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Body Repairs

Audi A2 2001 ➤

Edition 07.2003

Repair Group overview for Body Repairs

Repair Group

00 - Technical data

50 - Body - front

51 - Body - centre

53 - Body - rear



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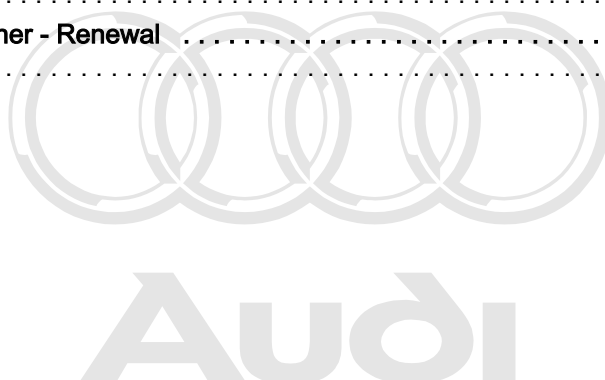
Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of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

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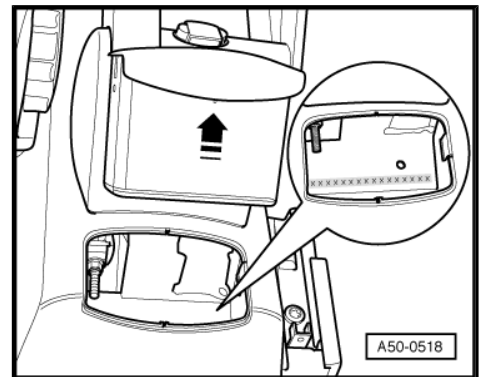
00 – Technical data

1 Vehicle identification data

1.1 Type plate and vehicle identification number

The vehicle identification number (chassis number) is stamped on the centre tunnel reinforcement. Lift out the rear storage compartment in order to read the chassis No.

The type plate is located under the carpeting on the right side. Vehicles for certain export countries have no type plate.



1.2 Vehicle data sticker

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



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2 Body dimensions

2.1 Floor group, front

a - $885 \pm 2\text{mm}$

Distance between front longitudinal members (front)

b - $747 \pm 2\text{mm}$

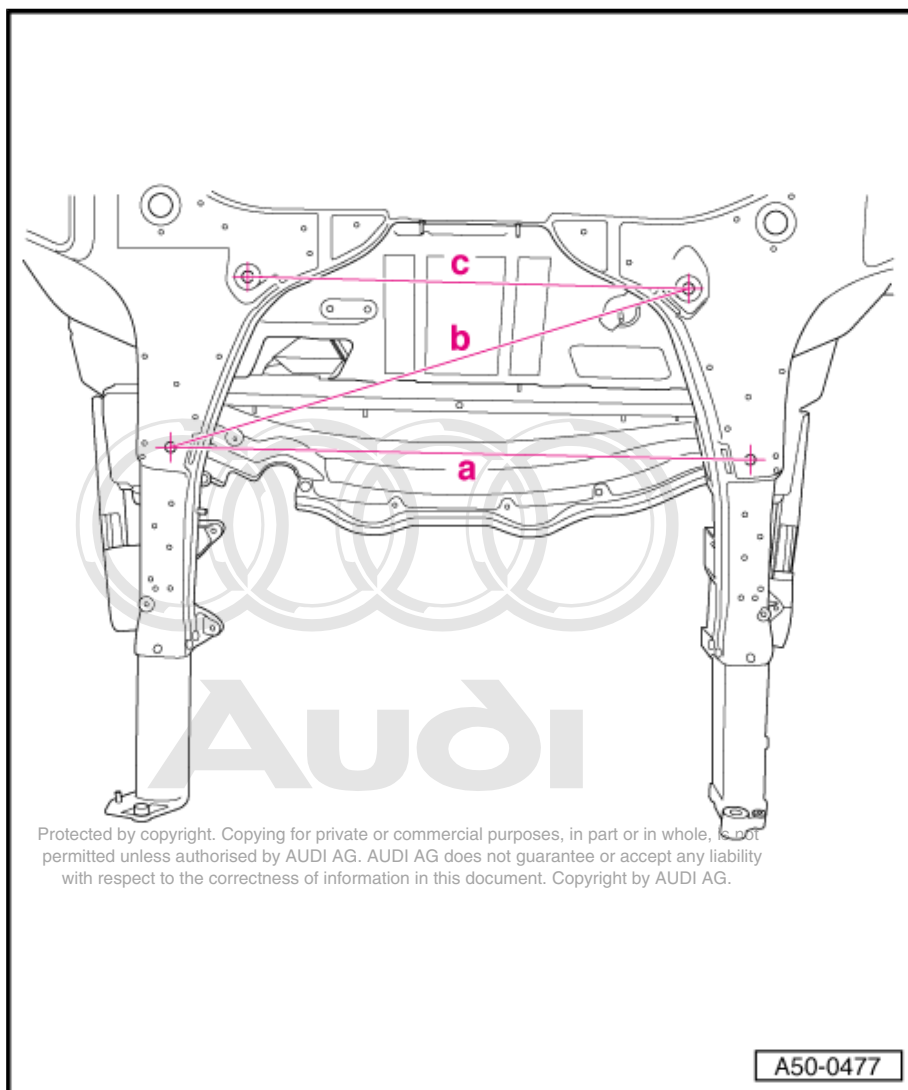
Diagonal distance between longitudinal members (front)

c - $577 \pm 2\text{mm}$

Distance between front longitudinal members (rear)

**Caution**

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



2.2 Floor group, rear

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

Distance between rear longitudinal members (rear)

f - $975 \pm 2\text{mm}$

Distance between rear longitudinal members (front)

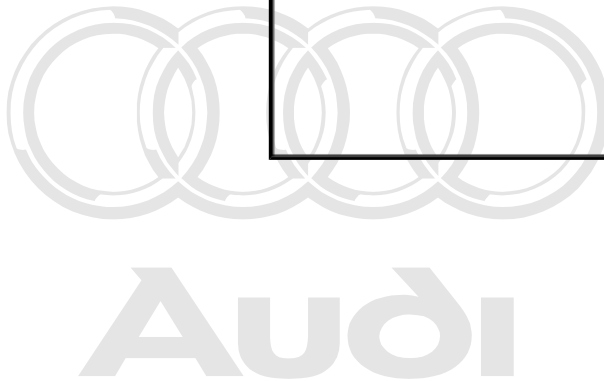
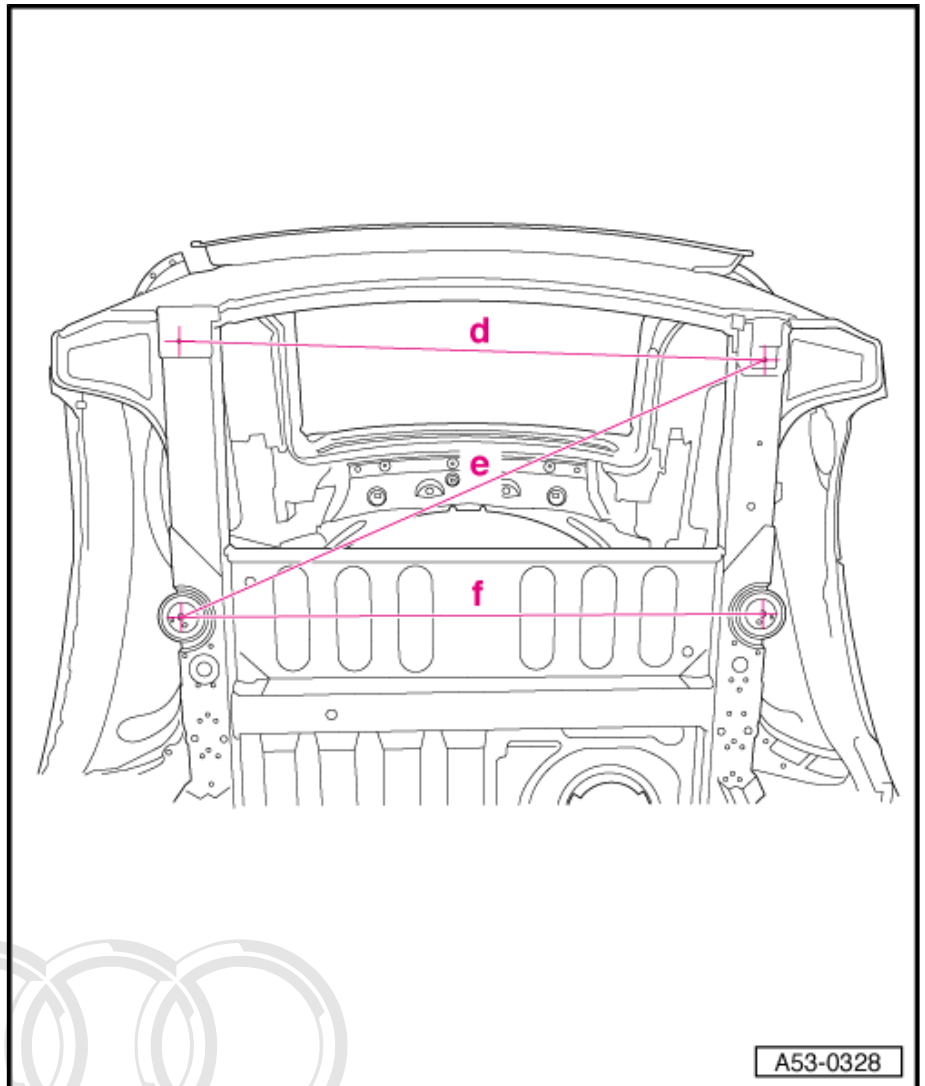
e - $1067 \pm 2\text{mm}$

Diagonal distance between rear mounting for rear axle and longitudinal member (rear)



Caution

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



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2.3 Body - front

a - 970 ± 2mm

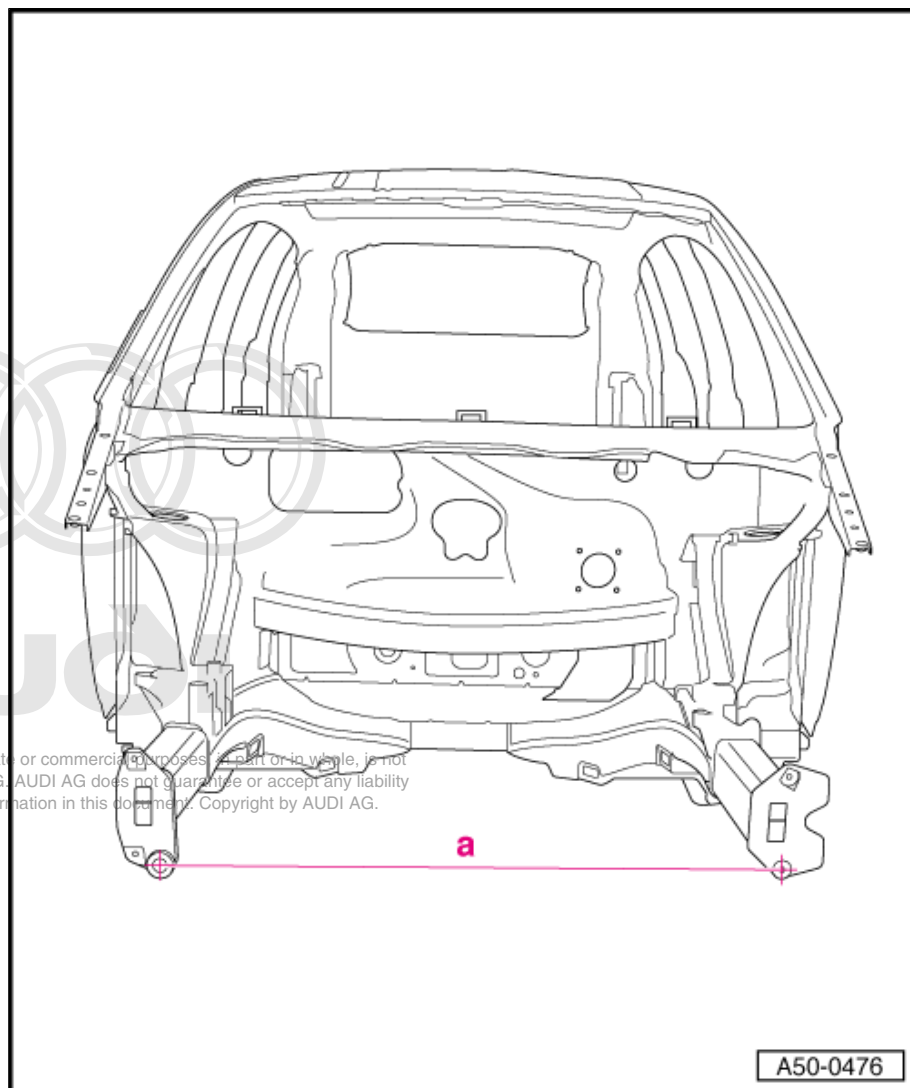
Distance between front longitudinal members



Caution

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

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b - 1255 ± 2mm

Distance between front wing panel mountings (front)

c - 1077 ± 2mm

Distance between attachment points of suspension strut mountings

d - 827 ± 2mm

Distance between engine mountings

m - 1353 ± 2mm

Diagonal distance between wing panel mountings

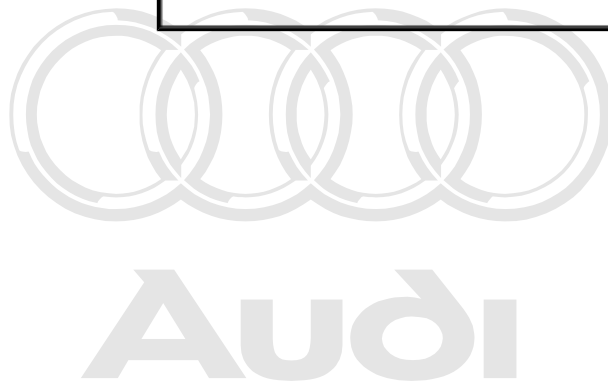
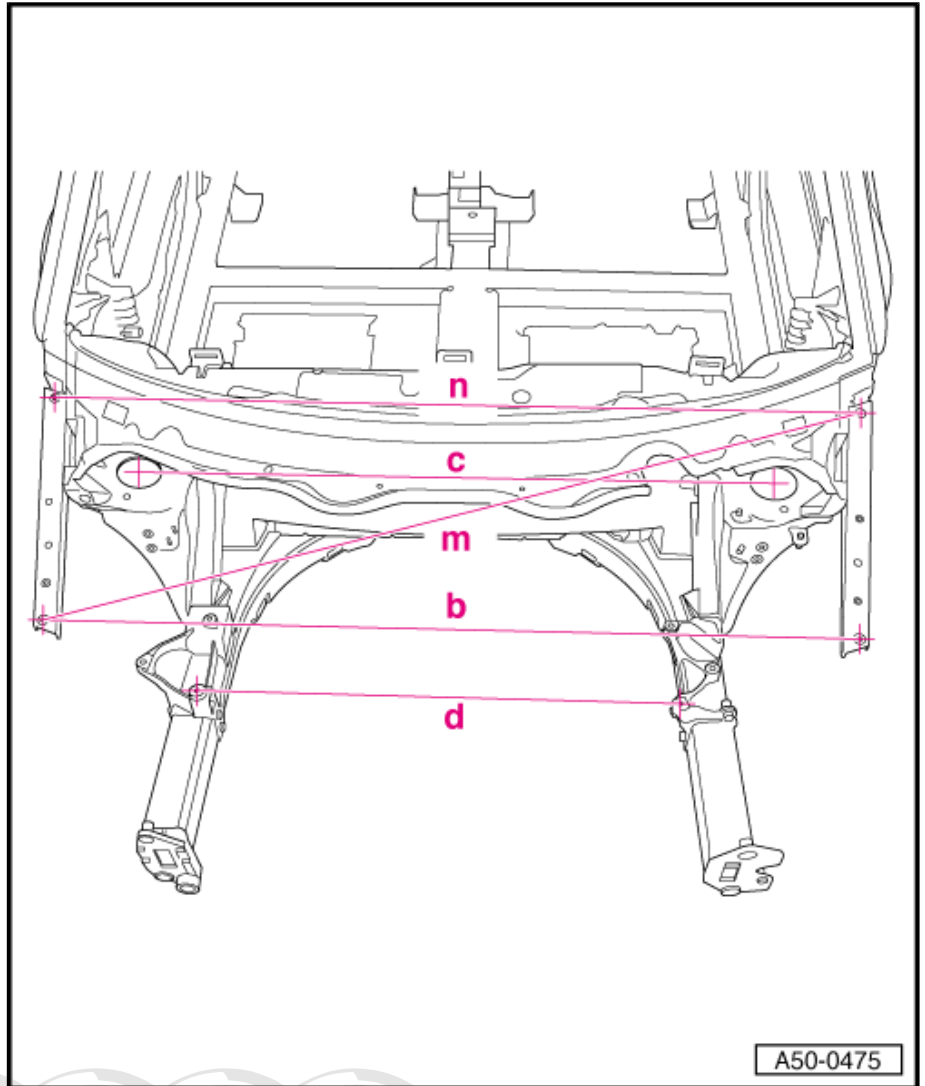
n - 1321 ± 2mm

Distance between front wing panel mountings (rear)



Caution

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2.4 Body - centre

2.4.1 Front door opening

e - $1375 \pm 2\text{mm}$

Distance between A-pillars

g - $1365 \pm 2\text{mm}$

Distance between B-pillars

f - $784 \pm 2\text{mm}$

Distance between A-pillar and
B-pillar

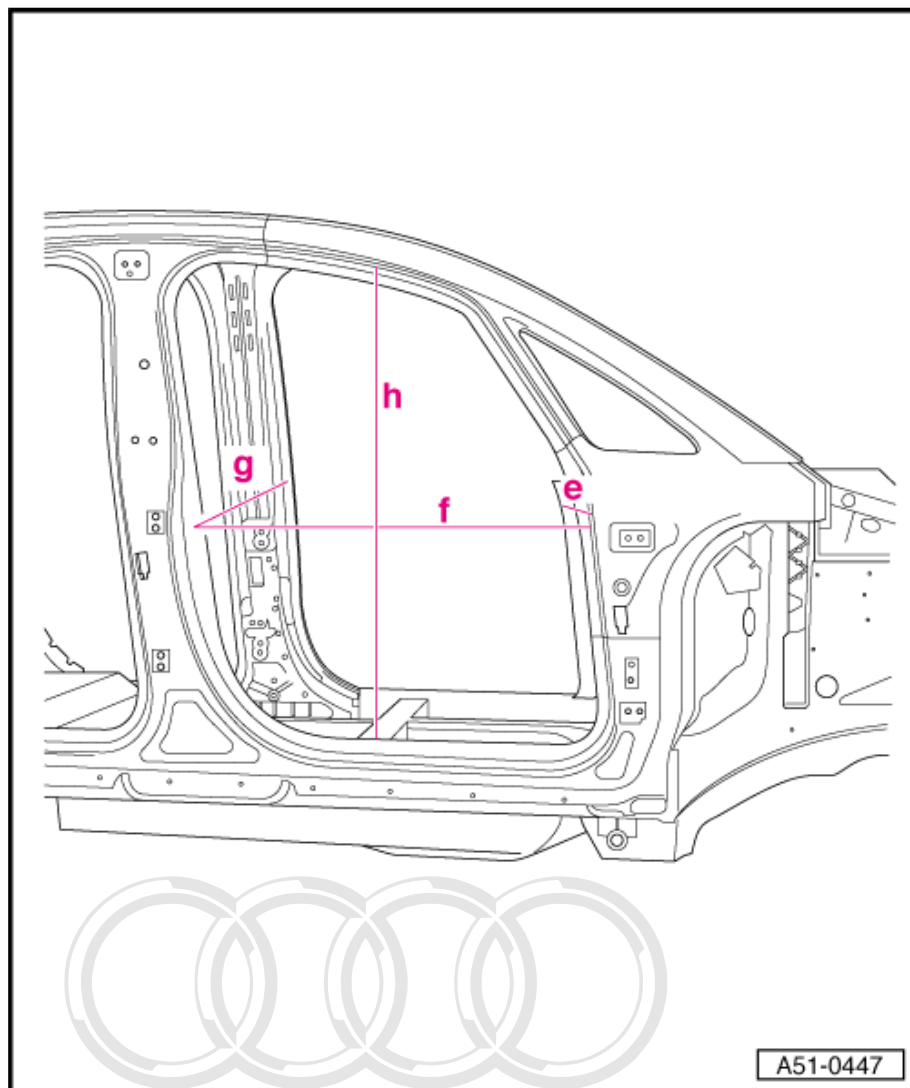
h - $981 \pm 2\text{mm}$

Height of door opening



Caution

*These dimensions only
serve as a check. Cor-
rect dimensions are de-
fined by the alignment
bracket set.*



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2.4.2 Rear door opening

j - $1316 \pm 2\text{mm}$

Distance between C-pillars

k - $654 \pm 2\text{mm}$

Distance between B-pillar and
C-pillar

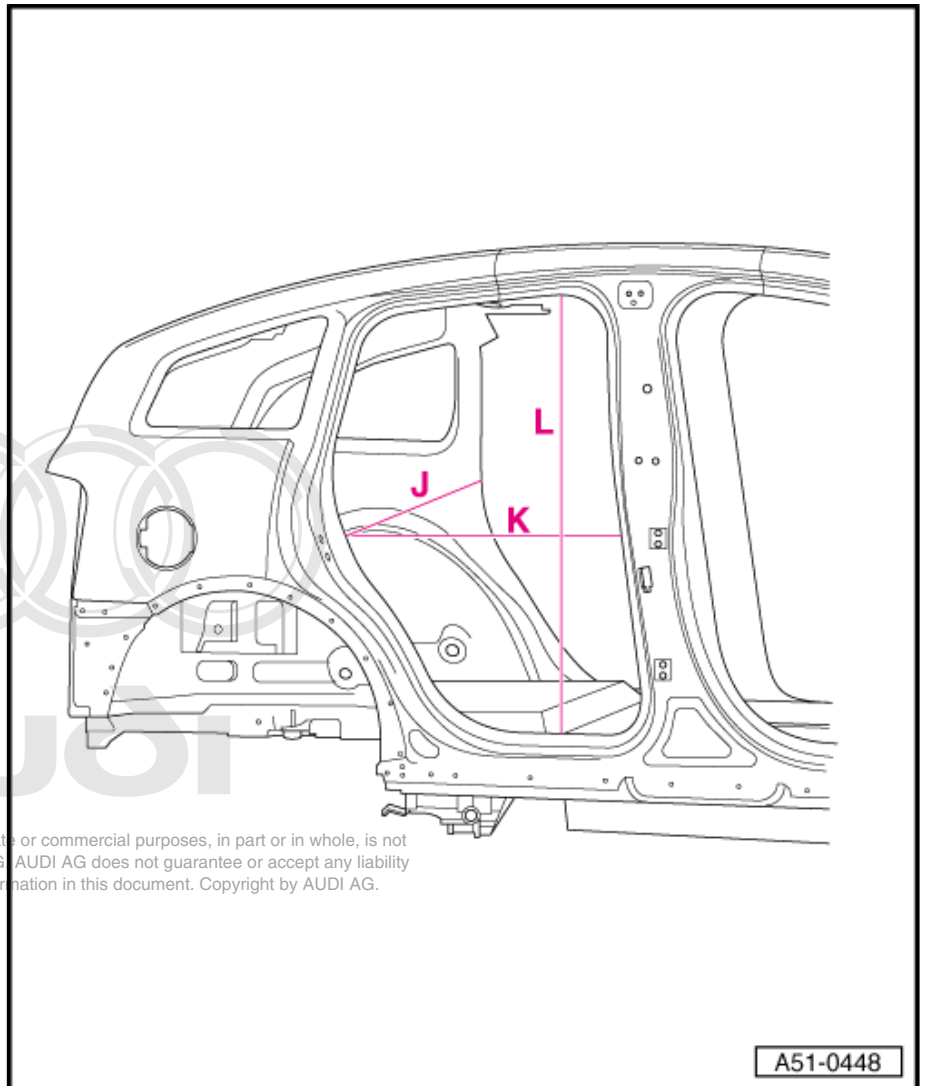
l - $998 \pm 2\text{mm}$

Height of door opening



Caution

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rect dimensions are de-
fined by the alignment
bracket set.*



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2.5 Body - rear

a - 983 ± 2mm

Distance between side panels
(top)

b - 1085 ± 2mm

Distance between side panels
(bottom)

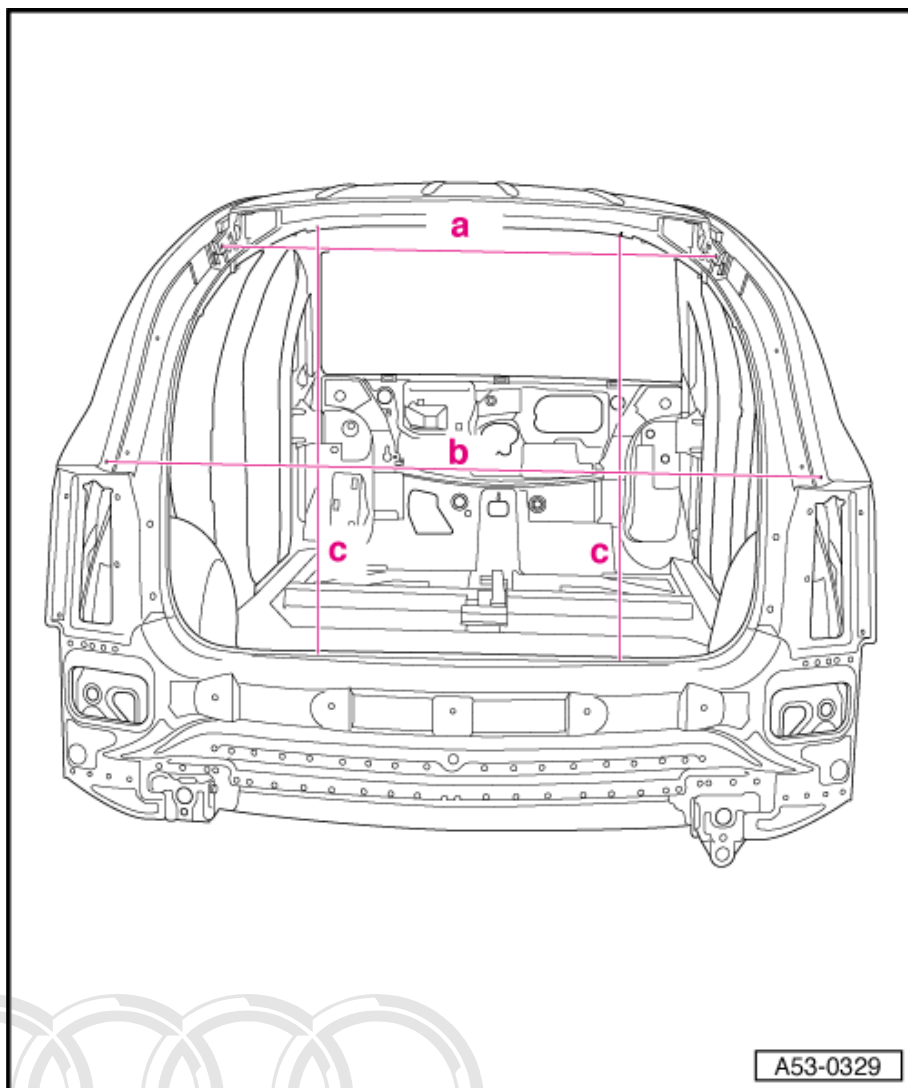
c - 890 ± 2mm

Distance between lock carrier
mounting and roof



Caution

*These dimensions only
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fined by the alignment
bracket set.*



A53-0329



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3 Body panel gaps/shut lines

3.1 Body - front

A - 1.0 mm $\pm$ 2 mm

D - 2.0 mm $\pm$ 2 mm

F - 3.0 mm $\pm$ 2 mm

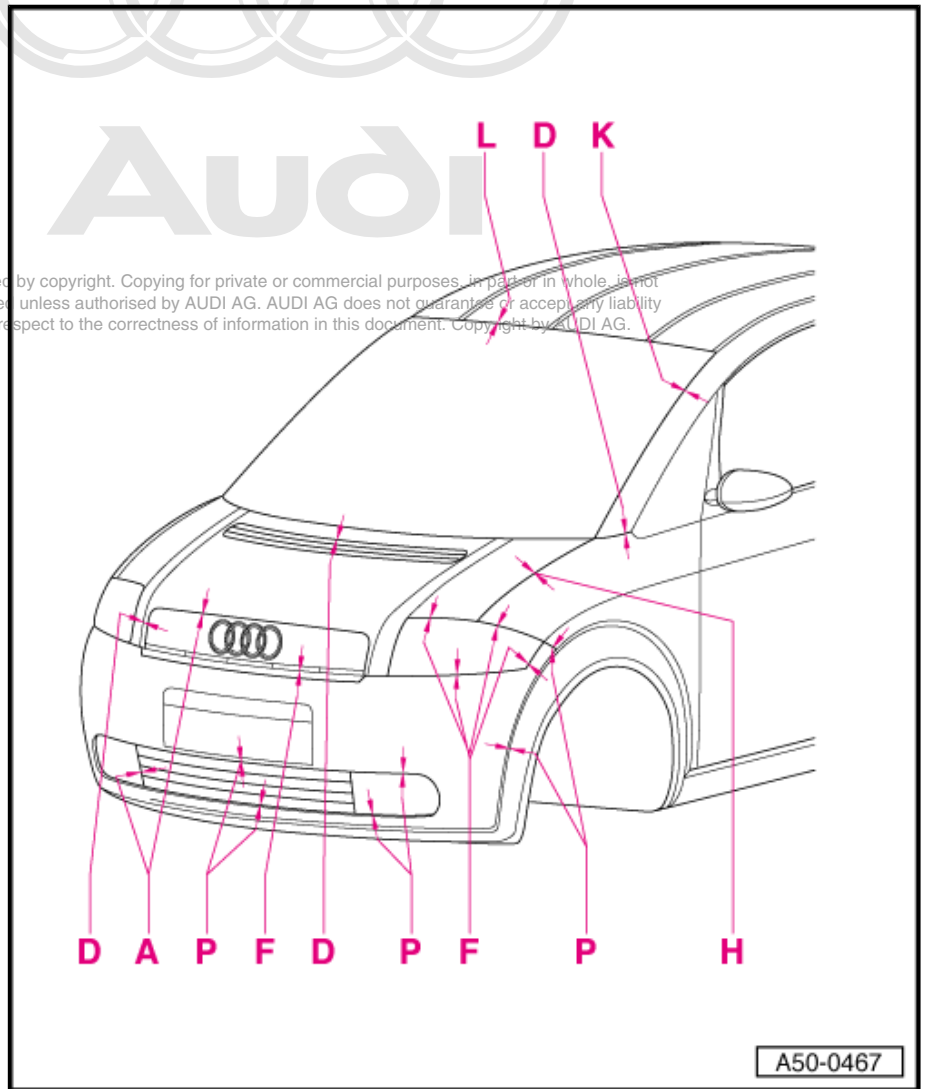
H - 4.0 mm $\pm$ 2 mm

K - 5.0 mm $\pm$ 2 mm

L - 5.5 mm $\pm$ 2 mm

P - 0.0 mm $\pm$ 2 mm

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Use special tool 3371 for checking or adjusting.

