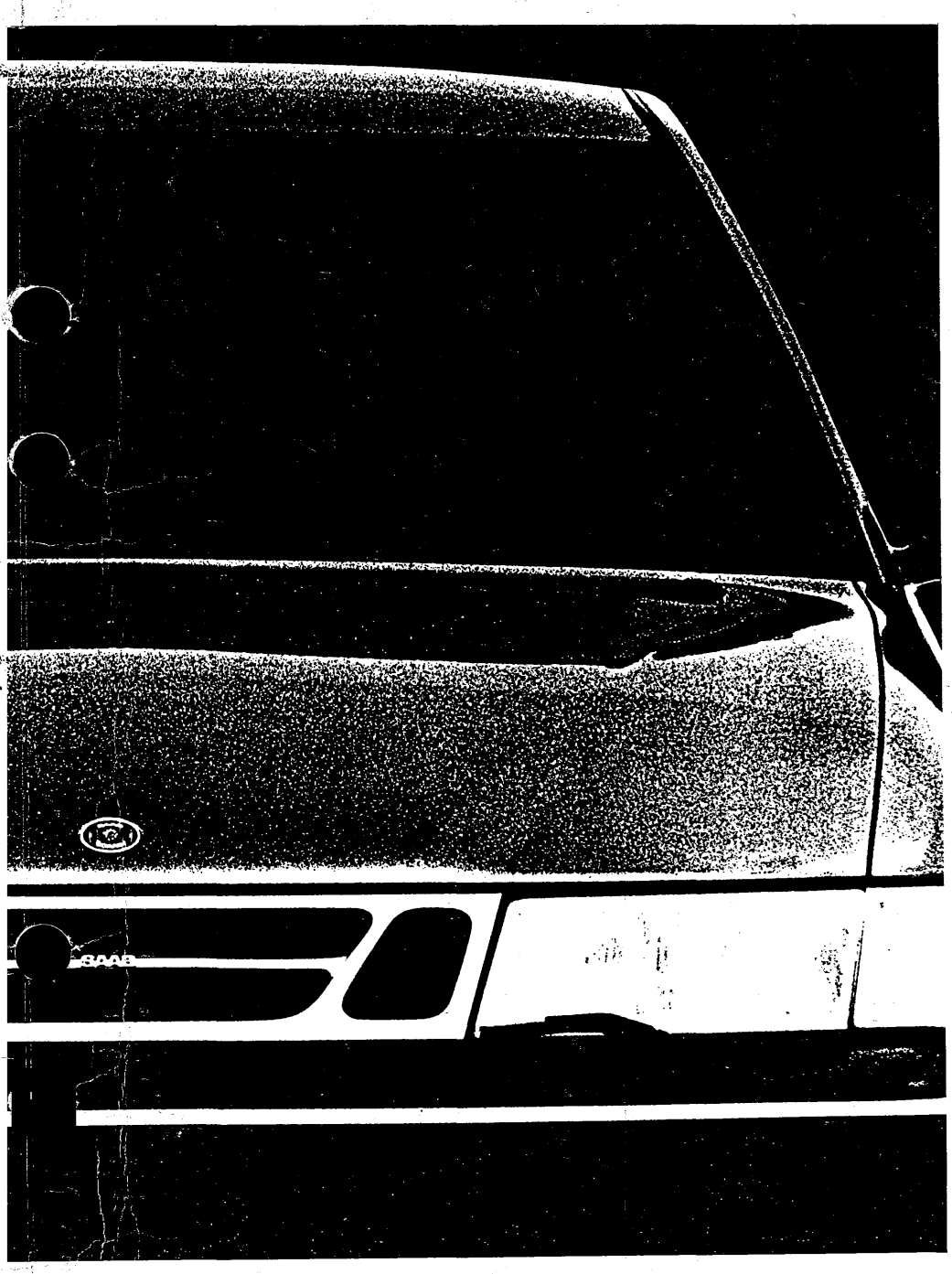
Saab 9000

Service Manual



M 1985–95–

ENG

Saab 9000

SERVICE MANUAL

8:1 Body, bodywork repairs

M 1985-95-

Preface

This Service Manual supersedes 8:1 Body, bodywork repairs M1985-93-

and the following Service Information bulletins:

108-1319
110-1317
810-1370
810-1419

Warning, Important and Note

The headings "Warning", "Important" and "Note" occur from time to time in the Service Manual. They are used to draw the attention of the reader to information of special interest and seriousness. The importance of the information is indicated by the three different headings and the difference between them is explained below.

⚠ WARNING

Warns of the risk of material damage and grave injury to mechanics and the driver, as well as serious damage to the car.

Important

Points out the risk of minor damage to the car and also warns the mechanic of difficulties and time-wasting mistakes.

Note

Hints and tips on how the work can be done in a way that saves time and labour. This information is not supplied for reasons of safety.

Market codes

The codes refer to market specifications

AT	Austria	GB	Great Britain
AU	Australia	GR	Greece
BE	Belgium	IS	Iceland
CA	Canada	IT	Italy
CH	Switzerland	JP	Japan
DE	Germany	ME	Middle East
DK	Denmark	NL	Netherlands
ES	Spain	NO	Norway
EU	Europe	SE	Sweden
FE	Far East	US	USA
FI	Finland	UC	US California
FR	France		

Production: Service Support, Saab Automobile AB, Trollhättan, Sweden

Technical data

Important

Chemical products like paint, adhesive, primer and the like should be stored and used in accordance with the laws and regulations of your country. Always read the warning labels and directions for use on the product packaging before commencing work.

Corrosion protection products

Primer	Standox 1K Füllprimer
Welding primer	Teroson Zinkspray, (45) 30 15 906
Sealant	Terostat 1K-PUR T 226, (45) 30 07 085
Stone damage protection	Terotex Super 3000 T 126 (black) — (45) 30 15 252 T 127 (light) — (45) 30 15 476
Underseal	Terotex 2000 T 122 (black) — (45) 30 15 237 T 123 (light) — (45) 30 15 245
Sprayable joint sealant/underseal	Terostat 9320 T 293, (45) 30 17 787
Cavity sealant	Mercasol 1, (45) 30 20 203
	Terotex HV 400 T 129, (45) 30 15 930
Body adhesive, door panel folds	Teromix 6700 T305
Cleaning agents	Cleaning agent FL T875, (45) 30 15 815
Filler for zinc sheet	Top filler (10) 82 85 488, hardener (10) 82 85 496

Sound absorbing panels

Doors and side panels	Terodem SP 100 Alu T401, (45) 30 15 799
Bottom panel, applied with hot-air gun	Terodem SP 300 T411, (45) 30 15 211

Adhesive and primer used when changing window glass

Adhesive kit, window glass	Betamate E 2400, (45) 30 05 600
Adhesive kit, embedded window glass	Betamate E 2400, (45) 30 05 618
Paint primer	Betaprime, (45) 30 18 702

Repairs to plastic components, 3M

Cleaning agents	3M 8984
Adhesion promoter	3M 5907 P.A.P.
Plastic filler	3M 5900
Primer	3M 5905 or 5906
Masking tape	3M 6945

Paintwork repairs, Standox

Cleaning agents	Silicon Entferner
Primer Acid primer Plastic primer filler	 1K Füllprimer Reaktiv Haftprimer 2K-Plastic-Grundierfüller
Extender 2K PUR extender	2K 4:1 Top Füller 2K H-S Füller
2K Paint	2K Standocryl Basislack 2K Standocryl Klarlack Standocryl Klarlack 20-60
Rubbing	Abrasive paper P120 — P500 3M Scotch Brite

Finish paints

Colour code	Colour	Paint type	Remarks
117	Platinum blue	Base paint	Model year 1986 and earlier
120	Cochineal red	Base paint	Model year 1986 and earlier
127	Cherry red	Solid	Model year 1987 and earlier
129	Rose quartz	Base paint	Model year 1986 and earlier
131	Admiral blue	Solid	
153	Cirrus white	Solid	
156	Mother of pearl	Base paint	Textured finish, discontinued
158	Odoardo grey	Base paint	Model year 1986 and earlier
159	Malachite green	Base paint	Model year 1986 and earlier
170	Black	Solid	
172	Silver	Base paint	Model year 1986 and earlier
198	Embassy blue	Solid	
199*	Test colour	Solid or base paint	

Finish paints, contd.

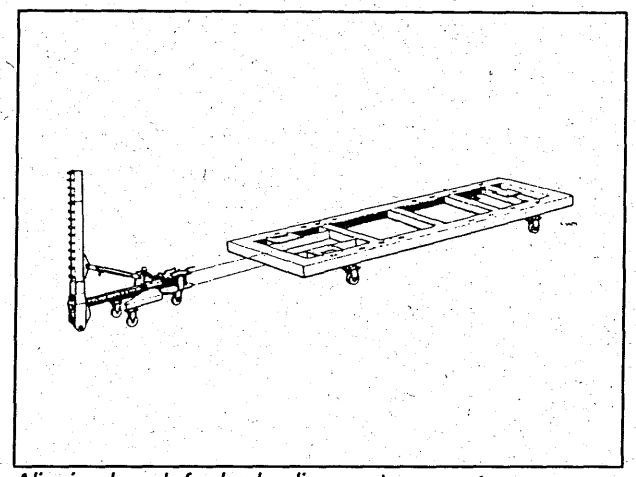
Colour code	Colour	Paint type	Remarks
200	Silver	Base paint	Model year 1987 and later
201	Bronze	Base paint	
202	Rose quartz	Base paint	Model year 1987 and later
203	Platinum blue	Base paint	Model year 1987 and later
204	Odoardo grey	Base paint	Model years 1987-1990
205	Malachite green	Base paint	Model year 1987 and later
206	Cochineal red	Base paint	Model year 1987 and later
212	Magenta	Base paint	
213	Rhodonite	Solid	
214	Cherry red	Solid	Model year 1988 and later
215	Ultramarine	Solid	
216	Beryl green	Base paint	Model year 1990 and earlier
217	Ascot grey	Solid	
219	Talaldega red	Solid	
220	Iridium blue	Base paint	
223	Odoardo grey	Base paint	Model year 1991 and later
226	Beryl green	Base paint	Model year 1991
227	Citrine beige	Base paint	
228	Platana grey	Base paint	
229	Le Mans blue	Base paint	
230	Scarab green	Base paint	
233	Carrara white	Solid	Model year 1992 and later
234	Nocturne blue	Base paint	Model year 1992 and later
235	Eucalyptus green	Base paint	Model year 1992 and later
240	Imola red	Solid	Model year 1993 and later
241	Aubergine purple	Base paint	Model year 1994 and later
242	Ruby red	Base paint	Model year 1993 and later
247	Silver	Base paint	Model year 1995 and later
248	Nova black	Base paint	Model year 1995 and later

**) Indicates that the paint colour is not a stock item. The paint is supplied to special order only.*

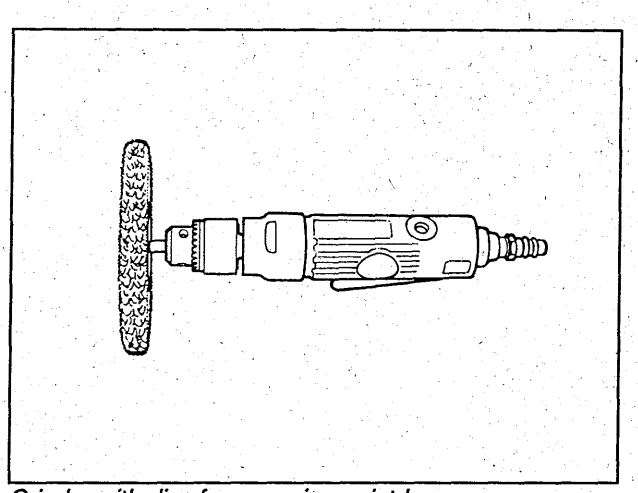
Important

Always quote the car's colour code when ordering paint.

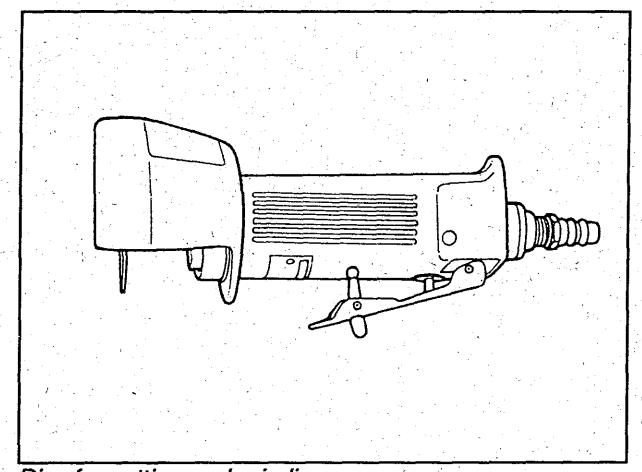
Special tools



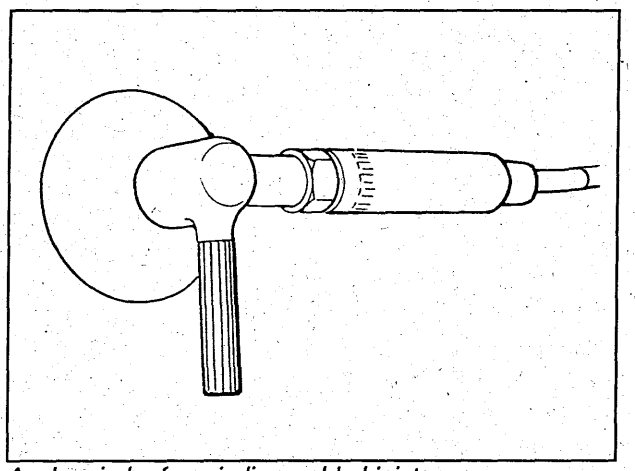
Aligning bench for body alignment



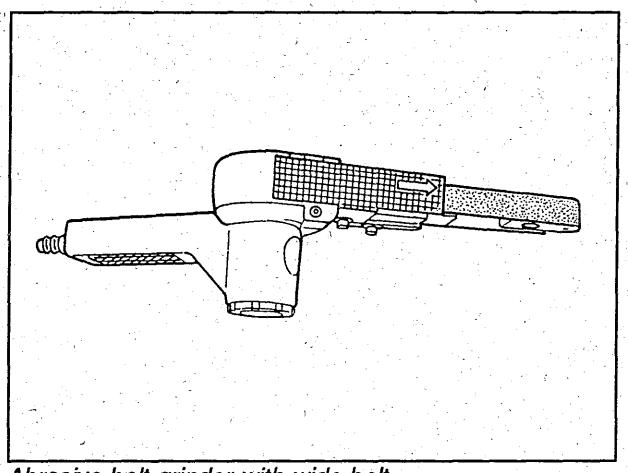
Grinder with disc for removing paint layers



