

Body repairs Audi A4 1995 ➤

Edition 09.1997



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Repair Group overview for Body Repairs

Repair Group

00 - Technical data, materials

50 - Body - front

51 - Body - centre

53 - Body - rear

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

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00 – Technical data, materials

1 Vehicle identification data

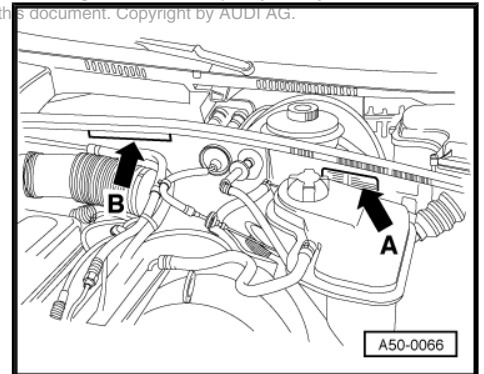
1.1 Type plate and vehicle identification number

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The type plate -A- is located at the rear bulkhead of the engine compartment behind the coolant reservoir.

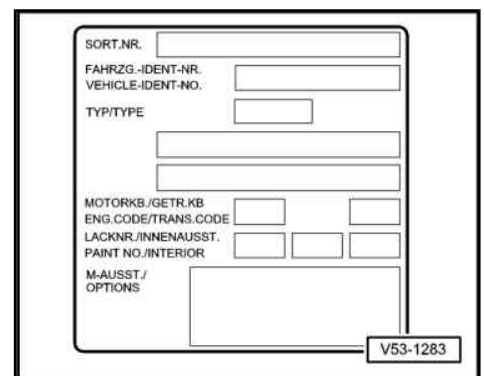
Vehicles for certain export countries have no type plate.

The vehicle identification number -B- (chassis number) is stamped on the rear bulkhead in the engine compartment.



1.2 Vehicle data sticker

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



2 Body dimensions

2.1 Floor group, front

a - $813 \pm 2\text{mm}$

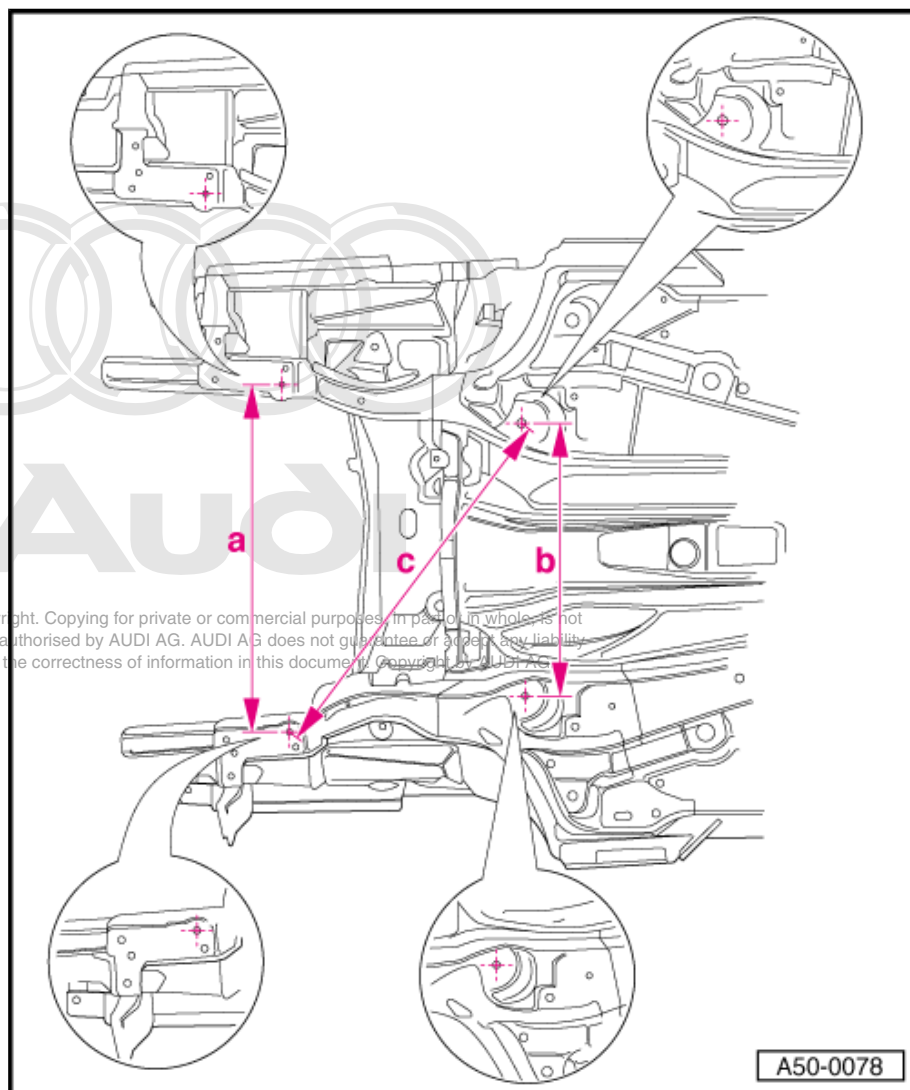
Distance between front attachment points of front axle

b - $620 \pm 2\text{mm}$

Distance between rear attachment points of front axle

c - $901 \pm 2\text{mm}$

Diagonal distance between attachment points of front axle



Caution:

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

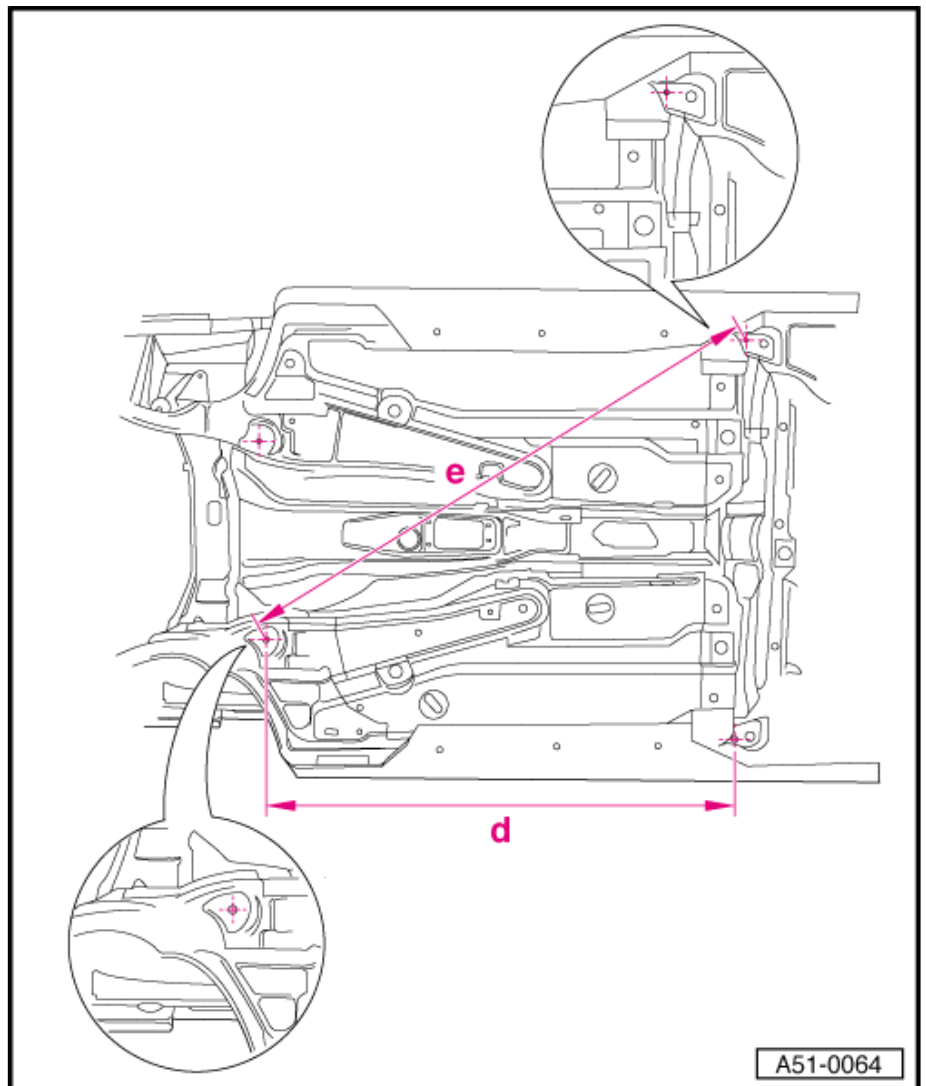
2.2 Floor group, centre

d - 1500 ± 2mm

Distance between rear attachment points of front axle and rear axle mounting

e - 1738 ± 2mm

Diagonal distance between rear attachment points of front axle and rear axle mounting



Caution:

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

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2.3 Floor group, rear (front-wheel drive and quattro)

f - 1240 ± 2mm

Distance between axle mountings

g - 990 ± 2mm

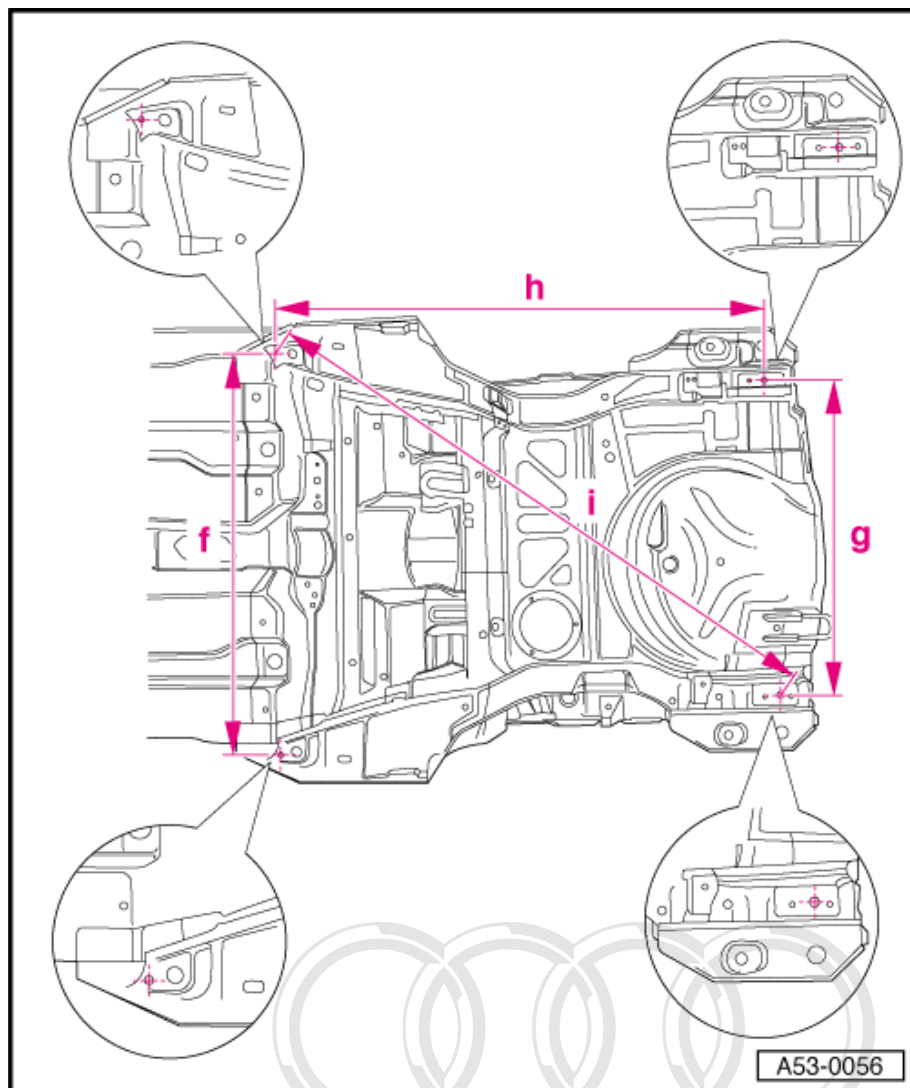
Distance between rear longitudinal members

h - 1530 ± 2mm

Distance between axle mounting and longitudinal member

j - 1890 ± 2mm

Diagonal distance between axle mounting and longitudinal member



Caution:

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

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2.4 Floor group, rear (quattro)

k - $944 \pm 2\text{mm}$

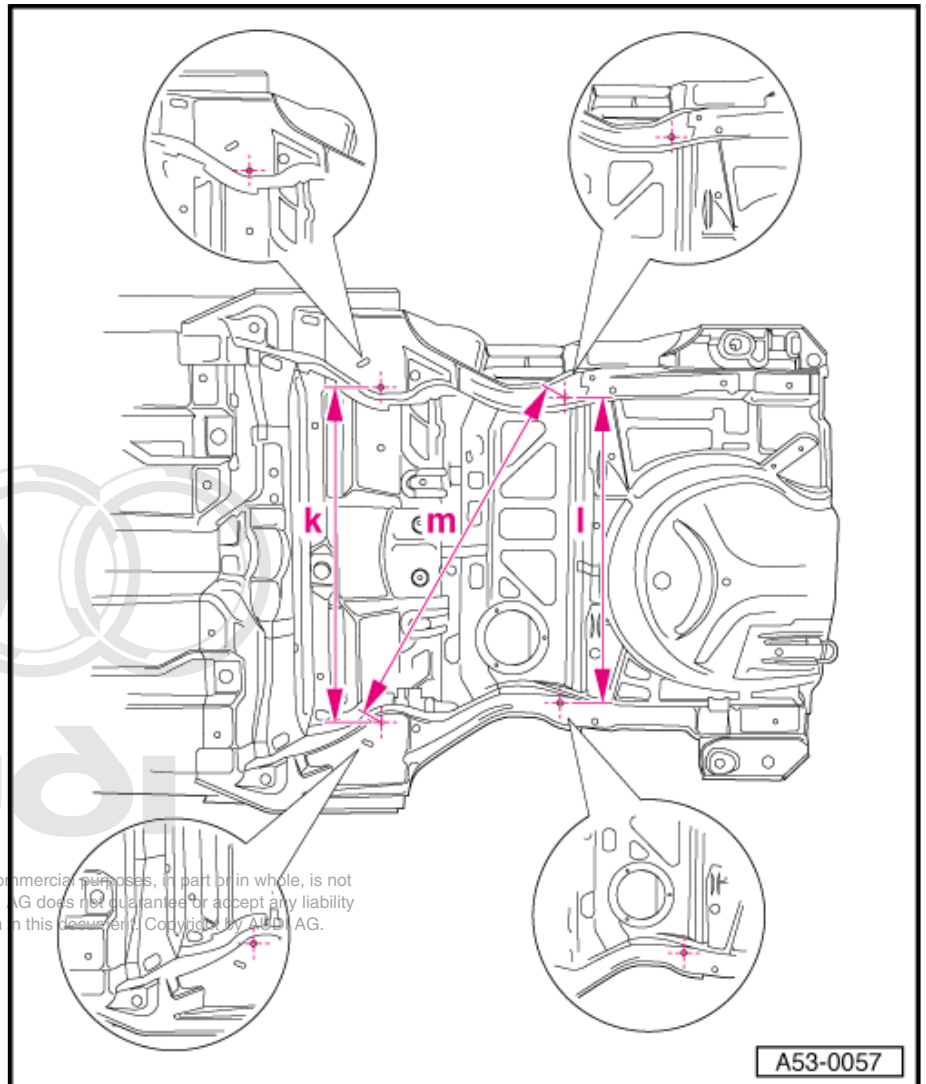
Distance between front attachment points of rear axle

l - $904 \pm 2\text{mm}$

Distance between rear attachment points of rear axle

m - $1069 \pm 2\text{mm}$

Diagonal distance between attachment points of rear axle



Caution:

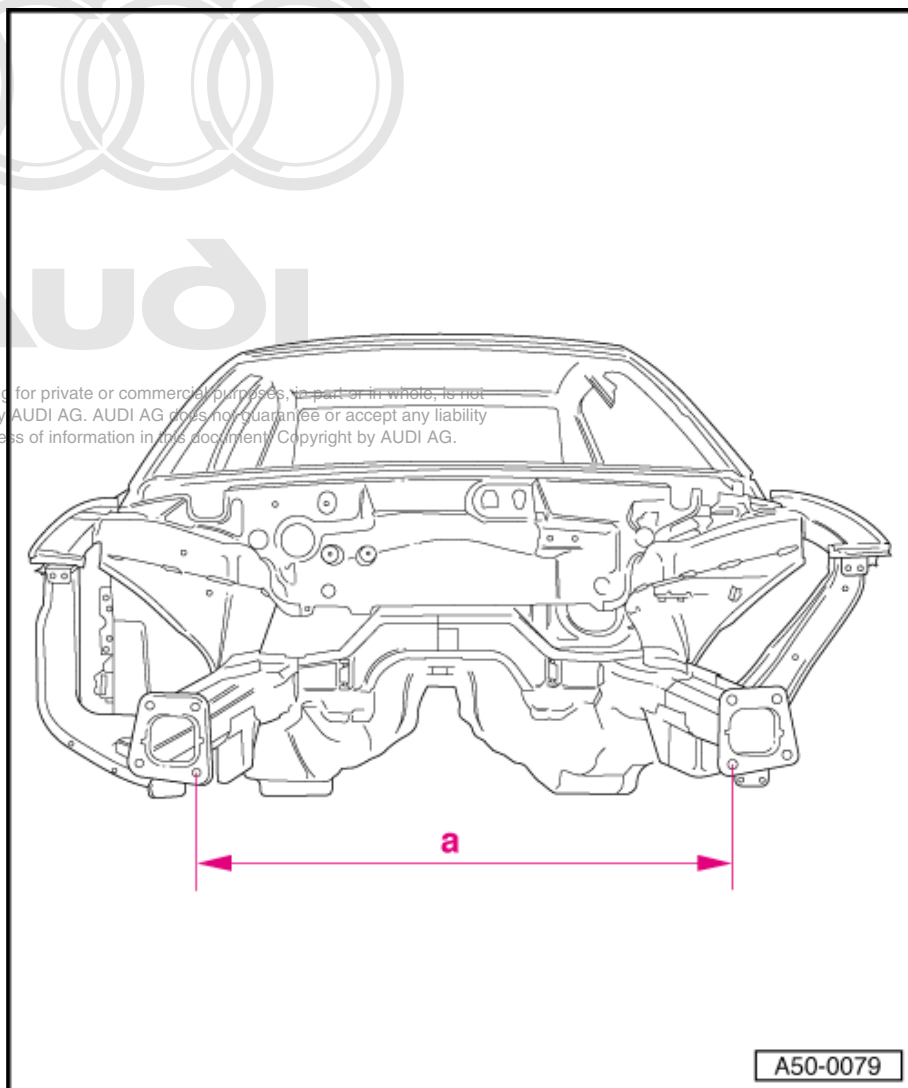
These dimensions only serve as a check. Correct dimensions are defined by the alignment bracket set.

2.5 Body - front

a - $820 \pm 2\text{mm}$

Distance between front longitudinal members

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b - 1400 ± 2mm

Distance between front hinge attachment points

c - 1310 ± 2mm

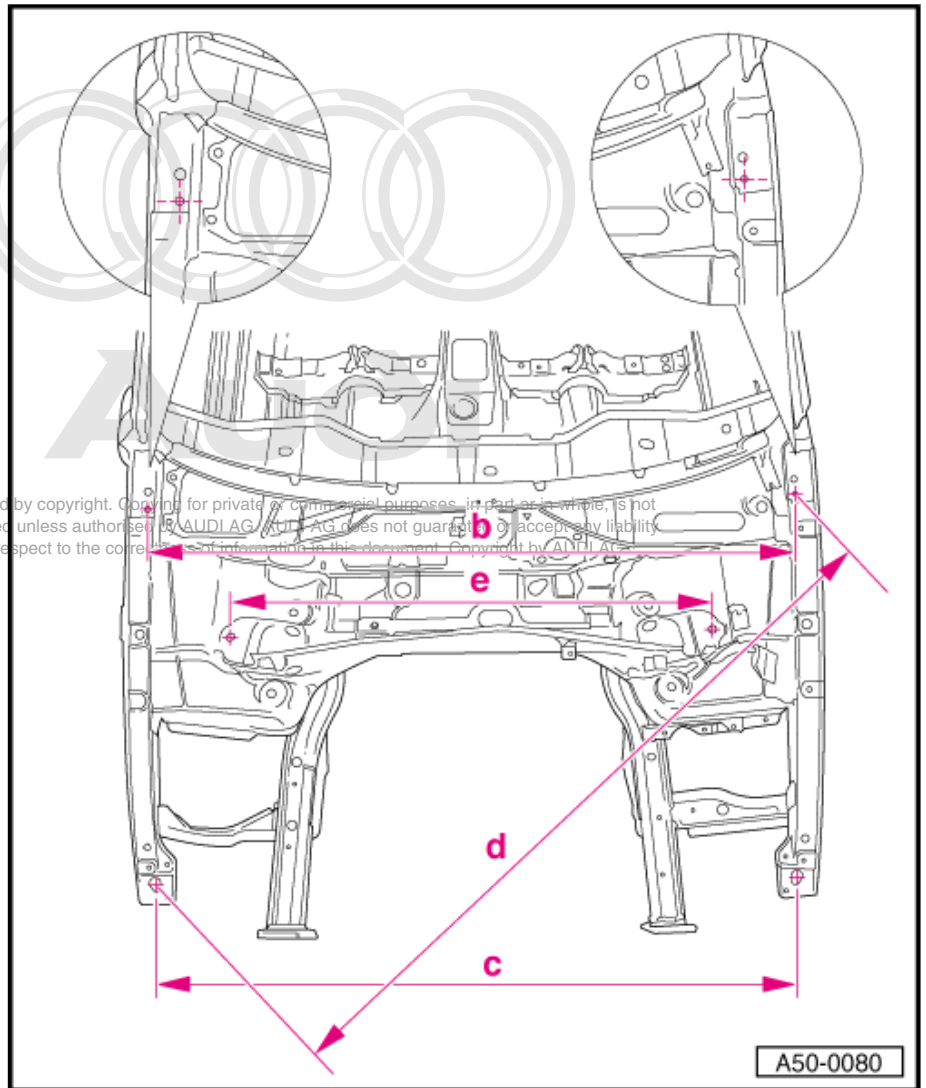
Distance between wing panel mountings

d - 1575 ± 2mm

Diagonal distance between hinge attachment points and wing panel mounting

e - 1028 ± 2mm

Distance between outer attachment points of strut holder



Caution:

Distance -e- only serves as a check. Correct dimensions are defined by the alignment bracket set.

2.6 Body - centre

2.6.1 Front door opening

a - $1402 \pm 2\text{mm}$

Distance between A-pillars

b - $1412 \pm 2\text{mm}$

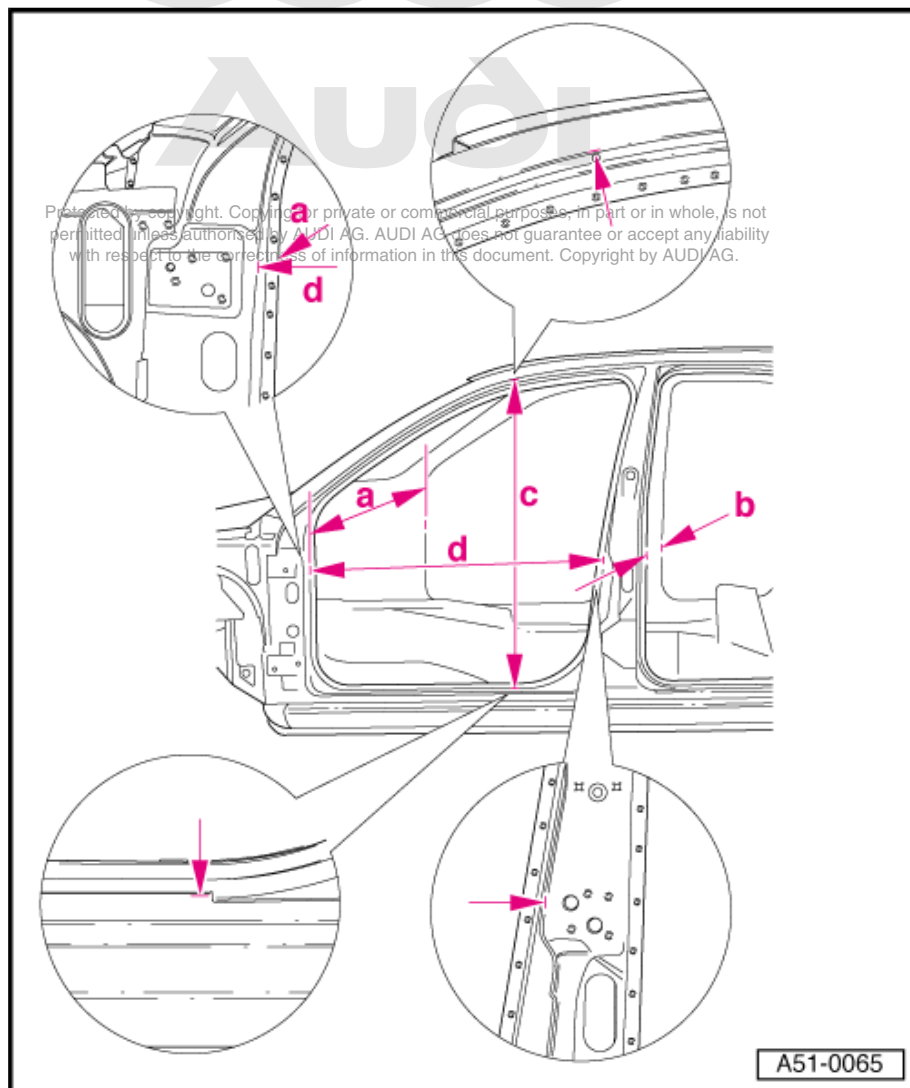
Distance between B-pillars

c - $990 \pm 2\text{mm}$

Height of door opening

d - $940 \pm 2\text{mm}$

Distance between A-pillar and
B-pillar



2.6.2 Rear door opening

e - $1352 \pm 2\text{mm}$

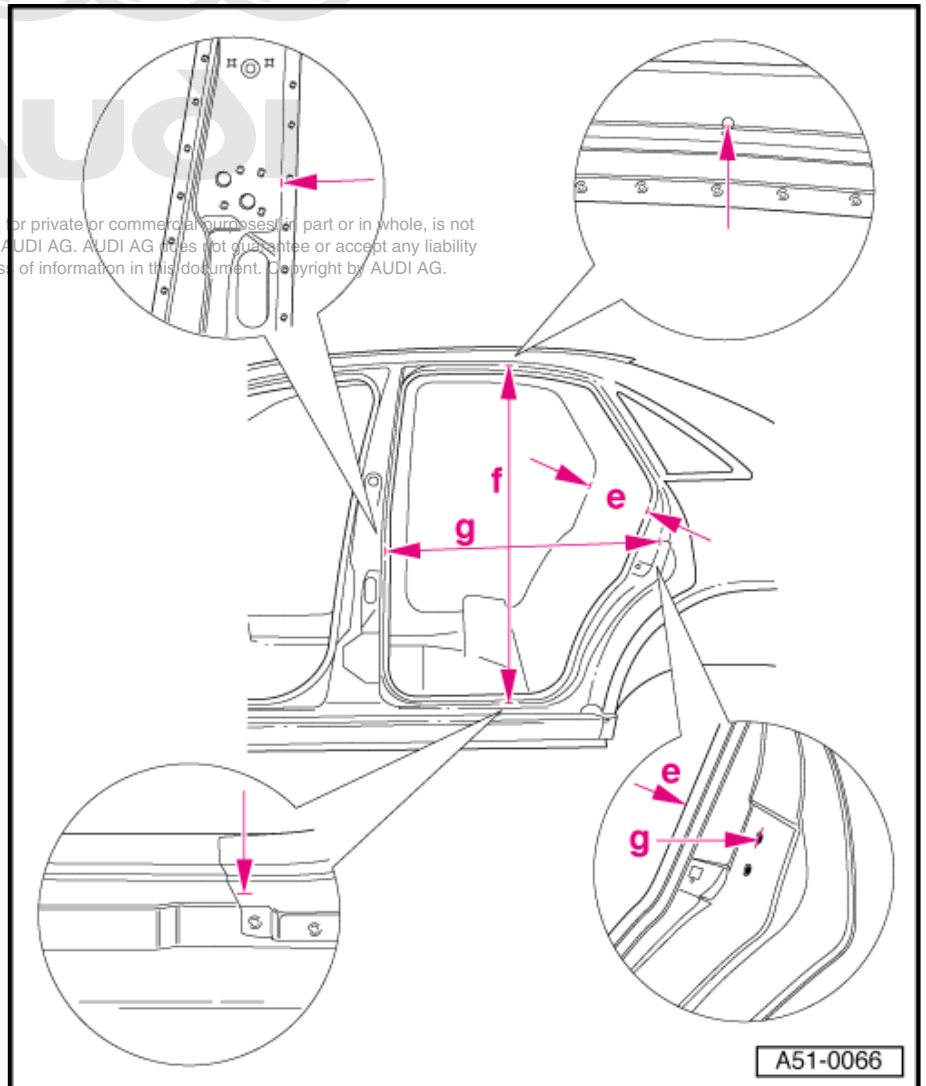
Distance between C-pillars

f - $1007 \pm 2\text{mm}$

Height of door opening

g - $777 \pm 2\text{mm}$

Distance between B-pillar and C-pillar



2.6.3 Rear door opening (Avant)

n - $1352 \pm 2\text{mm}$

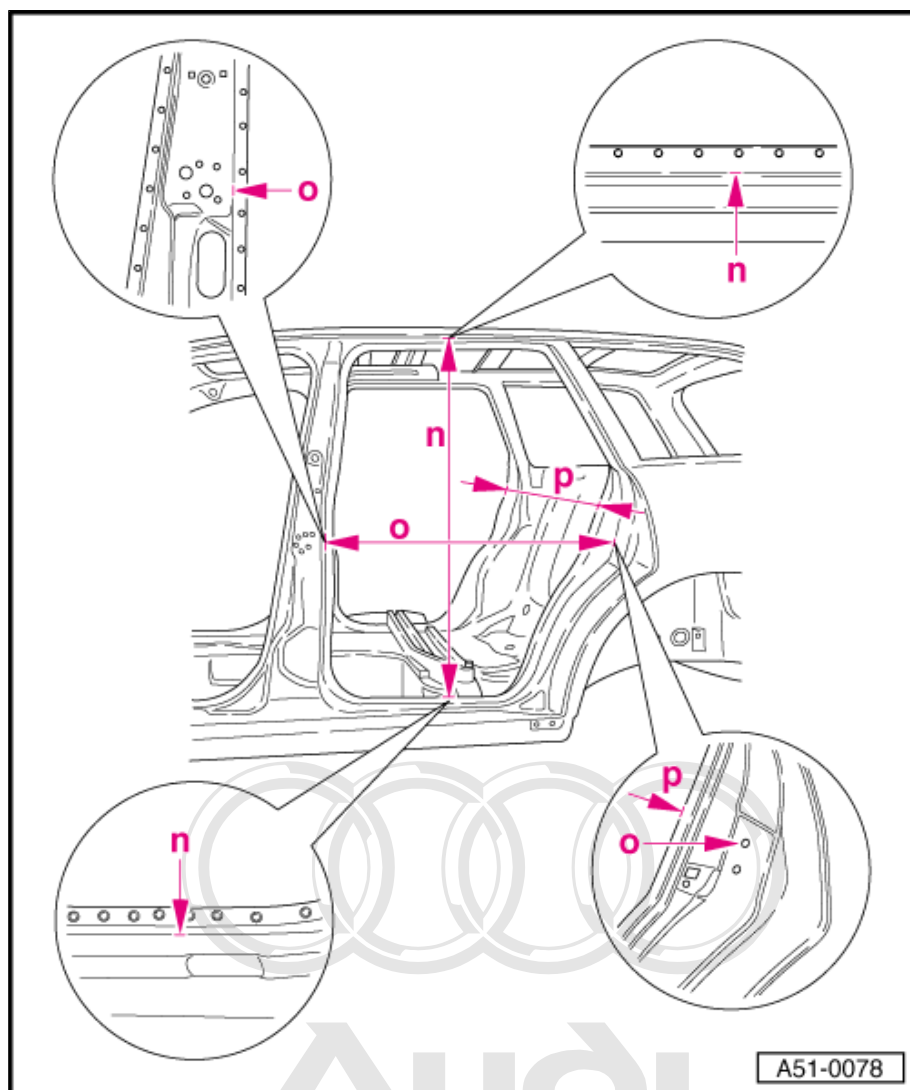
Distance between C-pillars

o - $777 \pm 2\text{mm}$

Height of door opening

p - $777 \pm 2\text{mm}$

Distance between B-pillar and C-pillar



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2.7 Body - rear

h - $1170 \pm 2\text{mm}$

Distance between side panels
(top)

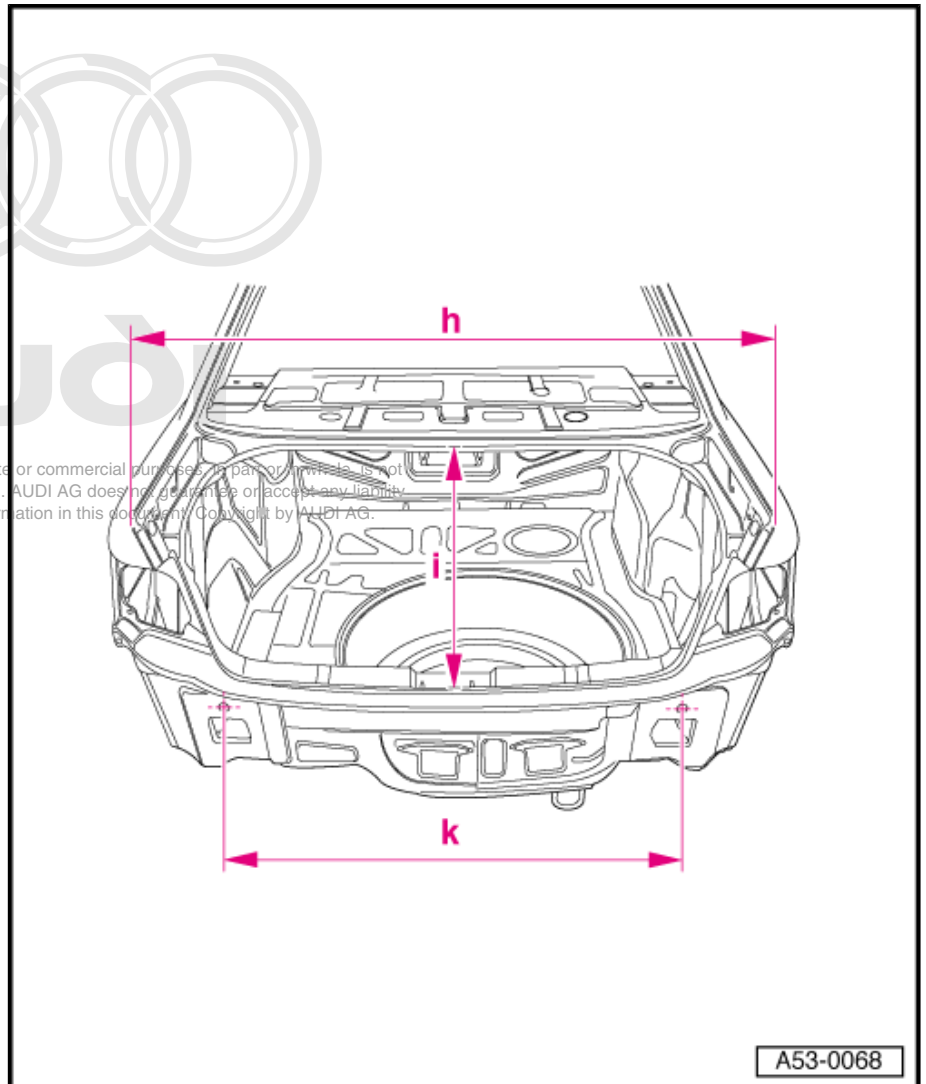
j - $480 \pm 2\text{mm}$

Distance between rear cross
panel flange and flange on win-
dow cross member

k - $990 \pm 2\text{mm}$

Distance between rear longitu-
dinal members

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A53-0068

2.8 Body - rear (Avant)

h - $1007 \pm 2\text{mm}$

Distance between side panels
(top)

j - $1368 \pm 2\text{mm}$

Distance between side panels
(bottom)

k - $1150 \pm 2\text{mm}$

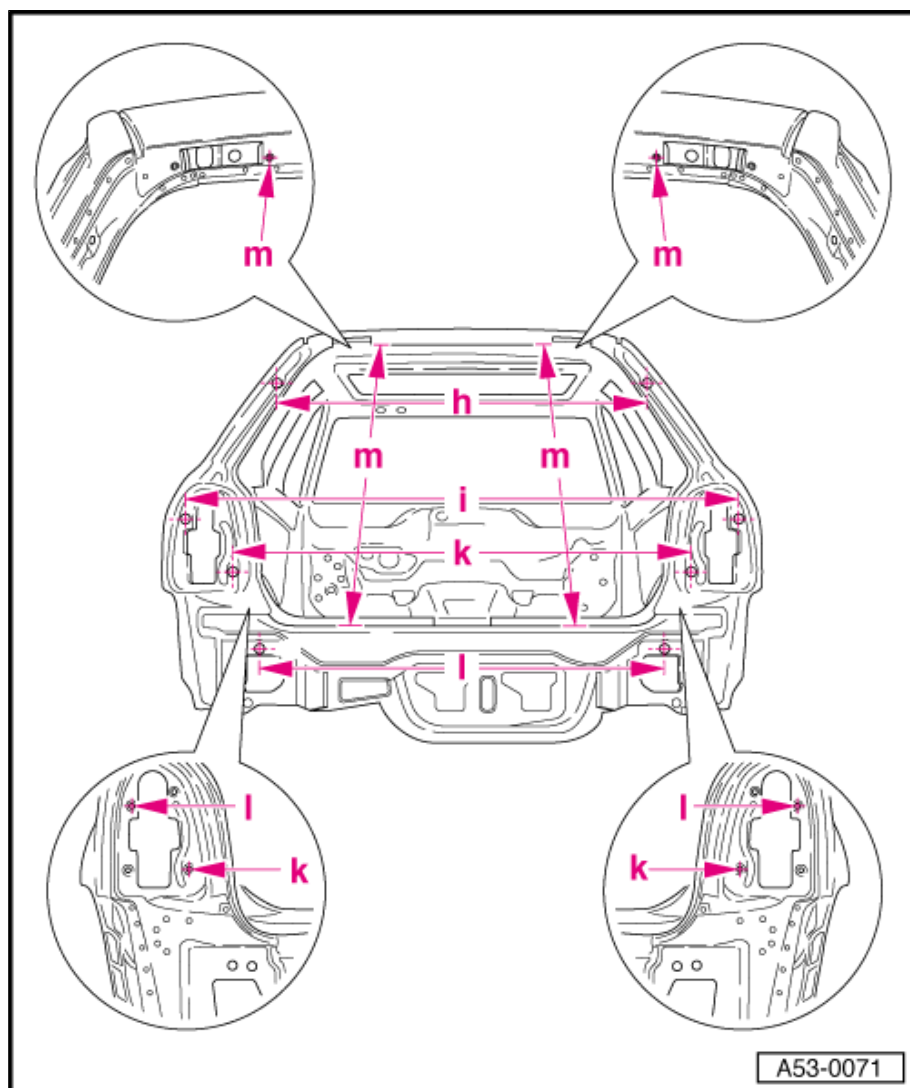
Distance between mounting
drillings for tail light cluster at
bottom

l - $1007 \pm 2\text{mm}$

Distance between rear longitudi-
nal members

m - $850 \pm 2\text{mm}$

Distance between roof flange
and flange on window cross
member



A53-0071



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3 Body panel gaps/shut lines

3.1 Body - front

Use special tool 3371 for checking or adjusting.