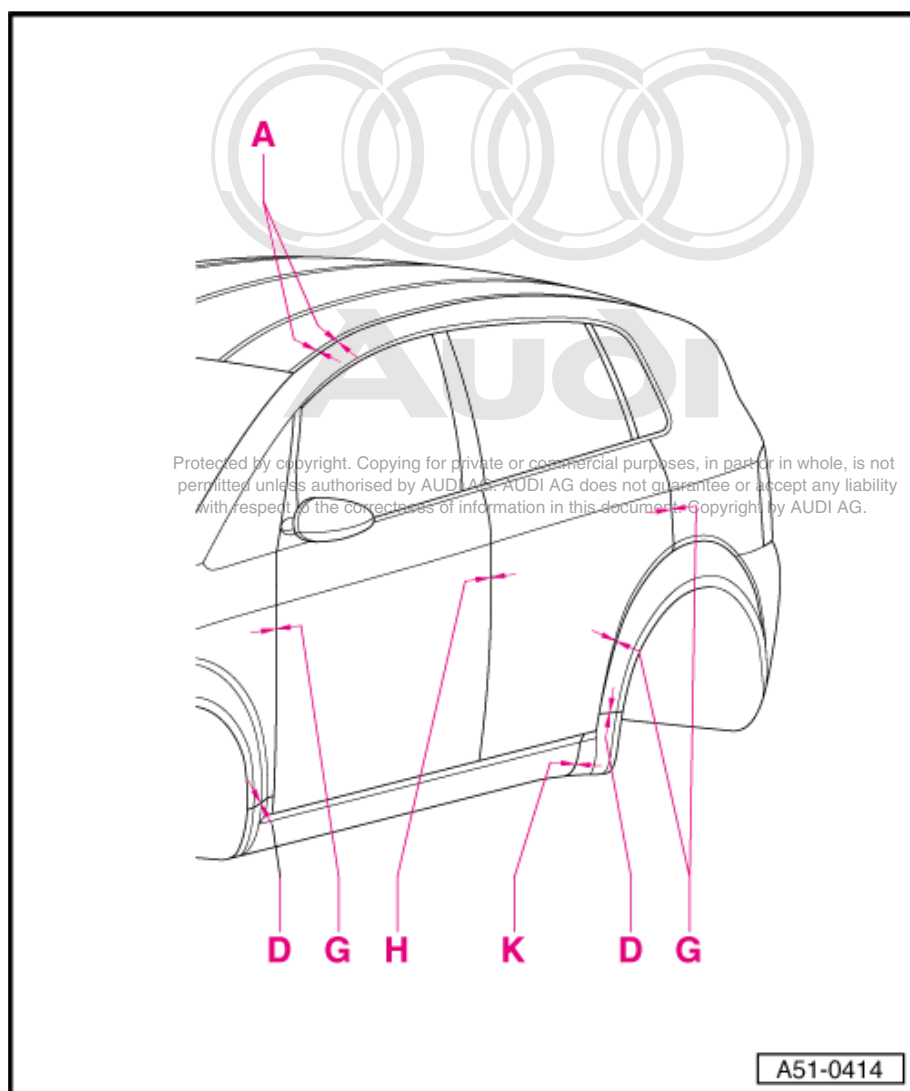
3.2 Body - centre

A - 1.0 mm $\pm$ 2 mm

G - 3.5 mm $\pm$ 2 mm

H - 4.0 mm $\pm$ 2 mm

K - 5.0 mm $\pm$ 2 mm



3.3 Body - rear

D - 2.0 mm $\pm$ 2 mm

E - 2.5 mm $\pm$ 2 mm

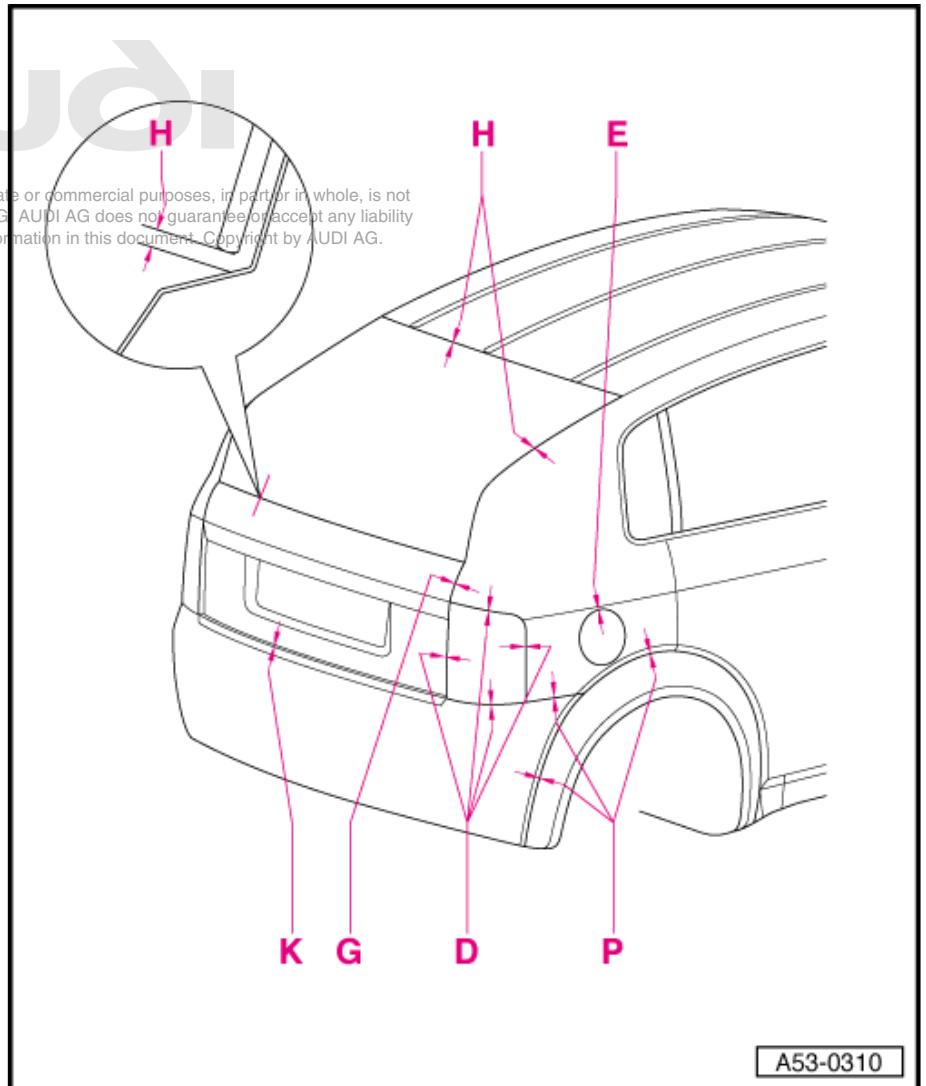
G - 3.5 mm $\pm$ 2 mm

H - 4.0 mm $\pm$ 2 mm

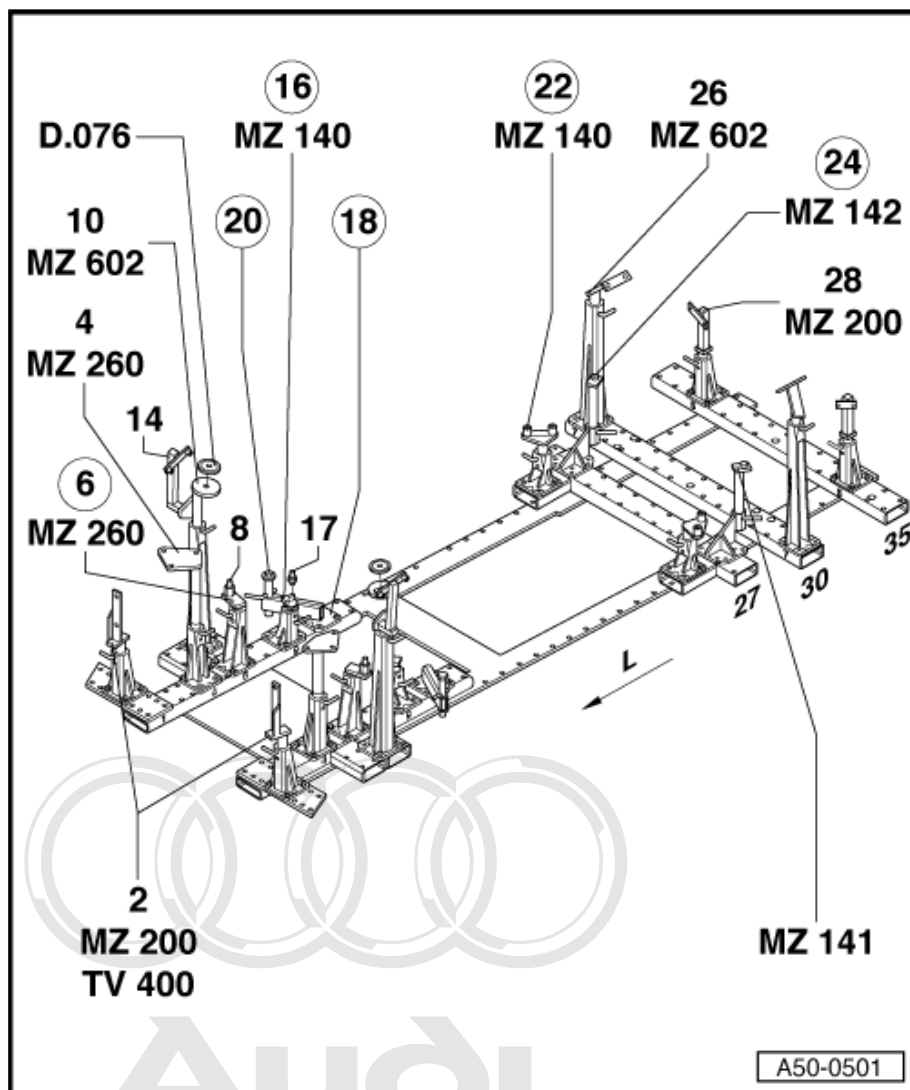
K - 5.0 mm $\pm$ 2 mm

M - 6.0 mm $\pm$ 2 mm

P - 0.0 mm $\pm$ 2 mm



4 Straightening jig



Note!

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- ◆ The item numbers in the illustrations are identical with the end numbers on the alignment bracket mountings.
- ◆ The item numbers of the alignment bracket mountings marked with a circle are for checking the body with mechanical units installed.
- ◆ The required basic size is given for the alignment bracket mountings.
- ◆ The following figures show the right side of the vehicle.

Alignment bracket set -VAS 5195-

Portal gauge supplement -VAS 5007/10-

2 - MZ 142 and TV 400

3 - Spacer

4 - MZ 260

6 - MZ 260

8 - Spacer bolt

10 - MZ 602 and alignment
bracket mounting -14-

16 - MZ 140

17 - Spacer bolt

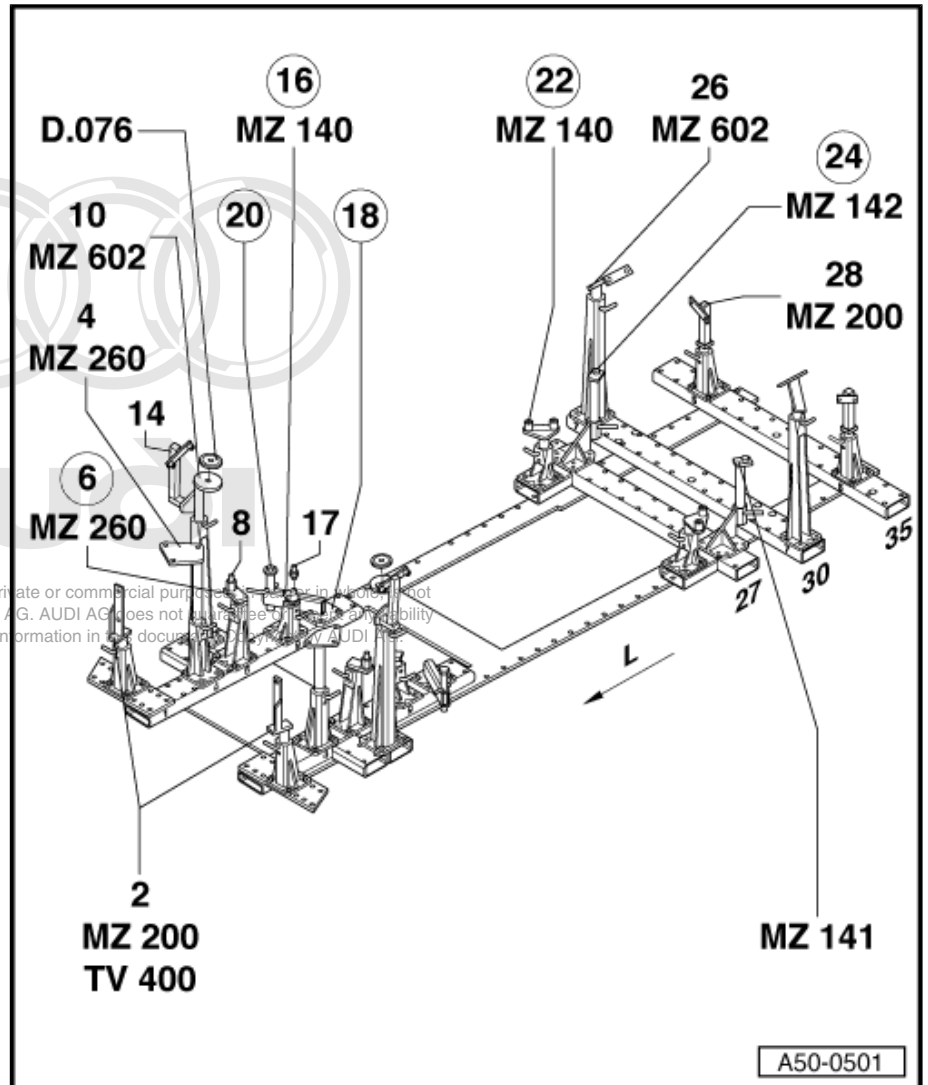
18 - Bracket without MZ and
alignment bracket mounting
-20-

22 - MZ 140

24 - MZ 142

26 - MZ 602

28 - MZ 200



Overview and locations of MZ elements

2 - MZ 200 and TV 400

4 - MZ 260

6 - MZ 260

8 - MZ 260

10 - MZ 260

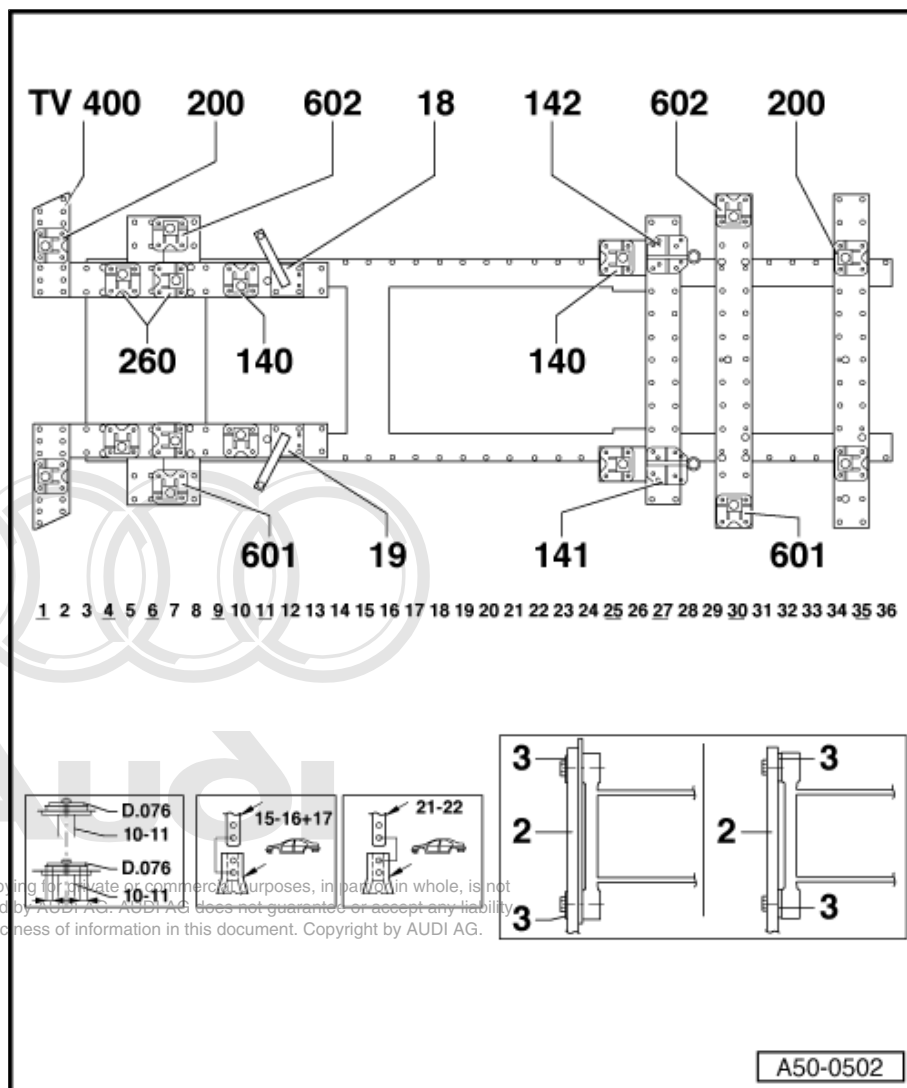
16 - MZ 140

22 - MZ 140

24 - MZ 142

26 - MZ 602

28 - MZ 200

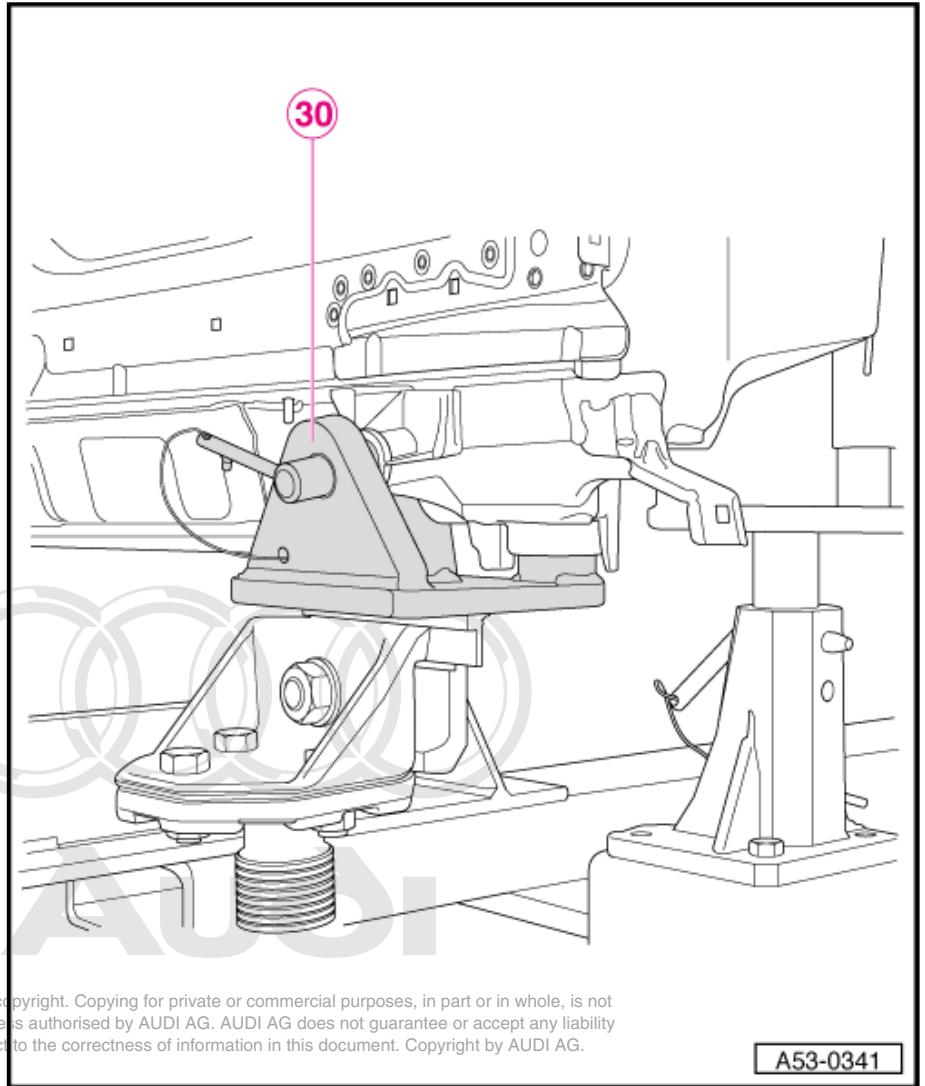


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Overview and locations of MZ elements

**30 - Body mounting, identical
at front and rear**

Clamps for body mountings



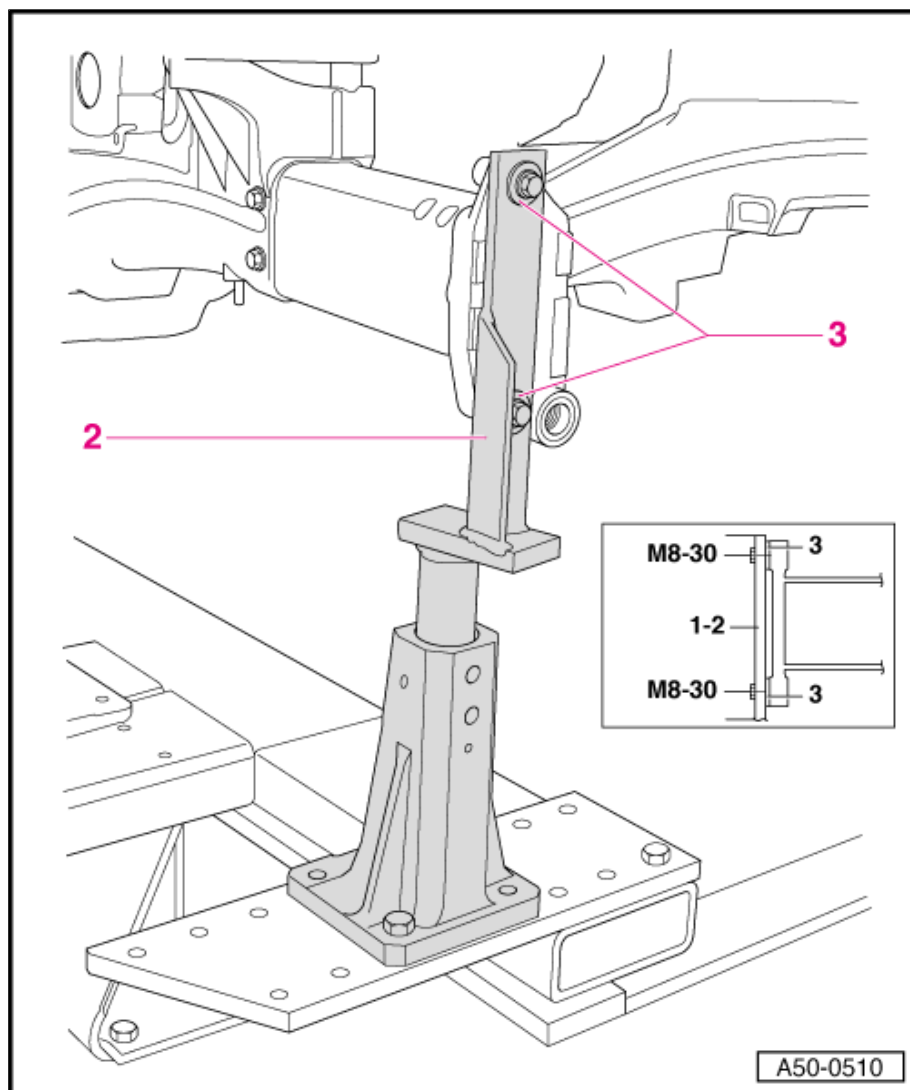
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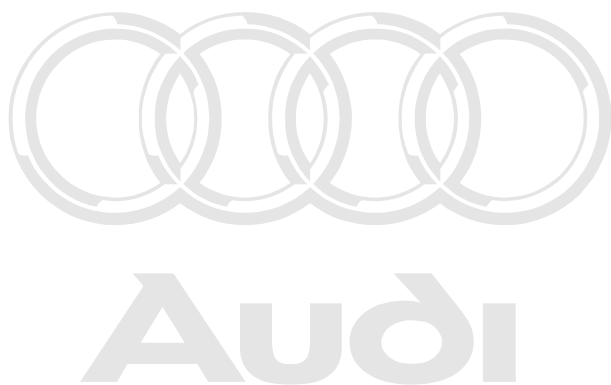
2 - Front longitudinal member

Attach spacer -3- first, then bolt
on MZ

3 - Spacer

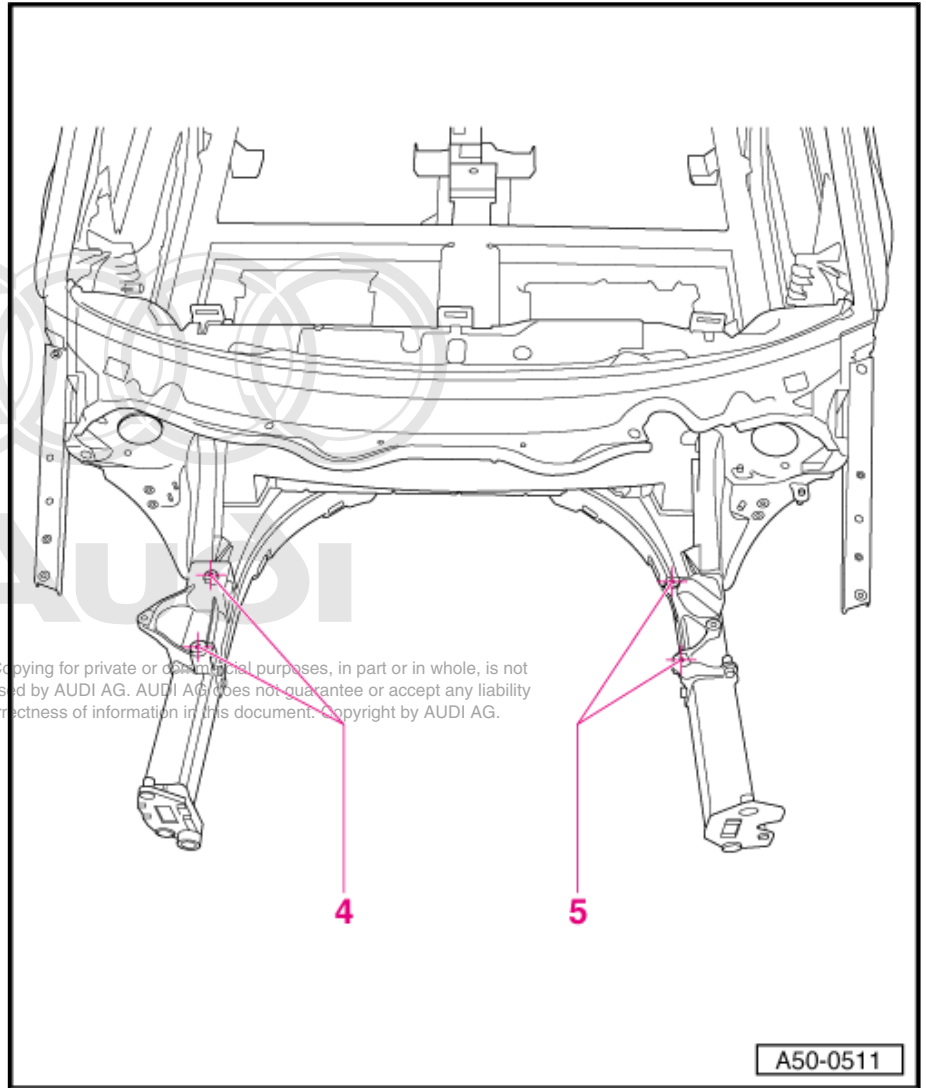


Overview of front alignment brackets



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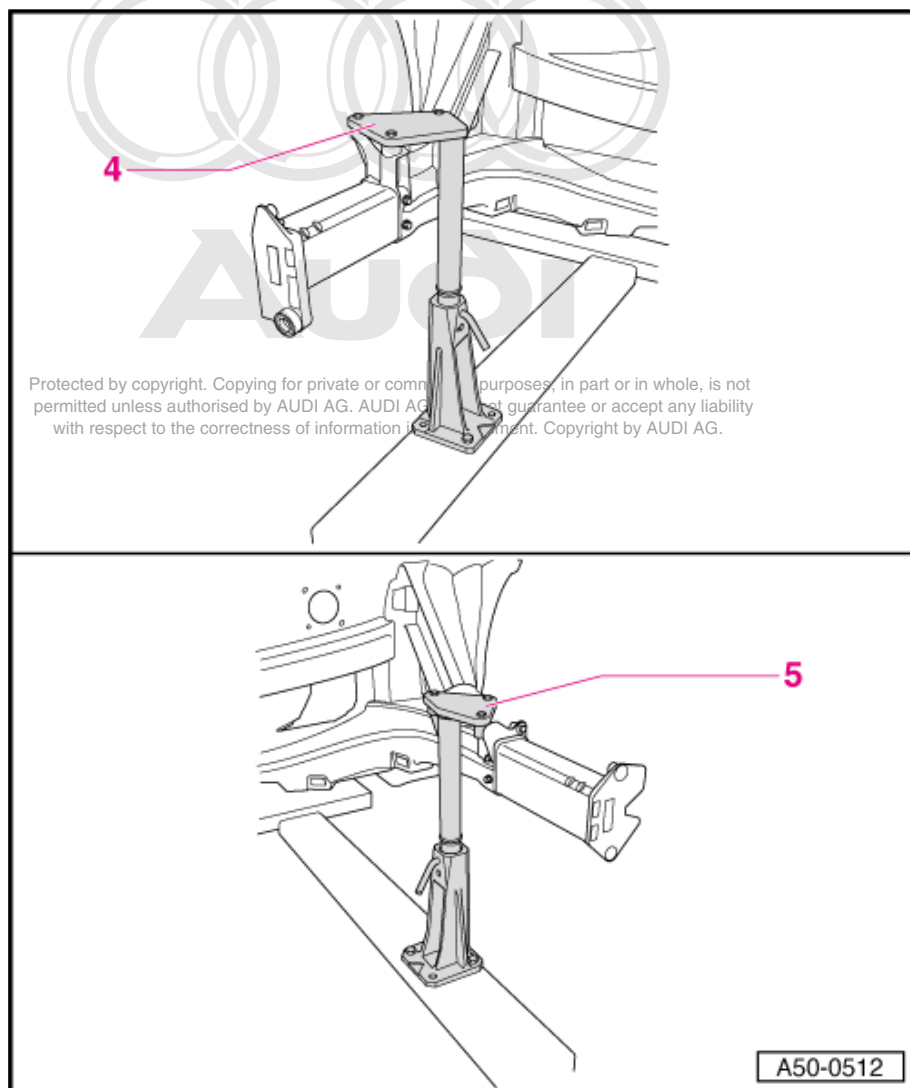
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Overview of front alignment brackets

