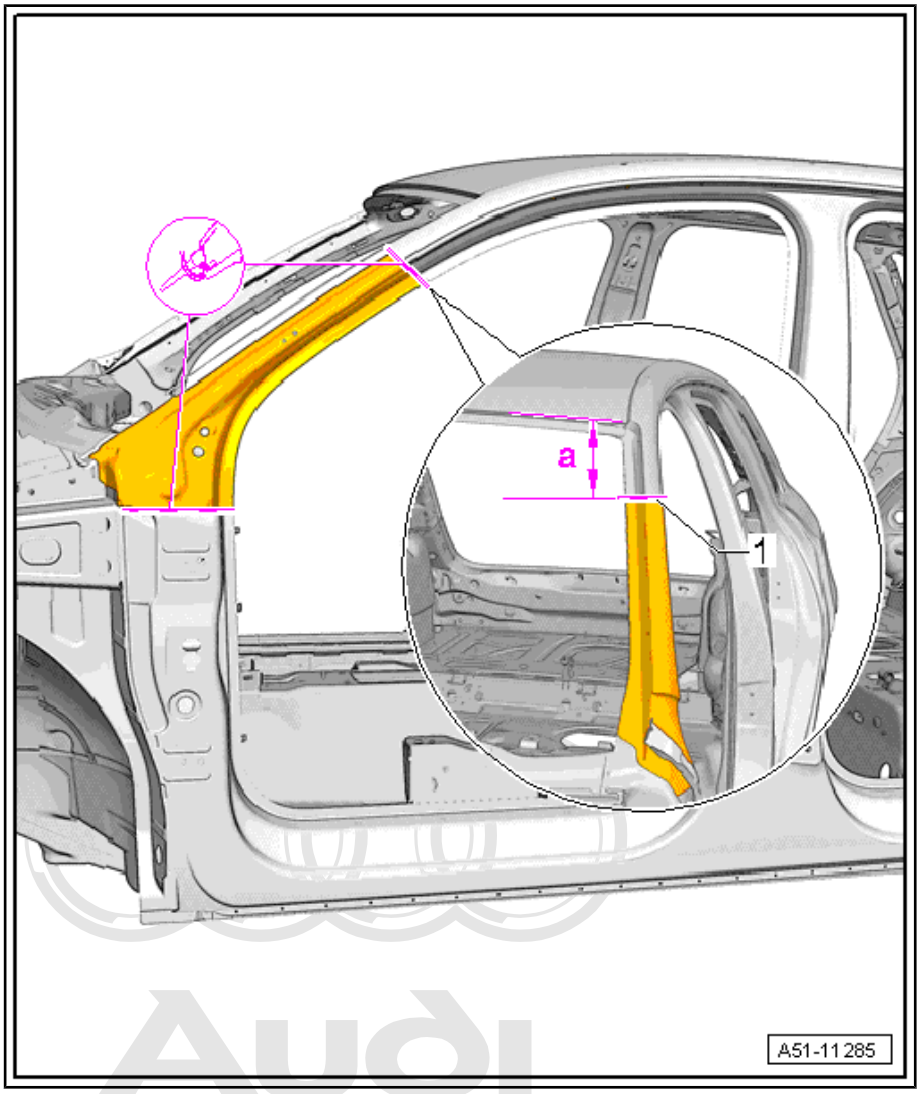
- Outer A-pillar cut out ⇒ page 161 .

**Cutting locations**

– 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 at lower A-pillar as shown using body saw .



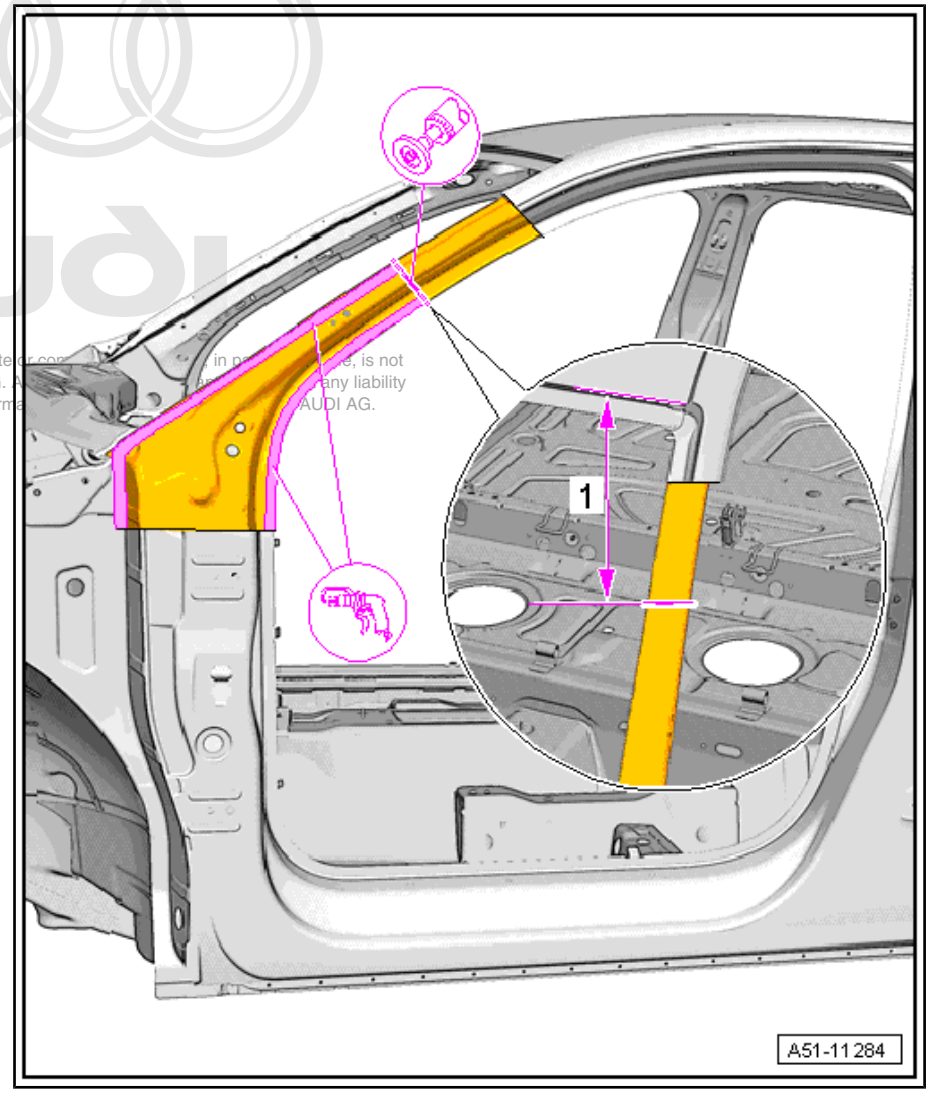

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of this document. Copyright by AUDI AG.

– Cut through inner A-pillar completely using compact angle grinder (important: keep to dimension -1- for separating cut).

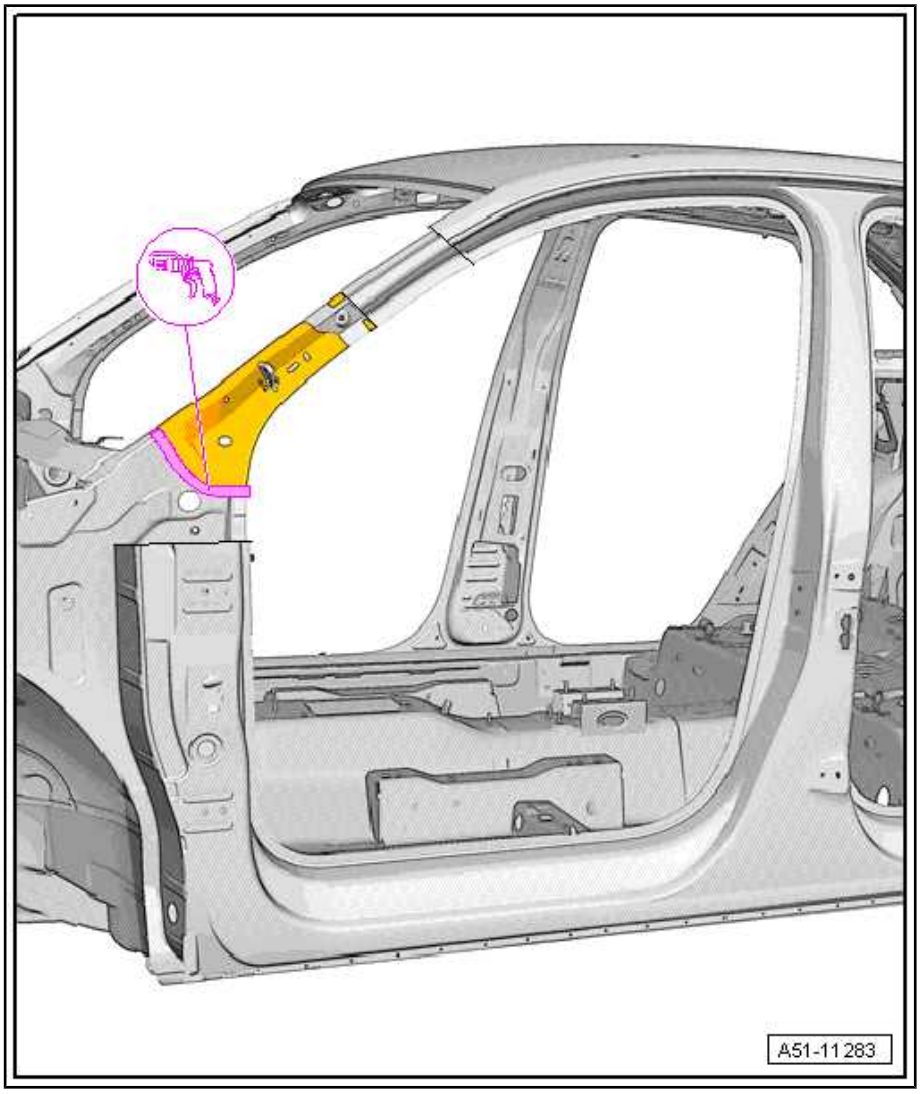
**Dimension -1- = 310 mm**

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or com... in p...e, is not permitted unless authorised by AUDI AG. A... ...any liability with respect to the correctness of inform... AUDI AG.

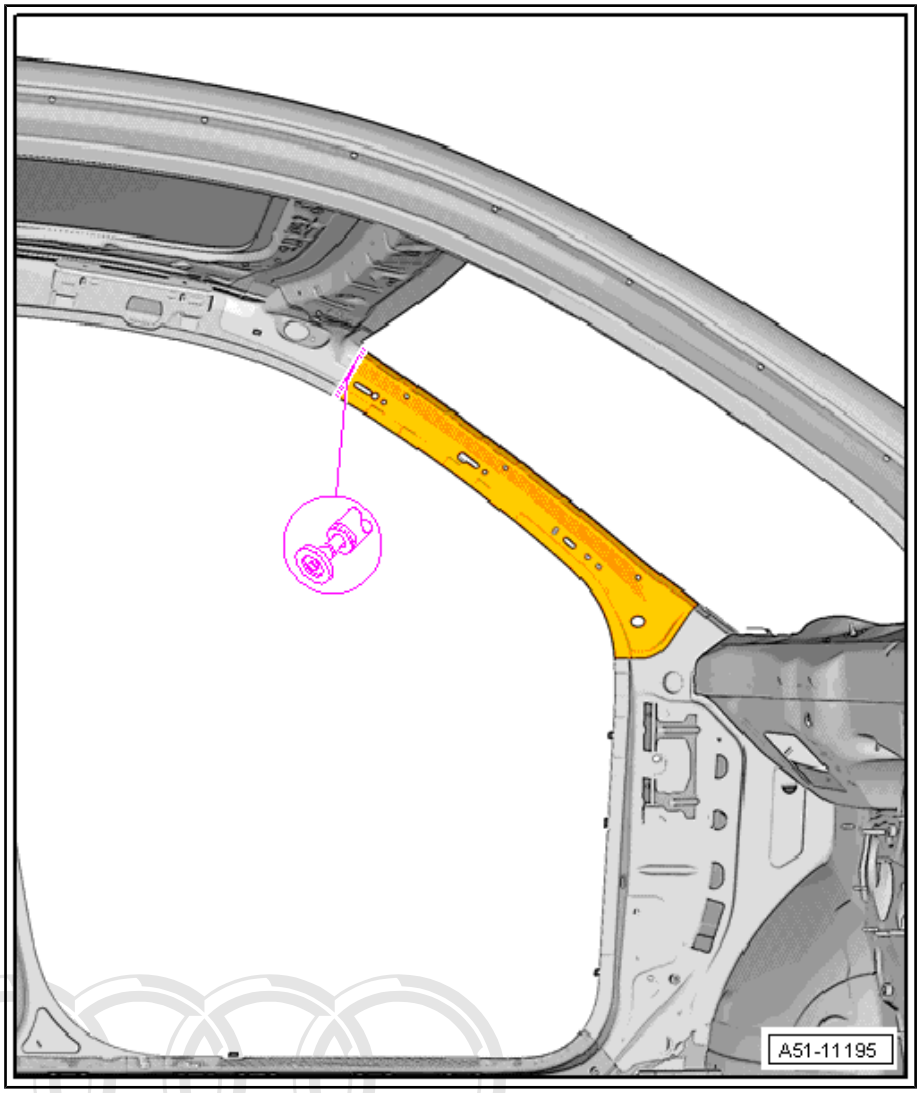



– Separate original joint using spot weld breaker .



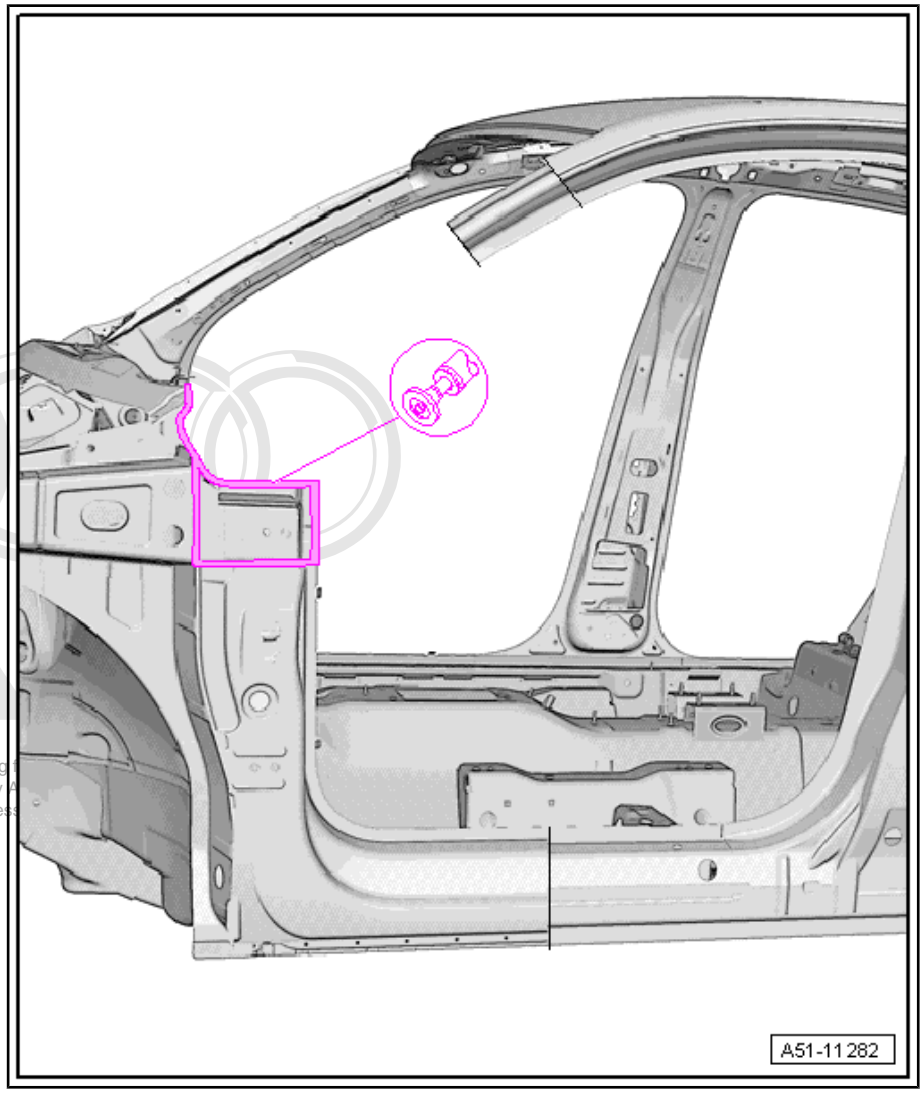

– Mark separating cut in A-pillar cover plate immediately in front of gusset plate and make the cut using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying
permitted unless authorised by A
with respect to the correctnes

**Replacement parts**

Upper inner A-pillar

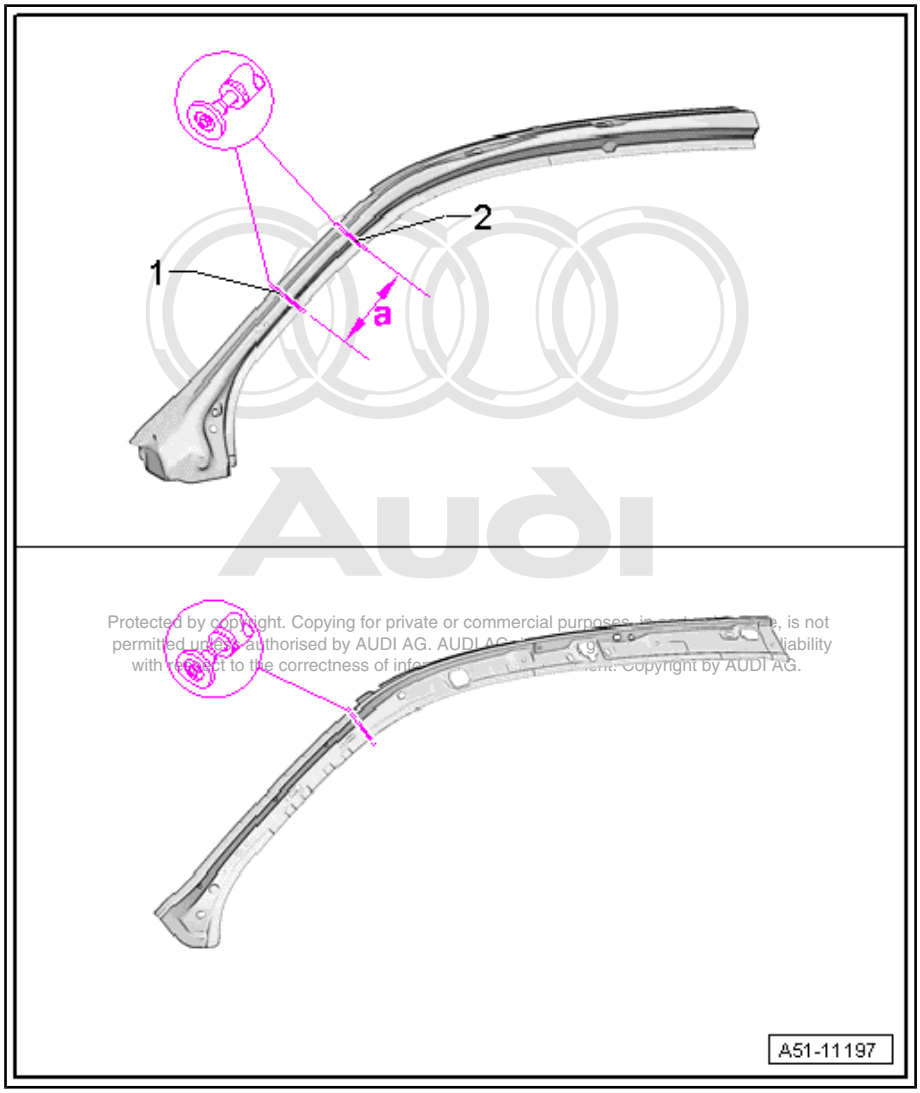
Inner A-pillar cover plate

2-component filler foam - D 506 KD1 A3-

**Preparing new part**

– Transfer separating cut for inner A-pillar -1- to new part and cut to size using body saw .

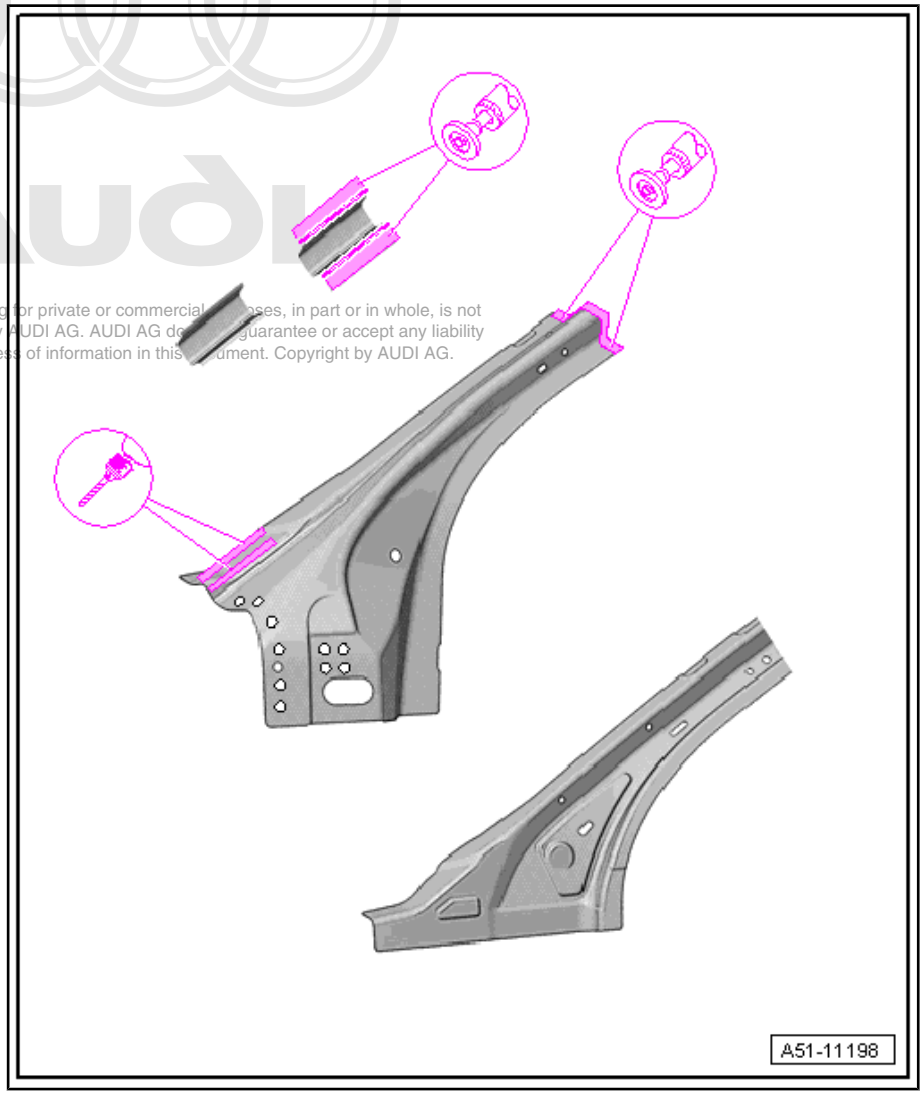
– It is important to maintain dimension -a = 140 mm- for separating cut -2- for backing plate.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or assume liability with respect to the correctness of information. Copyright by AUDI AG.

– 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 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

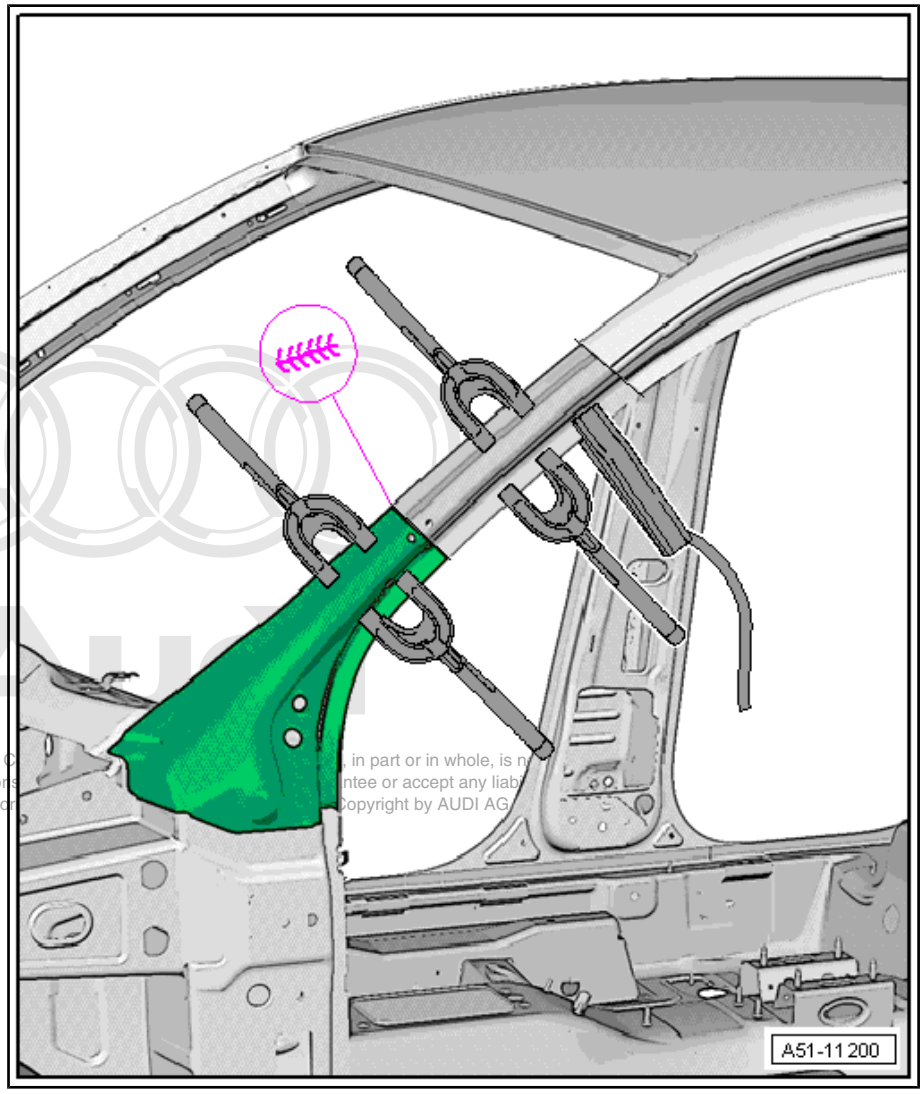



**Note**

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

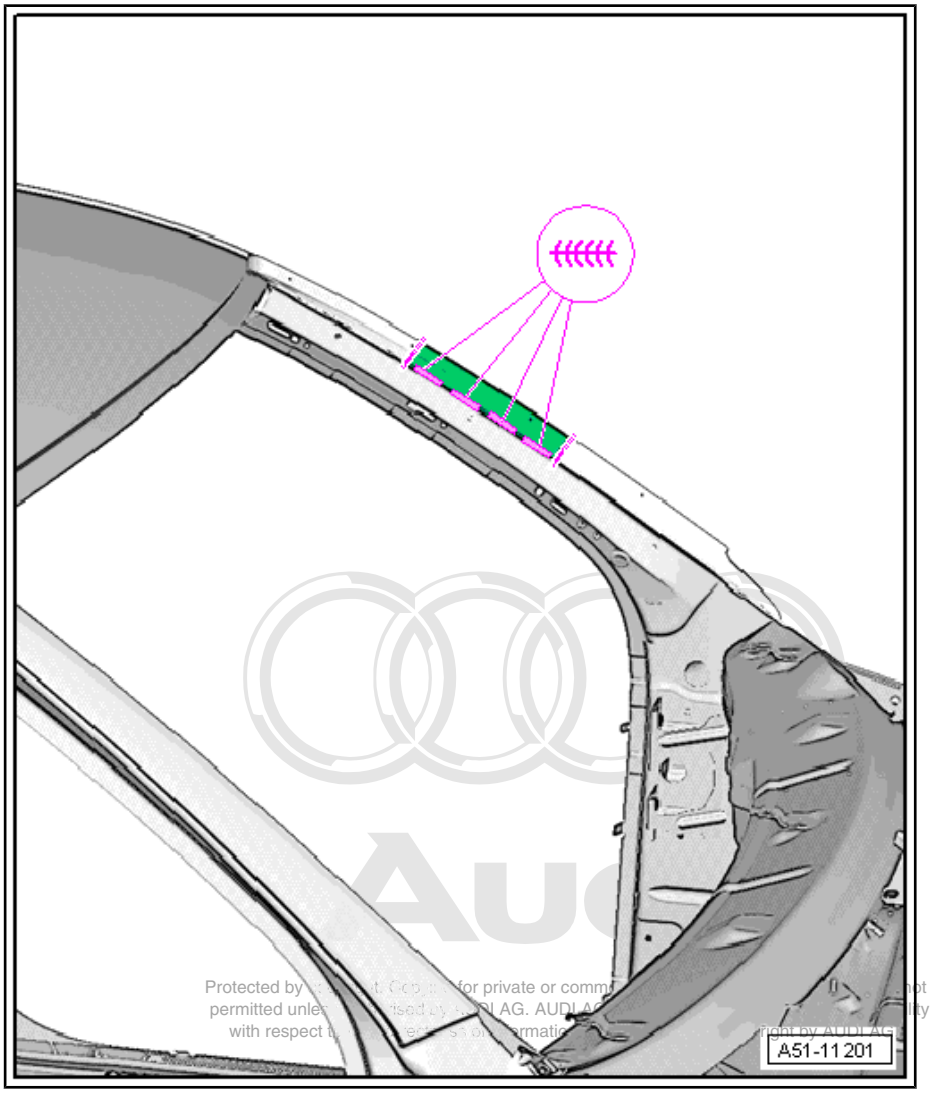
### Welding in

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




Protected by copyright. C
permitted unless author
with respect to the co
in part or in whole, is n
ntee or accept any liab
Copyright by AUDI AG

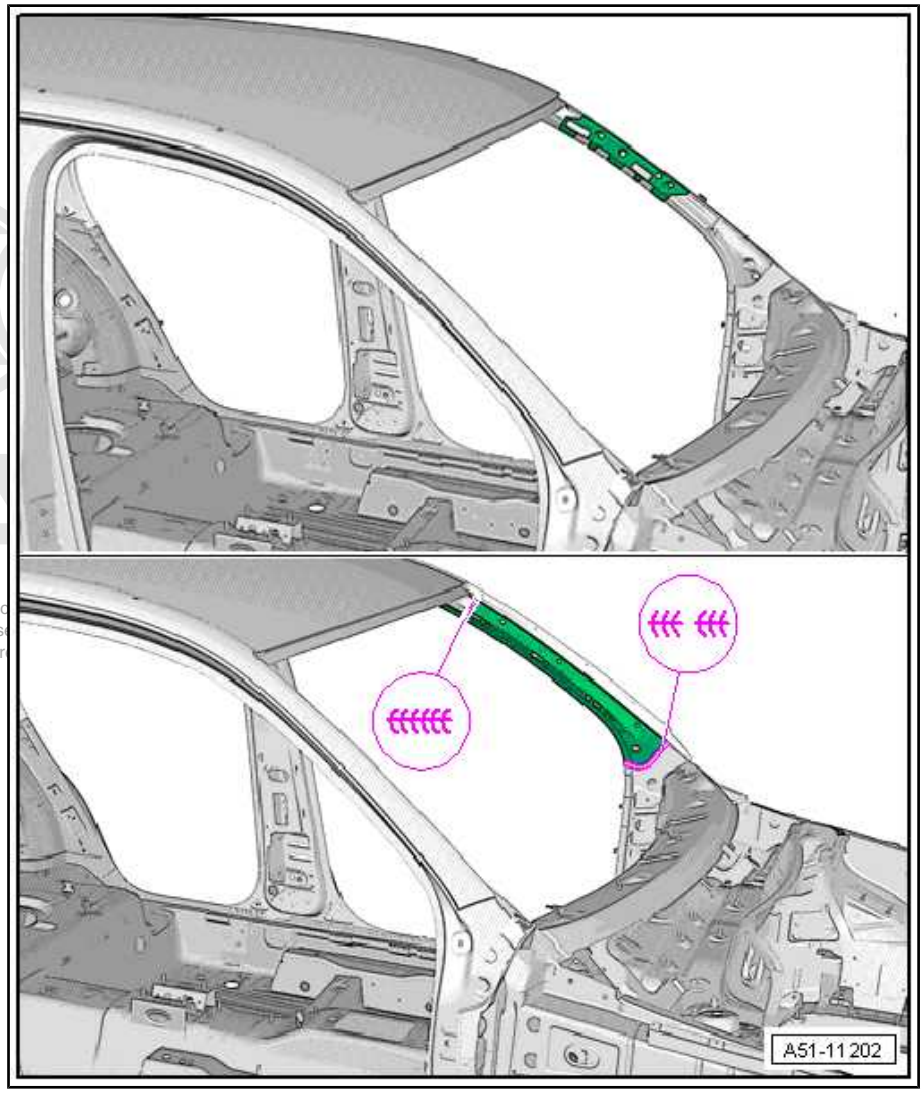
– Weld in backing plate using shielded arc welding equipment :
4x SG continuous seam (staggered - with gaps) on each side.




Insert inner reinforcement plate and fix in position.

– Weld in at separating cut using shielded arc welding equipment : SG continuous seam.
– Weld in lower cover plate for inner A-pillar using shielded arc welding equipment : SG continuous seam (staggered - with gaps).

Protected by copyright. Co
permitted unless authorise
with respect to the corr

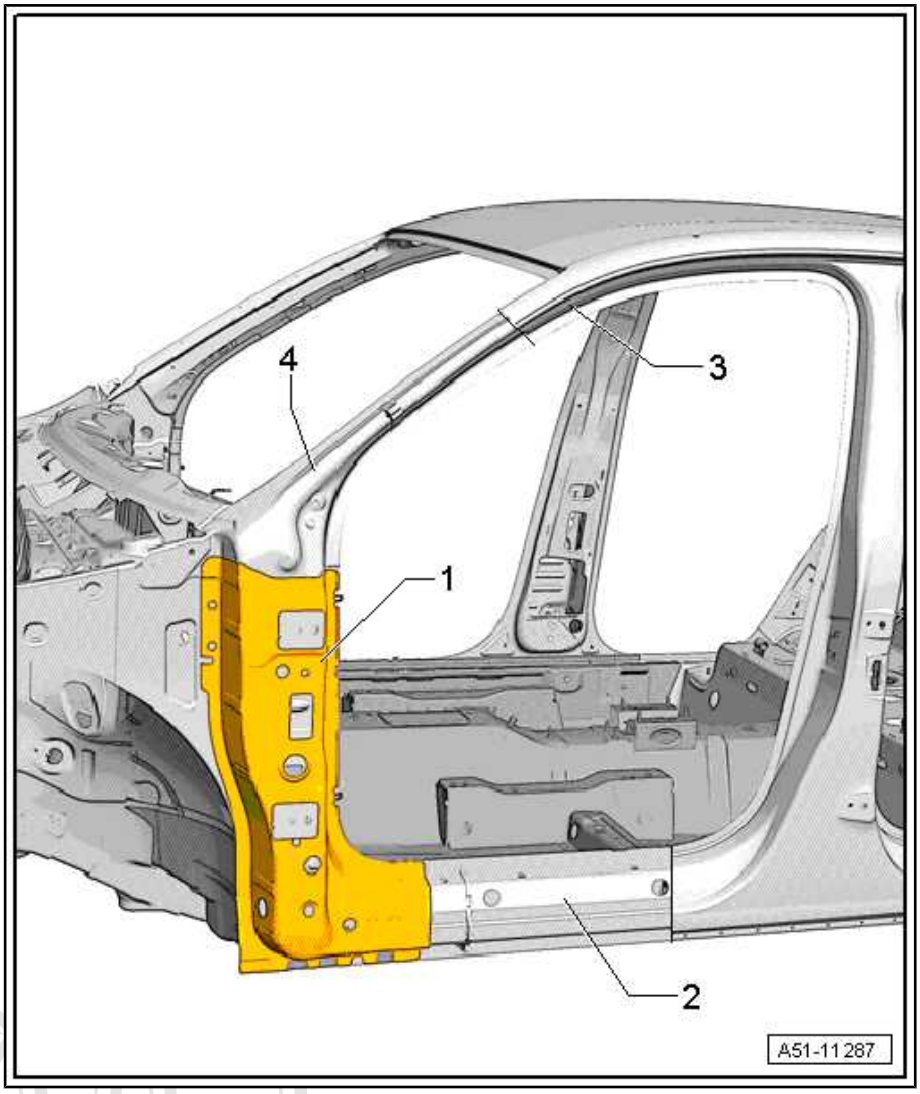



- Welding in outer A-pillar ⇒ page 161

RO: 51 38 55 50

# 9 Lower inner A-pillar - Partial renewal

1 - Lower inner A-pillar
2 - Inner side member
3 - Side panel
4 - Upper inner A-pillar




## 9.1 Tools

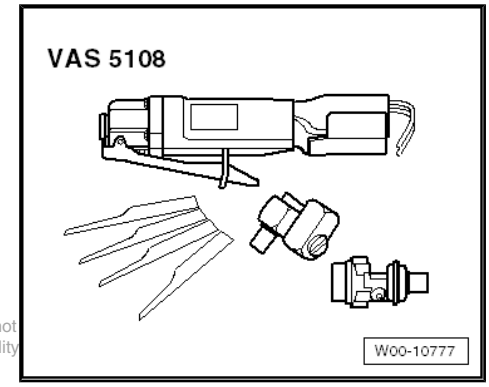
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

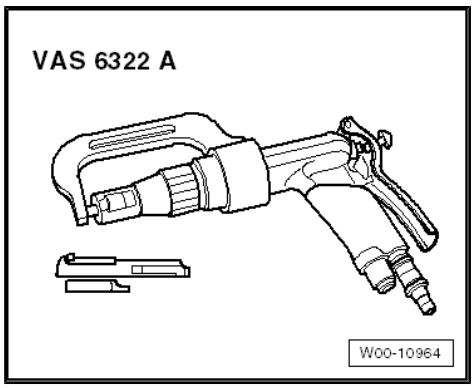
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

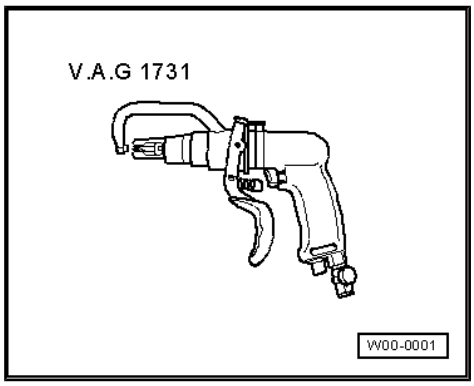
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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

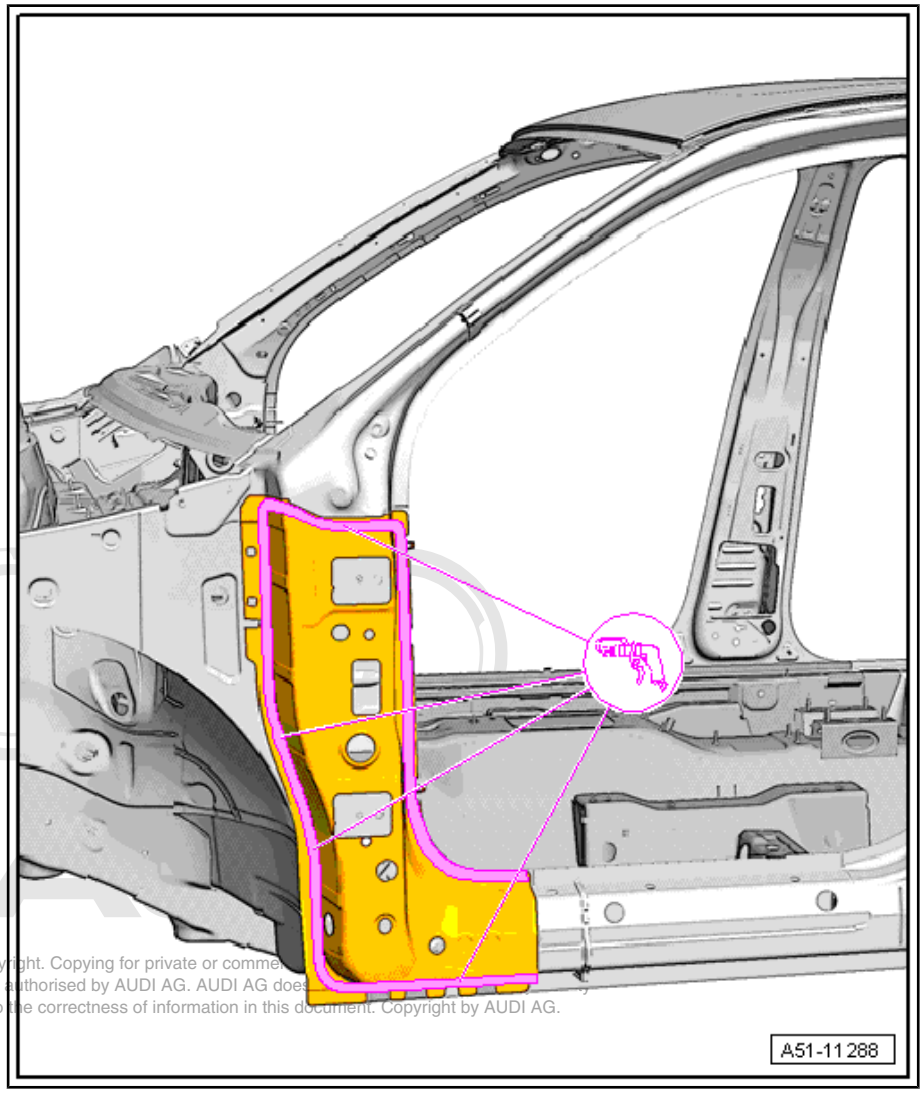



## 9.2 Procedure

- Outer A-pillar cut out ⇒ page 161 .
- Upper wheel housing longitudinal member cut out ⇒ page 55

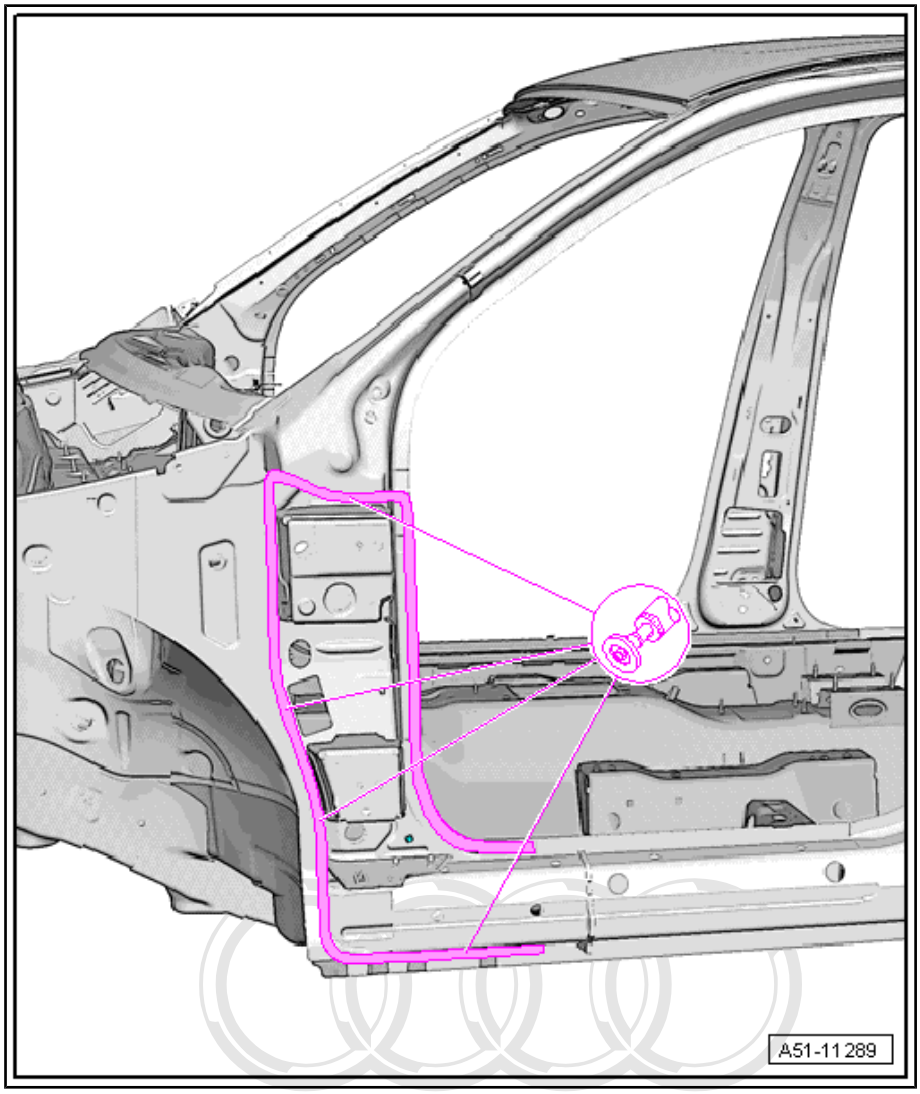
**Cutting locations**

– Drill out original joint using spot weld breaker .




Protected by copyright. Copying for private or commer
permitted unless authorised by AUDI AG. AUDI AG does
with respect to the correctness of information in this document. Copyright by AUDI AG.

– Remove remaining material using compact angle grinder .