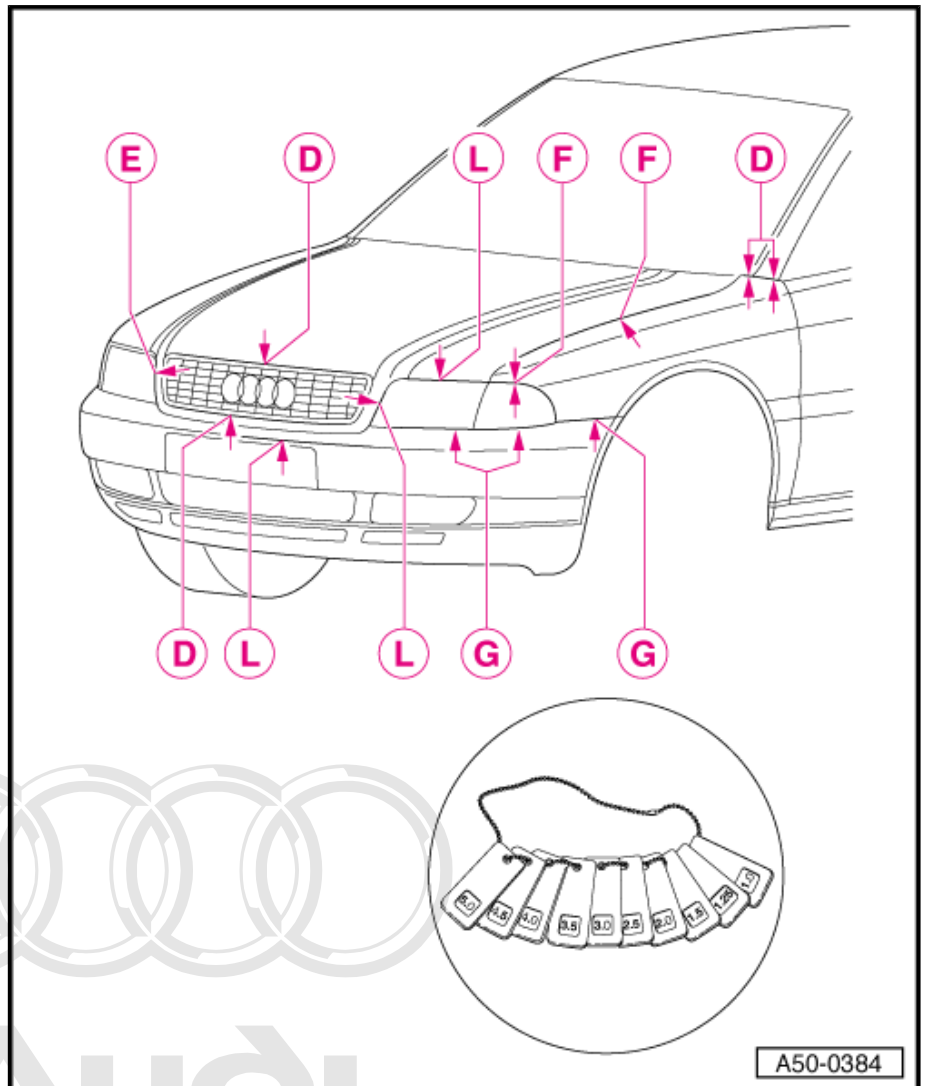
D - 2.0 mm

E - 2.5 mm

F - 3.0 mm

G - 3.5 mm

L - 6.0 mm



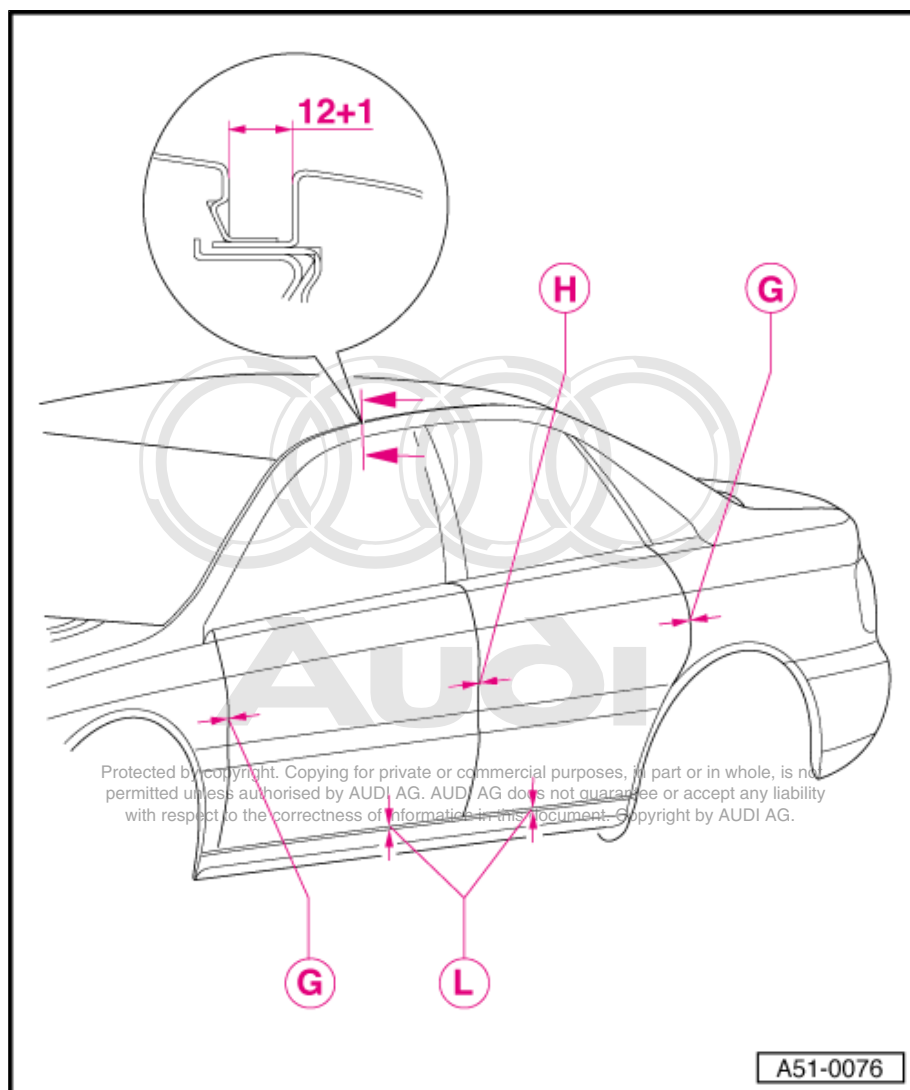
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3.2 Body - centre

G - 3.5 mm + 1

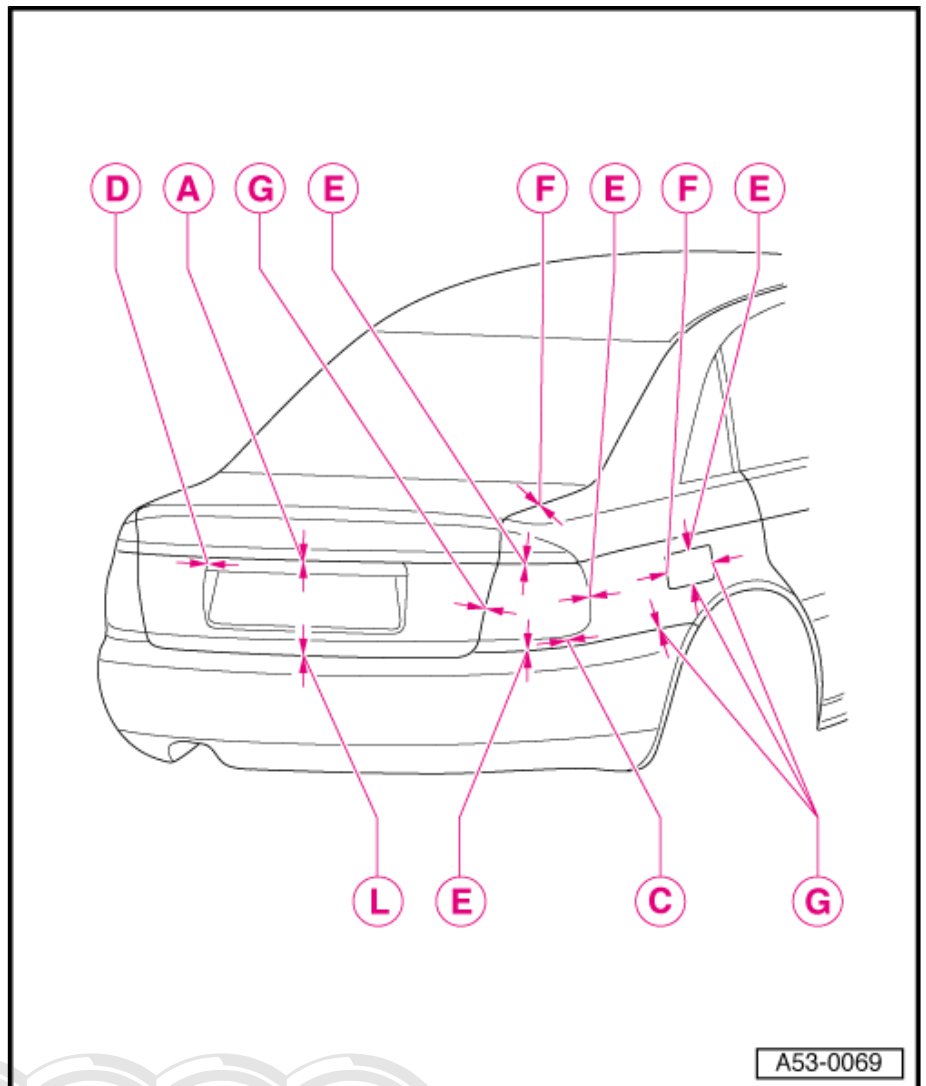
H - 4.0 mm + 1

L - 6.0 mm



3.3 Body - rear

- A - 1.0 mm
- C - 1.5 mm
- D - 2.0 mm
- E - 2.5 mm
- F - 3.0 mm
- G - 3.5 mm
- L - 6.0 mm



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3.4 Body - rear (Avant)

D - 2.0 mm

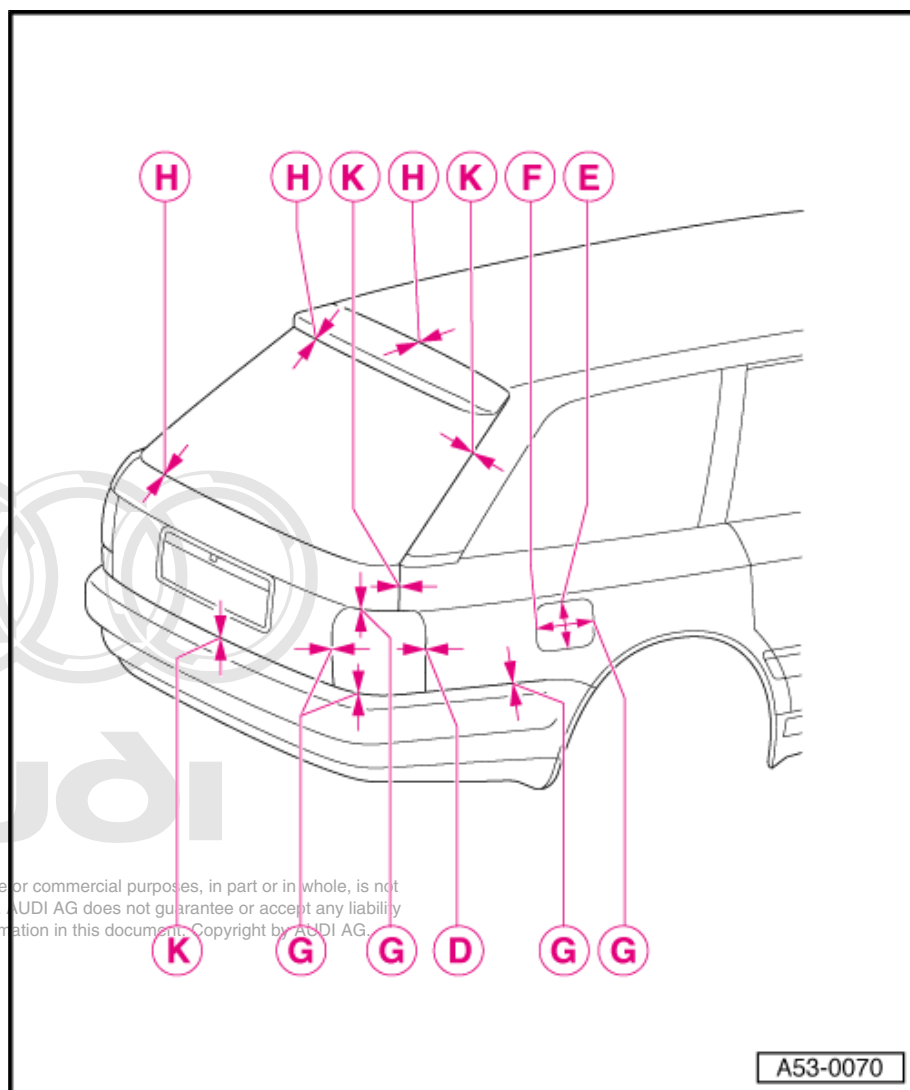
E - 2.5 mm

F - 3.0 mm

G - 3.5 mm

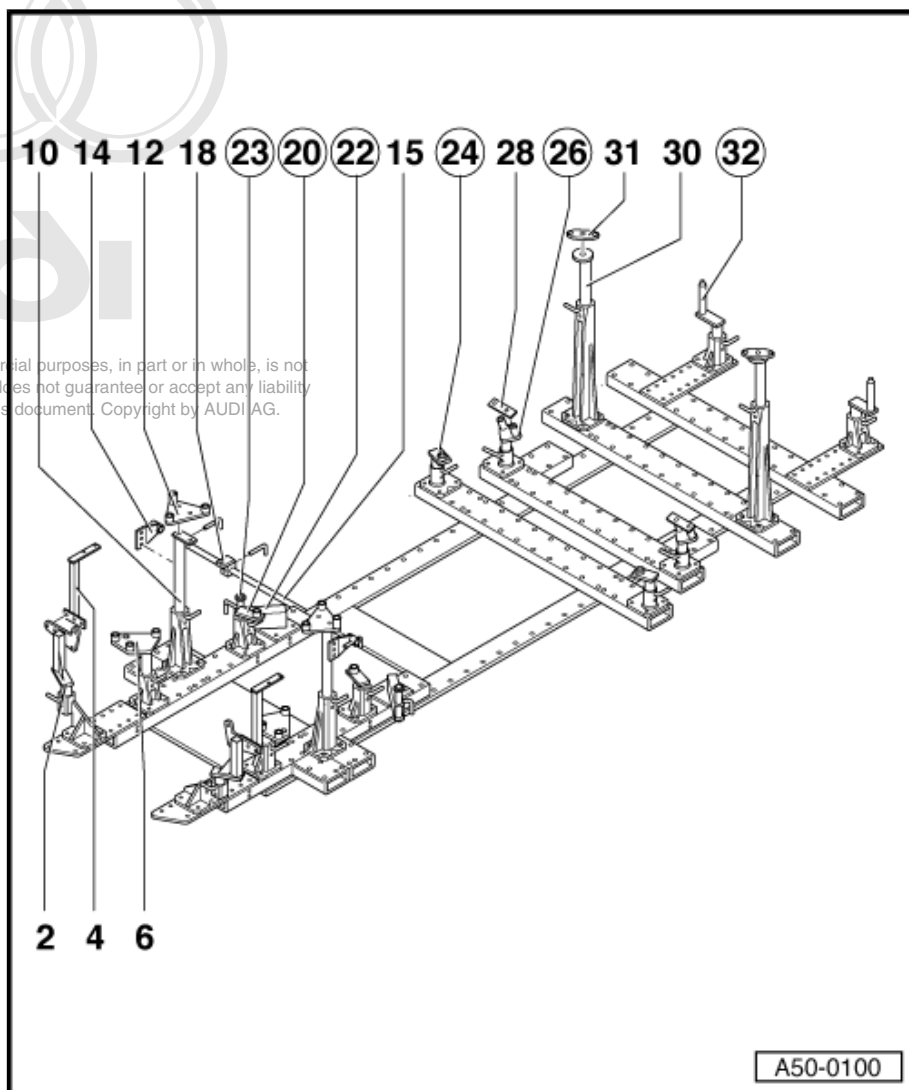
H - 4.0 mm

K - 5.0 mm



4 Straightening jig

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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 for checking the body with and without mechanical units are marked with a circle.
- ◆ The required basic set size is given for the alignment bracket mountings.
- ◆ The following illustrations show the right side of the vehicle.

Alignment bracket set Alignment bracket set Audi A4 95 -V.A.G
1932- incl. quattro

Alignment bracket set Alignment bracket set Audi A4 95 > -V.A.G
1932/1- not incl. quattro

2 - MZ 141 and TV 400

4 - MZ 141, TV 400 and mounting -2-

6 - MZ 140

10 - MZ 260

12 - MZ 260 and alignment bracket mounting -10-

14 - Mounting for bar

15 - Bar in place of steering box

18 - Mounting for steering

20 - MZ 140

22 - Bracket without MZ and front production mounting -23-

23 - Left and right mounting identical

24 - MZ 080

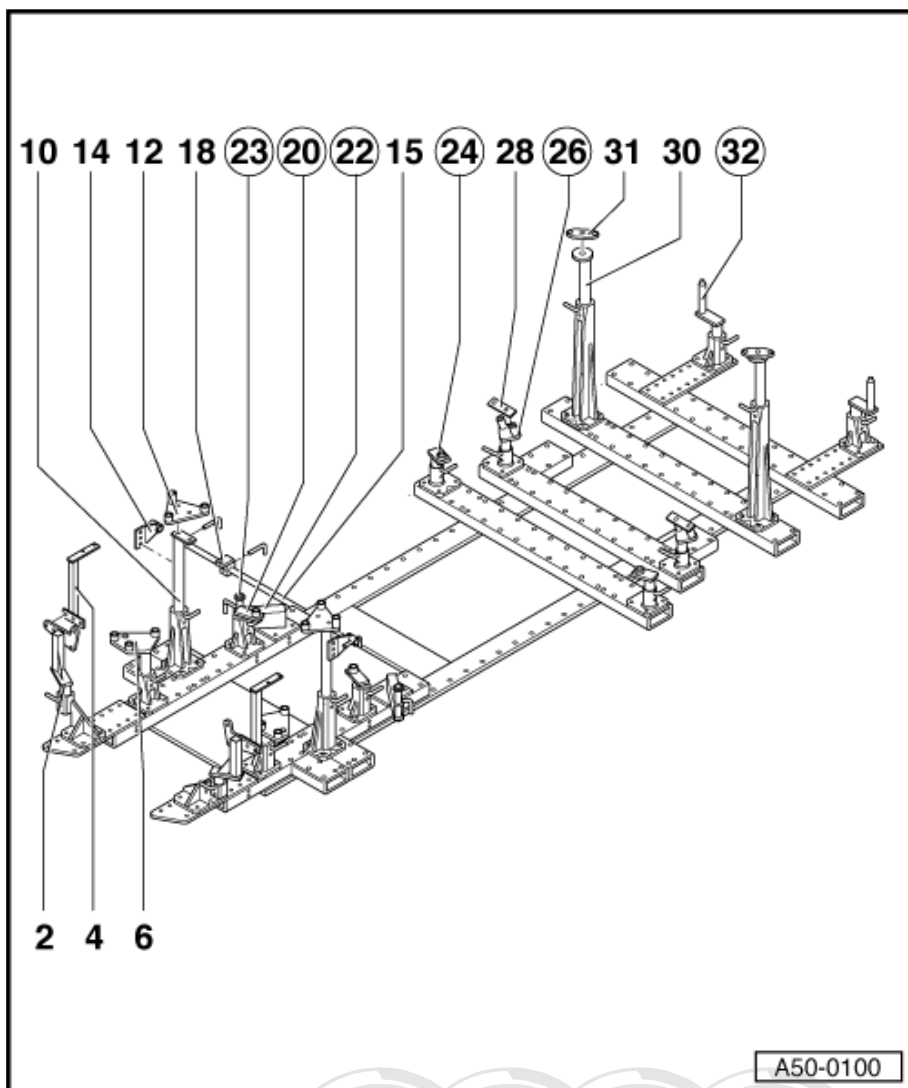
26 - MZ 080

28 - Left and right spacer identical

30 - MZ 602

31 - Left and right centring piece identical

32 - MZ 140 and TV 400 with straightening jig -VAG 1365- (MZ 140 and transverse module with straightening jig - VAG 1695/1-)

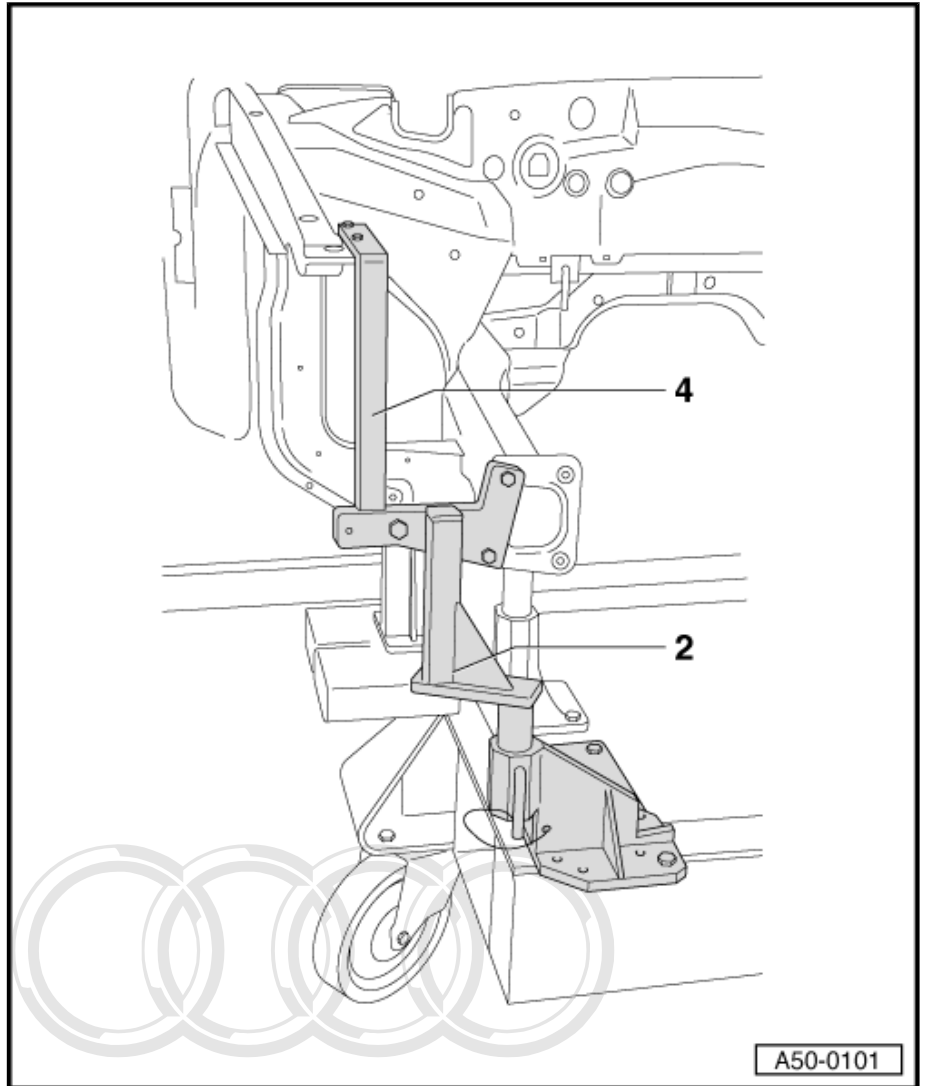


Overview of front alignment brackets

2 - Front longitudinal member

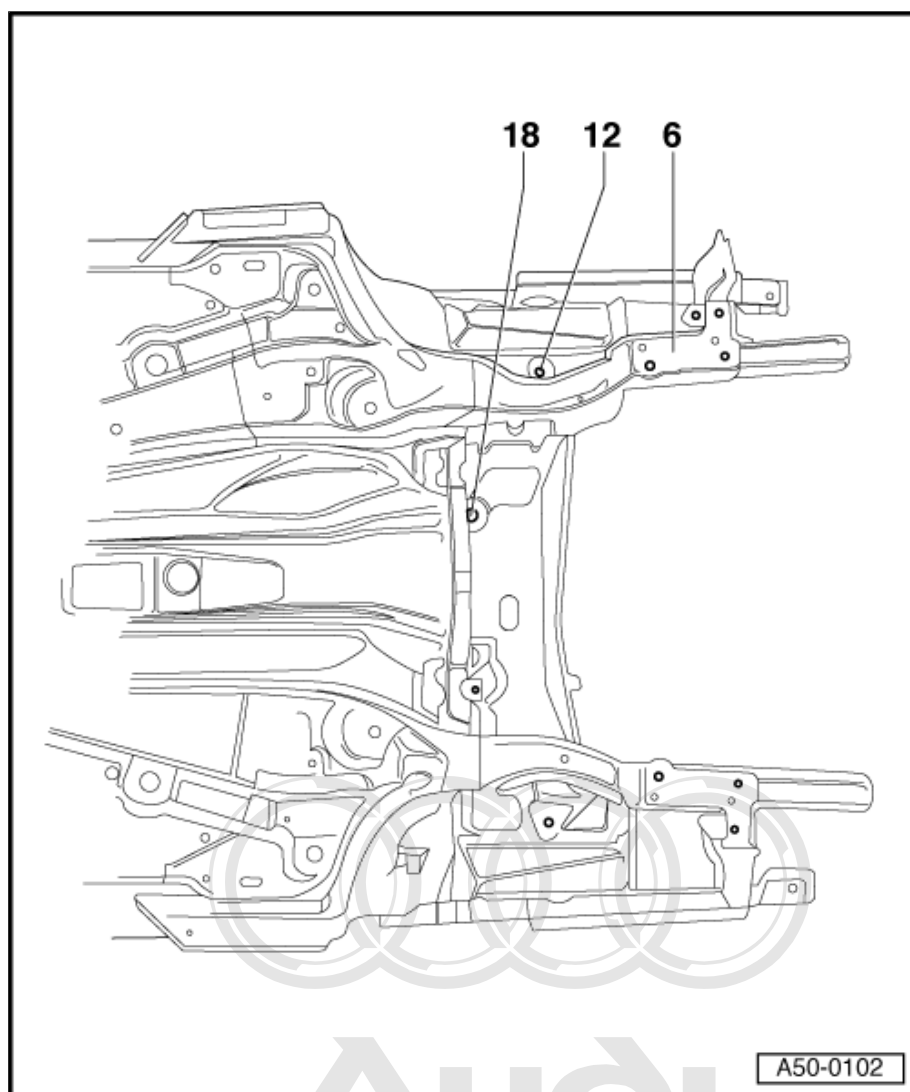
When checking, bolt on MZ last, as the longitudinal position of the impact absorber mounting can vary by several mm due to production tolerances - if necessary do not bolt down.

4 - Front longitudinal member / top of wheel housing



Overview of front alignment brackets

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6 - Mounting for subframe

Redrill master hole when performing partial renewal. Prepare by drilling with 8 mm bit through drill guide and then drill out to 20 mm with a centre-bit.

10 - Mounting for alignment brackets -12- and -14-

Do not insert pin until after fitting body on jig.

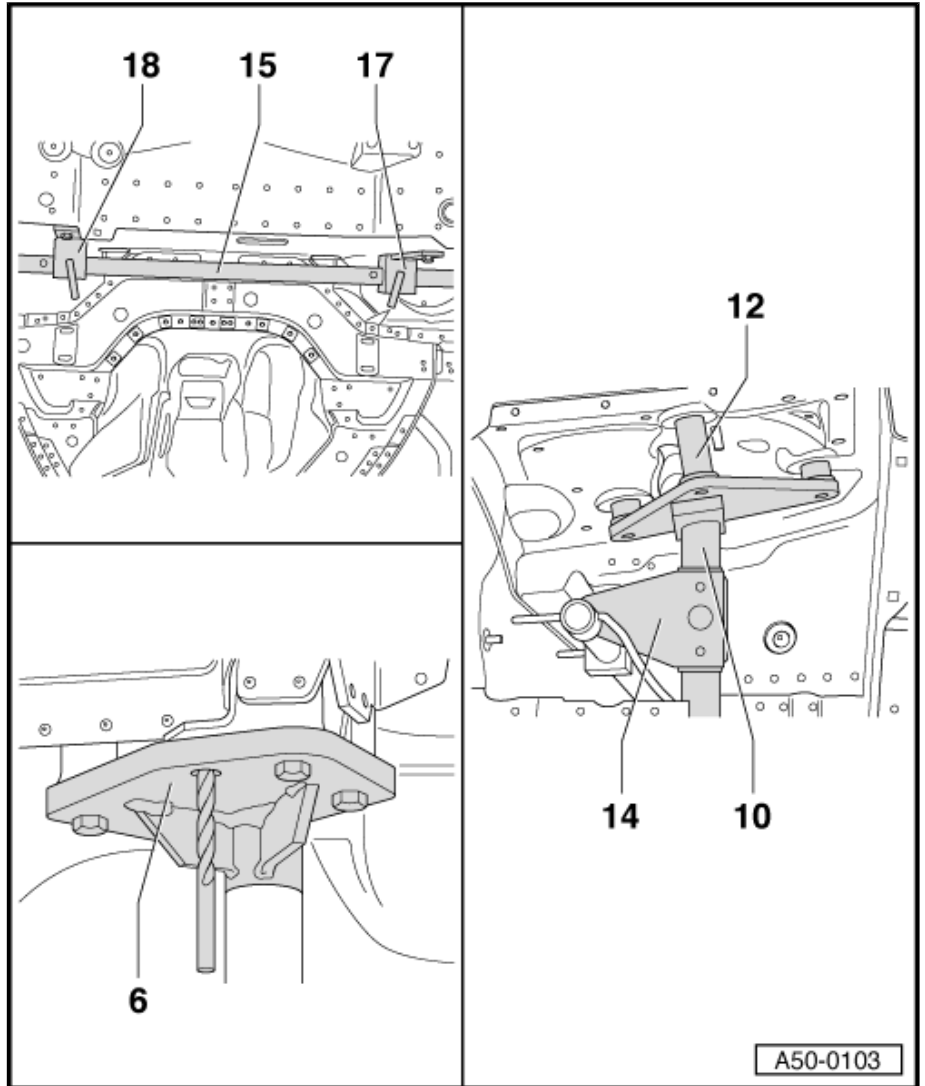
12 - Strut holder

14 - Mounting for bar

15 - Bar in place of steering box

Lubricate bar with oil and take care to avoid damage.

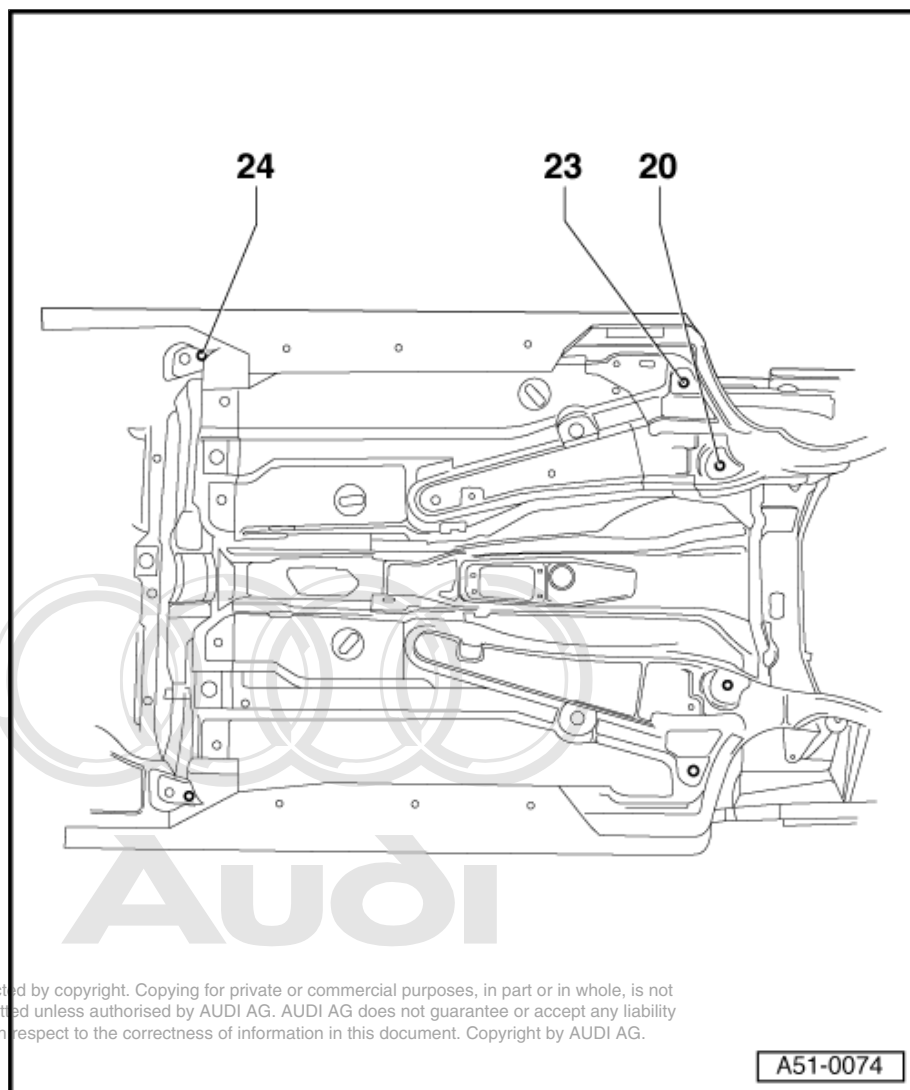
18 - Mounting for steering



Overview of centre alignment brackets



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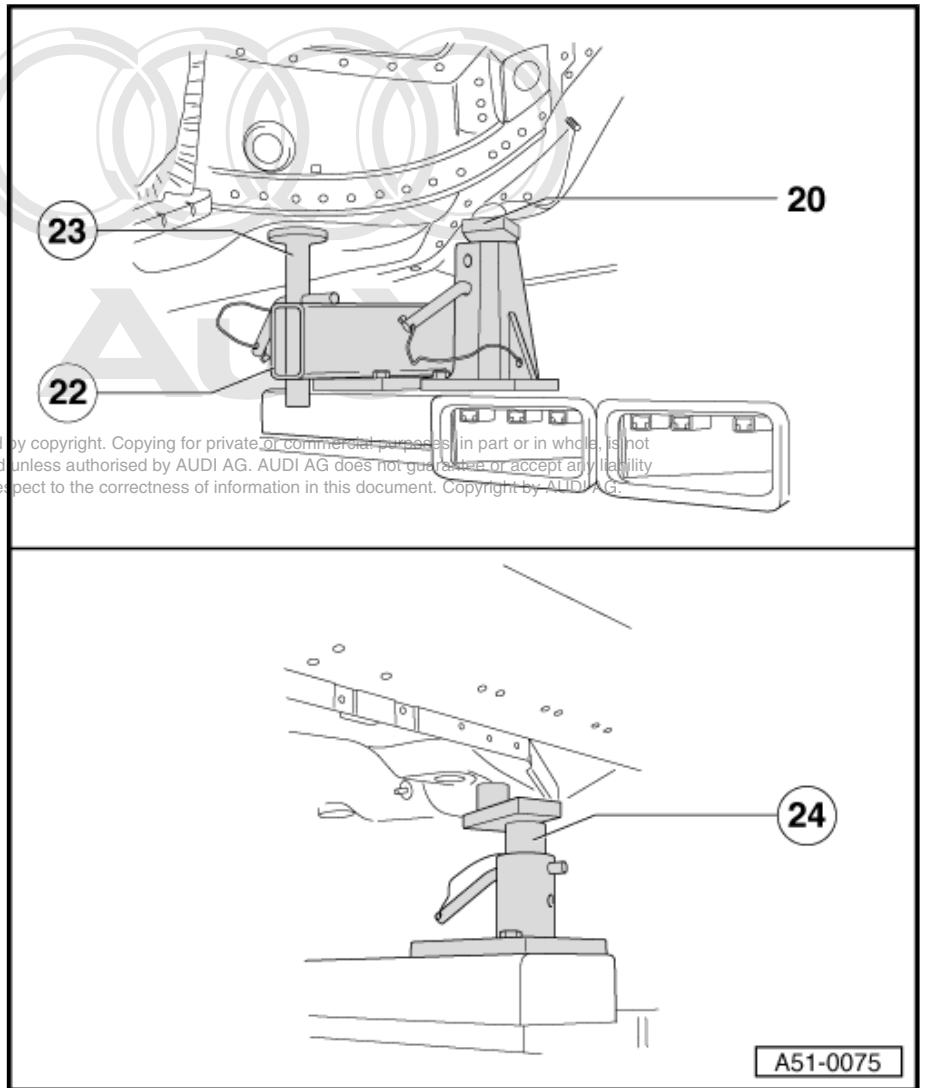
20 - Mounting for subframe

22 - Bracket

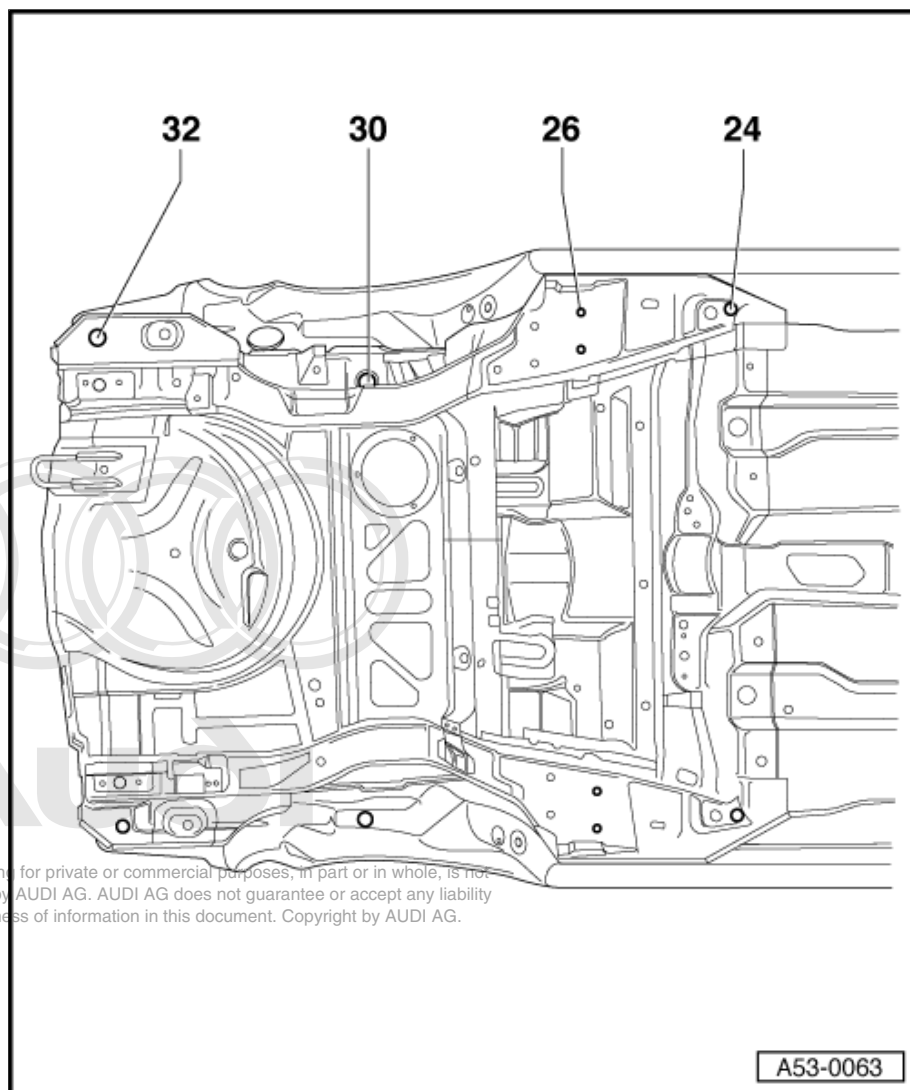
23 - Front production mounting

May have been forced upwards by handling vehicle in factory: when checking dimensions, pack with spacer up to 4 mm if necessary.

24 - Drilling in longitudinal member



Overview of rear alignment brackets



26 - Mounting for rear axle

Do not insert pin until after fitting body on jig.

28 - Left and right spacer identical

Only use with rear axle removed.

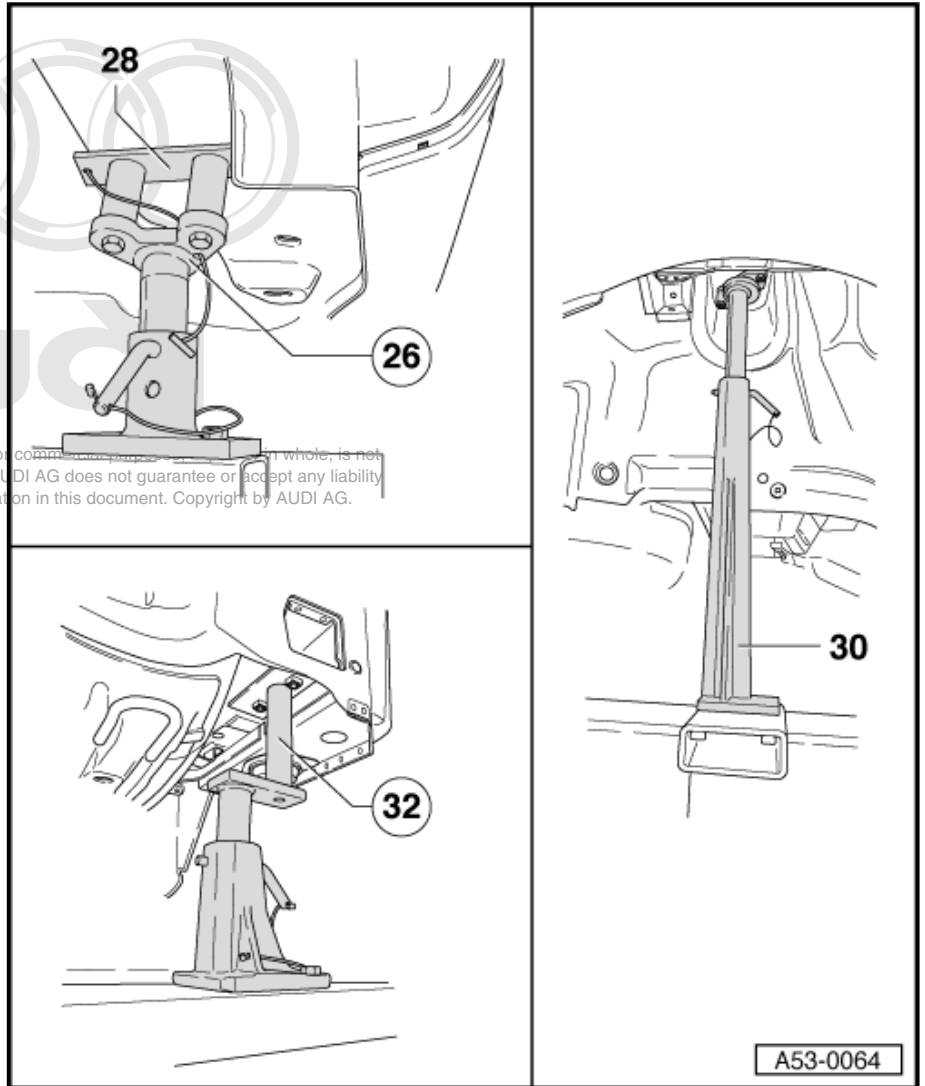
30 - Strut holder

Do not insert pin until after fitting body on jig.

31 - Strut holder

32 - Drilling in longitudinal member

The drilling is covered over with fabric-backed tape and sprayed over with underseal. Re-seal drilling after checking.



4.1 Supplement for quattro

When setting up the alignment bracket mountings -26- to -30-, fit spacers -34- beneath the transverse module.

The alignment bracket mountings -24- to -30-, marked with an asterisk, can be taken from the alignment bracket set - VAG 1722- .

24 - MZ 200

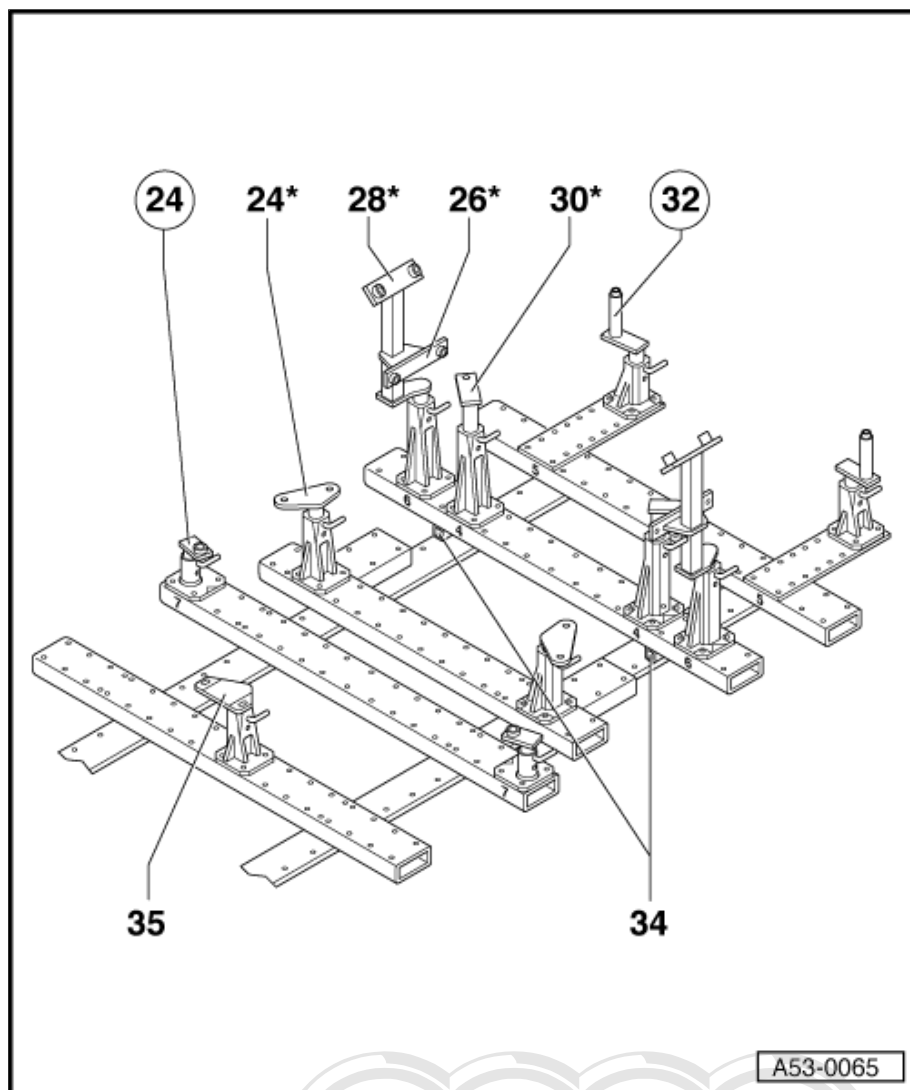
26 - MZ 260

28 - MZ 260 and alignment
bracket mounting -26-

30 - MZ 260

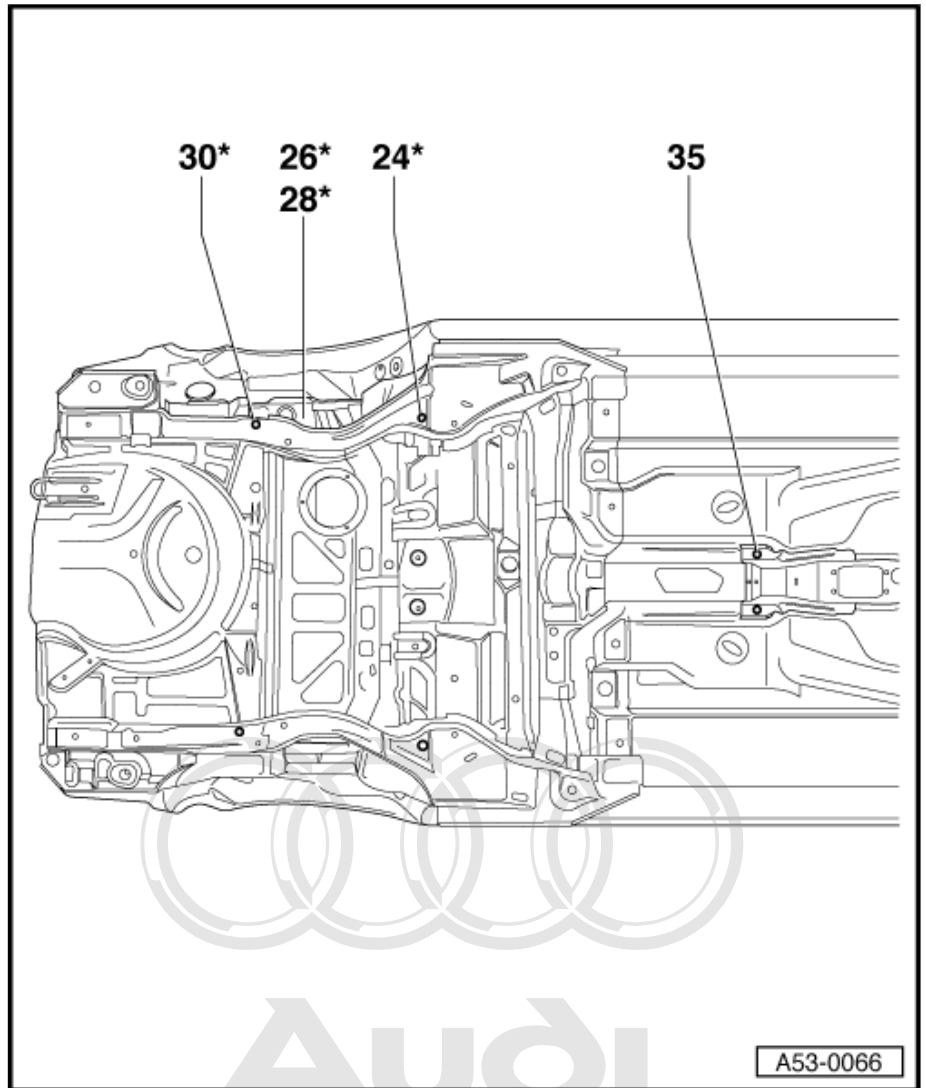
35 - MZ 140

The mountings -24- -25- and
-32- -33- are identical to front-
wheel drive.