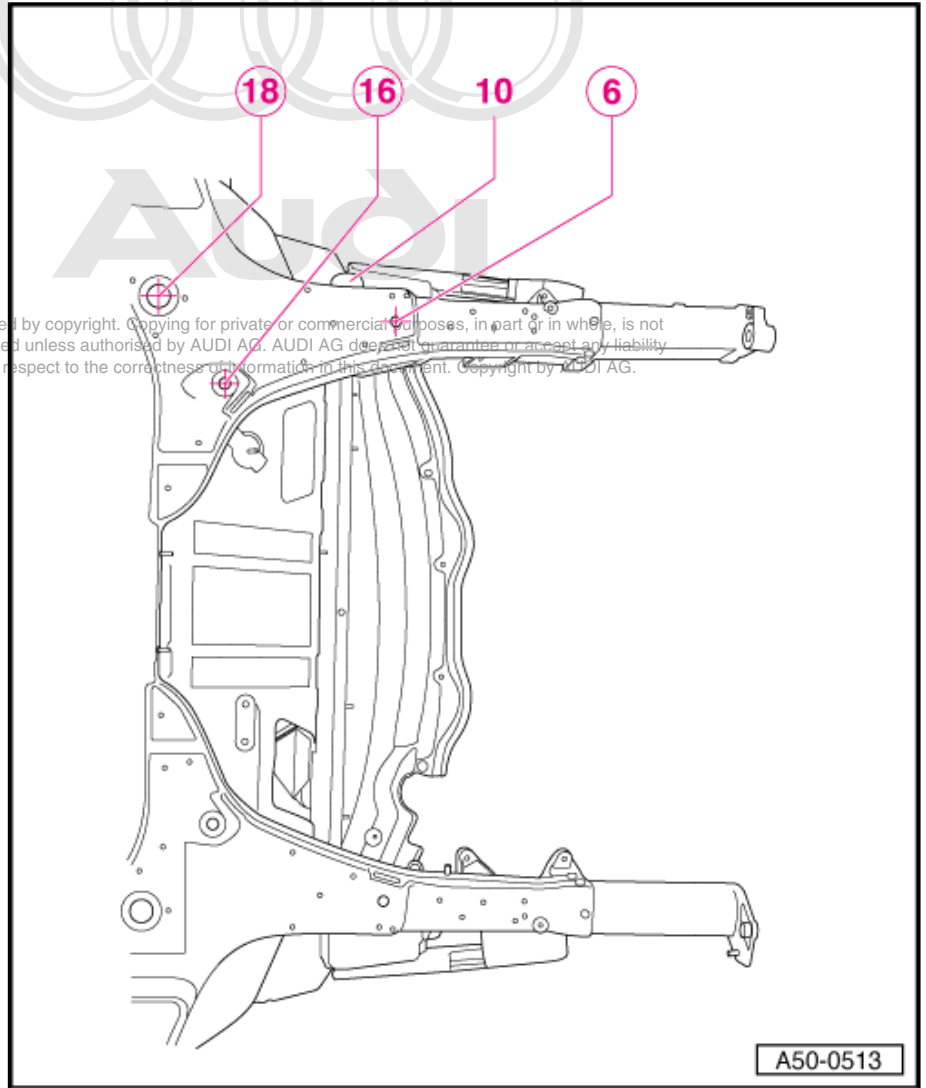
4 - Engine carrier mounting

5 - Engine carrier mounting



Overview of front alignment brackets

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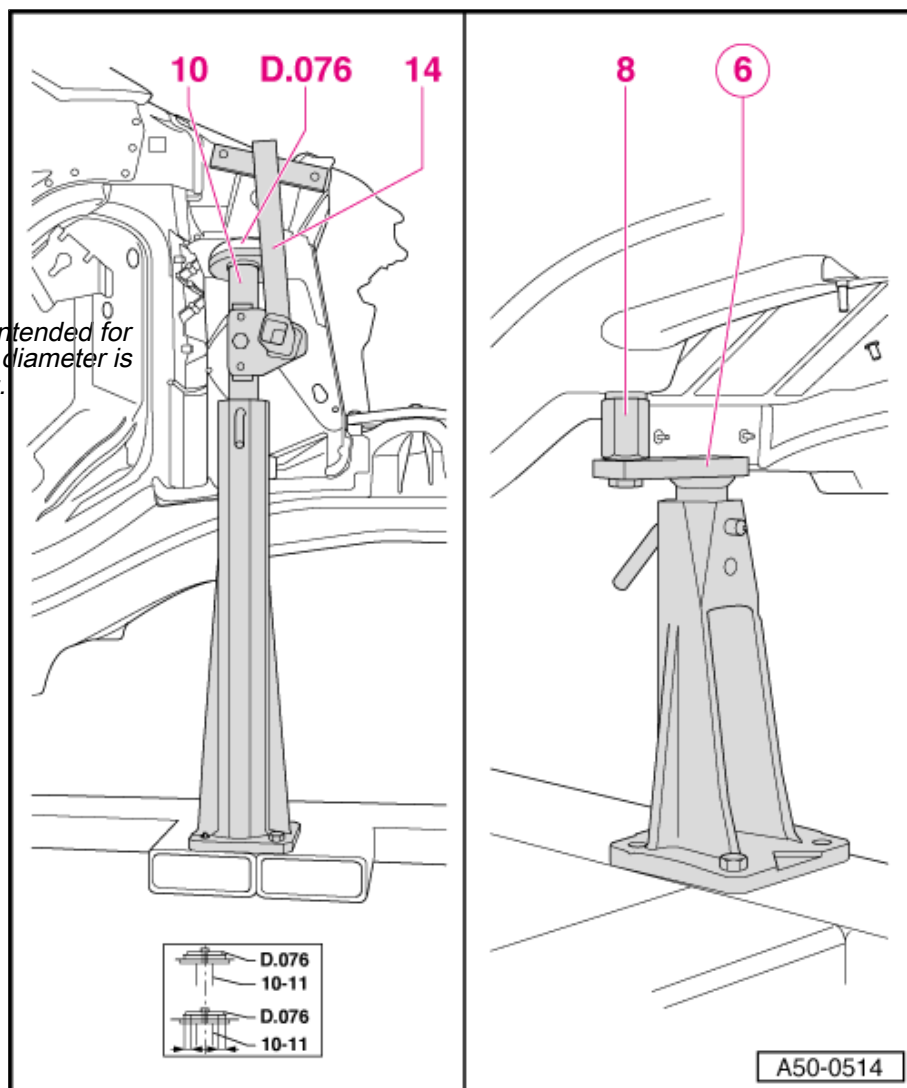


Overview of front alignment brackets

Body Repairs - Edition 07.2003

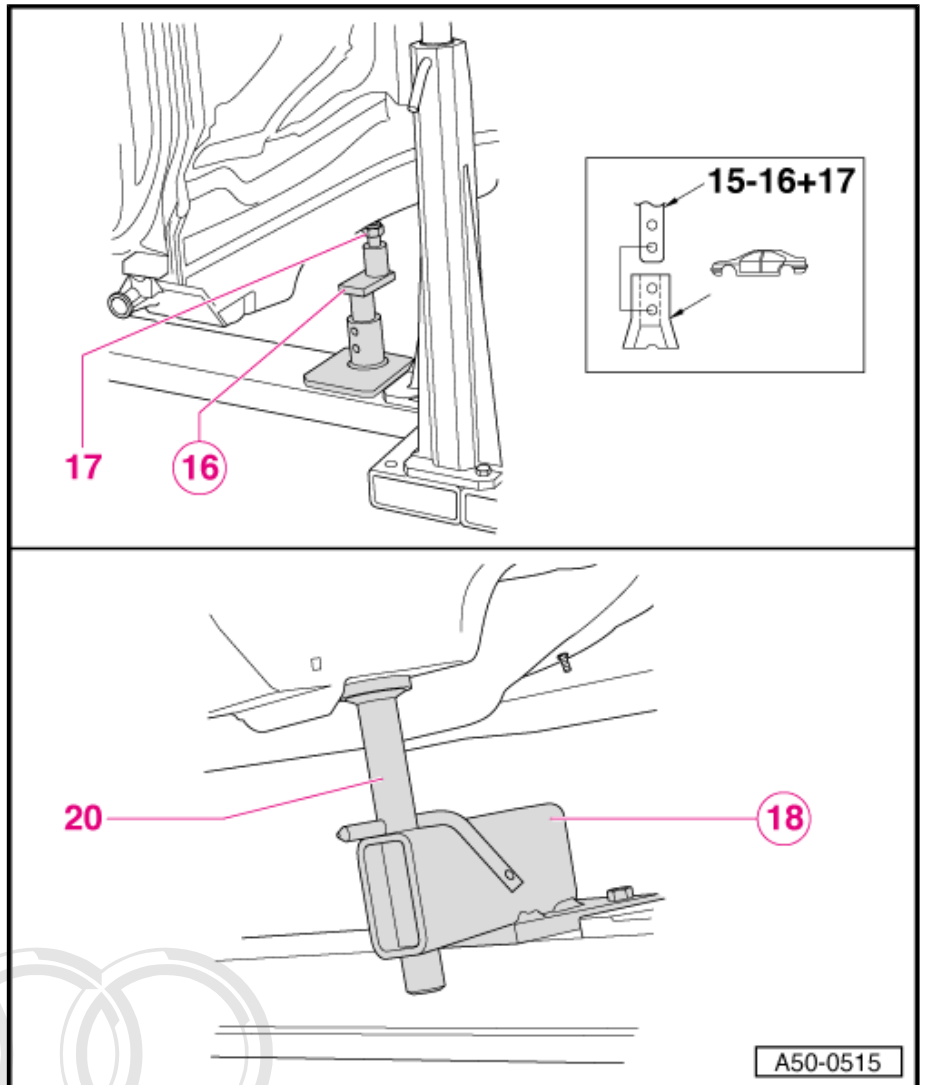
- 

The large diameter is intended for repair work. The small diameter is for checking alignment.

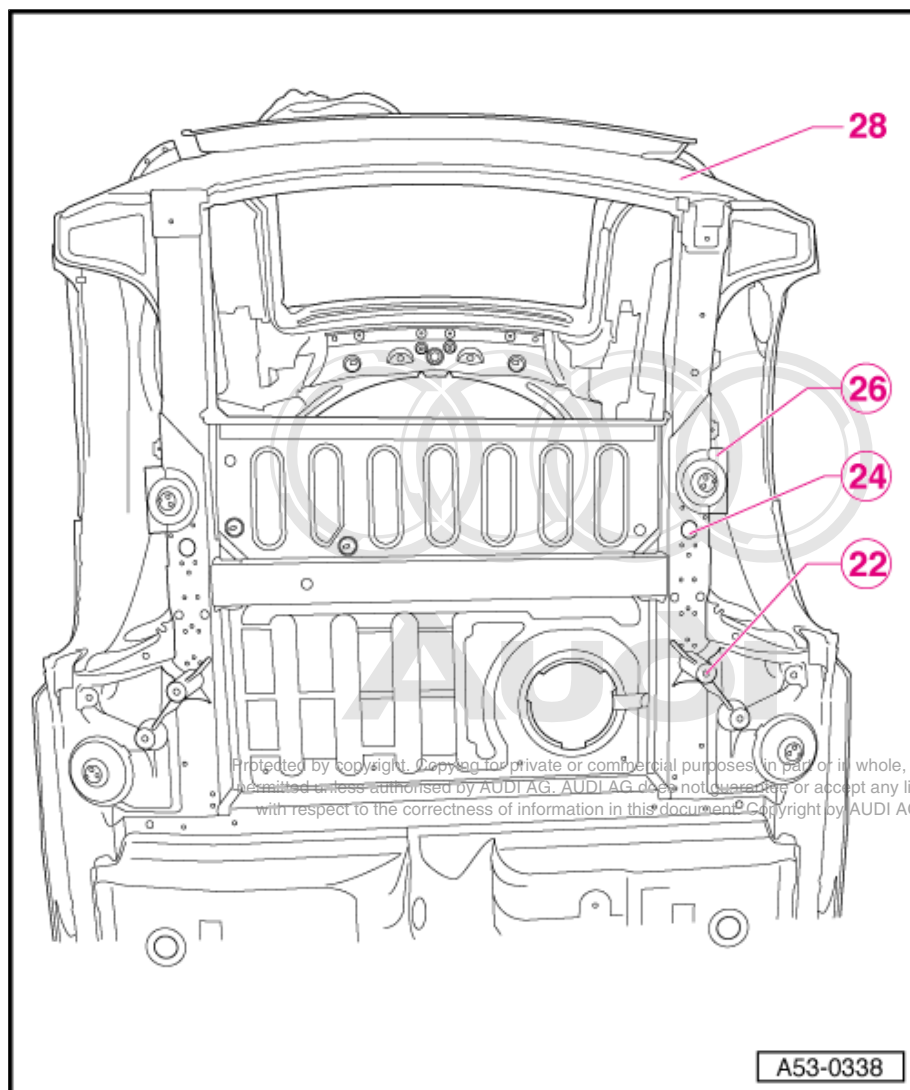


20 Rep. Gr.00 - Technical data

- 16 - Mounting for subframe
- 17 - Spacer bolt
- 18 - Front production mounting
- 20 - Spacer, identical on left and right sides

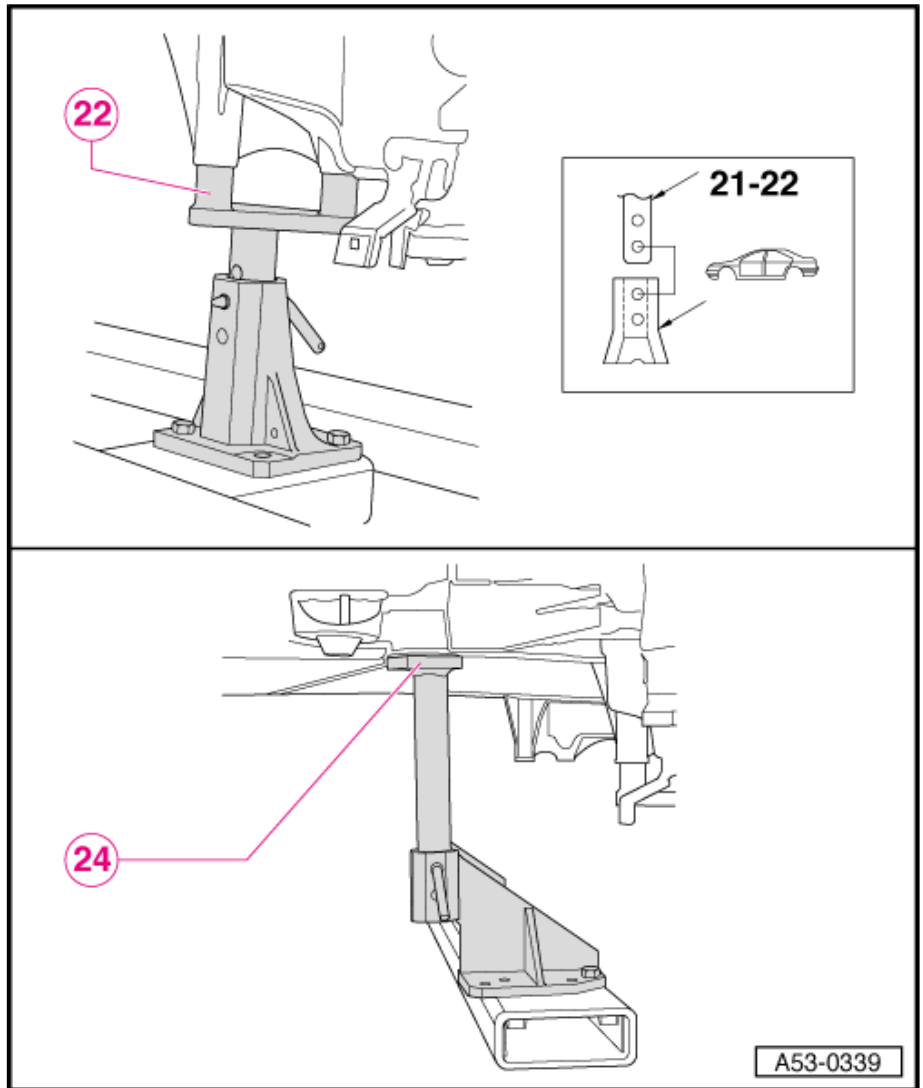


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Overview of rear alignment brackets

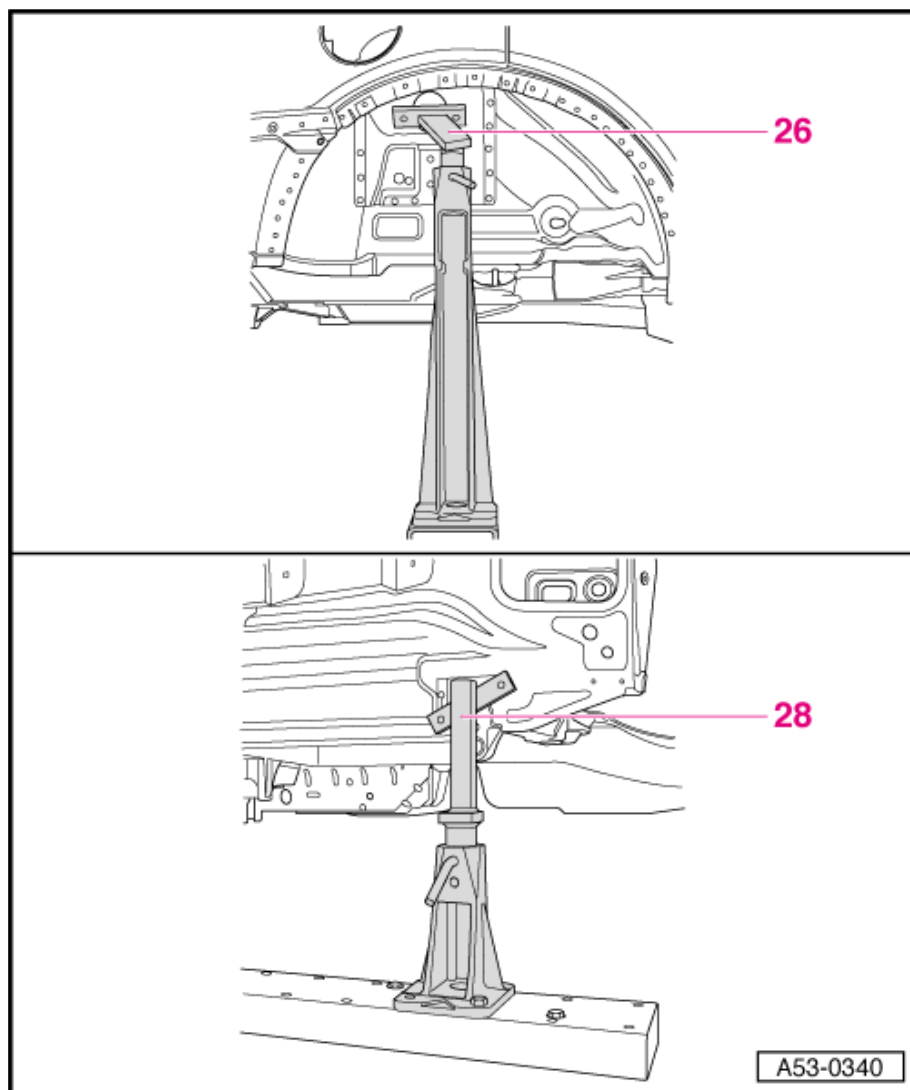
- 22 - Mounting for rear axle
- 24 - Mounting for subframe



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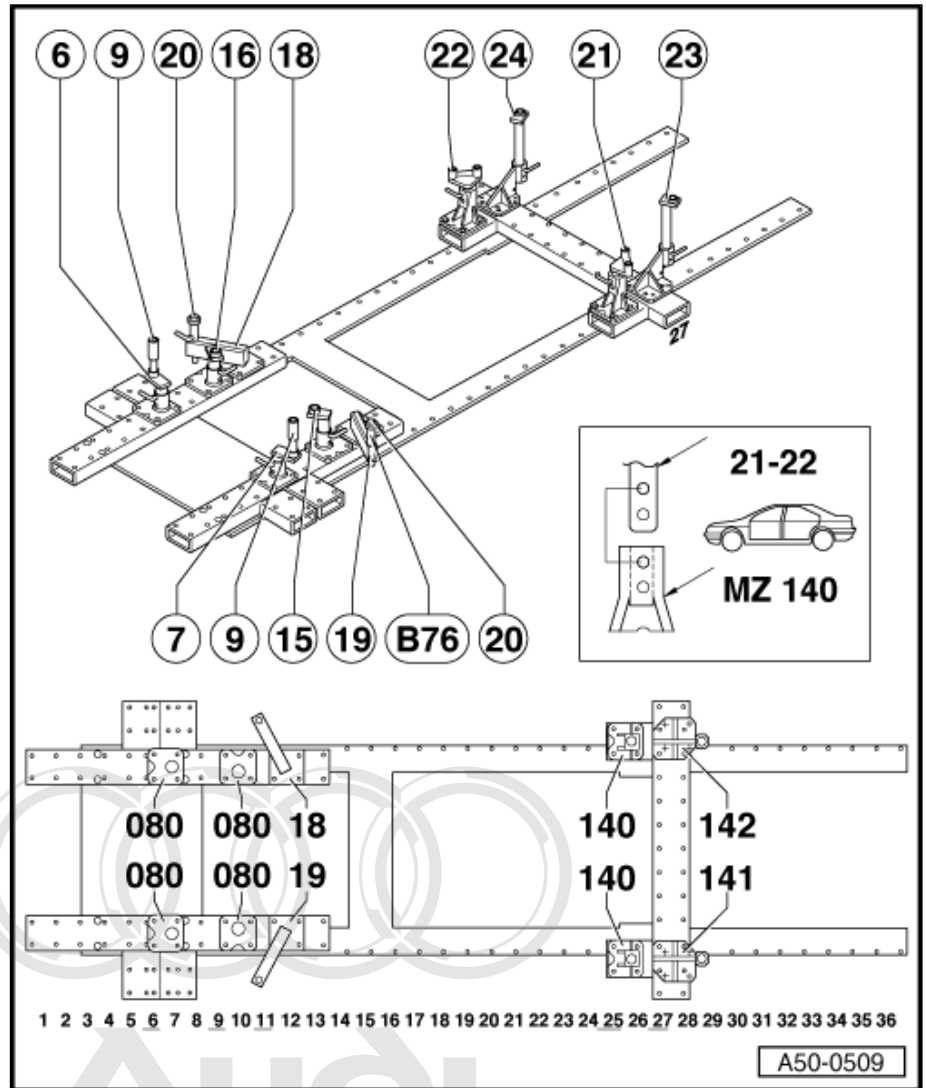
26 - Mounting for suspension
strut

28 - Rear longitudinal member



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- 6 - MZ 080
- 9 - Spacer
- 16 - MZ 080
- 22 - MZ 140
- 24 - MZ 142



Overview of alignment bracket positions with MZ elements for vehicles with mechanical units installed

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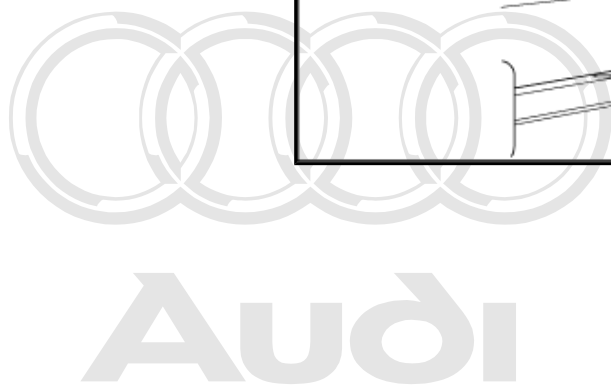
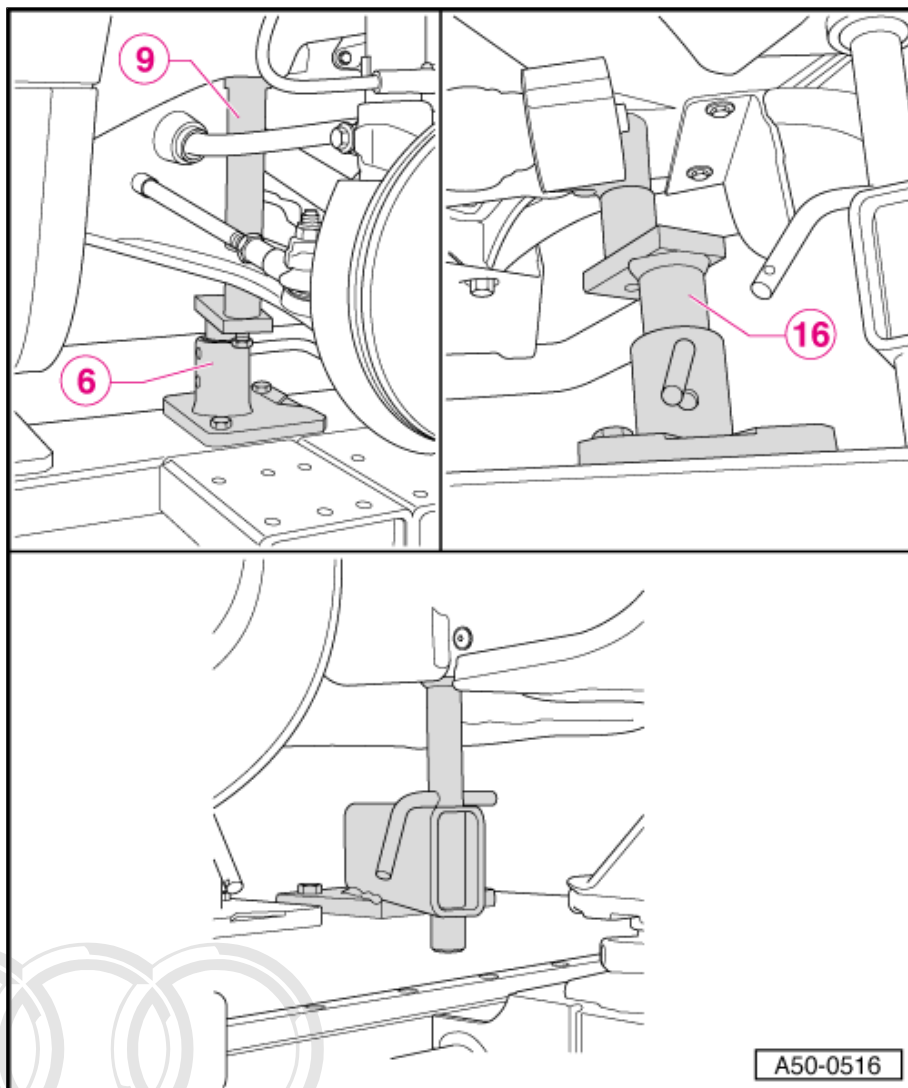
6 - Mounting for subframe

9 - Spacer

16 - Mounting for subframe

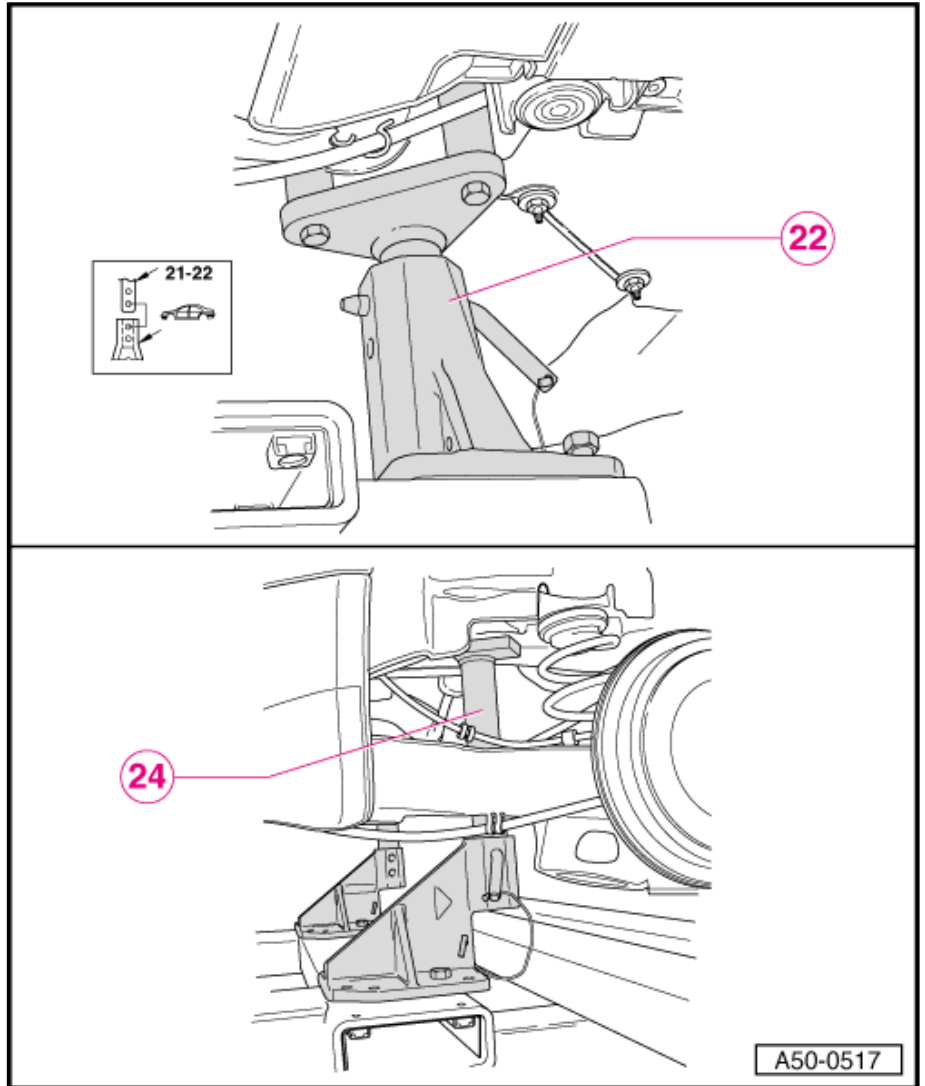
18 - Front production mounting

20 - Spacer, identical on left and right sides



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- 22 - Mounting for rear axle
- 24 - Mounting for subframe



