



Body Repairs Jetta 2005 ➤

Edition 04.2009





Repair Group overview for Body Repairs

Repair Group

00 - Technical data

50 - Body - front

51 - Body - centre

53 - Body - rear

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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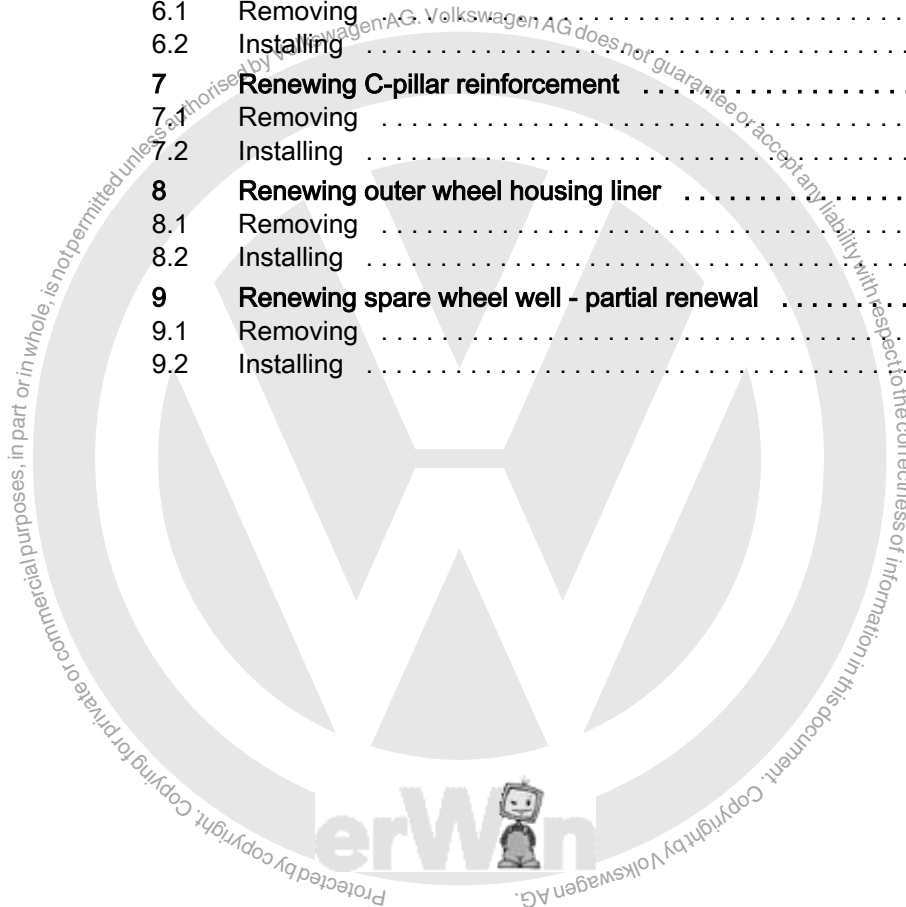
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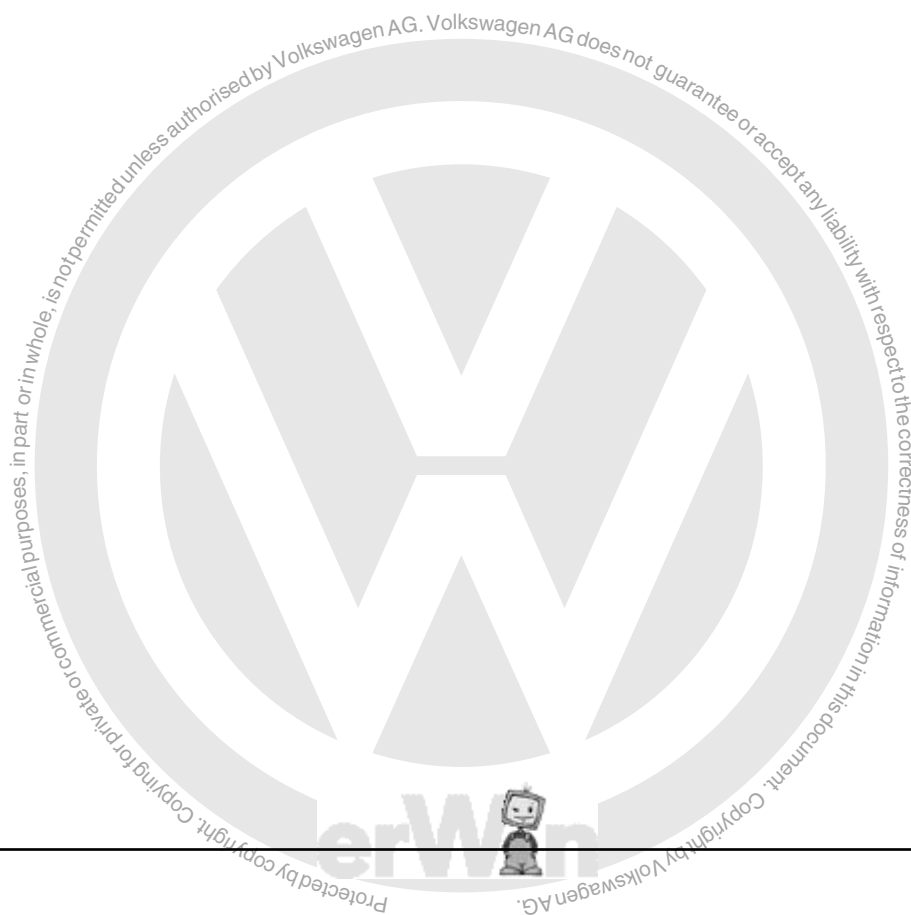


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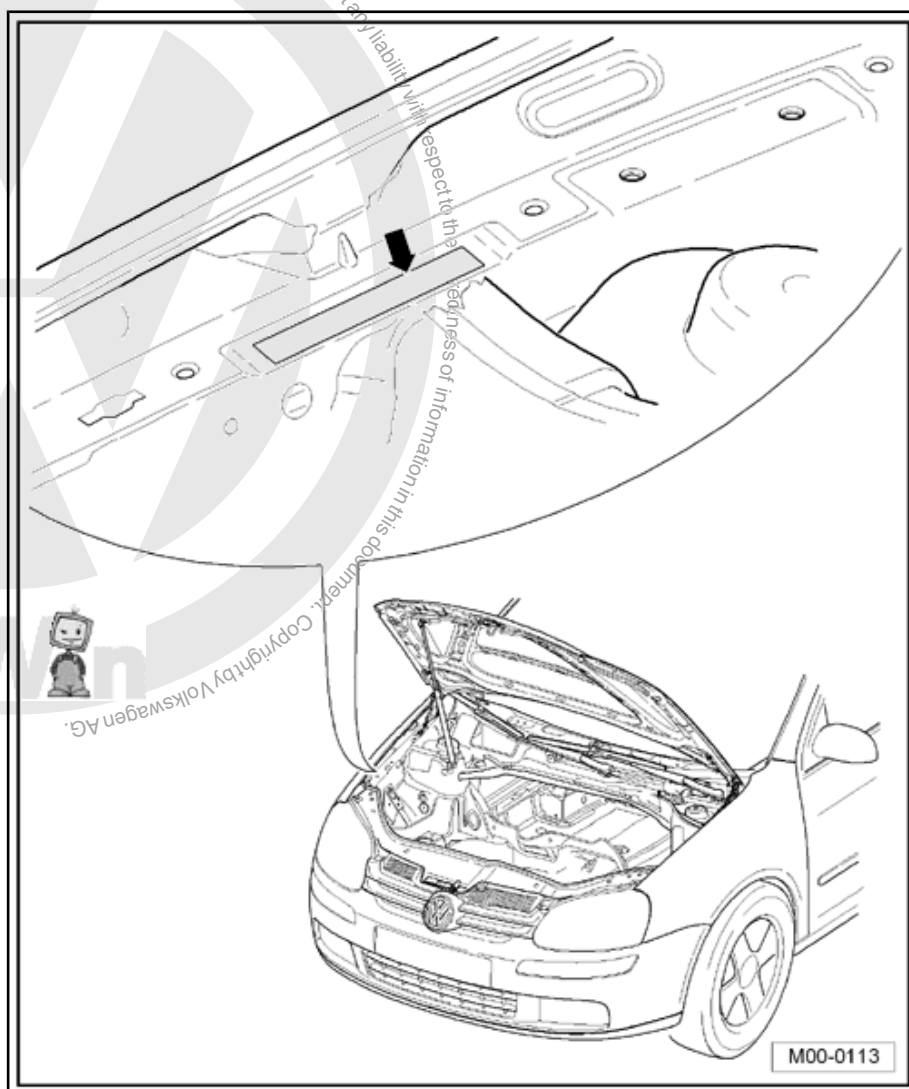




00 – Technical data

1 Vehicle identification data

1.1 Vehicle identification number



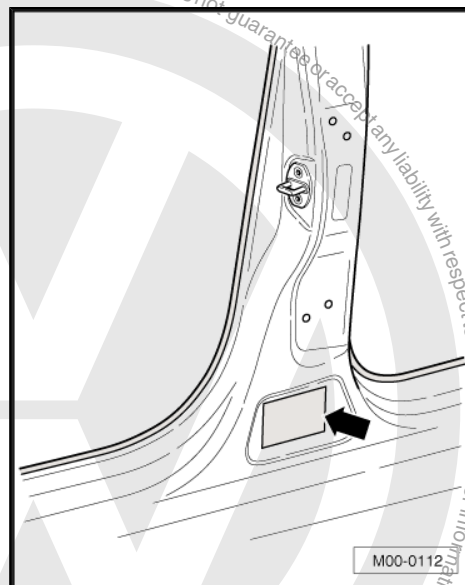
The vehicle identification number -arrow- is located on the right side of the vehicle in the area of the wing mounting.

More vehicle identification numbers are located on the right side of the vehicle on the outer seat console and on the front edge of the floor panel below the rear seat.

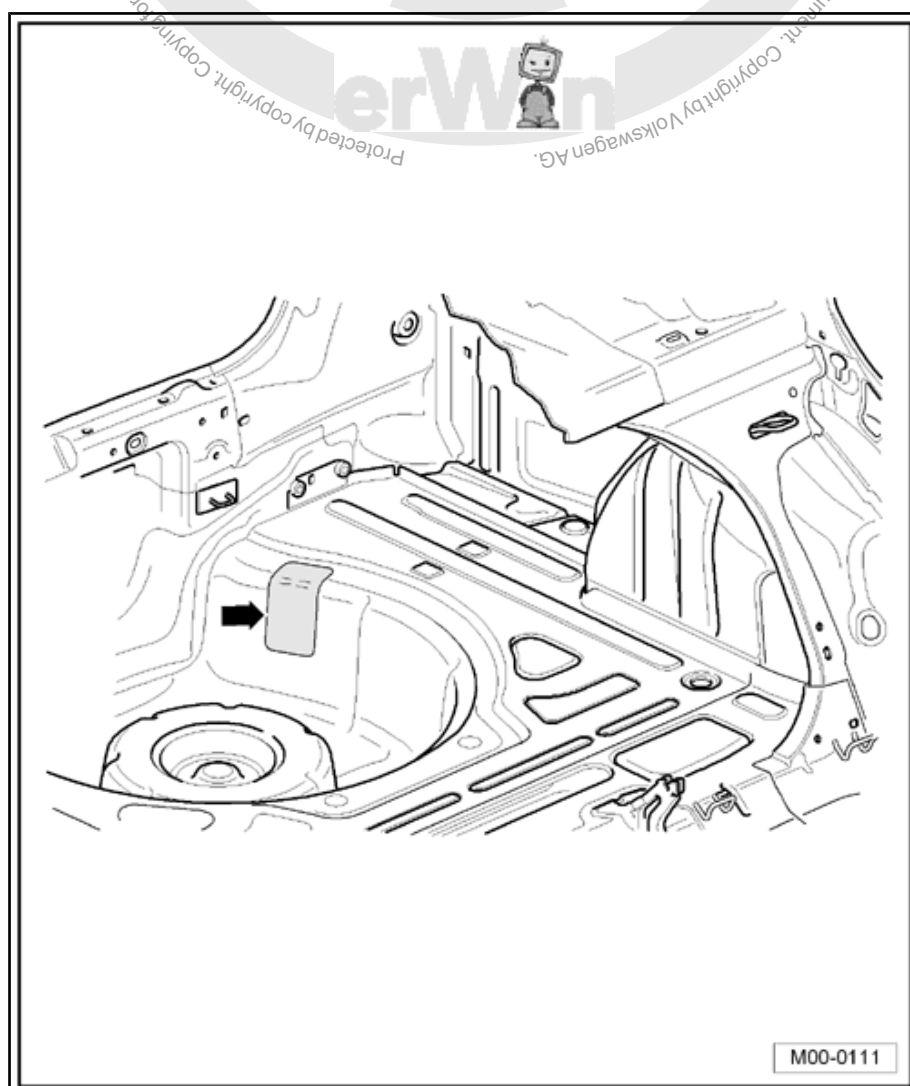


1.2 Identification plate

The identification plate -arrow- is located on the left B-pillar and is visible when the left front door is opened.



1.3 Vehicle data sticker





The vehicle data sticker -arrow- is stuck in the spare wheel wheel on the left, as viewed when sat behind the steering wheel looking forwards.





2 Safety instructions



WARNING

Before beginning any cutting, alignment or dent removal, refer to safety notes in the binder General information, body repairs and general body repairs.

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



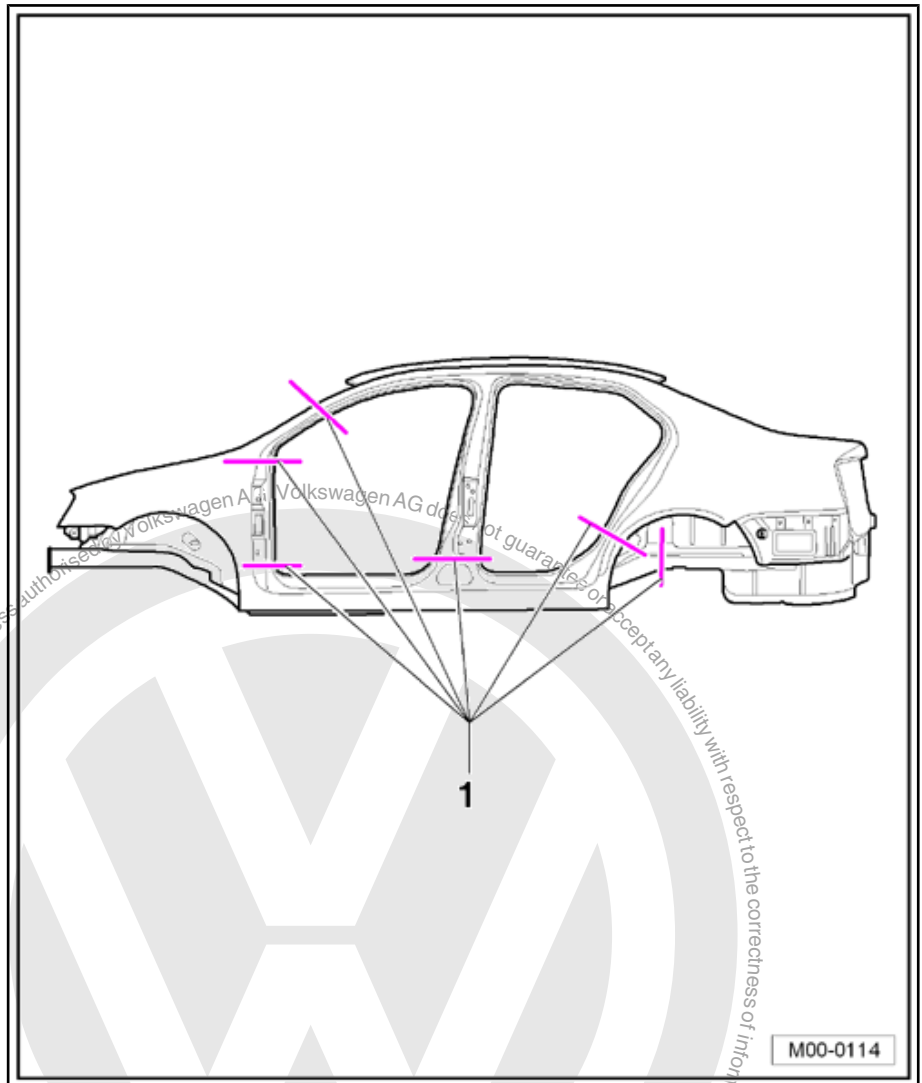


3 Moulded foam elements

On this vehicle, various bodywork cavities are fitted with moulded foam elements. The moulded foam elements reduce the amount of driving noise that is transmitted into the interior.

The exact location of these moulded foam elements are shown at the beginning of the respective repair description.

1 - Moulded foam element





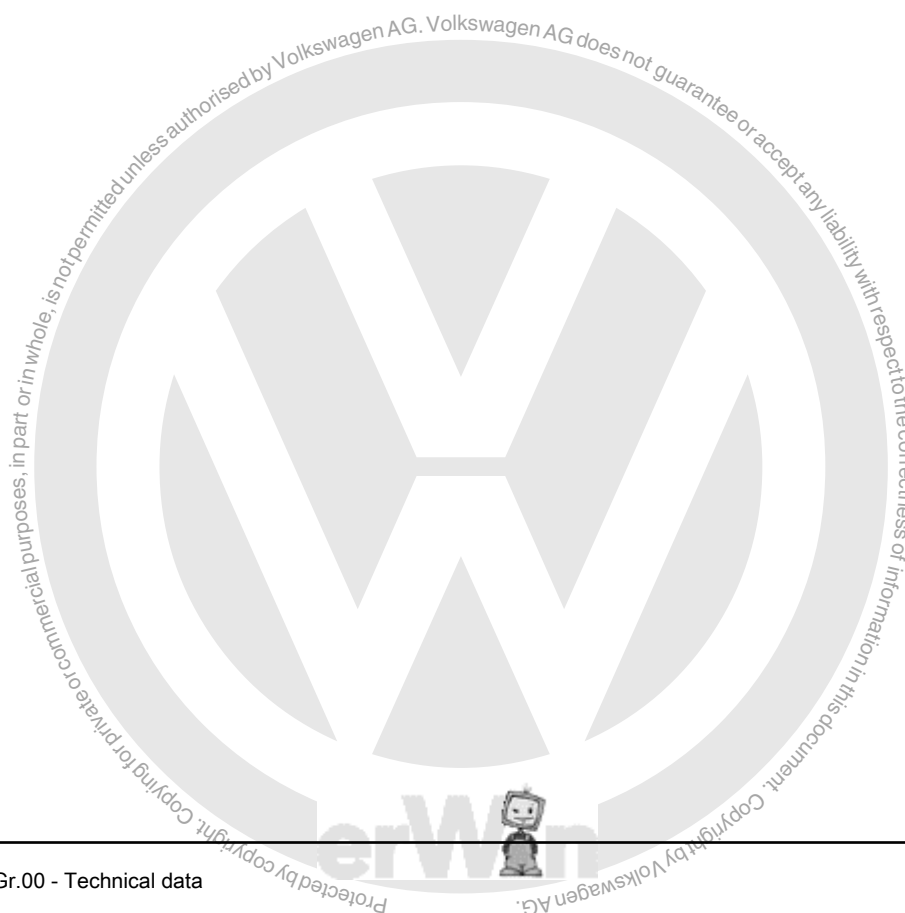
4 Laser welding

On this vehicle, some sections of the roof and body are welded by laser.

With laser welding, a high-energy beam of light is directed over the seam to be welded by optical lenses or optical fibre.

During the welding process, the upper panel is melted onto the partially molten lower panel, creating a welded joint without the need of additional material.

For repairs other than roof repairs, the laser weld seam is replaced by an SG plug weld seam or RP spot weld seam.





5 Galvanized body parts

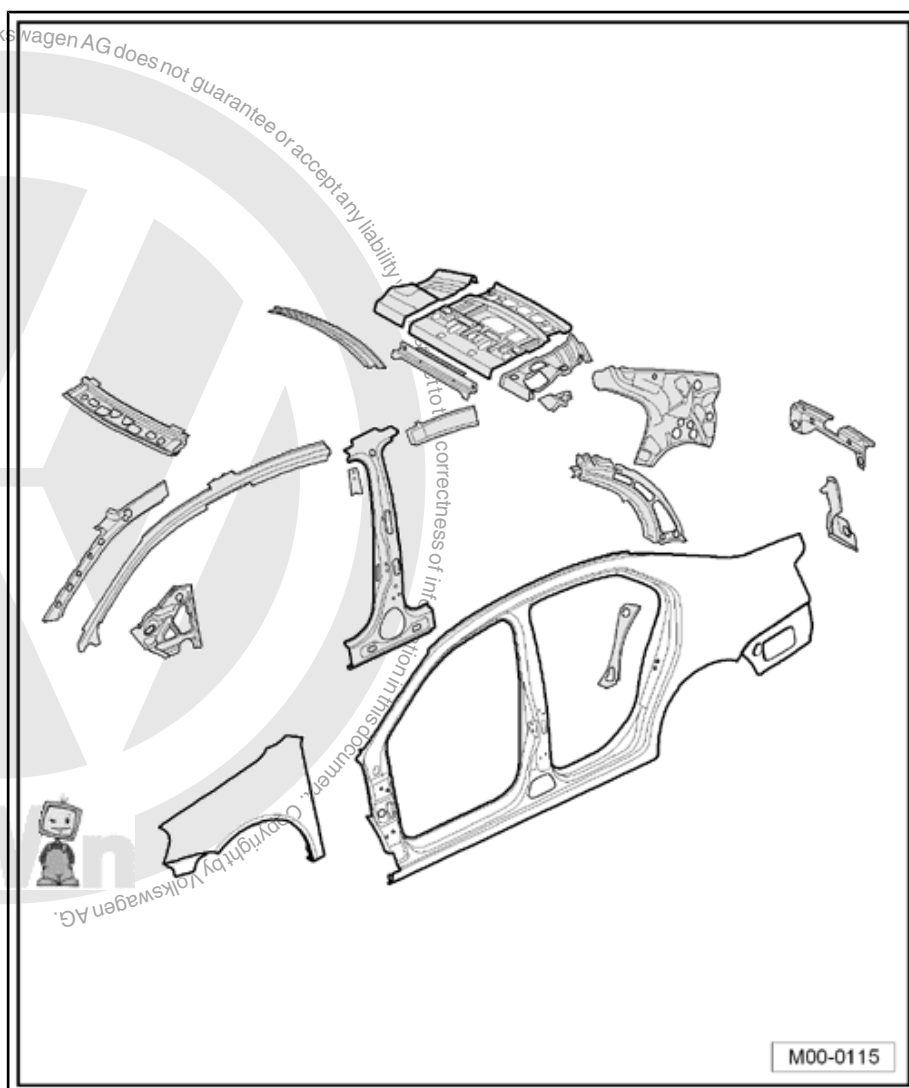


Note

*Before carrying out body repairs observe the following information
⇒ General Information; Body Repairs, General Body Repairs .*

The vehicle consists of body panels which are galvanized on both sides and not galvanized panels.

5.1 Body

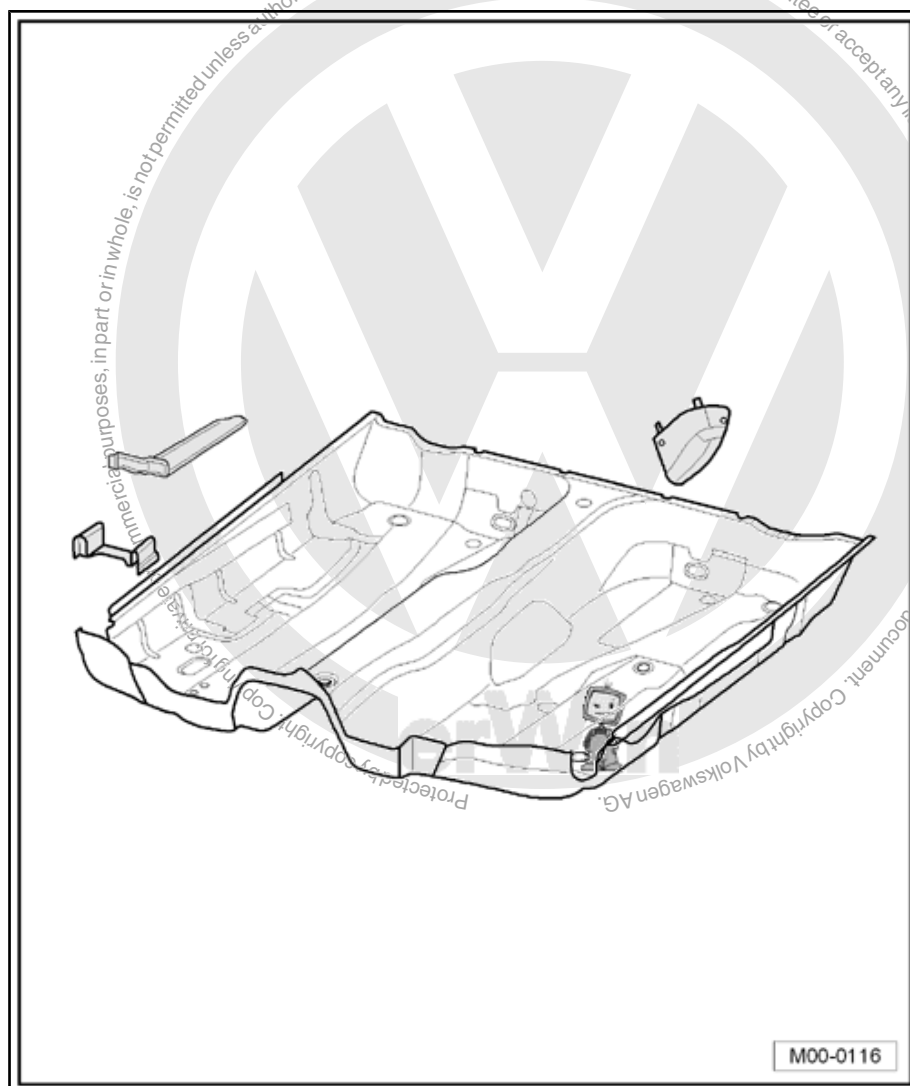


The shaded body panels are not galvanized.

The wing and the side part shown in this diagram serve only as orientation and consist of body panels which are galvanized on both sides.



5.2 Floor group



The shaded body panels are not galvanized.

The floor panel shown in this diagram serve only as orientation and consists of a body panel which is galvanized on both sides.



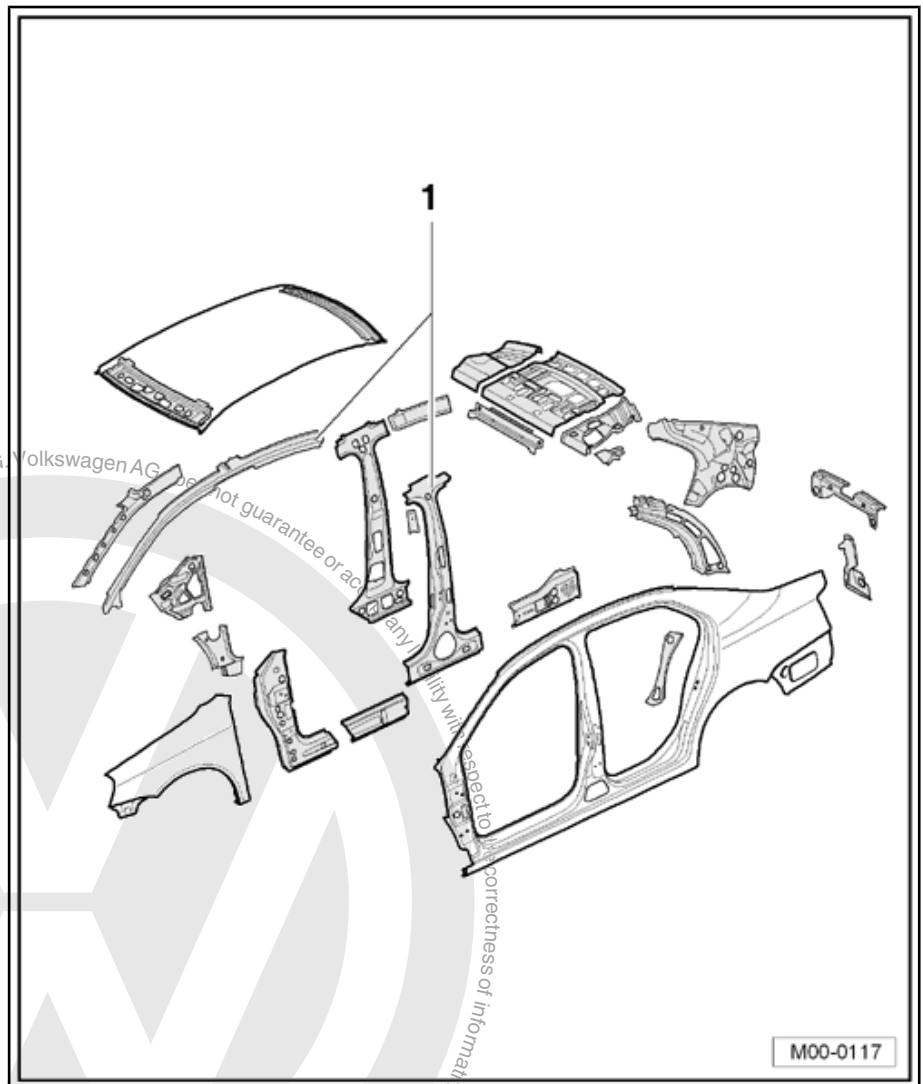
6 High strength body parts



Note

*Before carrying out body repairs observe the following information
⇒ General Information; Body Repairs, General Body Repairs .*

6.1 Body



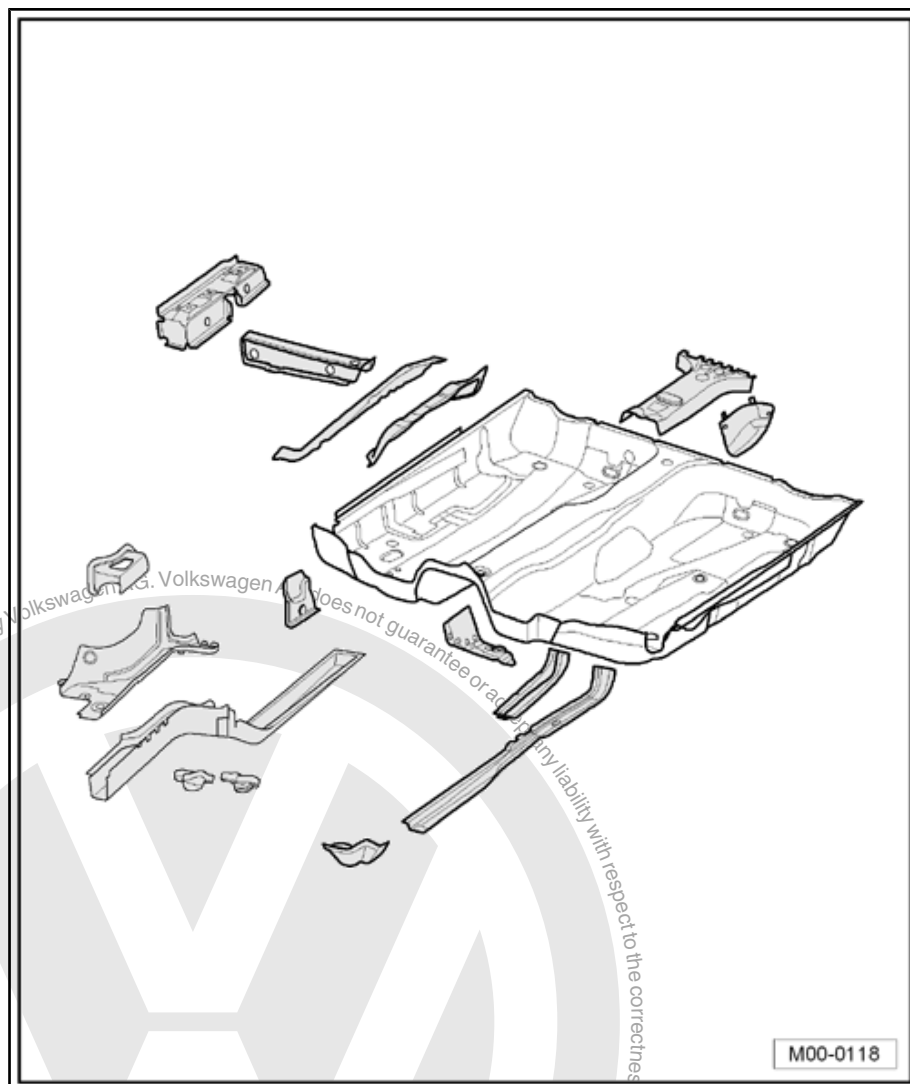
The shaded body panels are manufactured of high strength or very high strength body panels.

The reinforcements for front inner side panel -1- and B-pillar -1- consist of "special quality steel". The processing is described in repair chapter [⇒ page 137](#) .

Rear wing, side panel and roof shown in this figure serve only as orientation.

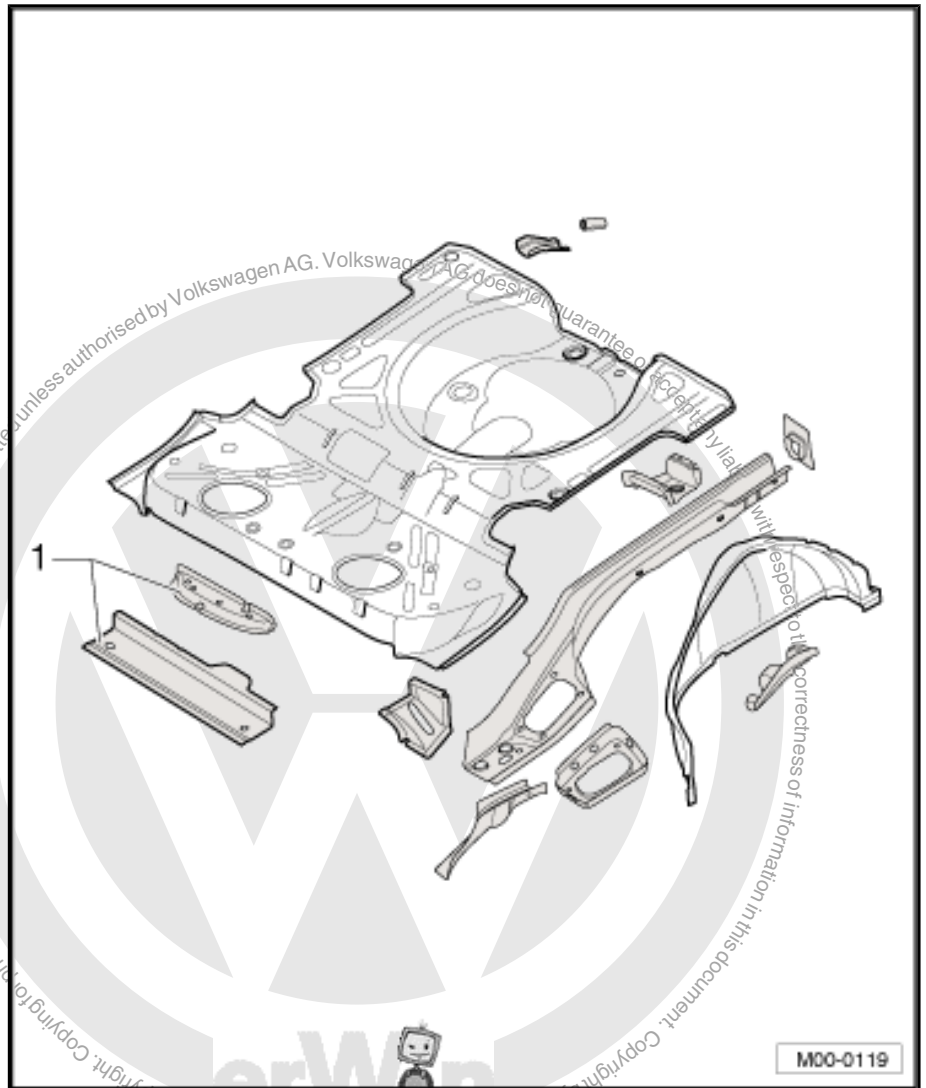


6.2 Floor group



The shaded body panels are manufactured of high strength or very high strength body panels.

The floor panel is only shown for orientation purposes.



The shaded body panels are manufactured of high strength or very high strength body panels.

The floor cross member -1- and the cross member reinforcement -1- consist of "special quality steel".

The floor panel and the inner wheel housing shown in this diagram serve only as orientation.

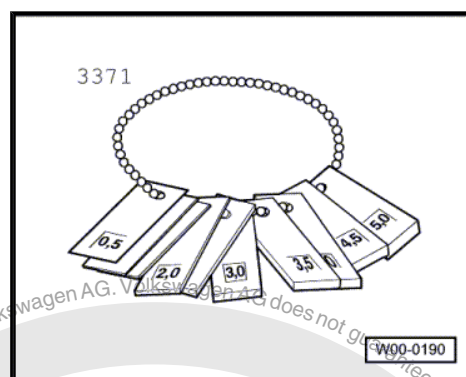


7 Body panel gaps/shut lines

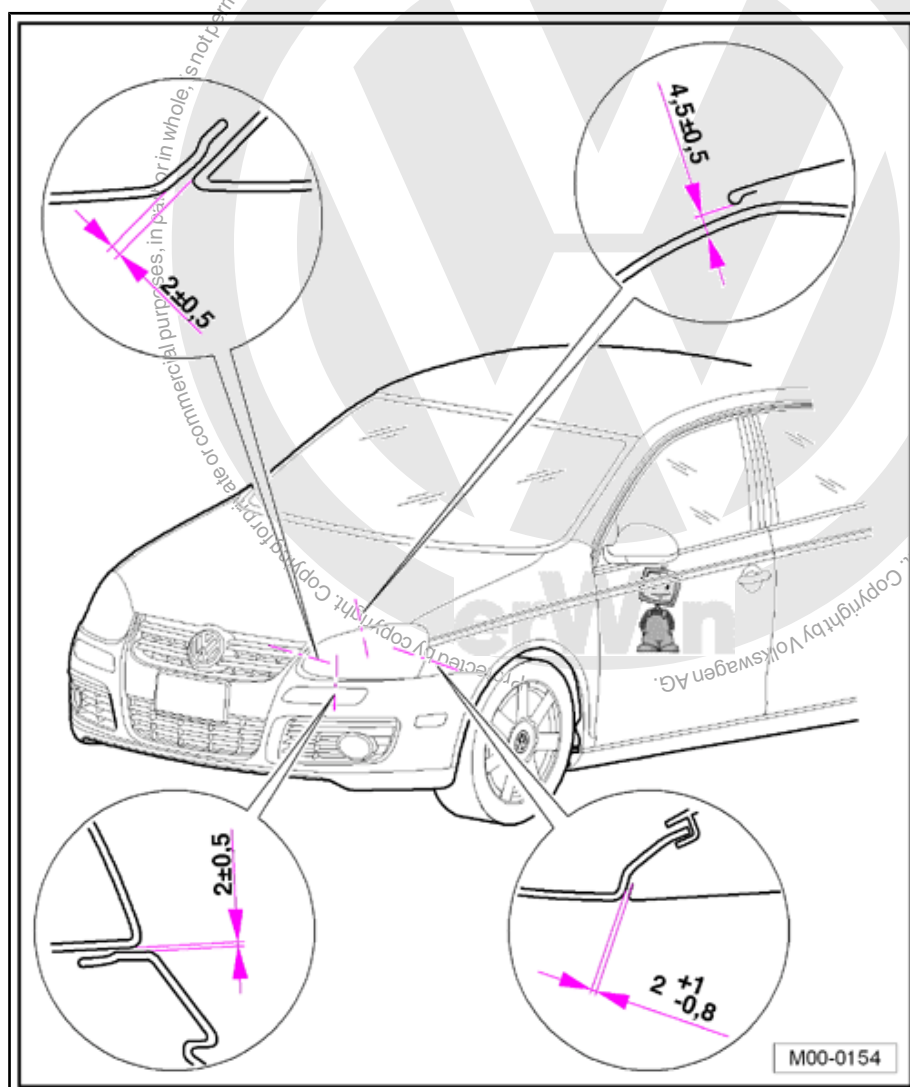


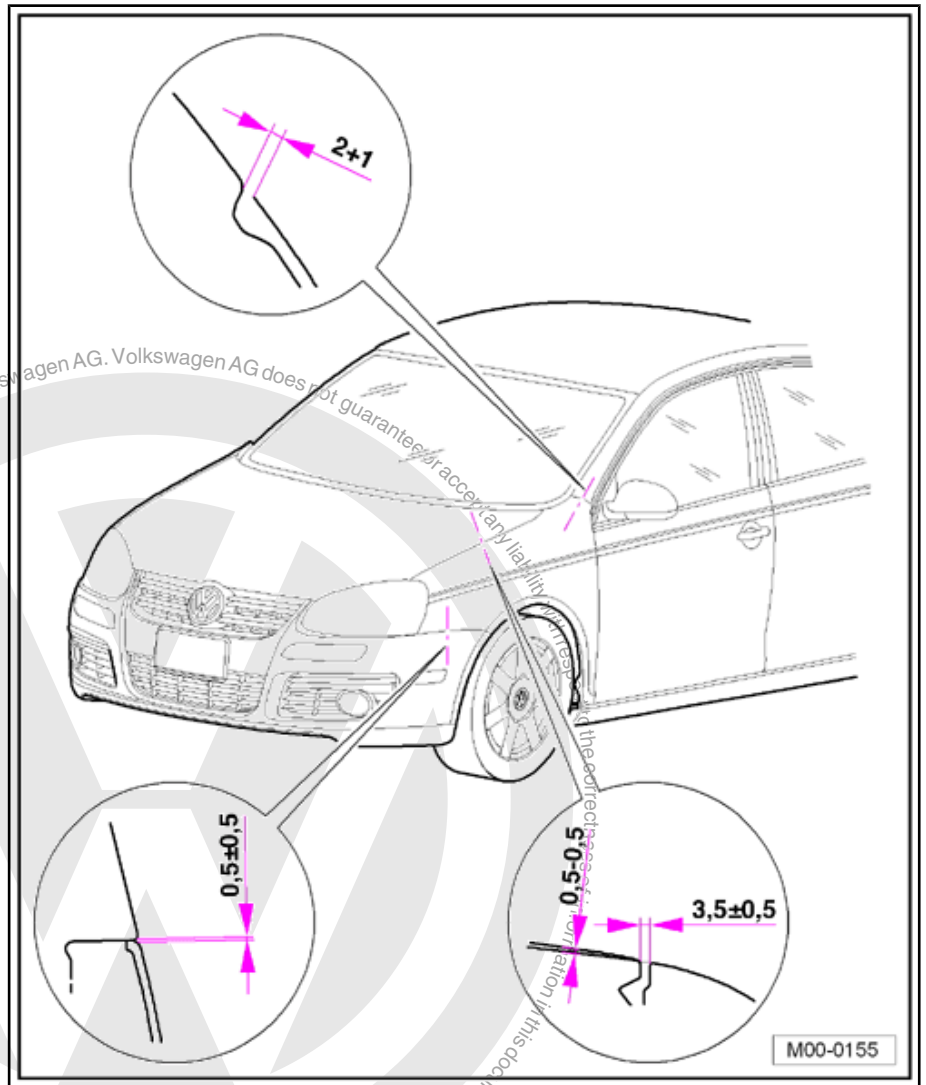
Note

- ♦ To adjust or check gaps, use special tool setting gauge -3371-.
- ♦ Gaps are always given in millimetres.



7.1 Body - front

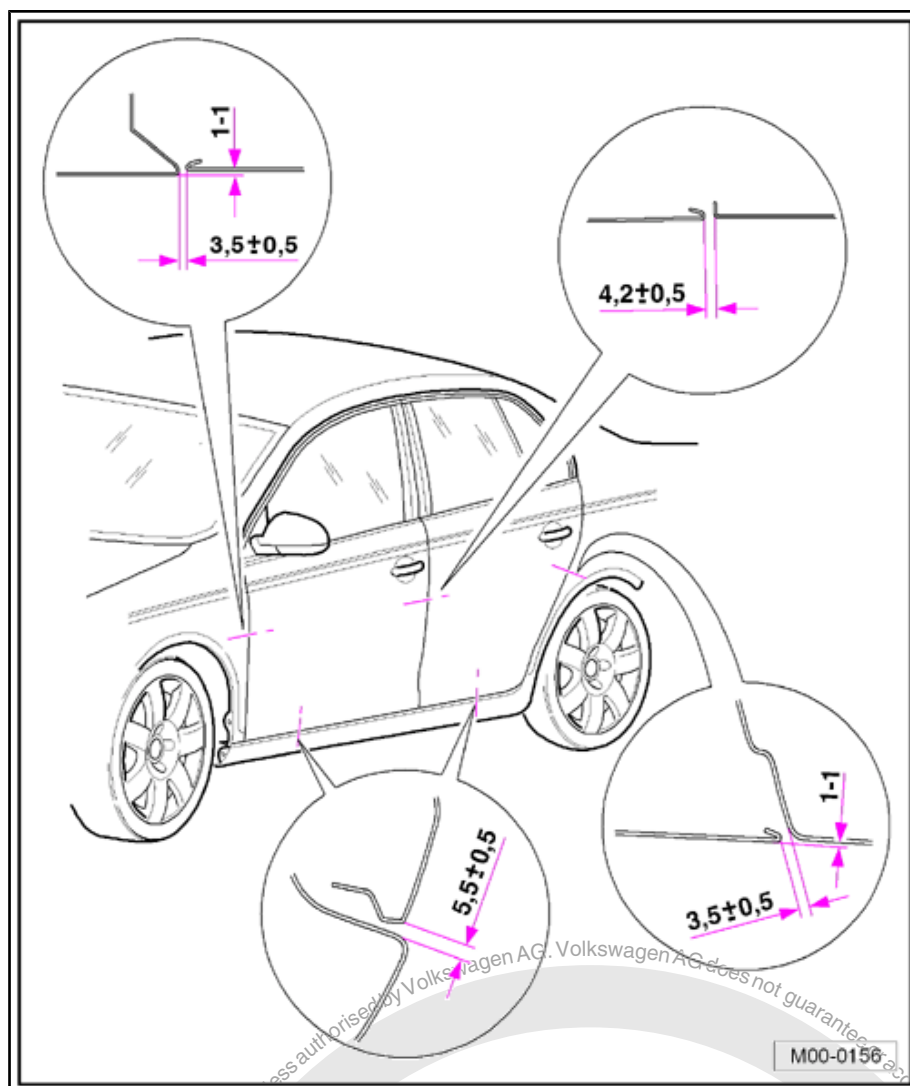




M00-0155

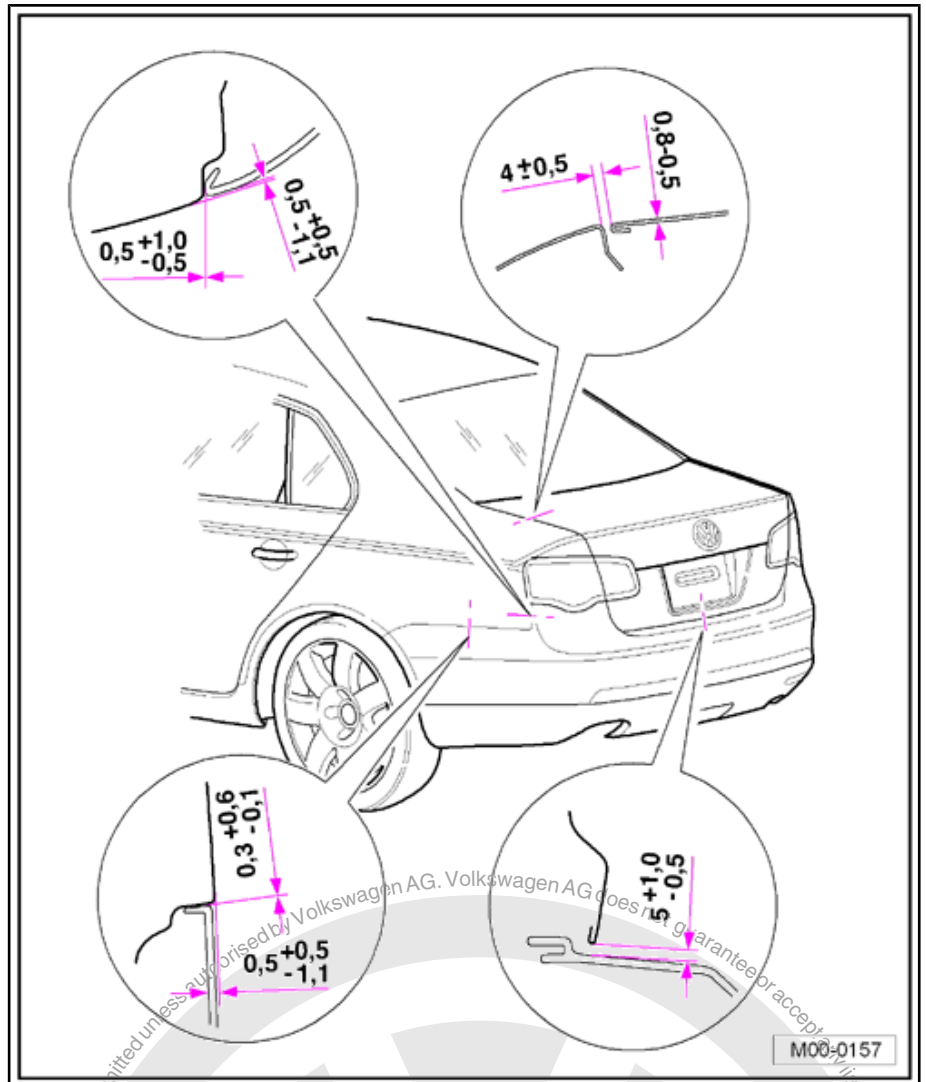


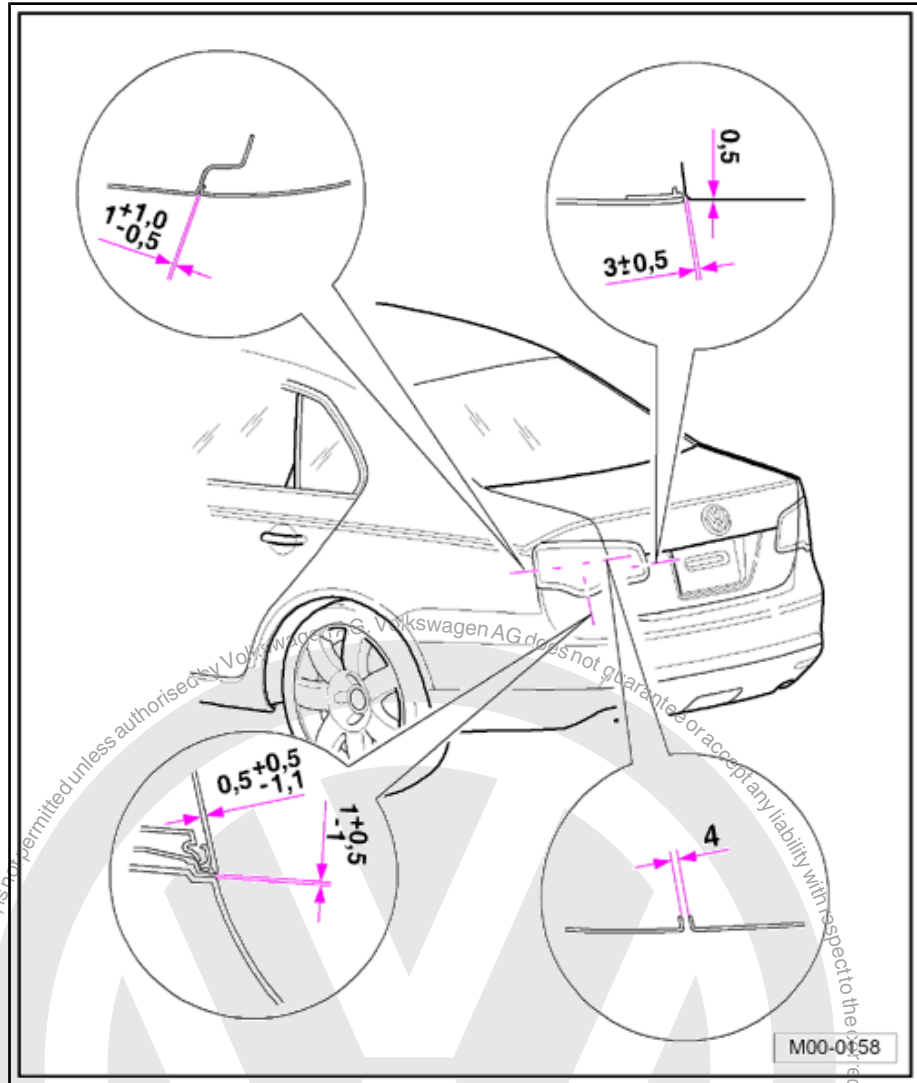
7.2 Body - centre

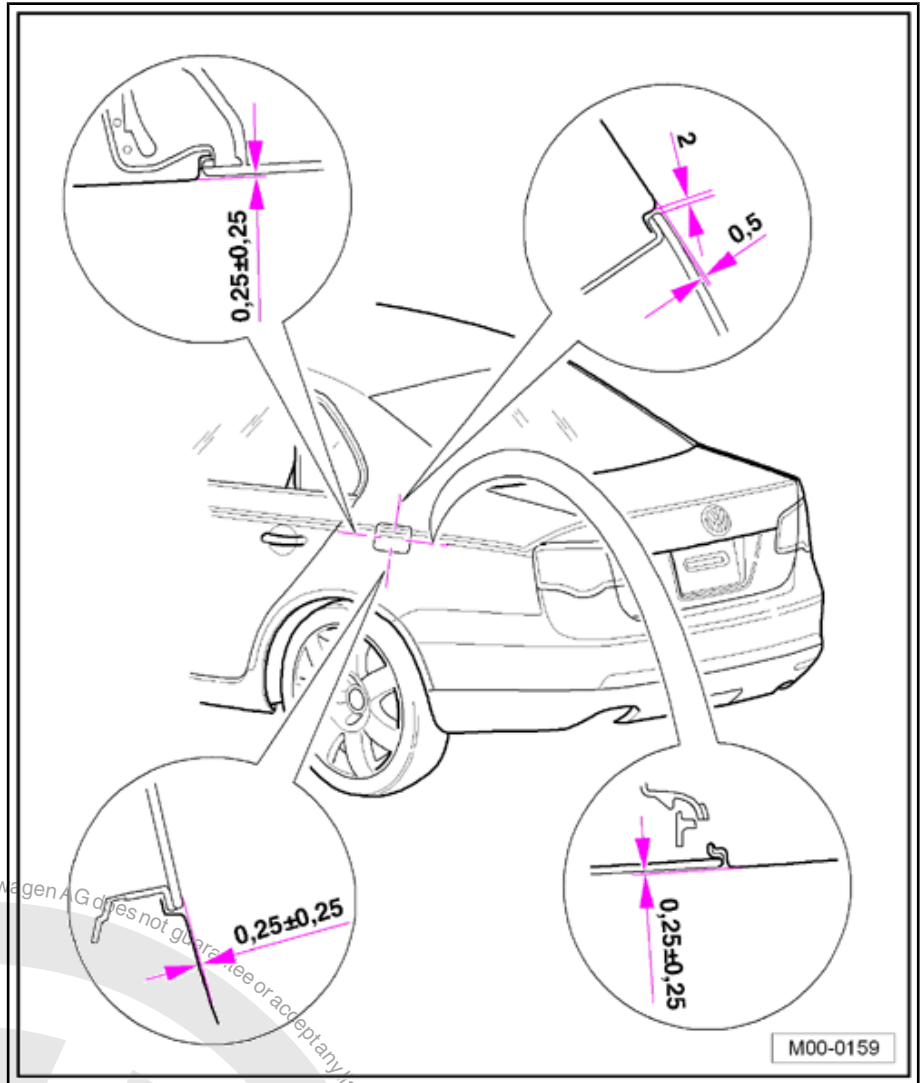




7.3 Body - rear







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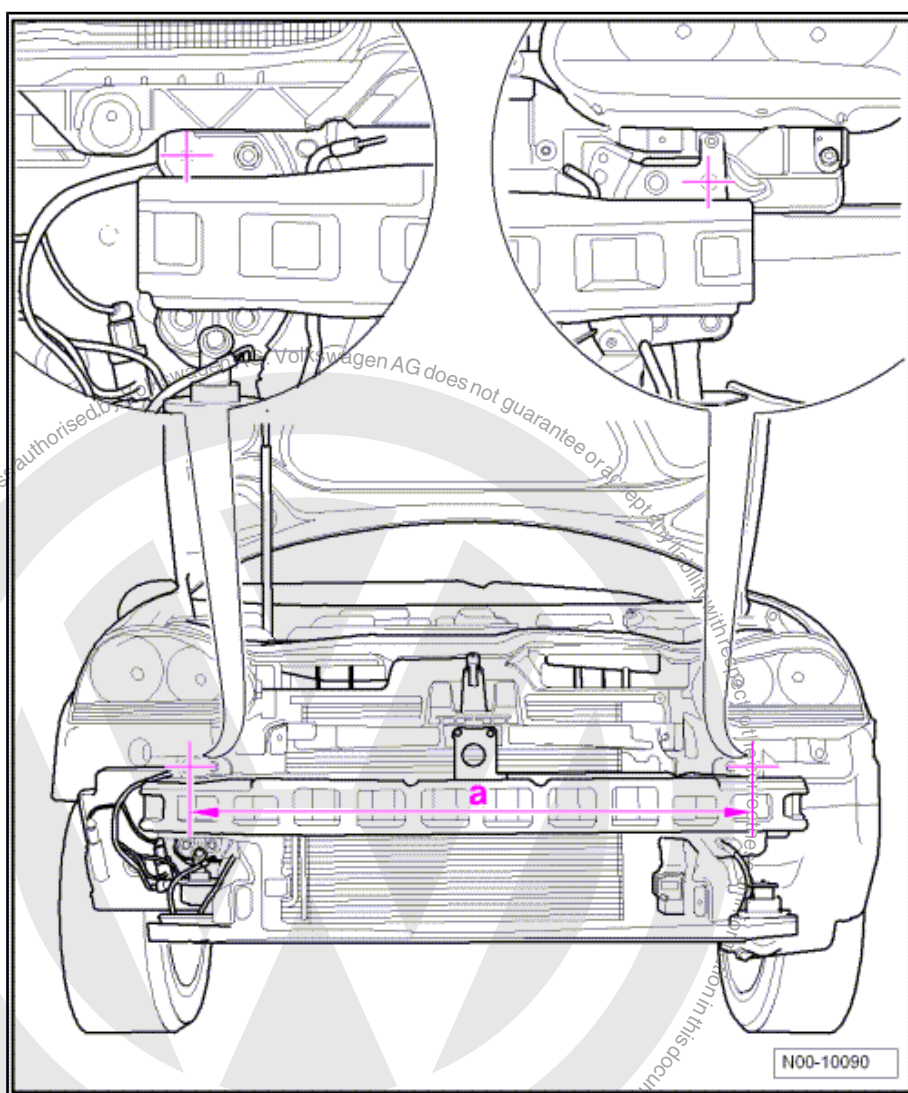
8 Body dimensions



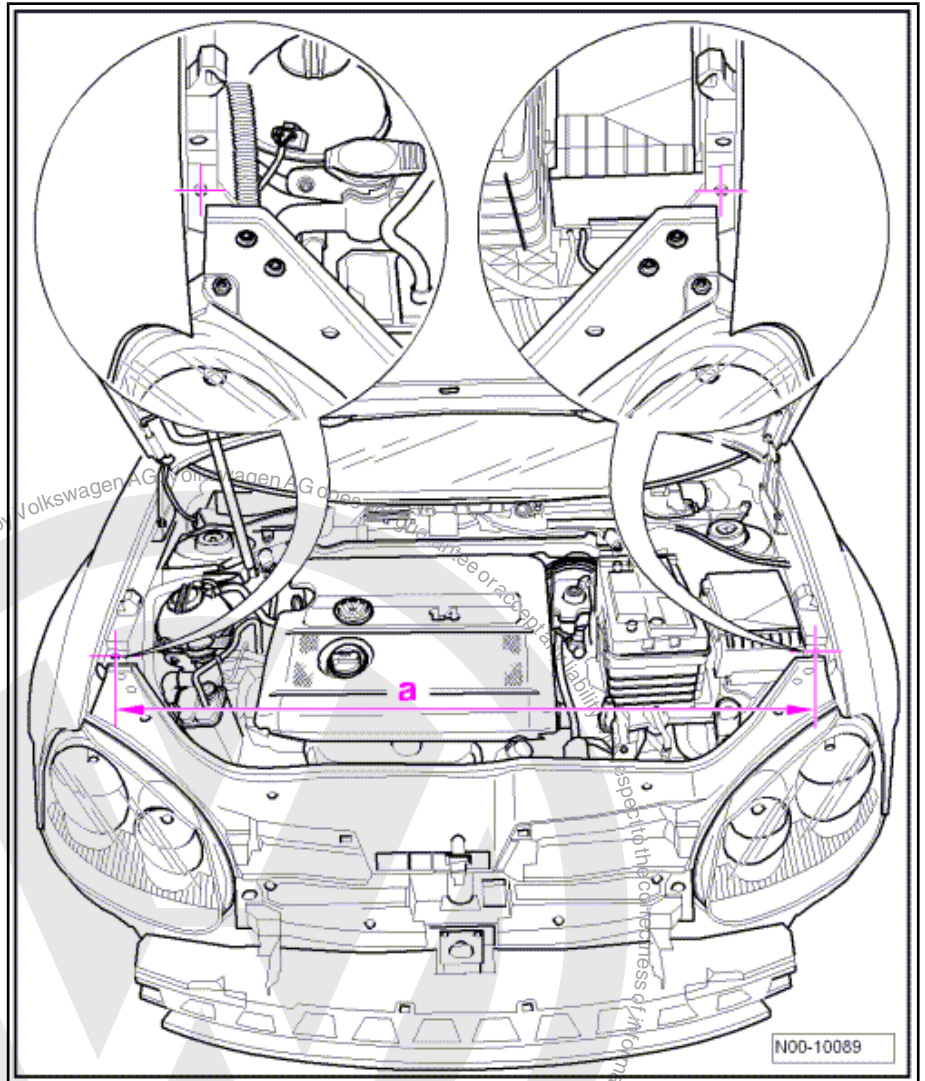
Note

- ◆ Dimensions only given for checking purposes. Alignment bracket set for Touran -VAS 6240- , alignment bracket set supplement Golf 2004 ► -VAS 6240/2- and alignment bracket set supplement Jetta 2005 ►/Bora 2006 ► -VAS 6240/5- decisive.
- ◆ Bolts, screws, plugs, trim and attached components must be removed before starting the measuring process.
- ◆ Use telescopic gauge -VAS 5159- or telescopic gauge -VAS 5160- to determine body dimensions.