Overview of alignment brackets for quattro

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24 - Mounting for subframe

Only rear mounting provided.
Secure MZ in lower position.

26 - Strut holder

The drilling is covered over with fabric-backed tape and sprayed over with underseal.
Re-seal drilling after checking.

Do not insert pin until after fitting body on jig.

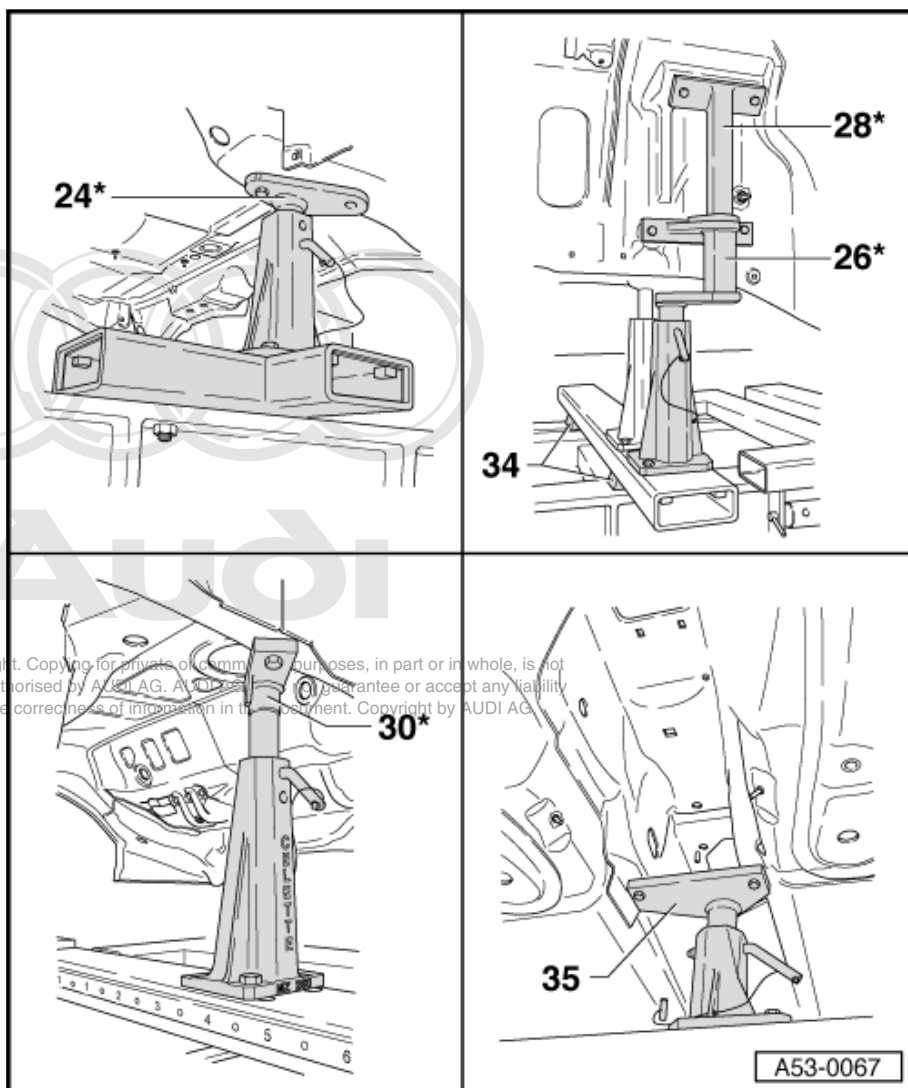
28 - Strut holder

Do not insert pin until after fitting body on jig.

30 - Mounting for subframe

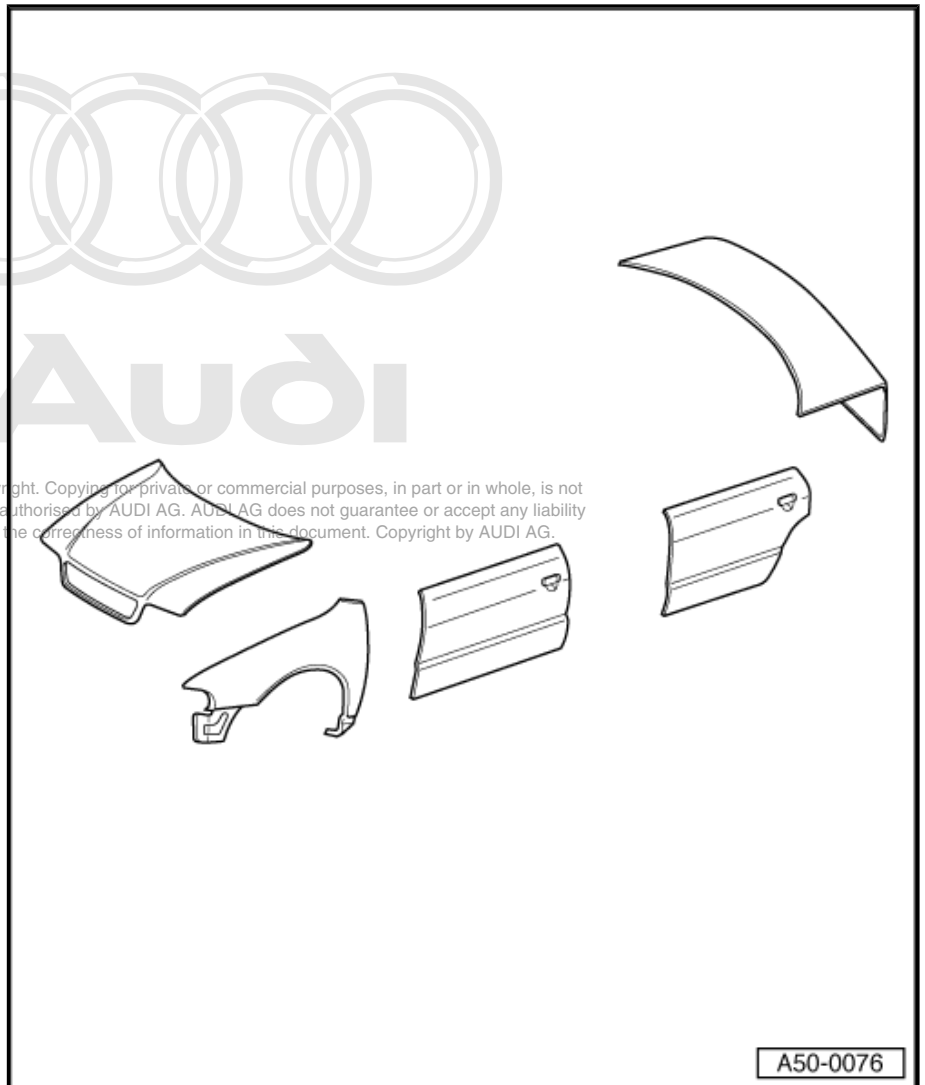
34 - Intermediate piece

35 - Mounting for propshaft



5 Strengthened body panels

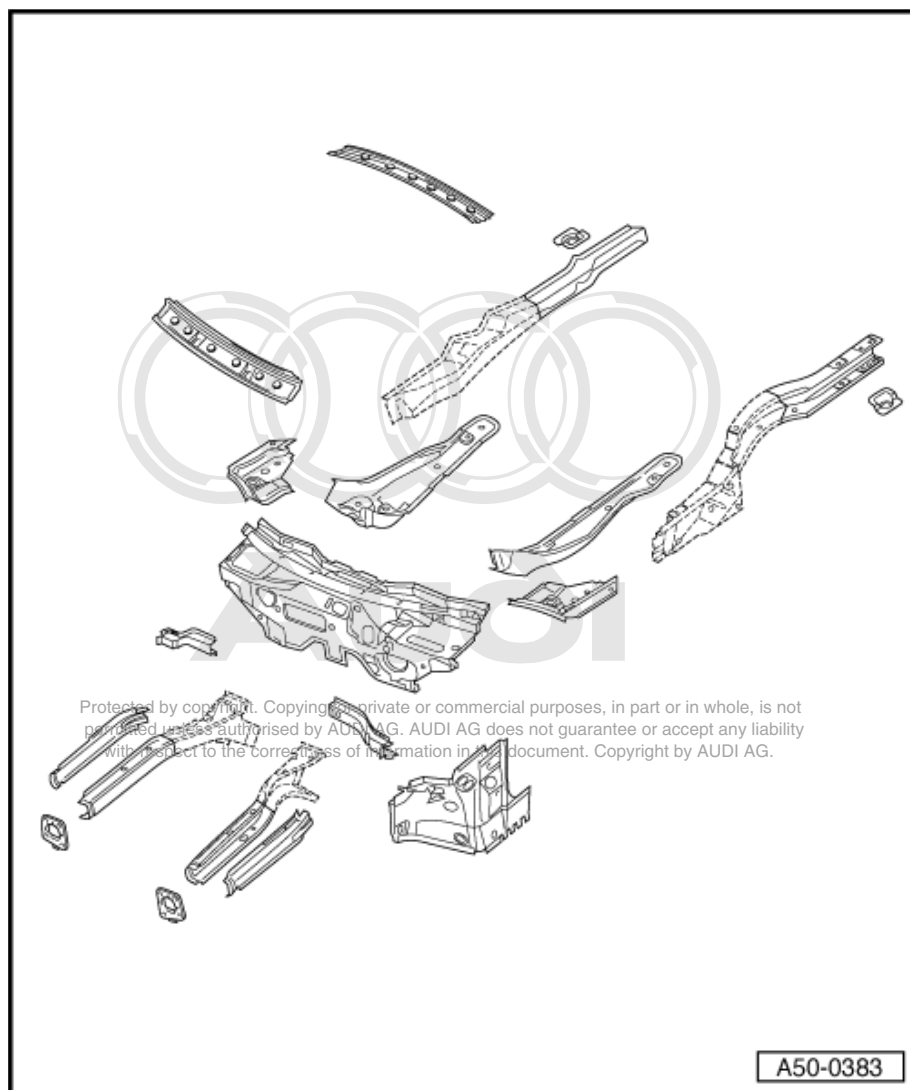
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Strengthened body panels are used in the following areas:

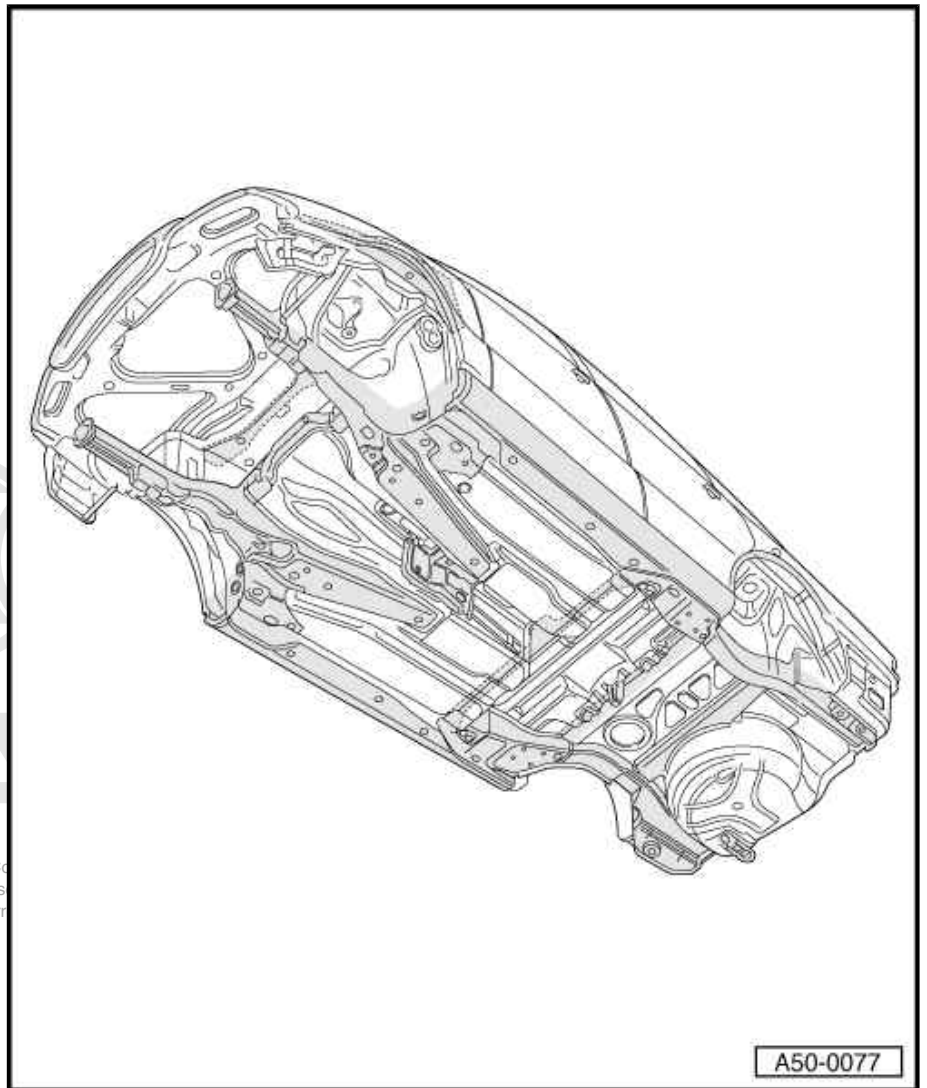
Wings and outer panels on bonnet, rear lid and doors.

⇒ Workshop Manual, General notes; chapter on Repair procedures



The front and rear longitudinal members are made of two panels of different thickness. The ends are made of high-strength thin material and the inner section of normal thicker material.

6 Corrosion protection



The body is manufactured from panels galvanised on both sides. Certain areas are cavity-sealed and have to be re-sealed after completing repair work.

7 Foam-filled cavities

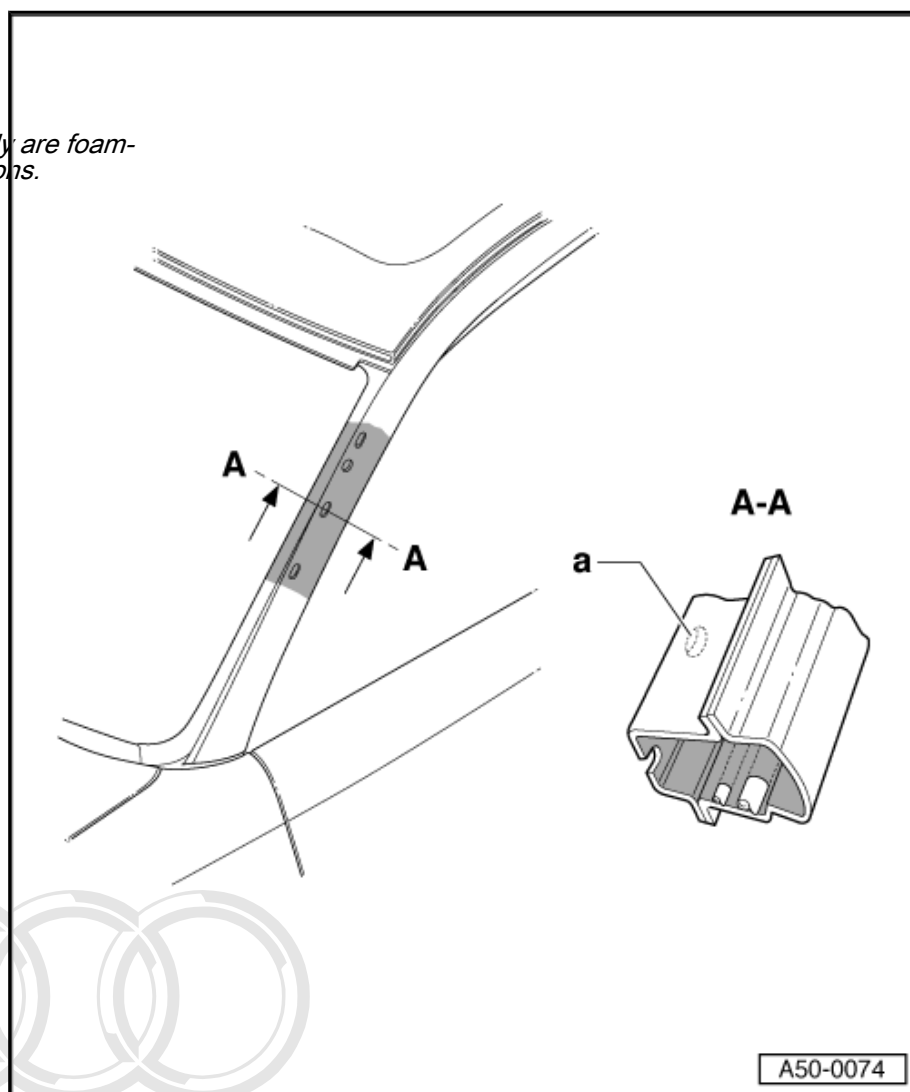
7.1 A-pillar

a - Foam-filling hole



Note:

These parts of the body are foam-filled for acoustic reasons.



A50-0074

Audi

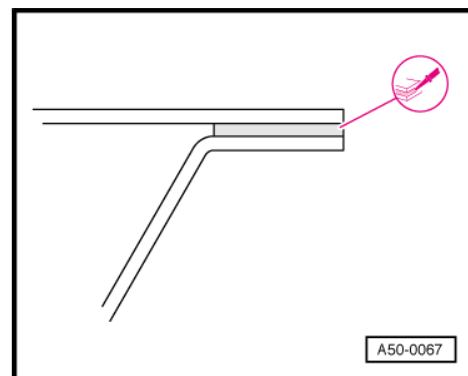
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8 Bonded joints

Bonded and spot-welded bonded joints are employed on the Audi A4 for increased body stiffness and strength.

8.1 Bonded joints

In the case of bonded joints, the panel sections are only joined by the adhesive.

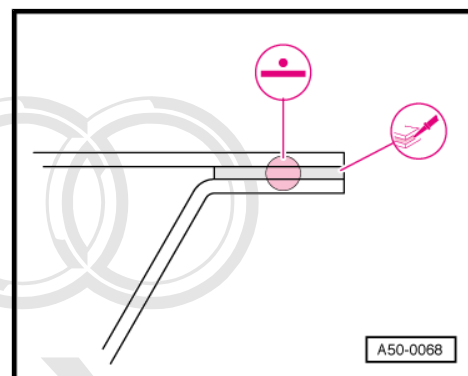


8.2 Spot-welded bonded joints

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

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

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



8.3 Inspecting and repairing bonded joints

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

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

Perform repairs as follows: Loose spot weld: 1 pop rivet on left and right-hand sides. Loose bonded joint: 1 pop rivet between 2 spot welds.

Ø 6.4 mm galvanised steel pop rivet, type Hemlock from Avdel or Magnabulb from Huck. Hole diameter Ø 6.6 mm.

If the area is not accessible with pop rivets, SG seams must be used for repair. In this case the entire area of the joint must be re-welded, as the heat produced by welding destroys the adhesive in the bonded joint. The SG seams should be welded working from the thin to the thick panel. Always use a fume extractor.

8.4 Repair methods for replacing body parts

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

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

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



Note:

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

Ensure good root penetration at all joints.

Seal off repaired flanges and apply cavity sealing.

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8.5 Repair methods for bonded joints

8.5.1 Body - front

A - Longitudinal member with closure plate and mounting

Additional SG plug weld seam between spot welds. Where there are 3 panel thicknesses, weld both sides from outside. Longitudinal member to mounting: Additional 4 x 20 mm SG seam at flange.

B - Reinforcement for longitudinal member to support

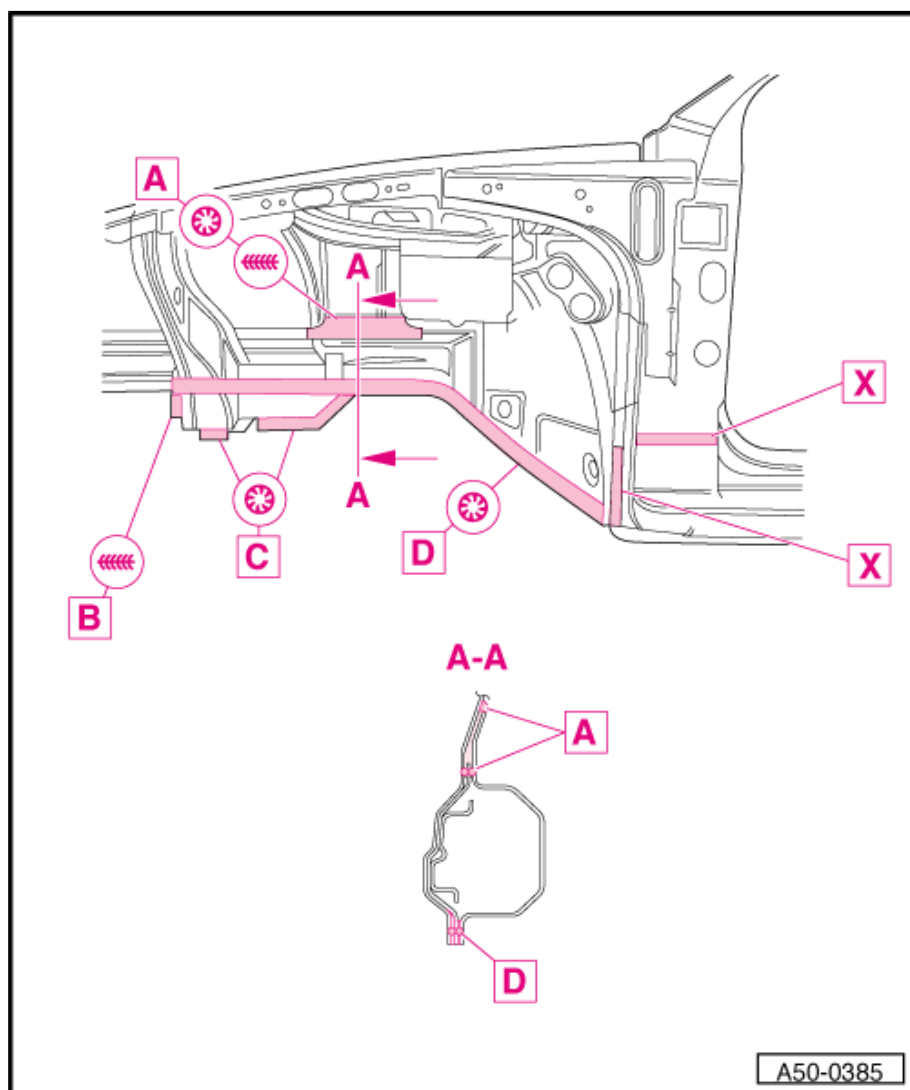
Additional 2 x 15 mm SG seam at flange.

C - Reinforcement for longitudinal member to support

Additional SG plug weld seam between spot welds.

D - Longitudinal member to closure plate and wheel housing (rear section)

Additional SG plug weld seam between spot welds. Where there are 3 panel thicknesses, weld both sides from outside. Longitudinal member to closure plate, SG plug weld seam every 30 mm instead of bonded joint.



A50-0385

X - ? Body - centre

E - Cross member to longitudinal member

Make additional SG seam every 15 mm on the 3 flanges

F - Longitudinal member to longitudinal member (centre)

Additional 6 x SG plug weld seam

G - Reinforcement for longitudinal member to longitudinal member

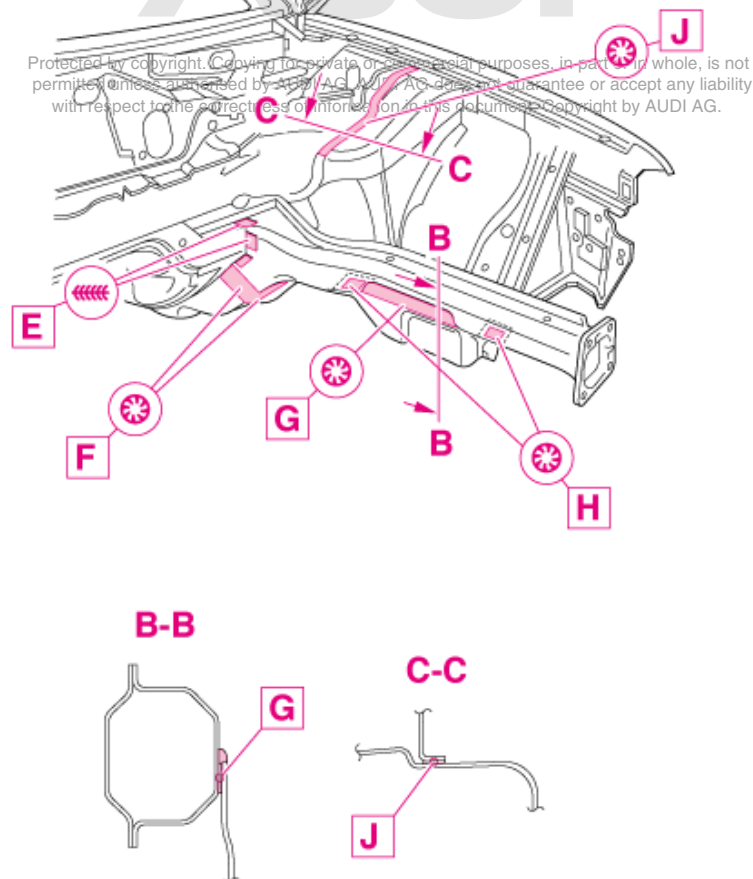
Additional SG plug weld seam between spot welds.

H - Reinforcement for longitudinal member to longitudinal member

Additional 2 x SG plug weld seam at both front and rear flange.

J - Plenum chamber front wall to strut holder

Additional SG plug weld seam between spot welds.



A50-0098

K - Cross member to plenum chamber

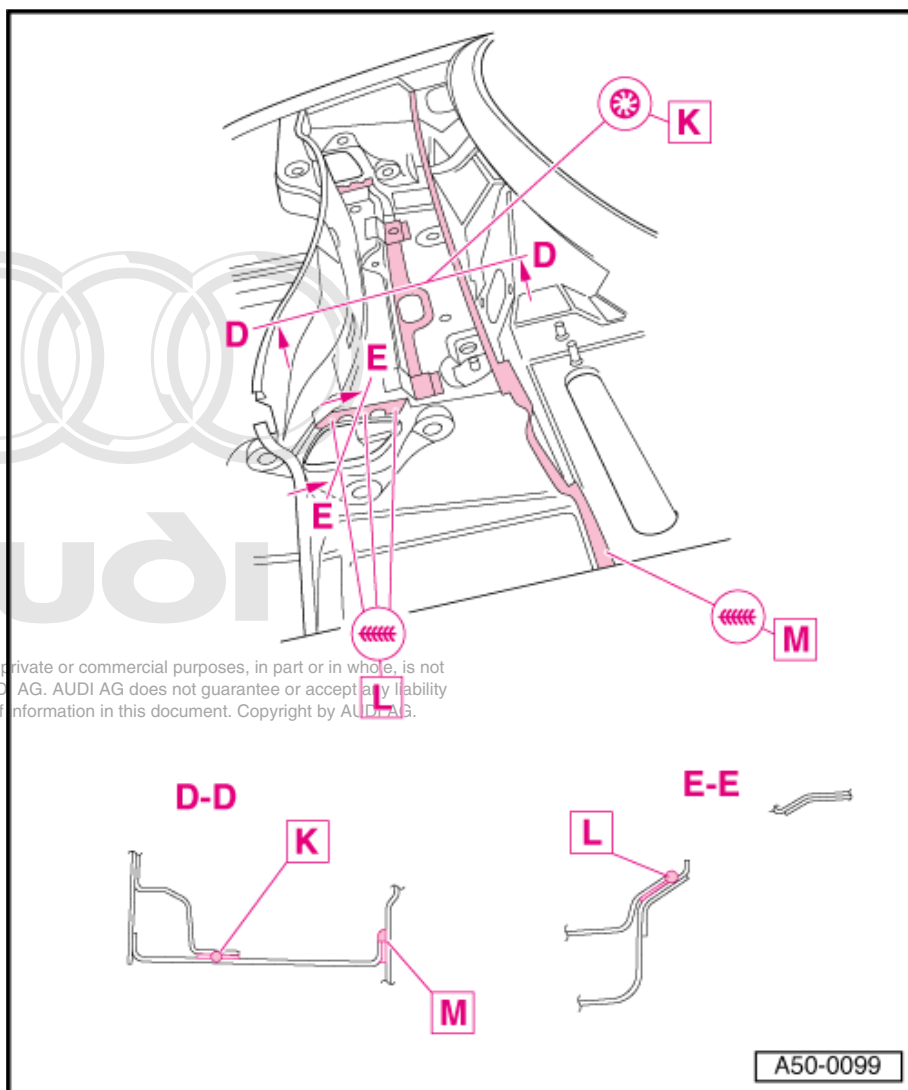
Additional SG plug weld seam between spot welds.

L - Cross member to strut holder

Additional 3 x 15 mm SG seam at flange.

M - Plenum chamber to bulk-head

Additional 15 mm SG seam every 30 mm.



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8.5.2 Body - centre (Saloon)

A - Inner roof frame to inner A-pillar

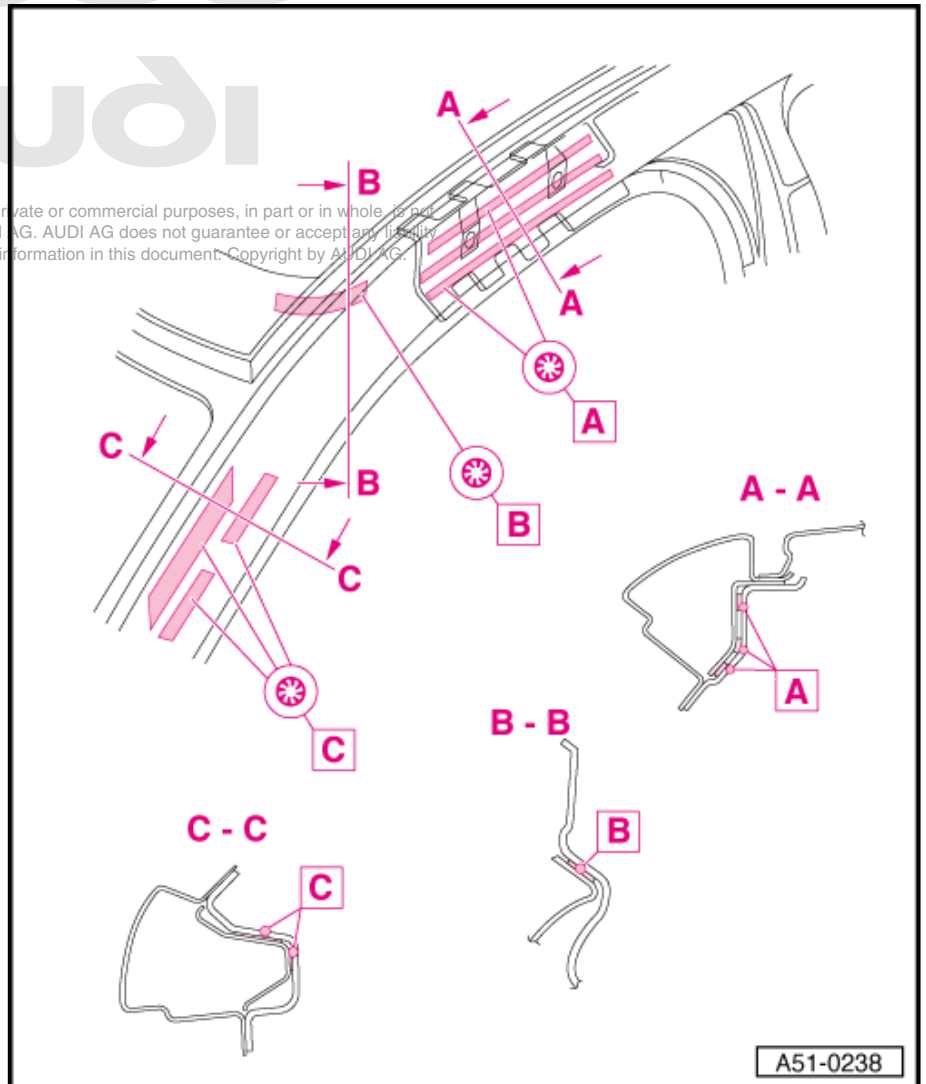
Instead of bonded joint, SG plug weld seam every 30 mm, before fitting outer roof frame.

B - Inner A-pillar reinforcement to inner A-pillar

Make SG plug weld seams every 30 mm in place of bonded joint.

C - Inner A-pillar reinforcement to inner A-pillar

Make SG plug weld seams every 30 mm in place of bonded joint.



A51-0238

8.5.3 Body - centre (Saloon and Avant)

D - A-pillar to wheel housing (rear section)

4 x SG plug weld seam instead of bonded joint.

E - Reinforcement in A-pillar to wheel housing (rear section)

4 x SG plug weld seam from inside instead of bonded joint.

F - Inner B-pillar to floor panel

3 x SG plug weld from inside instead of bonded joint.

G - Inner B-pillar to floor panel

2 x SG plug weld from inside instead of bonded joint.

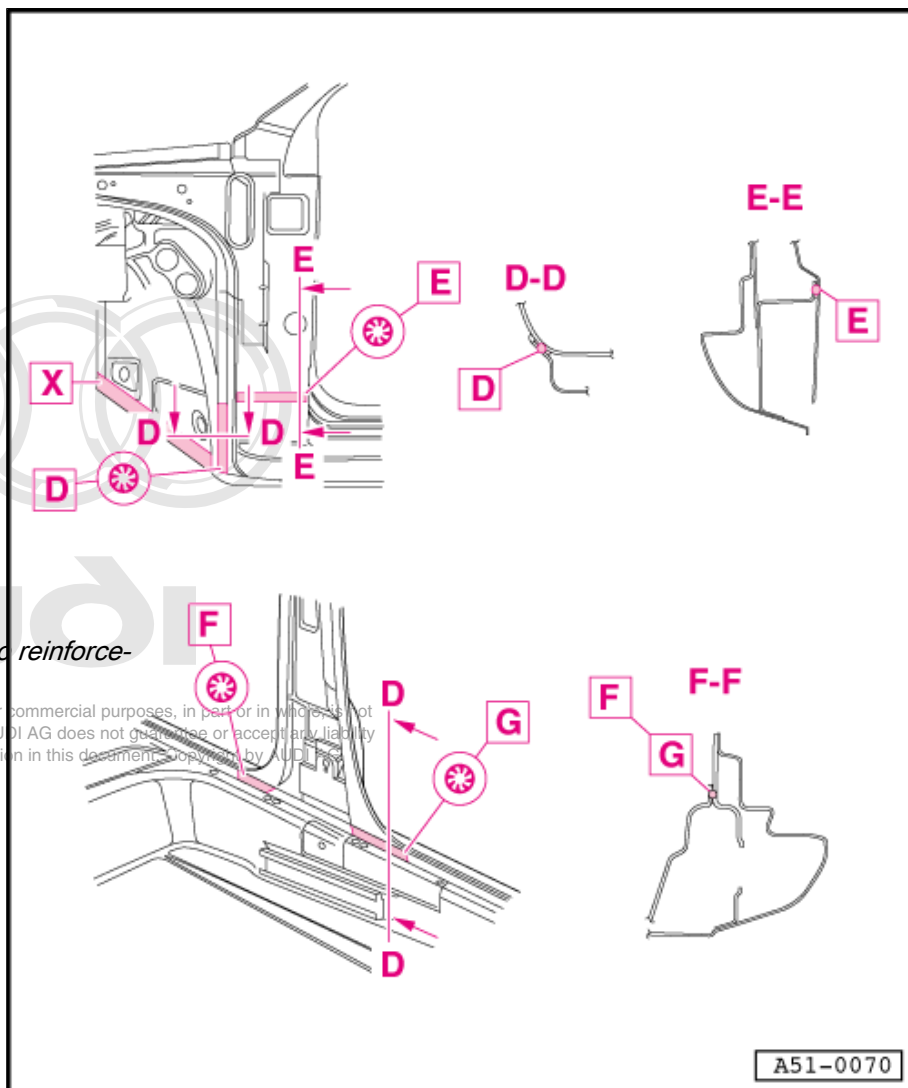


Note:

F-G for vehicles with no reinforcement only.

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X - ? Body - front.

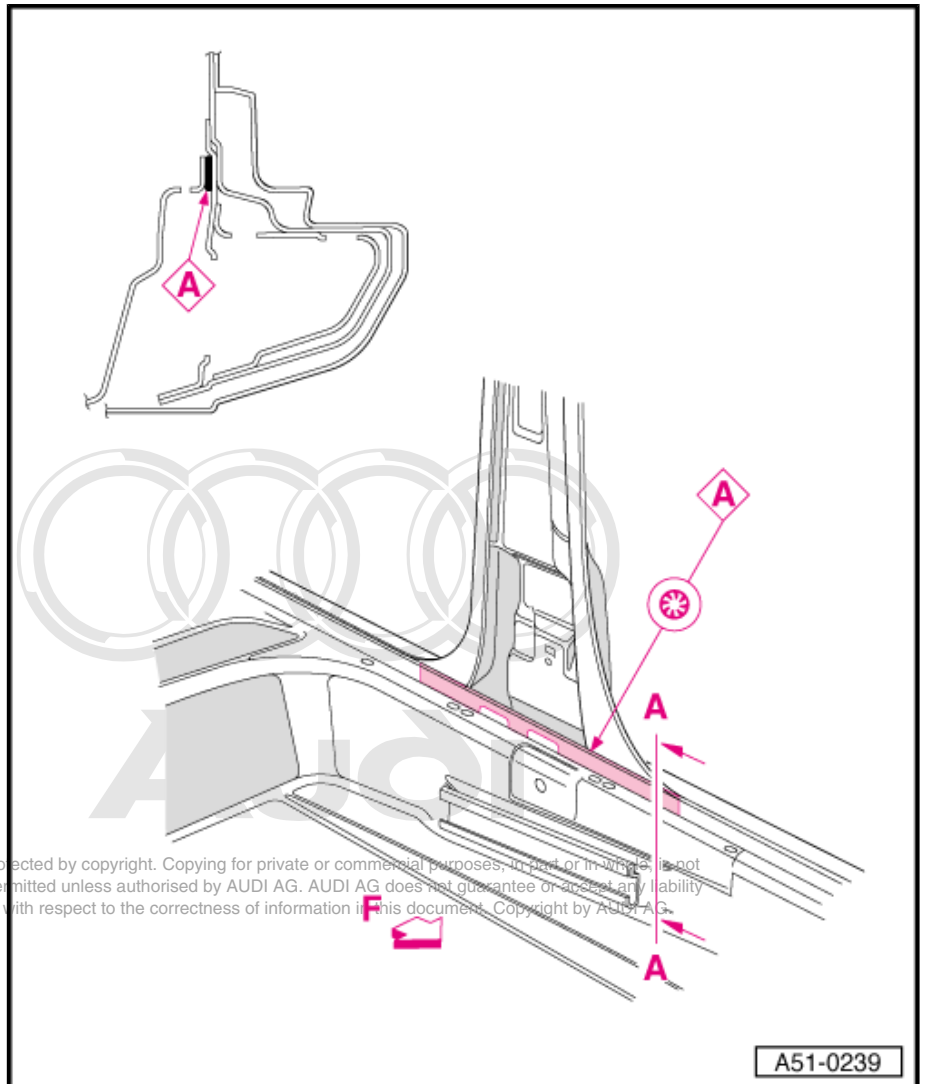


A51-0070

8.5.4 Body - centre (Saloon and Avant)

A - Front floor panel to sill fillet plate

Make SG plug weld seams every 30 mm in place of bonded joint.



Vehicles with reinforcement

8.5.5 Body - centre (Saloon)

H - Roof to outer roof frame

As original joint. Apply body adhesive and make spot welds, but leave 15 mm either side of spot welds free of adhesive.

J - Front inner roof frame to inner A-pillar

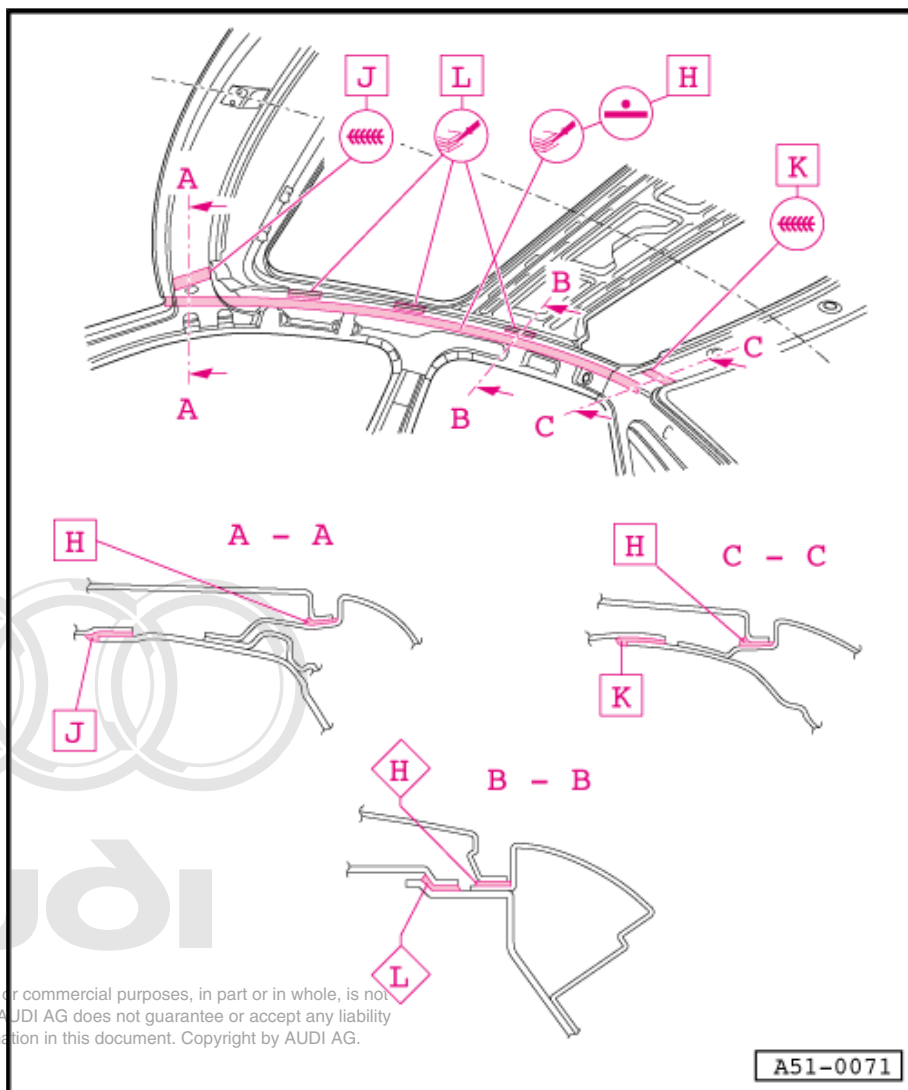
Additional 2 x 10 mm SG seam at flange.

K - Rear inner roof frame to inner D-pillar

Additional 2 x 10 mm SG seam at flange.

L - Sun roof stiffener frame to outer roof frame

As original joint. Apply adhesive and insert roof.



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A51-0071

8.5.6 Body - centre (Avant)

A - Inner roof frame to inner A-pillar

Instead of bonded joint, SG plug weld seam every 30 mm, before fitting outer roof frame.

B - Inner roof frame to inner A-pillar

Instead of bonded joint, SG plug weld seam every 30 mm, before fitting outer roof frame.