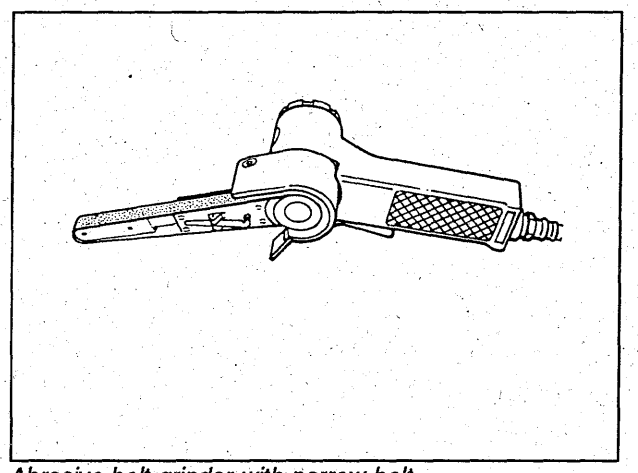
Disc for cutting and grinding



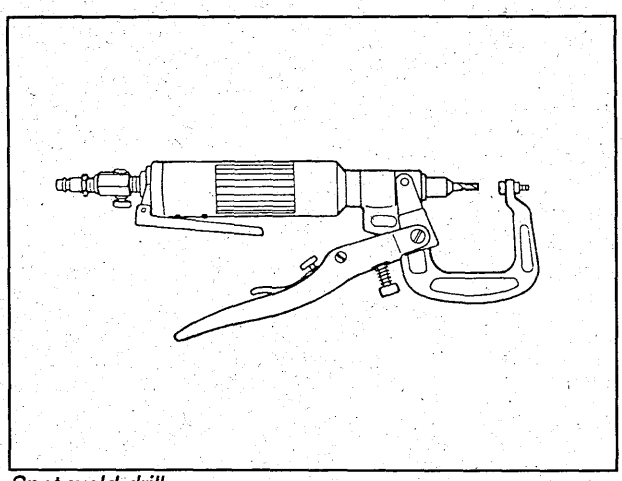
Angle grinder for grinding welded joints



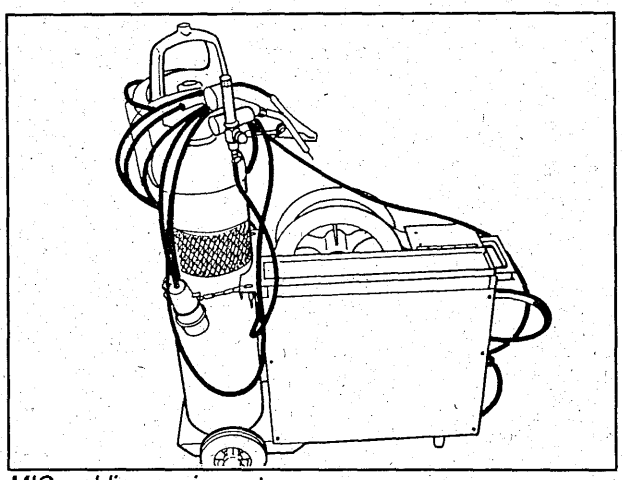
Abrasive belt grinder with wide belt



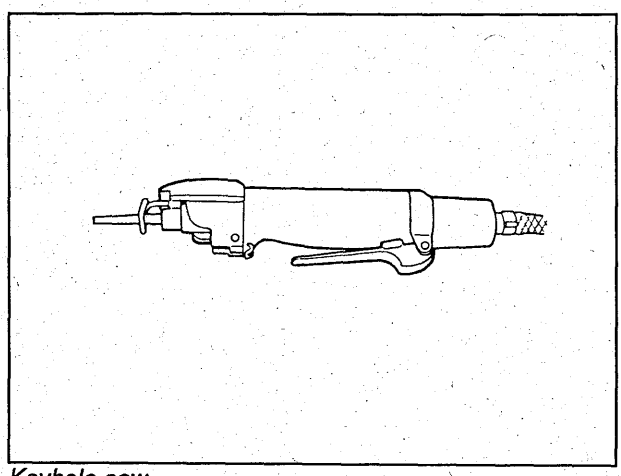
Abrasive belt grinder with narrow belt



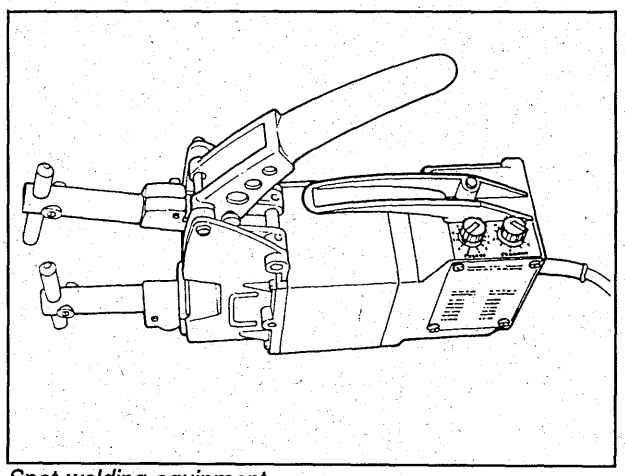
Spot weld drill



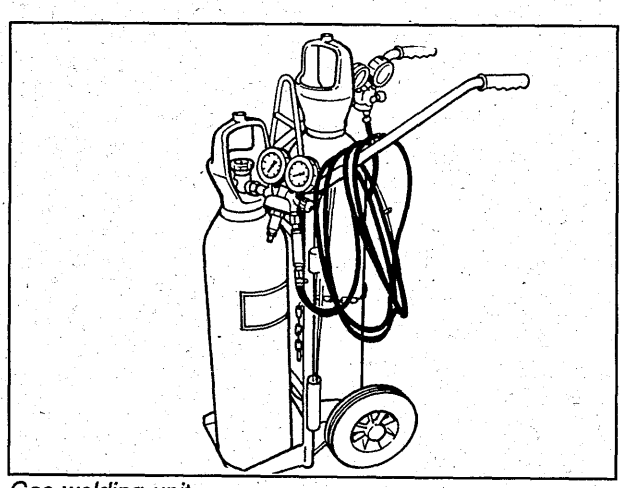
MIG welding equipment



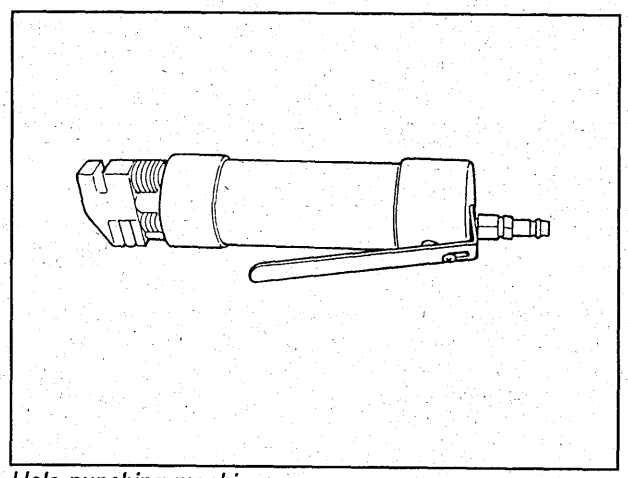
Keyhole saw



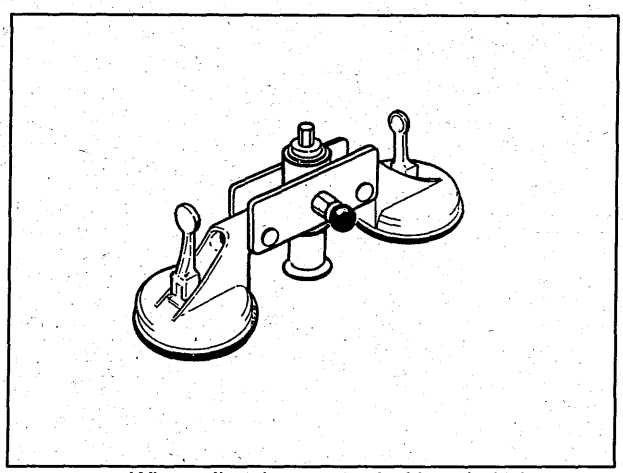
Spot welding equipment



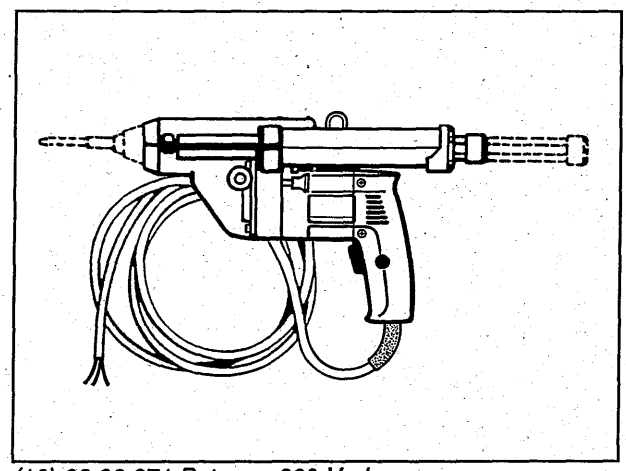
Gas welding unit



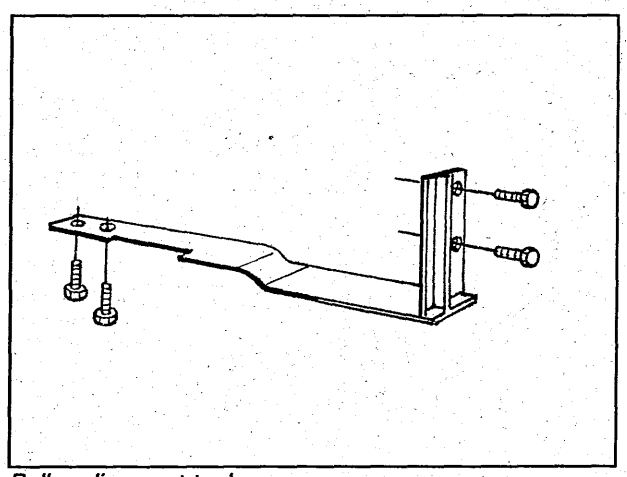
Hole punching machine



82 92 823 Wire coiler, for removal of bonded glass
82 92 831 Cutting wire



(16) 82 92 971 Betagun 220 V glue gun
(16) 82 92 989 Betagun 110 V glue gun

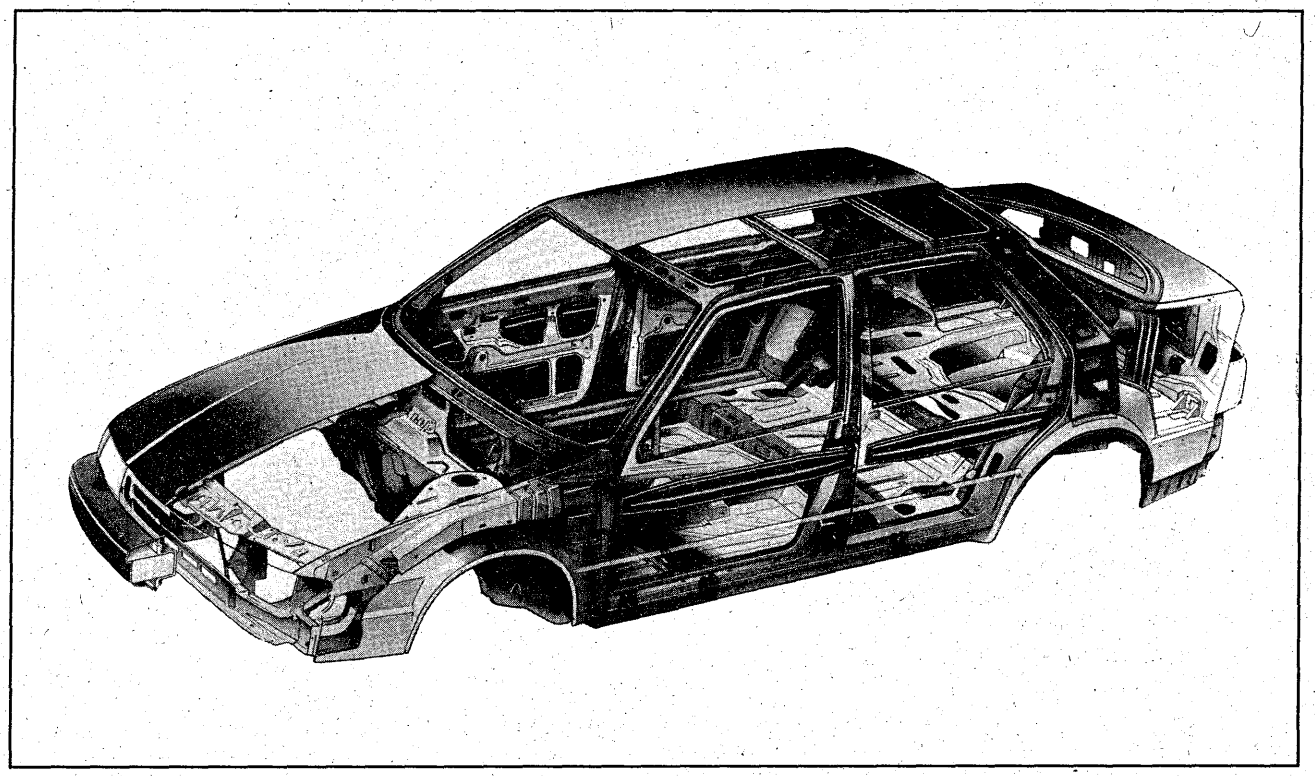


Puller alignment tool
82 92 864 Saab 9000 CS and CC, right-hand side
82 92 872 Saab 9000 CS and CC, left-hand side
82 92 880 Saab 9000 CD, right-hand side
82 92 898 Saab 9000 CD, left-hand side

Compressed-air guns:

- T 959 Multi-Press from Teroson, for applying underseal and sprayable joint sealant.
- T 931 HV compressed-air gun from Teroson, for applying cavity sealant.
- T 910 UBS gun from Teroson, for applying underseal and stone damage protection.