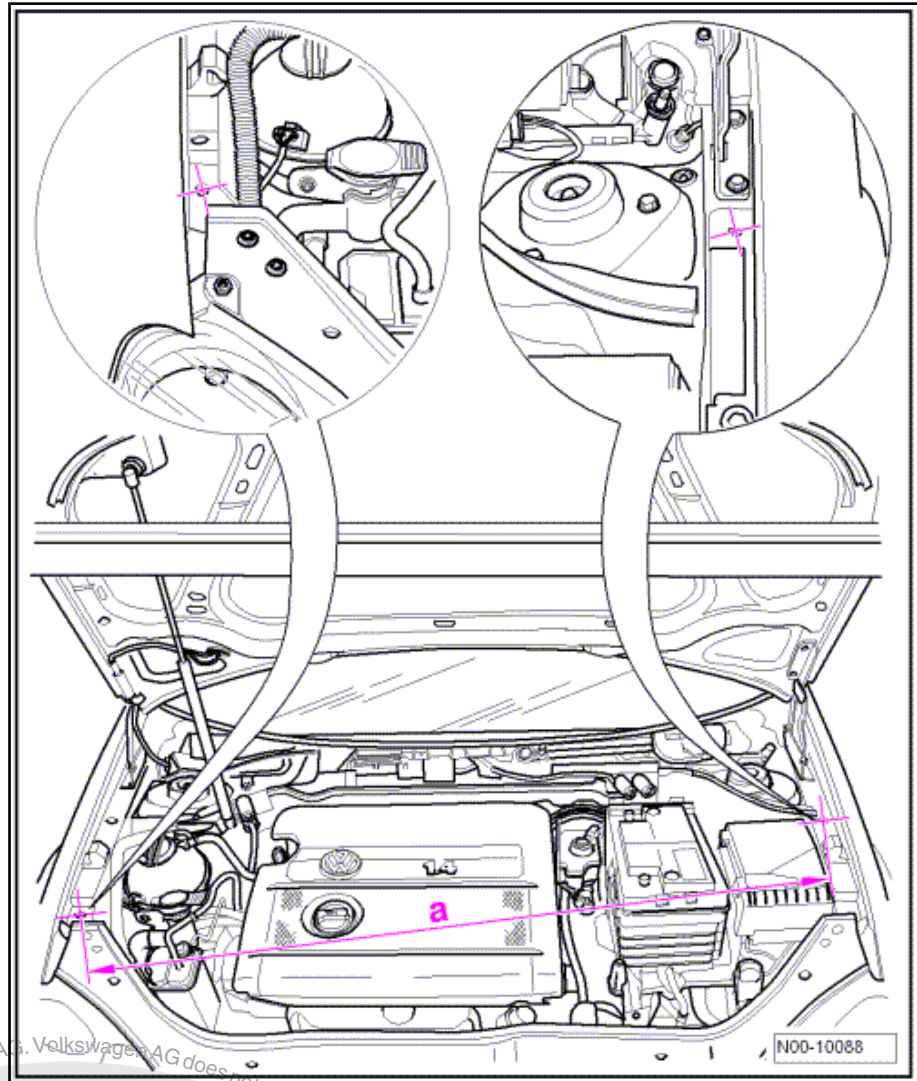
8.1 Body - front



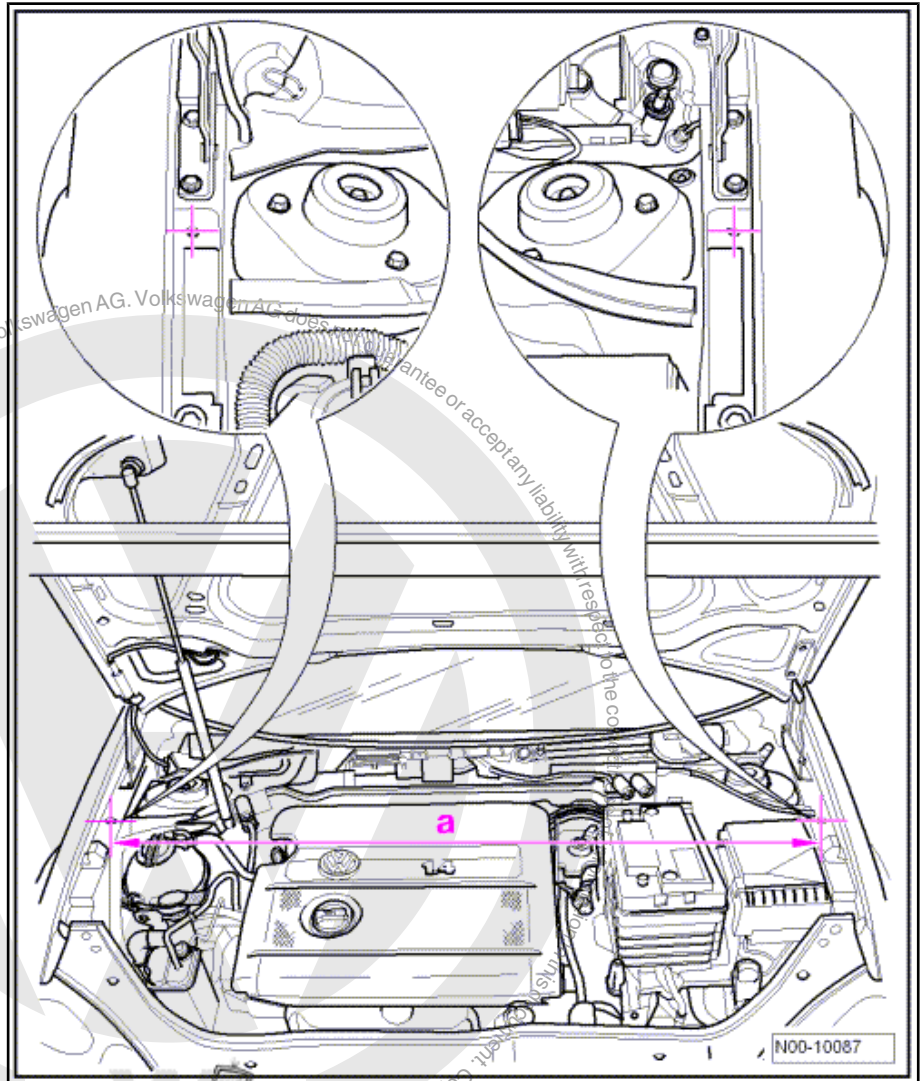
Dimension -a- = 1,044 mm



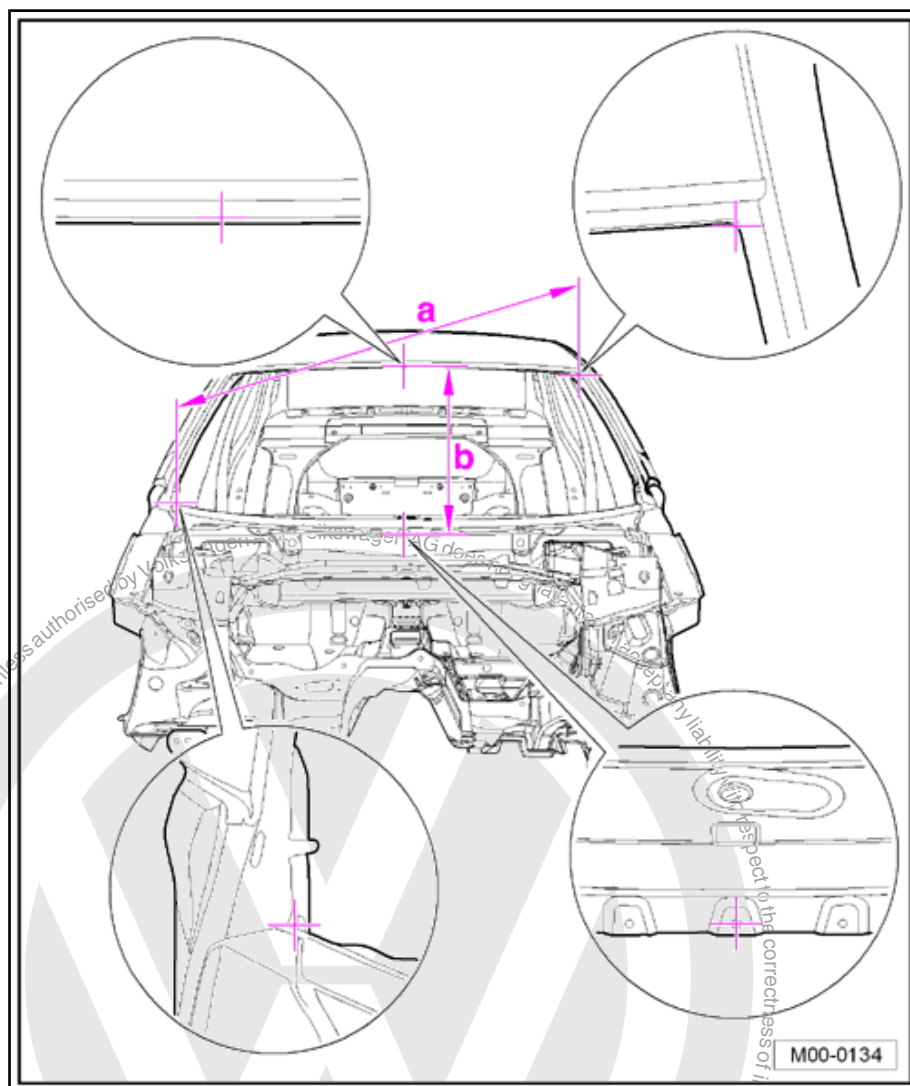
Dimension -a- = 1,343 mm



Dimension **a** = 1,406 mm



Dimension -a- = 1,384 mm

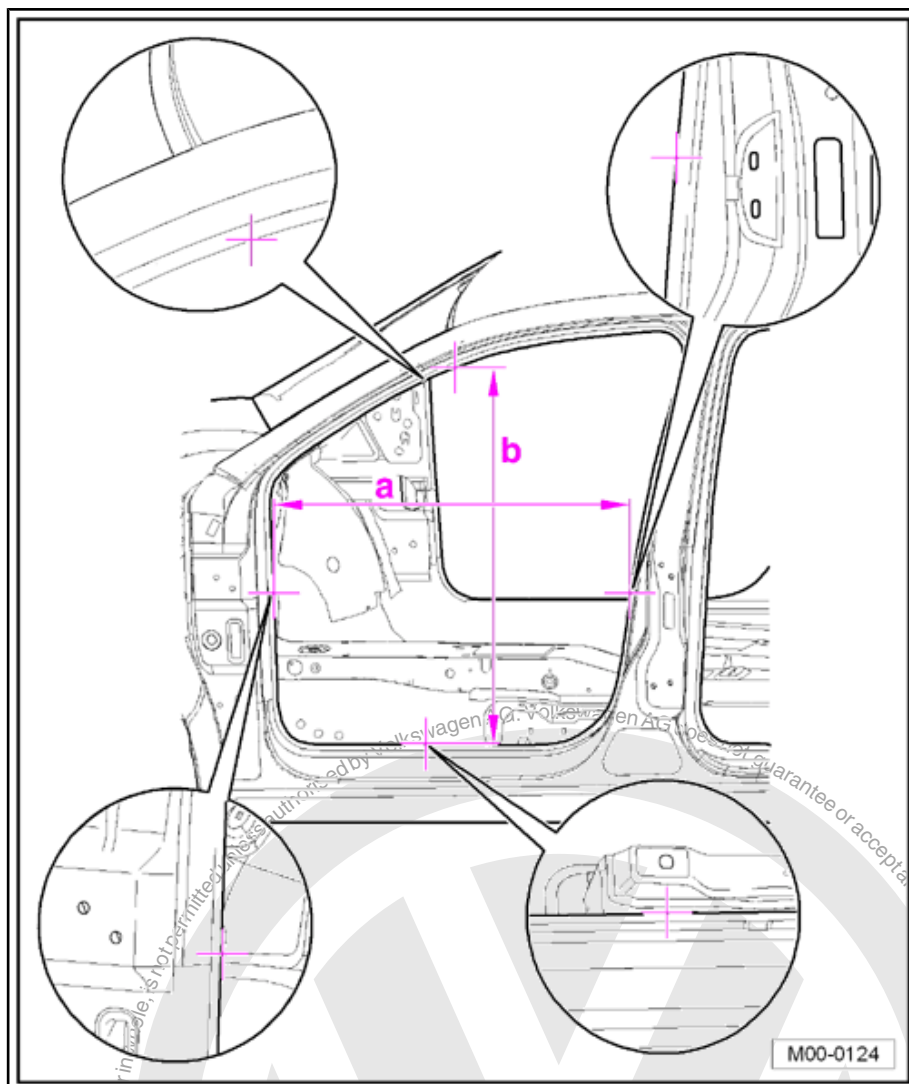


Dimension -a- = 1,442 mm

Dimension -b- = 881 mm

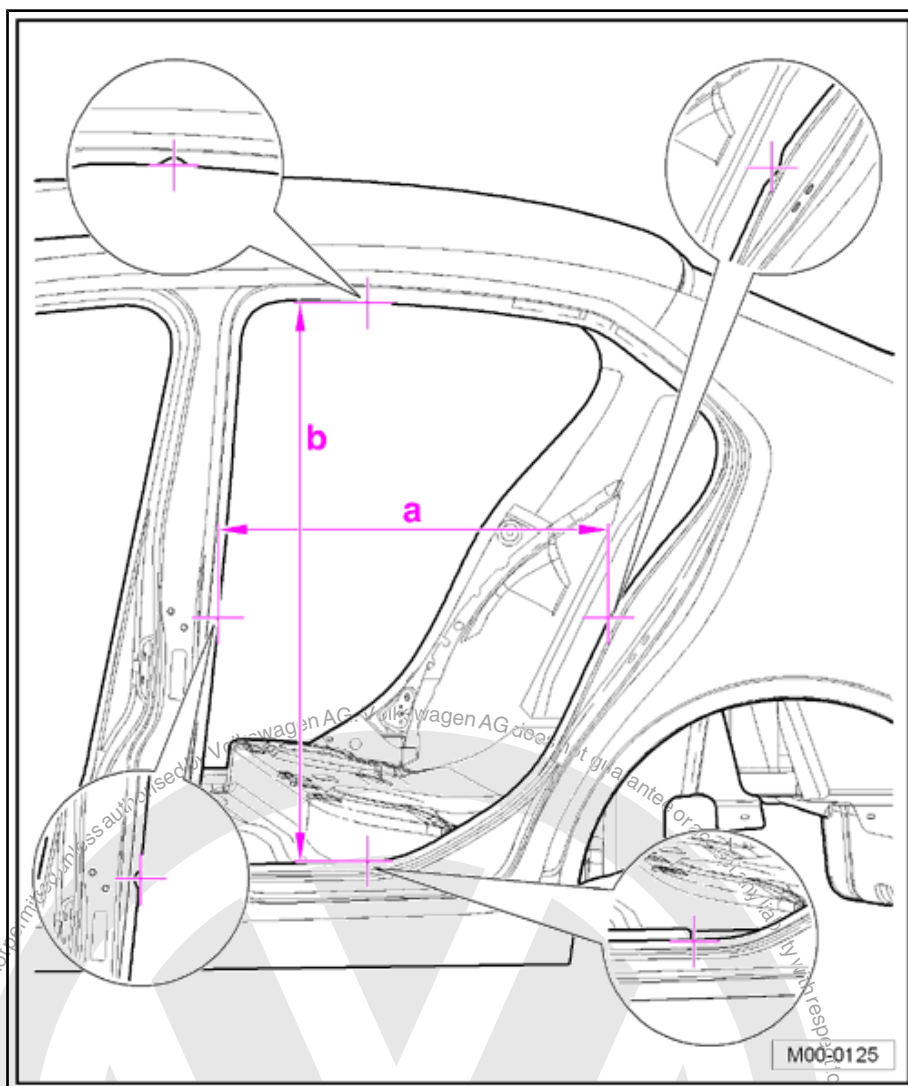


8.2 Body - centre



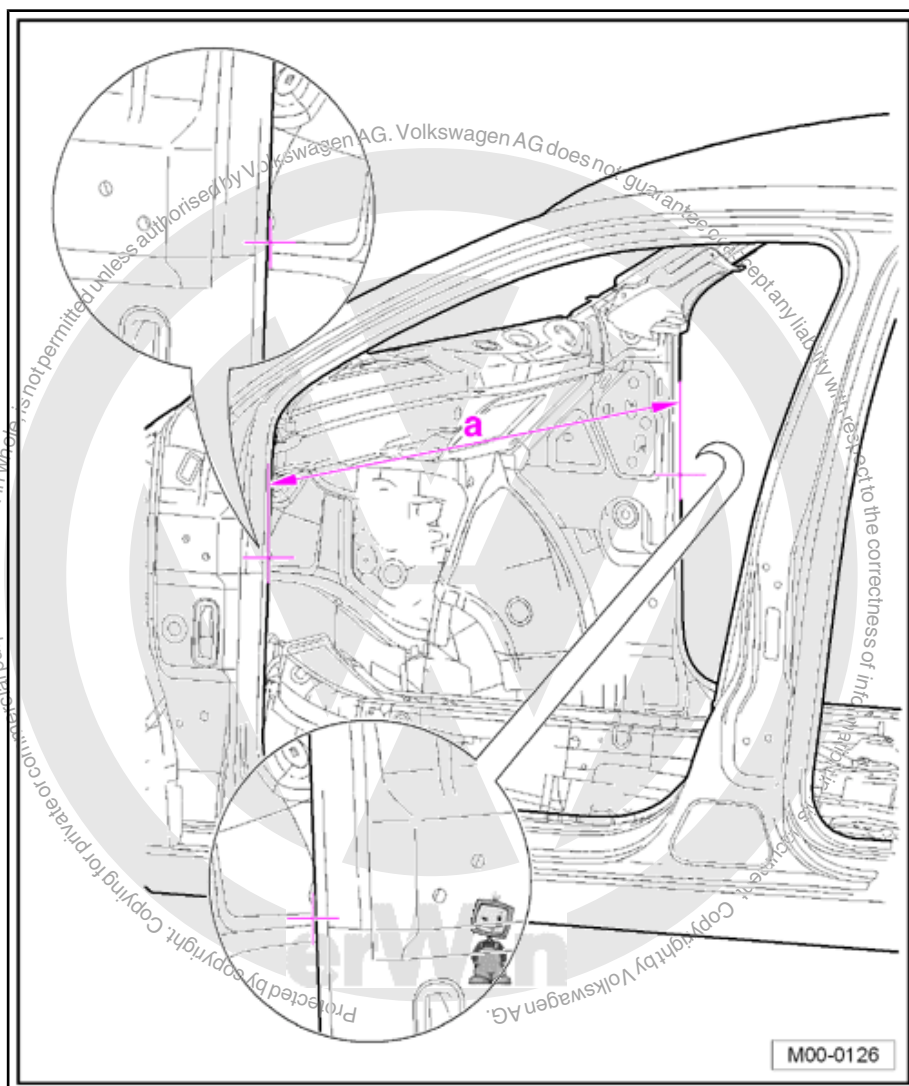
Dimension -a- = 885 mm

Dimension -b- = 895 mm

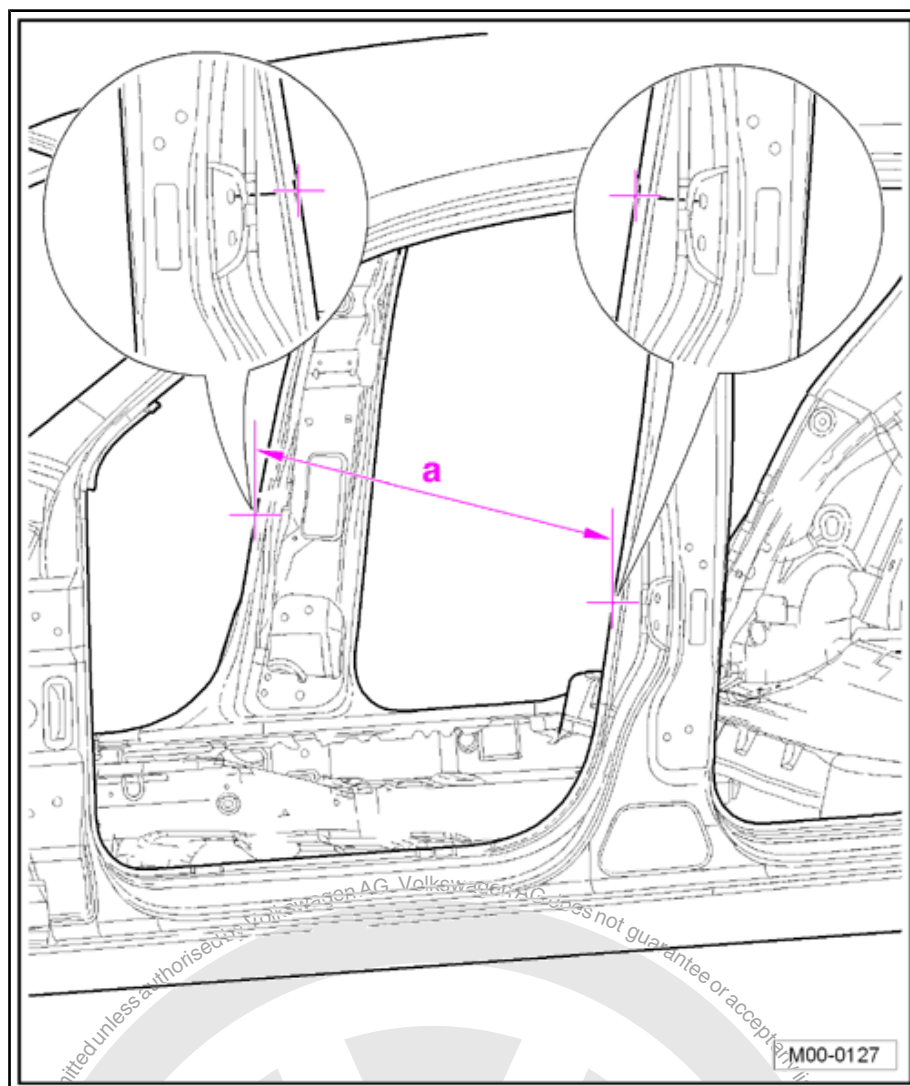


Dimension -a- = 716 mm

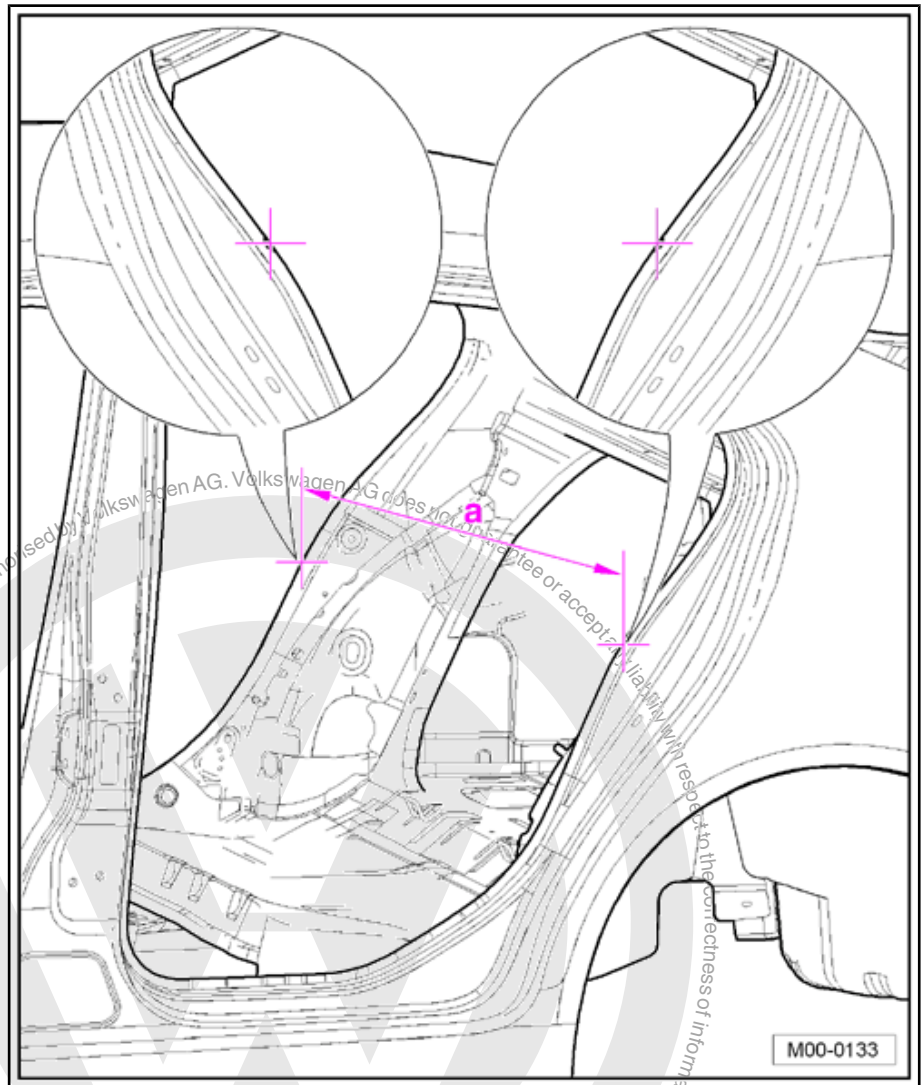
Dimension -b- = 965 mm



Dimension -a- = 1,424 mm



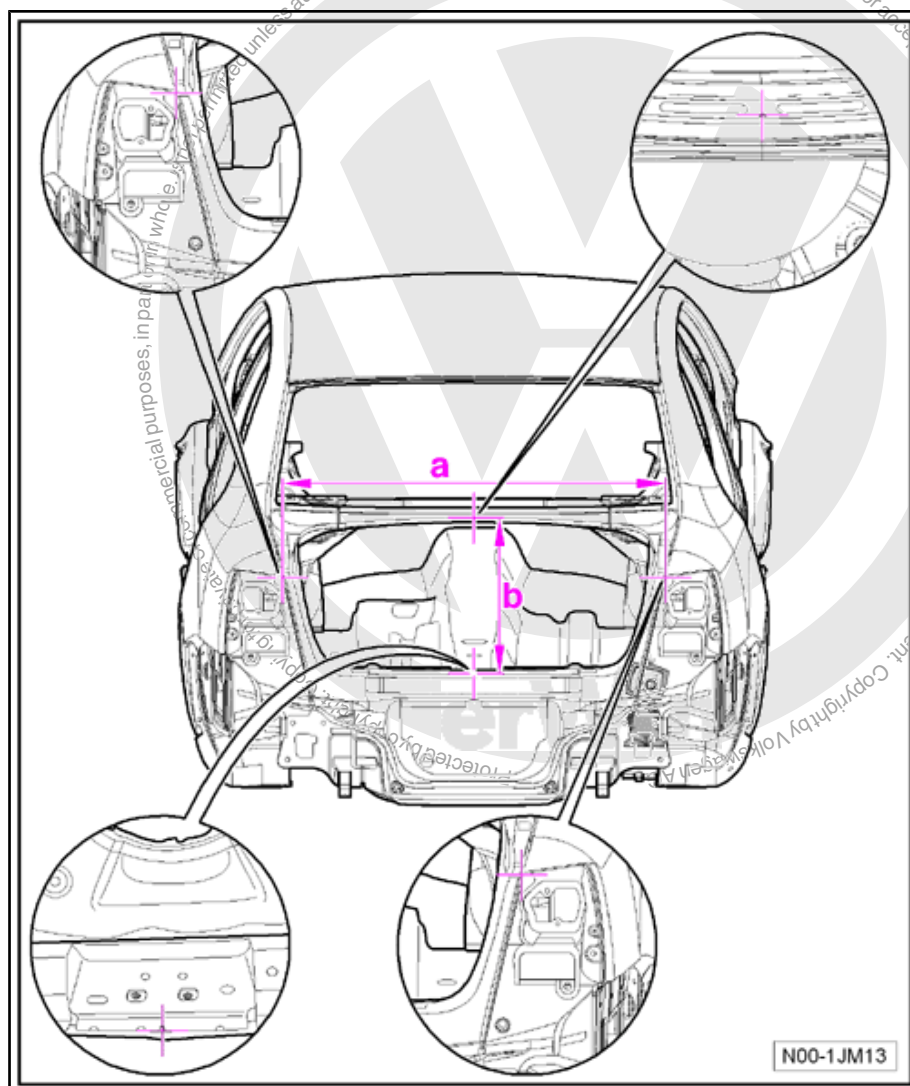
Dimension -a- = 1,430 mm



Dimension -a- = 1,392 mm

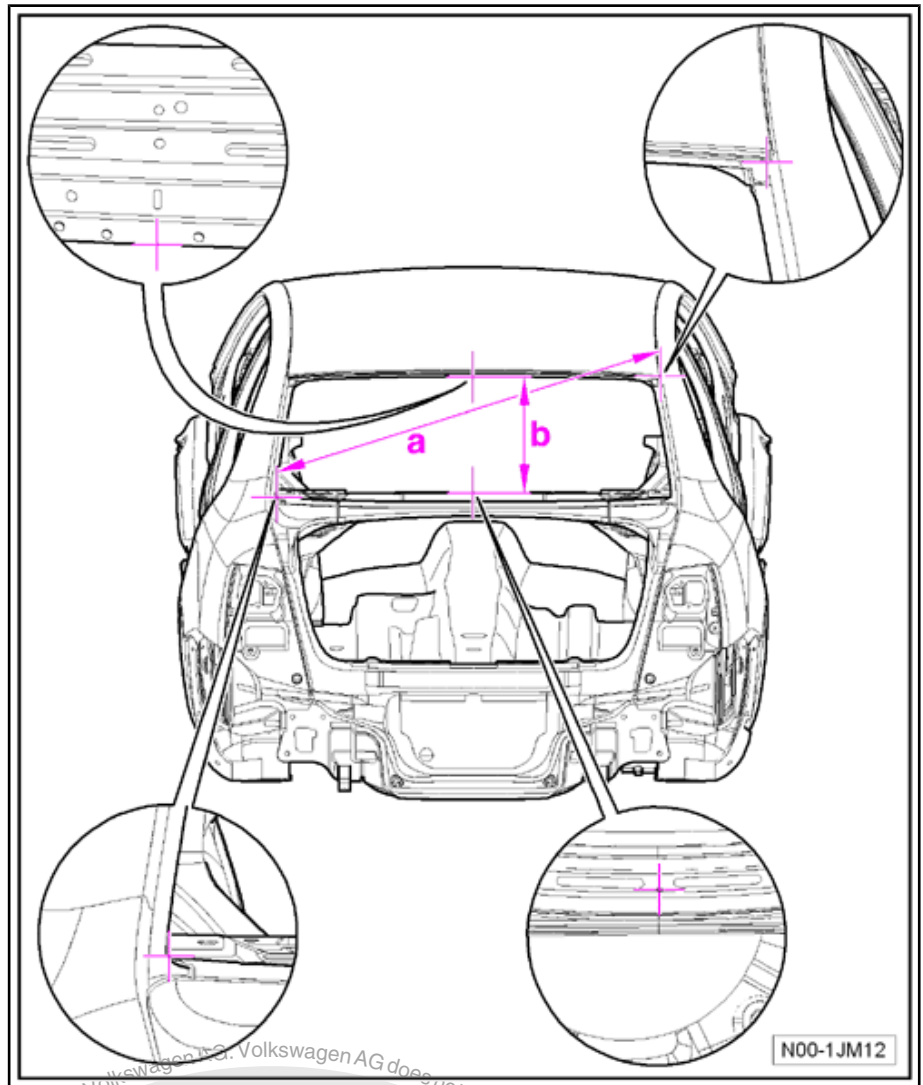


8.3 Body - rear



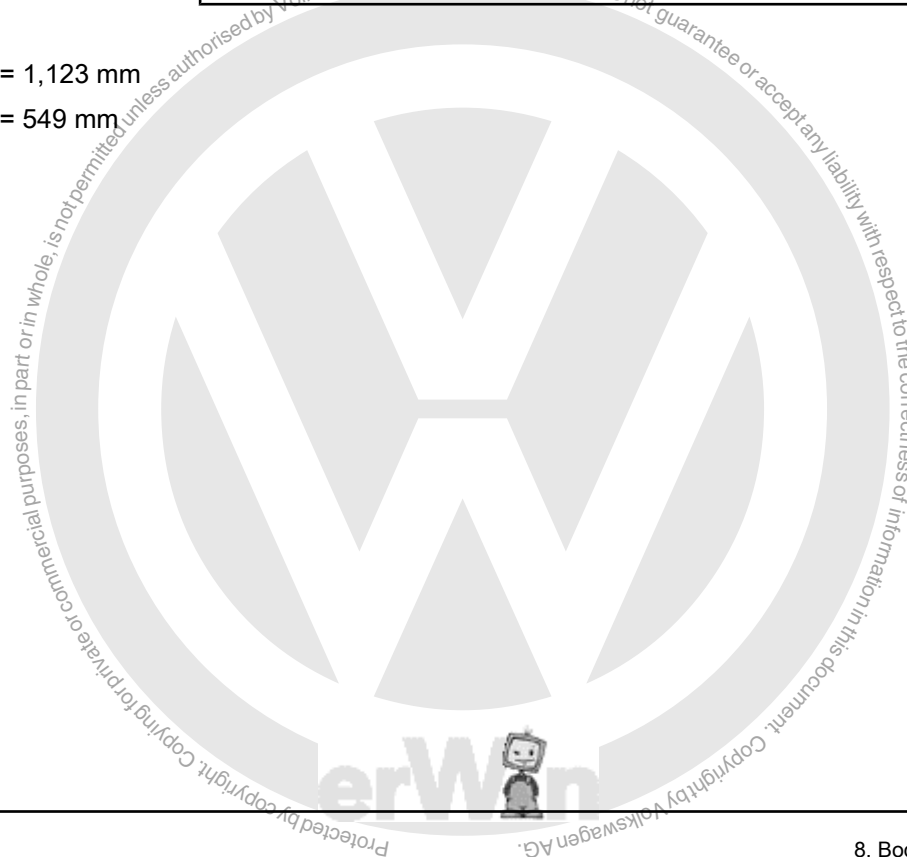
Dimension -a- = 1,280 mm

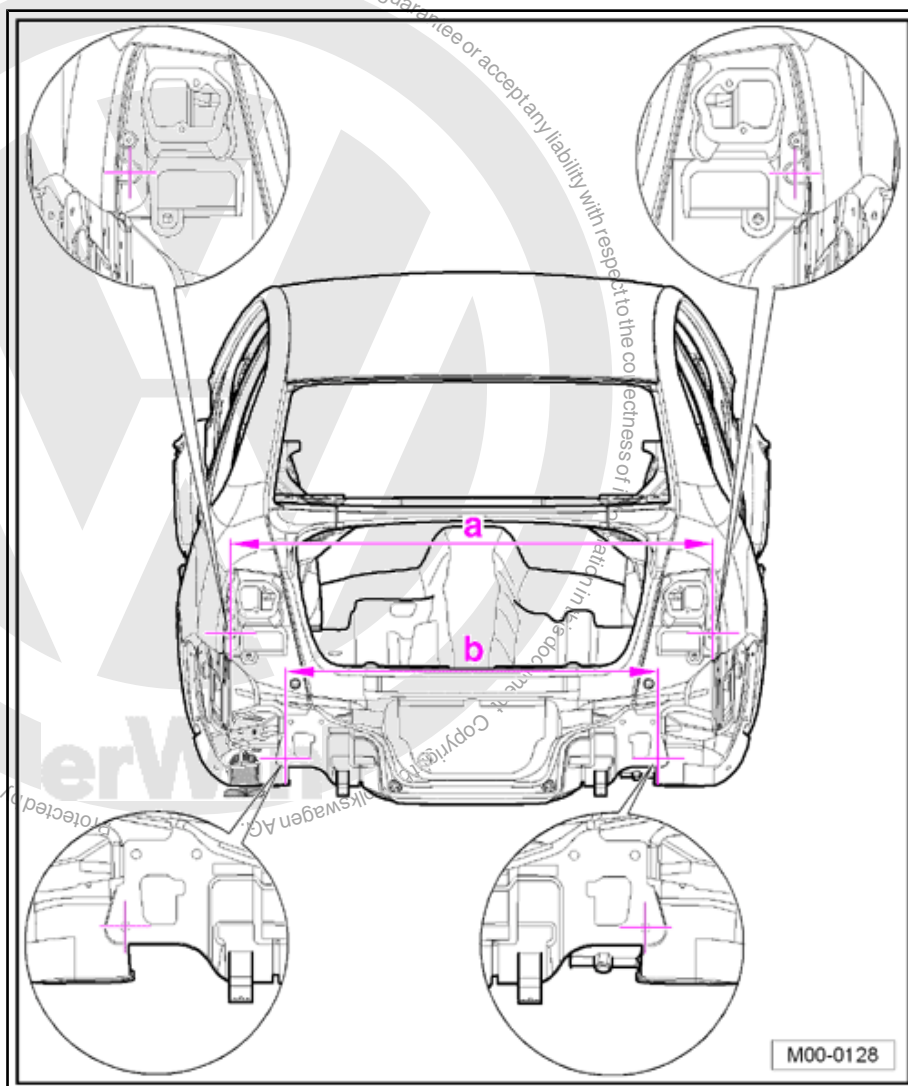
Dimension -b- = 643 mm



Dimension -a- = 1,123 mm

Dimension -b- = 549 mm



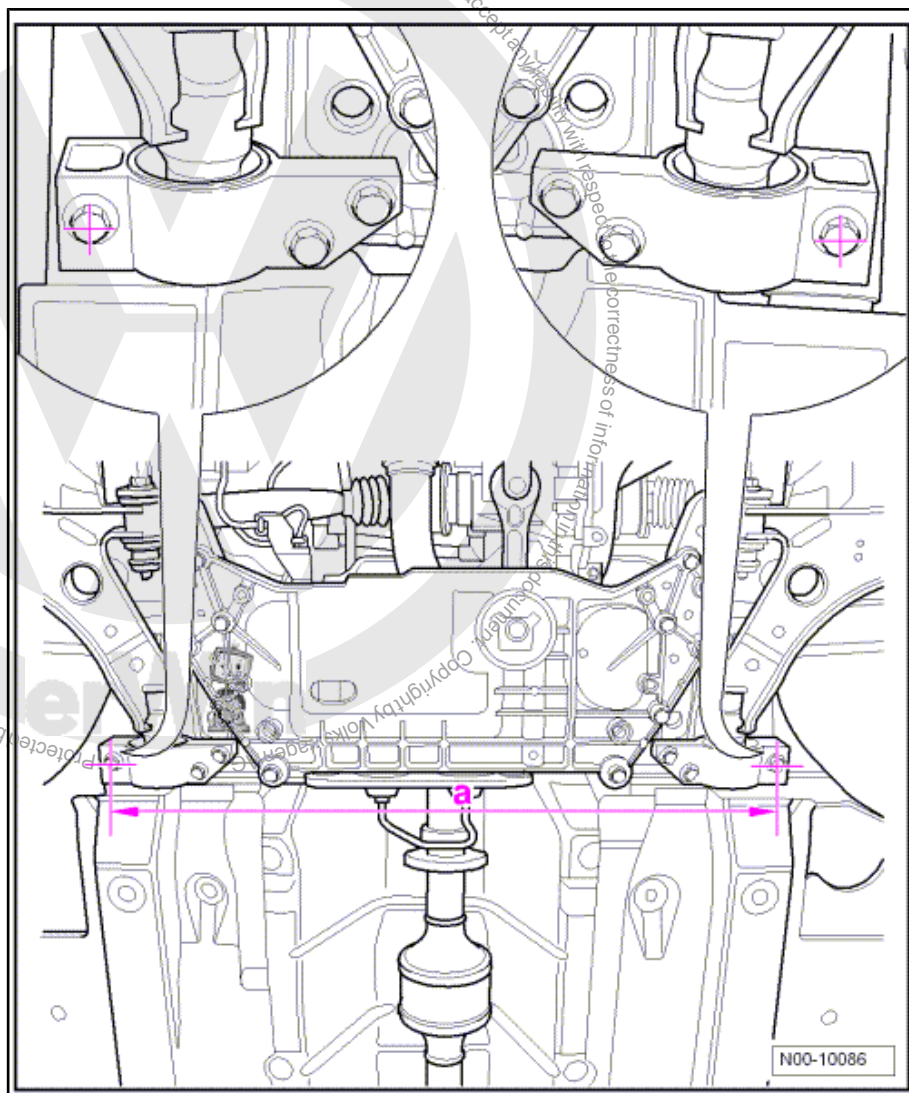


Dimension -a- = 1,424 mm

Dimension -b- = 1,103 mm



8.4 Floor group - front

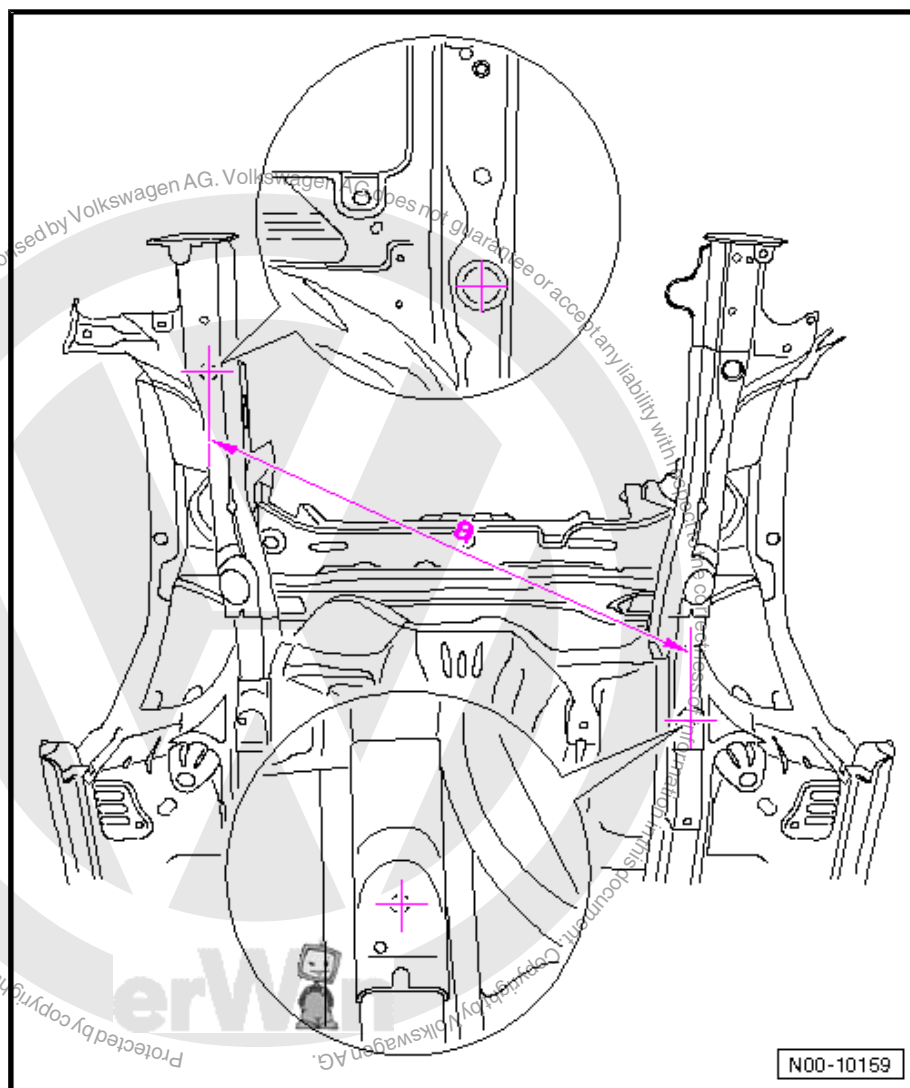


Dimension -a- = 828 mm



Note

Vehicle from below, line of vision is to rear.

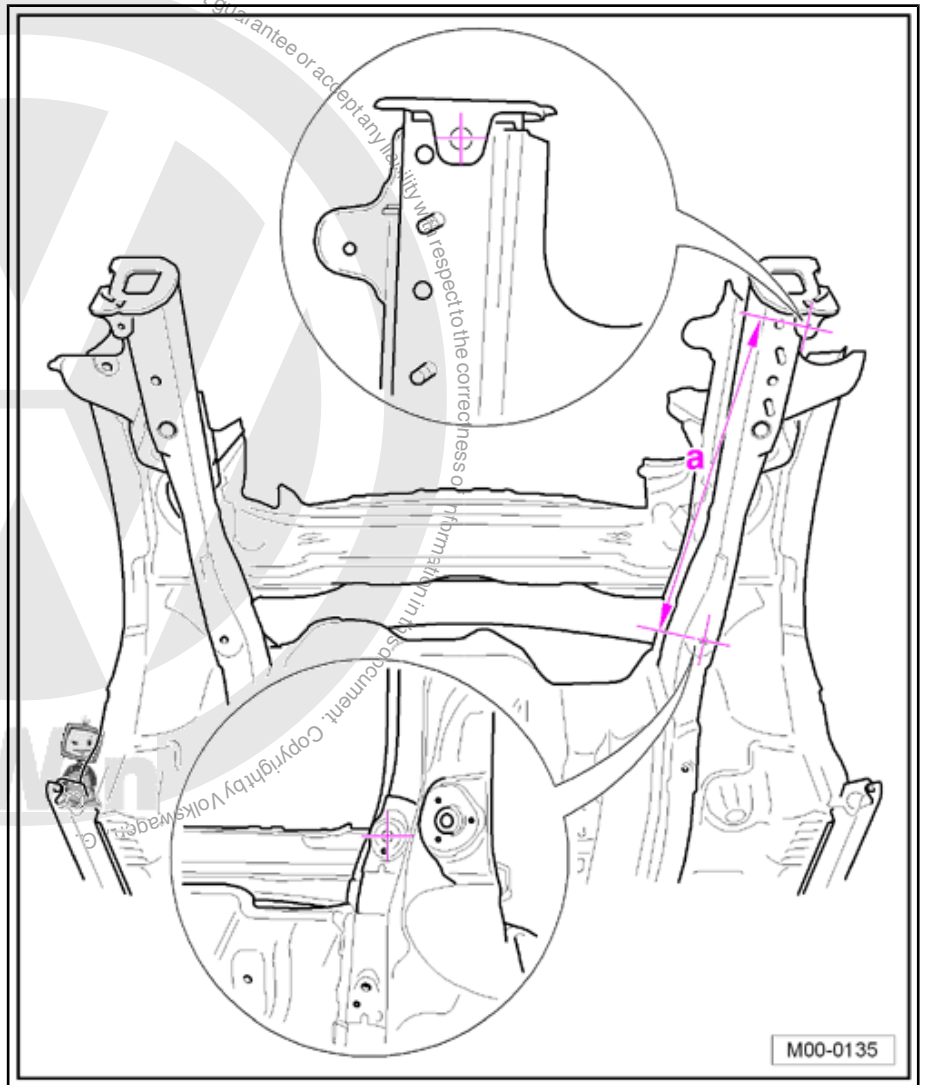


Dimension -a- = 1,103 mm



Note

Vehicle from below, line of vision is to rear.



Dimension -a- = 619 mm

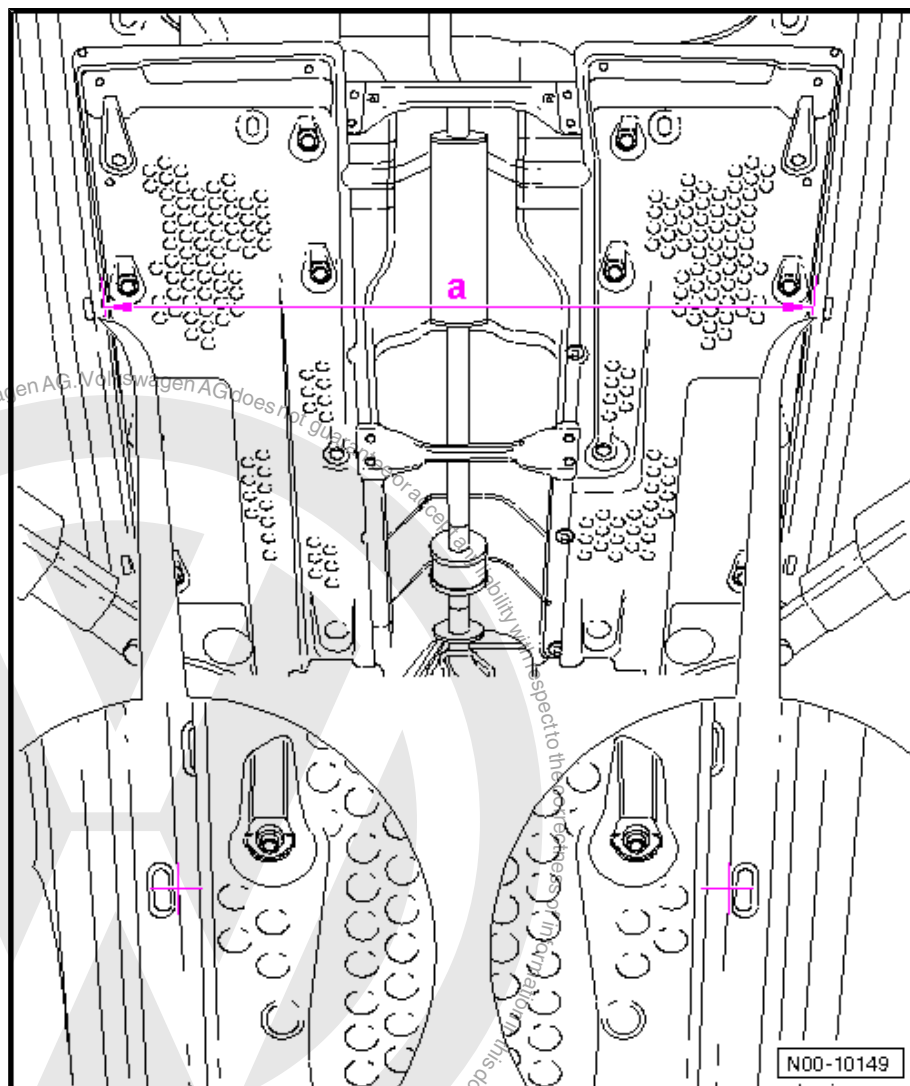


Note

Vehicle from below, line of vision is to rear.



8.5 Floor group - centre

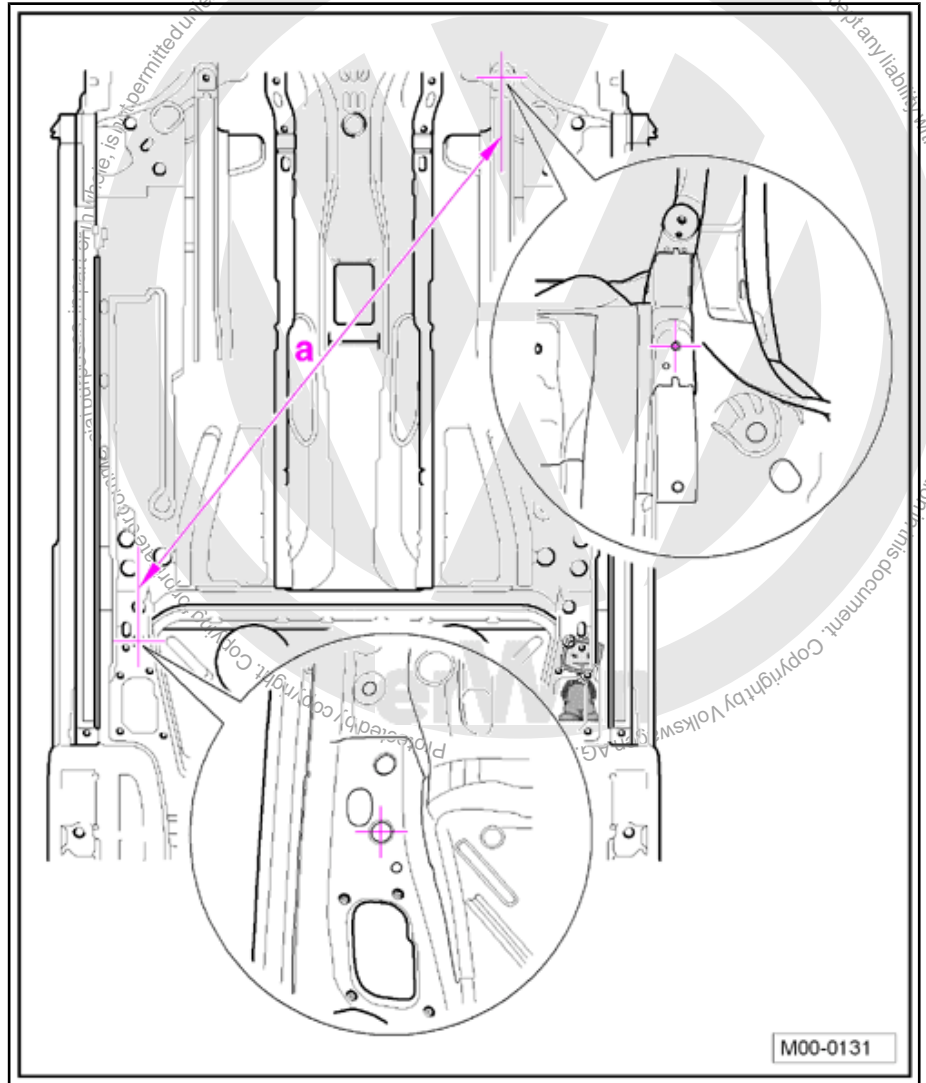


Dimension -a- = 1,455 mm



Note

- ◆ This dimension is measured on the inside of the sill flange.
- ◆ Vehicle from below, line of vision is forwards.



Dimension -a- = 1,917 mm

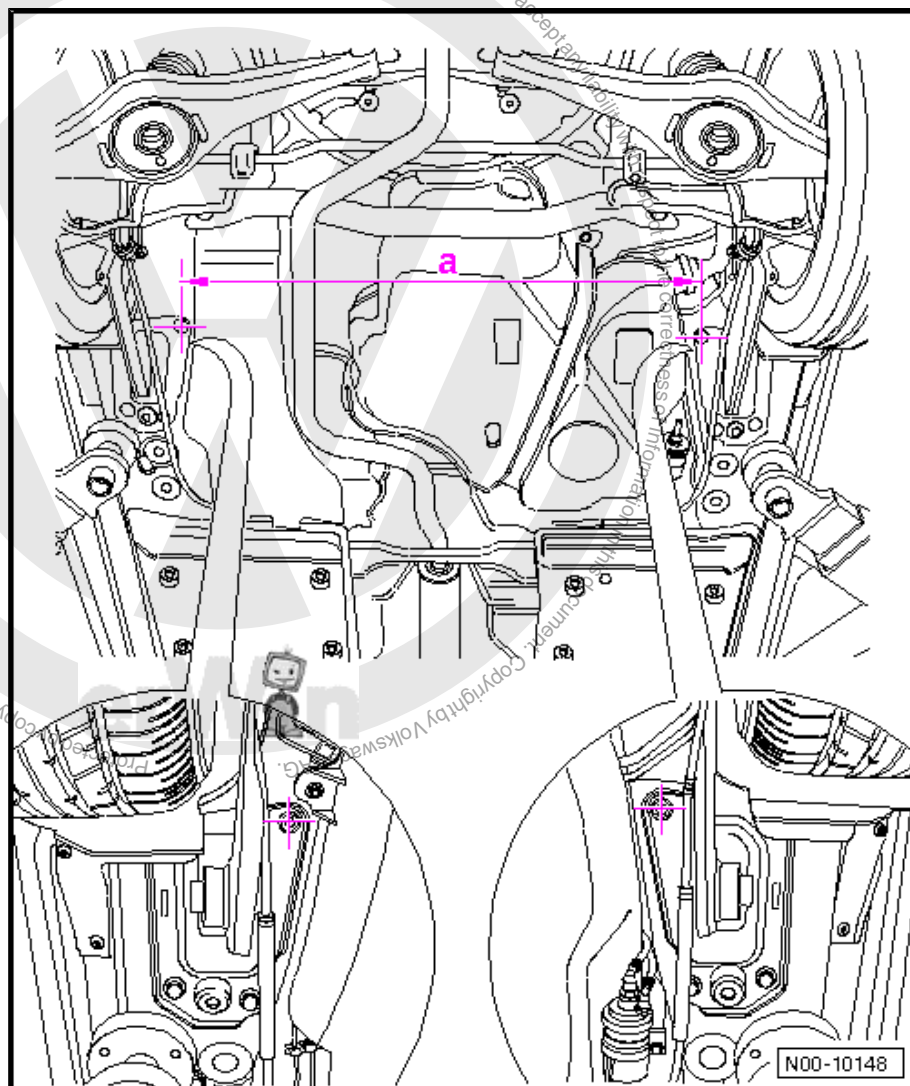


Note

Vehicle from below, line of vision is forwards.



8.6 Floor group - rear

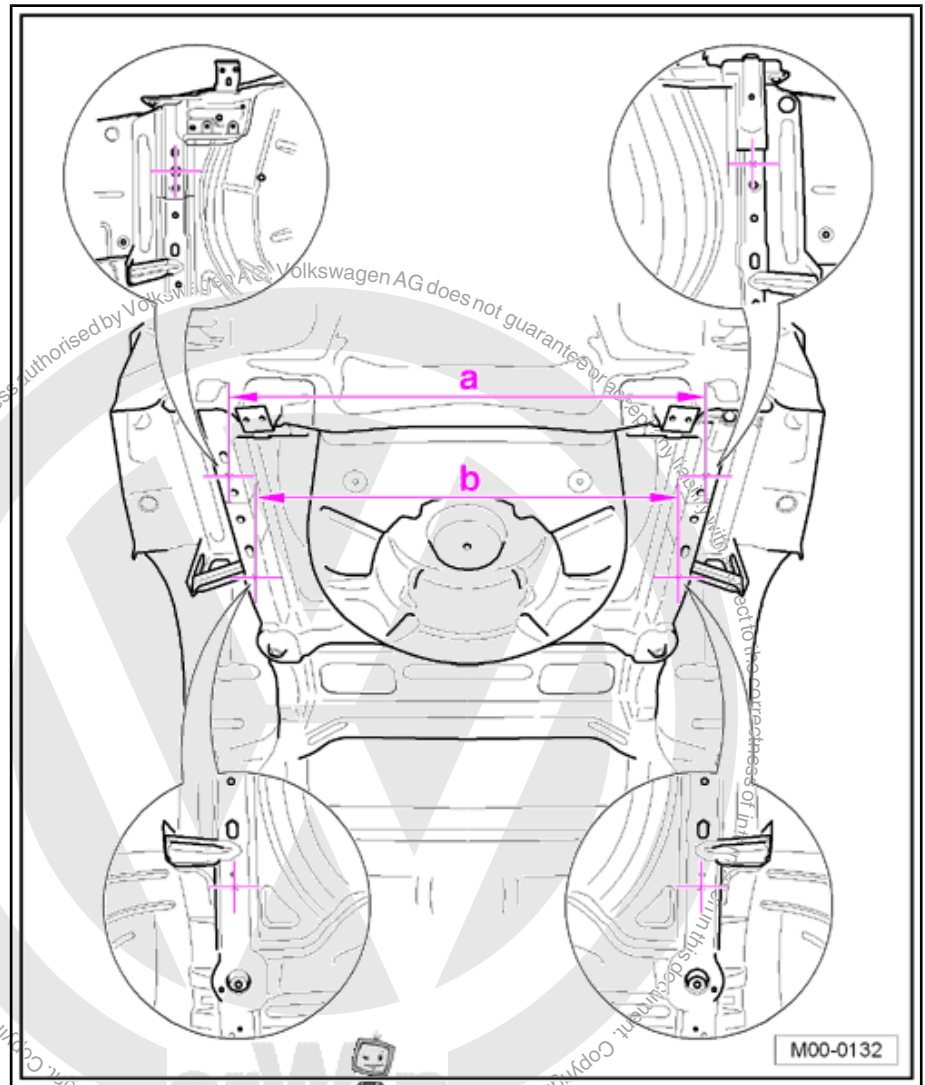


Dimension -b- = 1,076 mm



Note

Vehicle from below, line of vision is forwards.

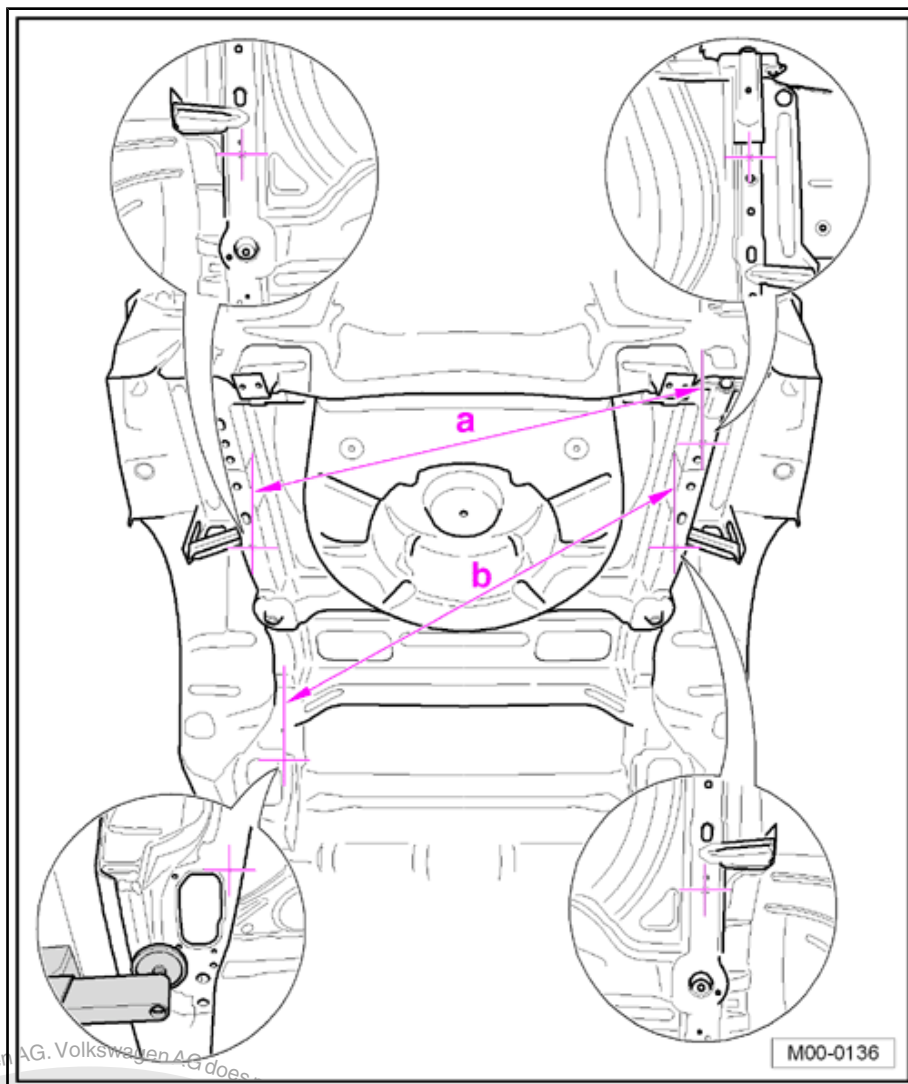


Dimension -a- = 985 mm

Dimension -b- = 985 mm



Vehicle from below, line of vision is forwards.



Dimension -a- = 1,043 mm

Dimension -b- = 1,245 mm



Note

Vehicle from below, line of vision is forwards.



9 Alignment jig



Note

- ◆ *AB = Alignment bracket*
- ◆ *The article number in the figures are identical to the final digits on the alignment bracket (AB).*
- ◆ *The required basic size for the straightening bracket is given.*
- ◆ *Alignment bracket set for Touran -VAS 6240- , alignment bracket set supplement for Golf 2004 ► -VAS 6240/2- and alignment bracket set for Jetta 2005 ►/Bora 2006 ► -VAS 6240/5-*
- ◆ *The right-hand side of the vehicle is depicted in the following illustrations.*
- ◆ *Detailed information on setting up the alignment bracket set can be found with the equipment.*



Note

To avoid damage to attached parts when placing vehicle on straightening jig, remove hindering components, such as wheel housing liners.



9.1 Overview

2 - MZ 142 and TV 400

3 - belongs to item 2

4 - belongs to item 2

8 - MZ 140 and TV 400

10 - MZ 200

12 - MZ 260

16 - MZ 602

17 - belongs to item 16

18 - belongs to item 16

19 - belongs to item 16

20 - MZ 140

22 - belongs to item 20

24 - Front body control hole

25 - belongs to item 24

26 - MZ 80

28 - MZ 80 or MZ 140

30 - MZ 140

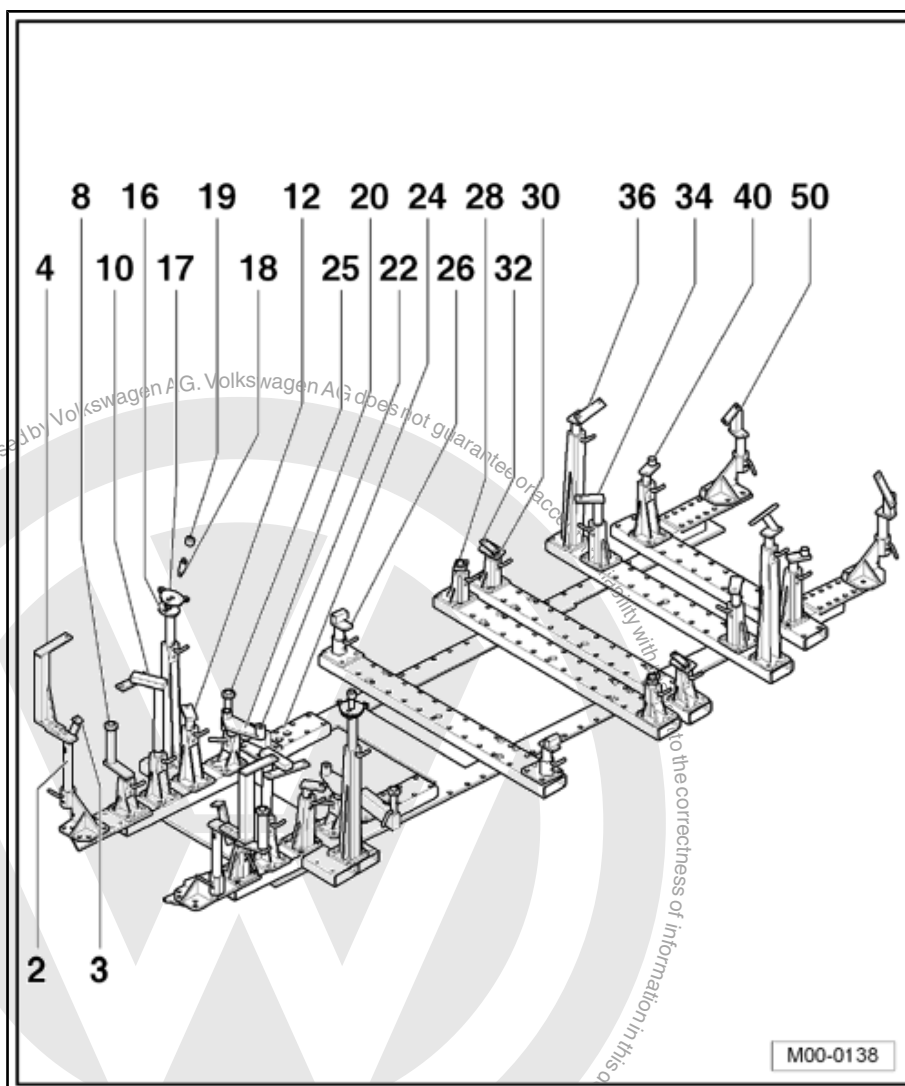
32 - belongs to item 30

34 - MZ 200

36 - MZ 602

40 - MZ 260

50 - MZ 141 and TV 400





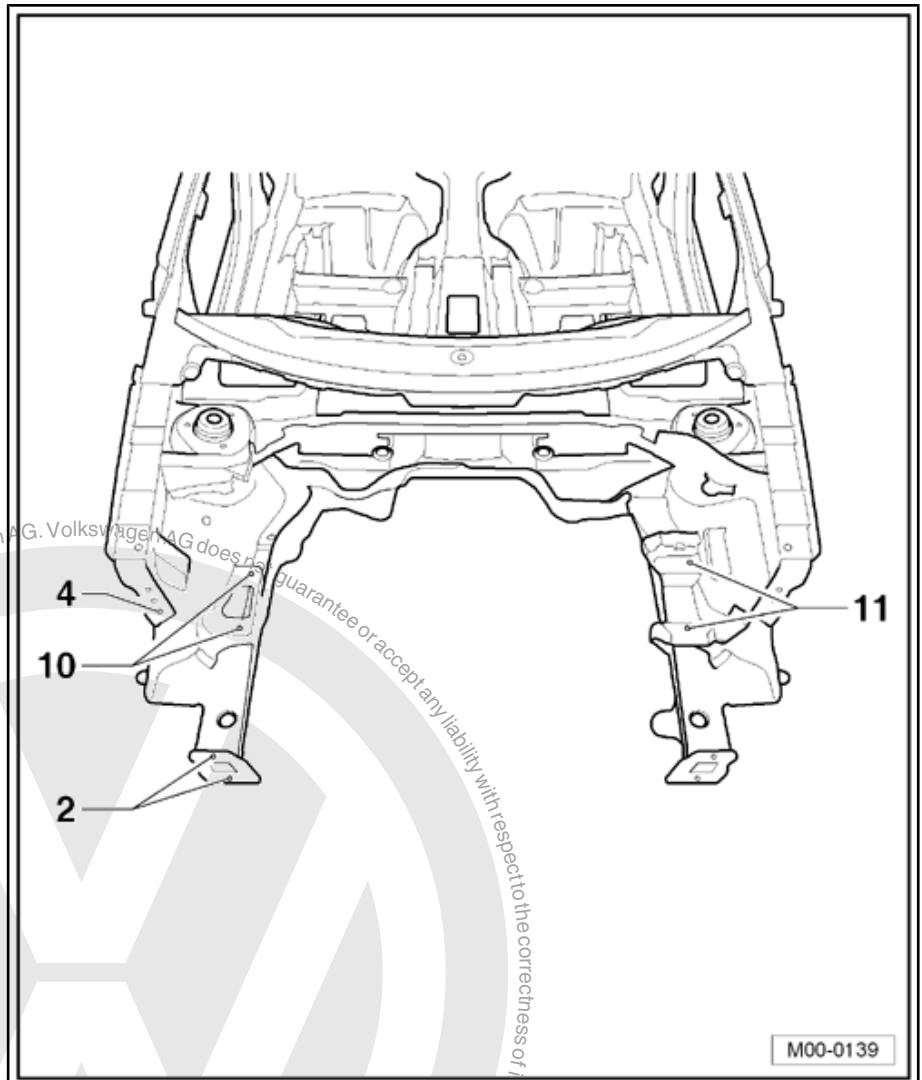
9.2 Front alignment bracket

2 - Mounting point for longitudinal member front part

4 - Mounting point for top of longitudinal member

10 - Mounting point of engine mounting

11 - Mounting point of gearbox suspension

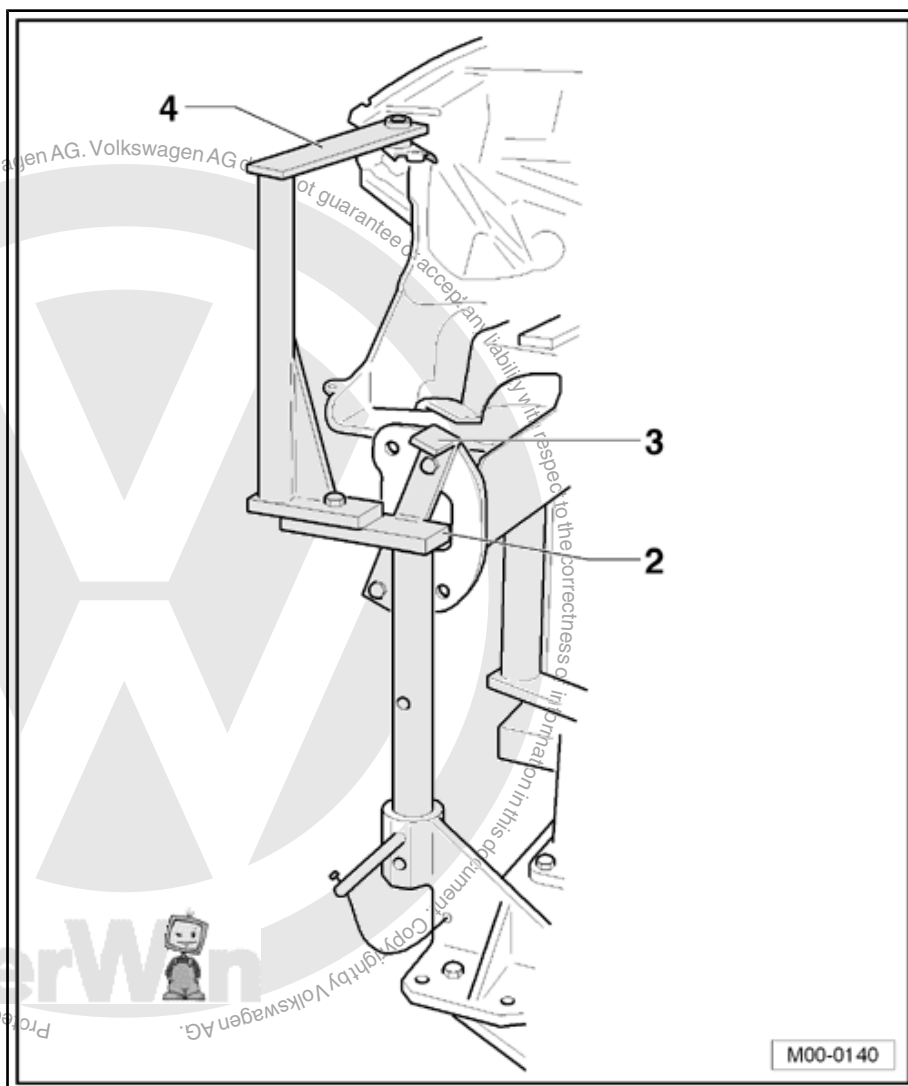




**2 - AB mounting for front part
of longitudinal member**

3 - Distance plate

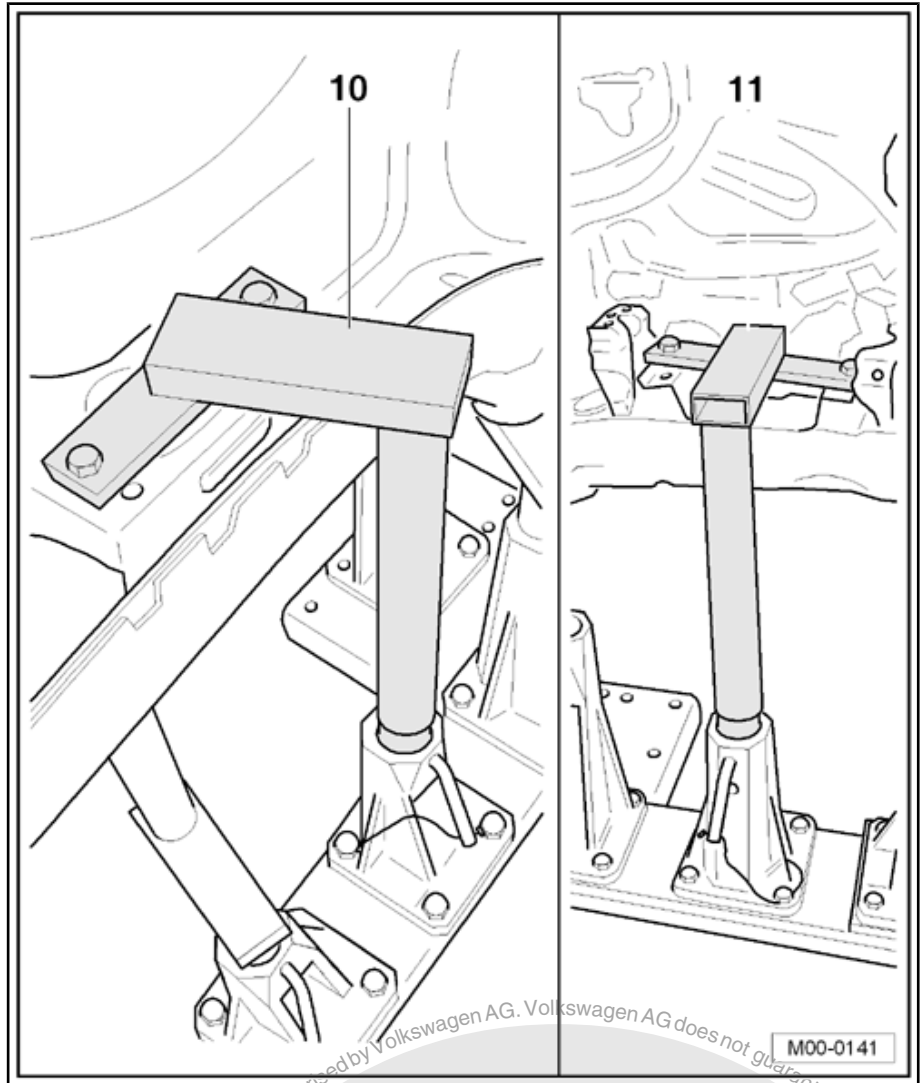
**4 - AB mounting for upper long-
itudinal member**





10 - Straightening bracket
mounting for engine mounting

11 - Straightening bracket
mounting for gearbox mount-
ing



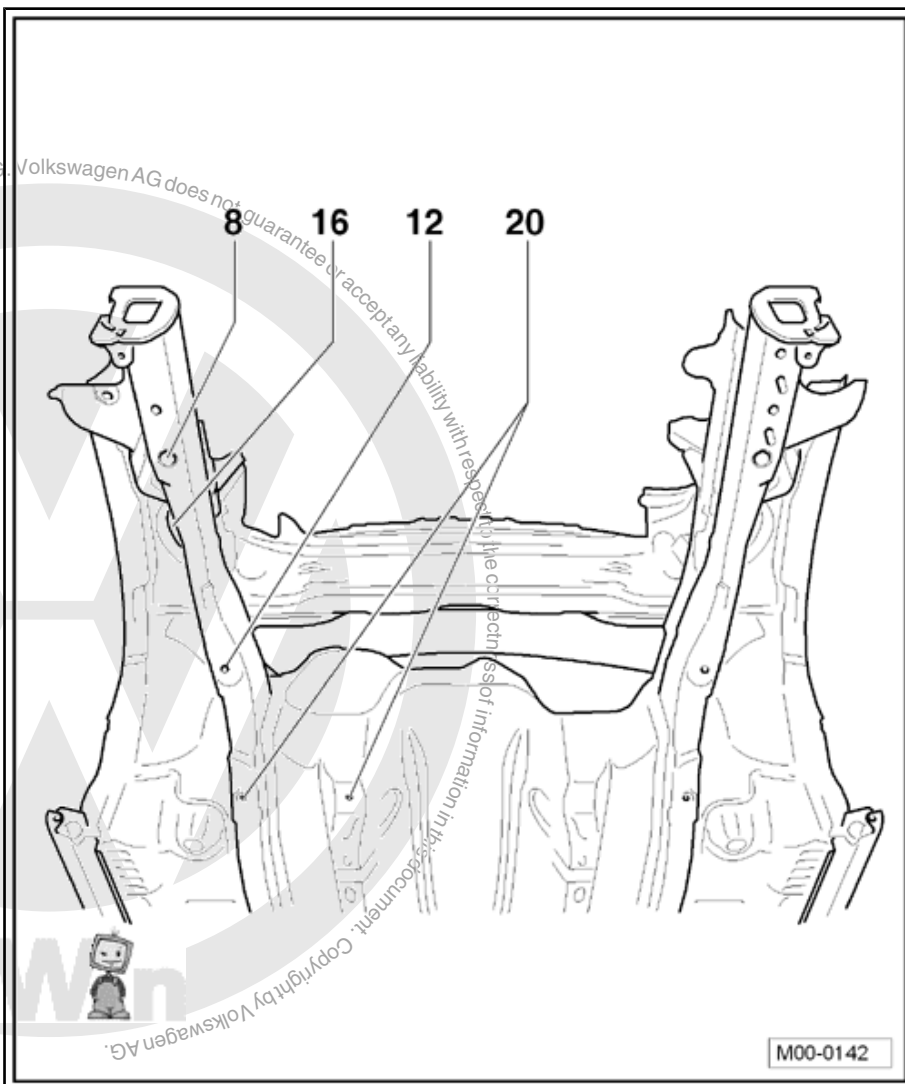


8 - Mounting point for front longitudinal member

12 - Mounting point for front locking of engine carrier

16 - Mounting point for front suspension strut

20 - Mounting point for rear locking of engine carrier





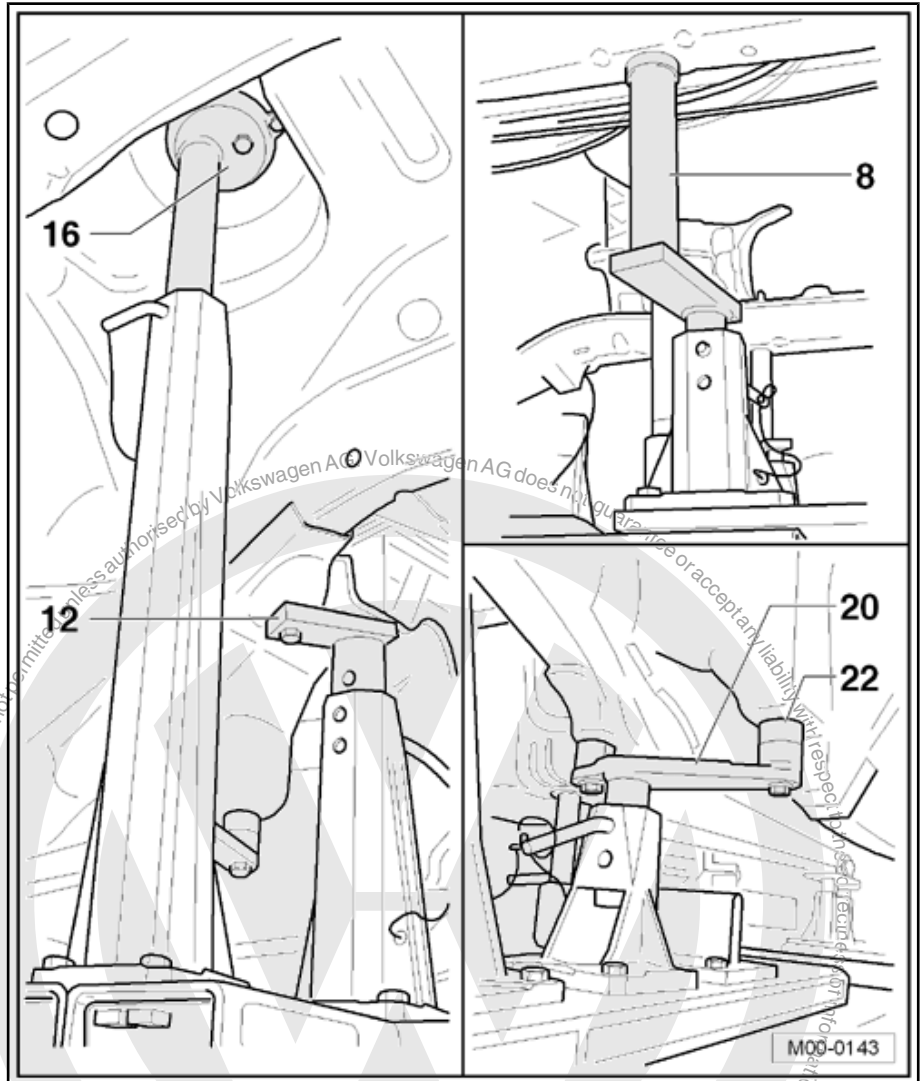
**8 - Straightening bracket
mounting point for front longi-
tudinal member**

**12 - Straightening bracket
mounting for front locking of
engine carrier**

**16 - Straightening bracket
mounting of front suspension
strut**

**20 - Straightening bracket
mounting for rear locking of en-
gine carrier**

**22 - Compensation sleeve
when assembly is removed**



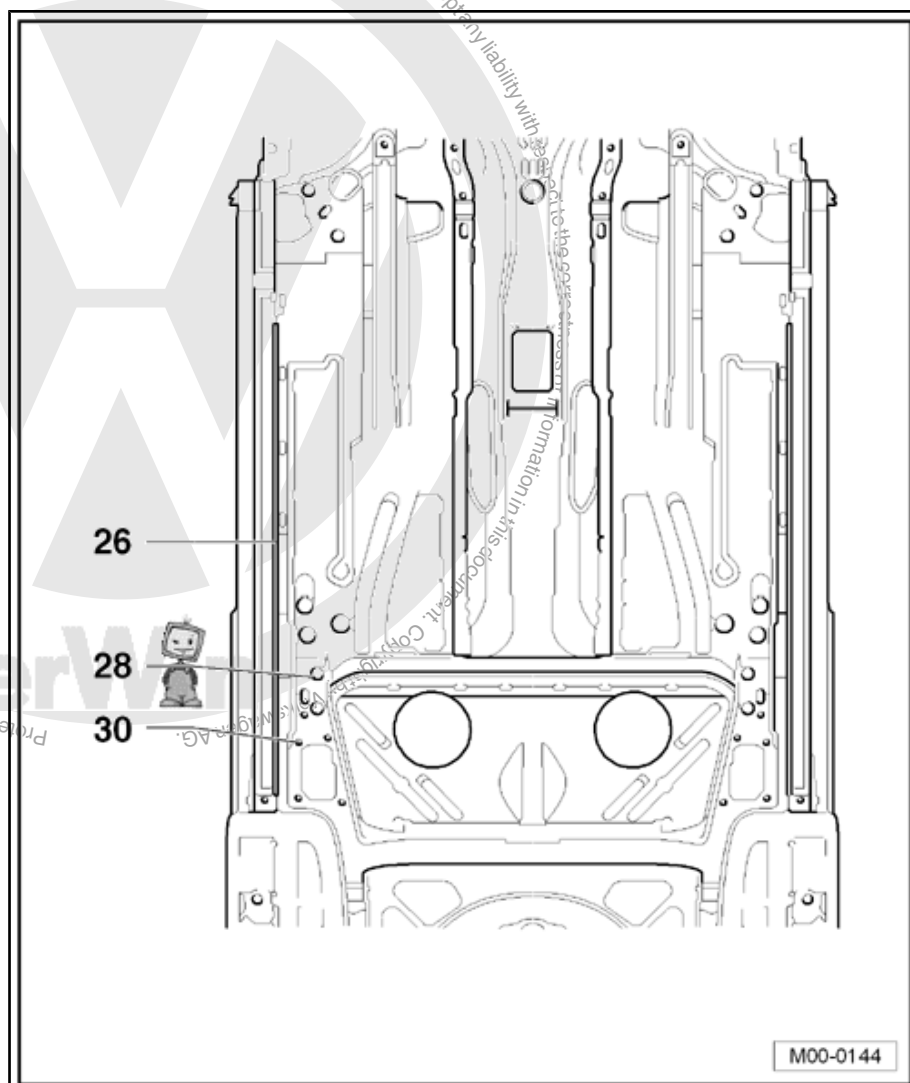


9.3 Centre alignment bracket

26 - Side member support point

28 - Mounting point of rear longitudinal member

30 - Mounting point of axle suspension

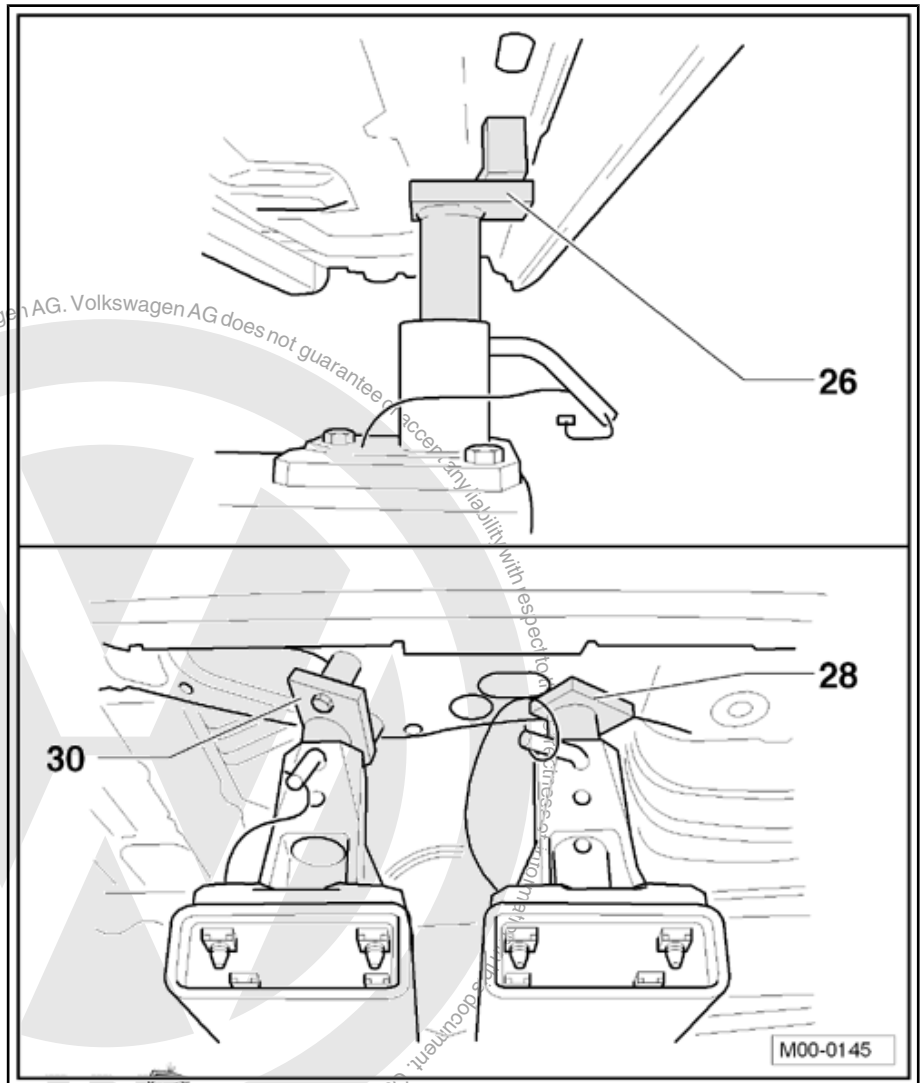




26 - AB mounting for side member

28 - Straightening bracket mounting for rear longitudinal member

30 - Straightening bracket mounting for axle suspension





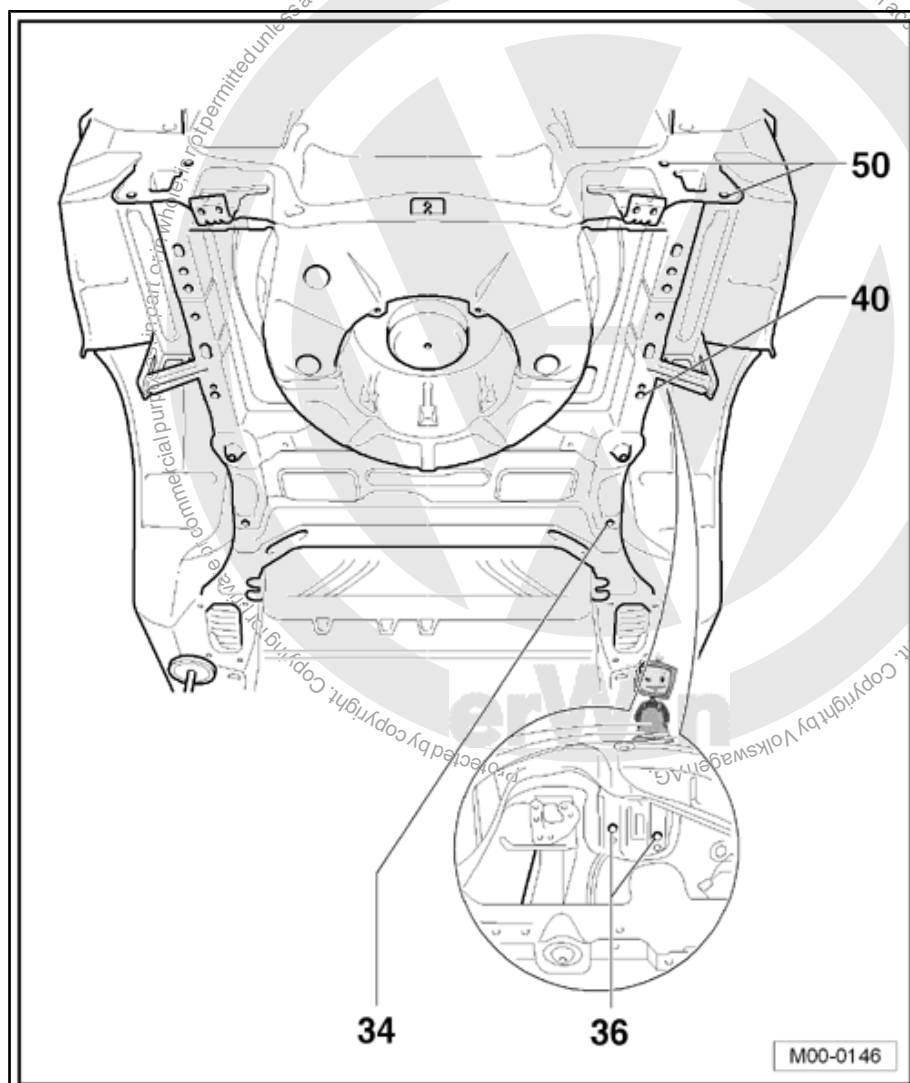
9.4 Rear alignment bracket

34 - Mounting point for front locking of rear suspension

36 - Mounting point of rear suspension strut

40 - Mounting point for rear locking of rear suspension

50 - Mounting point for rear longitudinal member



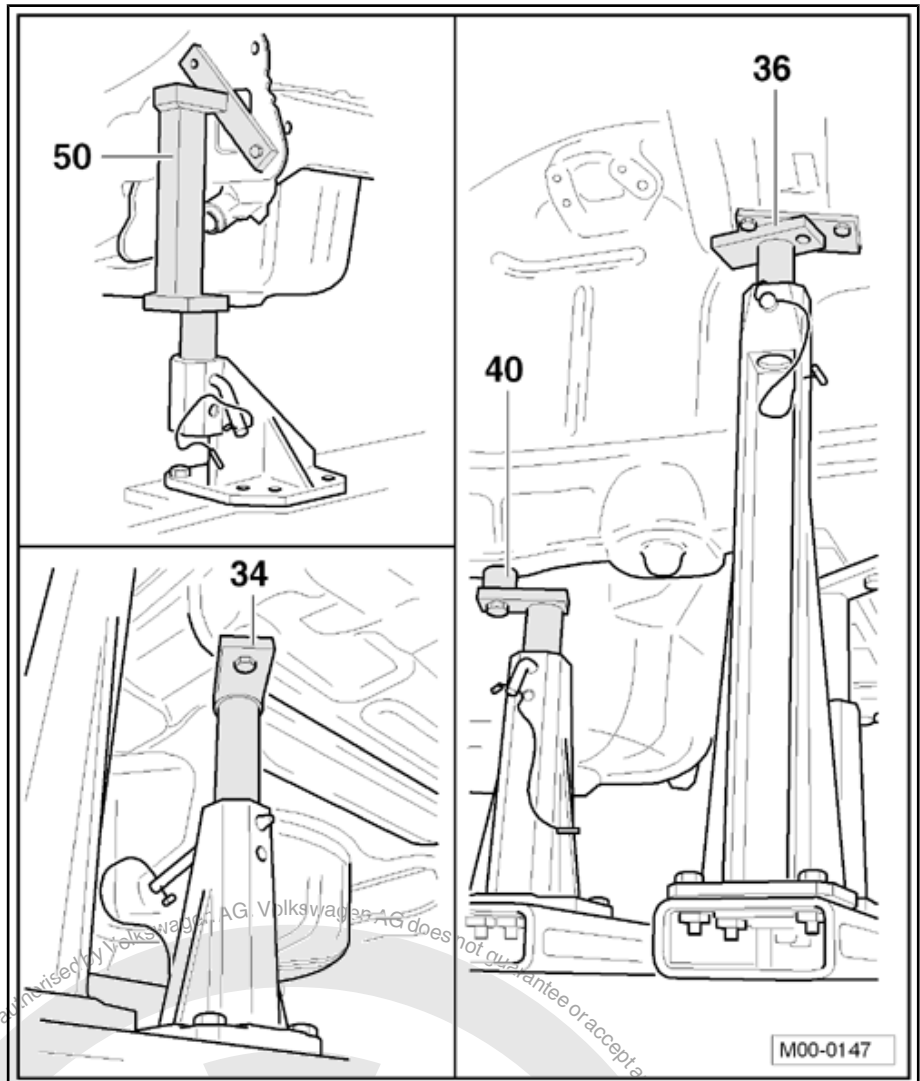


34 - Straightening bracket
mounting for front locking of
rear mounting

36 - Straightening bracket
mounting for rear suspension
strut

40 - Straightening bracket
mounting for rear locking of
rear mounting

50 - Straightening bracket
mounting for rear longitudinal
member





10 Portal gauge

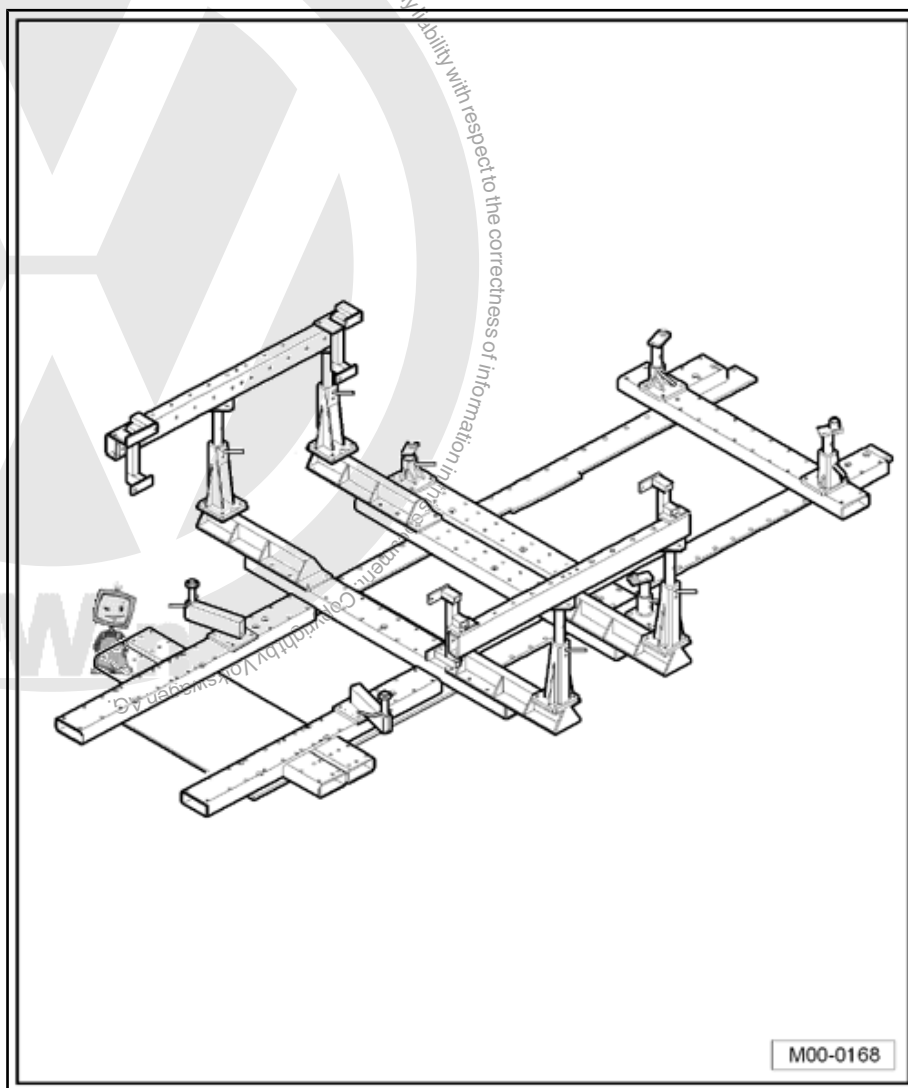
10.1 Overview

Special tools and workshop equipment required

- ◆ Alignment bracket set for Touran -VAS 6240-
- ◆ Alignment bracket set supplement for Golf 2004 ► -VAS 6240/2-
- ◆ Alignment bracket set supplement for Jetta 2005 ►/Bora 2006 ► -VAS 6240/5-
- ◆ Portal gauge -VAS 5007/25-

10.1.1 Front door aperture

Set up for portal gauge -VAS 5007/25- , front door aperture

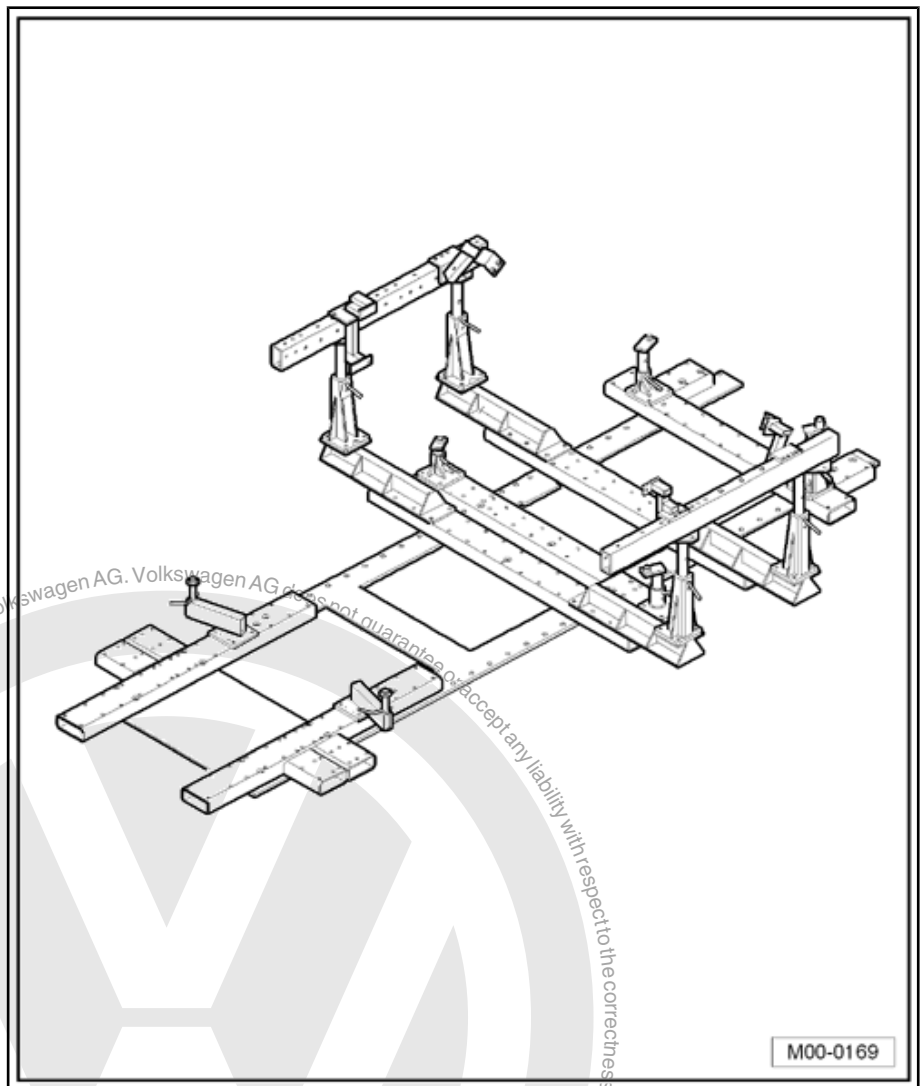


Detailed information on setting up the alignment bracket set can be found with the equipment.



10.1.2 Rear door aperture

Set up for portal gauge -VAS 5007/25- , front door aperture



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



50 – Body - front

RO: 50 40 55 50

1 Renewing right-hand bracket

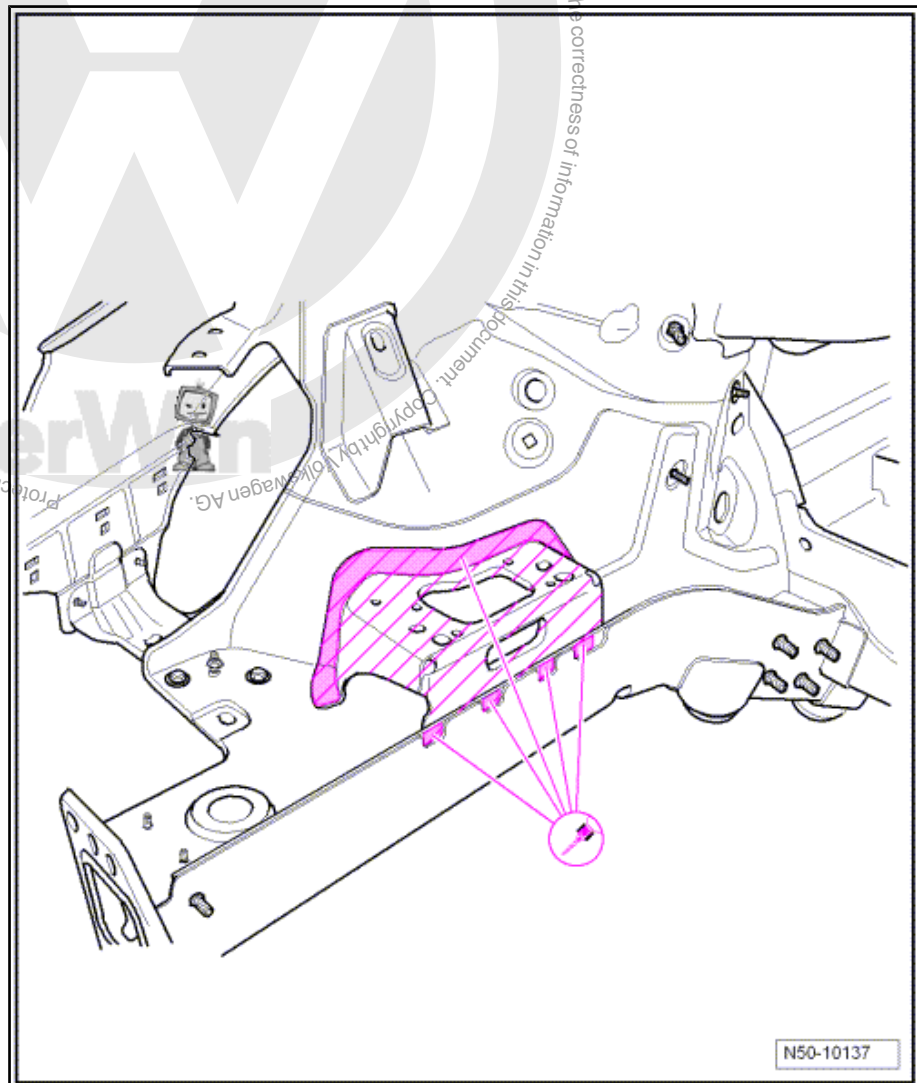


WARNING

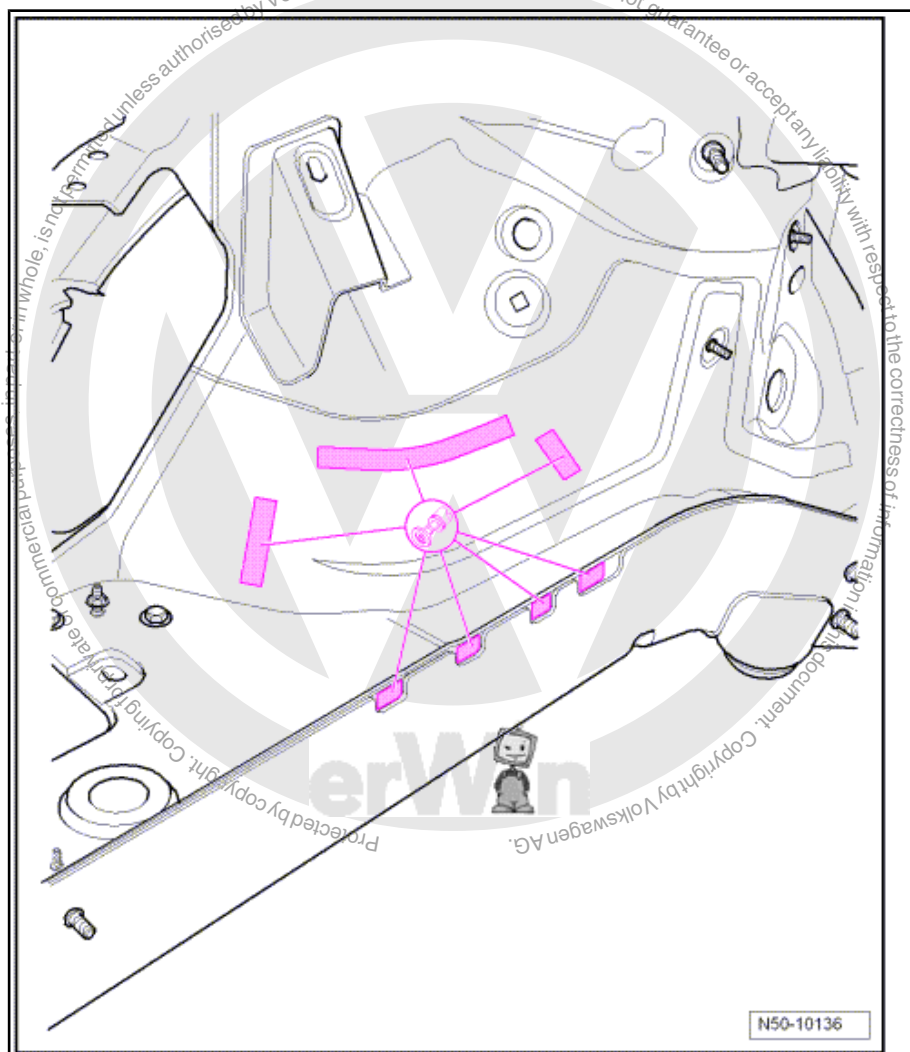
Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

1.1 Removing



– Release original joint.