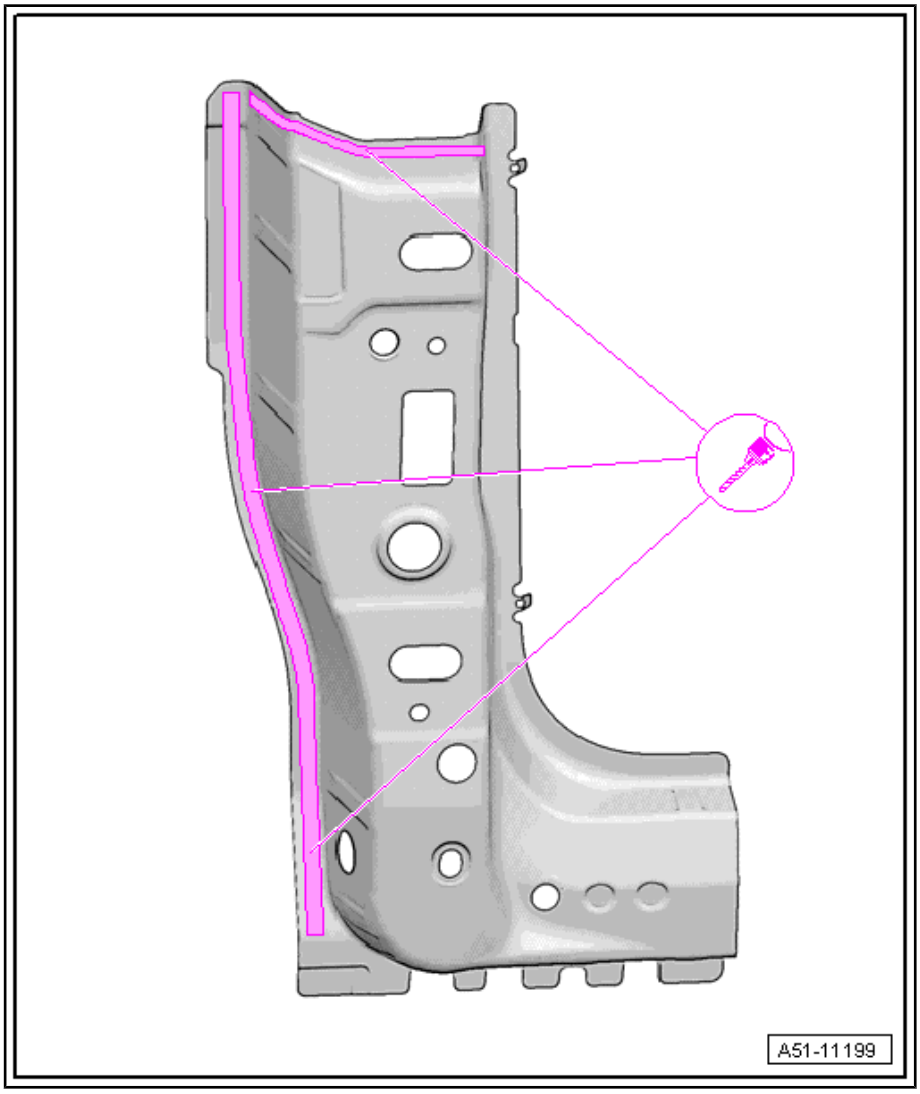

**Replacement parts**

Lower inner A-pillar

**Preparing new part**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



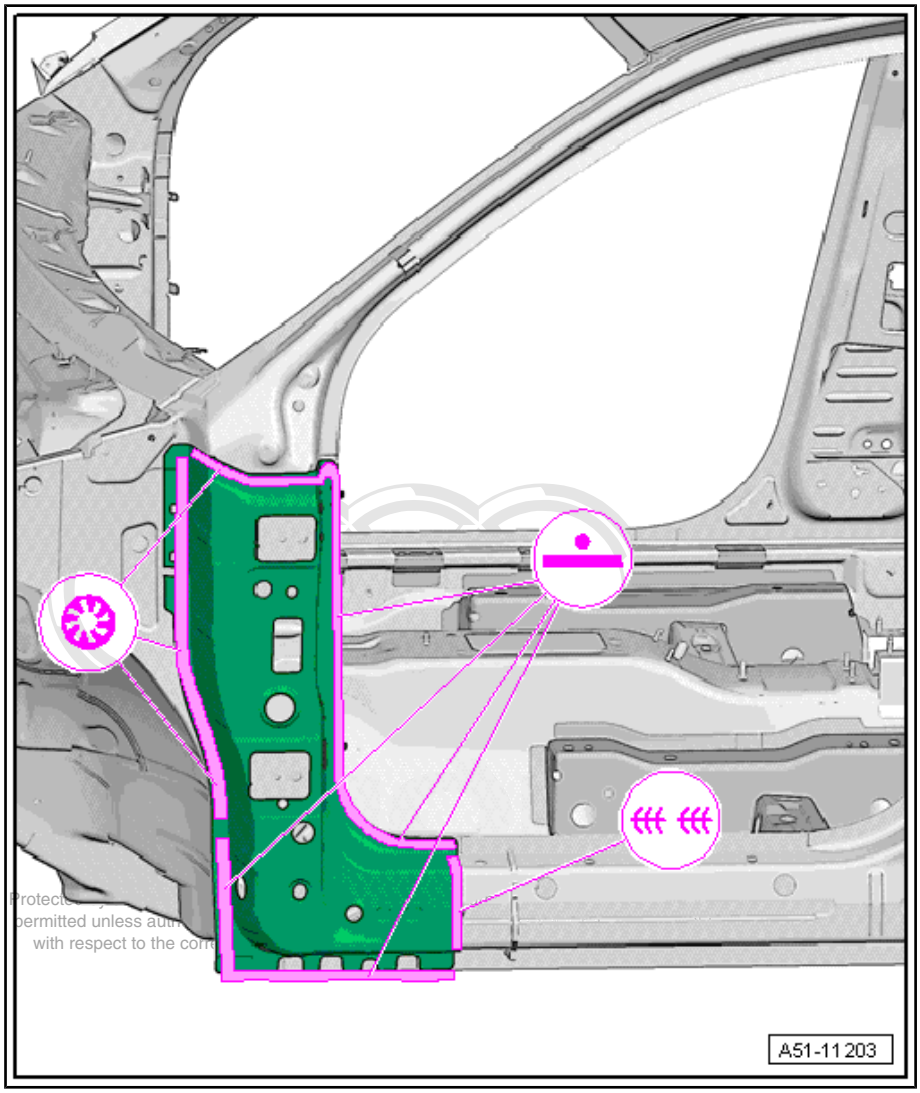

**Note**

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

**Welding in**

- Weld in inner A-pillar using shielded arc welding equipment : SG plug weld seam.
- Weld in inner A-pillar using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
- Weld in inner A-pillar using resistance spot welder : RP spot weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




- Welding in outer A-pillar ⇒ page 161
- Welding in upper wheel housing longitudinal member ⇒ page 55

RO: 51 41 55 50

# 10 Outer B-pillar - Renewal

**1 - B-pillar**

**Outer B-pillar**

**2 - Upper separating cut**

**3 - Lower separating cut**

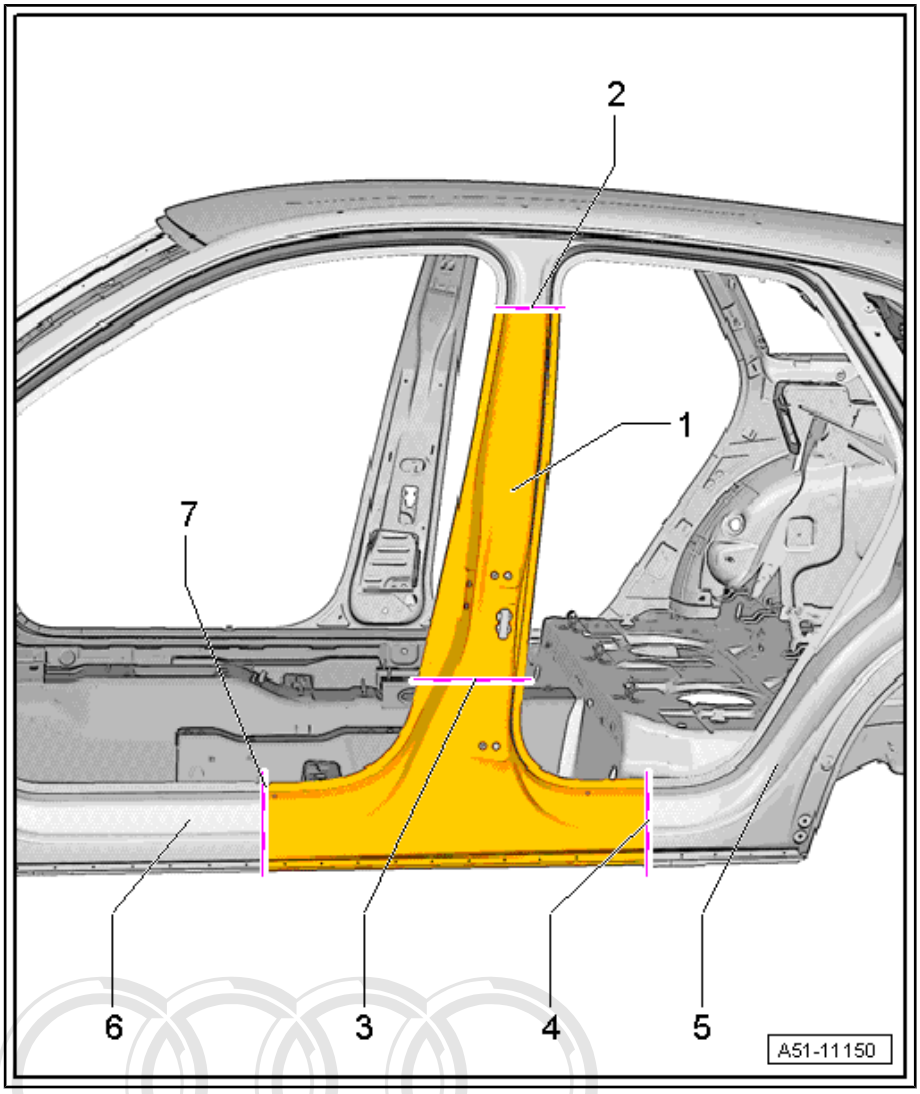
Partial renewal
*Partial renewal is possible with this separating cut.*

**4 - Separating cut in side member (rear)**

**5 - Rear side member**

**6 - Front side member**

**7 - Separating cut in side member (front)**



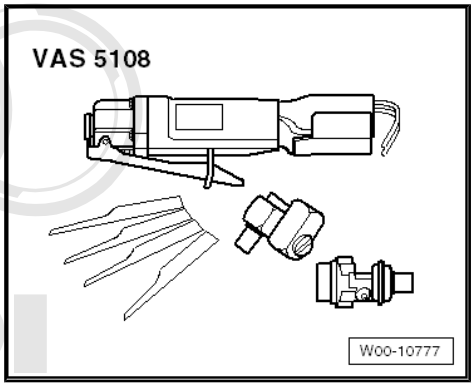

## 10.1 Tools

**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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-

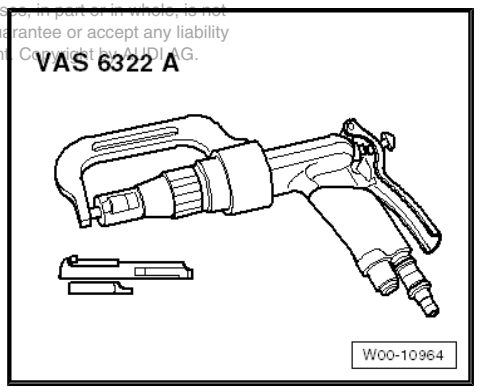
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

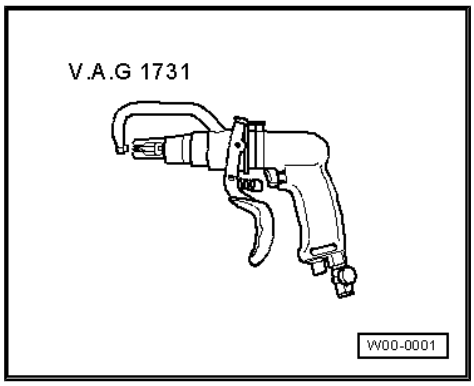



- Spot weld breaker - VAS 6322 A- or

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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




## 10.2 Procedure

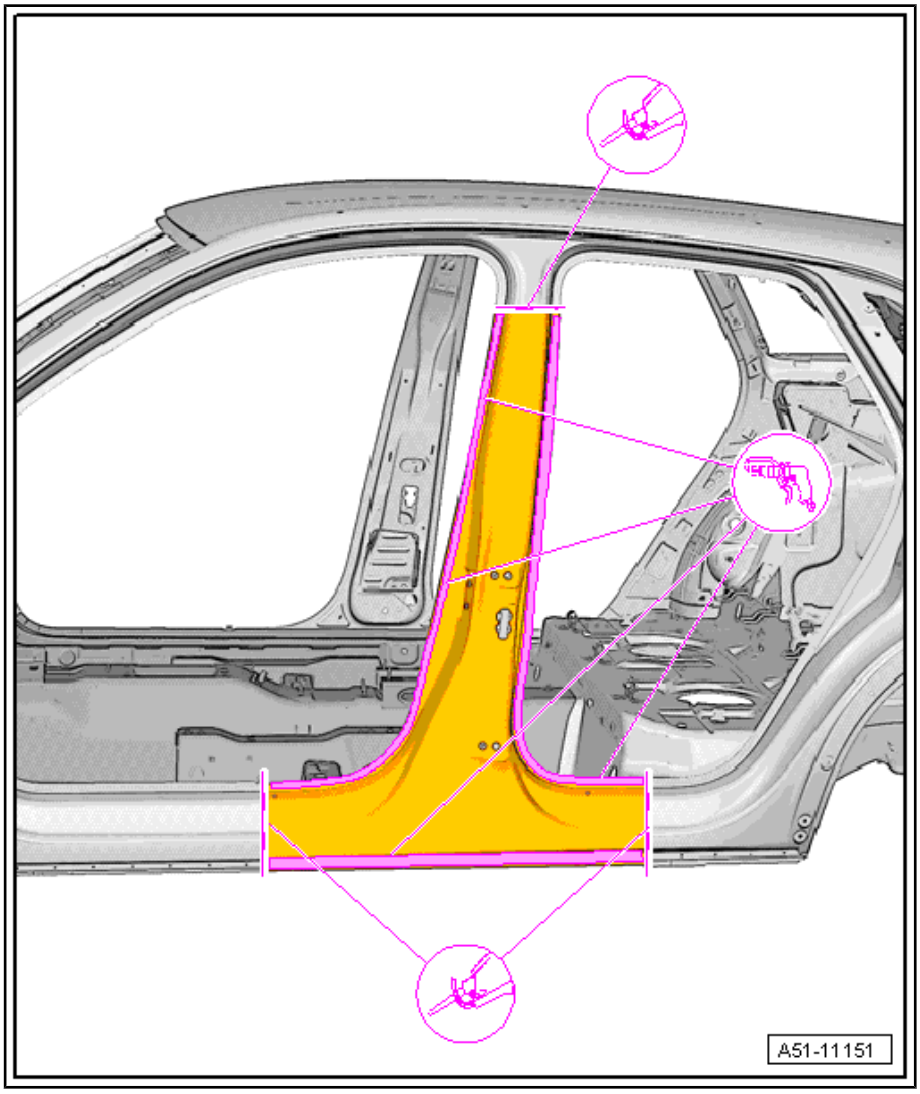
### Cutting locations

Permitted separating cuts on complete side frame ⇒ page 102

**Note**

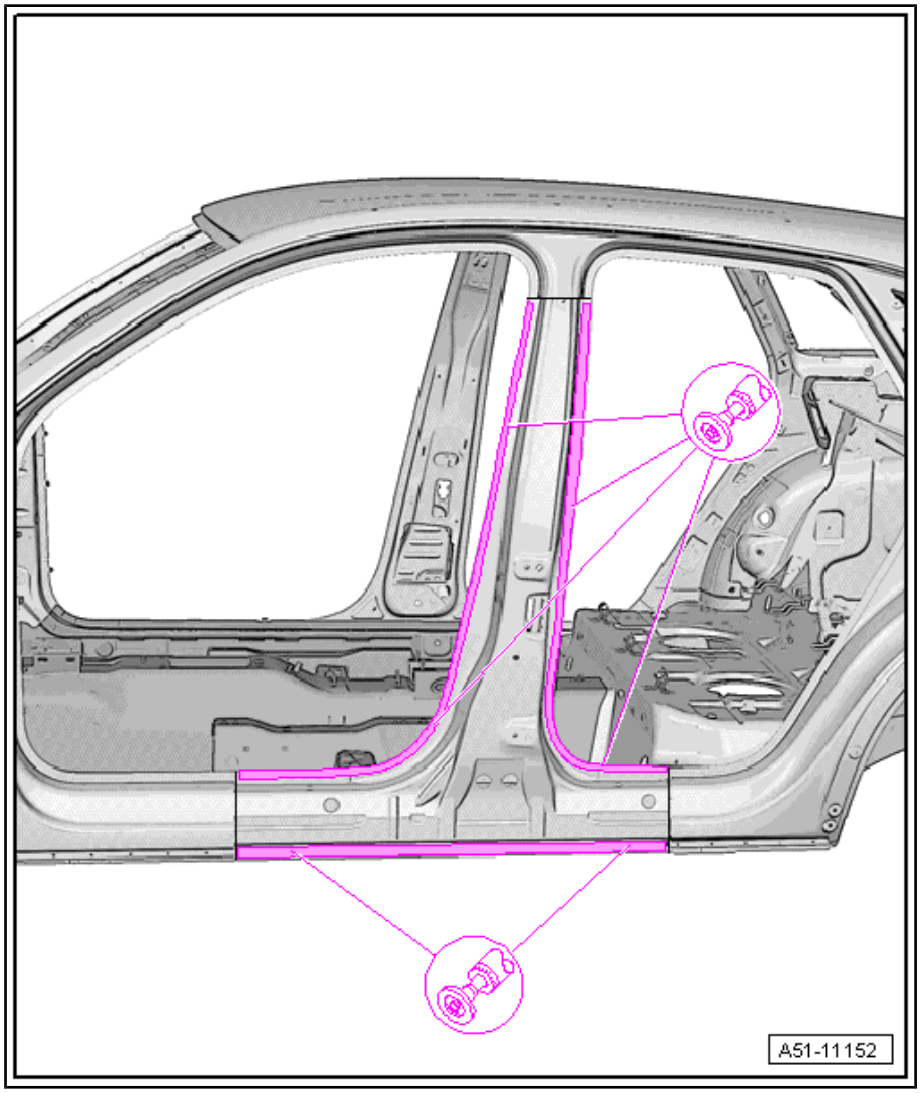
*Part section repair is possible using separating cut -3-.*

– Drill out original joint using spot weld breaker .
– Make separating cut -2- as shown using body saw .
– Mark off separating cuts -4- and -7- according to degree of damage and make cuts using body saw .




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



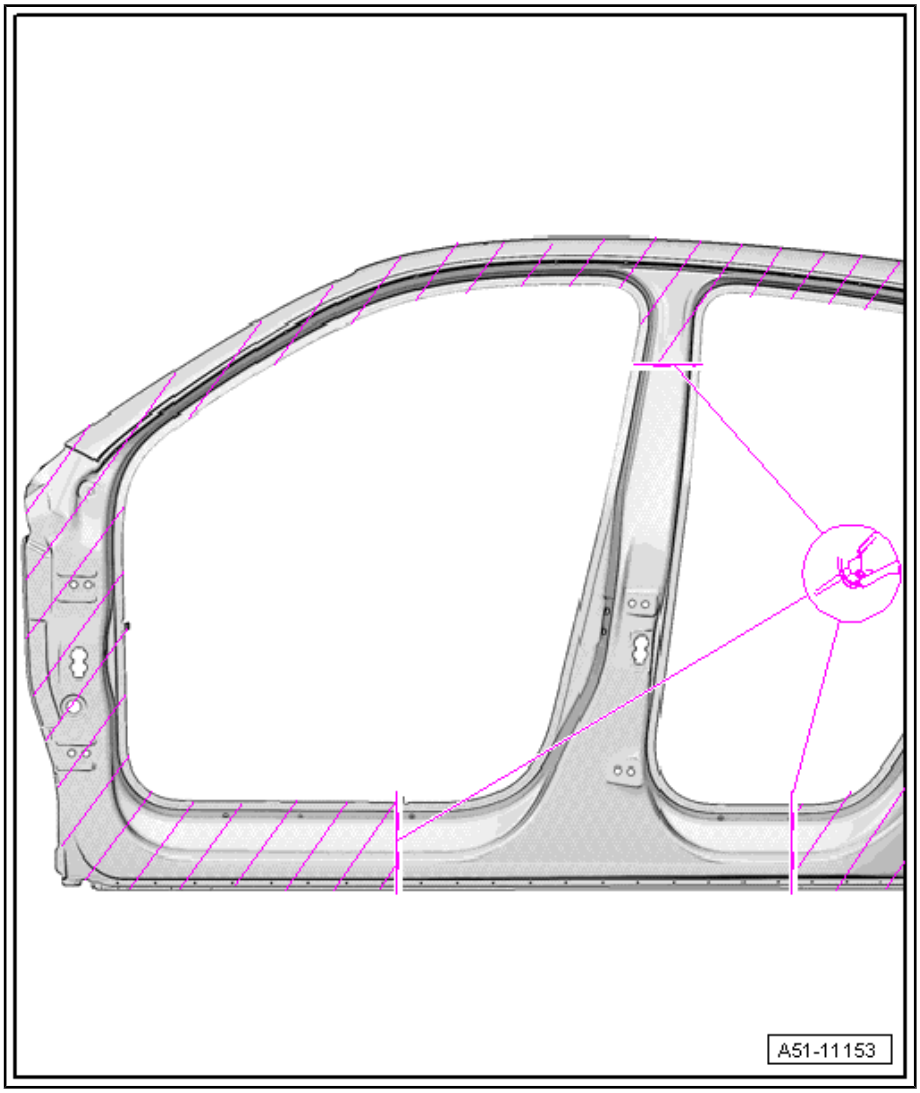

**Replacement part**

- B-pillar (sub-part)

**Preparing new part**

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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




**Note**

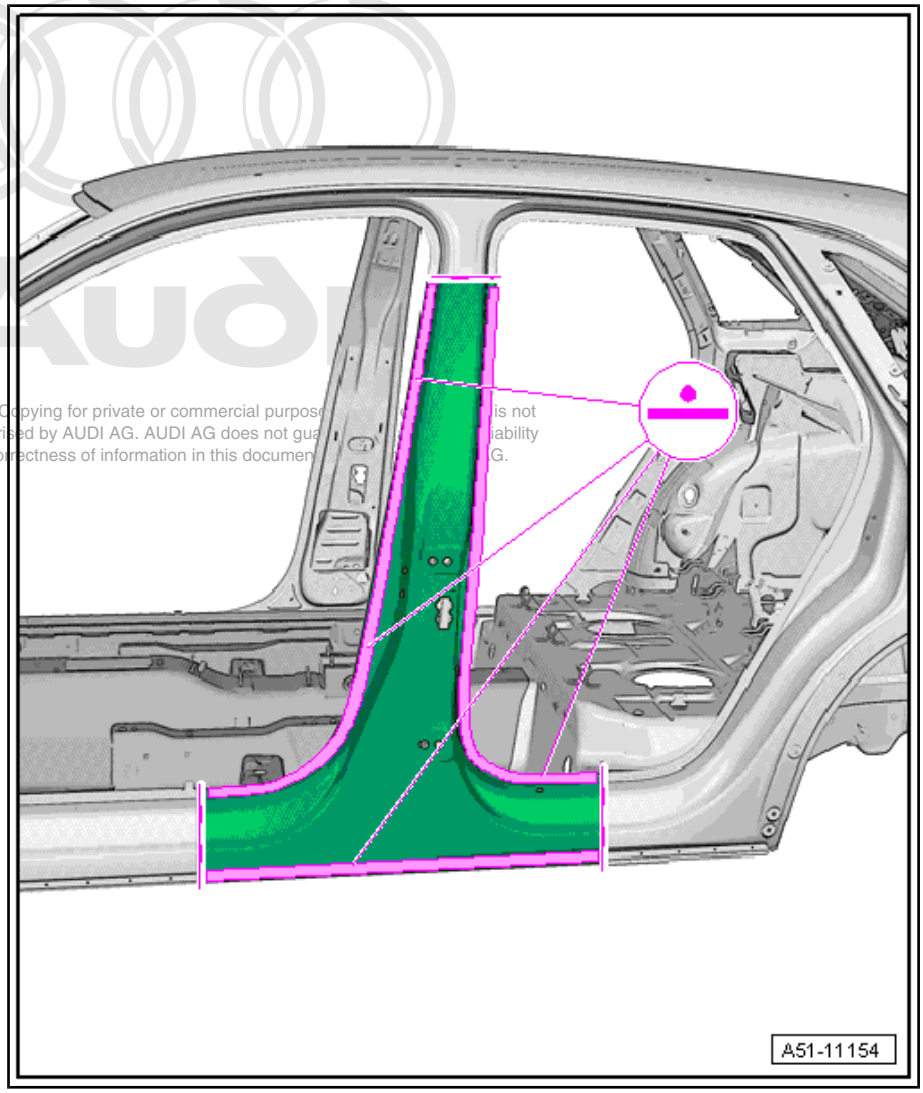
*Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.*

### Welding in

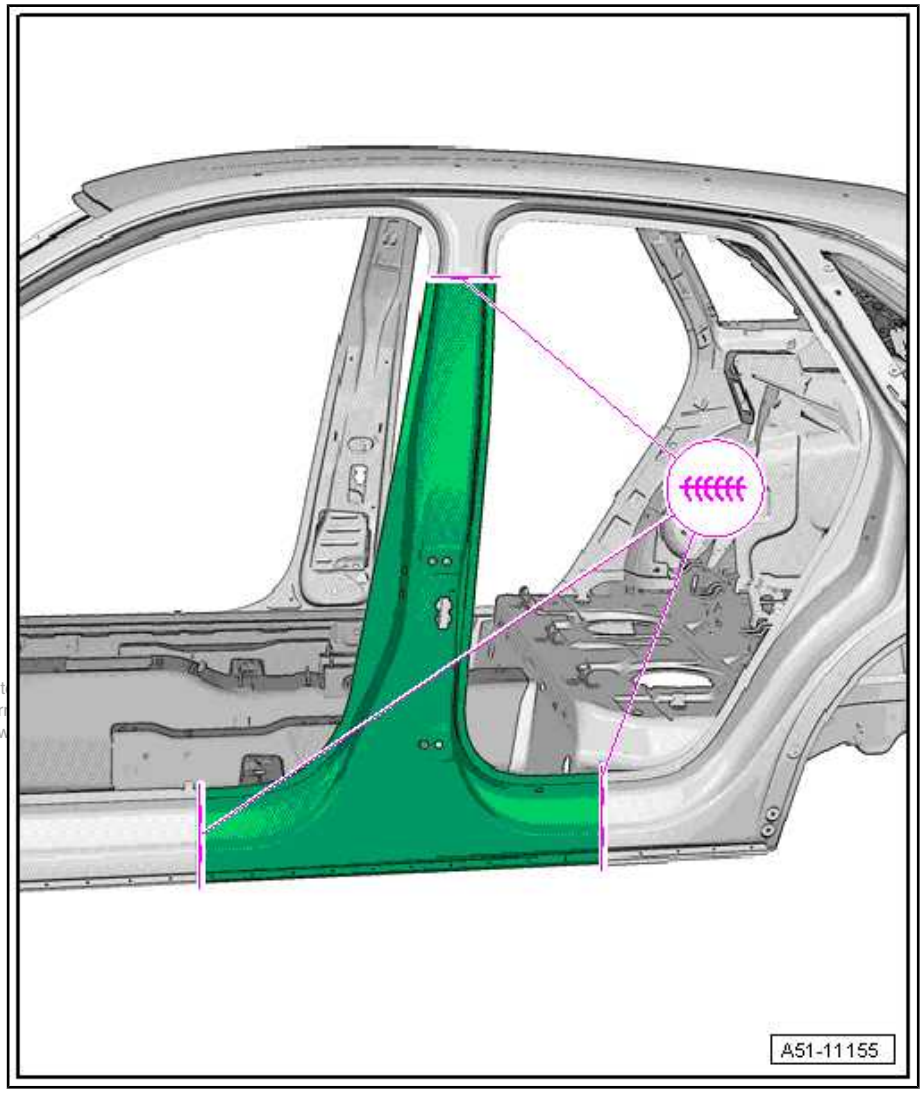
– With no load on vehicle, match up new part and fix in position on portal gauge.
– Check fit relative to bolt-on parts.
– Weld in B-pillar using resistance spot welder : RP spot weld seam.

This document is copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or commercial purpos is not permitted unless authorised by AUDI AG. AUDI AG does not gua liability with respect to the correctness of information in this documen G.




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


A51-11155

RO: 51425552

# 11 Inner B-pillar - Partial renewal

**1 - Front side member**

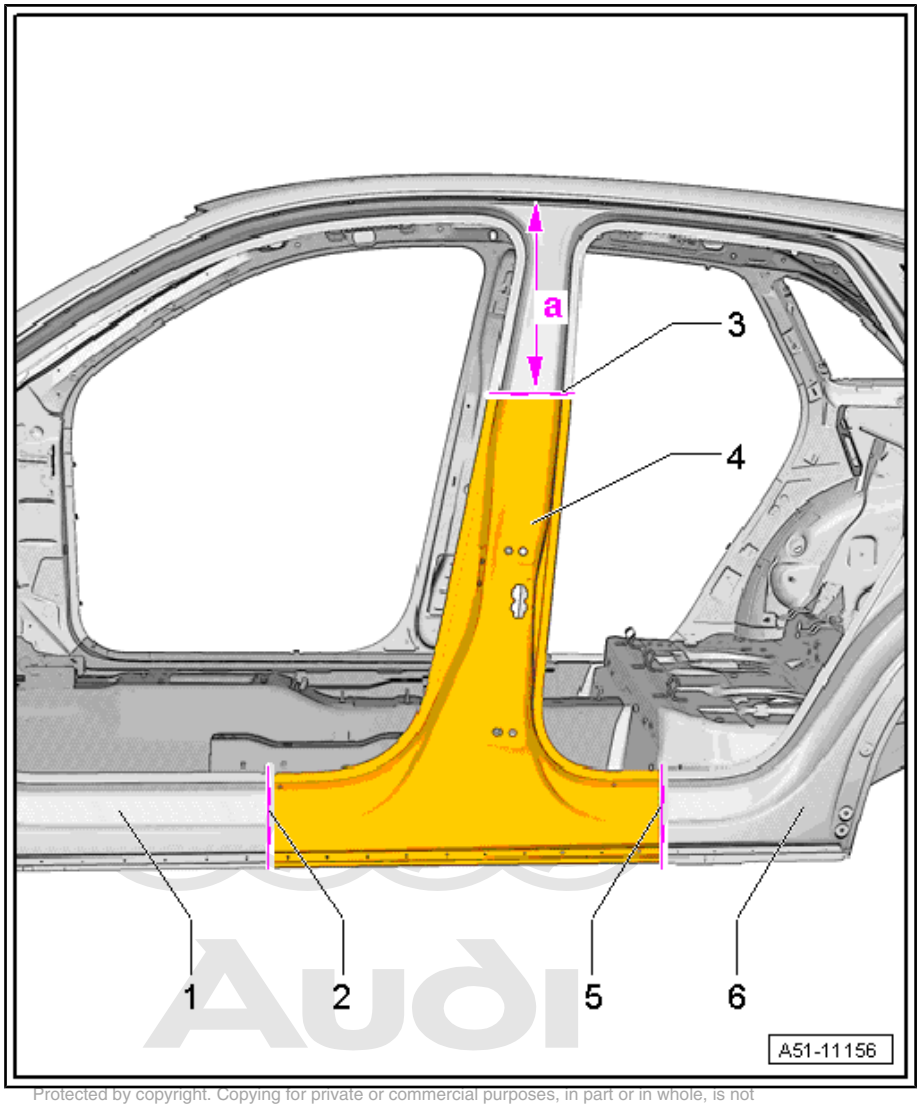
**2 - Separating cut in side member (front)**

**3 - Separating cut in B-pillar, dimension -a- = 400 mm**

**4 - Outer B-pillar**

**5 - Separating cut in side member (rear)**

**6 - Rear side member**



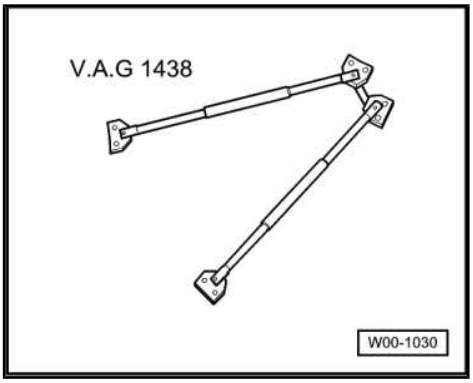

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 11.1 Tools

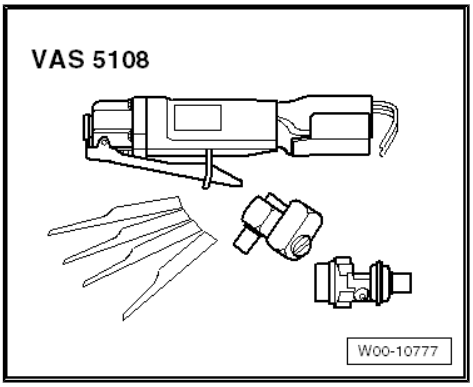
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Mole grips, 18-18 - VAS 5430/1-
- Compact angle grinder - VAS 5167-

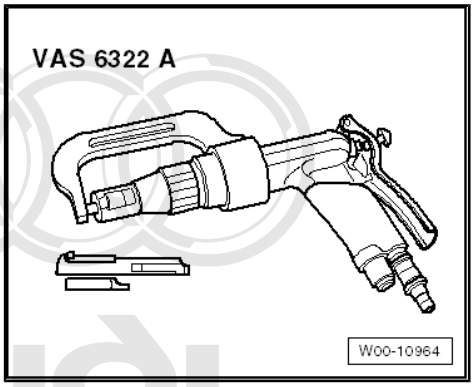
- Mechanical door tensioner - V.A.G 1438-



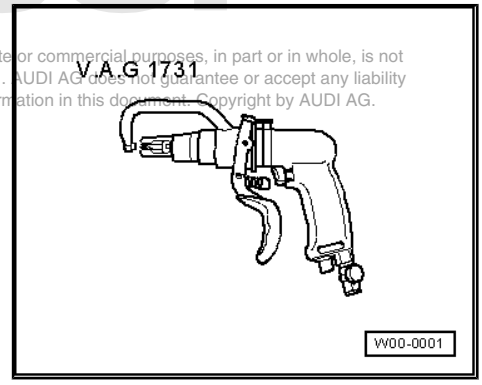

- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or

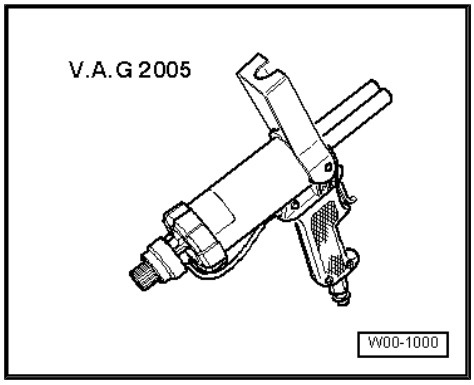



- Spot weld breaker - V.A.G 1731-




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

♦ Pneumatic glue gun - VAG 2005 B -




## 11.2 Procedure

**Cutting locations**

Permitted separating cuts on complete side frame ⇒ page 102

**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.

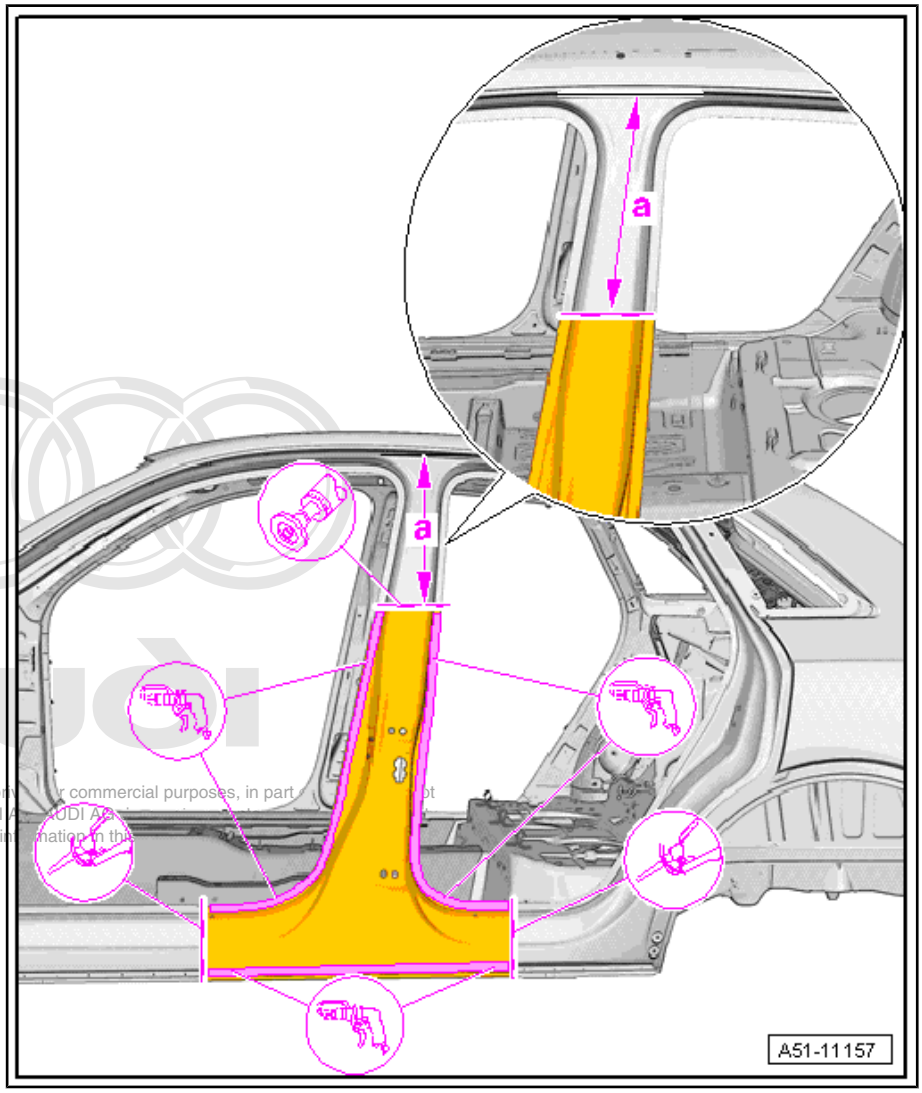
Passing on to third parties and duplication of this publication/extracts, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Dimension -a- = 400 mm**

– Make separating cut in lower outer B-pillar as shown using body saw .

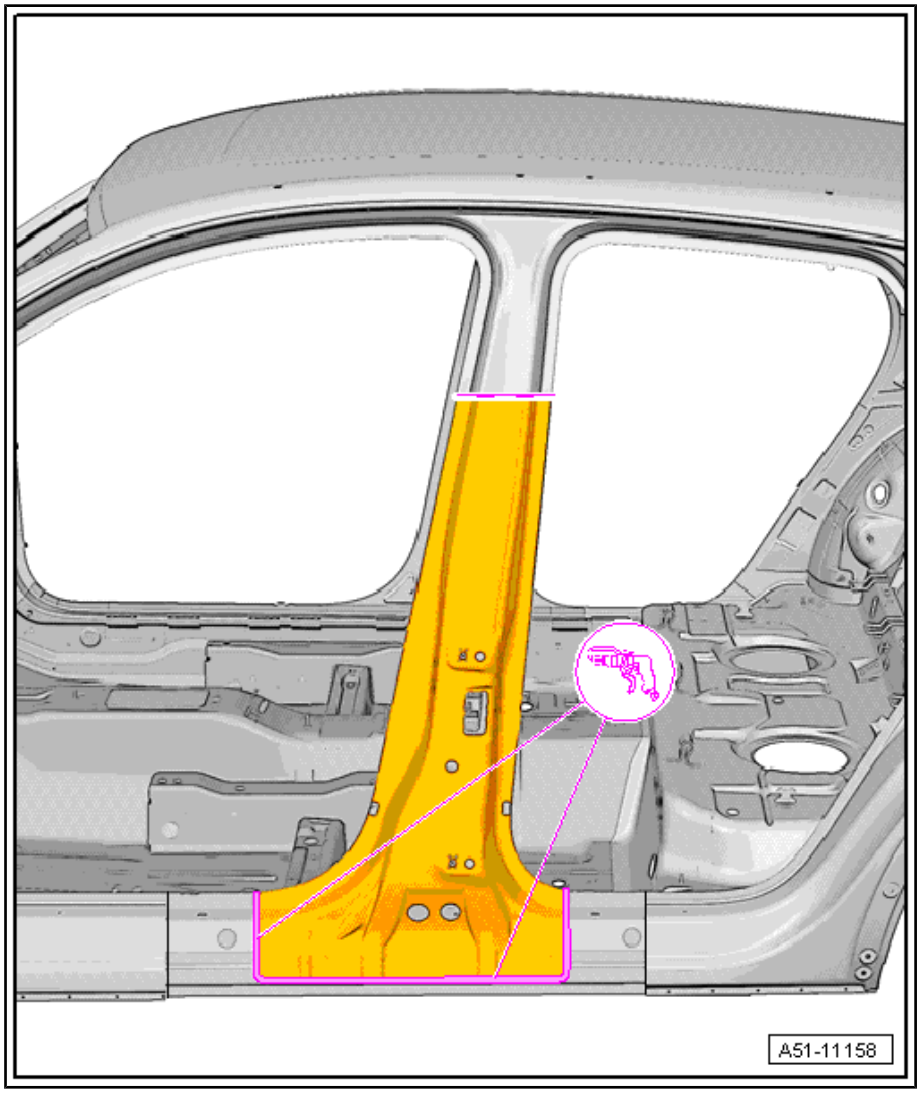
– Separate original joint using spot weld breaker .

– Make separating cuts on side member as shown using body saw .




Protected by copyright. Copying for pr r commercial purposes, in part ot
permitted unless authorised by AUDI A UDI AG
with respect to the correctness of in mation in thi

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



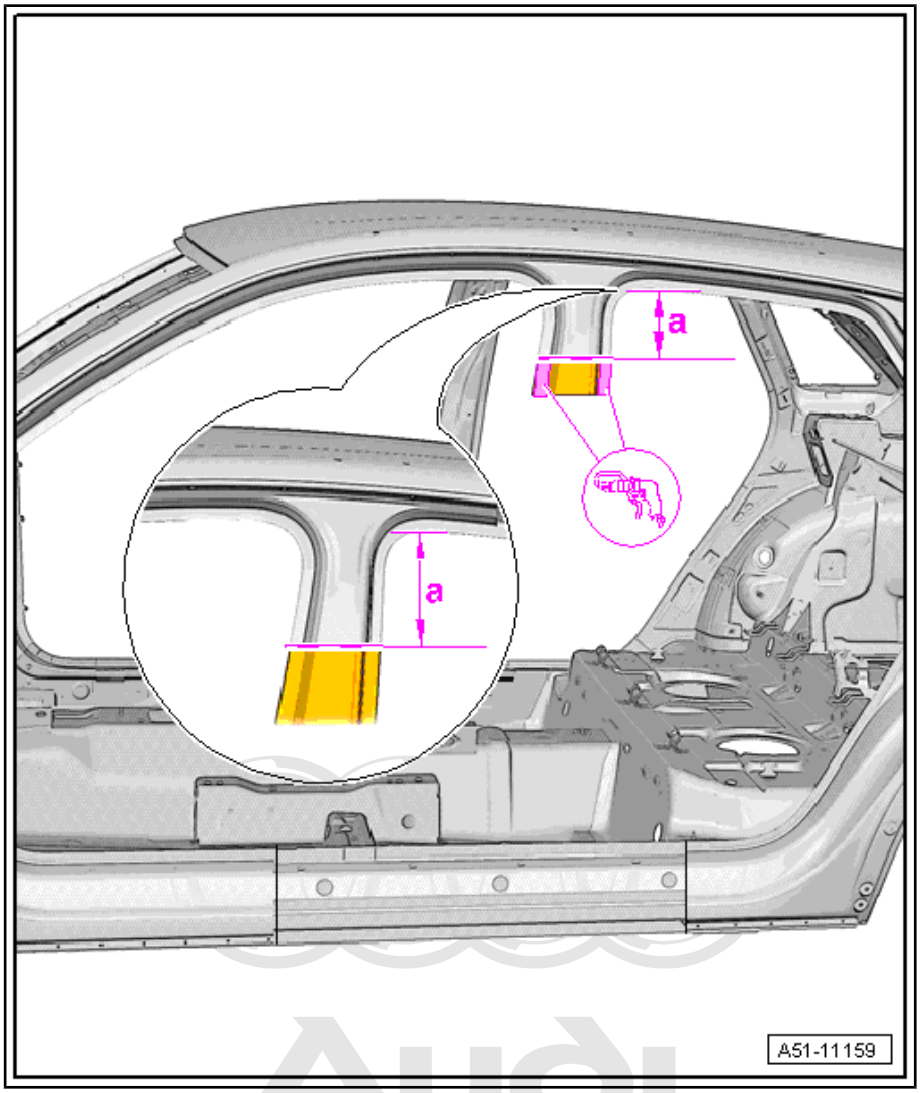

**Note**

*A separating cut is only permissible at the location described.*

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

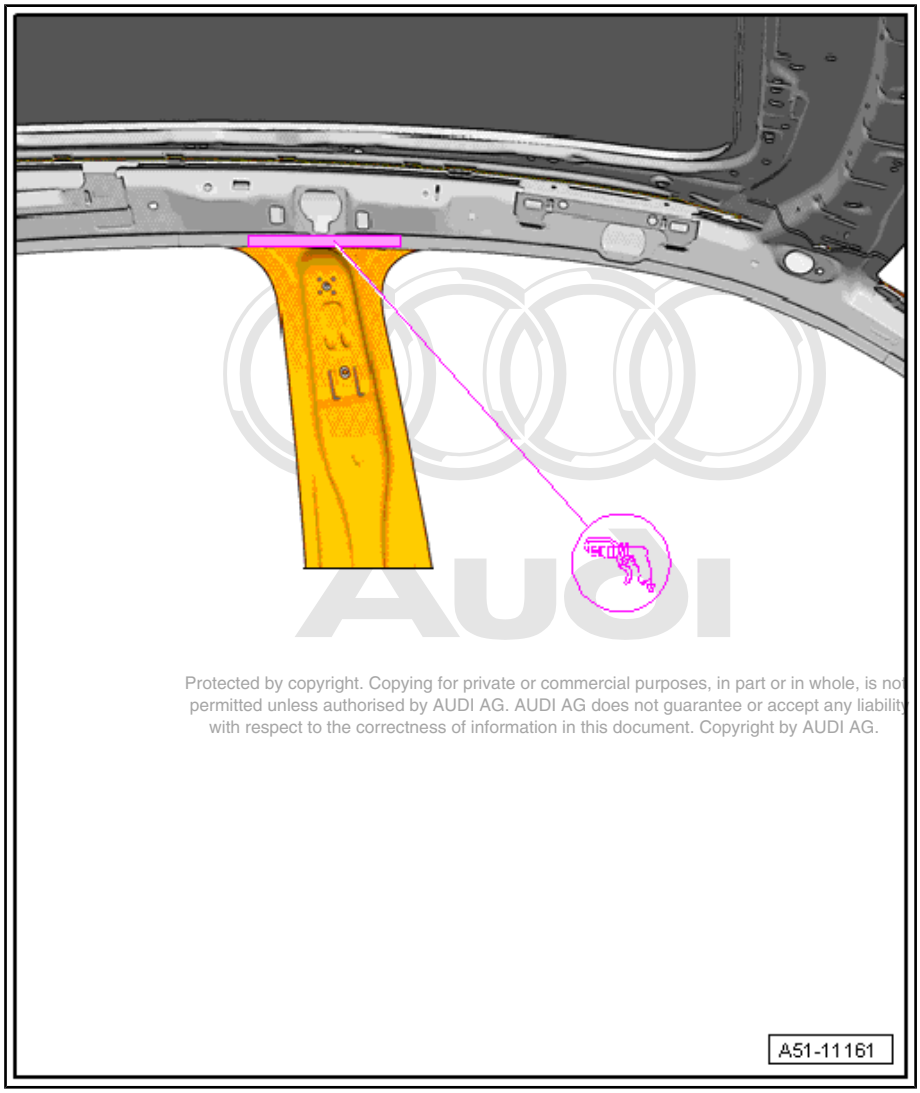
**Distance -a- = 290 mm**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



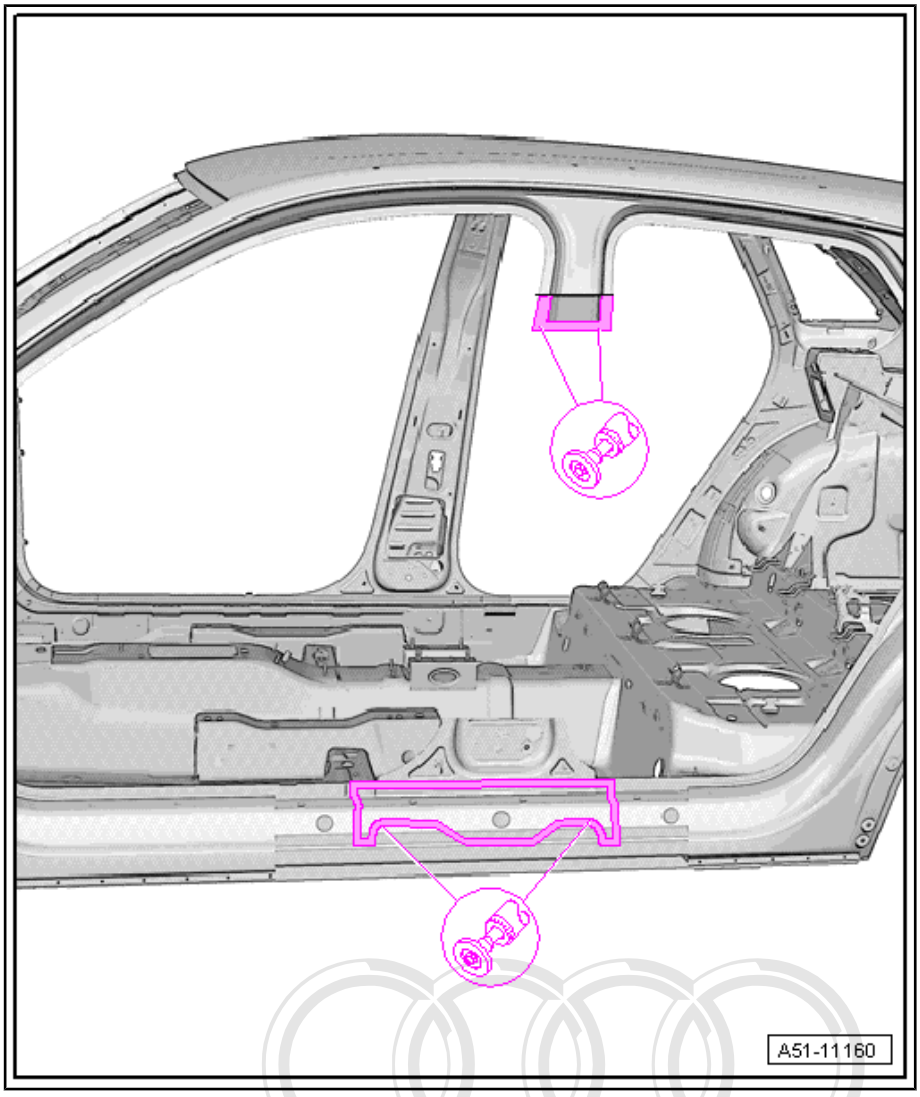

– Separate original joint between closure plate and inner roof frame using spot weld breaker .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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




### Replacement parts

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

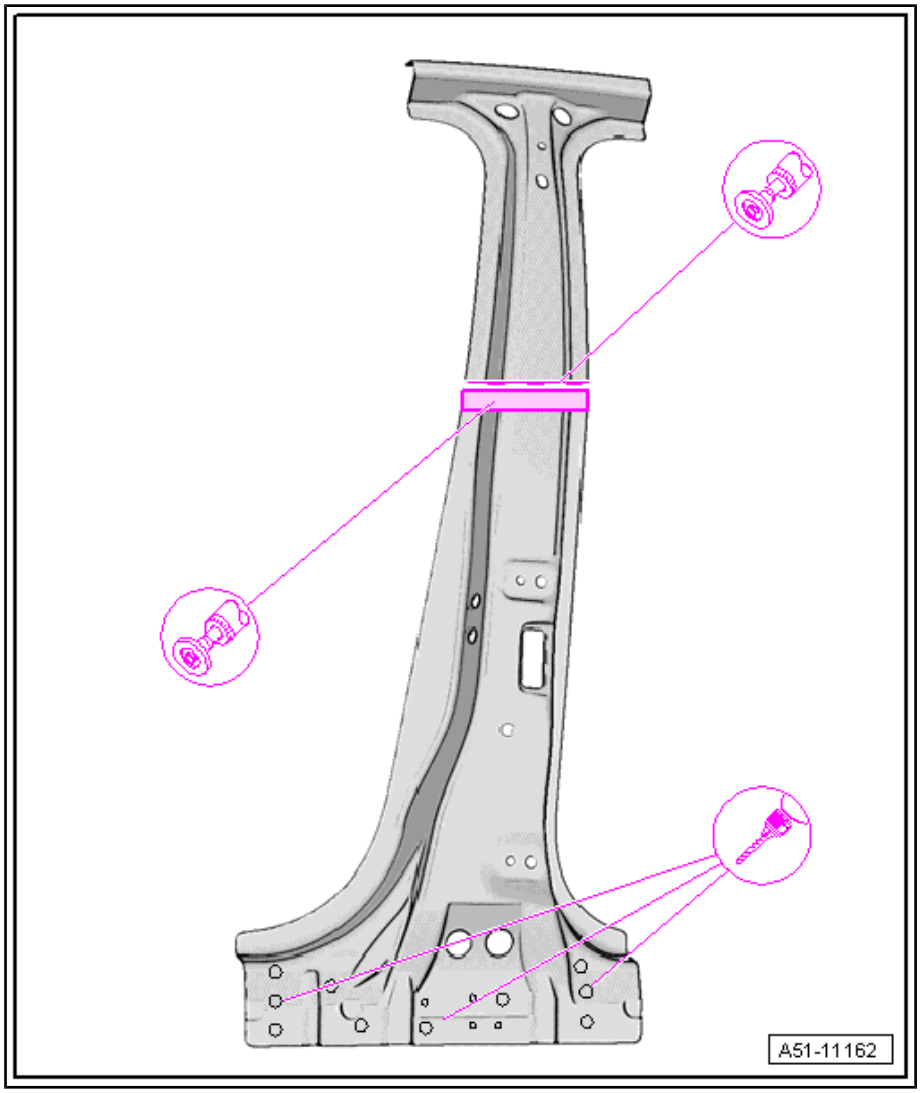
### Preparing new part

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

– Grind area around separating cut down to bare metal on inside and outside using compact angle grinder .

– Drill 17 holes for SG plug weld seam using drill as shown (8 mm ∅).

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



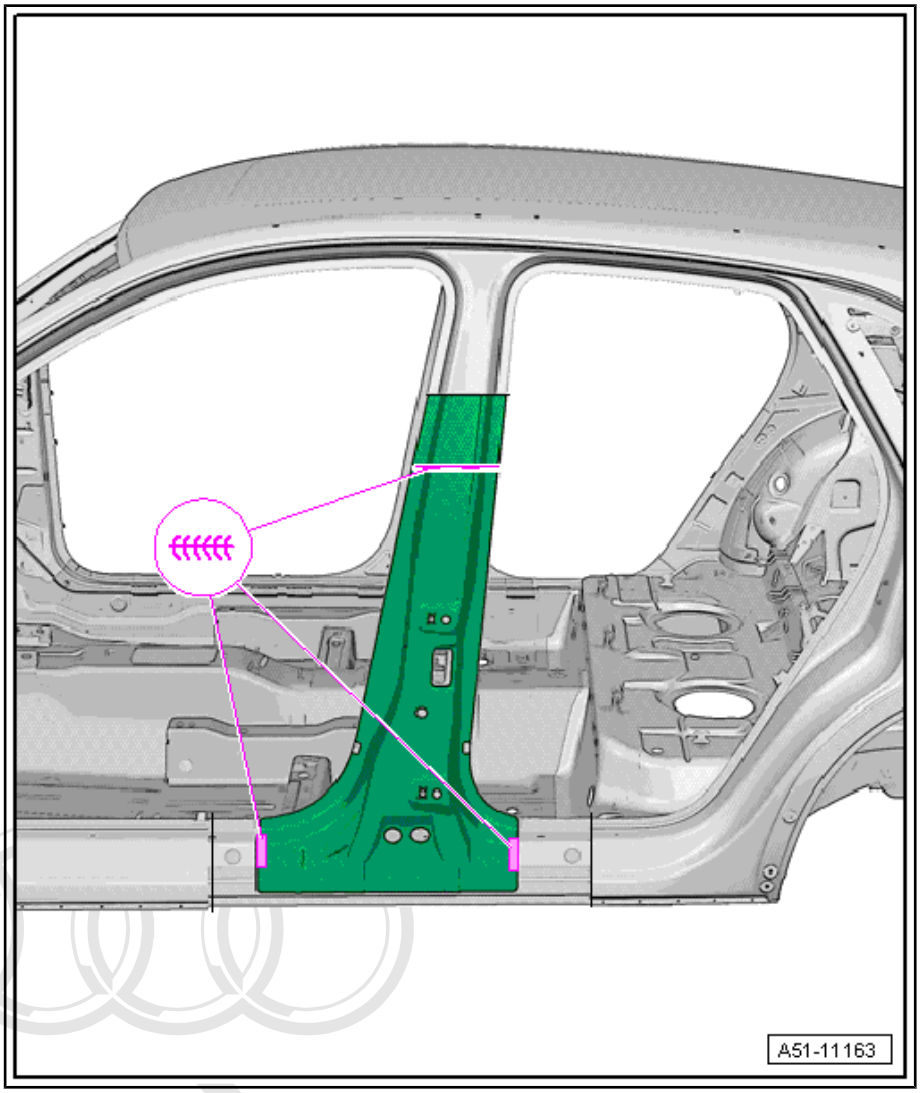

**Note**

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

### Welding in

- To avoid distortion, only tack weld inner B-pillar at top separating cut using shielded arc welding equipment .
- To avoid distortion, only tack weld inner B-pillar at bottom using shielded arc welding equipment .