C - Inner A-pillar reinforcement to inner A-pillar

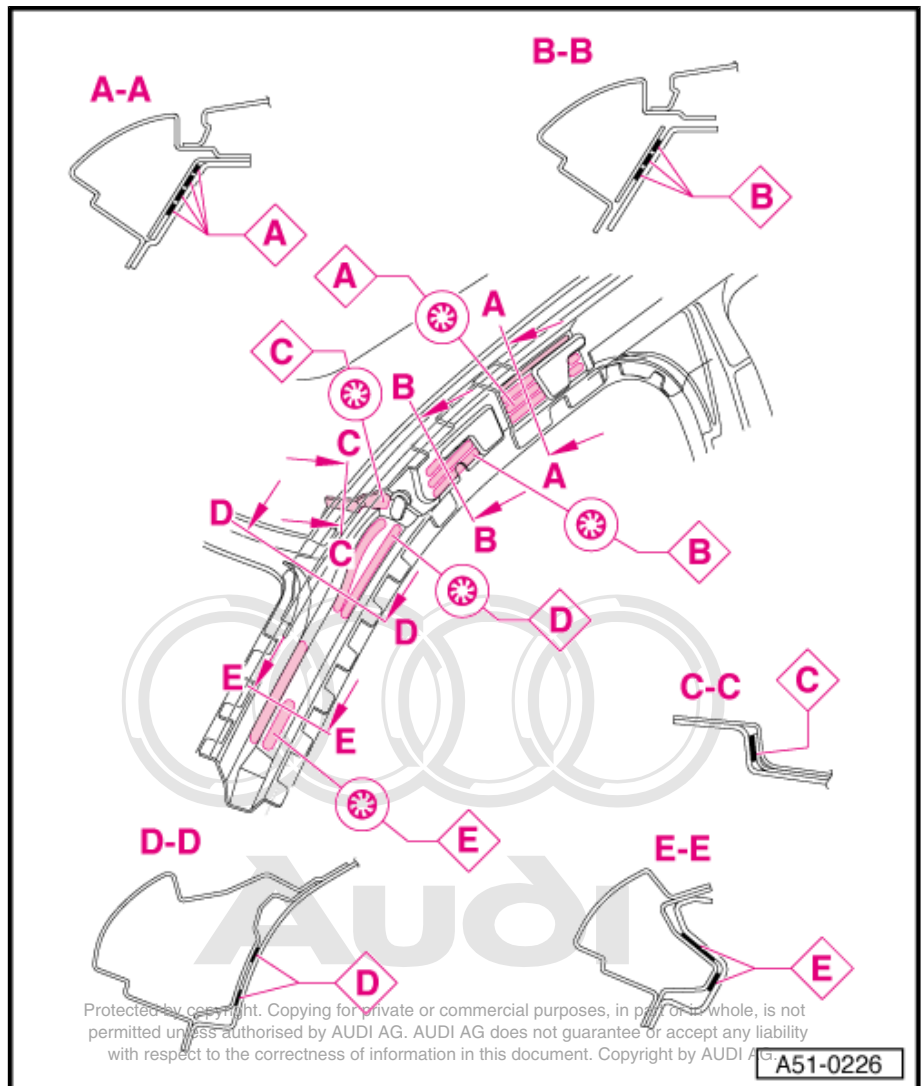
Make SG plug weld seams every 30 mm in place of bonded joint.

D - Inner A-pillar reinforcement to inner A-pillar

Make SG plug weld seams every 30 mm in place of bonded joint.

E - Inner A-pillar reinforcement to inner A-pillar

Make SG plug weld seams every 30 mm in place of bonded joint.



F - Front inner roof frame to inner A-pillar

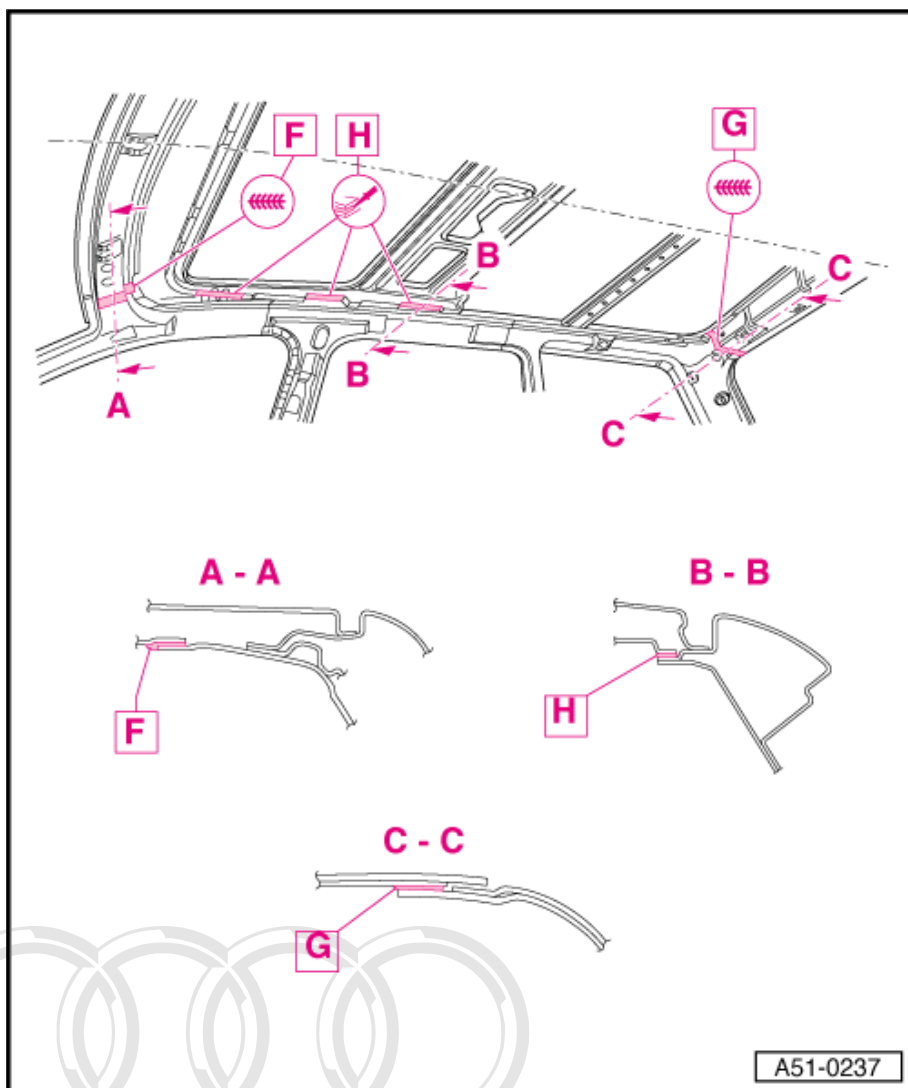
Additional 2 x 10 mm SG seam at flange.

G - Rear inner roof frame to inner D-pillar

Additional 2 x 10 mm SG seam at flange.

H - Sun roof stiffener frame to outer roof frame

As original joint. Apply adhesive and insert roof.



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**J - Roof to rear roof frame:
Same as original joint**

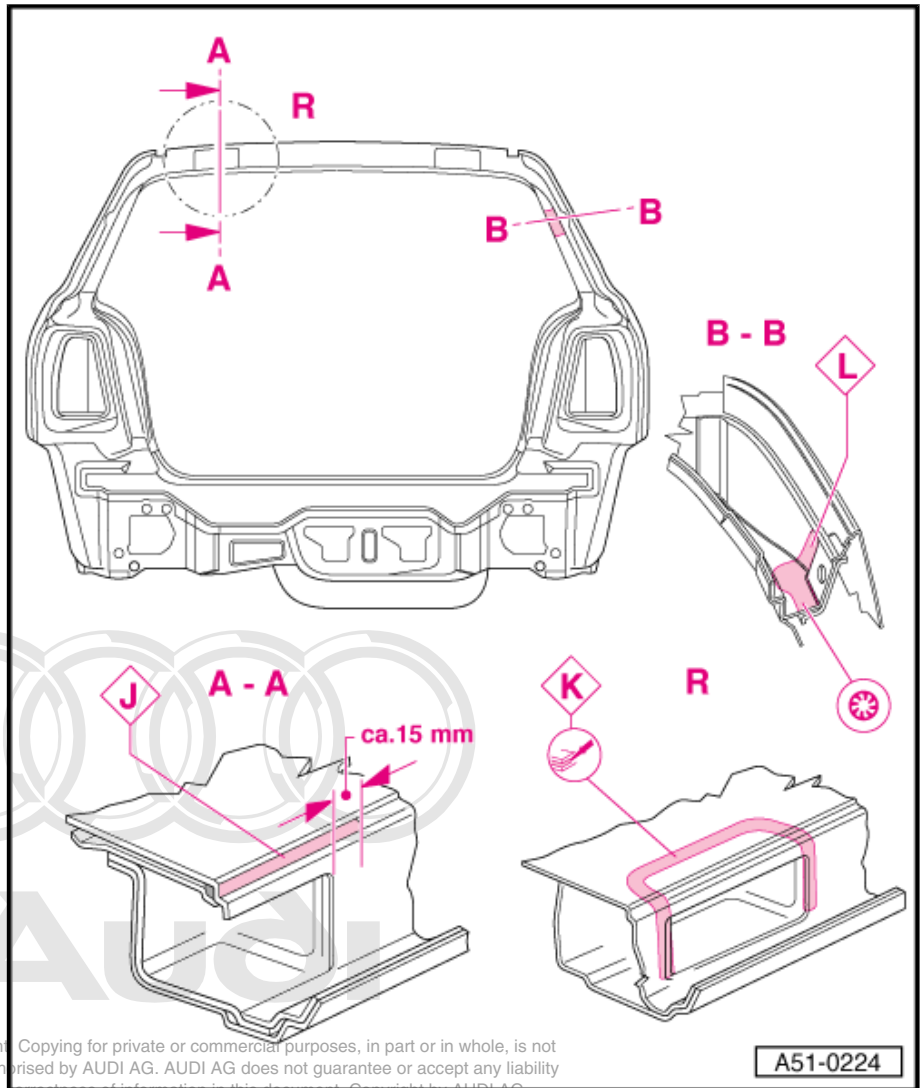
Insert butyl cord and fit roof.

**K - Inner roof frame to outer
roof frame**

As original joint. Apply body
adhesive and fit roof frame.

**L - Gas-filled strut reinforce-
ment to side insert**

Additional 4 x SG plug weld
seam.



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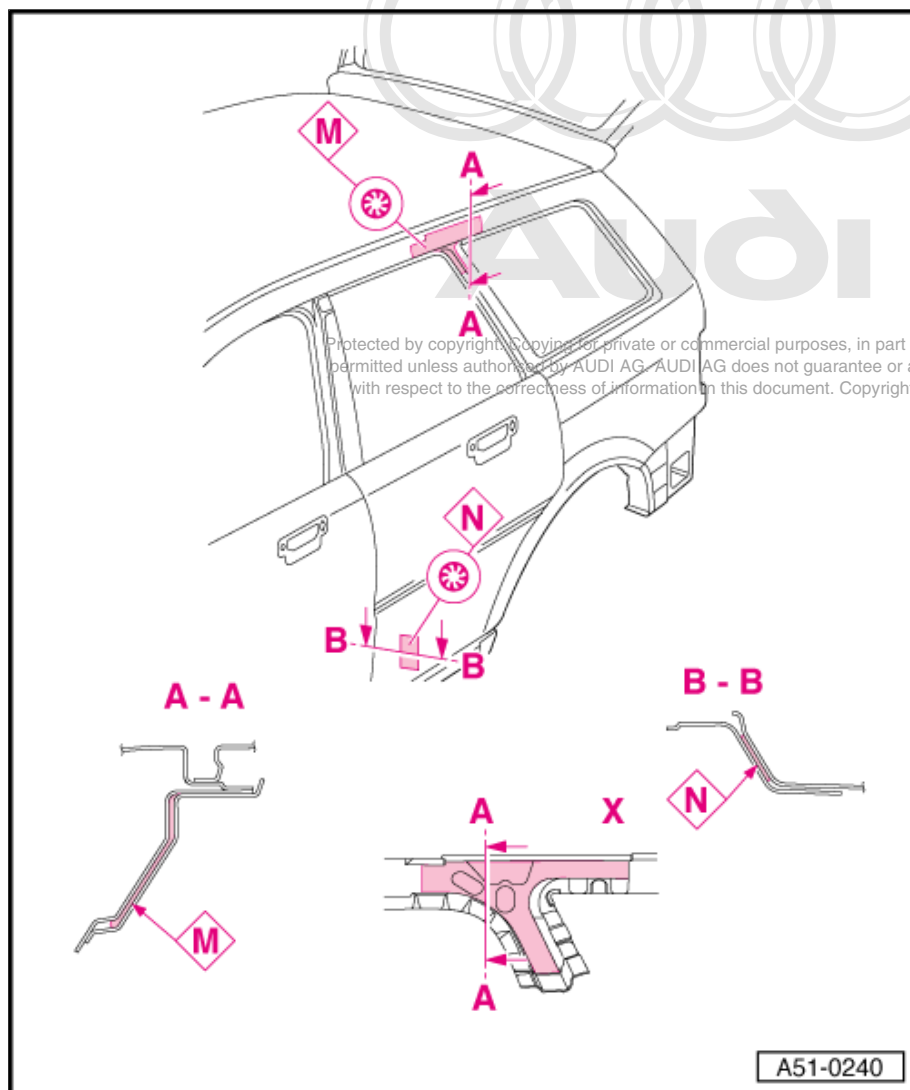
A51-0224

M - Rear side frame to inner side roof frame

Make SG plug weld seams every 30 mm in place of bonded joint.

N - Rear closure plate to inner C-pillar reinforcement

3 x SG plug weld seams in place of bonded joint.



8.5.7 Body - rear (Saloon and Avant)

A - Same as original joint: Apply adhesive and bead over edge of wheel housing. Repair as follows if bond is damaged:

Brush area, apply paint finish, seal and apply cavity sealing. If bond is damaged over a length of more than 100 mm, make a 10 mm SG seam every 50 mm. Rework wheel housing liner if necessary.

B - Rear wheel housing liner to rear wheel housing

Additional 4 x 30 mm SG seam.

C - Rear longitudinal member to inner wheel housing liner

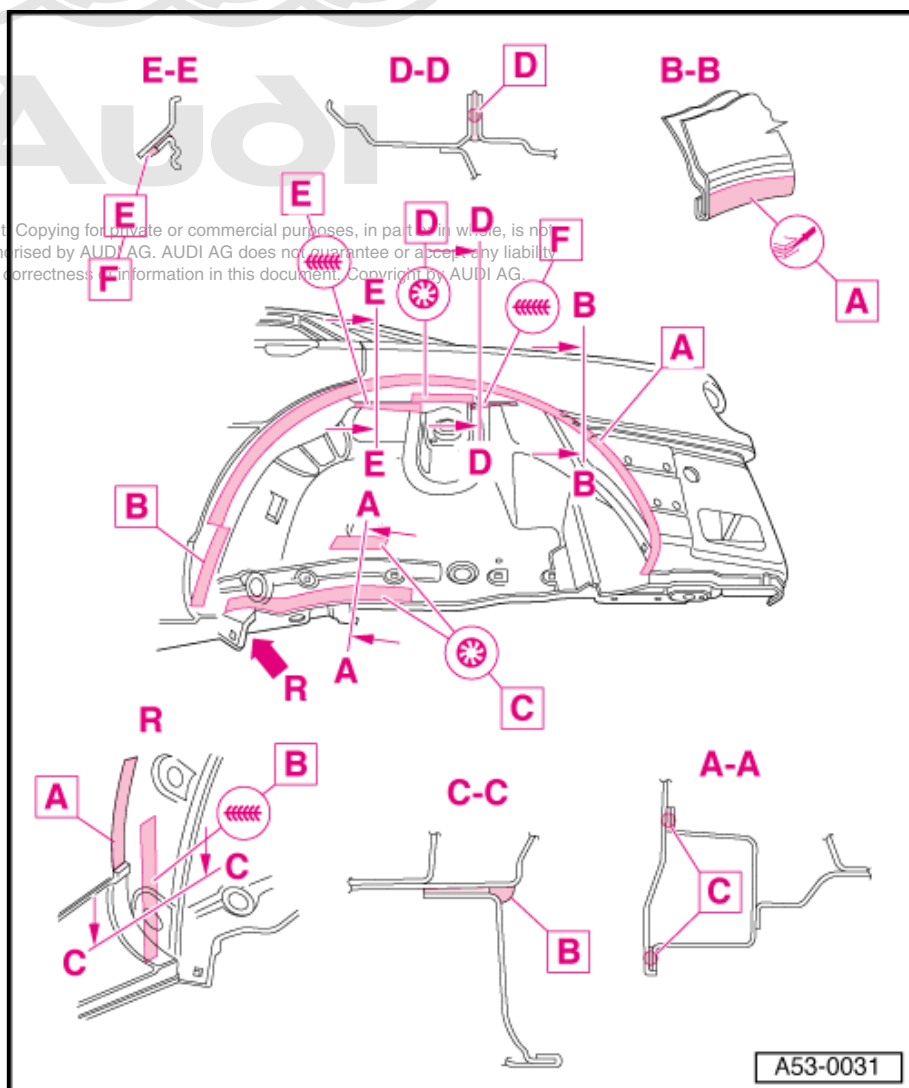
Additional SG plug weld seam between spot welds.

D - Outer wheel housing liner to inner wheel housing liner

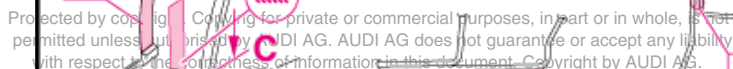
Additional SG plug weld seam between spot welds.

E - Reinforcement to inner wheel housing liner

Additional 3 x 25 mm SG seam at flange.



Additional 2 x 25 mm SG seam
at flange.



9 Laser welding

Audi AG introduced laser welding for the production of the Audi A4.

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

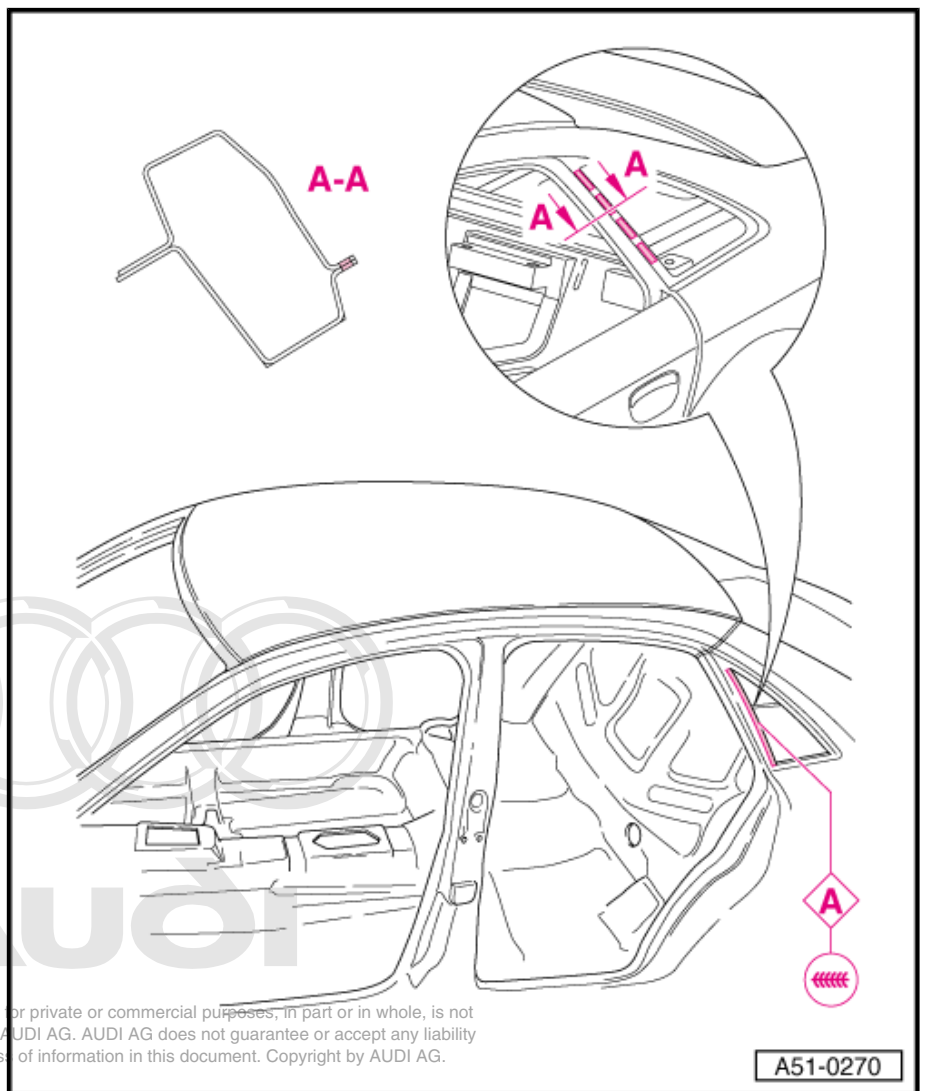
During the welding process the upper panel is fused onto the partially molten lower panel, creating a weld joint with no additional material.

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

9.1 Laser welding (Saloon)

A - C-pillar laser-welded to inner side panel.

4 x SG continuous seam in place of laser weld.



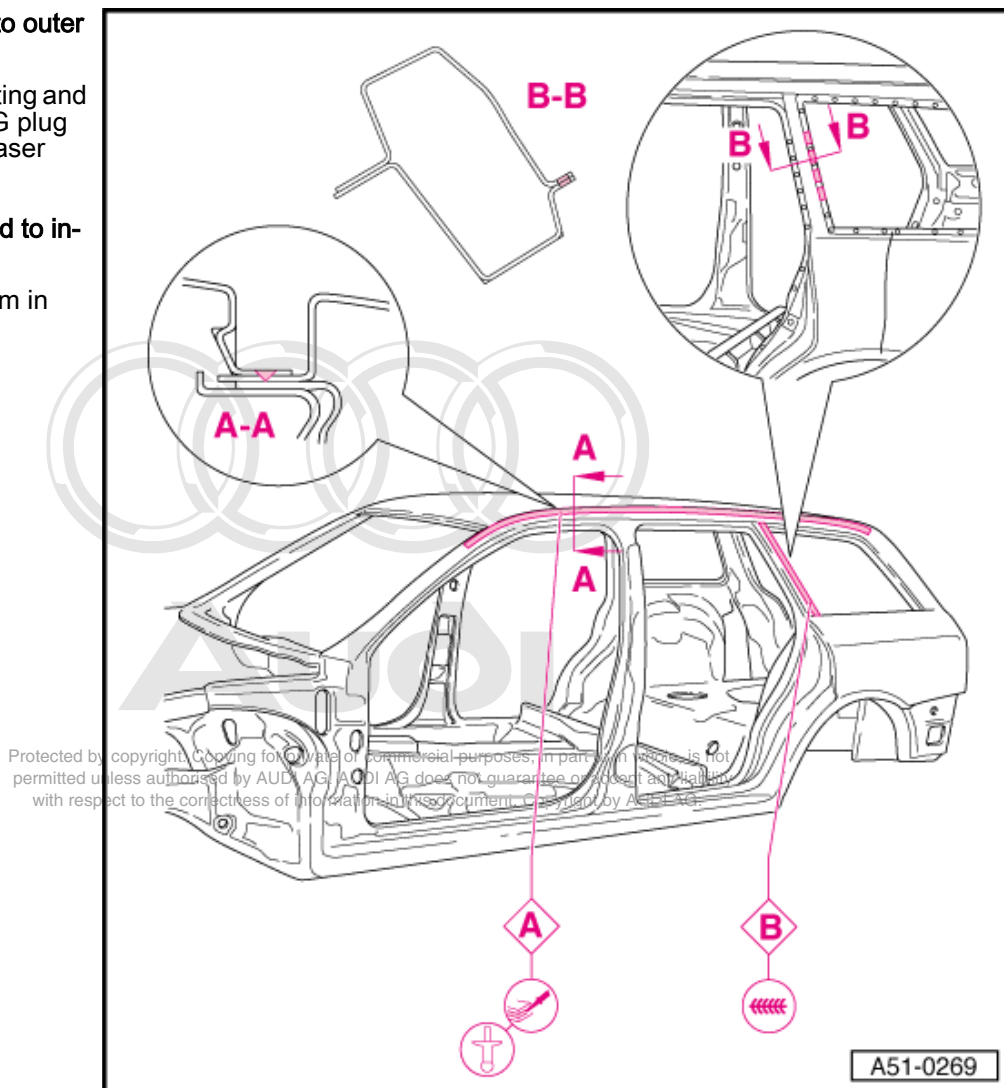
9.2 Laser welding (Avant)

A - Roof laser-welded to outer roof frame.

Roof is repaired by riveting and bonding or using an SG plug weld seam instead of laser welding.

B - C-pillar laser-welded to inner side panel.

4 x SG continuous seam in place of laser weld.



50 – Body - front

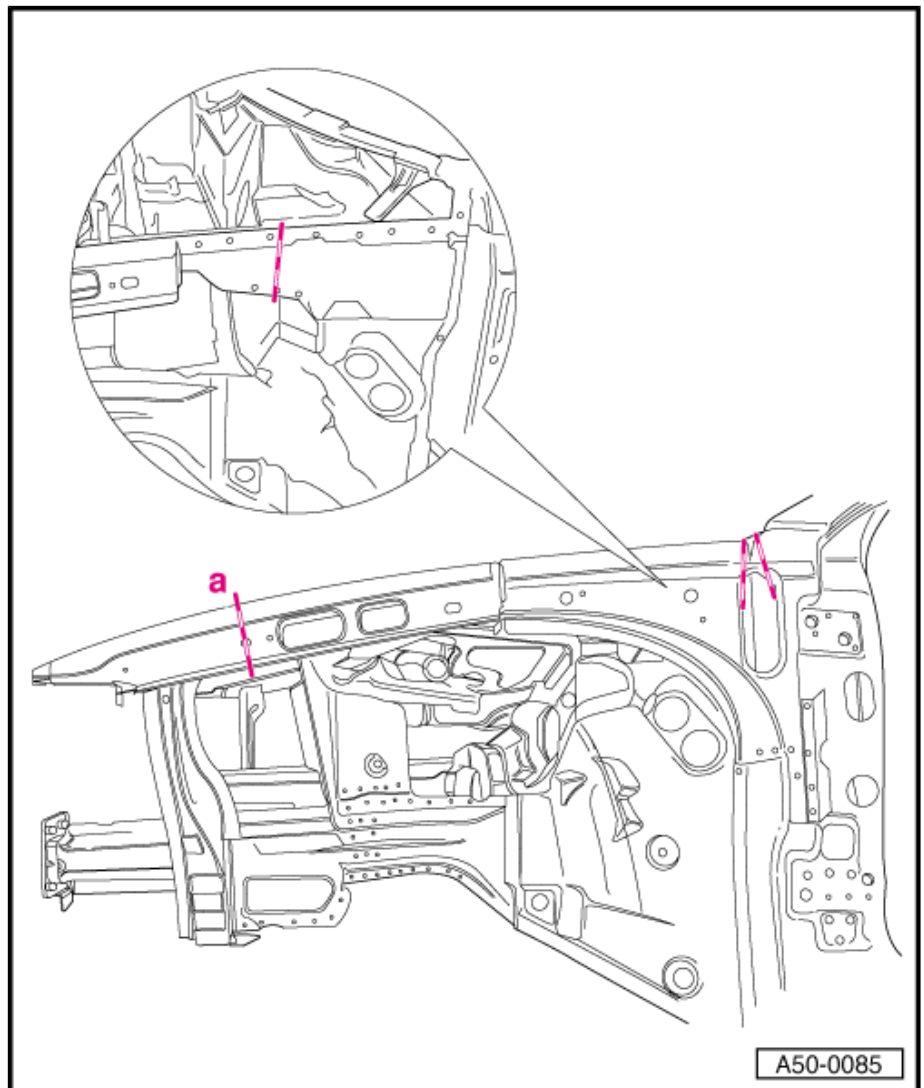
AP: 50 52 5512

1 Intermediate piece - Partial renewal

1.1 Procedure

1.1.1 Cutting locations

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Includes: Reinforcement plate

- Reinforcement plate separating cut.
- Separate original joint.
- Remove remaining material.
- Separating cut for intermediate piece.
- Separate original joint.

- Detach part.


Note:

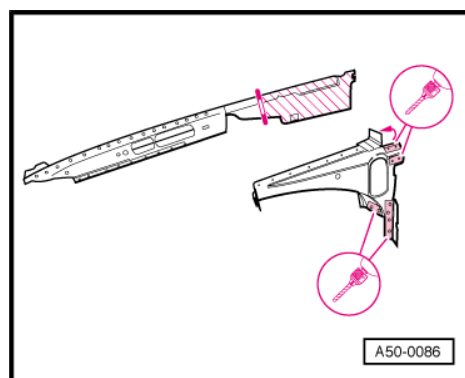
Partial repair is also possible with separating cut -a-. This involves drilling off closure plate from replacement part and complete replacement.

1.1.2 Replacement parts

- ◆ Connecting plate
- ◆ Reinforcement plate

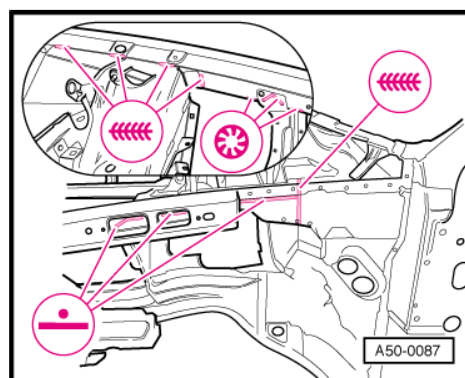
Preparing new parts

- Transfer separating cuts to new part and cut to shape.
- Bend up flange on reinforcement plate and shorten to a length of 7 mm.
- Drill dia. 7 mm holes for SG plug weld seam.

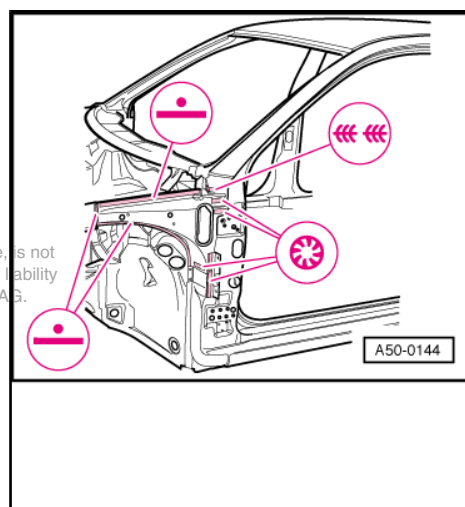


1.1.3 Welding in

- Fix new part in position with alignment bracket.
- Spot weld intermediate piece, RP spot weld seam.
- Weld in new part, SG plug weld seam.
- Weld in remaining joint, SG continuous seam.
- Butt weld separating cut, SG continuous seam.



- Match up reinforcement and weld in, RP spot weld seam.
- Weld in reinforcement, SG continuous seam (staggered).
- Weld in remaining joint, SG plug weld seam.



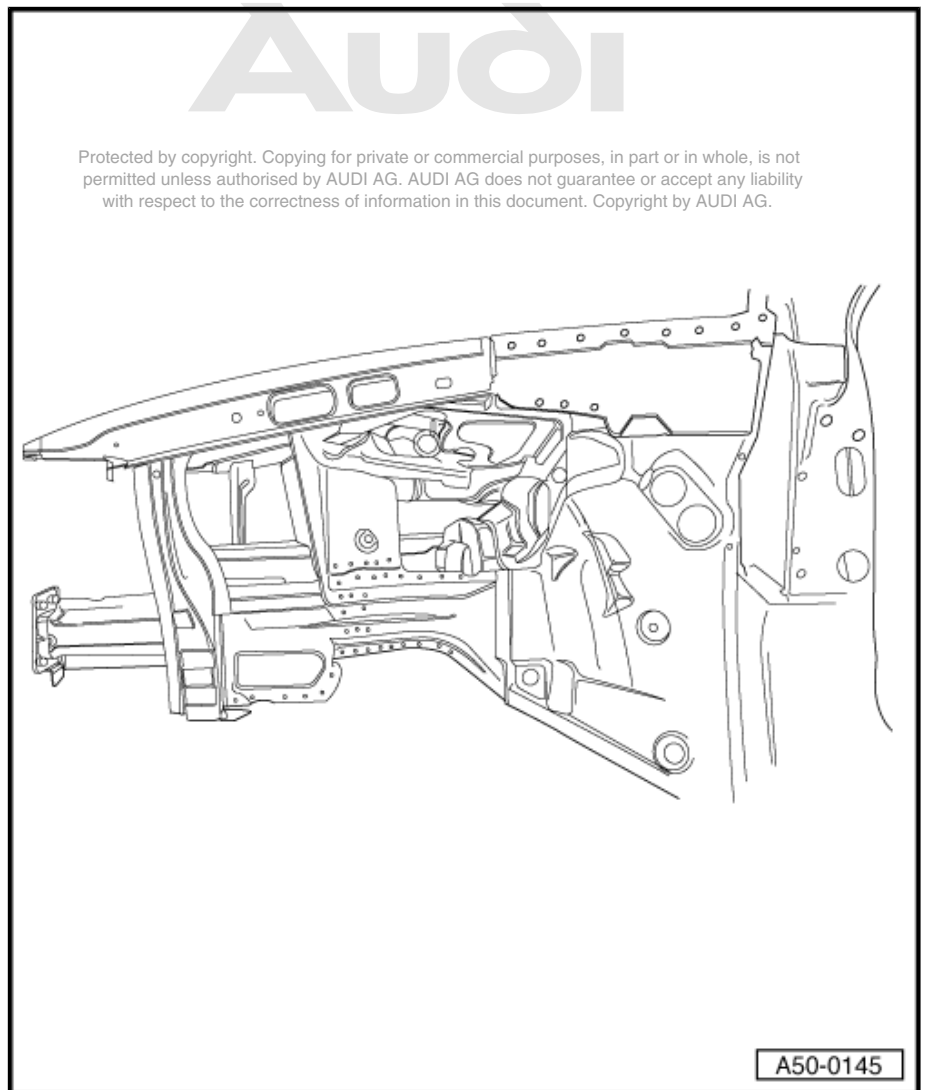
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2 Front wheel housing - Sub-part renewal

2.1 Procedure

2.1.1 Cutting locations



Includes: Longitudinal member and wheel housing reinforcement replacement

- Cut out wheel housing reinforcement ⇒ [page 49](#) .
- Cut out longitudinal member ⇒ [page 55](#) .
- Separate original joints -a- and -b-.
- Remove remaining material.

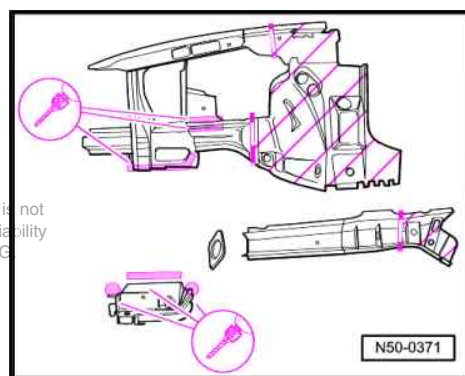
2.1.2 Replacement parts

- ◆ Wheel housing
- ◆ Reinforcement
- ◆ Longitudinal member
- ◆ Impact absorber mounting
- ◆ Reinforcement plate

Preparing new parts

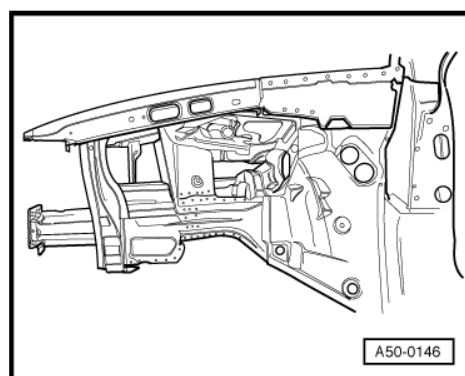
- Transfer separating cuts to new part and cut off hatched area.
- Drill dia. 7 mm holes for SG plug weld seam.

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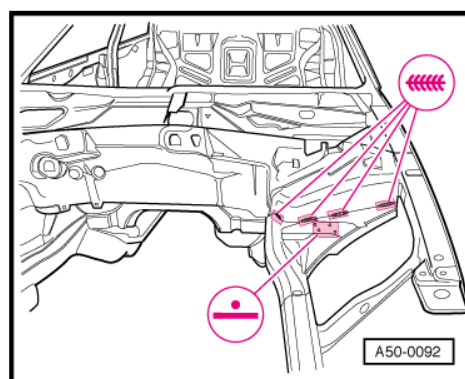


2.1.3 Welding in

- Fit new part on alignment bracket.
- Butt weld separating cuts, SG continuous seam.
- Spot weld remainder of joint, RP spot weld seam.



- Weld in new part, SG continuous seam.
- Spot weld remainder of joint, RP spot weld seam.
- Weld in wheel housing reinforcement ⇒ [page 50](#) .
- Weld in longitudinal member ⇒ [page 56](#) .

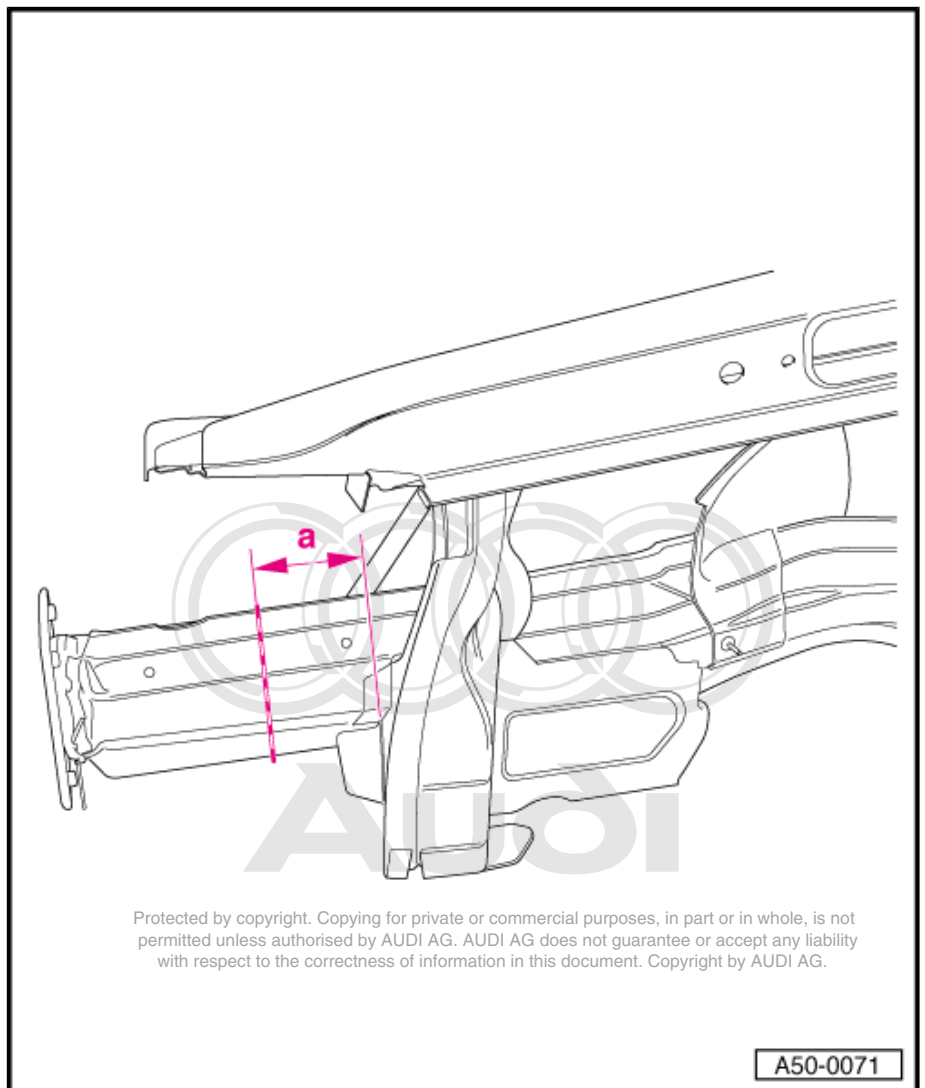


AP: 50 79 55 12

3 Front longitudinal member - Partial renewal

3.1 Procedure

3.1.1 Cutting locations



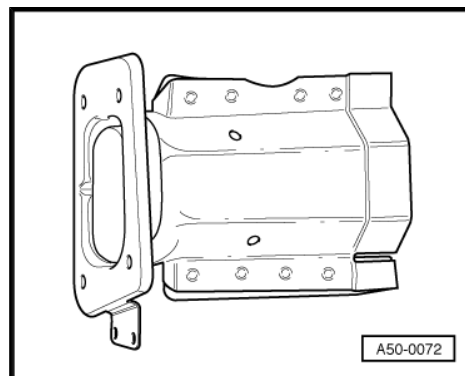
- Dimension a = 95 mm
- Cut out longitudinal member.

 **Note:**

Separating cut must be a straight line.

3.1.2 Replacement part

- ◆ Sub-part - longitudinal member



3.1.3 Welding in

- Dimension b = 240 mm
- Adapt length on body side of joint if necessary.



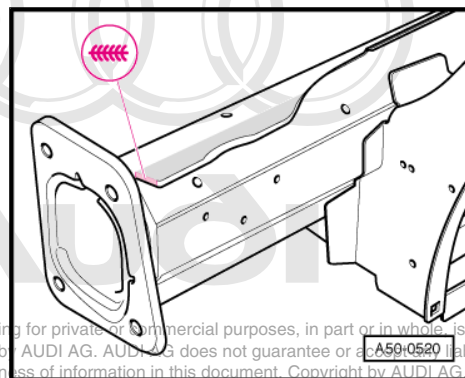
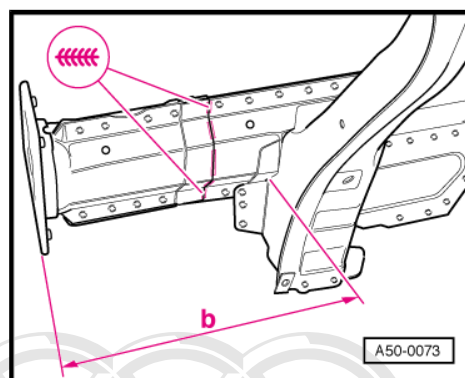
Note:

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

- Weld in front longitudinal member, SG continuous seam 8 x 15 mm.
- Seal weld seam.
- Locate and secure section of longitudinal member on alignment bracket.

The following operations only apply to the RS 4:

- Use suitable improvised tool (approx. 80 cm long) to bend over the flange through 90 degrees.
- Also weld, SG continuous seam.



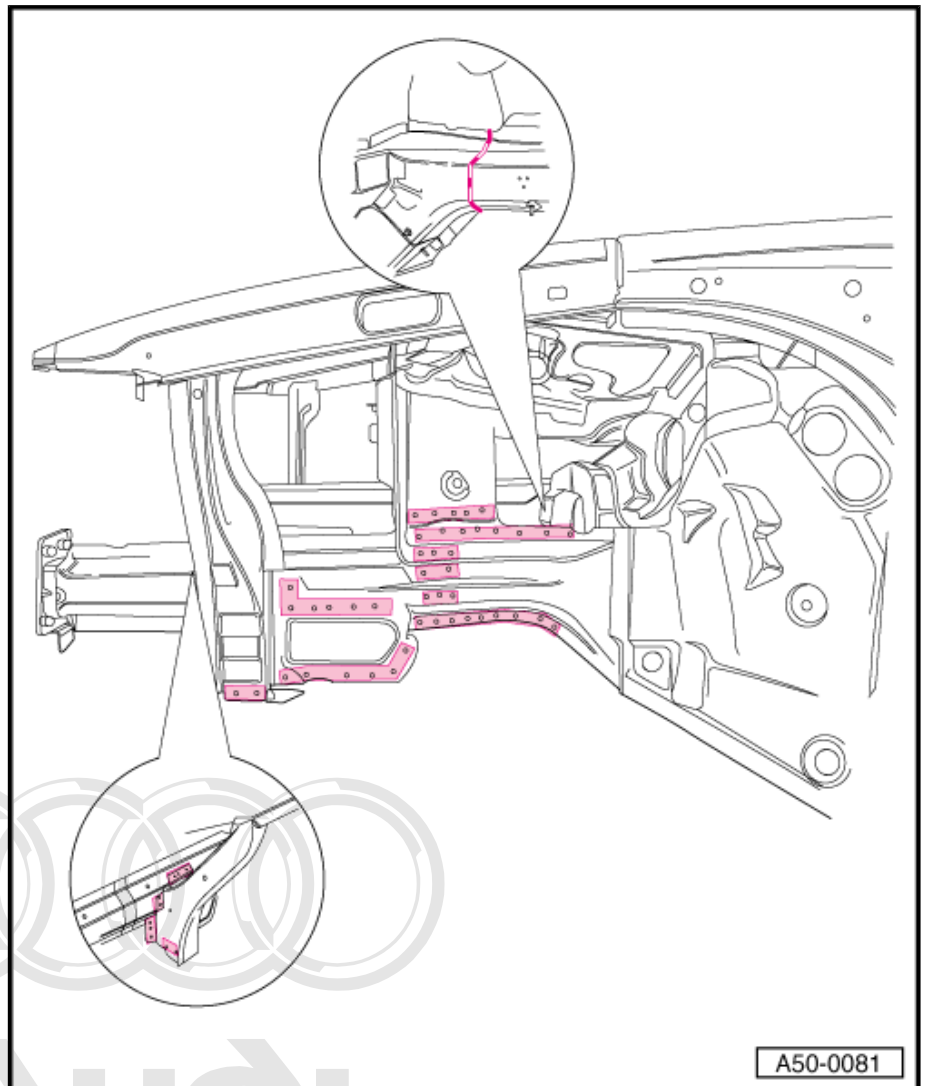
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4 Front longitudinal member - Renewal

4.1 Procedure

4.1.1 Cutting locations



– Drill out spot welds for subsequent plug welding.