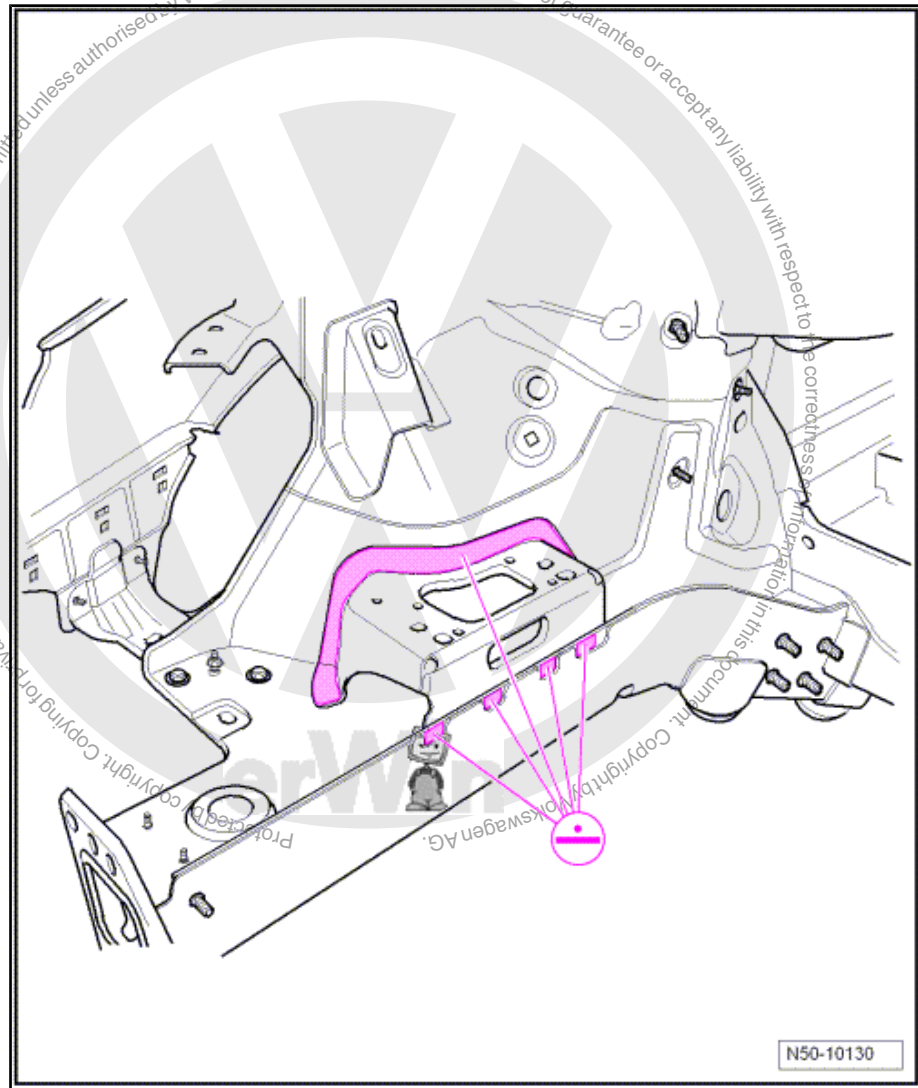
- Remove remaining material.

1.2 Installing

1.2.1 Welding in

Replacement part

- ◆ Right engine bracket
- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set .



- Weld in console, RP spot weld seam



RO: 50 40 55 56

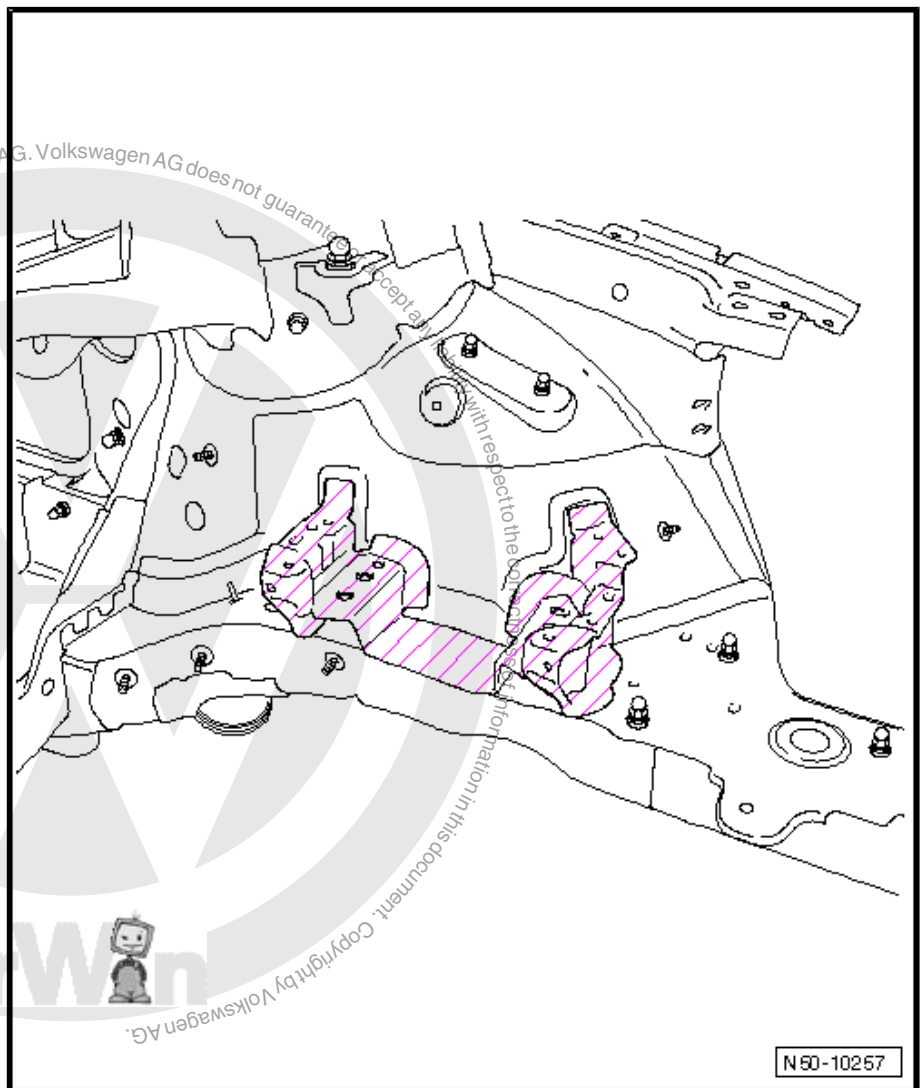
2 Renewing left console



WARNING

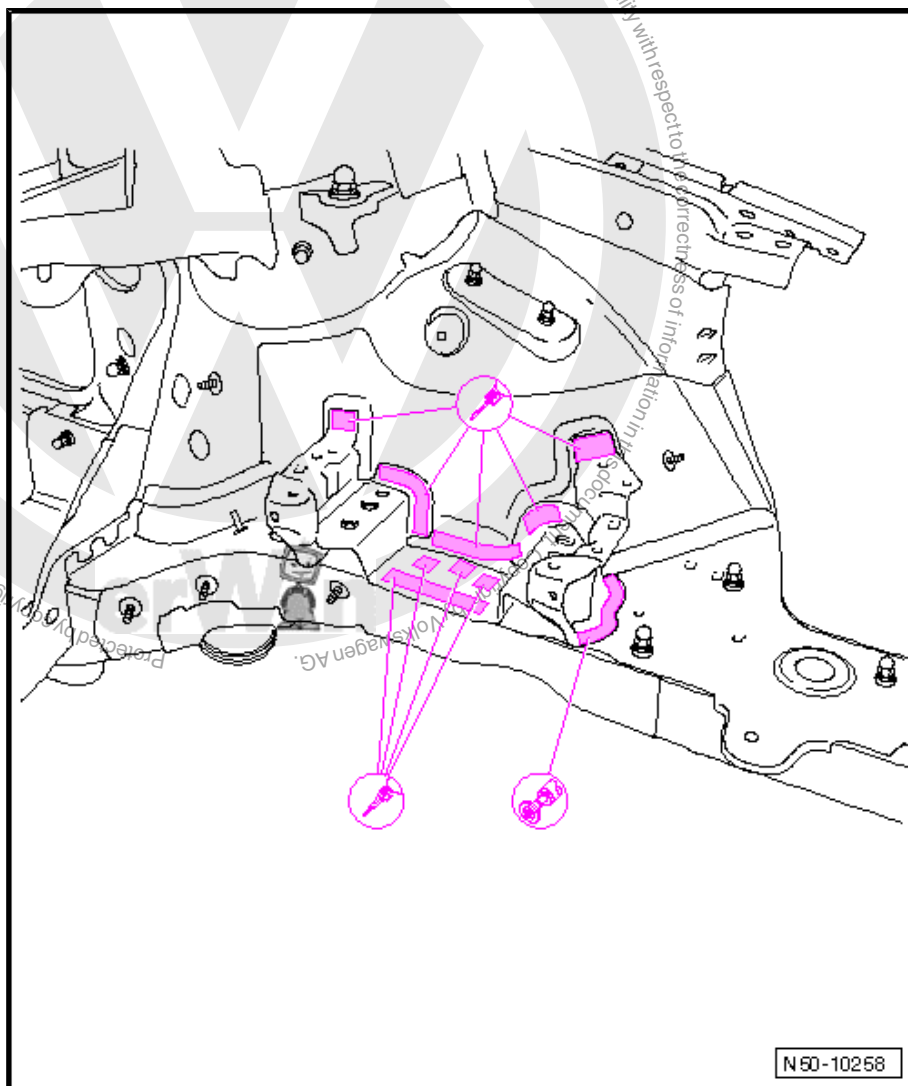
Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

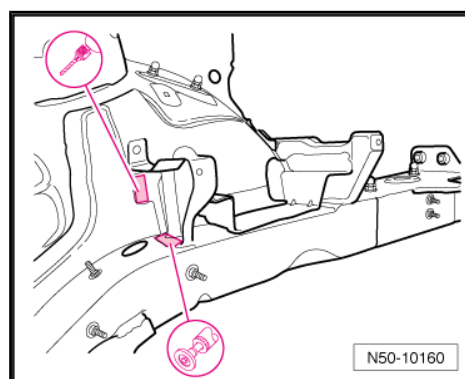




2.1 Removing



- Release original joint.
- Release original joint.
- Remove remaining material.





2.2 Installing

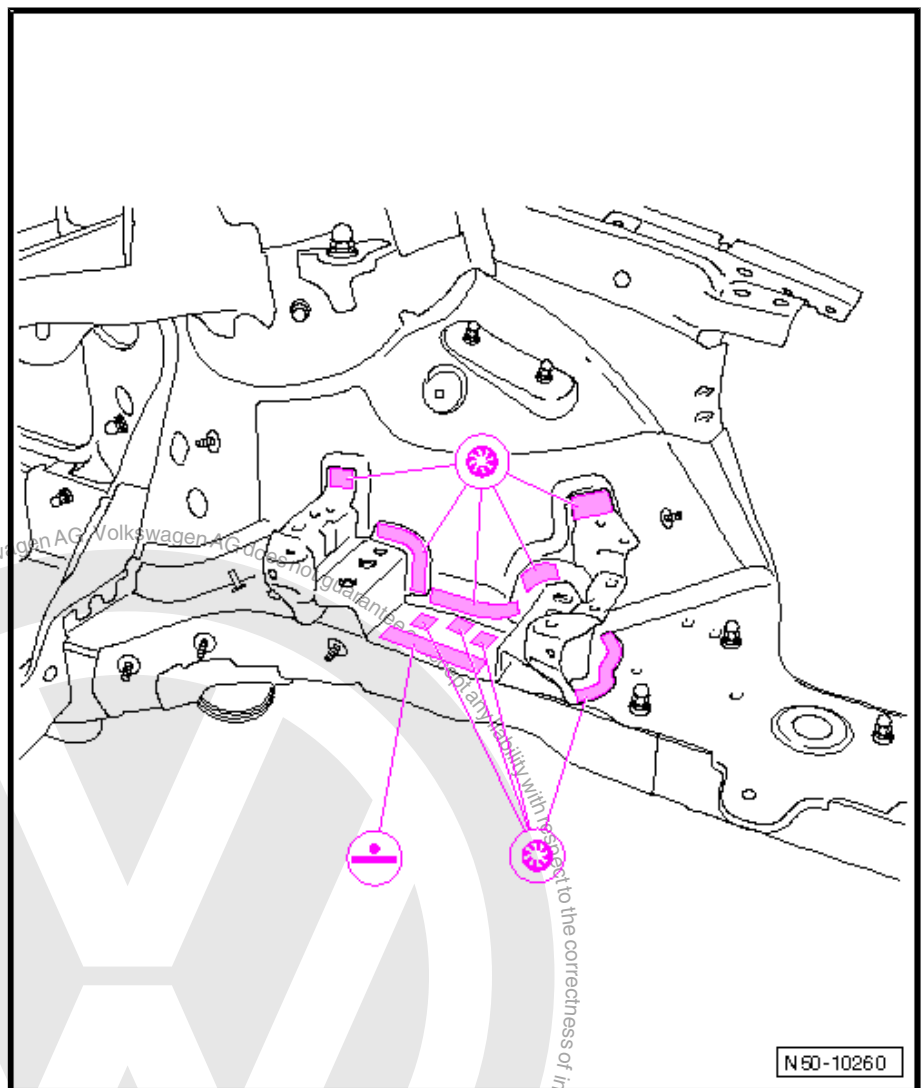
2.2.1 Preparing new part

Replacement part

- ◆ Left engine console
- Drill 7 mm Ø holes for SG plug weld seam.

2.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.



- Weld in engine console, SG plug weld seam and RP spot weld seam.



RO: 50 43 55 00

3 Renewing retaining bracket

(for subframe)



WARNING

Observe safety notes!

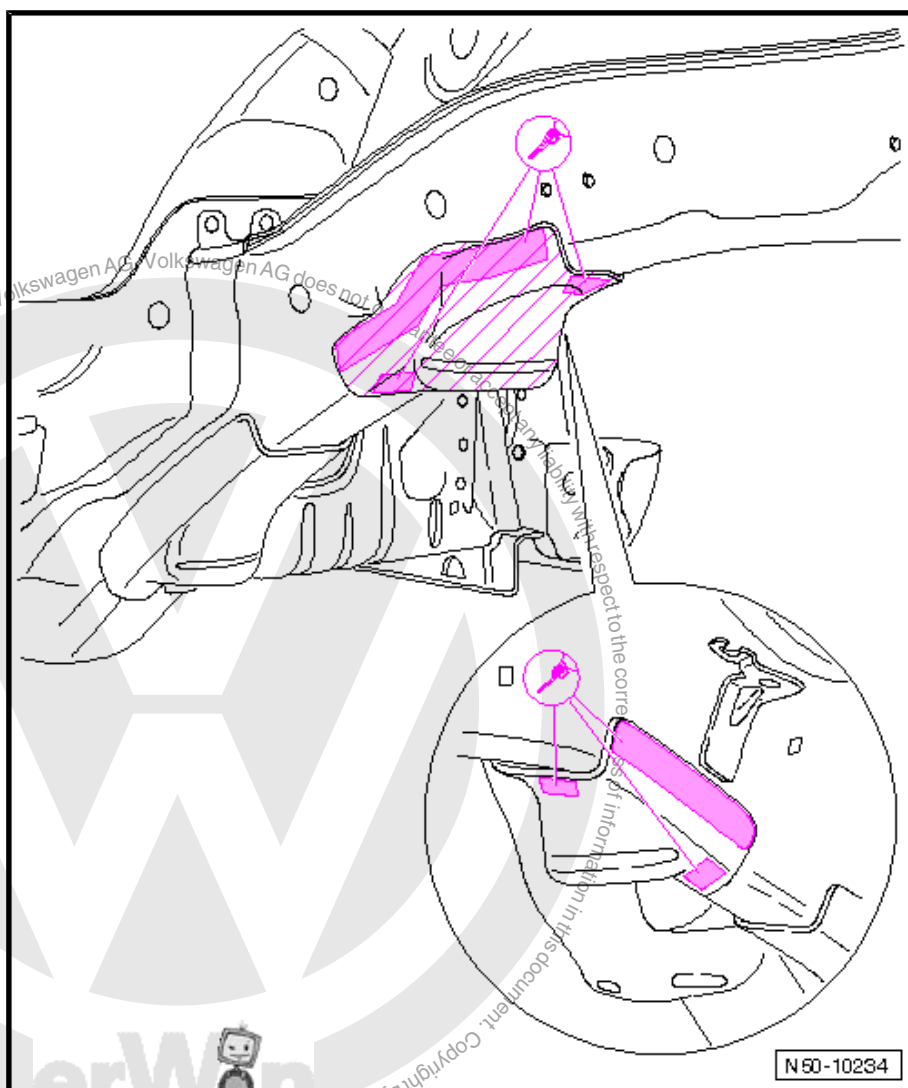
⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



Note

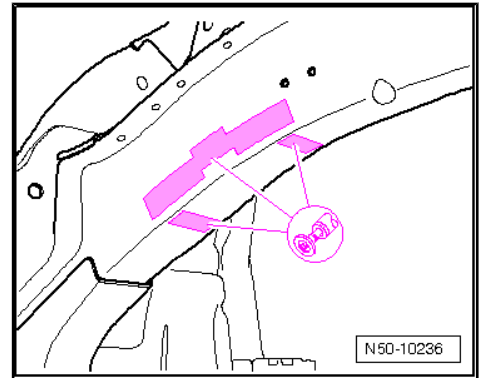
The description of the procedure for renewing the front left retaining bracket uses this vehicle as an example. The procedure, as appropriate, should be used for the other 3 retaining brackets.

3.1 Removing





- Release original joint.
- Remove remaining material.

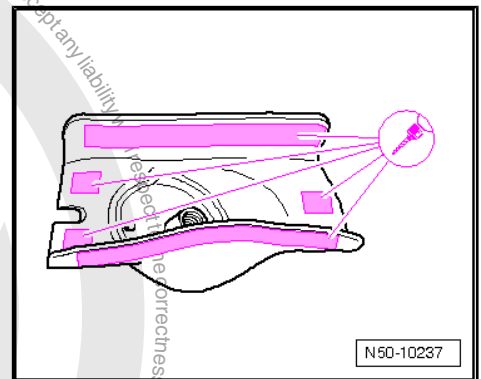


3.2 Installing

3.2.1 Preparing new part

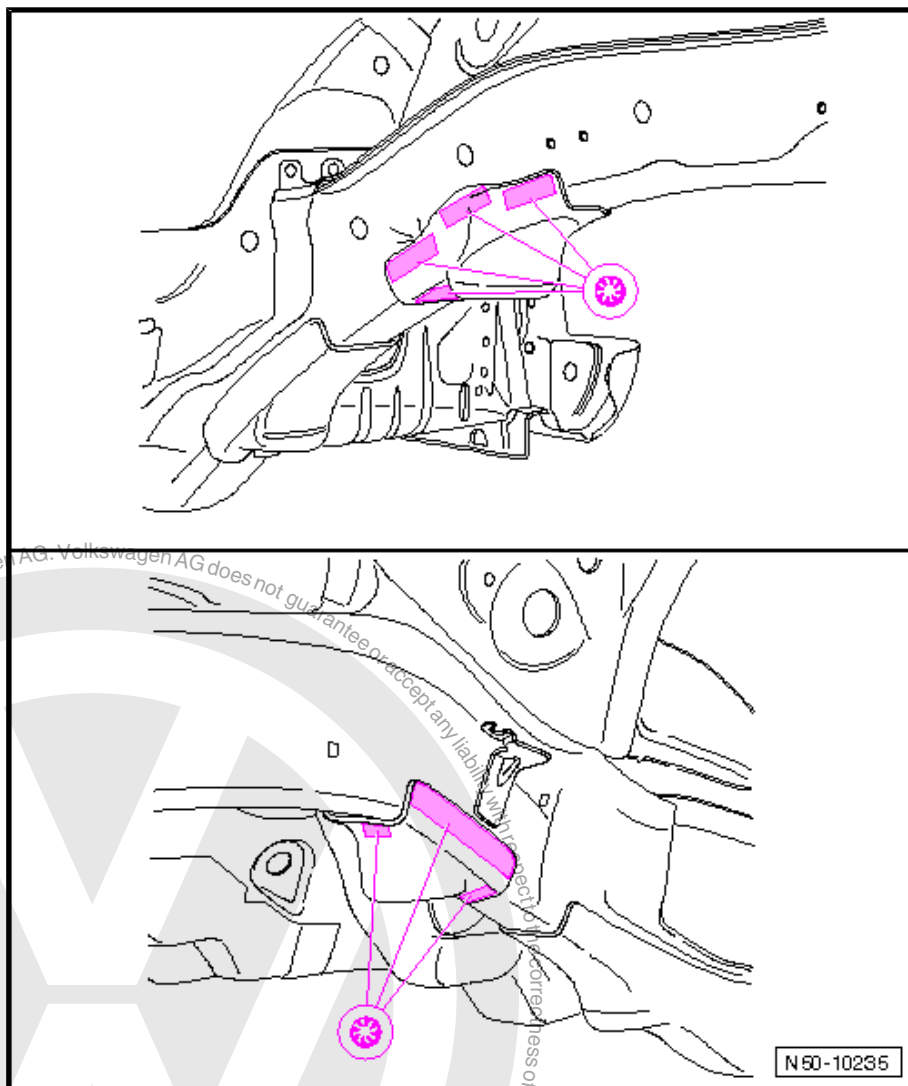
Replacement part

- ◆ Front retaining bracket for subframe (spare part designation: retaining bracket subframe)
- Drill holes for SG plug weld seam.



3.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.



- Weld in new part, SG plug weld seam.



RO: 50 65 55 00

4 Renewing front bumper bracket

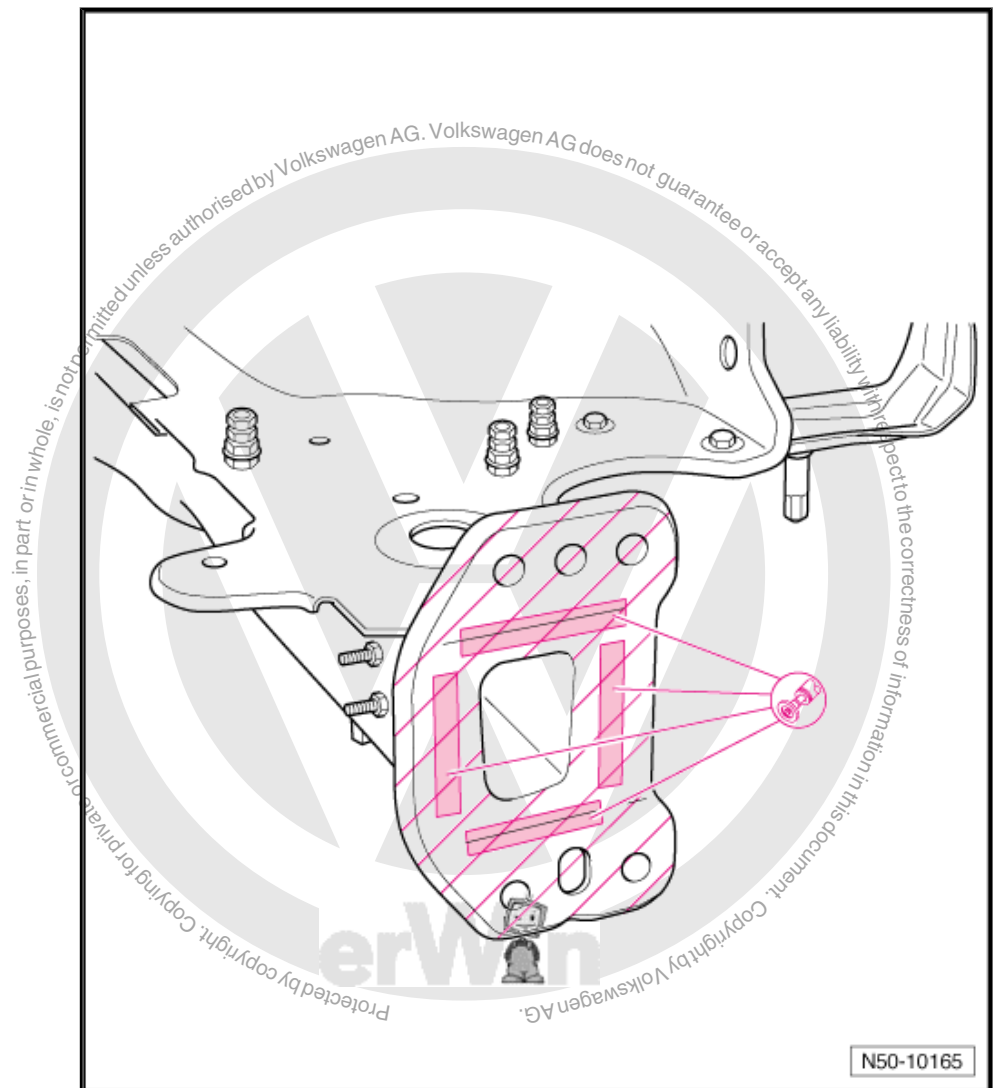


WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

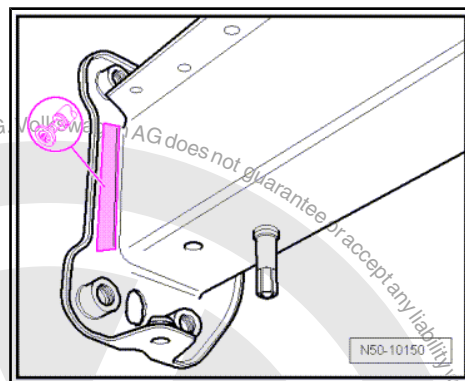
4.1 Removing



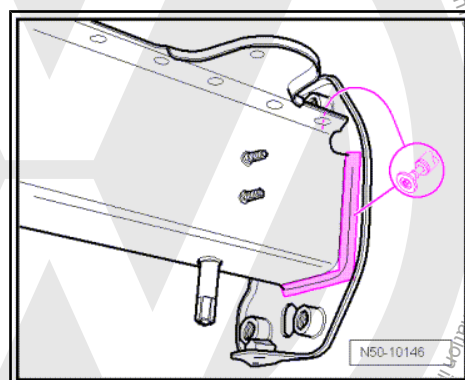
- Release original joint.



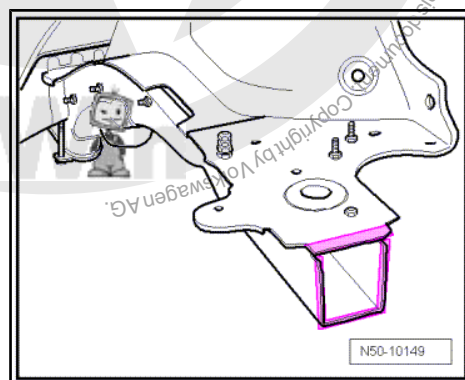
- Release original joint.



- Release original joint.



- Remove remaining material.



4.2 Installing

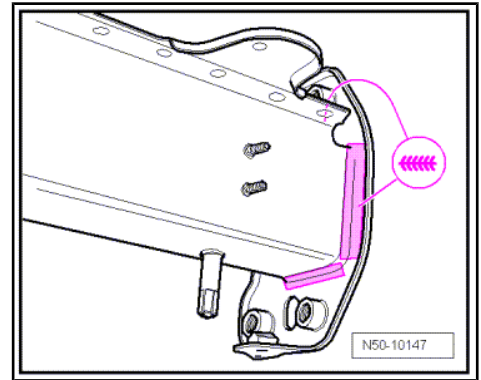
4.2.1 Welding in

Replacement part

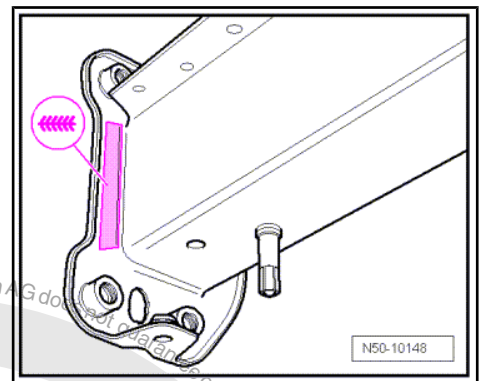
- ◆ Front bumper bracket
- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set .



- Weld front bumper bracket, SG continuous weld seam.



- Weld front bumper bracket, SG continuous weld seam.





RO: 50 72 55 00

5 Renewing upper wheel housing longitudinal member

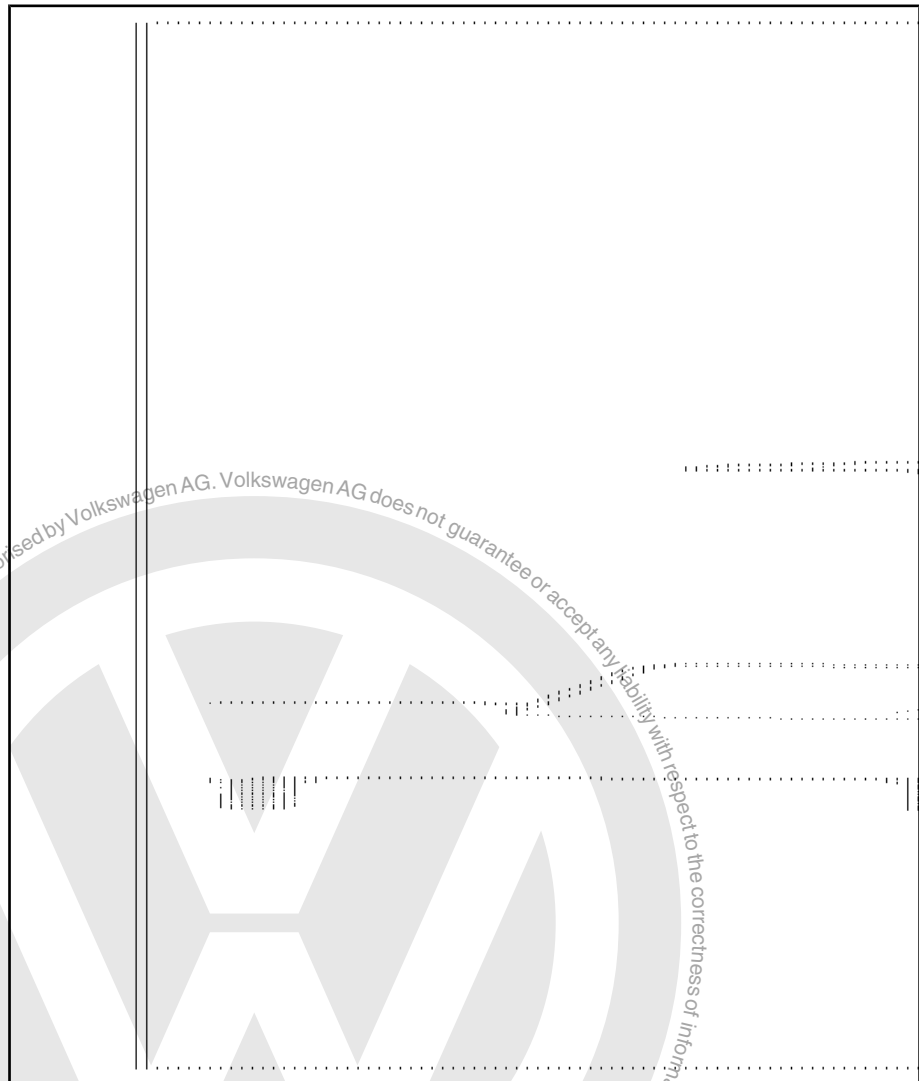


WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

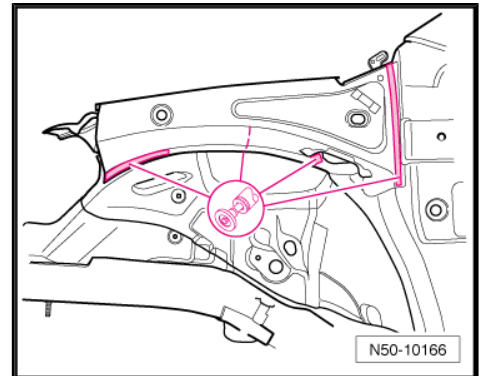
- 1 - Upper longitudinal member for wheel housing
- 2 - Wheel housing
- 3 - Longitudinal member



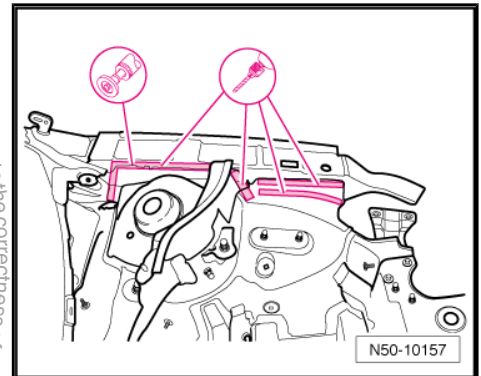


5.1 Removing

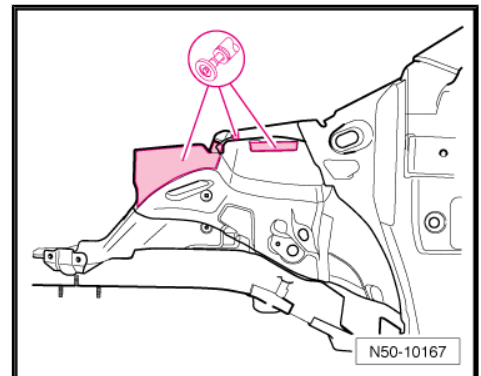
- Release original joint.



- Release original joint.



- Remove remaining material.



5.2 Installing

5.2.1 Preparing new part

Replacement part

- ◆ Upper inner wheel housing longitudinal member
- ◆ Upper outer wheel housing longitudinal member
- ◆ 2K body adhesive -D 180 KD3 A2-
- Drill holes for SG plug weld seam.

5.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set .
- Check fit with add on parts.



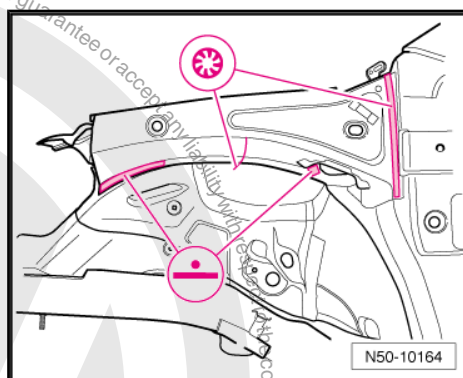
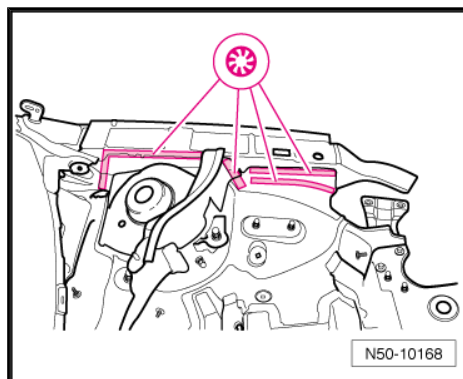
- Weld longitudinal member for upper inner wheel housing, SG plug weld seam.



Note

New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Apply 2-K body adhesive -D 180 KD3 A2- in the area of the factory bonding.
- Weld longitudinal member for upper outer wheel housing, SG plug weld seam and RP spot weld seam.





RO: 50 72 55 02

6 Renewing upper longitudinal member for wheel housing - partial renewal



WARNING

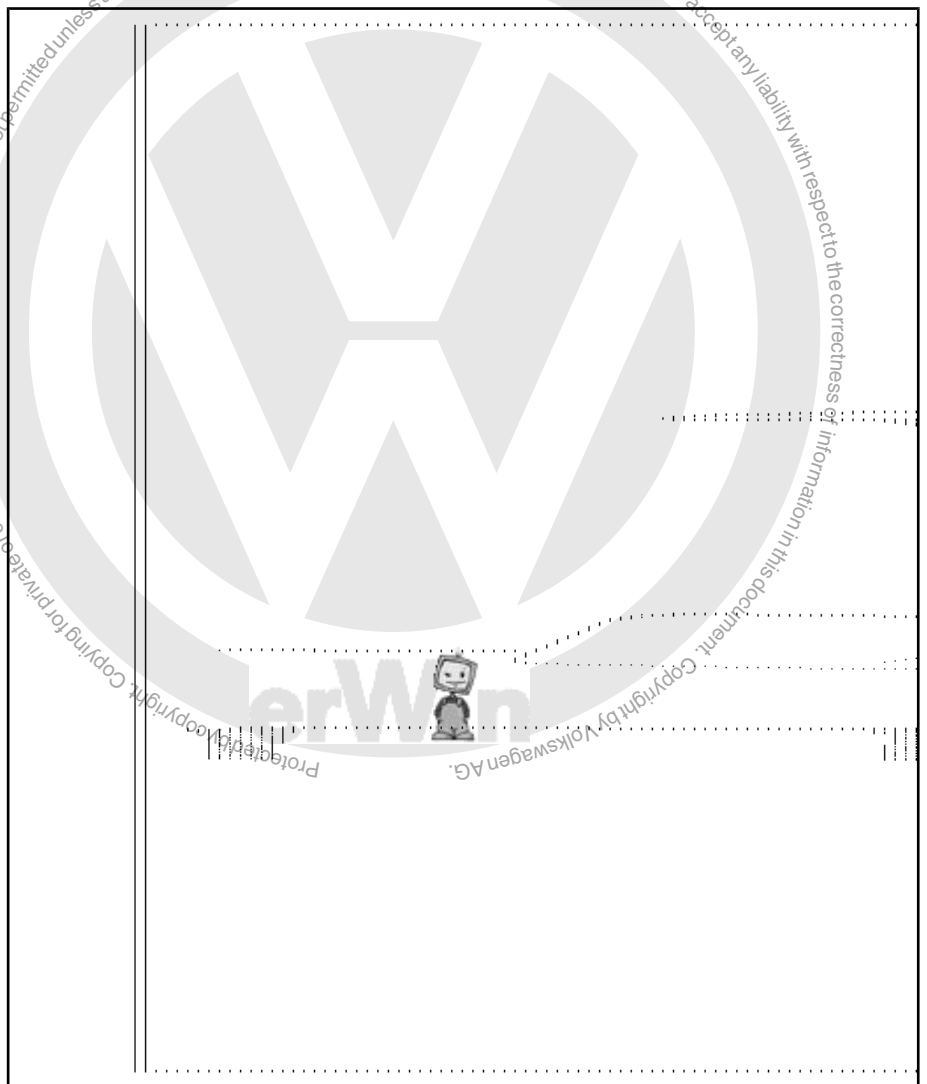
Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

1 - Upper longitudinal member for wheel housing

2 - Wheel housing

3 - Longitudinal member



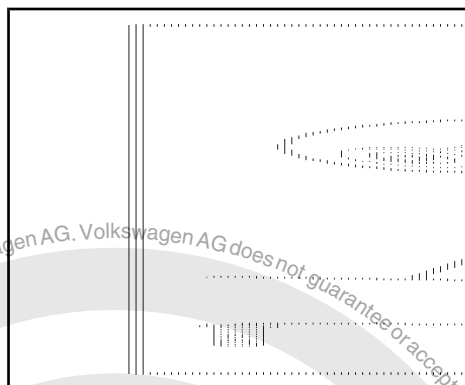
6.1 Removing

- Make parting cut on outer longitudinal member as shown.

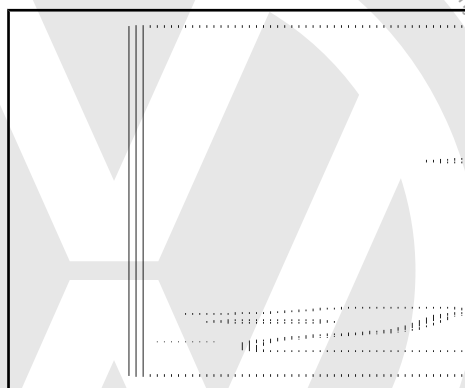


Dimension -a- = 170 mm

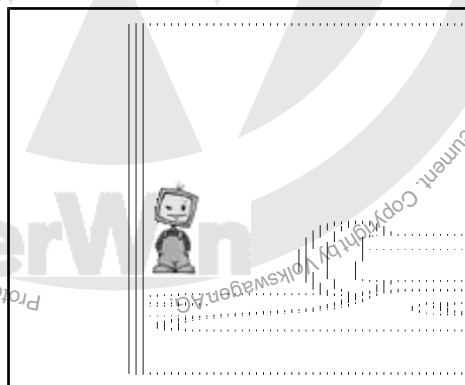
- Release original joint.
- Make parting cut on inner longitudinal member.



- Release original joint.



- Remove remaining material.



6.2 Installing

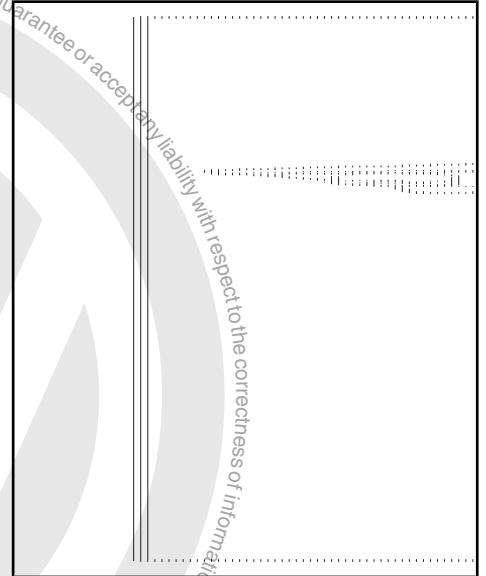
6.2.1 Preparing new part

Replacement part

- ◆ Upper inner wheel housing longitudinal member
- ◆ Upper outer wheel housing longitudinal member
- ◆ 2K body adhesive -D 180 KD3 A2-



- Transfer parting cuts to new parts and cut out.



6.2.2 Welding in

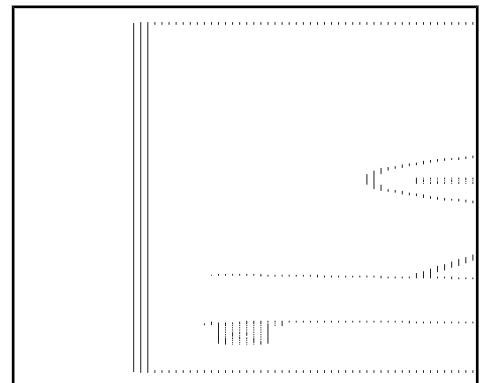
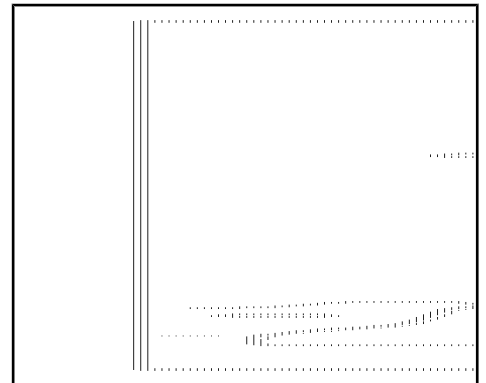
- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fit with add on parts.
- Weld longitudinal member for upper inner wheel housing, RP spot weld seam.
- Weld parting cut, SG stepped weld seam.
- Apply 2-K body adhesive -D 180 KD3 A2- in the area of the factory bonding.



Note

New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Removing and installing upper outer longitudinal member for wheel housing
- Weld in upper outer longitudinal member for wheel housing, RP spot weld seam.
- Weld in parting cut, SG stepped weld seam.





RO: 50 74 55 50

7 Renewing front wheel housing



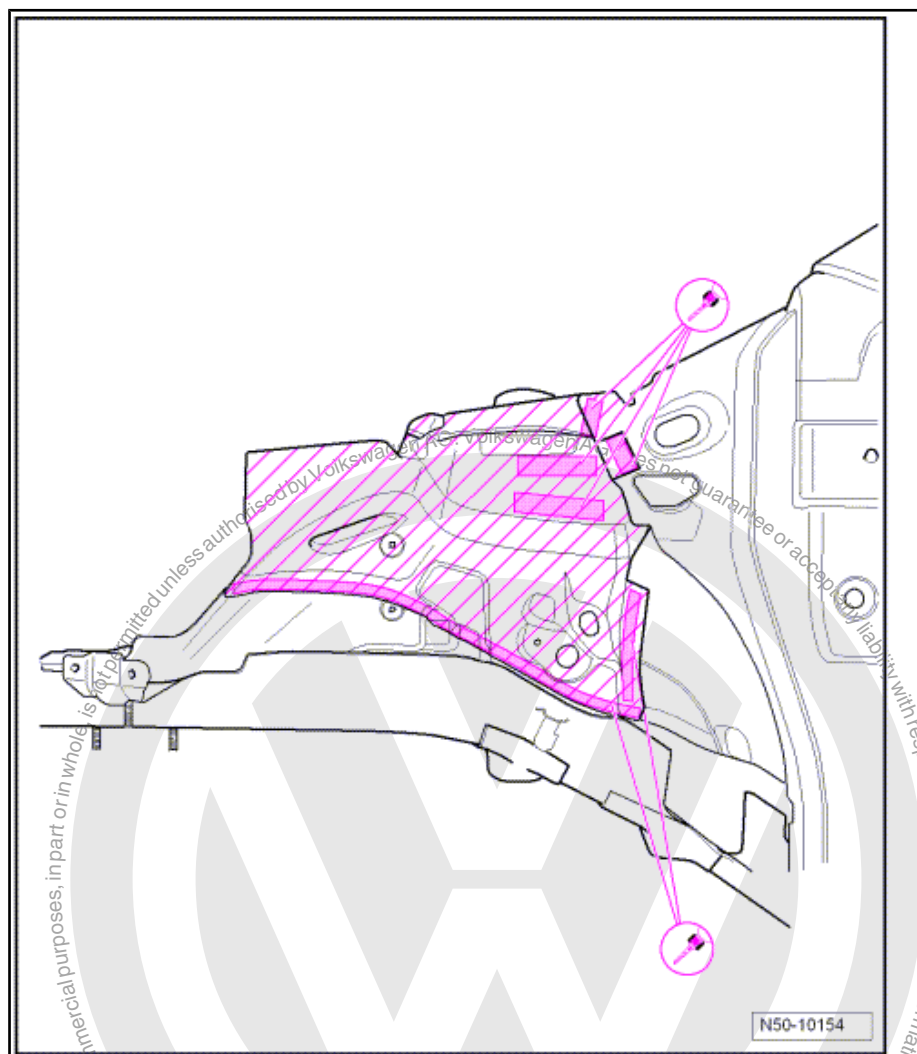
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

7.1 Removing

- Upper longitudinal member for wheel housing already removed
⇒ ["5 Renewing upper wheel housing longitudinal member"](#),
[page 64](#) .



- Release original joint.
- Remove remaining material.



7.2 Installing

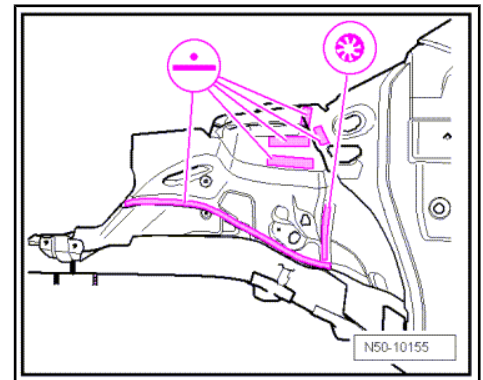
7.2.1 Preparing new part

Replacement part

- ◆ Wheel housing

7.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fitting to adjacent components.
- Weld in wheel housing, SG plug weld seam and RP spot weld seam.
- Install upper longitudinal member for wheel housing
⇒ ["5.2 Installing", page 65](#).





RO: 50 79 49 50

8 Repairing threads for securing sub-frame (suspension subframe)



WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



Note

The thread repair is described for the front left retaining bracket for the subframe on this vehicle and the procedure, as appropriate, should be used for the other 3 retaining brackets.

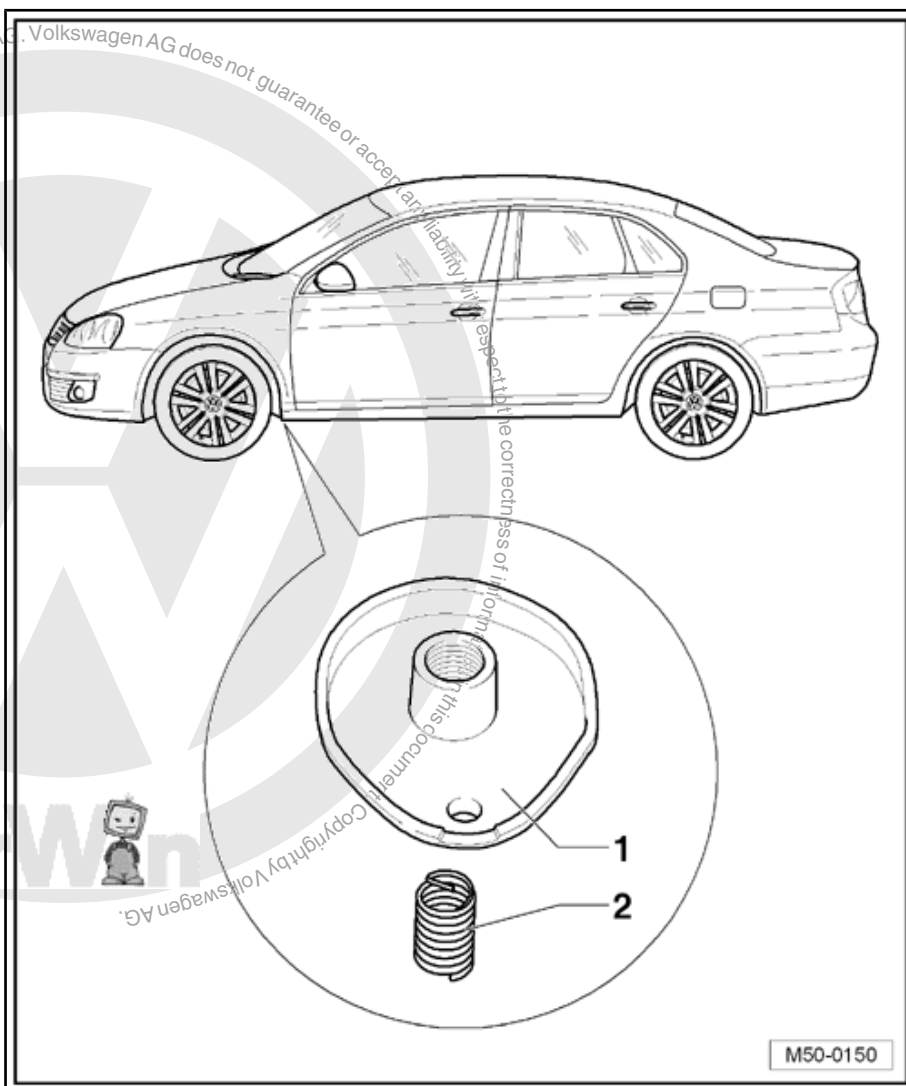
Special tools and workshop equipment required

- ◆ Thread repair kit M12x1.5 -VAS 6058-
- ◆ Drill -VAS 6267-

1 - Threaded plate (welded to subframe retaining bracket)



Note

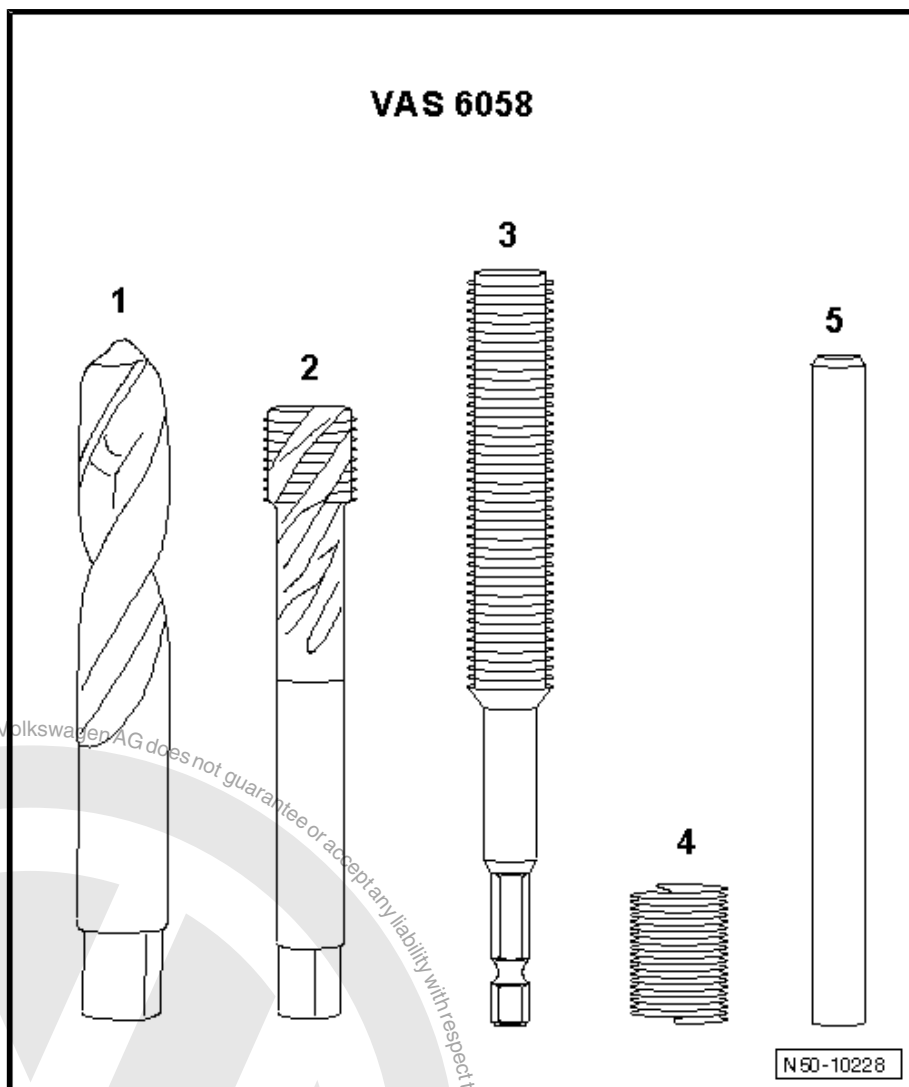




2 - Helicoil thread insert

8.1 Contents of thread repair kit

- 1 - Twist drill \varnothing 12.5 mm
- 2 - Thread-cutting tap M12 x 1.5
- 3 - Fitting spindle
- 4 - Thread insert M12 x 1.5 x 24 (-VAS 6058/1-)
- 5 - Pin breaker with magnetic end

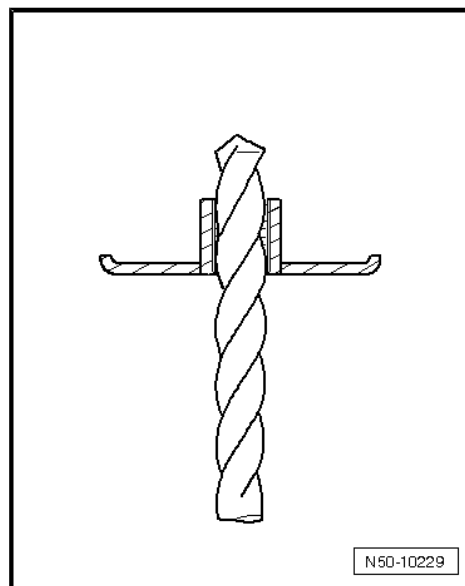




8.2 Repairing thread

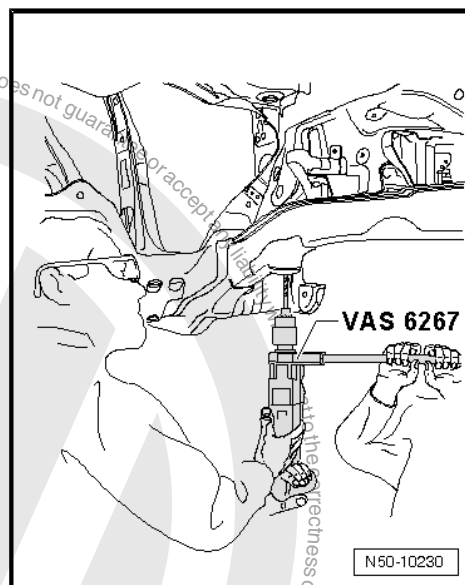
8.2.1 Drilling thread

- Drill thread with a twist drill.



Note

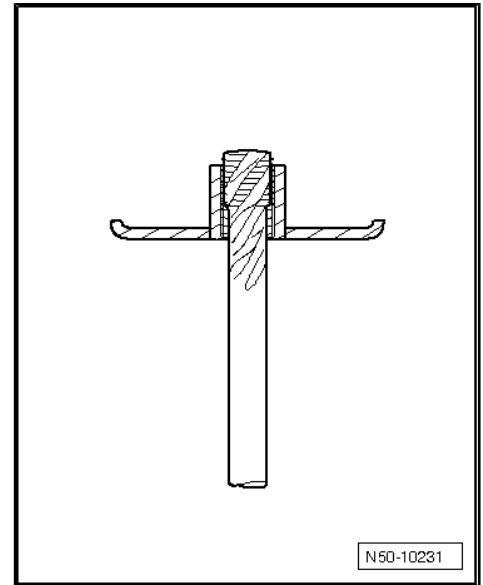
- ◆ Use drill -VAS 6267- when drilling and shaping.
- ◆ The drill must be held by an assistant using an additional hand support when drilling.
- ◆ Do not cant the drill.





8.2.2 Cutting thread

- Cut thread with a thread tap.
- Clean threaded sleeve (blow out with compressed air).



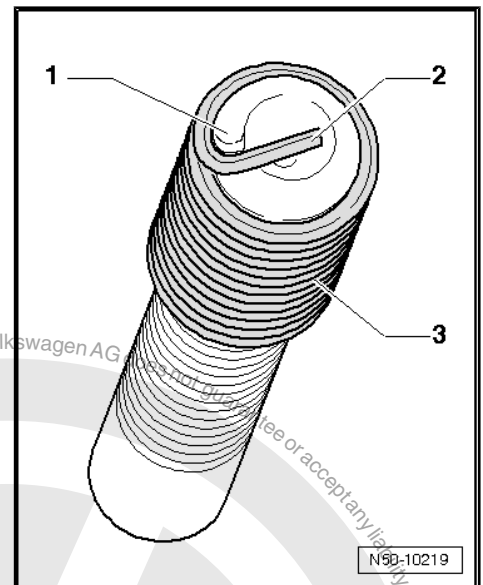
8.2.3 Inserting thread insert

- Fit threaded mounting -3- on assembly spindle until the drive pin -2- on the drive lug -1- lies against the assembly spindle.



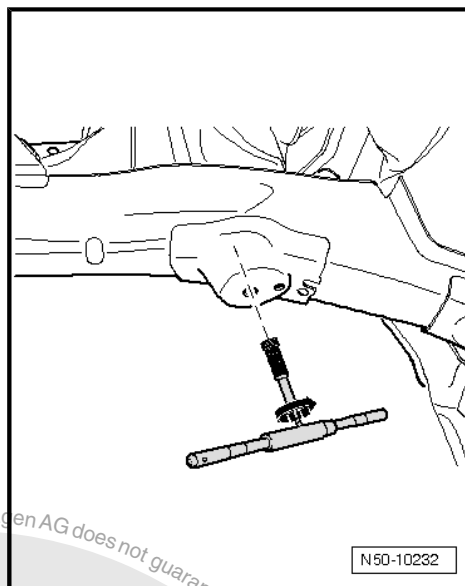
Note

Thread insert must screw in easily.

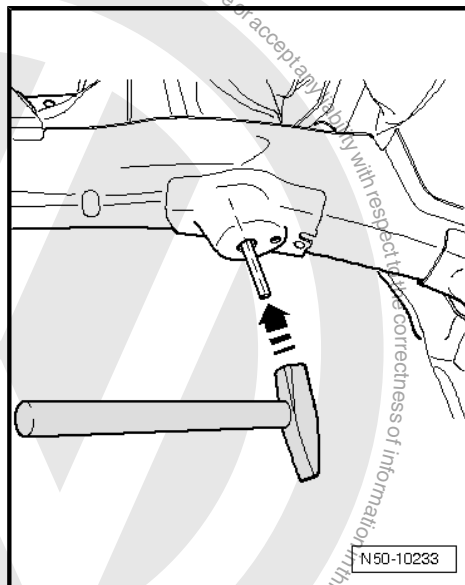




- Turn threaded mounting into the threaded plate until the threaded mounting is flush with the threaded plate from the exterior (visual check).
- Then turn threaded mounting $\frac{1}{4}$ turn further inwards.
- Unscrew fitting spindle.



- Break drive pin of threaded mounting off using pin breaker.
- Install subframe (suspension subframe) (torque settings) ⇒ Suspension, axles, steering; Rep. Gr. 40 ; Removing and installing subframe, torque settings





RO: 50 79 55 03

9 Renewing front longitudinal member



WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

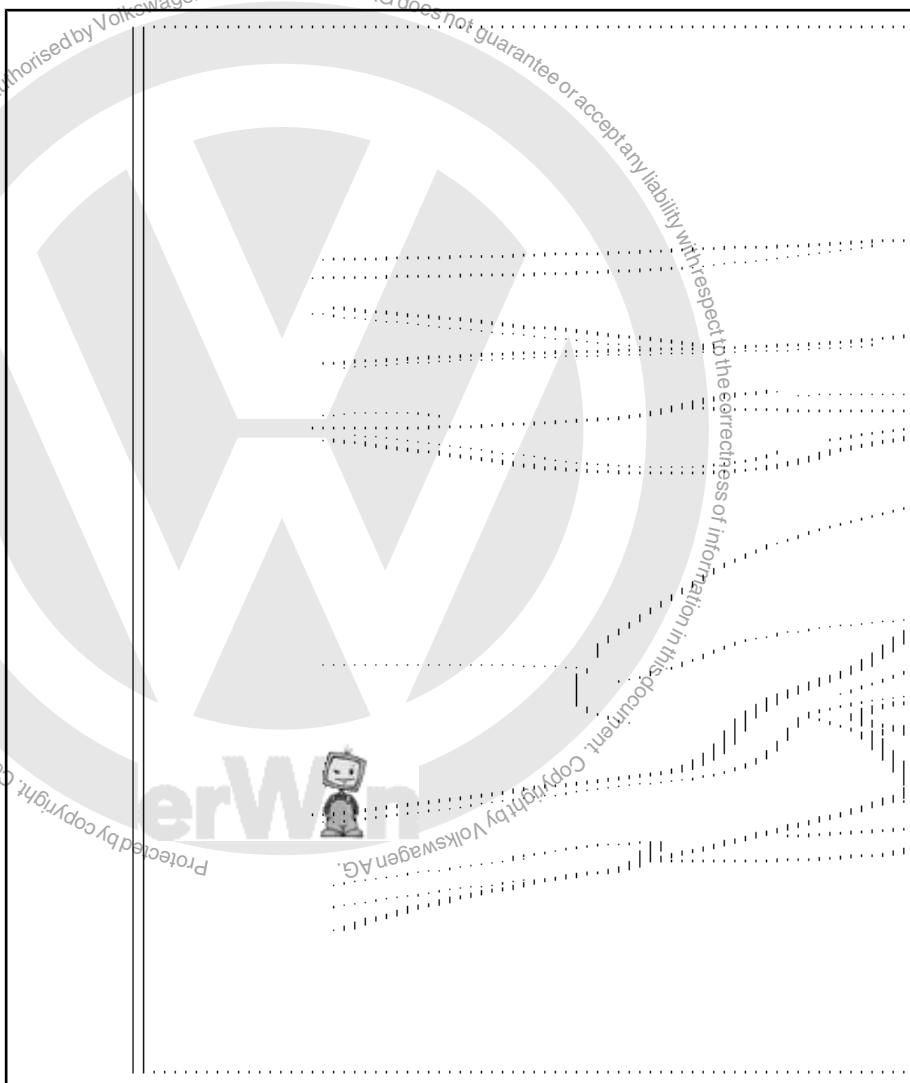
1 - Wheel housing

2 - Longitudinal member

3 - Make parting cut on longitudinal member and cover plate.

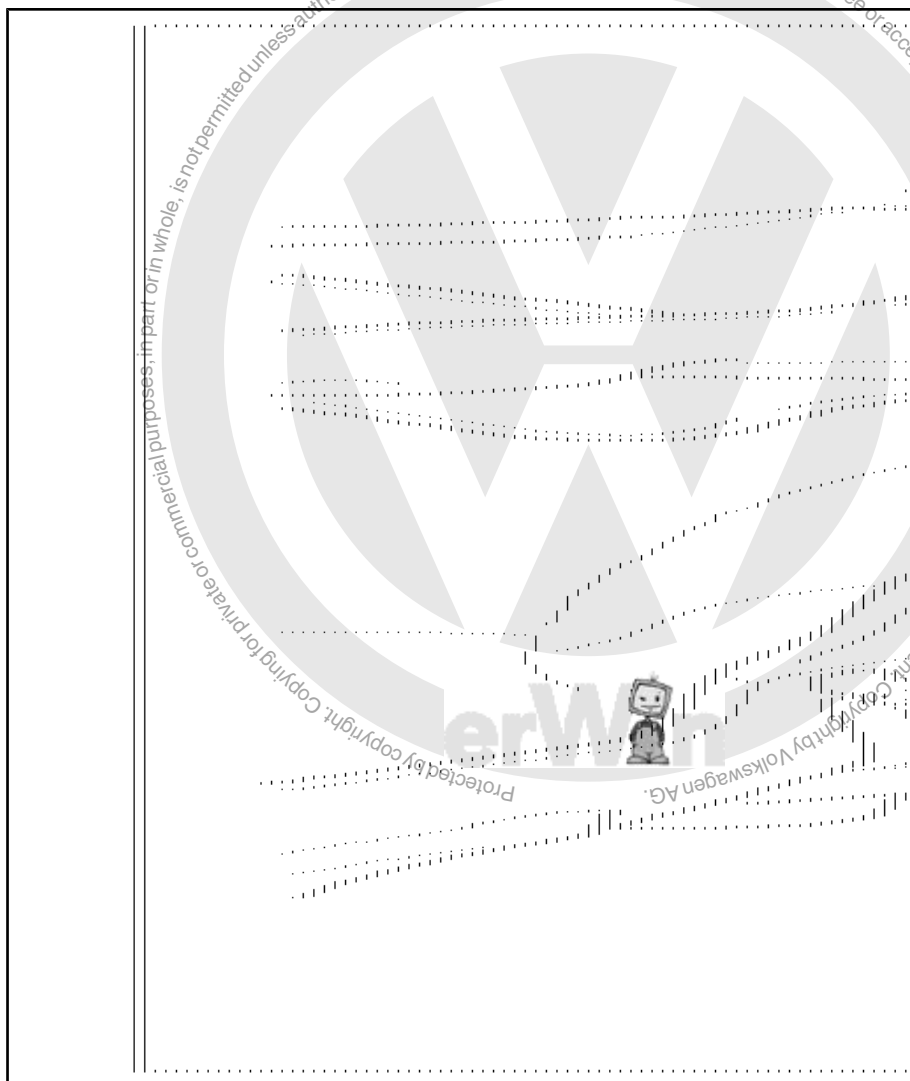


Note

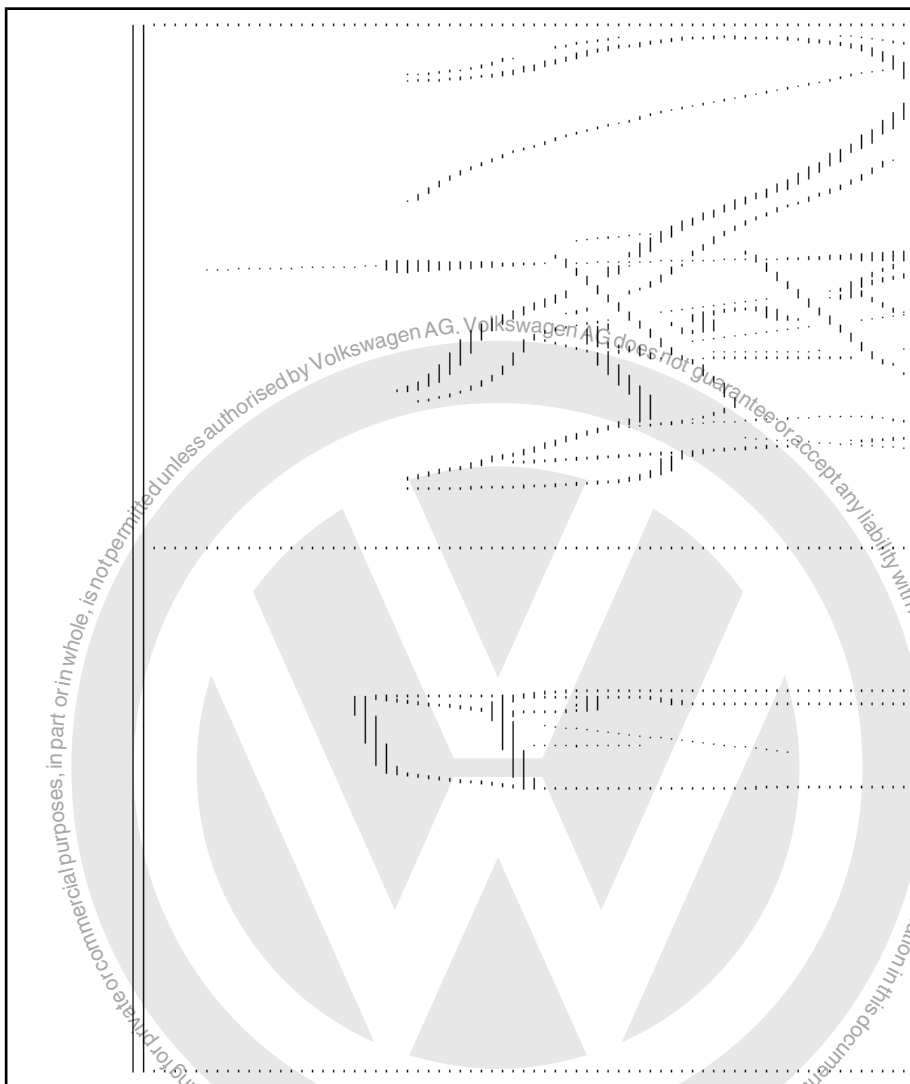




9.1 Removing



- Release original joint.



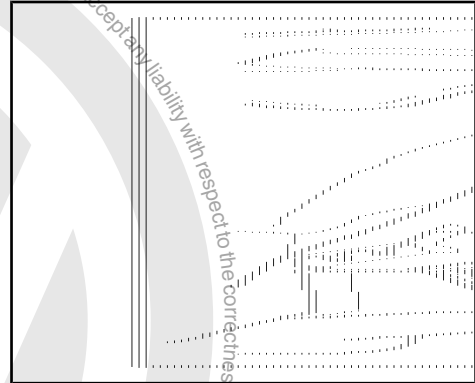
Note

- ◆ *Do not damage mounting for subframe -1-.*
- ◆ *Make parting cuts with pneumatic jig-saw -V.A.G 1523- only.*
- ◆ *Make parting cuts on longitudinal member and cover plate offset by 50 mm.*
- Make parting cut as shown.



Dimension -a- = 50 mm

- Remove remaining material.

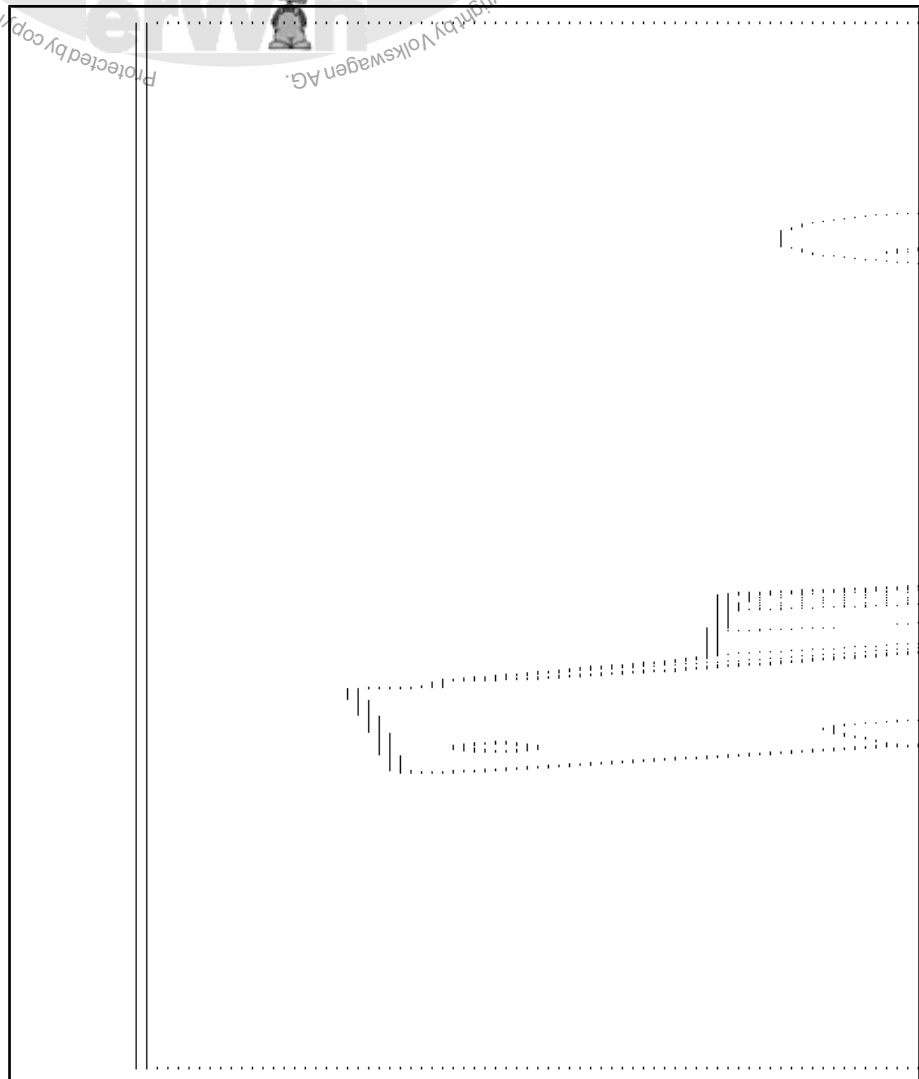


9.2 Installing

9.2.1 Preparing new part

Replacement part

- ◆ Longitudinal member

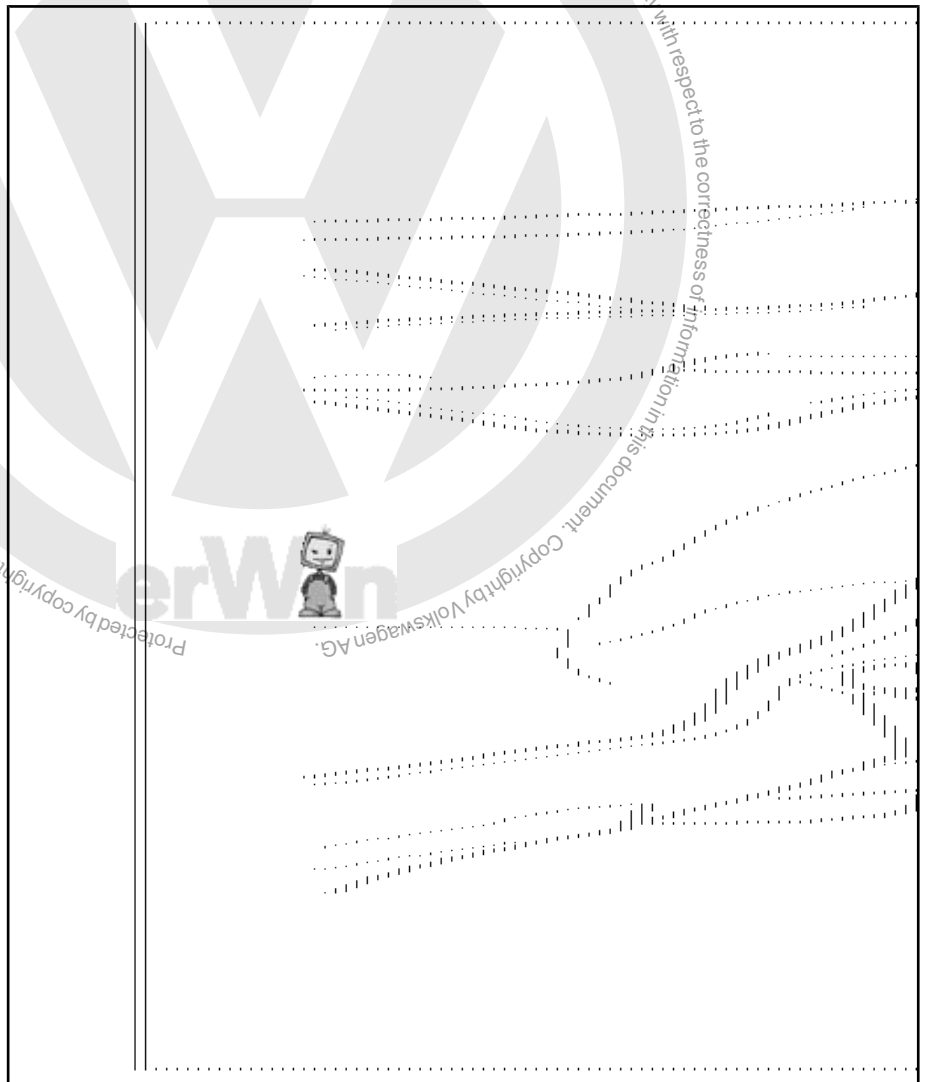




- Transfer parting cut to new part and cut out.
- Drill 7 mm Ø holes for SG plug weld seam.

9.2.2 Welding in

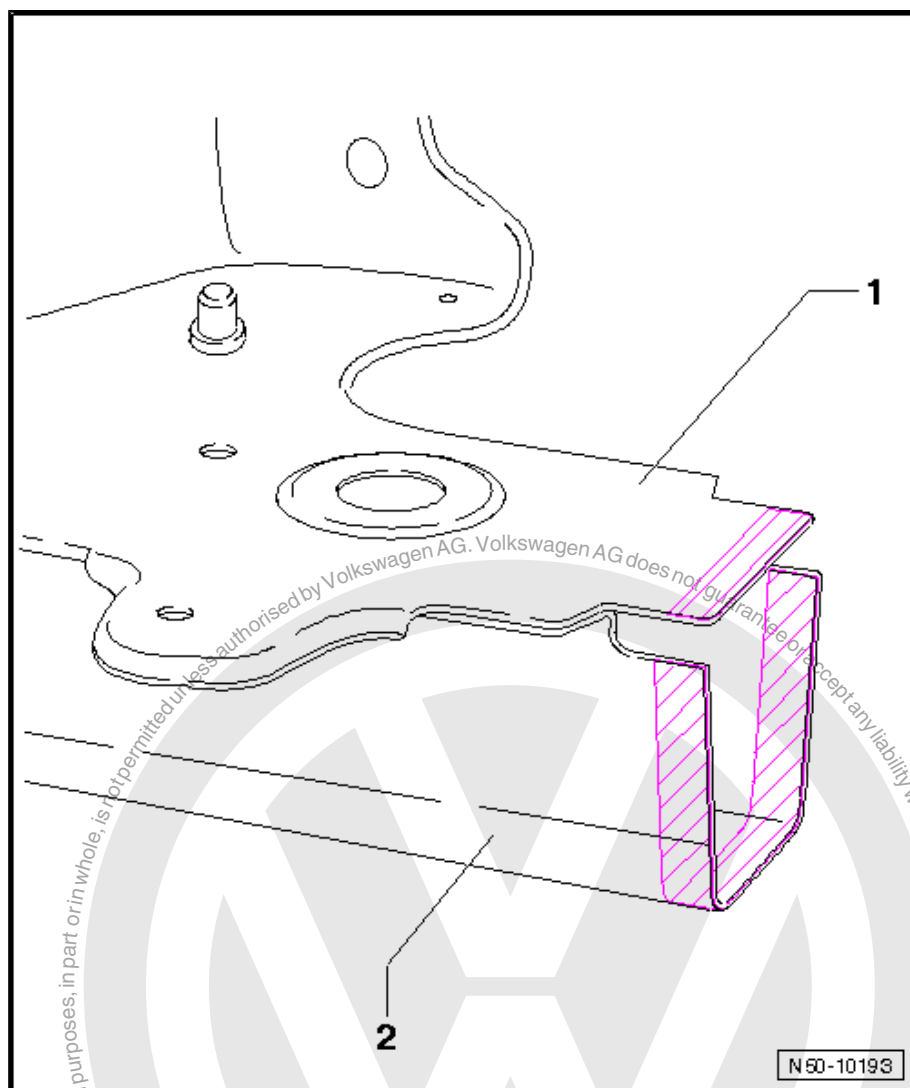
- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fitting to adjacent components.



- Butt weld parting cuts on longitudinal member and cover plate all around, SG continuous weld seam.
- Recreate remaining joint, SG plug weld seam and RP spot weld seam.

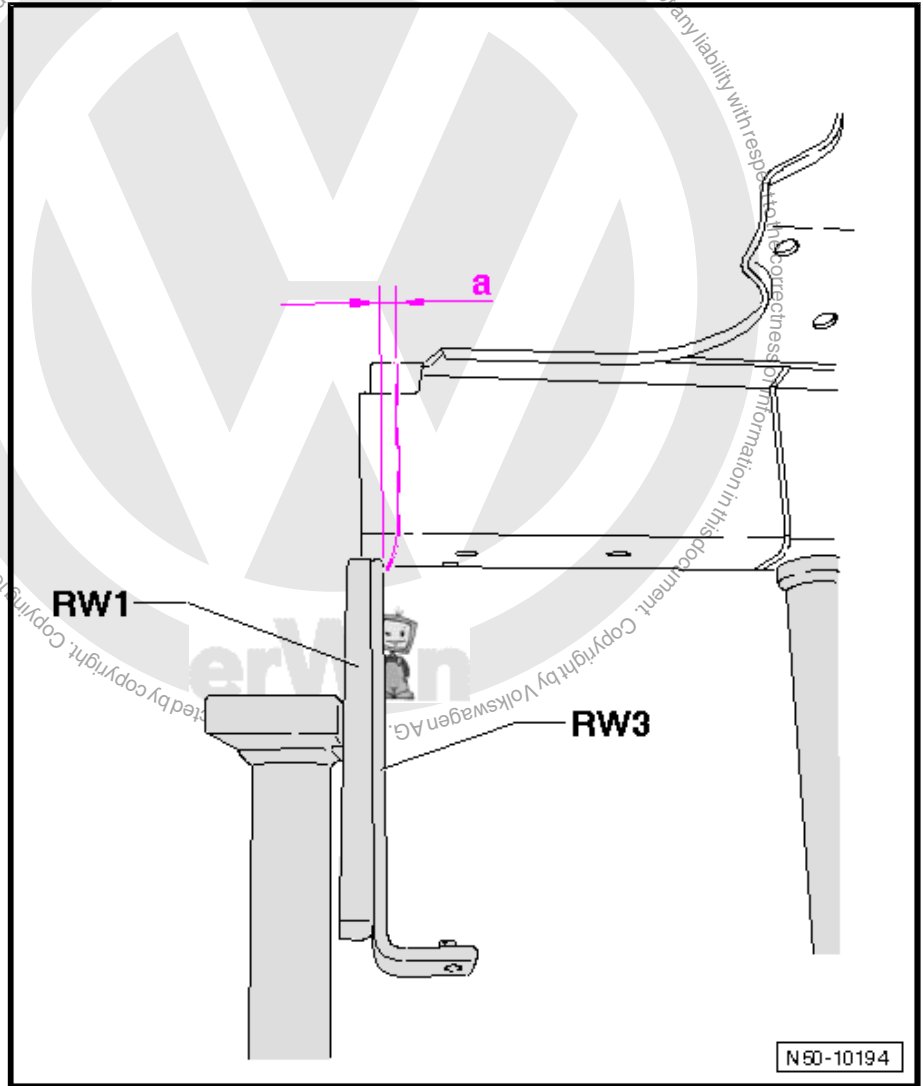


9.2.3 Shortening new longitudinal member with cover plate

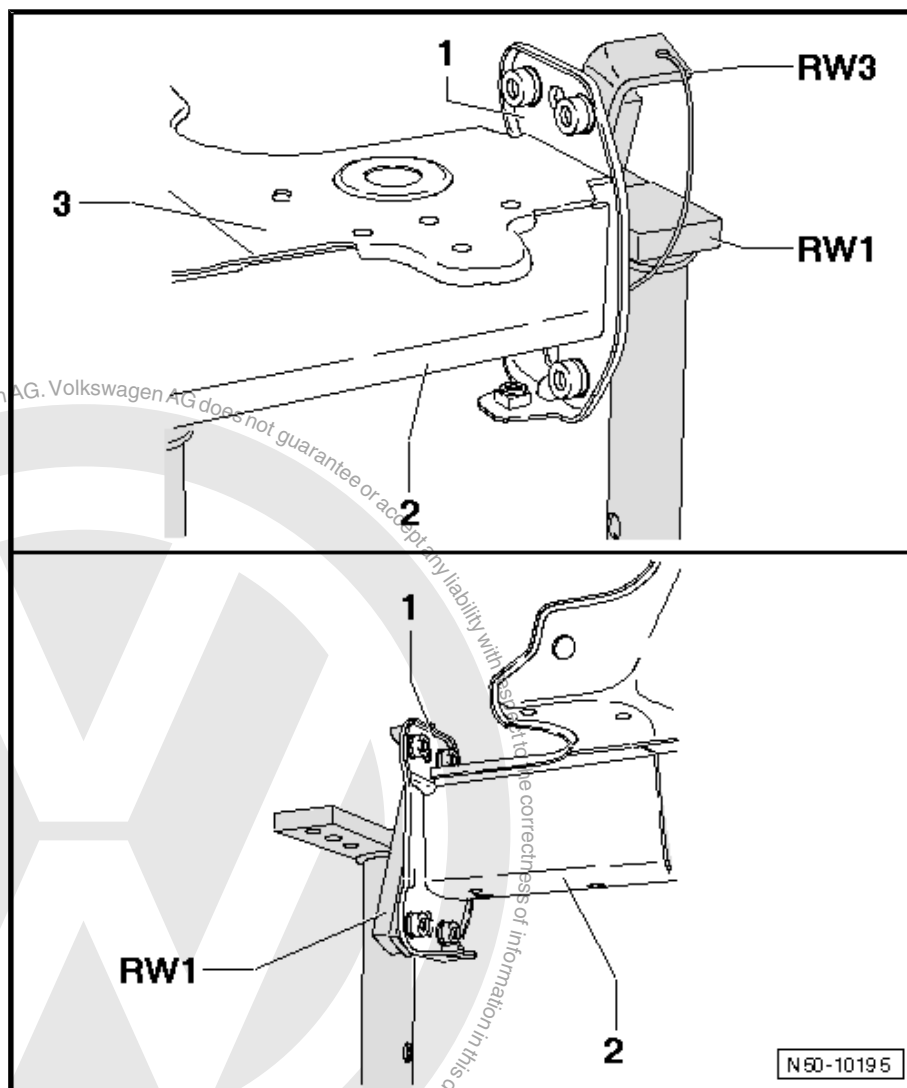


Note

The longitudinal member -2- with cover plate -1- is too long in the front area -shaded area- and must be shortened to fit and weld front bumper bracket for front longitudinal member.