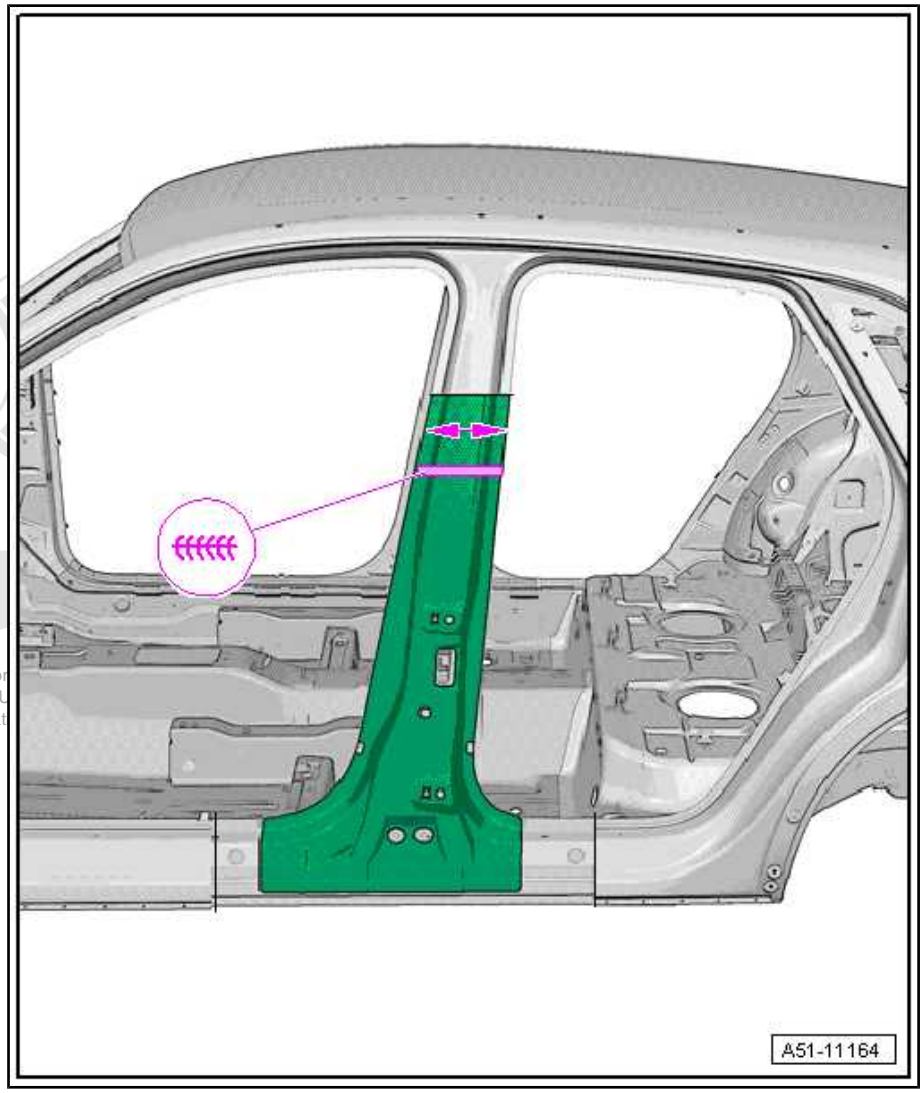
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Weld in at separating cut from inside to outside using shielded arc welding equipment : SG continuous seam.

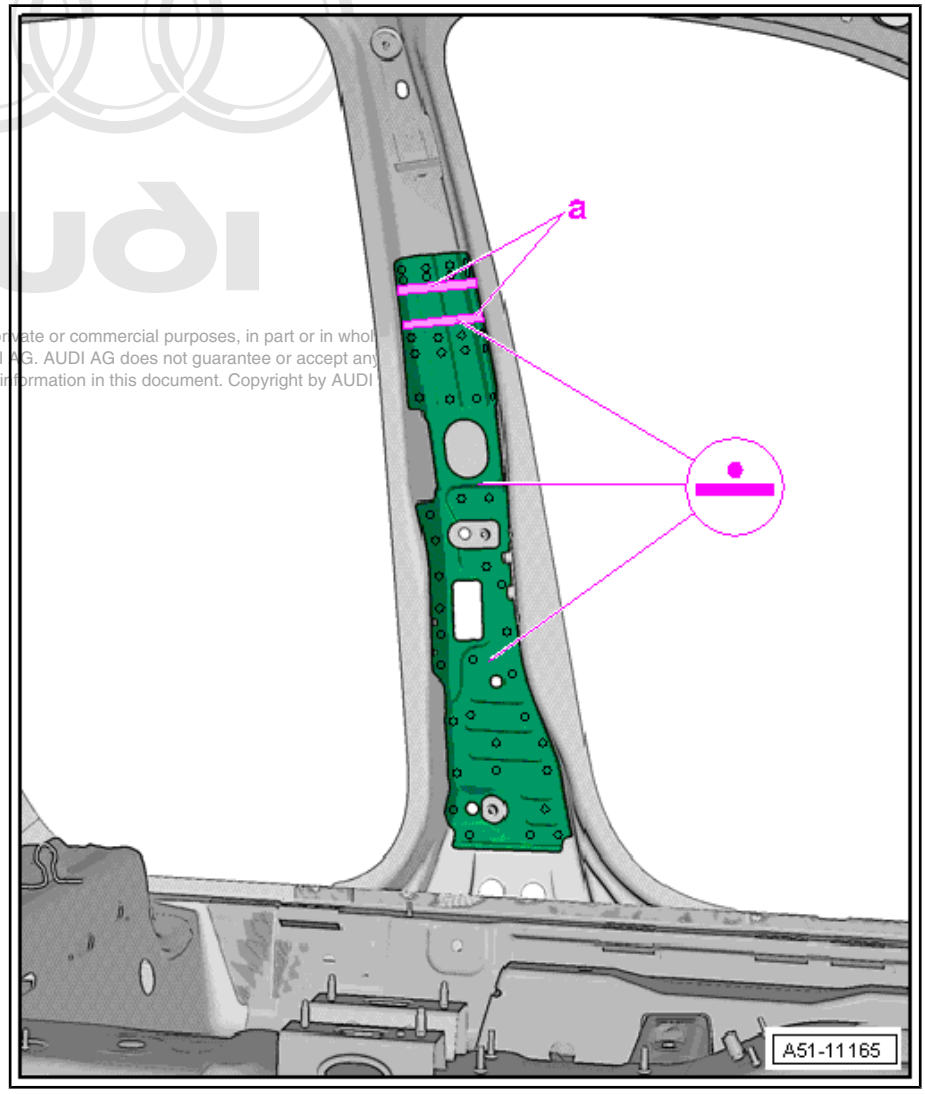
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or
permitted unless authorised by AUDI AG. AU
with respect to the correctness of informat

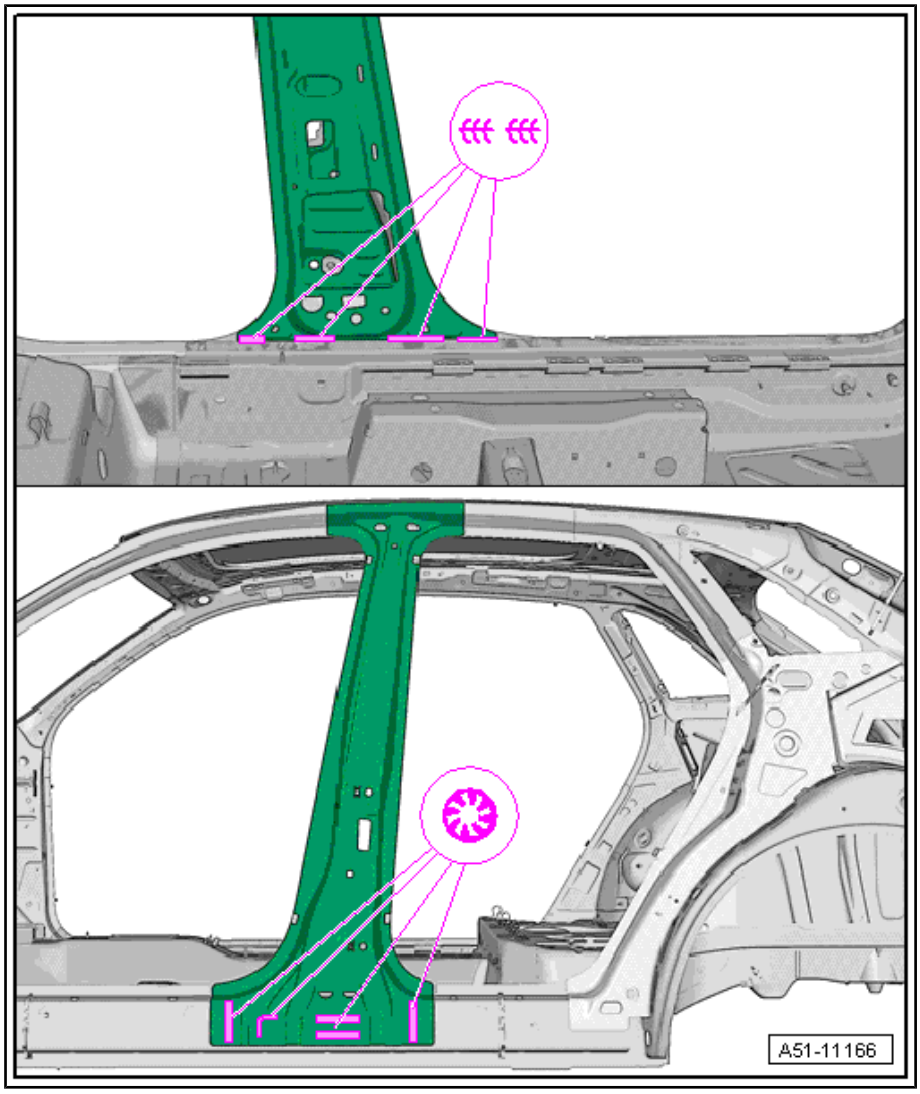



– Weld in B-pillar reinforcement as original joint using resistance spot welder . Additionally make 8x spot welds -a- offset from original joint: RP spot weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

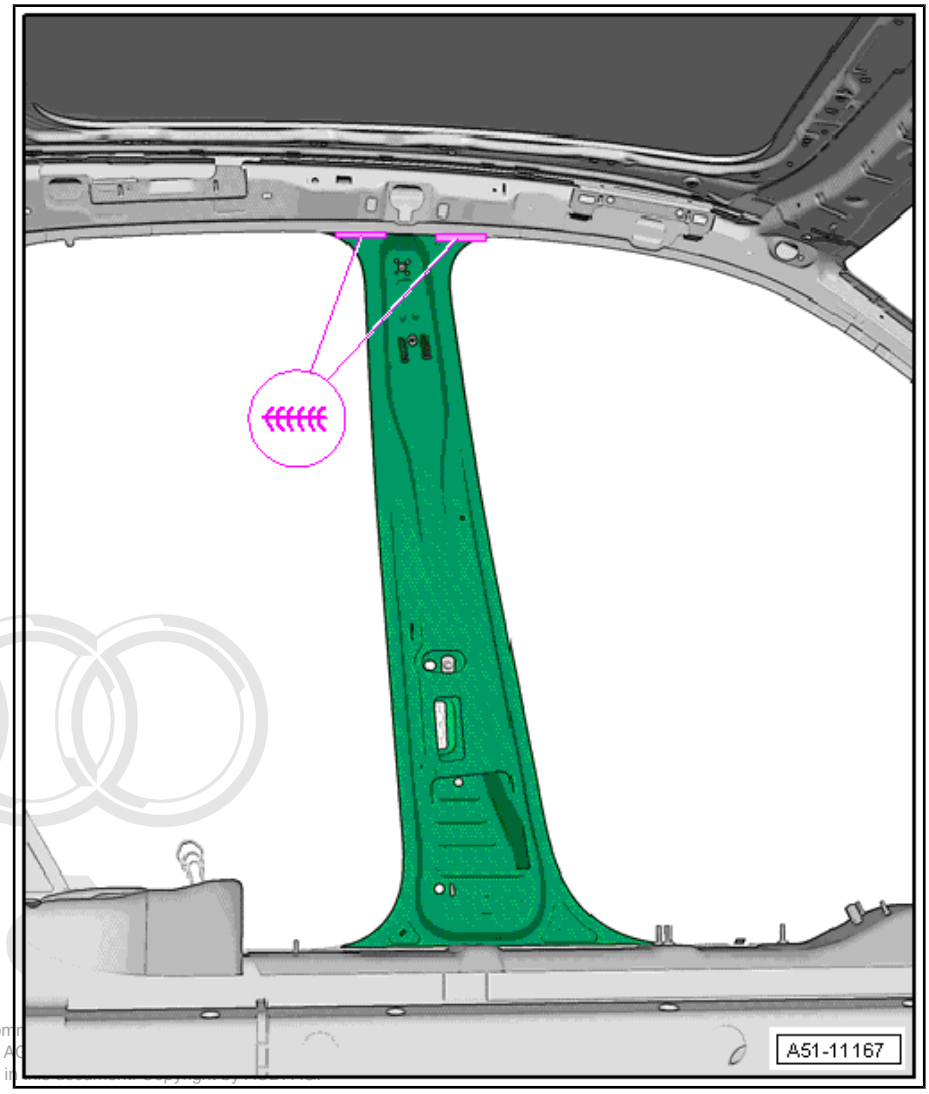



– Weld in lower outer B-pillar using shielded arc welding equipment : SG plug weld seam.
– Weld in lower inner B-pillar using shielded arc welding equipment : 6x SG continuous seam (staggered - with gaps).



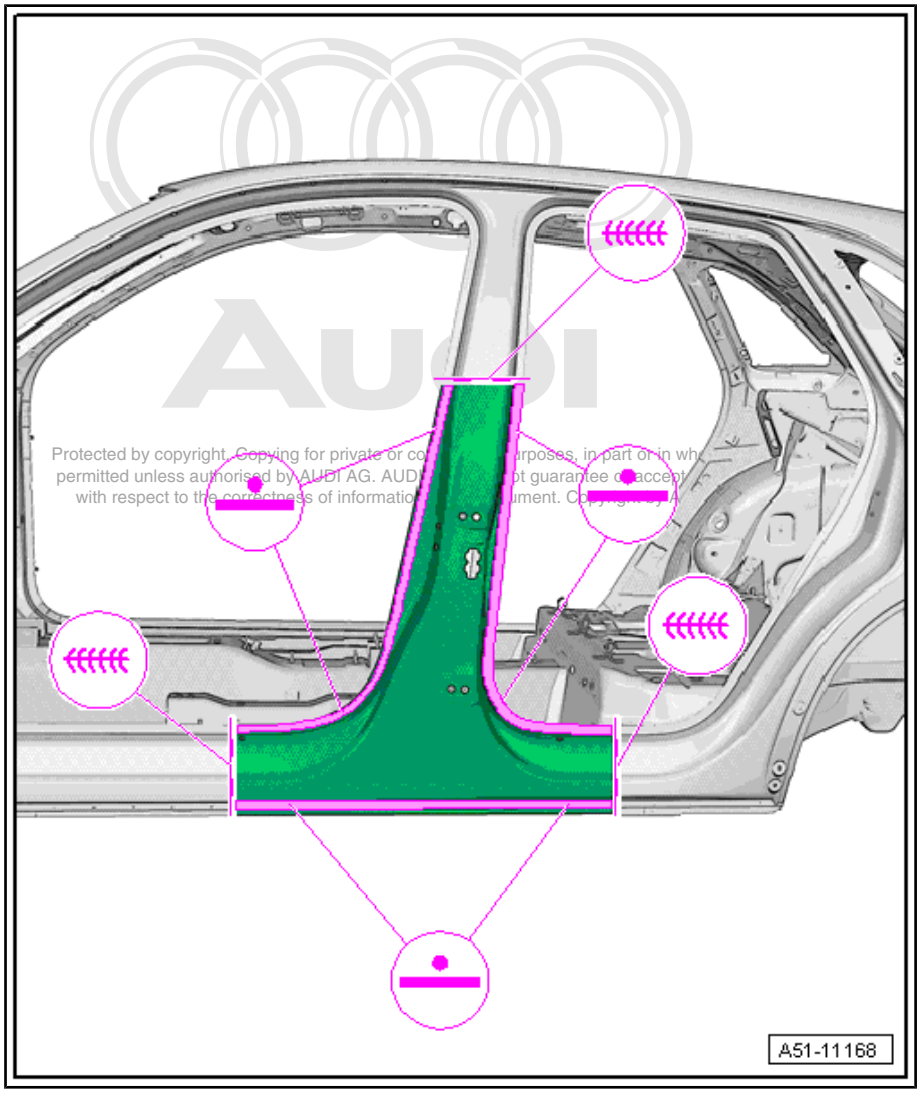

– Weld in upper inner B-pillar using shielded arc welding equipment : 2x SG continuous seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying for private or comm
permitted unless authorised by AUDI AG. AUDI A
with respect to the correctness of information in

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




Protected by copyright. Copying for private or co... purposes, in part or in wh... permitted unless authorised by AUDI AG. AUDI ... not guarantee or accept ... with respect to the correctness of information ... ument. Copyright by ...

- Welding in outer B-pillar ⇒ page 185

RO: 51 45 55 00

# 12 Outer side member - Renewal

**1 - Separating cut in A-pillar**

**2 - Moulded foam insert**

**3 - Separating cut in side member (front)**

Partial renewal
*Partial renewal is possible with this separating cut.*

*Make separating cut according to extent of damage.*

**4 - Outer side member**

**5 - Moulded foam insert**

**6 - Separating cut in side member (rear)**

Partial renewal
*Partial renewal is possible with this separating cut.*

*Make separating cut according to extent of damage.*

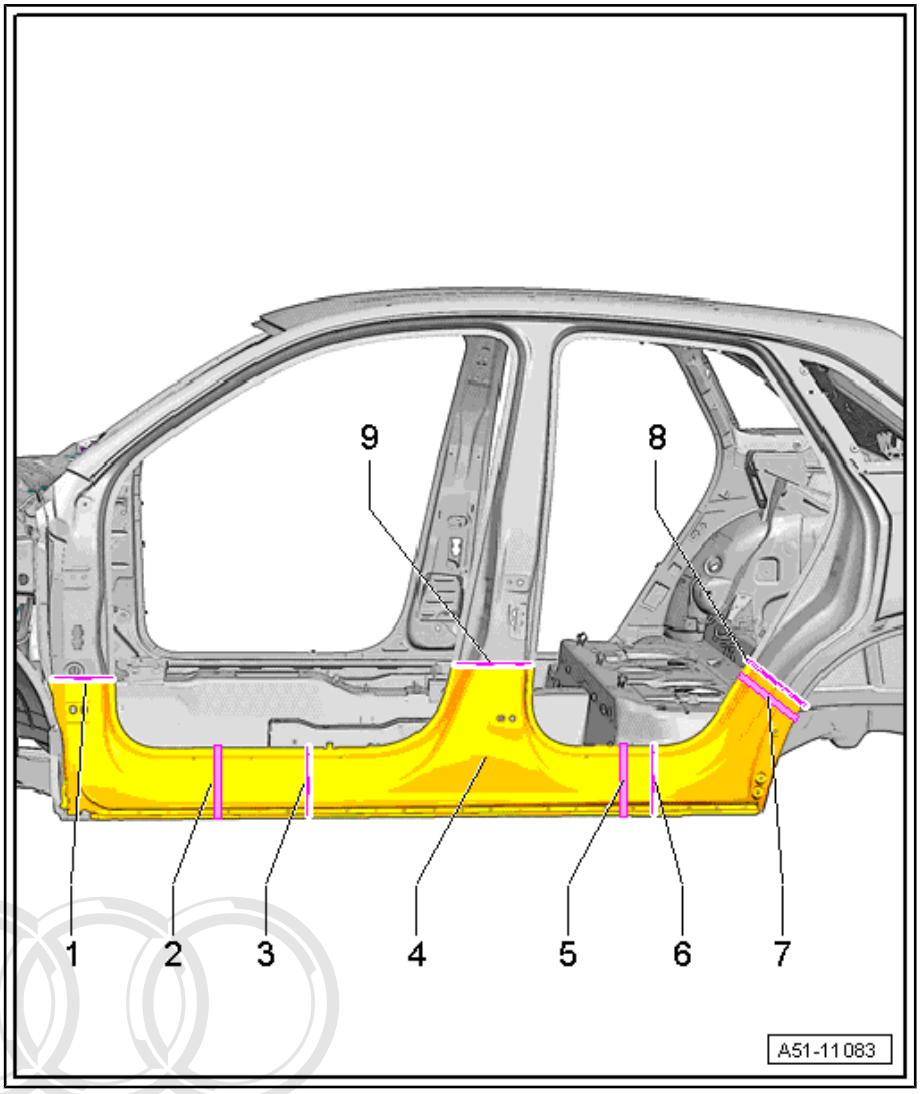
**7 - Moulded foam insert**

**8 - Separating cut at wheel arch**

**9 - Separating cut in B-pillar**

Partial renewal is possible with this separating cut.

Make separating cut according to extent of damage.



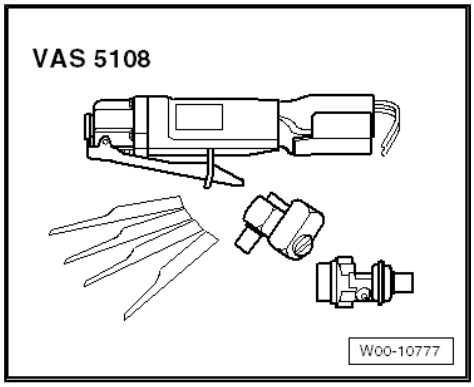

## 12.1 Tools

**Special tools and workshop equipment required**

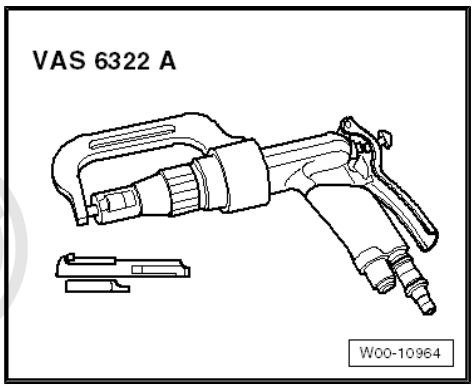
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

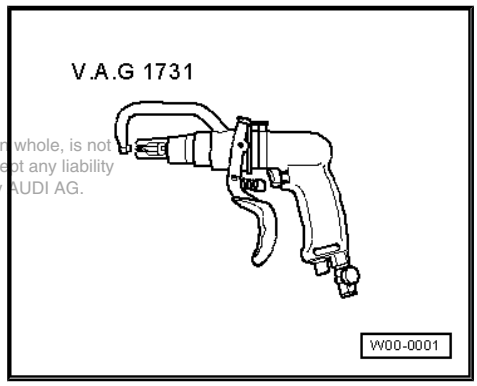
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 12.2 Procedure

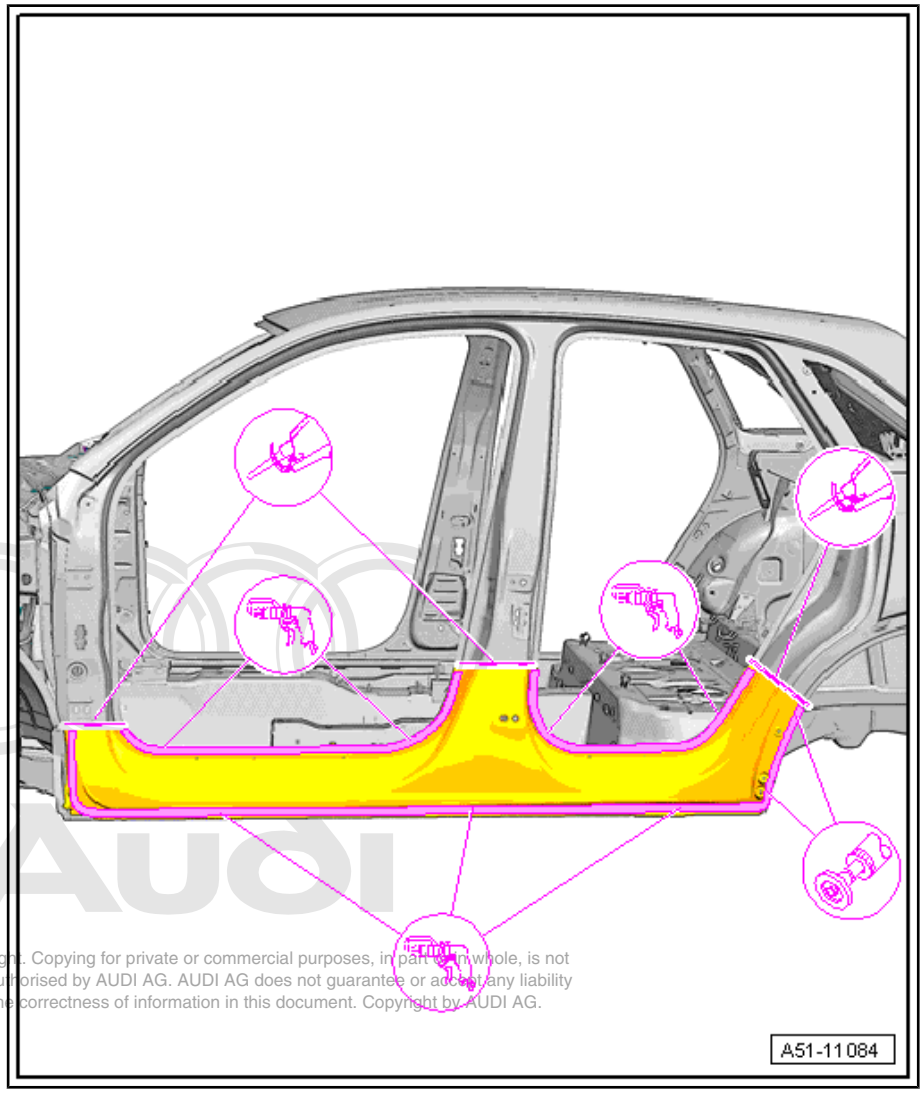
**Cutting locations**

Permitted separating cuts on complete side frame ⇒ page 102

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

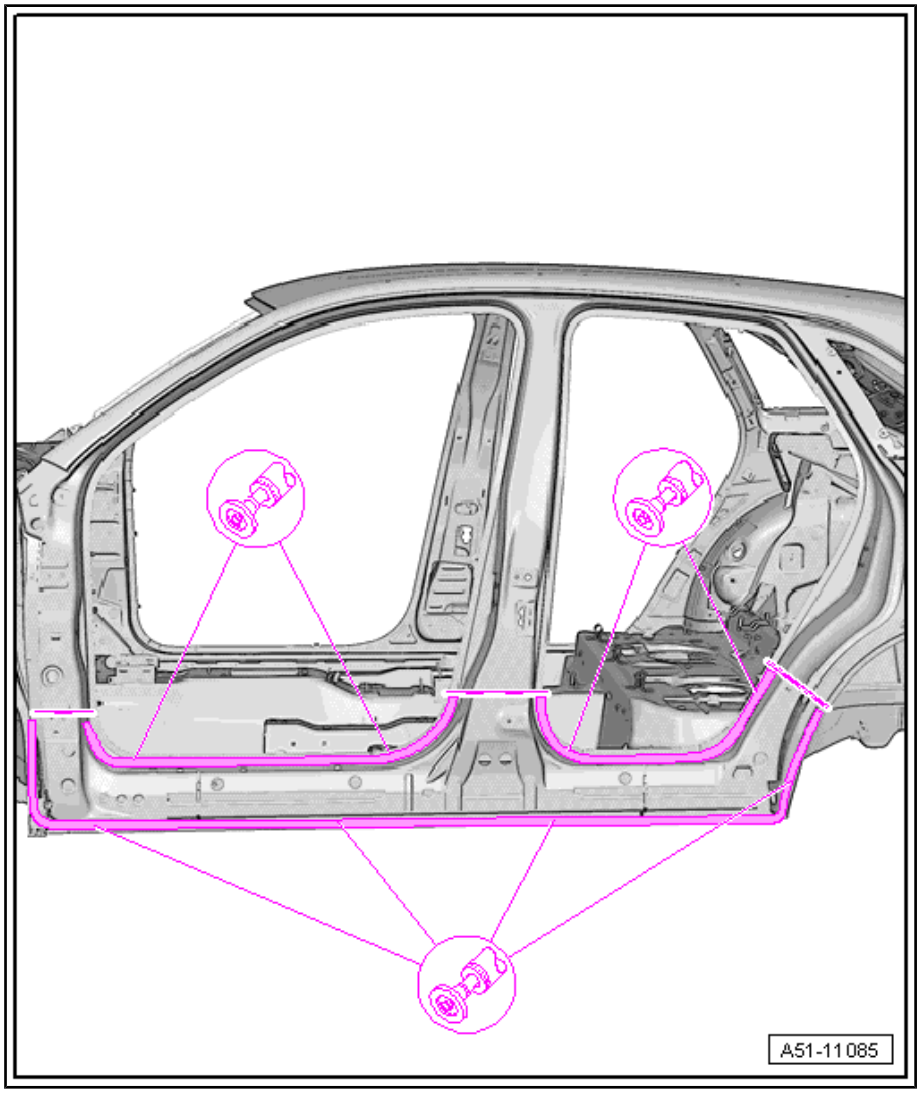
– Drill out original joint using spot weld breaker .

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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




**Replacement part**

- Outer side member (sub-part)

**Preparing new part**

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

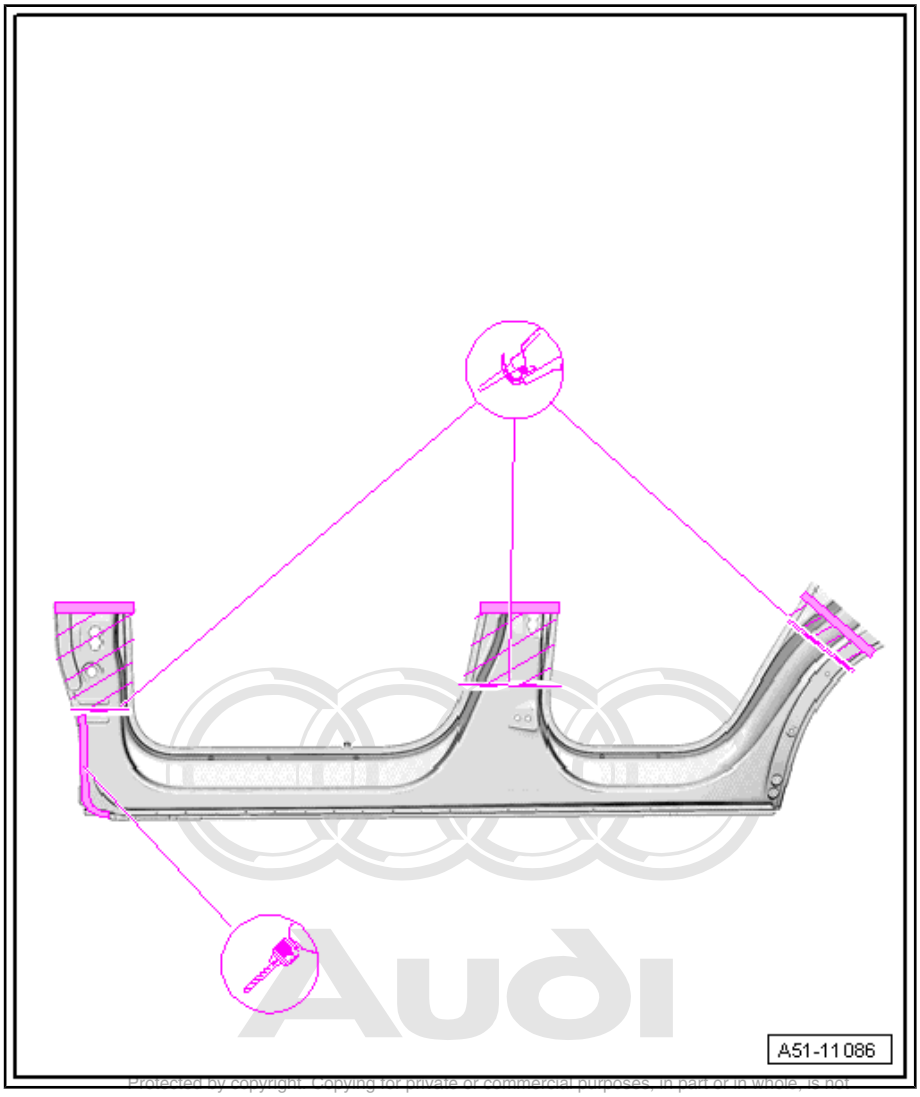
– Clean bonding area with cleaning solution - D 009 401 04- (it must be free of dust and grease).

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

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

– Drill holes for SG plug weld seam using drill .

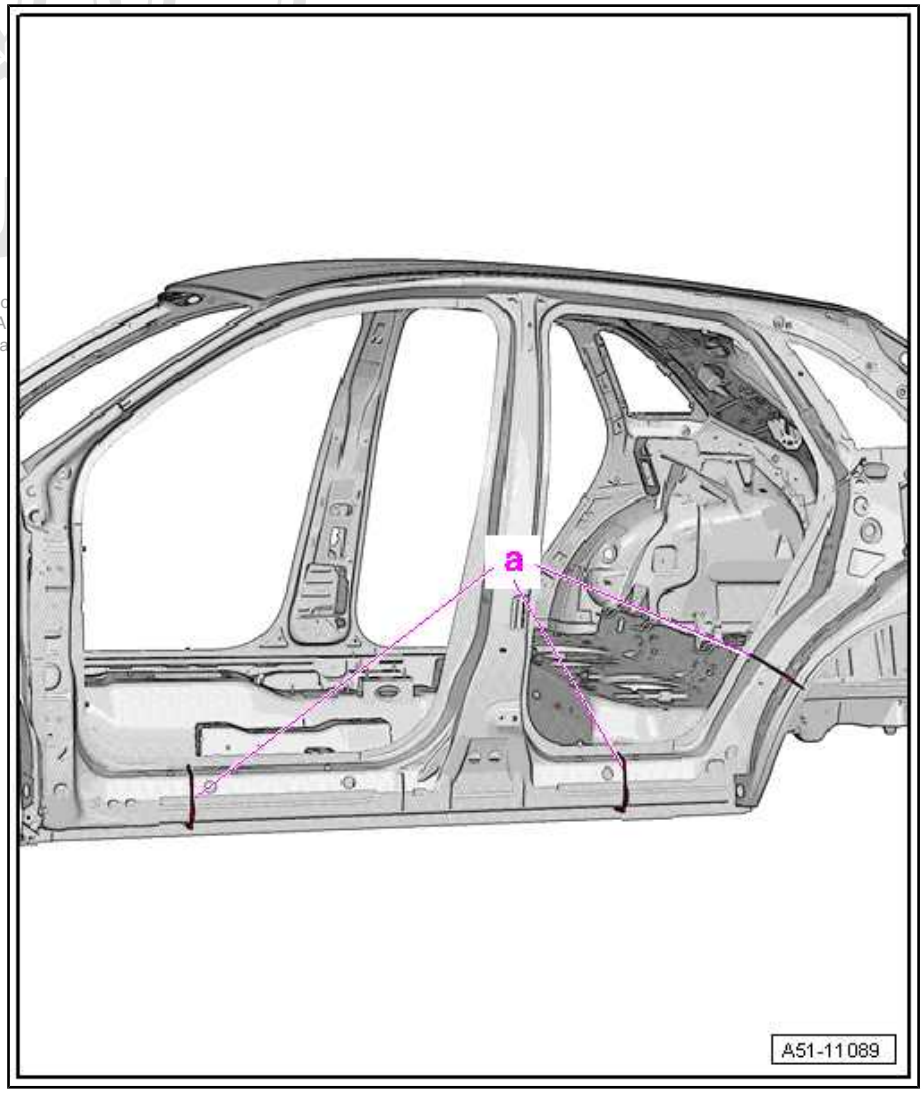
Printed by: [illegible] Date: [illegible]
permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability
[illegible] Copyright by AUDI AG.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Fit moulded foam inserts -a- ⇒ page 12 .

Protected by copyright. Copying for private c
permitted unless authorised by AUDI AG. A
with respect to the correctness of informa

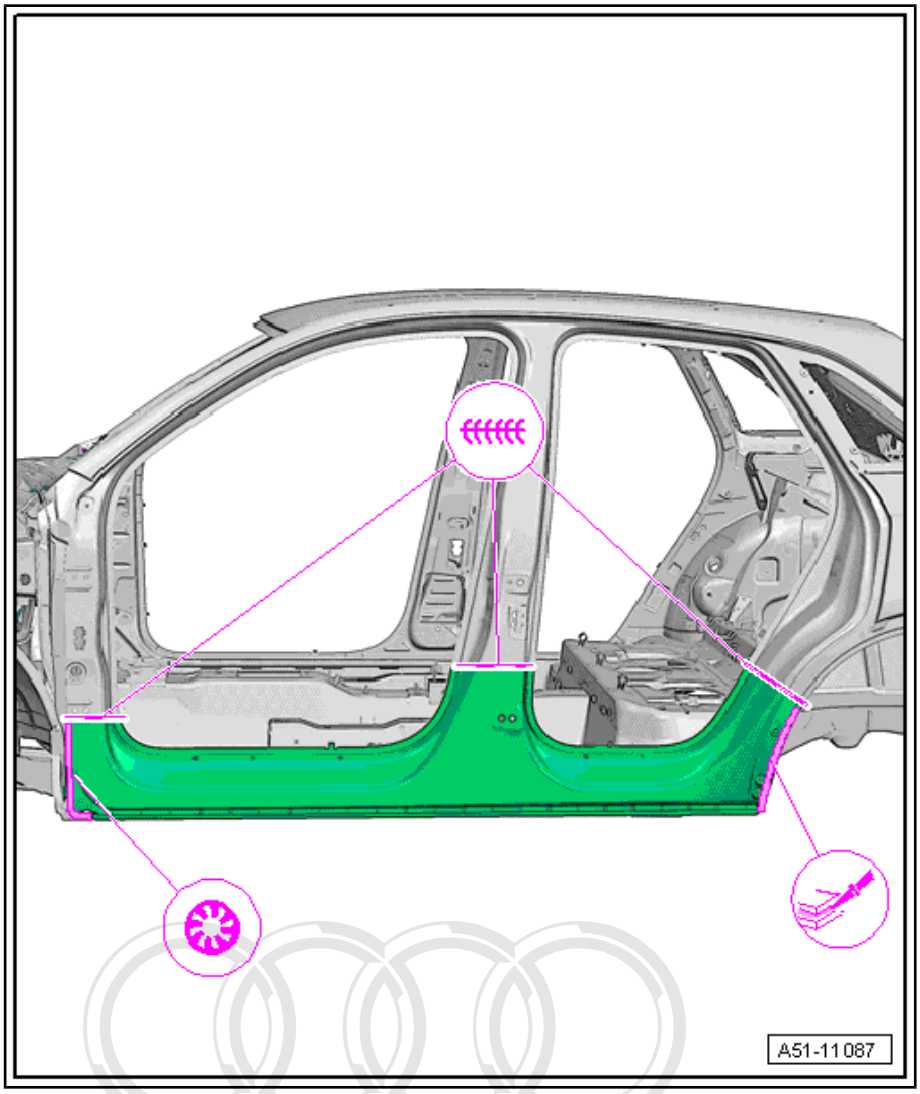



**Note**

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

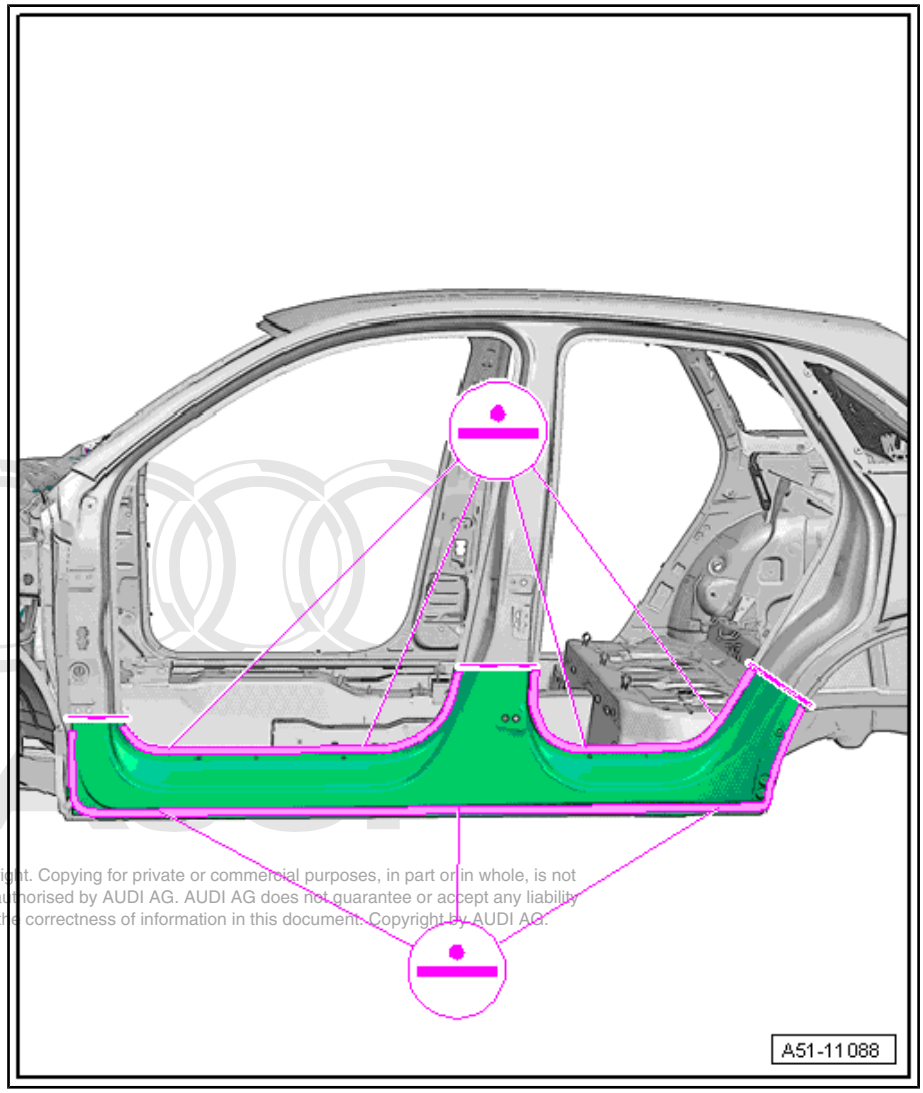
### Welding in

- Match up and fix new part in position.
- Check fit relative to bolt-on parts.
- Butt weld separating cuts using shielded arc welding equipment : SG continuous seam.
- Apply 2-component epoxy adhesive - DA 001 730 A2- to side panel and flange area on wheel housing using pneumatic glue gun - V.A.G 2005 B- .
- Weld in side member using shielded arc welding equipment : SG plug weld seam.




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 51 47 55 50

# 13 Inner side member - Renewal

**1 - Inner A-pillar reinforcement**

**2 - Inner side member**

**3 - Rear wheel housing**

**4 - Separating cut**

Partial renewal
*Partial renewal is possible with this separating cut.*

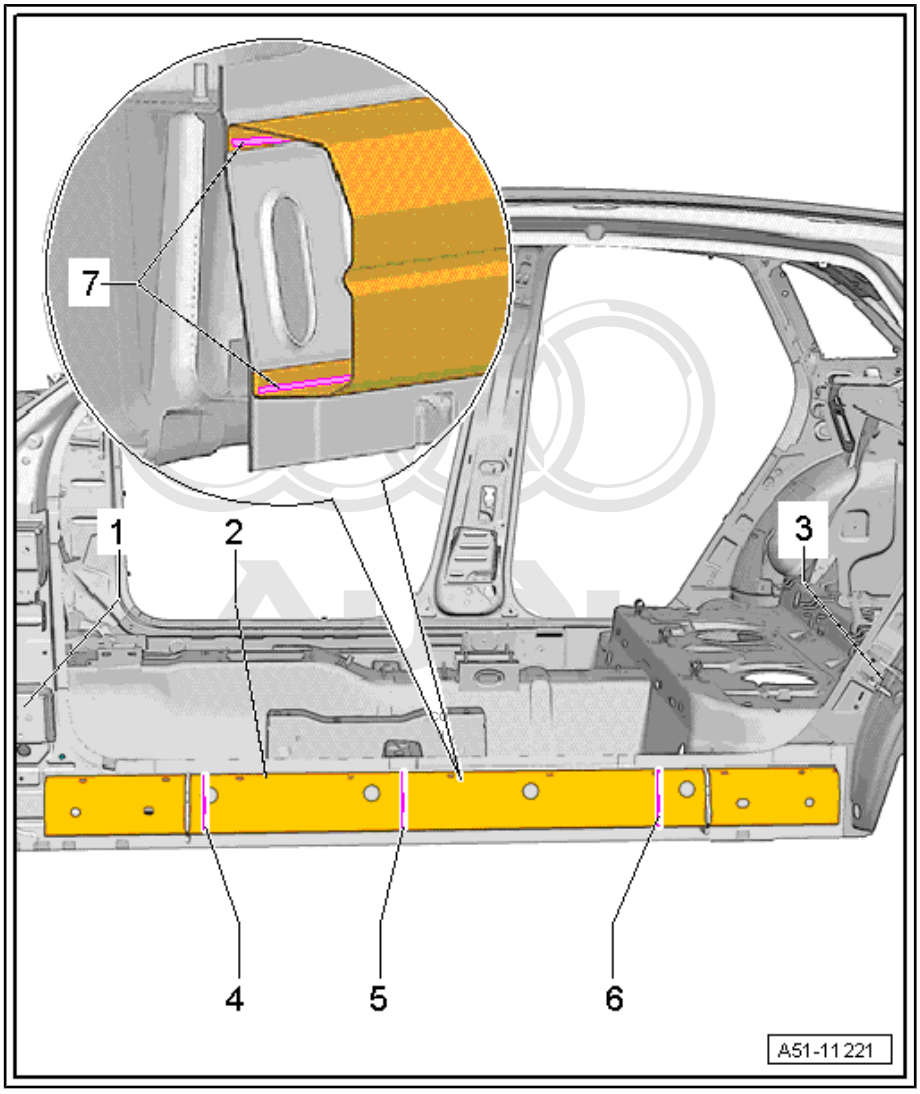
**5 - Separating cut**

Partial renewal
*Partial renewal is possible with this separating cut.*

**6 - Separating cut**

Partial renewal
*Partial renewal is possible with this separating cut.*

**7 - Laser weld seam**

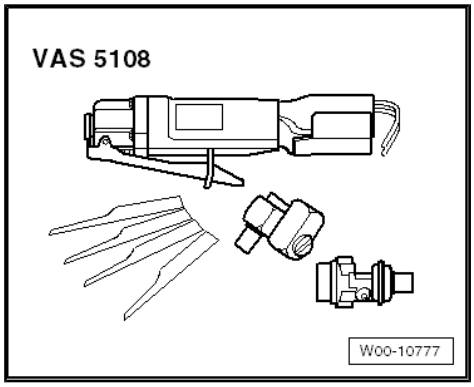



## 13.1 Tools

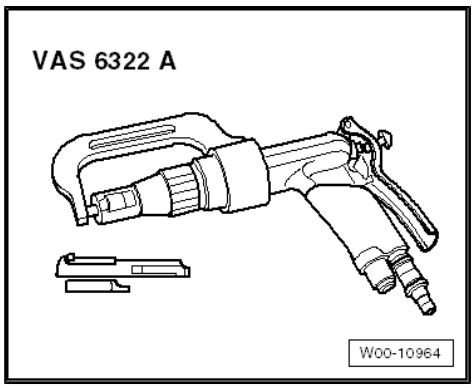
**Special tools and workshop equipment required**

- Compact angle grinder - VAS 5167-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-

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

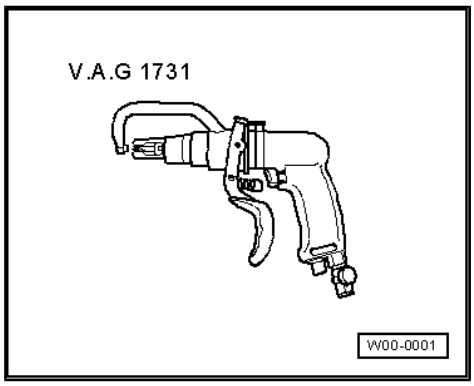



- Spot weld breaker - VAS 6322 A- or




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

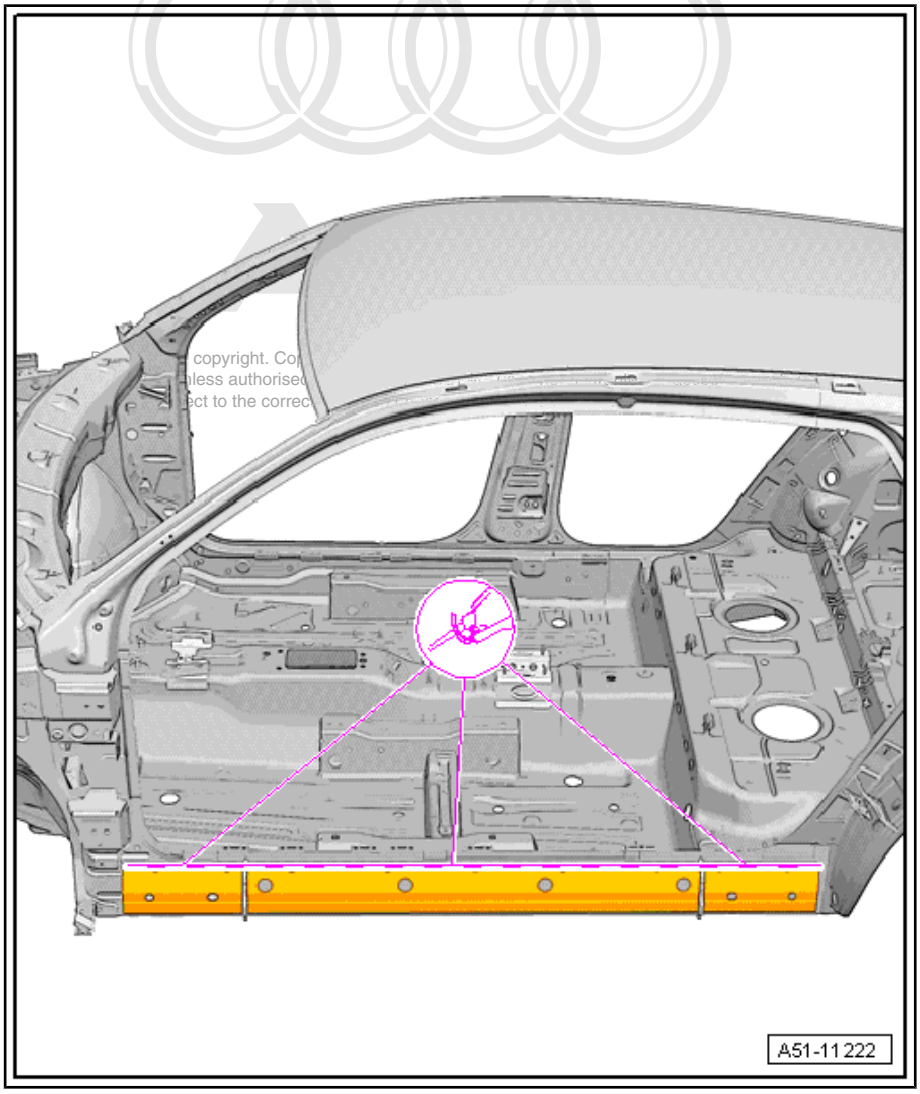



## 13.2 Procedure

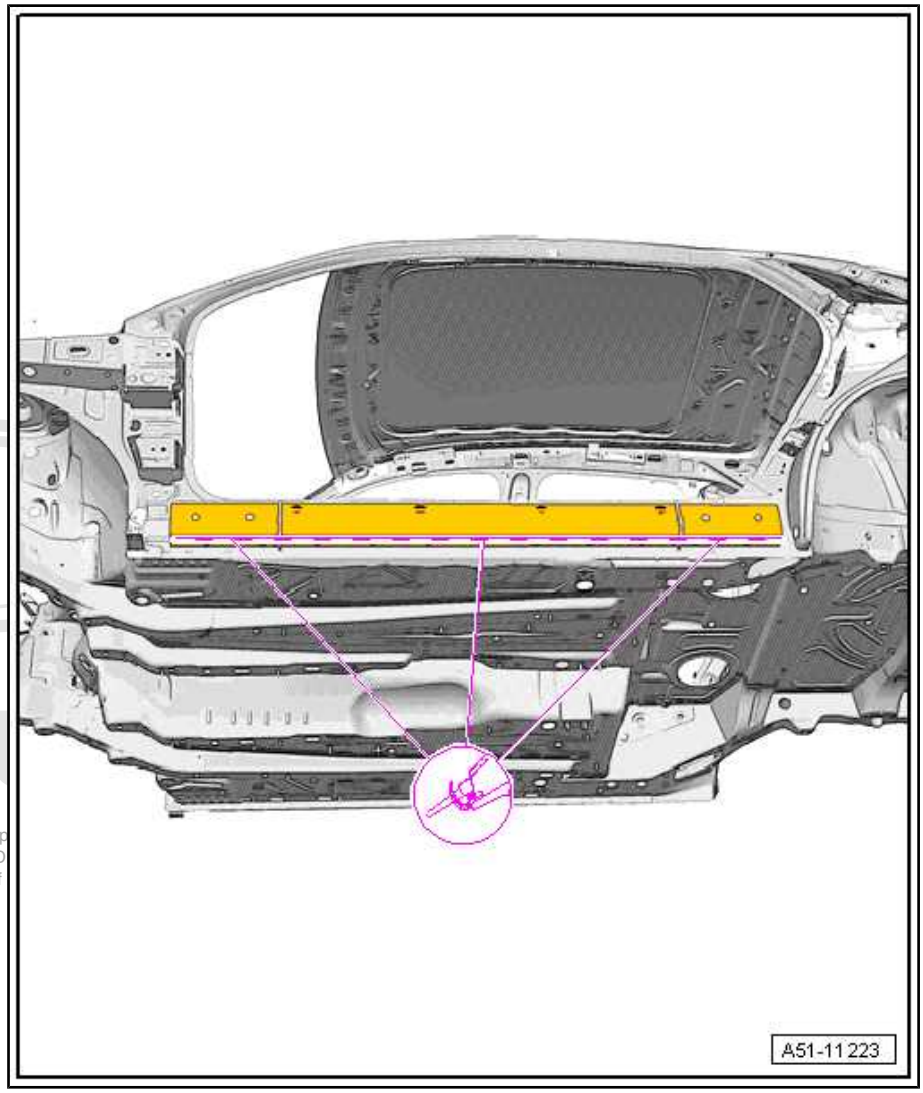
- Outer side member removed ⇒ page 207
- Side panel removed ⇒ page 268
- Inner B-pillar (part section) removed ⇒ page 192
- Outer A-pillar removed ⇒ page 161
- Lower inner A-pillar removed ⇒ page 179

**Cutting locations**

– Make upper separating cut on side member using body saw .