– Cut out inner longitudinal member.



Note:

- ◆ Pay attention to concealed reinforcement → next illustration.
- ◆ Holes are used for additional welds.

4.1.2 Replacement parts

- ◆ Longitudinal member
- ◆ Closure plate for longitudinal member
- ◆ Reinforcement
- ◆ Impact absorber mounting

Preparing new parts

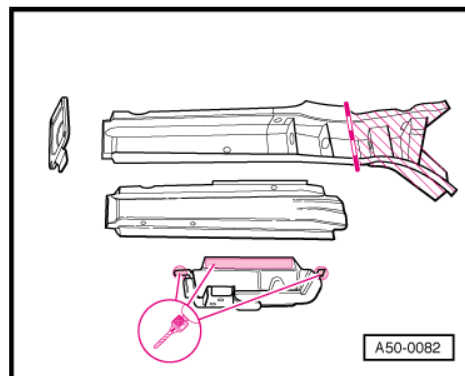
- Transfer separating cut to new part and cut off hatched area.



Note:

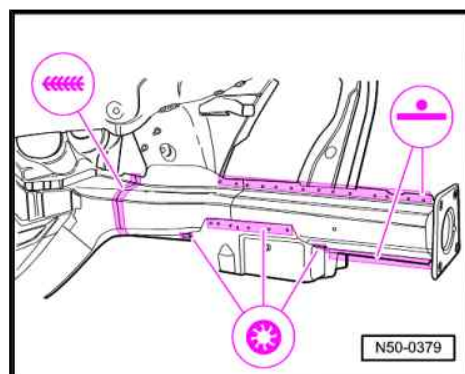
The closure plate must be completely replaced.

- Drill dia. 7 mm holes for SG plug weld seam.
- Drill twice as many holes in long flange.

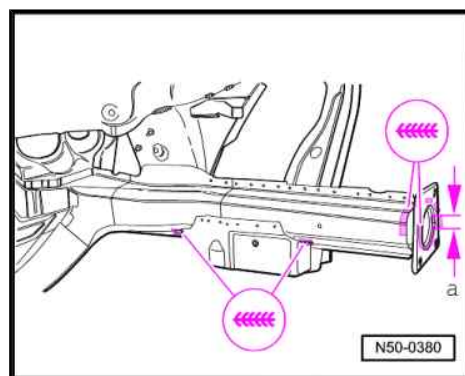


4.1.3 Welding in

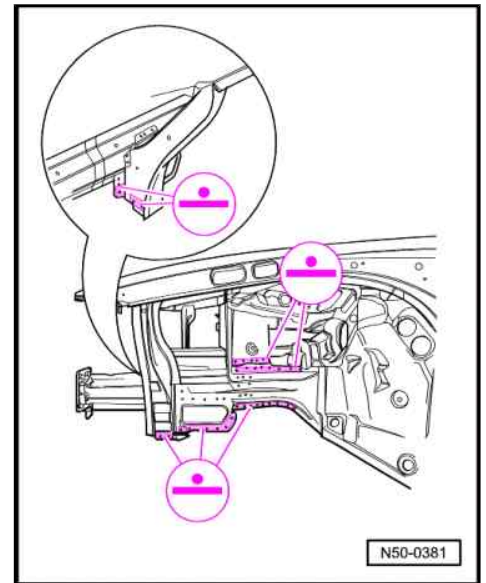
- Match up new parts and secure on alignment bracket.
- Butt weld separating cut, SG continuous seam.
- Weld in longitudinal member reinforcement, SG plug weld seam.
- Spot weld remainder of joint, RP spot weld seam.



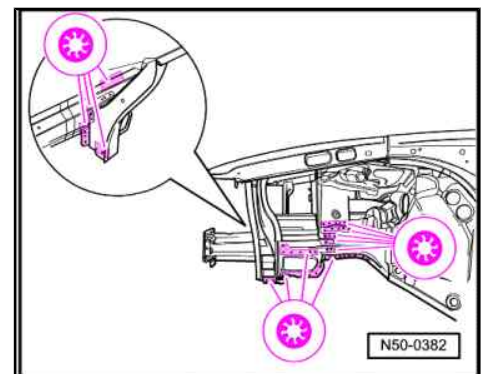
- Weld in impact absorber mounting, SG continuous seam.
- Outside to inside overlap -a- min. 20 mm.
- Additionally weld longitudinal member reinforcement, SG continuous seam.



- Weld in new parts between holes, RP spot weld seam.



- Weld in remaining joint, SG plug weld seam.



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51 – Body - centre

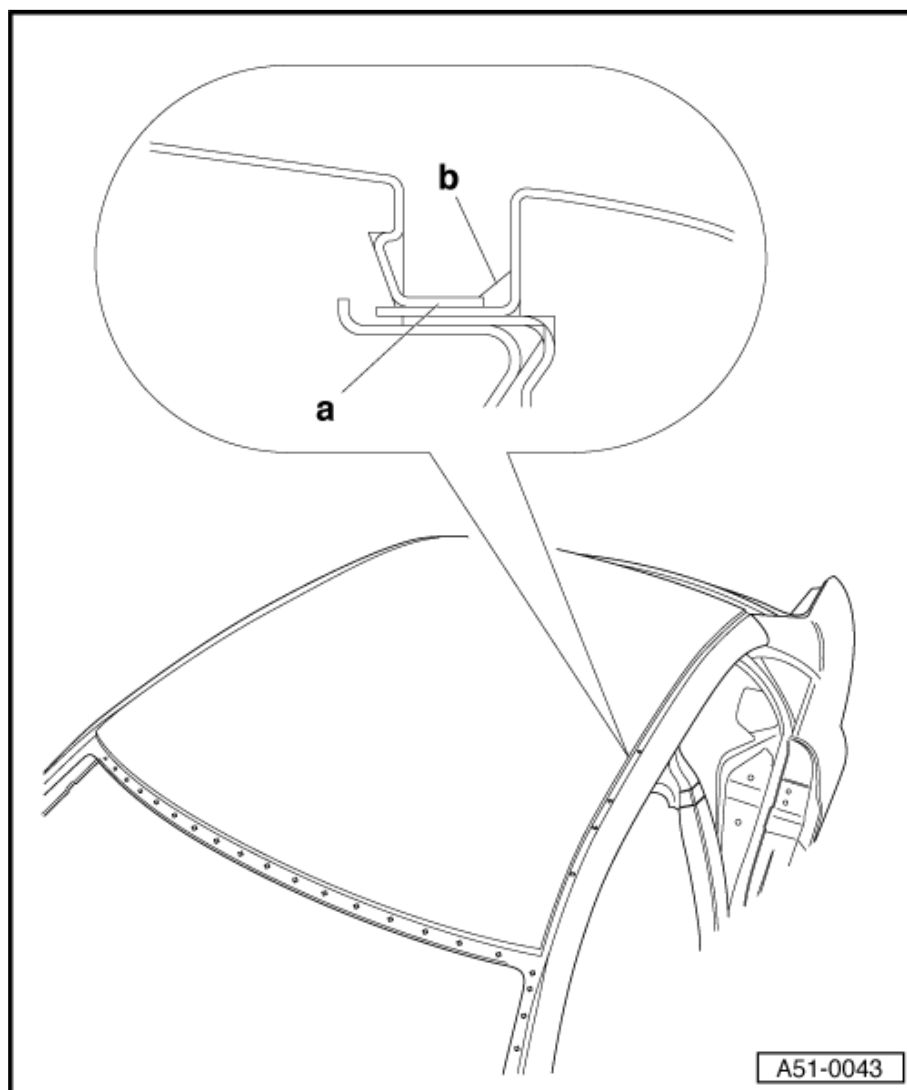
AP: 51 03 55 00

1 Roof - Renewal

1.1 Procedure

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1.1.1 Cutting locations

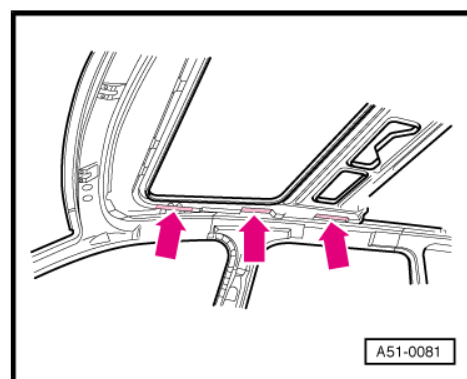


– Separate original joint.



Note:

- ◆ *Drill off the spot welds in the joint from underneath.*
- ◆ *Mask roof frame with fabric-backed tape to protect against damage.*
- ◆ *The roof is additionally bonded in the channel. If necessary, use a chisel to remove the adhesive from the inside.*
- ◆ *a = Adhesive b = Seal*
- Detach part.
- Remove adhesive remnants with knife and scraper.
- On models with sun roof, cut through bond points with a knife.



1.1.2 Replacement parts

- ◆ Roof
- ◆ Body adhesive DA 001 730 A1

Preparing new part

- Grind down bonding surface on body to bare metal.
- Grind off primer only in vicinity of spot welds.
- Clean bonding area (it must be free of dust and grease).

1.1.3 Welding in

- On models with sun roof, apply assembly adhesive in the area of the roof reinforcement.

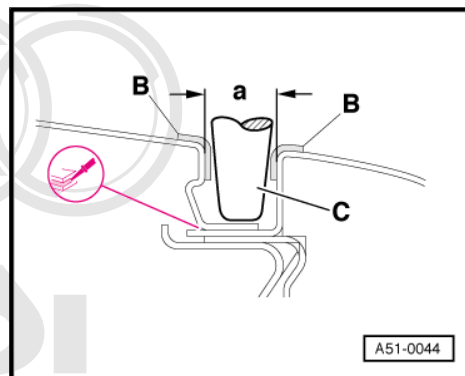


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- Use fabric-backed tape -B- to mask the roof and roof frames.
- Adapt electrode -C- for sealing channel.
- Apply adhesive. Diameter of adhesive bead approx. 3.5 mm. Leave 15 mm either side of spot welds free of adhesive.


Caution:

The new part must be welded in within 30 minutes, otherwise the strength of the adhesive joint will be impaired.



- Fit roof and fix in place. Press in roof at sealing channel in order to force out adhesive.


Caution:

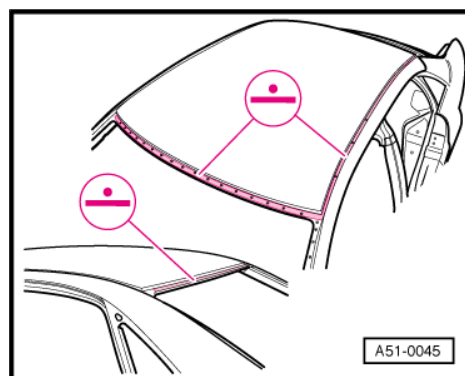
Check fit with windscreen and rear window. It is important to maintain dimension -a- of 12 + 1 mm for roof joint strip.

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Note:

If adhesive comes out on both sides over the full length of the joint, this indicates that sufficient adhesive has been applied.

- Spot weld roof, RP spot weld seam.
- Wipe off adhesive emerging from joint.
- Apply sealant in sealing channel.

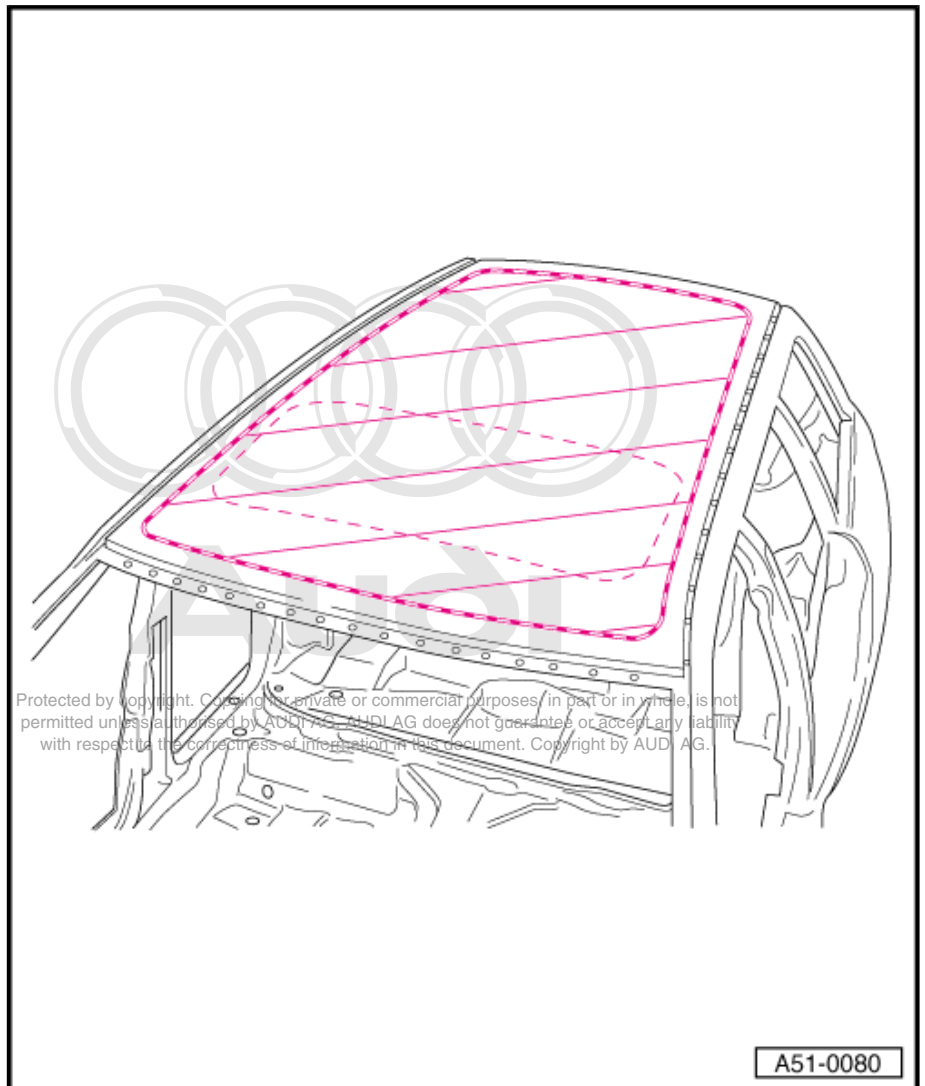


AP: 51 03 55 14

2 Roof - Renewal (Avant)

2.1 Procedure

2.1.1 Cutting locations



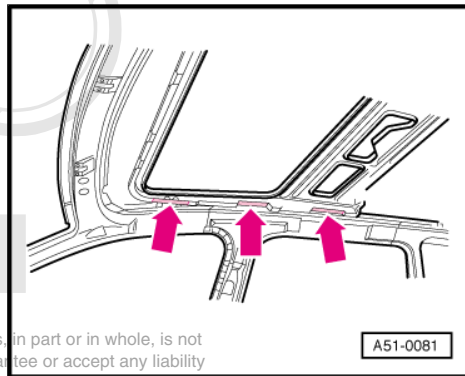
- Roughly cut out roof.



Note:

Cut out roof reinforcement as well.

- On models with sun roof, cut through bond points with a knife.



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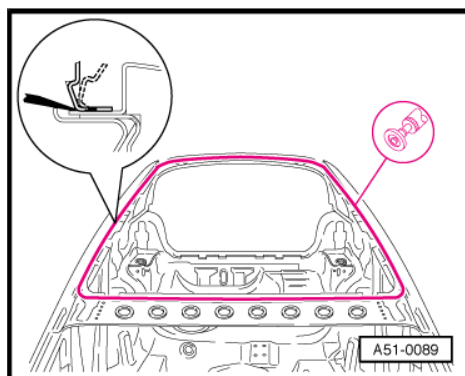
- Remove sealing compound from sealing channel.
- Grind surface of laser weld seam and use chisel to bend up remaining pieces and prise off.



Note:

Only grind surface of laser weld seam. Do not grind through roof. If the roof frame is damaged, this must also be replaced.

- Remove remaining material.



2.1.2 Replacement parts

- ◆ Roof
- ◆ Butyl adhesive sealing cord AKL 450 005 05
- ◆ Body adhesive DA 001 730 A1
- ◆ Assembly adhesive D 190 MKD A3
- ◆ Pop rivet 3.2 x 6.6 N 907 979 01

Preparing new part

- Mark positions of spot welds -a-, -b-, -c-, -d- and rivet holes with soft pencil.



Note:

If the replacement roof panel is not to be riveted and bonded, make holes in new part for SG plug weld seam in the area of the rivet holes.

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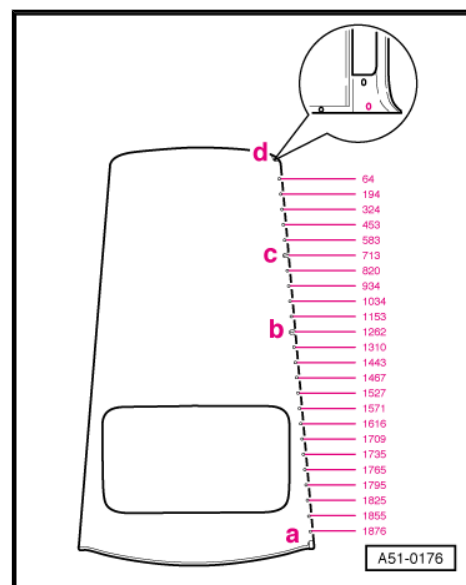
- Fit roof and fix in place.



Caution:

Check fit with windscreen and rear window. It is important to maintain dimension -a- of 12 + 1 mm for roof joint strip.

- Drill $\varnothing$ 3.2 mm rivet holes at the locations marked x. Take off roof and de-burr holes.
- Grind down bonding surface on body to bare metal.
- Grind off primer only in vicinity of spot welds.
- Clean bonding area (it must be free of dust and grease).



2.1.3 Welding in

- Place a 150 mm length of butyl cord centrally over rear lid hinge cut-out on roof cross member.
- On models with sun roof, apply assembly adhesive in the area of the roof reinforcement.
- Apply adhesive. Diameter of adhesive bead approx. 3.5 mm. Leave 15 mm either side of spot welds free of adhesive.



Caution:

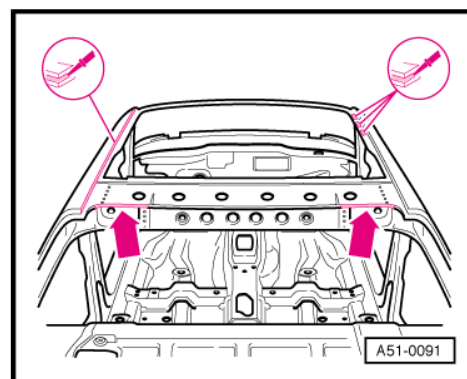
The new part must be welded in within 30 minutes, otherwise the strength of the adhesive joint will be impaired.

- Fit roof and fix in place. Press in roof at sealing channel in order to force out adhesive.



Note:

If adhesive comes out on both sides over the full length of the joint, this indicates that sufficient adhesive has been applied.

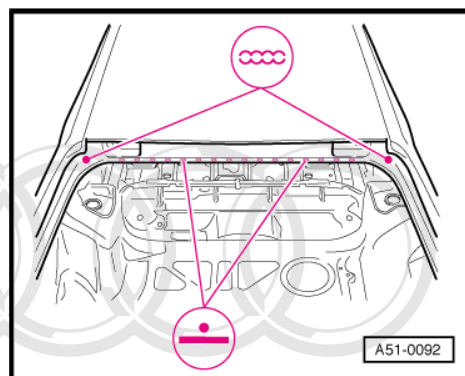
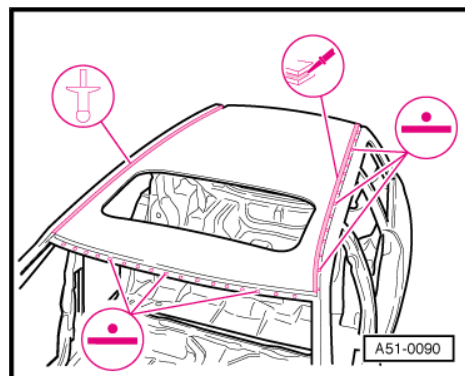


- Set pop rivets.
- Spot weld roof, RP spot weld seam.
- Wipe off adhesive emerging from joint.
- Apply sealant (2 mm thick) in sealing channel.


Note:

The seal must be even and thin. Unevenness will be visible on the roof trim strip (wavy).

- Spot weld roof, RP spot weld seam.
- Braze roof.
- Working from the passenger compartment, fill gap between roof and roof frame (front and rear) with sealant.



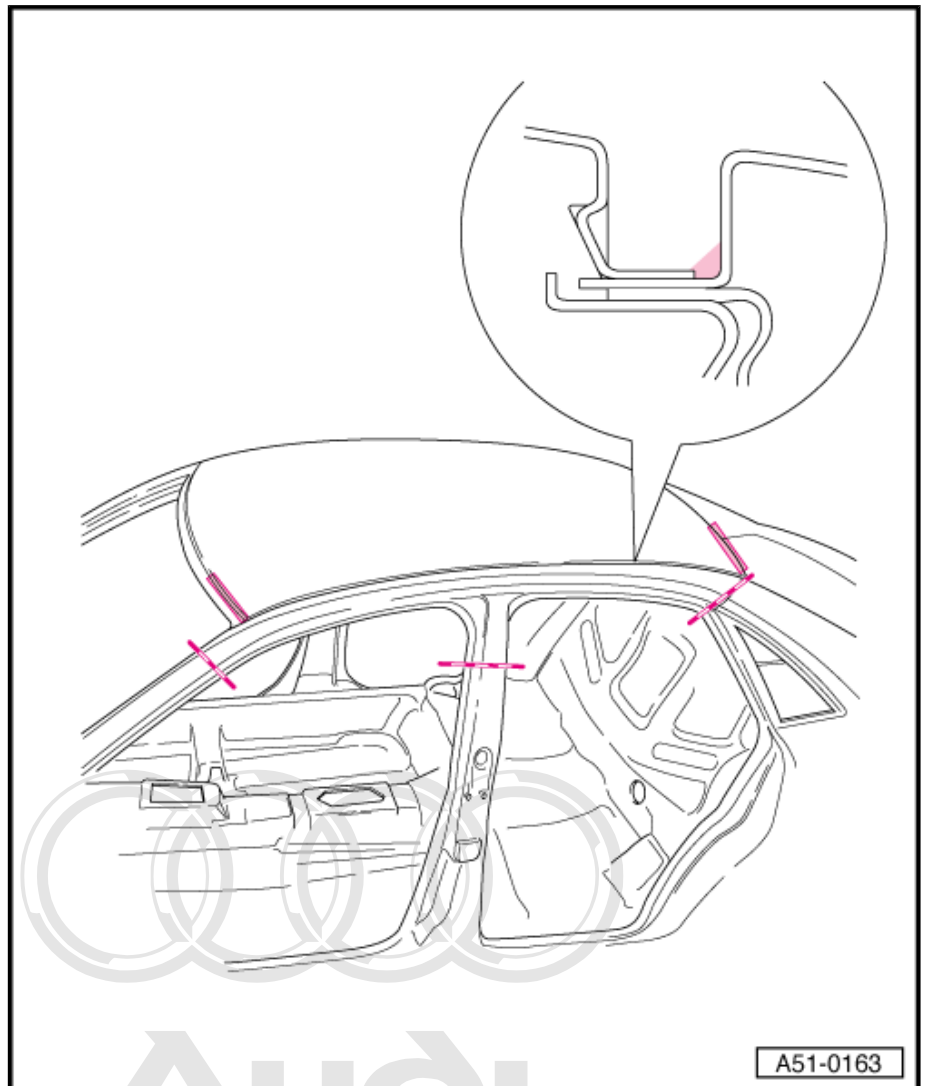
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AP: 51 05 55 00

3 Roof side member - Renewal

3.1 Procedure

3.1.1 Cutting locations



- Make separating cut at A and B-pillar according to degree of damage.

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- Separating cut, D-pillar 15 mm above original joint.



Note:

Fully sand down paint to locate original joint.

- Pay attention to D-pillar internal reinforcement.


Note:

This separating cut is not required if the side panel is also to be replaced.

- Separate 5 spot welds from roof in area of both windscreen and rear window.
- Separate original joint.


Note:

- ◆ *Drill off the spot welds in the joint from underneath.*
- ◆ *The spot welds are to be drilled off from above if the roof is also to be replaced.*
- ◆ *Mask roof with fabric-backed tape to protect against damage.*
- ◆ *The roof is additionally bonded in the channel. If necessary, use a chisel to remove the adhesive from the inside.*
- ◆ *a = Adhesive b = Seal*

- Detach part outwards.

3.1.2 Replacement part

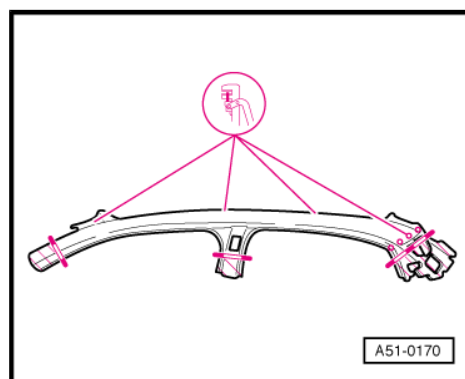
- ◆ Outer roof frame
- ◆ Body adhesive DA 001 730 A1

Preparing new part

- Transfer separating cuts to new part and cut off hatched area.
- Make holes in outer joint surface of new part.


Note:

Only the rear hole is to be produced if the roof is also to be replaced.



3.1.3 Welding in

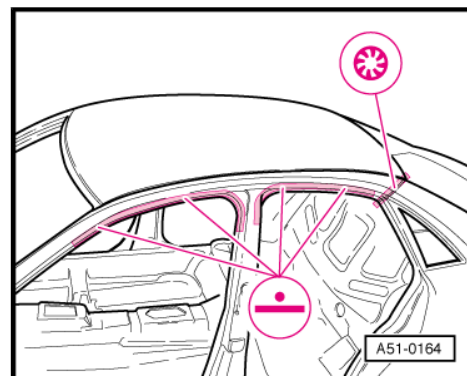
- Place an additional thickness of the same material behind the separating cut at the D-pillar.
- Match up and fix new part in position.


Caution:

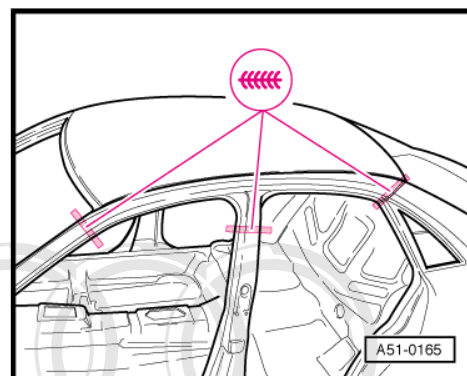
Check fit with windscreen and rear window. It is important to maintain dimension -a- of 12 + 1 mm for roof joint strip.

- Check accuracy of fit with doors fitted.

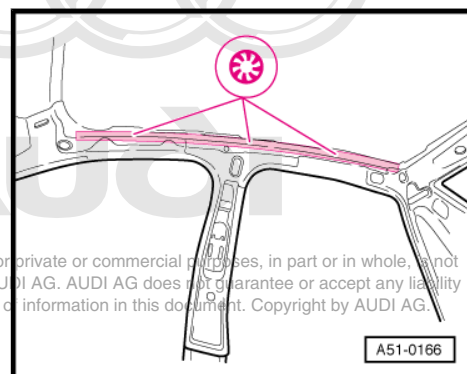
- Weld in new part, RP spot weld seam.
- Weld overlap, SG plug weld seam.



- Butt weld separating cuts, SG continuous seam.



- Weld in new part, SG plug weld seam.



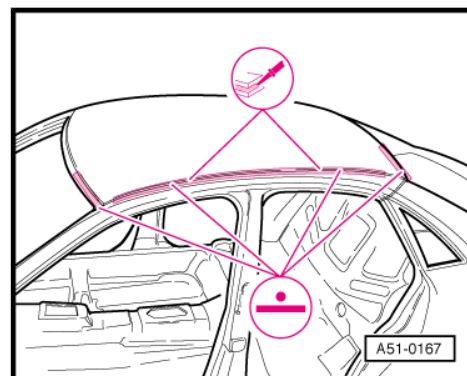
- Lift up side of roof and remove welding residue from joint.
- Apply adhesive. Diameter of adhesive bead approx. 3.5 mm. Leave 15 mm either side of spot welds free of adhesive.



Caution:

The new part must be welded in within 30 minutes, otherwise the strength of the adhesive joint will be impaired.

- Weld in roof, SG plug weld seam.
- Spot weld roof, RP spot weld seam ⇒ [page 60](#) .

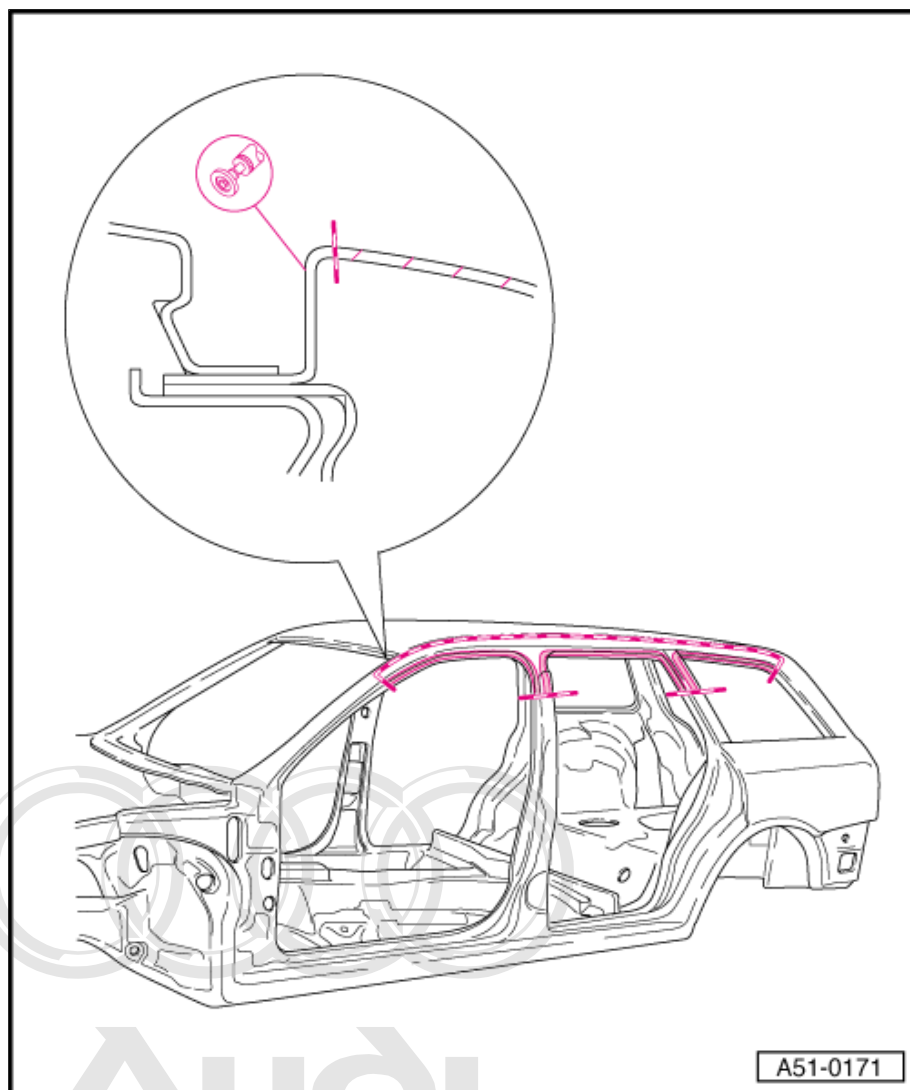


AP: 51 05 55 02

4 Roof side member - Renewal (Avant)

4.1 Procedure

4.1.1 Cutting locations



- Make separating cuts on A+B+C+D pillars according to degree of damage.

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- Roughly cut out roof side member.
- Separate original joint.

**Note:**

Do not cut through the laser weld. The replacement part is fitted onto the roof flange.

- Grind down flange until flush.

A special hose set with reduced nozzle diameter is required for the shielded arc welding unit when performing repairs on the roof.

- ◆ Hose set for shielded arc welding -VAS 5023-

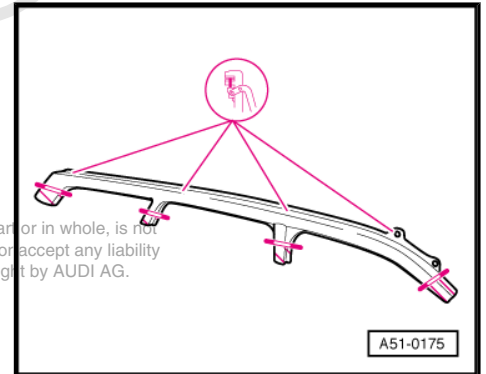
4.1.2 Replacement part

- ◆ Outer roof frame

Preparing new part

- Transfer separating cuts to new part and cut off hatched area.
- Make holes in outer joint surface of new part, [⇒ page 62](#).

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4.1.3 Welding in

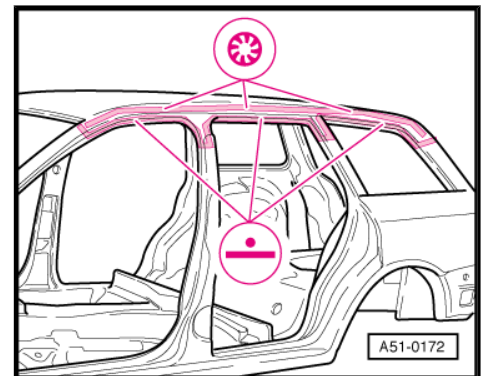
- Place an additional thickness of the same material behind the separating cut at the D-pillar.
- Match up and fix new part in position.



Caution:

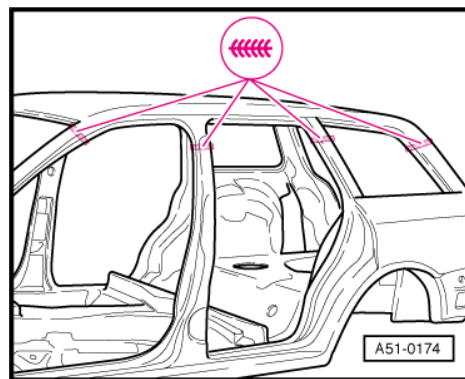
Check fit with windscreen and rear window. It is important to maintain dimension -a- of 12 + 1 mm for roof joint strip.

- Check accuracy of fit with doors fitted.
- Weld in new part, RP spot weld seam.
- Weld overlap, SG plug weld seam.

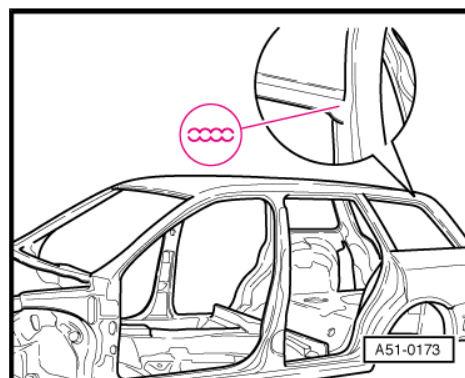




- Butt weld separating cuts, SG continuous seam.



- Braze roof side member.
- Apply sealant in sealing channel, ⇒ [page 64](#) .



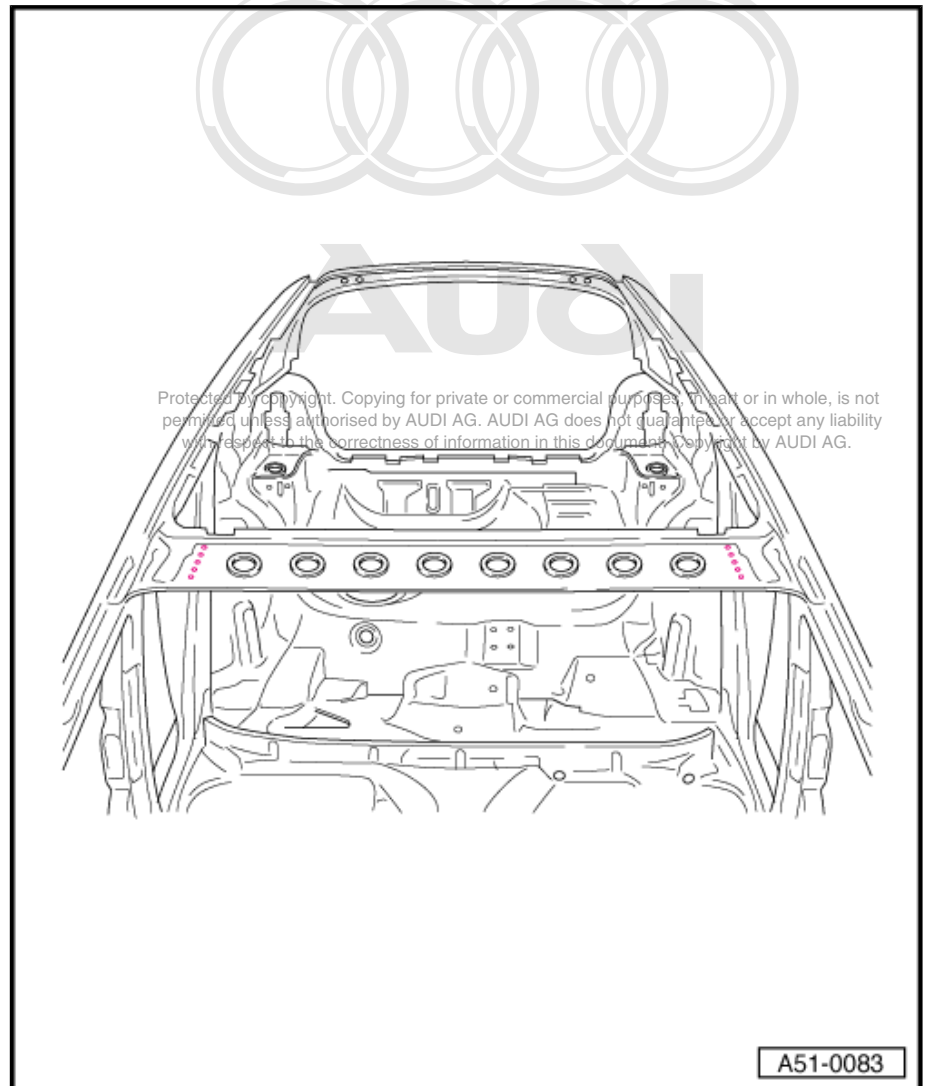
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AP: 51 07 55 50

5 Front roof cross member - Renewal

5.1 Procedure

5.1.1 Cutting locations



- Roof already removed.
- Separate original joint.
- Remove remaining material.



Note:

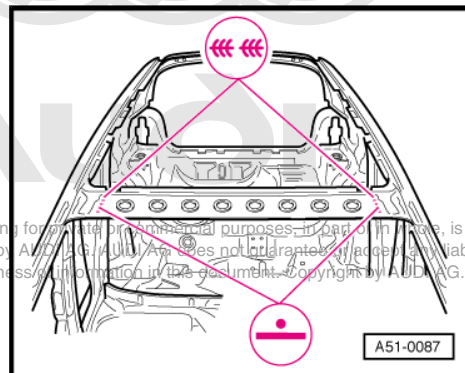
This joint is additionally bonded. Make additional 2 x 10 mm SG continuous seams in place of bonded joints.

5.1.2 Replacement part

- ◆ Roof cross member

5.1.3 Welding in

- Match up and fix new part in position.
- Weld in new part, RP spot weld seam.
- Weld remaining joint, staggered SG continuous seam.



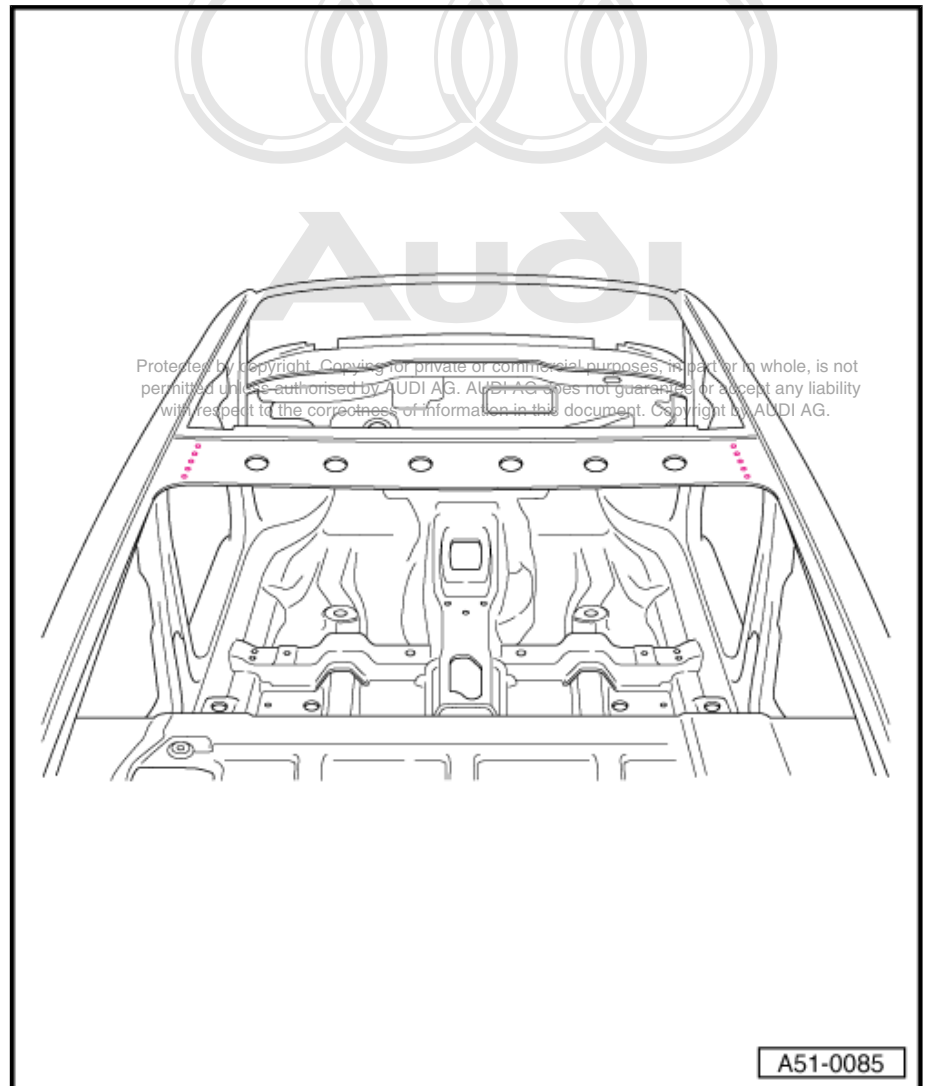
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AP: 51 09 55 50

6 Rear roof frame - Renewal

6.1 Procedure

6.1.1 Cutting locations



- Roof already removed.
- Separate original joint.
- Remove remaining material.



Note:

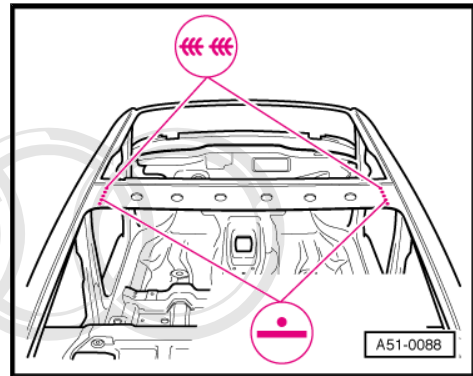
This joint is additionally bonded. Make additional 2 x 10 mm SG continuous seams in place of bonded joints.

6.1.2 Replacement part

- ◆ Roof frame

6.1.3 Welding in

- Match up and fix new part in position.
- Weld in new part, RP spot weld seam.
- Weld remaining joint, staggered SG continuous seam.