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4.1 Portal gauge

A - Extension

B - Telescopic column

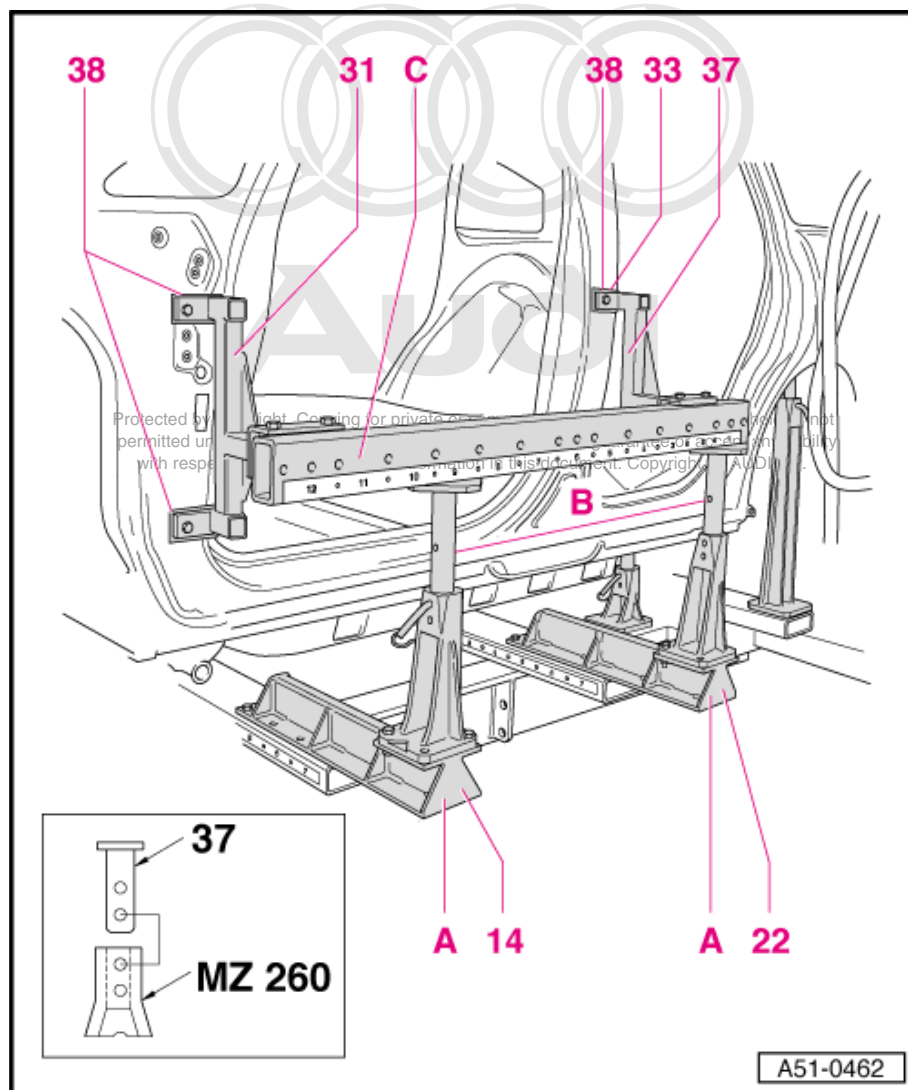
C - Cross bar 1200 mm

31 - MZ 260 Mounting for A-pillar

37 - MZ 260 Mounting for B-pillar

38 - Base plate removed for A-pillar and B-pillar only

33 - Base plate removed for B-pillar only



Portal gauge supplement -VAS 5007/10-

A - Extension

B - Telescopic column

C - Cross bar 1200 mm

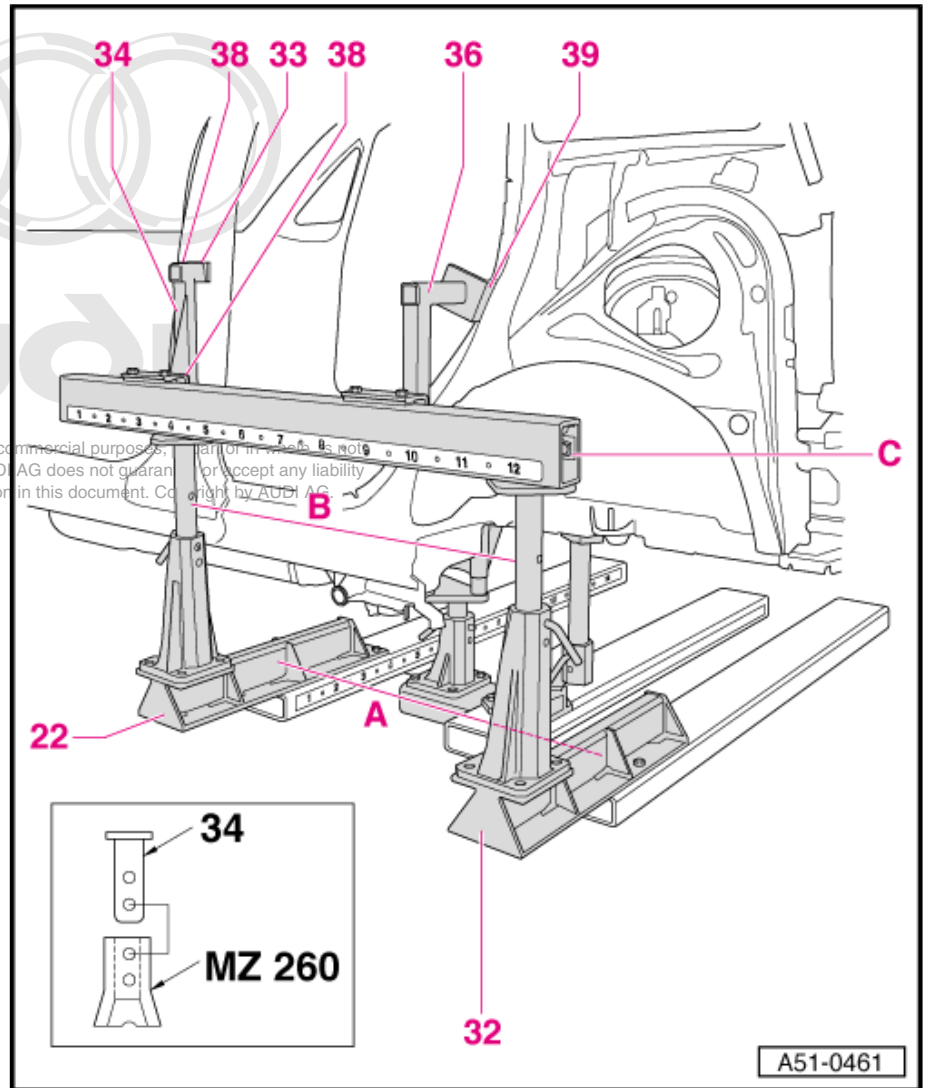
34 - MZ 260 Mounting for B-pillar

36 - MZ 260 Mounting for C-pillar

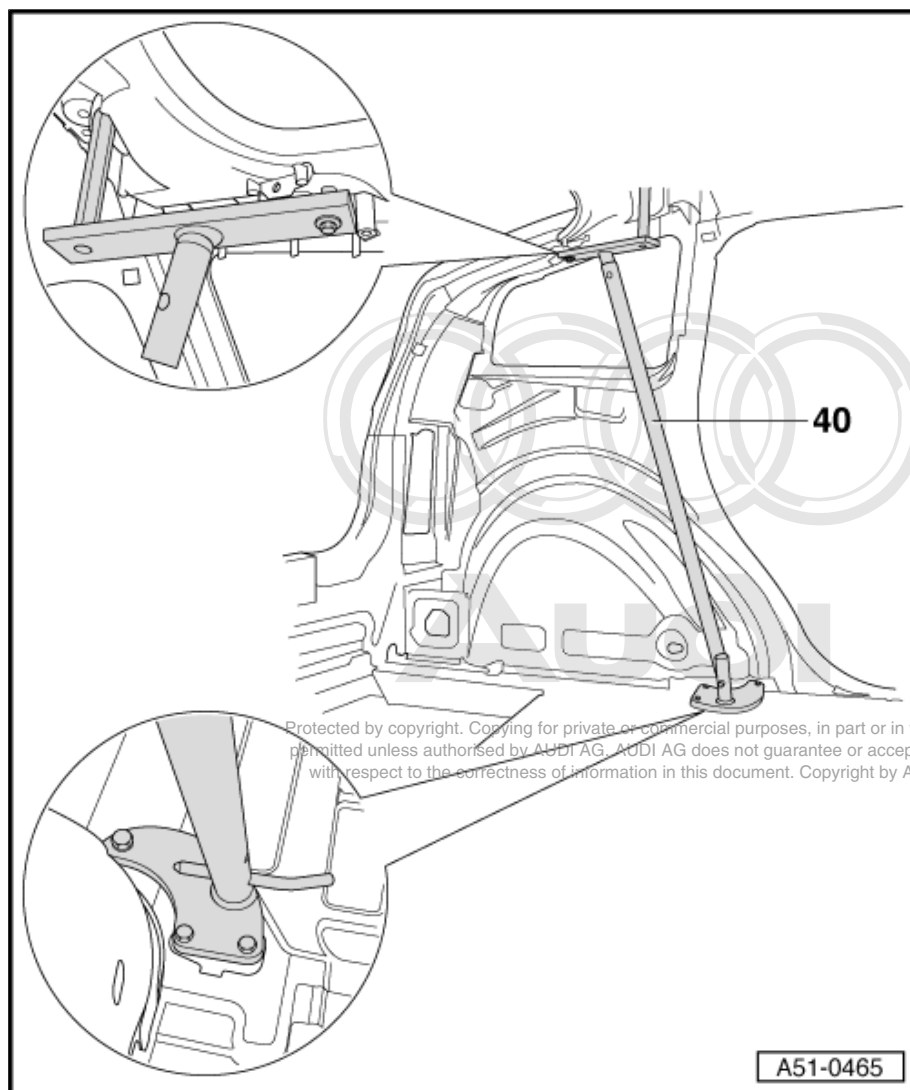
38 - Base plate removed for B-pillar only

39 - Base plate removed for C-pillar only

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**40 - Alignment bracket set for
rear lid hinge**



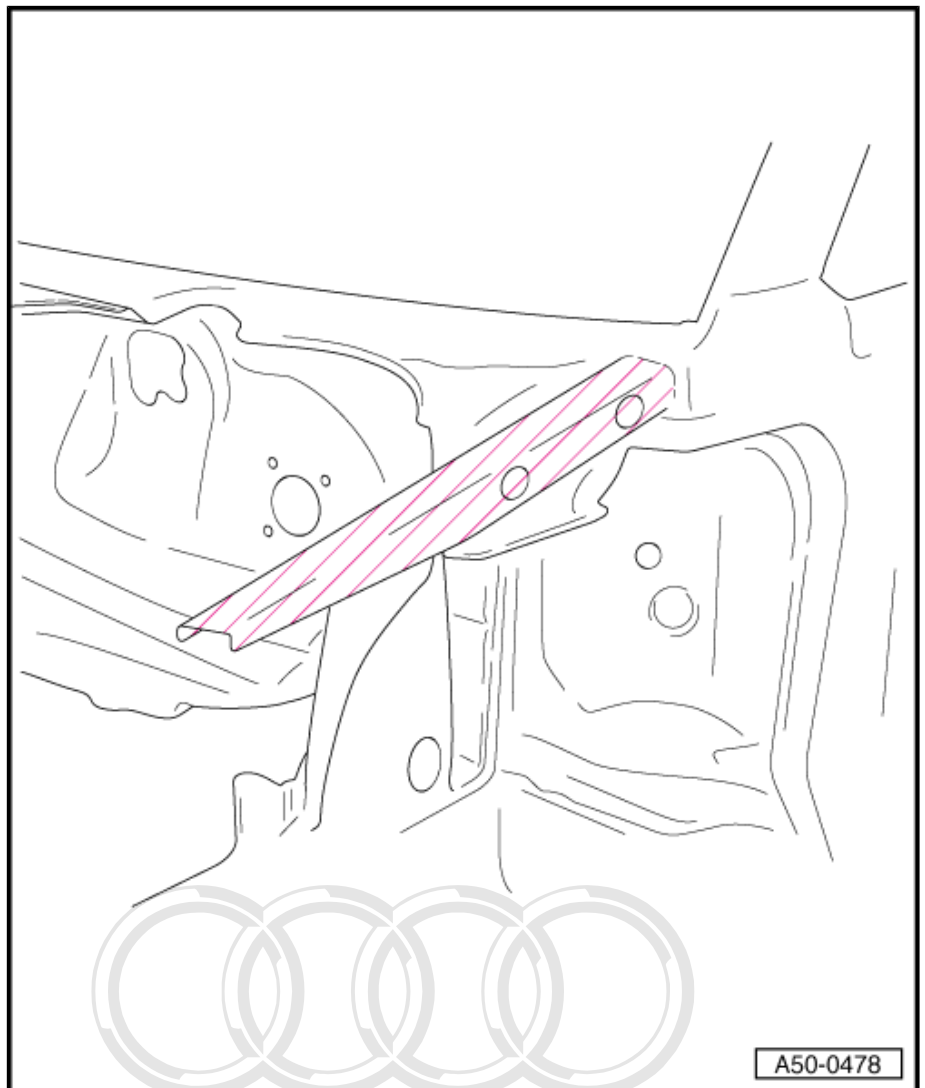
50 – Body - front

RO: 50 53 55 50

1 Wing mounting flange - Renewal

1.1 Procedure

1.1.1 Cutting locations



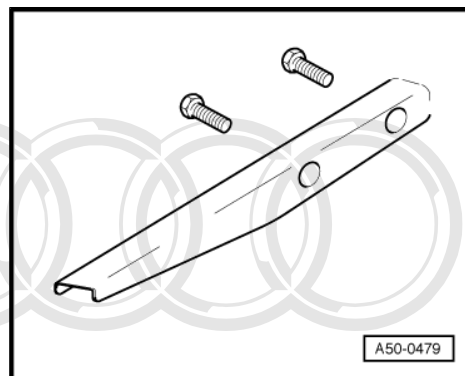
- Loosen bolts.
- Take off part.

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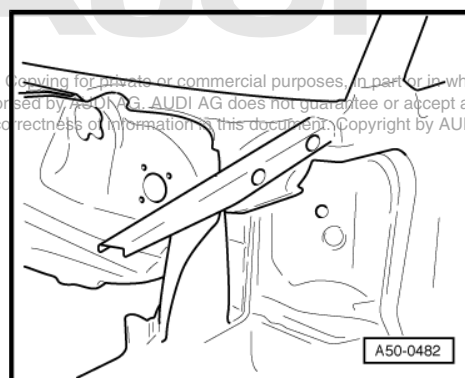
1.1.2 Replacement part

- ◆ Bolts
- ◆ Wing mounting flange



1.1.3 Bolting on

- Tightening torque 24 Nm



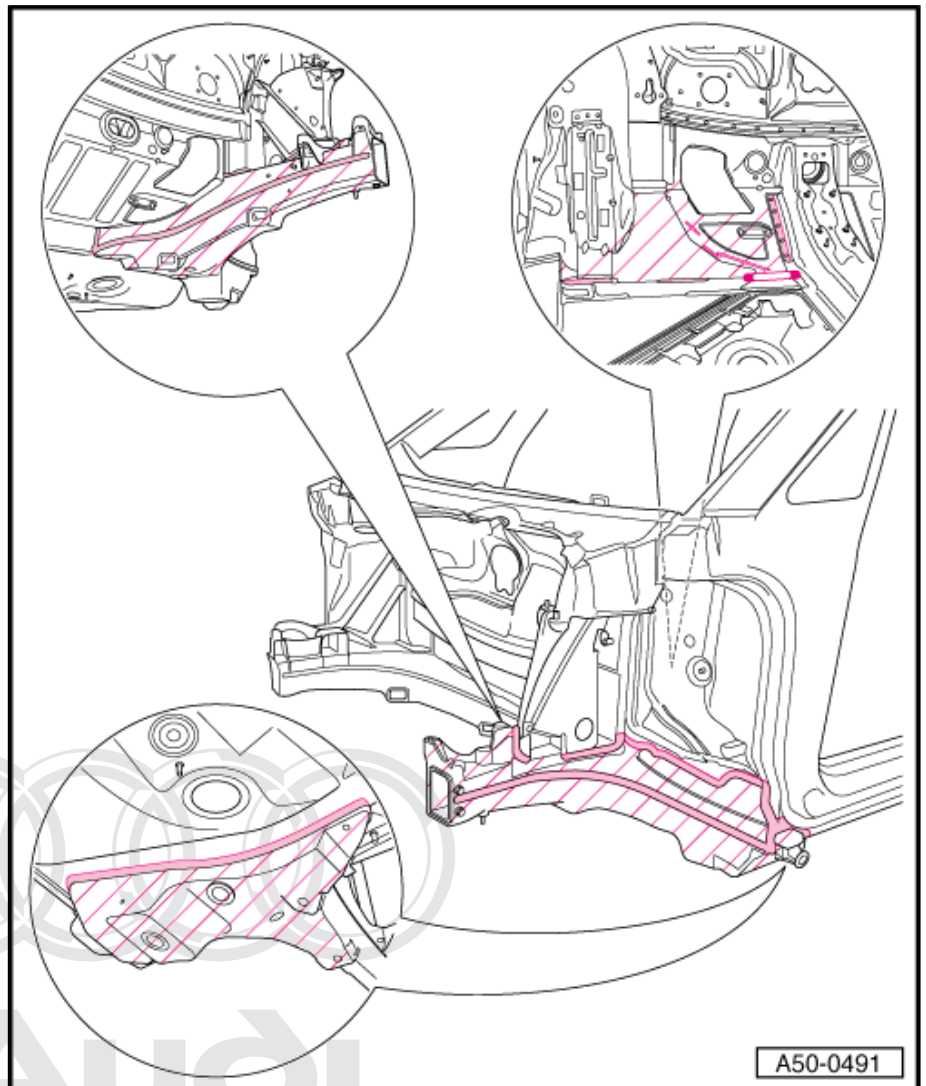
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RO: 50 79 55 00

2 Front longitudinal member - Renewal

2.1 Procedure

2.1.1 Cutting locations



- Longitudinal member (front section) already unbolted.
- Separate original joint at longitudinal member (lower section) with grinder.
- Take out longitudinal member (lower section).

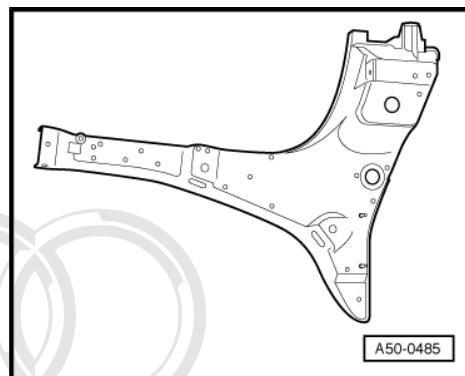


Caution

Do not damage adjoining castings.

2.1.2 Replacement parts

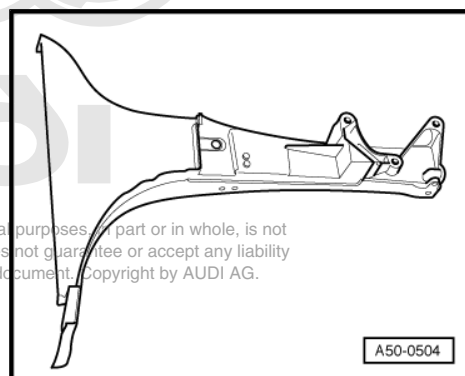
◆ Longitudinal member (lower section)



Longitudinal member (upper section)

Preparing new part

- Enlarge weld seam to 3 mm.

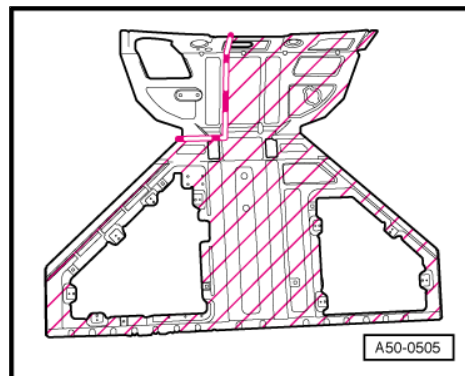


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◆ Floor panel (front)

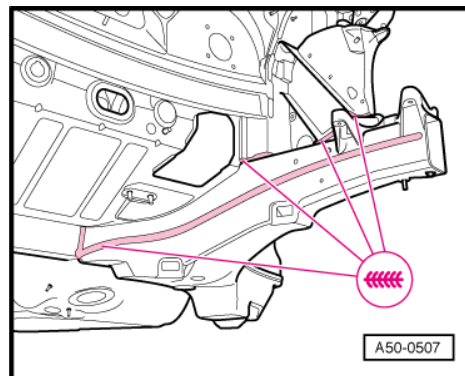
Preparing new part

- Transfer separating cuts to new part plus 20 mm for overlap. Cut off hatched area.
- Prepare flanges on body and new parts for welding.

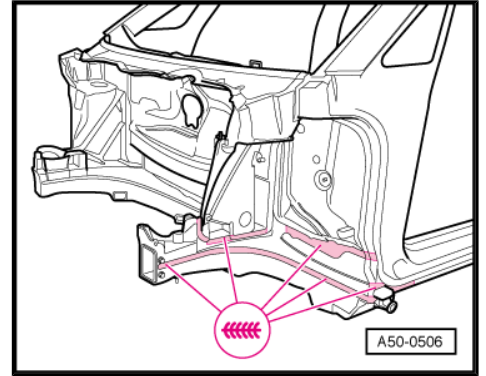


2.1.3 Welding in

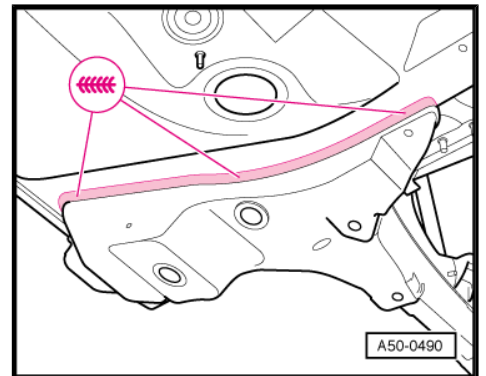
- Locate and secure section of longitudinal member on alignment bracket.
- Butt weld longitudinal member: SG continuous seam.
- Weld in remaining joint: SG continuous seam.



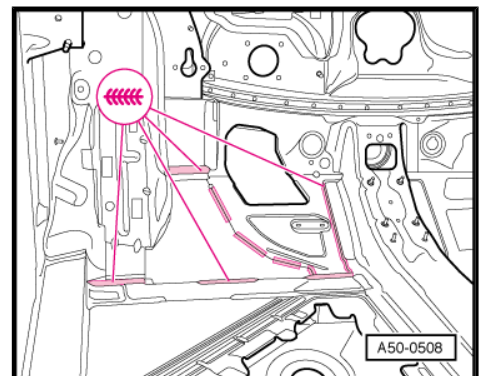
- Locate and secure longitudinal member on alignment bracket.
- Match up new part to body.
- Butt weld longitudinal member: SG continuous seam.
- To avoid excessive heat build-up, weld longitudinal member with 15 cm SG continuous seams staggered alternately on inside and outside.



- Butt weld longitudinal member to frame: SG continuous seam.



- Weld in longitudinal member: SG continuous seam.
- Butt weld floor panel: SG continuous seam.



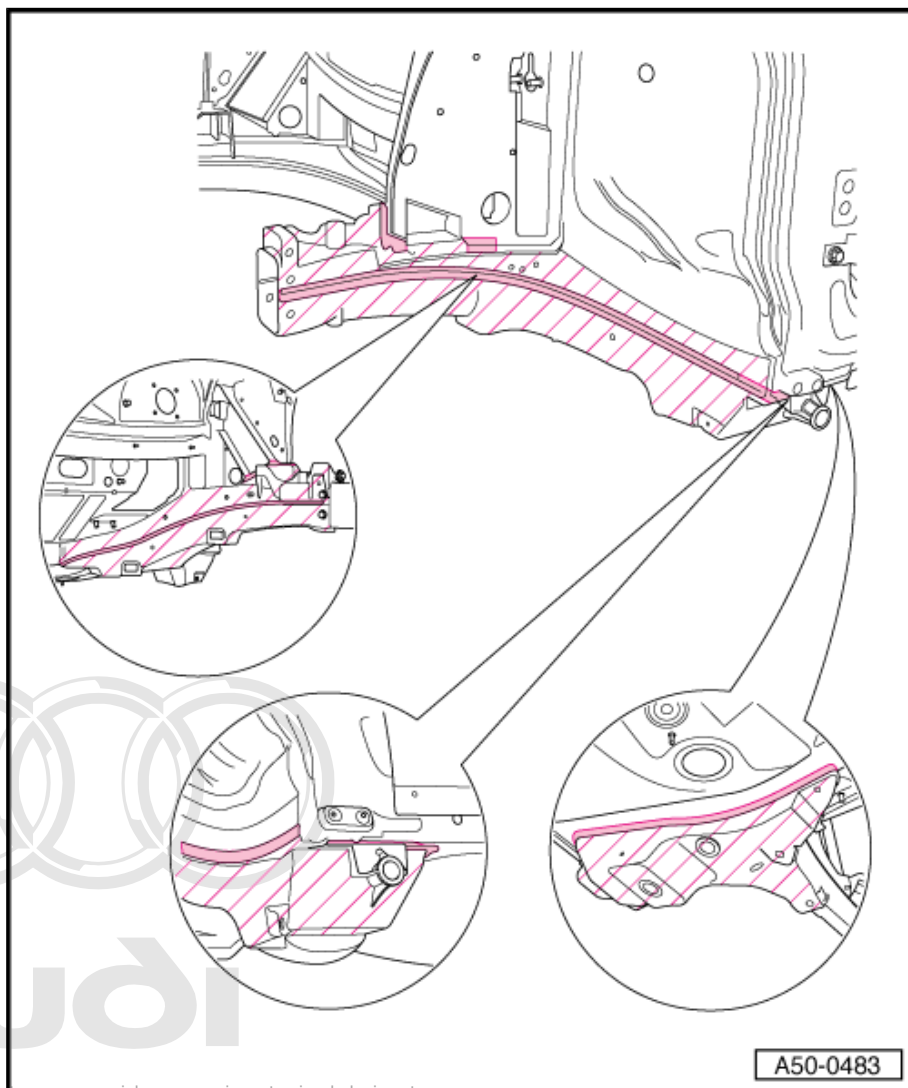
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RO: 50 79 55 02

3 Front longitudinal member - Partial renewal

3.1 Procedure

3.1.1 Cutting locations



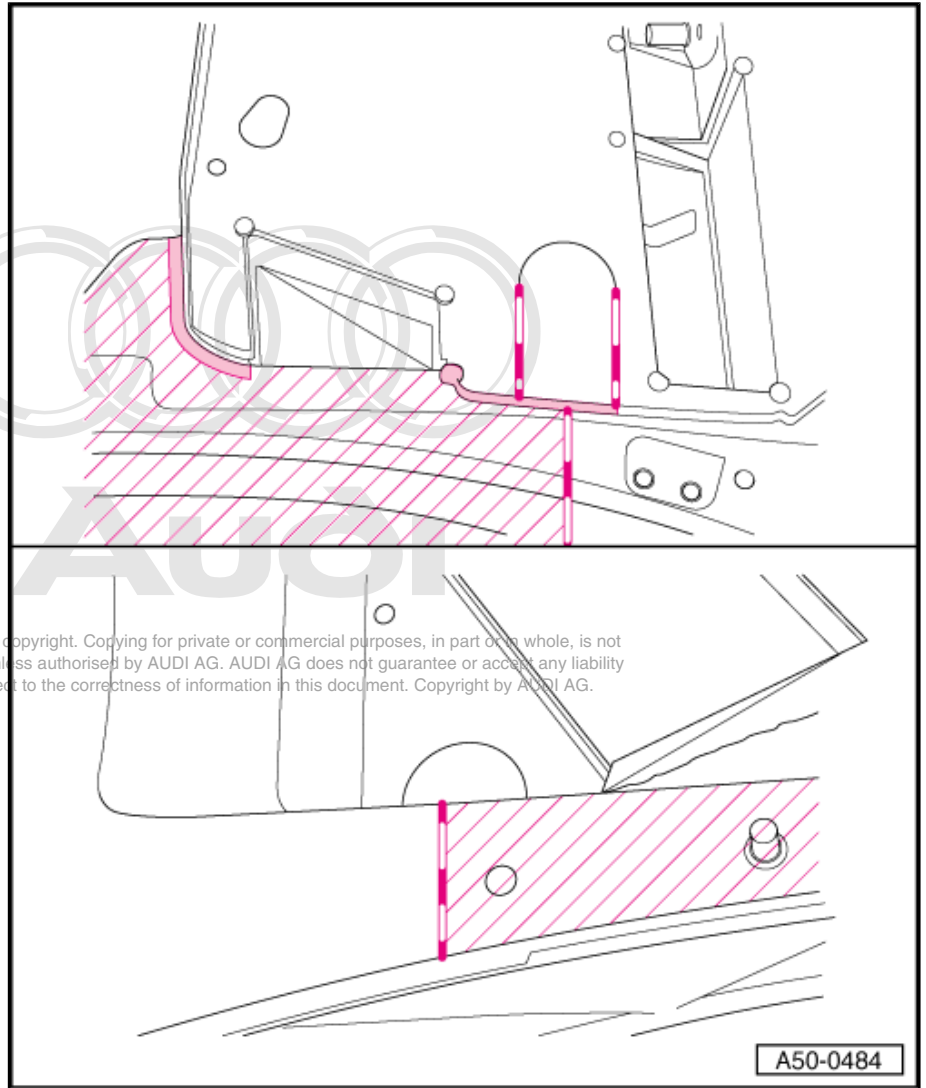
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- Longitudinal member (front section) already removed
- Separate original joint at longitudinal member (lower section) with grinder.
- Take out longitudinal member (lower section).



Caution

Do not damage adjoining castings.



Caution

Separating cut can only be made at this point.

- Remove remaining material from aluminium node castings.
- Disengage intermediate web.



Caution

Do not damage adjoining castings.