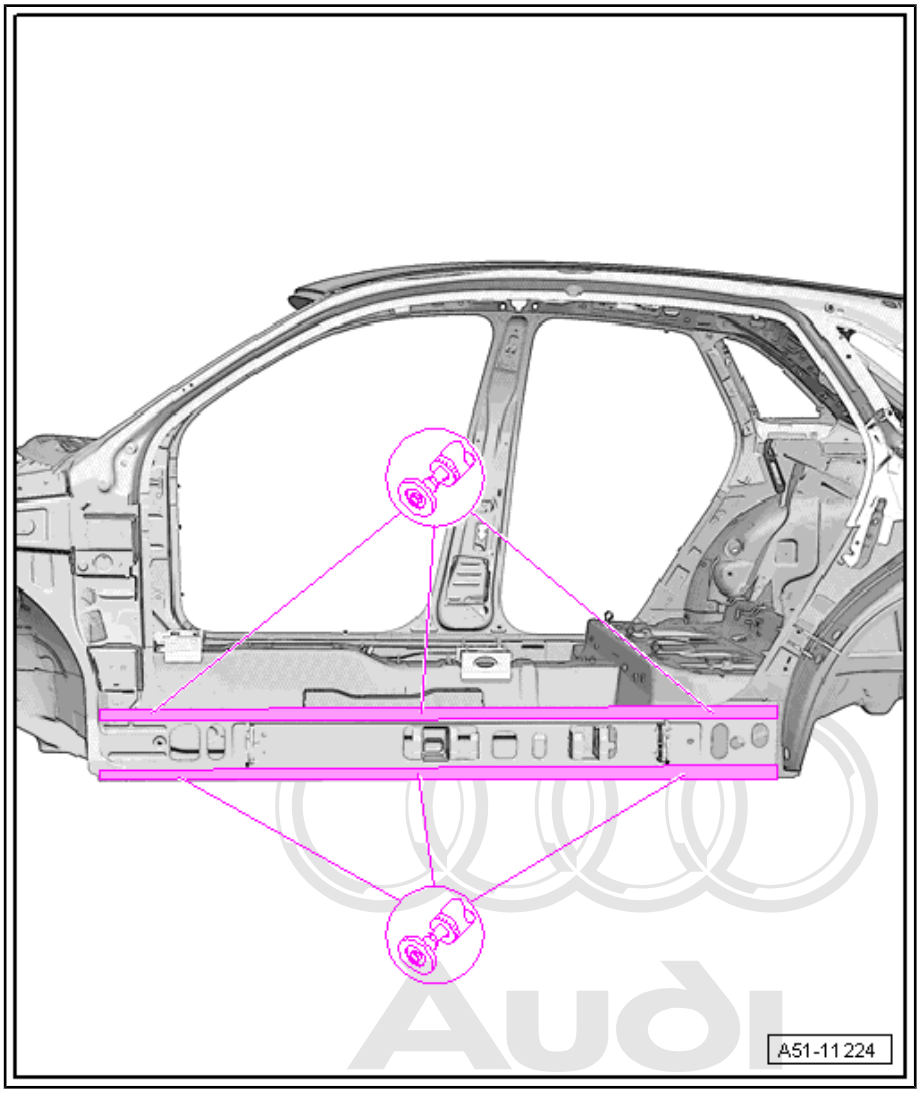



– Make lower separating cut on side member using body saw .




Protected by copyright. Copying for p
permitted unless authorised by AUD
with respect to the correctness of

– Remove remaining material using compact angle grinder .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

### Replacement part

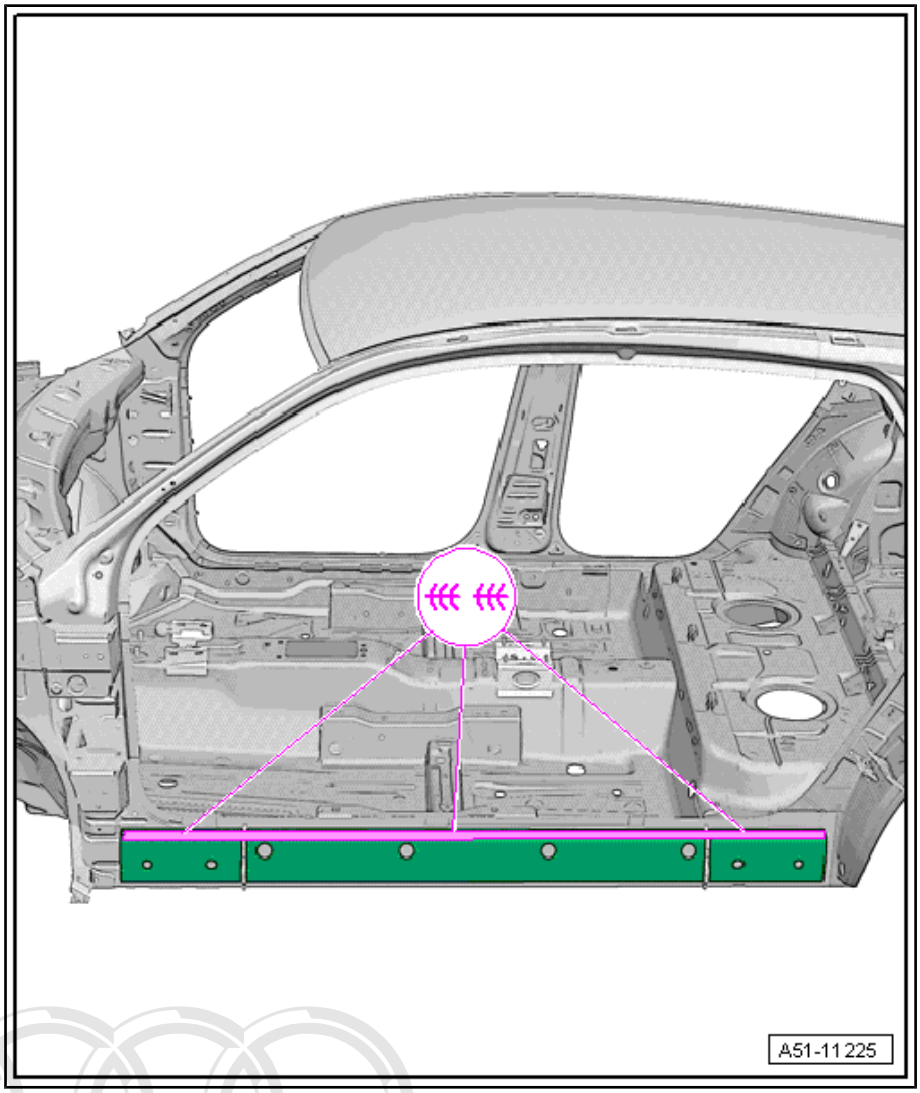
- Inner side member

### Note

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

### Welding in

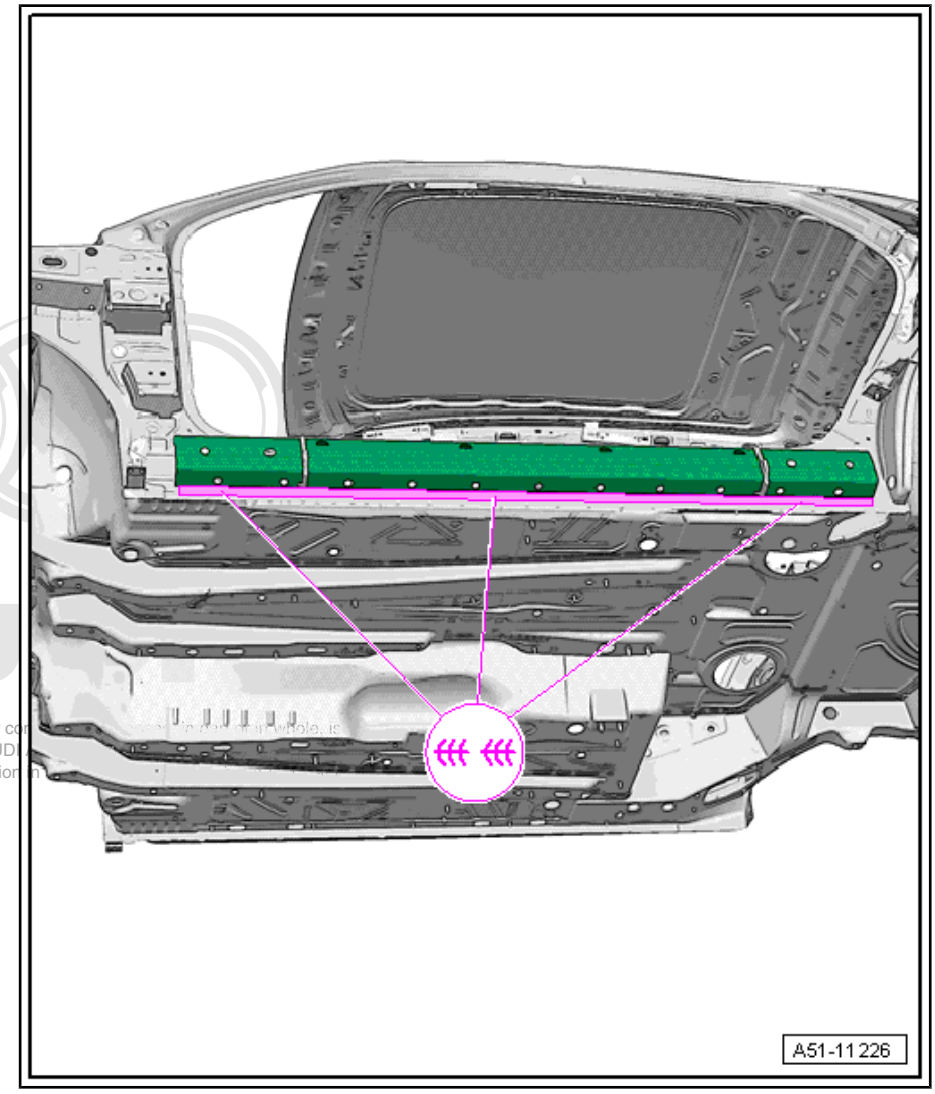
– Weld in side member with fillet weld at inner side member reinforcement using shielded arc welding equipment : SG continuous seam (staggered - with gaps).




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or co
permitted unless authorised by AUDI AG. AUDI
with respect to the correctness of information




- Welding in outer side member ⇒ page 207
- Welding in side panel ⇒ page 268
- Welding in inner B-pillar (part section) ⇒ page 192
- Welding in outer A-pillar ⇒ page 161
- Welding in lower inner A-pillar ⇒ page 179

RO: 51 47 55 50

# 14 Web plate for inner side member - Renewal

**1 - Inner A-pillar reinforcement**

**2 - Web plate for inner side member**

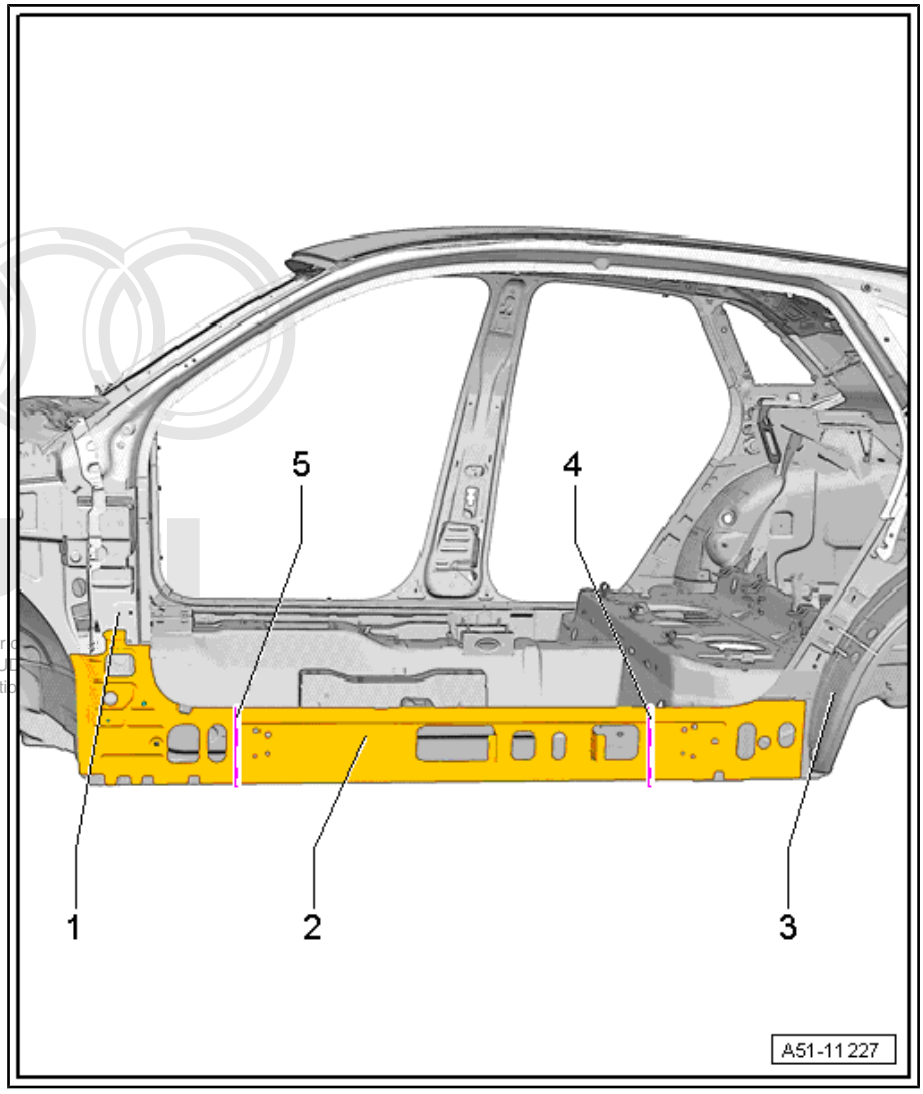
**3 - Rear wheel housing**

**4 - Separating cut**

Partial renewal
*Partial renewal is possible with this separating cut.*

**5 - Separating cut**

Partial renewal
*Partial renewal is possible with this separating cut.*



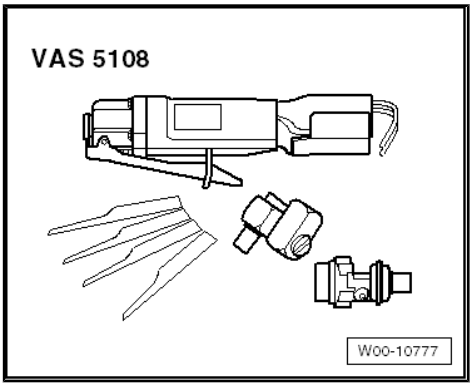

Protected by copyright. Copying for private or c
permitted unless authorised by AUDI AG. AUD
with respect to the correctness of informatio

## 14.1 Tools

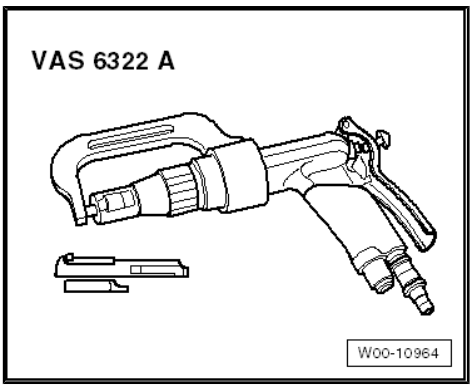
**Special tools and workshop equipment required**

- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- 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-
- Compact angle grinder - VAS 5167-

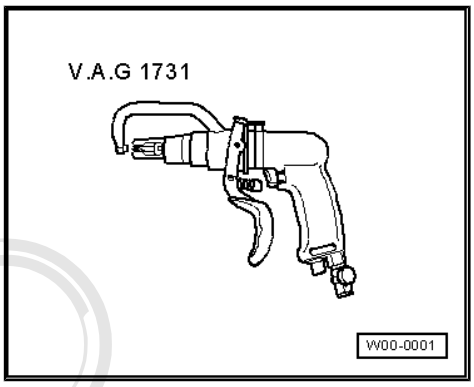
♦ Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




♦ Spot weld breaker - VAS 6322 A- or




♦ Spot weld breaker - V.A.G 1731-




## 14.2 Procedure

- Outer side member removed ⇒ page 207
- Side panel removed ⇒ page 268
- Inner B-pillar (part section) removed ⇒ page 192
- Outer A-pillar removed ⇒ page 161
- Lower inner A-pillar removed ⇒ page 179

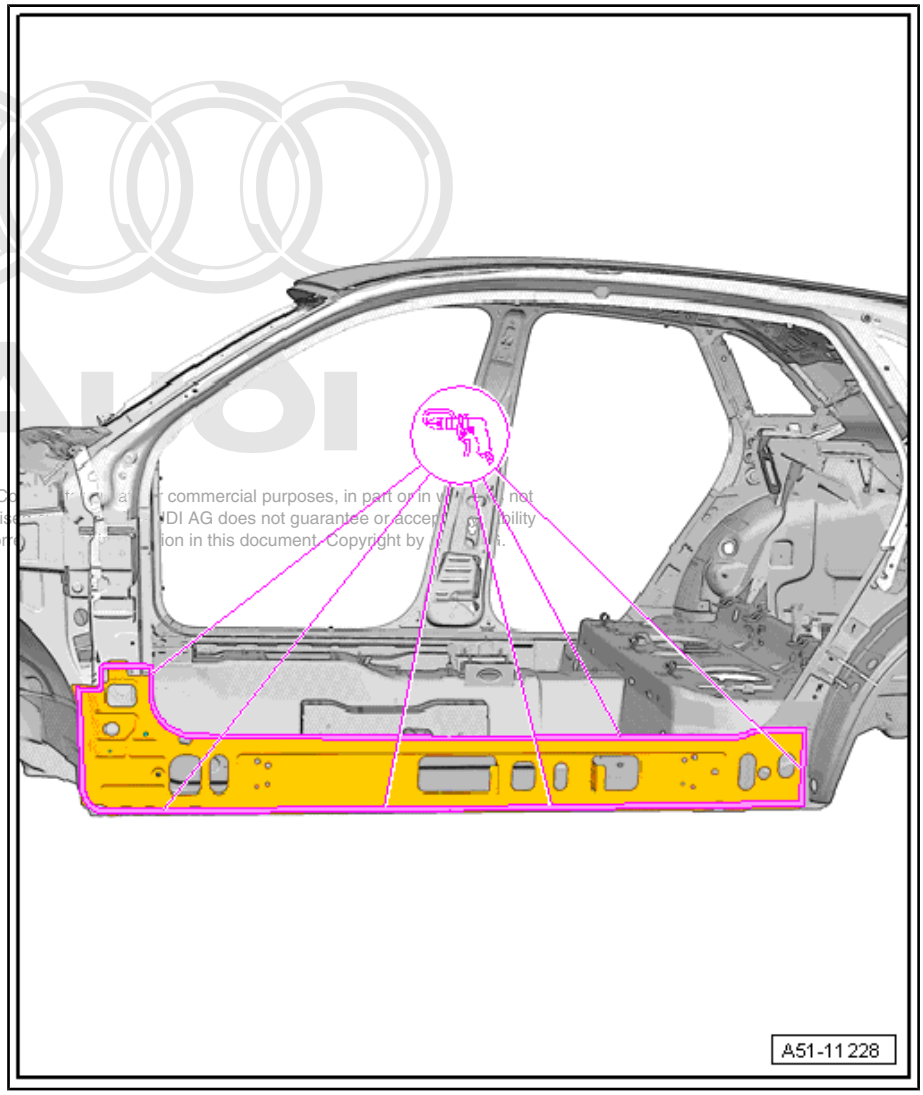
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Cutting locations**

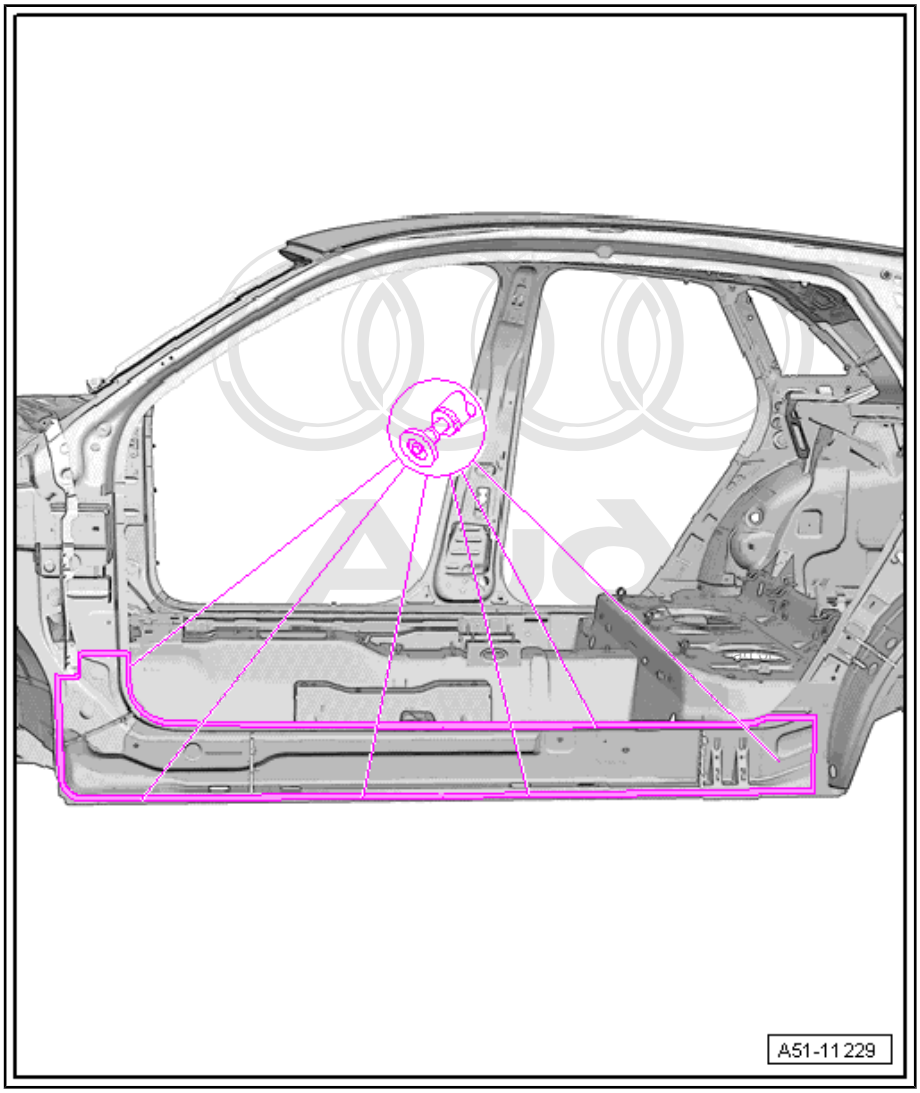
– Make separating cuts according to extent of damage using body saw .

– Separate original joint using spot weld breaker .

Protected by copyright. Co... commercial purposes, in part or in w... not permitted unless authorise... DI AG does not guarantee or accep... bility with respect to the corr... ion in this document. Copyright by ...




– Remove remaining material using compact angle grinder .




### Replacement part

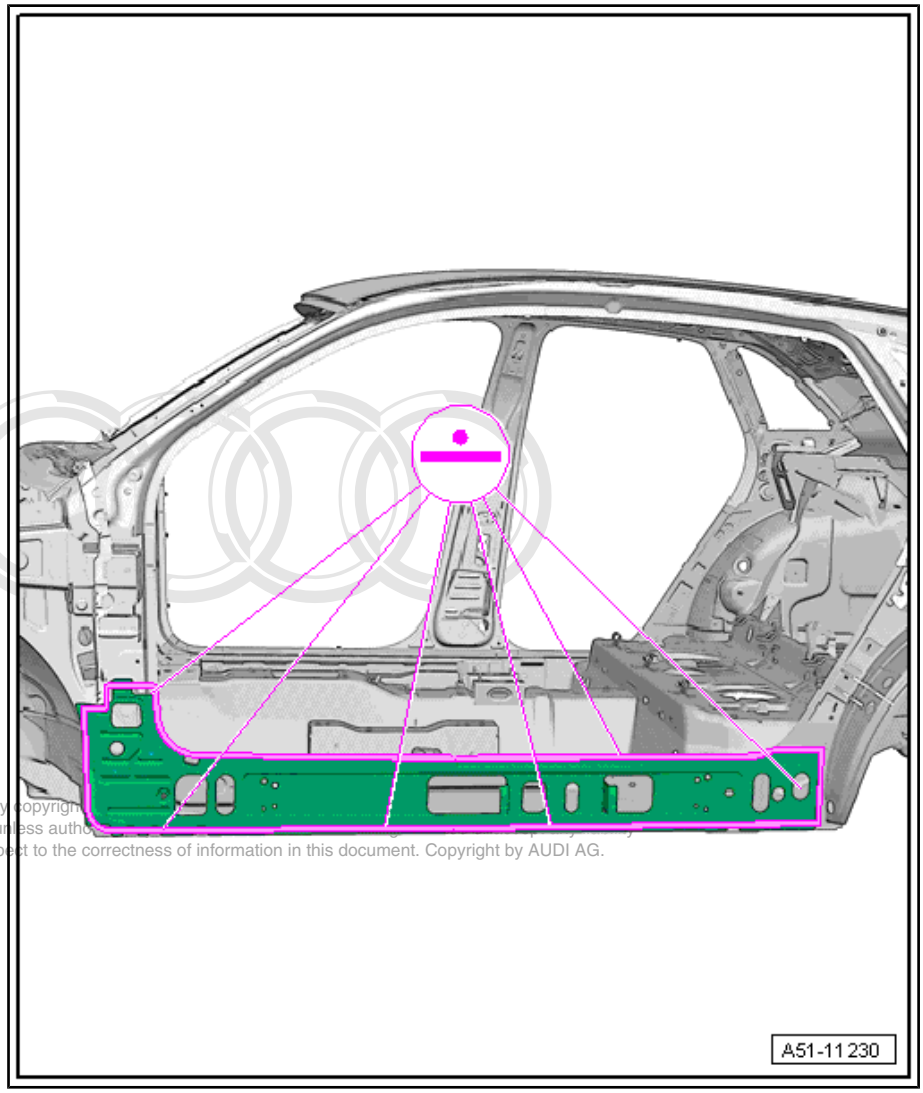
- Web plate for inner side member

**Note**

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

### Welding in

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. Audi does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Welding in outer side member ⇒ page 207
- Welding in side panel ⇒ page 268
- Welding in inner B-pillar (part section) ⇒ page 192
- Welding in outer A-pillar ⇒ page 161
- Welding in inner A-pillar ⇒ page 179

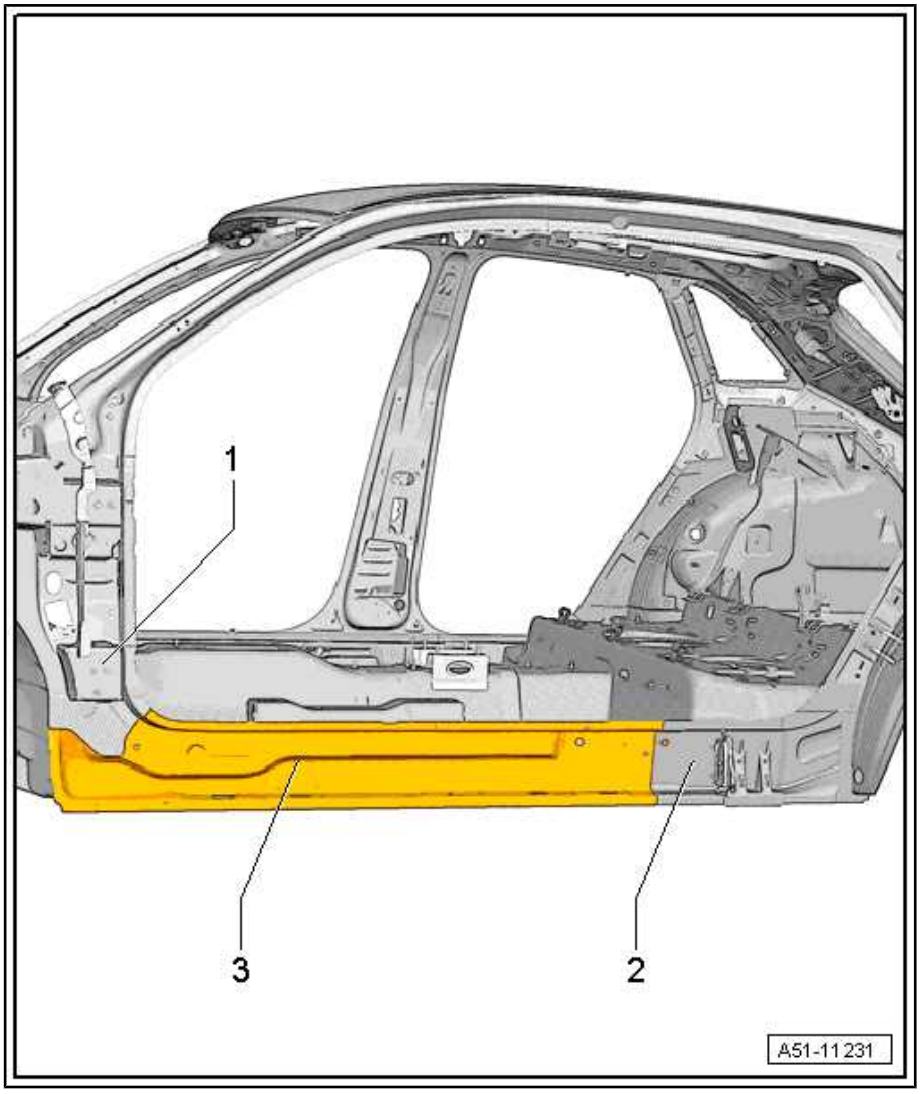
RO: 51 47 55 50

# 15 Inner side member reinforcement - Renewal

**1 - Inner A-pillar reinforcement**

**2 - Rear longitudinal member**

**3 - Inner side member reinforcement**

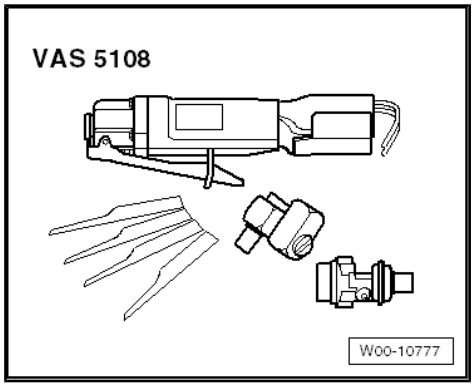



## 15.1 Tools

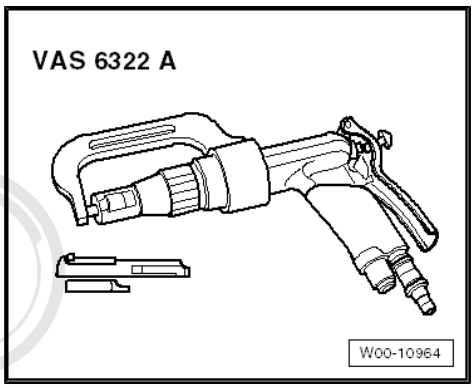
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

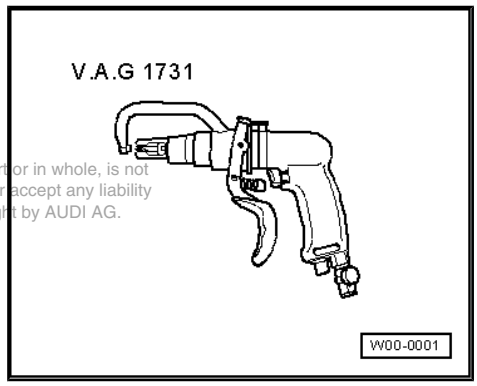
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 15.2 Procedure

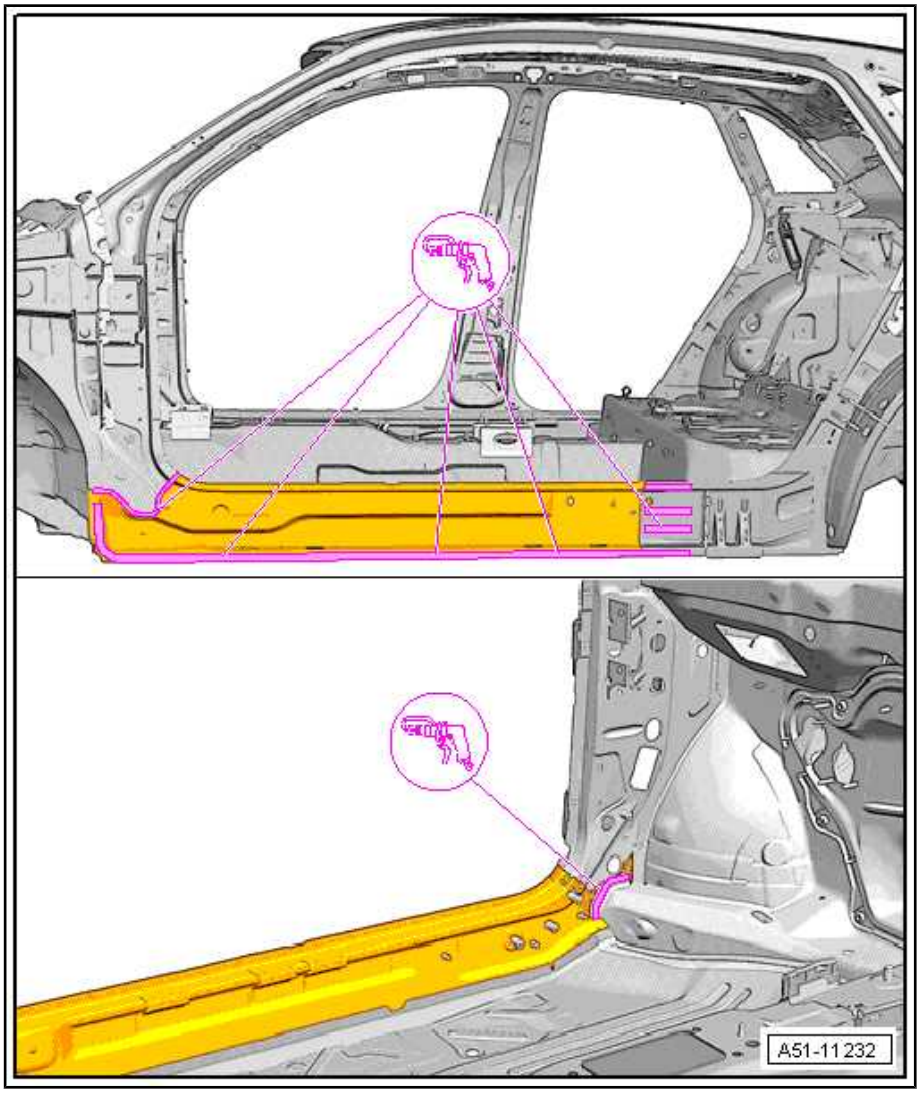
- Outer side member removed ⇒ page 207
- Side panel removed ⇒ page 268
- Inner B-pillar (part section) removed ⇒ page 192
- Outer A-pillar removed ⇒ page 161
- Lower inner A-pillar removed ⇒ page 179
- Seat cross member removed ⇒ page 232

**Note**

*The inner side member reinforcement consists of ultra-high-strength hot-formed steel.*

### Cutting locations

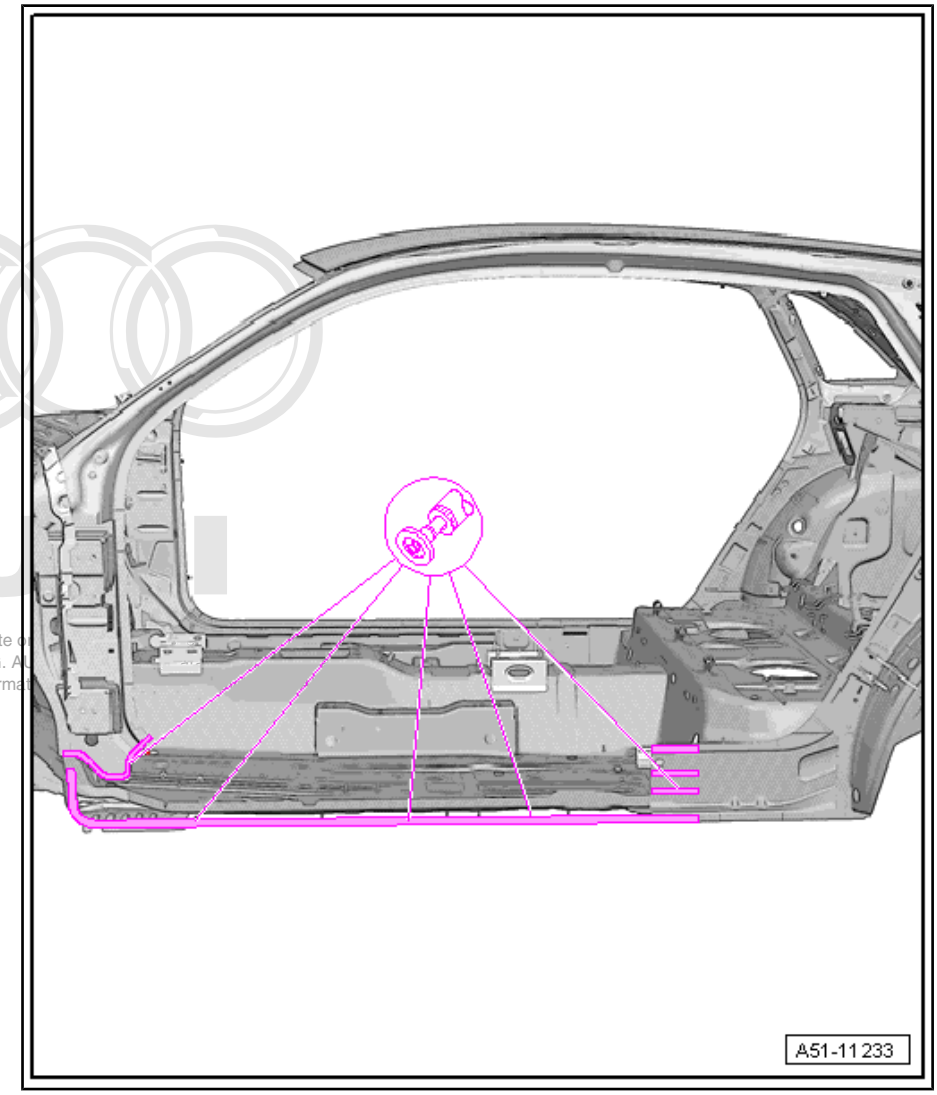
– Separate original joint using spot weld breaker .




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or
permitted unless authorised by AUDI AG. AU
with respect to the correctness of informat




### Replacement part

- Inner side member reinforcement

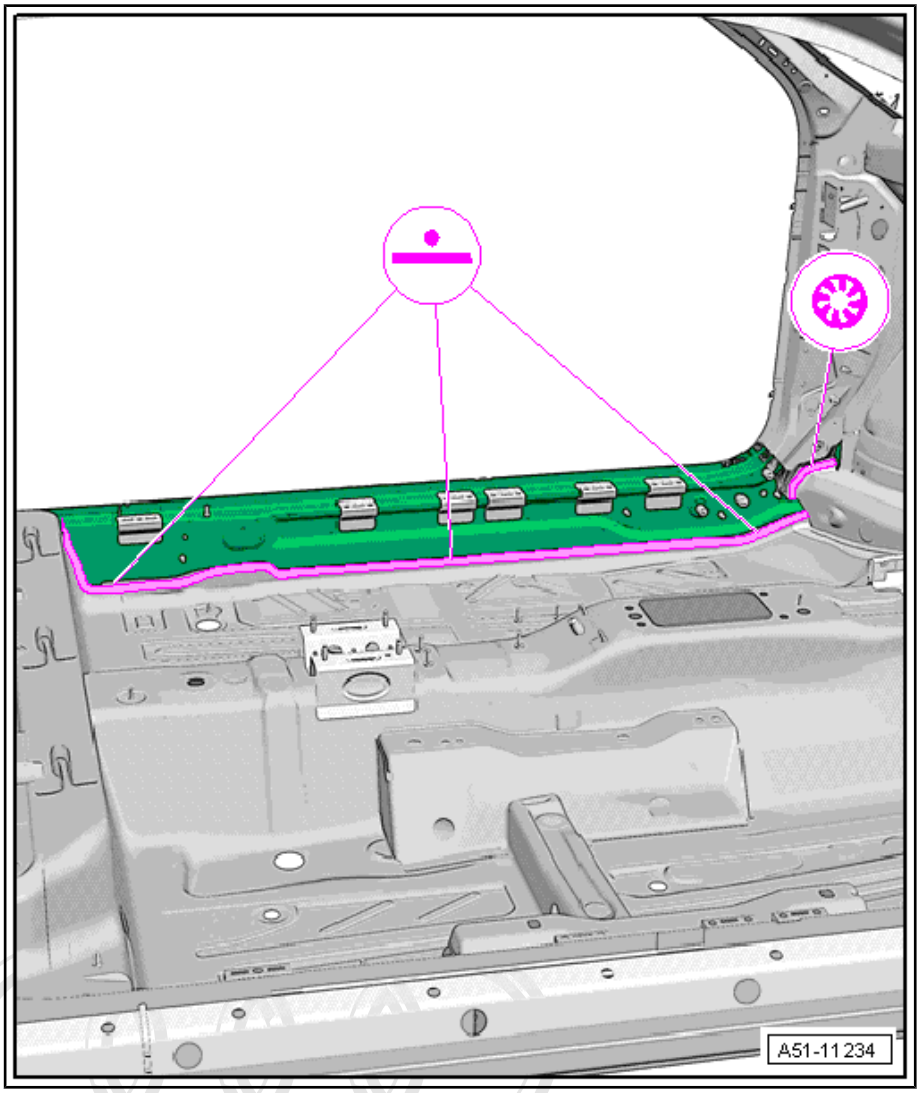
### Note

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

### Welding in

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

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




- Welding in outer side member ⇒ page 207
- Welding in side panel ⇒ page 268
- Welding in inner B-pillar (part section) ⇒ page 192
- Welding in outer A-pillar ⇒ page 161
- Welding in inner A-pillar ⇒ page 179
- Welding in seat cross member ⇒ page 232

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted without authorization from AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 51 46 55 00

# 16 Mounting for seat cross member (outer) - Renewal

**Note**

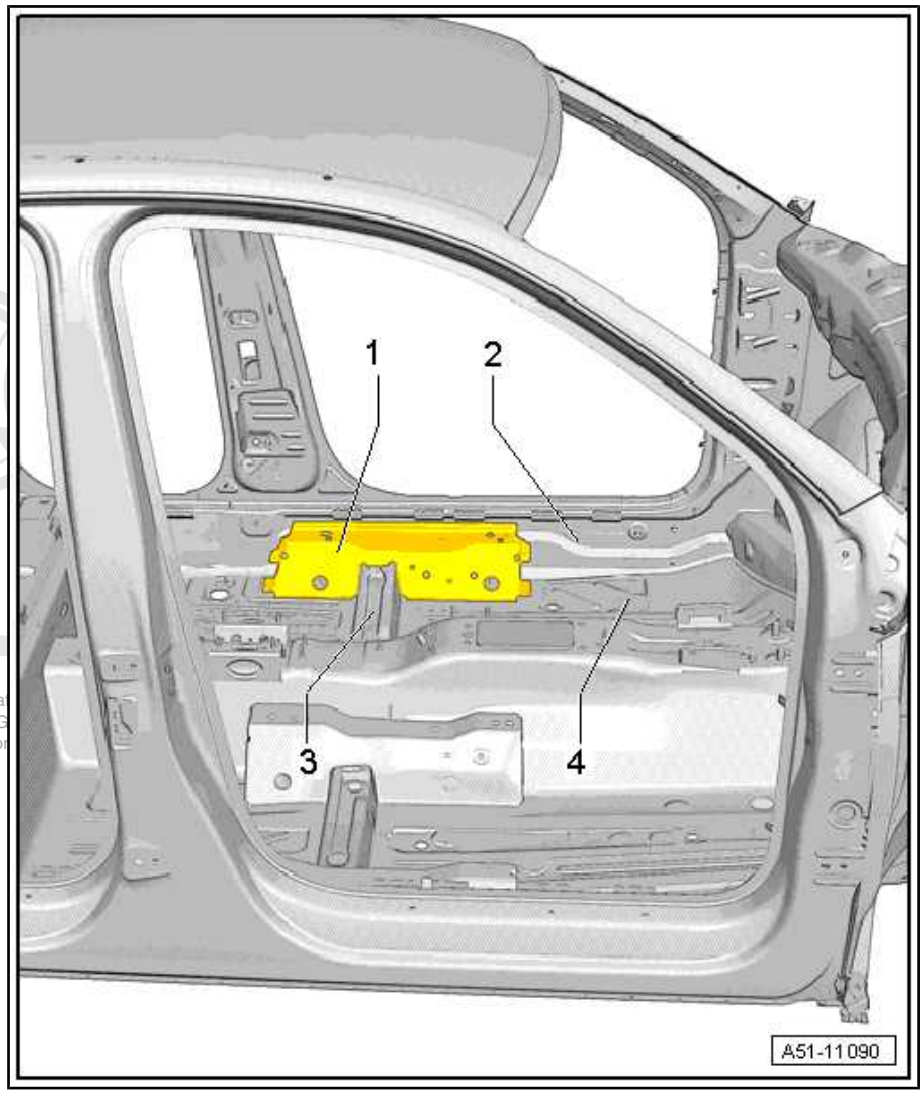
- *If one of the threads in the mounting for the seat cross member (outer) is damaged, the component must be renewed.*
- *If the mounting for the seat cross member (outer) is renewed, the repairs must be documented according to the relevant national legislation.*
- *The vehicle identification number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

**1 - Mounting for seat cross member (outer)**

**2 - Inner side member**

**3 - Inner seat cross member**

**4 - Floor panel**



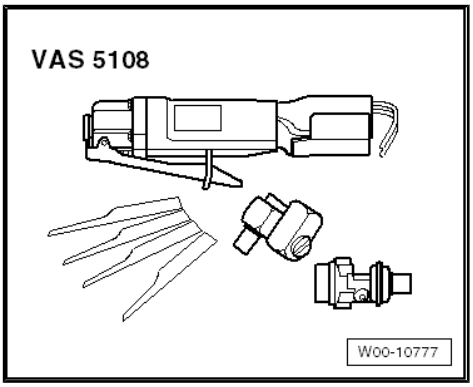

Protected by copyright. Copying for privat
permitted unless authorised by AUDI AG
with respect to the correctness of infor

## 16.1 Tools

**Special tools and workshop equipment required**

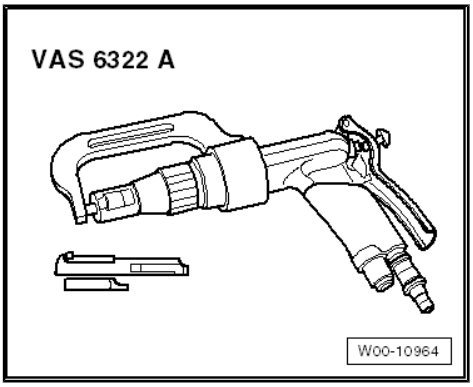
- Resistance spot welder - VAS 6239 A-

- 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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Drill - VAS 5144-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-

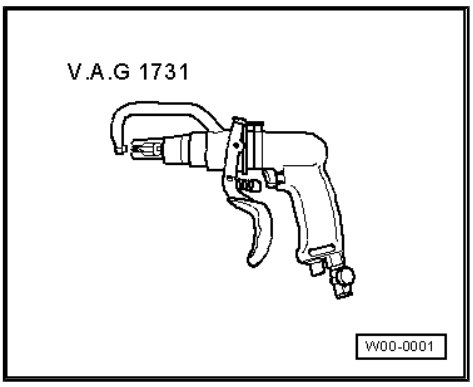



- Spot weld breaker - VAS 6322 A- or

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



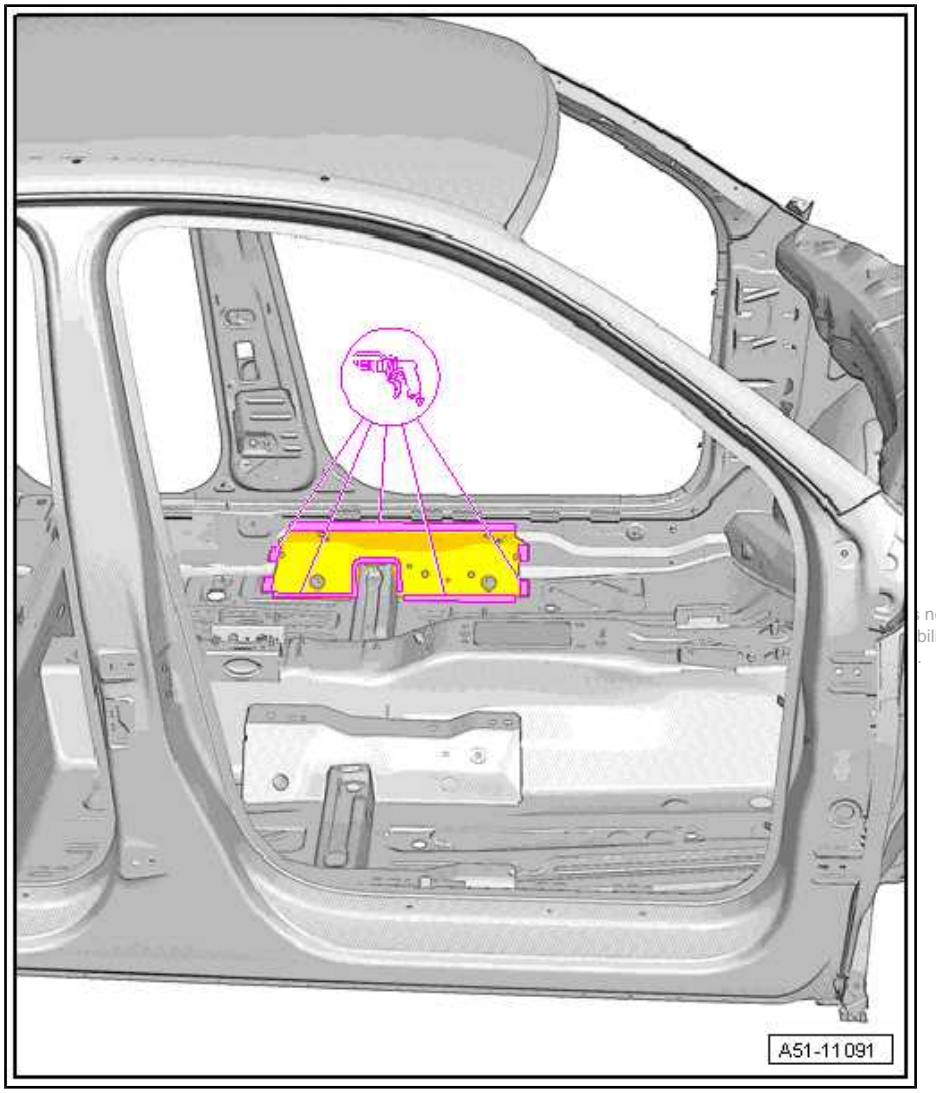

- Spot weld breaker - V.A.G 1731-



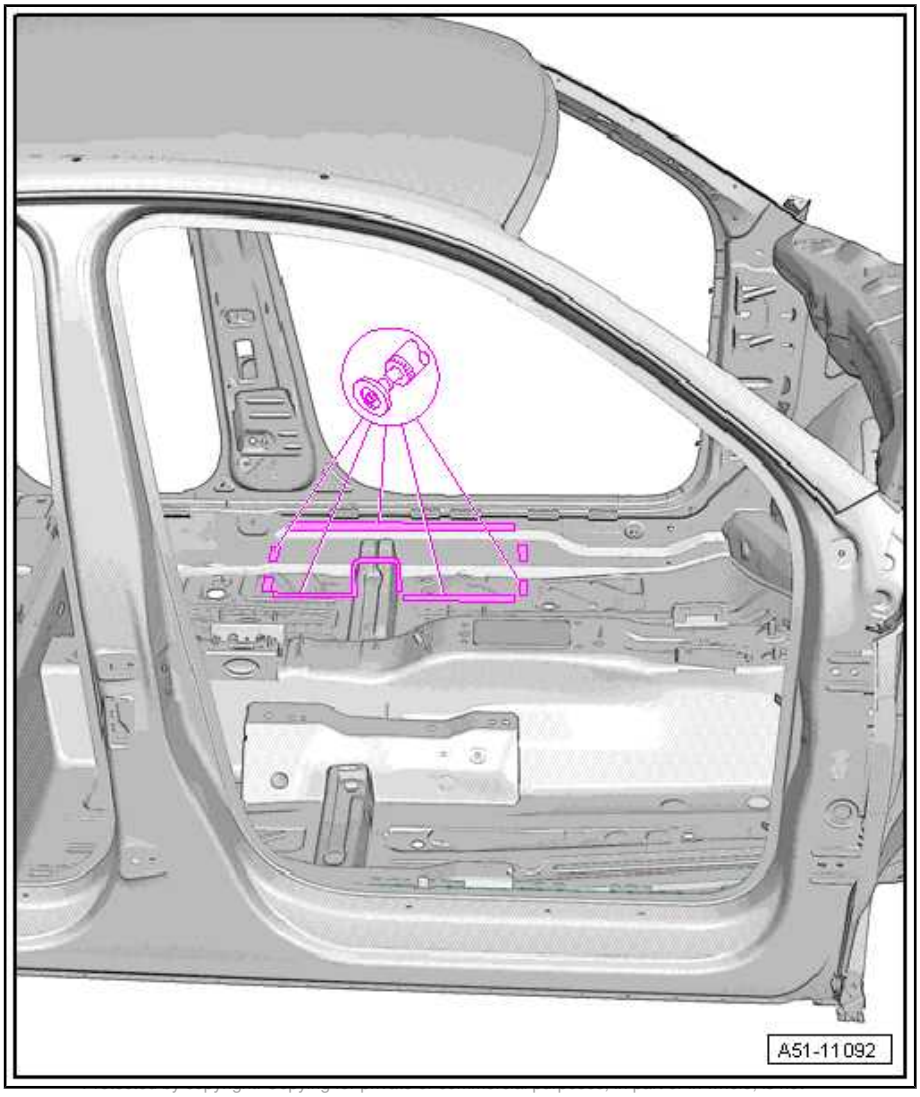

## 16.2 Procedure

**Cutting locations**

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




– Remove remaining material using compact angle grinder .




permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability
with respect to the correctness of information in this document. Copyright by AUDI AG.