Technical description



Body

Body design

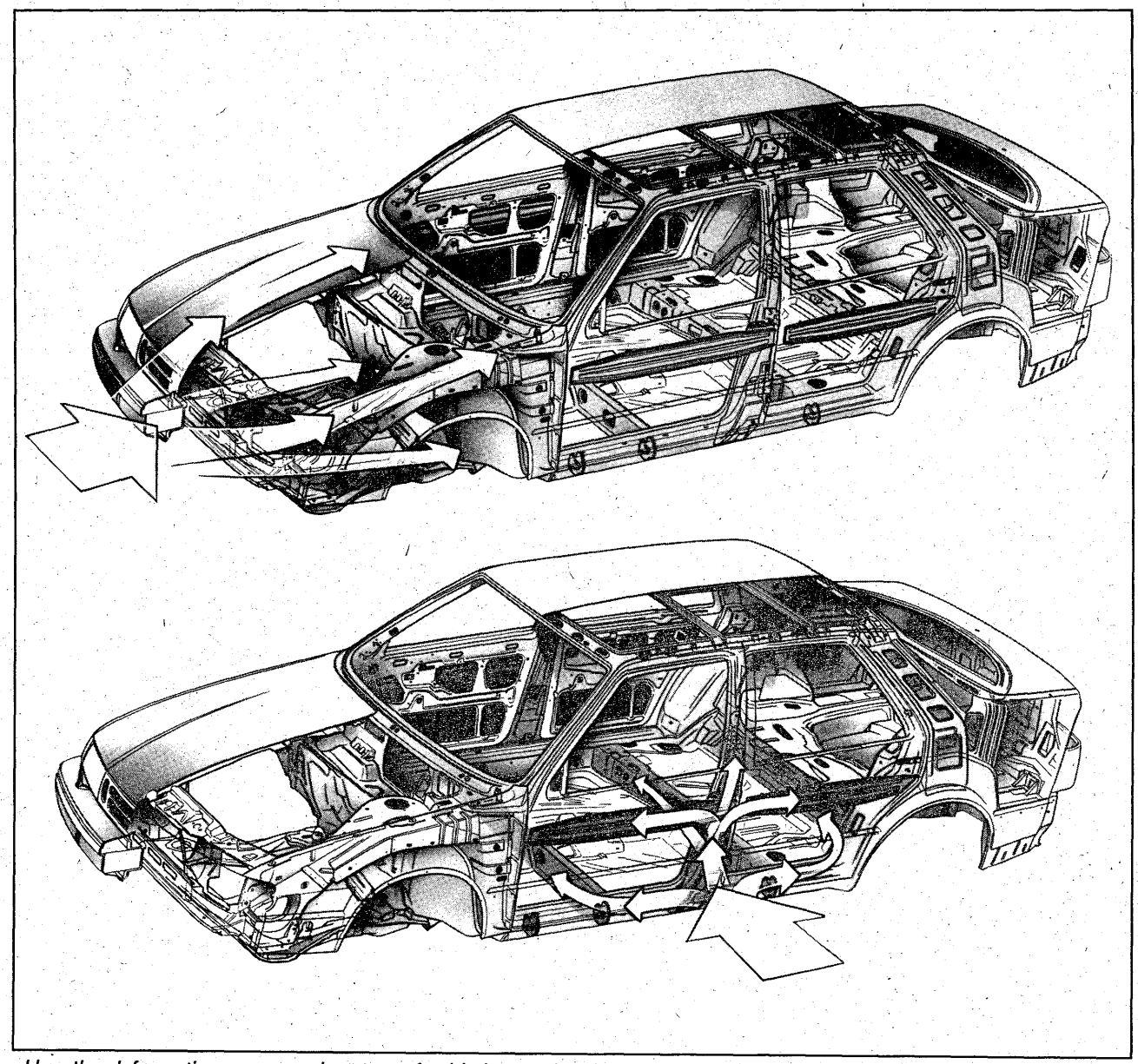
The design of the body determines the properties of the finished car. The body of the Saab 9000 is characterized by high torsional rigidity, a sturdy and stable cabin enclosure, and generous deformation zones at front and rear.

This bodywork design confers several advantages:

- It is easier to optimize chassis geometry and consequently the performance of the car on the road.
- Passive safety is extremely high due to the stable cabin enclosure and the generous energy-absorbing deformation zones.
- It is easier to isolate the cabin interior from engine vibration and noise, and there is less likelihood of squeaks and rattles occurring.
- Body life is also extended.

Much effort has been expended in testing the body design down to the smallest detail. Collision and corrosion tests, tests in climate chambers and acoustic laboratories, and thousands upon thousands of miles covered in road tests have led to the final design of the body.

To ensure that no change or deterioration in the performance and characteristics of the car occurs after a bodywork repair, it is extremely important for repair work to be carried out correctly using the proper materials.



How the deformation zones and system of cabin beams forming a protective cage absorb the forces arising in different types of collision.

Safety

The body of the Saab 9000 is designed to create a survival area for the occupants in the event of a collision. Basically, the forces arising in a collision are slowed down by the deformation zones and propagated through the system of cabin beams forming a protective enclosure where the stresses will be distributed as uniformly as possible.

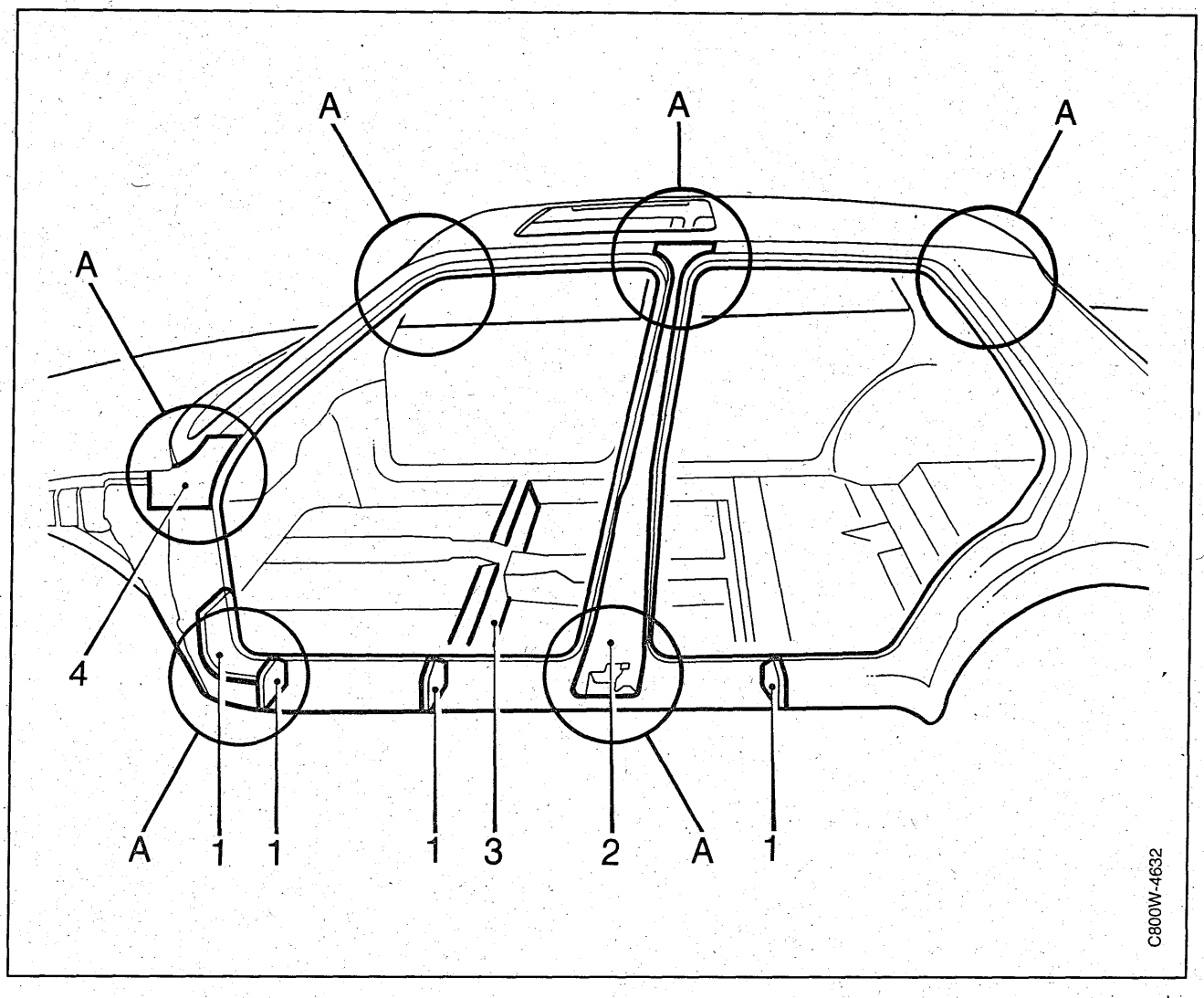
The generous deformation zones at front and rear are designed to give way progressively. They undergo more and more deformation as the forces exerted on them increase, without sheet metal tearing and penetrating the cabin.

In a collision from the side, the door beams and sill absorb the forces that arise and distribute them through the floor cross-members and B pillar to the rest of the car body.

It is extremely important to ensure that no change or deterioration in the efficiency of the energy-absorbing deformation zones and stablecabin enclosure occurs after a repair.

The cabin enclosure must never be weaker after a repair. But neither must the deformation zones be made stronger than they were before the damage occurred. An excessively strong front or rear body section will propagate the forces arising in a collision instead of slowing them down, with the result that the forces acting on the cabin enclosure will be that much more powerful.

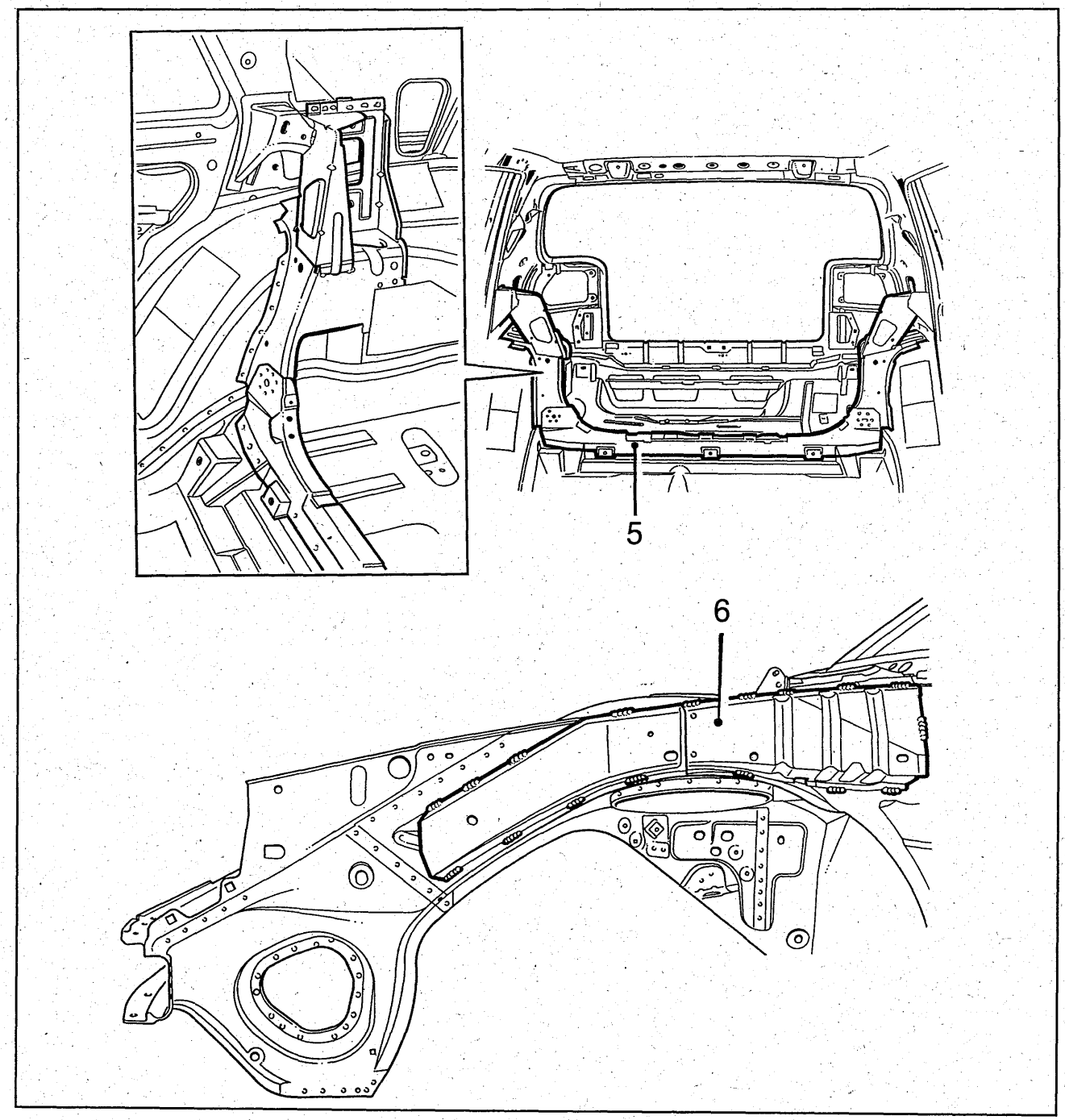
So that Saab Automobile AB can accept responsibility and guarantee that the car will have the same high standard of passive safety after a repair as it had before, it is vitally important for repair work to be carried out correctly using the proper materials.



Reinforcement

The body shell is reinforced at the areas which are most exposed to stresses in a collision. The areas marked with an A are particularly vulnerable and call for extra care and precision when carrying out body-work repairs.

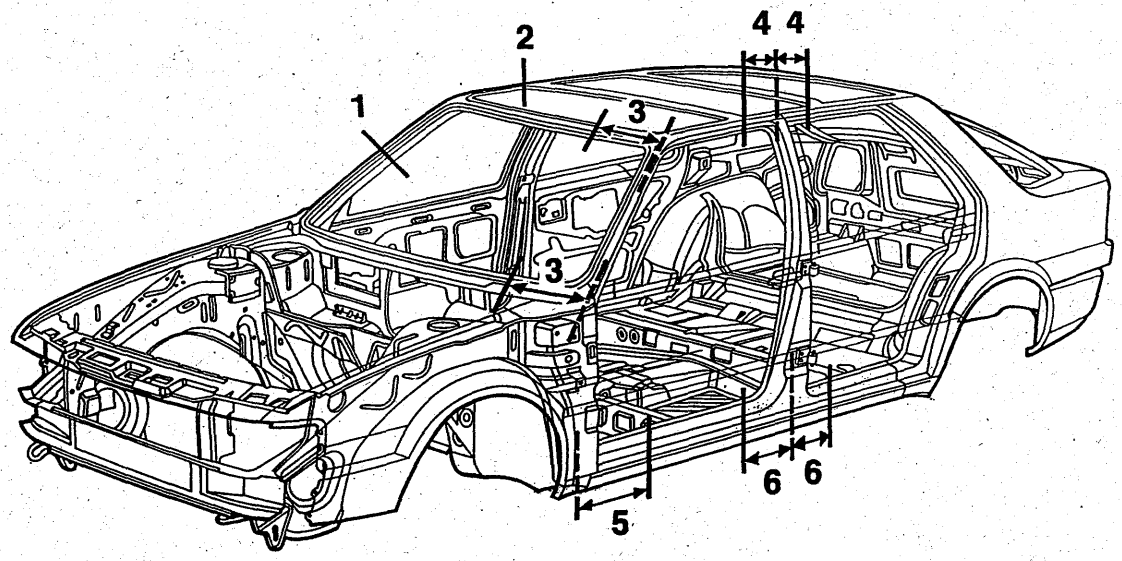
- In the bottom of the door frames are four bulk-heads (1) which, together with the reinforcement members in the B pillars (2) and the front seat member (3), distribute the forces arising in a side collision round the cabin enclosure.
- The lower ends of the A pillars (4) are reinforced at the mountings for the front door hinges and also at the mounting for the collision cable.