- Fit alignment bracket mounting for front longitudinal member -RW 1- using distance plate -RW 3- and hold against longitudinal member from below (see figure).
- Transfer tracing dimension plus 2 mm -a- to longitudinal member and the cover plate and cut off surplus material.



- Secure front bumper bracket for front longitudinal member
-1- using -RW 1- and -RW 3- in front of the longitudinal member
-2-.



Note

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

- Install front bumper bracket for front longitudinal member
⇒ ["4.2 Installing", page 62](#) .



RO: 50 79 55 06

10 Renewing front longitudinal member - partial replacement



WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

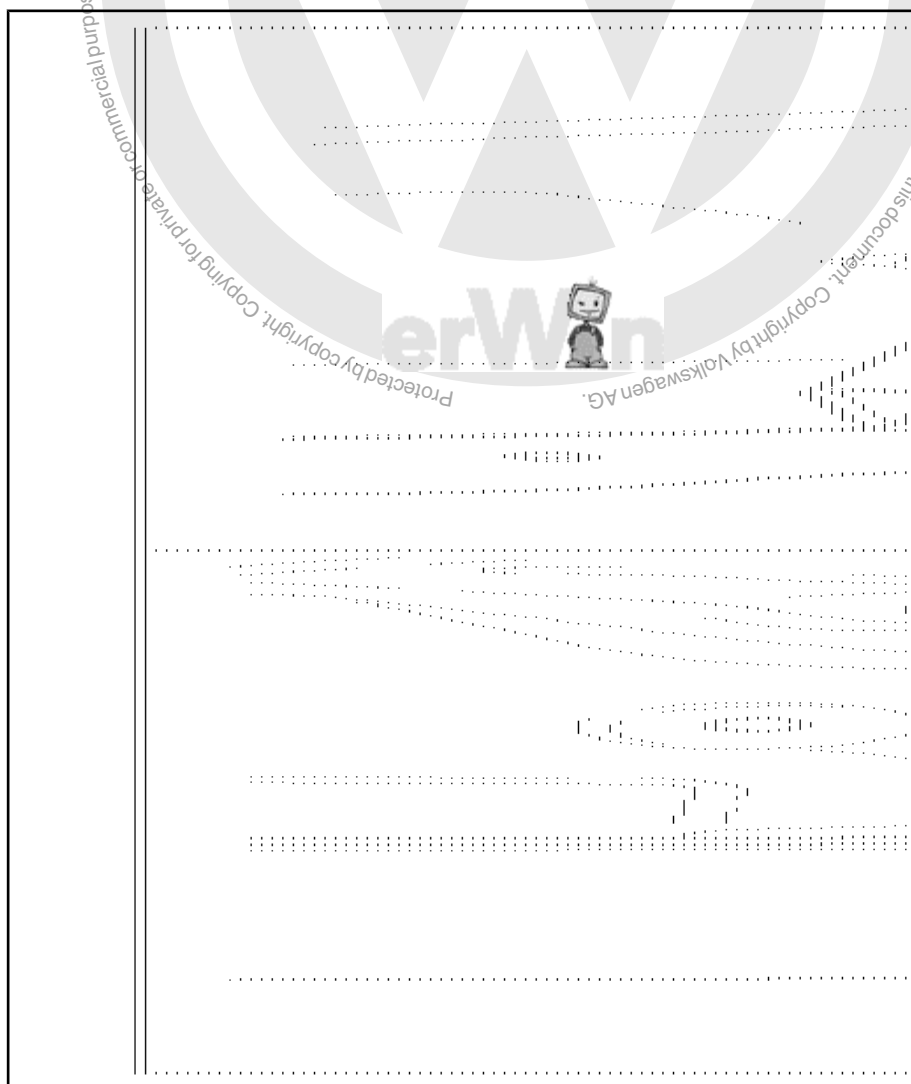
1 - Cover plate

2 - Longitudinal member



Note

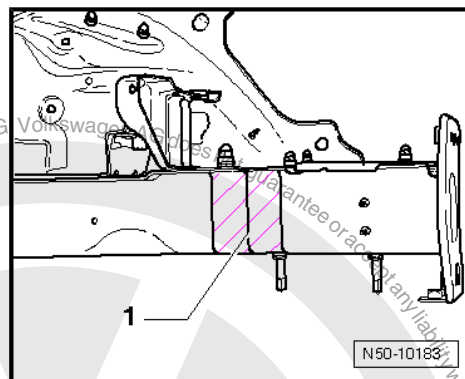
Dimension -a- = 50 mm



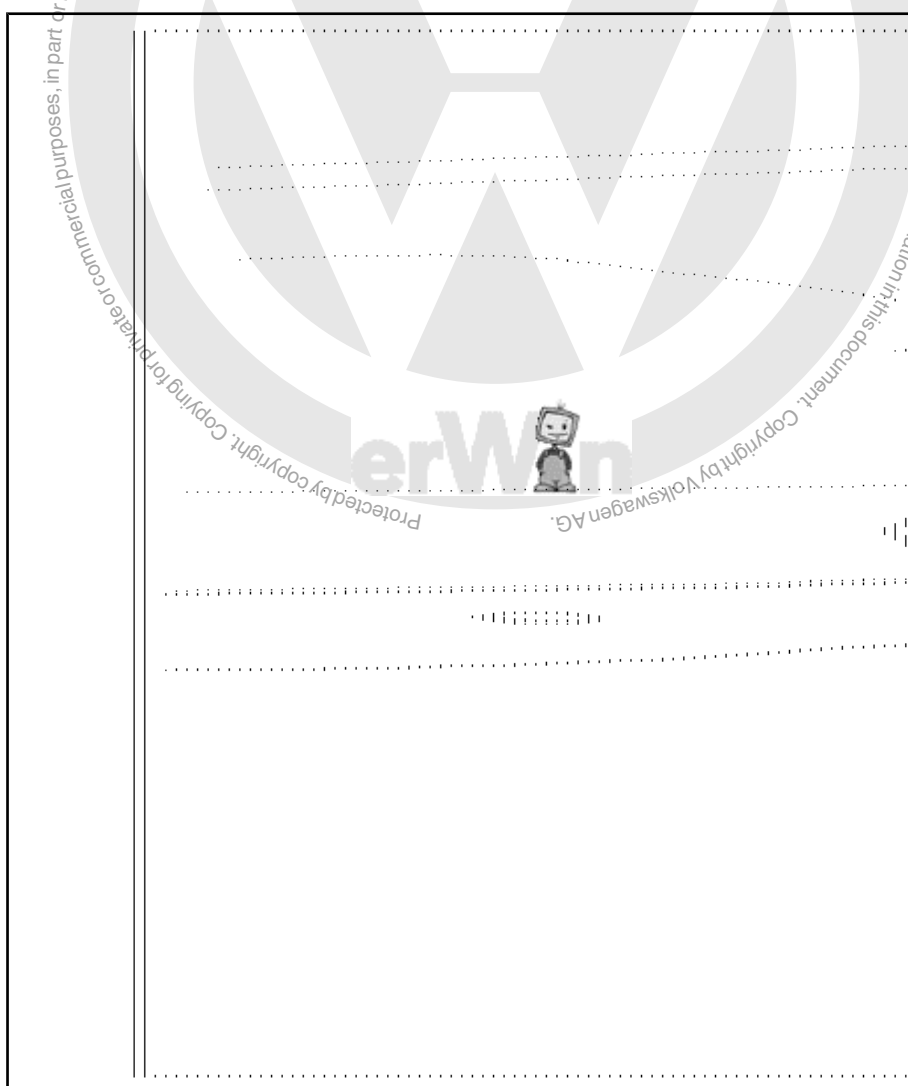


Note

*Do not cut or weld 50 mm before or after the laser weld seam
-1- (shaded area).*



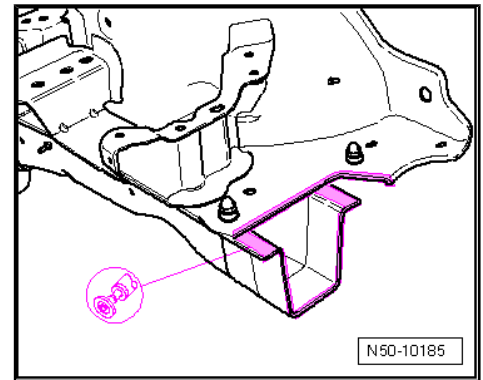
10.1 Removing



- Make parting cuts as shown.
- Release original joint.



- Remove remaining material.

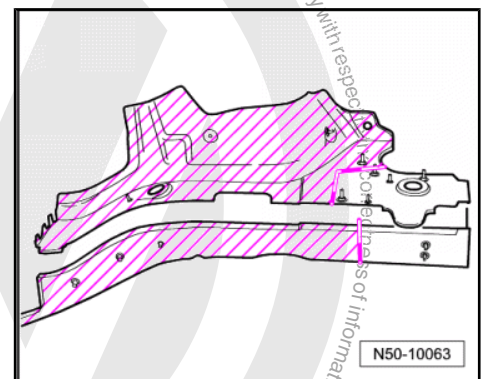


10.2 Installing

10.2.1 Preparing new part

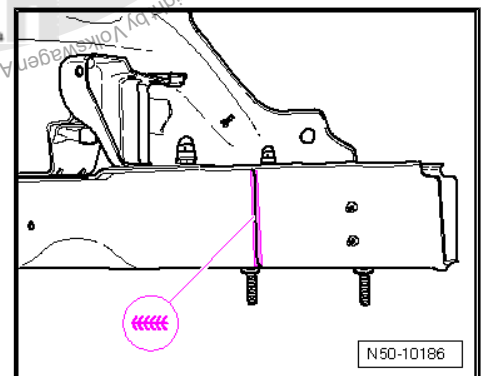
Replacement part

- ◆ Longitudinal member (subpart)
- ◆ Cover plate for longitudinal member
- Transfer parting cuts to new parts and cut out.



10.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fitting to adjacent components.
- Weld longitudinal member parting cut all around, SG continuous weld seam.





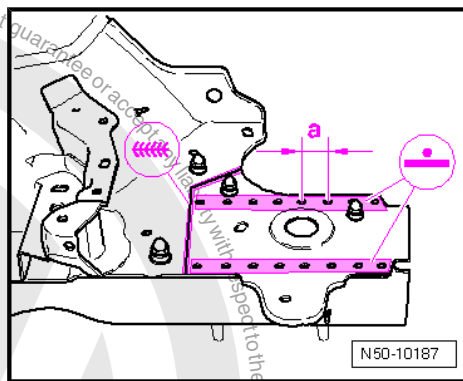
- Recreate original joint, RP spot weld seam.



Note

Distance between weld points -a- approx. 35-40 mm

- Weld cover plate parting cut, SG continuous weld seam.



10.2.3 Shortening new longitudinal member with cover plate

- Shortening longitudinal member with cover plate
⇒ [“9.2.3 Shortening new longitudinal member with cover plate”, page 82](#)
- Install front bumper bracket. ⇒ [“4.2 Installing”, page 62](#)



51 – Body - centre

RO: 51 03 55 00

1 Renewing roof




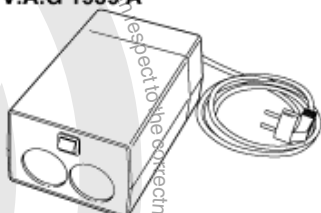
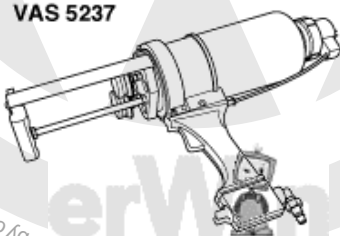
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

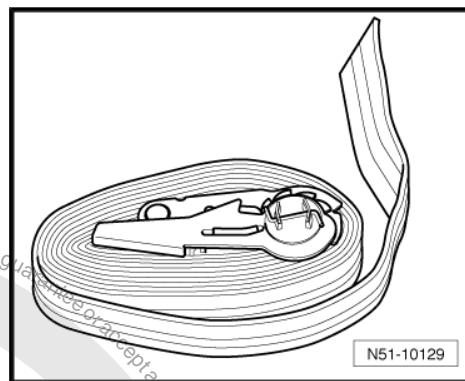
Special tools and workshop equipment required

- ◆ Pneumatic cartridge gun - V.A.G 1761/1
- ◆ Cartridge heater - V.A.G 1939 A
- ◆ Double-cartridge gun - VAS 5237

<p>V.A.G 1761/1</p> 	<p>V.A.G 1939 A</p> 
<p>VAS 5237</p> 	
	<p>W51-0003</p>



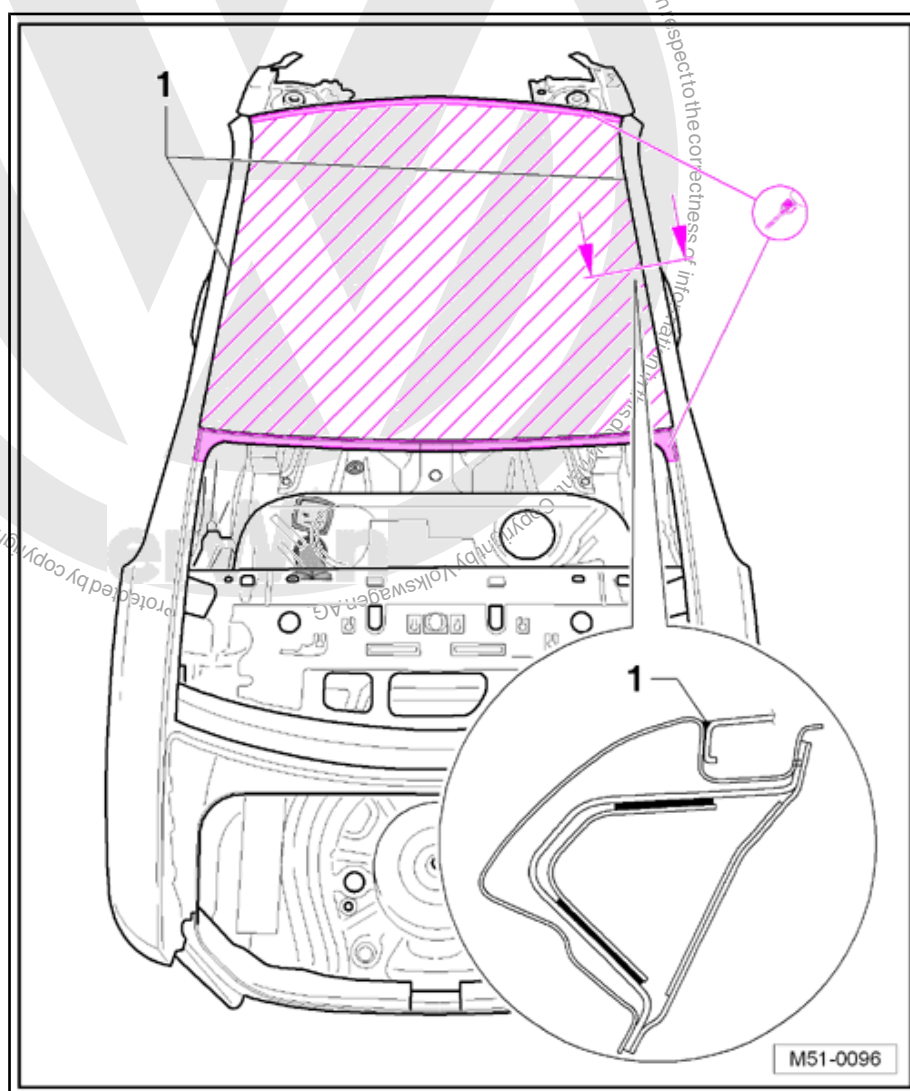
Securing belt (commercial type)

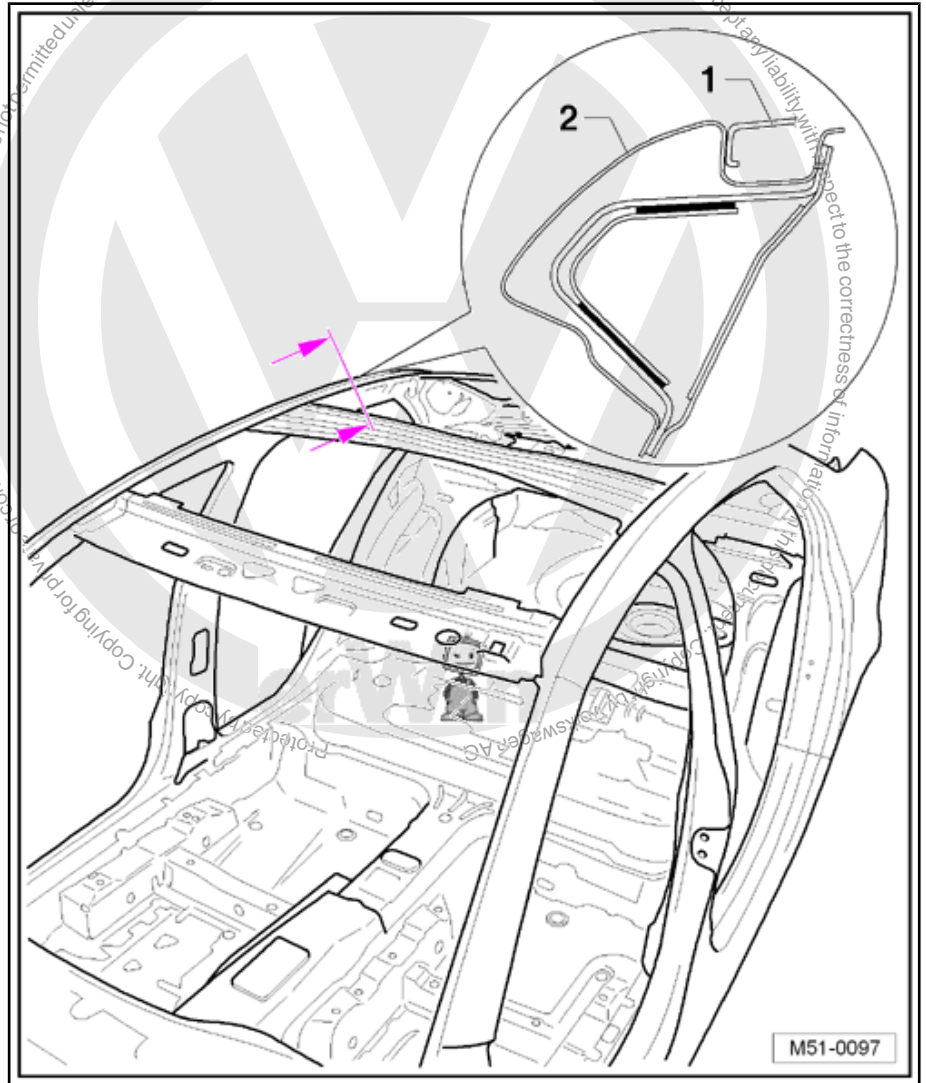


1.1 Removing

1 - Laser weld seam

- Cut off roof roughly.





- Remove remaining material.

i Note

- ◆ *When removing the remaining material -1- from the roof, make sure that the side elements (roof side member) -2- are not damaged.*
- ◆ *Do not use cutting disks or rough grinding disks.*
- Remove all adhesive residues and remaining sealing compound from the front and rear roof cross members and the roof reinforcement.
- Restore paint structure.

1.2 Installing

1.2.1 Preparing new part

Replacement part

- ◆ Roof
- ◆ 1K assembly adhesive -D 190 MKD A3- (3 cartridges)



- ◆ 2K body adhesive -D 180 KD3 A2- (2 cartridge sets)
- ◆ Adhesive sealant -AKD 476 KD5 05-
- ◆ Primer -ALN 002 003 04-
- ◆ Felt -533 867 910 B-

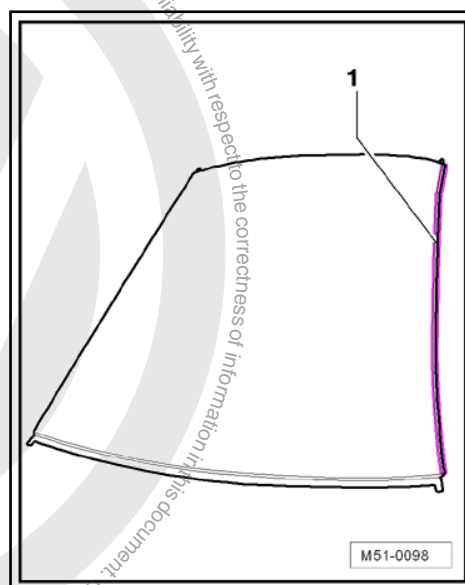


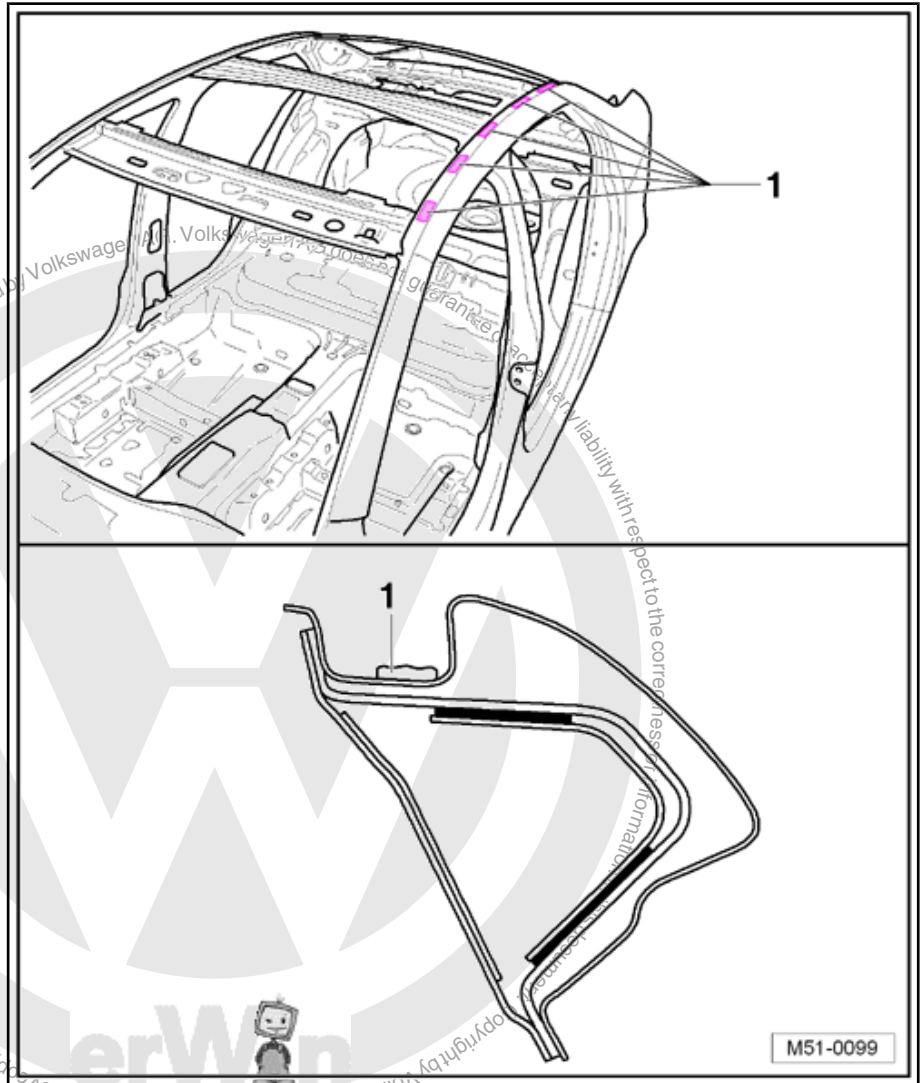
Note

- ◆ *Following repair sequence must be adhered to in order to ensure correct and long-lasting roof repairs.*
- ◆ *No filler should be applied to the bonding areas before the roof is bonded in position.*

- Roughen bonding area on vehicle using fine abrasive paper (360 grade).
- Grind back bonding area -1- on left and right of roof to bare metal.

This ensures that 2K body adhesive -D 180 KD3 A2- bonds well with bonding area.



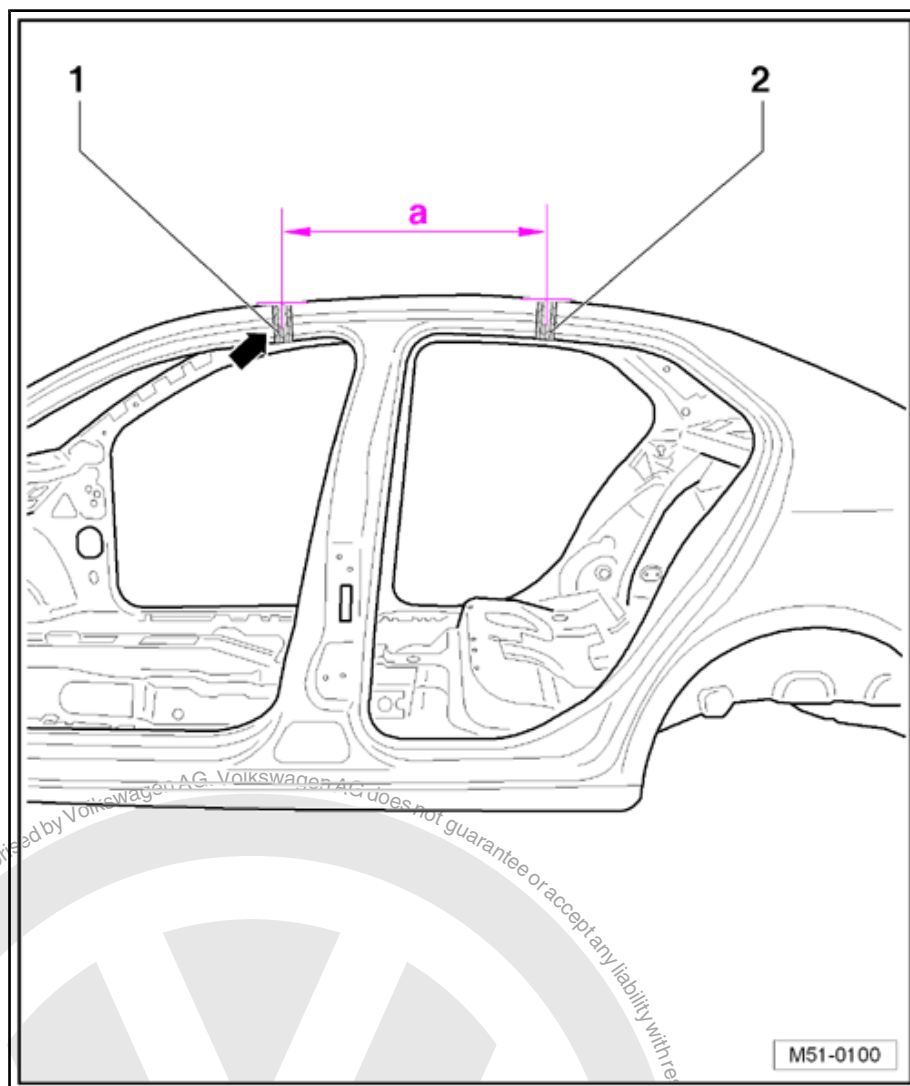


- As required, place approx. 6-10 felt pads -1- on roof frame on left and right-hand side.
- Place roof on roof frame and check position of roof relative to roof side elements is correct (visual inspection).



Note

Check that roof is aligned correctly with the rear window and the windscreen.



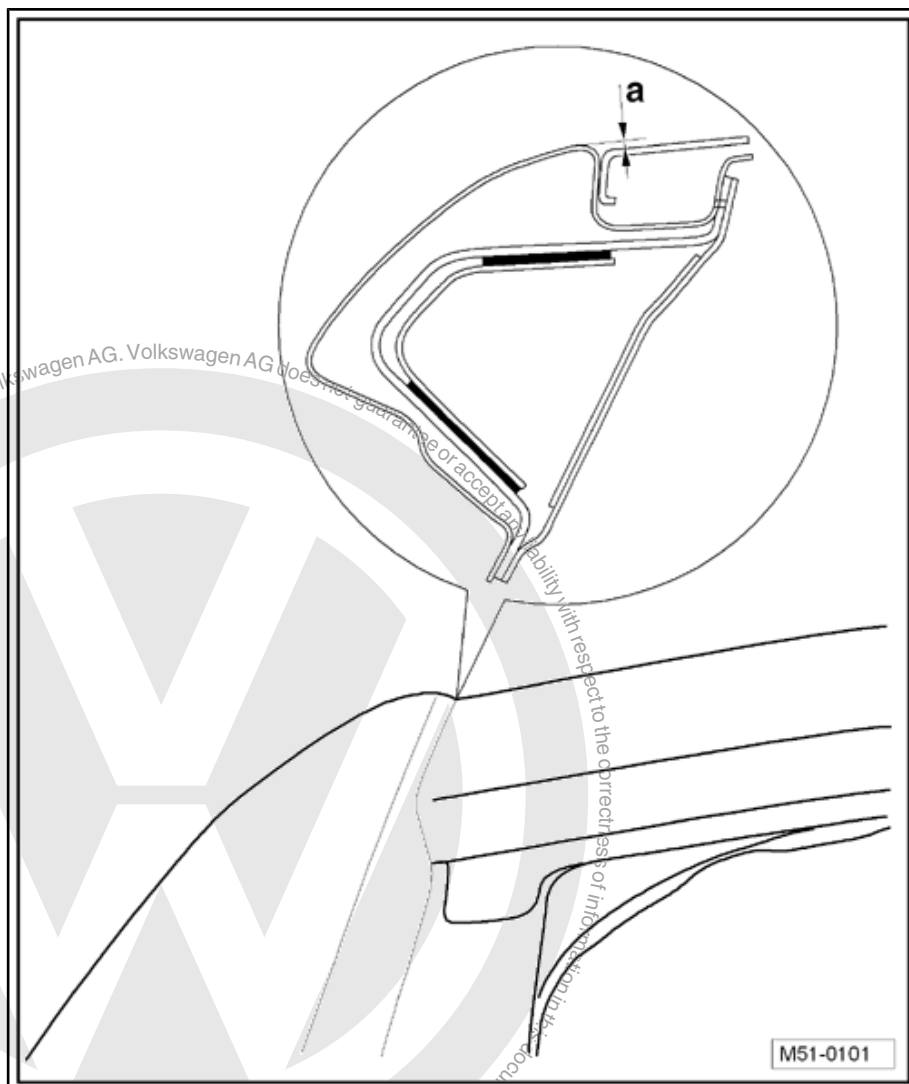
- Tension two securing belts (commercially available) across roof.
- Align front belt -arrow- with marking -1- in front door openings used for fitting front roof-top carrier system bars.
- On both sides of vehicle, measure dimension -a- from marking -arrow- used for fitting front roof-top carrier system bars towards rear and then mark this point on vehicle.

Dimension -a- = 691 mm

- Tighten rear belt -2- at these markings.



1.2.2 Adjusting roof depth



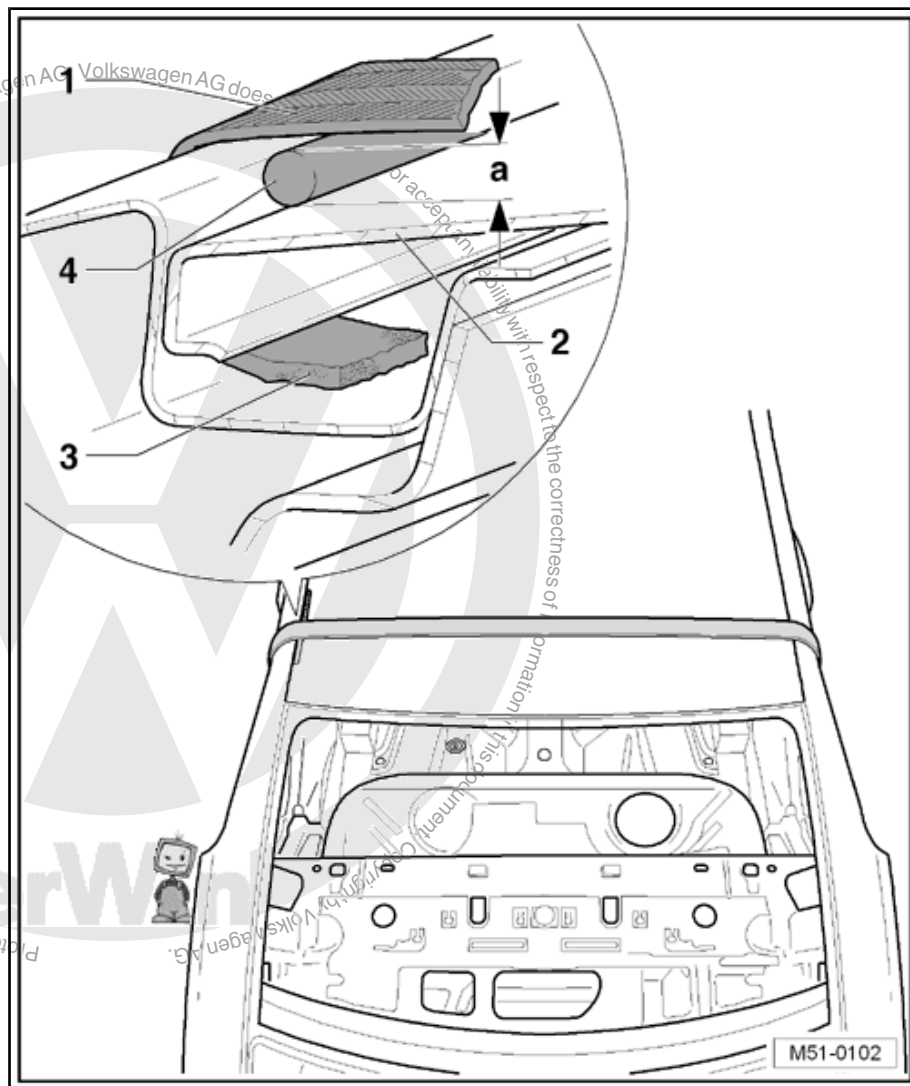
By tightening and loosening the securing belts, you can determine dimension -a- to position roof deeper relative to roof side members.

Dimension -a- = 3.5 + 0.5 mm



Note

The securing belts should not be tightened too much, otherwise the roof and/or roof side members could be damaged.



- Use a drill bit (\varnothing 3.5 mm) to check dimension -a- (drill bit -4- must be able to slide between roof -2- and securing belt -1- without much resistance).
- If necessary, change felt pads -3- to adjust and improve roof alignment.
- Remove roof again.
- Clean bonding areas on roof and vehicle with silicone remover -LSE 020 100 A3- .

1.2.3 Bonding roof

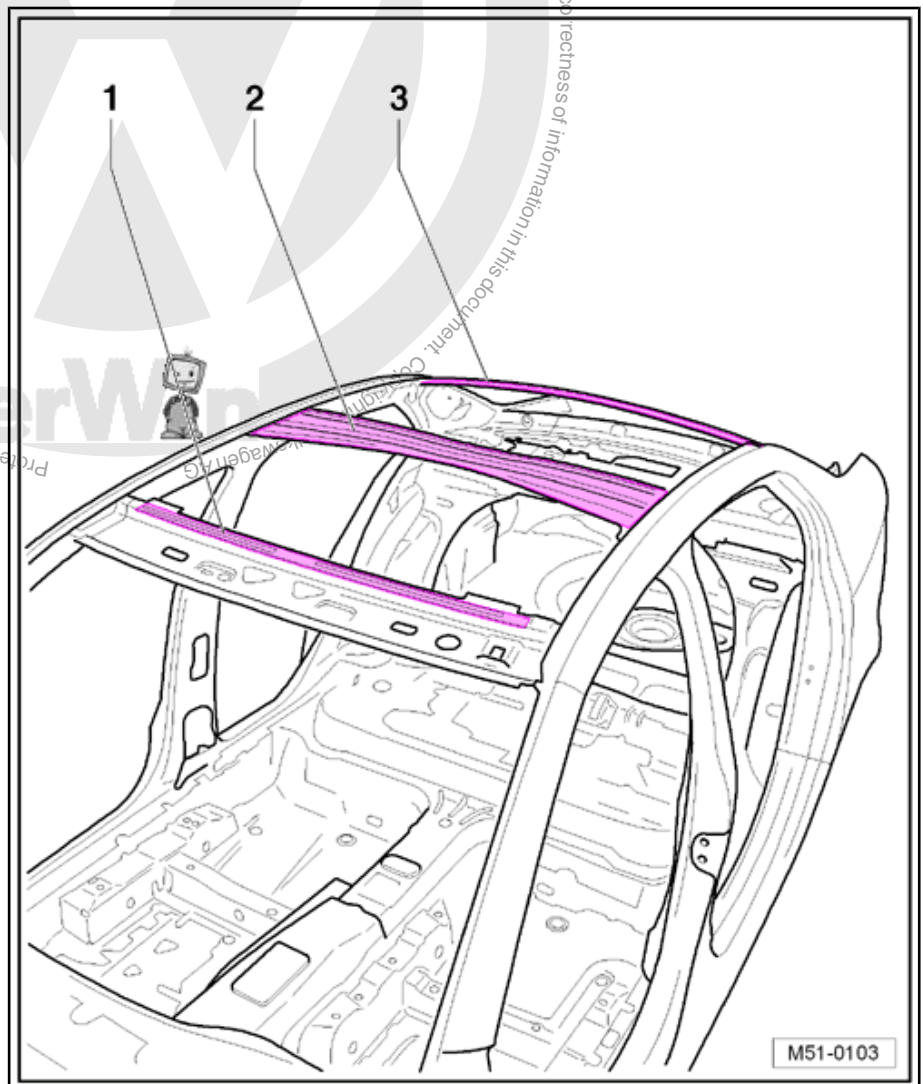
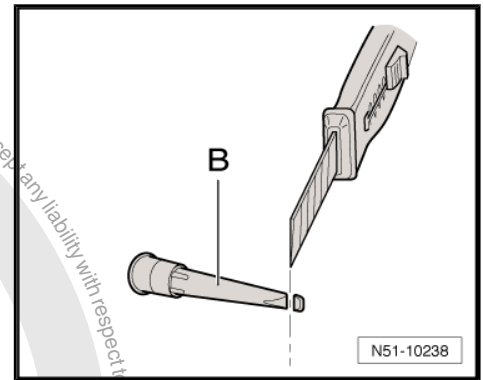


Note

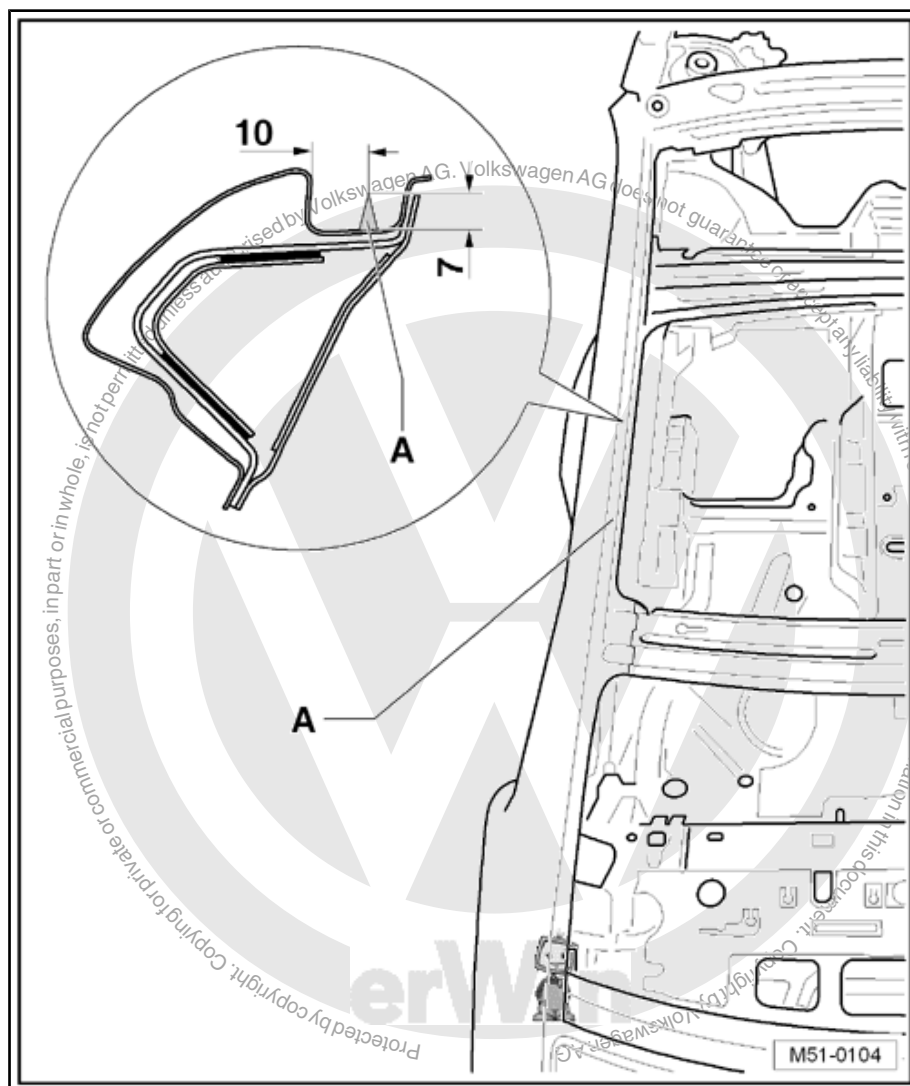
- ◆ *The adhesive materials must be applied very quickly.*
- ◆ *Always observe the application time (pot life).*
- ◆ *Use pneumatic or electric cartridge guns to apply the adhesive materials.*



- Cut approx. 2 mm off nozzle -B- to provide appropriate bead shape.



- Apply 1-K installation adhesive -D 190 MKD A3-, using the pneumatic gun -V.A.G 1761/1-, onto the front roof cross member -1-, the centre roof reinforcement -2- and the rear roof cross member -3- in the area of the factory bonding.

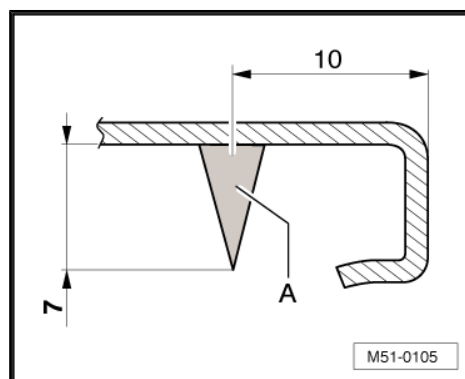


- Apply 1K assembly adhesive -D 190 MKD A3- -A- in area of roof member, using pneumatic cartridge gun -V.A.G 1761/1- .
- Apply 1K assembly adhesive -D 190 MKD A3- -A- on the inner side of roof parallel to the left and right roof flange with the pneumatic gun -V.A.G 1761/1- .



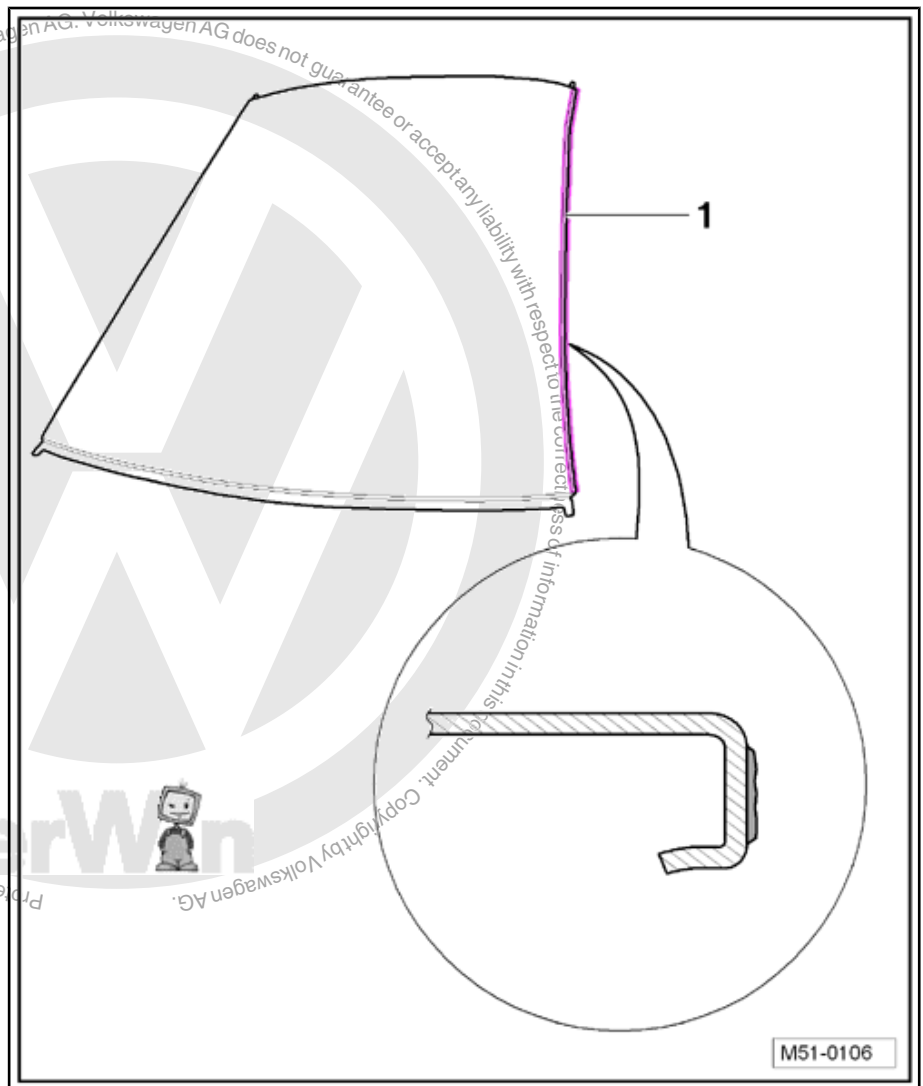
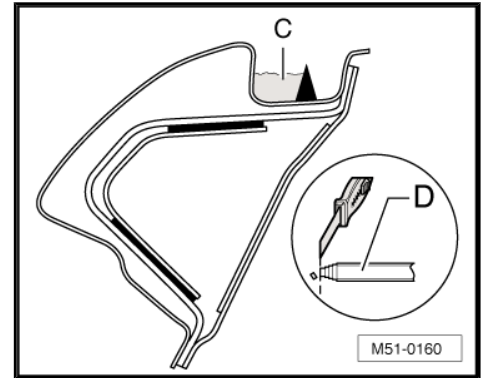
Note

- ◆ The application time (pot life) of the 2K body adhesive -D 180 KD3 A2- is approx. 20 minutes.
- ◆ An assistant is required for the following work.





- Cut the first step of the static mixer -D- off to achieve the corresponding bead cross-section.
- Carefully operate the double cartridge gun -VAS 5237- without static mixer until the adhesive is discharged uniformly from both chambers of the cartridge connector.
- Then screw the static mixer onto the cartridge connector.
- Apply the first 100 mm of adhesive to a piece of cardboard and only then begin to apply the adhesive to the vehicle.
- Now fill area -C- with 2K body adhesive -D 180 KD3 A2- using double-cartridge gun -VAS 5237- .



- Lightly coat the roof flanges -1- with 2K body adhesive -D 180 KD3 A2- .
- Place roof in position immediately and align.
- Secure roof to front window opening and rear lid opening using mole grips, and to centre section using securing belts.
- Remove excessive adhesive at side of roof immediately using a cloth soaked in silicone remover -LSE 020 100 A3- .



- Check roof depth dimension -a- for the roof
⇒ [“1.2.2 Adjusting roof depth”, page 95](#)

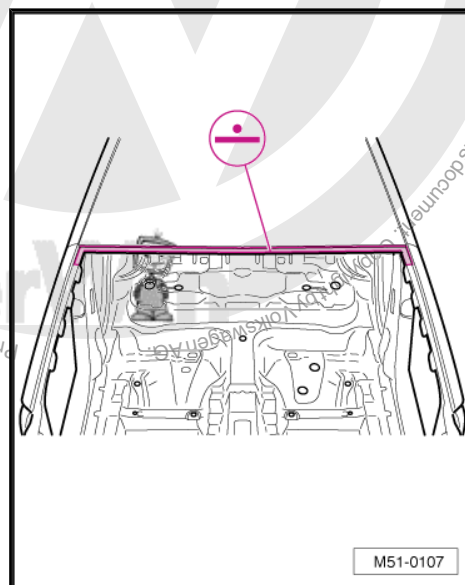


Note

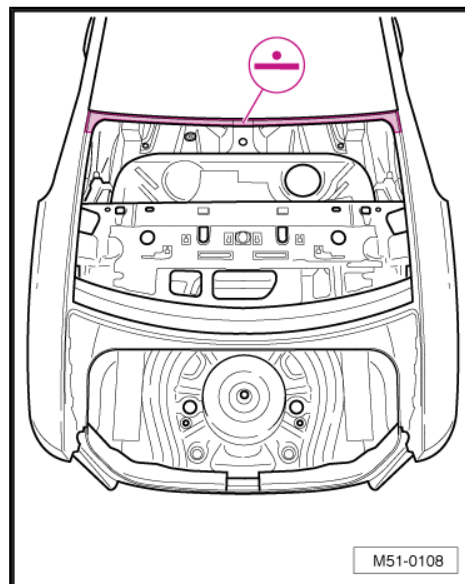
- ◆ *After bonding, the vehicle must stand on a level surface for 8...10 hours at room temperature (at least 15° C) so that the bonding components are able to harden (hardening time).*
- ◆ *No further work should be performed on the vehicle until the “hardening time” has expired.*

1.2.4 Welding in

- Weld roof to windscreen aperture, RP spot weld seam.

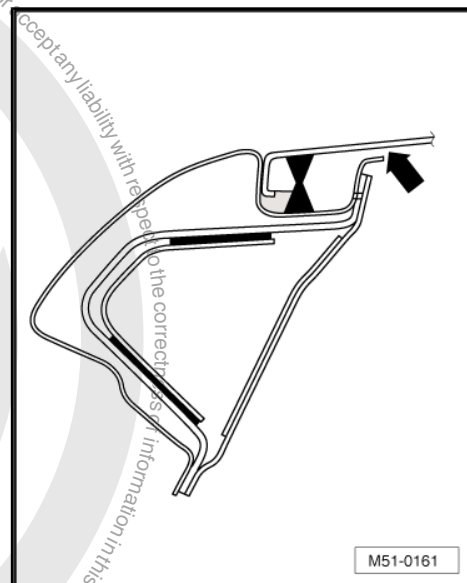


- Weld roof to rear window aperture, RP spot weld seam.
- Prime left and right-hand roof frame from inside with primer - ALN 002 003 04- .
- Apply adhesive sealant -AKD 476 KD5 05- from above to fully seal off bonding seam -1-.





- After painting, treat roof cavities -arrow- with cavity sealant - AKR 321 M15 4- .





RO: 51 07 55 50

2 Renewing front roof cross member



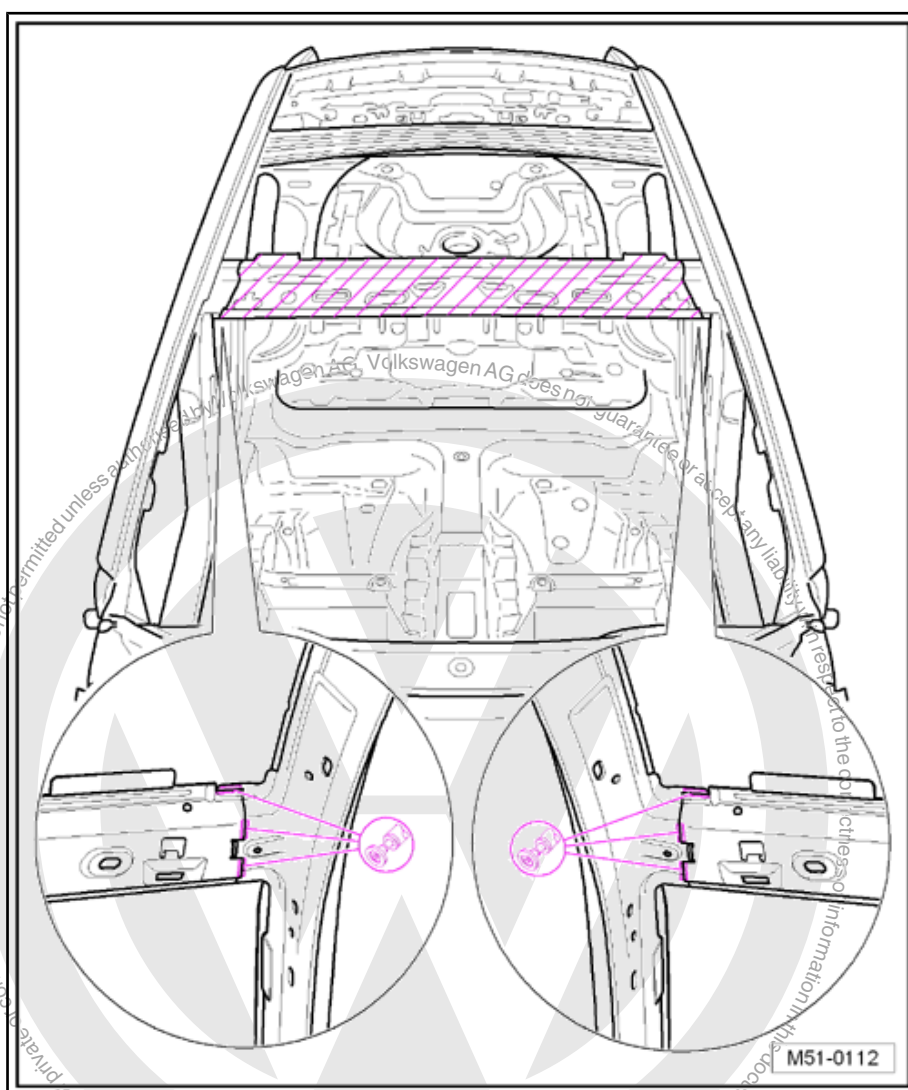
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

2.1 Removing

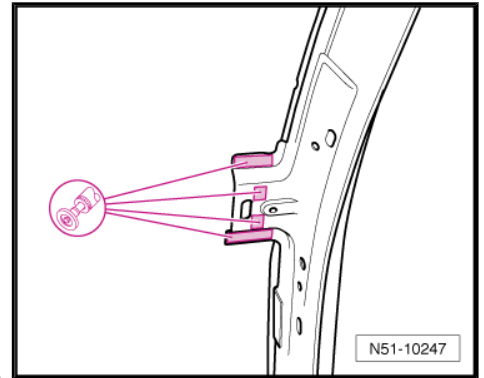
- Roof already removed ⇒ ["1 Renewing roof", page 89](#) .



- Release original joint.



- Remove residues at transition to left and right roof frame.

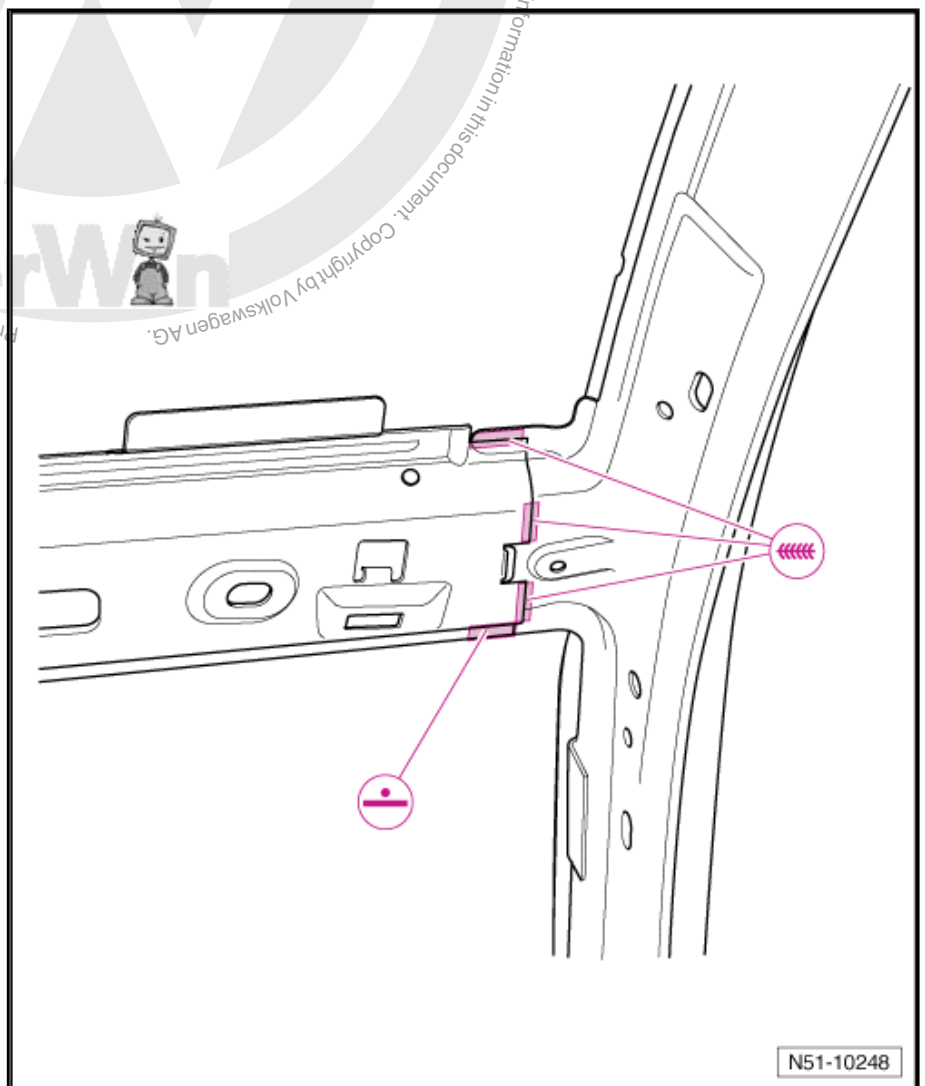


2.2 Installing

2.2.1 Welding in

Replacement part

- ◆ Front roof cross member
- Fit new part and secure.
- Check that roof is aligned correctly to the windscreen.





- Weld in front roof cross member, SG continuous weld seam and RP spot weld seam.
- Install roof ➔ ["1.2 Installing", page 91](#) .





RO: 51 08 55 50

3 Renewing roof reinforcement



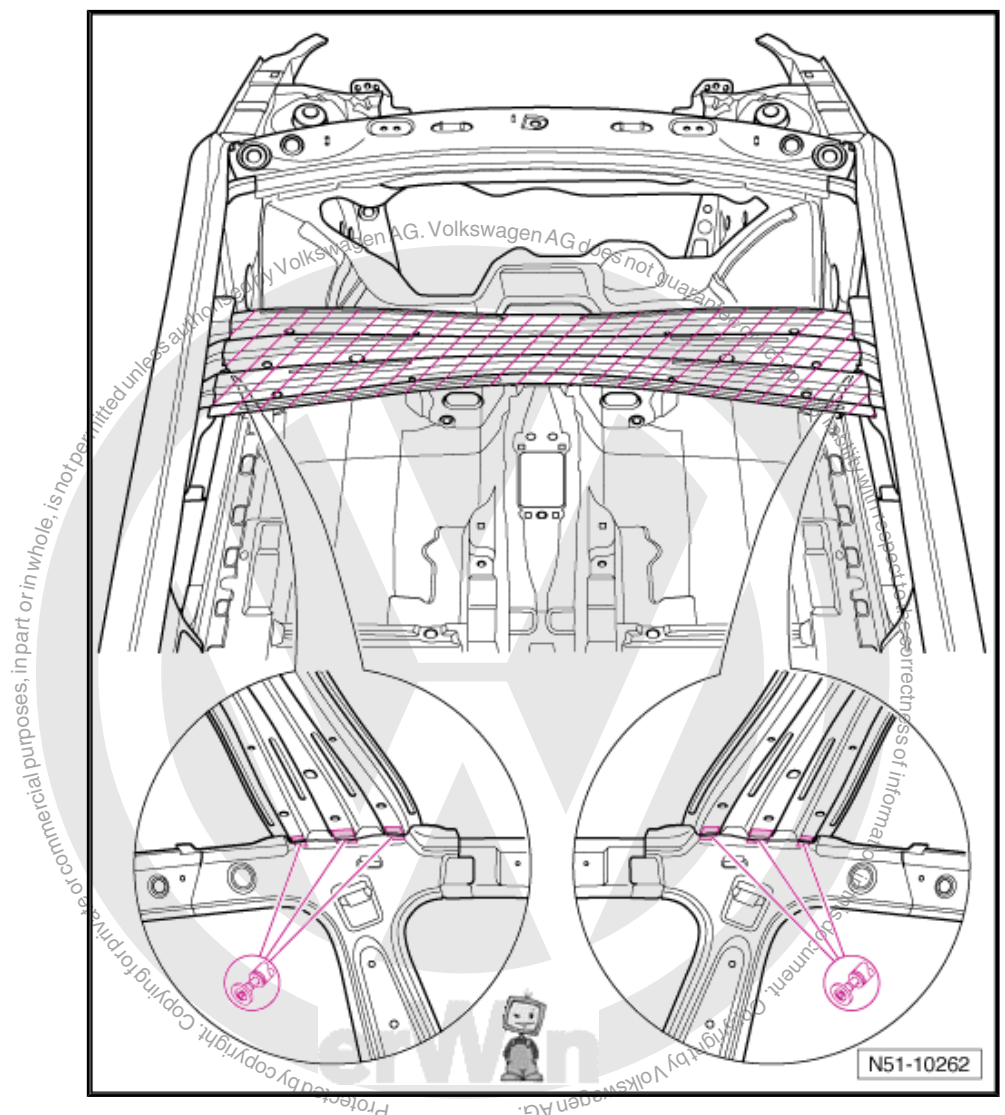
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

3.1 Removing

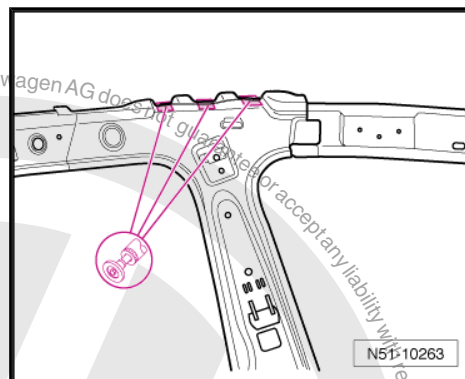
- Roof already removed ⇒ [“1 Renewing roof”, page 89](#) .



- Release original joint.



- Remove residues on left and right roof frame.

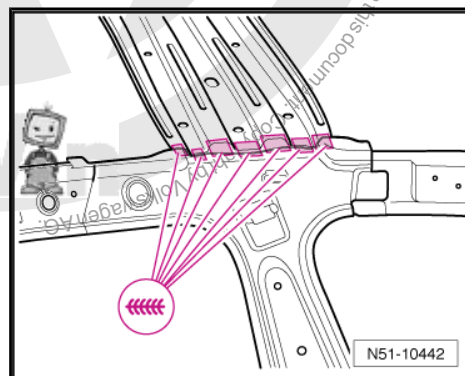


3.2 Installing

3.2.1 Welding in

Replacement part

- ◆ Roof reinforcement
- Adapt roof reinforcement and secure.
- Check fitting to roof.
- Weld roof reinforcement to left and right roof frame, SG continuous weld seam.
- Install roof ⇒ [“1.2 Installing”, page 91](#)





RO: 51 09 55 50

4 Renewing rear roof cross member



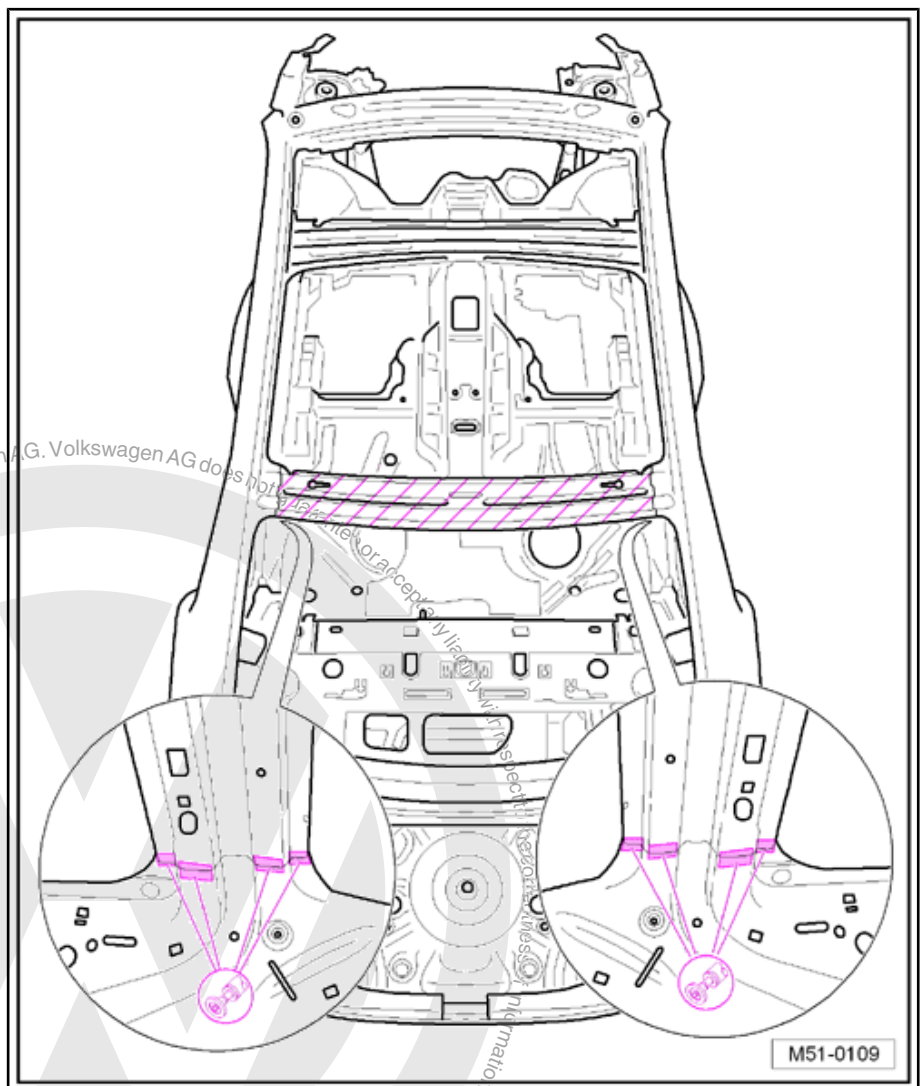
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

4.1 Removing

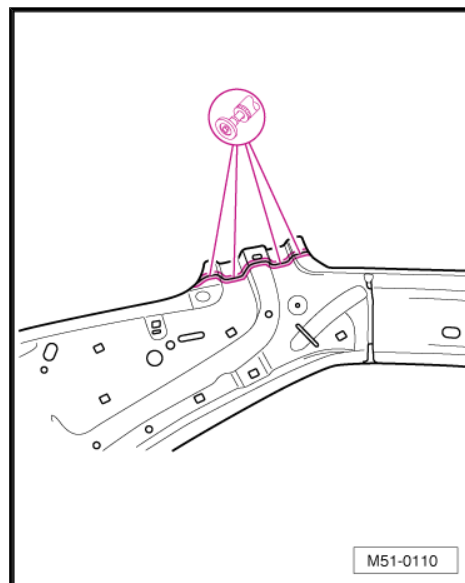
- Roof already removed ⇒ [“1 Renewing roof”, page 89](#) .



- Release original joint from interior.



- Remove residues at transition to left and right roof frame.

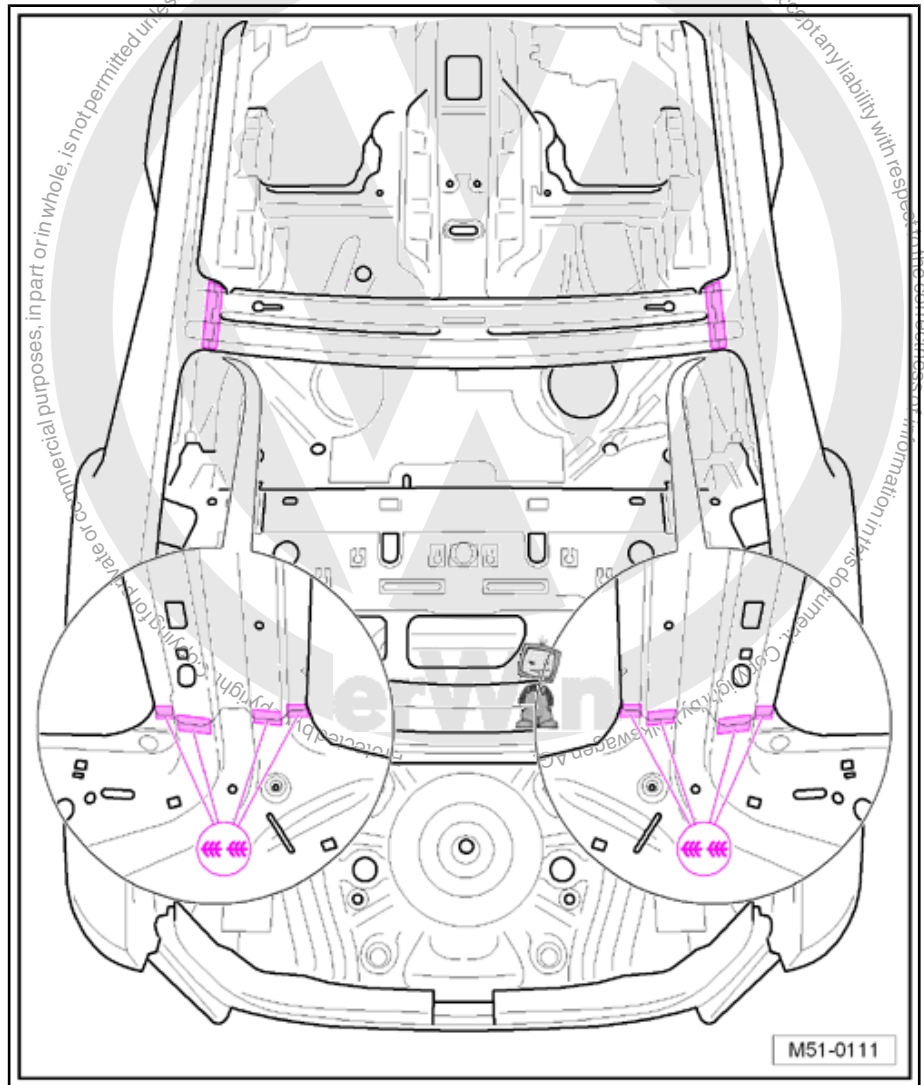


4.2 Installing

4.2.1 Welding in

Replacement part

- ◆ Rear roof cross member
- Fit new part and secure.
- Check that roof is aligned correctly to the rear window.



- Weld in new part, SG continuous weld seam (staggered).
- Install roof ⇒ [“1.2 Installing”, page 91](#) .



RO: 51 37 55 00

5 Renewing A-pillar - partial renewal

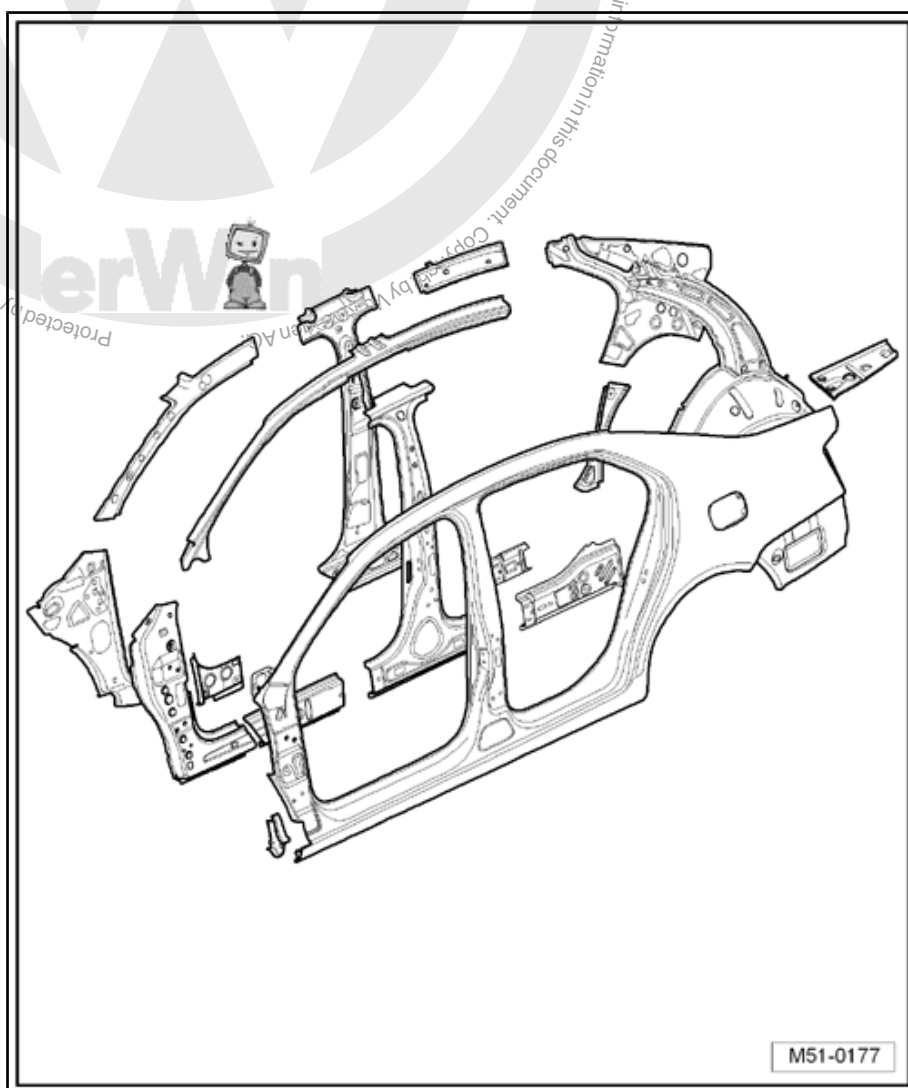


WARNING

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions





1 - Upper parting cut

2 - Moulded foam element

Dimension -a- = 195 mm



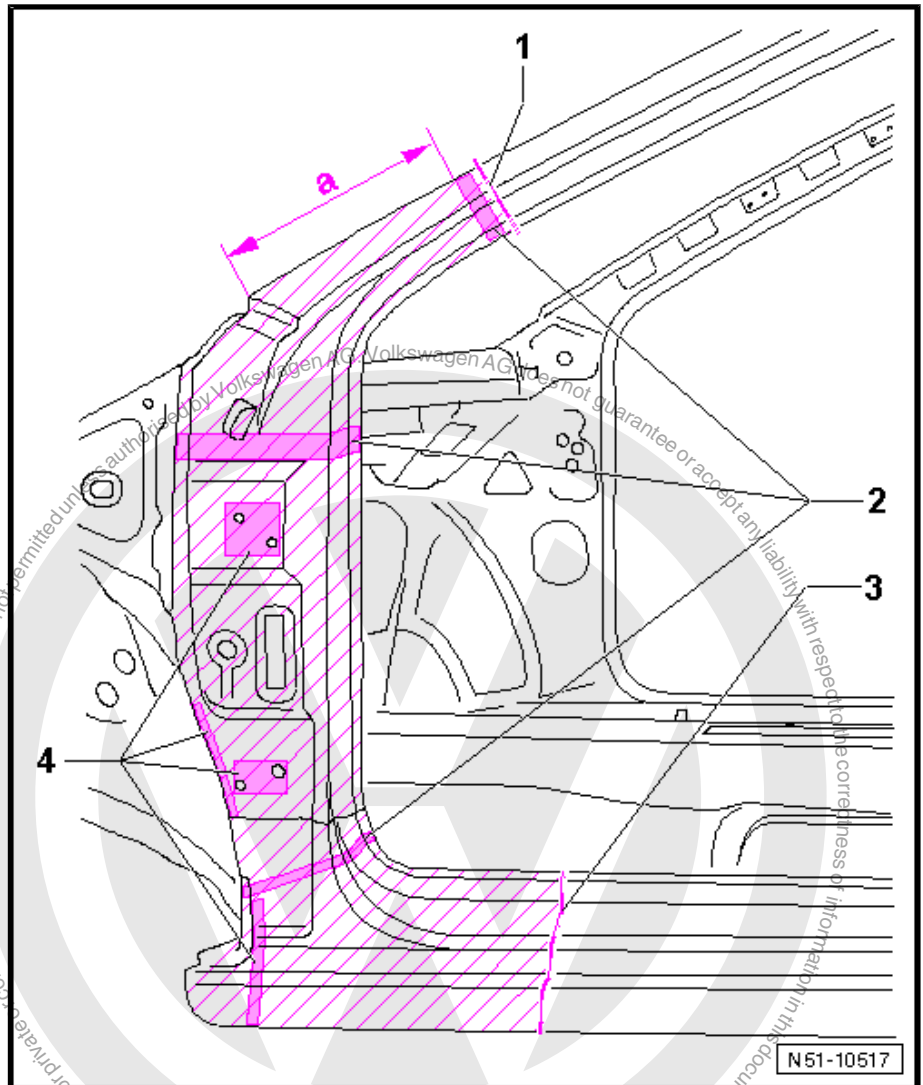
Note

3 - Parting cut for side member



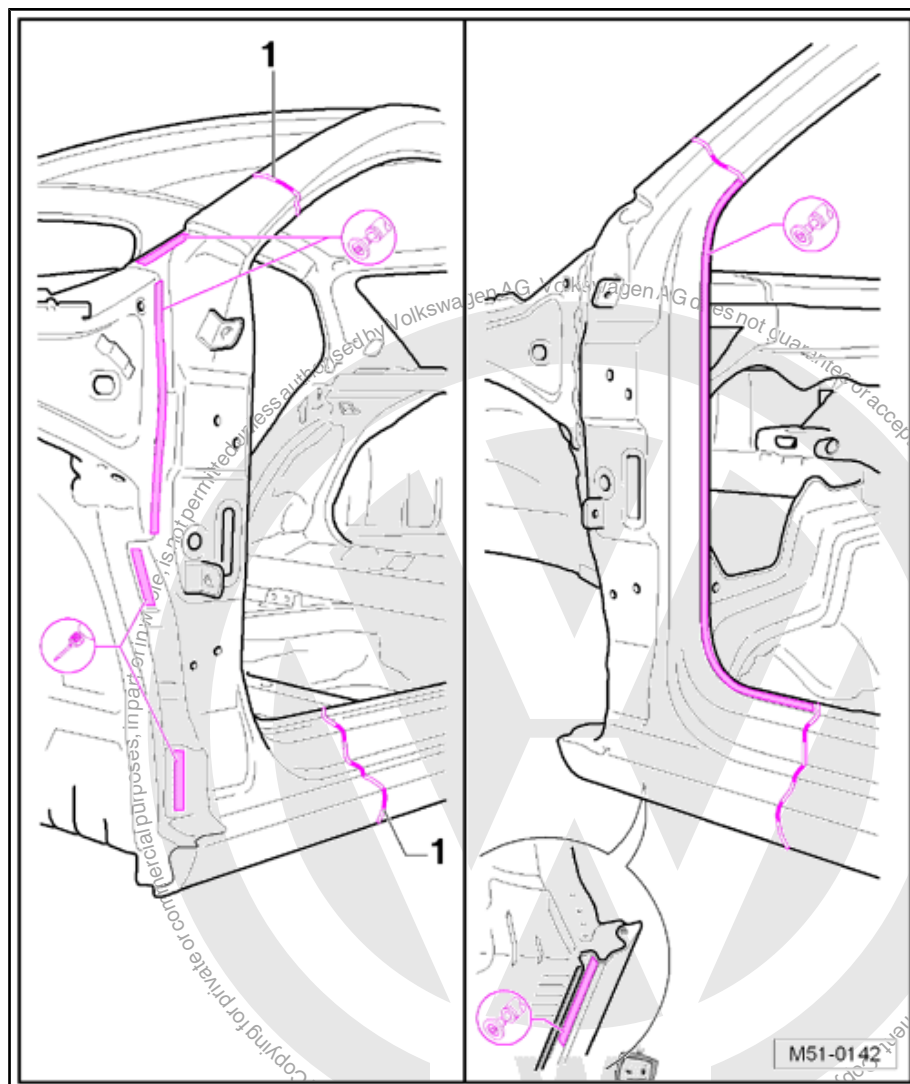
Note

4 - Bonded section





5.1 Removing



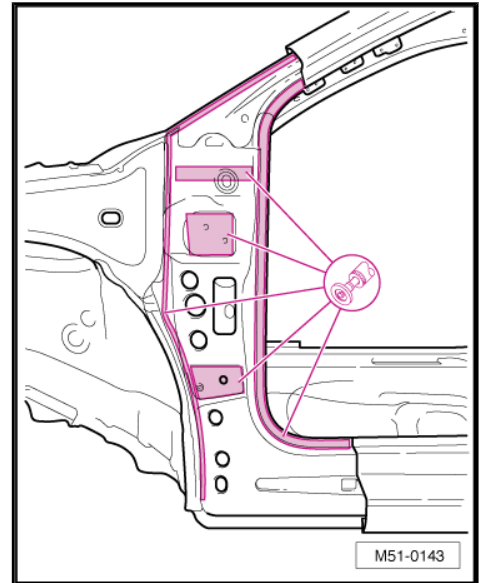
Note

Make parting cuts with pneumatic jig-saw -V.A.G 1523- only.

- Make parting cuts -1- according to damage.
- Release original joint.
- Remove remaining material.



- Remove adhesive remains completely and grind adhesive surfaces back to bare metal.

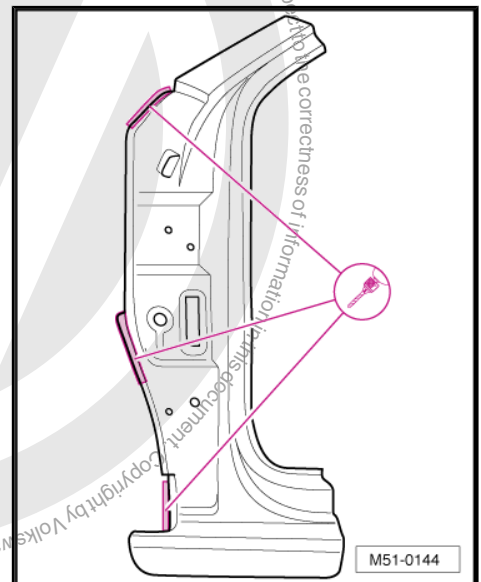


5.2 Installing

5.2.1 Preparing new part

Replacement part

- ◆ A-pillar subpart with side member sealing plate
- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-
- Transfer parting cuts to the new part and cut.
- Drill 7 mm Ø holes for SG plug weld seam.