### Replacement part

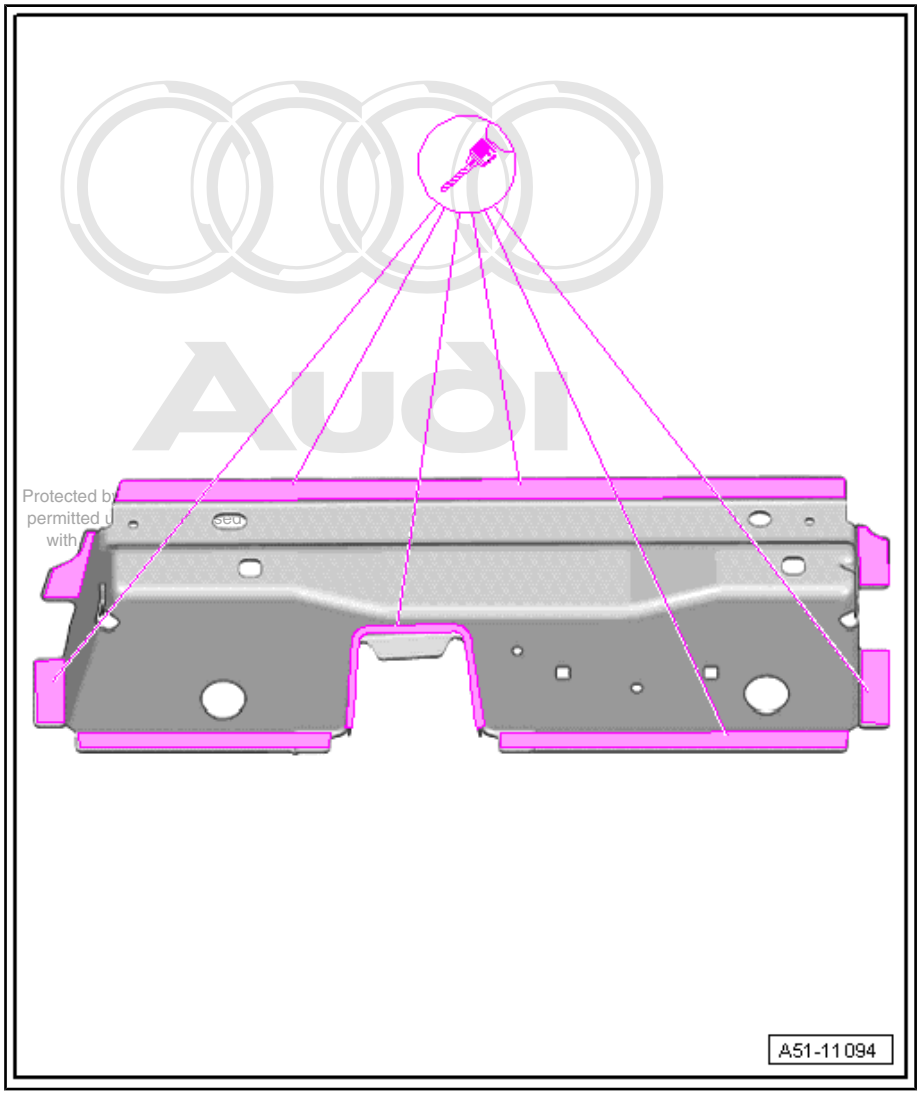
♦ Mounting for seat cross member (outer)

### 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.*

### Preparing new parts

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

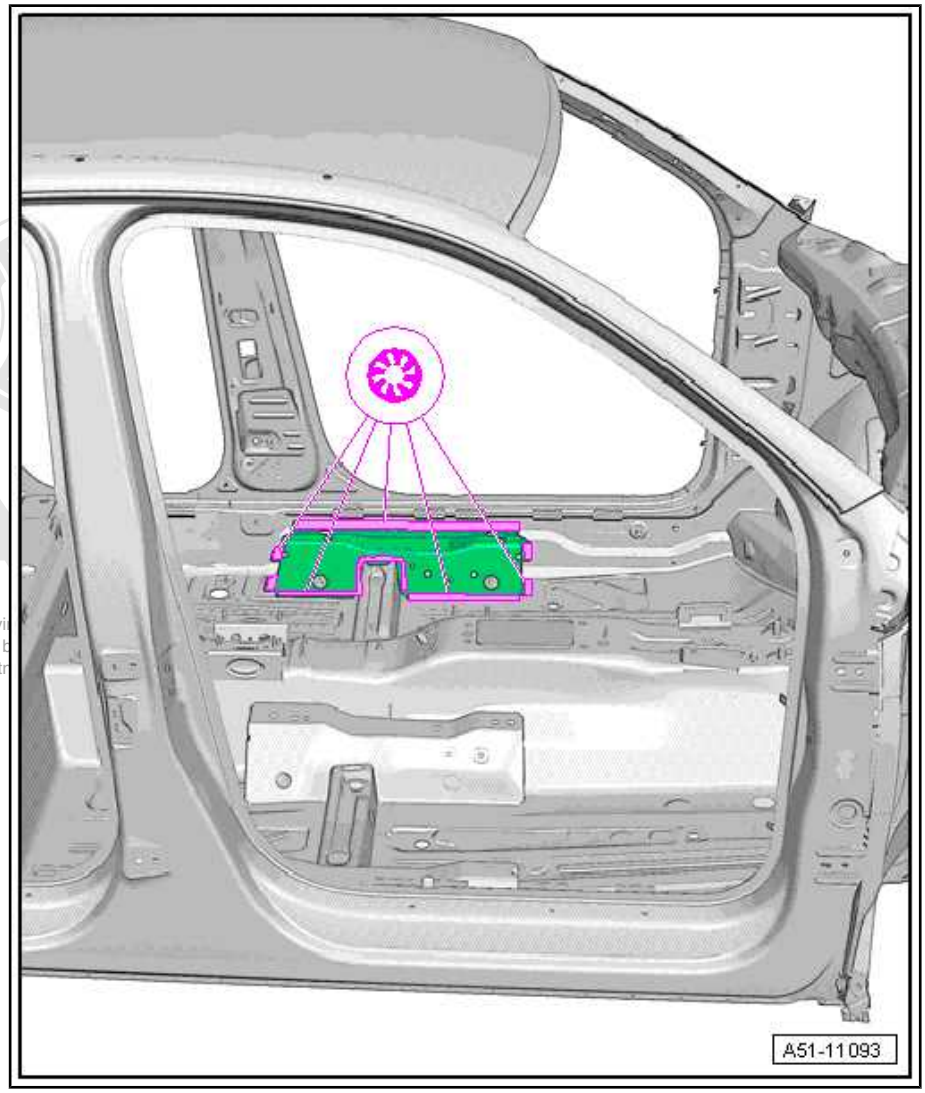



– Match up and fix new part in position.
– Check fit relative to seat.

**Welding in**

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

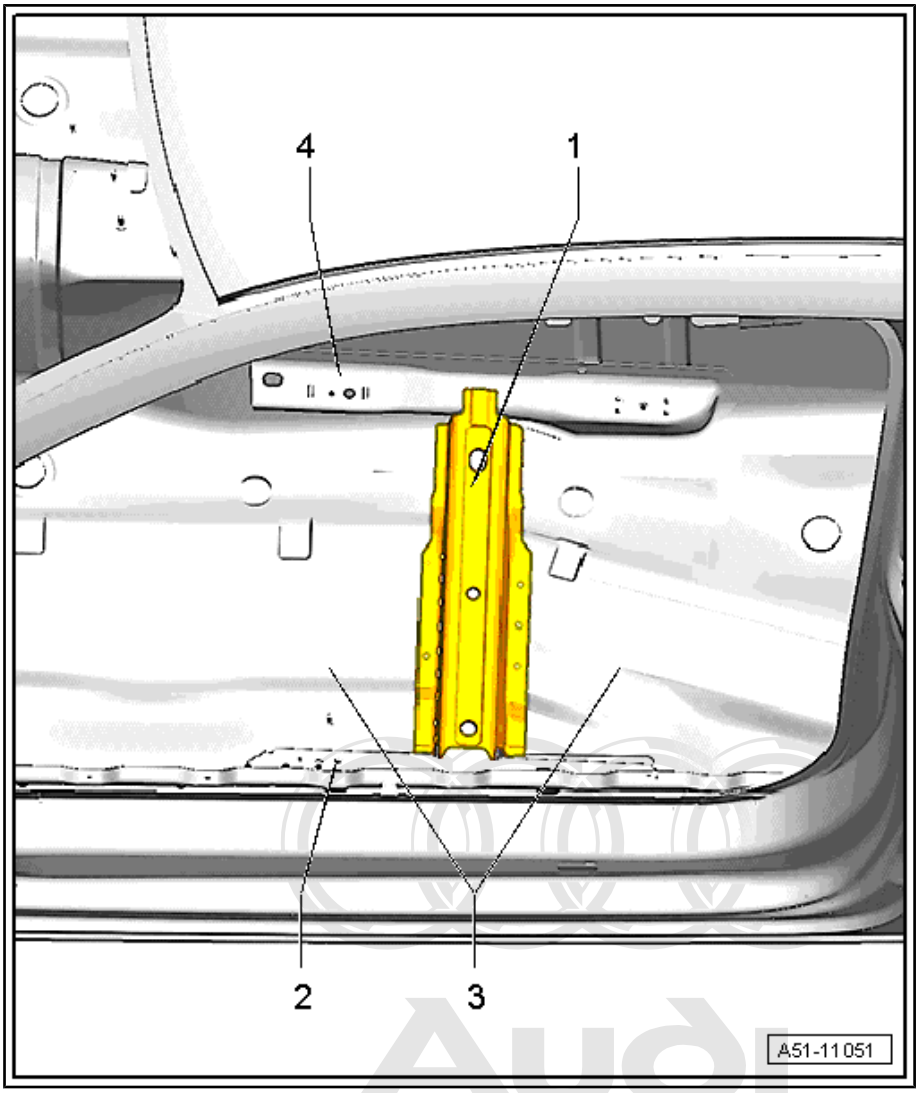
Protected by copyright. Copyi
permitted unless authorised b
with respect to the correctr



RO: 51 87 55 00

# 17 Centre seat cross member - Renewal

1 - Centre seat cross member
2 - Outer seat cross member
3 - Floor panel
4 - Inner seat cross member



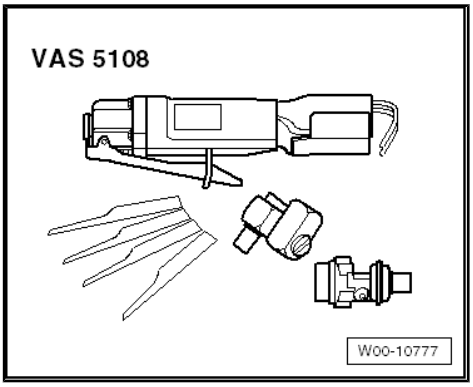

## 17.1 Tools

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

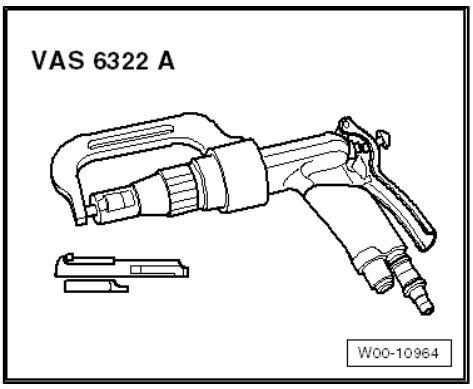
**Special tools and workshop equipment required**

- 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 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Drill - VAS 5144-

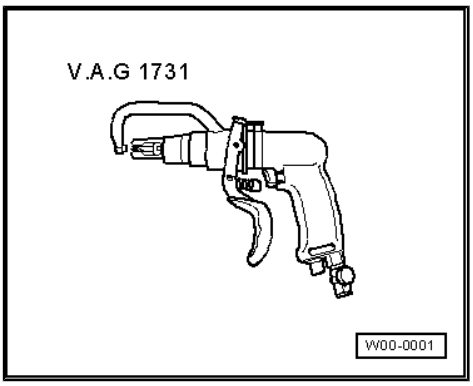
♦ Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




♦ Spot weld breaker - VAS 6322 A- or




♦ Spot weld breaker - V.A.G 1731-




## 17.2 Procedure

**Cutting locations**

- Outer seat cross member removed ⇒ page 232

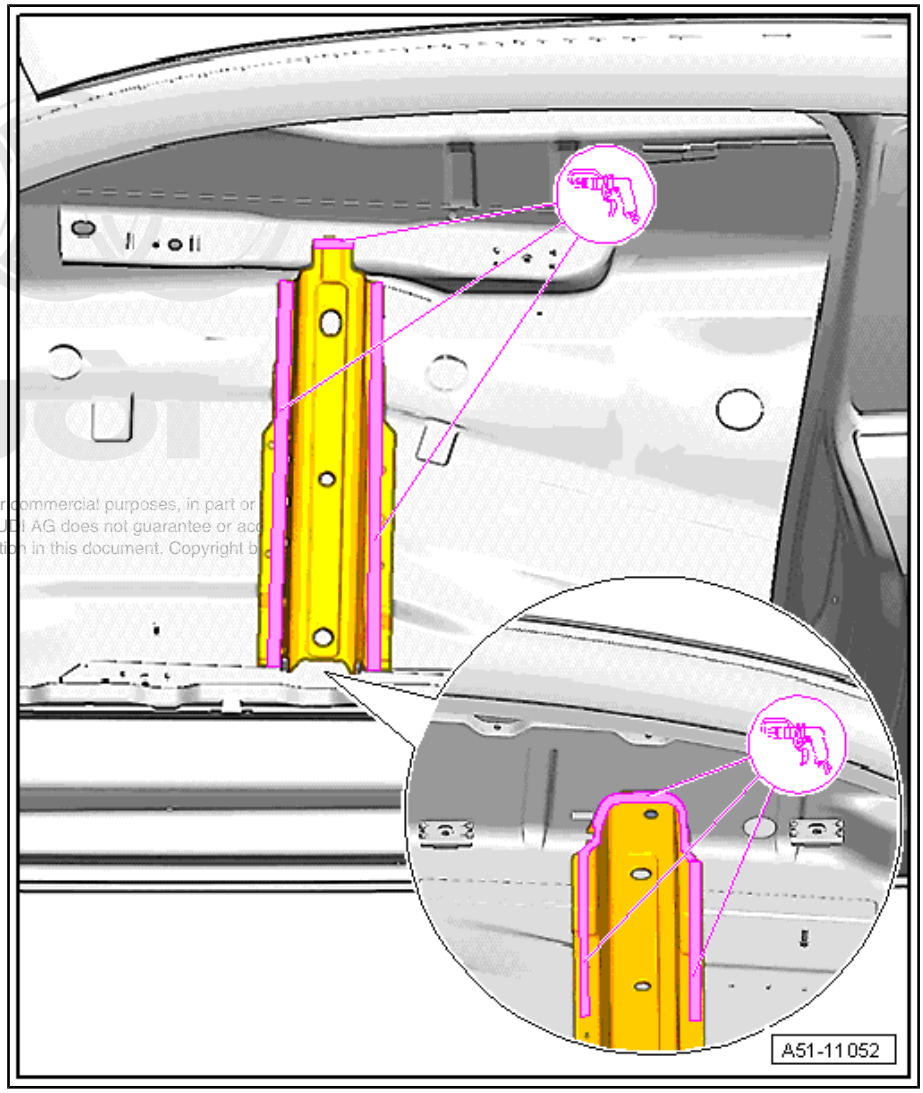
– Separate original joint at mounting for seat cross member (inner) and floor panel using spot weld breaker .

– Separate joint at mounting for seat cross member (outer) using spot weld breaker .

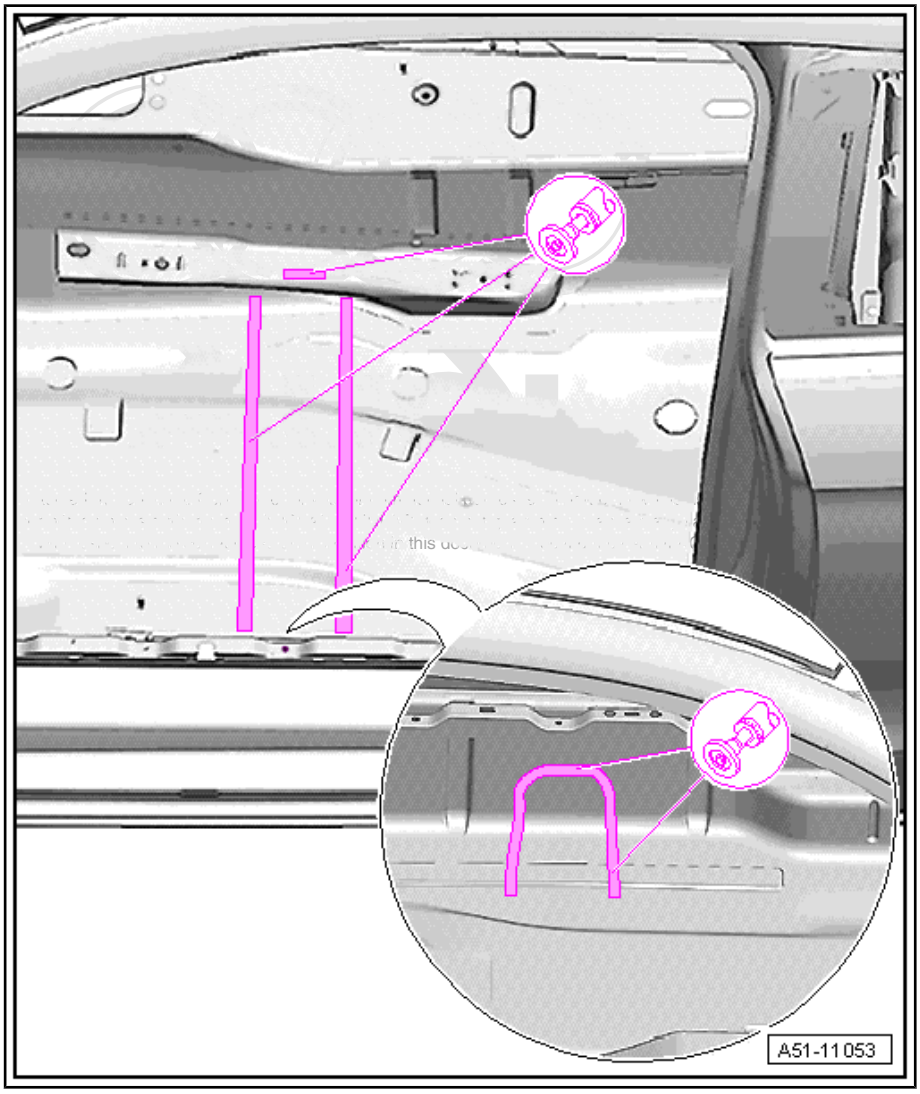
– Pull seat cross member out of mounting for seat cross member (outer).

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copying for private or commercial purposes, in part or
permitted unless authorised by AUDI AG. AUDI AG does not guarantee or acc
with respect to the correctness of information in this document. Copyright b




– Remove remaining material using compact angle grinder .




**Note**

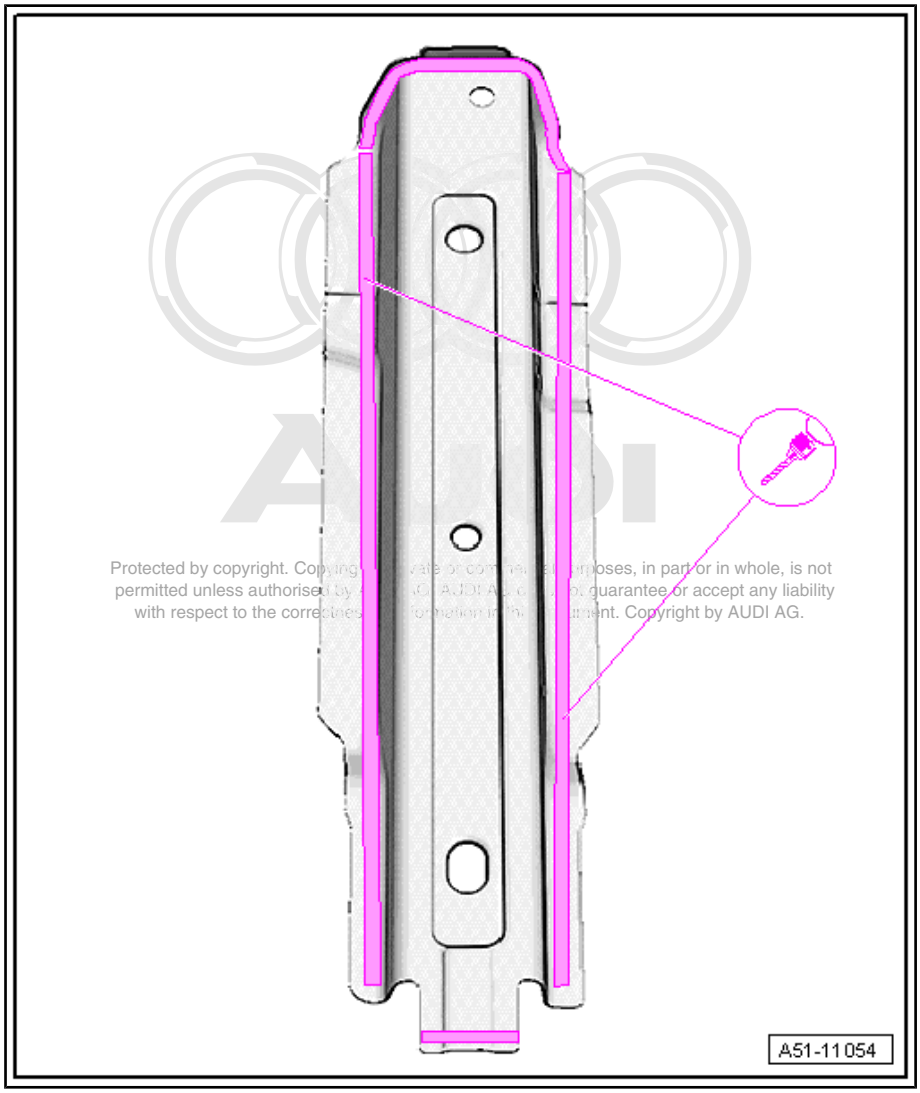
*Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.*

**Replacement part**

- Seat cross member

**Preparing new part**

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



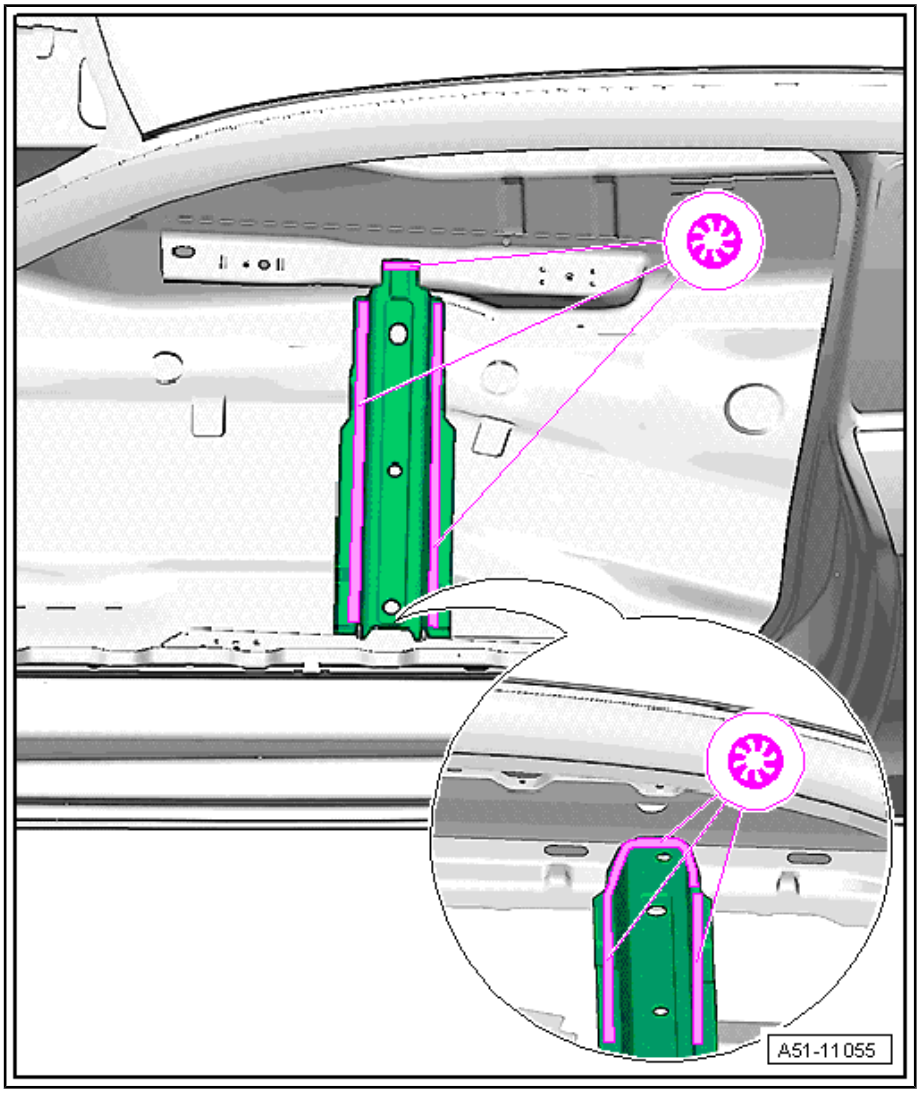

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Welding in**

– Match up new parts and fix in position.

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

– Weld seat cross member to mounting for seat cross member (outer) using shielded arc welding equipment : SG plug weld seam.




- Welding in outer seat cross member ⇒ page 232

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 51 46 55 58

# 18 Mounting for seat cross member (inner) - Renewal

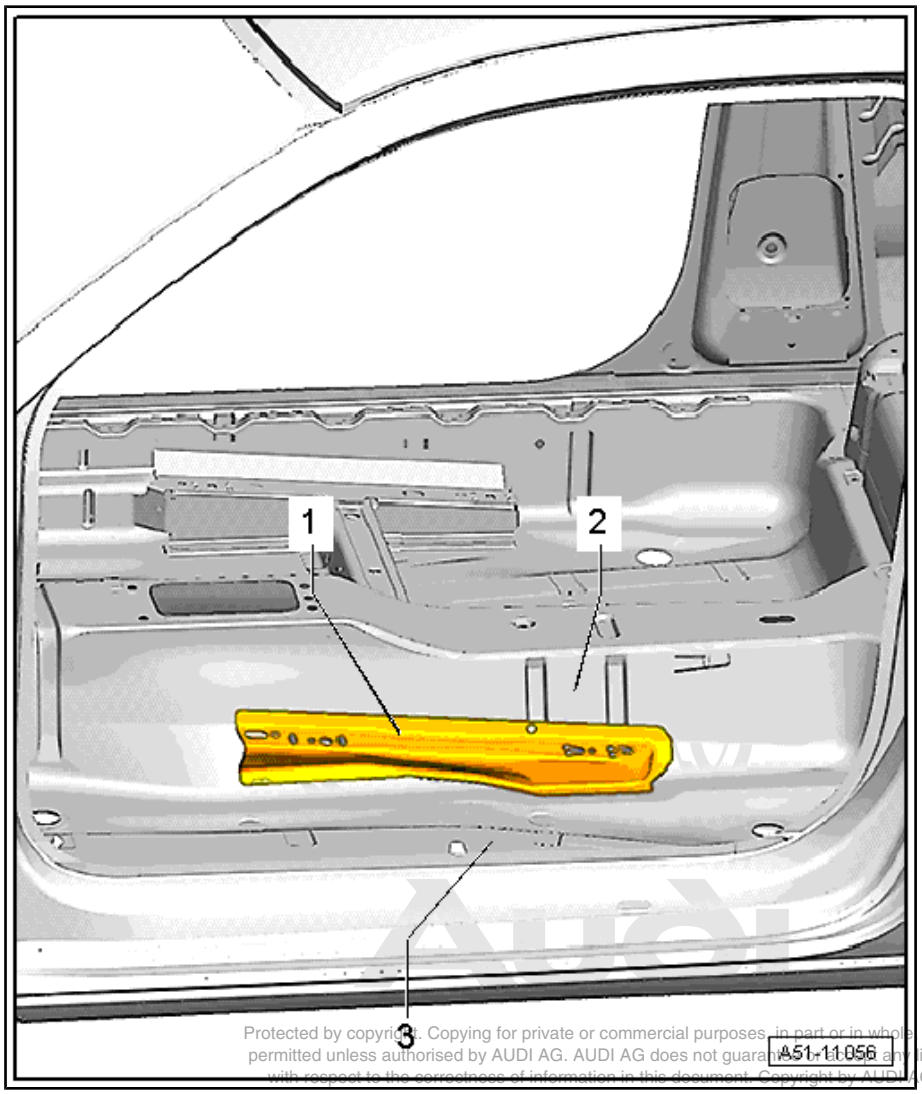
**Note**

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

**1 - Mounting for seat cross member (inner)**

**2 - Centre tunnel**

**3 - Floor panel**



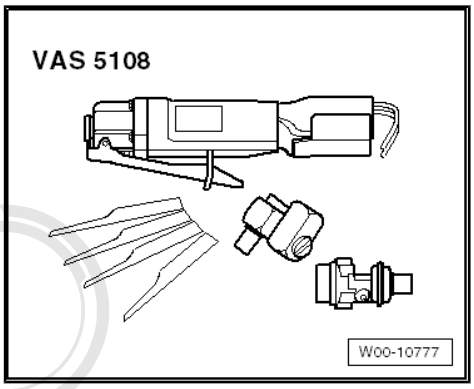

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 18.1 Tools

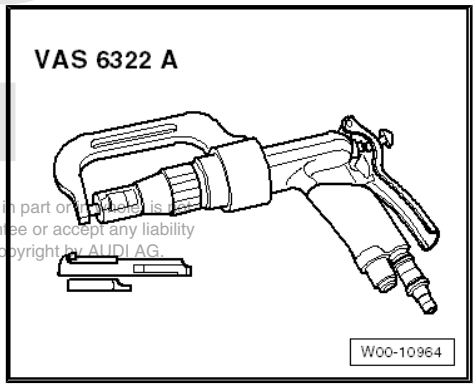
**Special tools and workshop equipment required**

- 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-

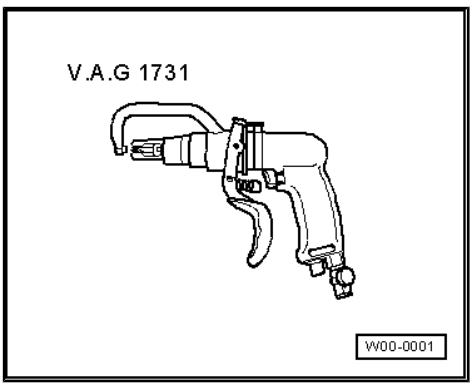
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Drill - VAS 5144-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

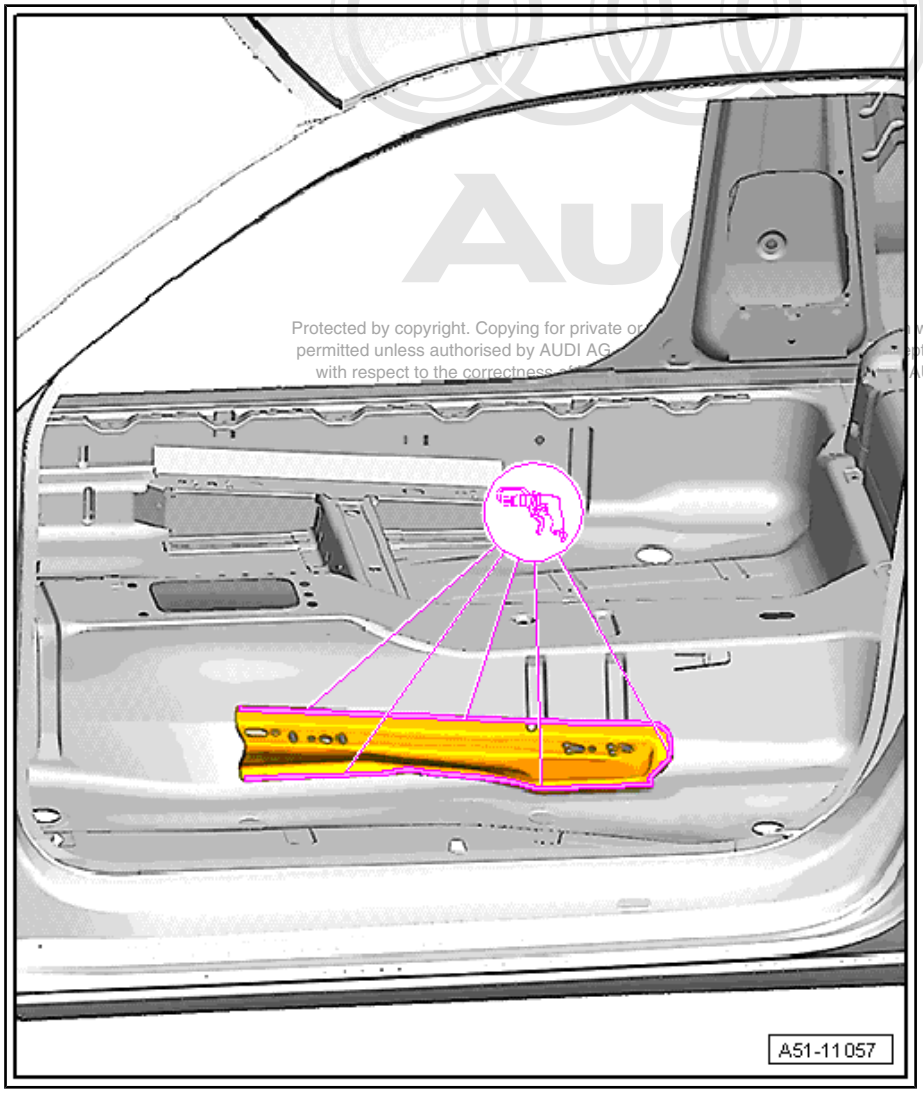
## 18.2 Procedure

- Centre seat cross member removed ⇒ page 238 .

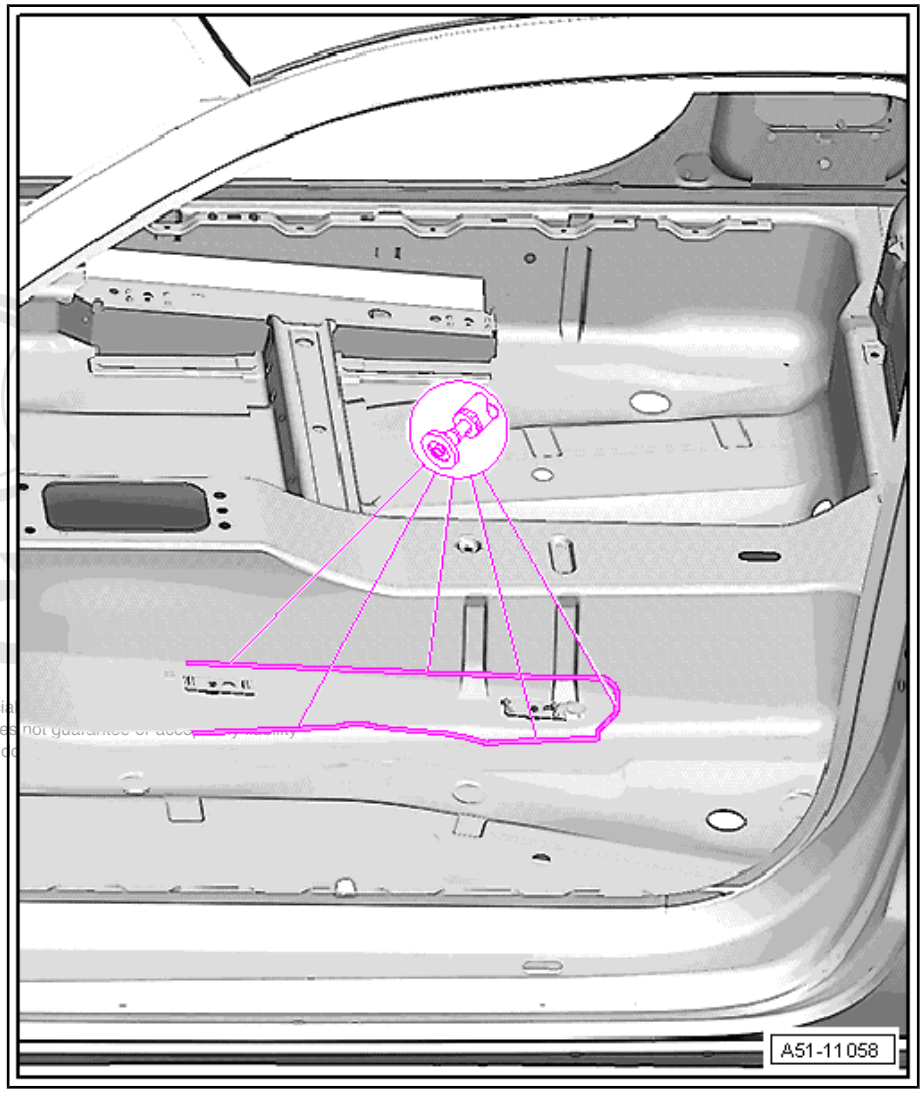
**Cutting locations**

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

Protected by copyright. Copying for private or
permitted unless authorised by AUDI AG
with respect to the correctness
whole, is not
ot any liability
AUDI AG.




– Remove remaining material using compact angle grinder .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document.

**Note**

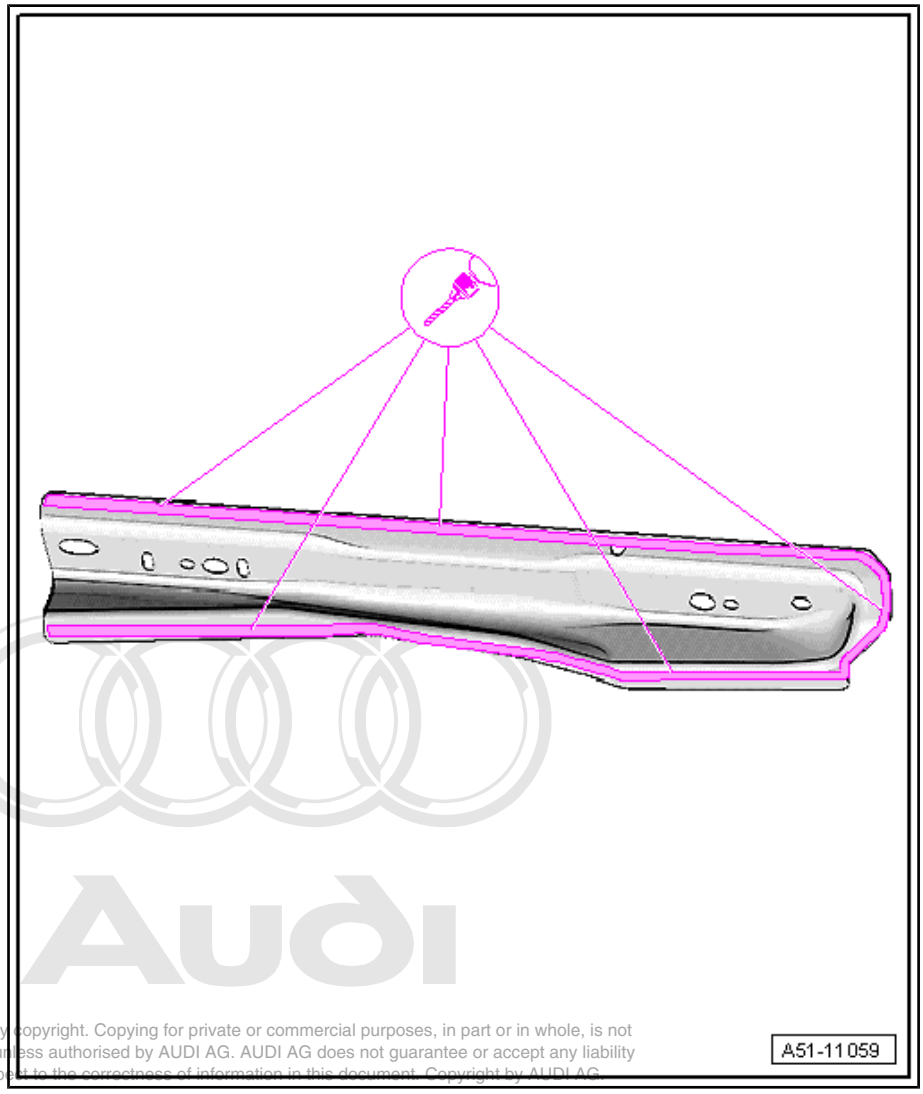
*Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.*

**Replacement part**

- Mounting for seat cross member (inner)

**Preparing new part**

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

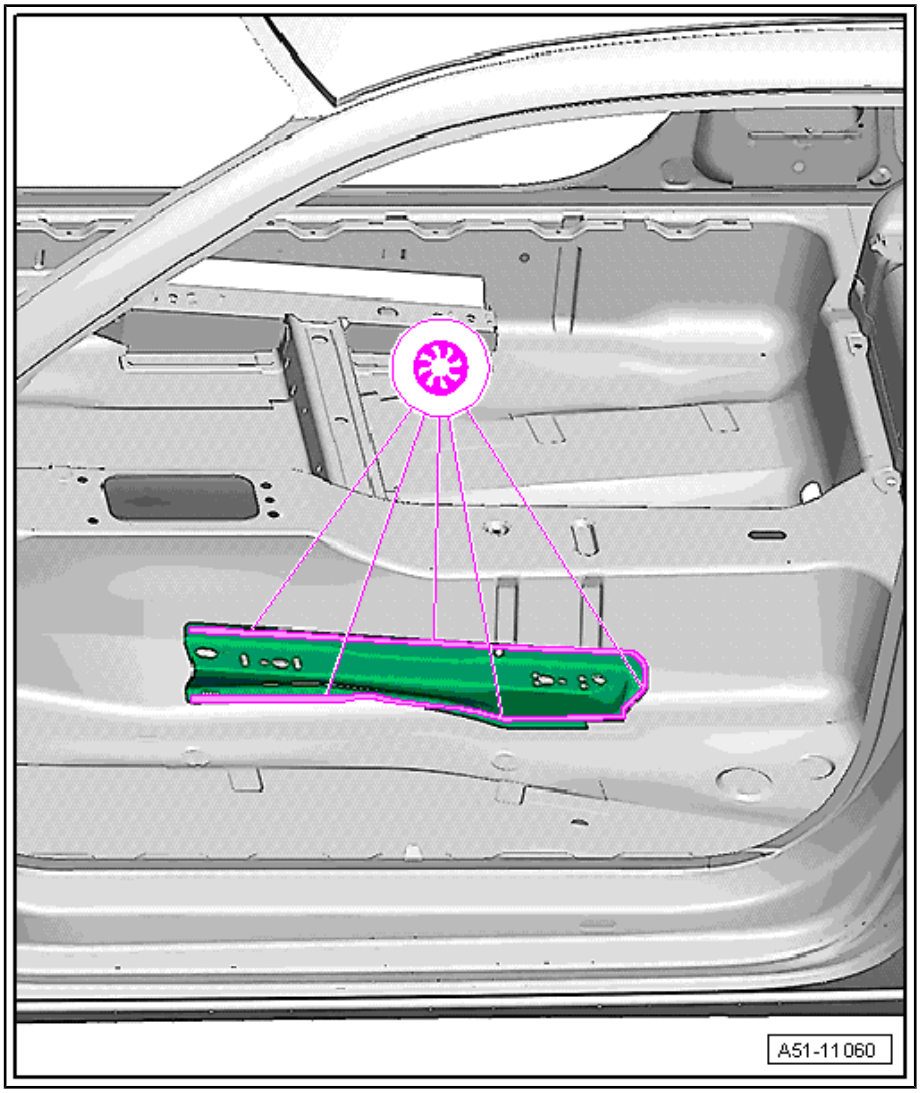



Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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

**Welding in**

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




- Welding in seat cross member ⇒ page 238

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

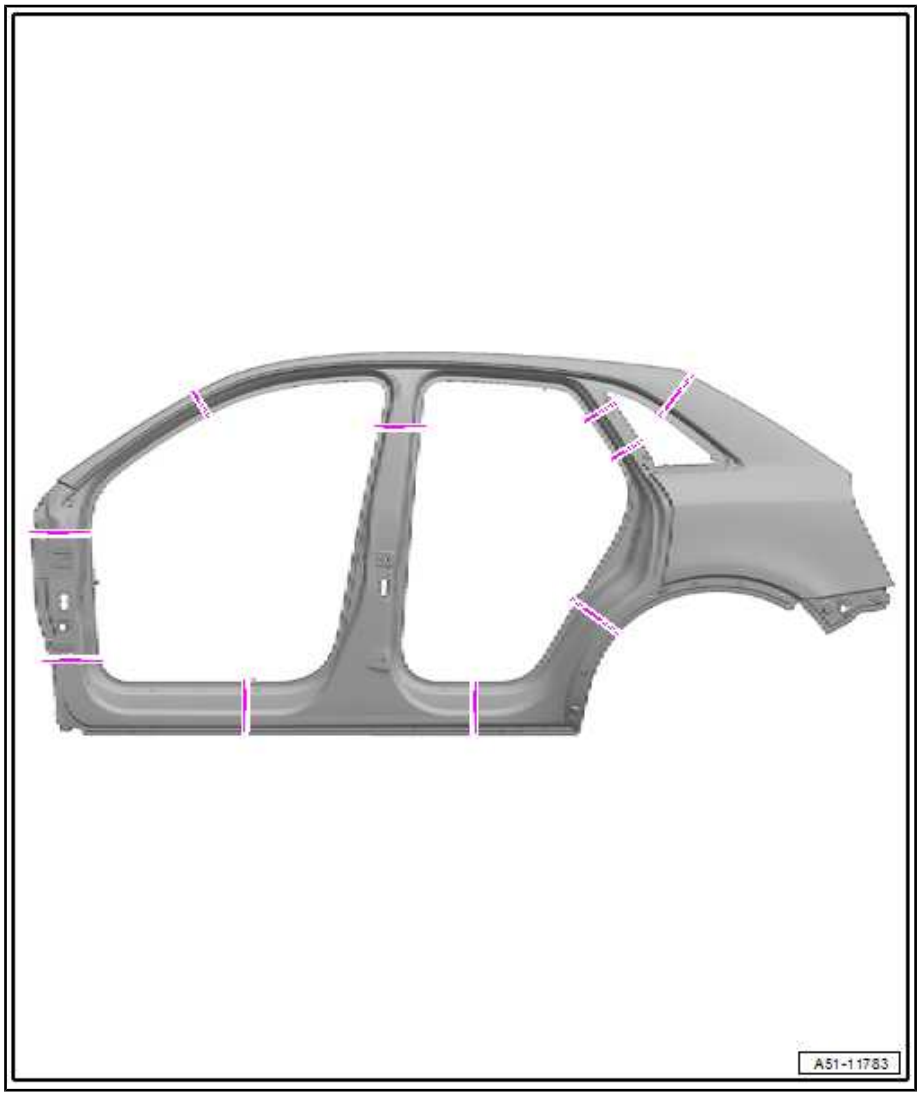
# 53 – Body - rear

## 1 Permitted separating cuts on complete side frame

**Note**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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



RO: 53 16 55 00

# 2 Rear upper cross panel - Renewal

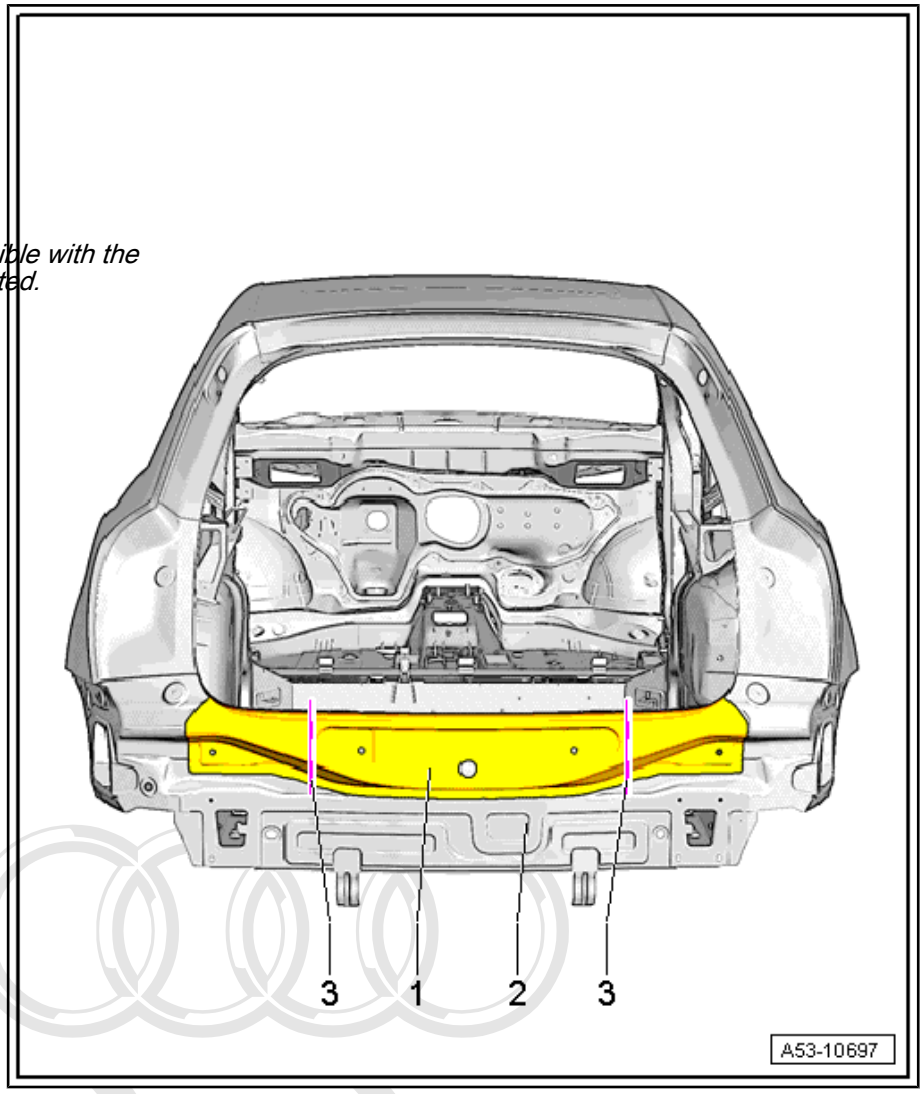
**1 - Rear upper cross panel**

**2 - Lower cross panel**

**3 - Separating cuts in cross panel**

**Note**

*Partial renewal is possible with the separating cuts illustrated.*



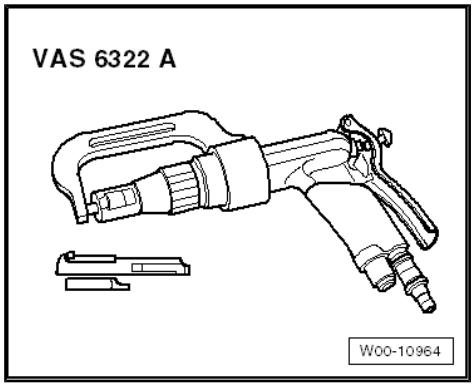

## 2.1 Tools

**Special tools and workshop equipment required**

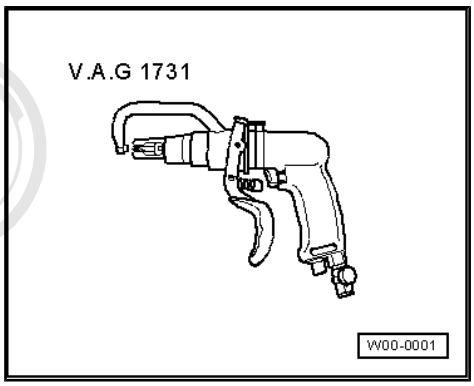
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Spot weld breaker - VAS 6322 A- or