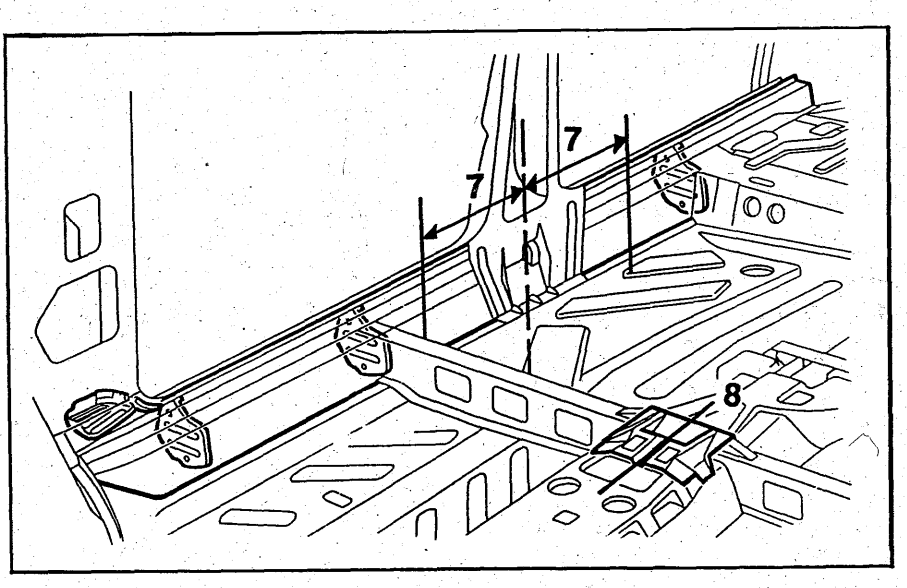


- A member of high torsional rigidity (5) is fitted between the two rear wheel housings.
- A reinforcement member (6) is mounted on the outside of the front wheel housings.

Important

Under no circumstances should body reinforcement components be cut and joined. A damaged reinforcement component must be discarded and a new one fitted in its place. This is mandatory.

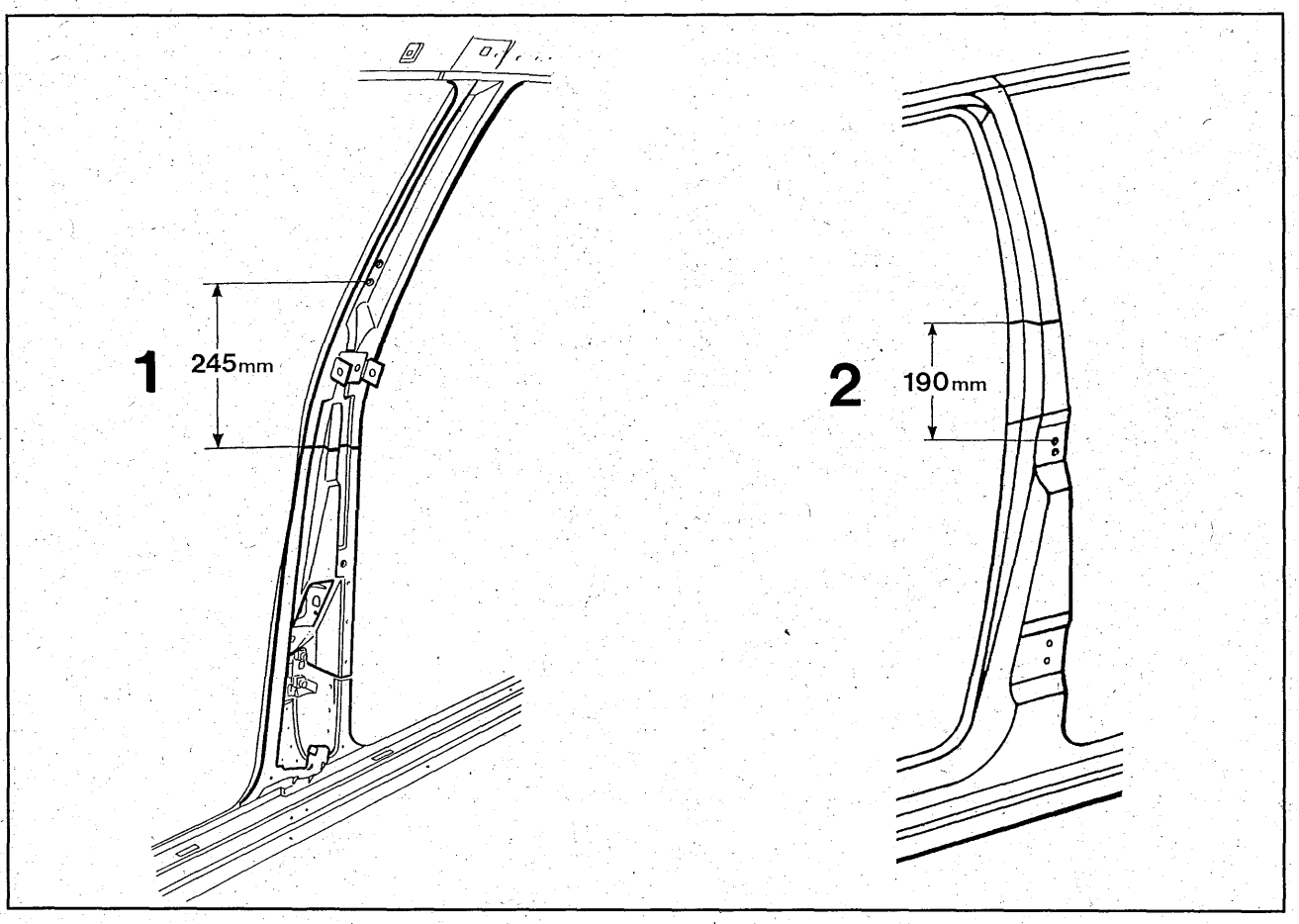




Permissible joints

When carrying out body repairs, it is extremely important when cutting and joining metalwork to avoid damaging reinforcement components.
The above illustration shows the zones where joints are permissible when carrying out some of the most frequently-occurring body repair work. In regard to welding joints in the B pillar, see the next page.

1 The A pillar should be cut and welded in the middle.
2 If a sunroof is fitted, the roof may be cut and welded in the middle of the sunroof aperture.
3 The windscreen frame should be cut and welded at least 150 mm from the centre line of the A pillar.
4 The upper end of the B pillar should be cut and welded at least 150 mm from its centre line.
5 The door sill should be cut and joined at least 150 mm from the extended centre line of the A pillar.
6 The lower end of the B pillar should be cut and joined at least 200 mm from its centre line.
7 The inner door sill should be cut and joined at least 150 mm from the centre line of the B pillar.
8 The front-seat member should be cut and joined in the middle.



Cutting and joining the B pillar

A staggered joint can be made in the middle of the B pillar when repairing damage that is limited to the lower part of the pillar. The advantage of this type of joint is that it leaves the roof intact.

It is extremely important to make the joint exactly as shown to avoid damaging the reinforcement member in the B pillar.

Important

Under no circumstances should the reinforcement member inside the B pillar be cut or welded. If damaged, the reinforcement member must be discarded and a new one fitted in its place. This is mandatory.

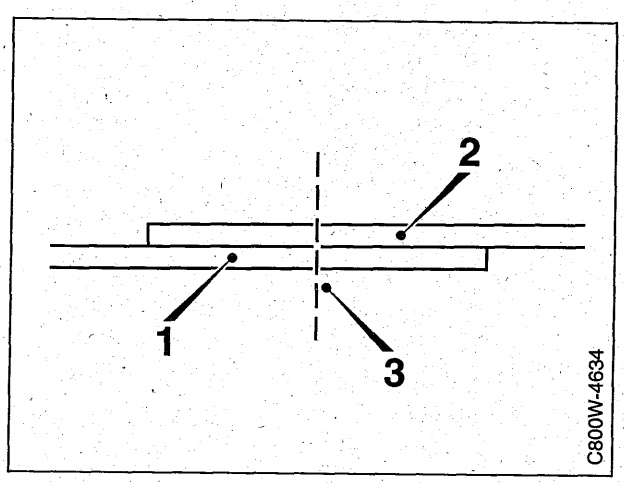
1 **Joint, inner section:**
245 mm below the centre of the lower screw hole for seat-belt height adjustment.

2 **Joint, outer section:**
190 mm above the centre of the upper hinge mounting's upper screw hole.

Cutting

Unless otherwise stated, bodywork parts must be welded together. For optimum results, the sheet metal sections should be edge-to-edge when the joint is welded. The best way of obtaining an exact fit between the spare part and the body metal is to cut the sheet metal sections as follows:

- Cut the spare part so that it overlaps the intended joint line by about three centimetres.
- Cut the damaged part of the body so that it overlaps the intended joint line by about three centimetres.
- Position the spare part and align it exactly by means of the aligning bench measuring system. Also refit the undamaged bodywork parts that were previously removed and check the fit and alignment of the spare part.
- Cut through both sheet metal sections at the intended joint line.



1 Body
2 Spare part
3 Joint

Grinding

All surfaces that are to be welded must first be ground down to bare metal. Use a belt grinder. When spot welding galvanized sheet, the paint must be removed by means of a wire brush and hot-air gun to avoid damaging the galvanized surface.
On completion of welding, all continuous and plug welds must be ground down to a fine and smooth surface.

Important

Be careful not to grind away too much metal. On no account must the strength of the material be weakened.

Use abrasive cloth 120 or finer on external surfaces. Coarser abrasive cloth leaves marks which will be visible after painting.

Welding

The properties of the body's deformation zones and cabin enclosure must undergo no change or deterioration after a bodywork repair. It is therefore important for all welding to be carried out as prescribed in the methods descriptions and that the correct welding method is used at the appropriate places.
Where accessibility permits, spot welding is preferable to plug welding. Always check the quantity and location of the spot welds when removing a damaged part. Then use the same number of welds in the same places when fitting the spare part.
The electrodes used for spot welding should have a maximum diameter of 6 mm. The core of the weld should have a diameter of 5 mm to ensure that it will be sufficiently strong. When struck with a hammer, a screwdriver inserted between two spot welds should not cause the welds to separate.
To reduce the danger of corrosion, always apply welding primer between sheet metal panels that are spot-welded together. Use welding primer, part No. (45) 30 06 939.

When carrying out MAG welding, make sure that the grounding of the welding unit is good and connect the ground cable as close as possible to the welding point. This is important as it will enable welding work to be done without the need to remove all electronic units from the car.

Important

If proper grounding is not ensured, electronic components could be damaged by current surges through the body metal.

In the methods descriptions the following symbols are used for the different welding methods:

● ● ● Spot welding or plug welding

Seam welding

Continuous welding

Welding galvanized sheet metal

- Use a wire brush and hot-air gun to remove any paint from the surface. A grinding machine can grind away the galvanized surface and should therefore not be used.

Important

Once exposed to the air, bare galvanized sheet metal immediately starts to rust. When grinding galvanized sheet down to bare metal it is therefore extremely important to apply primer to the exposed surface within 30 minutes at the most. Use an acid-hardening (etching) primer.

- Galvanized sheet metal should be spot welded. Carry out welding at a somewhat higher temperature and pressure than for ordinary cold-rolled sheet. Apply a zinc-based primer between the surfaces that are to be welded together.
- Use welding rod suitable for galvanized sheet, such as "Magsi 54", and an ordinary controlled atmosphere of mixed gas type for MIG welding.
- For filling, special filler for galvanized sheet must be used, such as Top filler (10) 82 85 488 with Standox hardener (10) 82 85 496.
- Working on galvanized sheet metal calls for a higher standard of protective equipment than ordinary cold-rolled sheet.

All new methods and materials can be used on cold-rolled sheet.

Cleaning

It is important to clean all sheet metal before applying primer to it. Any welding primer remaining on the metal will result in poorer adhesion of paint, filler and sealant.
Use Cleaning agent FL T875 or other equivalent product.

Primer

Primer must be applied to all metal surfaces ground down to bare metal on which plastic filler is not to be used. Note that the primer must be dry before filler is applied.
Use Standox 1K Füllprimer or other equivalent product.

Surface treatment

Apart from giving the car an attractive appearance, the chief purpose of the paint is to protect the body and other sheet metal parts from corrosion. The Saab 9000 undergoes an extremely thorough surface treatment process during manufacture. All products used in this process are meticulously tested to ensure that they meet Saab Automobile AB's high standards of paint finish and corrosion protection.

This Service Manual deals chiefly with the corrosion-protection properties of the paint. To avoid deterioration of the corrosion protection after a bodywork repair, it is important for repairs to be carried out in the manner and with the materials specified in this Service Manual.