5.2.2 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs,
General Body Repairs ; General Notes; Moulded foam elements



5.2.3 Welding in

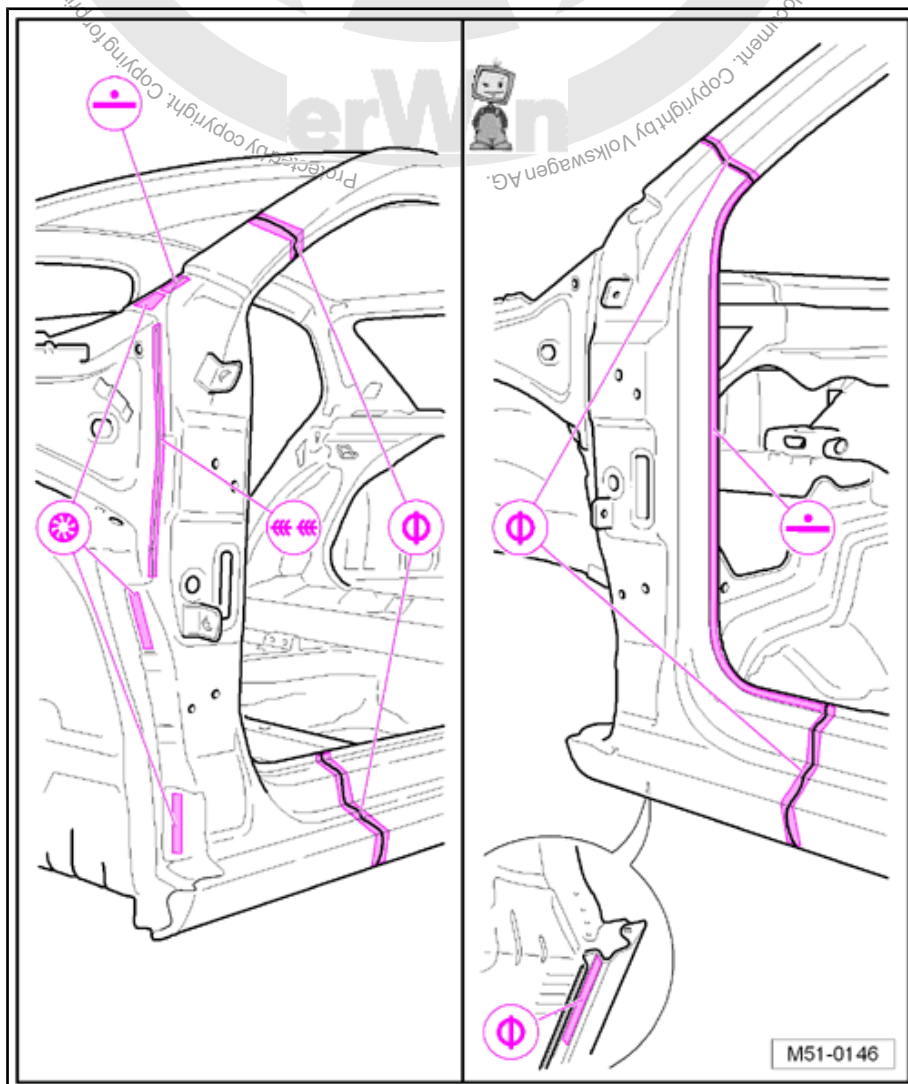
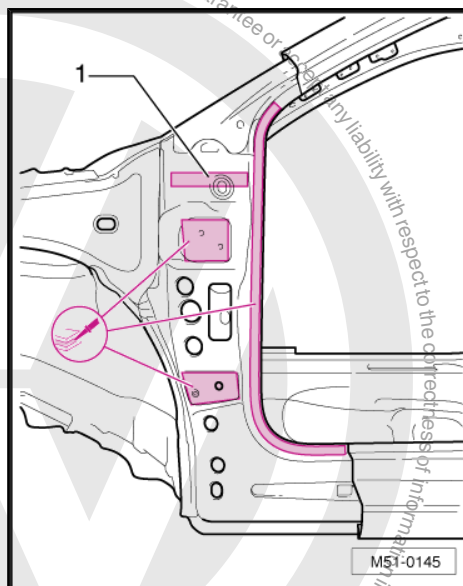
- Apply 2-K body adhesive -D 180 KD3 A2- in the area of the factory bonding and in the door aperture area.
- Apply an adhesive cord -AKD 497 010 04 R10- above upper hinge area -1-.



Note

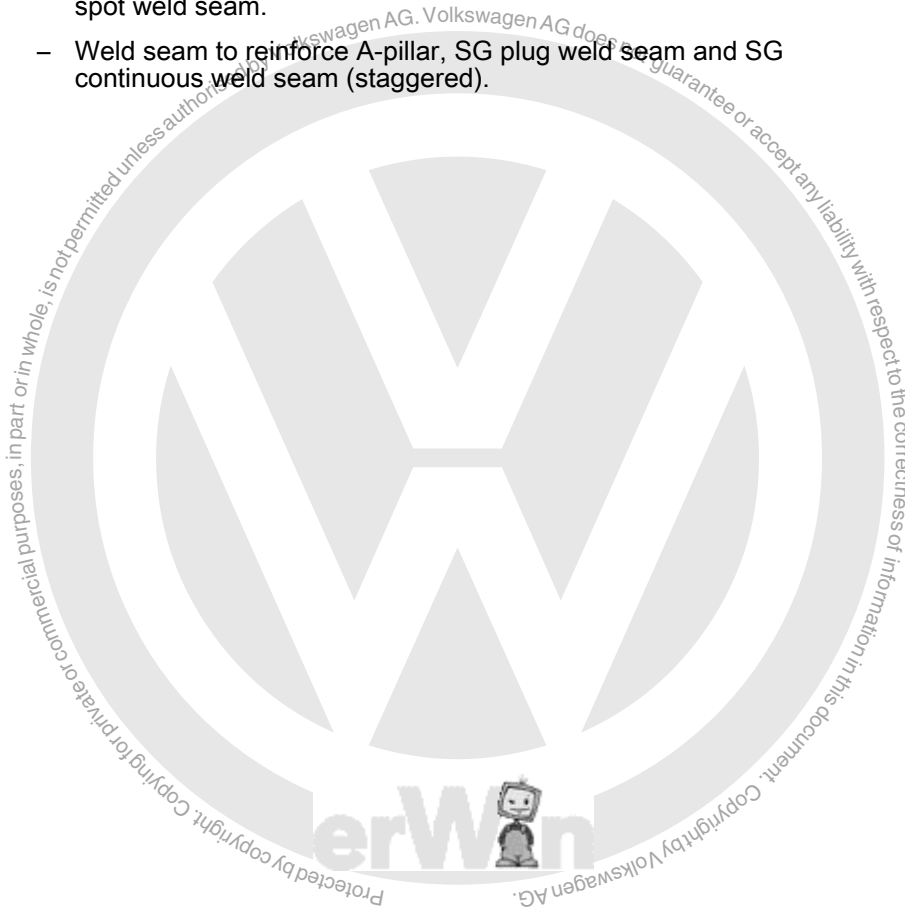
New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fit with add on parts.





- Weld parting cuts and connecting area to reinforcement for lower side member, SG stepped weld seam.
- Recreate original joint in windscreen and door apertures, RP spot weld seam.
- Weld seam to reinforce A-pillar, SG plug weld seam and SG continuous weld seam (staggered).





RO: 51 38 55 50

6 Renewing A-pillar reinforcement



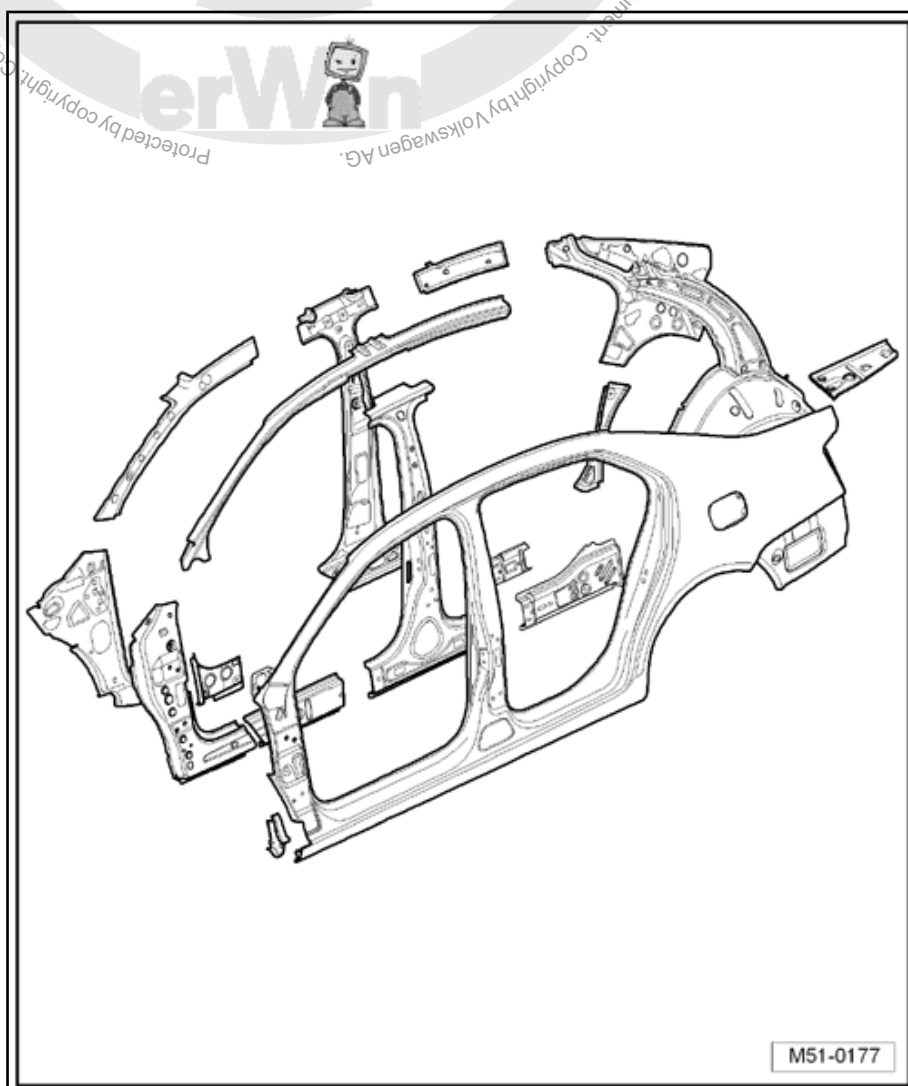
WARNING

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Upper longitudinal member cover plate for wheel housing already removed
⇒ ["5 Renewing upper wheel housing longitudinal member", page 64](#) .
- A-pillar already removed
⇒ ["5 Renewing A-pillar - partial renewal", page 110](#)



M51-0177



1 - A-pillar reinforcement

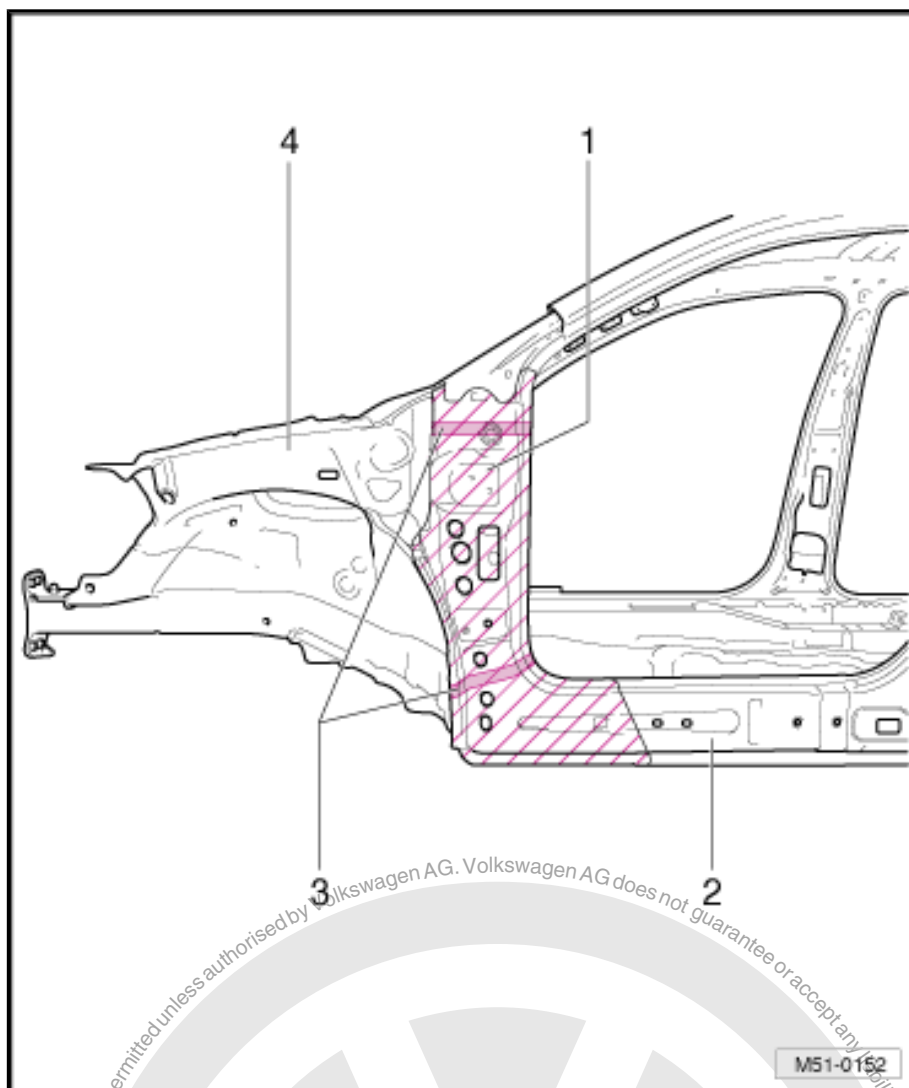
2 - Front side member reinforcement

3 - Moulded foam element

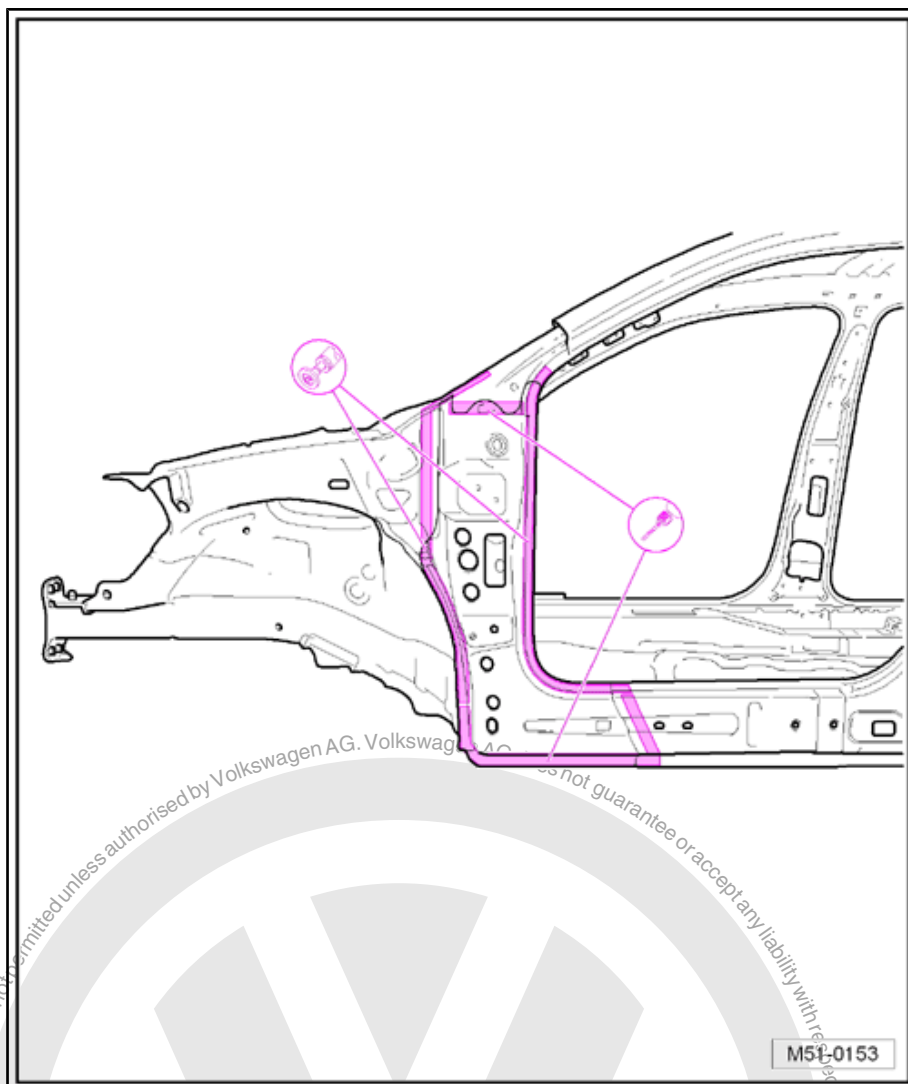


Note

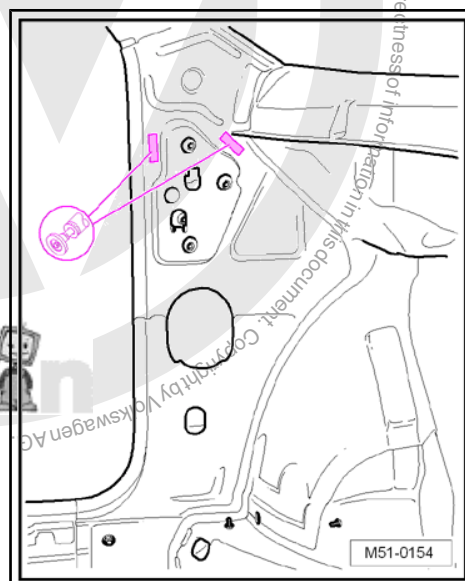
4 - Upper longitudinal member cover plate for wheel housing



6.1 Removing

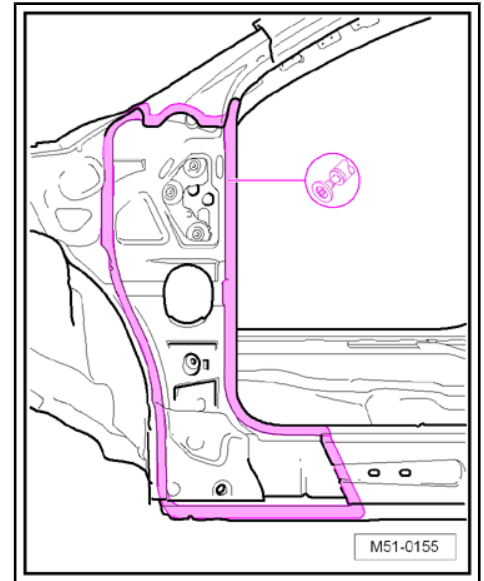


- Separate original joint of A-pillar reinforcement.
- Separate bead of upper hinge reinforcement from interior.





- Remove remaining material.

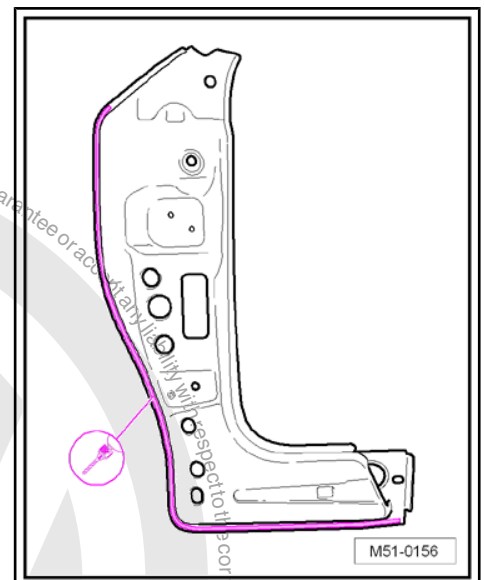


6.2 Installing

6.2.1 Preparing new part

Replacement part

- ◆ A-pillar reinforcement with web plate for side member
- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-
- Drill 7 mm Ø holes for SG plug weld seam.



6.2.2 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs,
General Body Repairs ; General Notes; Moulded foam elements



6.2.3 Welding in

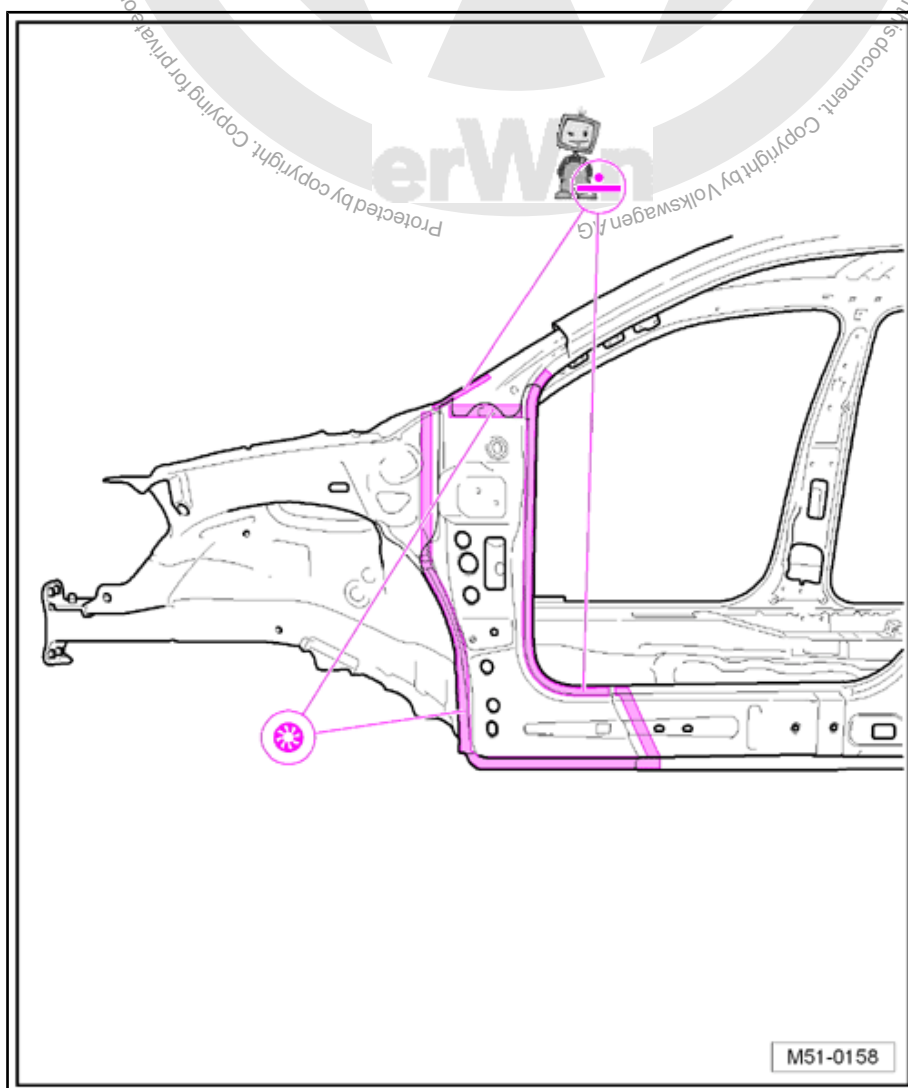
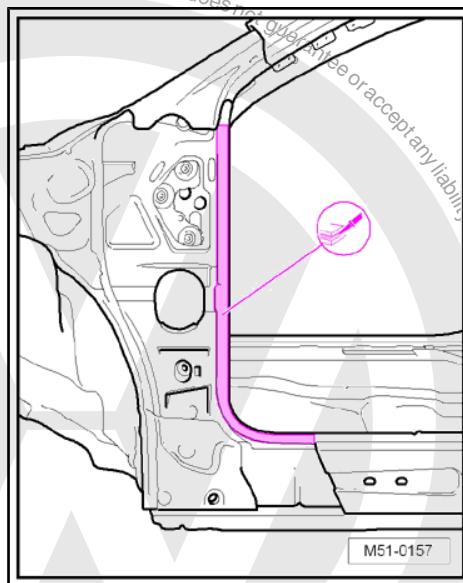
- Apply 2-K body adhesive -D 180 KD3 A2- in the area of the door aperture.



Note

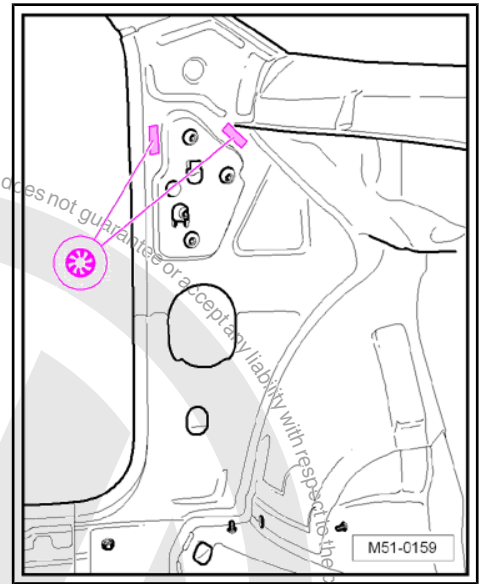
New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fitting to A-pillar.





- Weld in A-pillar reinforcement, SG plug weld seam and RP spot weld seam.
- Weld in A-pillar reinforcement from interior, SG plug weld seam.
- Install upper longitudinal member cover plate for wheel housing ⇒ [“5.2 Installing”, page 65](#) .
- Install A-pillar ⇒ [“5.2 Installing”, page 113](#) .



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RO: 51 41 55 00

7 Renewing B-pillar

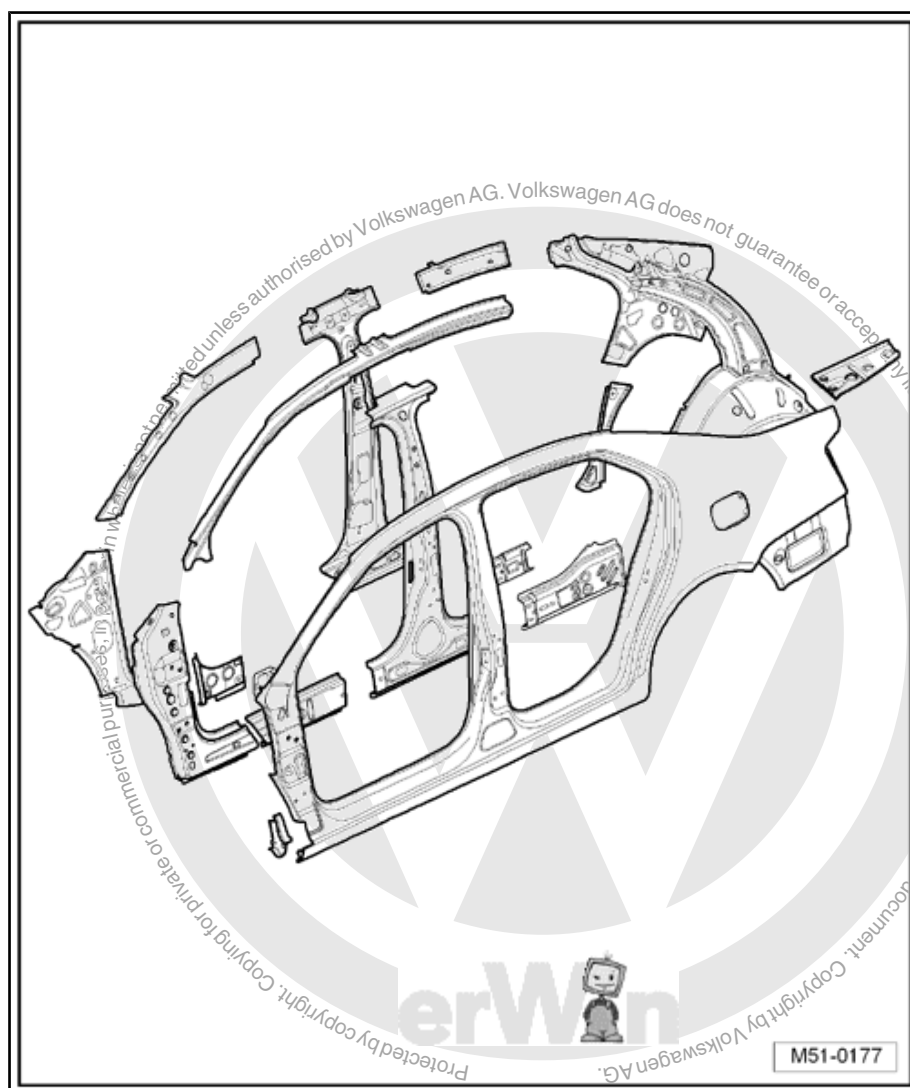


DANGER!

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions





1 - Bonded section

2 - Side panel

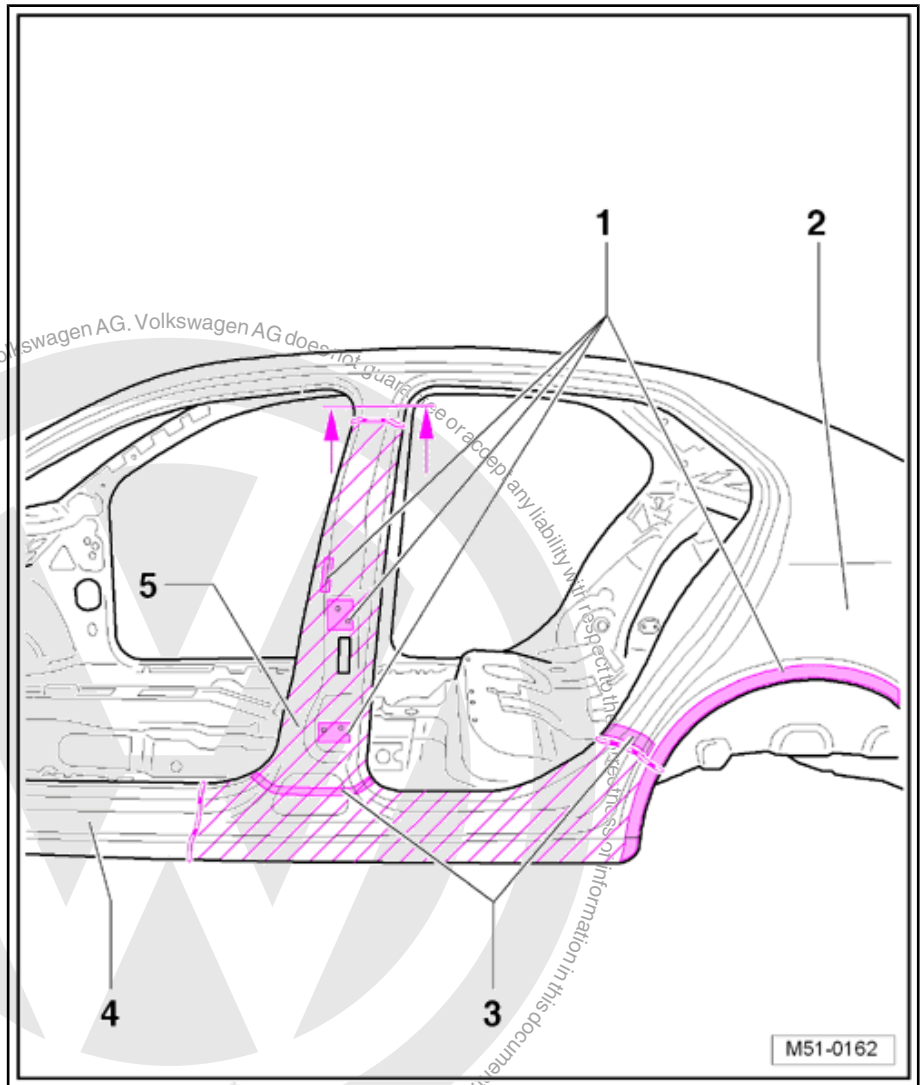
3 - Moulded foam element



Note

4 - Side member

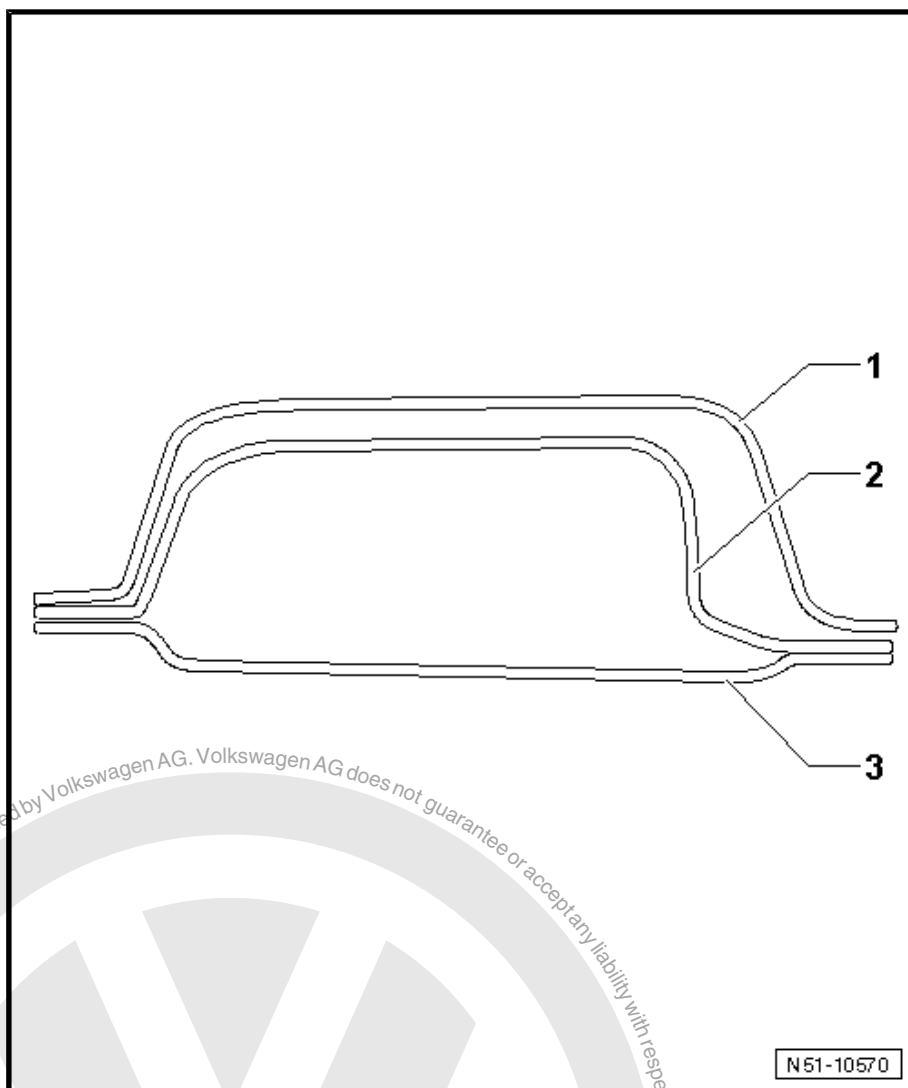
5 - Outer B-pillar



Upper B-pillar cut lines

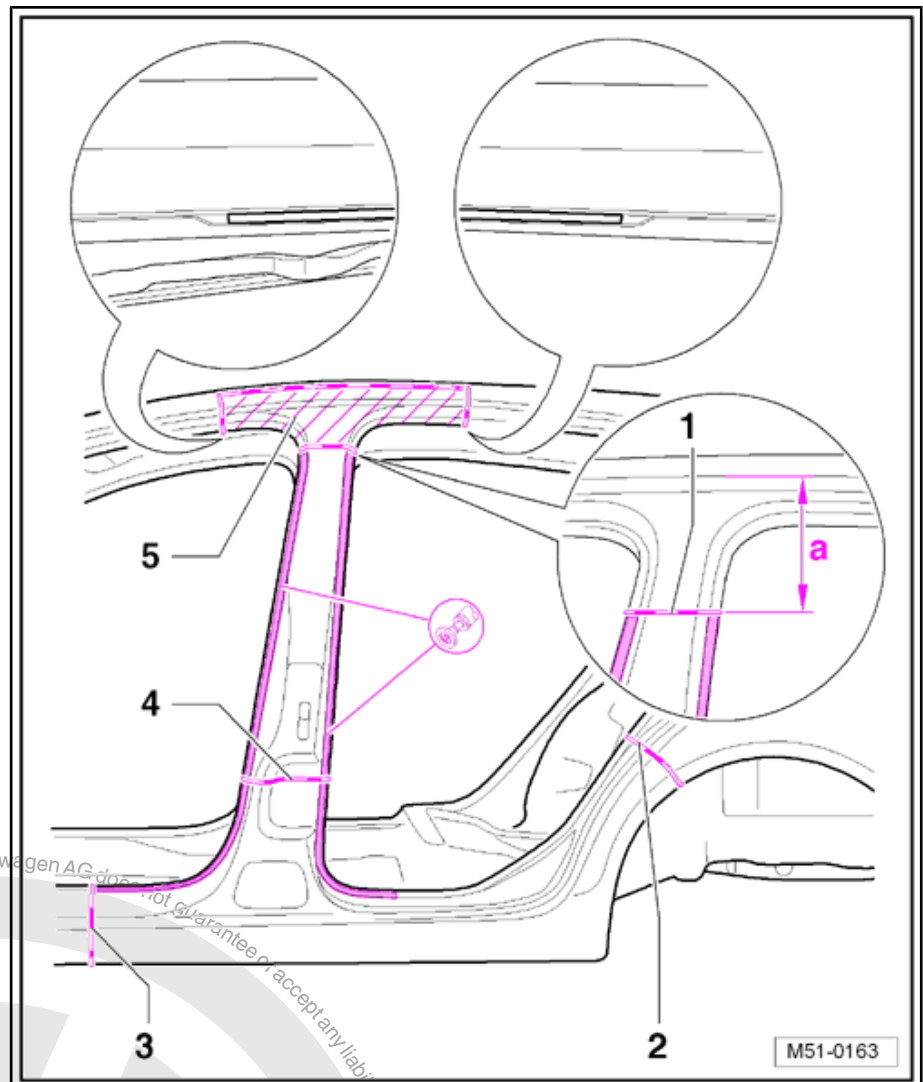


- 1 - Outer B-pillar
- 2 - B-pillar reinforcement
- 3 - Inner B-pillar





7.1 Removing



Note

- ◆ Make parting cuts with pneumatic jig-saw -V.A.G 1523- only.
- ◆ Do not damage internal reinforcements.
- ◆ Note cut line figure ⇒ [page 123](#).
- ◆ If the B-pillar reinforcement also needs to be replaced, the front part of the side member (parting cut -3-, 430 mm from the front edge of the side member) and the area -5- must be cut out at the same time.
- ◆ When doing this do not damage original joint to roof.

- Make parting cut -1- as shown.

Dimension -a- = 100 mm

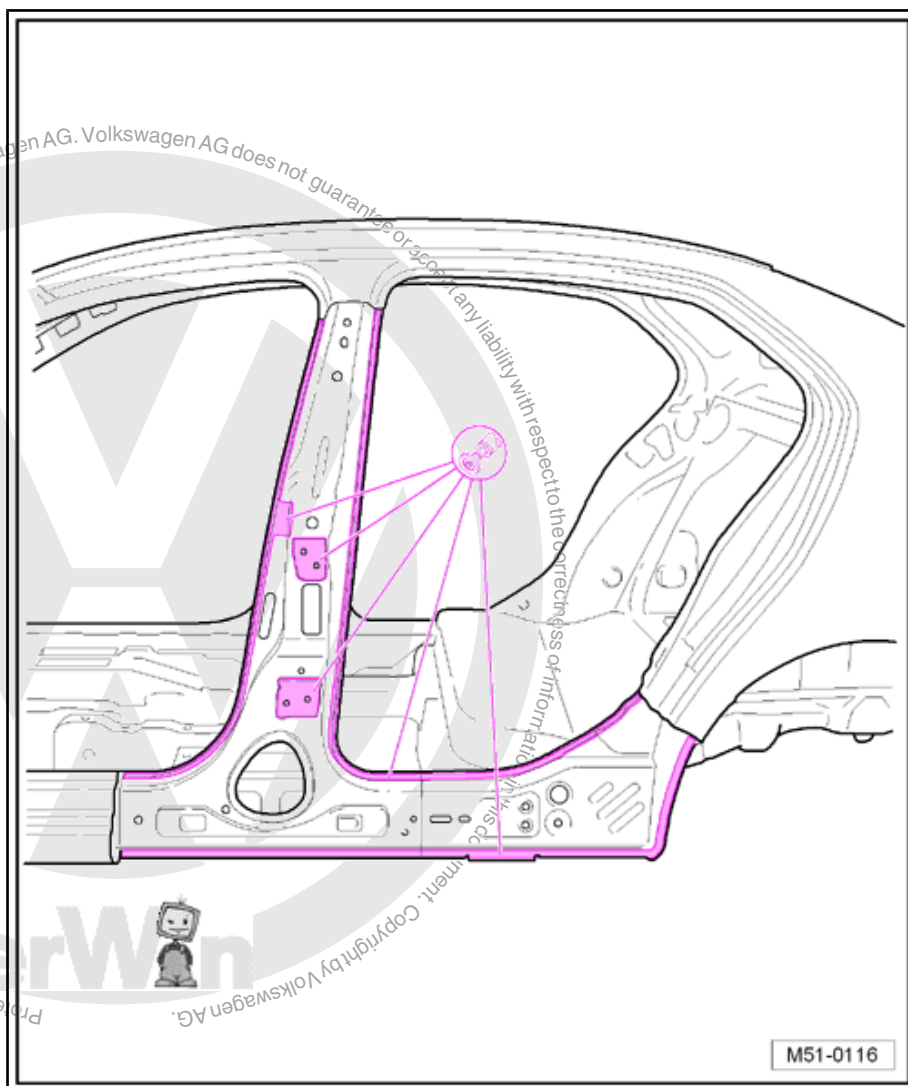
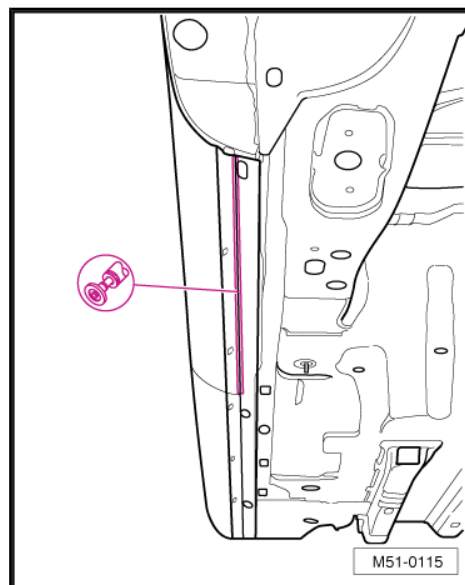
- When making parting cut -2-, keep cutting/overlap of replacement part in mind.
- Make parting cut -3- on side member according to damage.
- Release original joint.



Partial renewal

A part renewal of the B-pillar without damage to the side member is possible using parting cut -4-.

- Release original joint to side member reinforcement.





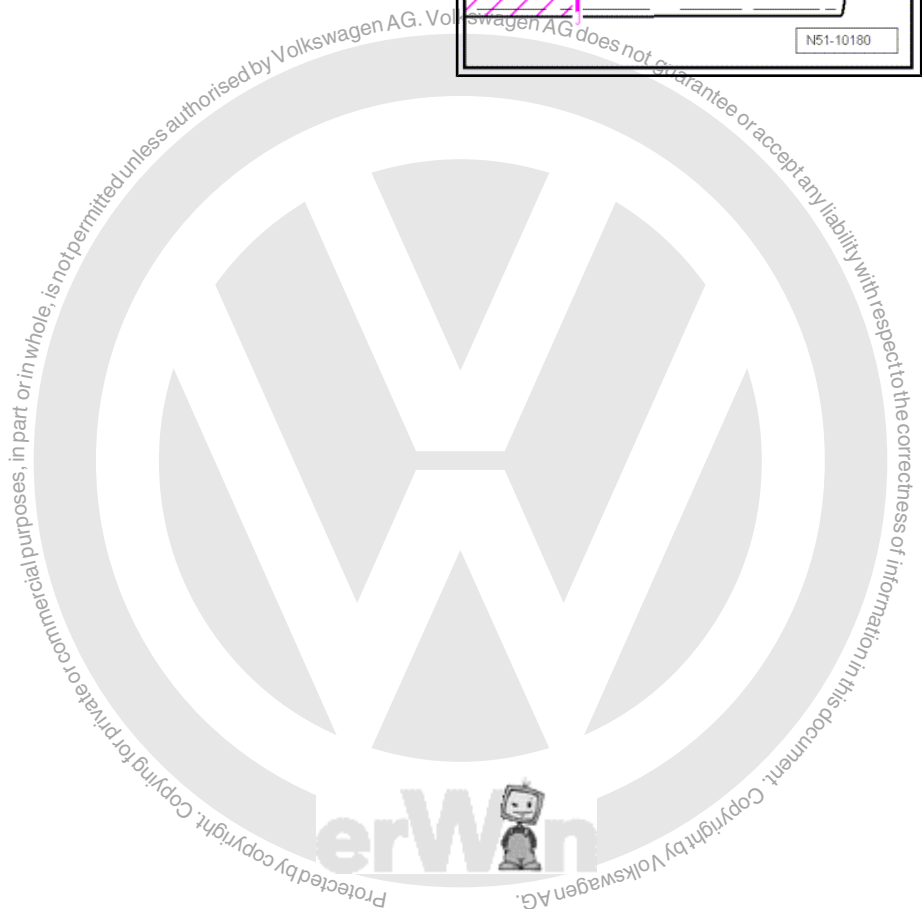
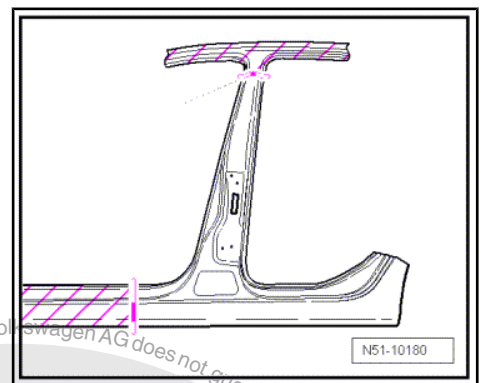
- Remove remaining material.
- Remove adhesive remains completely and grind adhesive surfaces back to bare metal.
- Clean flange area of wheel arch so that it is free of dust and grease.

7.2 Installing

7.2.1 Preparing new part

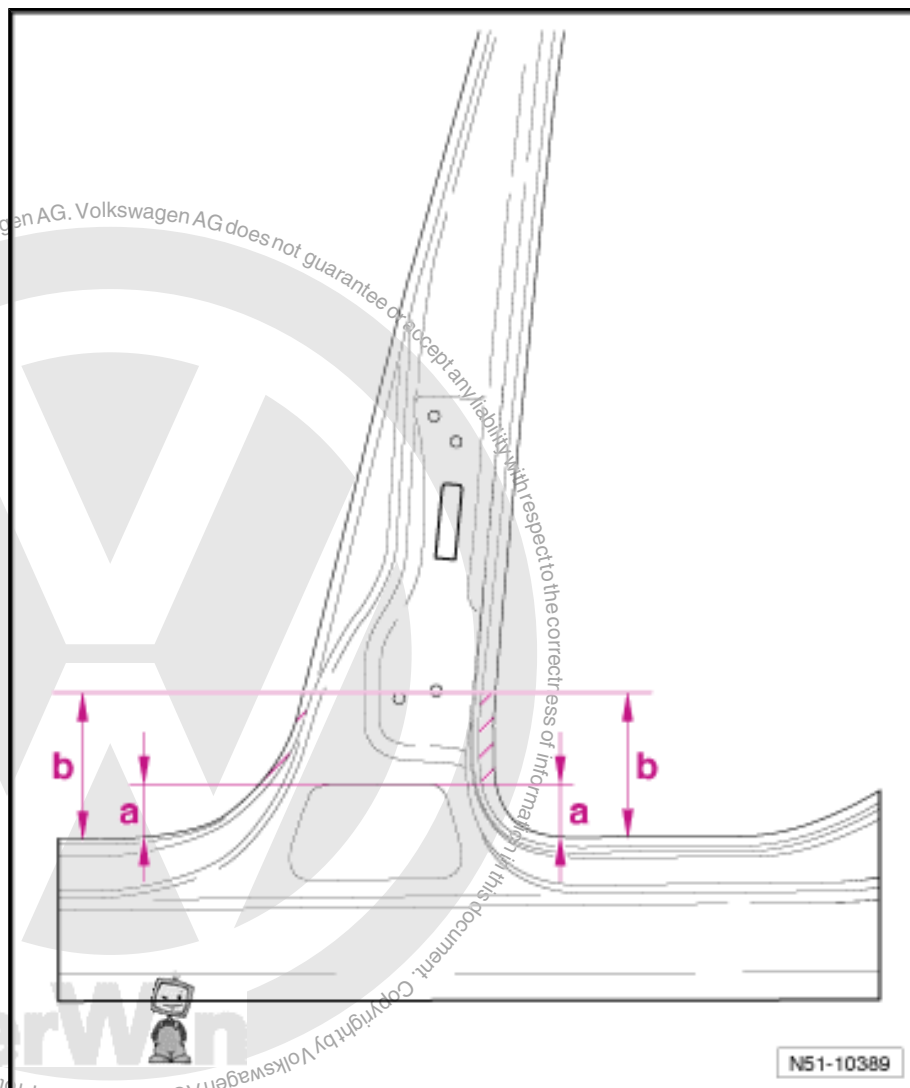
Replacement part

- ◆ B-pillar subpart
- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-
- Transfer parting cuts to the new part and cut.





7.2.2 Marking area where no welding work may be carried out



Note

- ◆ *When welding in B-pillar, welding work must not be carried out in the areas marked on the illustrations for "crash safety" reasons.*
- ◆ *The measurements given must be adhered to.*
- Mark areas on outer B-pillar in which no welding may be carried out.
- ◆ Dimension -a- = 45 mm
- ◆ Dimension -b- = 145 mm

7.2.3 Moulded foam elements

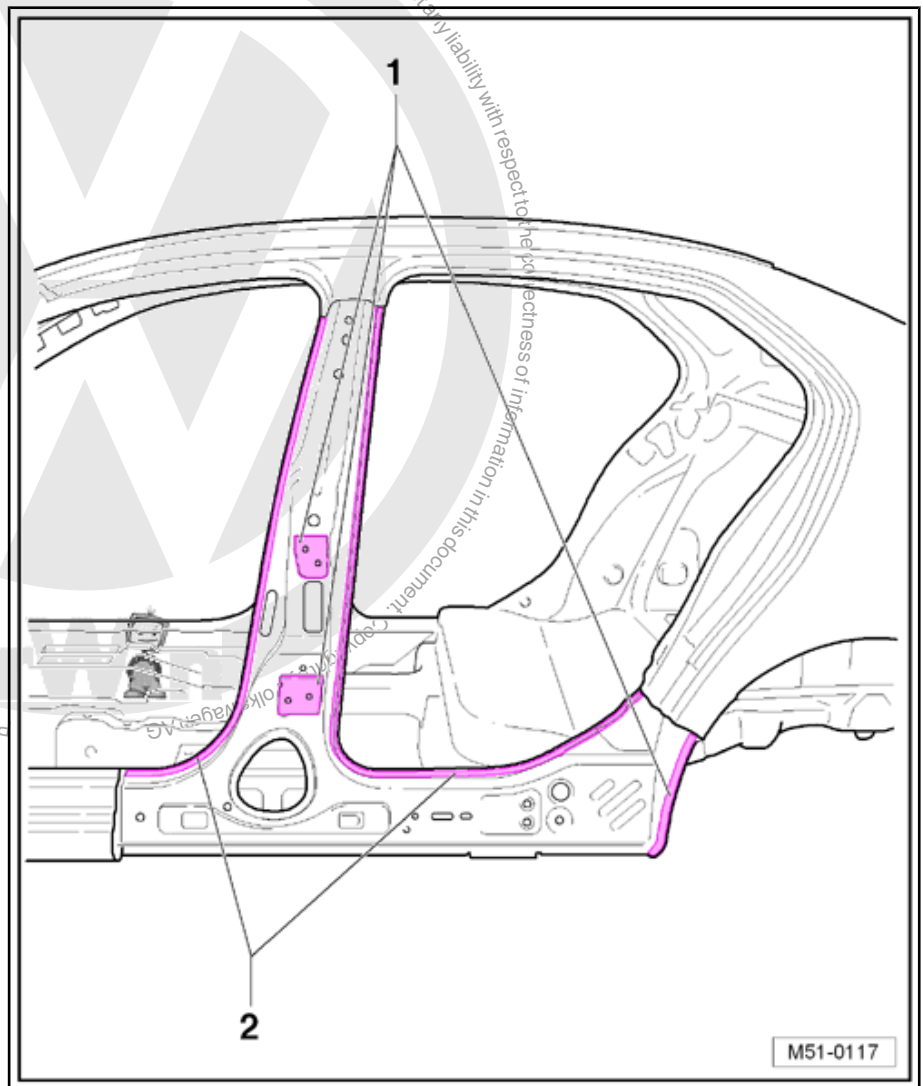
Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs, General Body Repairs ; General Notes; Moulded foam elements



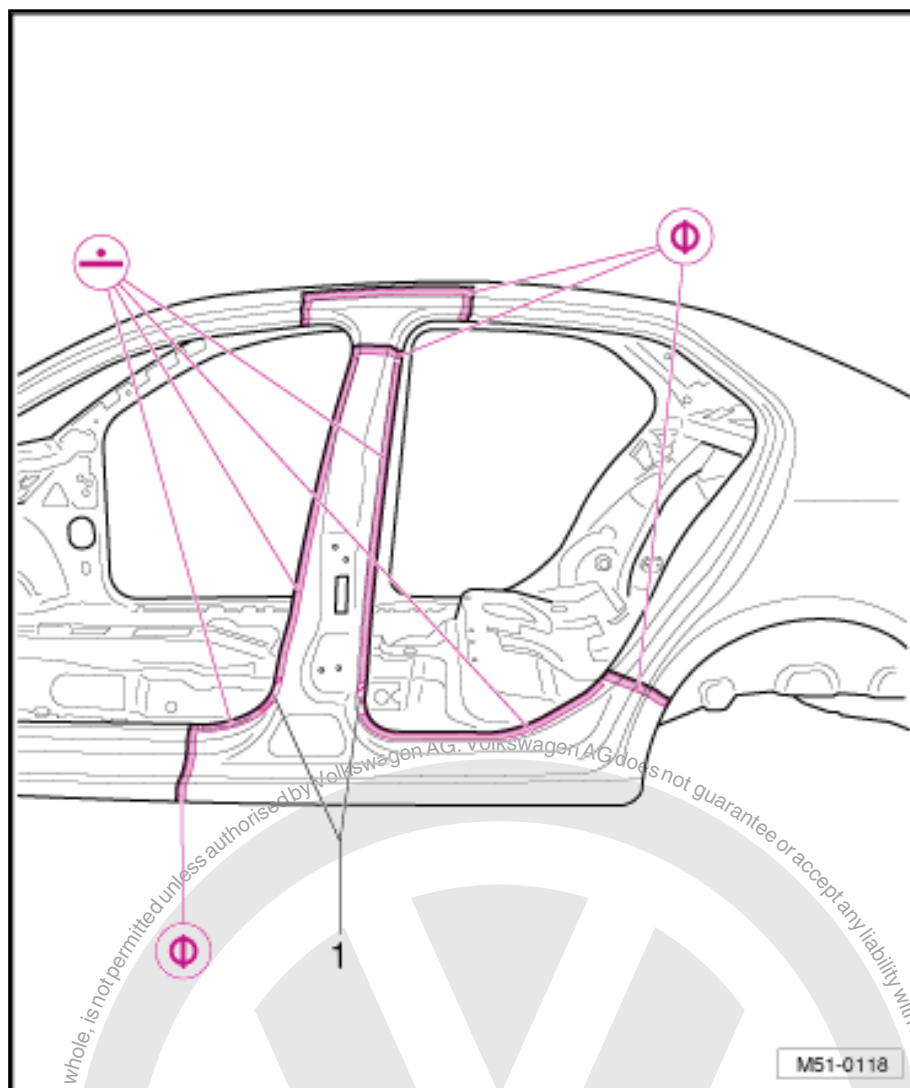
7.2.4 Welding in

- Place backing plate behind side panel parting cut.



Note

- ◆ *Holes for door hinges in area -1- must remain free of adhesive.*
- ◆ *New part must be welded within 20 minutes, otherwise adhesive properties of adhesive will be impaired.*
- In area -1- apply 2-K body adhesive -D 180 KD3 A2- (flat, several beads, Ø 3.5 mm).
- In area -2- apply 2-K body adhesive -D 180 KD3 A2- (1 bead, Ø 3.5 mm).
- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fit with add on parts.



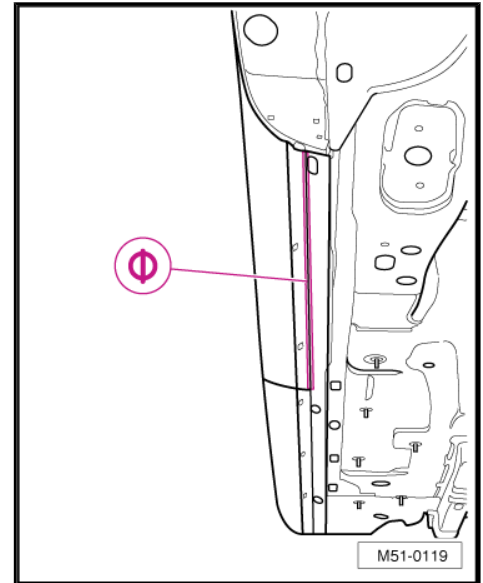
Note

Note that no welding work may be carried out in areas -1-.

- Weld in B-pillar, RP spot weld seam.
- Weld in parting cut, SG stepped weld seam.



- Establish remaining joint side member reinforcement, SG stepped weld seam.
- Bead over wheel arch flange.
- Wipe leaking adhesive off and seal wheel housing.





RO: 51 42 55 50

8 Renewing B-pillar reinforcement



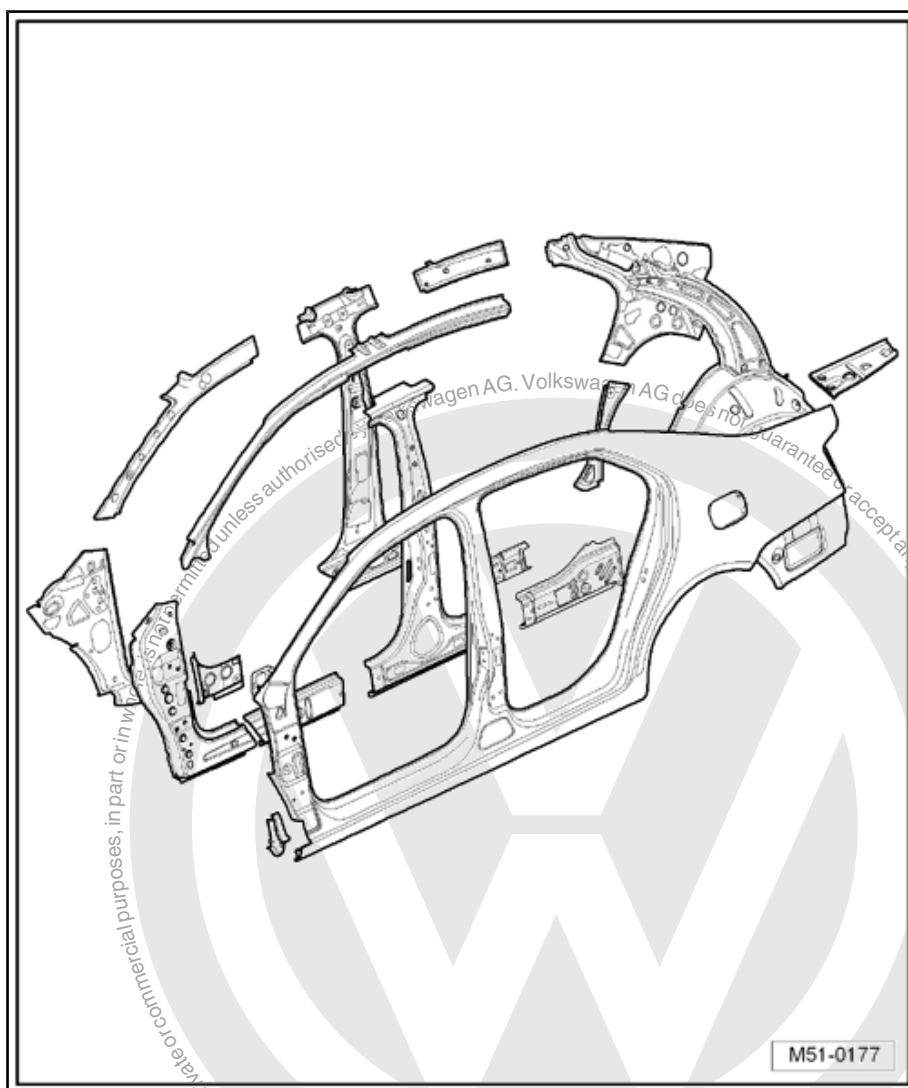
DANGER!

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Outer B-pillar already removed
⇒ ["7 Renewing B-pillar", page 122](#)





1 - Cutting point

2 - Rear side member reinforcement

3 - Moulded foam element



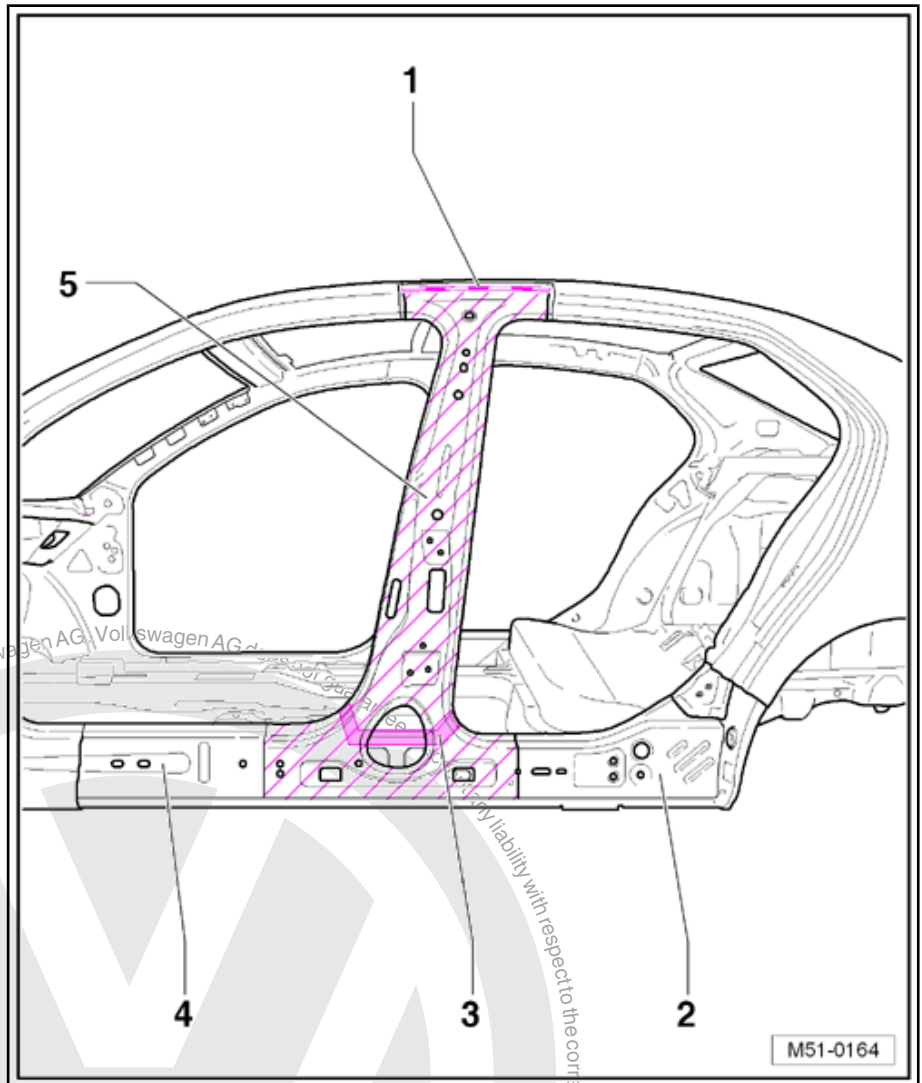
Note

4 - Front side member reinforcement

5 - B-pillar reinforcement

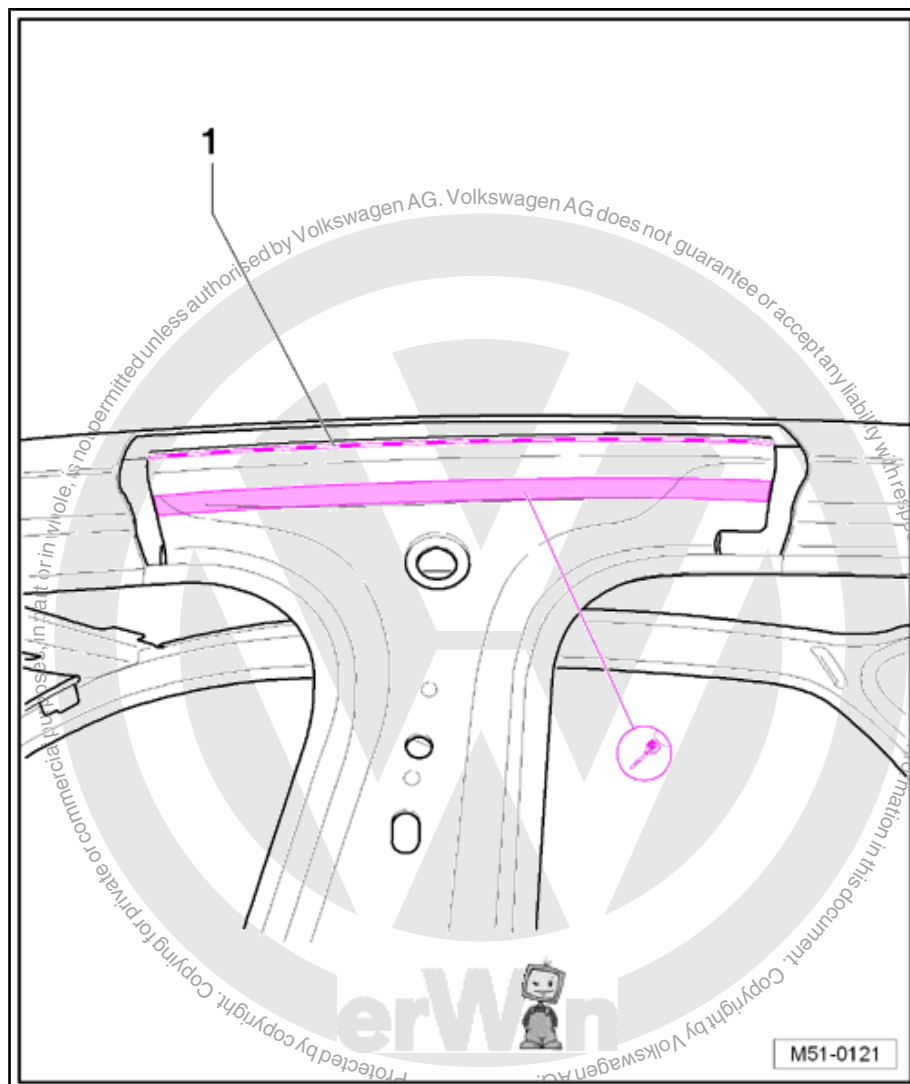


Note



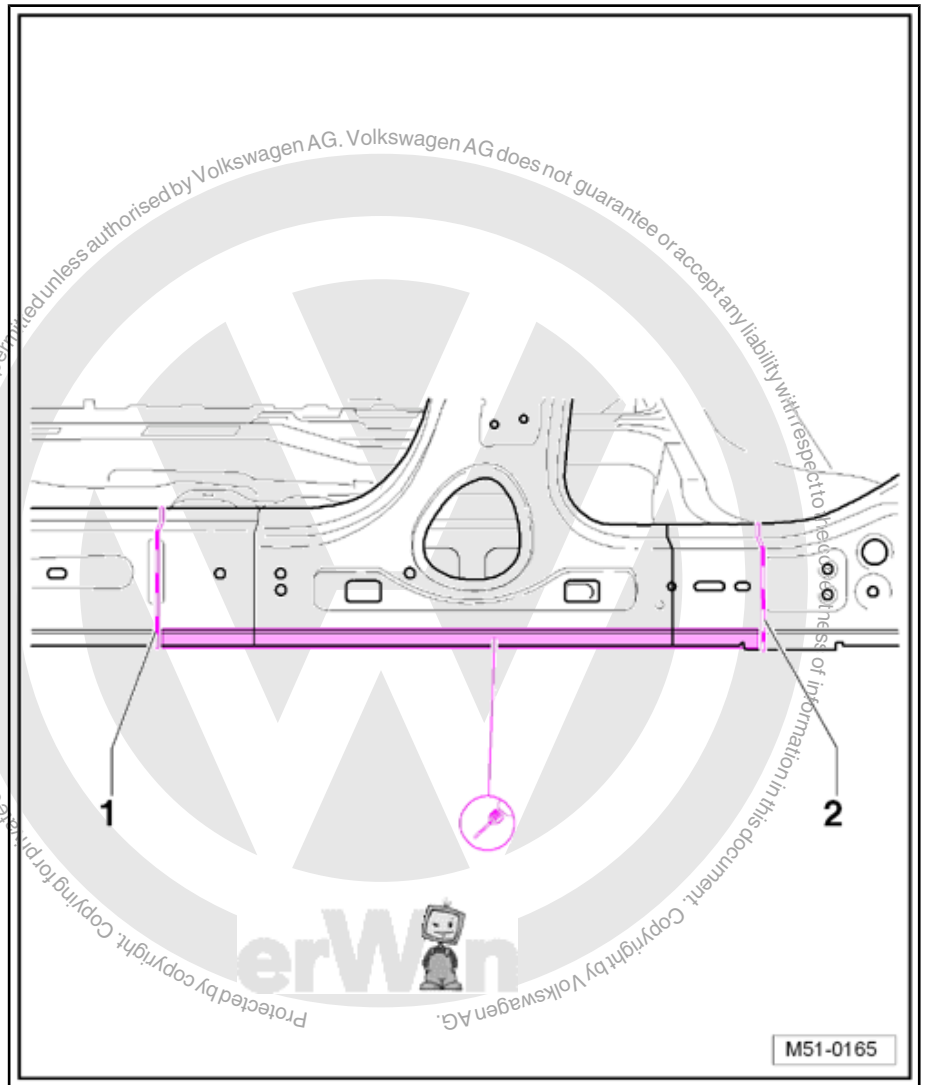


8.1 Removing

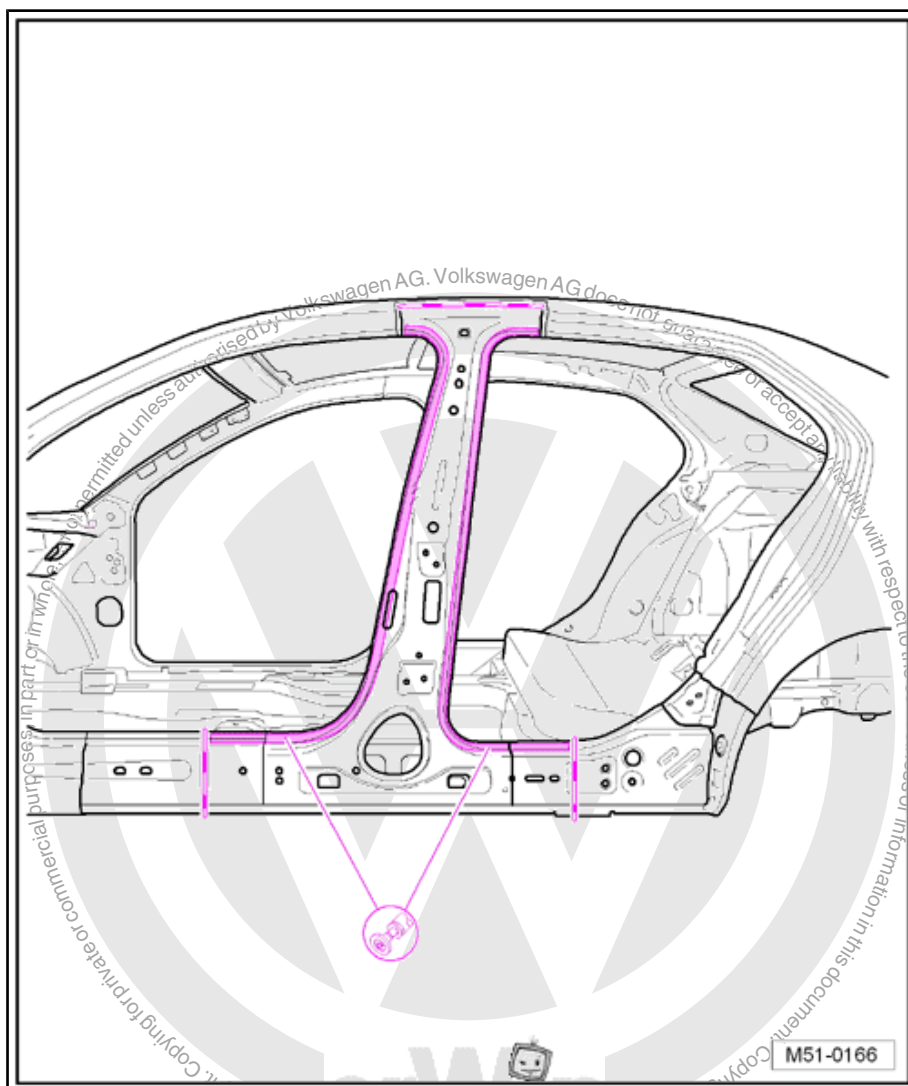


Note

- ◆ *B-pillar reinforcement must only be cut at the point indicated -1-.*
- ◆ *Cutting or welding at a point other than the one shown is impermissible due to safety reasons "crash safety".*
- ◆ *Do not damage roof frame reinforcement.*
- Make parting cut -1- in roof compound as shown. To do this, a part of the roof frame must also be cut out and renewed as shown, when the outer B-pillar is cut out.
- Release original joint to roof member.



- Make parting cuts as shown (each before -1- or behind -2- the inner bulkheads).
- Release original joint to inner side member.



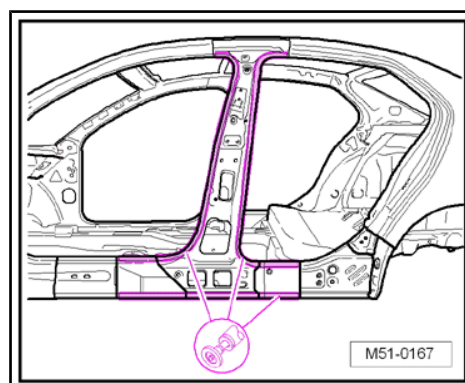
- Separate remaining joint in door apertures.



Note

If the inner B-pillar is damaged excessively, then it must also be renewed.

- Remove remaining material.



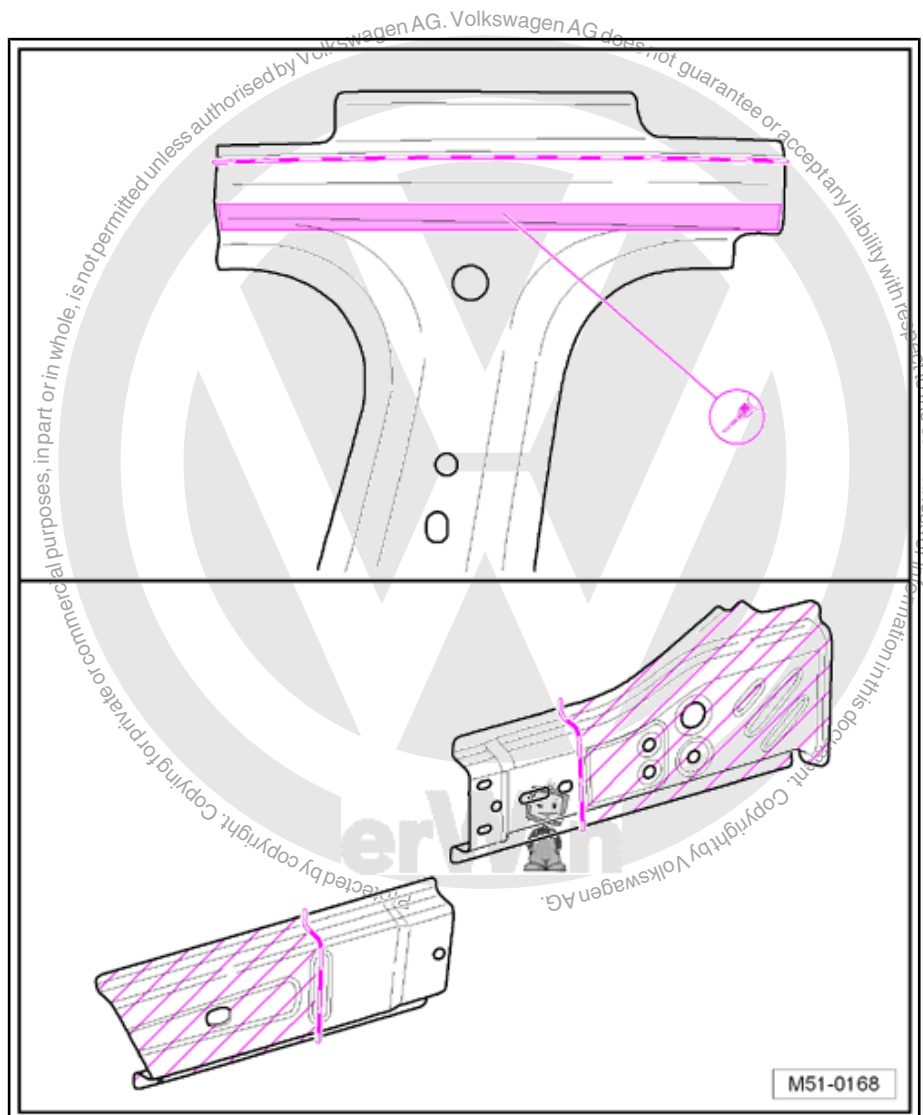


8.2 Installing

8.2.1 Preparing new part

Replacement part

- ◆ B-pillar reinforcement
- ◆ Front side member reinforcement
- ◆ Rear side member reinforcement
- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-



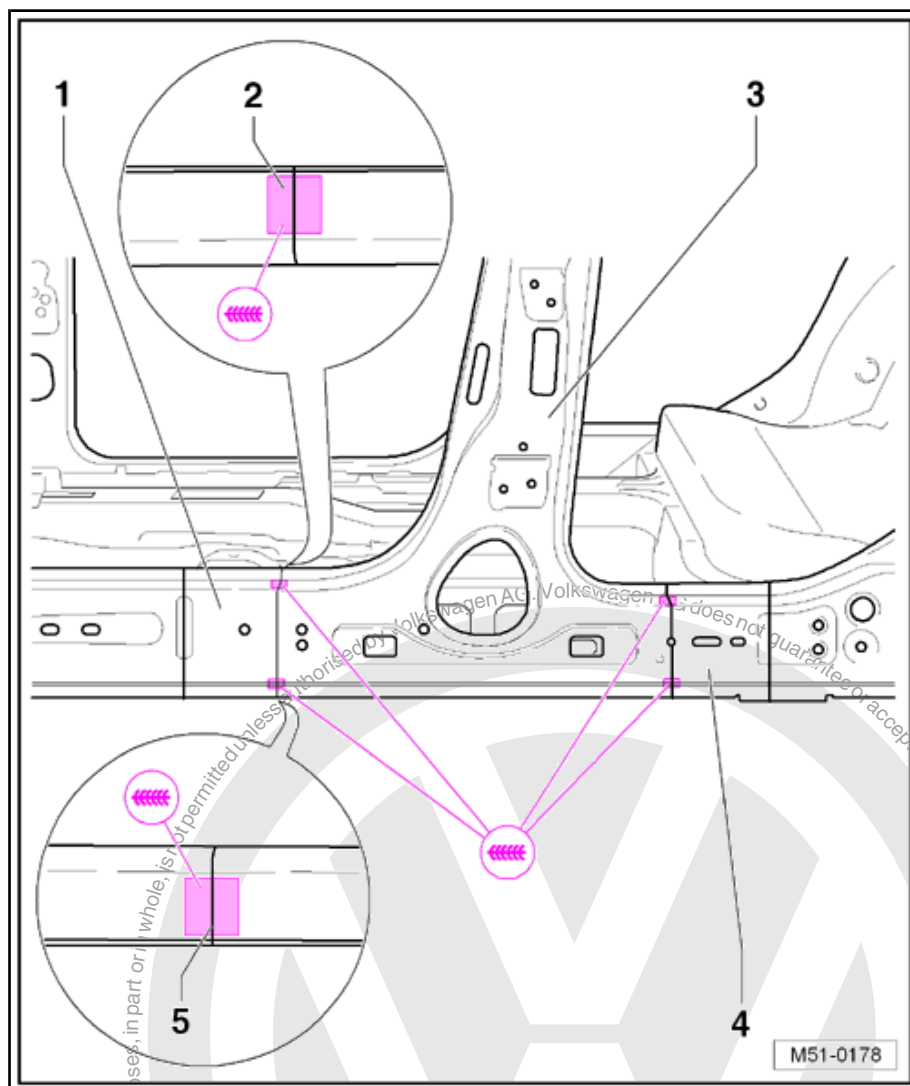
- Transfer parting cuts to the new parts and cut.



Note

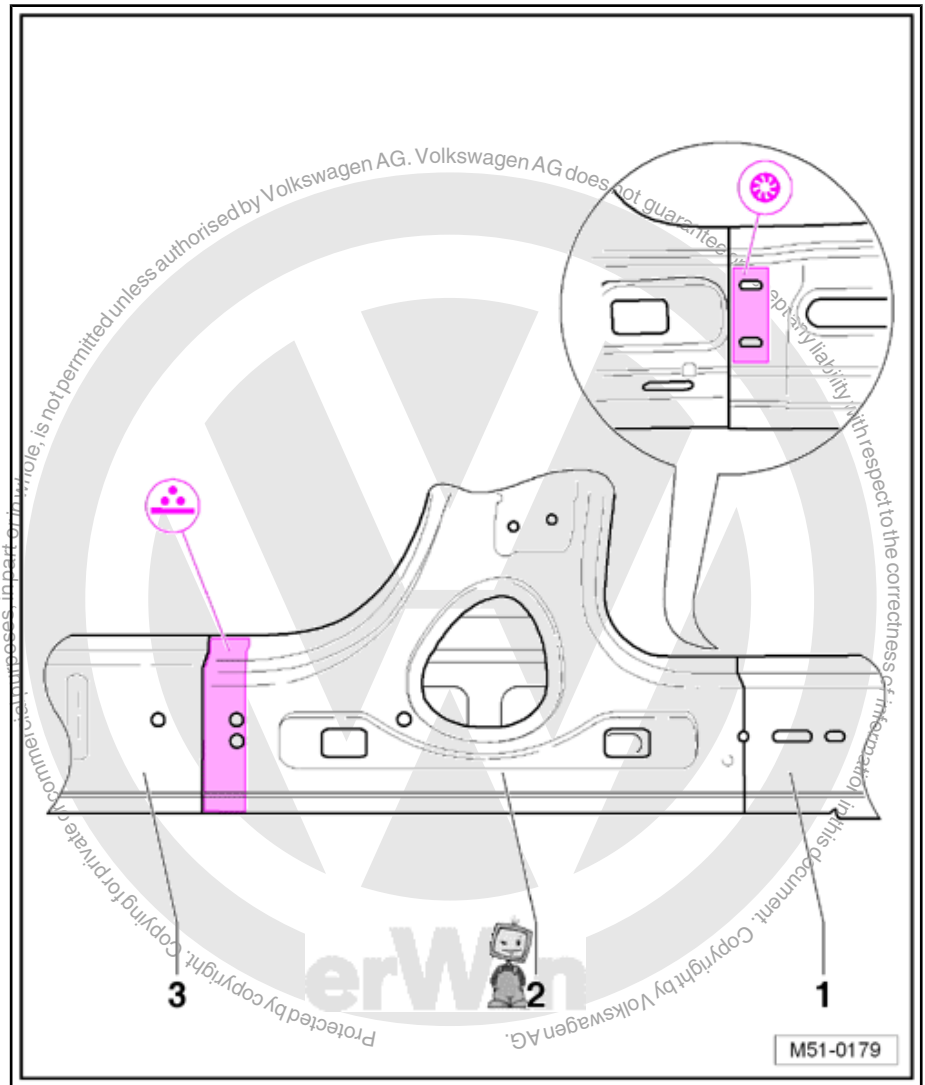
Use plug weld drill for "BTR steels" when drilling holes for SG plug weld seam . HSS drills are not suitable as they do not have the required durability.

- Drill holes for SG plug weld seam.