3.1.2 Replacement parts

- ◆ Longitudinal member (lower section)
- ◆ Longitudinal member (upper section)

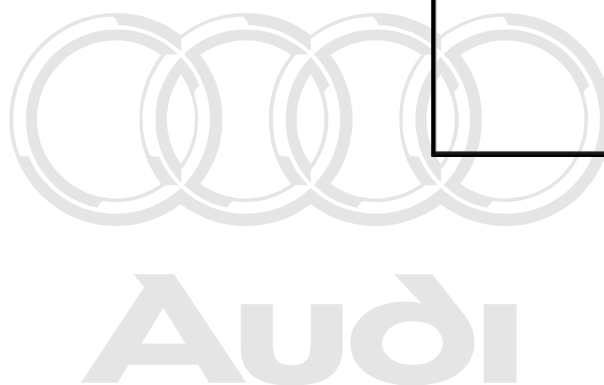
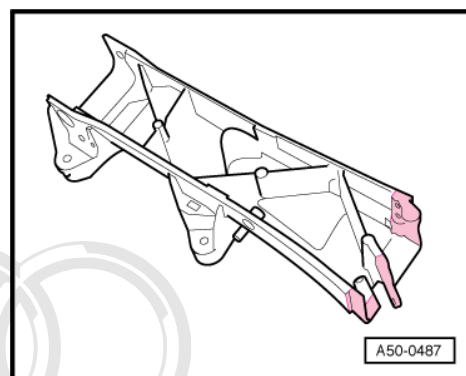
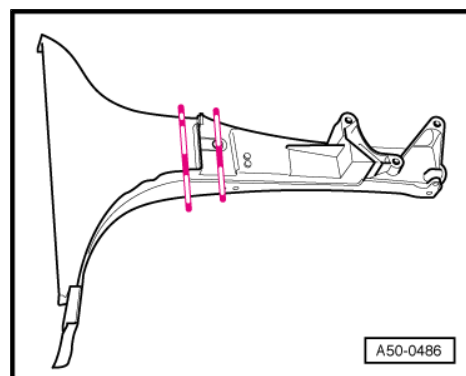
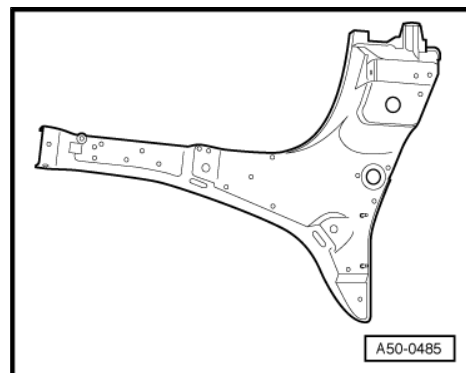
Preparing new part

- Transfer separating cut to new part and cut off hatched area.
- Make up weld pool backing from spare metal.

- Prepare flanges on body and new parts for welding.

Preparing new part

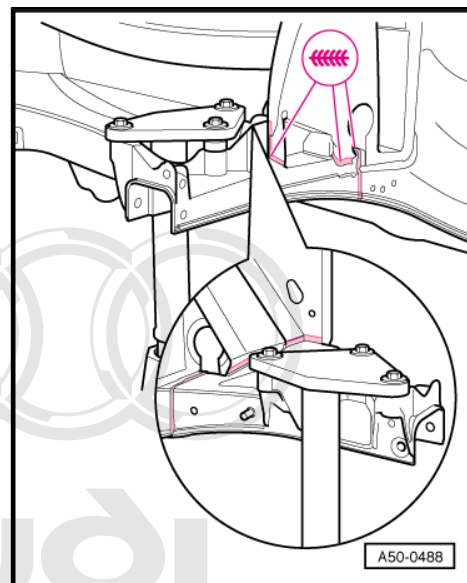
- Make up and weld in weld pool backing.



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3.1.3 Welding in

- Locate and secure section of longitudinal member on alignment bracket.
- Butt weld longitudinal member: SG continuous seam.
- Weld in remaining joint: SG continuous seam.



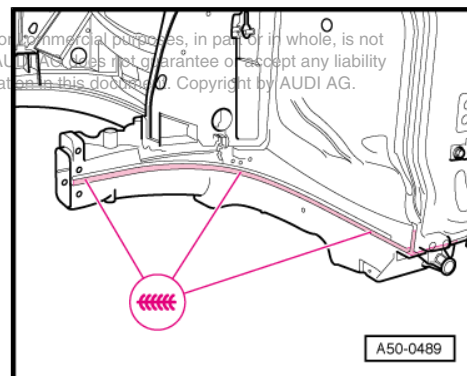
- Locate and secure longitudinal member on alignment bracket.

- Match up new part to body.

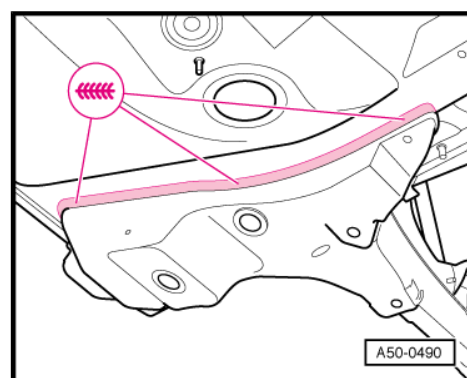
- Butt weld longitudinal member: SG continuous seam.

- To avoid excessive heat build-up, weld longitudinal member with 15 cm SG continuous seams staggered alternately on inside and outside.

- Enlarge weld seam to 3 mm.



- Butt weld longitudinal member to frame: SG continuous seam.



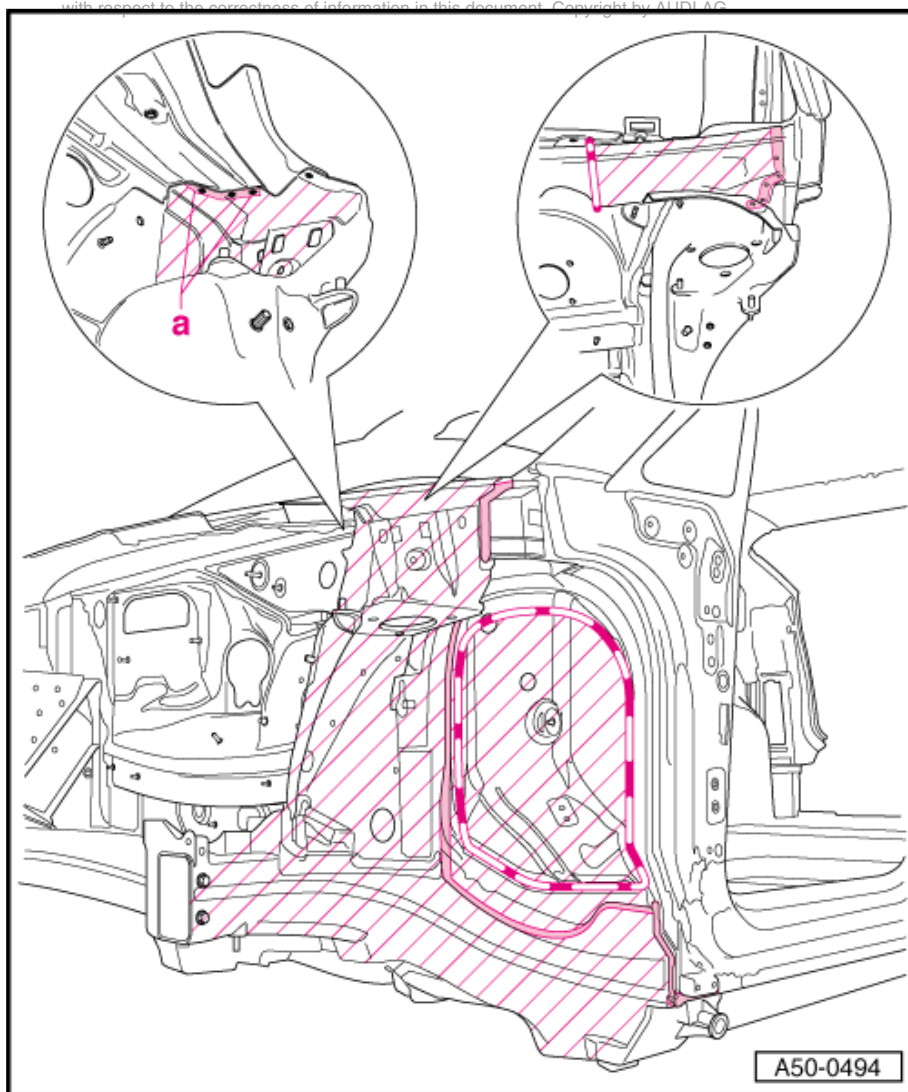
RO: 50 79 55 03

4 Front longitudinal member with suspension strut mounting - Renewal

4.1 Procedure

4.1.1 Cutting location

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- Longitudinal member (part section) already unbolted
- Wheel housing already removed.
- a = Remove rivets
- Separate original joint.



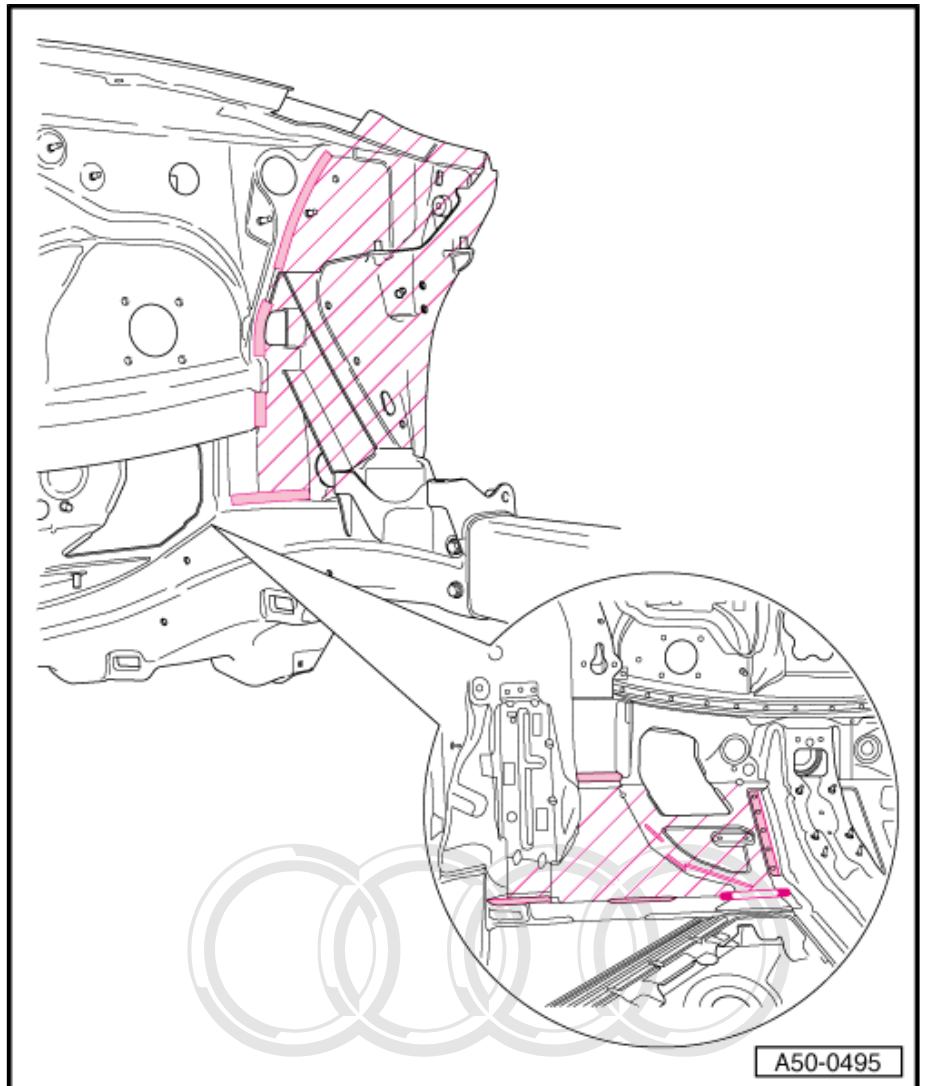
Caution

Do not damage adjoining castings.



Note!

Refer to General notes on aluminium regarding punch rivets with one-sided access.



- Separate original joint.



Caution

Do not damage adjoining castings.

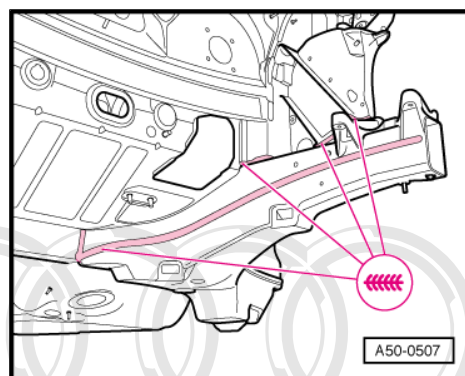
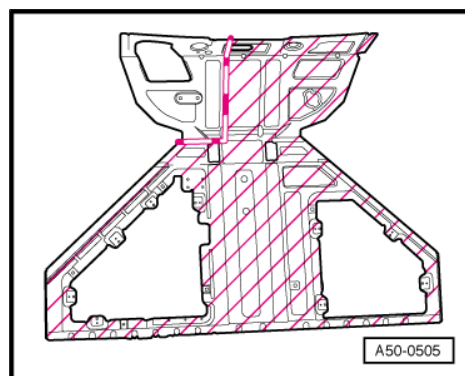
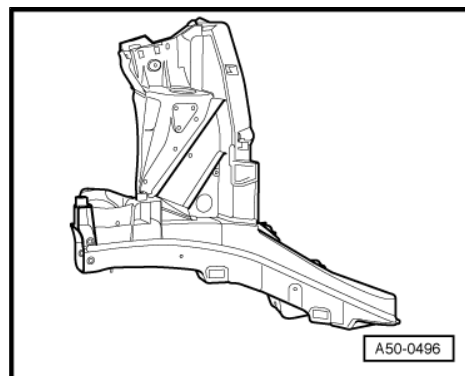
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4.1.2 Replacement parts

- ◆ Solid rivets
- ◆ Longitudinal member with suspension strut mounting
- ◆ Body adhesive DA 001 730 A1
- ◆ Pop rivet, 4.8 mm Ø
- ◆ Floor panel (front)

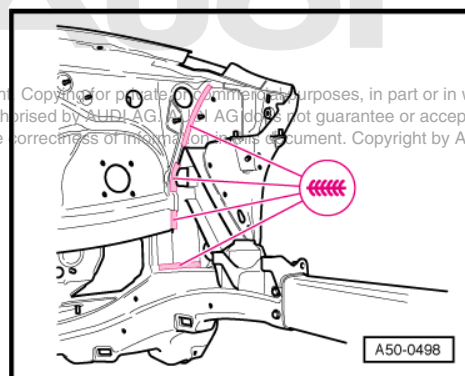
Preparing new part

- Transfer separating cuts to new part plus 20 mm for overlap.
Cut off hatched area.
- Prepare flanges on body and new parts for welding.



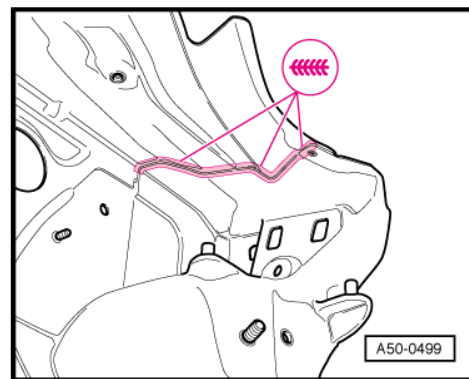
4.1.3 Welding in

- Fit new part on alignment bracket.
- Weld in longitudinal member: SG continuous seam.
- Weld in longitudinal member: SG continuous seam.



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- Weld windscreen cross member to suspension strut mounting: SG continuous seam.



4.1.4 Rivetting in

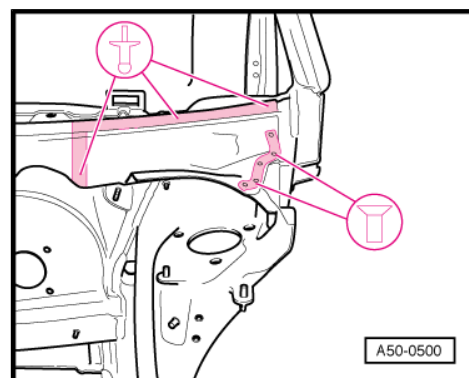
- Prepare flanges on body and new parts for rivetting and bonding.



Note!

Refer to General notes on bonding.

- Apply adhesive.
- Rivet in windscreen cross member at suspension strut mounting.



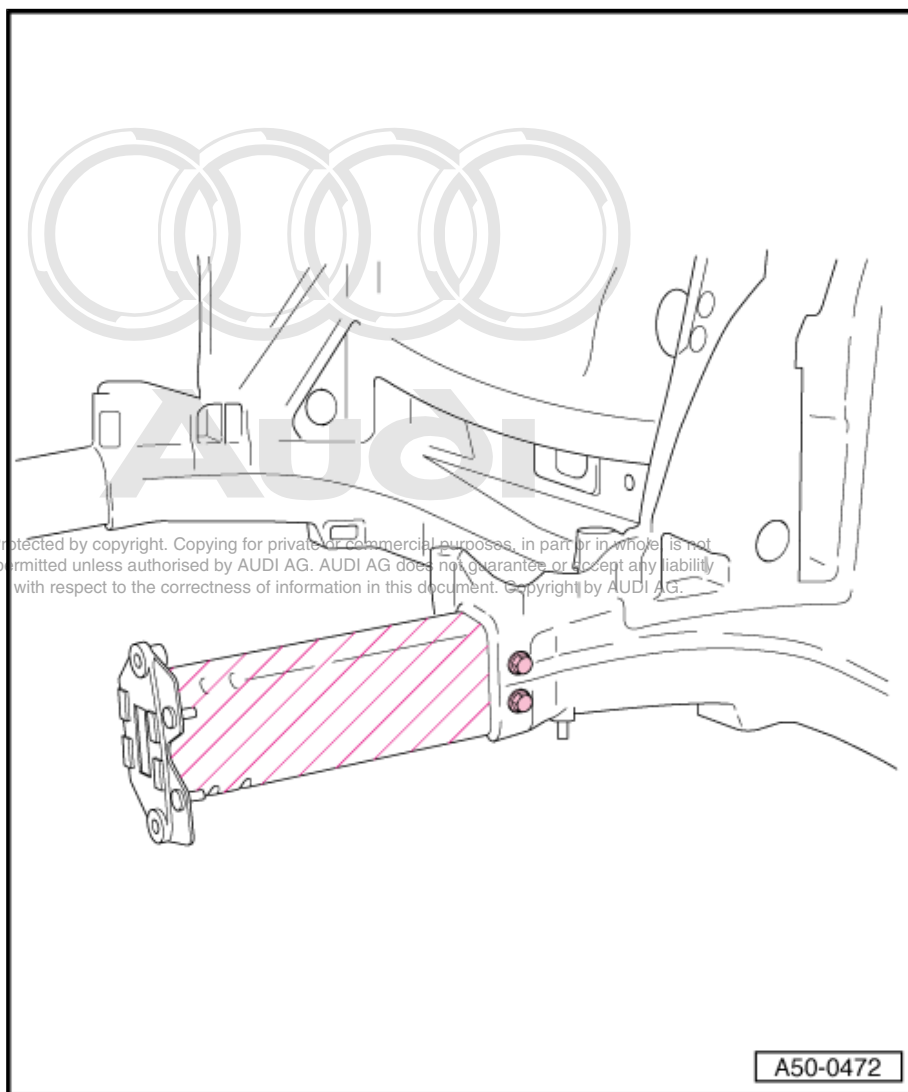
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RO: 50 80 55 00

5 Longitudinal member (front section) - Renewal

5.1 Procedure

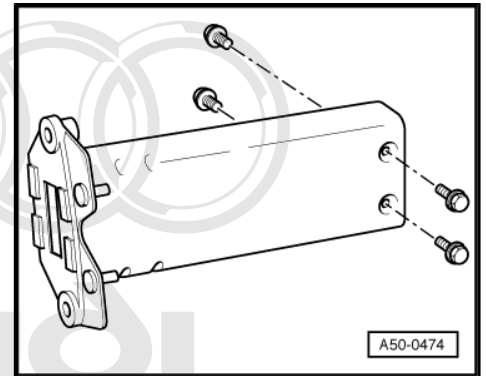
5.1.1 Cutting locations



- Loosen bolts.
- Take off part.

5.1.2 Replacement parts

- ◆ Longitudinal member (part section) with bolts

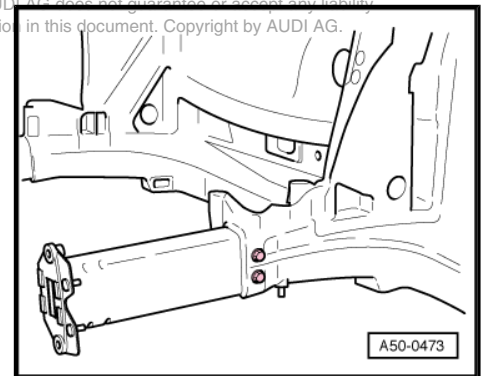


5.1.3 Bolting on

- Hand-tighten bolts.
- Tighten bolts 1–6. (Tightening torque 24 Nm).



Threads must be free of paint and grease.



51 – Body - centre

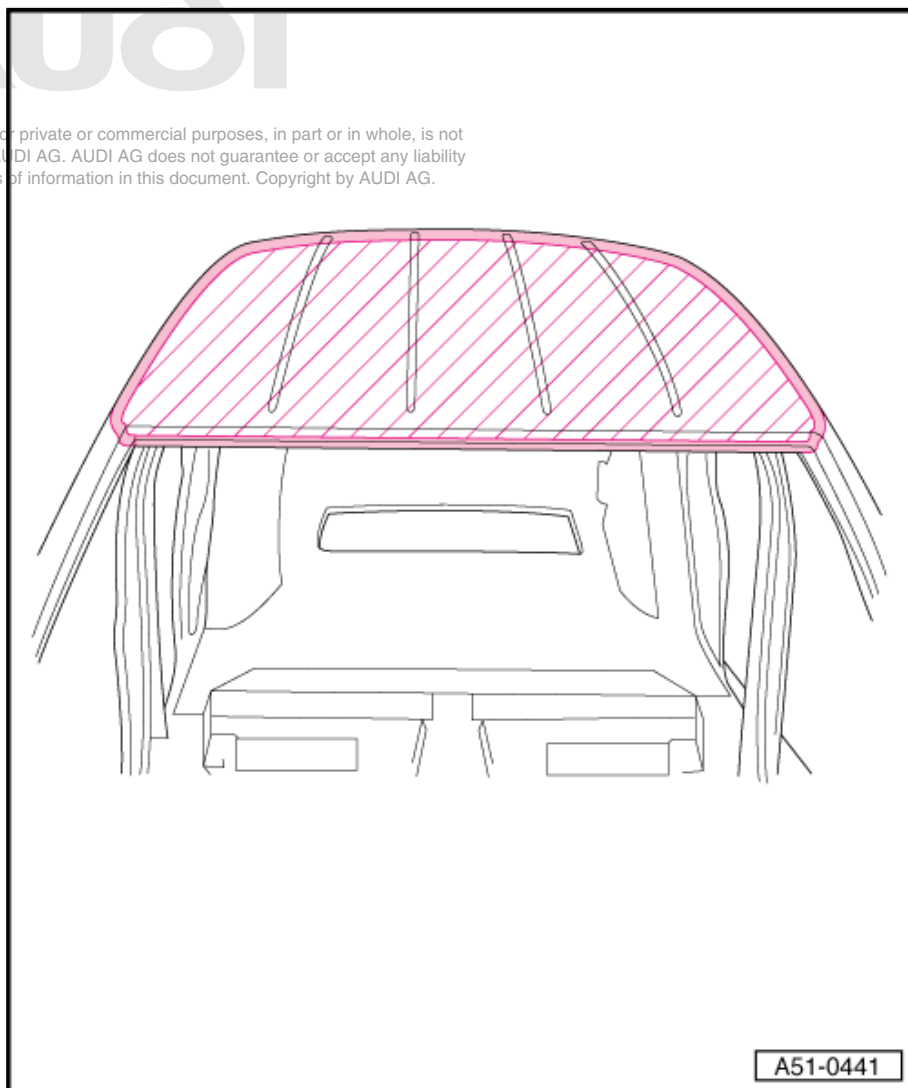
RO: 51 03 55 50

1 Roof - Renewal

1.1 Procedure

1.1.1 Cutting locations

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- Separate original joint.
- Remove remaining material.

**Note!**

Refer to section on laser welding in General notes on aluminium.

1.1.2 Replacement parts

- ◆ Roof
- ◆ Solid rivets
- ◆ Body adhesive DA 001 730 A1

Preparing new part

- Prepare flanges on body and new parts for welding and bonding.



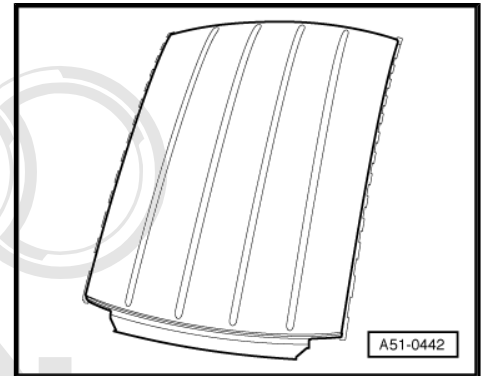
Note!

- ◆ Refer to General notes on bonding.
- ◆ Match up roof and fix in position; always observe 14 + 1 mm dimension.

- Apply adhesive.

- Countersink holes in all parts.

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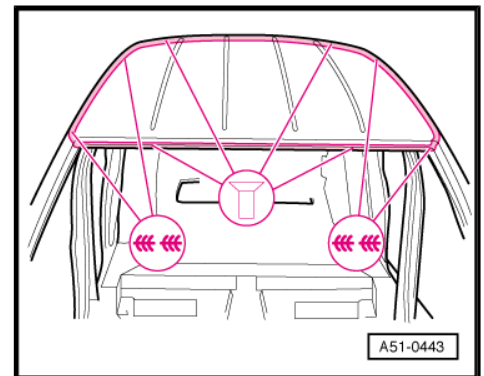
1.1.3 Welding in

- Weld in roof: SG continuous seam (staggered).



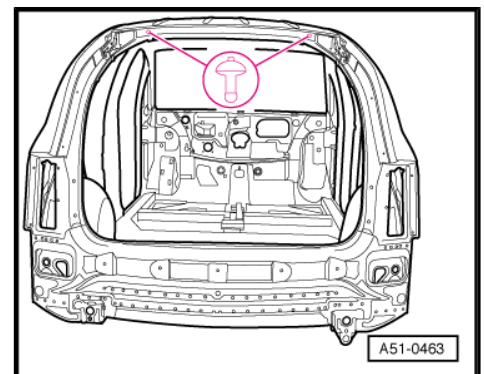
Note!

Roof can only be welded in using hose set for shielded arc welding -VAS 5023-.



1.1.4 Rivetting in

- Rivet roof to front roof side member.
- Rivet roof to rear roof side member.
- Rivet roof to rear roof side member.



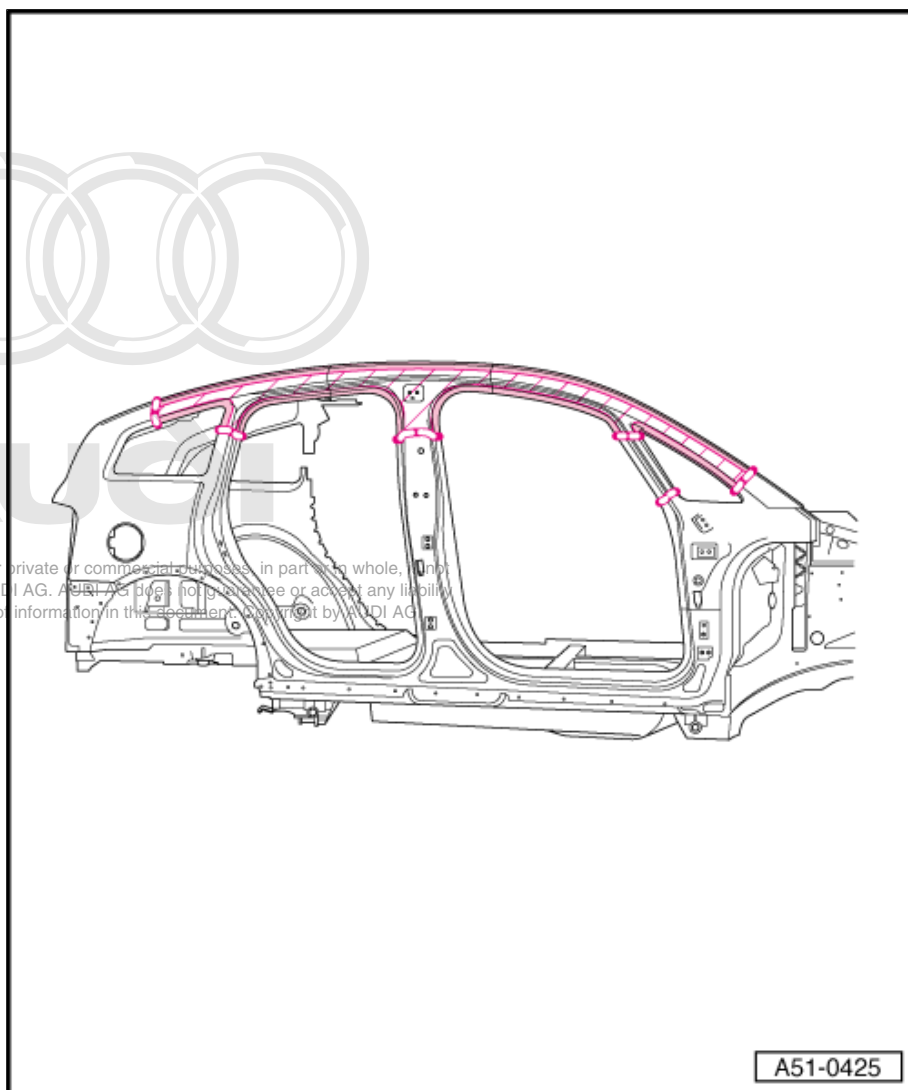
RO: 51 05 55 00

2 Roof side member - Renewal

2.1 Procedure

2.1.1 Cutting locations

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- Roof already cut out
- Make separating cuts as shown.
- Separate original joint.
- Remove remaining material.

**Caution**

Do not damage adjoining castings.



Note!

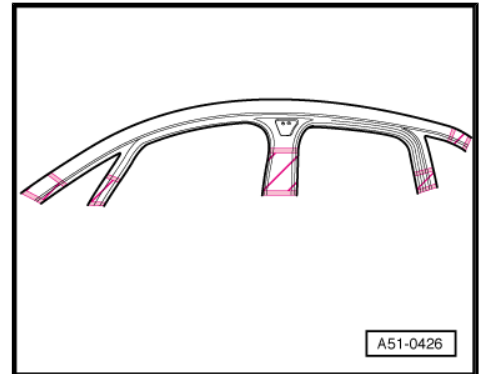
Refer to section on laser welding in General notes on aluminium.