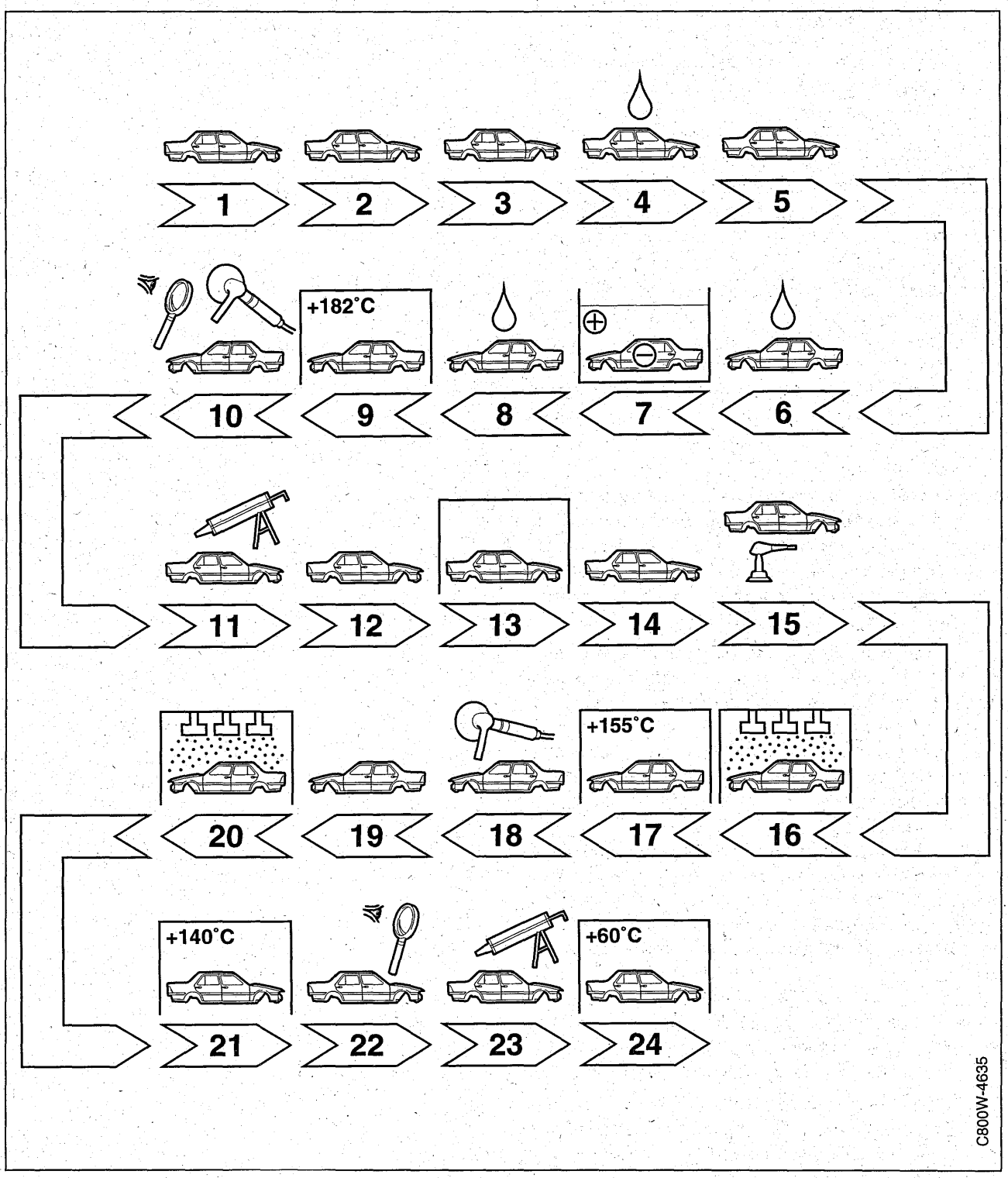
Corrosion

Corrosion is a complicated chemical process. In extremely simple terms, it could be described as a reaction between a substance and its surroundings. In the case of the sheet metal used in cars, it is iron which reacts with water and oxygen to form ferric hydroxide or what we usually call rust.

One of the first steps in the production of iron is to remove oxygen from the iron ore. This is necessary to ensure that the iron will be sufficiently strong for further processing.
Pure iron is a chemically unstable substance, however. It endeavours the whole time to "get back" the oxygen and form ferric hydroxide (rust), which is a stable substance.
For iron to form ferric hydroxide to any greater extent, however, water is also necessary in addition to oxygen. The water acts as an electrolyte. It starts an electrochemical process which makes it easier for the unstable iron to absorb oxygen from the atmosphere.
Since ferric oxide has a larger volume than iron, the sheet metal cracks when attacked by corrosion. Additional oxygen and water can penetrate the metal and worsen the corrosive attack.

The corrosive process will be appreciably accelerated if the electrolyte (water) contains salt. Other factors which facilitate corrosion are heat and impurities in the surface of the iron.

Sheet metal is protected from corrosion by eliminating the factors which give rise to a corrosive attack. The most common method is to prevent water and oxygen from coming into contact with the metal. On the Saab 9000 this is done by applying several coats of paint to the sheet metal. In addition, large parts of the body are galvanized to make the sheet metal less prone to corrosion.



The surface treatment process

1 Cleaning the body shell from the body shop
2 Degreasing
3 Phosphatizing
4 Rinsing
5 Passivation
6 Rinsing
7 Cathodic ED bath
8 Rinsing
9 Oven drying
10 Inspection and grinding
11 Sealing
12 Sound absorbing panels
13 Oven drying
14 Cleaning
15 Undersealing
16 Undercoat
17 Oven drying
18 Grinding
19 Cleaning
20 Finish coat
21 Oven drying
22 Final inspection
23 Anti-corrosion treatment
24 Oven

The surface treatment process

Corrosion protection measures are begun as early as in the body shop. Galvanized sheet metal is used for those parts of the car body that are most exposed to corrosive attacks. See also page 800-17.

1 **Cleaning the body shell from the paint shop**
When the body shell arrives at the paint shop it goes through an initial coarse cleaning process. Here all the filings, etc. left over from the mechanical machining processes are removed as well as most of the oil and grease that the body has picked up in the body assembly shop.

2 **Degreasing**
To obtain as good a foundation as possible for the subsequent surface treatment, the remaining oil and grease is removed from the body by means of an alkali degreasant.

3 **Phosphatizing**
Phosphatizing gives basic corrosion protection as well as a good foundation for the primer.

4 **Rinsing**
The body is rinsed to flush away the remnants of the phosphatizing process.

5 **Passivation**
A chromiferous solution is sprayed over the body. This densifies the phosphate layer and so further increases corrosion protection efficiency.

6 **Rinsing**
The body is rinsed with desalinized water.

7 **Cathodic electrodip (ED)**
The body is submersed in a bath of anti-corrosion paint and a negative electric charge is applied to the body. The positively charged paint particles are then attracted to the body in the same way as iron filings are attracted to a magnet. A layer of anti-corrosion paint is thus deposited on the entire body surface, including almost inaccessible places in cavities, joints and the like.

8 **Rinsing**
After the ED bath, the body is dipped and rinsed clean of surplus paint particles.

9 **Oven drying**
The paint from the ED bath dries in 17 minutes at a temperature of +182°C.

10 **Inspection and grinding**
Any specks of dust and paint runs are removed.

11 **Sealing**
Seams, folds, joints, etc. are sealed with PVC sealing compound throughout the body. The purpose of this is chiefly to prevent moisture from getting in but the sealant also has a sound-absorbing effect.

12 **Sound absorbing panels**
Sound absorbing panels are affixed at strategic points in the body to reduce resonant noise.

13 **Oven drying**
The body passes through an IR oven to harden the sealant. The sound absorbing panels also soften and shape themselves to the contours of the bodywork.

14 **Cleaning**
Dust is removed from the body.

15 **Undersealing**
Stone damage protection compound and underseal are applied to all bottom pan and wheel housing surfaces.

16 **Undercoat**
The undercoat constitutes a good foundation for the finish paint as regards both adhesion and appearance. In addition, it provides additional corrosion protection in that it affords good protection against stone damage.
The paint is applied by means of industrial robots equipped with rotary spray nozzles. When they rotate, a fine mist of paint is formed which migrates to the body and settles on it as an extremely even layer of paint. Inside surfaces which are hard to reach are painted manually.

17 **Oven drying**
The undercoat is oven-dried for 32 minutes at a temperature of +155°C.

18 **Grinding**
Any specks of dust and paint runs are rubbed down.

19 **Cleaning**
Grinding dust and other foreign particles are removed from the body so that it is absolutely clean before the finish paint is applied.

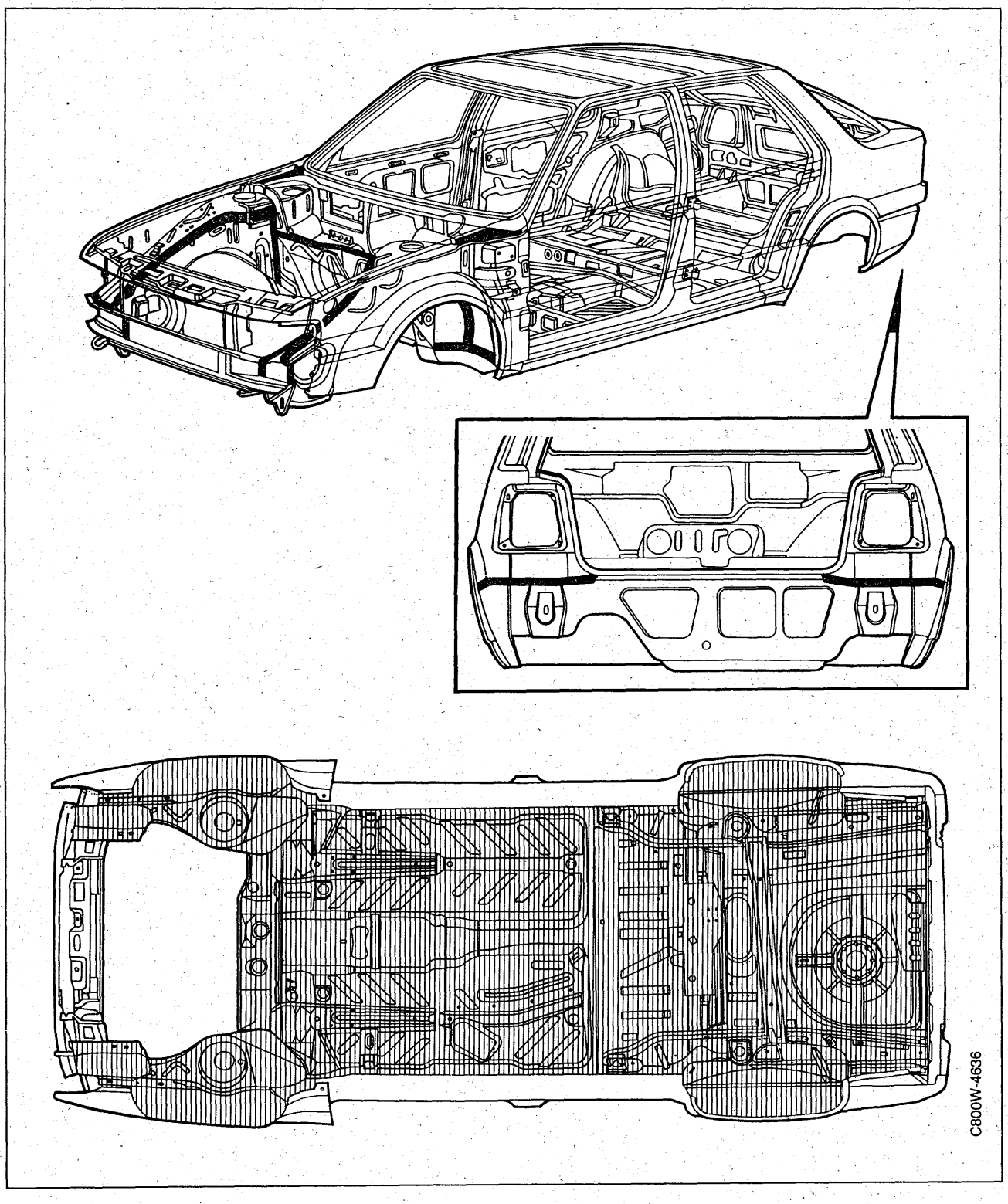
20 **Finish paint**
Just like the undercoat, the finish paint is applied by means of industrial robots equipped with rotary spray nozzles.
Metallic paint is applied in two layers. First a thin layer with a high pigment content and then a thick layer of clear transparent enamel which protects the pigment and lends a high gloss to the finish paint.

21 **Oven drying**
The finish paint is oven-dried at a temperature of +140°C.

22 **Final inspection**
After painting, the body is carefully inspected. If any paint runs, scratches, specks of dust or other imperfections are found, the body is sent to be touched up before proceeding to the next station.

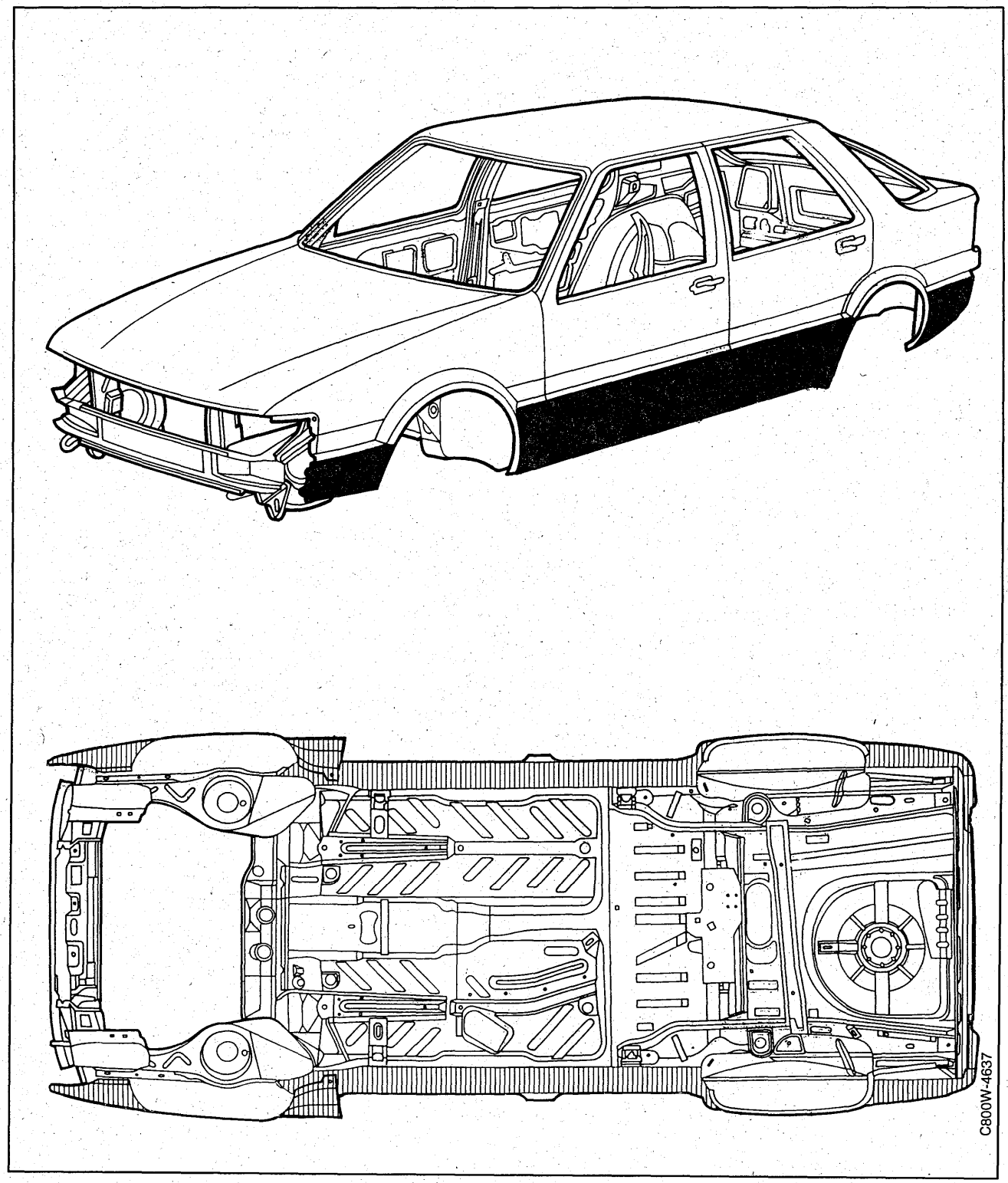
23 **Anti-corrosion treatment**
Penetrating cavity wax is sprayed into cavities in sills, reinforcement members, etc.