Note

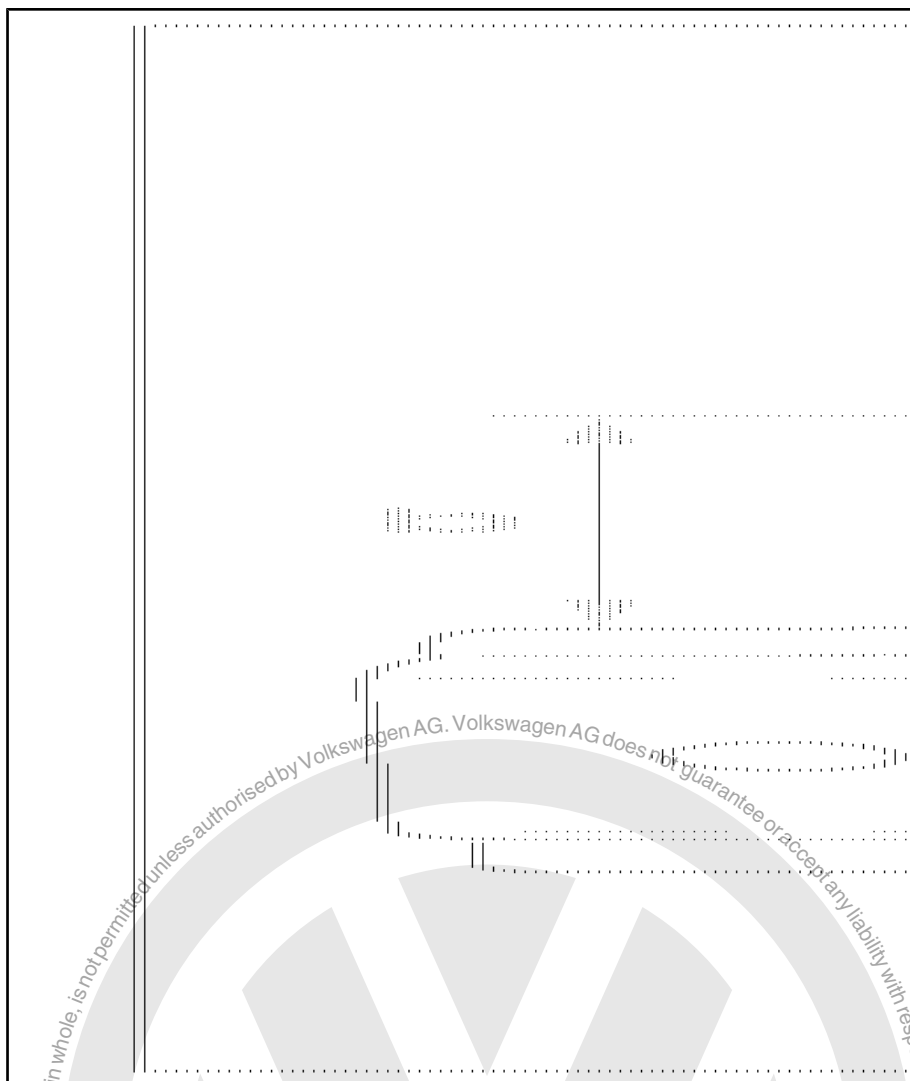
- ◆ The side member reinforcement and the B-pillar reinforcement may only be joined from above and below as shown in the -enlargements-, otherwise the strength of the B-pillar will be adversely affected. Welding the outer curvatures also weakens the construction.
- ◆ The enlargements show the tacking points of the front side member reinforcement and the B-pillar reinforcement. This illustration is basically the same as for the B-pillar reinforcement area and the rear side member reinforcement.
- Adapt new parts with vehicle standing on its wheels or on alignment bracket set and fix in position.
- Check fit with B-pillar.
- Tack-weld side member front reinforcement -1- to B-pillar reinforcement -3- from above -2- and below -5-, SG continuous weld (2 x tack welds each a max length of 10 mm).
- Tack-weld side member front reinforcement -4- to B-pillar reinforcement -3- from above -2- and below -5-, SG continuous weld (2 x tack welds each a max length of 10 mm).
- Remove new part from vehicle.



- Weld side member front reinforcement -3- to B-pillar reinforcement -2-, RP spot welds (2 x spot welds on each upper and lower sides and 8 x spot welds in two rows on outer side).
- Weld side member rear reinforcement -1- to B-pillar reinforcement -2- from interior, SG plug weld seam.



8.2.2 Marking areas where no welding work may be carried out



Note

- ◆ *When welding in B-pillar reinforcement, welding work must not be carried out in areas marked on the illustrations for "crash safety" reasons.*
- ◆ *The measurements given must be adhered to.*
- ◆ *Transfer dimensions to outer B-pillar before welding in outer B-pillar.*
- Marking the areas where no welding work may be carried out
- ◆ Dimension -a- = 45 mm
- ◆ Dimension -b- = 145 mm

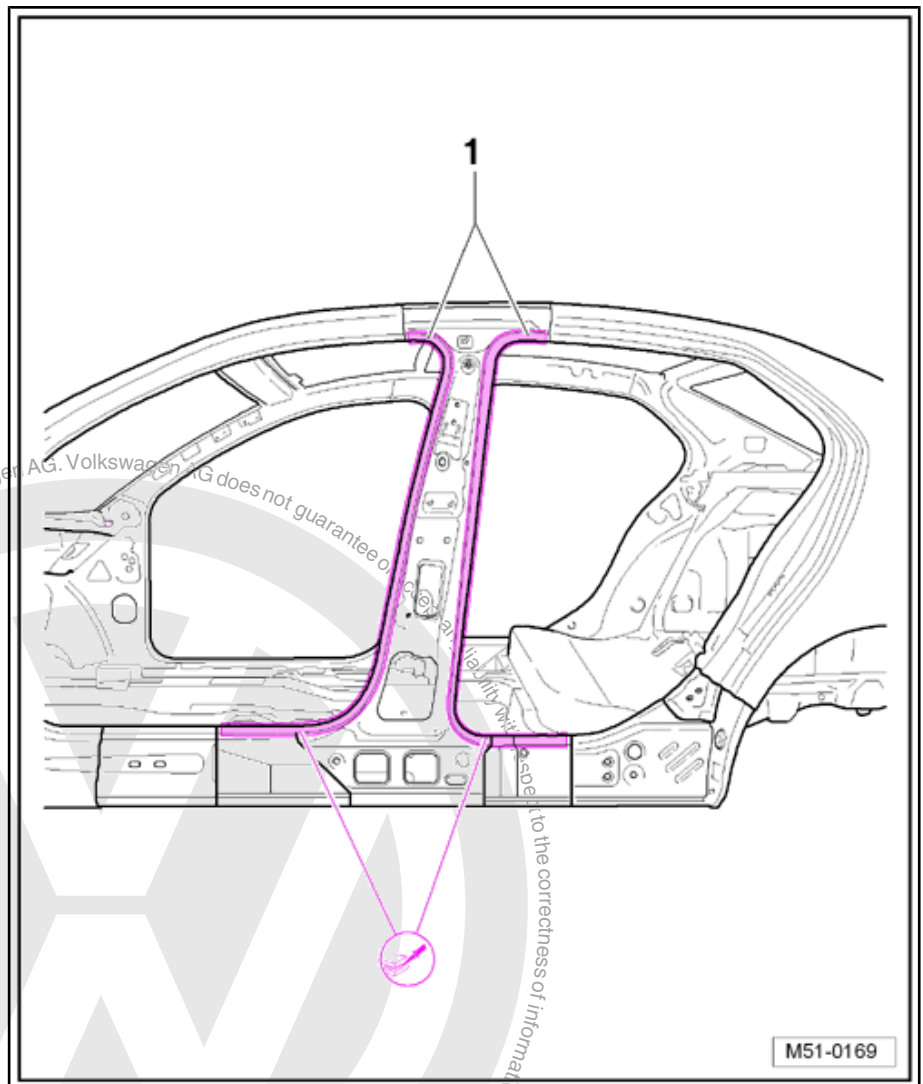
8.2.3 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs,
General Body Repairs ; General Notes; Moulded foam elements



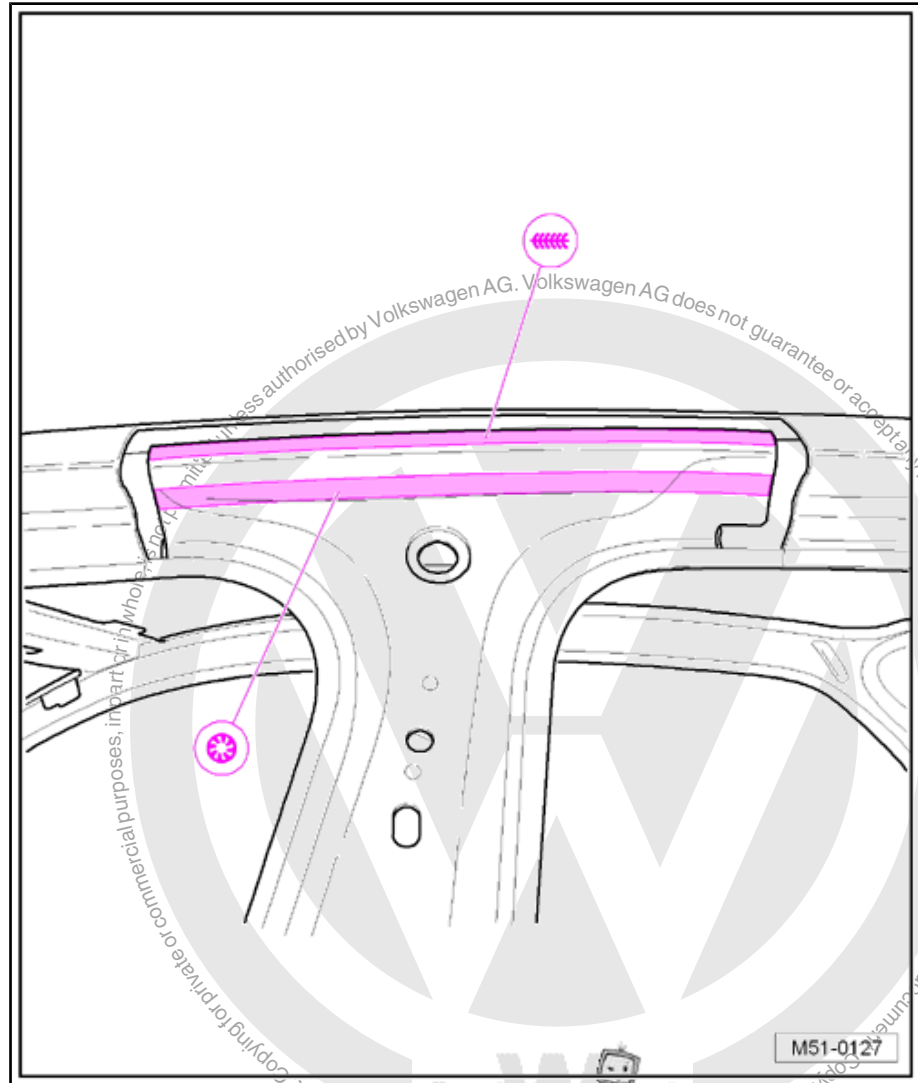
8.2.4 Welding in



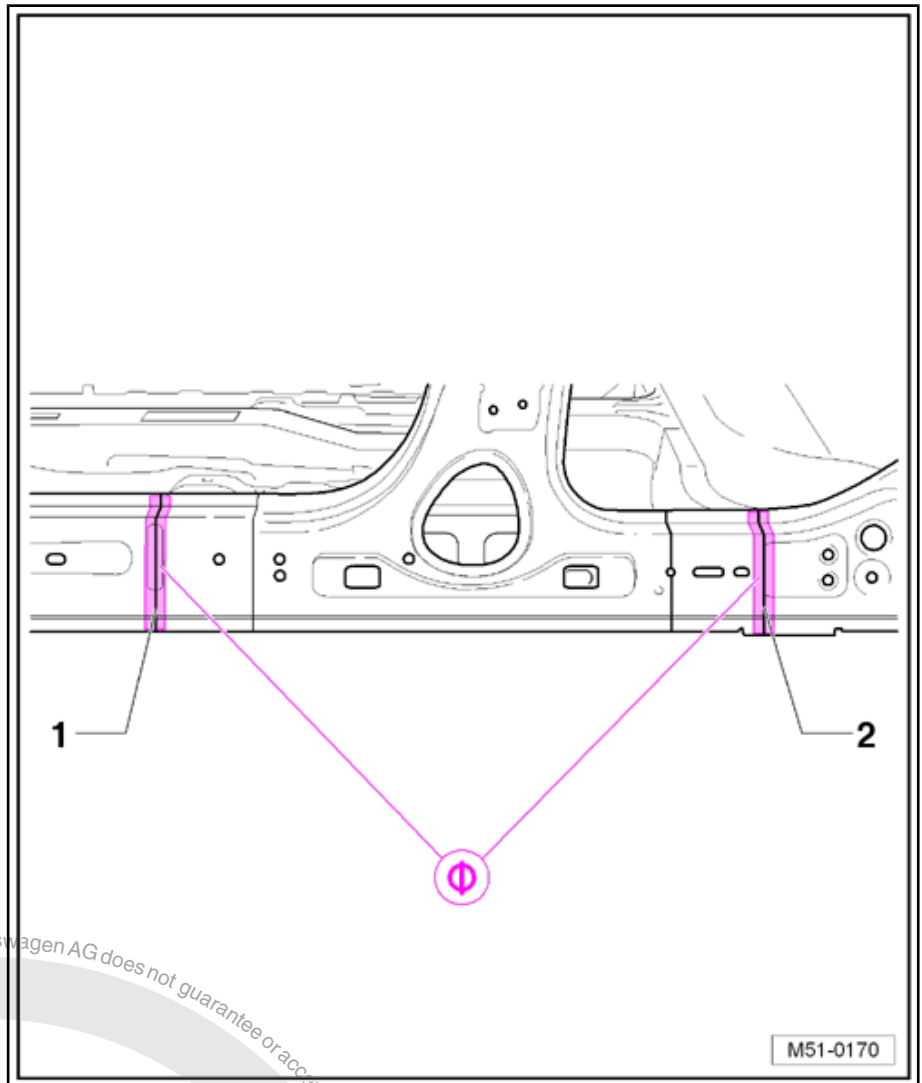
Note

New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

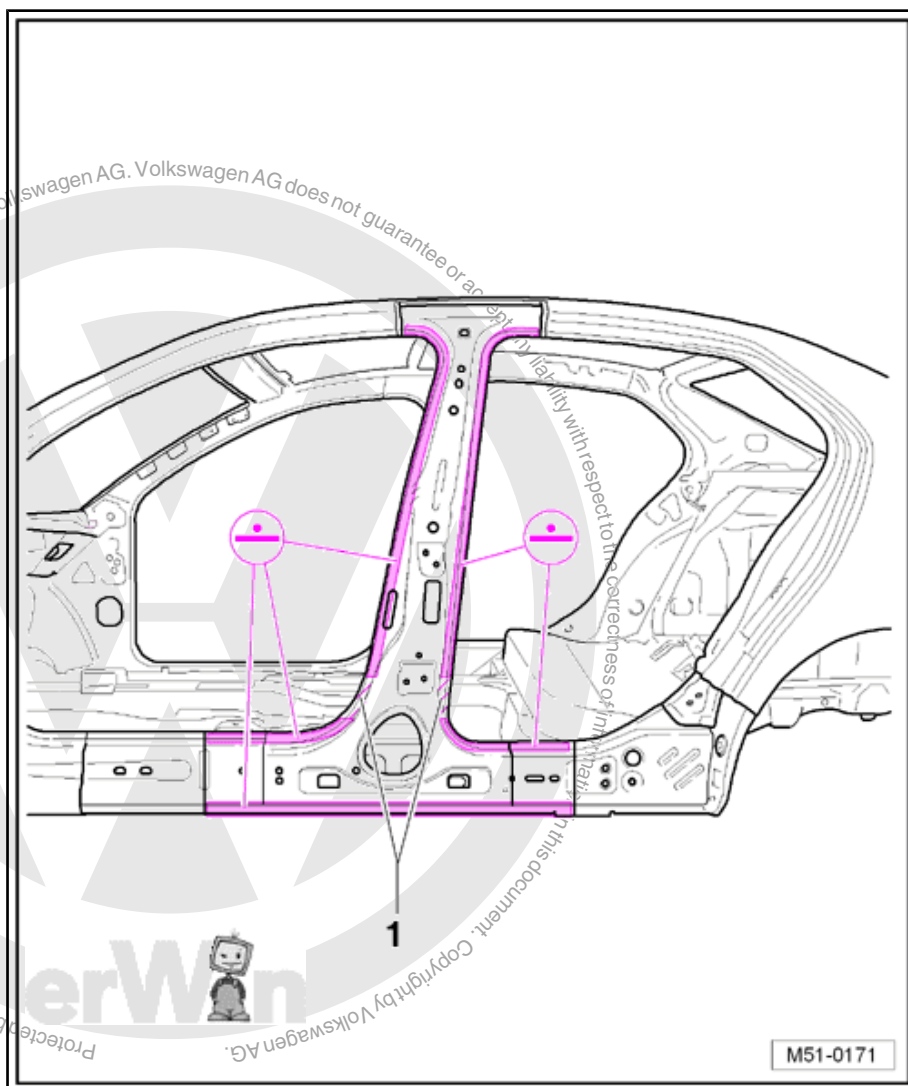
- In area -1- apply 2-K body adhesive -D 180 KD3 A2- (1 bead, Ø 3.5 mm).
- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fitting to B-pillar and attachments.



- Weld upper part of parting cut of B-pillar reinforcement, SG continuous weld seam.
- Weld upper B-pillar reinforcement, SG plug weld seam.



- Weld front -1- and rear -2- parting cuts, SG stepped weld seam.



Note

Note that no welding work may be carried out in areas -1-.

- Recreate remaining joint, RP spot weld seam.
- Install outer B-pillar ⇒ ["7.2 Installing", page 127](#) .



RO: 51 45 55 00

9 Renewing side member

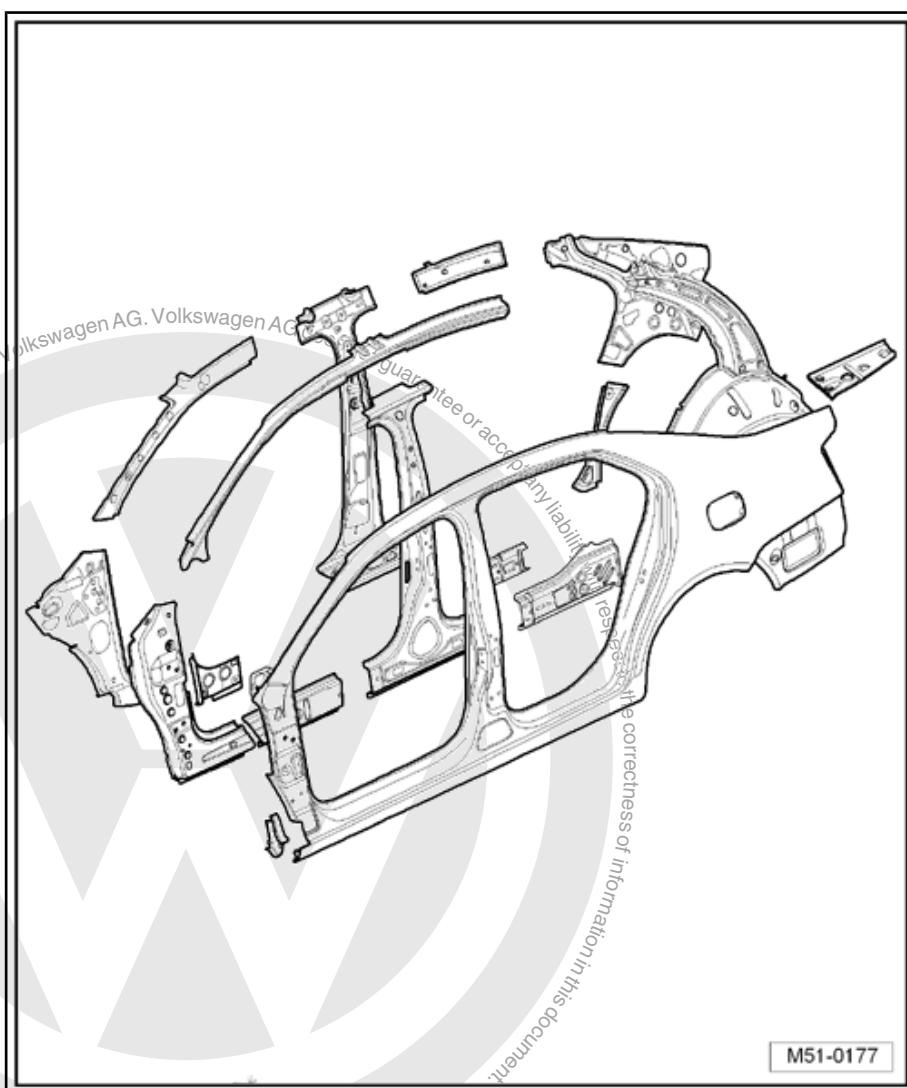


WARNING

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



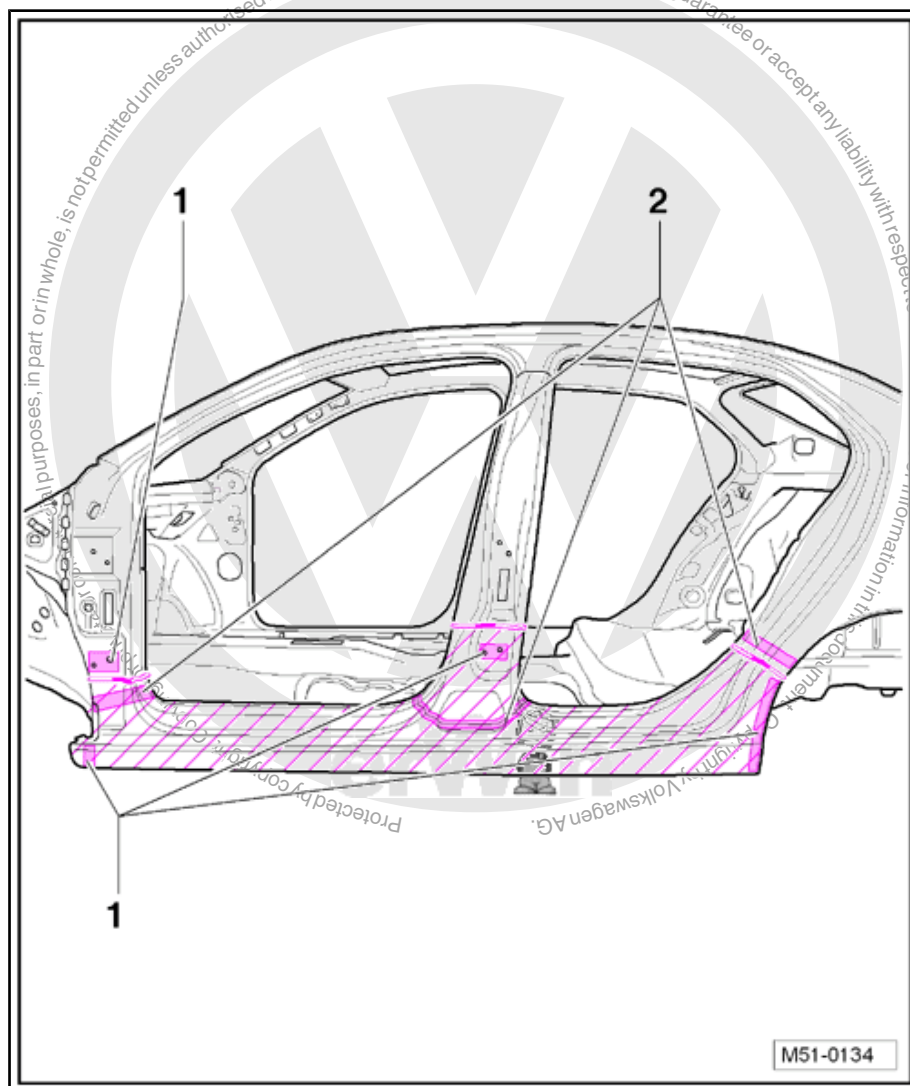


1 - Bonded section

2 - Moulded foam elements

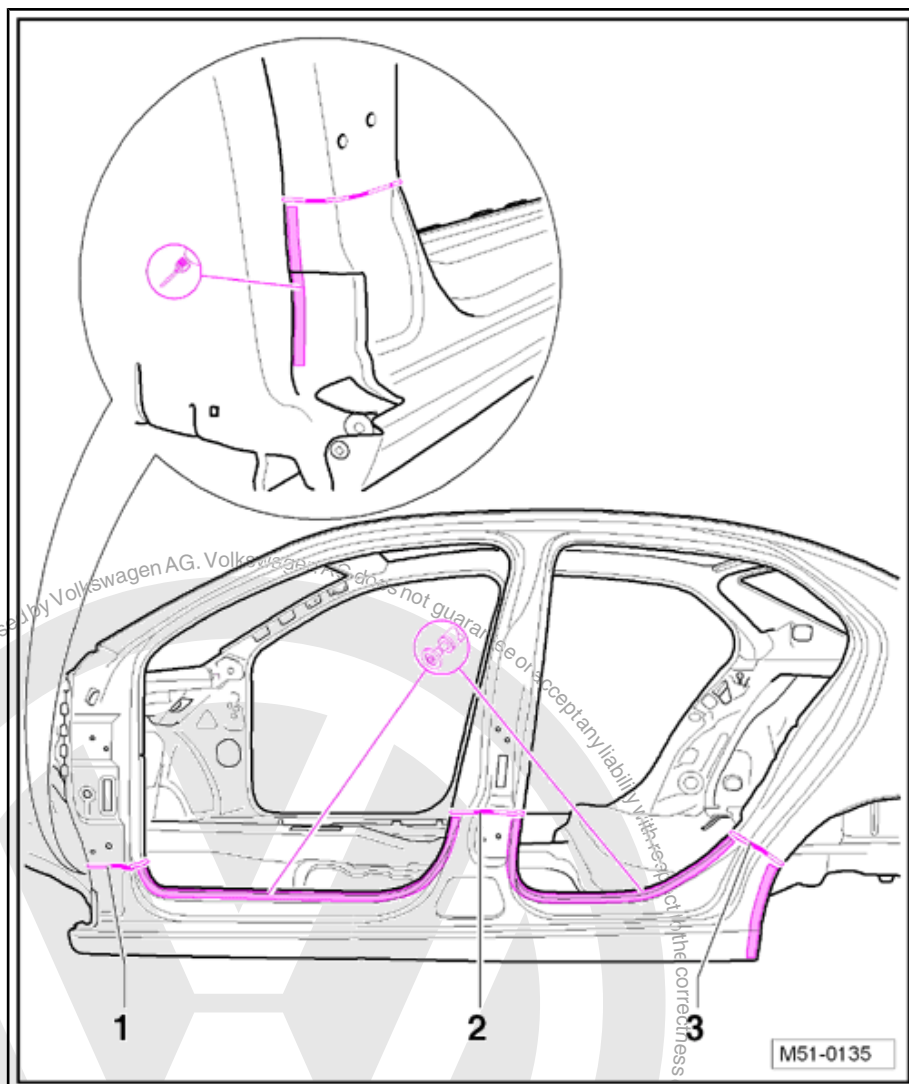


Note





9.1 Removing

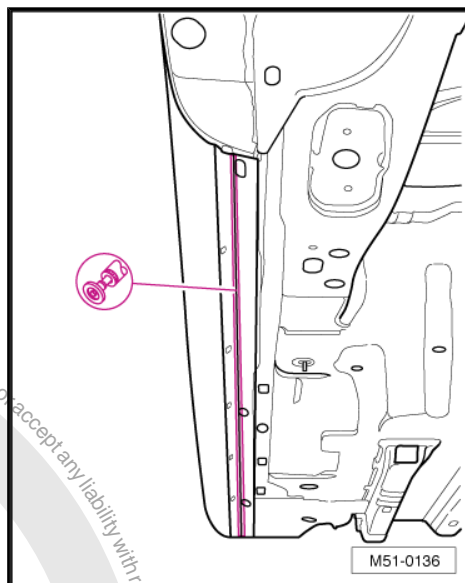


Note

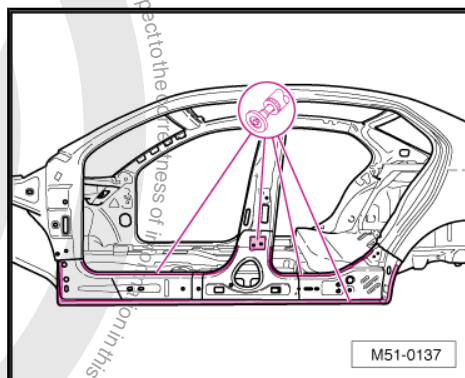
- ◆ *Make parting cuts with pneumatic jig-saw -V.A.G 1523- only.*
- ◆ *When making parting cut -3-, keep cutting/overlap of replacement part in mind.*
- Make parting cut -1- on A-pillar according to damage.
- Make parting cut -2- over the mounting of the lower door hinge of the rear door.
- Make parting cut -3-.
- Grind through outer edge on wheel arch.
- Release original joint.



- Release original joint to side member reinforcement.



- Remove remaining material.
- Remove remaining adhesive completely and grind bonded surface back to bare metal.
- Clean flange area of wheel arch so that it is free of dust and grease.

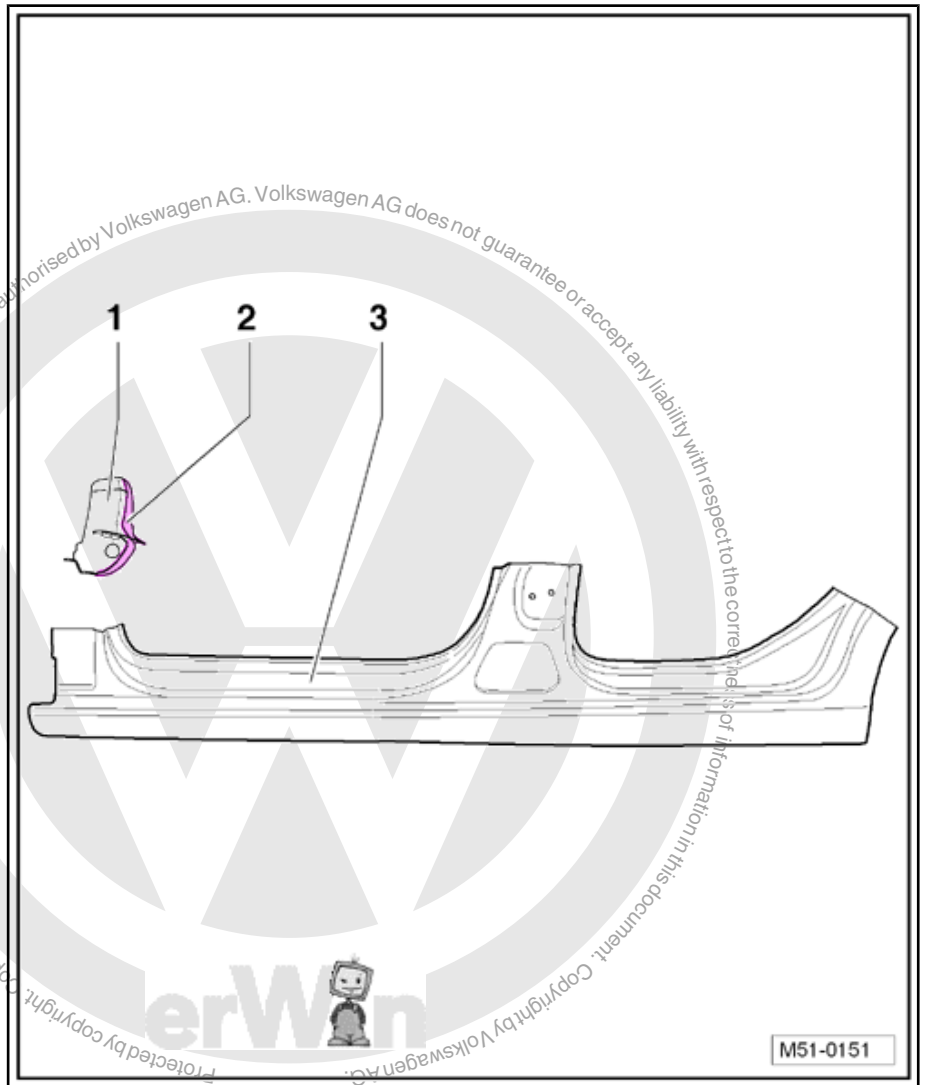


9.2 Installing

9.2.1 Preparing new part

Replacement part

- ◆ Side member with cover plate subpart
- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-



- Transfer parting cut to new part and cut out.
- Apply 2-K body adhesive -D 180 KD3 A2- on adhesive area of the side member end piece -1- -2-, fit into side member -3- and weld in with RP spot weld seam.

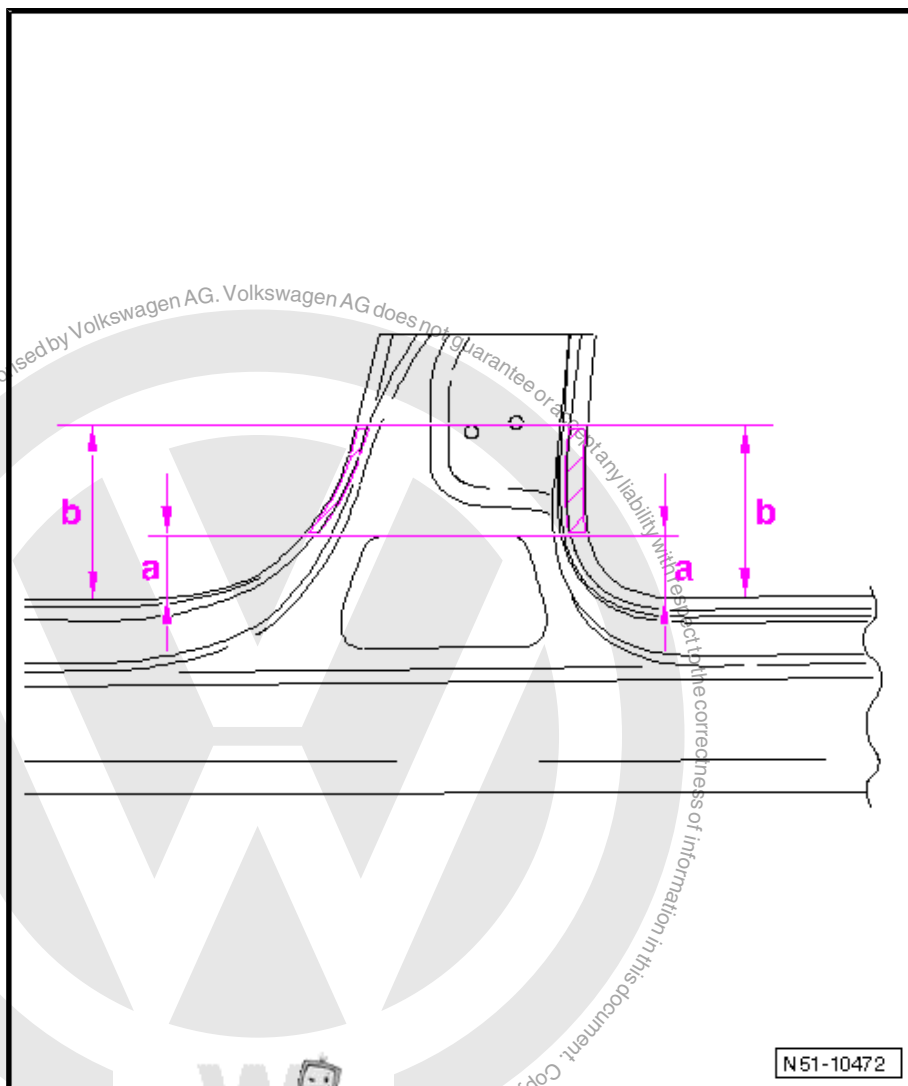
9.2.2 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs,
General Body Repairs ; General Notes; Moulded foam elements



9.2.3 Marking area where no welding work may be carried out

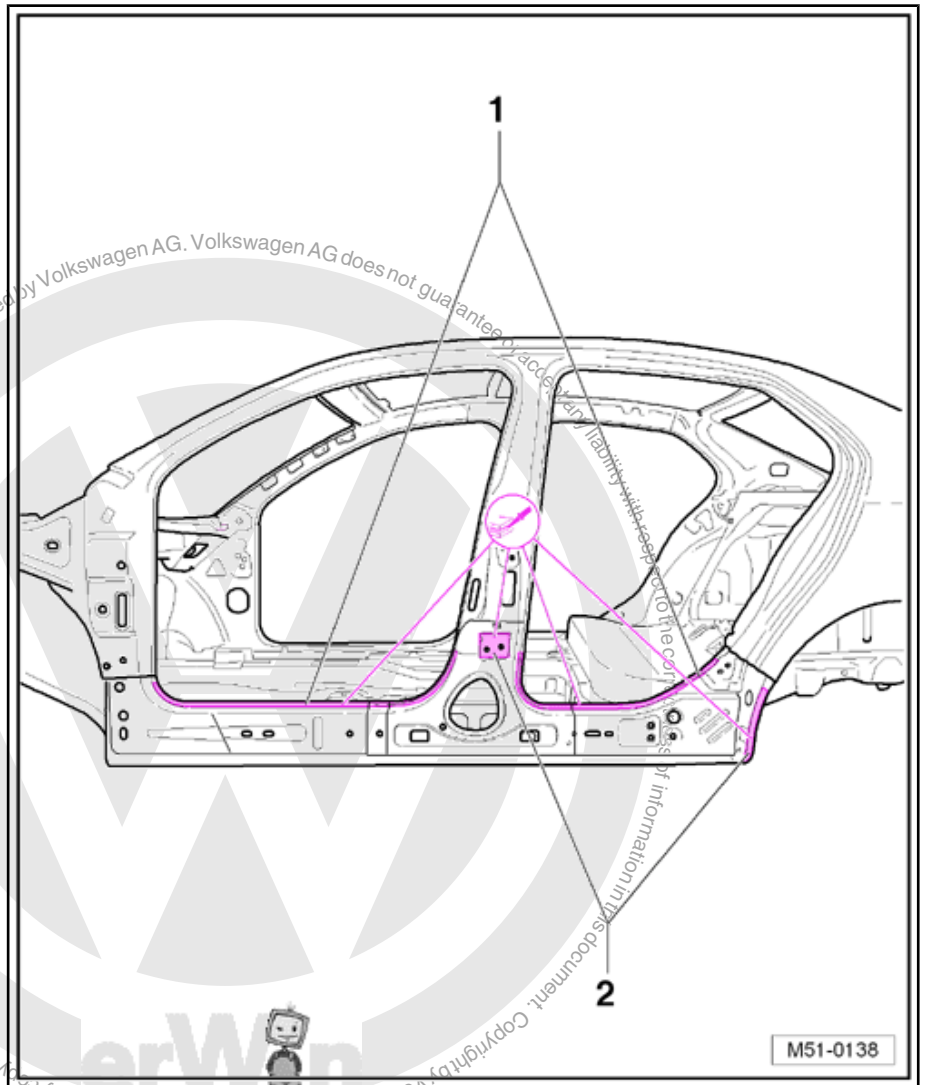


Note

- ◆ *When welding in side member, welding work must not be carried out in areas marked on the illustrations for "crash safety" reasons.*
- ◆ *The measurements given must be adhered to.*
- Mark the areas on the outer side member where no welding work may be carried out.
- ◆ Dimension -a- = 45 mm
- ◆ Dimension -b- = 145 mm

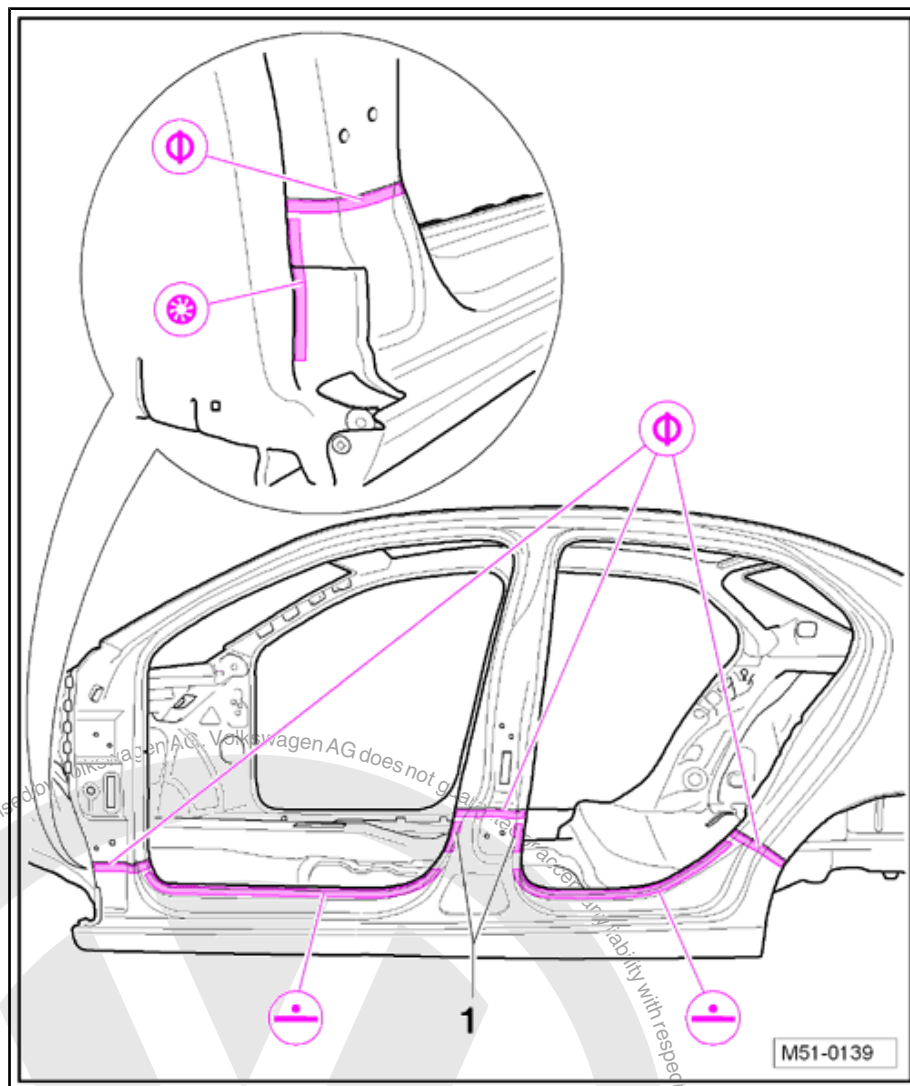
9.2.4 Welding in

- Place backing plate behind side member/side panel parting cut.



Note

- ◆ Holes for door hinges in area -2- must remain free of adhesive.
- ◆ New part must be welded within 20 minutes, otherwise adhesive properties of adhesive will be impaired.
- In area -1- apply 2-K body adhesive -D 180 KD3 A2- (1 bead, Ø 3.5 mm).
- In area -2- apply 2-K body adhesive -D 180 KD3 A2- (flat, several beads, Ø 3.5 mm).
- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fit with add on parts.



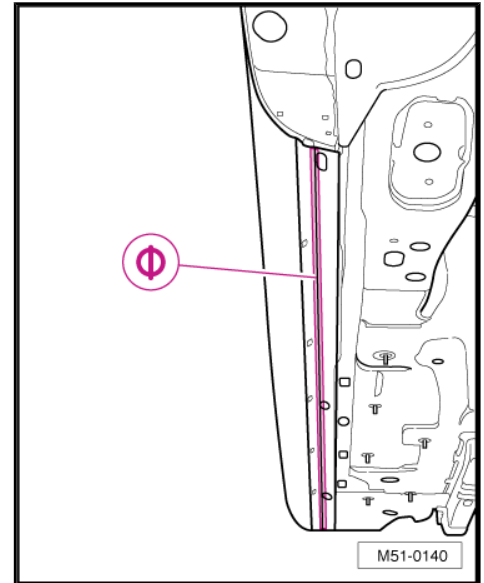
Note

Note that no welding work may be carried out in areas -1-.

- Butt weld parting cuts of A-pillar and B-pillar, SG stepped weld seam.
- Weld parting cut of side member to side panel, SG stepped weld seam.
- Weld end piece and front side member with A-pillar reinforcement, SG plug weld seam.
- Recreate original joint, RP spot weld seam.



- Recreate remaining joint side member reinforcement, SG stepped weld seam.
- Bead over wheel arch flange.
- Wipe away excess adhesive and seal wheel arch.





RO: 51 49 55 50

10 Renewing side member reinforcement (front)

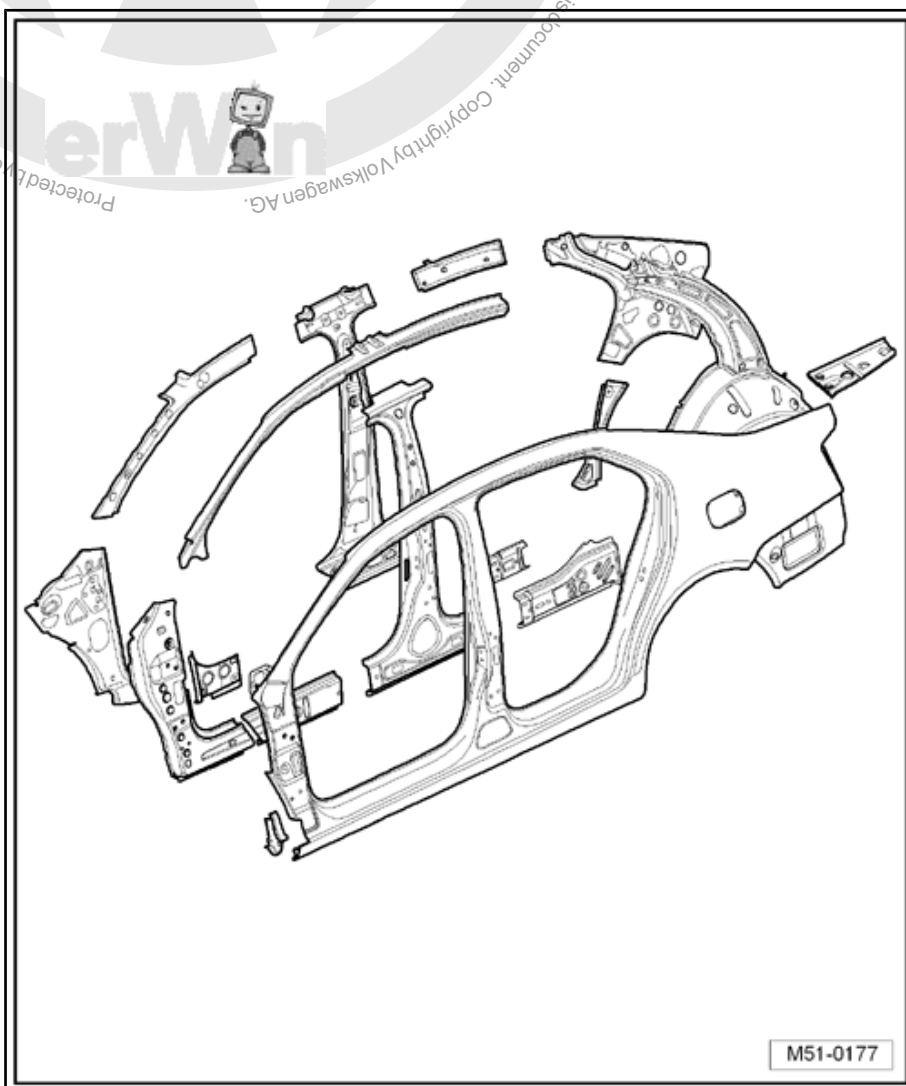


WARNING

Observe safety notes!

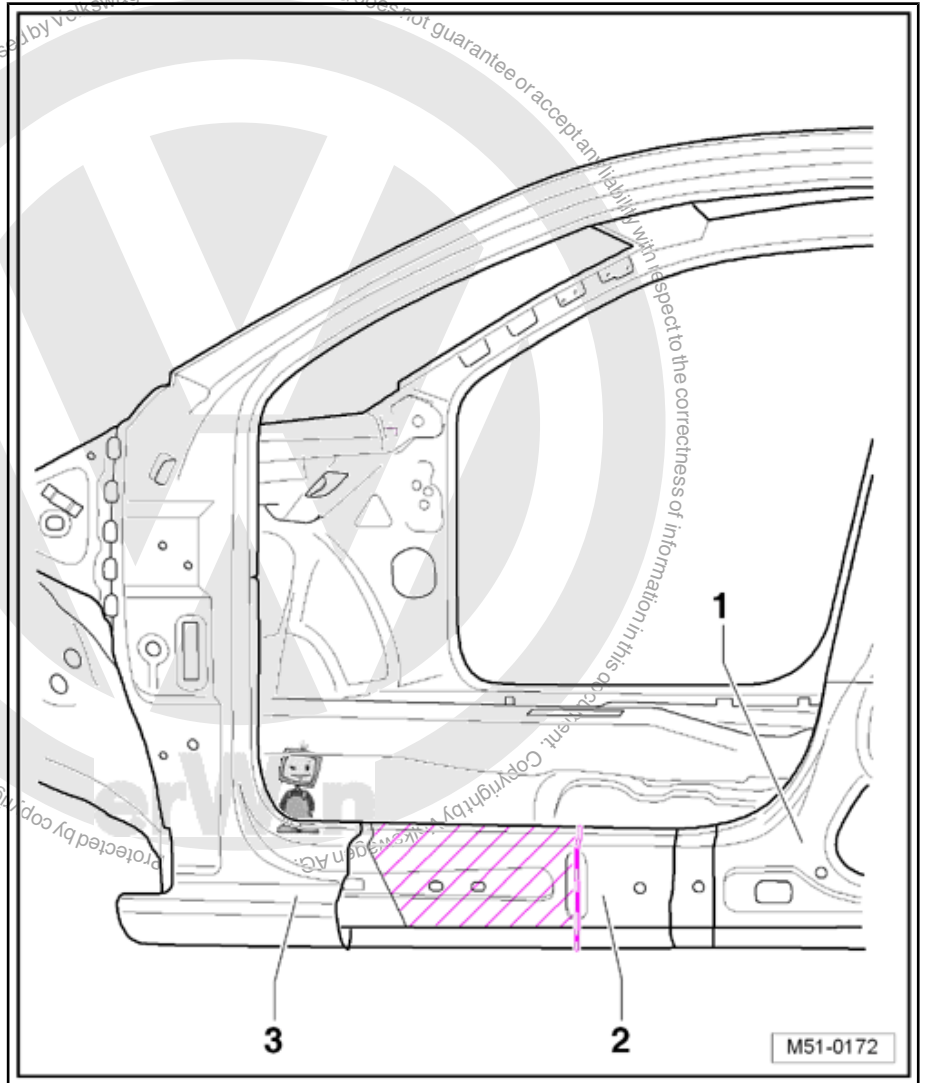
⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Side member already removed
⇒ ["9 Renewing side member", page 145](#)



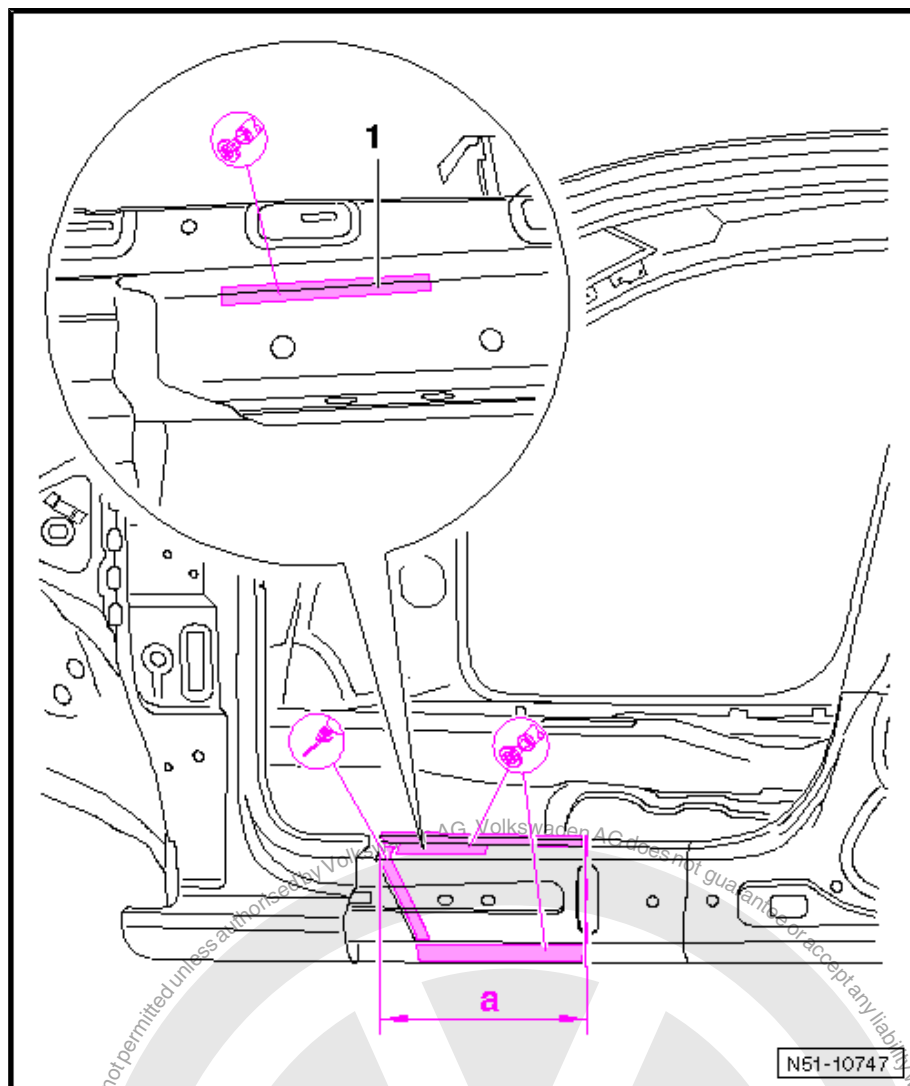


- 1 - B-pillar reinforcement
- 2 - Side member reinforcement
- 3 - A-pillar





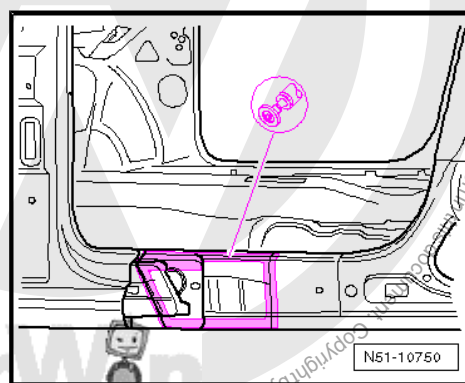
10.1 Removing



- Make parting cut as shown (in front of the inner bulkhead).

Dimension -a- = 300 mm

- Release original joint.
- Remove remaining material.



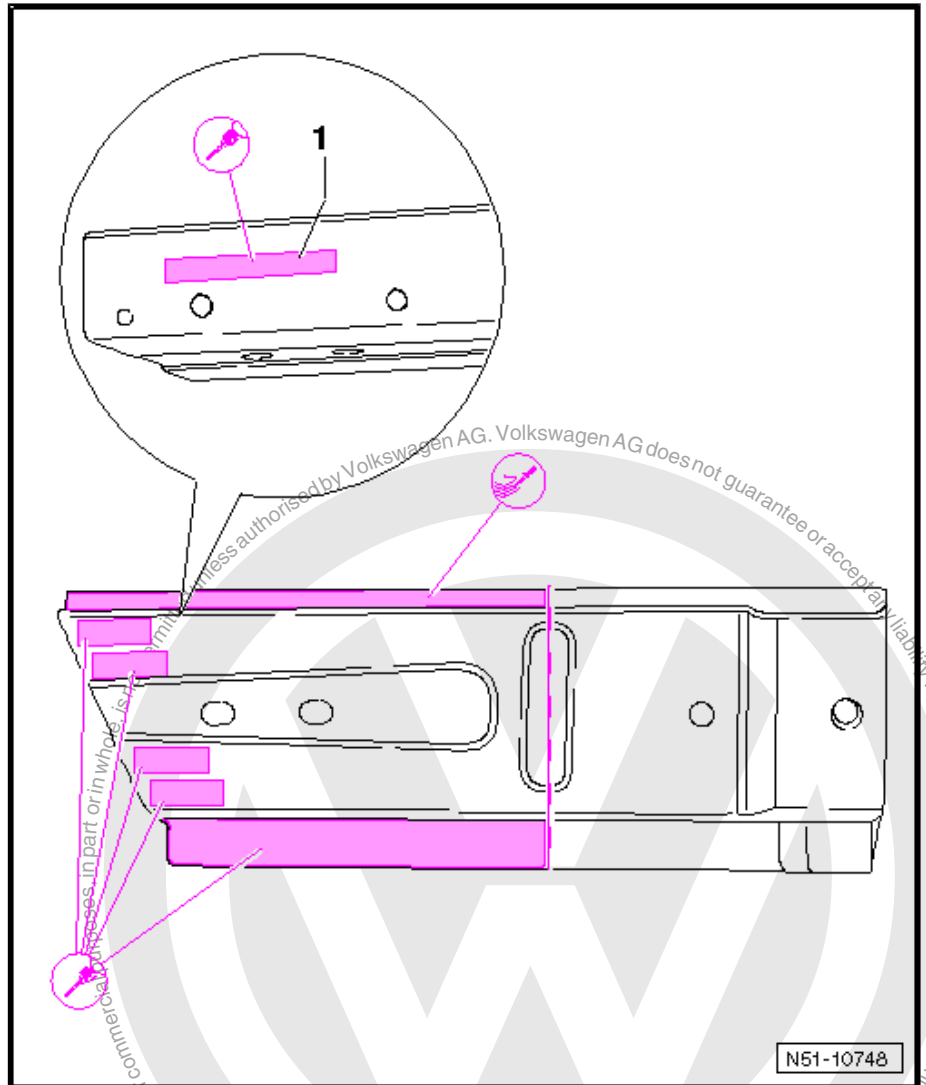


10.2 Installing

10.2.1 Preparing new part

Replacement part

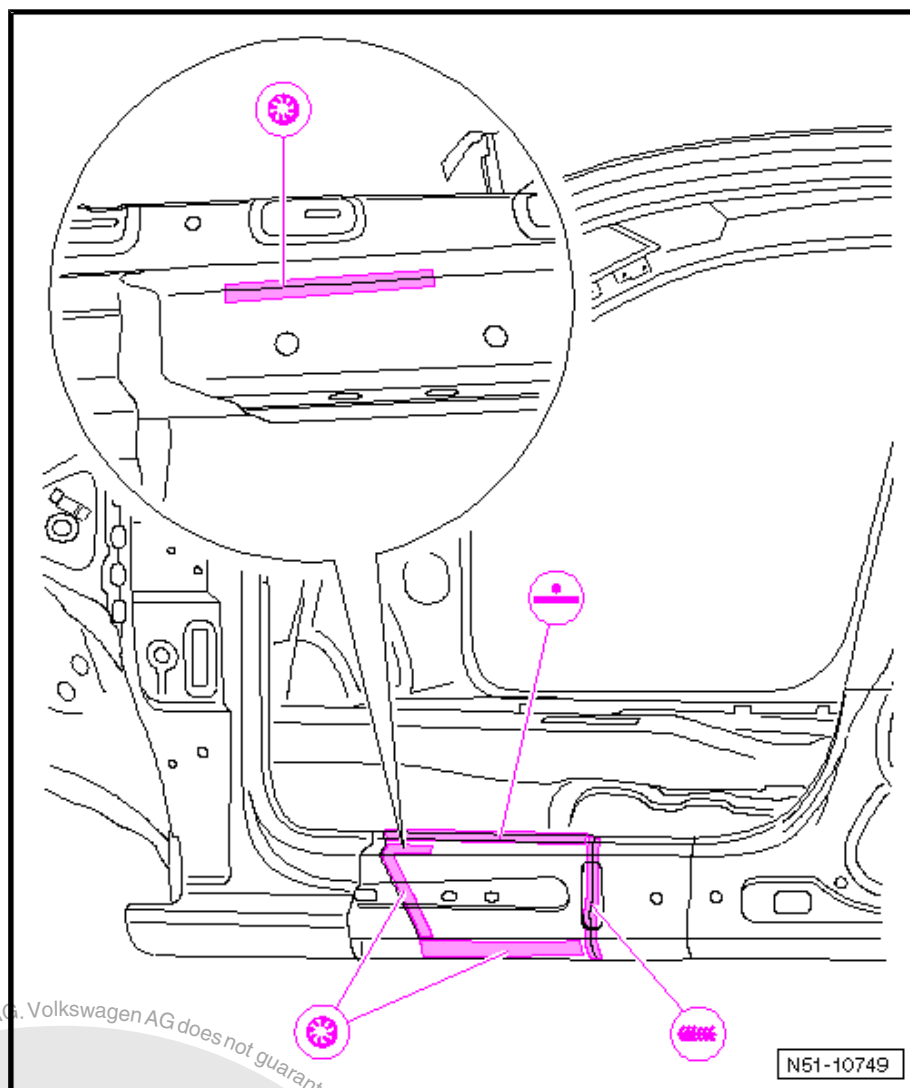
- ◆ Front side member reinforcement



- Transfer parting cut to new part and cut it.
- Drill holes for SG plug weld seam as shown, $\varnothing 10$ mm.

10.2.2 Welding in

- Fit new part and secure.
- Check fitting to adjacent components.



- Weld original joint, SG plug weld seam and RP spot weld seam.
 - Weld connection to web plate, SG plug weld seam.
 - Weld parting cut, SG continuous weld seam.
- Install side member ⇒ [“9.2 Installing”, page 148](#) .



RO: 51 49 55 52

11 Renewing side member reinforcement

(rear)

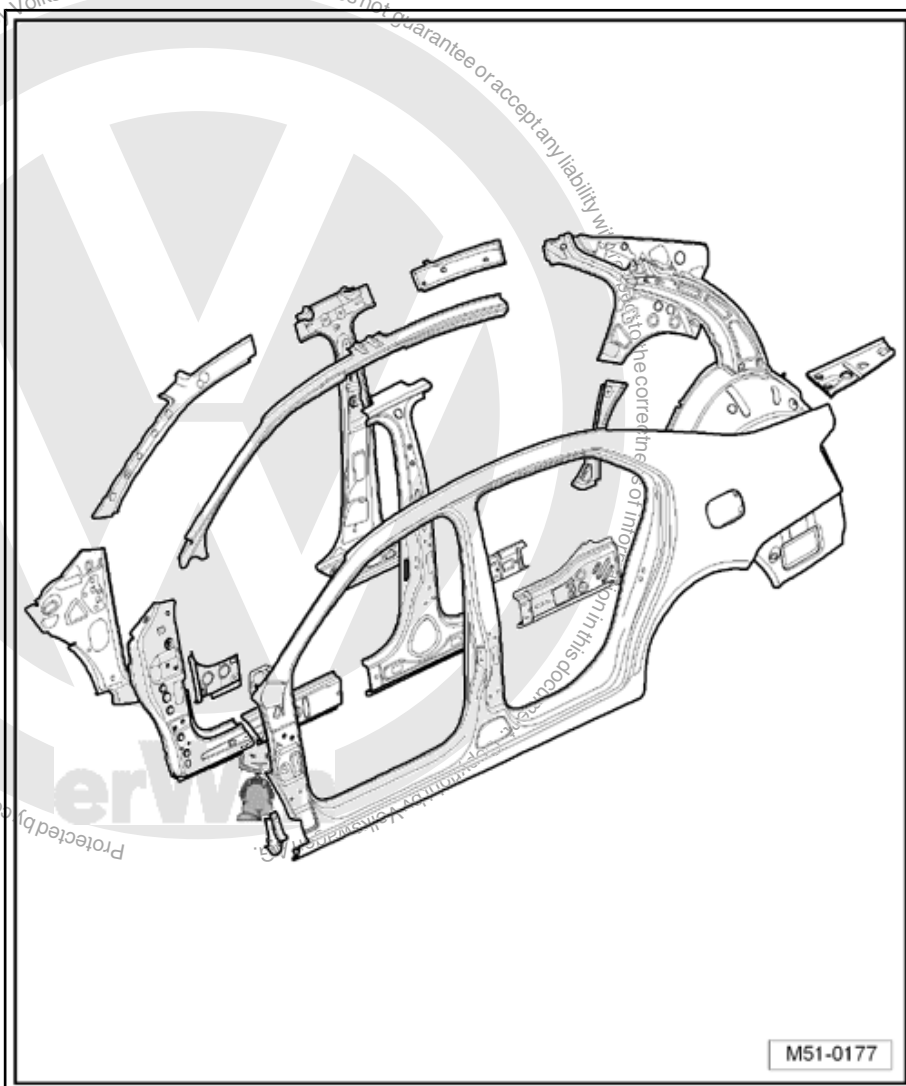


WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Side member already removed
⇒ ["9 Renewing side member", page 145](#)





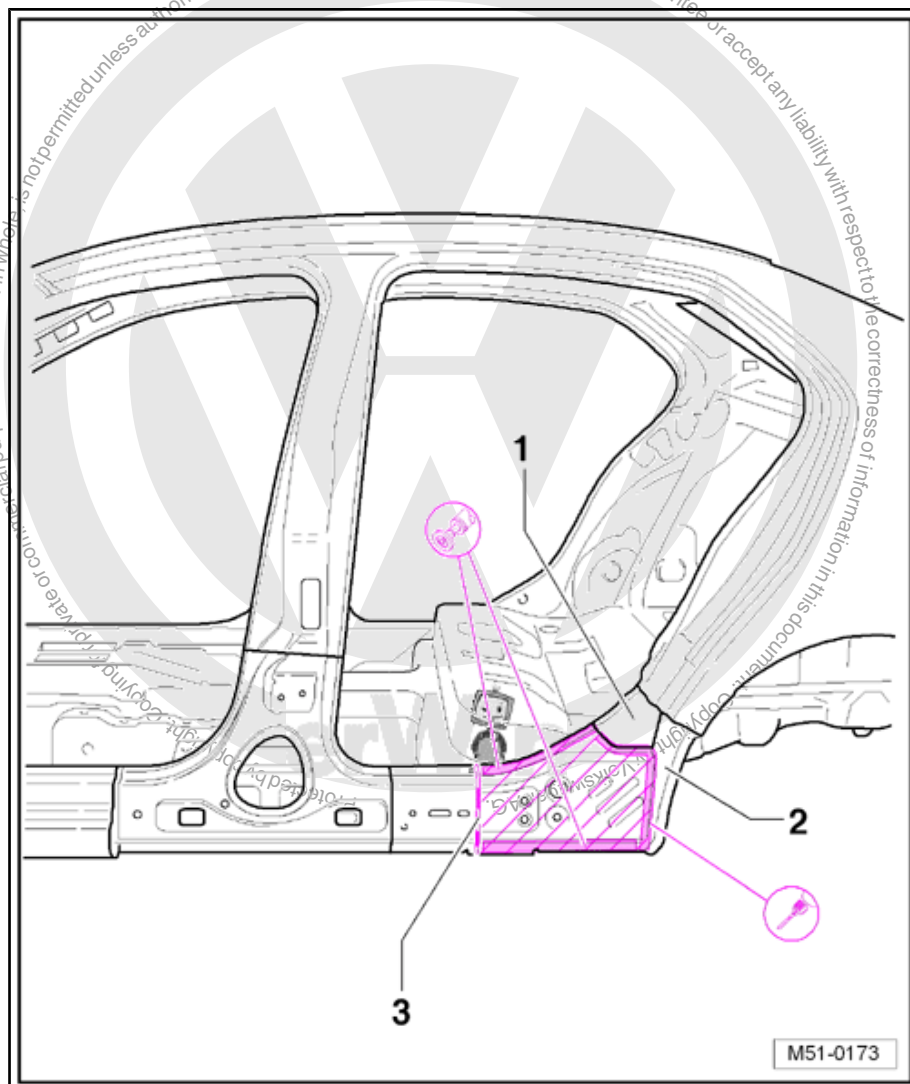
11.1 Removing

1 - Inner side panel

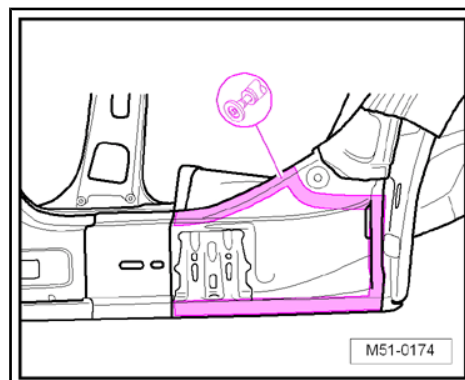
2 - Wheel housing liner

3 - Cutting point

- Make parting cut as shown (behind the inner bulkhead).
- Separate original joint to inner side member, to inner side panel and to wheel housing liner.



- Remove material remains on inner side member and on outer wheel housing liner.



11.2 Installing

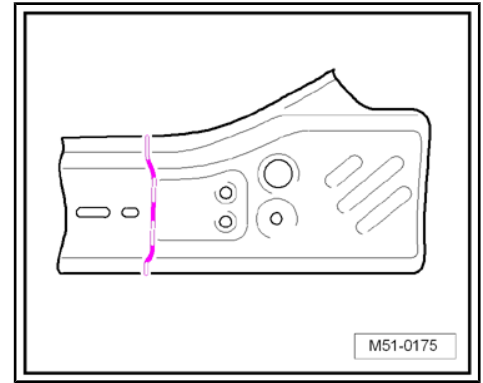
11.2.1 Preparing new part

Replacement part

- ◆ Rear side member reinforcement

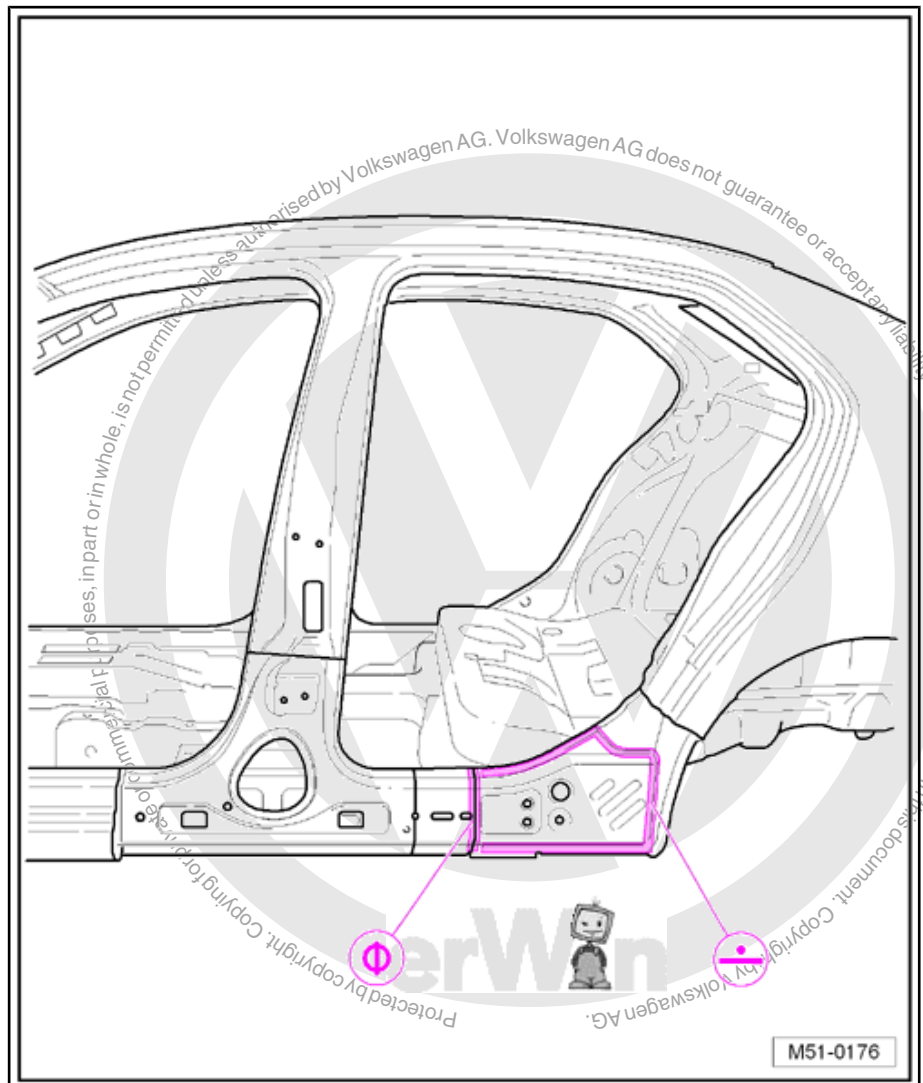


- Transfer parting cut to new part and cut it.



11.2.2 Welding in

- Fit new part and secure.
- Check fitting to adjacent components.



- Weld in rear side member reinforcement, RP spot weld seam.
- Weld parting cut, SG stepped weld seam.
- Install side member ⇒ ["9.2 Installing", page 148](#) .



RO: 51 69 55 56

12 Renewing seat cross member mounting

(outer)



WARNING

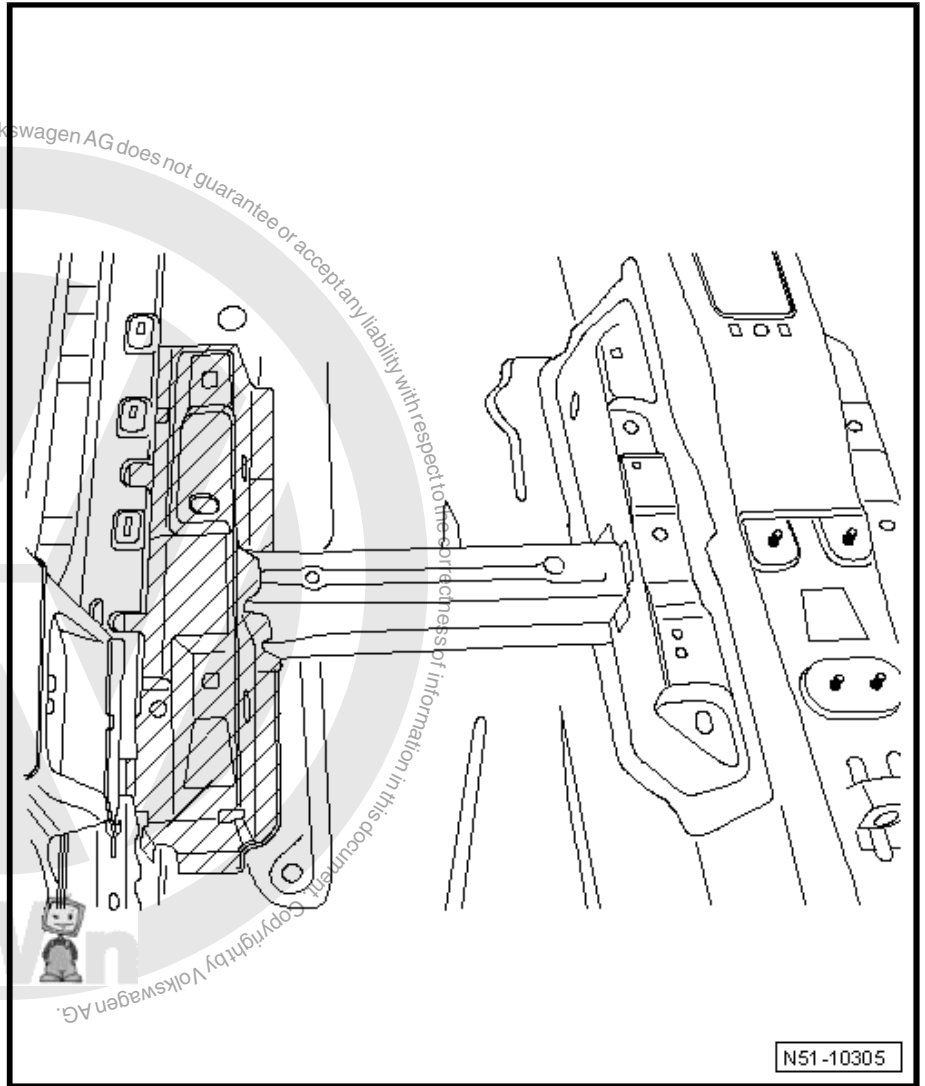
Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



Note

- ◆ *If a thread in the mounting for the seat cross member is damaged, the component must be replaced.*
- ◆ *The vehicle identification number is located on the right side of the vehicle. If this mounting has to be replaced during accident damage repair, an impartial expert is to be consulted (reference chassis number) prior to the work being carried out.*

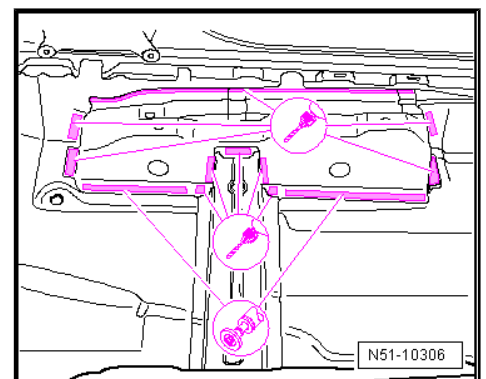


12.1 Removing

Note

When separating laser welded seams, ensure that the panels lying behind are not damaged.

- Cut out seat cross member mounting.
- Release original joint.
- Remove remaining material.





12.2 Installing

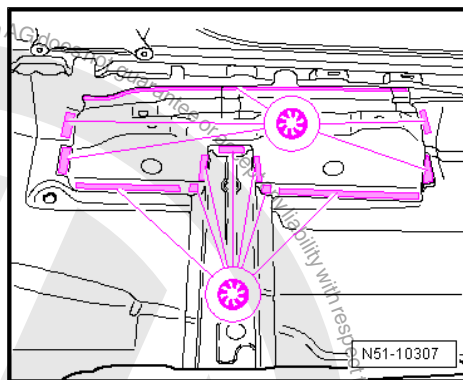
12.2.1 Preparing new part

Replacement part

- ◆ Seat cross member mounting
- Drill 7 mm Ø holes for SG plug weld seam.

12.2.2 Welding in

- Fit new part and secure.
- Check fit with add on parts.
- Weld in seat cross member mounting plate, SG plug weld seam.





RO: 51 69 55 58

13 Renewing seat cross member mounting

(on Tunnel)



WARNING

Observe safety notes!

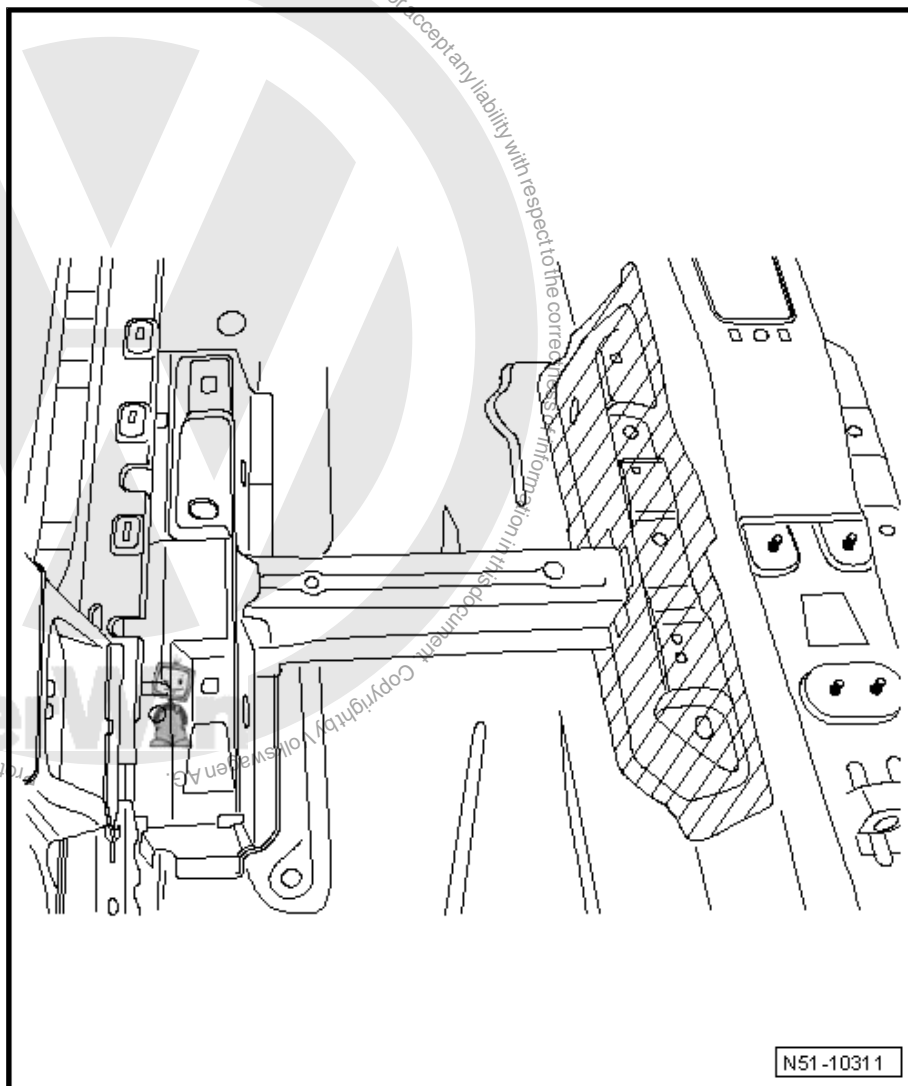
⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



Note

*If a thread in the mounting for the seat cross member is damaged,
the component must be replaced.*

- Seat middle cross member already removed
⇒ ["14 Renewing seat cross member", page 168](#)



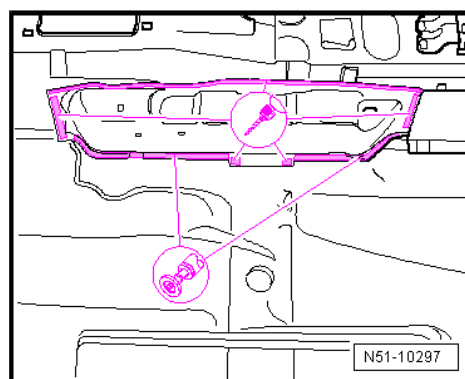
13.1 Removing



Note

When separating laser welded seams, ensure that the panels lying behind are not damaged.

- Cut out seat cross member mounting.
- Release original joint.
- Remove remaining material.





13.2 Installing

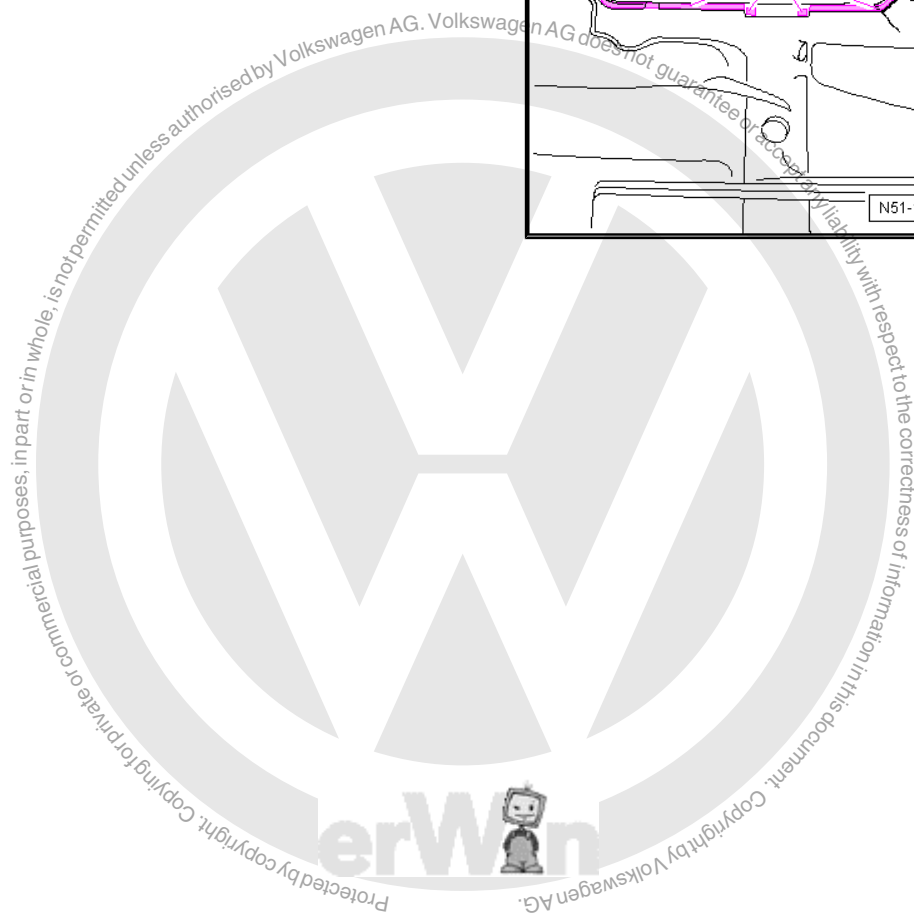
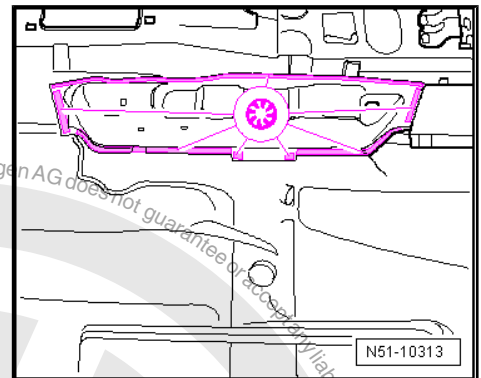
13.2.1 Preparing new part

Replacement part

- ◆ Seat cross member mounting
- Drill 7 mm Ø holes for SG plug weld seam.

13.2.2 Welding in

- Fit new part and secure.
- Check fit with add on parts.
- Weld in seat cross member mounting plate, SG plug weld seam.
- Install seat middle cross member
⇒ ["14.2 Installing", page 169](#) .