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



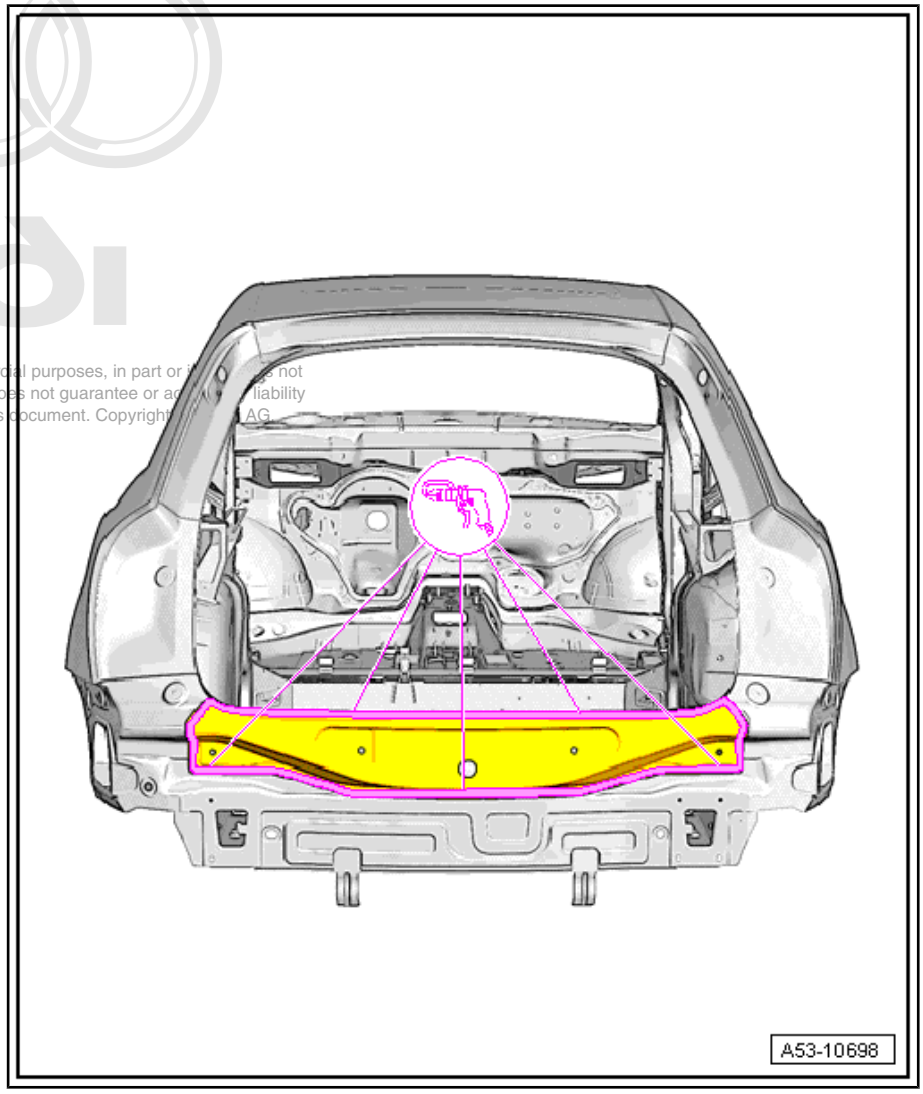

## 2.2 Procedure

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

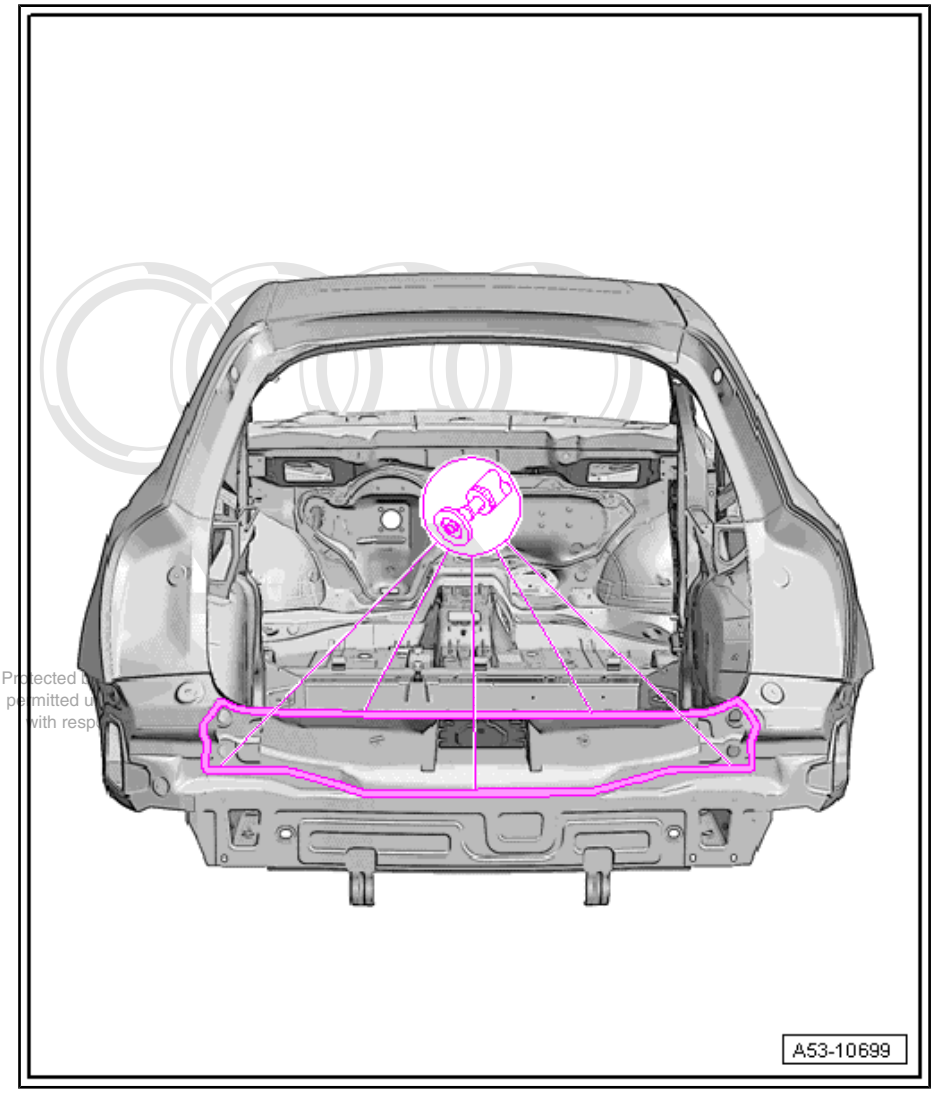
**Cutting locations**

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Remove remaining material using compact angle grinder .

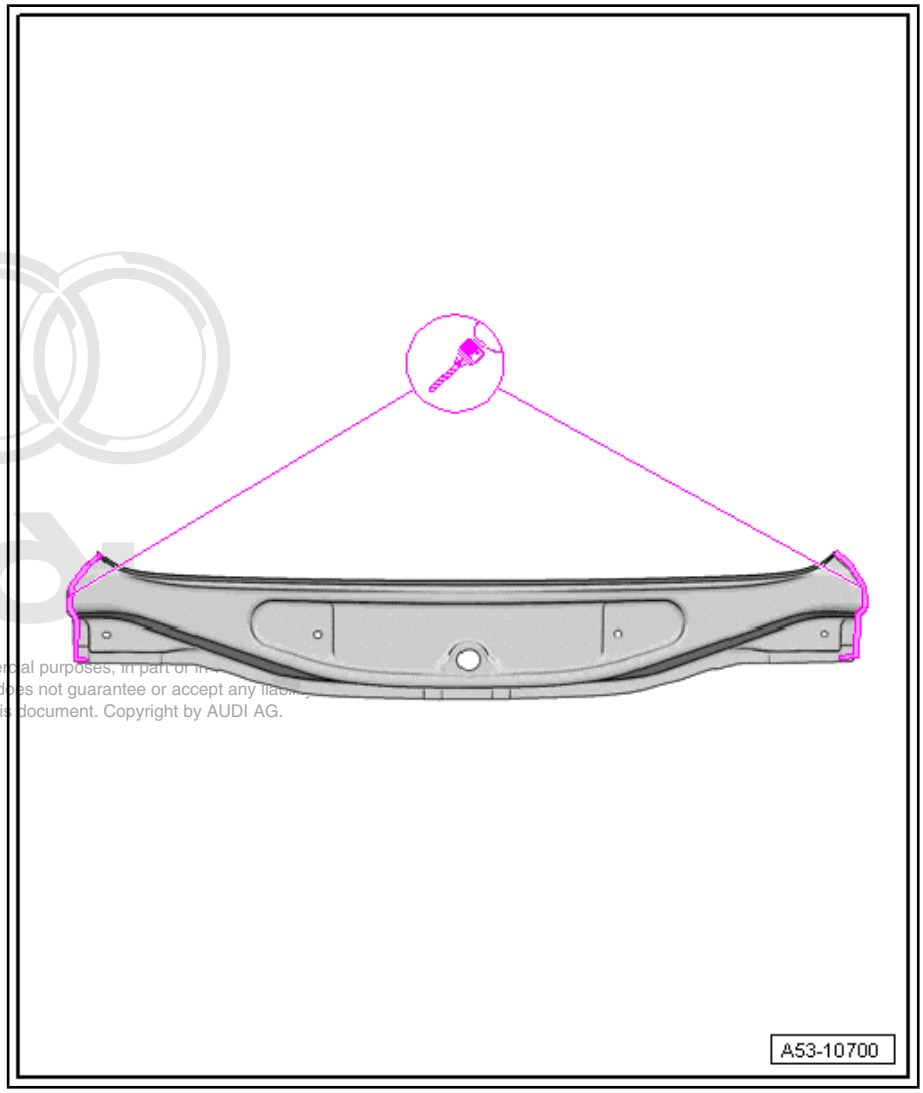



**Replacement part**

- Rear upper cross panel

**Preparing new part**

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Note**

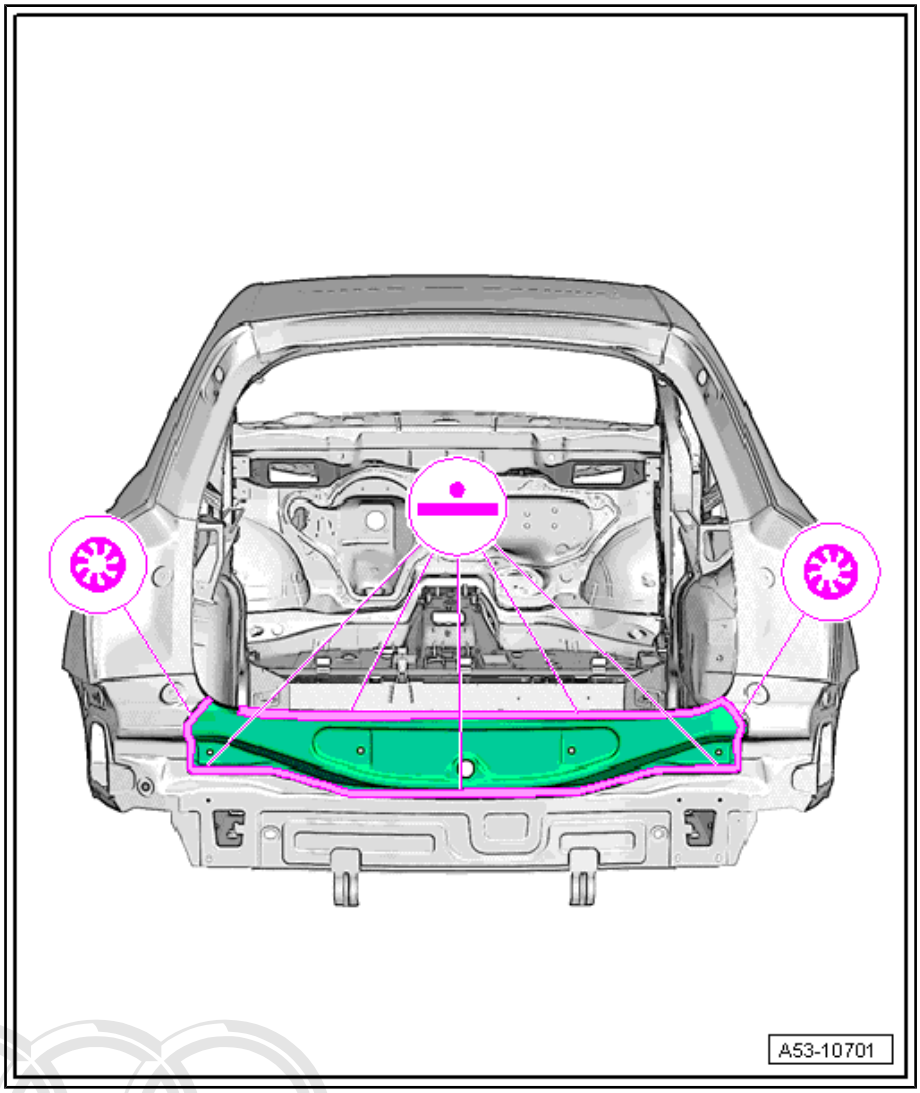
*Due to the different types of steel and panel thicknesses employed, one of the resistance spot welding units listed in this manual and approved by Audi must be used to ensure correct results when spot welding.*

**Welding in**

**Note**

*The joint is made with an SG plug weld seam instead of the factory spot welded/bonded joints.*

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 53 09 55 50

# 3 Rear cross panel - Renewal

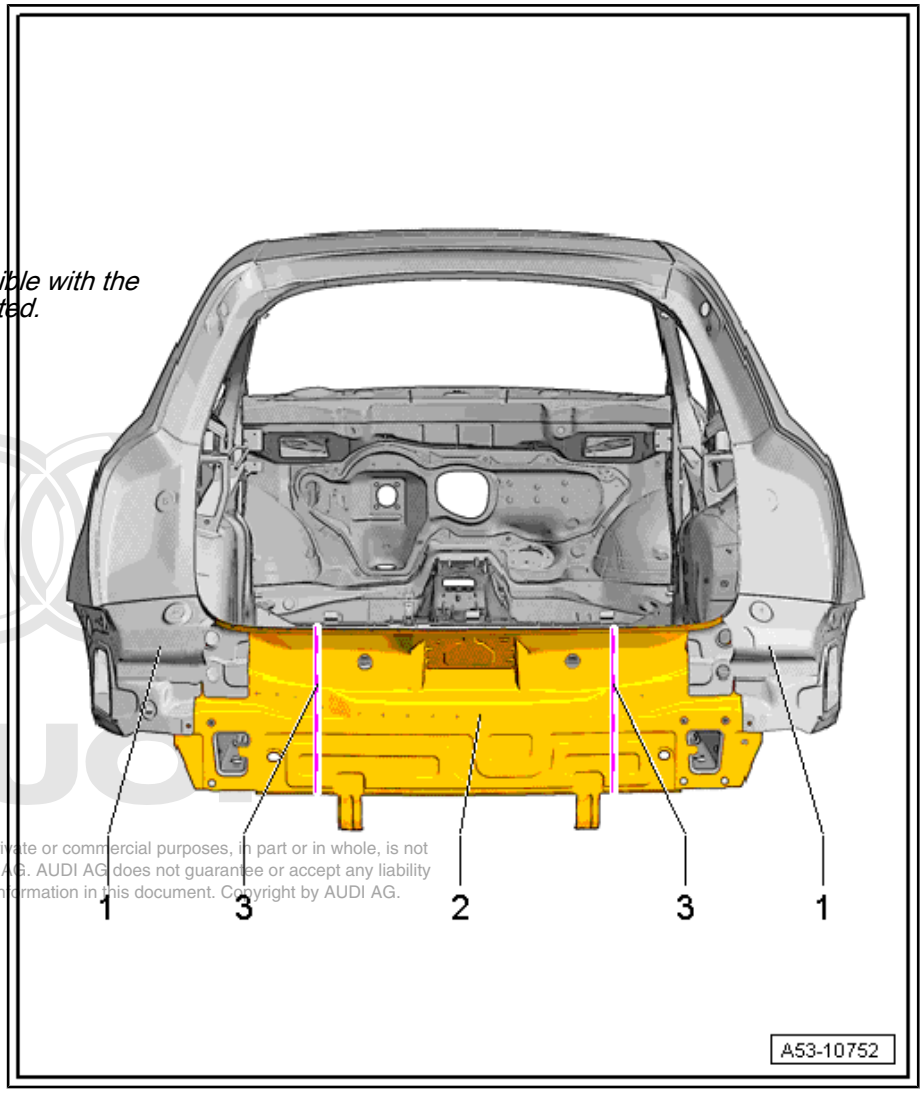
**1 - Tail light mounting (left and right)**

**2 - Cross panel**

**3 - Separating cuts in cross panel**

**Note**

*Partial renewal is possible with the separating cuts illustrated.*



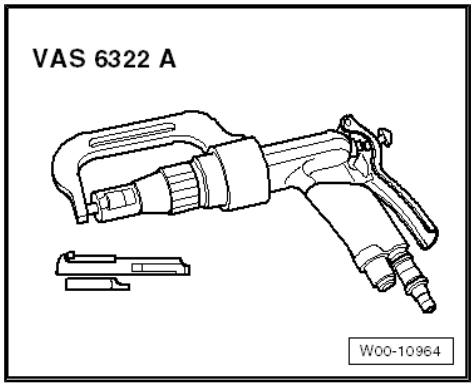

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 3.1 Tools

**Special tools and workshop equipment required**

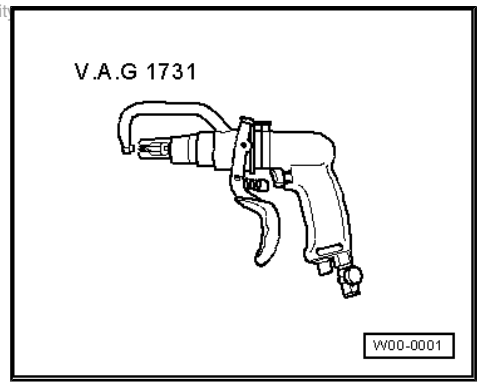
- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-

- Spot weld breaker - VAS 6322 A- or




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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



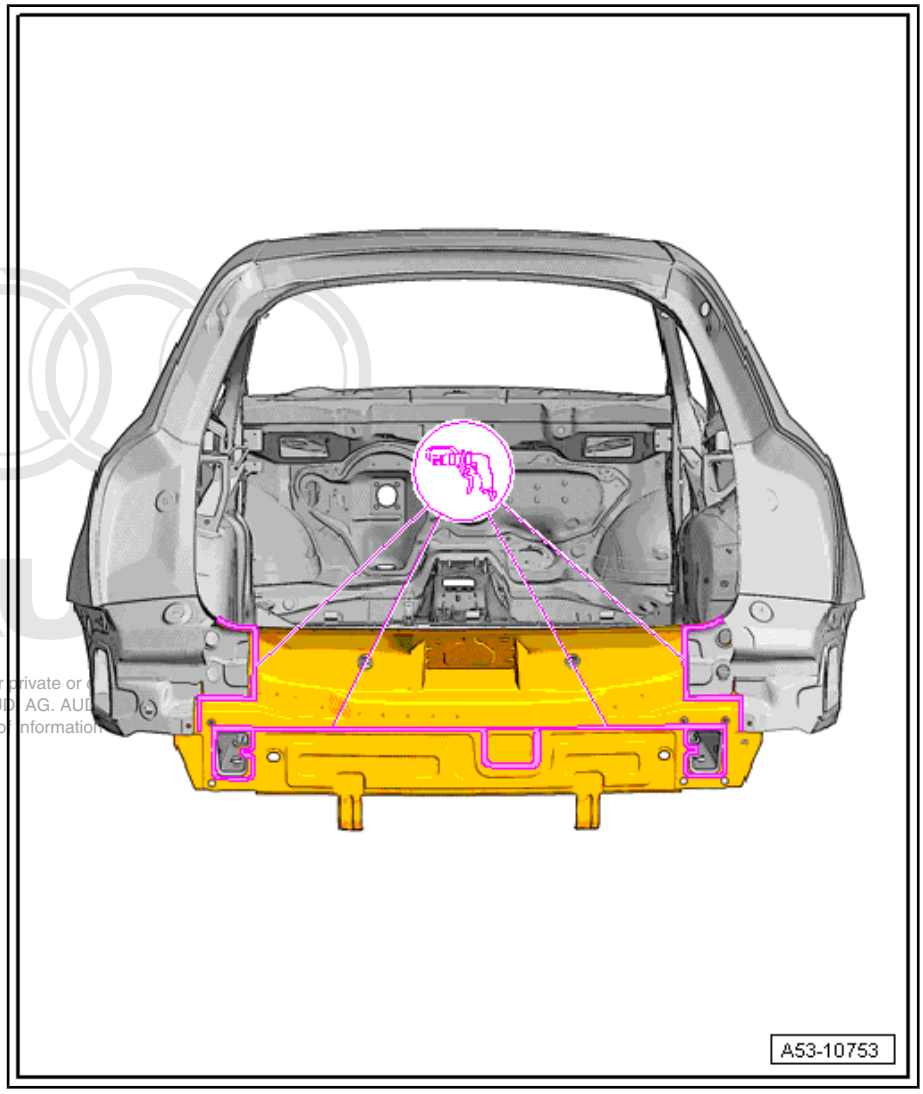

## 3.2 Procedure

- Upper cross panel removed ⇒ page 251

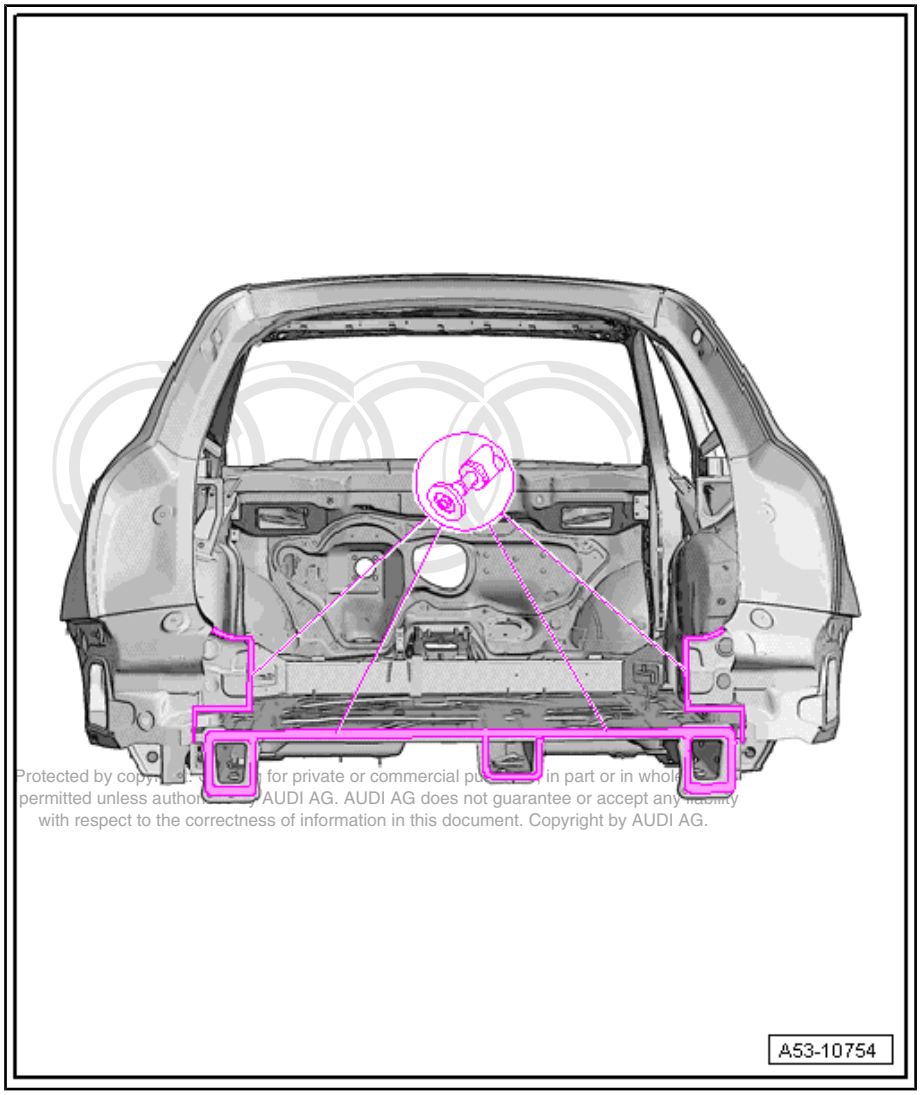
**Cutting locations**

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or
permitted unless authorised by AUDI AG. AUDI
with respect to the correctness of information




– Remove remaining material using compact angle grinder .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorized by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

### Replacement part

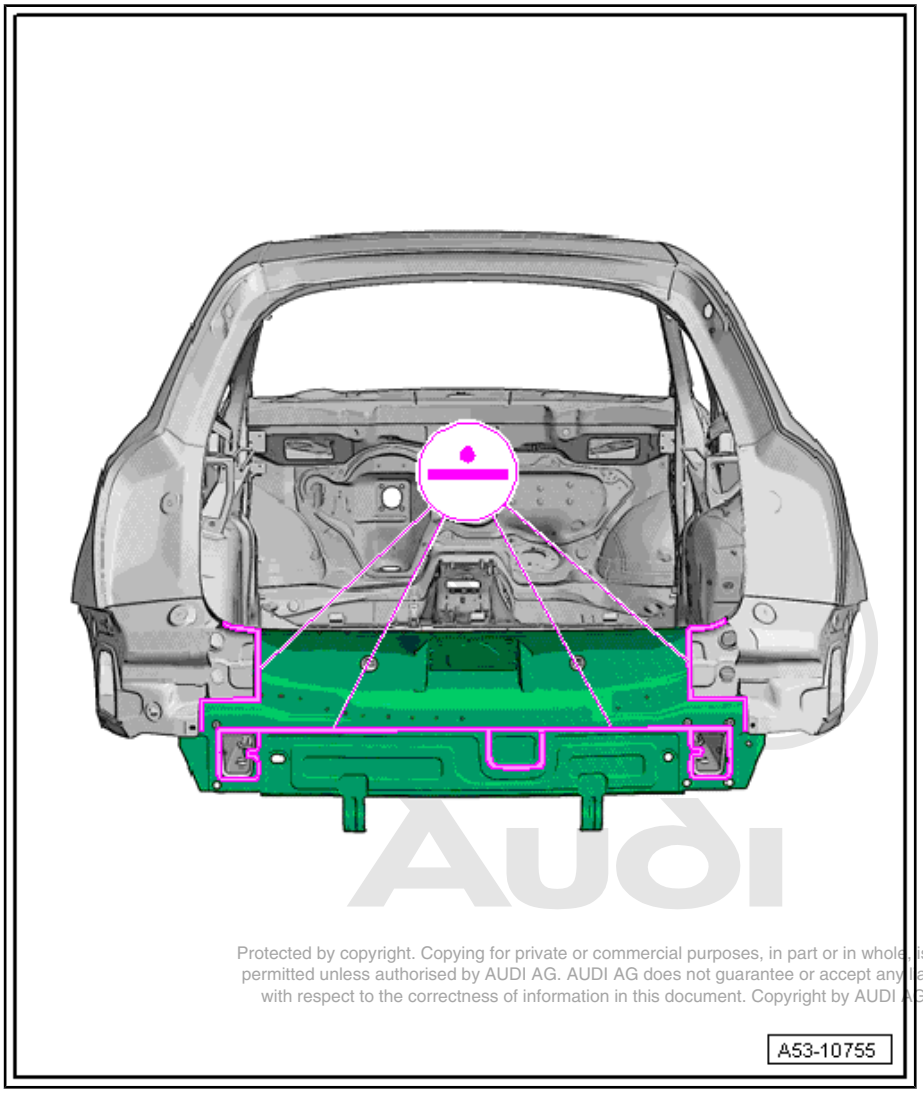
- Rear cross panel

### Note

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

### Welding in

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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

- Welding in upper cross panel ⇒ page 251

RO: 53 48 55 52

# 4 Rear longitudinal member - Partial renewal

**Note**

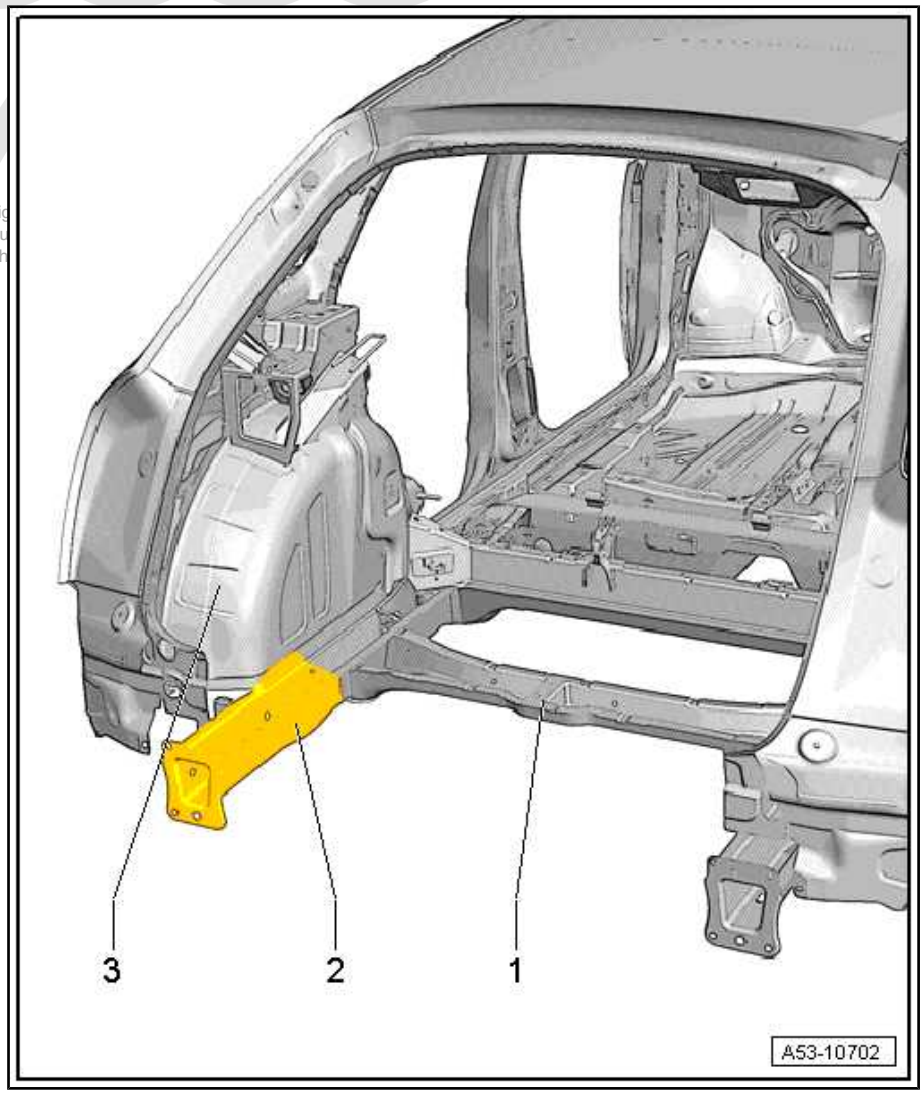
- *Fuel tank and fuel pipes*
- *Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.*

**1 - Cross member**

**2 - Rear longitudinal member**

**3 - Inner wheel housing**

Protected by copyrig
permitted unless au
with respect to th

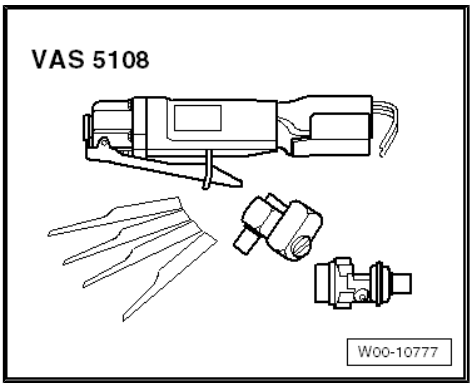



## 4.1 Tools

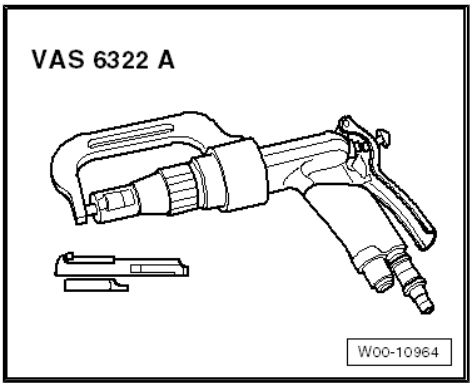
**Special tools and workshop equipment required**

- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-
- Resistance spot welder - VAS 6535-

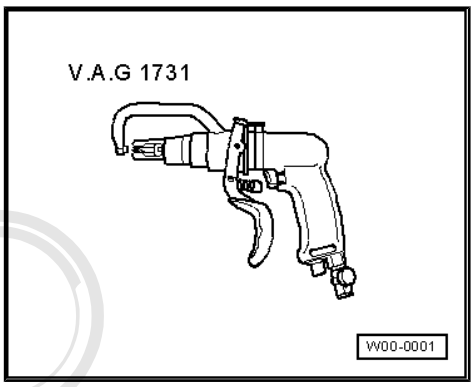
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




## 4.2 Procedure

- Rear upper cross panel removed ⇒ page 251
- Rear cross panel removed ⇒ page 257
- Luggage compartment floor removed ⇒ page 277

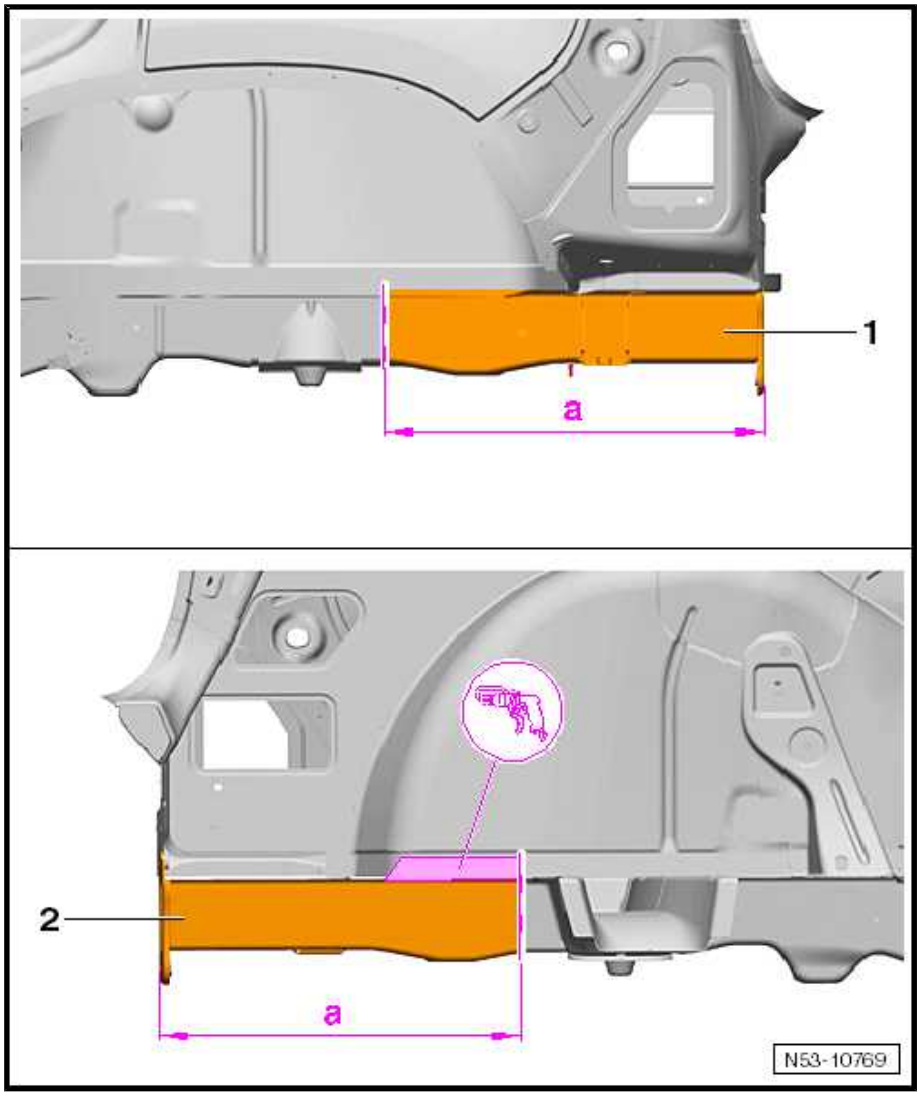
**Cutting locations**

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Make separating cuts on longitudinal member from outside -1- and inside -2- using body saw .

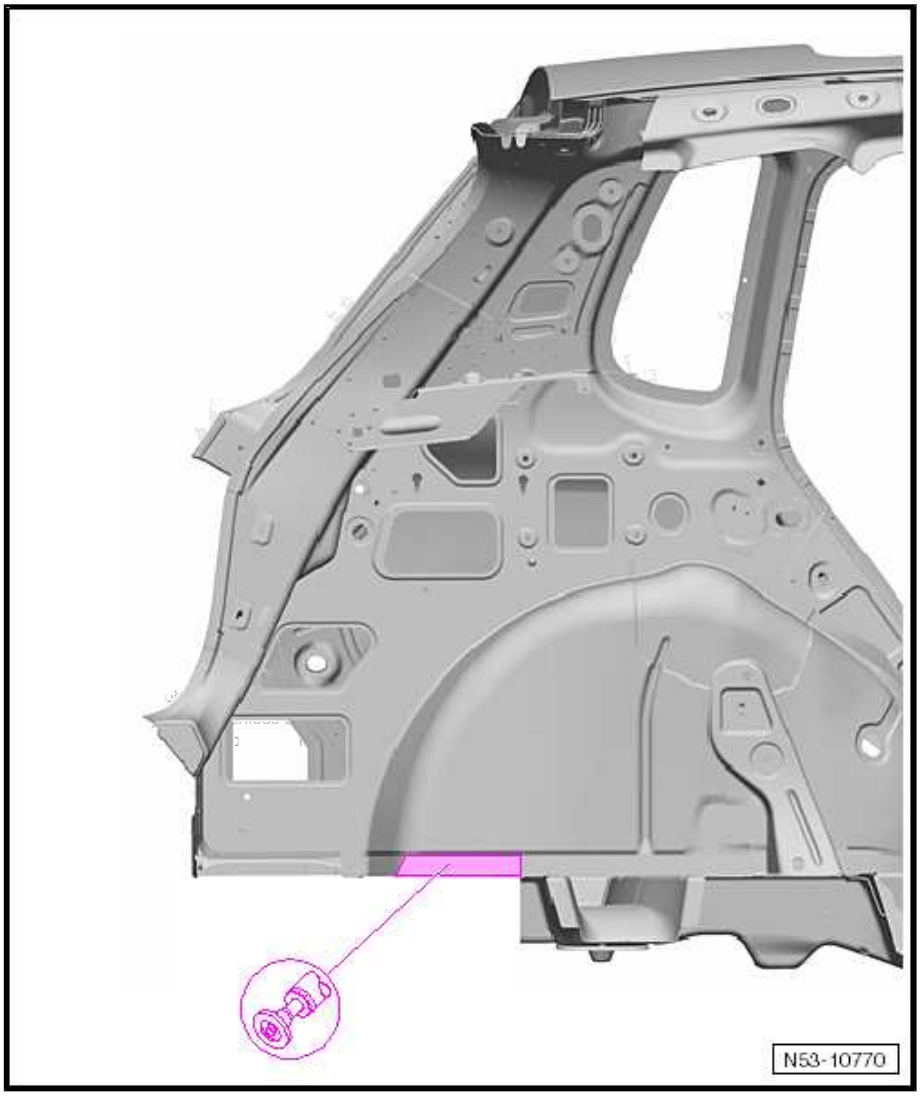
– Separate original joint at inside of wheel housing using spot weld breaker .

**Dimension -a- = 425 mm**




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




**Note**

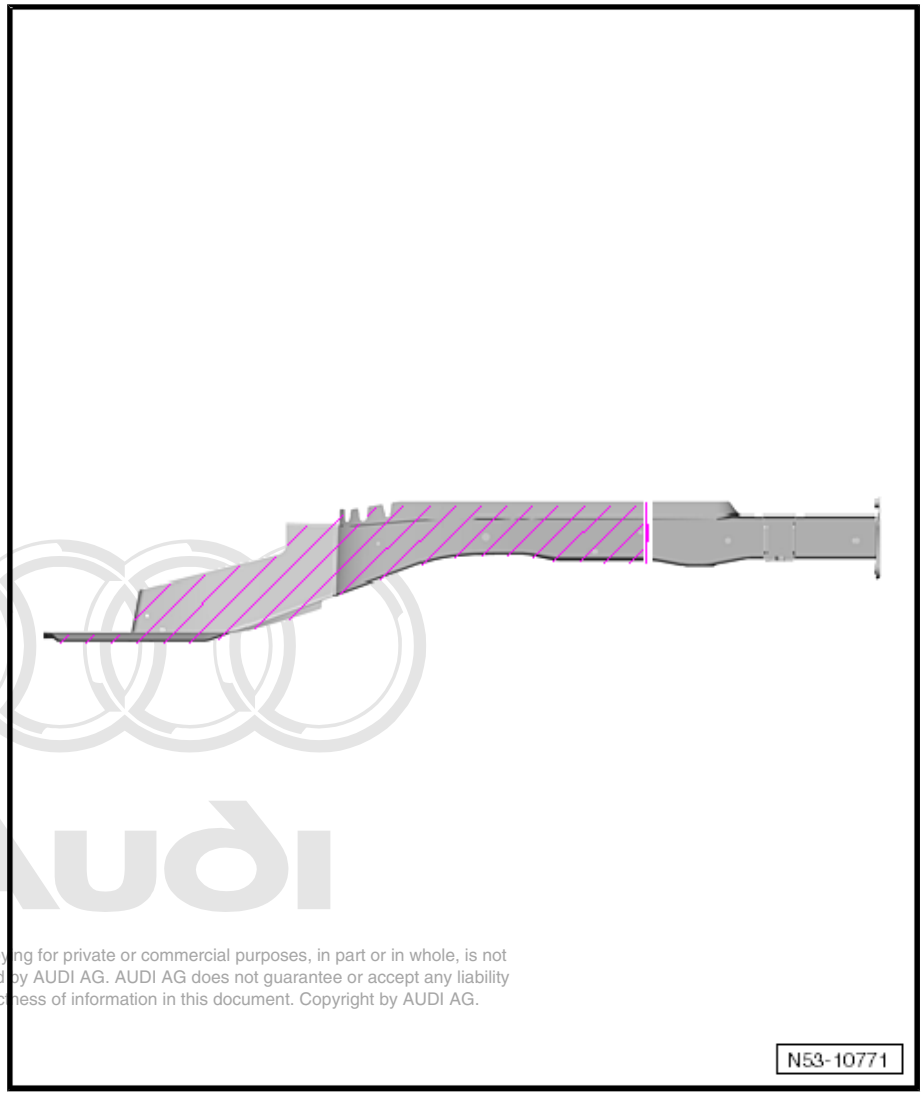
*Due to the different types of steel and panel thicknesses employed, one of the welding units (inverters) listed must be used to ensure correct results when spot welding.*

**Replacement part**

- Rear longitudinal member

**Preparing new part**

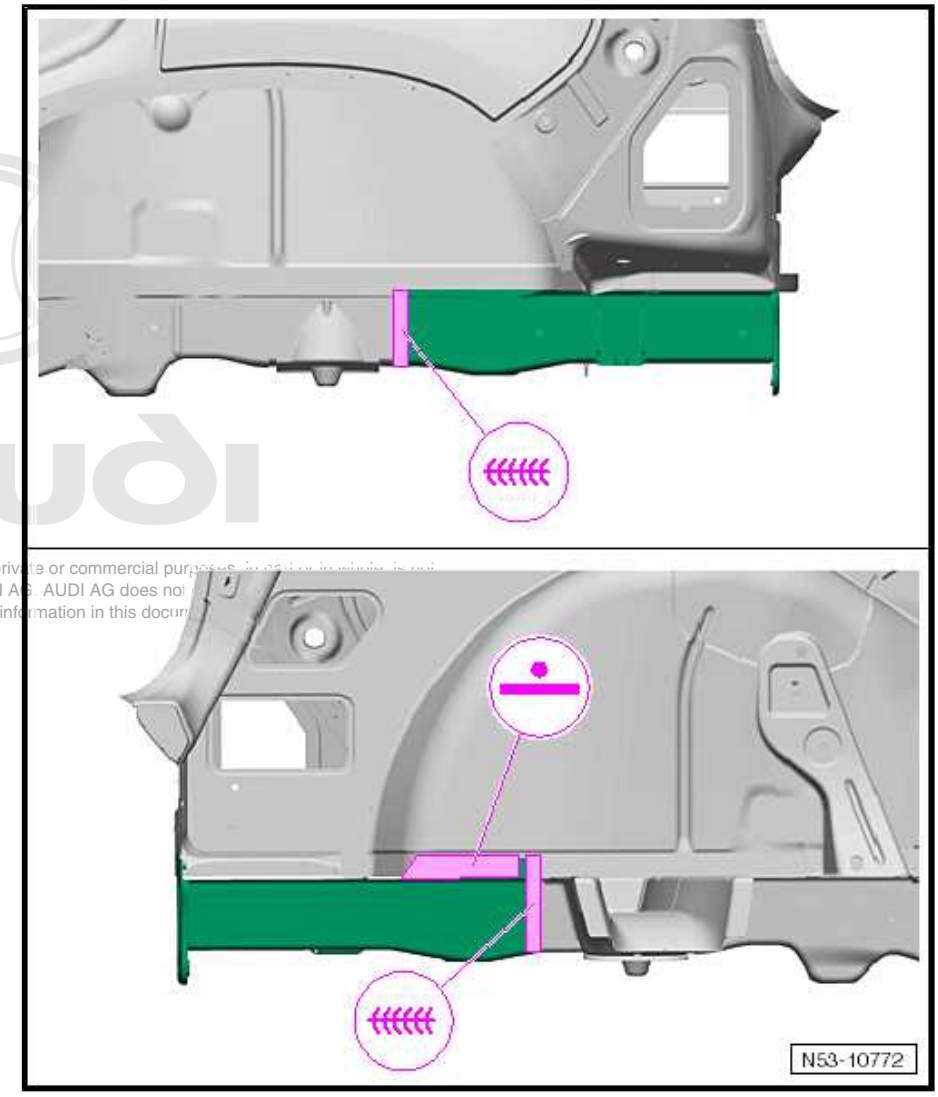
– Transfer separating cuts to new part and cut to size using body saw .




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– With vehicle standing on alignment bracket set, match up new parts using cross panel and fix in position.
– Check fit relative to adjacent parts.
– Weld in longitudinal member using shielded arc welding equipment : SG continuous seam all round.
– Weld in longitudinal member using resistance spot welder : RP spot weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document.




- Welding in rear upper cross panel ⇒ page 251
- Welding in rear cross panel ⇒ page 257
- Welding in luggage compartment floor ⇒ page 277

RO: 53 55 55 00

# 5 Side panel - Renewal

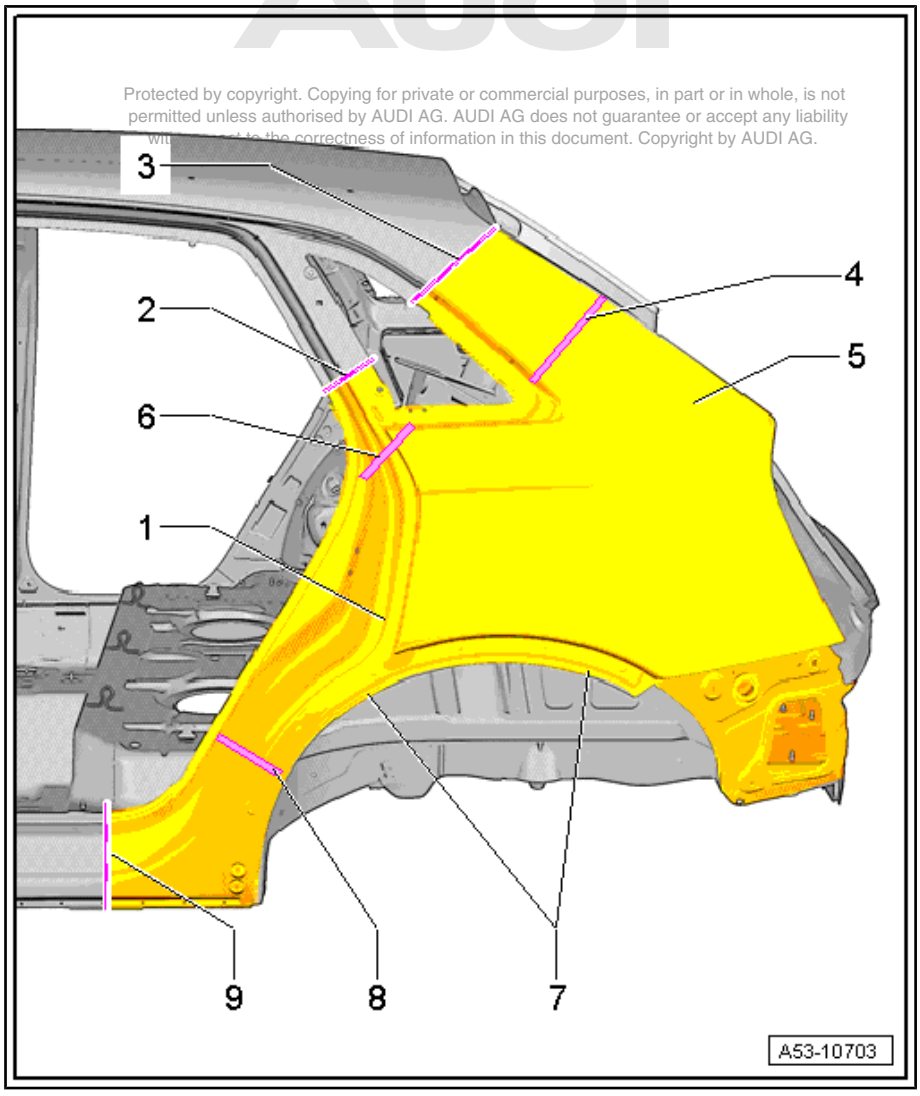
**Includes rain channel and tail light mounting.**

**Note**

- *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.*

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**1 - Side panel**
**2 - Separating cut in C-pillar**
**3 - Separating cut in D-pillar**
**4 - Moulded foam insert**
**5 - Tail light mounting**
**6 - Moulded foam insert**
**7 - Bonded area**
**8 - Moulded foam insert**
**9 - Separating cut in side member**

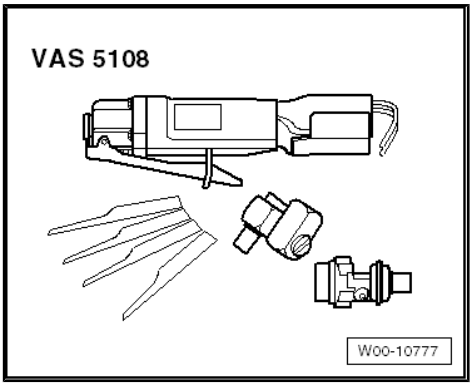



## 5.1 Tools

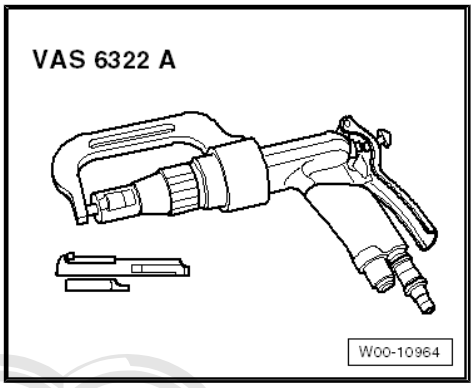
**Special tools and workshop equipment required**

- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-

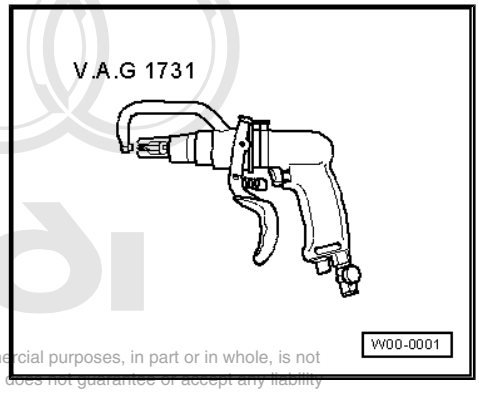
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or

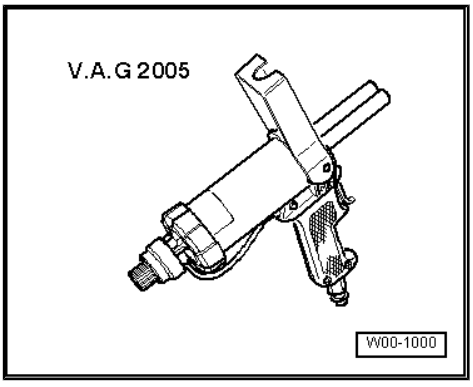



- Spot weld breaker - V.A.G 1731-




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

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



## 5.2 Procedure

- Separate joint at cross panel.