2.1.2 Replacement part

- ◆ Roof side member (sub-part)

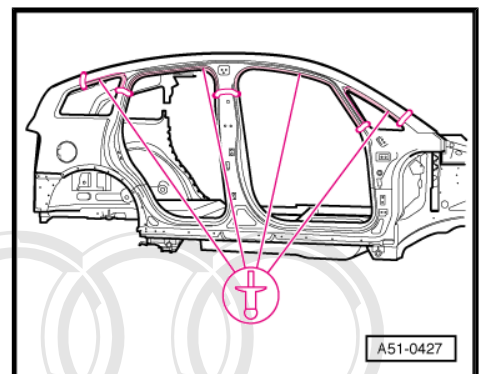
Preparing new part

- Transfer separating cuts to new part and cut off hatched area.
- Prepare joints for bonding.



2.1.3 Rivetting in

- Place backing plate of same material behind separating cuts.
- Fit solid rivets in door frame.
- Fit solid rivets at side windows.



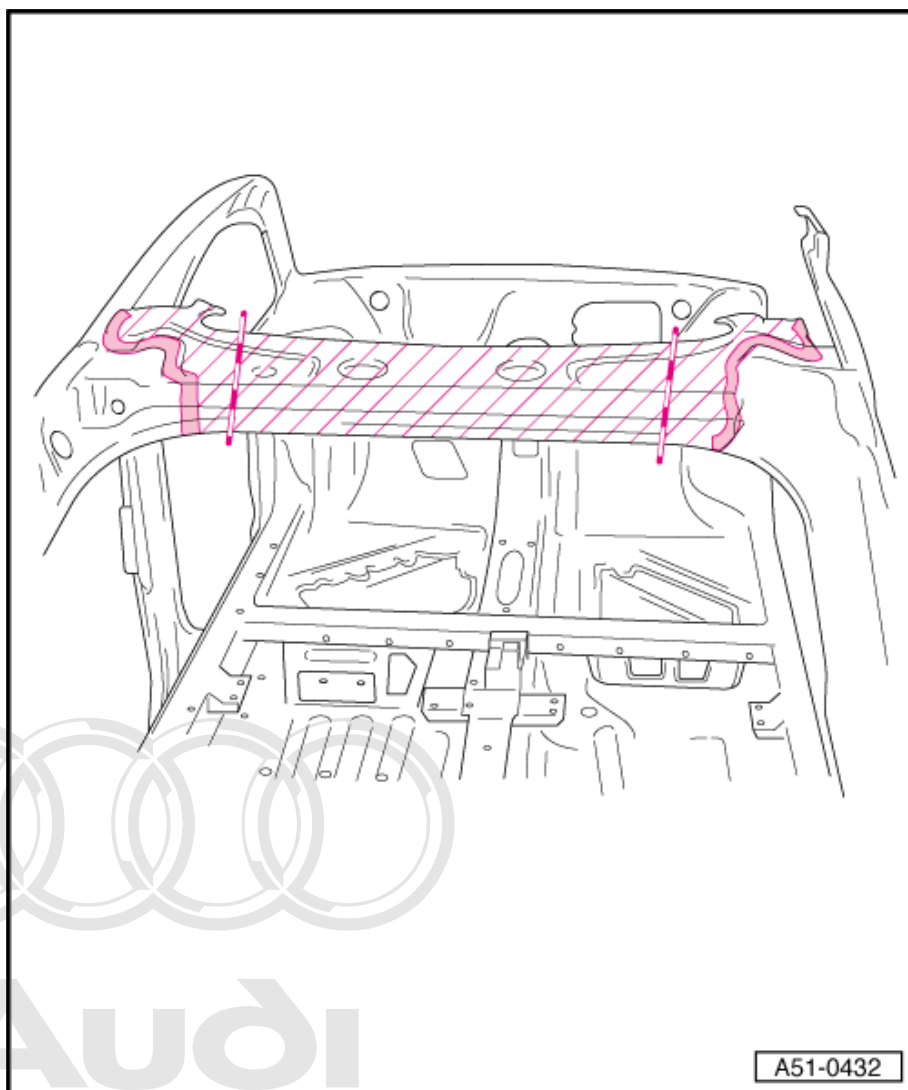
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RO: 51 09 55 50

3 Rear roof cross member - Renewal

3.1 Procedure

3.1.1 Cutting locations



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- **Roof already removed**
 - Roughly cut out roof frame.
 - Remove remaining material.

3.1.2 Replacement parts

- ◆ Roof frame (upper rear)
- ◆ Roof frame (lower rear)
- ◆ Body adhesive DA 001 730 A1
- ◆ Punch rivets
- ◆ Pop rivets

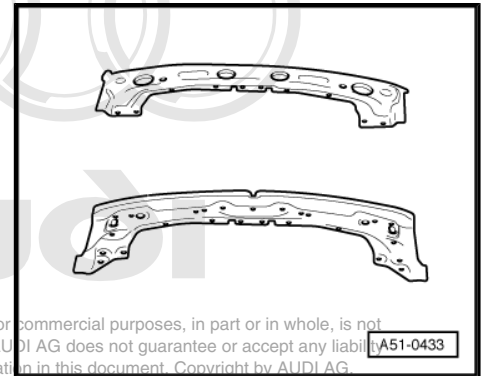
Preparing new part

- Prepare joints for adhesive application.



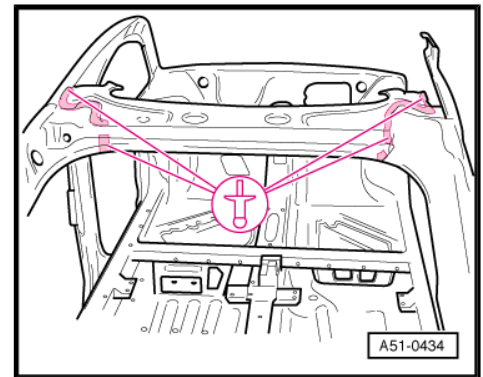
Note!

Refer to General notes on bonding.



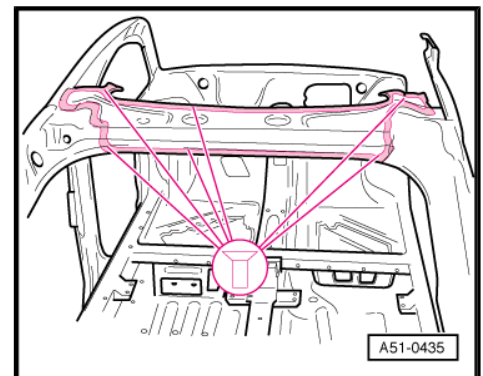
3.1.3 Rivetting in

- Match up and fix new part in position.
- Apply adhesive.
- Rivet in roof frame (lower rear).



3.1.4 Rivetting in

- Match up and fix new part in position.
- Apply adhesive.
- Rivet in roof frame (upper rear).

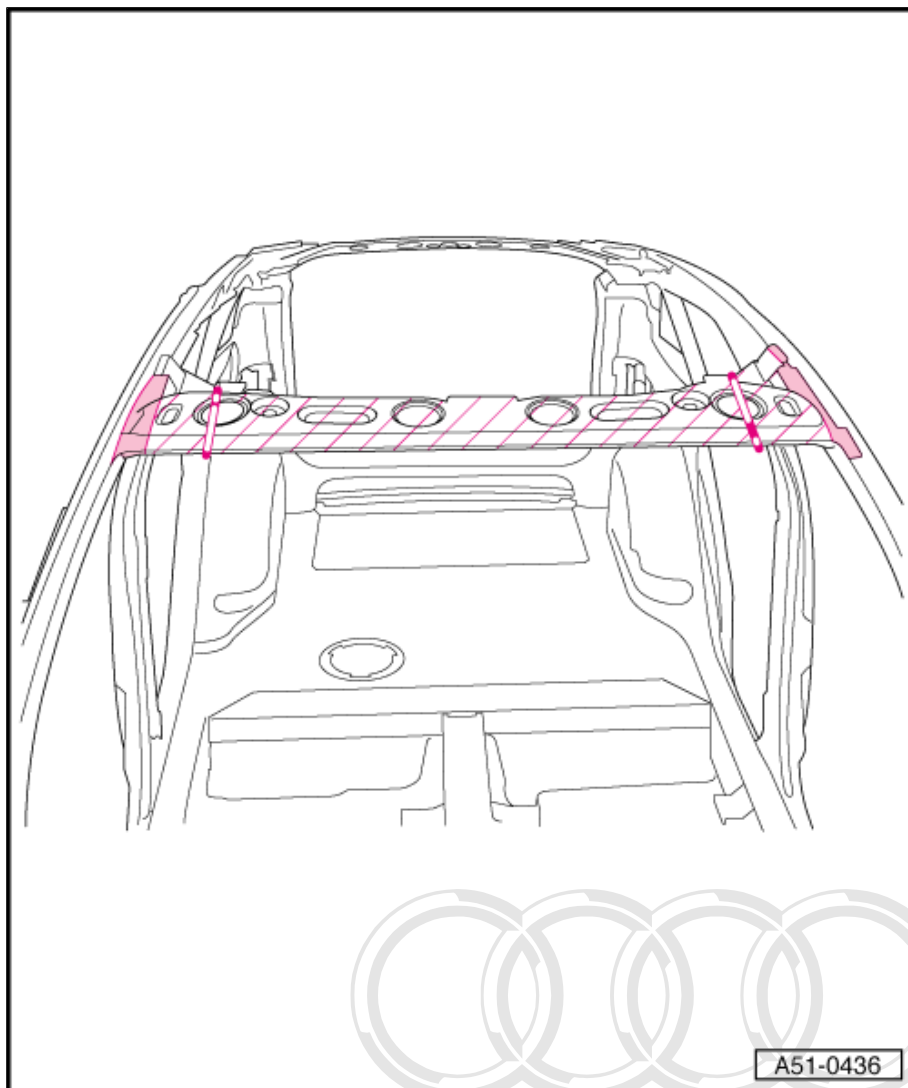


RO: 51 07 55 50

4 Front roof cross member - Renewal

4.1 Procedure

4.1.1 Cutting locations



- Roof already removed
- Roughly cut out roof cross member.
- Remove remaining material.



Note!

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Refer to General notes on aluminium regarding punch rivets with one-sided access.

4.1.2 Replacement parts

- ◆ Roof cross member (front)
- ◆ Upper reinforcement for roof cross member
- ◆ Body adhesive DA 001 730 A1
- ◆ Punch rivets
- ◆ Pop rivets

Preparing new part

- Prepare joints for adhesive application.

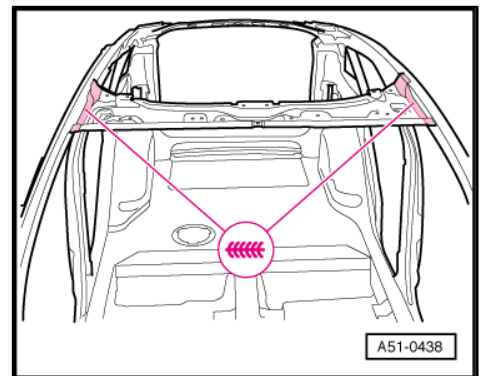
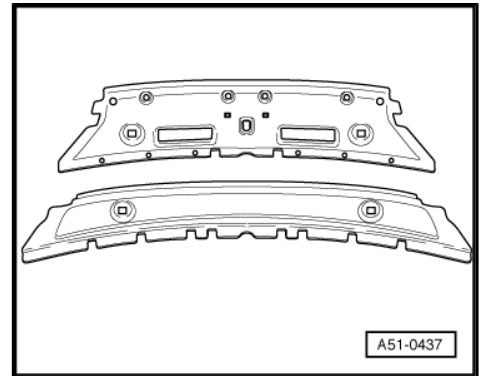


Note!

Refer to General notes on bonding.

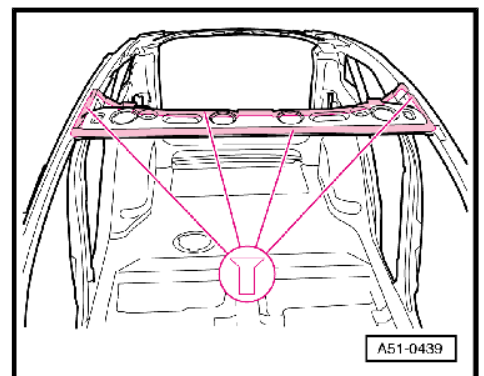
4.1.3 Welding in

- Match up and fix new part in position.
- Weld in front roof cross member: SG continuous seam.



4.1.4 Rivetting in

- Match up and fix new part in position.
- Apply adhesive.
- Rivet in upper reinforcement for roof cross member.

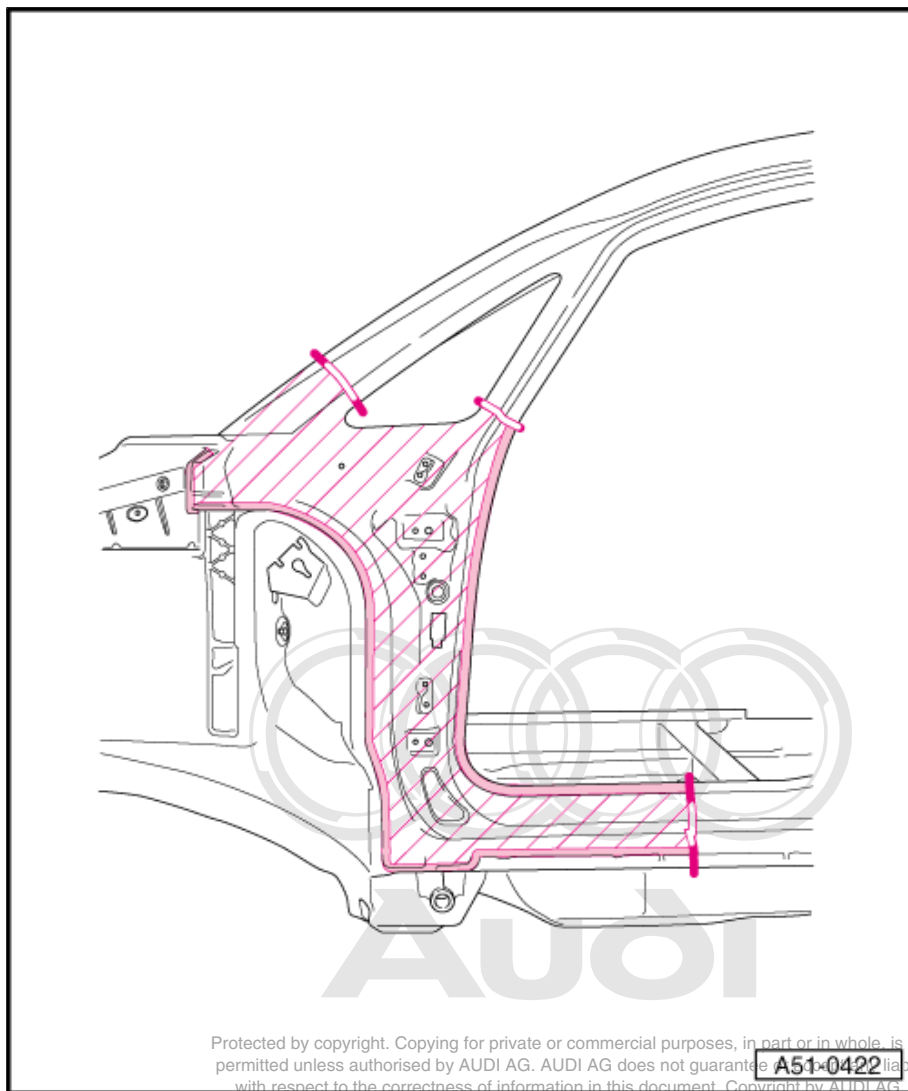


RO: 51 37 55 00

5 A-pillar - Renewal

5.1 Procedure

5.1.1 Cutting locations



- Position separating cuts according to degree of damage and cut out.



Caution

Do not position separating cuts in recesses.

- Separate original joint.
- Cut weld seam between inner A-pillar and roof side member.
- Cut weld seam between A-pillar and sill.

- Take off part.



Caution

Do not damage adjoining castings.



Note!

Refer to section on laser welding in General notes on aluminium.

5.1.2 Replacement part

- ◆ A-pillar (sub-part)
- ◆ Body adhesive DA 001 730 A1
- ◆ Solid rivet
- ◆ Pop rivet

Preparing new part

- Transfer separating cut to new part and cut off hatched area.
- Disengage joints at windscreen opening.



Note!

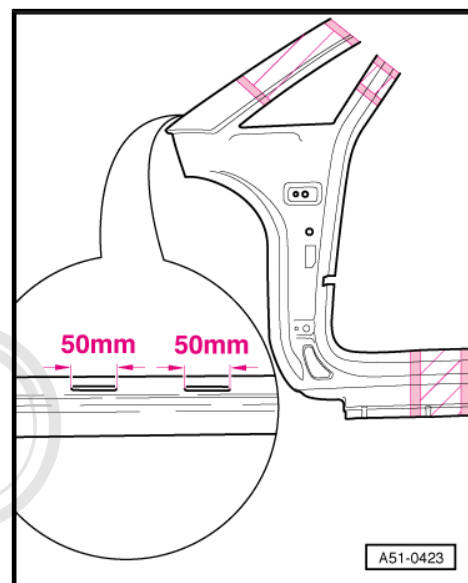
The A-pillar can either be repaired by bonding and rivetting or by welding.

- Prepare joints for adhesive application.



Note!

Refer to General notes on bonding.

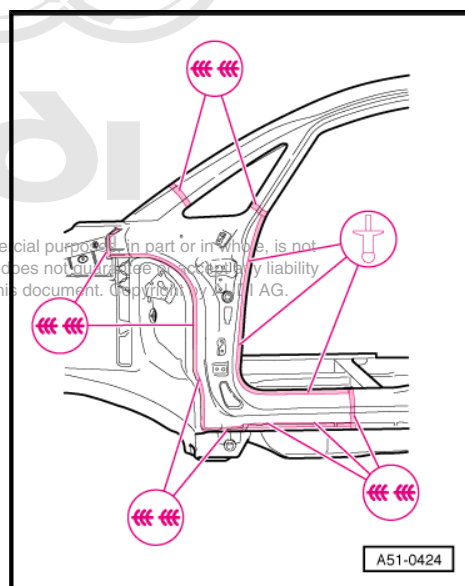


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5.1.3 Welding in

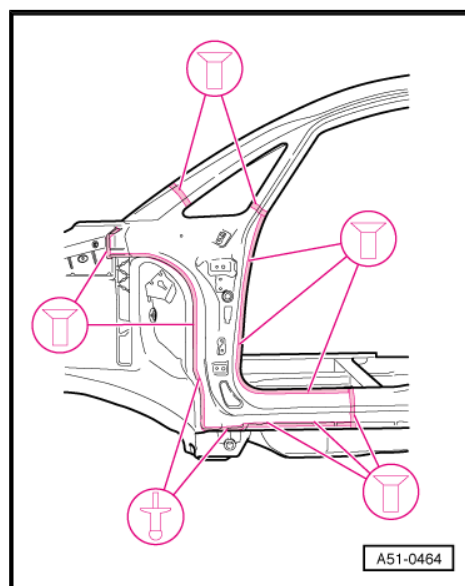
- Fit solid rivets in door frame.
- Place backing plate of same material behind separating cuts.
- Rivet A-pillar to roof side member.
- Rivet in remaining joint.

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5.1.4 Welding in

- Fit solid rivets in door frame.
- Place backing plate of same material behind separating cuts.
- Butt weld A-pillar separating cuts: SG continuous seam.
- Weld A-pillar to roof side member in elongated holes: SG continuous seam.
- Weld A-pillar to roof side member: SG continuous seam.



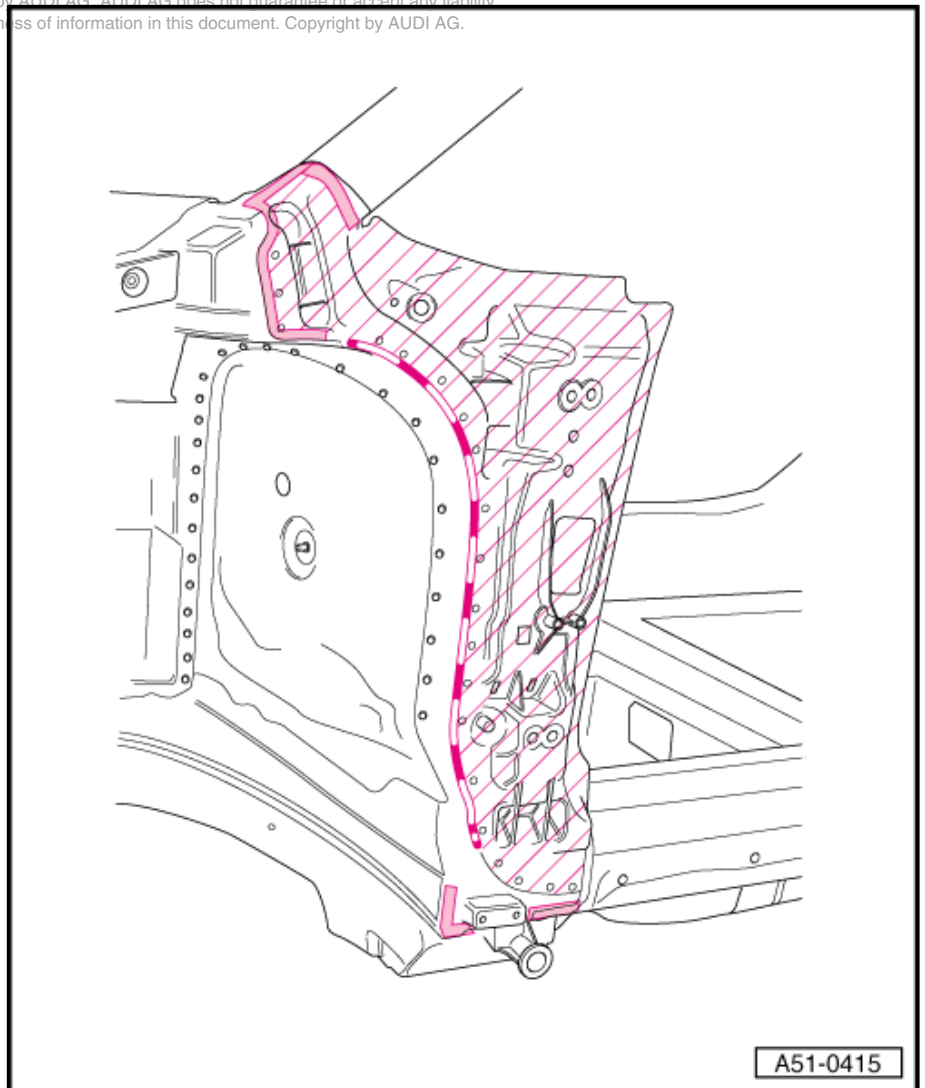
RO: 51 38 55 50

6 A-pillar reinforcement (inner) - Renewal

6.1 Procedure

6.1.1 Cutting locations

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- Outer A-pillar sub-part already removed
- Make rough separating cut between inner A-pillar and inner wheel housing.
- Cut weld seam between inner A-pillar and roof side member.
- Cut weld seam between inner A-pillar and sill.
- Take off part.
- Remove remaining material.

**Caution**

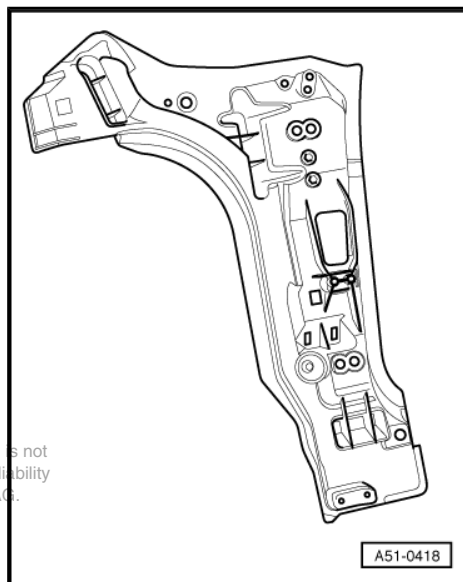
Do not damage adjoining castings.

6.1.2 Replacement parts

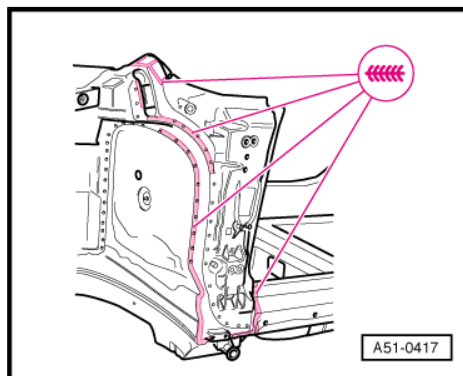
◆ Inner A-pillar



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- Fit new part on alignment bracket.



6.1.3 Welding in

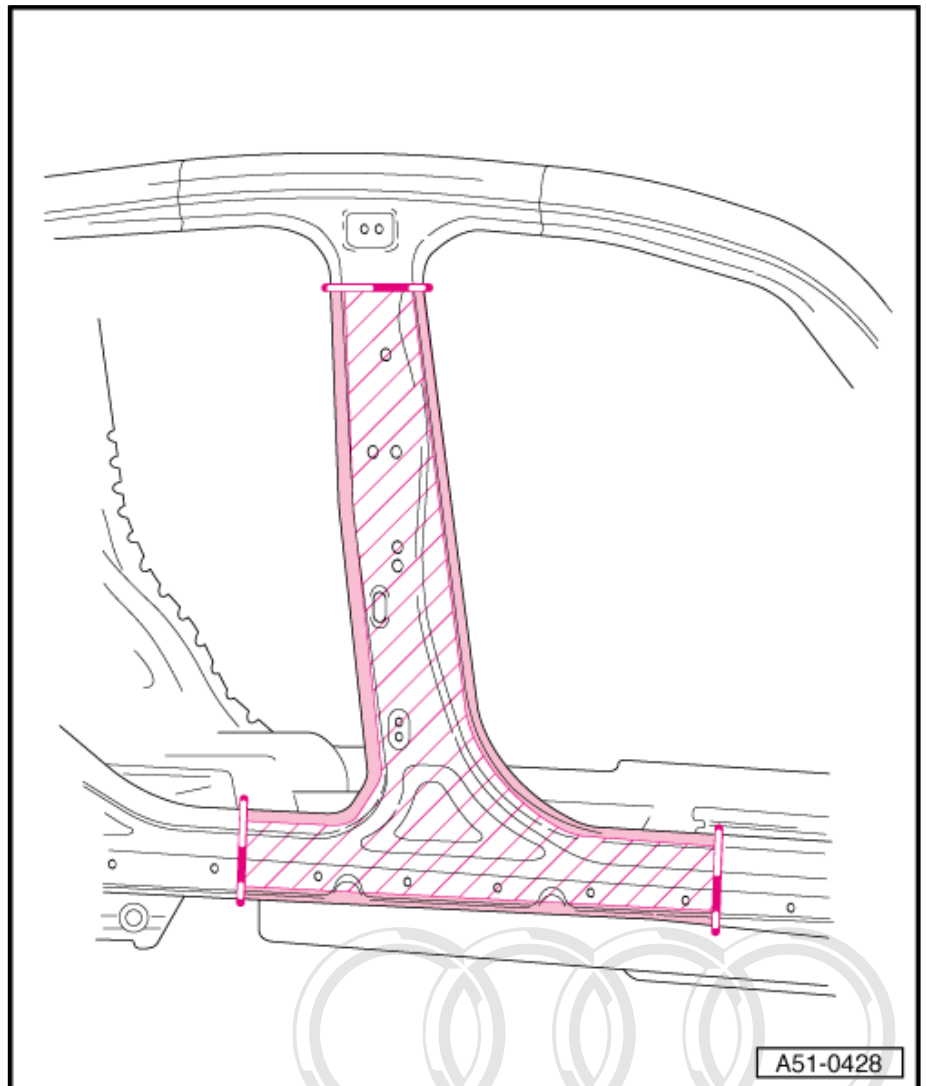
- Weld inner A-pillar to sill: SG continuous seam.
- Weld inner A-pillar to inner wheel housing: SG continuous seam.
- Weld inner A-pillar to roof side member: SG continuous seam.

RO: 51 41 55 02

7 Outer B-pillar - Renewal

7.1 Procedure

7.1.1 Cutting locations



- Make separating cuts as shown.
- Take care not to damage inner B-pillar.
- Take off part.



Caution

Do not damage adjoining castings.

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**Note!**

Refer to section on laser welding in General notes on aluminium.

7.1.2 Replacement parts

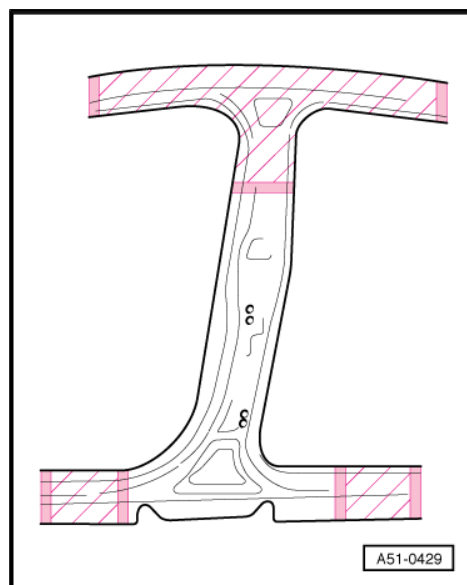
- ◆ Outer B-pillar (sub-part)
- ◆ Solid rivets
- ◆ Pop rivets
- ◆ Aluminium filler
- ◆ Body adhesive DA 001 730 A1

Preparing new part

- Transfer separating cut to new part and cut off hatched area.
- Bond and rivet backing plate of same material behind separating cuts.



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7.1.3 Rivetting in

7.1.4 Preparing new parts

- Transfer separating cuts to new parts.
- Take off part.
- Prepare flanges on body and new parts for welding.
- Prepare joints for adhesive application.

**Note!**

Refer to General notes on bonding.

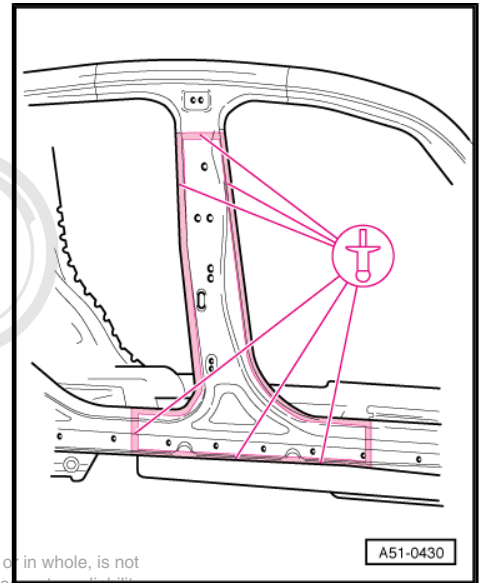
- Apply adhesive.
- Fit outer B-pillar and fix in position.
- Countersink holes in all parts.