RO: 51 87 55 50

14 Renewing seat cross member

(middle)

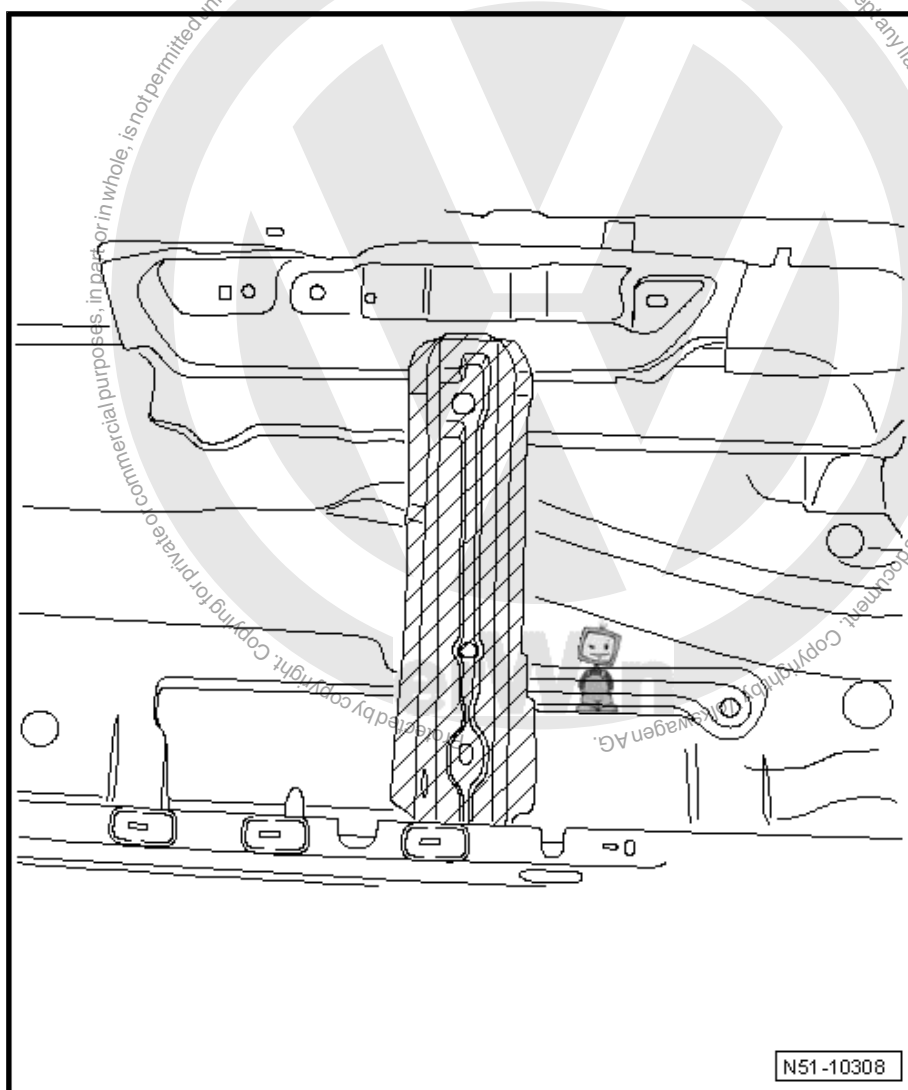


WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Seat outer cross member mounting already removed
⇒ ["12 Renewing seat cross member mounting", page 162](#)





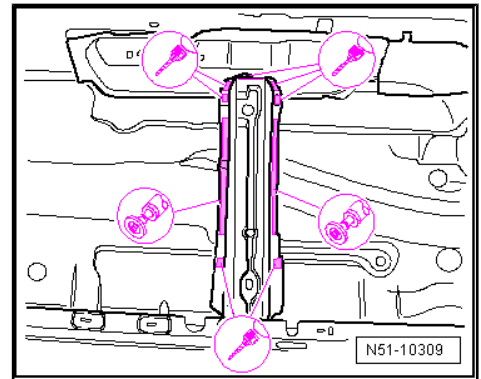
14.1 Removing



Note

When separating laser welded seams, ensure that the panels lying behind are not damaged.

- Release original joint.
- Remove remaining material.



14.2 Installing

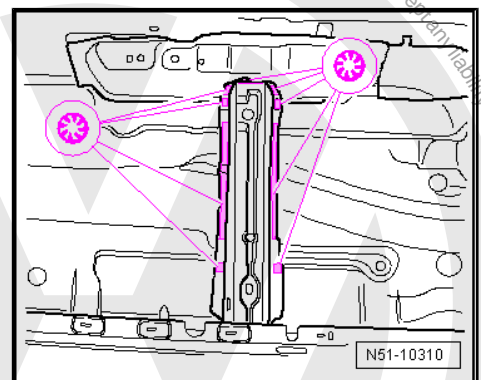
14.2.1 Preparing new part

Replacement part

- ◆ Seat cross member
- Drill 7 mm Ø holes for SG plug weld seam.

14.2.2 Welding in

- Fit new part and secure.
- Check fitting to adjacent components.
- Weld in seat cross member, SG plug weld seam.
- Install seat outer cross member mounting
⇒ [“12.2 Installing”, page 164](#) .





53 – Body - rear

RO: 53 05 55 00

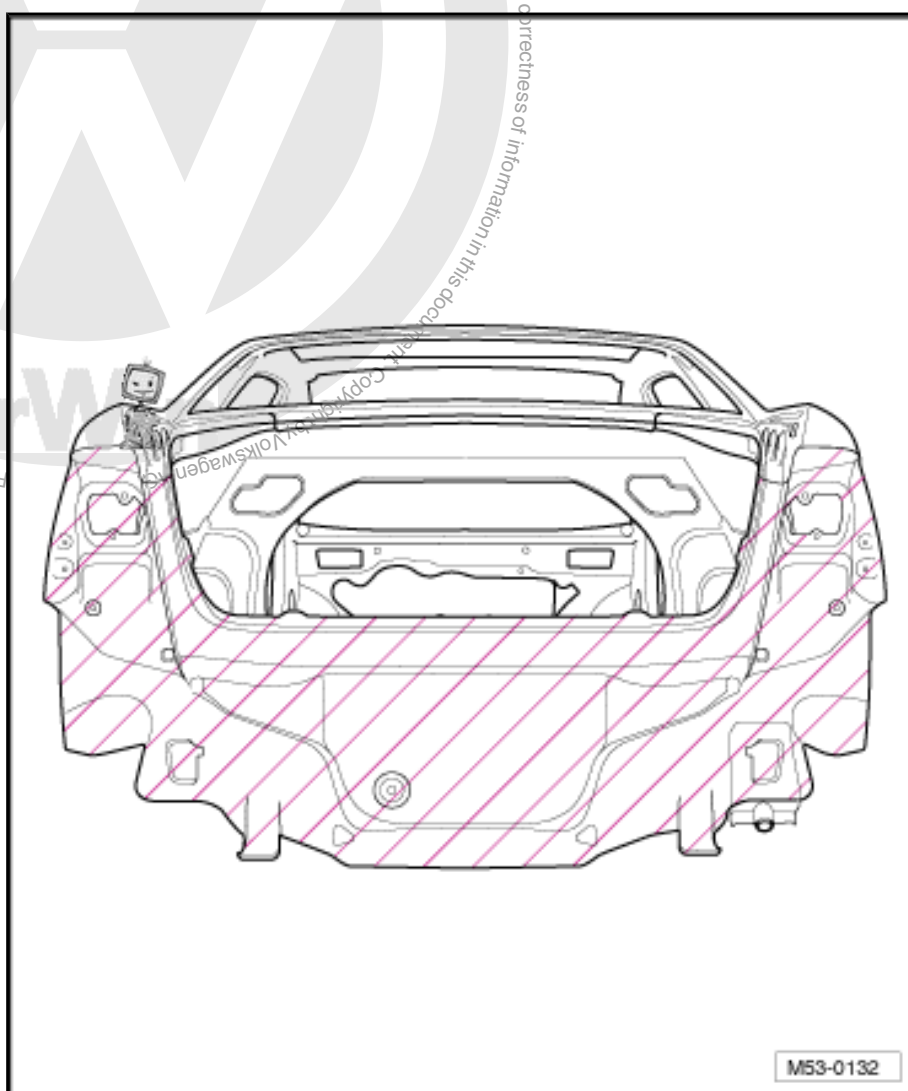
1 Renewing cross panel



WARNING

Observe safety notes!

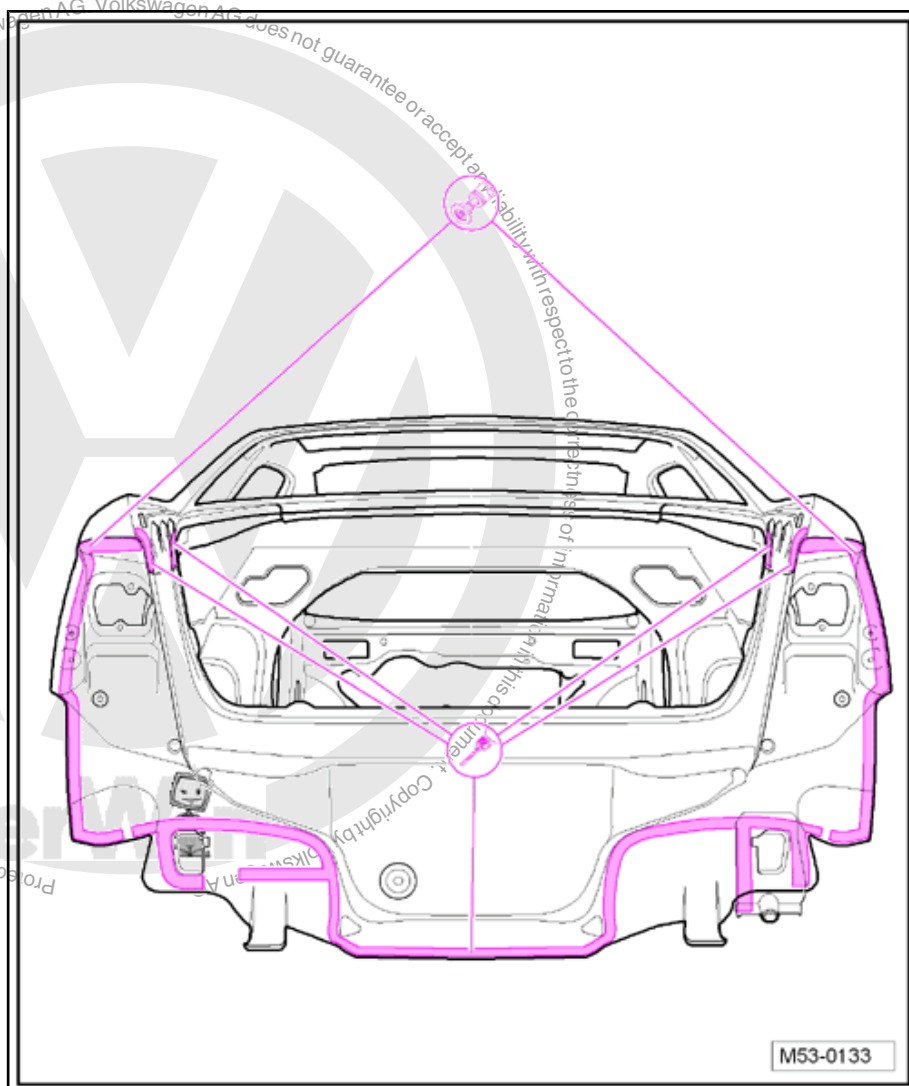
General Information; Body Repairs, General Body Repairs ;
Safety instructions



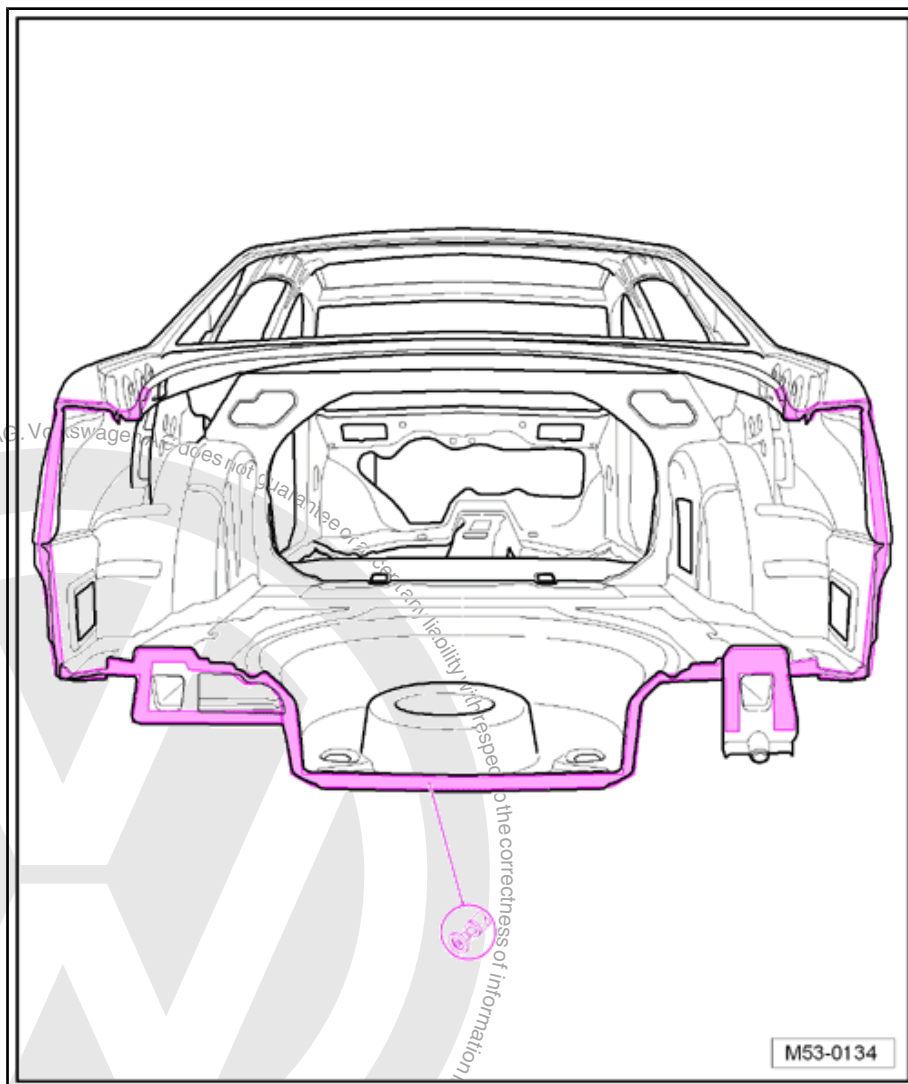
M53-0132



1.1 Removing



- Release original joint.



- Remove remaining material.

1.2 Installing

1.2.1 Preparing new part

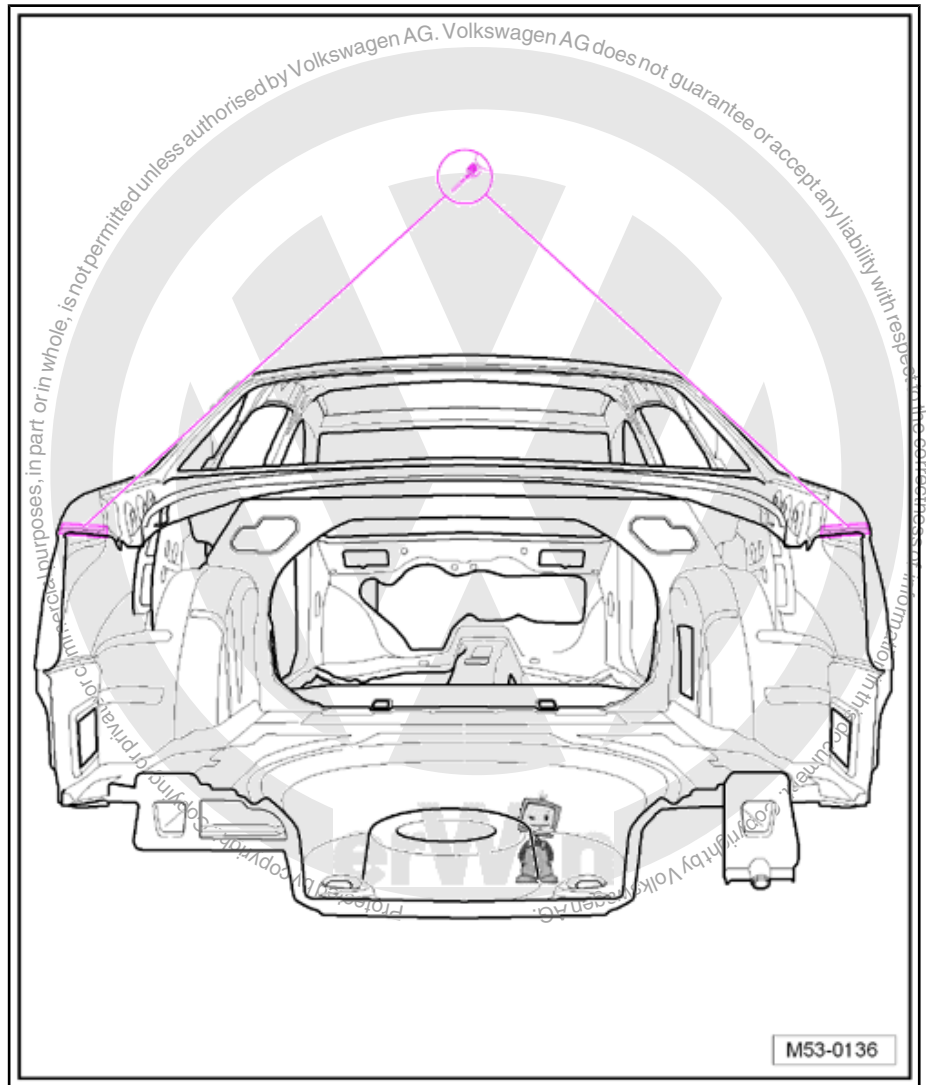
Replacement part



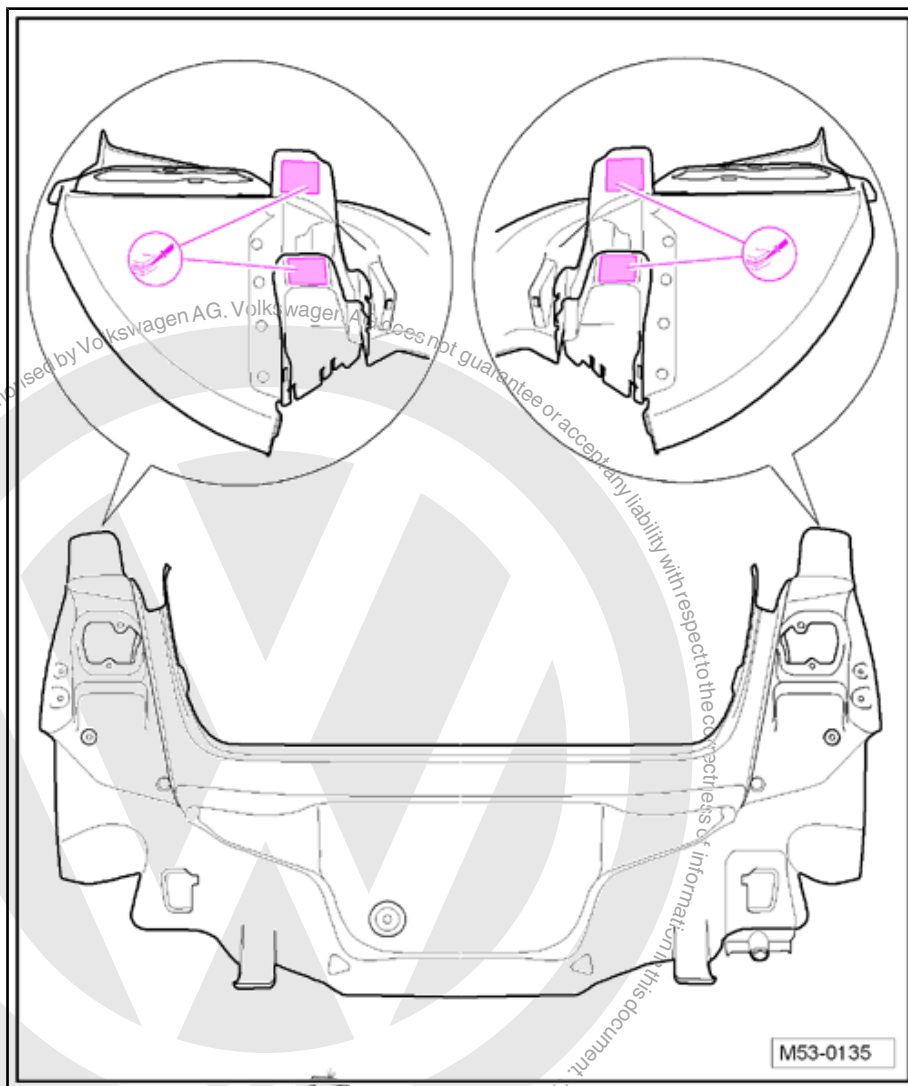
Note

The replacement part is delivered without recesses for the tail light and without welding bolts. Making the recesses for the tail light and installing the welding bolts is described in
⇒ *[“1.2.3 Cutting out recesses for the tail light”, page 176](#) and*
⇒ *[“1.2.4 Installing welding bolts”, page 178](#).*

- ◆ Cross panel
- ◆ Welding bolt -N 910 176 01- (qty. 8)
- ◆ 2K body adhesive -D 180 KD3 A2-



- Drill holes into side panel for SG plug weld seam, \varnothing 7 mm.



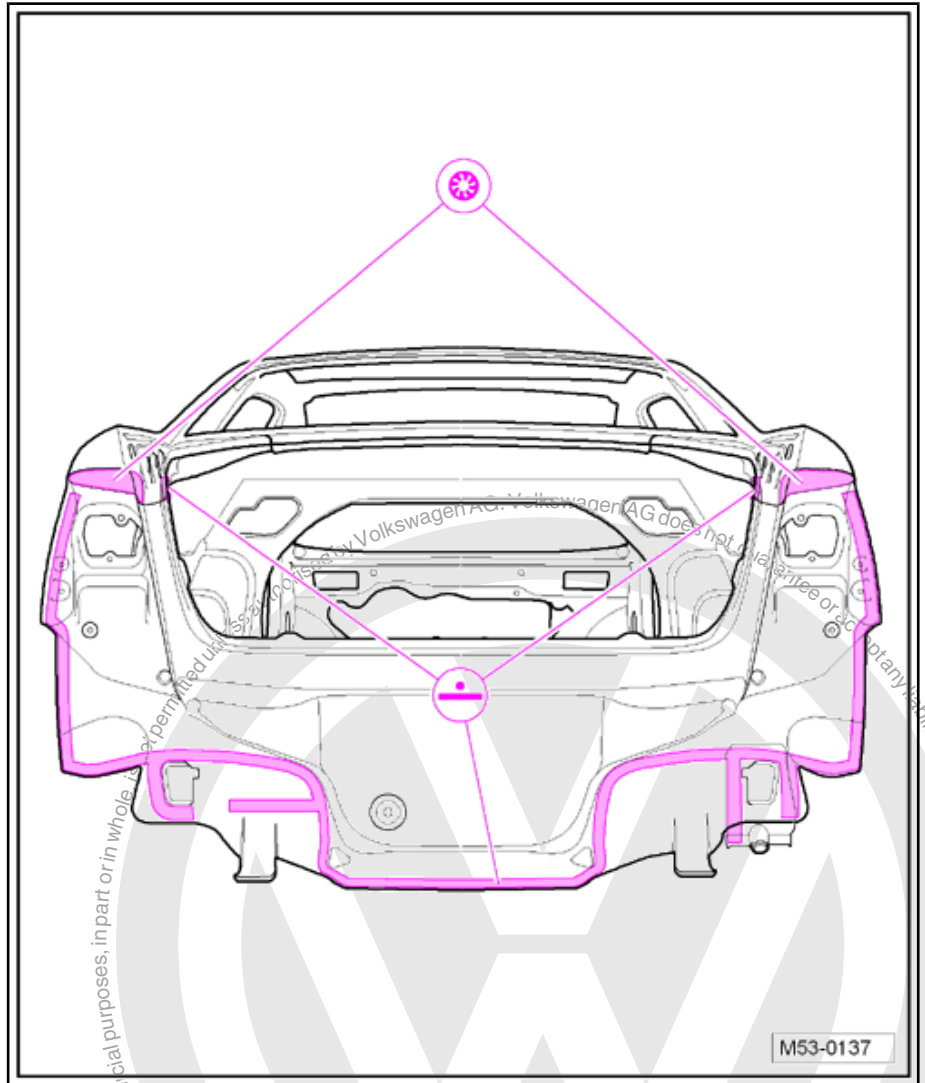
Note

New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Apply 2-K body adhesive -D 180 KD3 A2- in the area of the factory bonding.

1.2.2 Welding in

- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fit with add on parts.
- Check rear cover closing function.



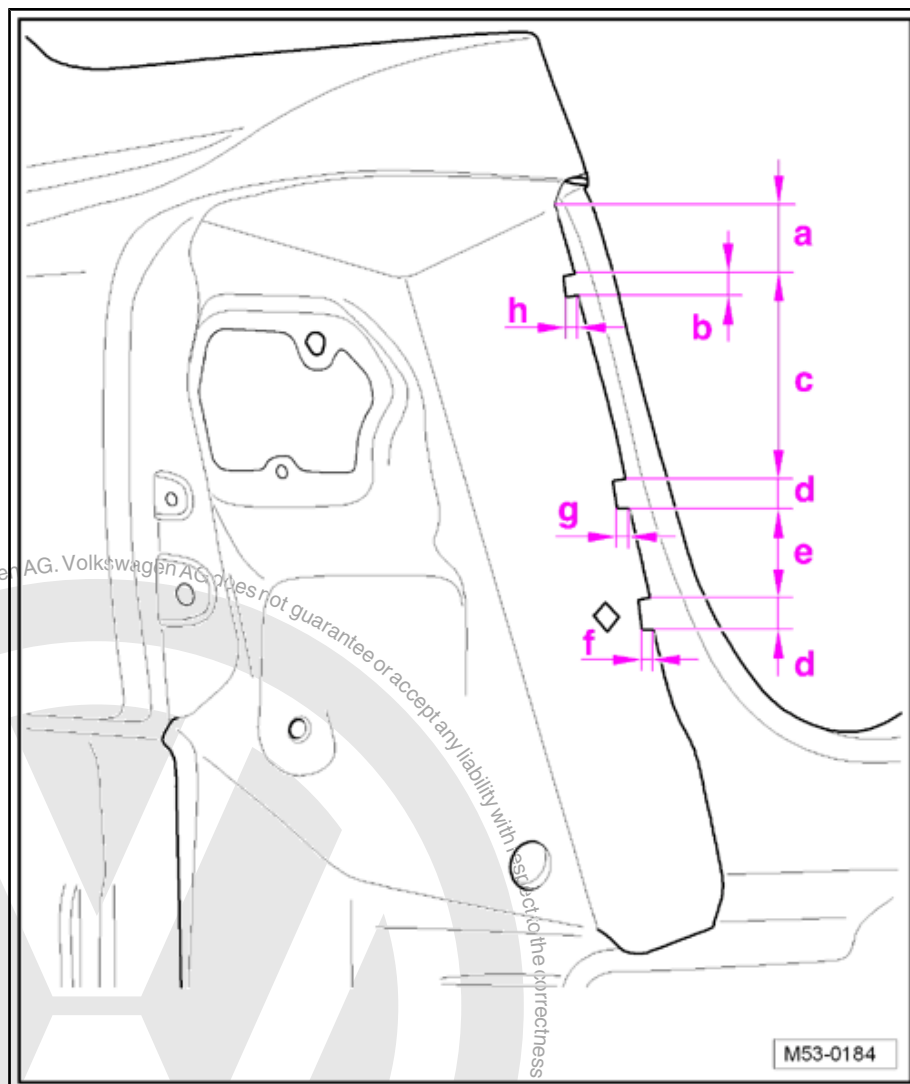
Note

When welding tail light mounting with upper side panel use a "heat shield" to prevent damage to side panel paintwork.

- Weld in cross panel, RP spot weld seam and SG plug weld seam.



1.2.3 Cutting out recesses for the tail light



Note

The left side of the vehicle is shown. The figure and the work apply analogously for the right side of the vehicle.

- The dimensions for marking the recesses can be found in the table ➔ [page 177](#).
- Mark the recesses for the tail light and the guide.



Note

- ♦ Perform parting cut with pneumatic sabre saw -V.A.G 1523- or compact angle grinder -VAS 5167-.
- ♦ The front side of the recesses must be parallel to the road.
- Cut out the recesses.



Dimensions for the recesses for the tail light

Dimension	mm
a	26.6
b	15.0
c	105.0
d	20.0
e	30.0
f	9.3
g	9.5
h	9.6

- Check fitting to tail light and guide.

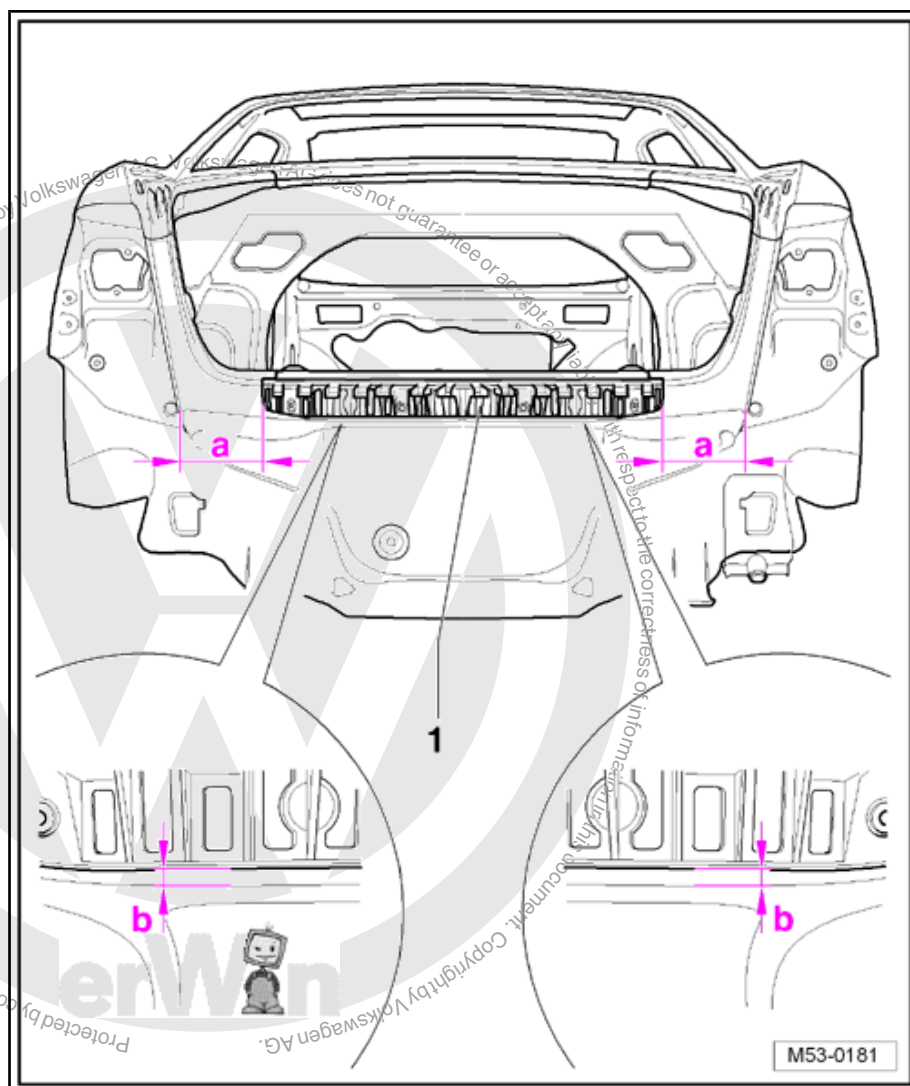


Note

To adjust the gaps for the tail light correctly, place washers between the tail light and the body if necessary.



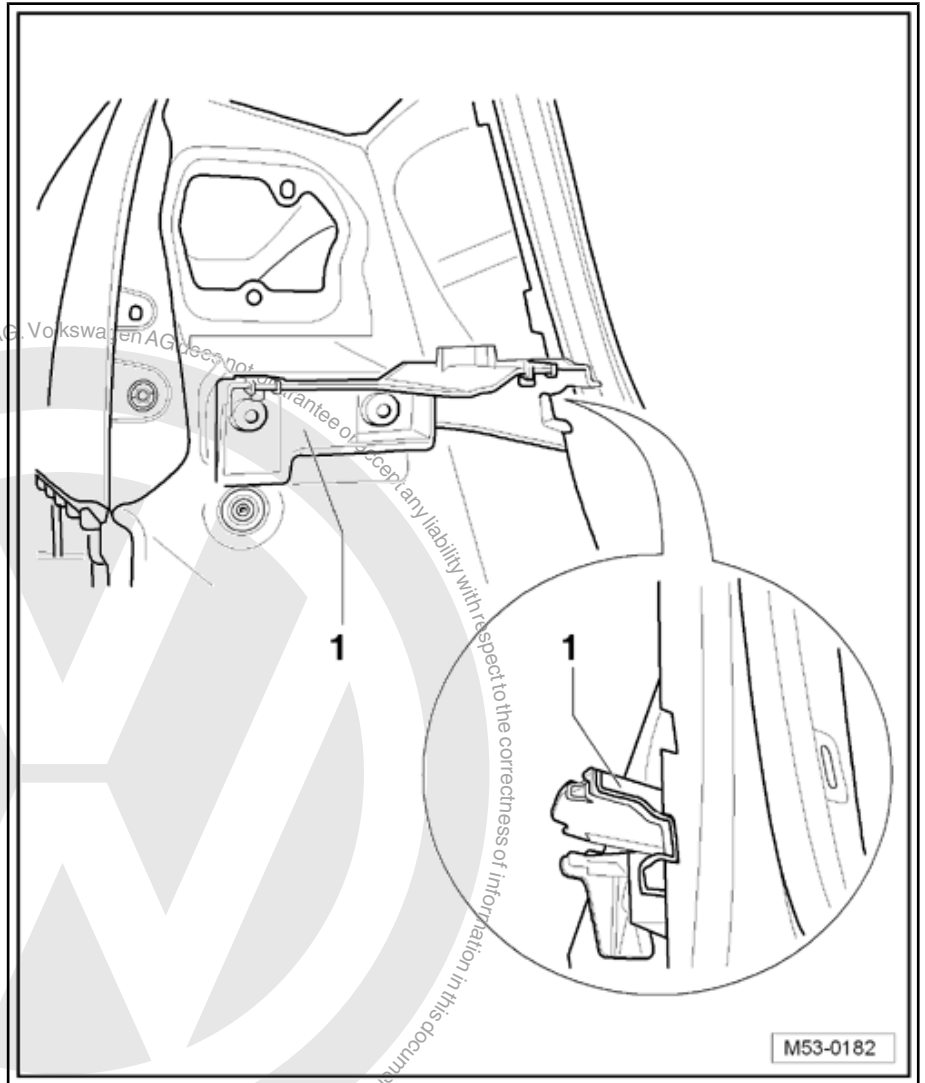
1.2.4 Installing welding bolts



- Adapt the securing strip -1- to the cross panel.
- Align the securing strip in the recess of the rear lid and secure it.

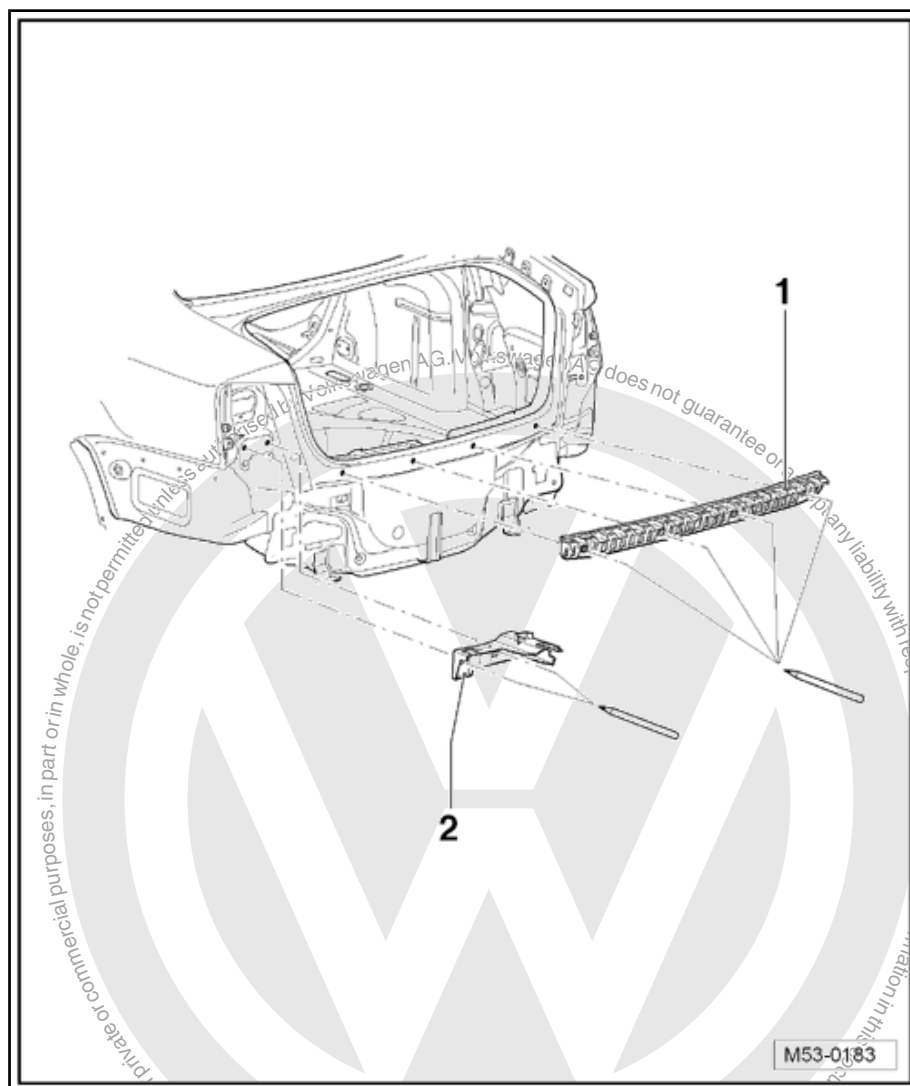
Dimension a = 140 mm

Dimension b = 9 mm



Note

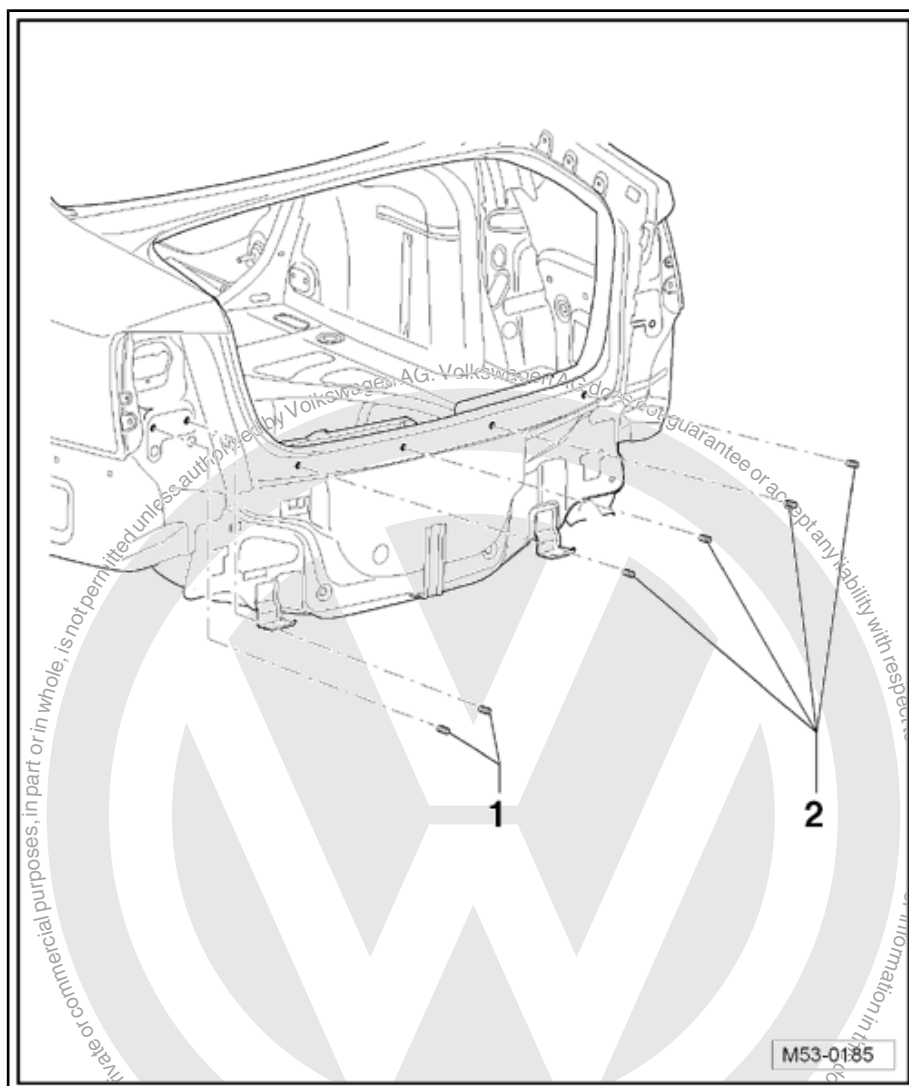
- ◆ The left side of the vehicle is shown. The figure and the work apply analogously for the right side of the vehicle.
- ◆ Before adapting the guide -1-, cut out the recesses in the mounting plate
⇒ ["1.2.3 Cutting out recesses for the tail light", page 176](#).
- Adapt the guide -1- to the mounting plate and secure it.
- Check fit with add on parts.



Note

Only the left guide is depicted -2-. The depiction and work steps also apply to the right guide.

- Mark the positions where the welding bolts for the securing strip -1- and the guide -2- are to be welded on.



Note

The welding bolts for the left guide -1- and the securing strip -2- are depicted. Building up weld studs on the right side of the vehicle is done analogously.

- Weld the welding bolts for the guide -1- and the securing strip -2- onto the marked positions, butt weld.



Note

If it is not possible to weld on the welding bolts, holes can be drilled and pop rivets with seals -N 907 161 01- can be riveted in alternatively. In that case, speed nuts -N 907 088 01- should be used to fasten the guide and the securing strip instead of hexagonal combi bolts -N 910 189 01-



RO: 53 10 55 00

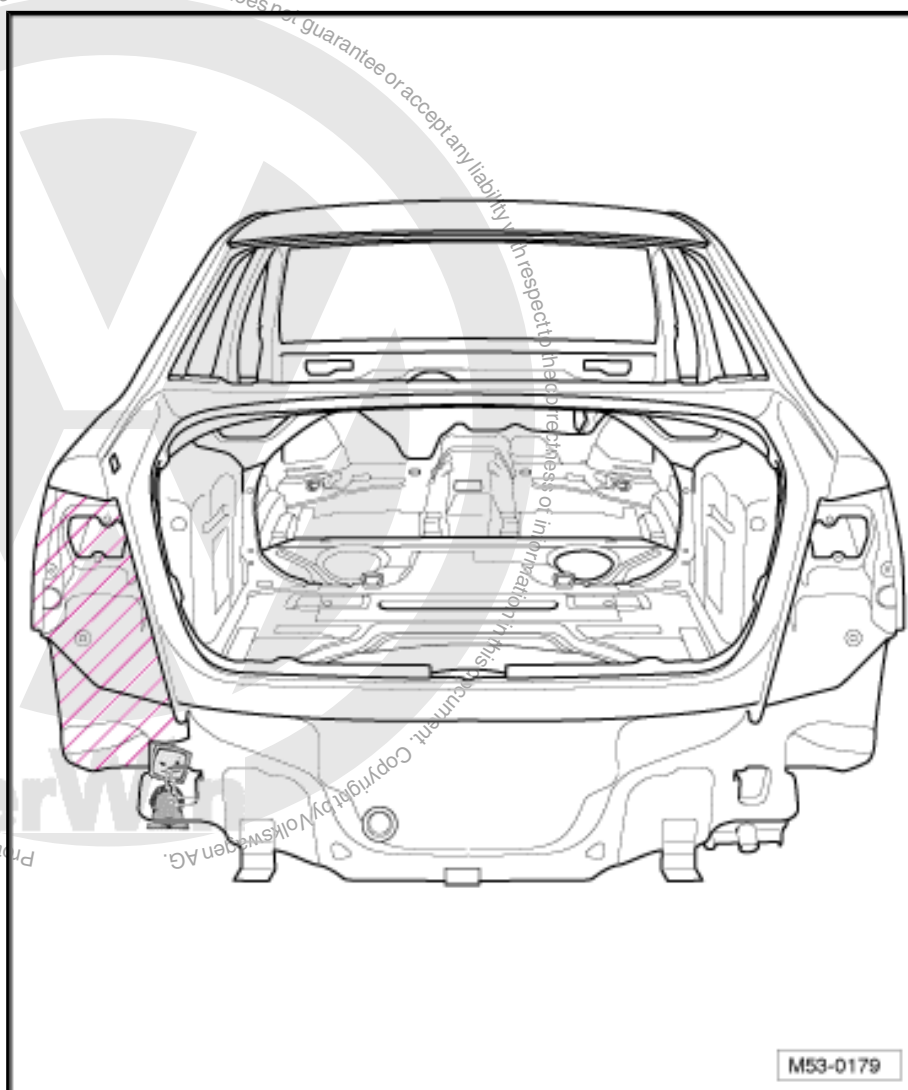
2 Renewing mounting plate



WARNING

Observe safety notes!

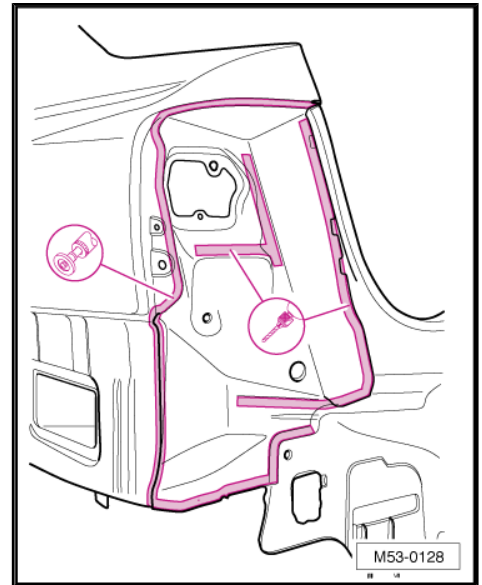
⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



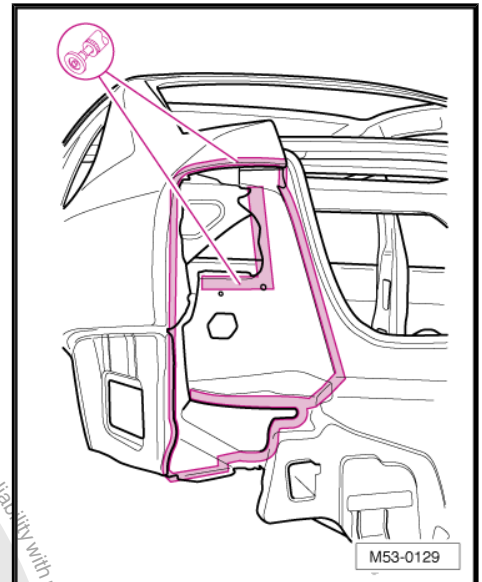


2.1 Removing

- Release original joint.



- Remove remaining material.



2.2 Installing

2.2.1 Preparing new part

Replacement part



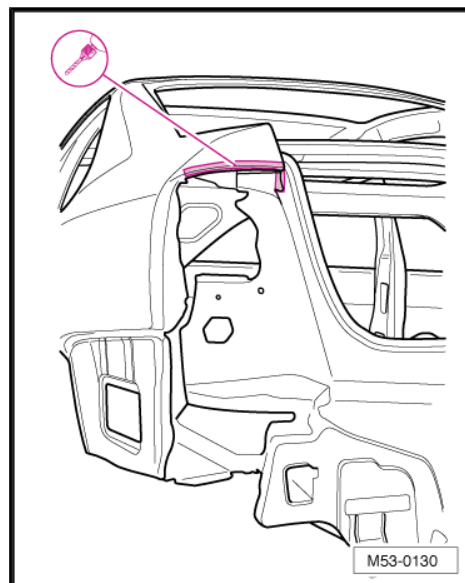
Note

The replacement part is delivered without recesses for the tail light and without welding bolts. Making the recesses for the tail light and installing the welding bolts is described in
 ⇒ "1.2.3 Cutting out recesses for the tail light", page 176 and
 ⇒ "1.2.4 Installing welding bolts", page 178.

- ◆ Tail light mounting
- ◆ Welding bolt -N 910 176 01- (qty. 2)

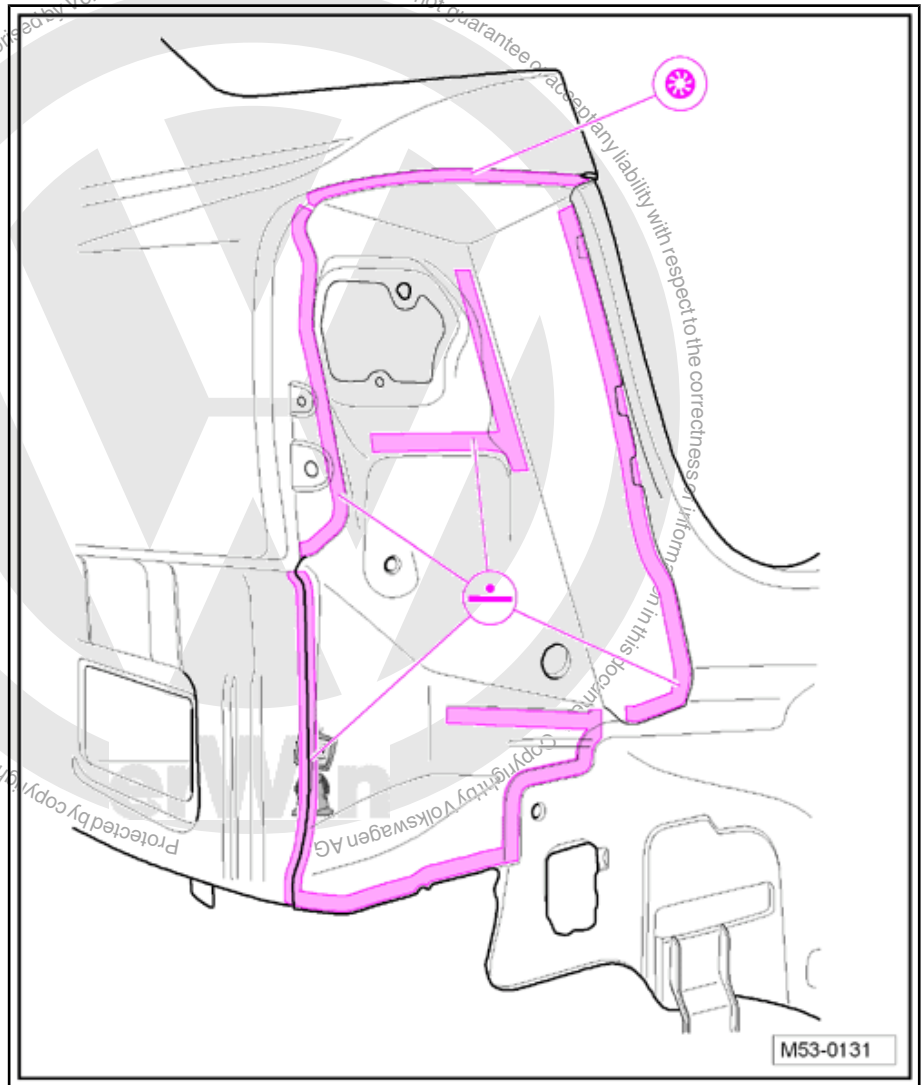


- Drill holes, as shown, into side panel for SG plug weld seam, Ø 7 mm.



2.2.2 Welding in

- Fit new part and secure.
- Check fit with add on parts.



Note

When welding tail light mounting with upper side panel use a "heat shield" to prevent damage to side panel paintwork.

- Weld in tail light mounting , RP spot weld seam.
- Weld upper tail light mounting to side panel, SG plug weld seam.
- Cut out the recesses for the tail light and the guide
⇒ ["1.2.3 Cutting out recesses for the tail light", page 176](#) .
- Weld on the welding bolts for the guide
⇒ ["1.2.4 Installing welding bolts", page 178](#) .



RO: 53 24 55 50

3 Renewing luggage compartment floor



WARNING

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

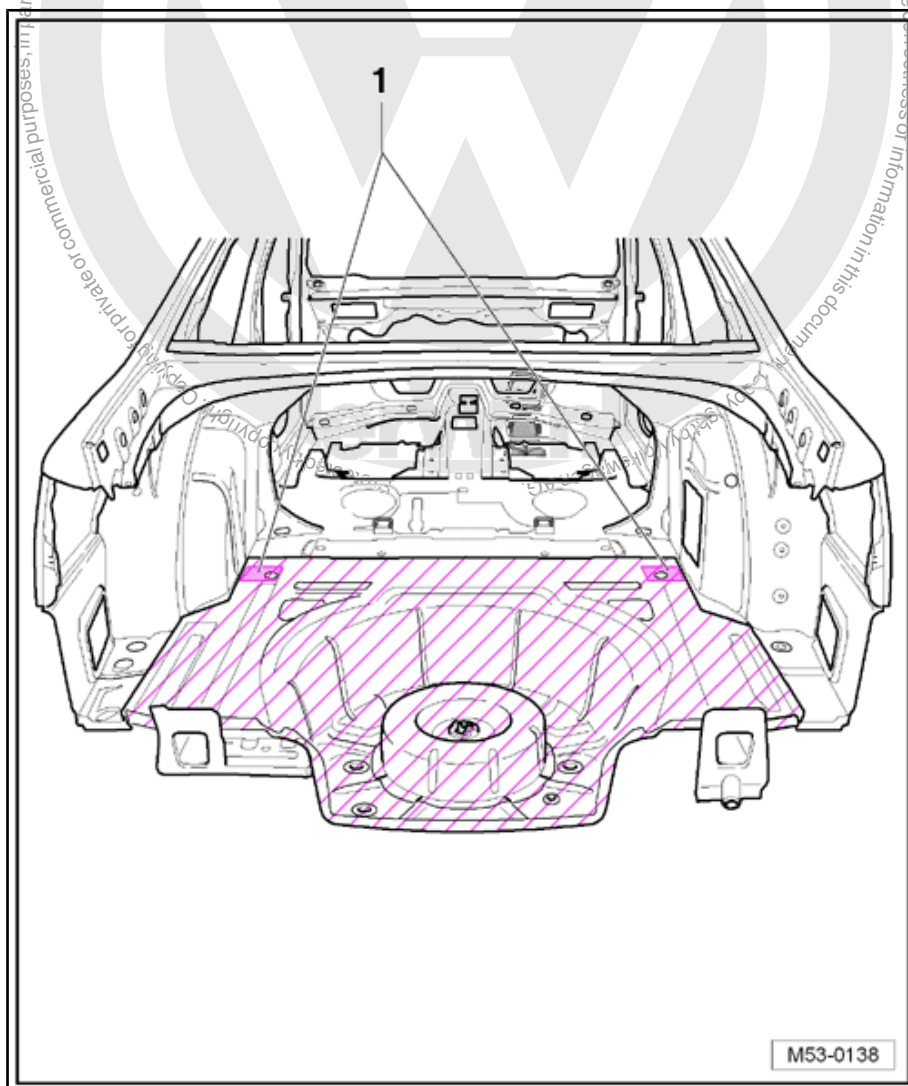
⇒ General Information; Body Repairs; General Body Repairs ;
Safety instructions

- Cross panel already removed
⇒ ["1 Renewing cross panel", page 170](#)

1 - Moulded foam element



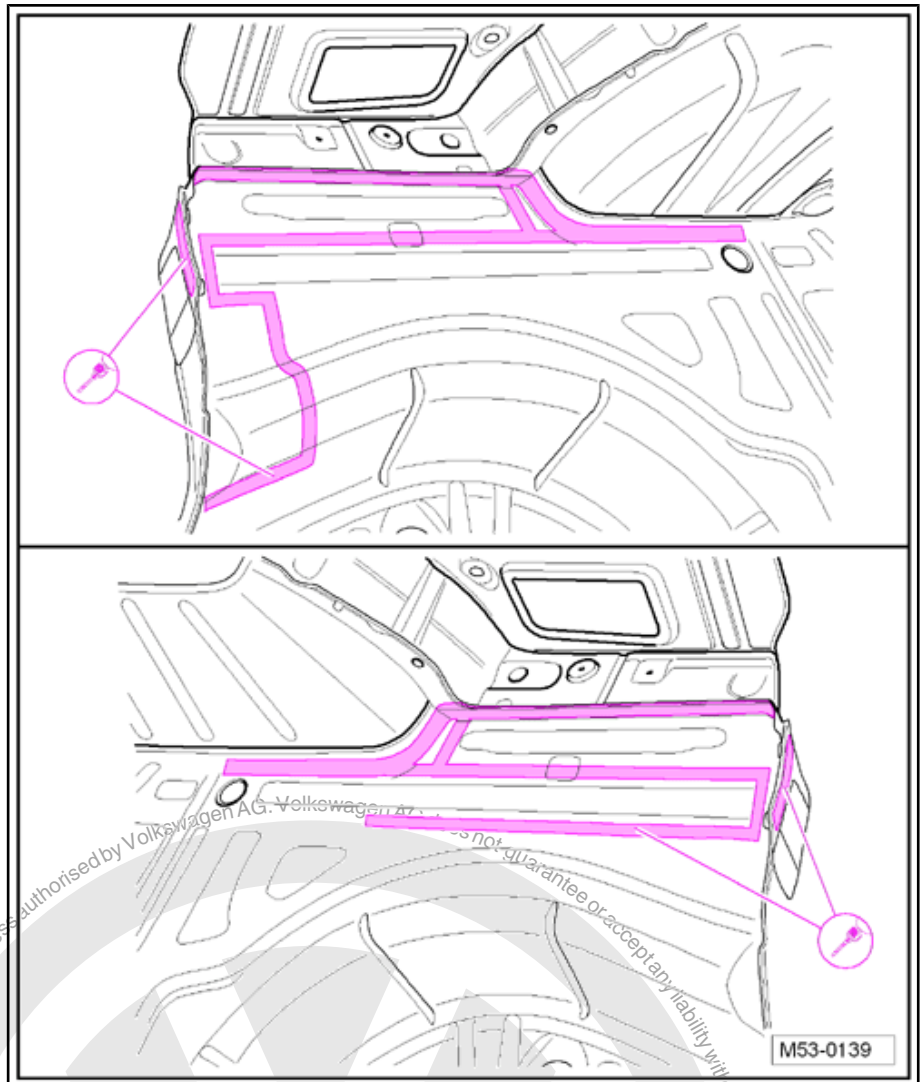
Note



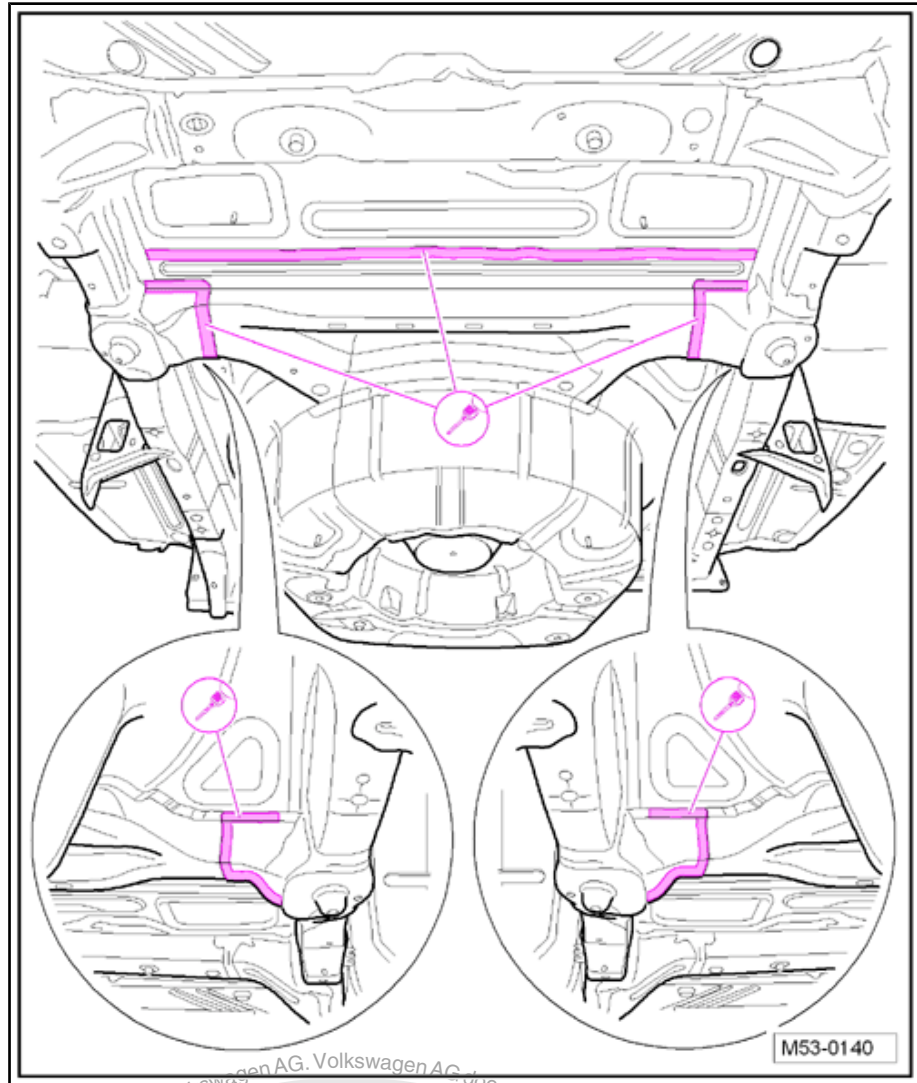
M53-0138



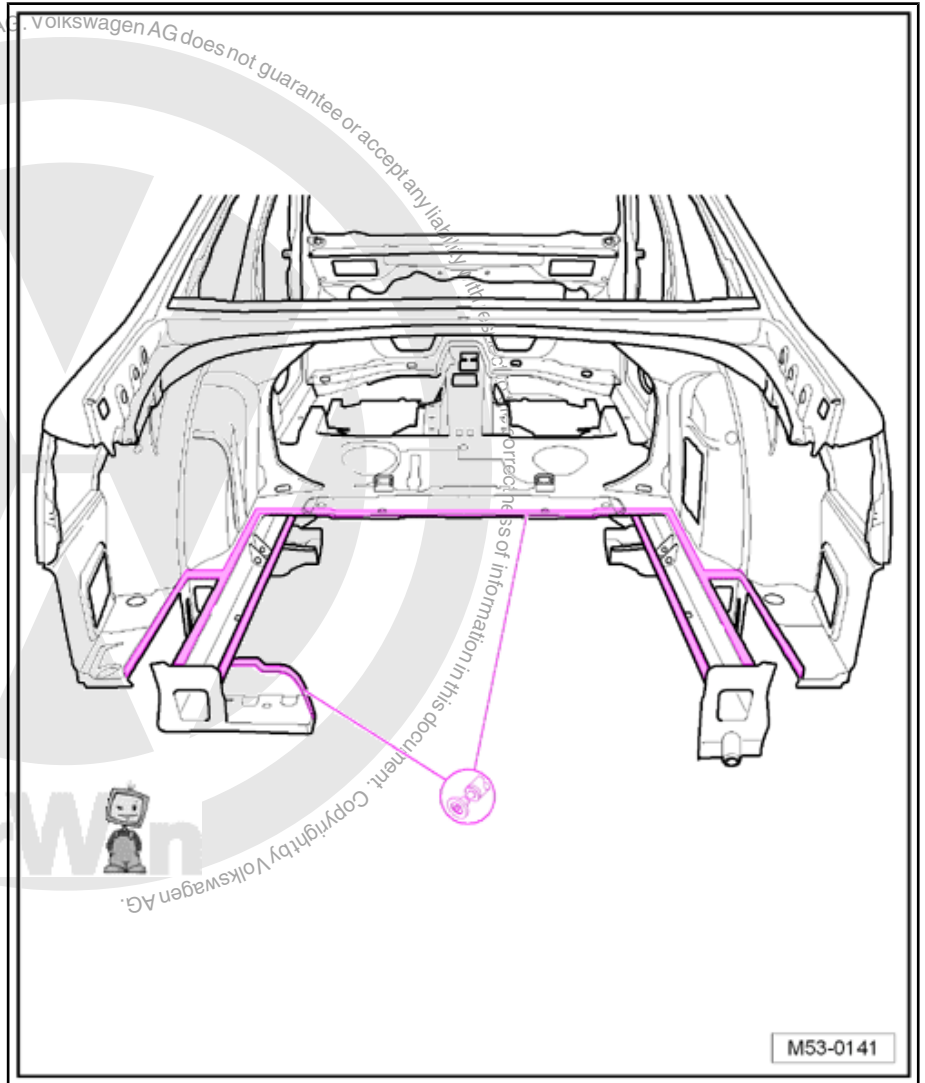
3.1 Removing



- Separate original joint from above to the longitudinal members, the wheel housings and the exhaust pipe bracket.



- Separate original joint from below to cross member for floor and to front floor panel.



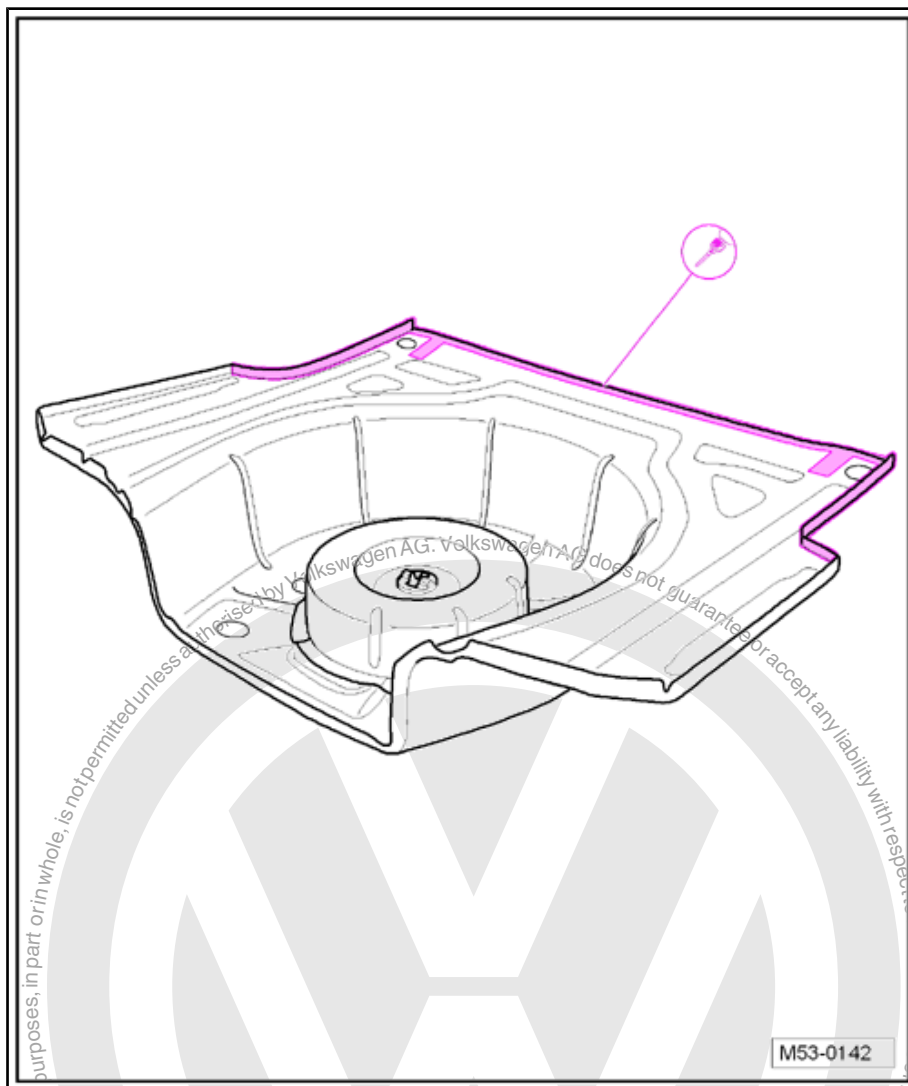
- Remove remaining material.

3.2 Installing

3.2.1 Preparing new part

Replacement part

- ◆ Rear floor panel
- ◆ Cross member for floor pan
- ◆ Moulded foam element



- Drill holes for SG plug weld seam, \varnothing 7 mm (distance approx. 20 mm).

3.2.2 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs, General Body Repairs ; General Notes; Moulded foam elements

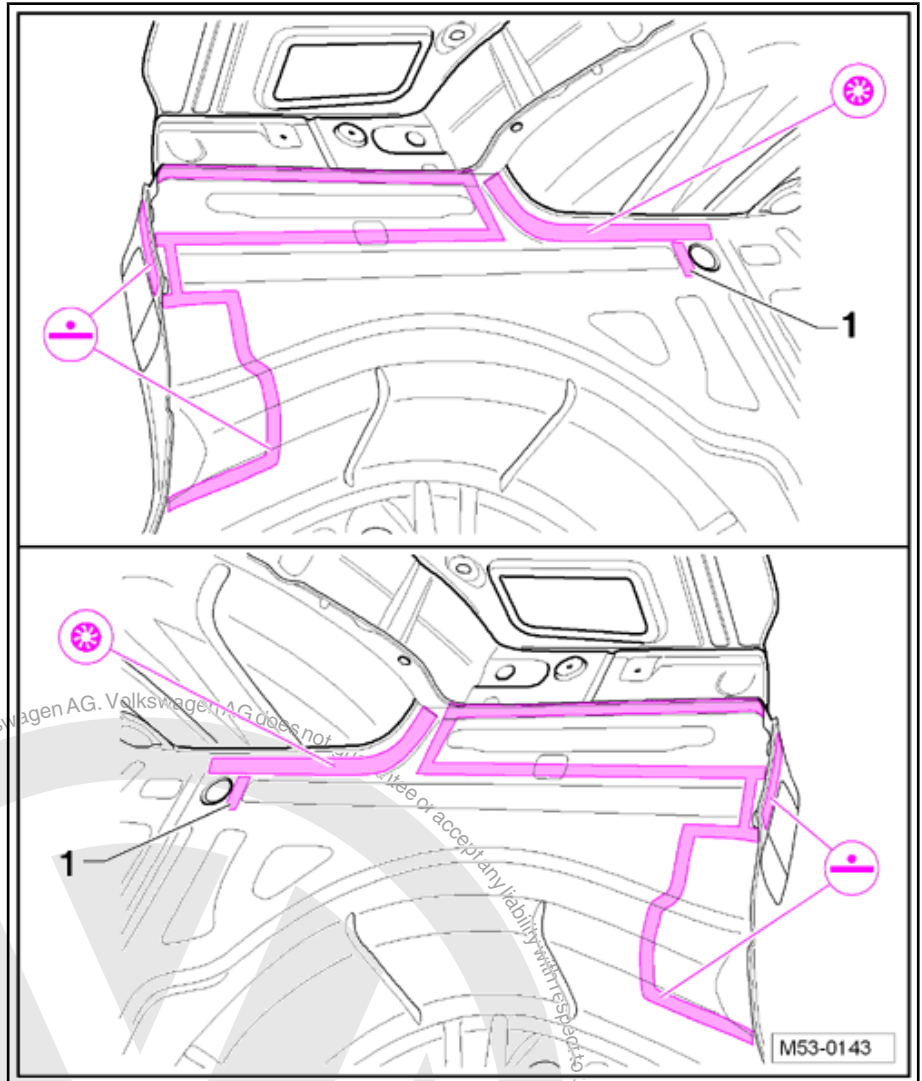
3.2.3 Welding in

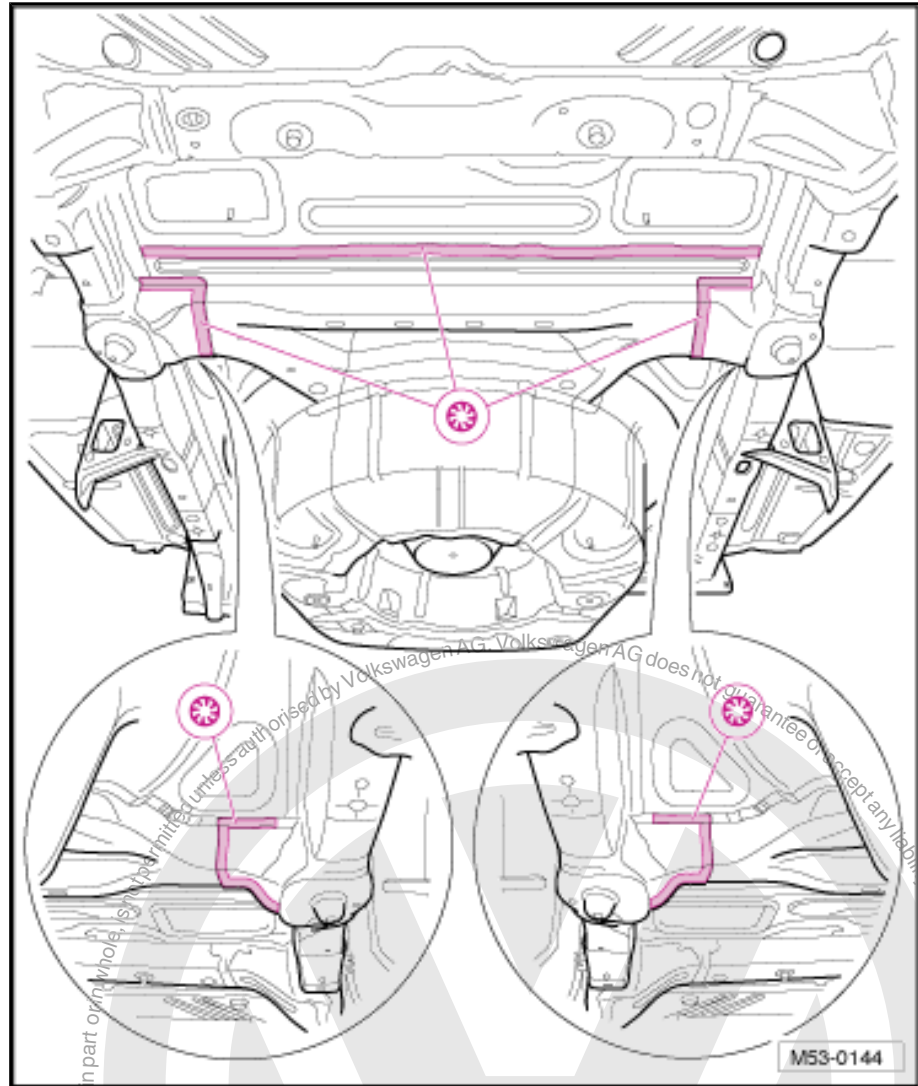
- Fit new part and secure.
- Check fitting to adjacent components.



1 - Moulded foam elements

- Weld in new part from above, SG plug weld seam and RP spot weld seam.





- Weld in new part from below, SG plug weld seam.
- Install cross panel ⇒ [“1.2 Installing”, page 172](#) .



RO: 53 47 55 50

4 Renewing longitudinal member - partial renewal



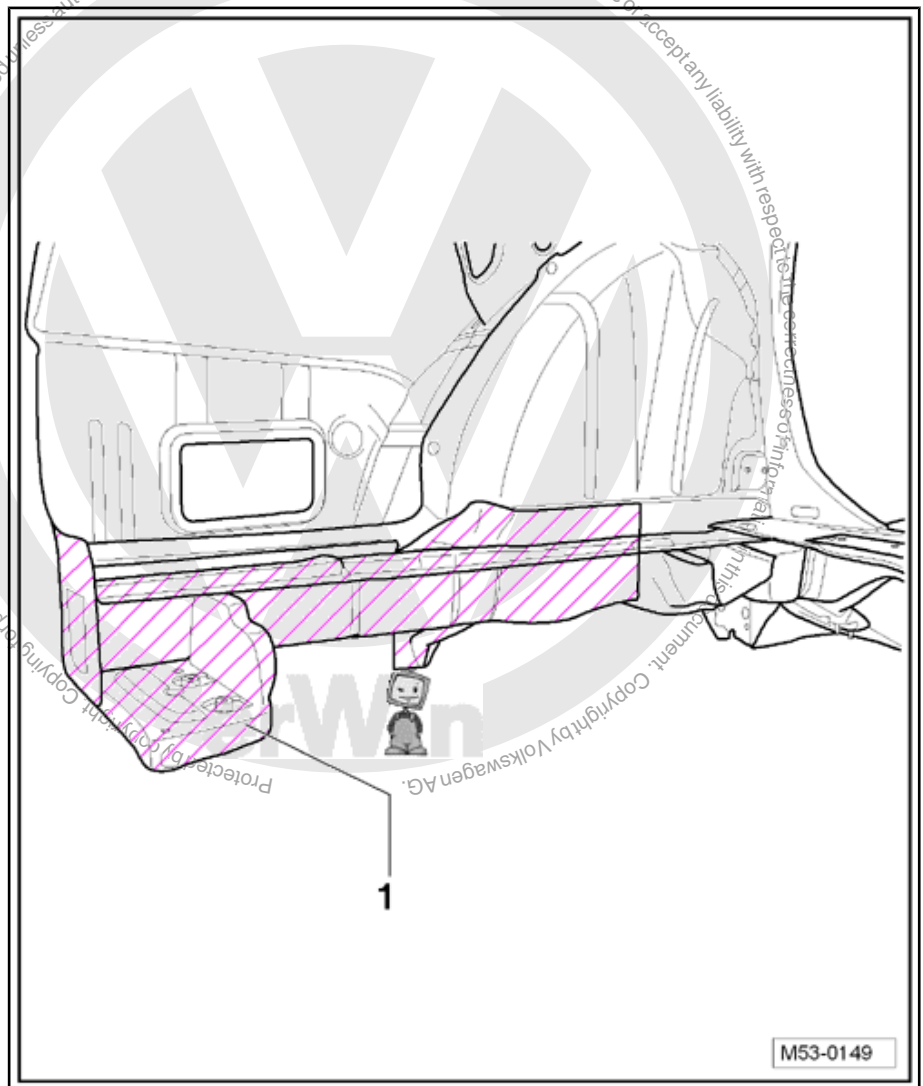
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

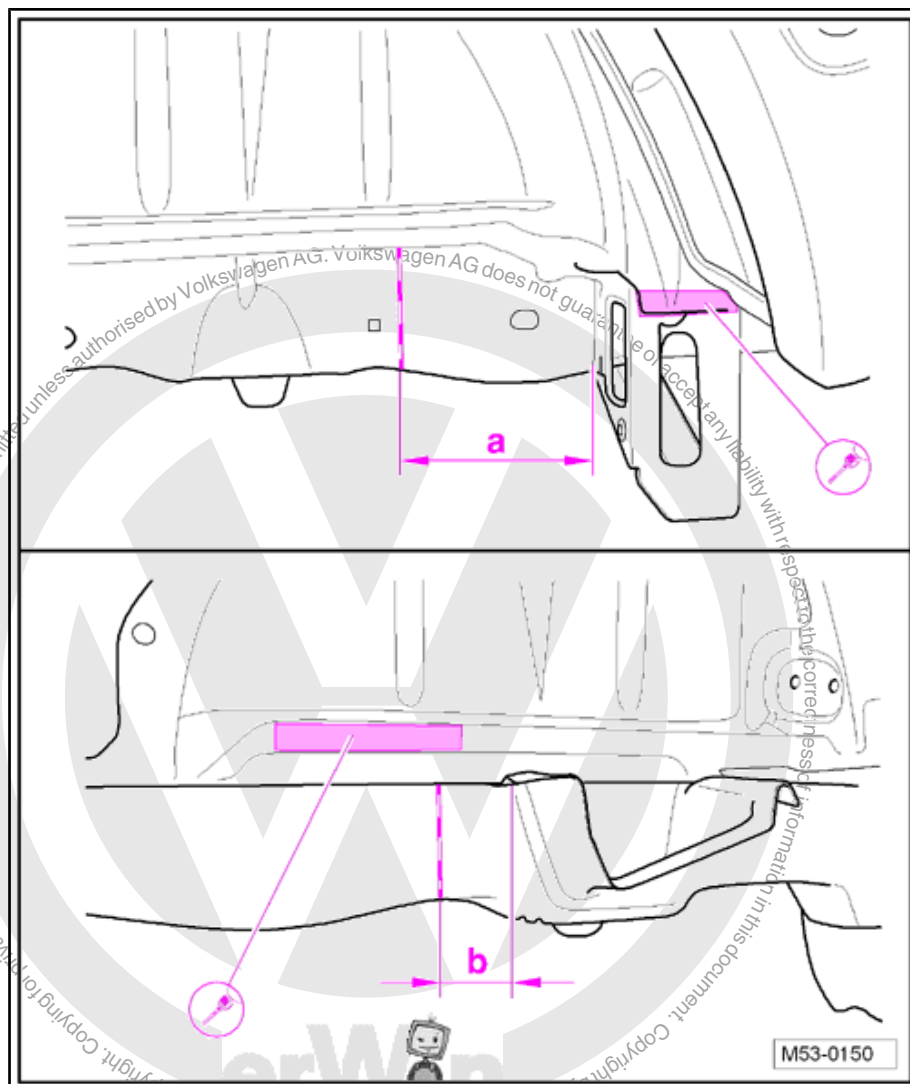
- Cross panel already removed
⇒ ["1 Renewing cross panel", page 170](#)
- Luggage compartment floor already removed
⇒ ["3 Renewing luggage compartment floor", page 186](#)

1 - Exhaust pipe bracket





4.1 Removing

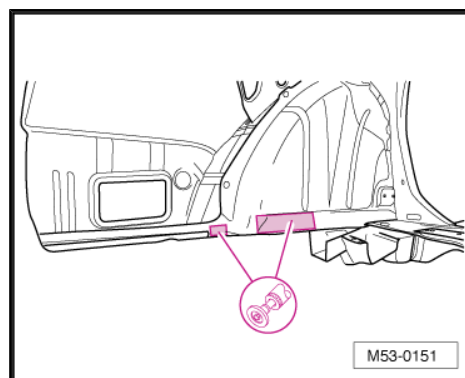


- Release original joint inside and outside.
- Make parting cut as shown.

Dimension -a- = 140 mm

Dimension -b- = 50 mm

- Remove remaining material.



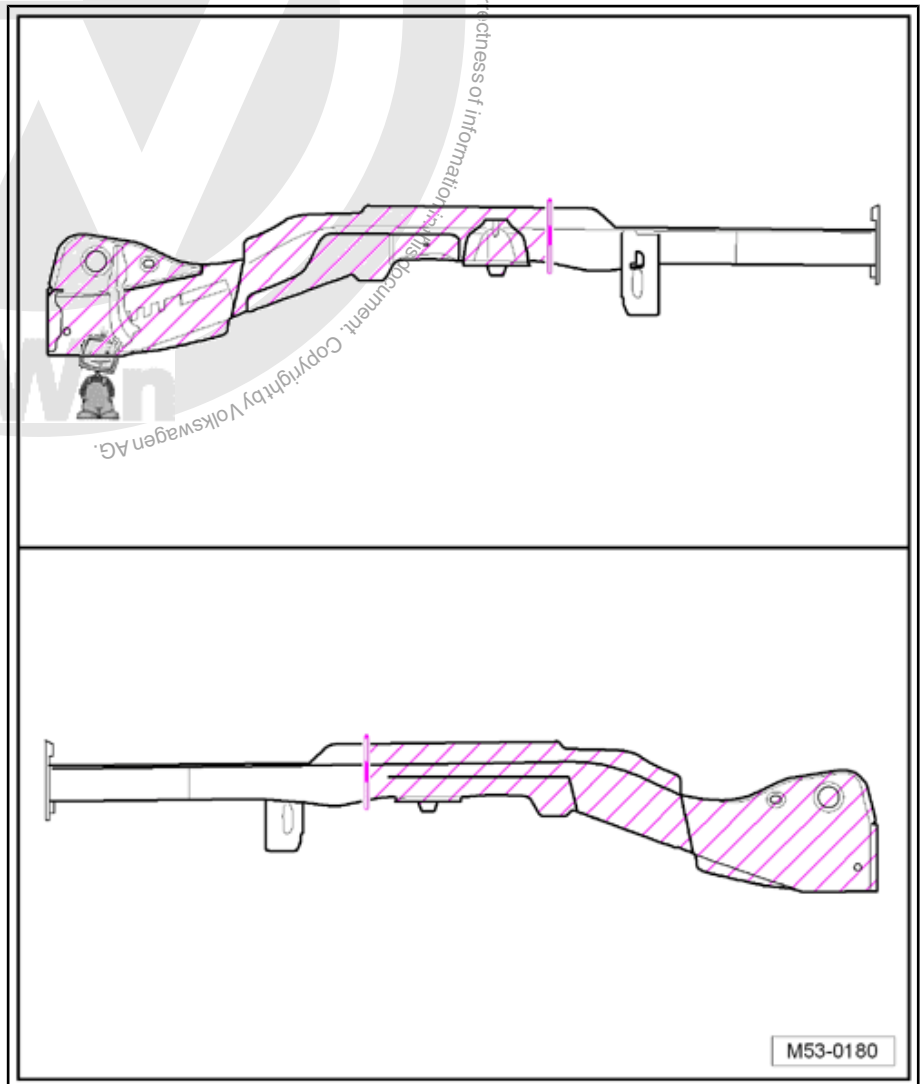


4.2 Installing

4.2.1 Preparing new part

Replacement part

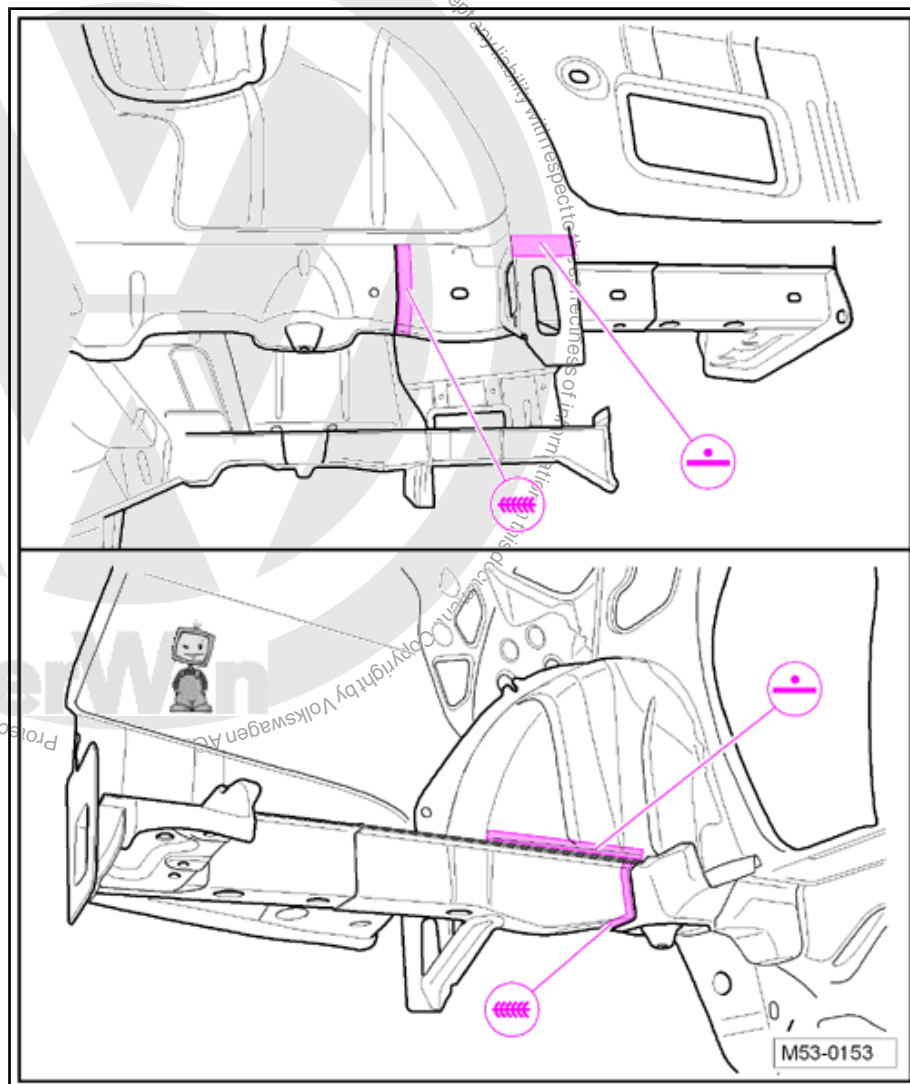
- ◆ Longitudinal member
- ◆ Exhaust pipe bracket



- Transfer parting cut to new part and cut it.