**Cutting locations**

Permitted separating cuts on complete side frame ⇒ page 250

**Note**

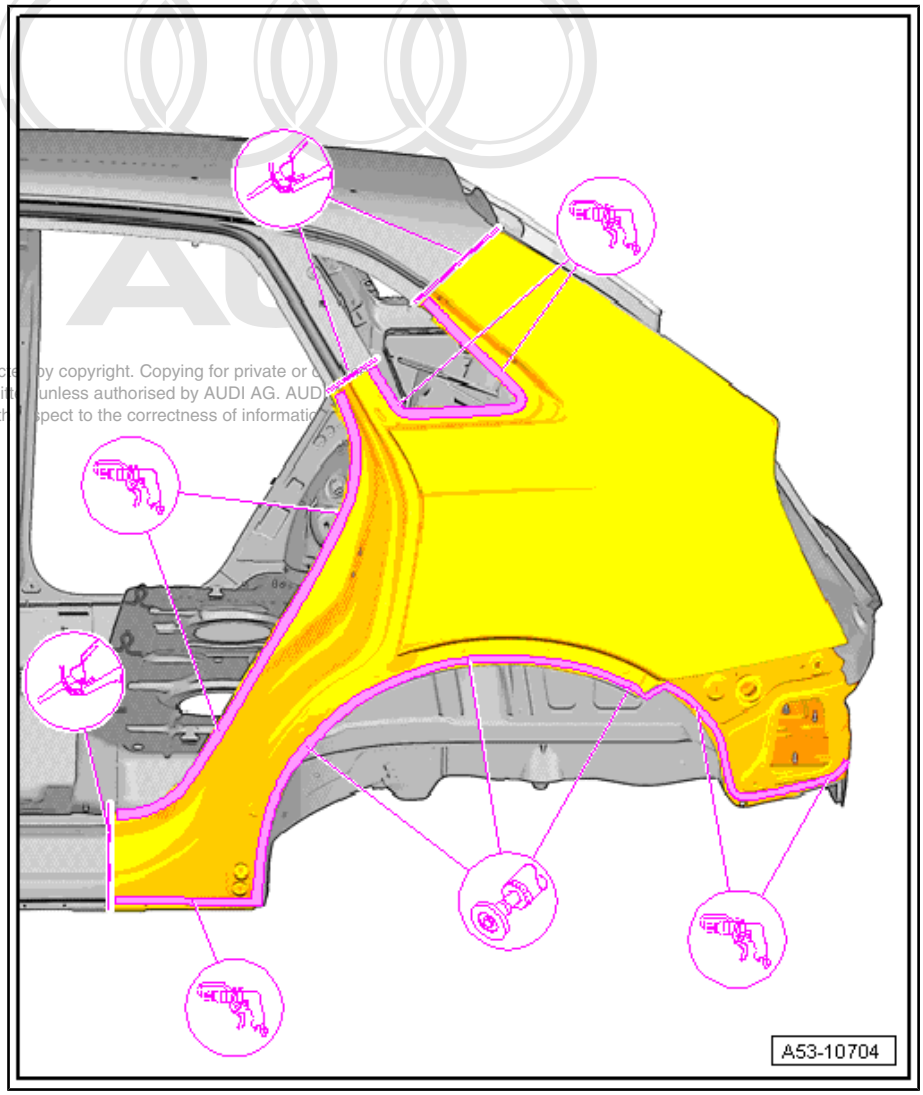
*Partial renewal is possible with the separating cuts illustrated.*

– Separate original joint using spot weld breaker .

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

– Make separating cuts as shown using body saw .

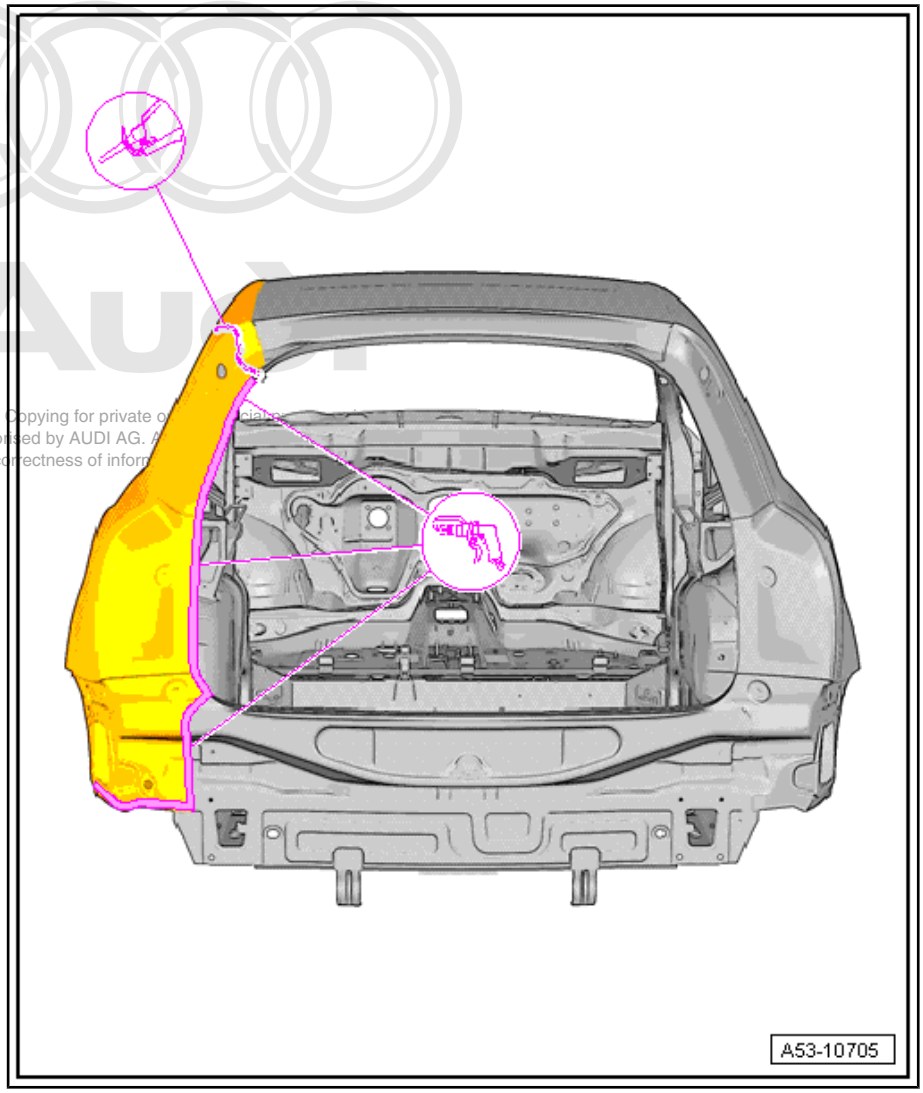
Protected by copyright. Copying for private or
permitted unless authorised by AUDI AG. AUDI
with respect to the correctness of information



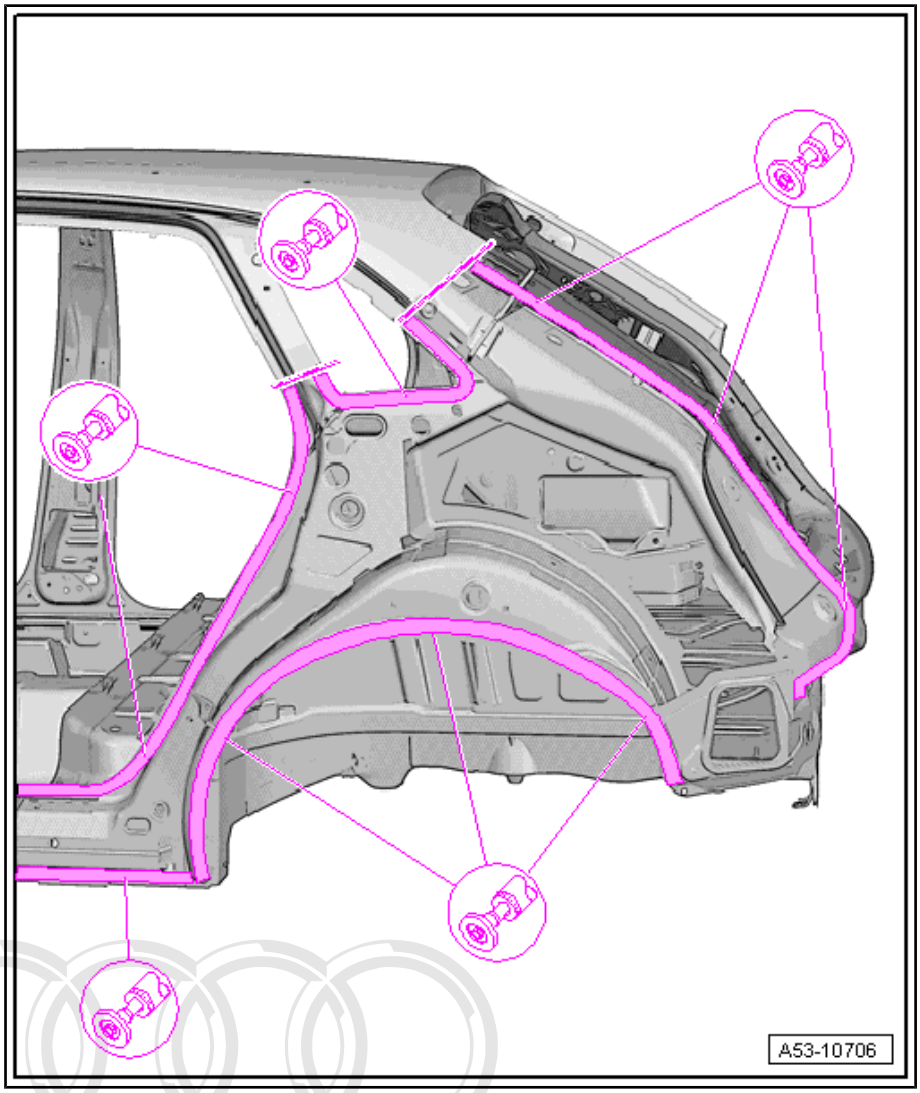

– Make separating cuts as shown using body saw .

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private o
permitted unless authorised by AUDI AG. A
with respect to the correctness of inform




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




### 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-

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

### Preparing new part

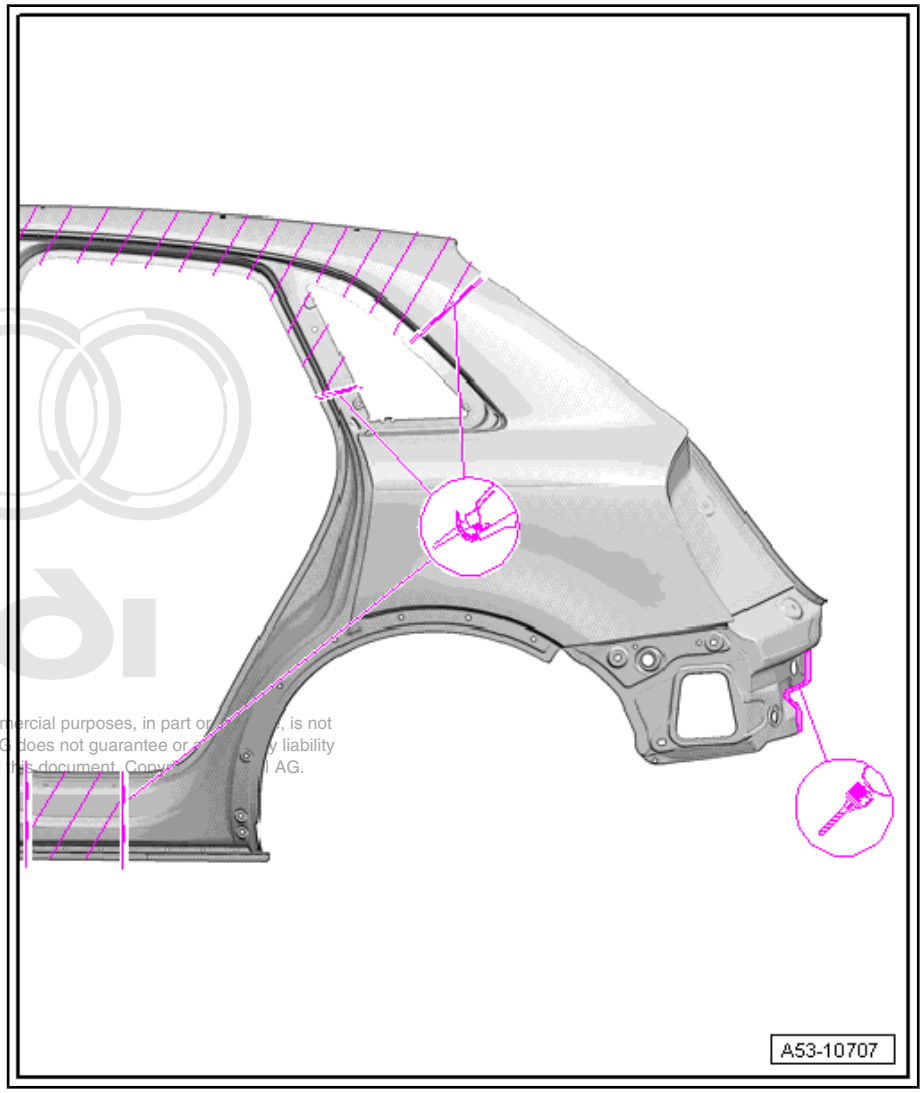
– Transfer separating cut to new part and cut off hatched area using body saw .

– Drill holes for SG plug weld seam using drill .

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

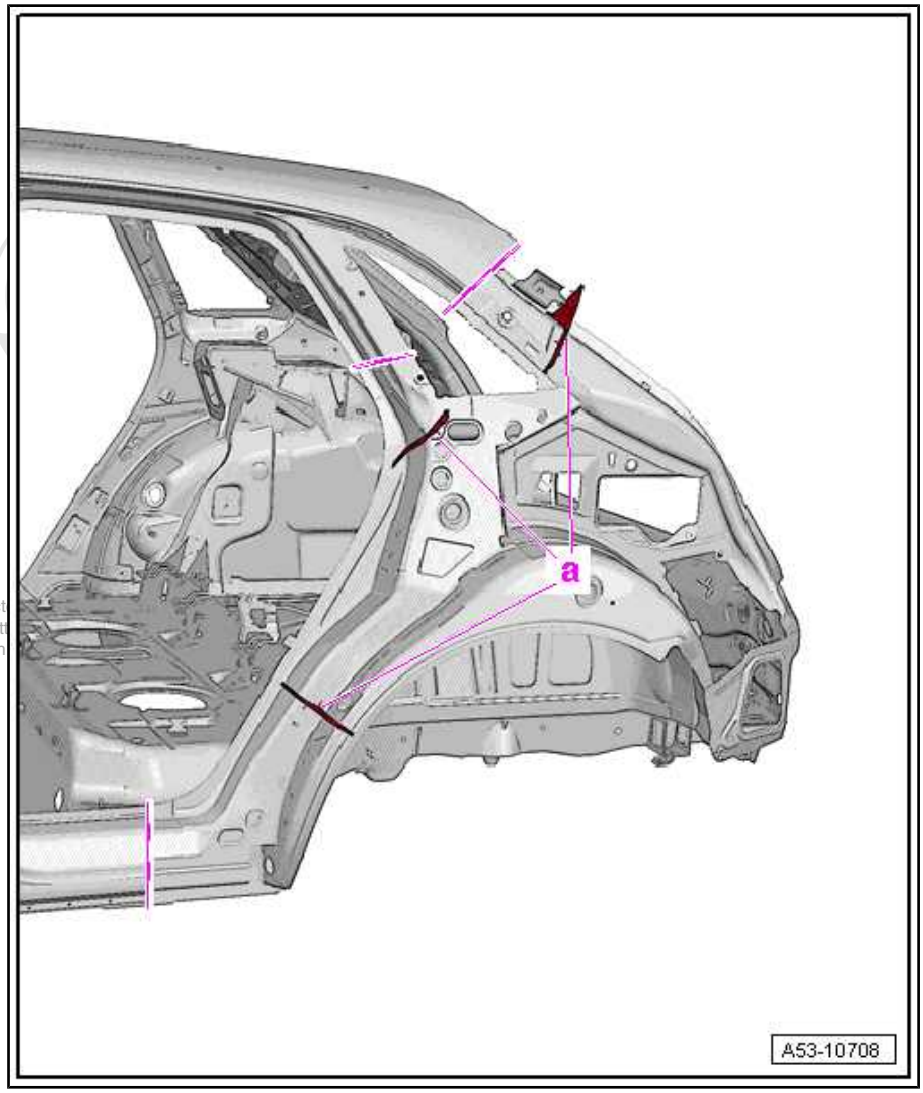
– Grind down bonding surface (on body side of joint) to bare metal.

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




Protected by copyright. Copying for private or commercial purposes, in part or ..., is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or ... liability with respect to the correctness of information in this document. Copyr... AG.

Fit moulded foam inserts -a- ⇒ page 12 .




Protect
permitt
with

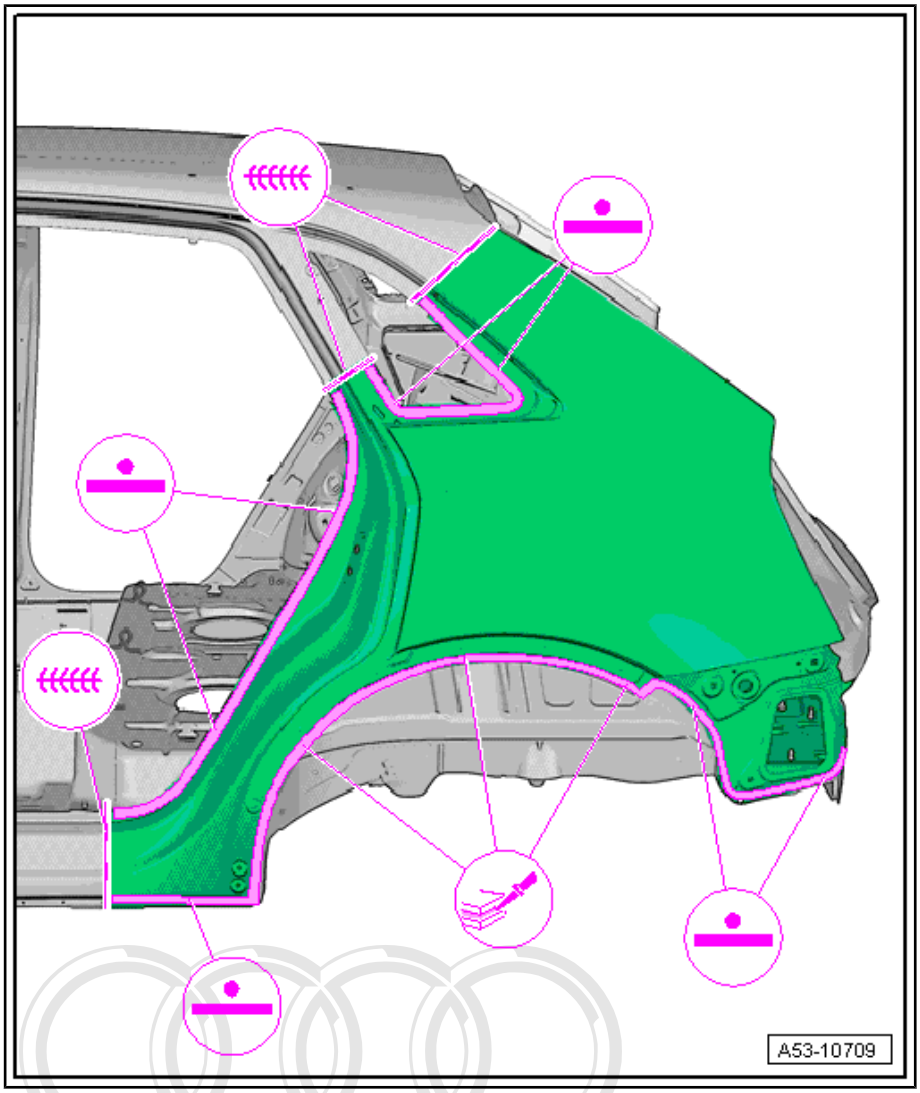
**Note**

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

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

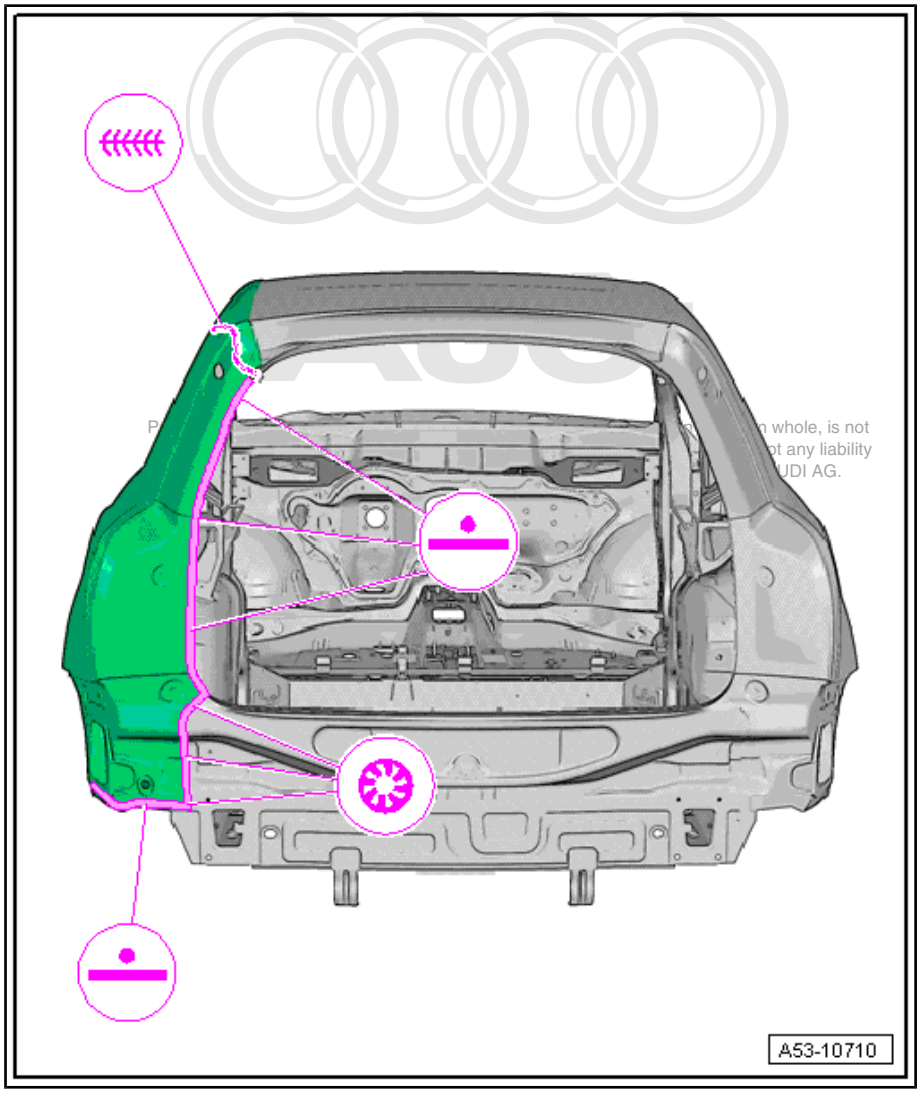
**Welding in**

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




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.


A53-10710

RO: 53 80 55 50

# 6 Luggage compartment floor - Renewal

**Note**

- *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 - Luggage compartment floor**

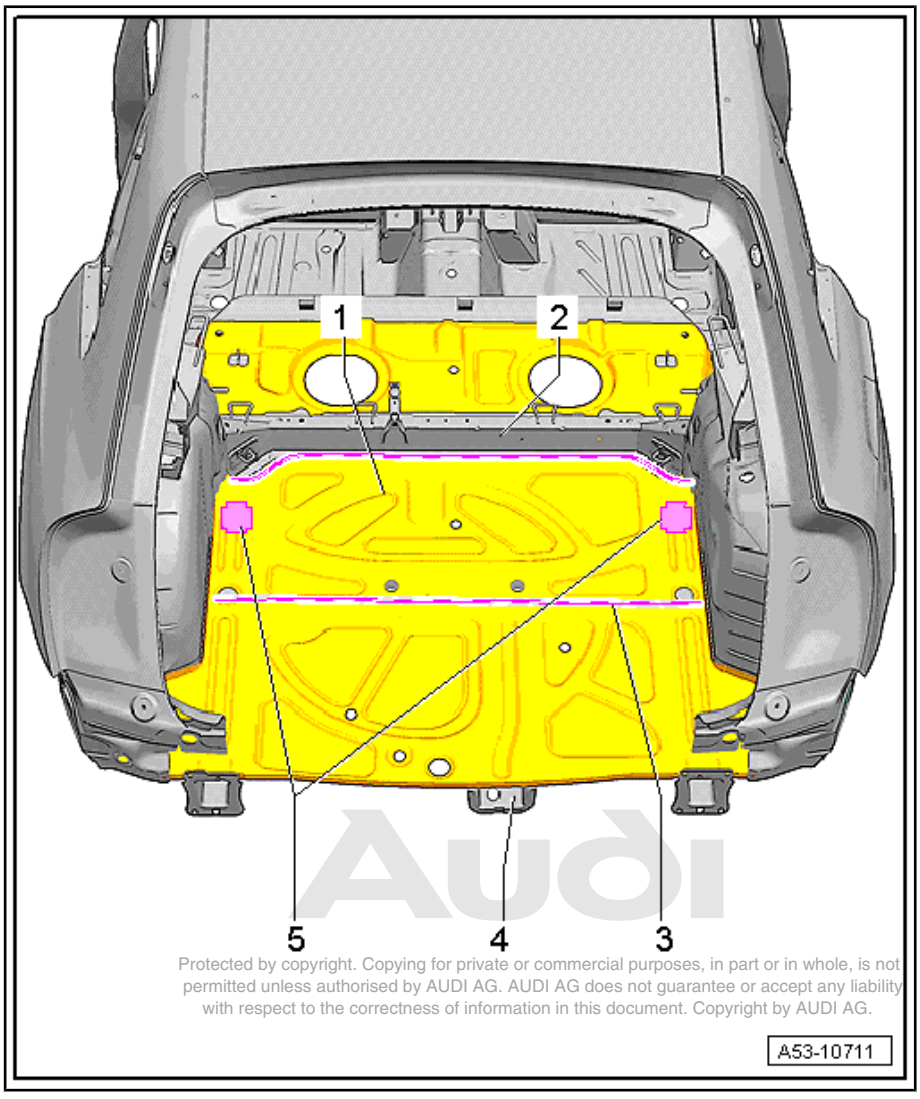
**2 - Separating cut**

**3 - Separating cut**

Partial renewal
*Partial renewal of the luggage compartment floor is possible using this separating cut.*

**4 - Bracket**

**5 - Moulded foam insert**



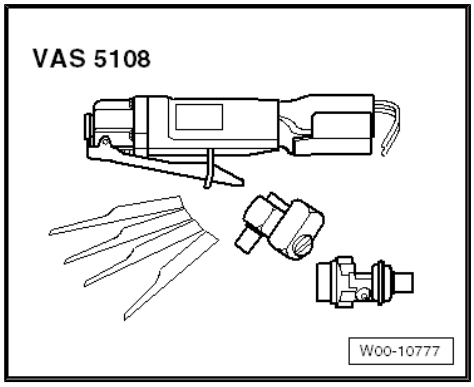
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 6.1 Tools

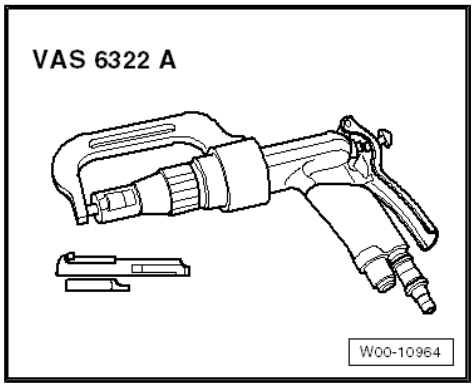
**Special tools and workshop equipment required**

- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-

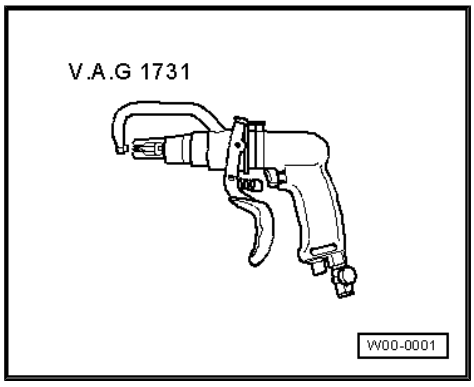
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Drill - VAS 5144-
- Compact angle grinder - VAS 5167-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 6.2 Procedure

- Rear upper cross panel removed ⇒ page 251
- Rear cross panel removed ⇒ page 257

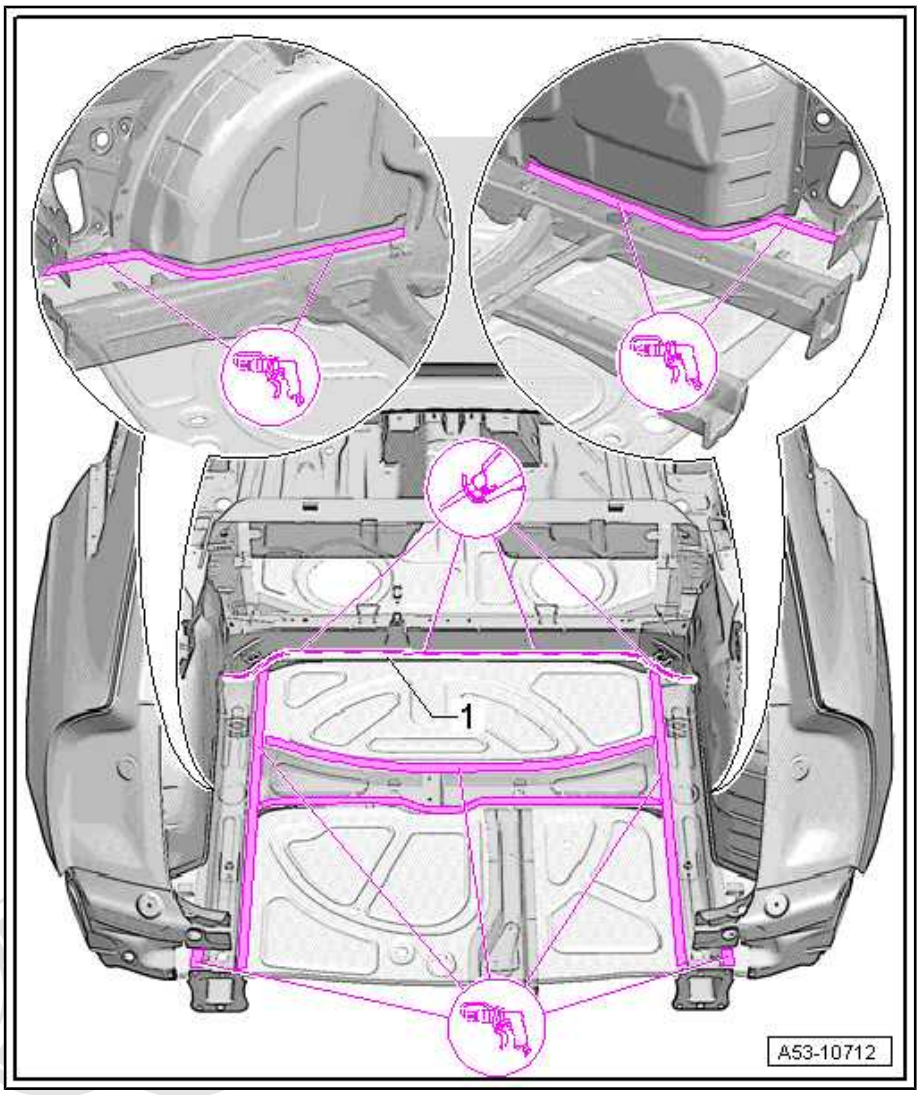
**Cutting locations**

**Note**

*Take care not to damage cross member when making separating cut -1-.*

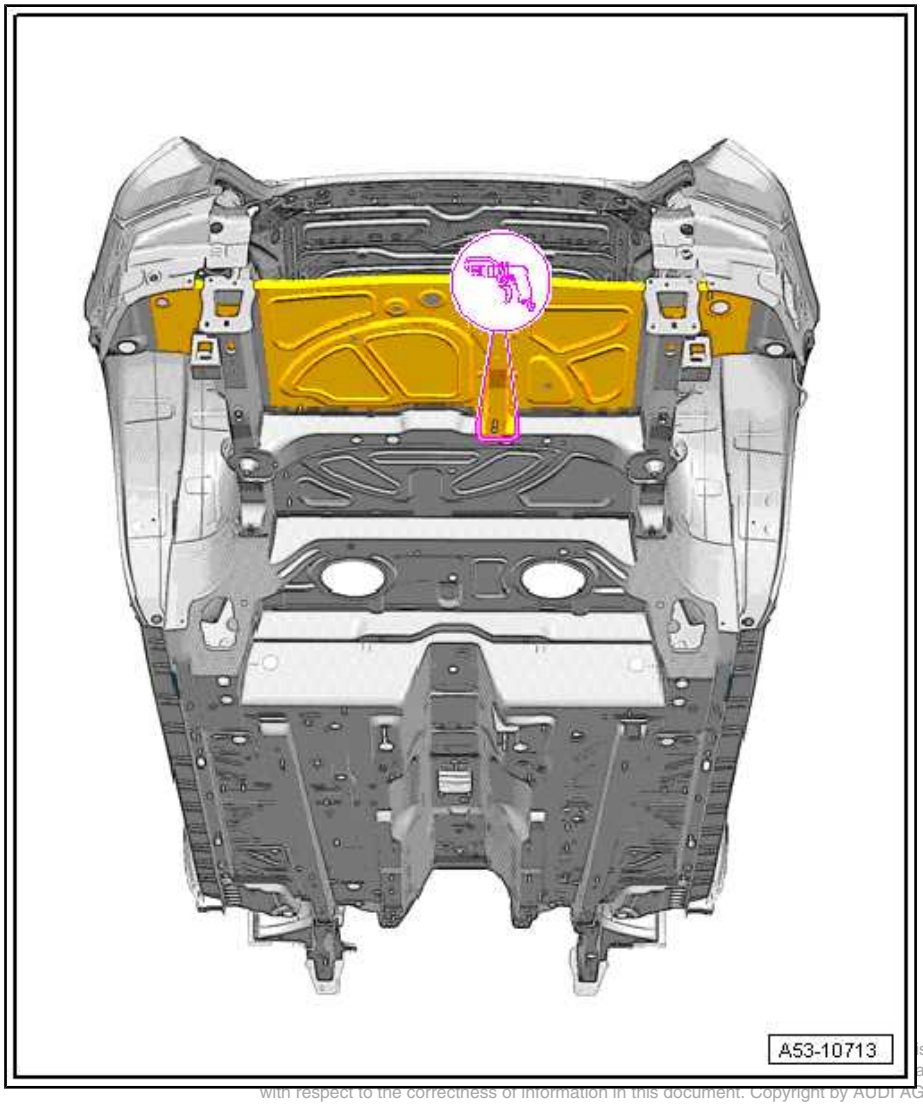
– Make separating cut -1- as shown using body saw .

– Separate original joint using spot weld breaker .



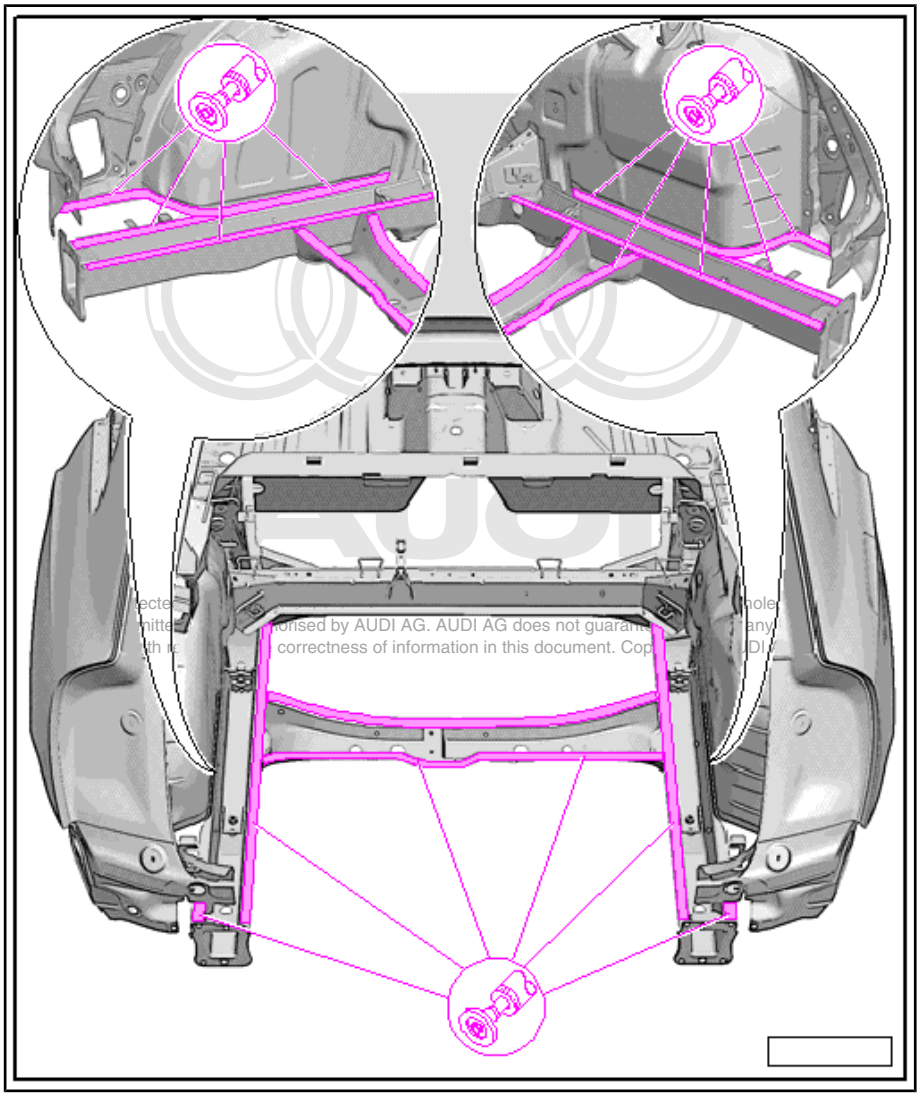

– Working from below, separate original joint between bracket and cross member using spot weld breaker .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




s not
ability
with respect to the correctness of information in this document. Copyright by AUDI AG.

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



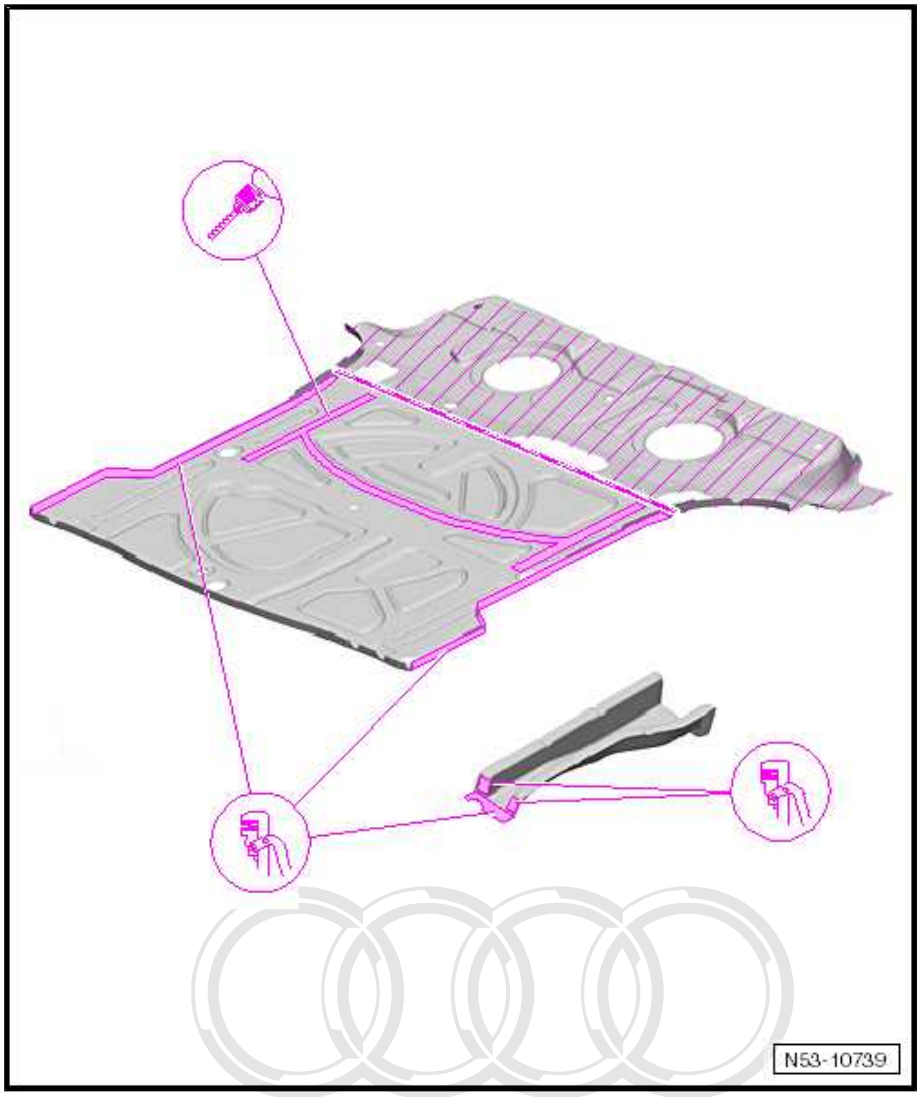
**Replacement part**

- Luggage compartment floor
- Bracket
- Moulded foam insert

**Preparing new part**

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

– Drill holes for SG plug weld seam using drill .




– 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.

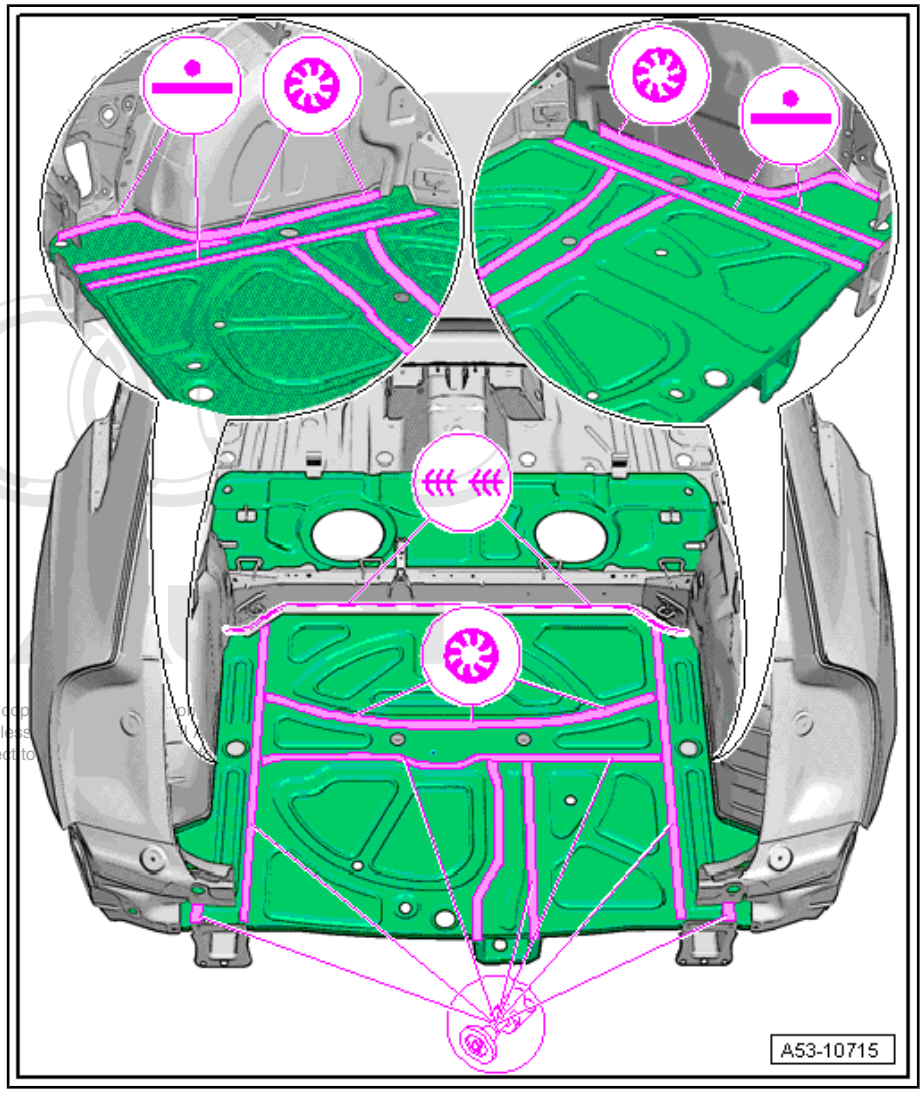
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Note**

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

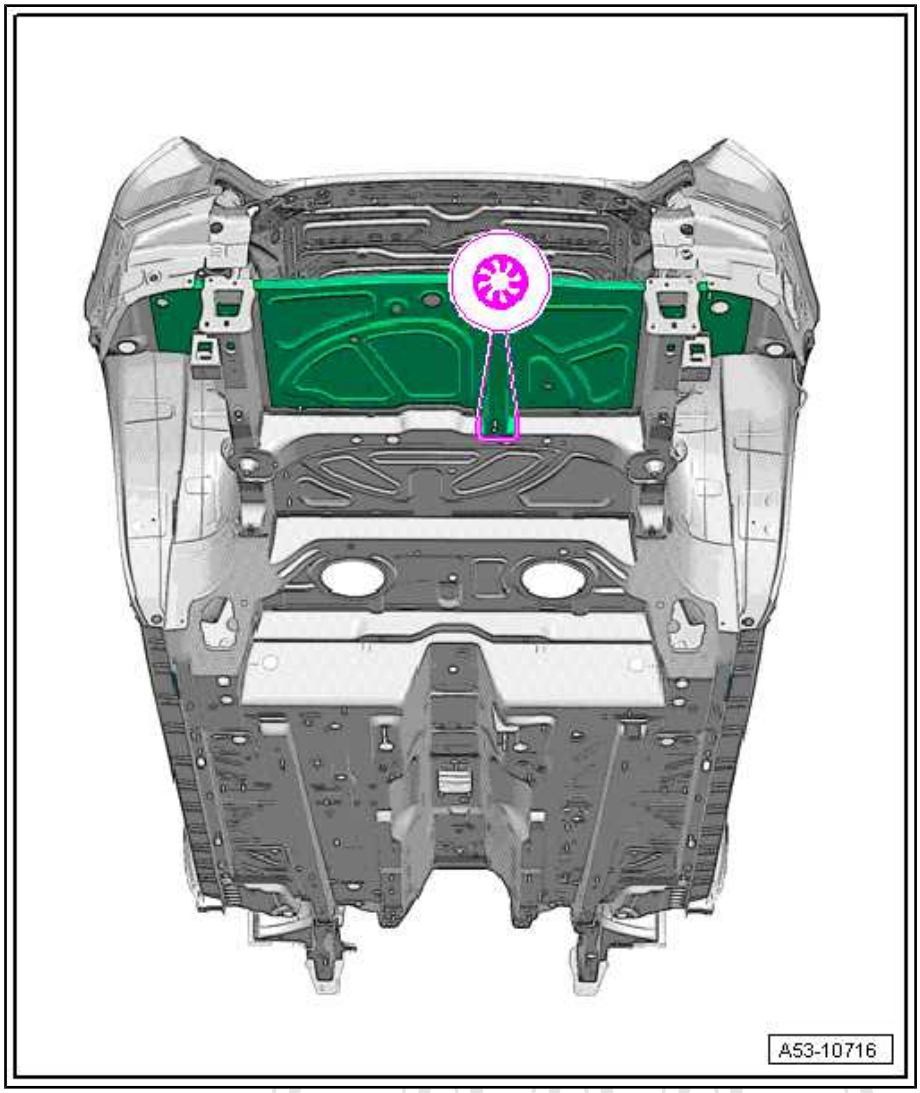
**Welding in**

– Weld in luggage compartment floor using shielded arc welding equipment : SG plug weld seam.
– Weld separating cut at cross member using shielded arc welding equipment : SG continuous seam (staggered - with gaps).
– Weld in luggage compartment floor using resistance spot welder : RP spot weld seam.




Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Weld in bracket for cross member using shielded arc welding equipment : SG plug weld seam.