24 **Oven**
The body is heated to +60°C for 15 minutes so that the cavity wax will spread out as much as possible in the cavities.



Underseal

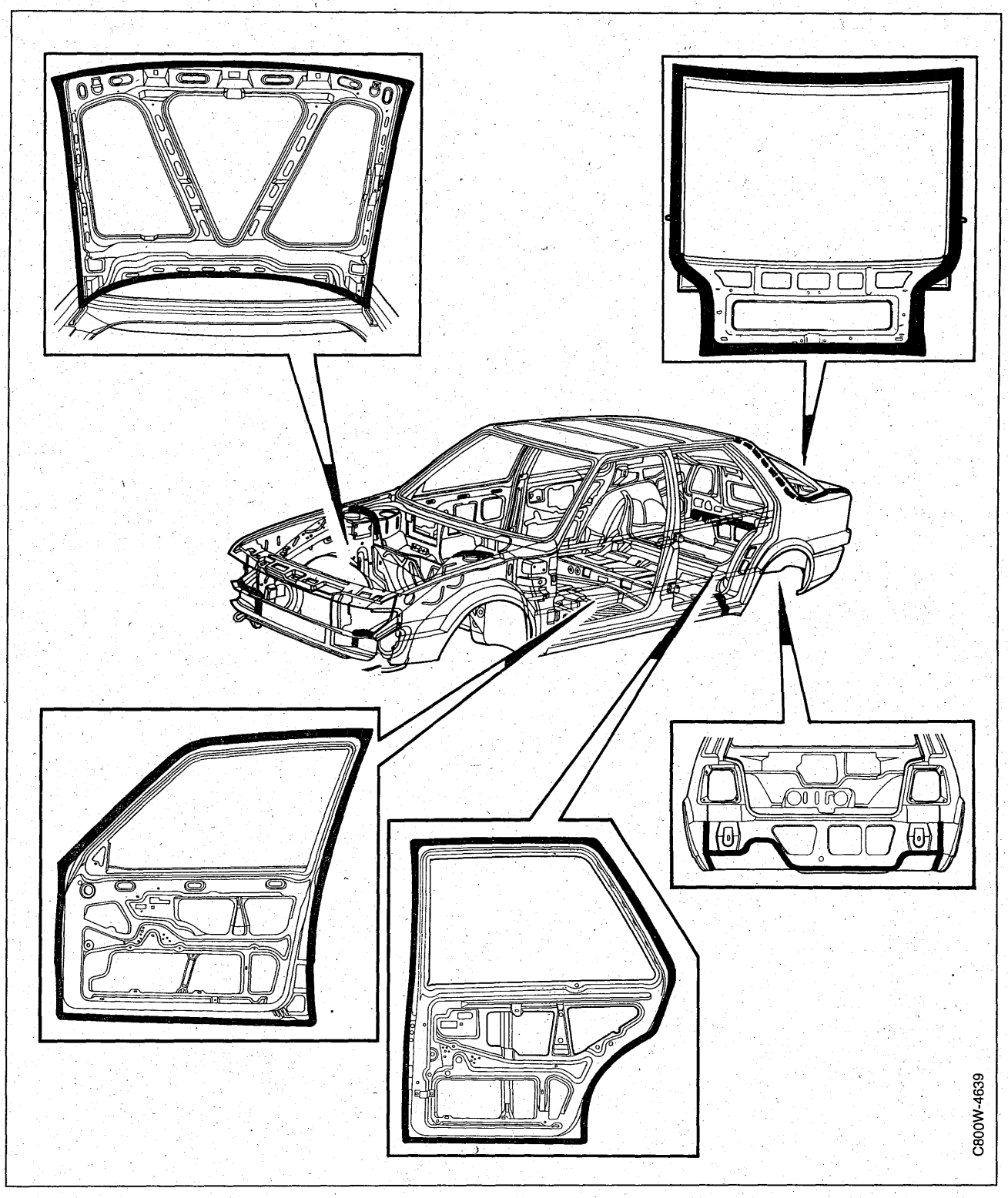
The illustration shows where underseal should be applied. Always try to copy the anti-corrosion treatment that was done at the factory.
Use Terotex 2000 T122 (black) and T123 (light) or Terostat 9320 T293.



Stone damage protection

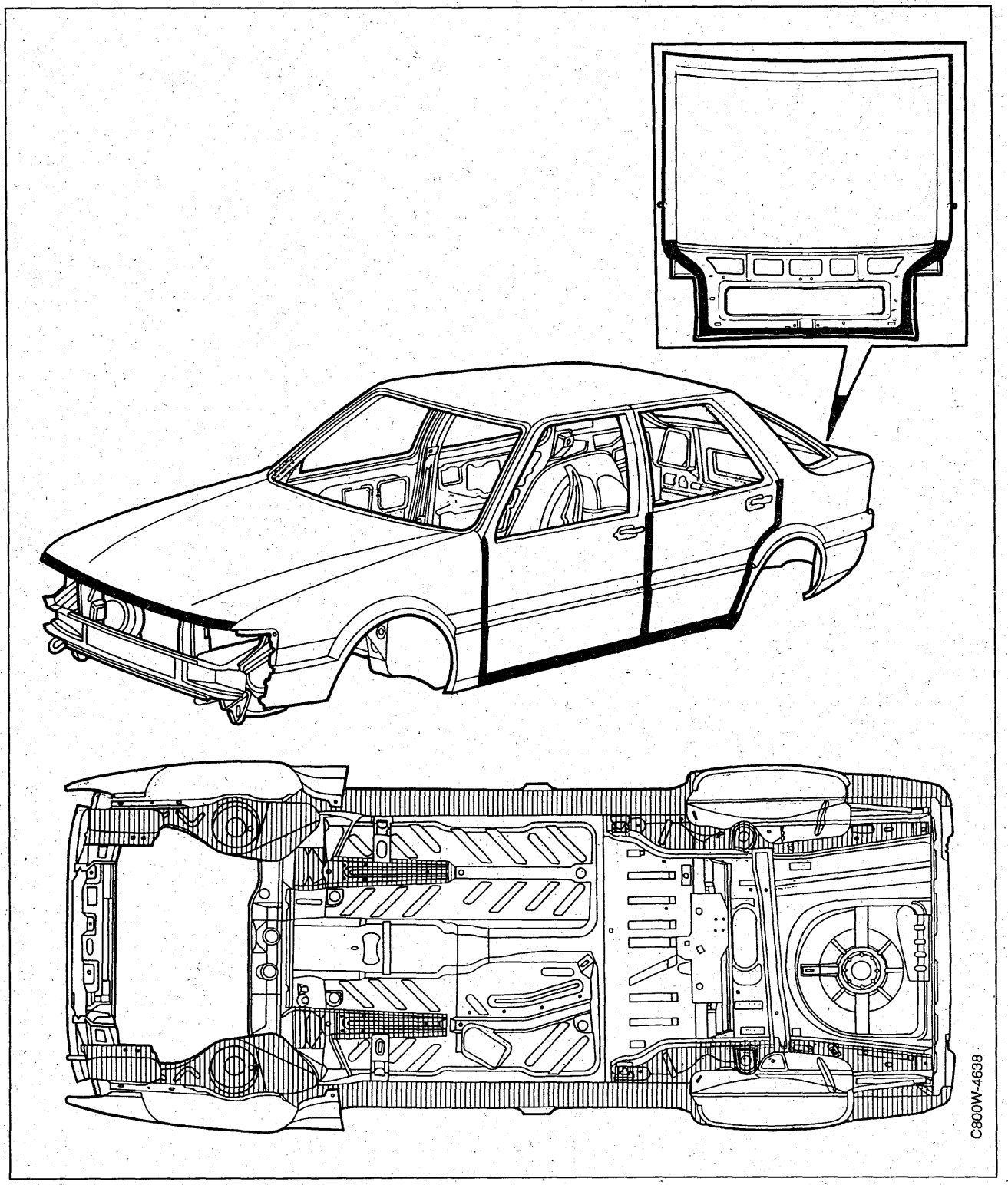
The illustration shows where stone damage protection compound should be applied. Always try to copy the anti-corrosion treatment that was done at the factory.

Use Terotex Super 3000 T126 (black) and T127 (light).



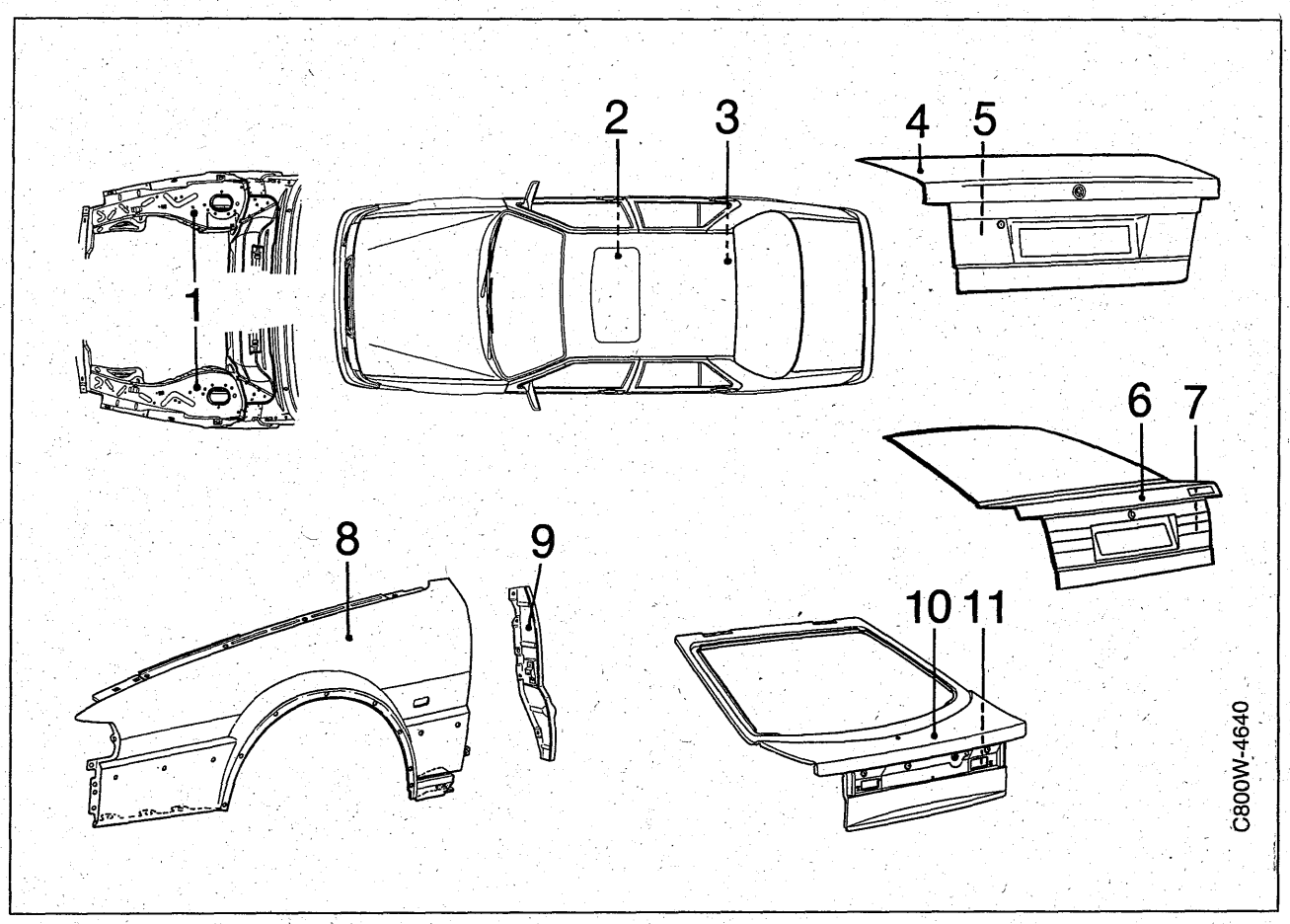
Sealant

The illustration shows where the sealant should be applied. Always try to copy the anti-corrosion treatment that was done at the factory.
Use Terostat 1K-PUR T226.



Cavity sealant

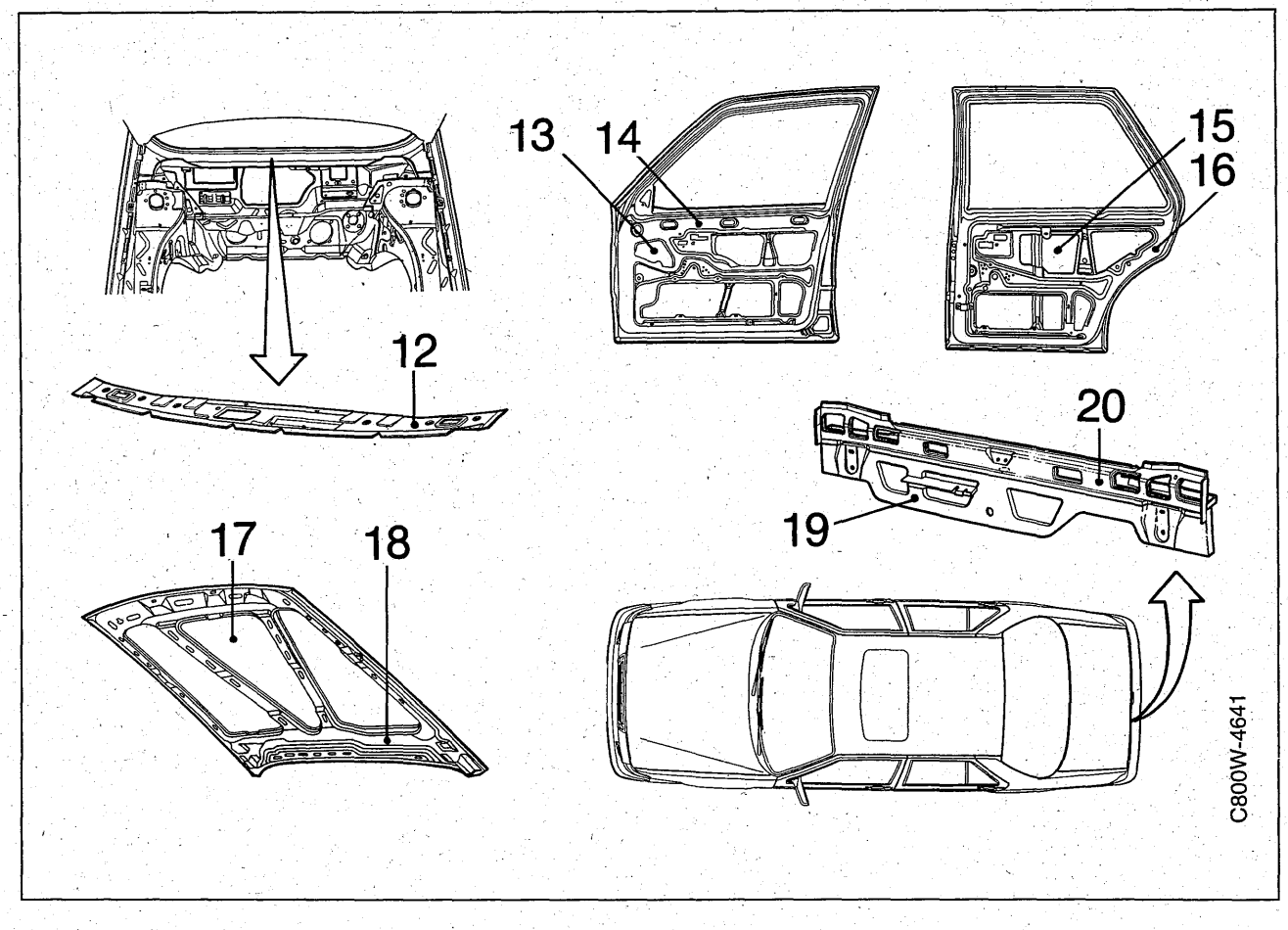
The illustration shows where cavity sealant should be applied. Always try to copy the anti-corrosion treatment that was done at the factory.
Use Terotex HV 400 T129 or Mercasol 3.