**Note!**

Use clamps.

7.1.5 Rivetting in

- Fit solid rivets in door frame.
- Set pop rivets in overlap.



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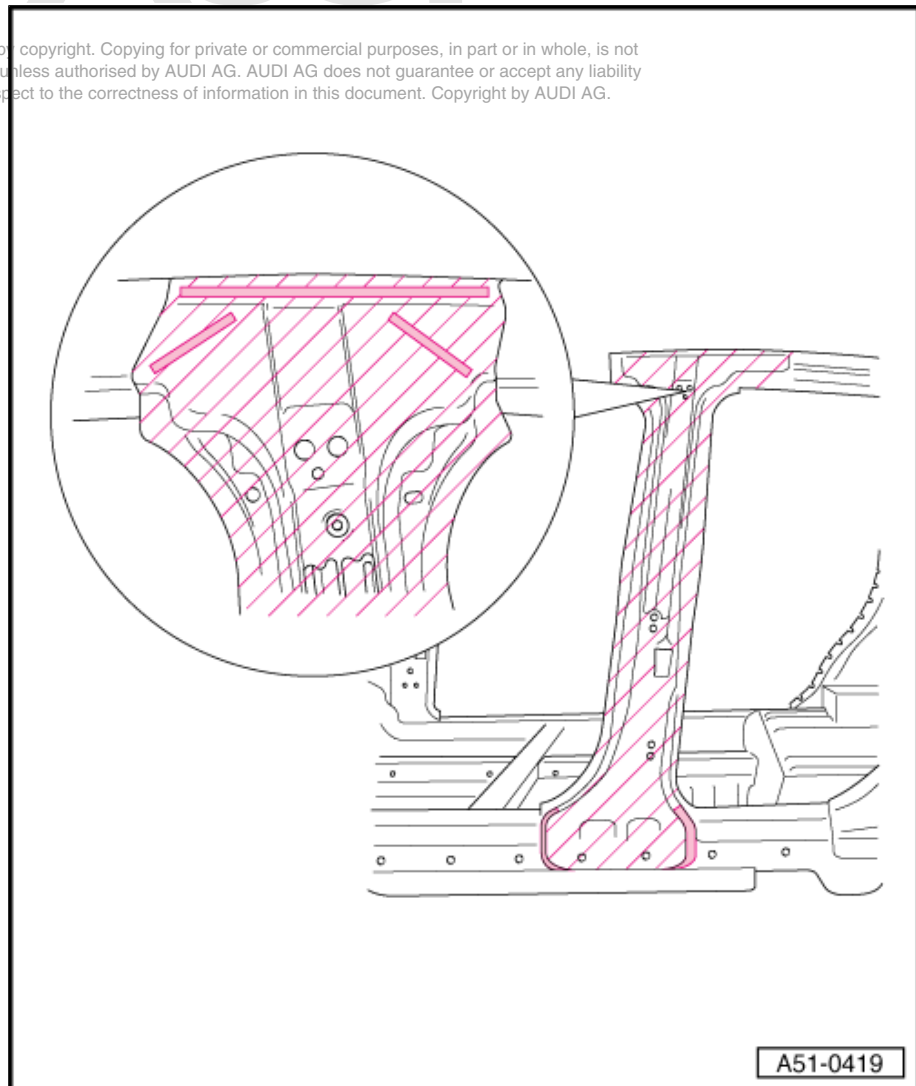
RO: 51 42 55 65

8 Inner B-pillar - Renewal

8.1 Procedure

8.1.1 Cutting locations

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A51-0419

- Outer B-pillar and outer side member (part section) already removed
- Outer roof member (part section) already removed
- Grind open laser seam between inner B-pillar and roof side member.
- Grind open laser seam between inner B-pillar and sill.
- Remove remaining material.



Caution

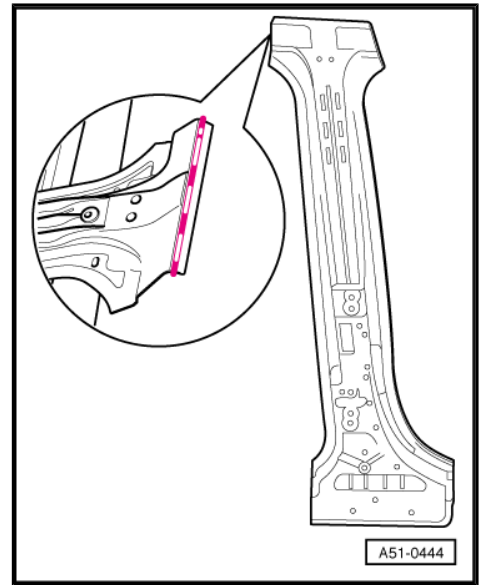
Do not damage adjoining castings.

8.1.2 Replacement part

- ◆ Inner B-pillar

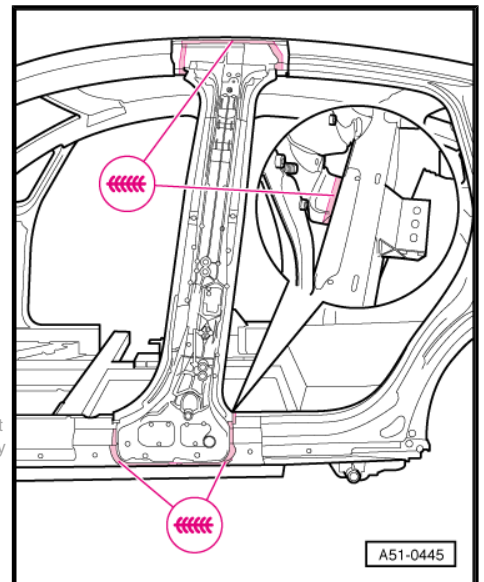
Preparing new part

- Shorten upper flange on inner B-pillar to 1 cm.



8.1.3 Welding in

- Locate inner B-pillar on portal gauge supplement -VAS 5007/10- .
- Weld inner B-pillar to inner side member: SG continuous seam.
- Weld inner B-pillar to inner roof side member: SG continuous seam.



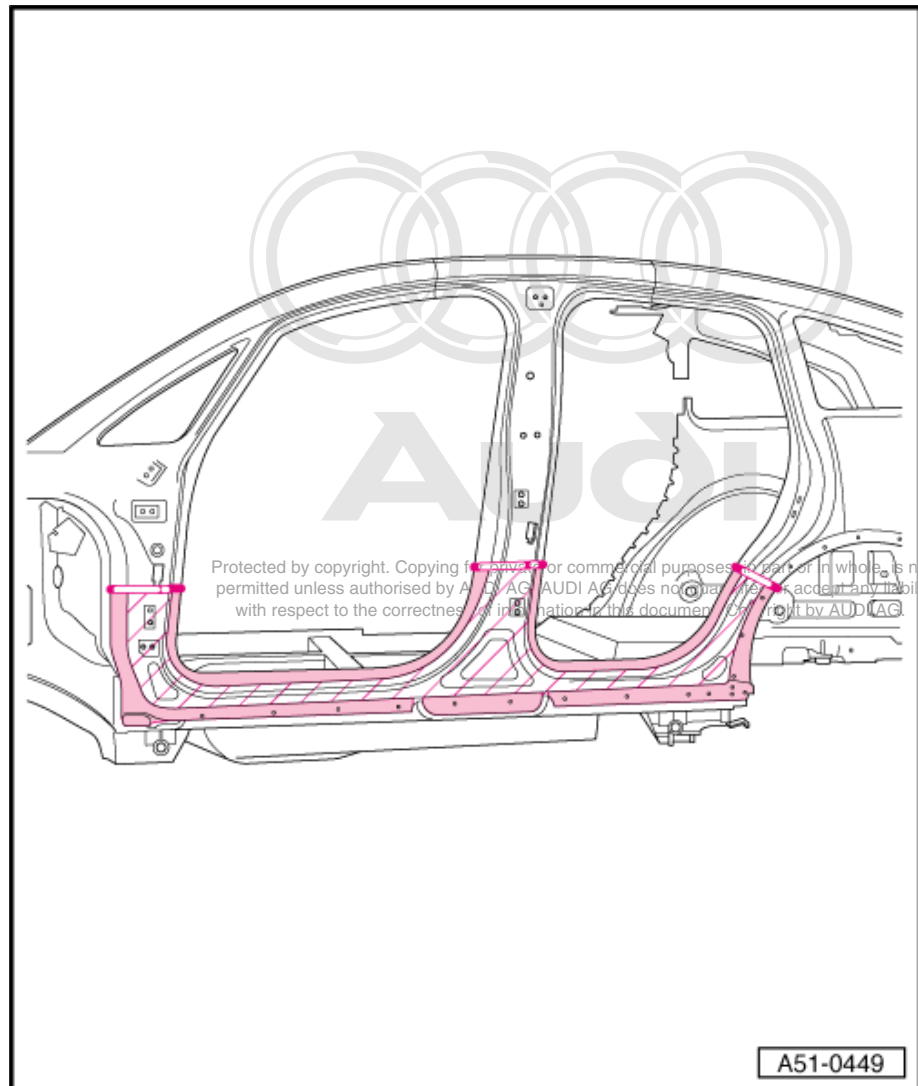
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RO: 51 45 55 00

9 Outer side member - Renewal

9.1 Procedure

9.1.1 Cutting locations



- Make separating cut at A-pillar as shown. Take care not to damage inner section of A-pillar.
- Make separating cut at B-pillar as shown. Take care not to damage inner section of B-pillar.
- Make separating cut at C-pillar as shown. Take care not to damage inner section of C-pillar.

**Note!**

Refer to General notes on aluminium regarding punch rivets with one-sided access.

- Separate original joint.
- Take off part.
- Remove remaining material.

9.1.2 Replacement parts

- ◆ Side member (sub-part)
- ◆ Solid rivets
- ◆ Button-head rivet
- ◆ Assembly adhesive D 190 MKD A3

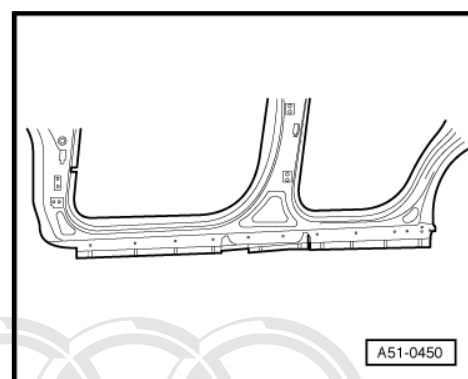
9.1.3 Preparing new parts

- Match up new parts to body.
- Transfer separating cuts to new parts.
- Place backing plate of same material behind separating cuts.
- Prepare flanges on body and new parts for welding.
- Prepare joints for adhesive application.
- Specialist repair workshops can employ either bonding or welding method.
- Apply adhesive.



Note!

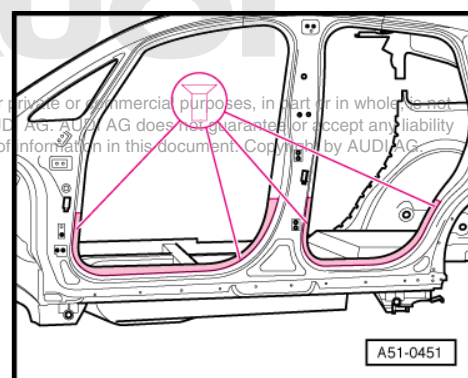
- ◆ Check panel gaps with doors fitted.
- ◆ Refer to General notes on bonding.



9.1.4 Rivetting in

- Rivet sill area.

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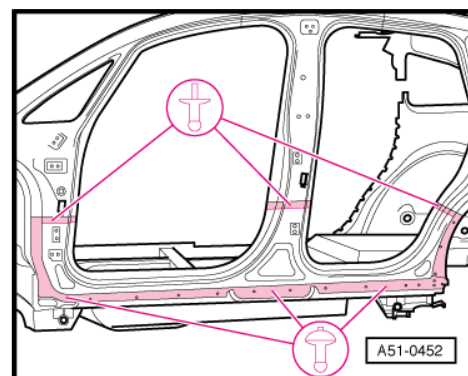


- Set pop rivets in overlap.
- Set pop rivets in sill area.
- Set pop rivet nuts in wheel housing area.



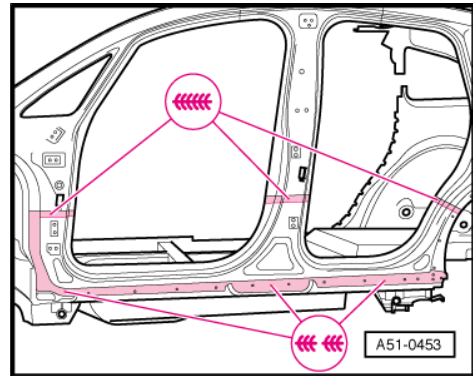
Note!

For specialist workshops only.



9.1.5 Welding in

- Place backing plate of same material behind separating cuts.
- Butt weld separating cuts: SG continuous seam.
- Weld remaining joint: staggered SG continuous seam.
- Set pop rivet nuts in wheel housing area.



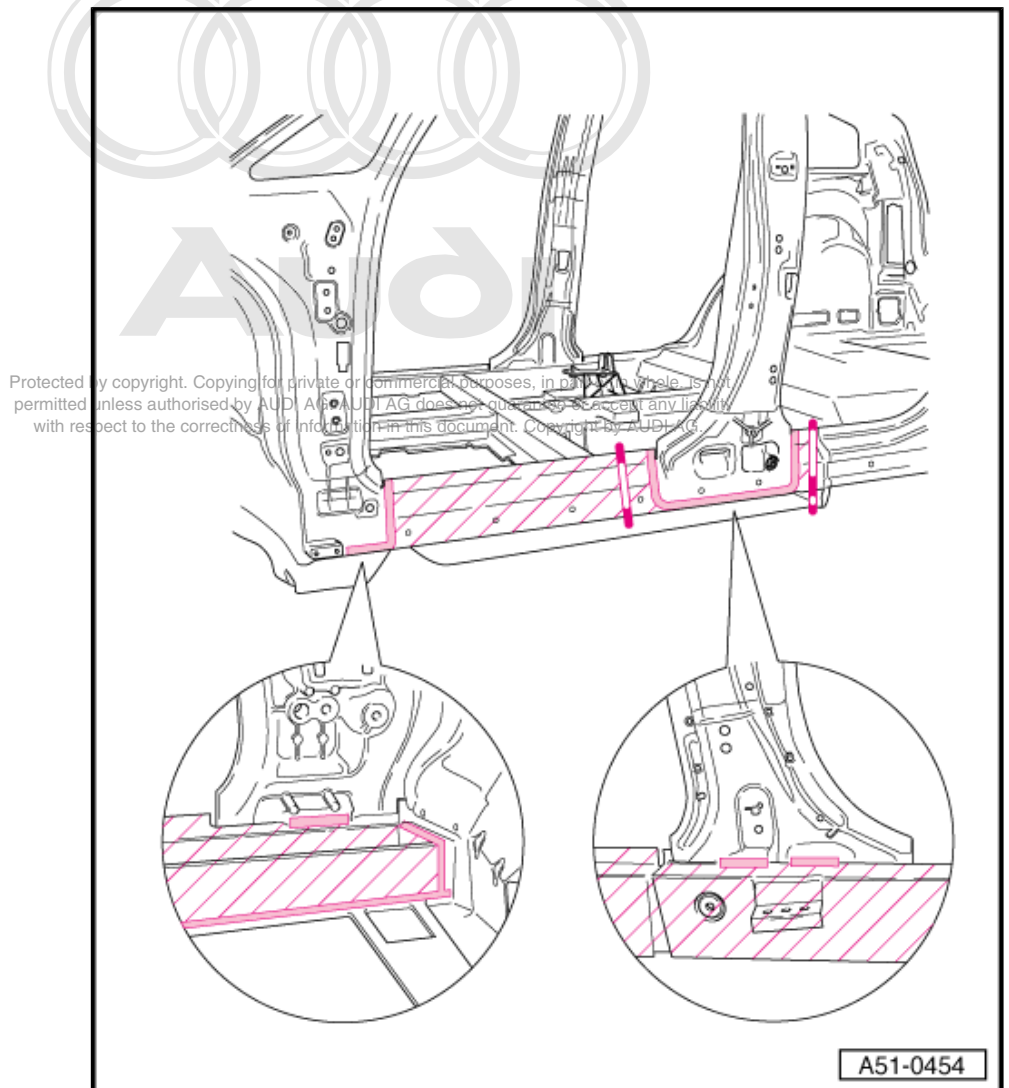
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10 Inner side member - Partial renewal

10.1 Procedure

10.1.1 Cutting location



- Outer side member and outer B-pillar already cut out



Caution

Do not pull out inner B-pillar further than 200 mm for removal.

- Open weld at inner B-pillar (bottom).
- Open welds at inner A-pillar (bottom).
- Separate original joint.

- Make separating cuts as shown.
- Detach side member (part section).
- Separate remaining joint.



Caution

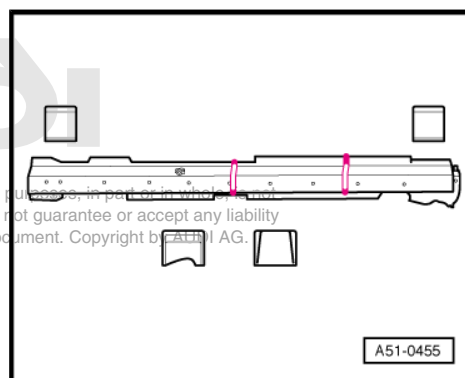
Do not damage adjoining castings.

10.1.2 Replacement parts

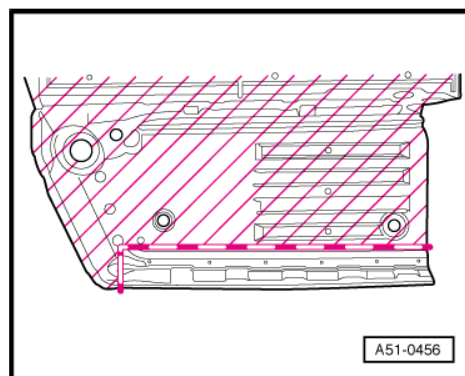
- ◆ Side member
- ◆ 4x sleeves for weld pool backing
- ◆ Pop rivets

10.1.3 Preparing new parts

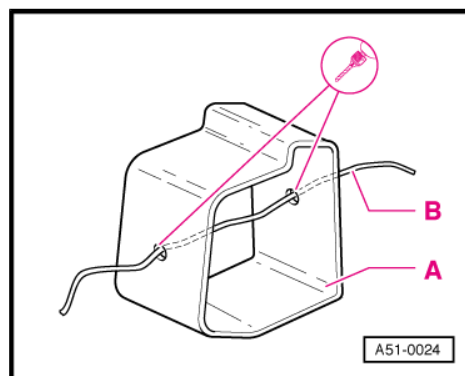
- Transfer separating cuts to new part and cut to shape.



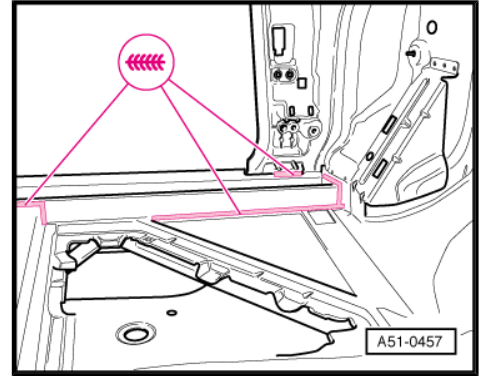
- ◆ Floor plate
- Match up new parts to body.
- Transfer separating cuts to new part and cut to shape.



- Drill holes in sleeves (2.5 mm Ø) and run nylon thread (or aluminium welding wire) -B- through holes.



- Prepare flanges on body and new parts for welding.



10.1.4 Welding in

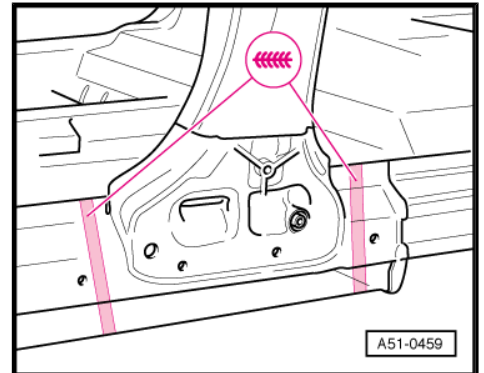
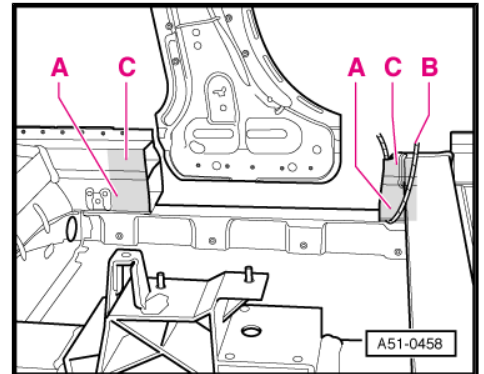
- Start by matching up front part section of side member.
- Weld in new part: SG continuous seam.
- Insert sleeves in body.



Note!

Do not apply oil or grease to sleeves or side member to help the sleeves move more freely. Press sleeve approx. 1 mm to create clearance for nylon threads.

- Use nylon threads -B- to pull sleeves -A- into new part. Sleeves must be centralised over separating cut -C-.
- Remove nylon threads -B-.
- Weld in separating cuts: SG continuous seam.



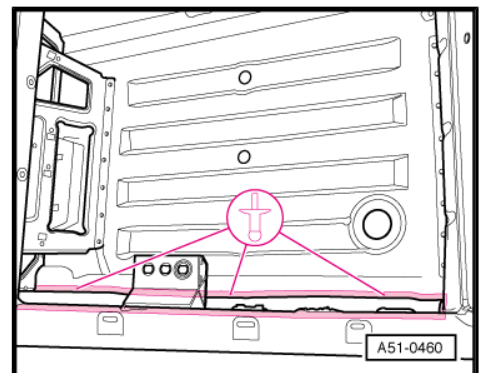
- Prepare joints for adhesive application.



Note!

Refer to General notes on bonding.

- Apply adhesive.
- Rivet in floor panel (part section).



53 – Body - rear

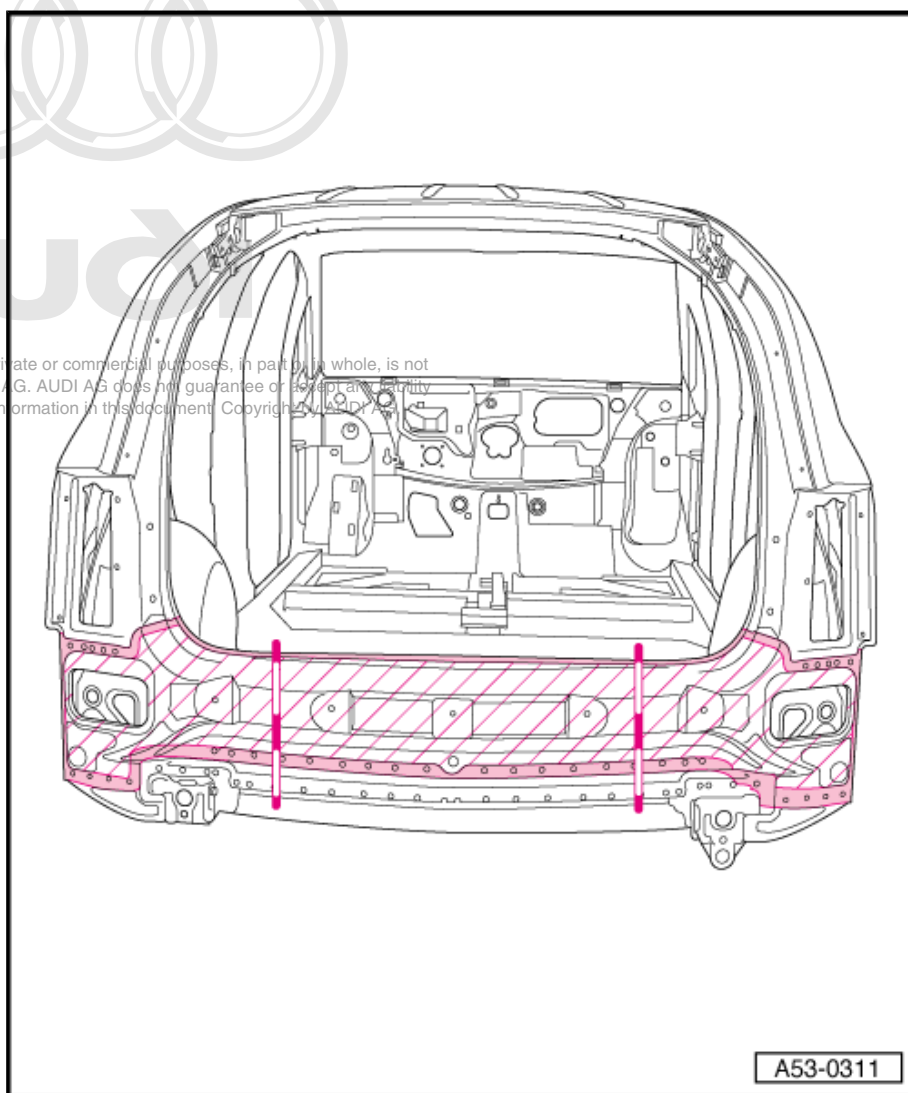
RO: 53 05 55 00

1 Rear cross panel (upper section) - Renewal

1.1 Procedure

1.1.1 Cutting locations

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- Plastic floor pan already removed
- Separate original joint at cross panel and detach part.

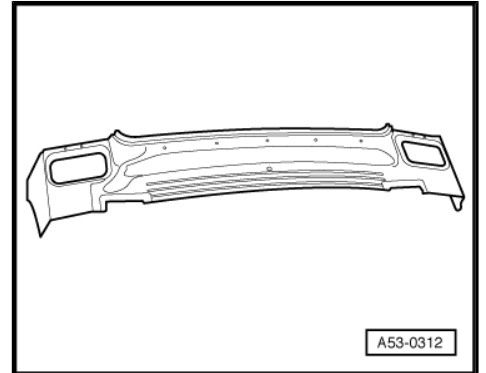


Note!

A partial replacement is possible with the separating cuts illustrated.

1.1.2 Replacement parts

- ◆ Upper cross panel
- ◆ Body adhesive DA 001 730 A1
- ◆ Solid rivets
- ◆ Pop rivet



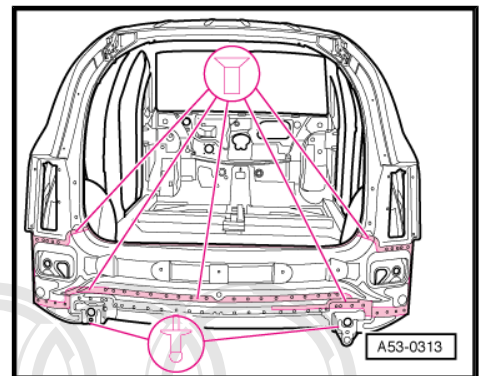
1.1.3 Rivetting in

- Prepare joints for bonding.
- Countersink holes in all parts.
- Apply adhesive.
- Fit solid rivets in overlap area.
- Rivet in rear cross panel.
- Rivet in separating cuts.



Note!

Refer to General notes on bonding.



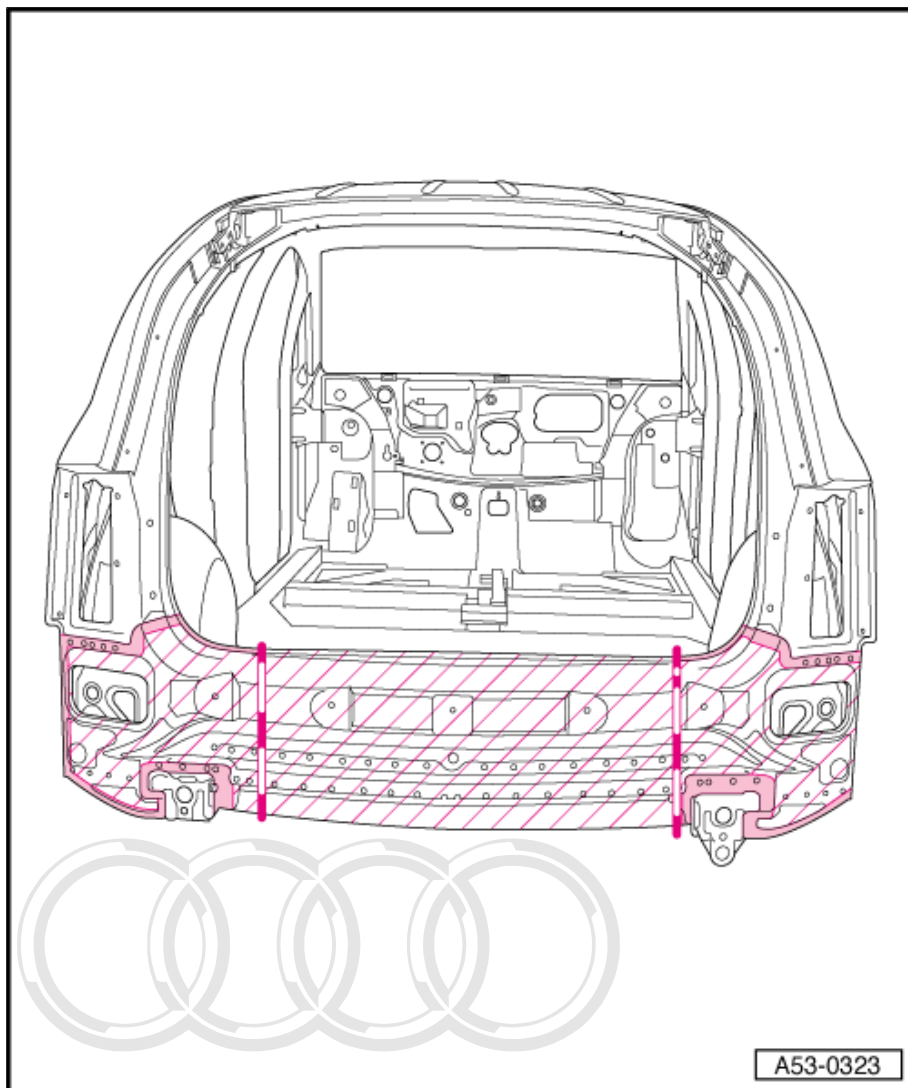
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RO: 53 09 55 03

2 Lock cross member - Renewal

2.1 Procedure

2.1.1 Cutting locations



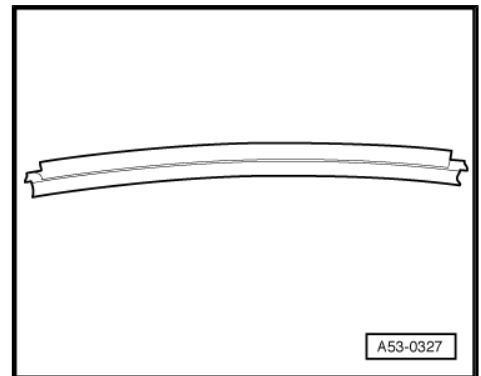
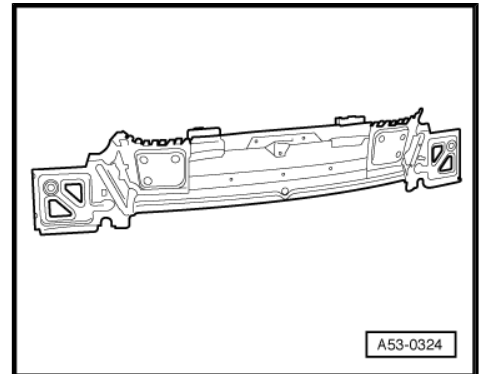
Includes: rear cross member and rear cross panel

- Make separating cuts as shown.
- Remove remaining material.