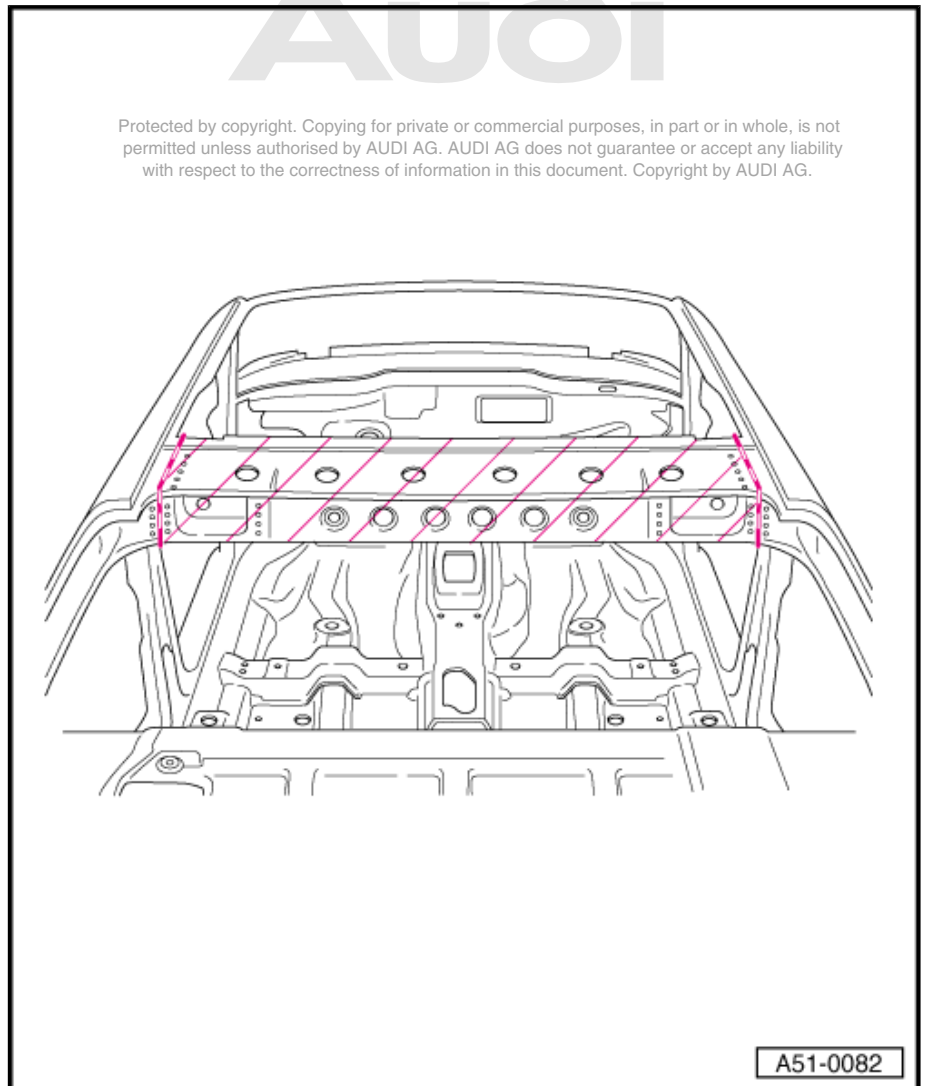
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AP: 51 09 55 52

7 Rear roof frame - Renewal (Avant)

7.1 Procedure

7.1.1 Cutting locations



- Roof already removed.
- Cut out roof frame.
- Remove remaining material.



Note:

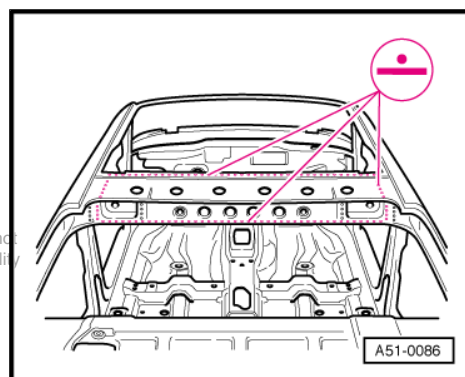
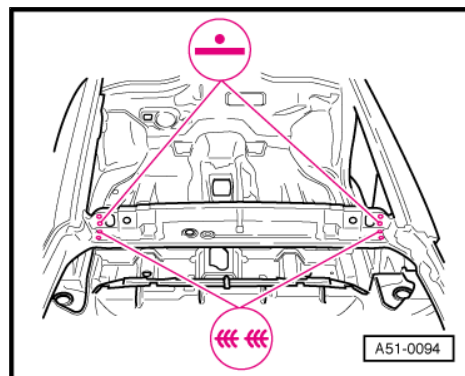
This joint is additionally bonded. Make additional 2 x 10 mm SG continuous seams in place of bonded joints.

7.1.2 Replacement parts

- ◆ Rear roof frame
- ◆ Rear roof frame (inner)
- ◆ Body adhesive DA 001 730 A1

7.1.3 Welding in

- Match up and fix new part in position.
- Weld in new part, RP spot weld seam.
- Weld remaining joint, staggered SG continuous seam.



- Weld in new part, RP spot weld seam.

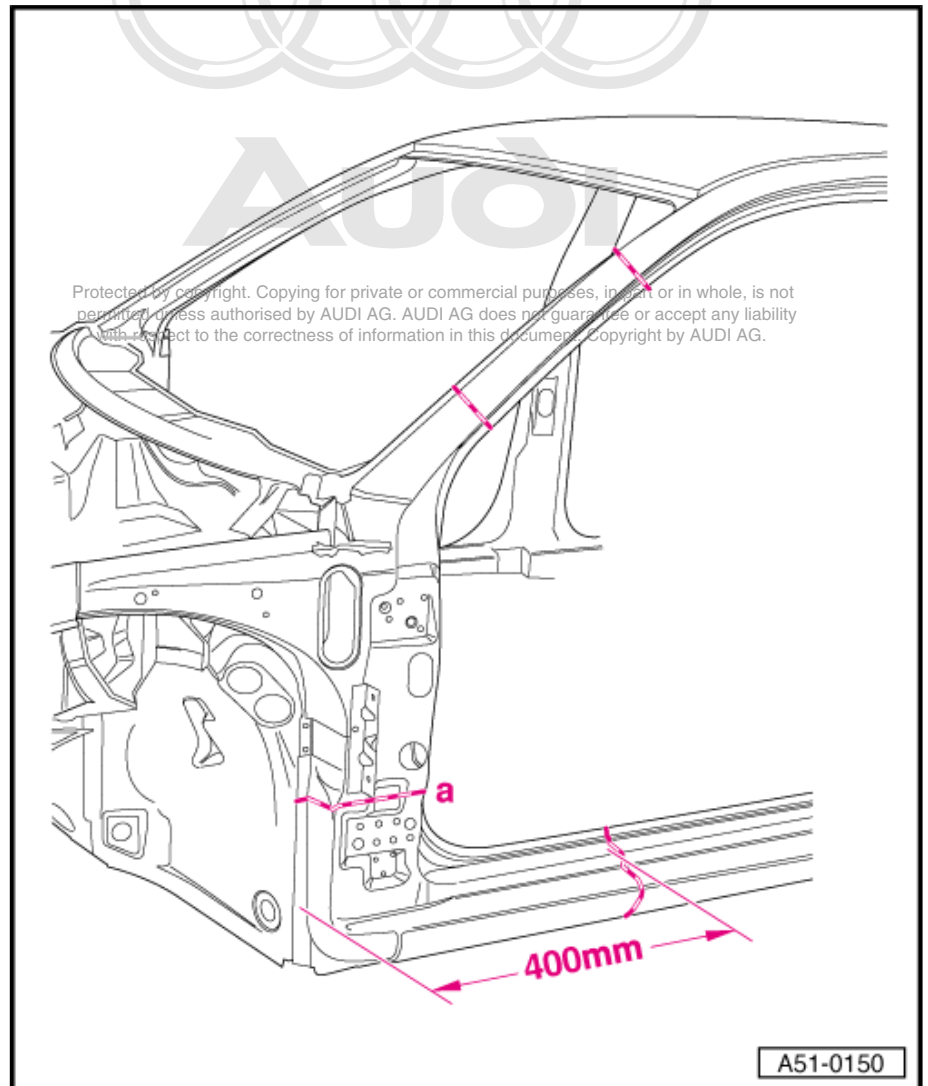
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AP: 51 37 55 00

8 A-pillar - Renewal

8.1 Procedure

8.1.1 Cutting locations



- Cut out wheel housing reinforcement ⇒ [page 49](#) .
- Make separating cut at top according to extent of damage. Do not cut in vicinity of inner reinforcement.
- Take care not to damage inner reinforcement when making separating cut in sill.
- Separate original joint.



Note:

- ◆ *Partial repair is also possible with separating cut -a- ⇒ [page 88](#) .*
- ◆ *On account of internal reinforcement, the separating cut is only to be made at this location.*

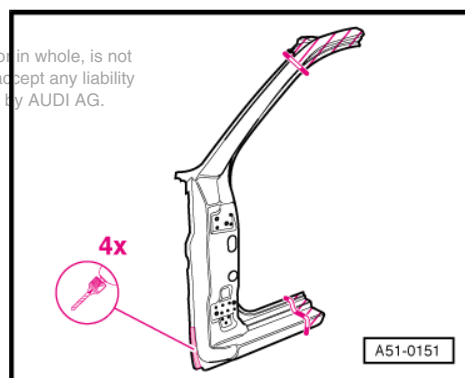
8.1.2 Replacement parts

- ◆ A-pillar (sub-part)
- ◆ Reinforcement plate

Preparing new part

- Drill dia. 7 mm holes for SG plug weld seam.

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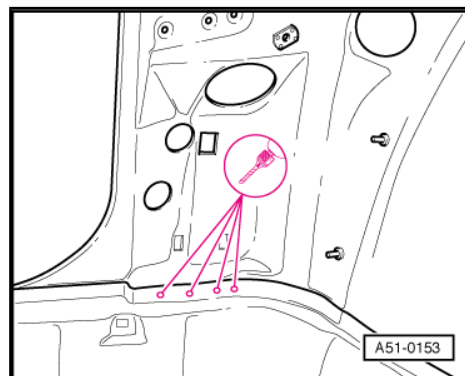


- Transfer separating cut to new part and cut to size.
- Drill dia. 7 mm holes for SG plug weld seam.



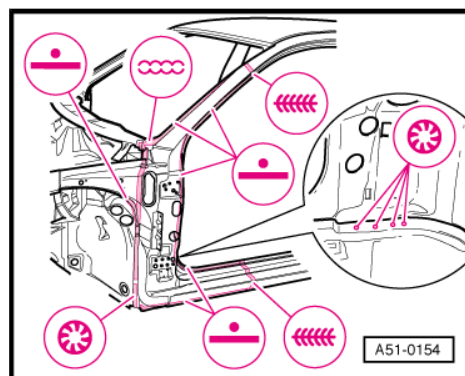
Note:

Do not re-press stamped areas in sill flange.



8.1.3 Welding in

- Weld in A-pillar, RP spot weld seam.
- Butt weld separating cuts, SG continuous seam.
- Additionally weld A-pillar, SG plug weld seam.
- Braze A-pillar.
- Seal stamped sections in sill area.
- Weld in wheel housing reinforcement ⇒ [page 50](#) .

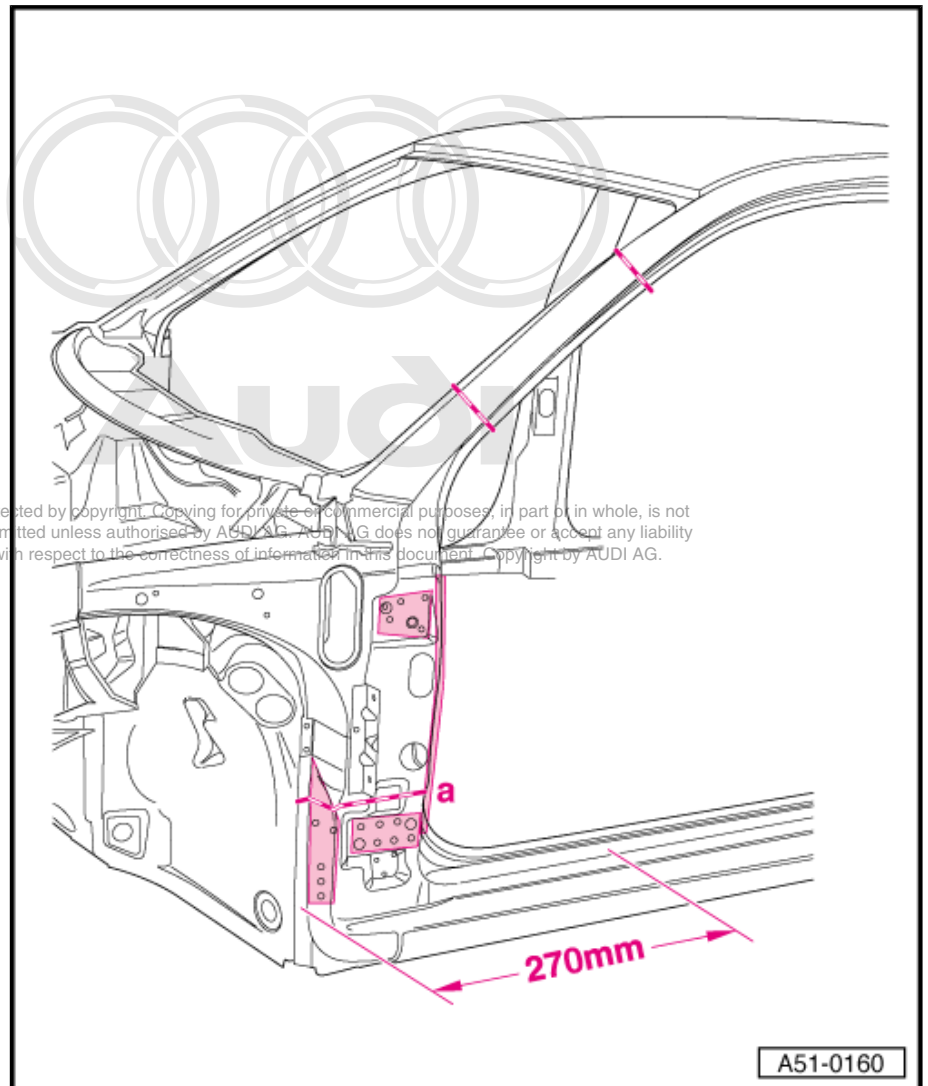


AP: 51 37 55 01

9 A-pillar - Renewal

9.1 Procedure

9.1.1 Cutting locations



Vehicles with reinforcement

- Gradual introduction as of date of manufacture 09.96 for Saloon and Avant
- Can be identified from stamped areas in sill flange
- Cut out wheel housing reinforcement ⇒ [page 49](#) .
- Make separating cut at top according to extent of damage. Do not cut in vicinity of inner reinforcement.
- Take care not to damage inner reinforcement when making separating cut in sill.

- Separate original joint. Inner reinforcement must be drilled off.
- Detach part.
- Separate original joint.



Note:

- ◆ *Partial repair is also possible with separating cut -a- ⇒ [page 92](#).*
- ◆ *On account of internal reinforcement, the separating cut is only to be made at this location.*

9.1.2 Replacement parts

- ◆ A-pillar (sub-part)
- ◆ Body adhesive DA 001 730 A1
- ◆ Reinforcement plate

Preparing new parts

- Drill dia. 7 mm holes for SG plug weld seam.

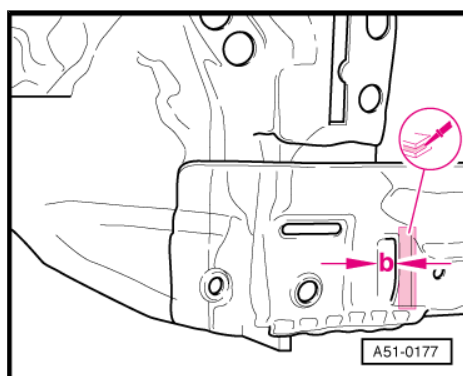
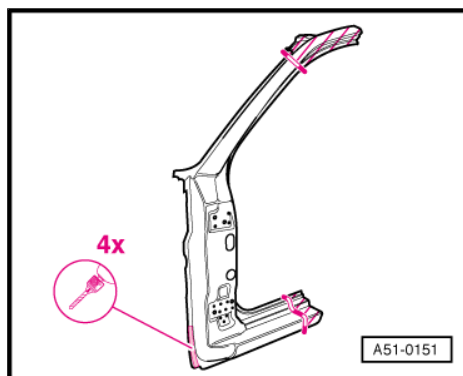
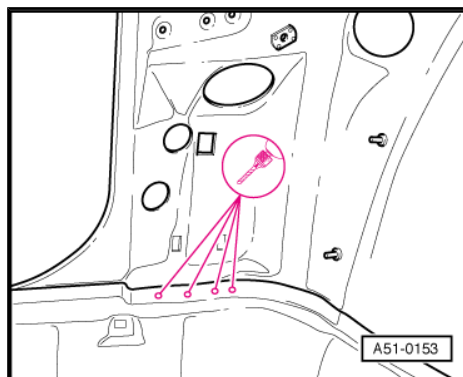
- Transfer separating cut to new part and cut to size.
- Drill dia. 7 mm holes for SG plug weld seam.
- Clean bonding area (it must be free of dust and grease).

- Dimension b = 35 mm
- Clean bonding area (it must be free of dust and grease).
- Apply adhesive (20 mm wide and 5 mm thick).



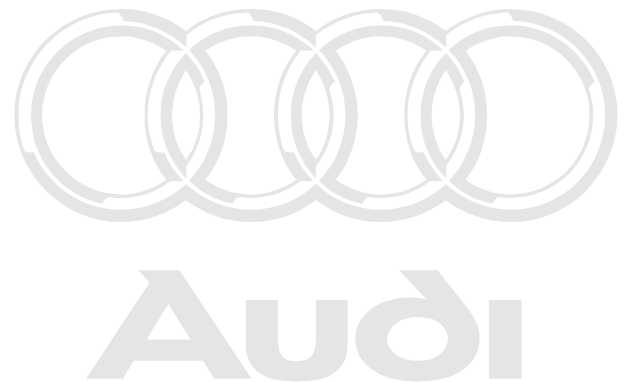
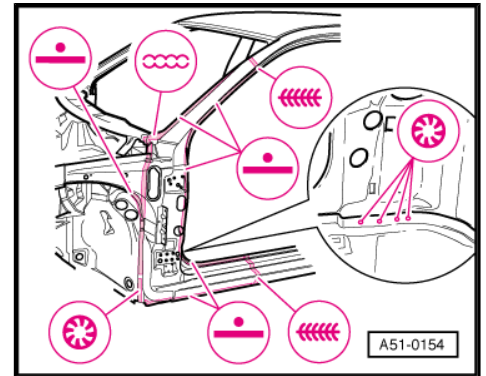
Caution:

The new part must be welded in within 30 minutes, otherwise the strength of the adhesive joint will be impaired.



9.1.3 Welding in

- Weld in A-pillar, RP spot weld seam.
- Butt weld separating cuts, SG continuous seam.
- Additionally weld A-pillar, SG plug weld seam.
- Braze A-pillar.
- Weld in wheel housing reinforcement ⇒ [page 50](#) .



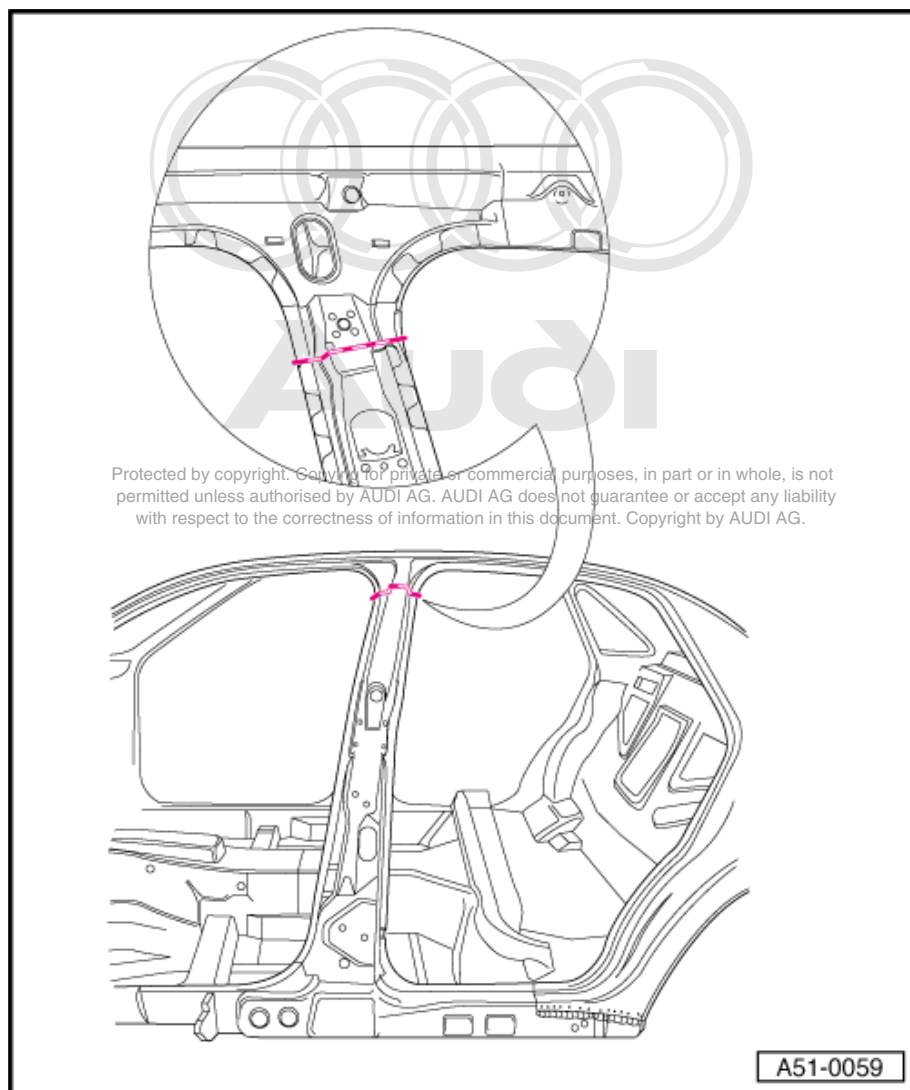
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AP: 51 41 55 00

10 B-pillar - Renewal

10.1 Procedure

10.1.1 Cutting locations



Includes: Inner B-pillar.

- Cut out rear section of outer side member, ⇒ [page 88](#) .
- Cut inner B-pillar below welded nut for seat belt.
- Separate outer B-pillar 40 mm further up.
- Separate original joint.

 Note:

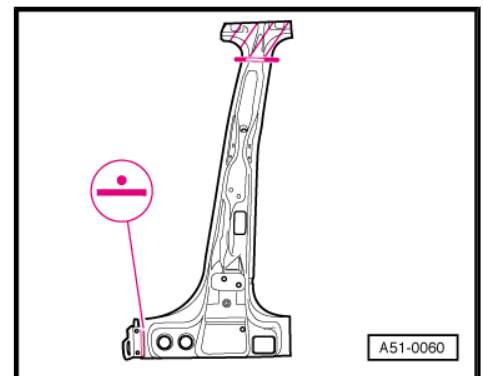
- ◆ The outer B-pillar can also be replaced separately. No inner B-pillar separating cut, separate original joint.
- ◆ Also replace inner reinforcement if necessary.

10.1.2 Replacement parts

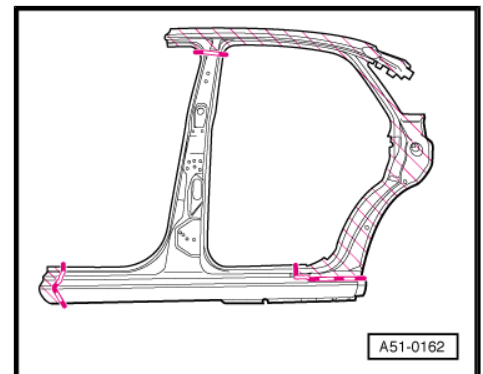
- ◆ Sub-part: B-pillar with side member and C-pillar
- ◆ Inner B-pillar
- ◆ Bulkhead plate

Preparing new parts

- Transfer separating cut to new part and cut to size.
- Fix bulkhead plate in position at inner B-pillar and weld in, RP spot weld seam.

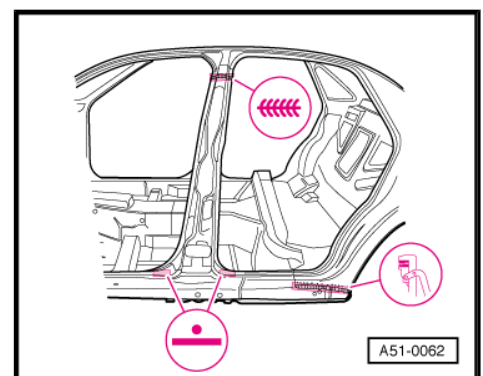


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- Transfer separating cuts to new part and cut to shape.
 - Drill holes for SG plug weld seam in side member, Ø 7 mm, [⇒ page 89](#).

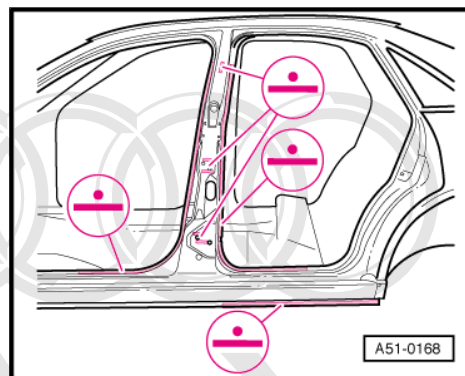


10.1.3 Welding in

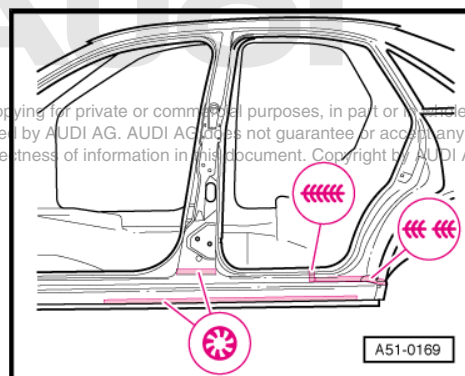
- Step separating cut at body.
- Match up inner B-pillar with no load on vehicle and fix in position.
- Spot weld inner B-pillar, RP spot weld seam.
- Butt weld separating cut, SG continuous seam.



- Match up B-pillar with side member with no load on vehicle and fix in position.
- Spot weld B-pillar, RP spot weld seam.



- Weld in B-pillar and side member, SG plug weld seam.
- Butt weld separating cuts, SG continuous seam.
- Produce overlap weld at separating cut, SG continuous seam (staggered).



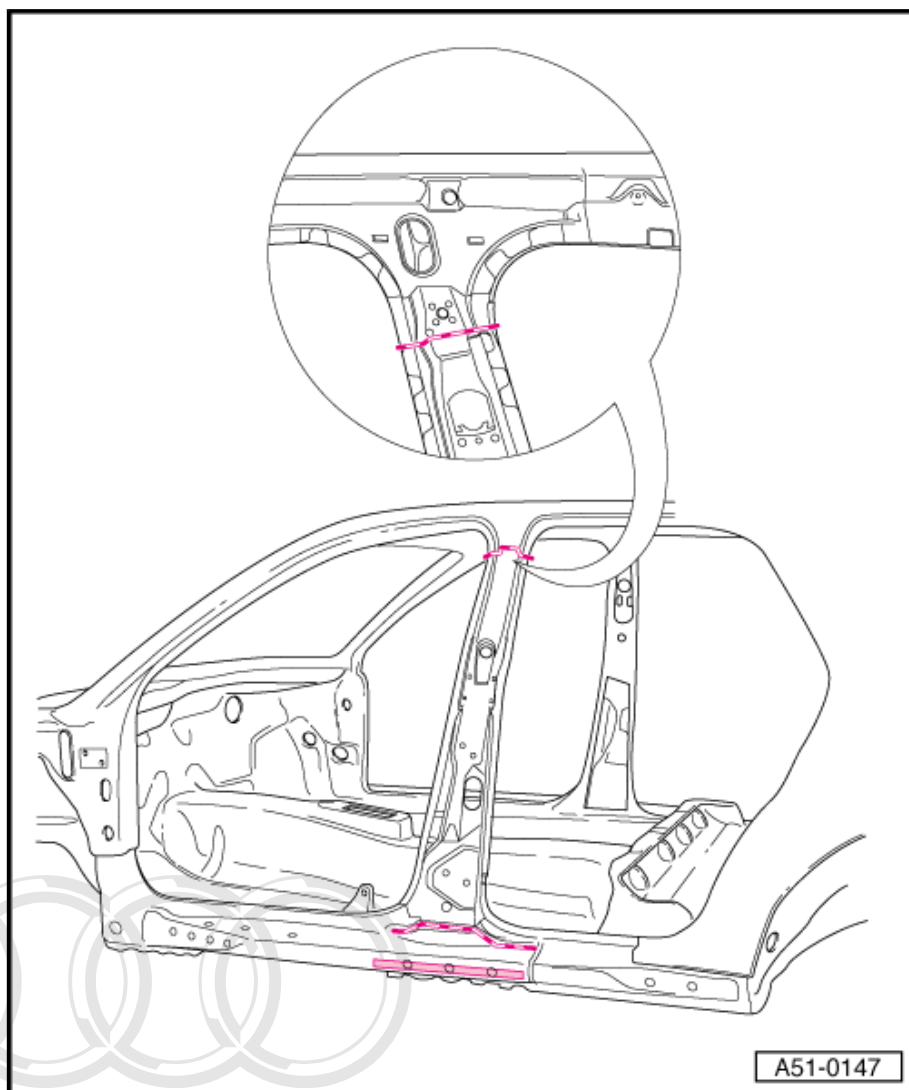
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11 B-pillar - Renewal

11.1 Procedure

11.1.1 Cutting locations



Includes: Inner B-pillar

Vehicles with reinforcement

- Gradual introduction as of date of manufacture 09.96 for Sa-
loon and Avant
- Can be identified from stamped areas in sill flange
- Cut out rear section of outer side member ⇒ [page 92](#) .
- Cut inner B-pillar below welded nut for seat belt.
- Separate outer B-pillar 40 mm further up.

- Separate original joint.



Note:

- ◆ The outer B-pillar can also be replaced separately. No inner B-pillar separating cut, separate original joint.
- ◆ Partial renewal is possible with the separating cut shown. Joggle-joint in separation area and SG continuous seam (staggered).

11.1.2 Replacement parts

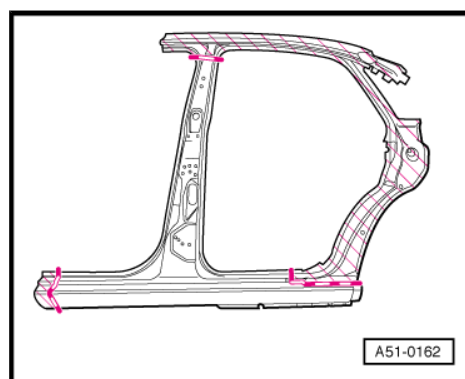
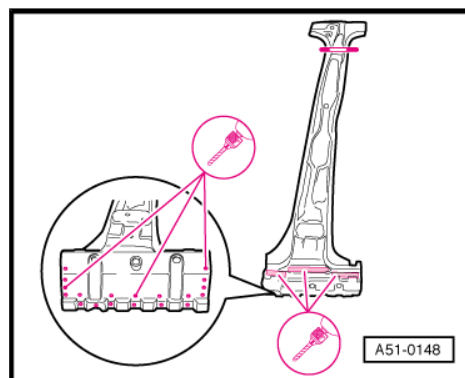
- ◆ Sub-part: B-pillar with side member and C-pillar

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- ◆ Inner B-pillar

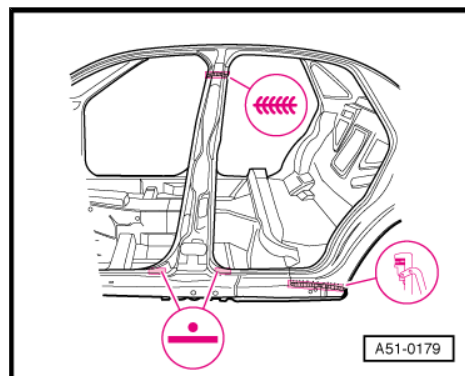
Preparing new part

- Transfer separating cut to new part and cut to size.
- Drill dia. 7 mm holes for SG plug weld seam.
- Transfer separating cuts to new part and cut to shape.
- Drill holes for SG plug weld seam in side member, Ø 7 mm, [⇒ page 89](#).

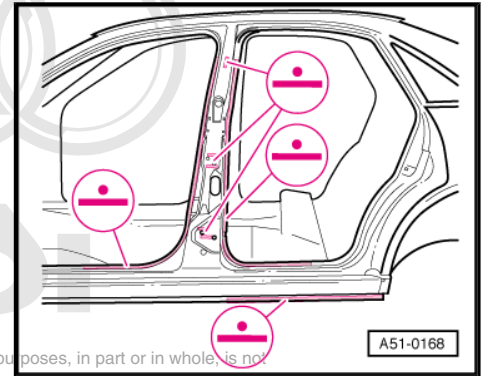


11.1.3 Welding in

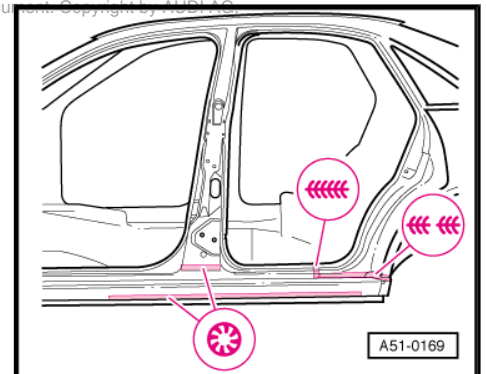
- Step separating cut at body.
- Match up inner B-pillar with no load on vehicle and fix in position.
- Spot weld inner B-pillar, RP spot weld seam.
- Butt weld separating cut, SG continuous seam.



- Match up B-pillar with side member with no load on vehicle and fix in position.
- Spot weld B-pillar, RP spot weld seam.



- Weld in B-pillar and side member, SG plug weld seam.
- Butt weld separating cuts, SG continuous seam.
- Produce overlap weld at separating cut, SG continuous seam (staggered).

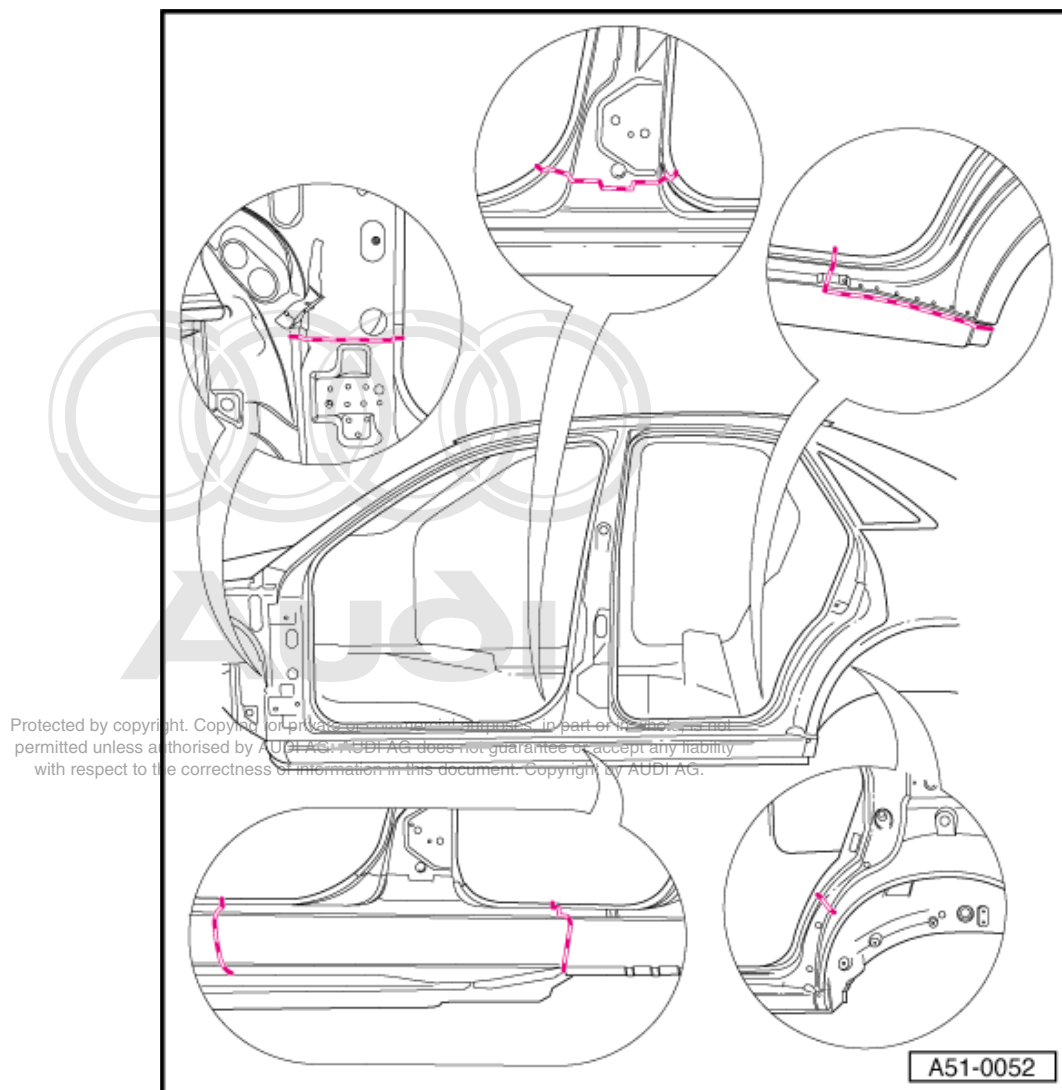


AP: 51 45 55 00

12 Outer side member - Renewal

12.1 Procedure

12.1.1 Cutting locations



- Separating cut on A-pillar above swage line Unfasten reinforcement section at bottom and bend open.
- B-pillar separating cut 20 mm beneath stamped area.


Caution:

The body will sag on making the B-pillar separating cut. Support must be provided.

- Rear separating cut 15 mm in front of side panel.



Note:

Do not damage inner reinforcement in vicinity of side member.

- Grind through outer edge of wheel housing.
- Separate original joint. Inner reinforcement must be drilled off.
- Detach part.



Note:

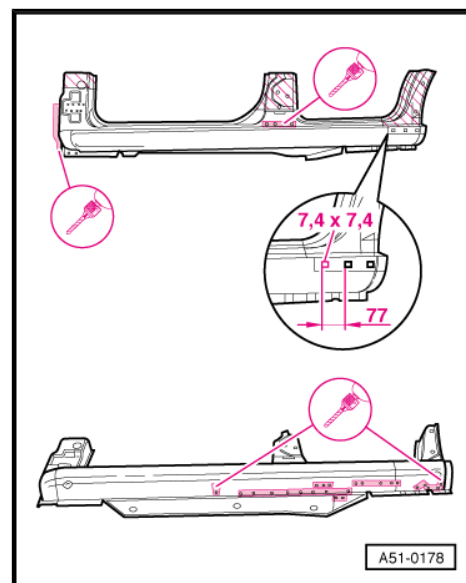
- ◆ *Partial replacement is possible with the separating cuts illustrated. SG continuous butt weld in the separated area.* permitted unless authorised by AUDI AG. AUDI AG does not guarantee or accept any liability with respect to the correctness of information in this document. Copyright by AUDI AG.
- ◆ *Produce rear separating cut further up if outer side panel has already been removed.*
- ◆ *Also replace inner reinforcement if necessary.*

12.1.2 Replacement parts

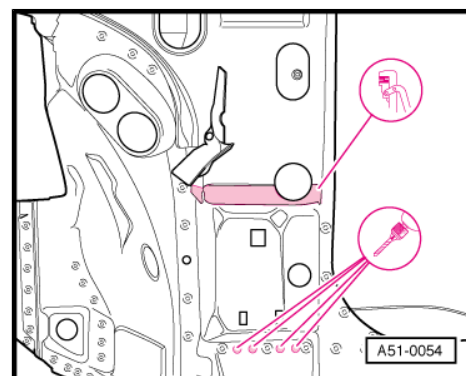
- ◆ Side member (sub-part)
- ◆ Bulkhead plate
- ◆ Reinforcement

Preparing new part

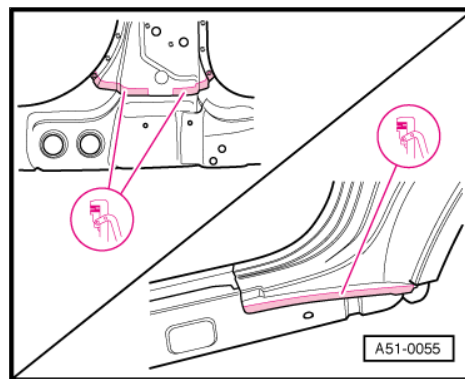
- Transfer separating cut to new part plus 15 mm for overlap. Cut off hatched area.
- On vehicles up to MY.96 make front square hole for sill panel trim.
- Drill holes for SG plug weld seam, $\varnothing$ 7 mm.



- Drill dia. 7 mm holes for SG plug weld seam.
- Step separating cut at body.

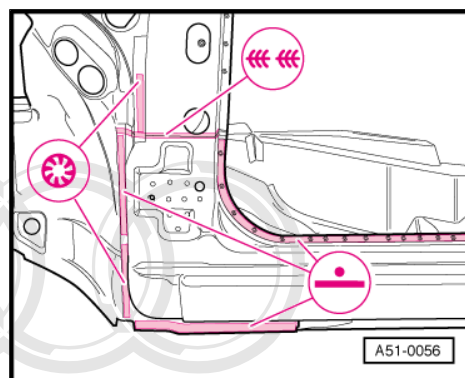


- Step separating cut at body.

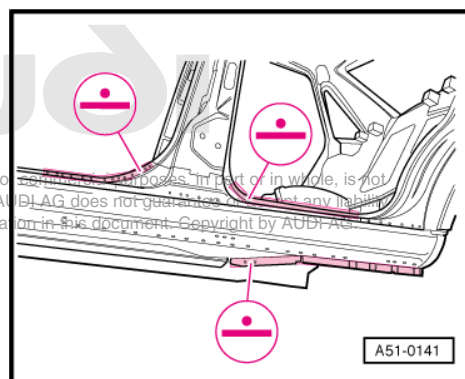


12.1.3 Welding in

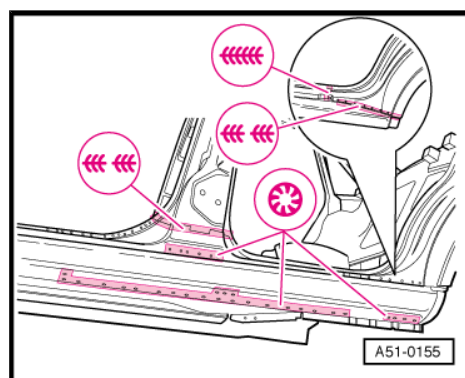
- Fit side member with no load on vehicle.
- Weld in side member, RP spot weld seam.
- Produce overlap weld at separating cut, SG continuous seam (staggered).
- Align closure plate.
- Weld in remaining joint, SG plug weld seam.



- Weld in side member, RP spot weld seam.

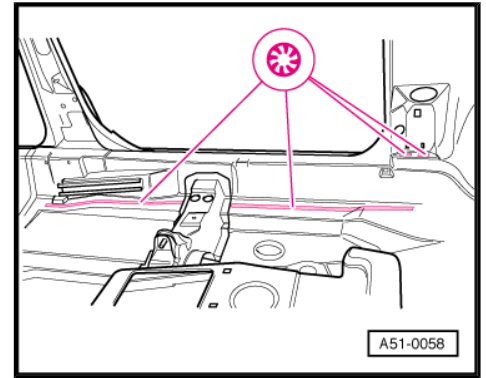


- Produce overlap weld at separating cut, SG continuous seam (staggered).
- Butt weld separating cut, SG continuous seam.
- Weld in remaining joint, SG plug weld seam.



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- Weld in side member from inside, SG plug weld seam.