Galvanized body parts

Unless otherwise mentioned, the body part is fitted to all Saab 9000 models.

1 Front structure (interior)
2 Sunroof reinforcement (interior)
3 Roof and rear roof member
4 Outer boot lid panel, Saab 9000 CD
5 Inner boot lid panel, Saab 9000 CD (single-sided interior)
6 Outer tailgate panel, Saab 9000 CC (single-sided)
7 Inner tailgate panel, Saab 9000 CC (single-sided interior)
8 Front wing
9 Wing fillet
10 Outer tailgate panel, Saab 9000 CS
11 Inner tailgate panel, Saab 9000 CS



12 Cover panel
13 Outer panel, front door
14 Inner panel, front door
15 Outer panel, rear door
16 Inner panel, rear door
17 Outer panel, bonnet
18 Inner panel, bonnet
19 Rear bumper abutment
20 Rear sill

Painting galvanized sheet

The structure of the paint system is by and large the same as before. Only in regard to rubbing down and filling have the methods and materials changed. Different paint suppliers recommend different procedures for their particular products. However, they all emphasize the extreme importance of thorough cleaning and point out that acid-hardening (etching) materials are required for adhesion to galvanized surfaces.
We recommend paint shops to get in touch with the paint supplier concerned in each separate case.

Important

Once exposed to the air, bare galvanized sheet metal immediately starts to rust. When grinding galvanized sheet down to bare metal it is therefore extremely important to apply primer to the exposed surface within 30 minutes at the most. Use an acid-hardening (etching) primer.

All new methods and materials can be used on cold-rolled sheet.

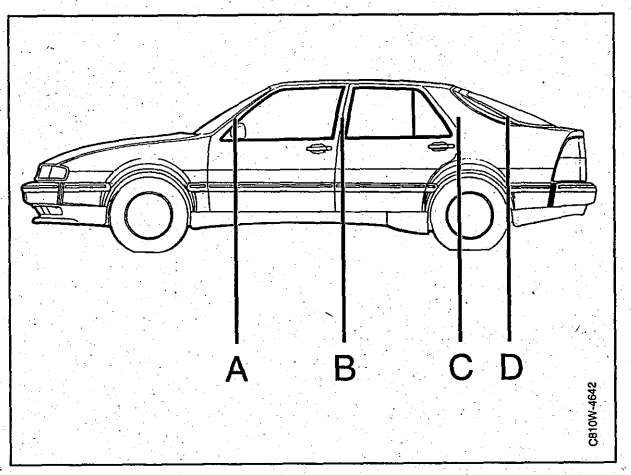
Body shell

Checking the body dimensions

When body parts are being replaced and in all body aligning work, it is vital that the fixing points for the power train subframe and chassis components are correctly positioned and that the door openings and other apertures are true and not distorted. We recommend that all major repair work be carried out with the body mounted on an aligning bench to ensure that it does not become distorted or lose its symmetry in any way during repair work. Major repair work refers to realignment of deformation in the body's system of steel members. Diagonal measurements should also be made to ensure that no misalignment, distortion or loss of symmetry remains after the body has been realigned.

Pillar identification

The body pillars are denoted by letters as follows:
A pillar = windscreen pilar
B pillar = side pillar between doors
C pillar = pillar between rear-door opening and rear quarter light
D pillar = pillar between rear quarter light and tailgate aperture



Measuring procedure and data

The directions in which the measurements are made are given in the column headed "Direction" in the table, with reference to the coordinate system.

X coordinate = datum line for longitudinal measurements

Y coordinate = datum line for transverse measurements (from left to right)

Z coordinate = datum line for vertical measurements

The figure following the coordinate in the column denotes the tolerance, as follows:

1 = design dimension in coordinate system
2 = actual measurement, generally a direct diagonal measurement
3 = tolerance for best fit

Each coordinate originates from a datum. Since datum line X0 cannot be used in practice, it is not shown.

Datum line Y0. This is the centre line of the body, dividing it into left and right halves. Transverse measurements are specified between two measuring points. To measure the dimension on one side only, mark out the Y0 line between the holes as shown on the drawing and then halve the dimension and tolerance.

Datum line Z0. The line runs along the fold in the body between the floor pan and side panel. Measurements to be made below the Z0 line have a negative value (i.e. the measurement is prefixed by a minus sign).

Other symbols

* = An asterisk (*) before an item indicates that the dimension is measured from the centre of the hole.

Item No.	Fig. No.	Dimension, mm	Measuring points	Direction
1	1	4230.0 ± 3	Overall length. *Bumper hole in front cross-member - rear edge of bumper abutment surface	X.1
2	1,2	1878.15 ± 1	*0 point - *rear hole for subframe mounting	X.1
3	1,2	750.0 ± 1	*Subframe mountings (rear hole in front mounting)	X.1
4	1,2	321.0 ± 2	*Rear hole for subframe mounting - *bumper hole in front cross-member	X.1
5	1,4	898.0 ± 1	*Datum point - *front hole for torque arm	X.1
6	1,4	383.0 ± 2	*Front hole for torque arm - rear edge of bumper abutment surface	X.1
7	2	1323.0 ± 1	Front cross-member, *distance between outer holes	Y.1
8	2	1050.0 ± 2	Subframe mountings, *distance between LH and RH sides	Y.1
9	2	1071.5 ± 2	*Rear hole for subframe front mounting - *outer hole for rear subframe mounting	Diag. 1
10	2	895.0 ± 0.6	*Distance between outer holes in subframe mountings	Y.1
11	2,3	752.0 ± 1	*Distance between datum holes	Y.1
12	1,5	1388.0 ± 3	Distance between *front bolt holes in wing flanges	Y.2
13	1	1172.0 ± 1	Distance between MacPherson struts, datum holes on LH and RH sides	Y.1
14	1	617.0 ± 1	Z0 - *oval hole for MacPherson strut mounting	Z.1
15	1	24.5 ± 1	Z0 - abutment surface for front subframe mounting	Z.1
16	1,3	8.5 ± 1	Z0 - abutment surface for rear subframe mounting	Z.1
17	1,2	282.5 ± 1	*Subframe mounting - *MacPherson strut mounting	X.1
18	2	168.0 ± 1	*Datum hole - *Subframe mounting	X.1
19	1,2	2827.0 ± 2	*Rear hole for front subframe mounting - *front hole for spring link	Diag. 2
20	1,4	1032.5 ± 1	*Distance between front holes for LH and RH spring links	Y.1
21	4,6	1173.0 ± 1	*Distance between front holes for LH and RH torque arms	Y.1
22	4	1427.5 ± 1	Distance between *front hole for spring link - *front hole for torque arm	Diag. 2
23	4	949.5 ± 1	*LH hole in cross-member for Panhard rod - *front hole in RH spring link	Diag. 2
24	4	947.5 ± 1	*RH hole in cross-member for Panhard rod - *front hole in LH spring link	Diag. 2
25	1,7	1113.0 ± 1	*Distance between LH and RH bumper mountings	Y.1
26	1,7	1450.0 ± 2	Distance between sill flanges	Y.1
27	7	1295.0 ± 1	*Distance between anchorage points for LH and RH seat belts	Y.1
28	8	198.5 ± 1	Z0 - *lower hole for bumper mounting	Z.1

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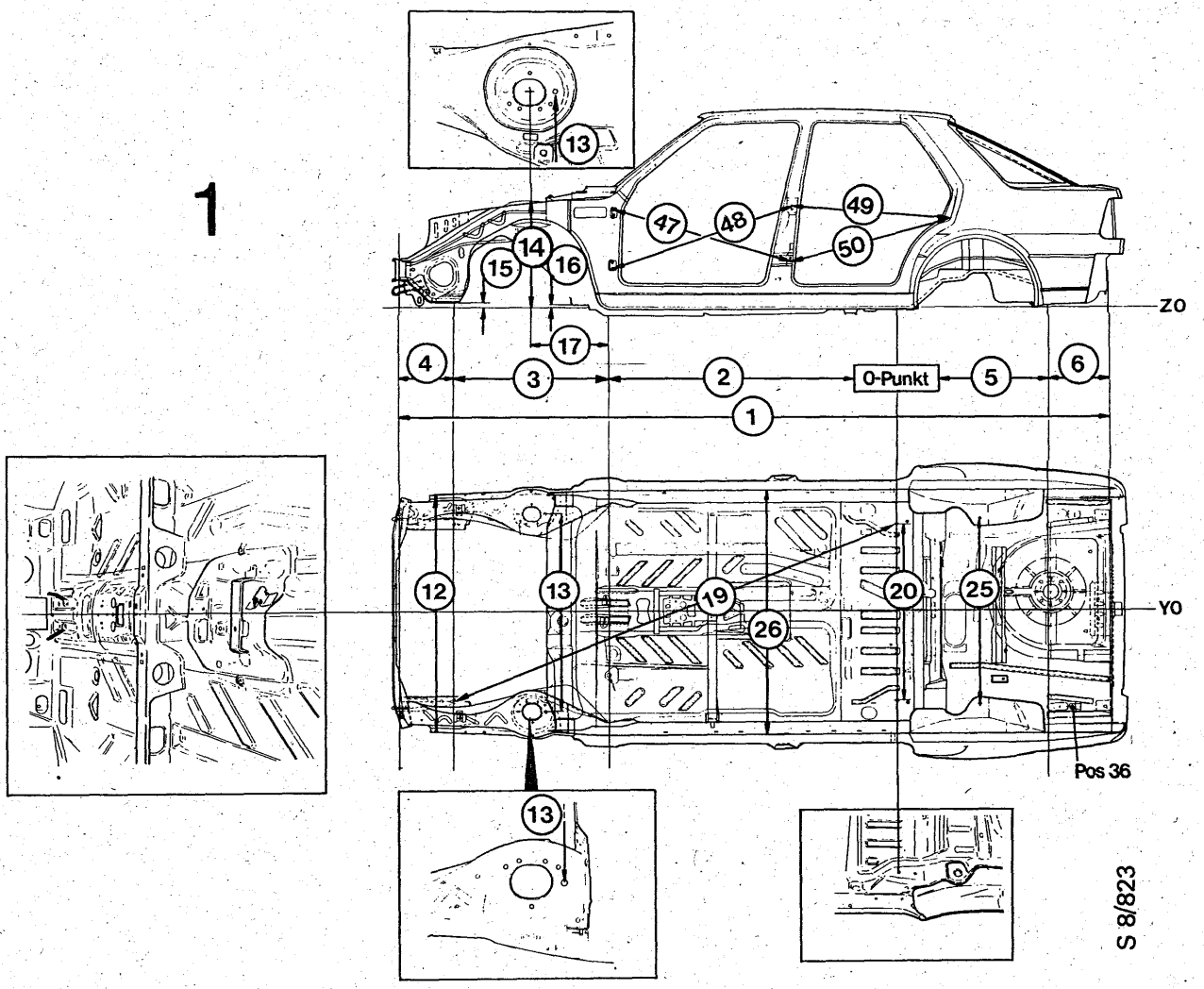
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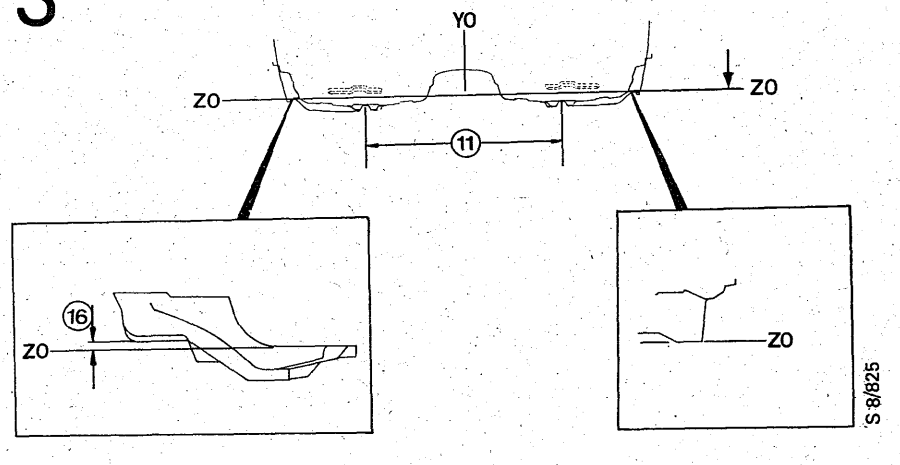
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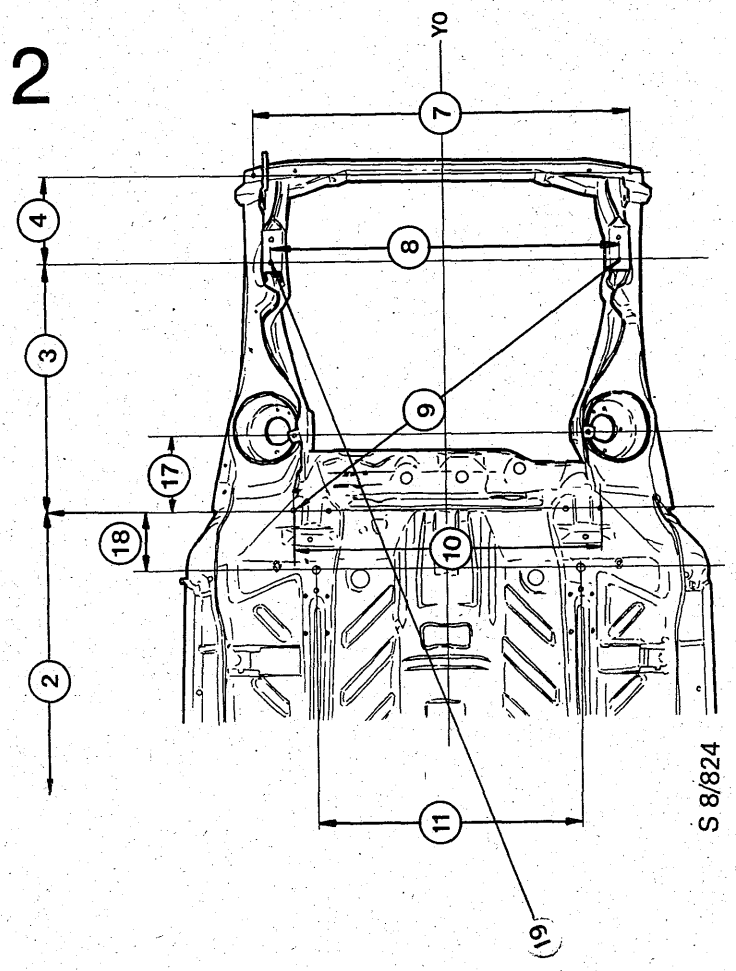
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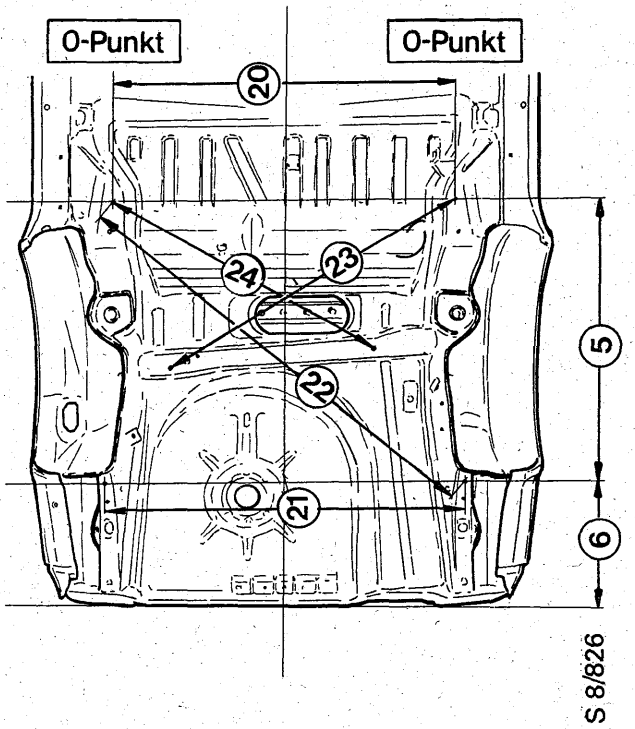
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Item No.	Fig. No.	Dimension, mm	Measuring points	Direc-tion
29	8	1141.0 ± 1	*Distance between bumper mountings	Y.1
30	8	1481.0 ± 1	*Distance between outer, lower screw holes for rear light clusters	Y.1
31	8	441.0 ± 1	Z0 - *lower screw hole for rear light cluster	Z.1
32	8	1488.0 ± 1	Distance between LH and RH side panels at bumper mounting points	Y.1
33	8	155.0 ± 1	Z0 - side panel at *mounting point for bumper	Z.1
34	8	344.0 ± 2	Corner-to-corner distance in tailgate aperture	Y.3
35	8	1331.0 ± 1	Y0 *datum hole -*upper mounting hole for hinge	Diag. 2
36	8	885.0 ± 3	Y0 datum hole - rear top corner	Diag. 2
37	8	209.0 ± 1	*Upper mounting hole for hinge - *clevis pin hole for tailgate strut	Diag. 2
38	6	489.0 ± 1	Z0 - *hole in wheel housing for damper mounting	Z.1
39	6	18.0 ± 1	Z0 - *front hole for spring link mounting	Z.1
40	6	178.6 ± 1	Z0 - datum hole in side member	Z.1
41	7	1335.5 ± 1	Distance between *top attachment points for seat-belt guides	Y.1
42	7	1327.5 ± 1	Distance between LH and RH upper mountings for backrest	Y.1
43	7	1571.0 ± 2	*Distance between LH and RH striker pins for rear doors	Y.1
44	7	1093.0 ± 2	*Distance between LH and RH upper hinge mounting holes	Y.1
45	6	1626.2 ± 2	Floor pan - *upper hole in B pillar	Diag. 2
46	6	1058.0 ± 1	Floor pan - *upper hole in B pillar	Z.1
47	1	1098.0 ± 3	Front door aperture: *upper screw hole for upper hinge mounting - *lower screw hole for lower hinge mounting in B pillar	Diag. 3
48	1	1135.0 ± 3	Front door aperture: *lower screw hole for lower hinge mounting - *upper screw hole for upper hinge mounting in B pillar	Diag. 3
49	1	964.0 ± 3	*Upper screw hole for upper hinge mounting in B pillar - *striker pin	Diag. 3
50	1	1015.5 ± 3	*Lower screw hole for lower hinge mounting in B pillar - *striker pin	Diag. 3
51	5	1574.0 ± 2	*Distance between B pillars at striker pins	Y.1
52	5	1171.0 ± 1	*Distance between B pillars at upper datum holes	Y.1
53	5	819.5 ± 1	Y0, vertical distance in windscreen aperture from *wiper spindle hole	Z.1
54	5	1431.0 ± 4	Maximum distance between diagonally opposite top and bottom corners	Diag. 3
55	5	1100.0 ± 1	Distance between *wiper spindle holes	Y.1
56	5	626.0 ± 1	*Distance between middle wiper spindle hole - datum hole at MacPherson strut mounting	Diag. 2
57	5	1150.0 ± 3	*Distance between middle wiper spindle hole - *front bolt hole in wing flange	Diag. 2
58	5	1730.0 ± 3	*Distance between front bolt hole in wing flange - *rear screw hole for bonnet hinge	Diag. 2