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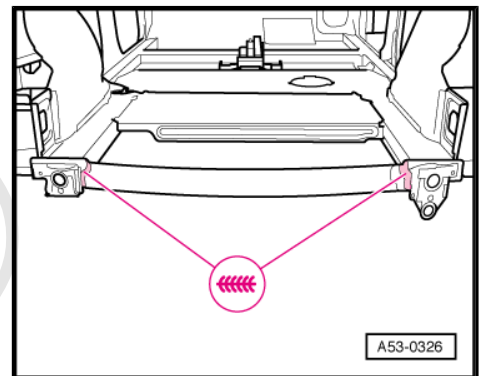
2.1.2 Replacement parts

- ◆ Lock carrier
- ◆ Upper cross panel
- ◆ Rear cross member
- ◆ Body adhesive DA 001 730 A1
- ◆ Solid rivets
- ◆ Pop rivet



2.1.3 Welding in

- Match up part and fix in position.
- Weld in new part: SG continuous seam.
- Match up part and fix in position.
- Take off part.
- Countersink holes in all parts.
- Prepare joints for bonding.
- Apply adhesive.

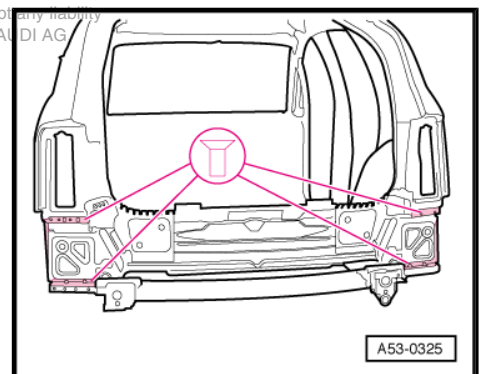


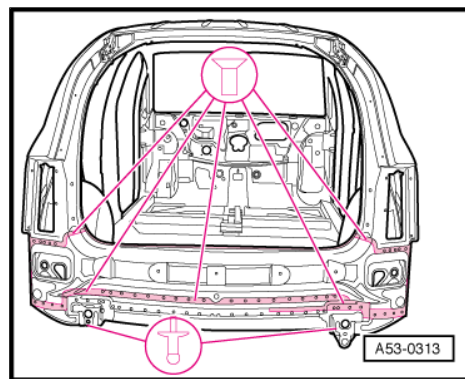
Note!

Refer to General notes on bonding.

2.1.4 Rivetting in

- Fit solid rivets in overlap area.





Refer to General notes on bonding.

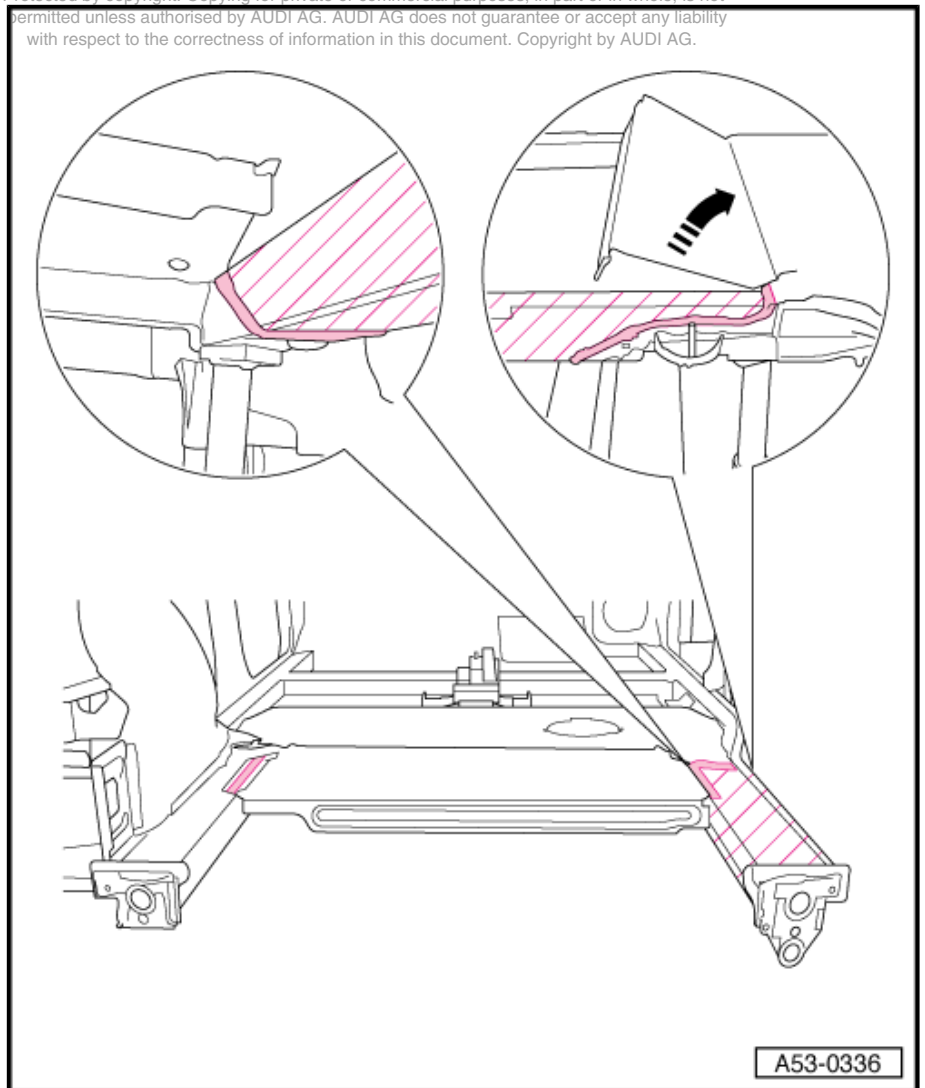
RO: 53 48 55 52

3 Rear longitudinal member - Partial renewal

3.1 Procedure

3.1.1 Cutting location

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- Side panel already cut out
- Outer wheel housing already removed
- Rear cross panels already cut out
- Luggage compartment floor already removed

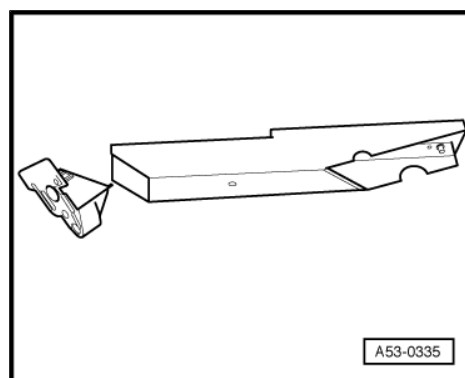
**Caution**

Take care not to damage aluminium node castings.

- Separate laser seam between floor panel and longitudinal member using straight grinder and bend open to provide access to weld seam.
- Separate original joint.
- Remove remaining material.

3.1.2 Replacement part

- ◆ Rear longitudinal member
- ◆ Impact absorber mounting

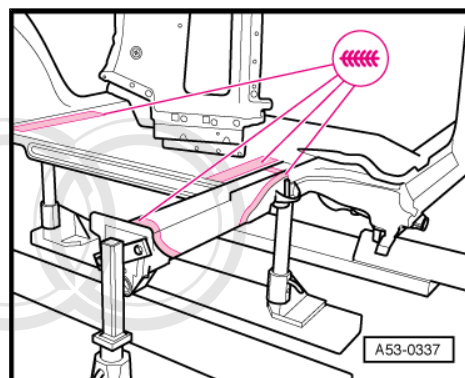


3.1.3 Preparing new parts

- Match up new parts.
- Prepare flanges on body and new parts for welding.

3.1.4 Welding in

- Locate new parts on alignment bracket.
- Weld longitudinal member to node casting: SG continuous seam.
- Weld longitudinal member to rear cross panel: SG continuous seam.
- Weld floor panel to longitudinal member: SG continuous seam.



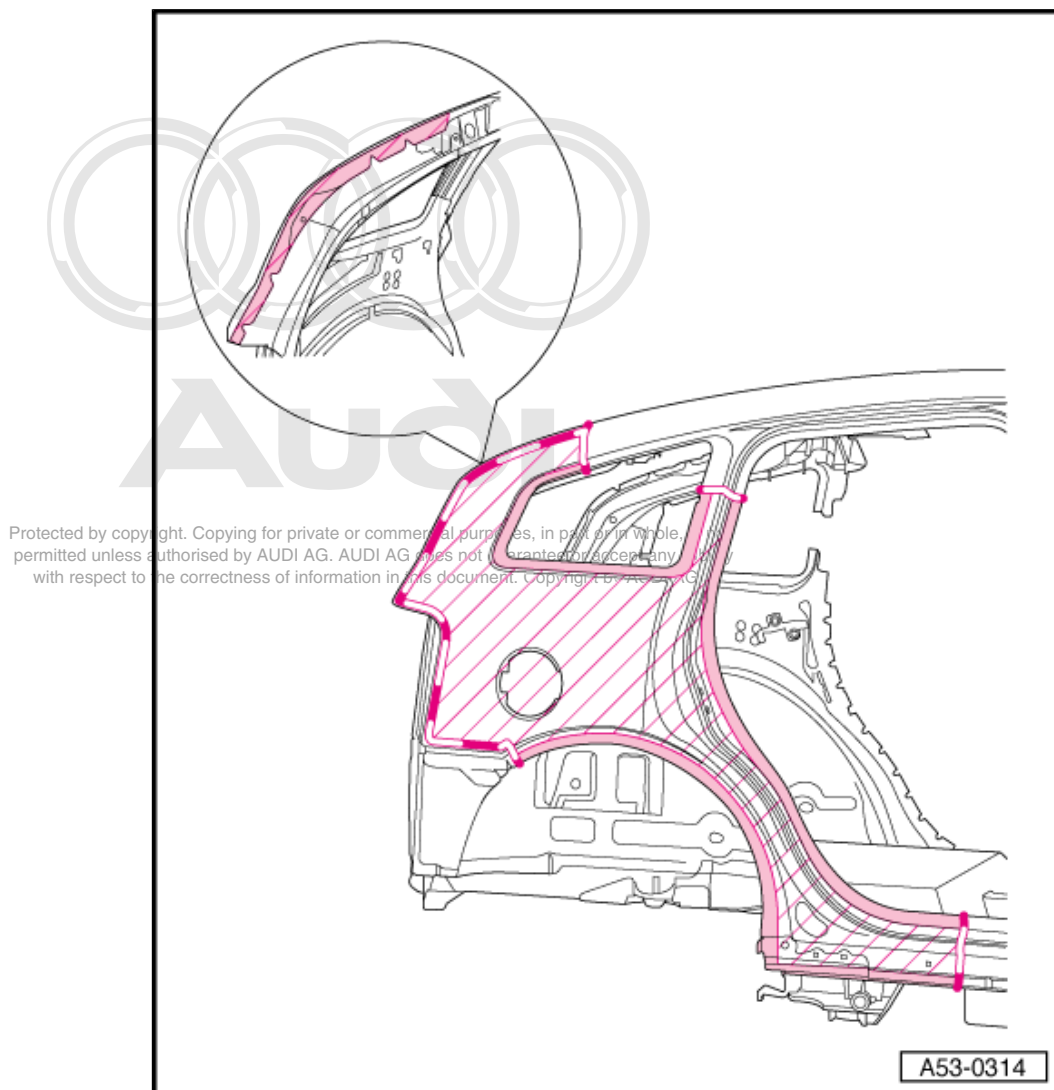
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RO: 53 55 55 00

4 Side panel - Renewal

4.1 Procedure

4.1.1 Cutting locations

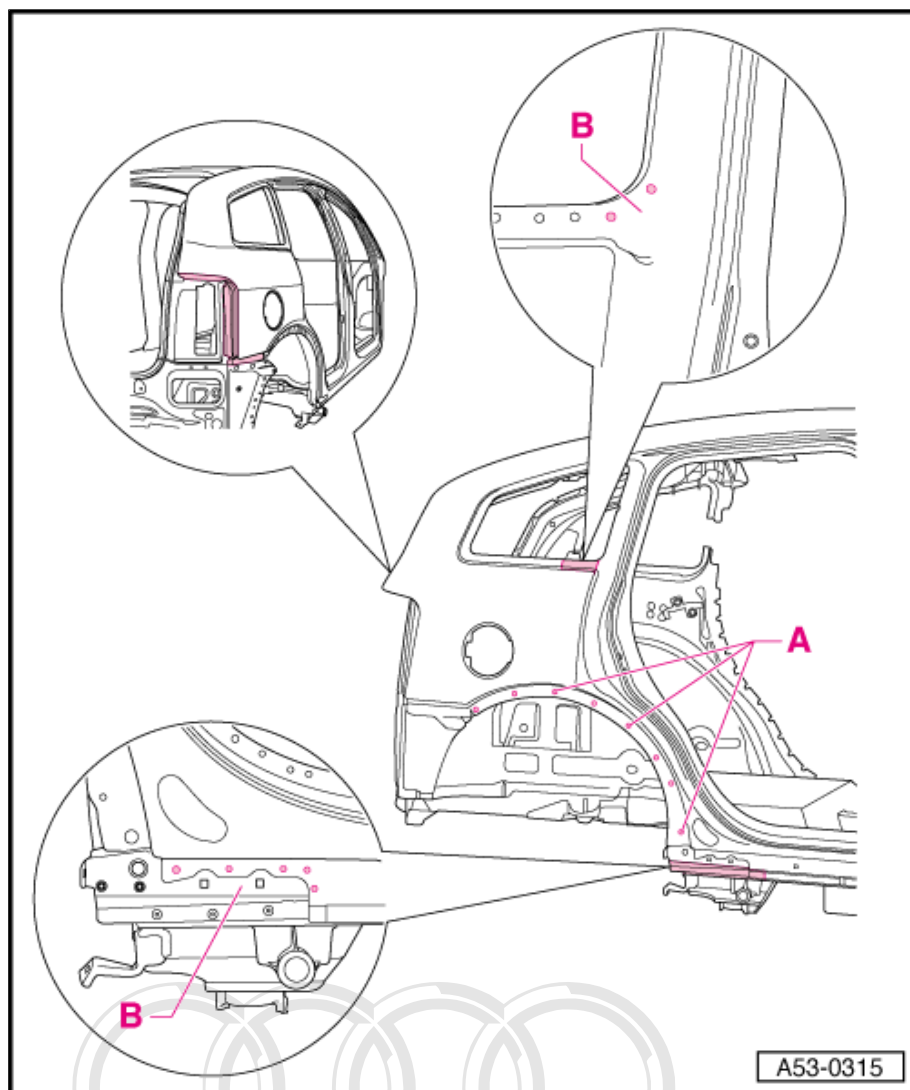


- Make separating cuts as shown. Take care not to damage internal reinforcement.
- Roughly cut out rear area and detach.
- Remove remaining material at rain channel.
- Remove remaining material at tail light mounting.



Note!

Refer to section on laser welding in General notes on aluminium.



- A - Drill out rivet nuts using centre bit.
- B - Remove punch rivets in window and sill area.

 Note!

Refer to General notes on aluminium regarding punch rivets with one-sided access.

- Separate original joint.

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4.1.2 Replacement parts

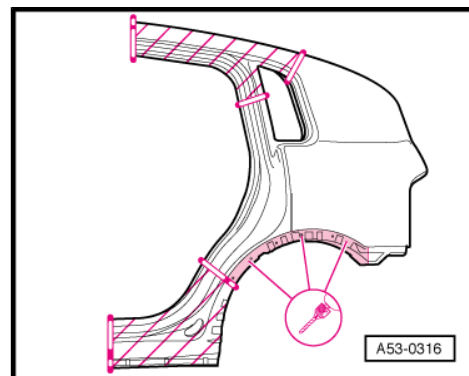
- ◆ Side panel frame (sub-part)
- ◆ Solid rivets
- ◆ Pop rivets
- ◆ Rivet nuts
- ◆ Body adhesive DA 001 730 A1
- ◆ Body adhesive DH 009 100 A3 (right side only, for fuel filler neck)

4.1.3 Preparing new parts

- Transfer separating cut to new part and cut off hatched area.
- Match up side panel and fix in position.



Check panel gaps with door and rear lid fitted.



4.1.4 Rivetting in

- Place backing plate of same material behind separating cuts.



Use clamps.

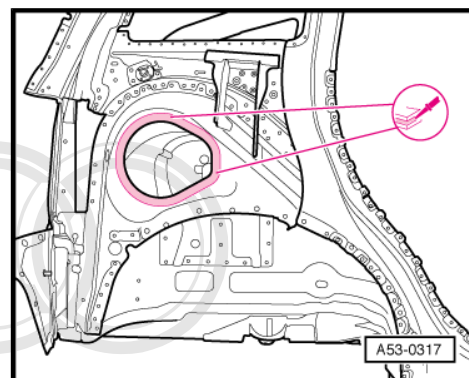
- Prepare joints for bonding.



Refer to General notes on bonding.

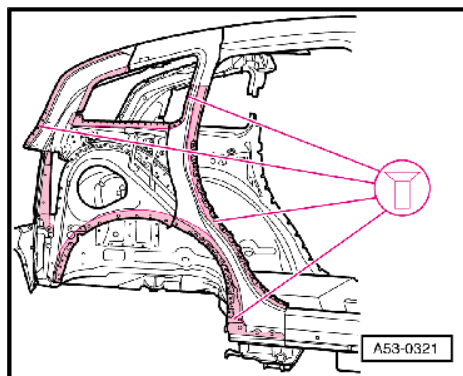


- Apply body adhesive DH 009 100 A3.



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- Apply body adhesive DA 001 730 A1.

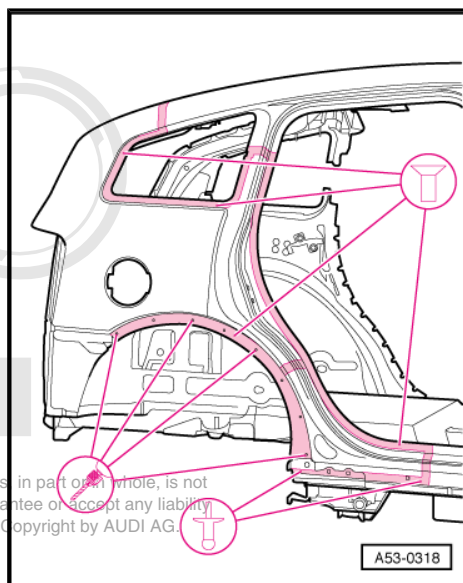


- Fit side panel and fix in position.


Note!

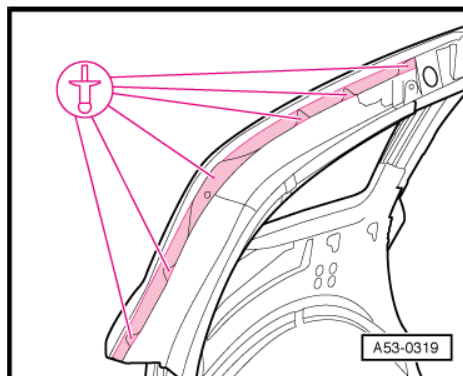
Use clamps.

- Fit solid rivets in door frame and at side window.
- Set pop rivets in overlap.

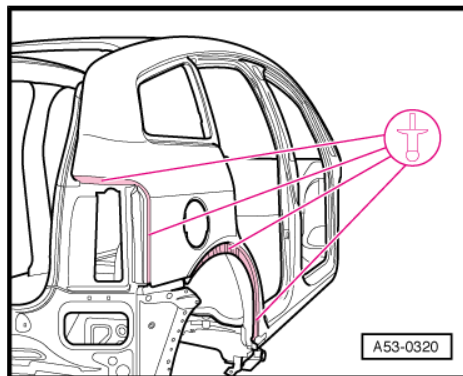


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- Set pop rivets in rain channel.



- Set pop rivets in tail light mounting.
- Fit rivet nuts using pop rivet nut pliers -V.A.G 1765/B- .



RO: 53 68 55 50

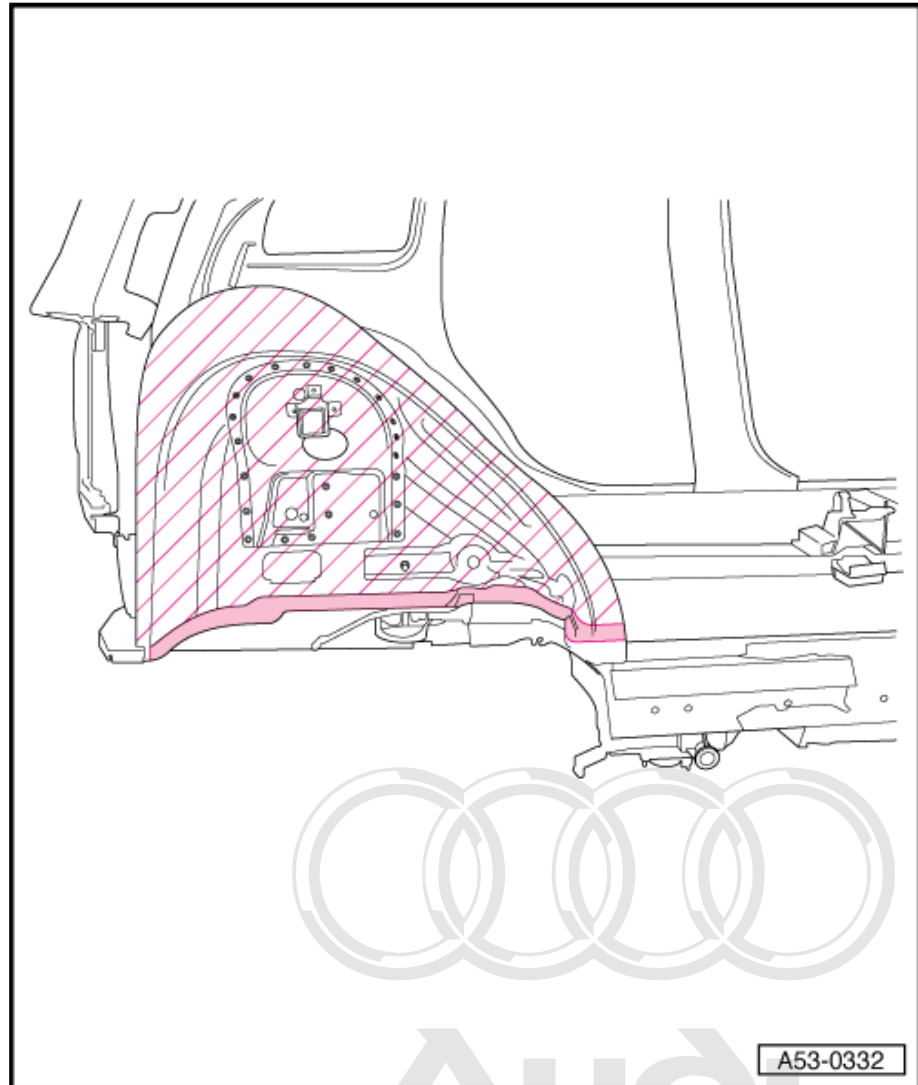
5 Inner rear wheel housing liner - Renewal



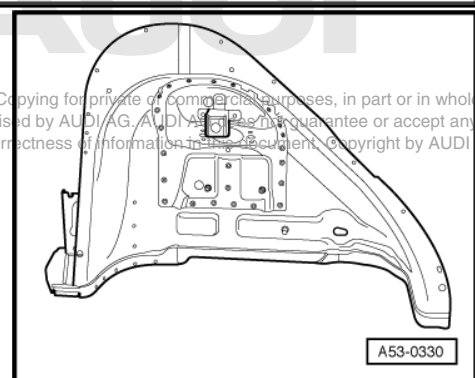
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5.1 Procedure

5.1.1 Cutting locations



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- Side panel already cut out
- Outer wheel housing already removed
- Separate original joint.

- ◆ Inner wheel housing liner
- ◆ Body adhesive DA 001 730 A1
- ◆ Round-head pop rivets

Preparing new part

- Prepare joints for bonding.

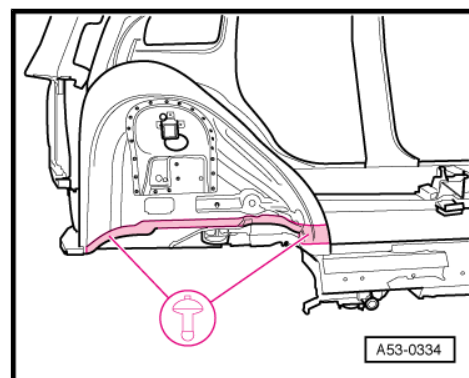


Note!

Refer to General notes on bonding.

5.1.2 Rivetting in

- Apply adhesive DA 001 730 A1.
- Rivet in wheel housing liner.



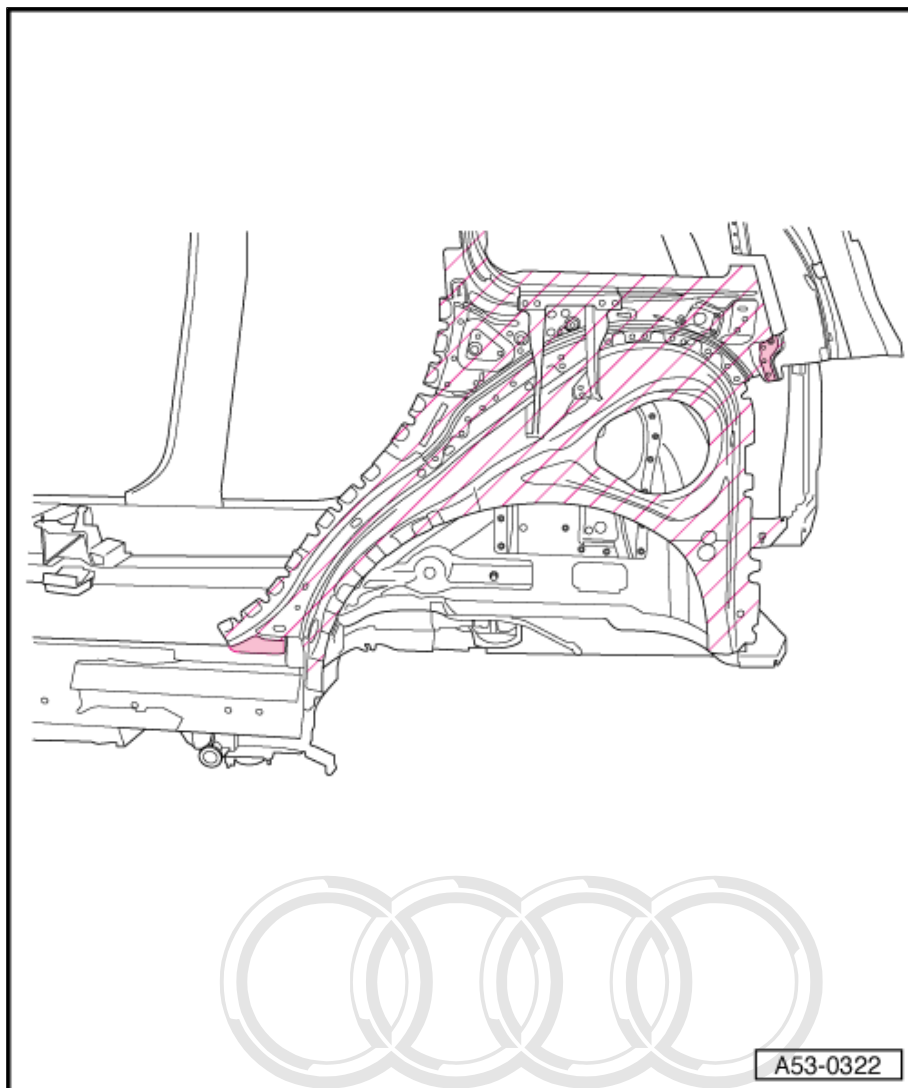
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6 Rear wheel housing liner - Renewal

6.1 Procedure

6.1.1 Cutting locations



- Side panel already cut out
- Inner C-pillar already cut out
- Separate original joint.

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6.1.2 Replacement parts

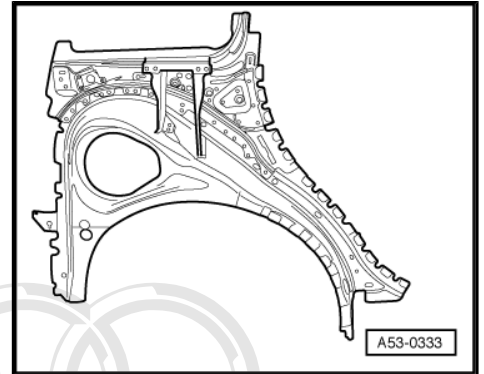
- ◆ Outer wheel housing liner
- ◆ Body adhesive DA 001 730 A1
- ◆ Solid rivets
- ◆ Pop rivet

Preparing new part

- Prepare joints for bonding.

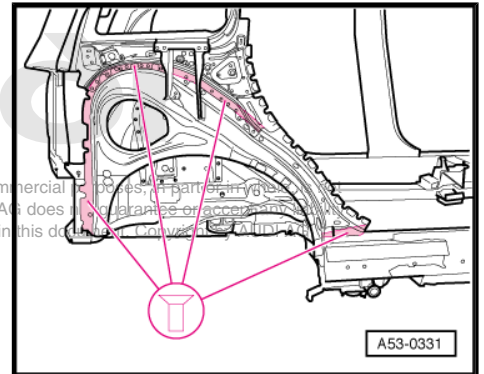


Refer to General notes on bonding.



6.1.3 Rivetting in

- Apply adhesive DA 001 730 A1.
- Rivet in wheel housing liner.



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