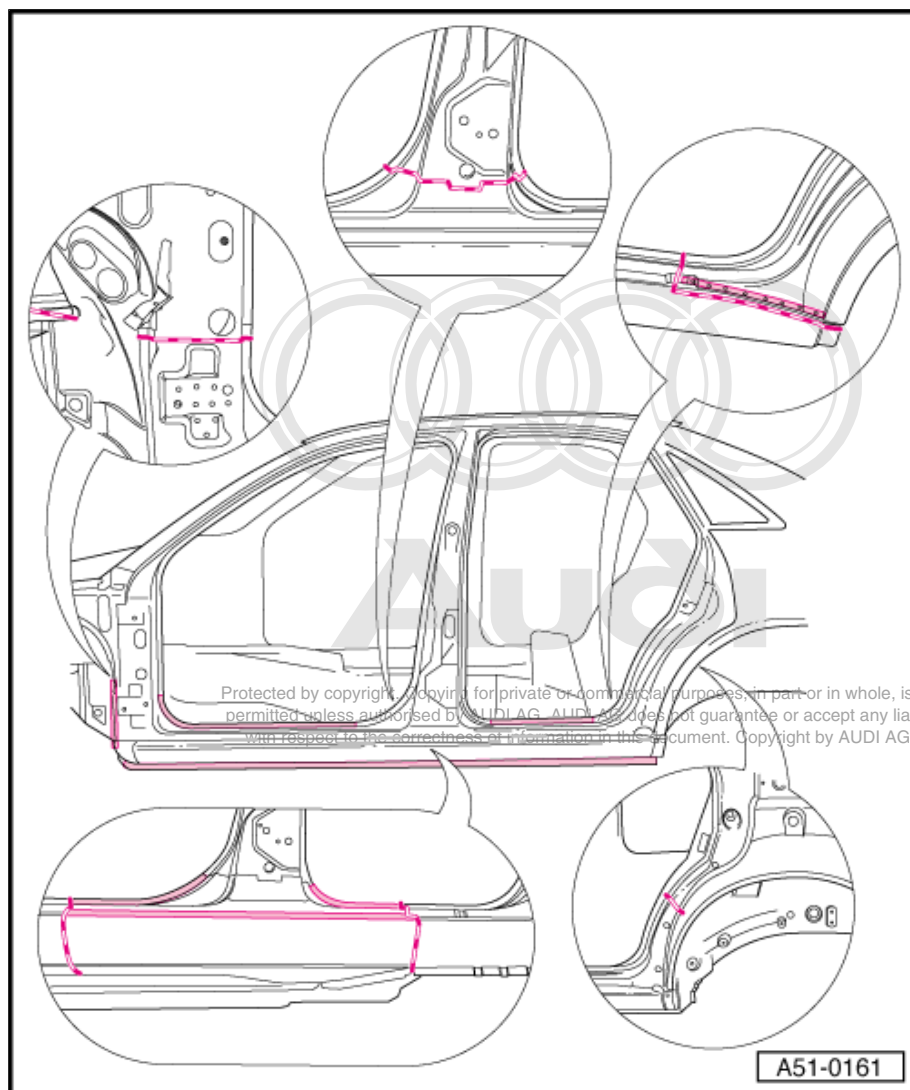
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AP: 51 45 55 02

13 Outer side member - Renewal

13.1 Procedure

13.1.1 Cutting locations



Vehicles with reinforcement

- Gradual introduction as of date of manufacture 09.96 for Saloon and Avant
- Can be identified from stamped areas in sill flange
- Separating cut on A-pillar above swage line Unfasten reinforcement section at bottom and bend open.
- B-pillar separating cut 20 mm beneath stamped area.



Caution:

The body will sag on making the B-pillar separating cut. Support must be provided.

- Rear separating cut 15 mm in front of side panel.
- Separate original joint. Inner reinforcement must be drilled off.
- Grind through outer edge of wheel housing.
- Detach part.



Note:

- ◆ *Partial replacement is possible with the separating cuts illustrated. SG continuous butt weld in the separated area.*
- ◆ *Produce rear separating cut further up if outer side panel has already been removed.*
- ◆ *Also replace inner reinforcement if necessary.*

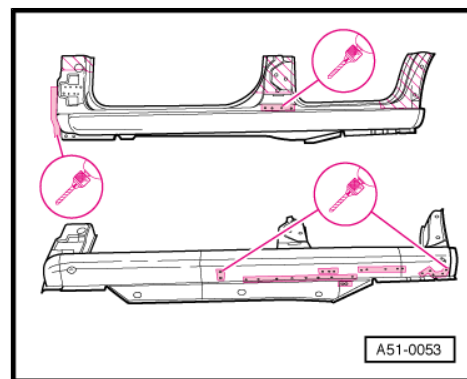
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13.1.2 Replacement parts

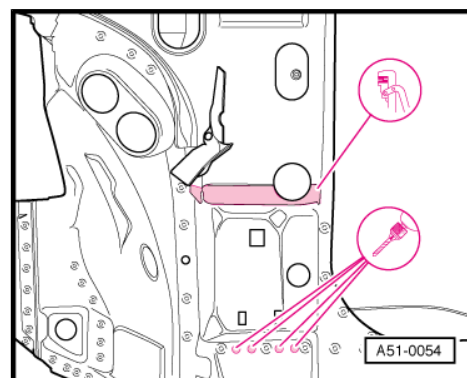
- ◆ Side member (sub-part)
- ◆ Bulkhead plate
- ◆ Reinforcement
- ◆ Body adhesive DA 001 730 A1

Preparing new part

- Transfer separating cut to new part plus 15 mm for overlap.
Cut off hatched area.
- Drill dia. 7 mm holes for SG plug weld seam.



- Drill dia. 7 mm holes for SG plug weld seam.
- Step separating cut at body.



- Step separating cut at body.

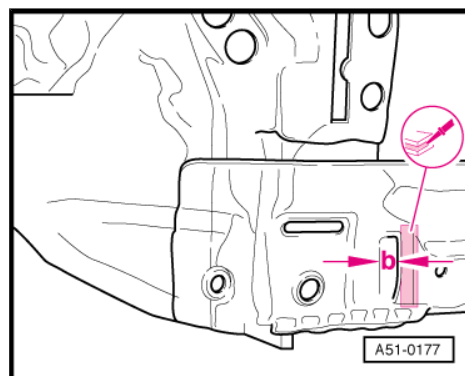
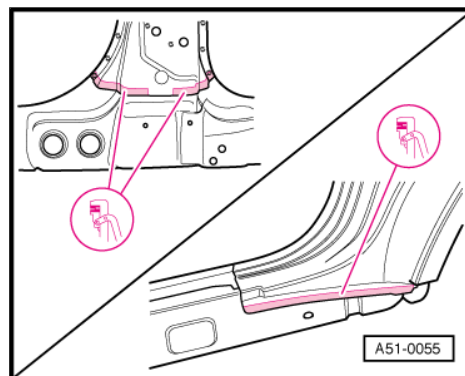


- Dimension $b = 35 \text{ mm}$
- Clean bonding area (it must be free of dust and grease).
- Apply adhesive (20 mm wide and 5 mm thick).



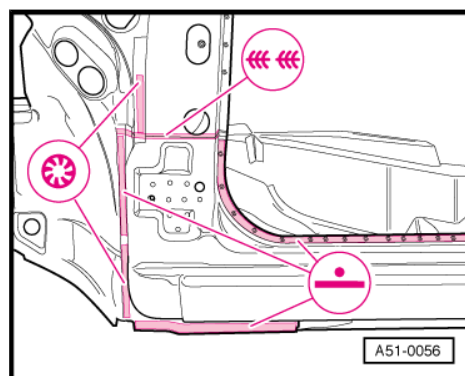
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The new part must be welded in within 30 minutes, otherwise the strength of the adhesive joint will be impaired.

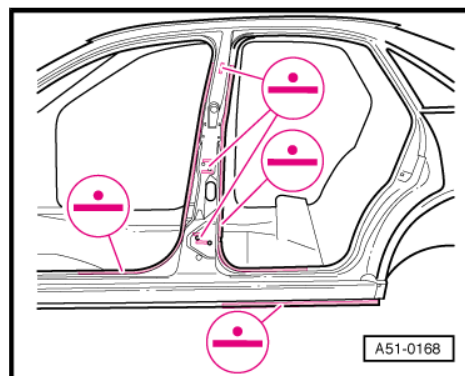


13.1.3 Welding in

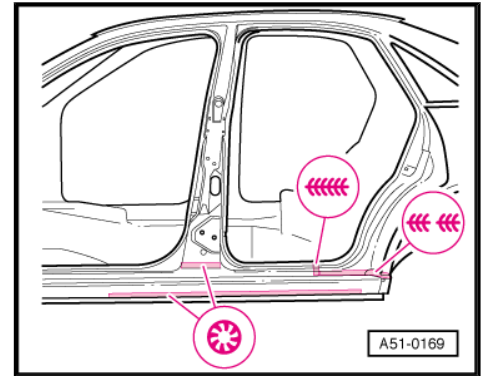
- Fit side member with no load on vehicle.
- Weld in side member, RP spot weld seam.
- Produce overlap weld at separating cut, SG continuous seam (staggered).
- Align closure plate.
- Weld in remaining joint, SG plug weld seam.



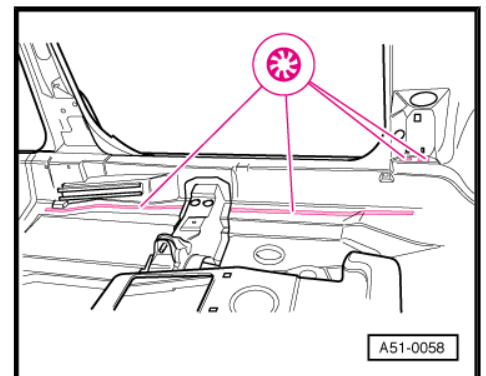
- Weld in side member, RP spot weld seam.



- Produce overlap weld at separating cut, SG continuous seam (staggered).
- Butt weld separating cut, SG continuous seam.
- Weld in remaining joint, SG plug weld seam.



- Weld in side member from inside, SG plug weld seam.



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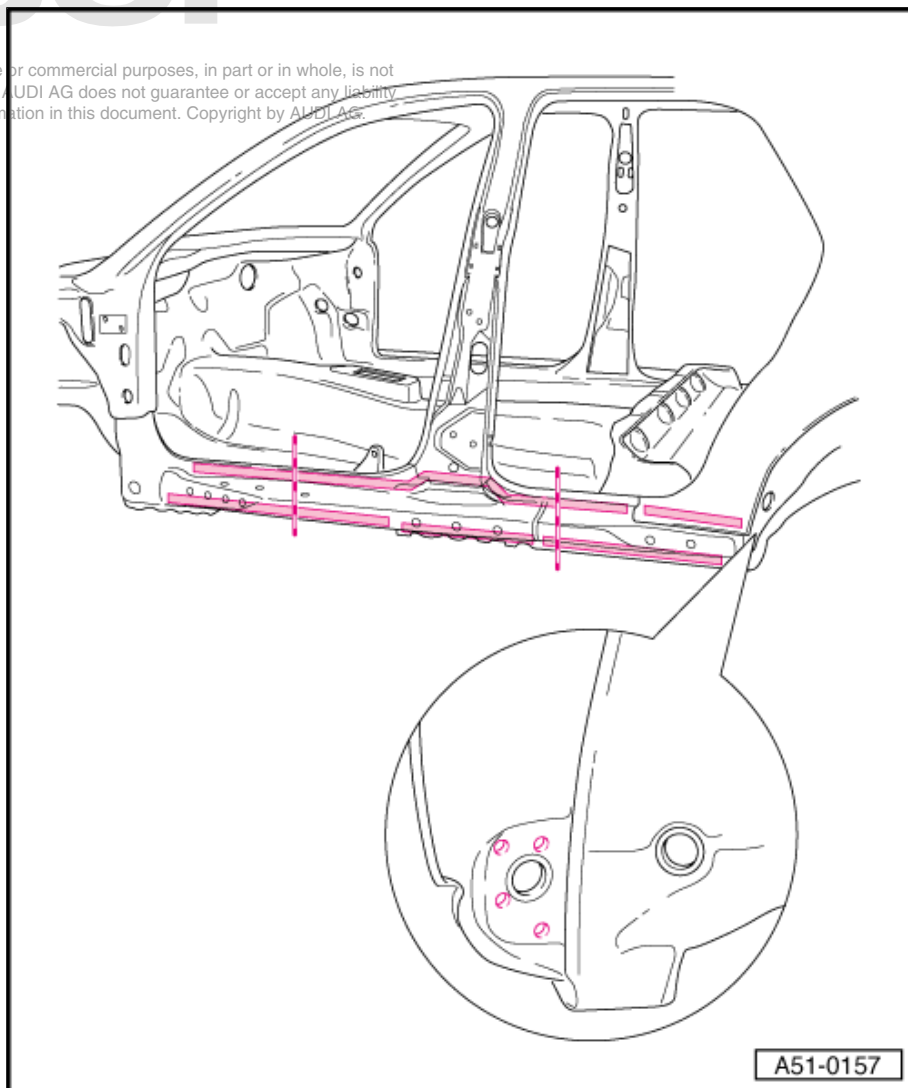
AP: 51 47 55 50

14 Inner side member - Renewal

14.1 Procedure

14.1.1 Cutting locations

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Vehicles with reinforcement

- Gradual introduction as of date of manufacture 09.96 for Saloon and Avant
- Can be identified from stamped areas in sill flange
- Outer side member already removed



Note:

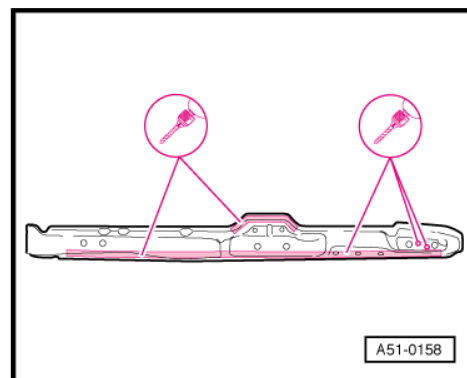
- ◆ *Before renewing, check whether the inner side member can be straightened.*
 - ◆ *Deformation of up to 10 mm per 100 mm length is permissible.*
 - ◆ *Cracks up to 100 mm long may be welded.*
 - ◆ *Partial replacement is possible with the separating cuts illustrated. Joggle-joint in separation area and SG continuous seam.*
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- Cut out lower section of inner B-pillar ⇒ [page 82](#).
 - Separate original joint.

14.1.2 Replacement part

- ◆ Inner side member

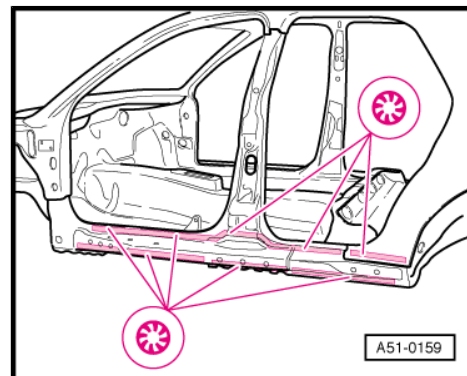
Preparing new part

- Drill out spot welds for subsequent plug welding.



14.1.3 Welding in

- Weld in inner side member, SG plug weld seam.
- Weld in B-pillar part section, Page ⇒ [page 83](#).

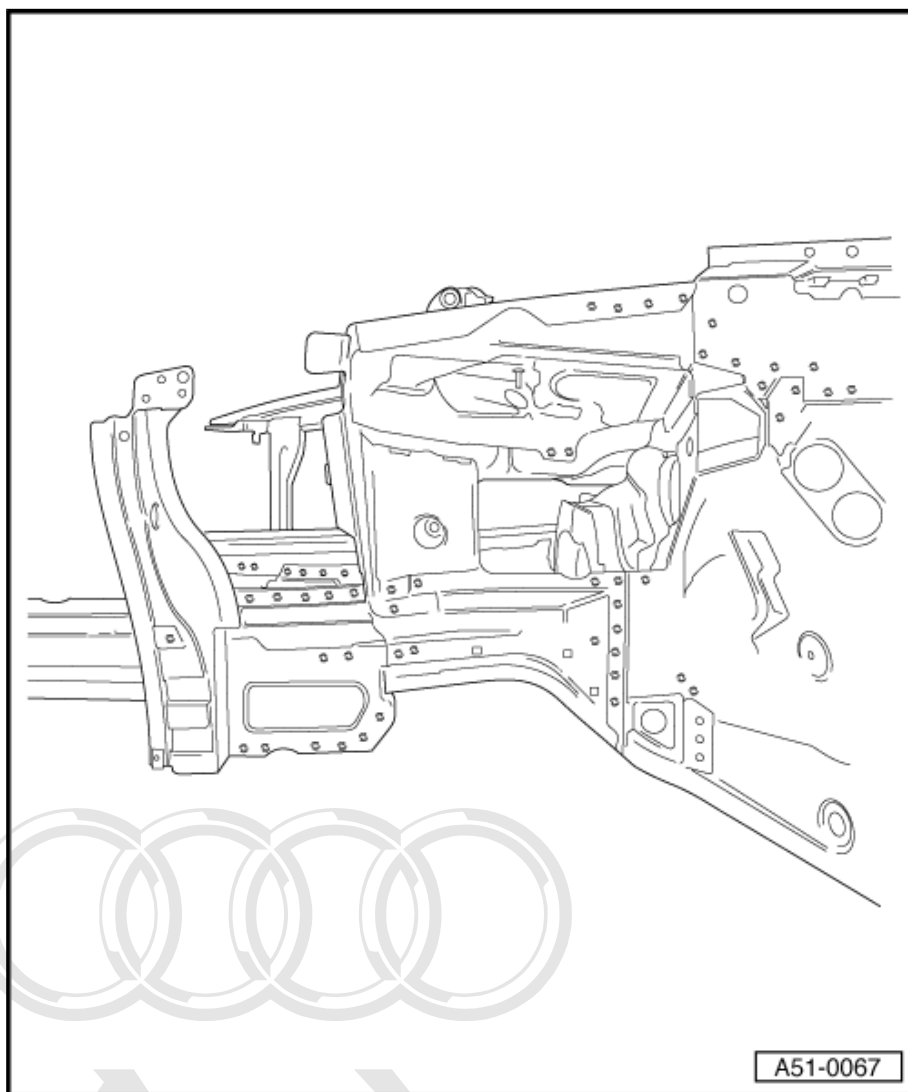


AP: 51 65 55 62

15 Cross member reinforcement - Renewal

15.1 Procedure

15.1.1 Cutting locations



- Intermediate piece already removed

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- ◆ *This operation should always be performed if the strut attachment points have to be straightened.*
- ◆ *If straightening is not possible, the cross member is to be replaced.*
- Drill out spot welds for reinforcement.

15.1.2 Replacement part

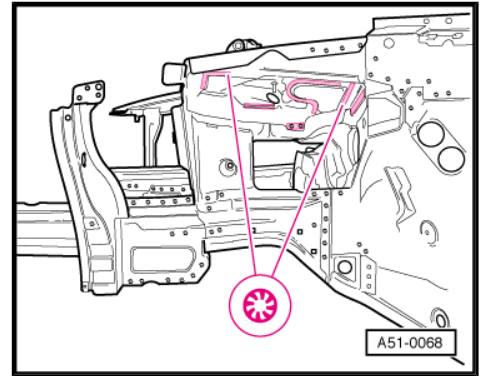
- ◆ Reinforcement for cross member

Preparing new part

- Drill dia. 7 mm holes for SG plug weld seam.

15.1.3 Welding in

- Fix new part in position with alignment bracket.
- Weld in reinforcement, SG plug weld seam.



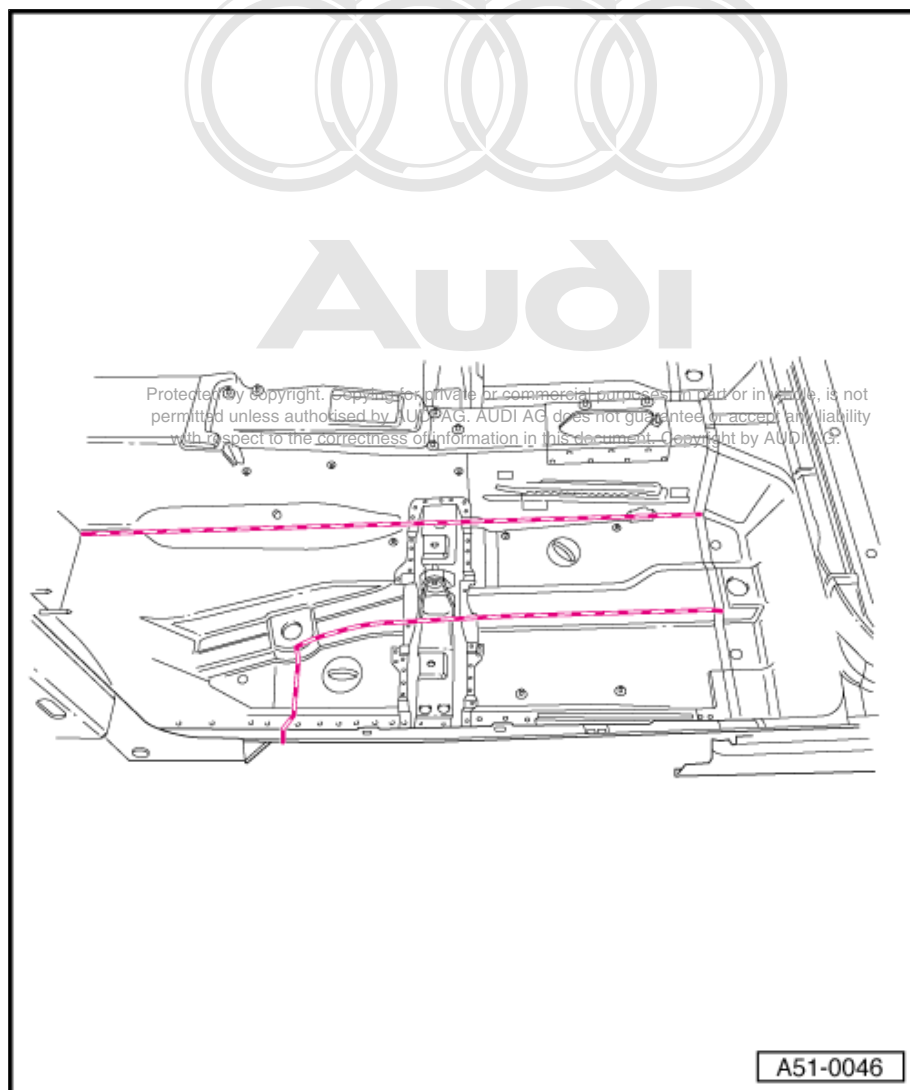
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AP: 51 73 55 62

16 Floor panel - Partial renewal

16.1 Procedure

16.1.1 Cutting locations



Includes: Seat cross member for floor panel and seat guide rail

- Side member and B-pillar already cut out

**Note:**

- ◆ *Do not make separating cuts in centre tunnel area.*
- ◆ *Seat cross member and guide rail are only to be replaced complete.*
- Make separating cut according to extent of damage.

- Separate original joint.

16.1.2 Replacement parts

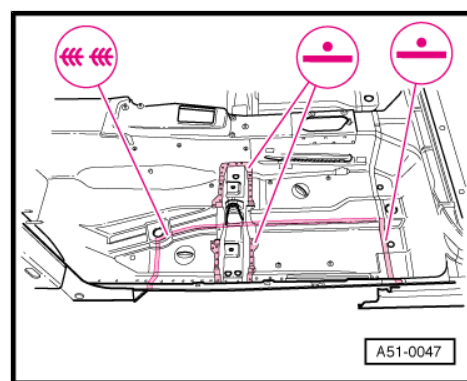
- ◆ Floor panel
- ◆ Seat cross member
- ◆ Outer seat guide rail

Preparing new parts

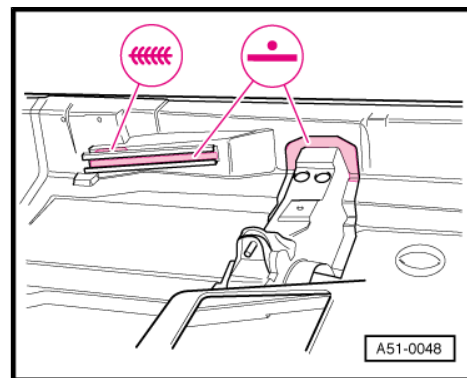
- Transfer separating cut plus 10 mm for overlap to new part and cut to size.
- With electrical seat adjustment, grind off guide element at seat cross member.
- Step separating cut at body.

16.1.3 Welding in

- At separating cut, produce offset overlap weld on both sides, SG continuous seam (staggered).
- Align seat cross member, fix in position and weld in, RP spot weld seam.
- Weld in floor panel, RP spot weld seam.



- Align seat guide rail and fix in position.
- Weld in seat guide rail, RP spot weld seam.
- Weld in seat cross member, RP spot weld seam.
- Weld in seat guide rail, SG continuous seam.



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53 – Body - rear

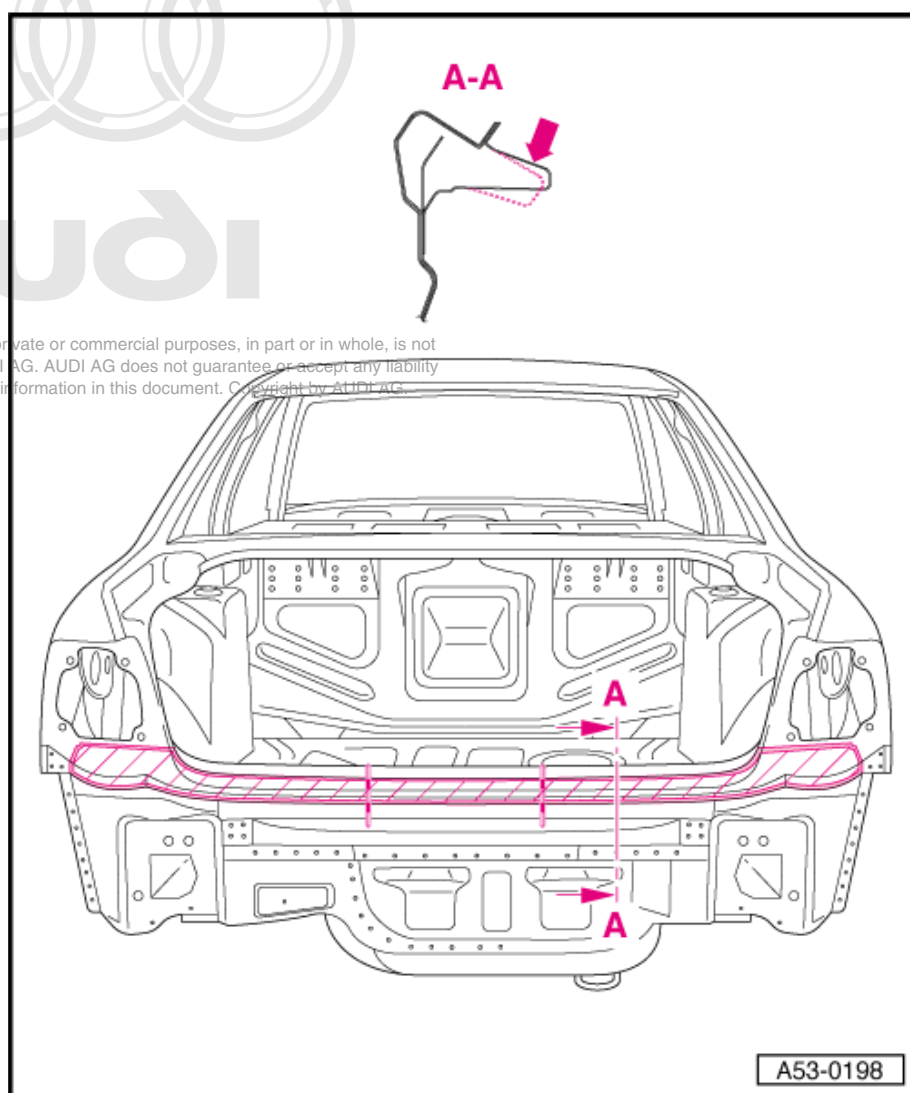
AP: 53 05 55 00

1 Rear cross panel (top section) - Renewal

1.1 Procedure

1.1.1 Cutting locations

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– Separate original joint.



Note:

Knock panel downwards -arrow- if the upper spot welds are not accessible with a milling cutter.

- Detach part.



Note:

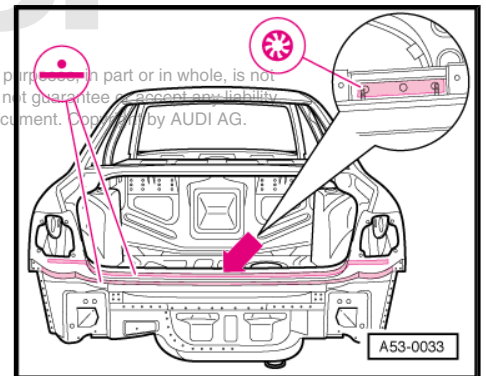
Partial replacement is possible with the separating cuts illustrated. SG continuous butt weld in the separated area.

1.1.2 Replacement part

- ◆ Rear cross panel

1.1.3 Welding in

- Spot weld rear cross panel, RP spot weld seam.
- SG plug weld seam in area of lock reinforcement



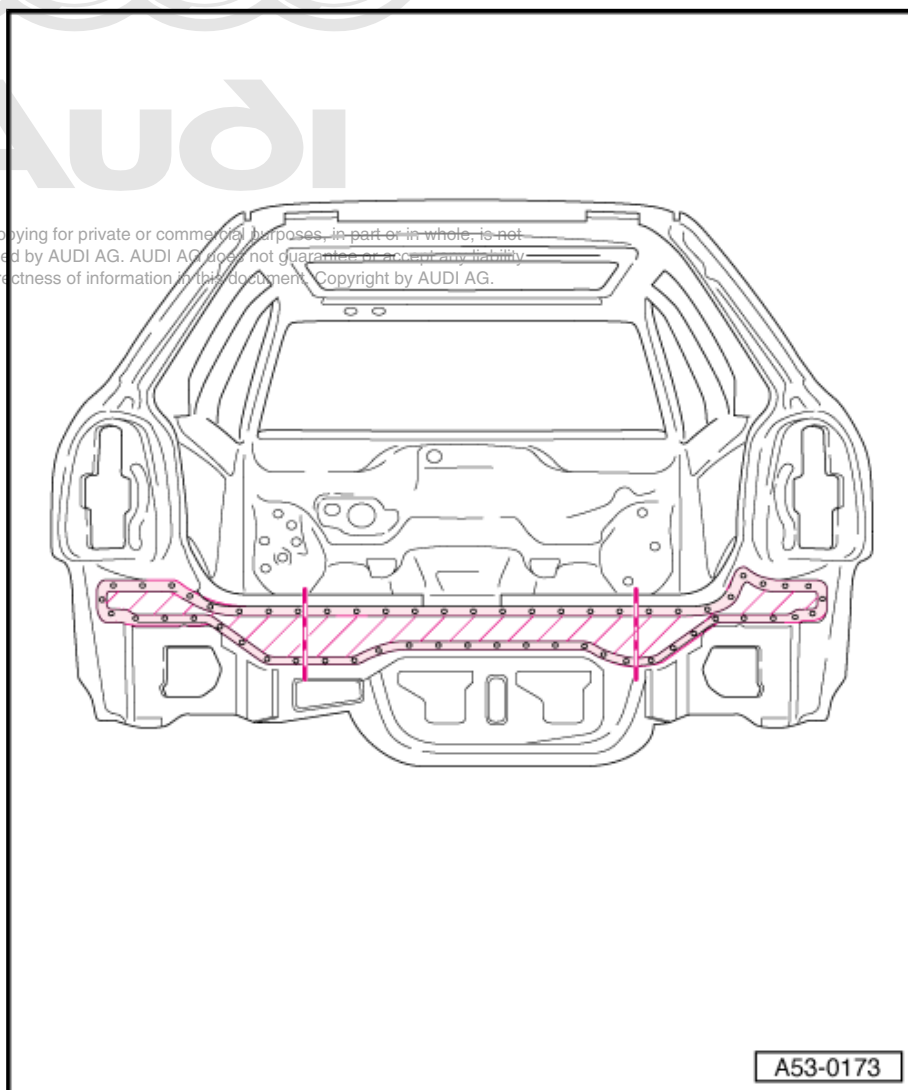
AP: 53 05 55 03

2 Rear cross panel (top section) - Renewal (Avant)

2.1 Procedure

2.1.1 Cutting locations

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– Separate original joint.



Note:

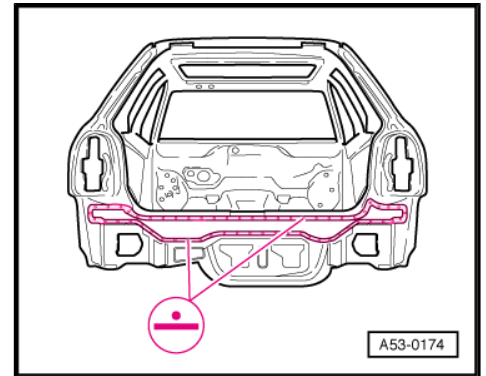
Partial replacement is possible with the separating cuts illustrated. SG continuous butt weld in the separated area.

2.1.2 Replacement part

◆ Rear cross panel

2.1.3 Welding in

- Spot weld rear cross panel, RP spot weld seam.



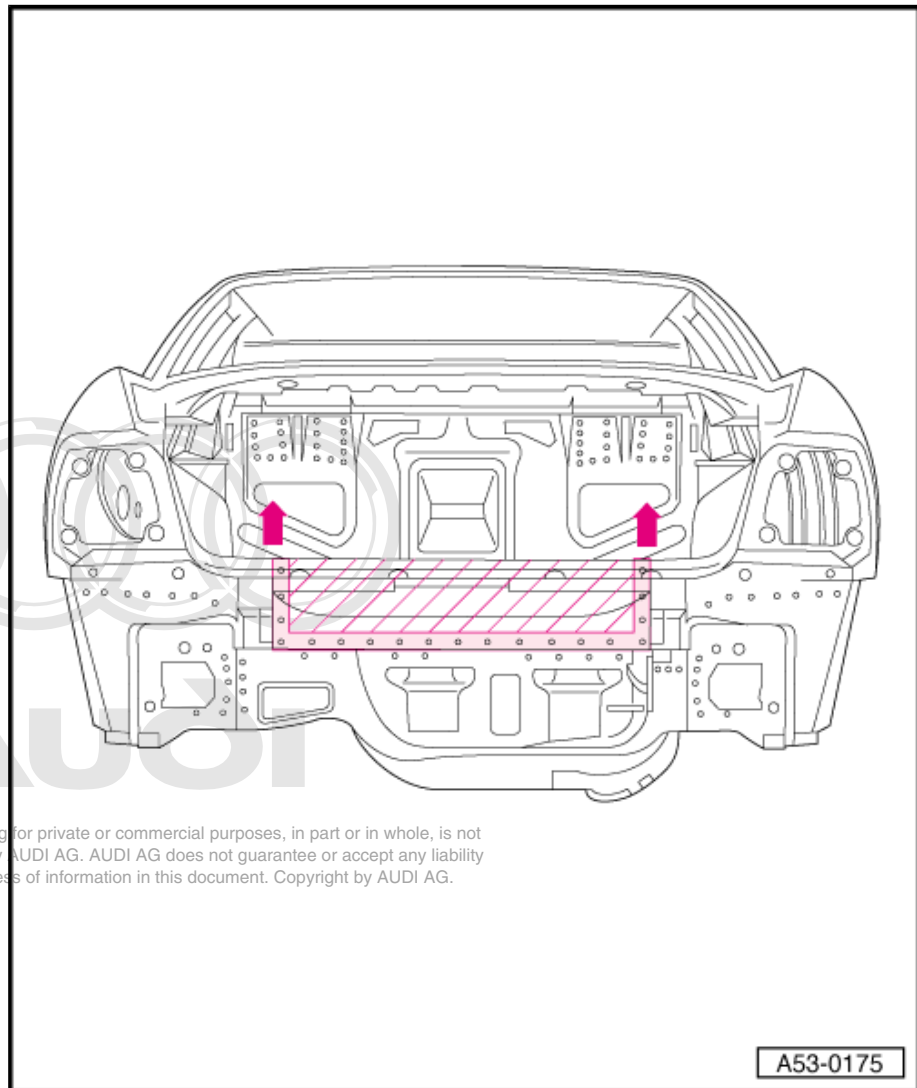
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AP: 53 05 55 52

3 Rear cross panel (inner section) - Renewal

3.1 Procedure

3.1.1 Cutting locations



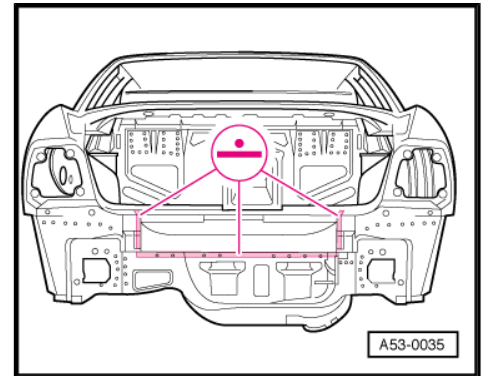
- Top section of rear cross panel already removed
- Separate original joint.
- Lift out part -arrow-.

3.1.2 Replacement part

- ◆ Reinforcement for rear cross panel

3.1.3 Welding in

- Guide in part from above between tail light mounting and bottom reinforcement.
- Weld in new part, RP spot weld seam.



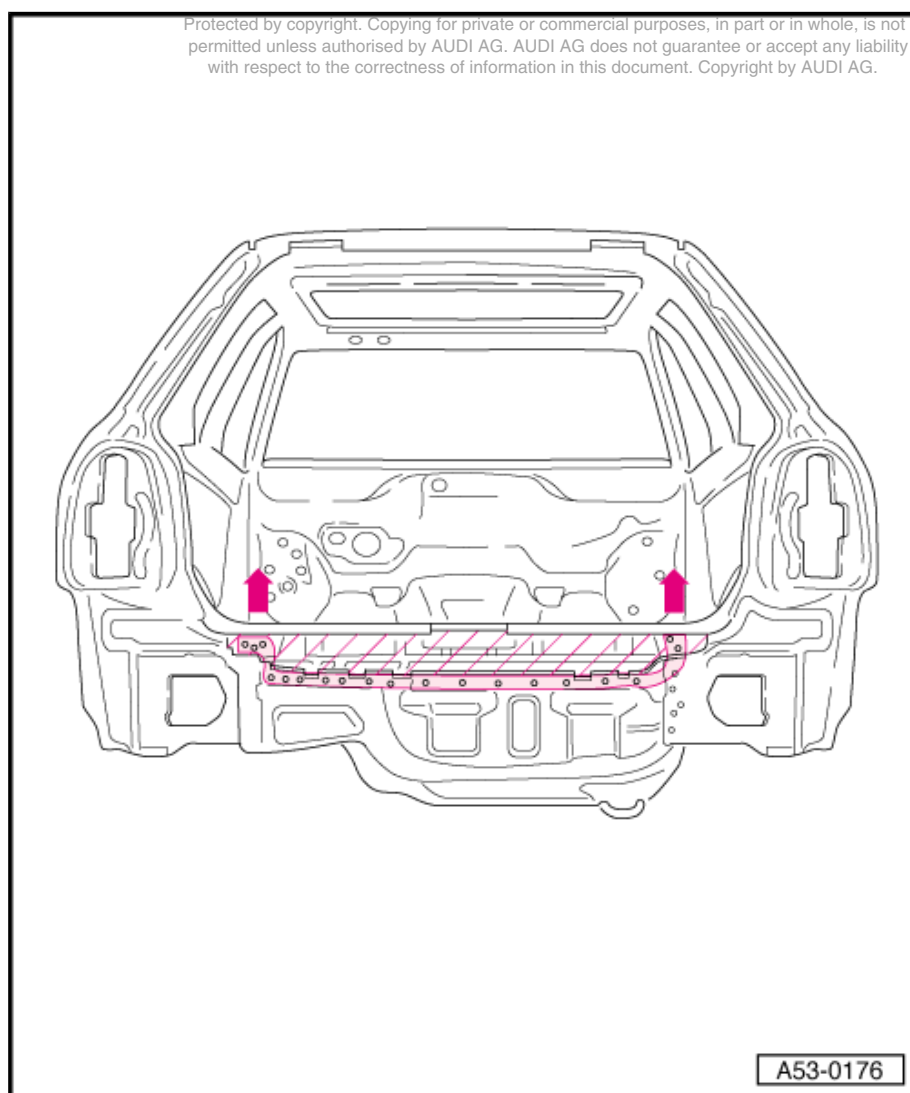
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AP: 53 05 55 53

4 Rear cross panel (inner section) - Renewal (Avant)

4.1 Procedure

4.1.1 Cutting locations



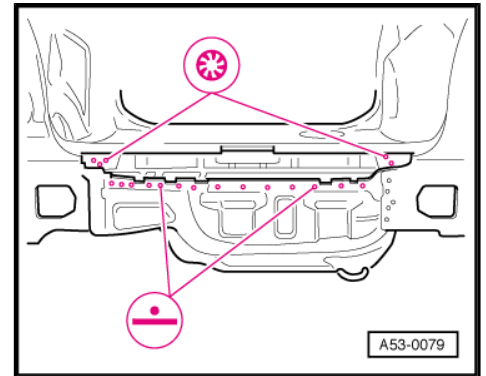
- Top section of rear cross panel already removed
- Drill out 3 spot welds on left and 2 spot welds on right.
- Separate original joint.
- Bend mounting plate slightly at top.
- Rotate part inwards and pull out -arrow-.

4.1.2 Replacement part

- ◆ Reinforcement for rear cross panel

4.1.3 Welding in

- Guide in part from above between tail light mounting and bottom reinforcement.
- Spot weld rear cross panel, RP spot weld seam.
- Weld in rear cross panel, SG plug weld seam.



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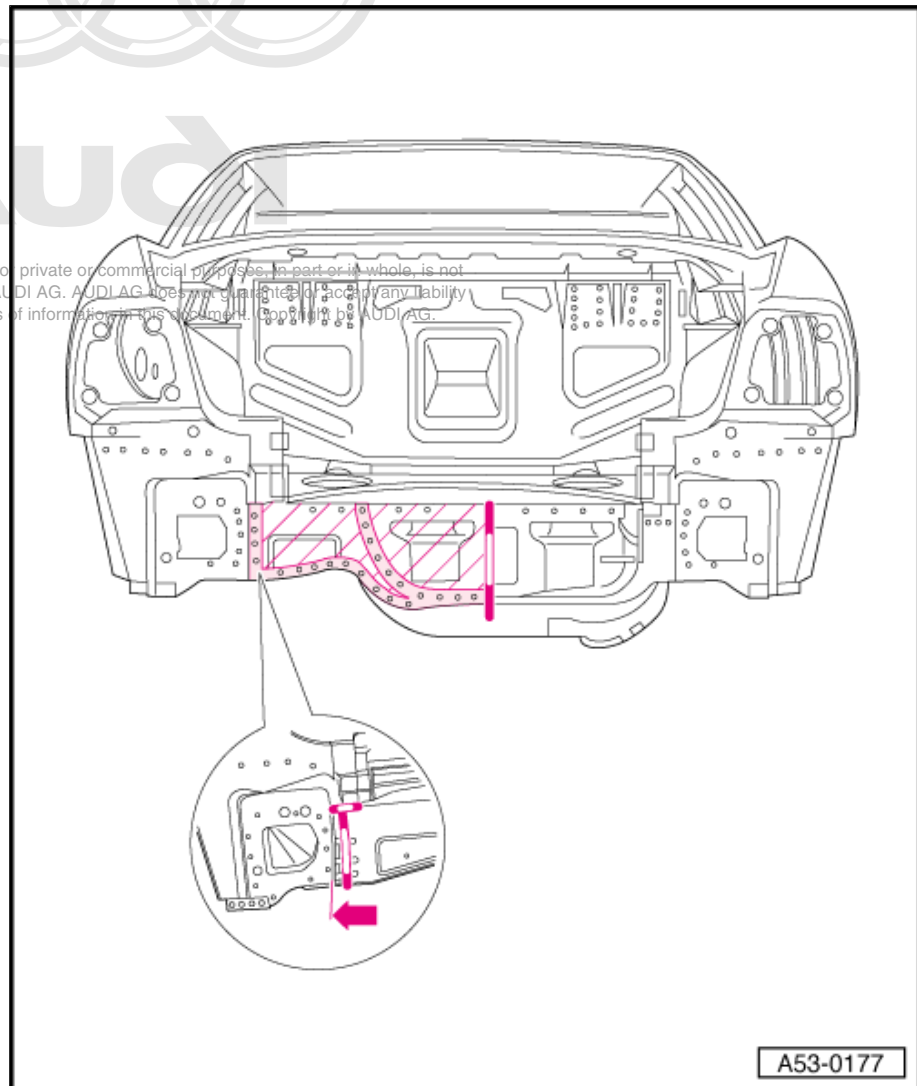
AP: 53 05 55 62

5 Cross panel - Lower part section

5.1 Procedure

5.1.1 Cutting locations

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- Rear cross panel top section and reinforcement already removed.
- Detach 3 spot welds on left and 6 on right with tail light mounting.
- Make a saw cut in tail light mounting and bend outwards -arrow-.
- Make separating cuts.



Note:

Make separating cut in the centre to permit joddle-joining. Note positions of swage lines.

- Separate original joint.
- Detach part.