4.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fitting to adjacent components.



- Weld in new part, RP spot weld seam.
- Weld parting cut all around, SG continuous weld seam.
- Install luggage compartment floor
⇒ ["3.2 Installing", page 189](#) .
- Install cross panel ⇒ ["1.2 Installing", page 172](#) .



RO: 53 48 55 50

5 Renewing rear longitudinal member end piece

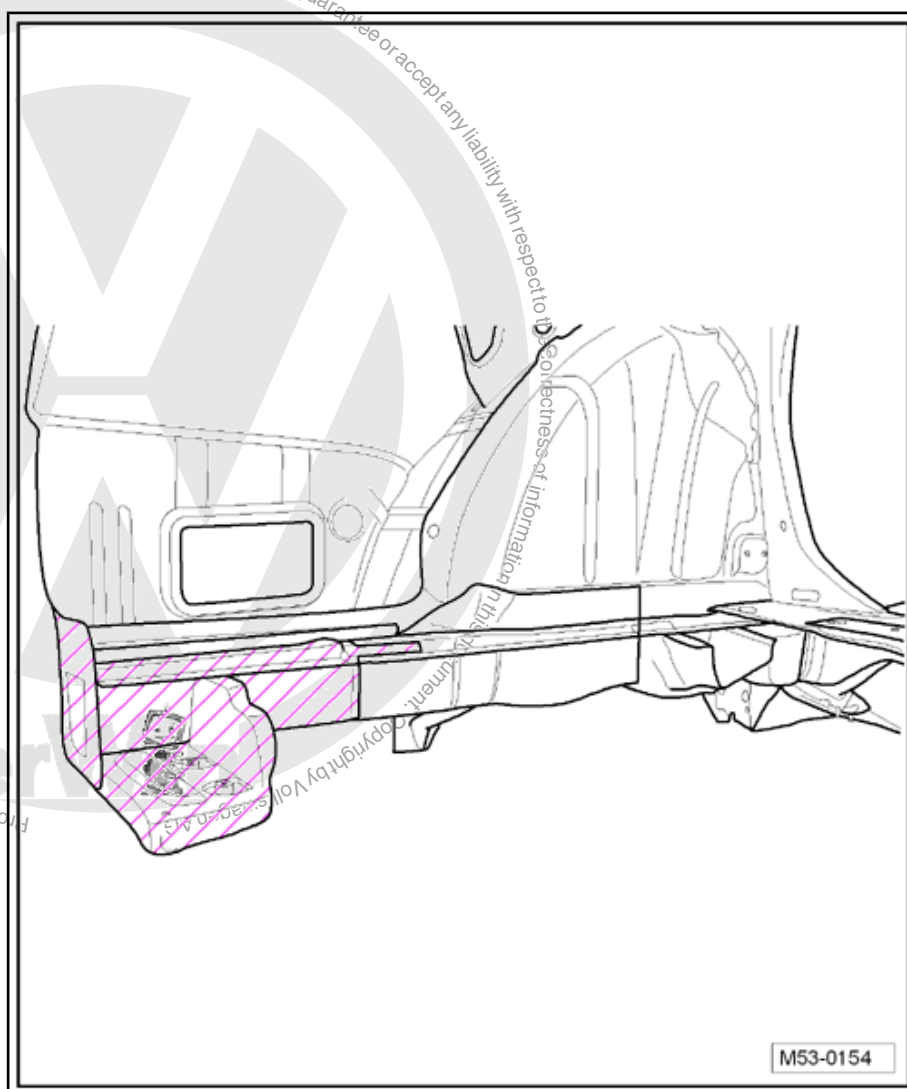


WARNING

Observe safety notes!

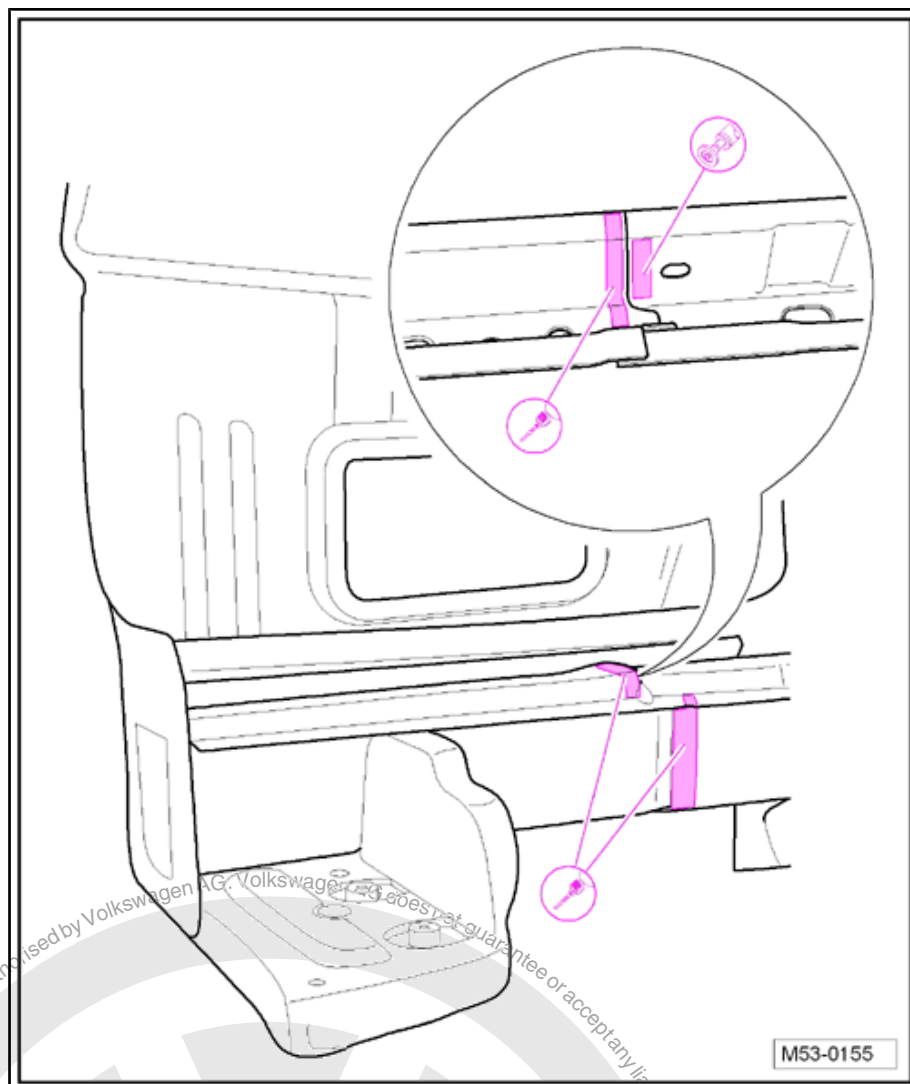
⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Cross panel already removed
⇒ ["1 Renewing cross panel", page 170](#)
- Luggage compartment floor already removed
⇒ ["3 Renewing luggage compartment floor", page 186](#)

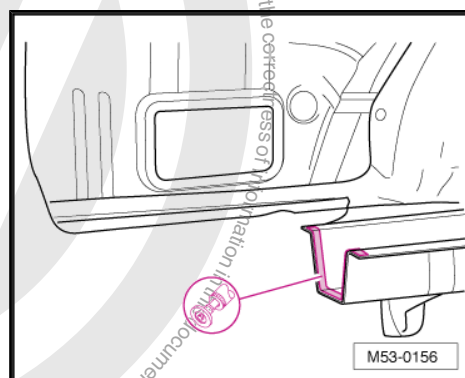




5.1 Removing



- Separate original joint on longitudinal member outer side.
- Separate the SG continuous seam on the inner side of the longitudinal member.
- Remove remaining material.



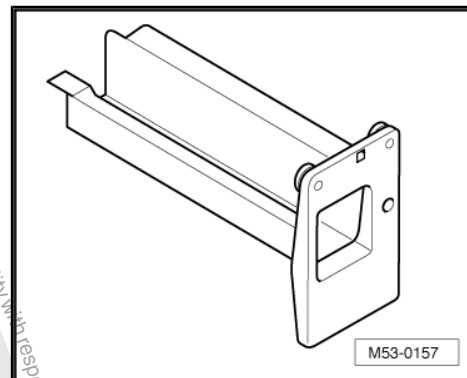


5.2 Installing

5.2.1 Preparing new part

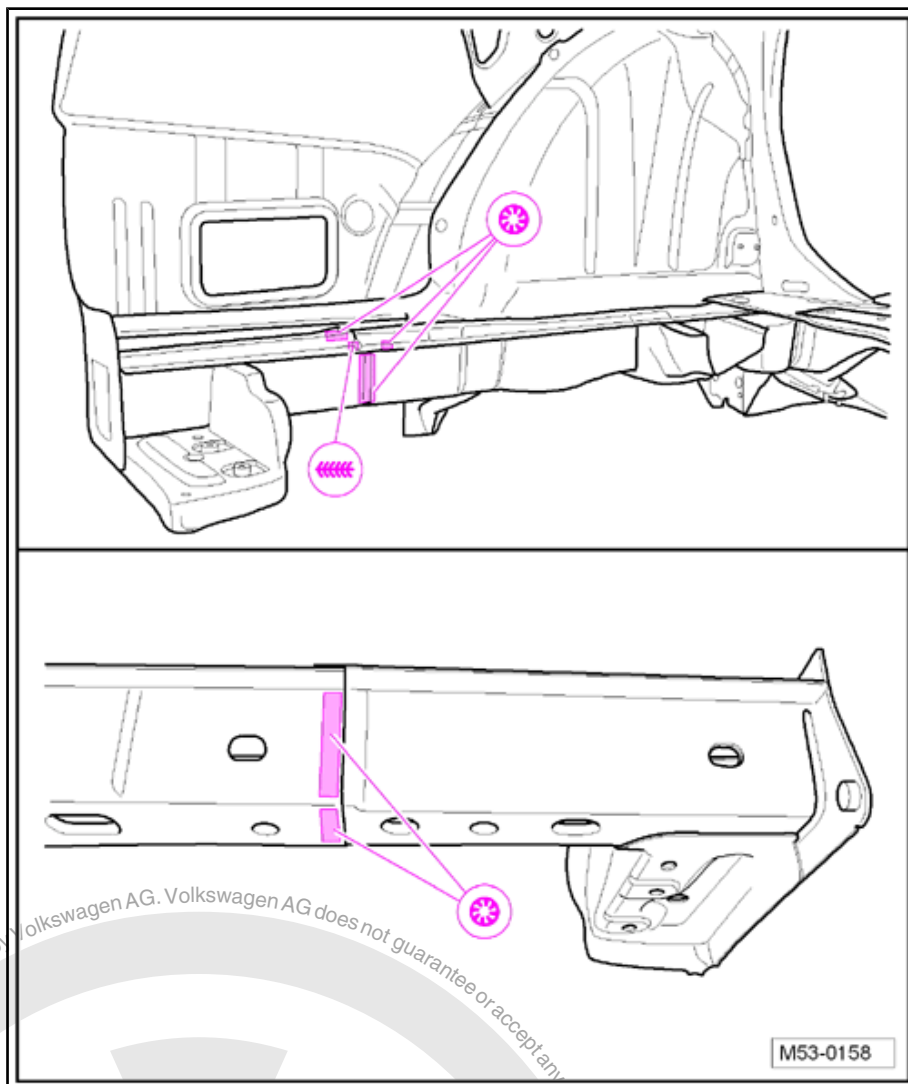
Replacement part

- ◆ Longitudinal member
- ◆ Exhaust pipe bracket
- Separate the longitudinal member end piece from the longitudinal member.



5.2.2 Welding in

- Adapt new part to fit and secure in position with vehicle standing on alignment bracket set.
- Check fitting to adjacent components.



- Weld in new part, SG plug weld seam and SG continuous weld seam.
- Install luggage compartment floor
⇒ [“3.2 Installing”, page 189](#) .
- Install cross panel ⇒ [“1.2 Installing”, page 172](#) .



RO: 53 55 55 00

6 Renewing side panel - partial replacement

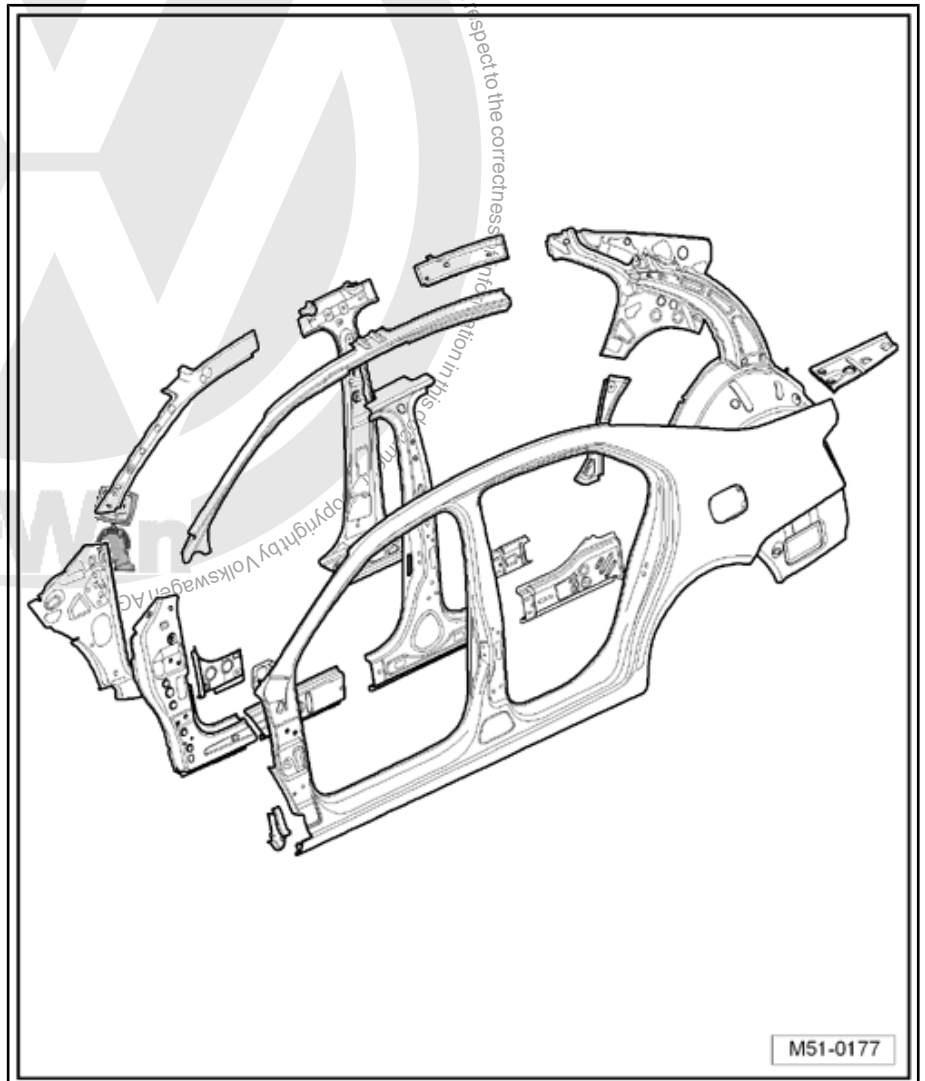


WARNING

Observe safety notes!

Welding, parting using spark generating machines/tools or tinning in foam treated areas creates gases which are hazardous to health and environment. Therefore, refrain from using these processes.

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions



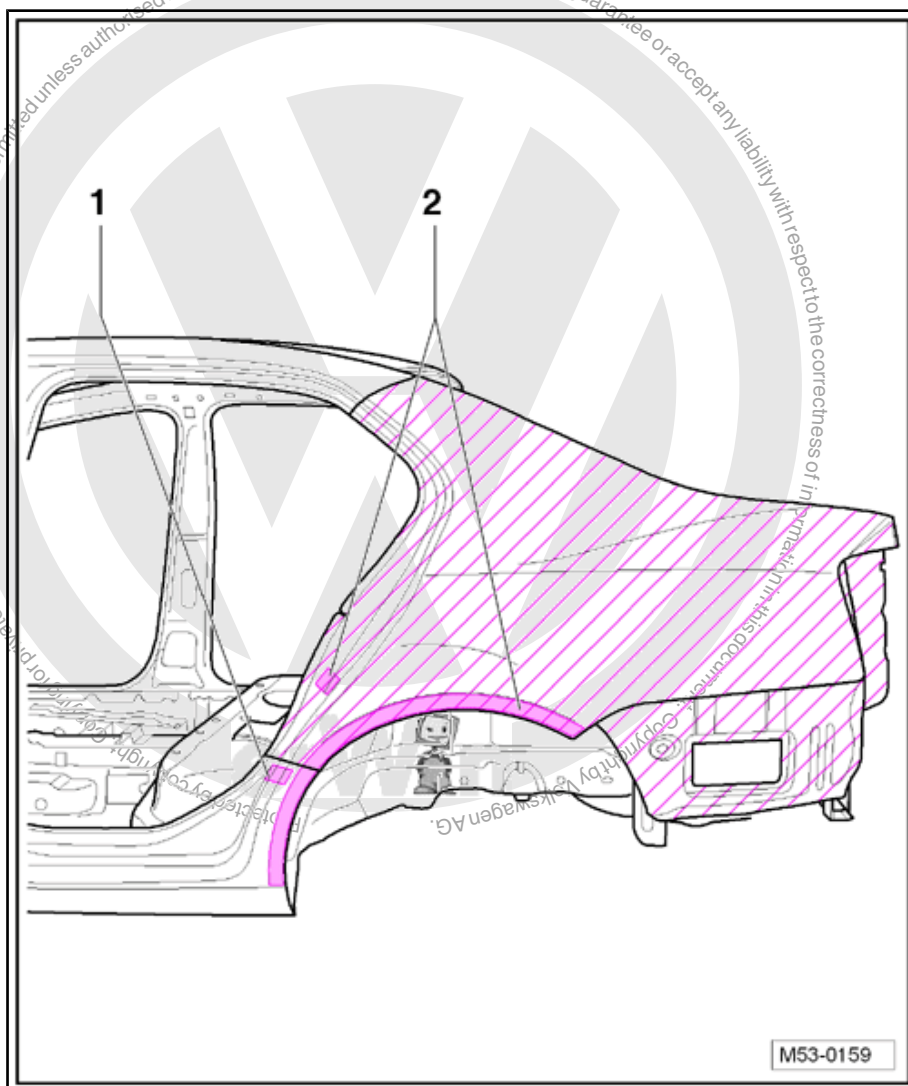


1 - Moulded foam element



Note

2 - Bonded section





6.1 Removing



Note

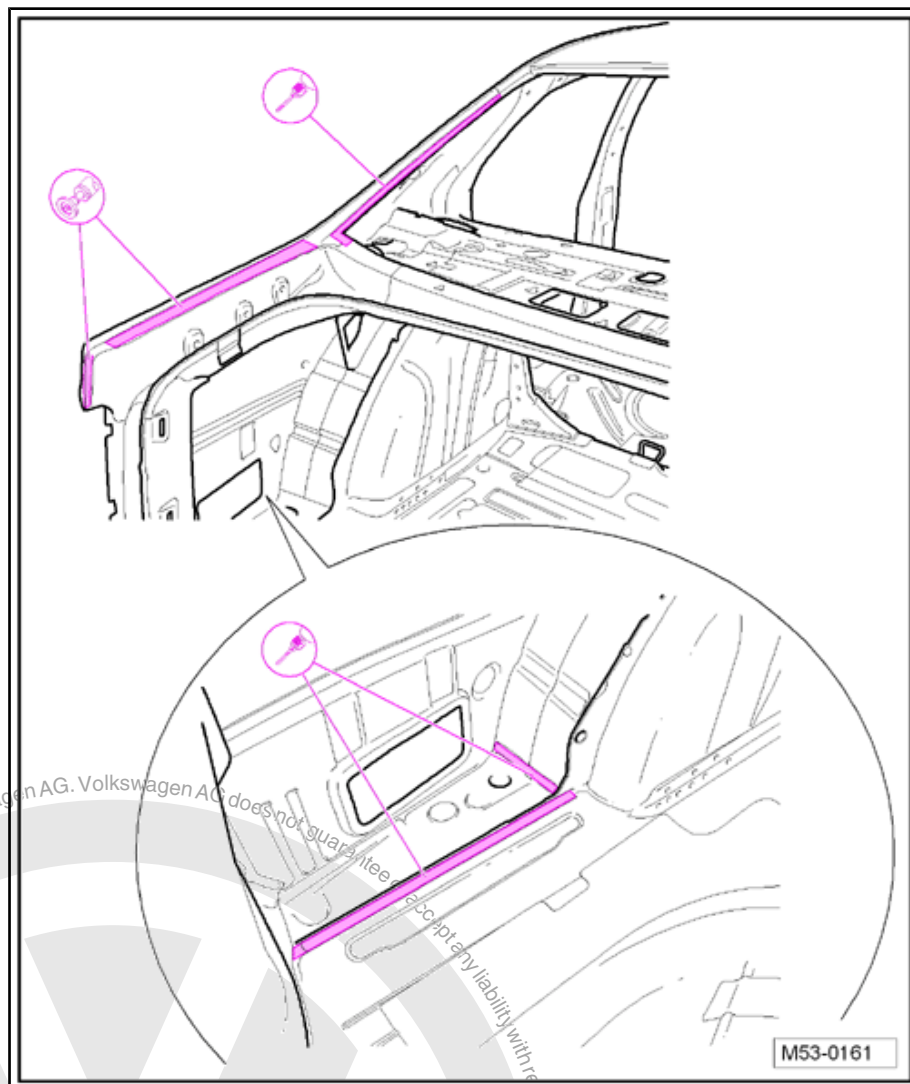
- ◆ Make parting cuts with pneumatic jig-saw - V.A.G 1523- only.
- ◆ When making parting cut -2- keep overlap for replacement part in mind.
- ◆ Make parting cut -1- only on outer panel; do not damage internal reinforcements.

– Make parting cut -1- as shown.

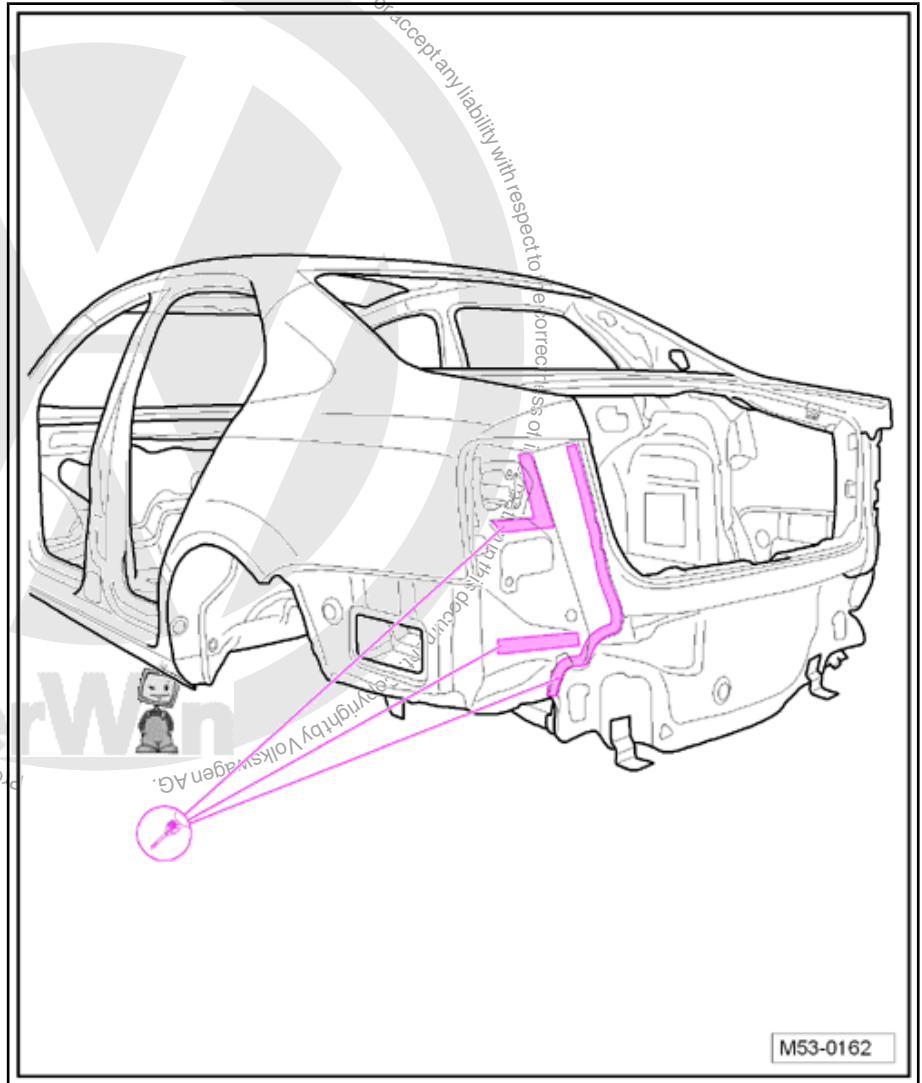
Dimension -a- = 200 mm

Dimension -b- = 120 mm

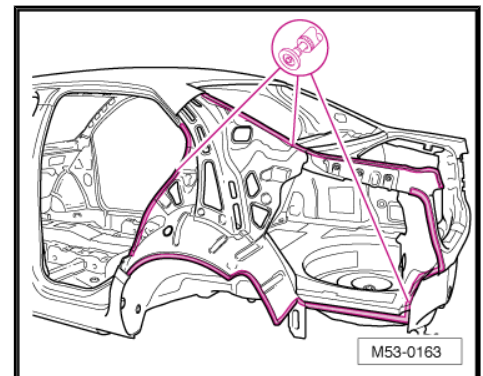
- Make parting cut -2- as shown.
- Grind through outer edge on wheel arch.
- Release original joint.



- Grind through laser brazing seam. When doing this do not damage sealing channel underneath.
- Separate original joint in rear window and from luggage compartment -enlargement-.



- Release original joint.
- Remove remaining material.
- Remove remaining adhesive completely and grind bonded surface back to bare metal.
- Clean flange area of wheel arch so that it is free of dust and grease.



6.2 Installing

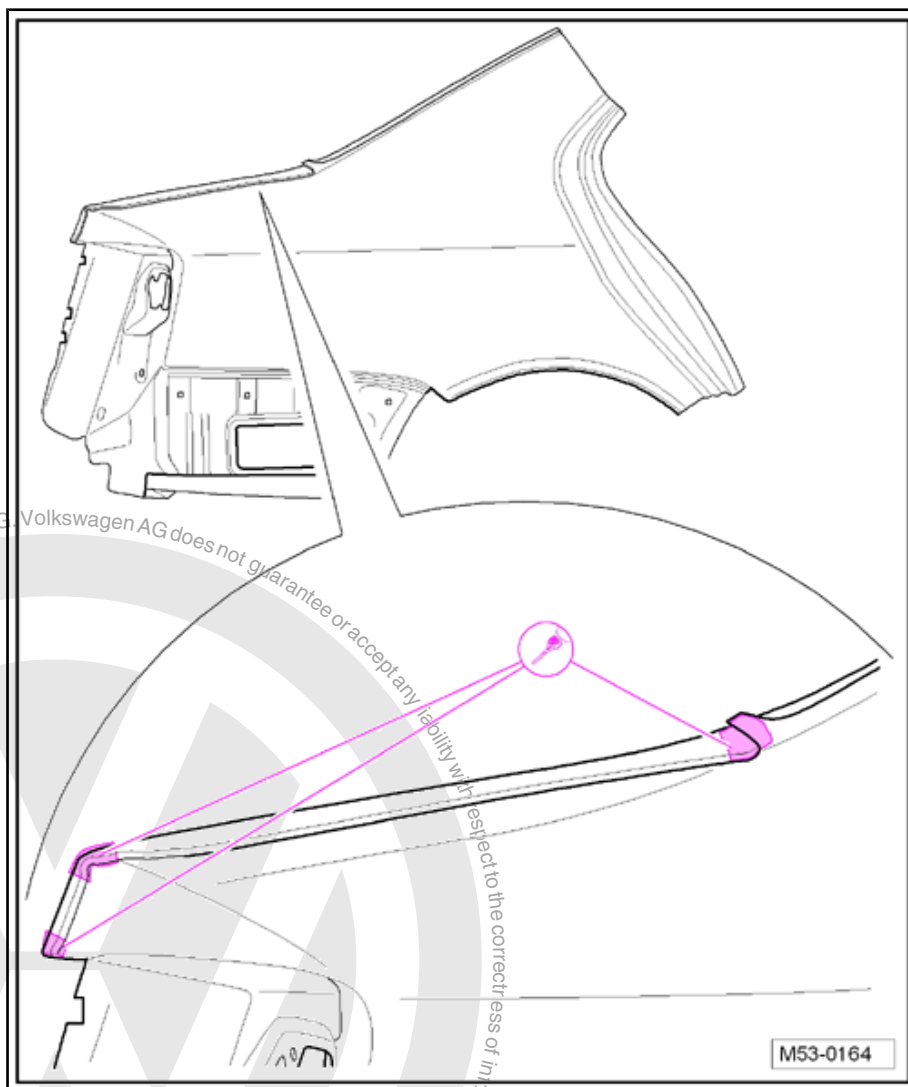
6.2.1 Preparing new part

Replacement part

- ◆ Side panel subpart



- ◆ Moulded foam element
- ◆ 2K body adhesive -D 180 KD3 A2-
- ◆ Adhesive sealant -AKD 476 KD5 05-



- Transfer parting cut to new part and cut out.
- Drill holes on side panel as shown -enlargement- (in the area of the sealing channel at the bonding area ends) for SG plug weld seam, \varnothing 7 mm.

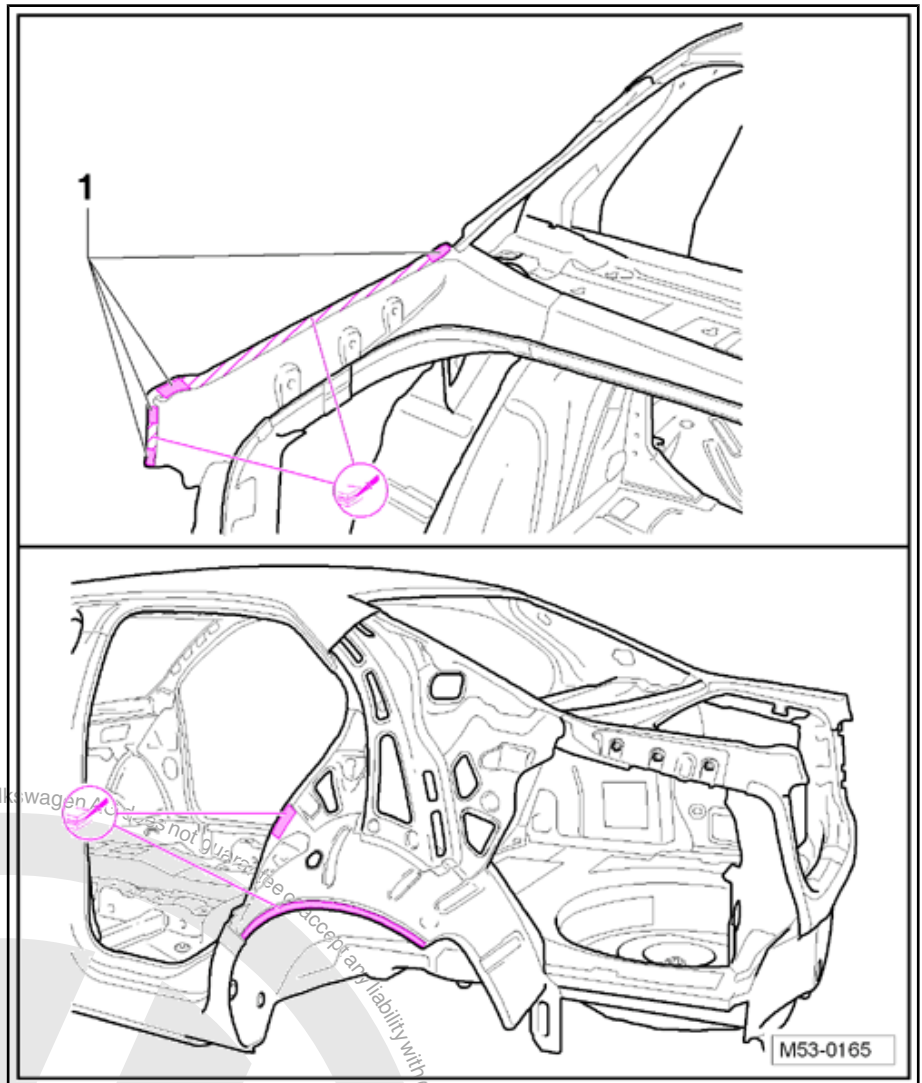
6.2.2 Moulded foam elements

Follow repair instructions.

Moulded foam element ⇒ General Information; Body Repairs, General Body Repairs ; General Notes; Moulded foam elements

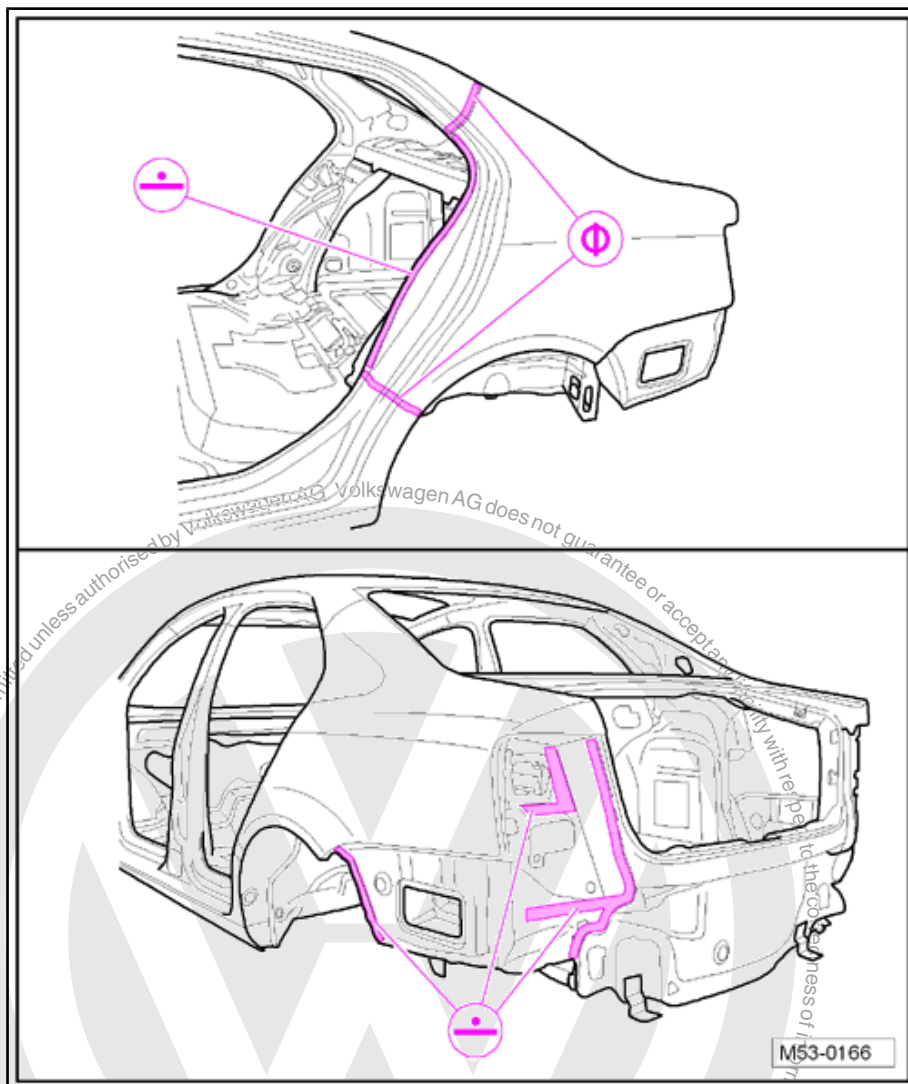
6.2.3 Welding in

- Place backing plate behind parting cuts.

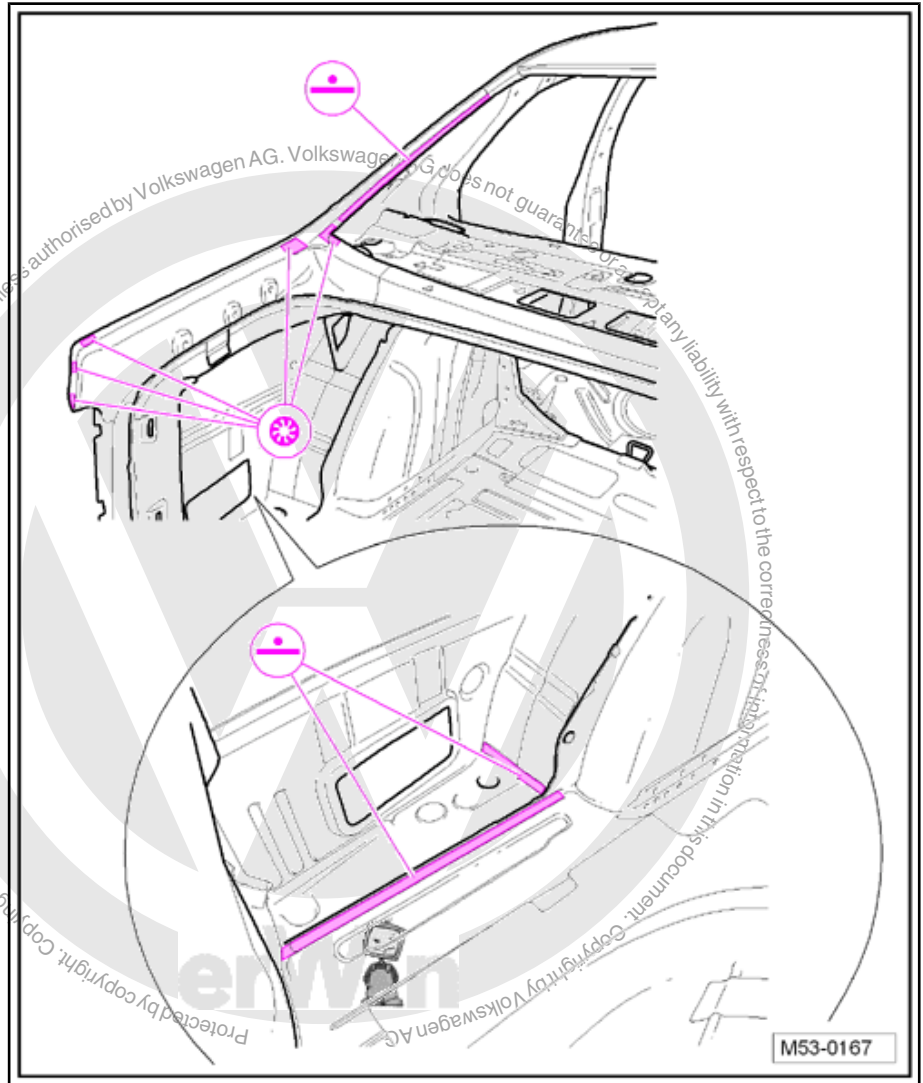


Note

- ◆ The adhesive surface must be ground back to bare metal, otherwise the glued joint will not be durable.
- ◆ No adhesive may be applied within 10 mm of a weld point -1-.
- ◆ Before starting welding on right-hand side panel, apply butyl sealing cord in area of fuel filler neck.
- ◆ New part must be welded within 20 minutes, otherwise adhesive properties of adhesive will be impaired.
- Apply 2-K body adhesive -D 180 KD3 A2- to side panel contact surface -shaded area- (1 bead, Ø 3.5 mm).
- Apply 2-K body adhesive -D 180 KD3 A2- to wheel arch bonding area (2 beads, Ø 3.5 mm).
- Adapt new part with vehicle standing on alignment bracket set or on its wheels and secure.
- Check fit with add on parts.



- Weld in side panel, RP spot weld seam.
- Weld parting cuts, SG stepped weld seam.



- Weld original joint in rear window aperture, RP spot weld seam and SG plug weld seam.
- Weld side panel to sealing channel, SG plug weld seam.
- Weld in end piece, -enlargement-, RP spot weld seam.
- Bead over wheel arch flange.
- Wipe away excess adhesive and seal wheel arch.



Note

After performing repairs, reinstate laser brazing seam by using adhesive sealant -AKD 476 KD5 05- .



RO: 53 29 55 50

7 Renewing C-pillar reinforcement

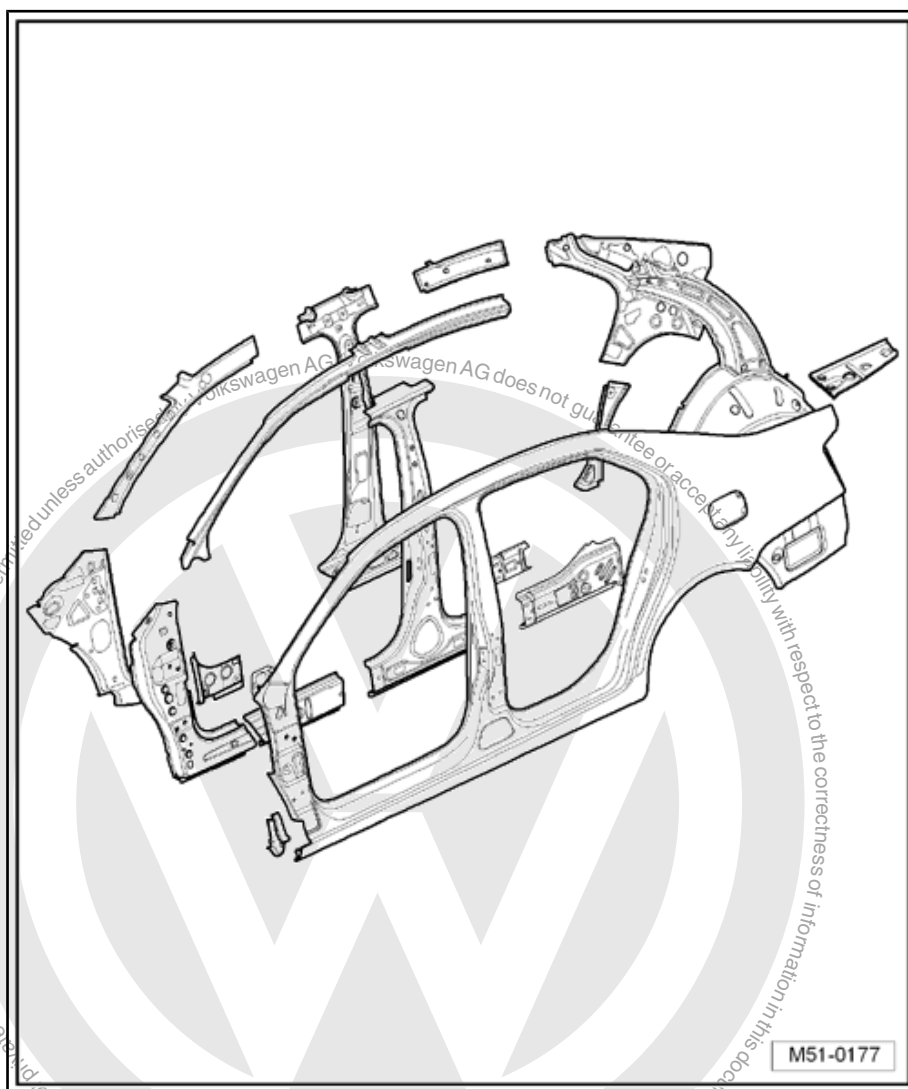


WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Side panel already removed
⇒ ["6 Renewing side panel - partial replacement", page 201](#)





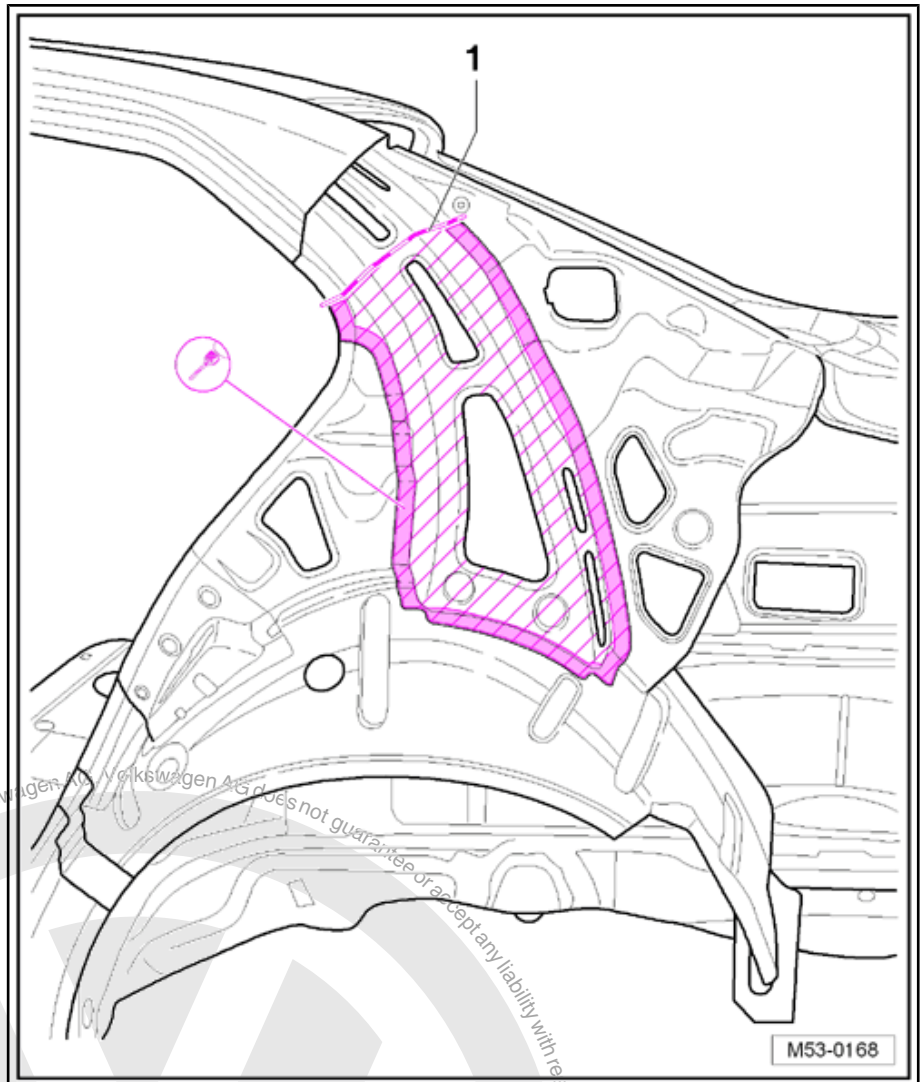
7.1 Removing

1 - Cutting point

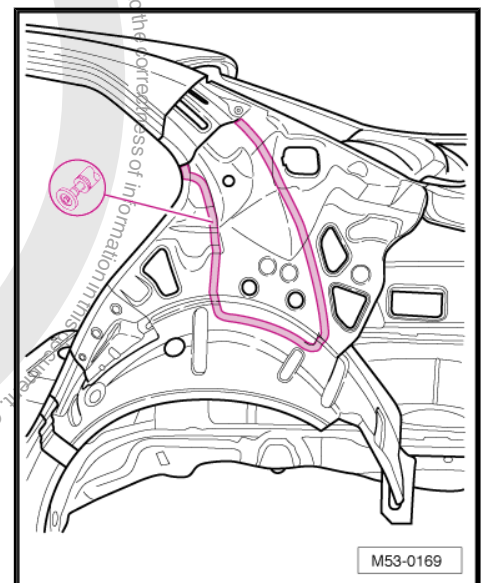


Note

- Make parting cut as shown.
- Release original joint.



- Remove remaining material.



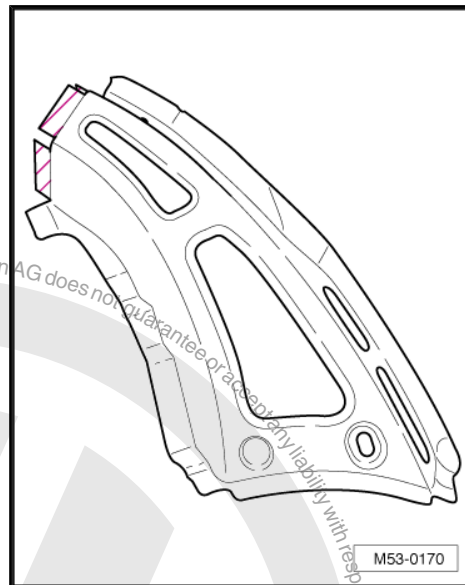


7.2 Installing

7.2.1 Preparing new part

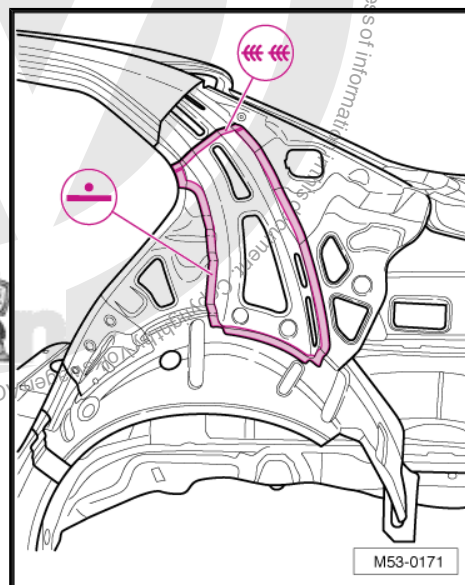
Replacement part

- ◆ C-pillar reinforcement
- Transfer parting cut to the new part and cut (when doing this take 10 mm additional material for overlap into consideration -shaded area-).
- Step -shaded area- on new part.



7.2.2 Welding in

- Fit new part and secure.
- Weld parting cut, SG continuous weld seam (staggered).
- Weld original joint, RP spot weld seam.
- Install side panel ⇒ ["6.2 Installing", page 205](#).





RO: 53 69 55 50

8 Renewing outer wheel housing liner

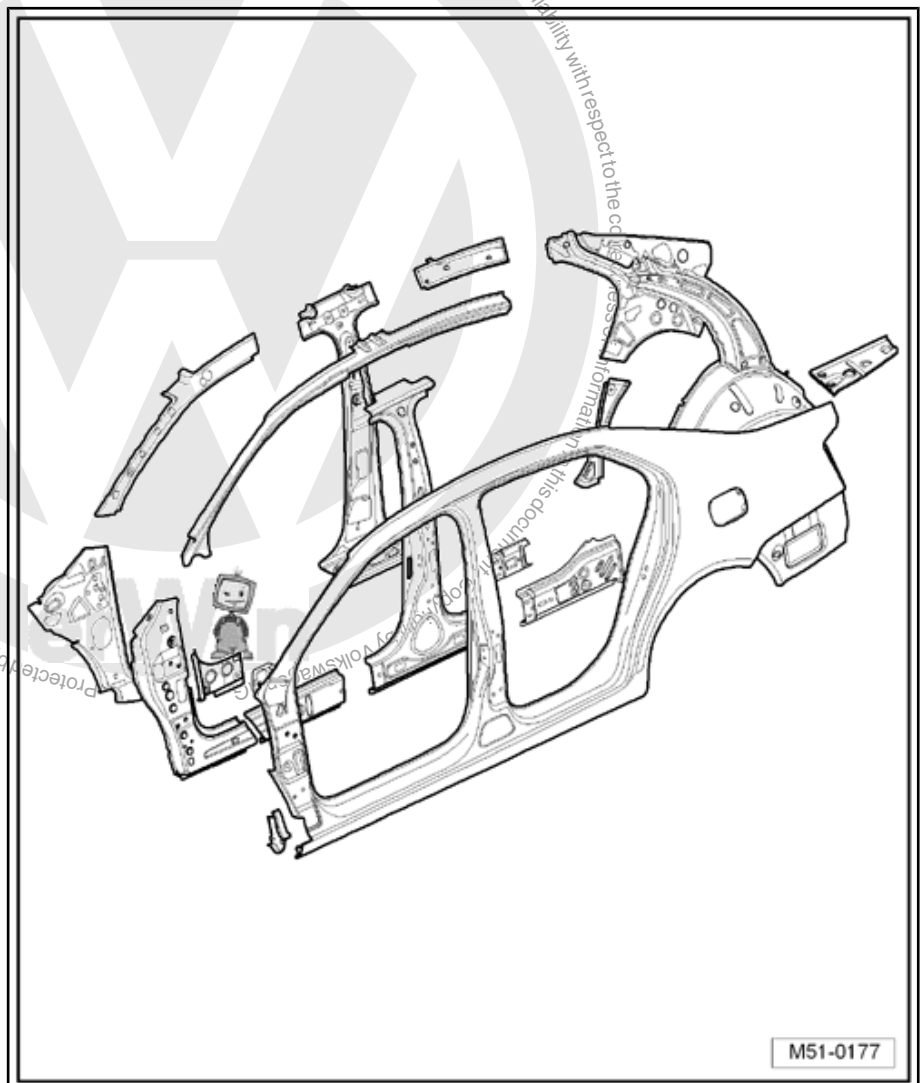


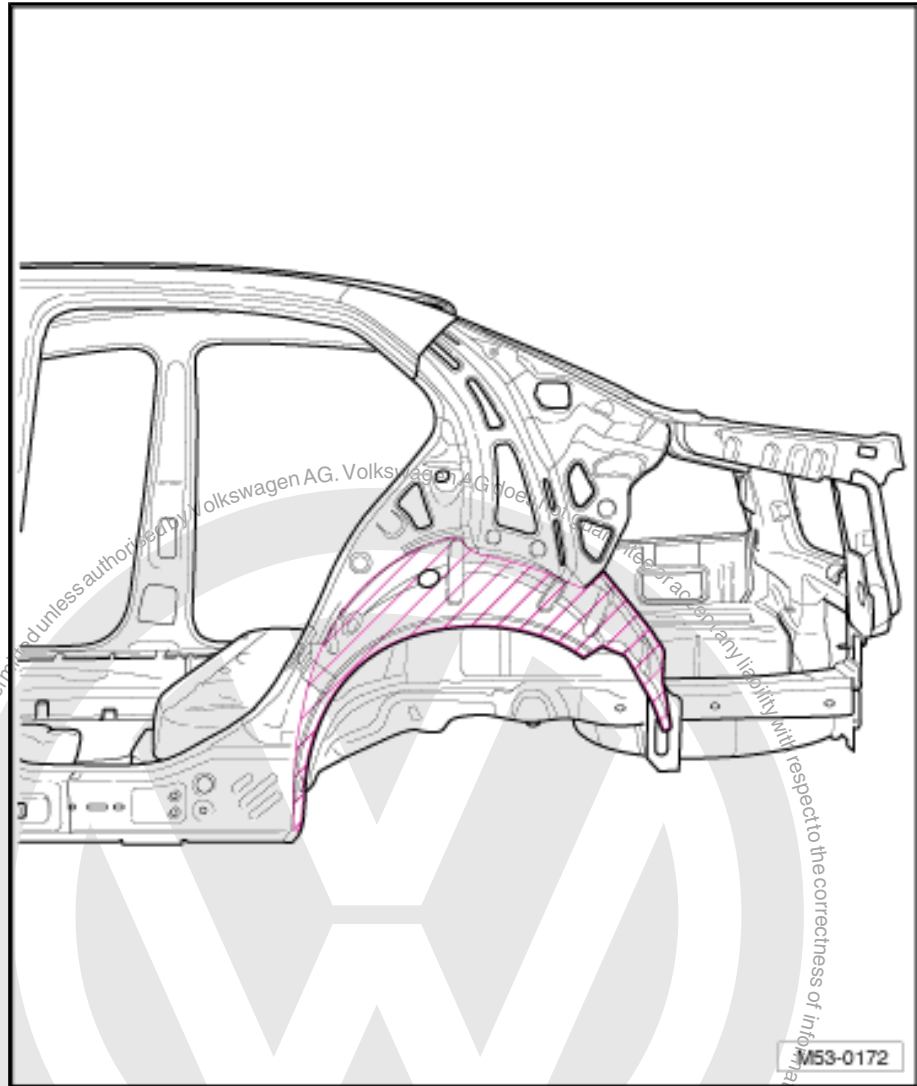
WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

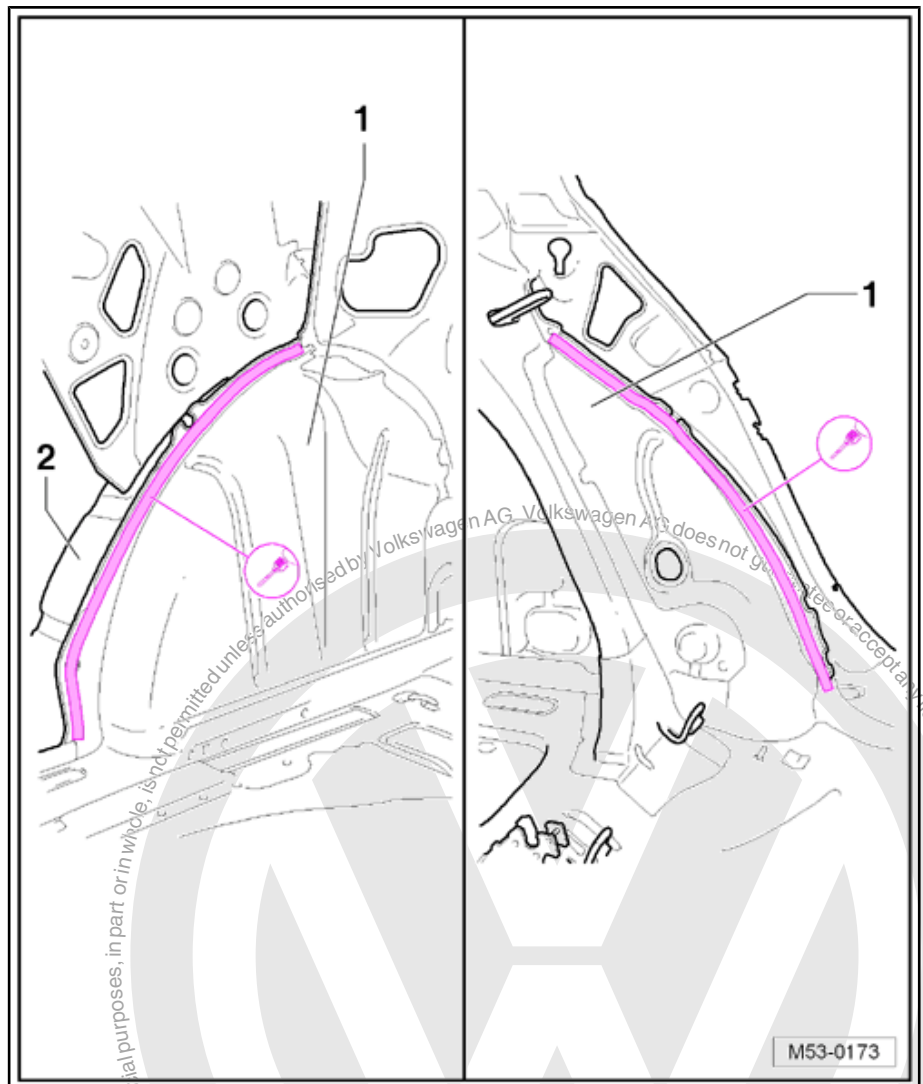
- Side panel already removed
⇒ ["6 Renewing side panel - partial replacement", page 201](#)
- Side member already removed
⇒ ["9 Renewing side member", page 145](#)



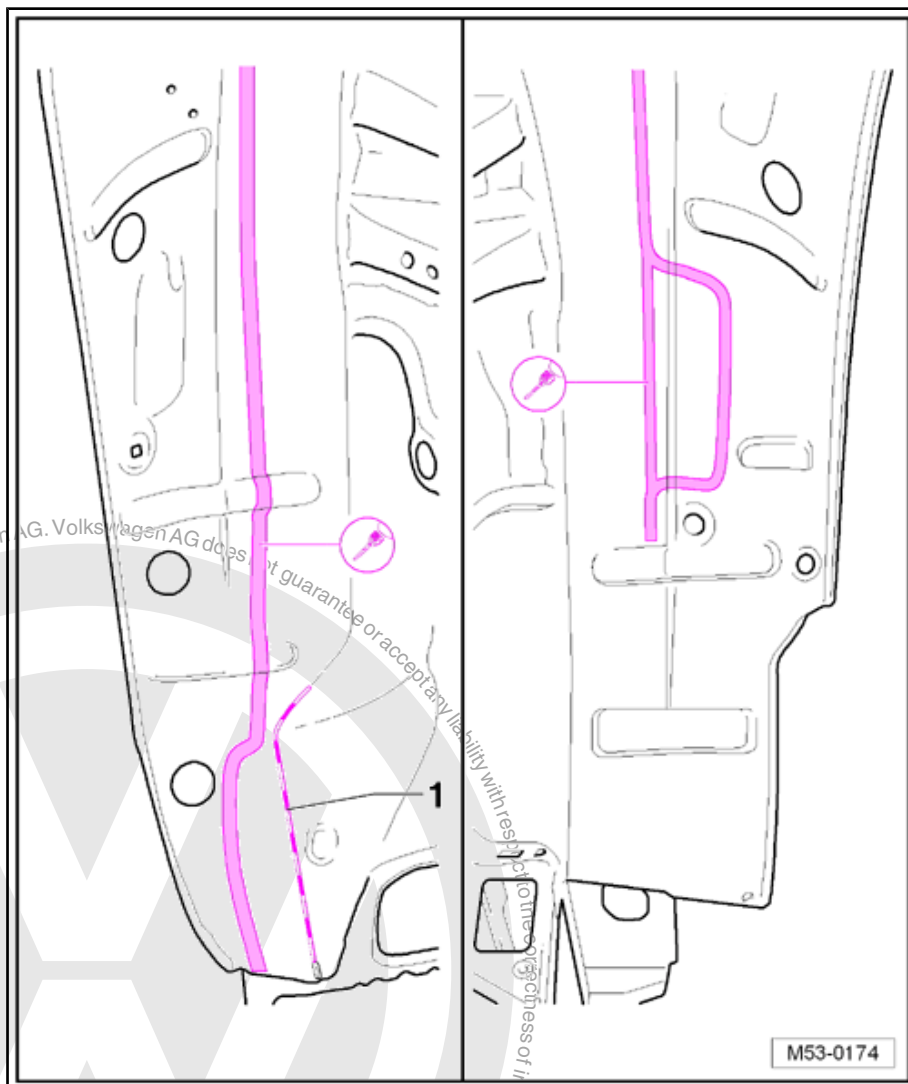




8.1 Removing



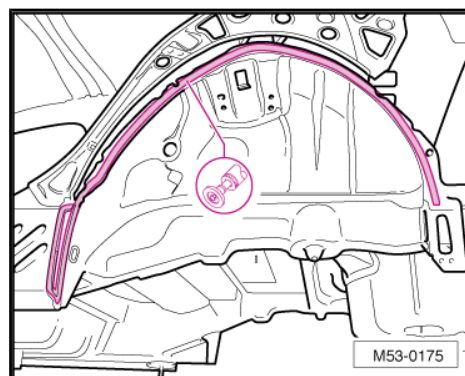
- Separate original joint between inner wheel housing liner -1- and outer wheel housing liner -2- in luggage compartment and passenger compartment.



Note

Make parting cuts with pneumatic jig-saw -V.A.G 1523- only.

- Separate original joint between inner side panel and C-pillar reinforcement of wheel housing from below.
- Separate area to inner side member -1-.
- Remove remaining material.
- Remove remaining adhesive completely and grind bonded surface back to bare metal.





8.2 Installing

8.2.1 Welding in

Replacement part

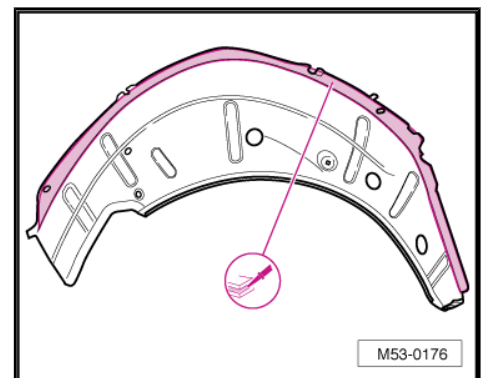
- ◆ Outer wheel housing liner
- ◆ 2K body adhesive -D 180 KD3 A2-

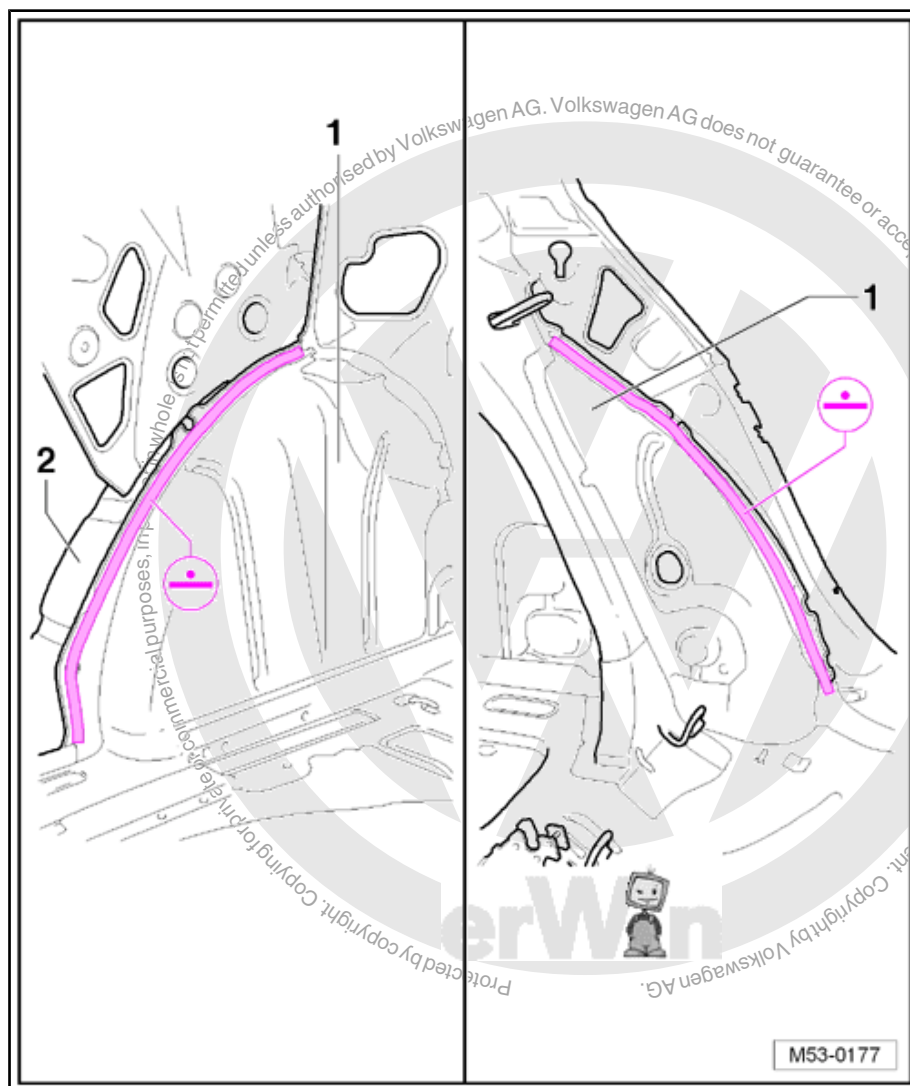


Note

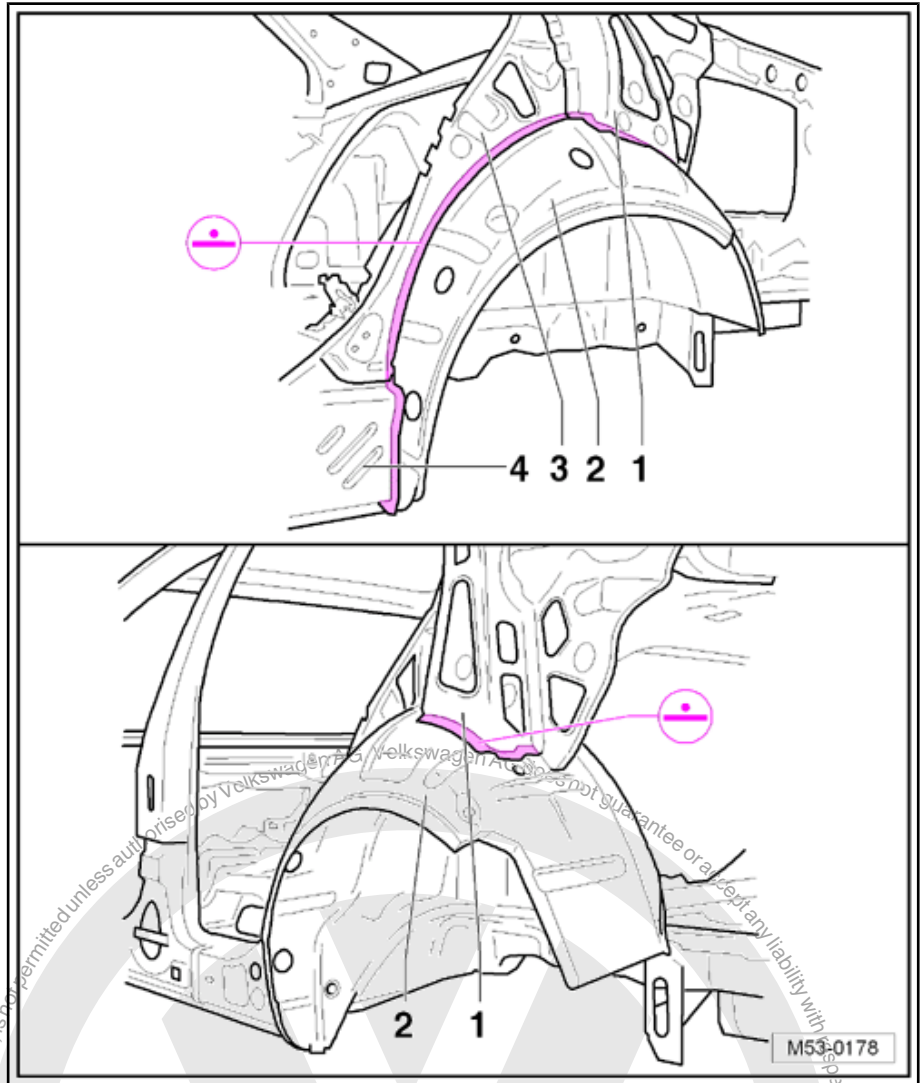
New part must be welded-in within 20 minutes or adhesion properties of adhesive will be impaired.

- Apply 2-K body adhesive -D 180 KD3 A2- to inner wheel housing liner contact surface.
- Adapt new part to fit and secure in position when vehicle is standing on its wheels or positioned on a alignment bracket .
- Check fit with side panel.





- Weld outer wheel housing -2- to inner wheel housing -1- in luggage compartment and passenger compartment, RP spot weld seam.



- Weld outer wheel housing liner -2- to side member reinforcement -4-, inner side panel -3- and C-pillar reinforcement -1-, RP spot weld seam.
- Install side panel ⇒ [“6.2 Installing”, page 205](#) .
- Install side member ⇒ [“9.2 Installing”, page 148](#) ***



RO: 53 80 55 50

9 Renewing spare wheel well - partial renewal



WARNING

Observe safety notes!

⇒ General Information; Body Repairs, General Body Repairs ;
Safety instructions

- Cross panel already removed
⇒ ["Renewing cross panel", page 170](#)

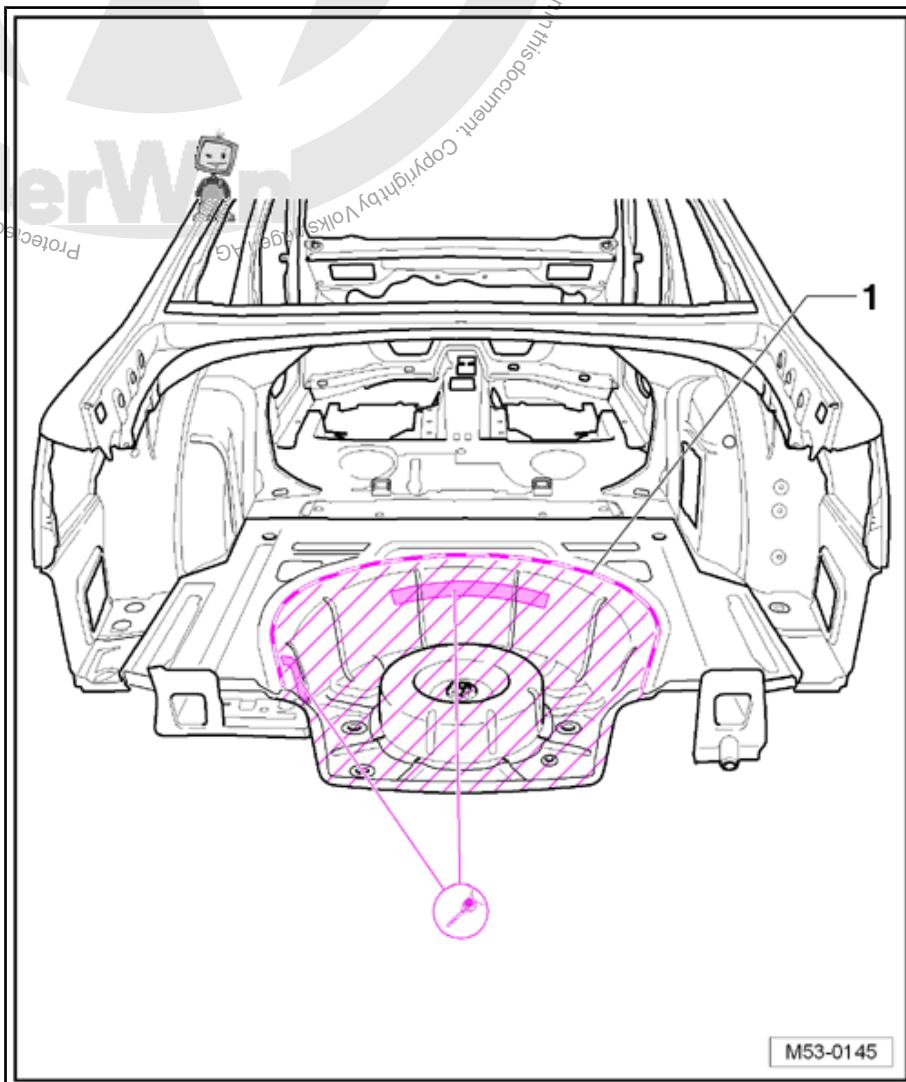
9.1 Removing

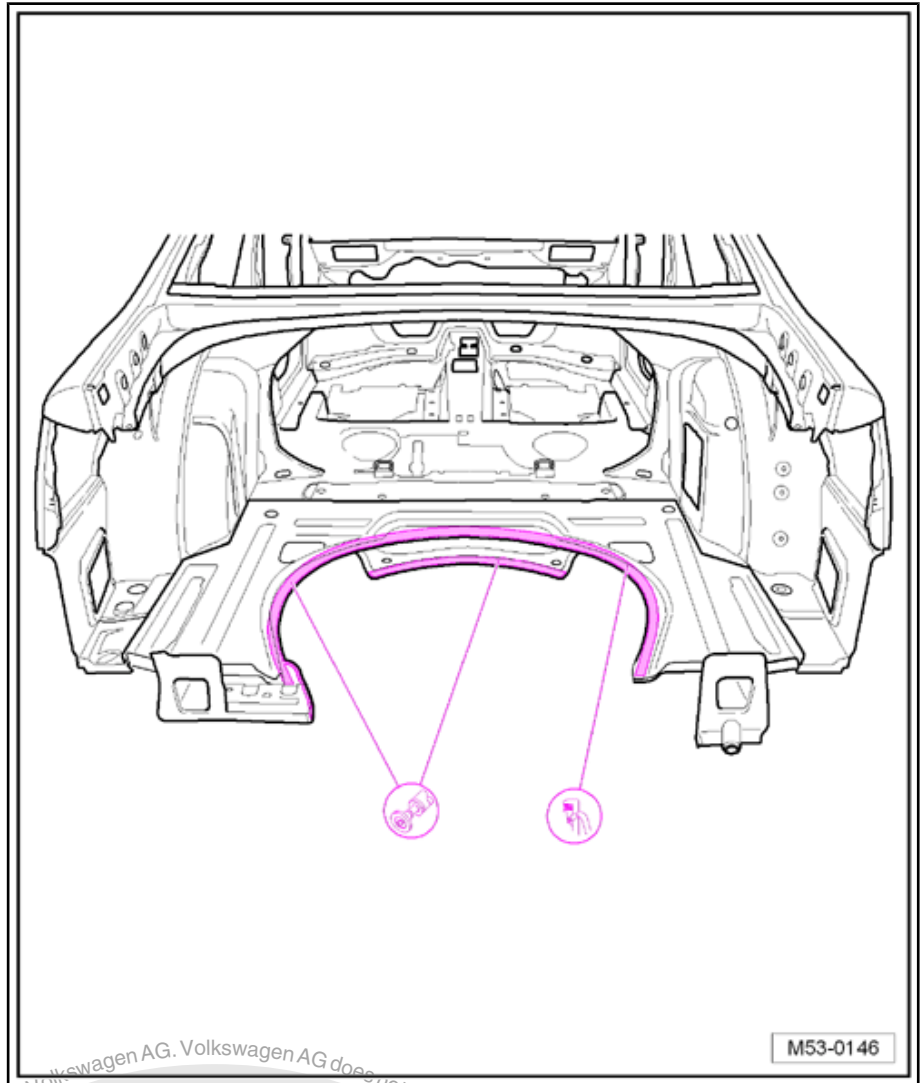
1 - Parting cut (partial renewal)



Note

- Separate original joint to floor cross member and exhaust pipe bracket.
- Make parting cut -1- as shown and cut -shaded area-.





- Remove remaining material.
- Place floor panel body side.

9.2 Installing

9.2.1 Preparing new part

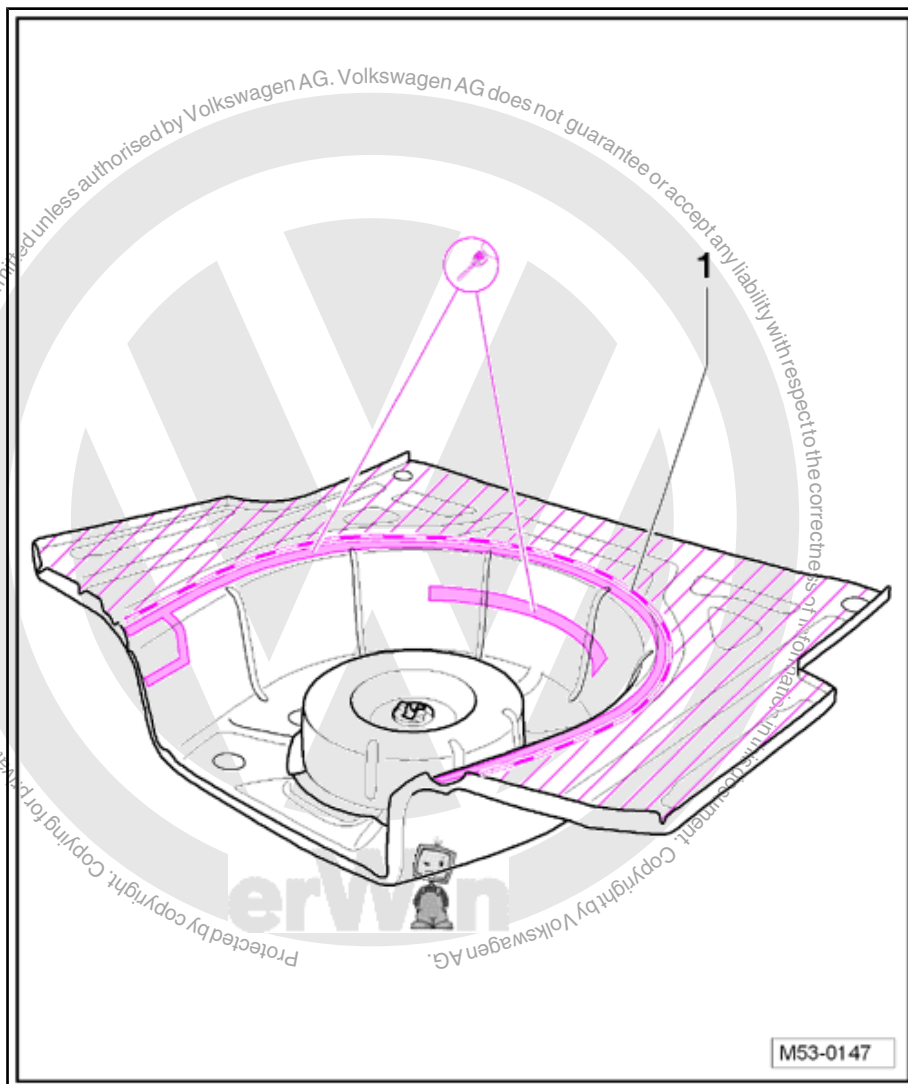
Replacement part

- ◆ Rear floor panel



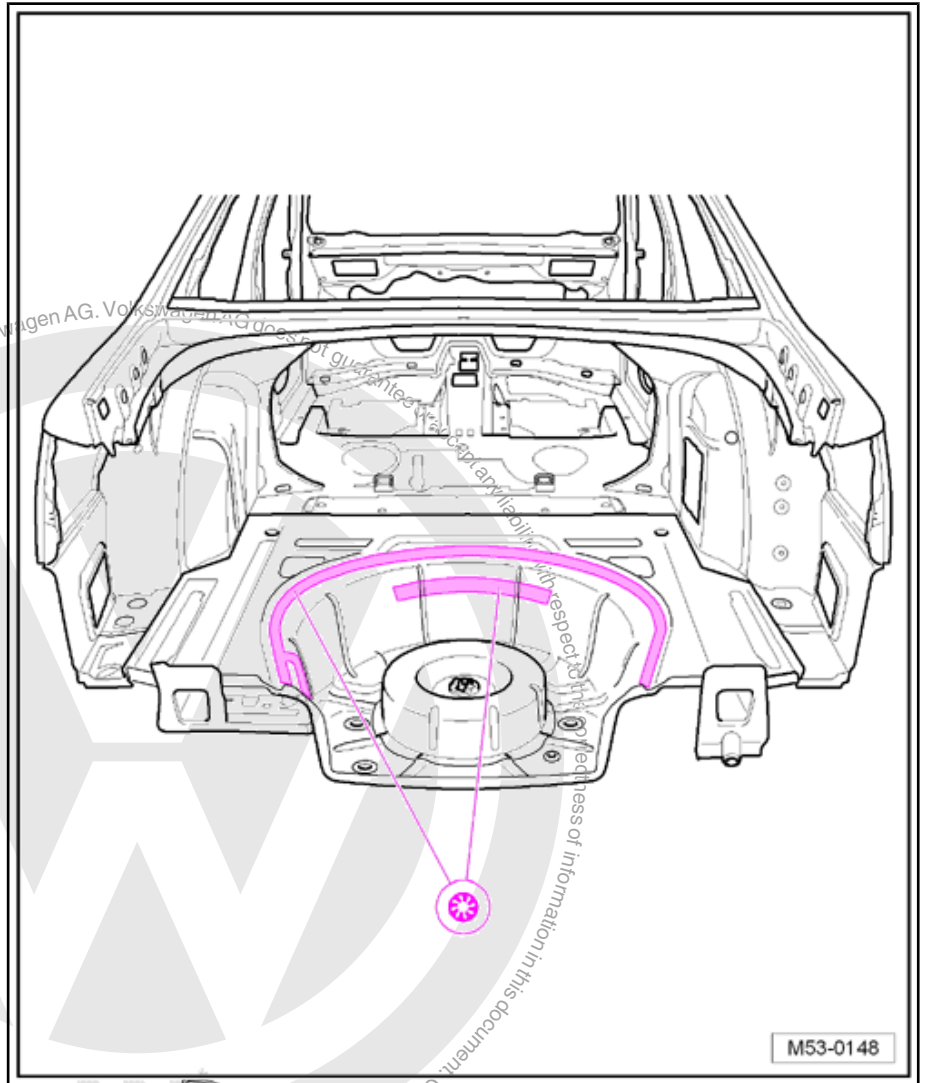
1 - Cutting point

- Transfer parting cut -1- to the new part and cut -shaded area- (when doing this take 10 mm additional material for overlap into consideration).
- Drill holes for SG plug weld seam, \varnothing 7 mm (hole distance approx. 20 mm).



9.2.2 Welding in

- Fit new part and secure.
- Check fitting to adjacent components.



- Weld in spare wheel recess, SG plug weld seam.
- Install cross panel ⇒ [“1.2 Installing”, page 172](#).