- Welding in rear upper cross panel ⇒ page 251
- Welding in rear cross panel ⇒ page 257

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

RO: 53 80 49 50

# 7 Battery box - Renewal (RS model only)

**Note**

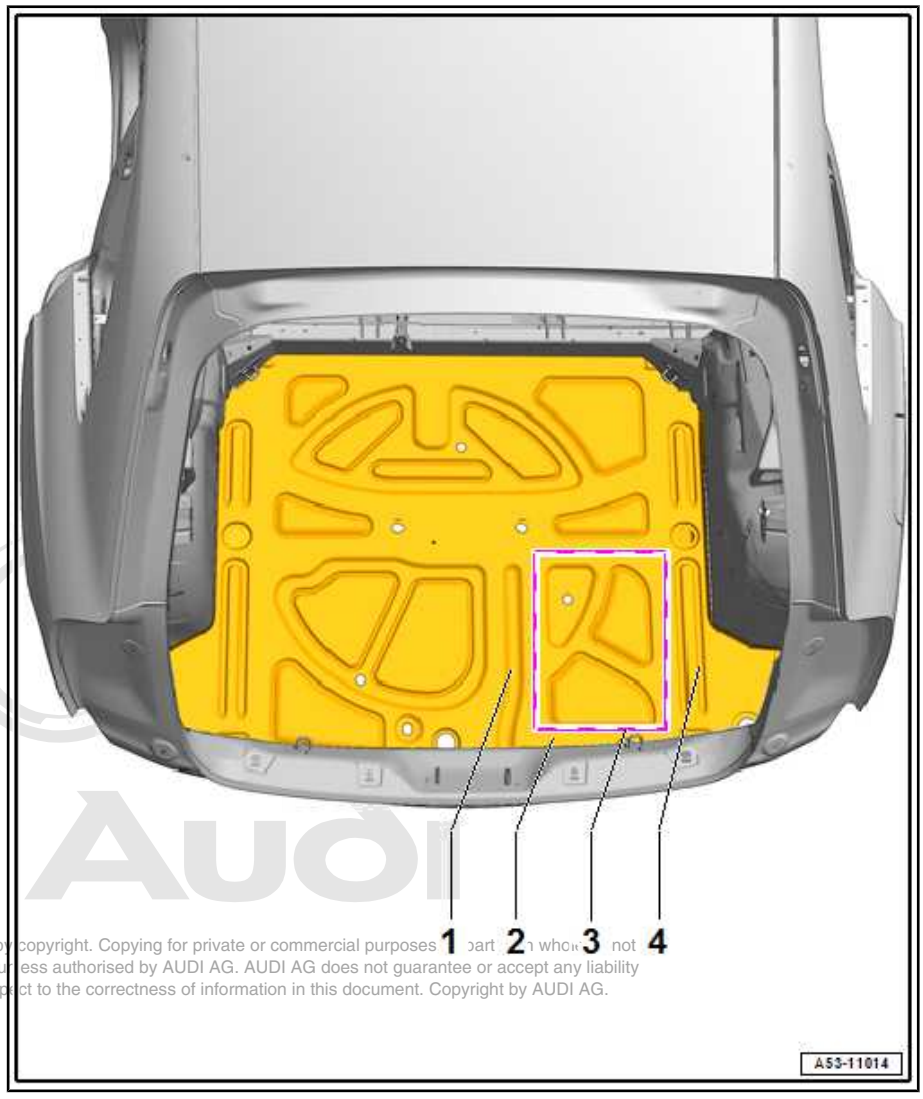
- *Fuel tank and fuel pipes*
- *Take extreme care when performing sanding and welding work near the tank or other components carrying fuel. If in doubt, always remove these components.*

**1 - Luggage compartment floor reinforcement**

**2 - Luggage compartment floor**

**3 - Separating cut for battery box**

**4 - Longitudinal member**

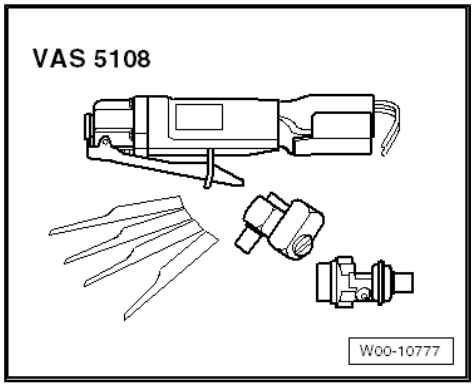



Protected by copyright. Copying for private or commercial purposes, part of which is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Special tools and workshop equipment required**

- Compact angle grinder - VAS 5167-
- Double cartridge gun - VAS 5237-

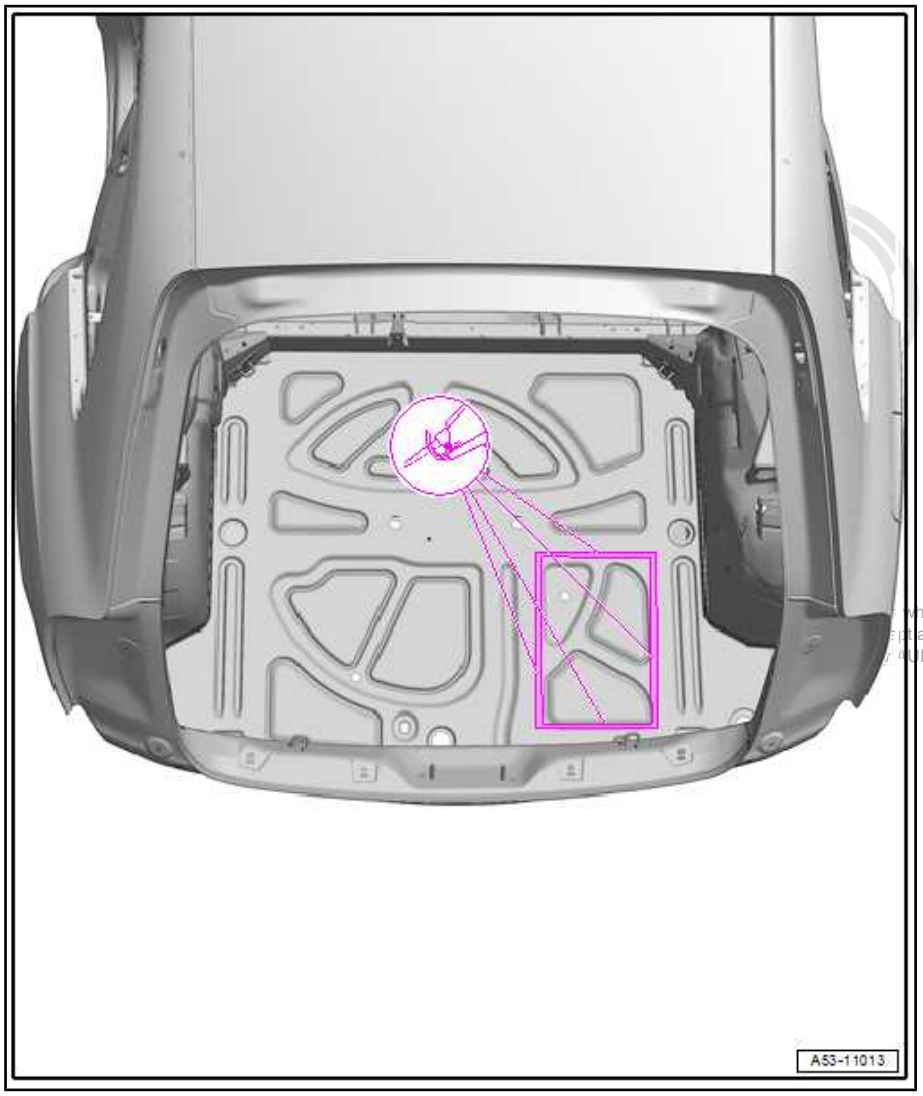
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




## 7.1 Procedure

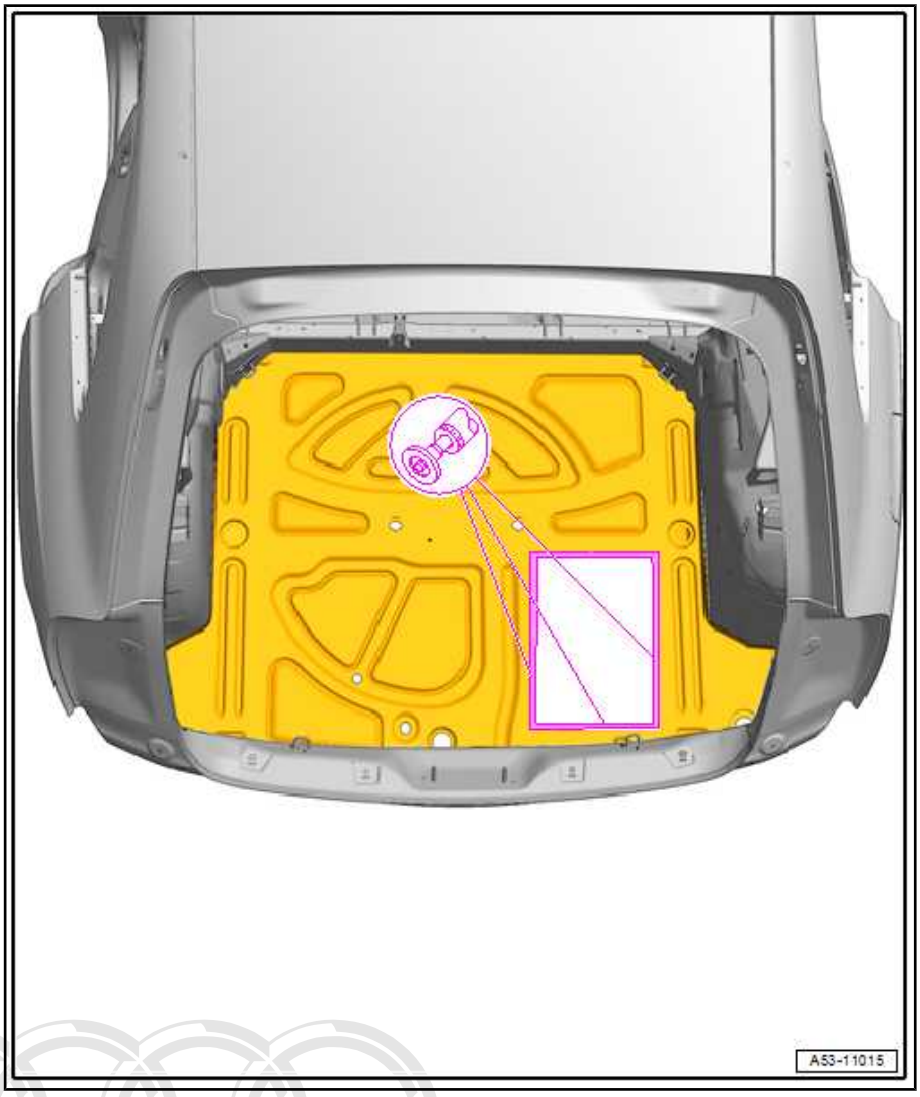
**Cutting locations**

– Mark off separating cut for battery box between longitudinal member and luggage compartment floor reinforcement and make the cut as shown using body saw .




hole, is not
any liability
AUDI AG.

– Remove remaining material using compact angle grinder .



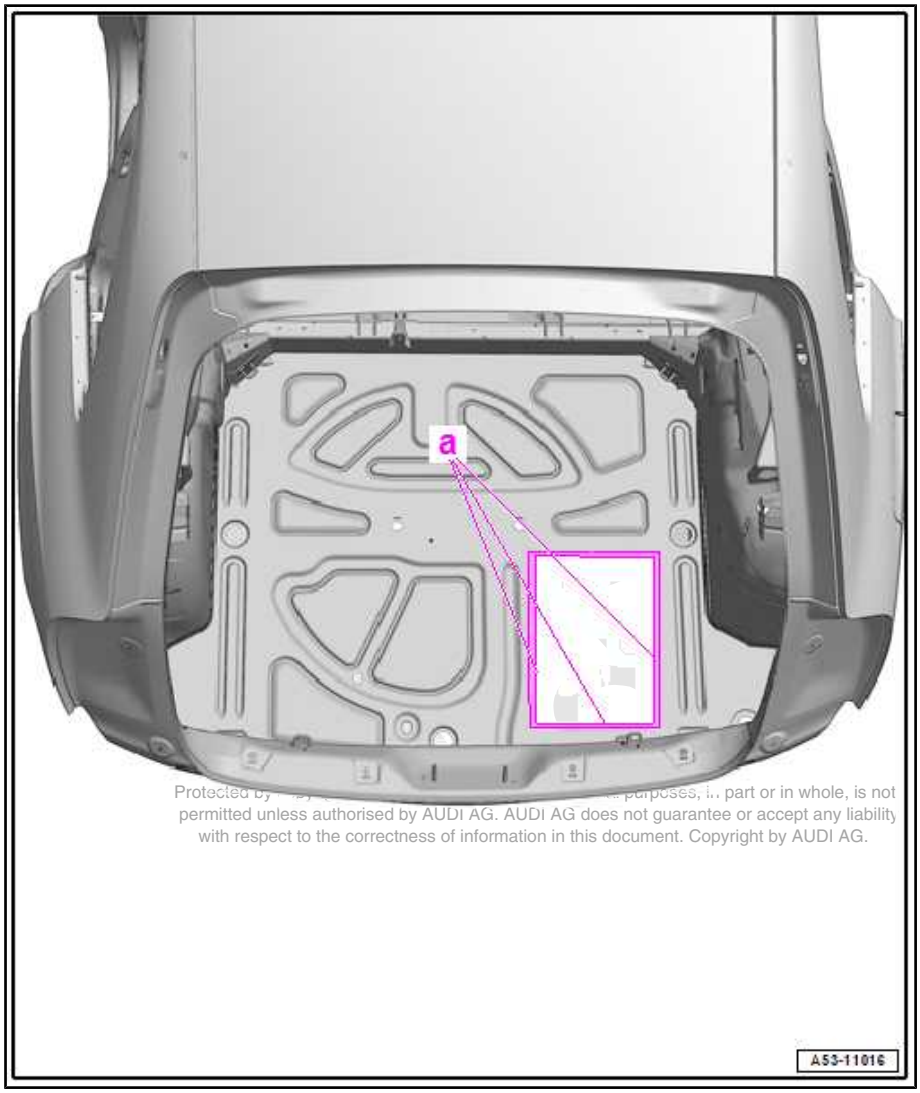

### Replacement parts

- ♦
- ♦ Battery box . The battery box should be left in the foil until you are ready for bonding.
- ♦ 2-component window adhesive set - DA 004 660 M2-
- ♦ Glass and paint primer - D 009 200 02-
- ♦ Cleaning solution - D 009 401 04- . Observe safety precautions when handling.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

### Preparing new part

– Clean all round bonding surface of luggage compartment floor -a- using cleaning solution - D 009 401 04- .
– Apply glass and paint primer - D 009 200 02 - all round bonding surface of luggage compartment floor -a-.




Protected by ... purposes, i... part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

**Installing**

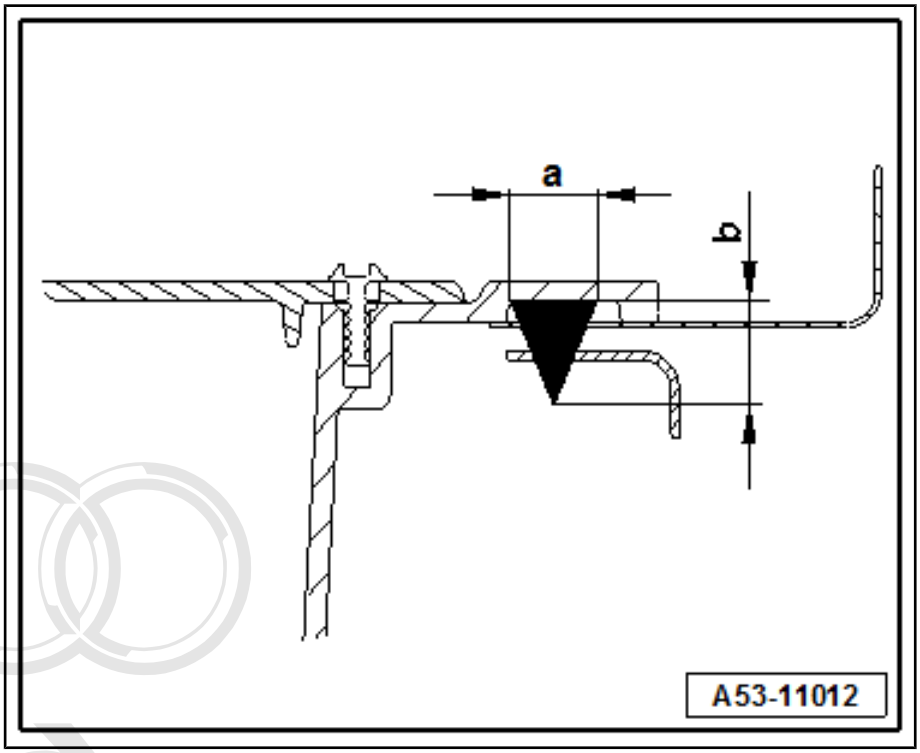
**Caution**

- ***Bonding surface must be free of dirt and grease.***

**Note**

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

Dimensions for adhesive application:

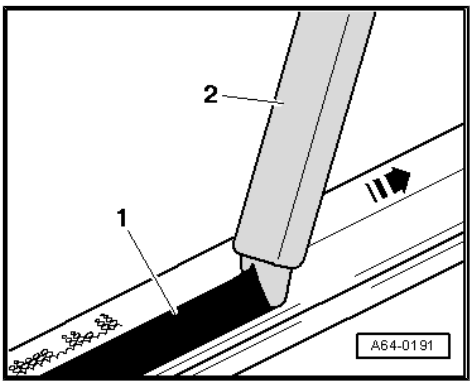



- Adhesive bead -1- is applied in direction indicated by -arrow-.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

– Apply adhesive/sealant all round bonding surface.

– Apply nozzle -2- so it is in full contact with bonding surface.



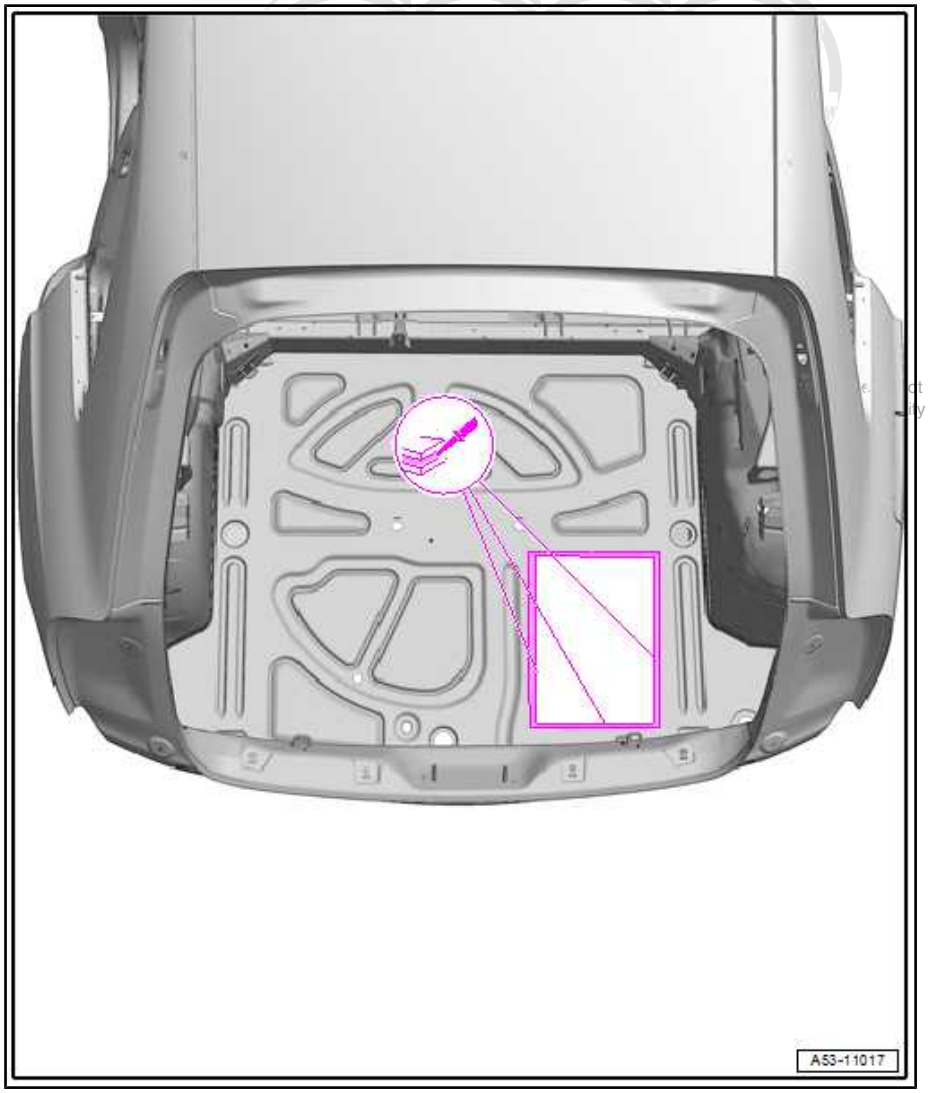

**Bonding area:**

**Note**

*When you make the bonded joint, the body must have a minimum temperature of 17° C and the areas to be bonded must be clean and dry and free of any condensation.*

– If the bonding area has been damaged, the paint finish must be repaired and corrosion protection applied as required.

– Apply 2-component window adhesive set - DA 004 660 M2- using double cartridge gun - VAS 5237- .




– Bond in battery box within 5 minutes.
– Press battery box fully onto body all round contour of bonded joint.

**Note**

- *After bonding has been completed, the vehicle must be left standing on a level surface for 45 minutes at room temperature (min. 17 °C) so that the adhesive components can harden (curing time).*
- *Wait until the “curing time” has elapsed before installing the battery.*

RO: 53 69 55 00

# 8 Rear wheel housing - Renewal

**C-pillar reinforcement**

**Note**

- *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.*

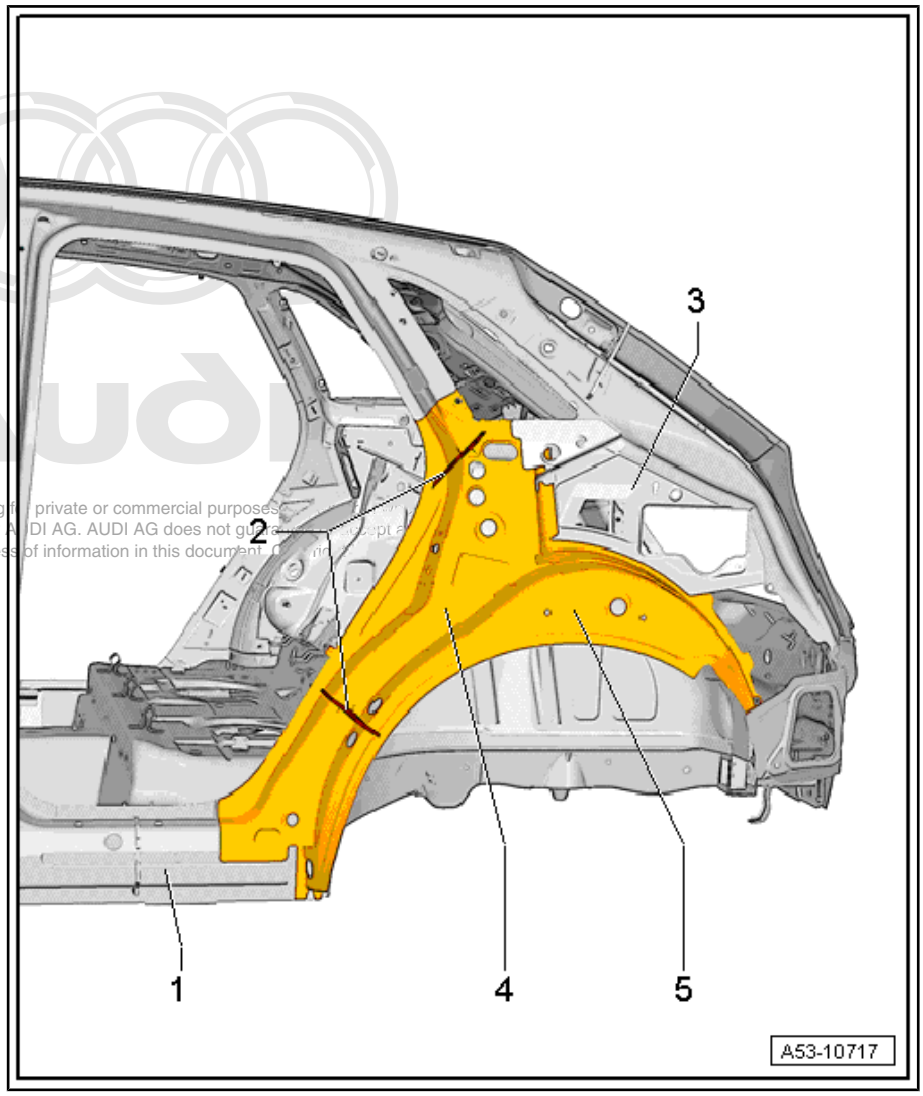
**1 - Side member**

**2 - Moulded foam inserts**

**3 - Inner side panel**

**4 - Wheel housing**

**5 - C-pillar reinforcement**



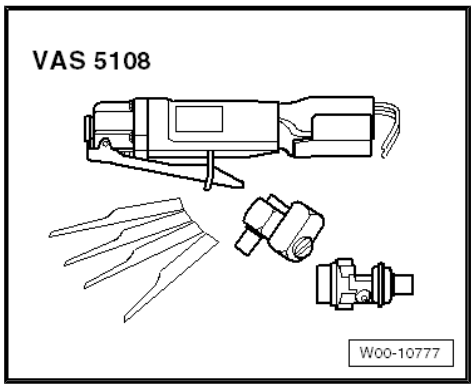

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 8.1 Tools

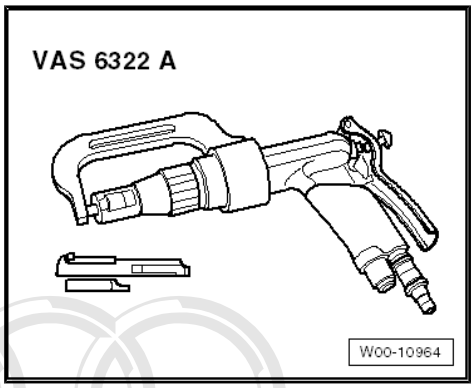
**Special tools and workshop equipment required**

- Resistance spot welder - VAS 6239 A-
- Resistance spot welder - VAS 6525-
- Resistance spot welder - VAS 6530-

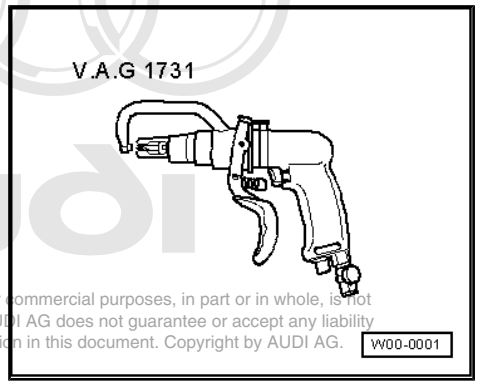
- Resistance spot welder - VAS 6535-
- Resistance spot welder - VAS 6545-
- Shielded arc welding equipment - VAS 6044- or -VAS 6045-
- Compact angle grinder - VAS 5167-
- Body saw - VAS 5108 - or - VAS 6598 - or -VAS 6780-




- Spot weld breaker - VAS 6322 A- or




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



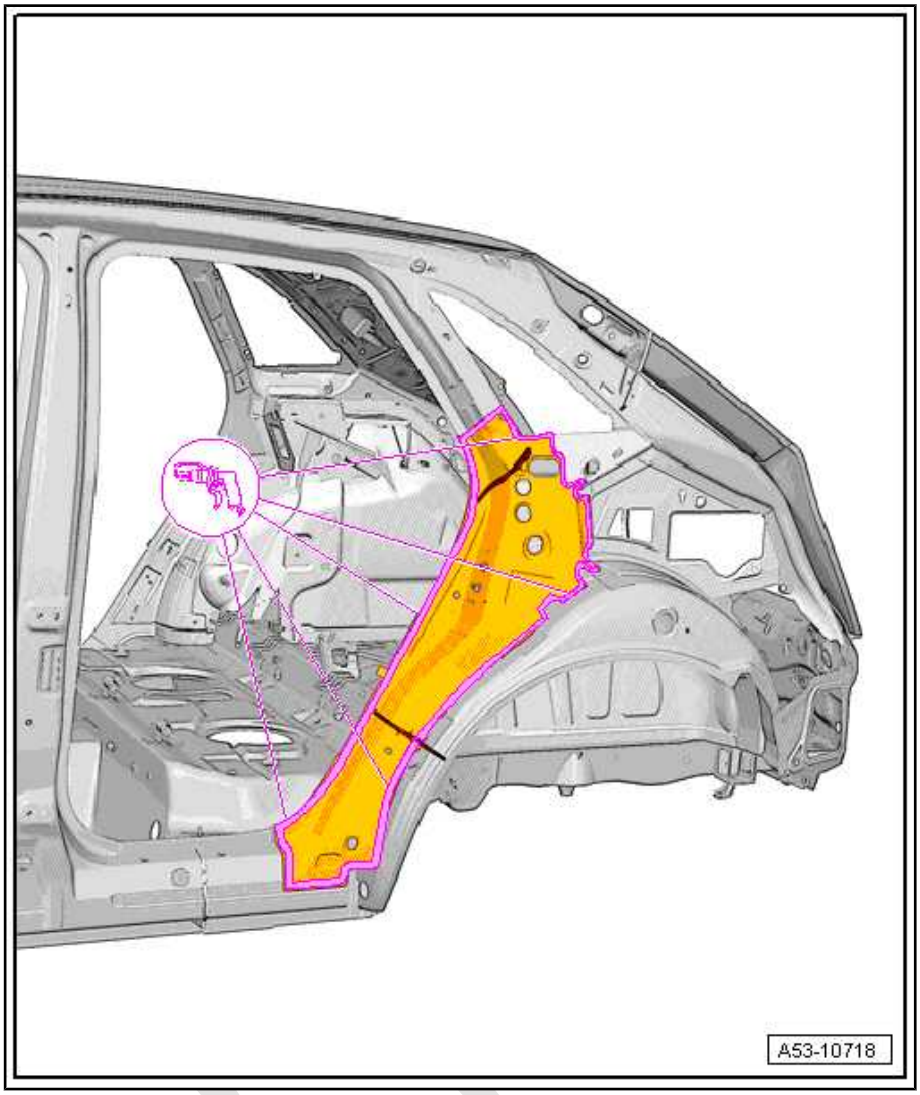

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

## 8.2 Procedure

- Side panel removed ⇒ page 268

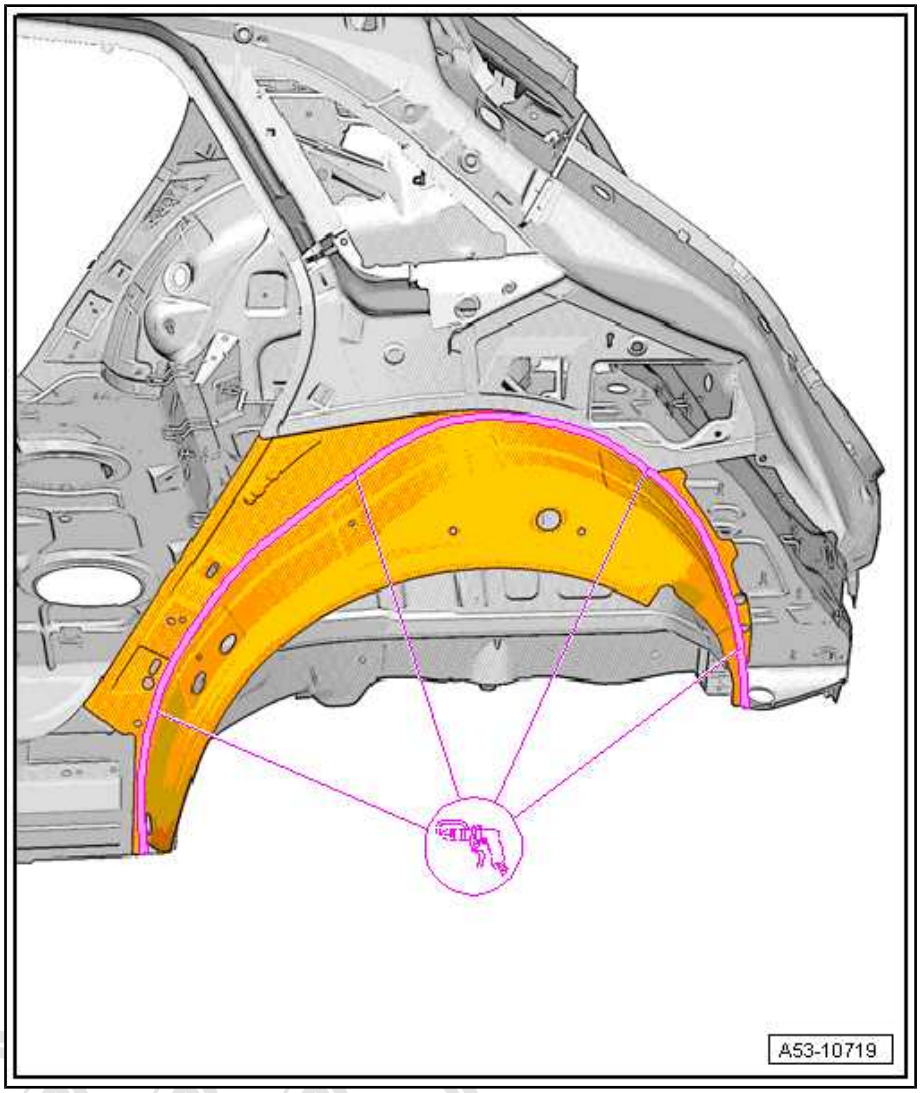
**Cutting locations**

– Separate original joint using spot weld breaker .



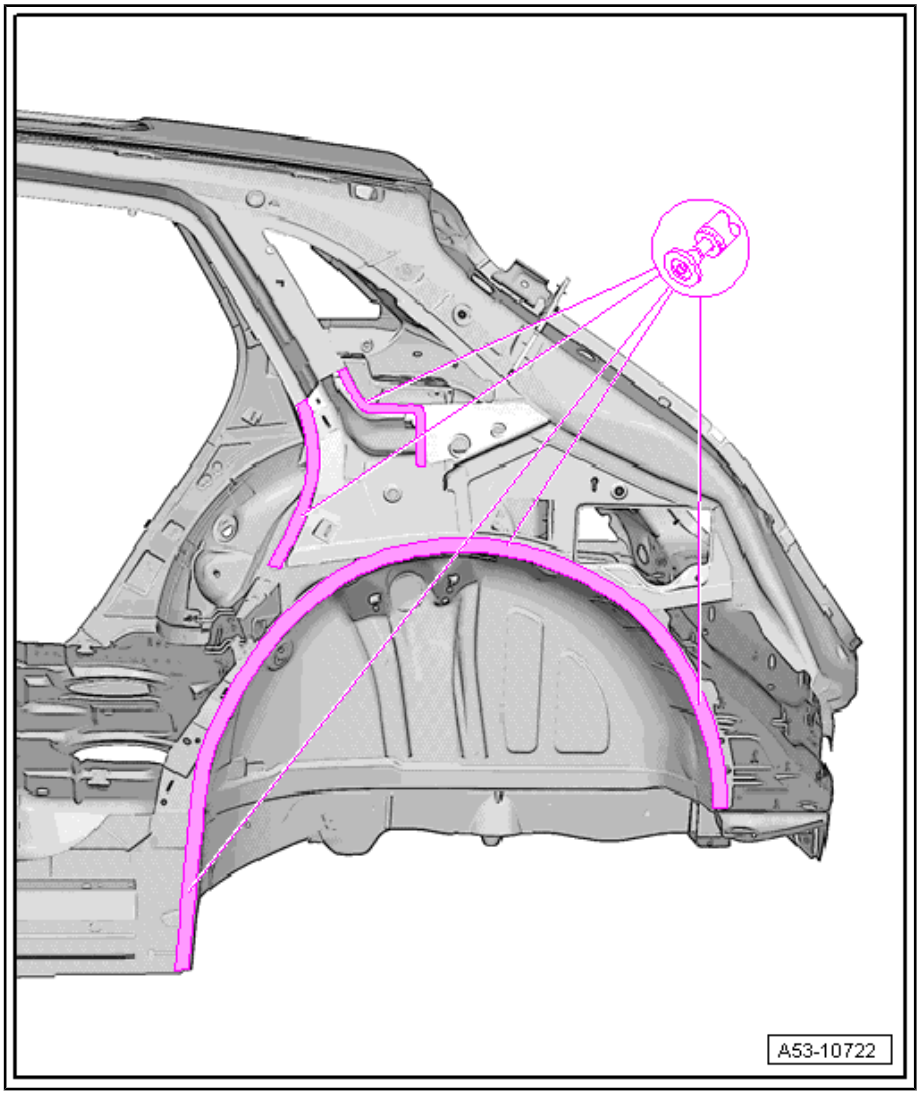

– Separate original joint using spot weld breaker .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




– Remove remaining material using compact angle grinder .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



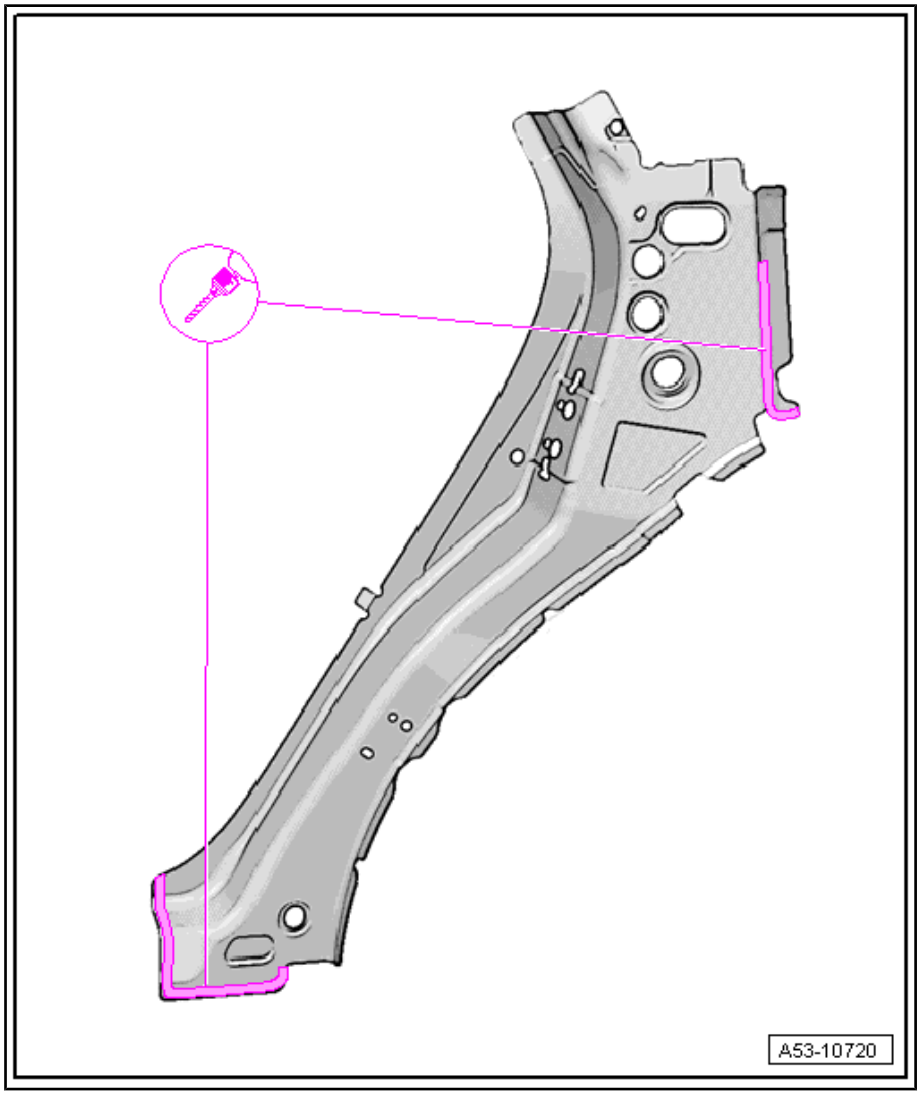

**Replacement part**

- Rear wheel housing liner
- C-pillar reinforcement

**Preparing new part**

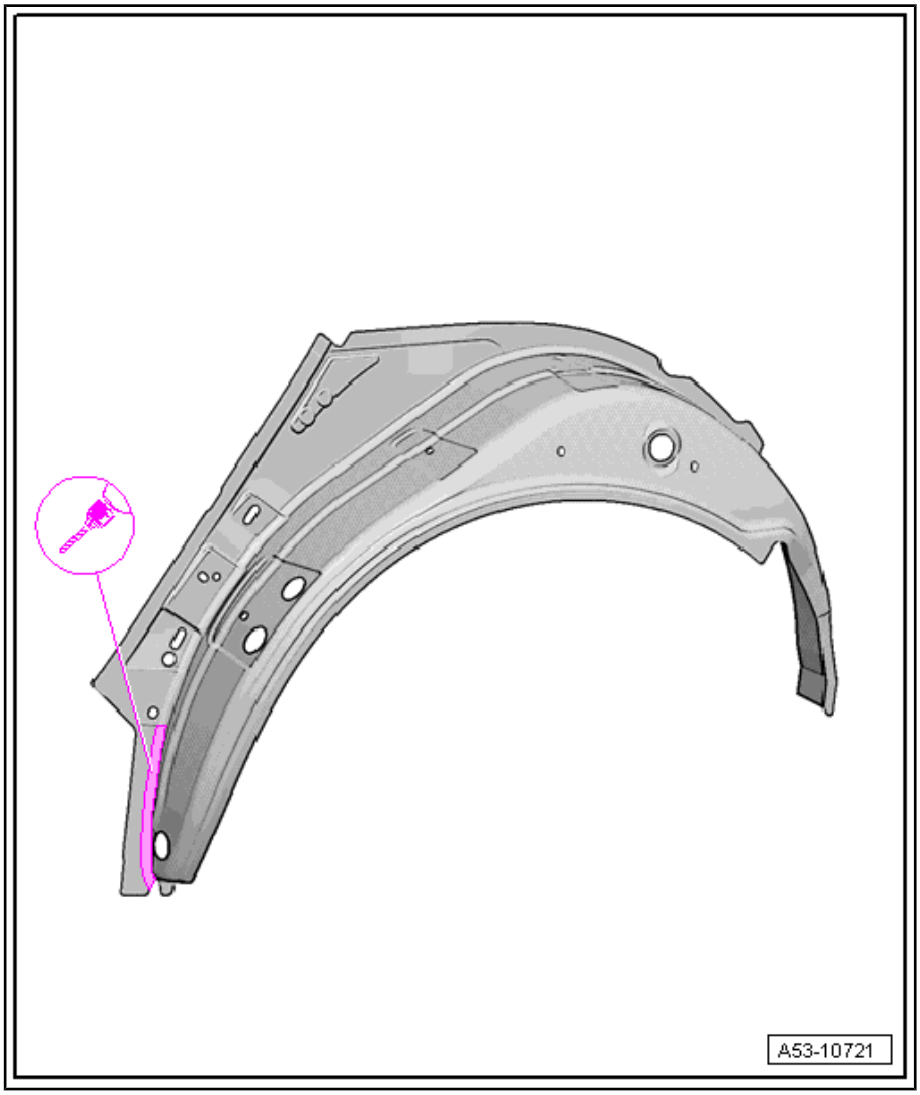
– Drill holes for SG plug weld seam, 8 mm ∅ using drill .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.



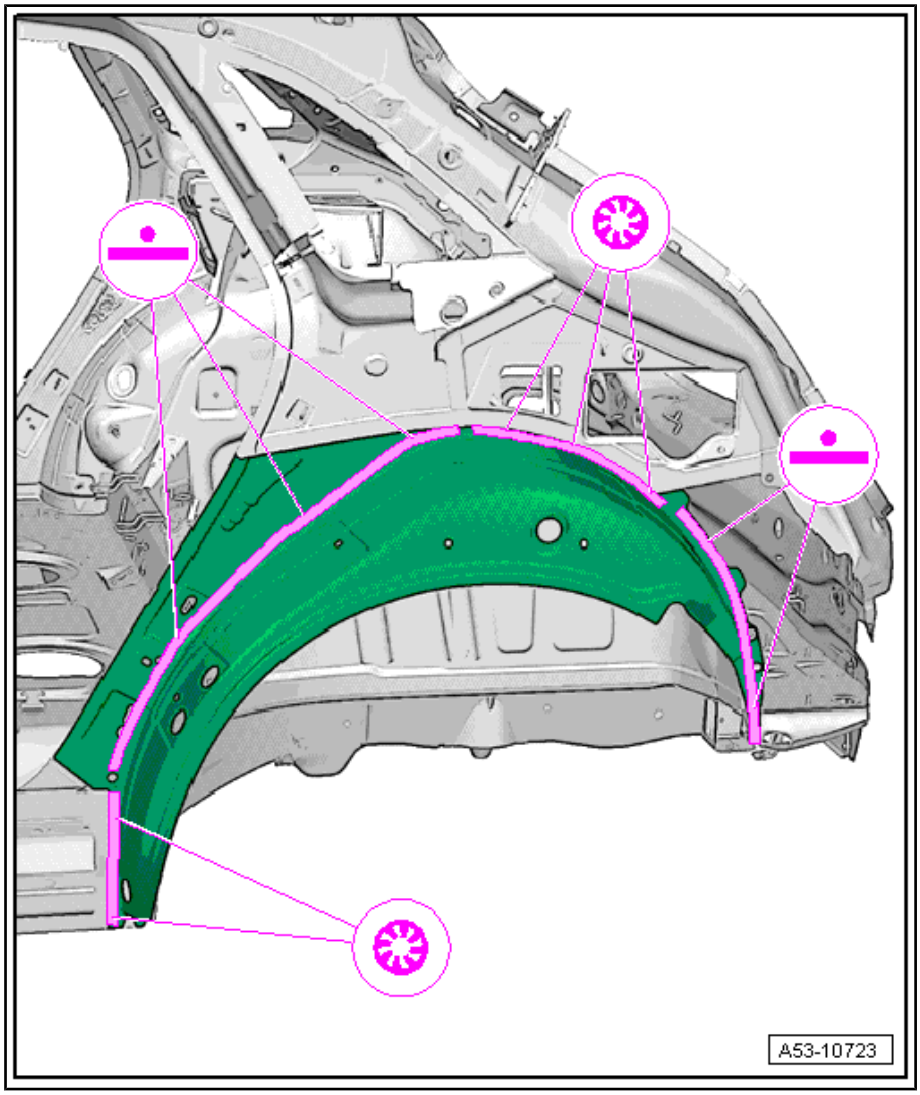

**Note**

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

### Welding in

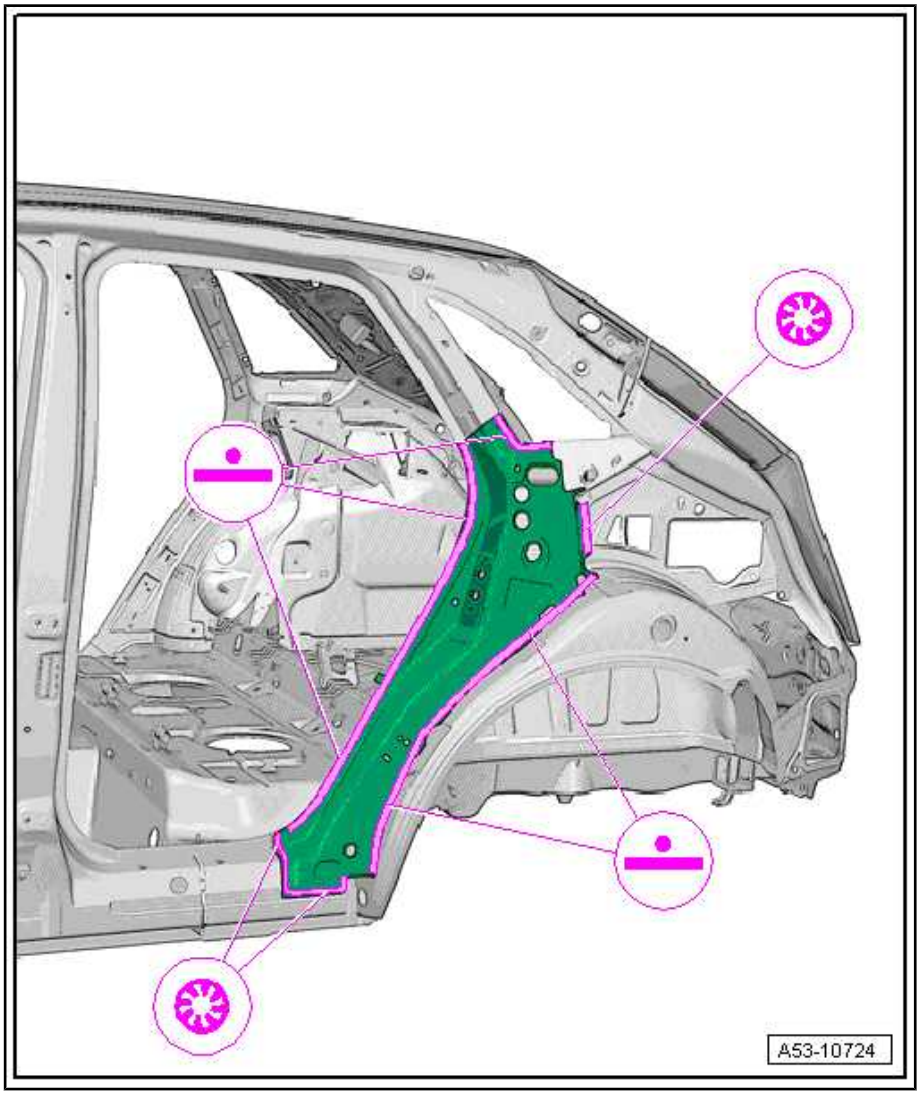
- Weld in wheel housing using shielded arc welding equipment : SG plug weld seam.
- Weld in wheel housing using resistance spot welder : RP spot weld seam.

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




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

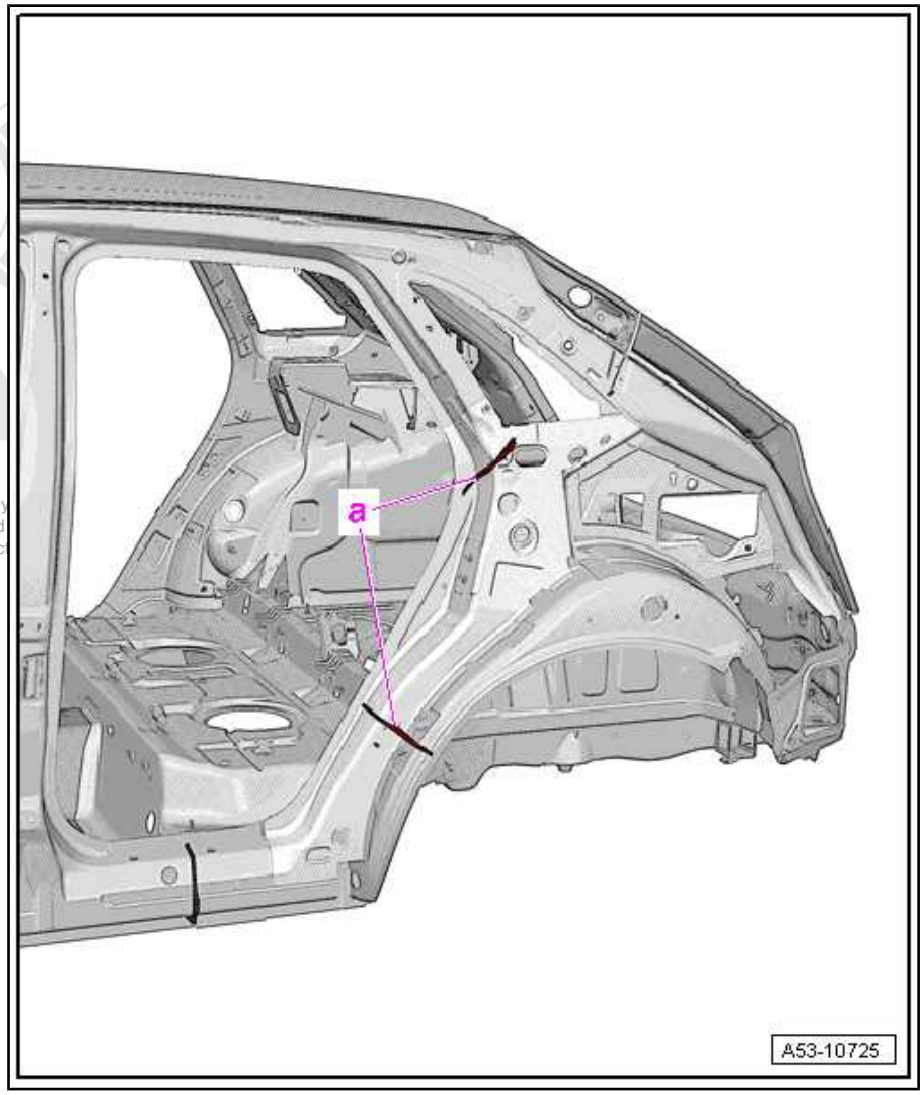
Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.




Fit moulded foam inserts -a- ⇒ page 12 .

Protected by copyright. Copying for private or commercial purposes, in part or in whole, is not permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.

Protected by copyright. Copy
permitted unless authorised
with respect to the correc




- Welding in side panel ⇒ page 268