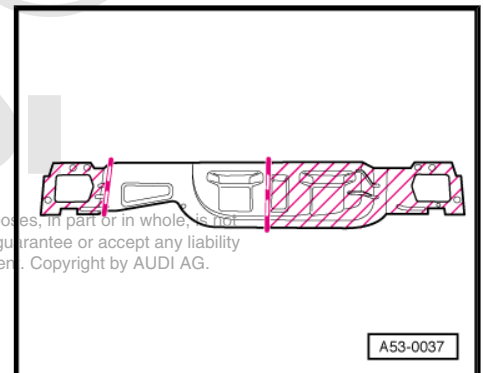
5.1.2 Replacement part

◆ Panel reinforcement

Preparing new part

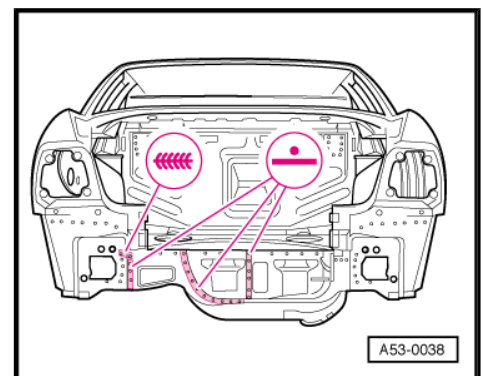
- Joddle-join on body side.
- Transfer separating cut to new part and cut to size.
- There must be a gap of 2-5 mm with respect to the tail light mounting. The side separating cut is not necessary if the tail light mounting is also to be replaced.

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5.1.3 Welding in

- Match up and fix new part in position.
- Bend back tail light mounting.
- Spot weld rear cross panel with spare wheel well, RP spot weld seam.
- Butt weld tail light mounting separating cut, SG continuous seam.
- Separating cut; RP spot weld seam overlapping 7 spot welds.
- Double the number of spot welds as replacement for adhesive.

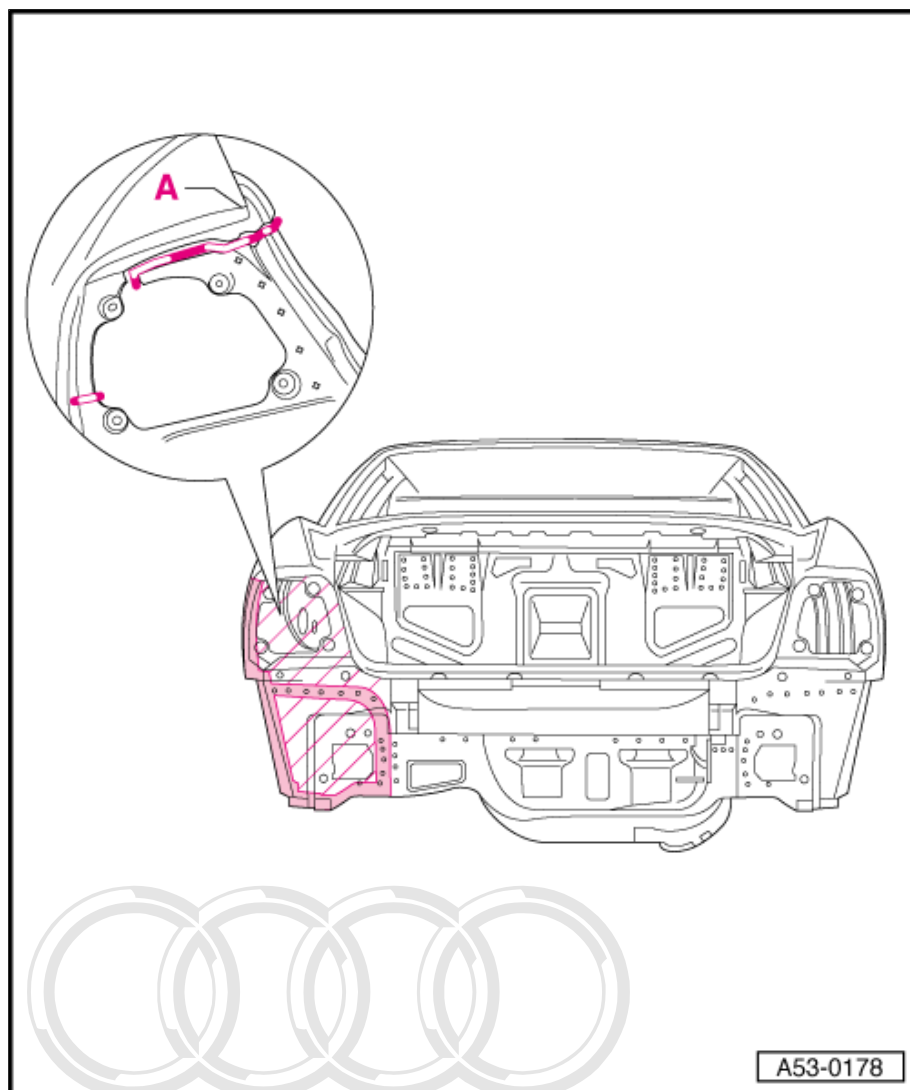


AP: 53 10 55 00

6 Tail light mounting - Renewal

6.1 Procedure

6.1.1 Cutting locations



- Top section of rear cross panel already cut out (part section).
- Perform separating cut with body saw -V.A.G 1523- .
- Separate original joint.
- Bend open outer side panel **arrow** and detach part.
- Grind off brazed seam -A
- Remove remaining material.



Note:

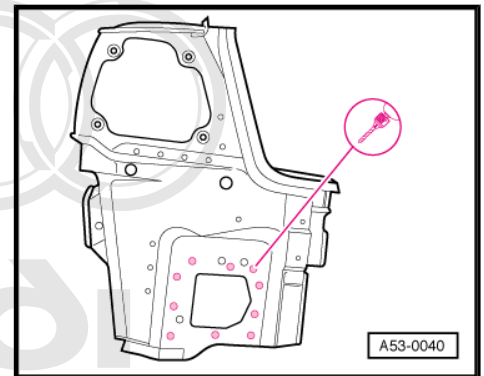
The replacement part includes the inner reinforcement.

6.1.2 Replacement part

◆ Metal insert

Preparing new part

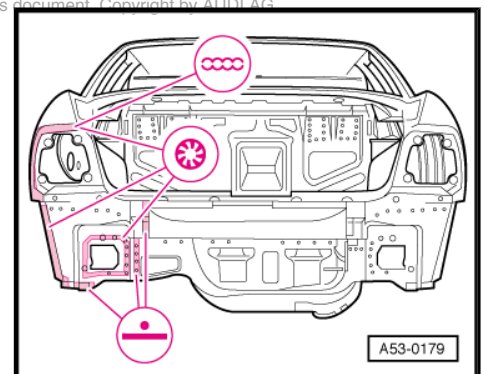
- Drill dia. 7 mm holes for SG plug weld seam.
- Drill hole for trailer hitch if necessary.



6.1.3 Welding in

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- Insert part. When doing so, first slide part beneath side panel and tilt outwards. Align part over hole in longitudinal member.
- Press on side panel.
- Weld in side panel, RP spot weld seam.
- Weld in remaining joint, SG plug weld seam.
- Braze.

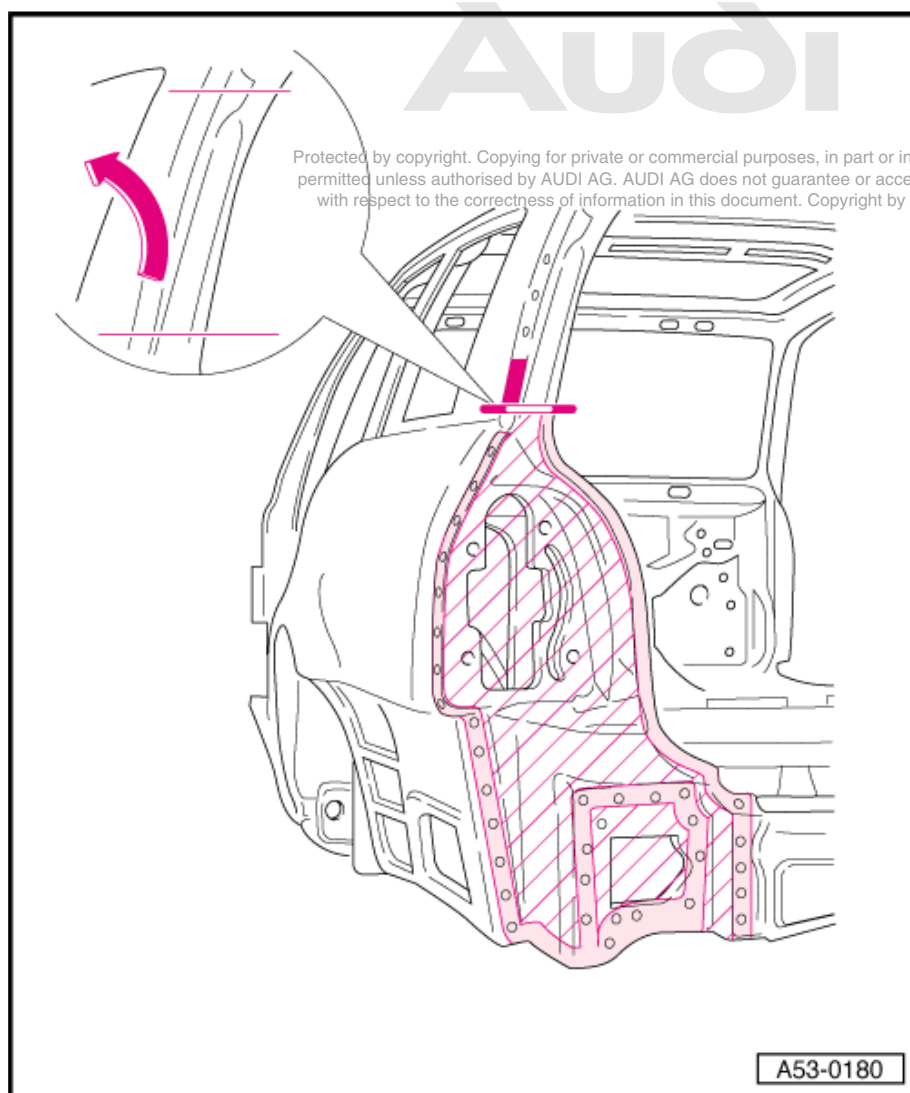


AP: 53 10 55 65

7 Rear mounting plate - Partial renewal, Avant (includes: inner reinforcement)

7.1 Procedure

7.1.1 Cutting locations



- Rear cross panel already cut out
- Separate original joint at inner reinforcement and detach part.
- Mounting plate separating cut 20 mm beneath reinforcement joint.
- Separate original joint at cross panel and detach part.



Note:

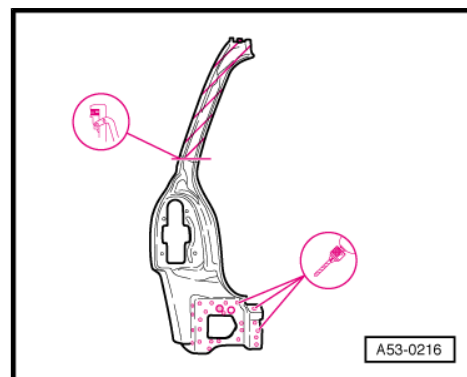
Detach 2 spot welds above separating cut, bend open outer side panel -arrow and detach part.

7.1.2 Replacement parts

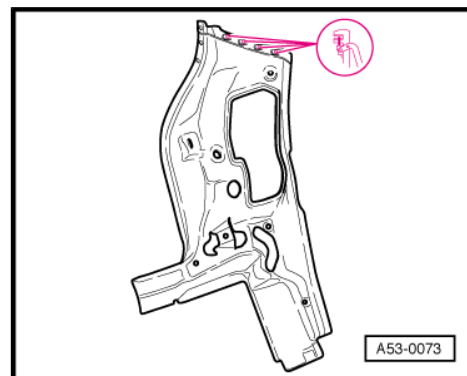
- ◆ Metal insert
- ◆ Reinforcement

Preparing new parts

- Transfer separating cut to new part plus 15 mm for overlap. Cut off hatched area.
- Drill hole for trailer hitch if necessary.
- Make saw cut in and step corners.
- Drill dia. 7 mm holes for SG plug weld seam.

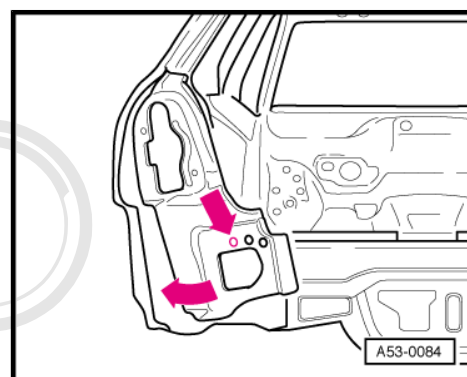


- Make holes in outer joint surface of new part.

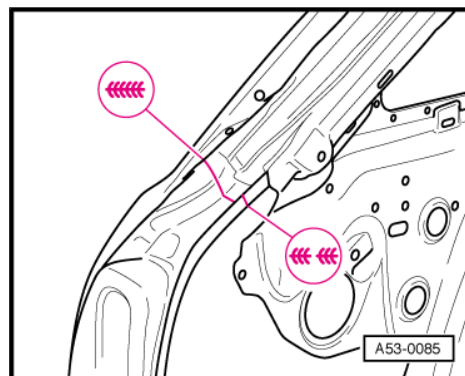


7.1.3 Welding in

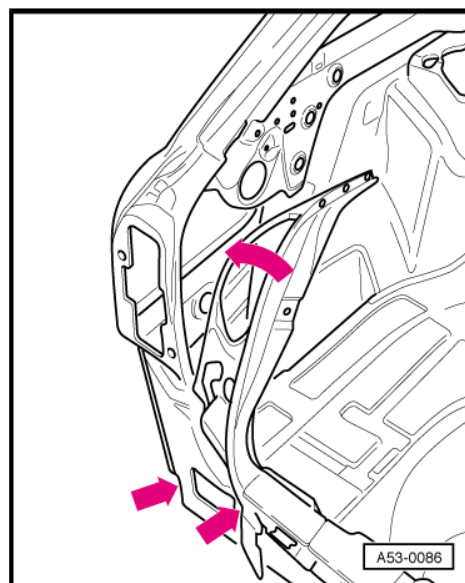
- Fit insert beneath rain channel and slide behind side panel - arrow - . Align part over hole with longitudinal member - arrow - .



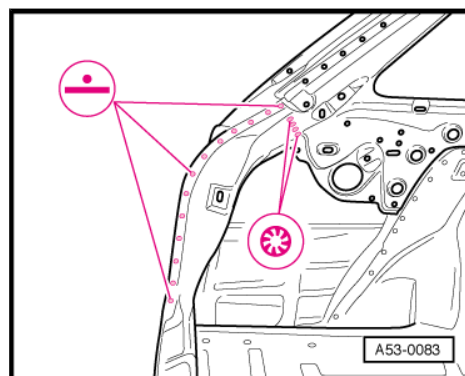
- Weld separating cut, SG continuous seam.
- Additionally weld, staggered SG continuous seam.



- Guide in inner reinforcement at bottom between mounting plate and floor panel and tilt in direction of arrow, making sure that inner reinforcement is located inside cross panel.

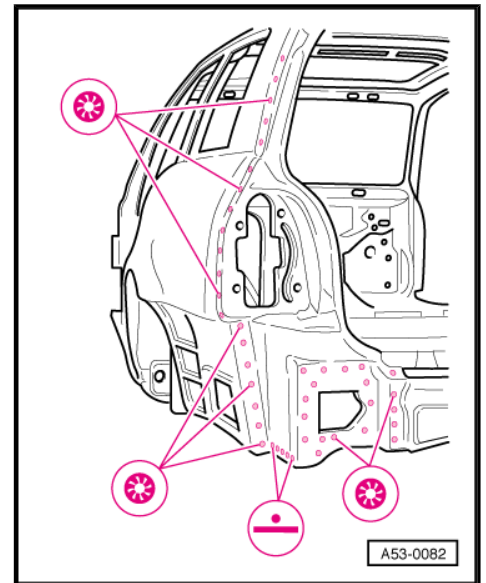


- Weld inner reinforcement to side panel, SG plug weld seam.
- Weld inner reinforcement to metal insert, RP spot weld seam.



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- Weld in reinforcement, SG plug weld seam.
- Weld inner reinforcement to floor panel metal insert, RP spot weld seam. Heed the 3 metal thicknesses.
- Weld metal insert to side panel, SG plug weld seam.
- Weld metal insert to longitudinal member, SG plug weld seam.



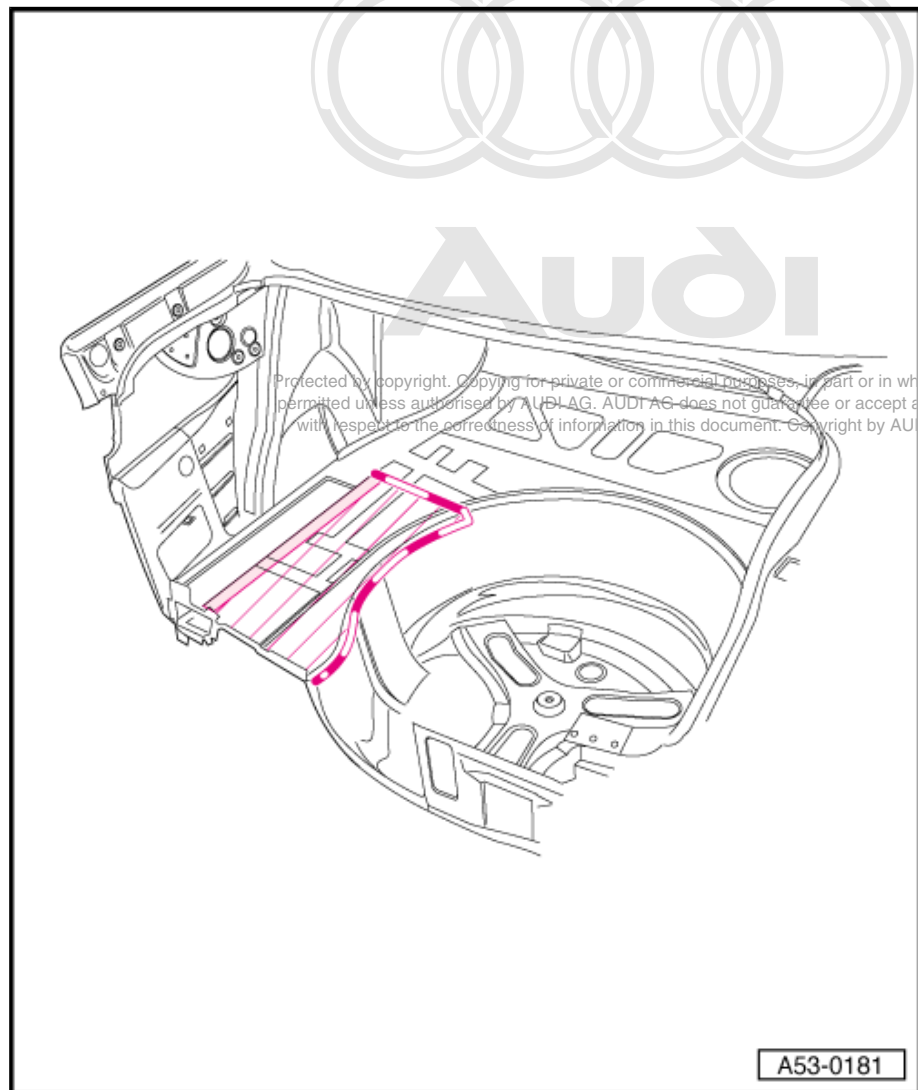
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AP: 53 24 55 62

8 Luggage compartment floor - Partial renewal

8.1 Procedure

8.1.1 Cutting locations



- Rear cross panels and mounting plate already removed.
- Perform separating cut with body saw -V.A.G 1523- .

**Note:**

Make separating cut such that the body side can be stepped.

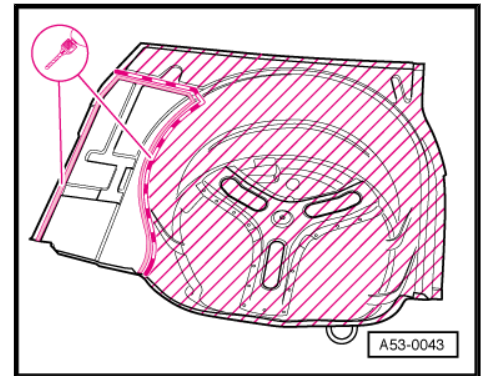
- Separate original joint.

8.1.2 Replacement part

- ◆ Spare wheel well

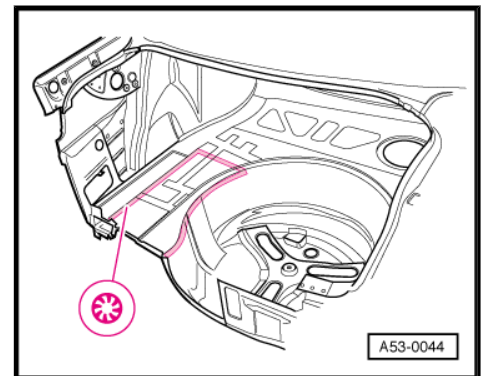
Preparing new part

- Transfer separating cut to new part and cut to size.
- Drill dia. 7 mm holes for SG plug weld seam.
- Step separating cut at body.



8.1.3 Welding in

- Align luggage compartment floor with no load on vehicle and check panel gaps with rear cross panel and rear lid in position.
- Weld in luggage compartment floor, SG plug weld seam.



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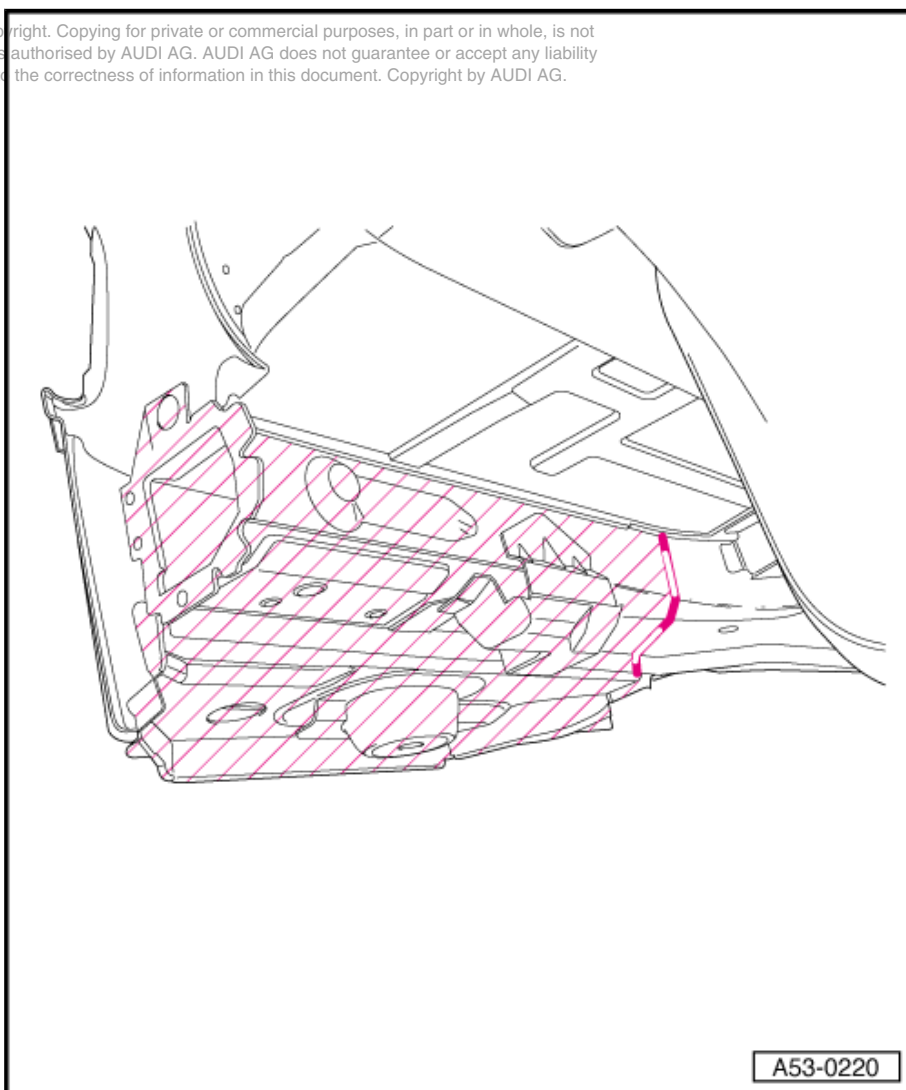
AP: 53 48 55 62

9 Rear longitudinal member - Partial renewal

9.1 Procedure

9.1.1 Cutting locations

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- Rear cross panels and mounting plate already removed.

**Note:**

- ◆ *There may be a foam element in the longitudinal member. Remove before starting cutting work.*
- ◆ *On completion of repair, insert foam element or fit new seal at bumper bracket.*
- Perform separating cut with body saw -V.A.G 1523- .

- Separate original joint.



Note:

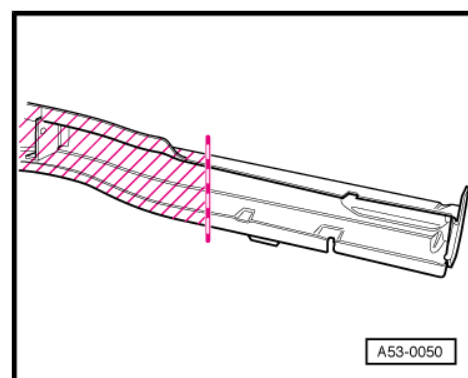
Mounting hole for straightening jig is masked with fabric-backed tape. Only replace luggage compartment panel/side panel as complete assembly.

9.1.2 Replacement parts

- ◆ Longitudinal member part section
- ◆ Outer floor panel
- ◆ Conveyor mount
- ◆ Seal for bumper bracket

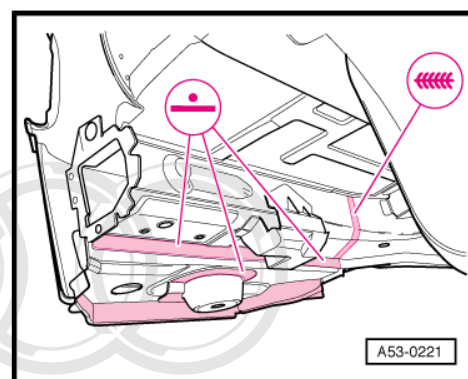
Preparing new parts

- Transfer separating cut to new part and cut to size.
- Locate and secure section of longitudinal member on alignment bracket.

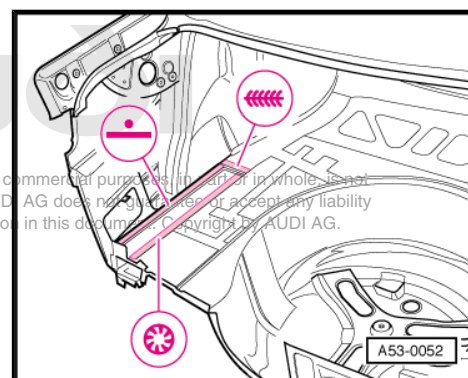


9.1.3 Welding in

- Butt weld separating cut, SG continuous seam.
- Spot weld rear longitudinal member, RP spot weld seam.
- Spot weld conveyor mount, RP spot weld seam.



- Butt weld separating cut, SG continuous seam.
- Weld in luggage compartment floor, SG plug weld seam.
- Spot weld luggage compartment panel, RP spot weld seam.
- Affix fabric-backed tape over mounting hole after painting.



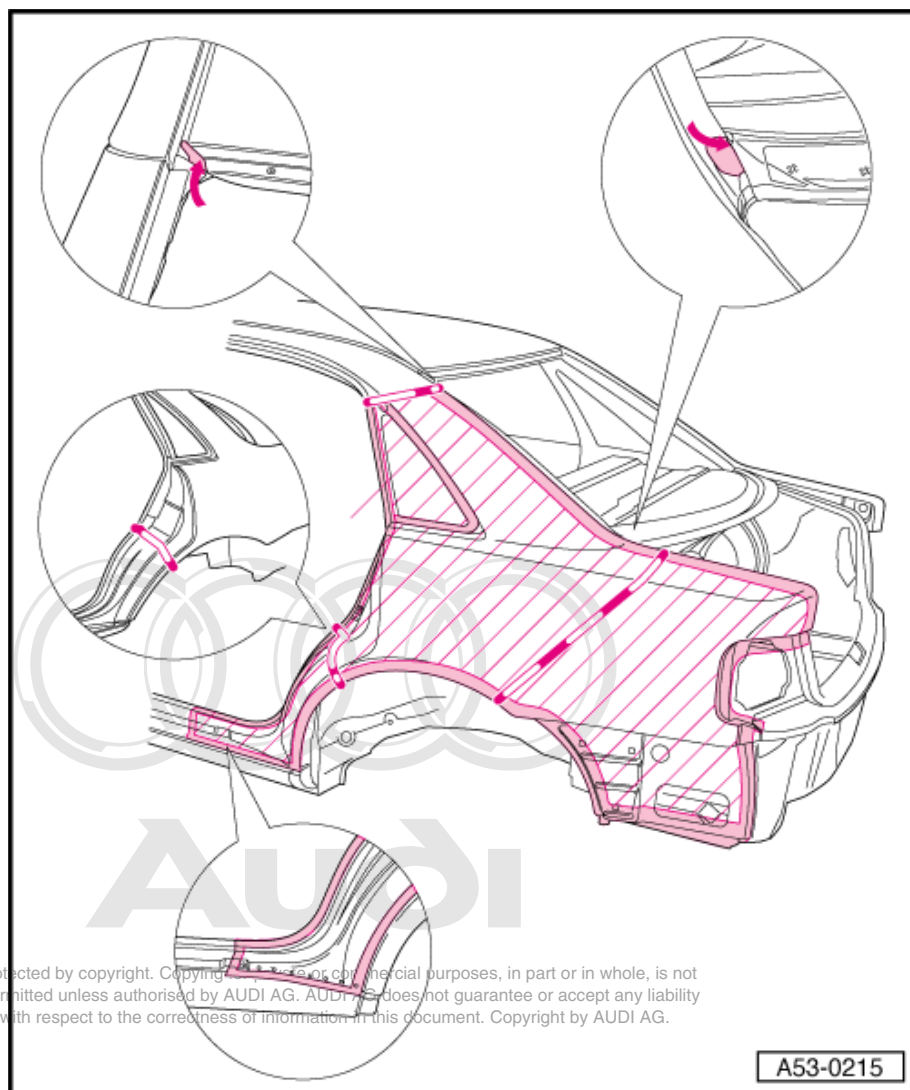
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AP: 53 55 55 00

10 Side panel - Renewal

10.1 Procedure

10.1.1 Cutting locations



- Separating cut, D-pillar 20 mm below original joint.

**Note:**

Fully sand down paint to locate original joint.

- Grind through outer edge of wheel housing.
- Separate original joint.



Note:

Grind open brazed seams in sill panel and tail light areas.

- Bend up roof and window cross member flanges -arrows-.



Note:

Take care not to damage paint in visible roof area.

- Detach part.
- Remove remaining material at D-pillar.



Note:

Partial replacement is possible with the separating cuts illustrated. Place an additional thickness of the same material behind the separation area and SG stepped seam. Make separating cut C on right-hand side behind filler neck compartment.

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10.1.2 Replacement parts

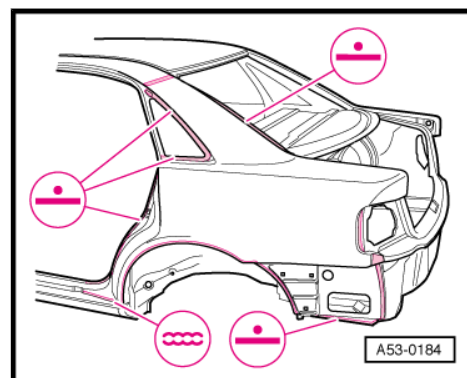
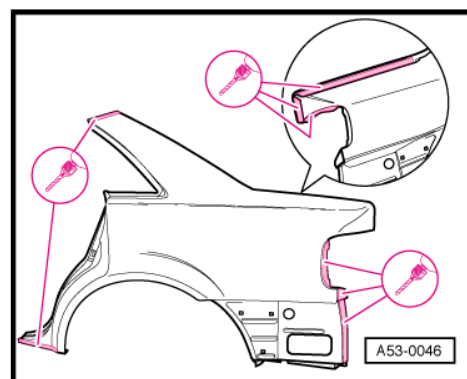
- ◆ Side panel
- ◆ Metal insert
- ◆ Body adhesive DA 001 730 A1

10.1.3 Welding in

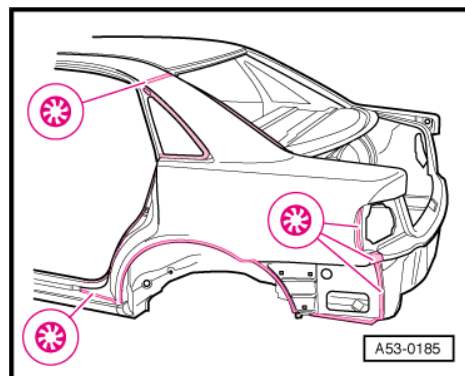
Preparing new parts

- Clean bonding area (it must be free of dust and grease).
- Grind down bonding surface on body to bare metal.
- Drill new part for plug welding, 6 x in D-pillar. Match up this area if necessary for subsequent tinning.
- Bend up connection to rain channel to permit insertion of part.
- Clean beaded area (it must be free of dust and grease).
- Apply adhesive to beaded area. Two beads of adhesive: 3.5 mm diameter.

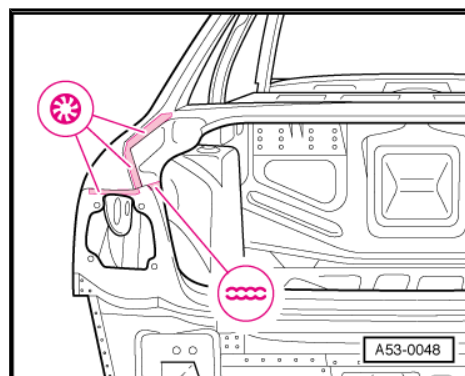
- Fit side panel from rear over tail light, prise over rain channel and press onto D-pillar.
- Align flanges of roof and window cross member.
- Weld in side panel, RP spot weld seam.
- Braze sill panel connection.



- Weld roof, tail light and sill panel area, SG plug weld seam.
- Bead over wheel housing flange. Wipe off emerging adhesive and seal joint.



- Weld in new part, SG plug weld seam.
- Braze rain channel to side panel.



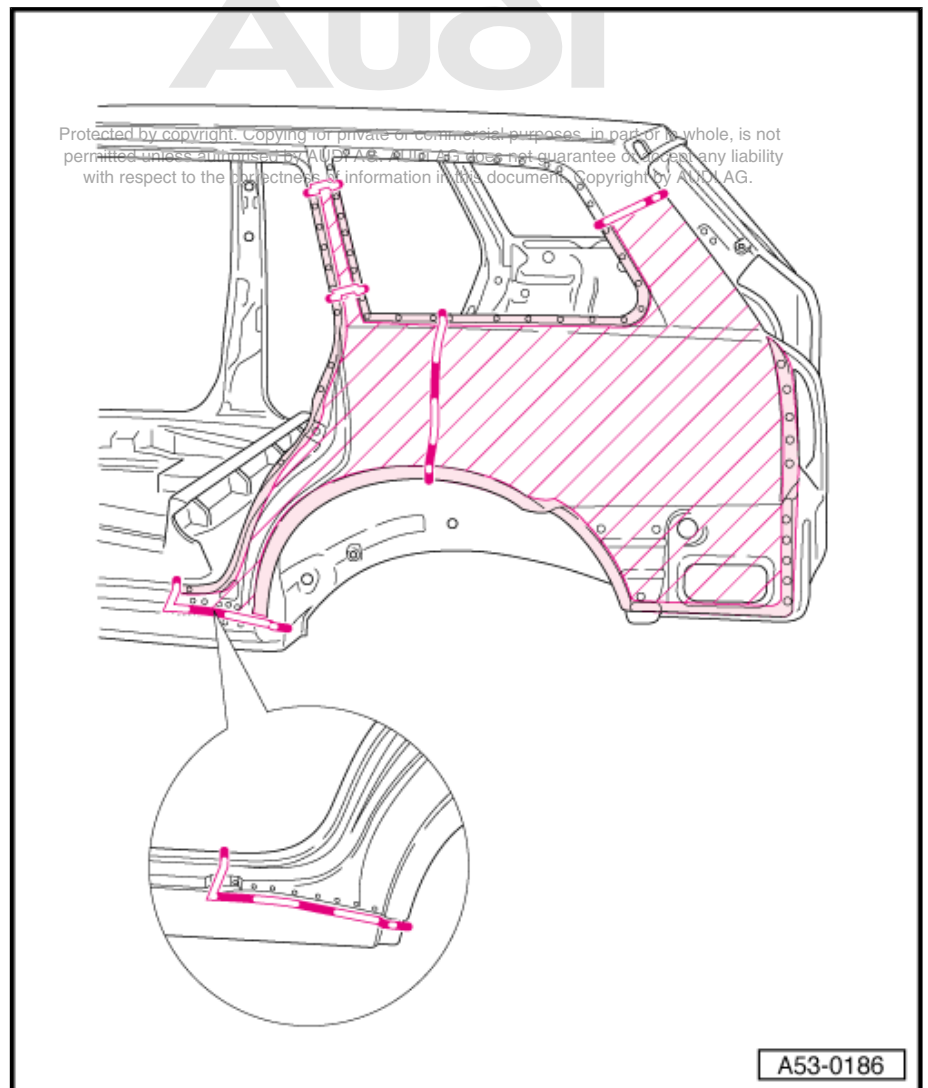
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11 Side panel - Renewal (Avant)

11.1 Procedure

11.1.1 Cutting locations



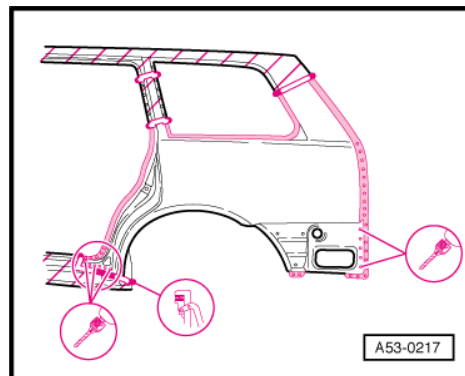
- Grind through outer edge of wheel housing.
- Make separating cuts at C and D-pillar according to degree of damage.
- Cut out as shown. Take care not to damage internal reinforcement.
- Separate original joint.
- Remove adhesive remnants with knife and scraper.
- A vertical separating cut at the side window permits partial replacement at front or rear. Place an additional thickness of the same material behind the joint and SG stepped seam.

11.1.2 Replacement parts

- ◆ Side panel
- ◆ Body adhesive DA 001 730 A1

Preparing new part

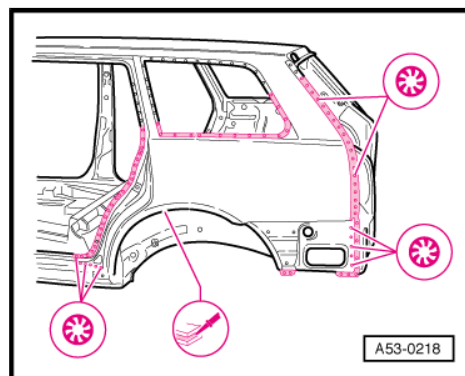
- Drill dia. 7 mm holes for SG plug weld seam.
- Clean beaded area (it must be free of dust and grease).
- Joggle-join lower connection area.



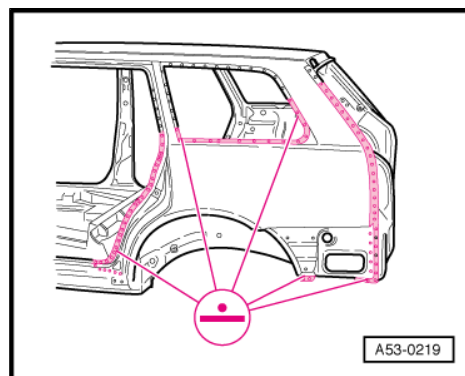
11.1.3 Welding in

- Apply adhesive to beaded area. Two beads of adhesive: 3.5 mm diameter.
- Weld tail light area, SG plug weld seam.
- Bead over wheel housing flange. Wipe off emerging adhesive and seal joint.

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- Weld in side panel, RP spot weld seam.

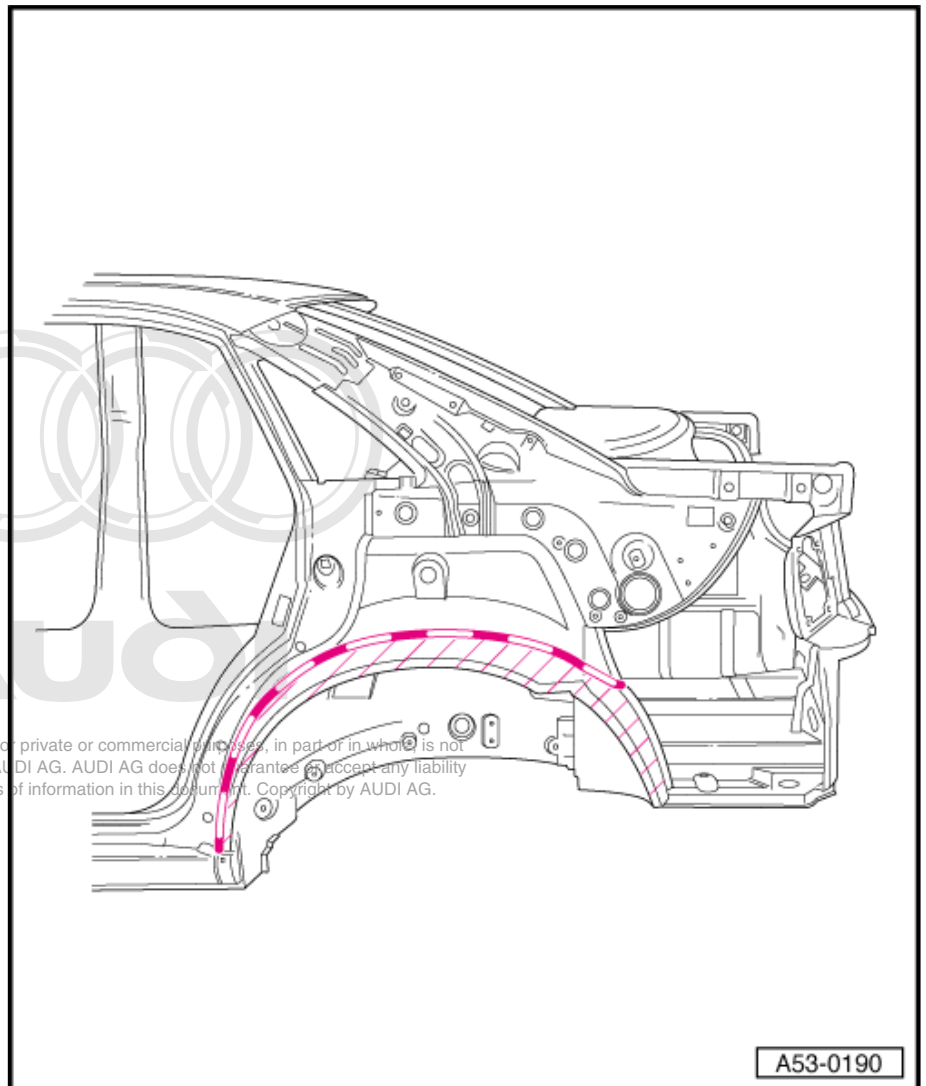


AP: 53 68 55 62

12 Rear wheel housing - Partial renewal

12.1 Procedure

12.1.1 Cutting locations



- Side panel already cut out.
- Make separating cut such that the body side can be stepped.
- Separate original joint.



Note:

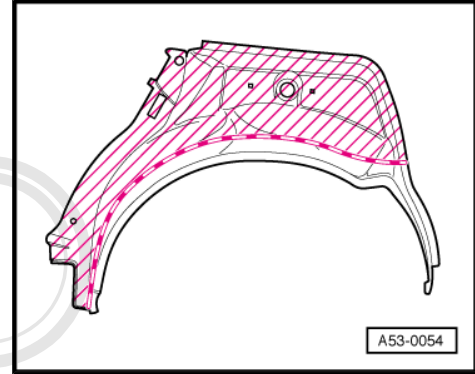
Separating cut depending on degree of damage, however only separate original joint in rear area. If necessary, also replace B and C-pillar side frame sub-part.

12.1.2 Replacement part

- ◆ Wheel housing liner

Preparing new part

- Step separating cut at body.
- Transfer separating cut to new part and cut to size.



12.1.3 Welding in

- At separating cut, produce offset overlap weld on both sides, SG continuous seam (staggered).
- Spot weld wheel housing liner, RP spot weld seam.

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