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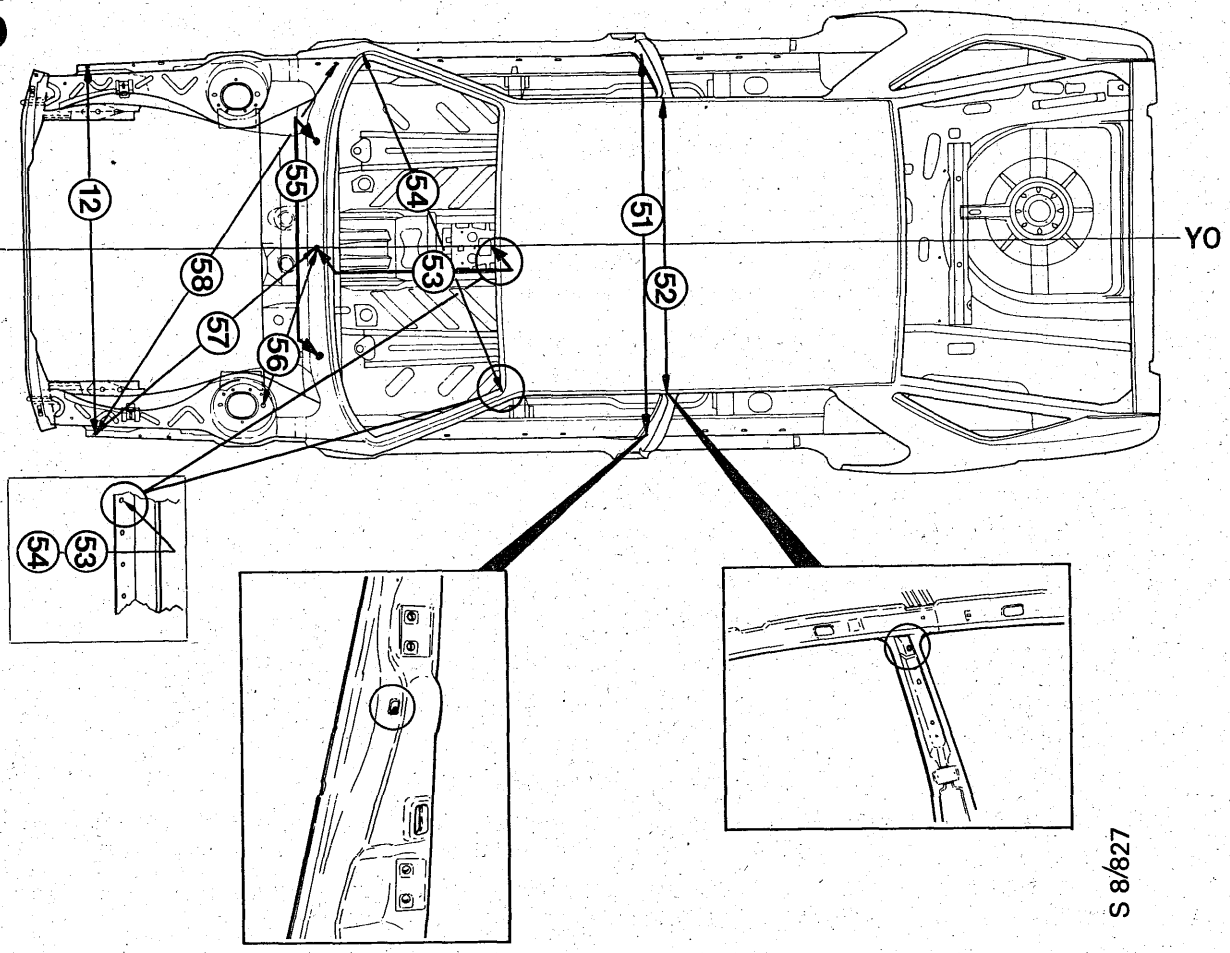

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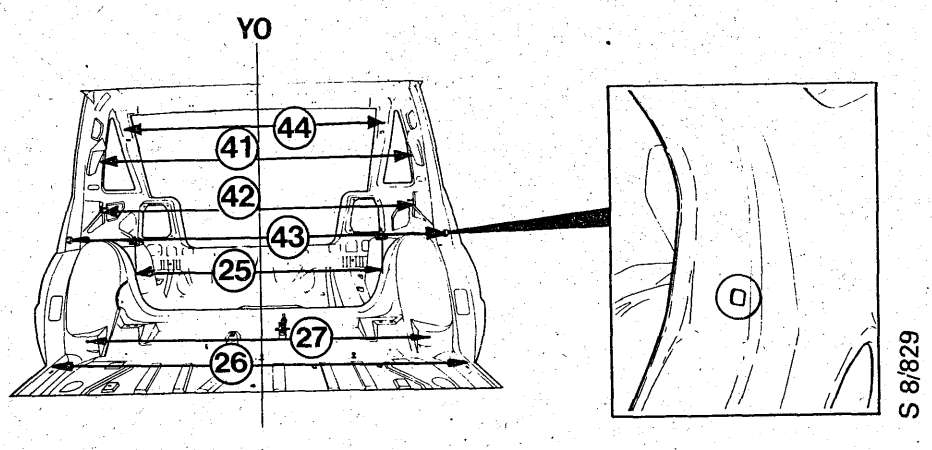

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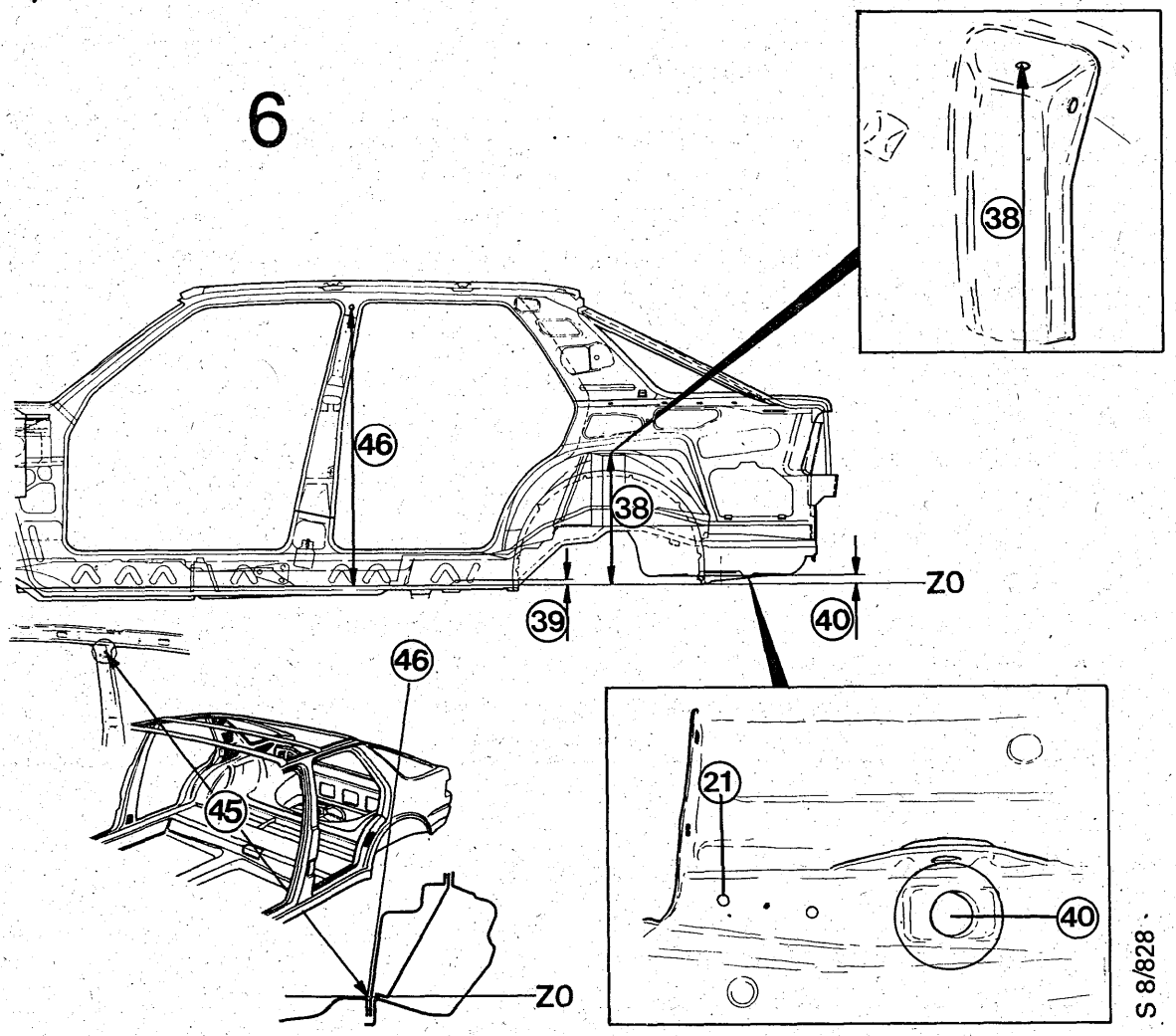
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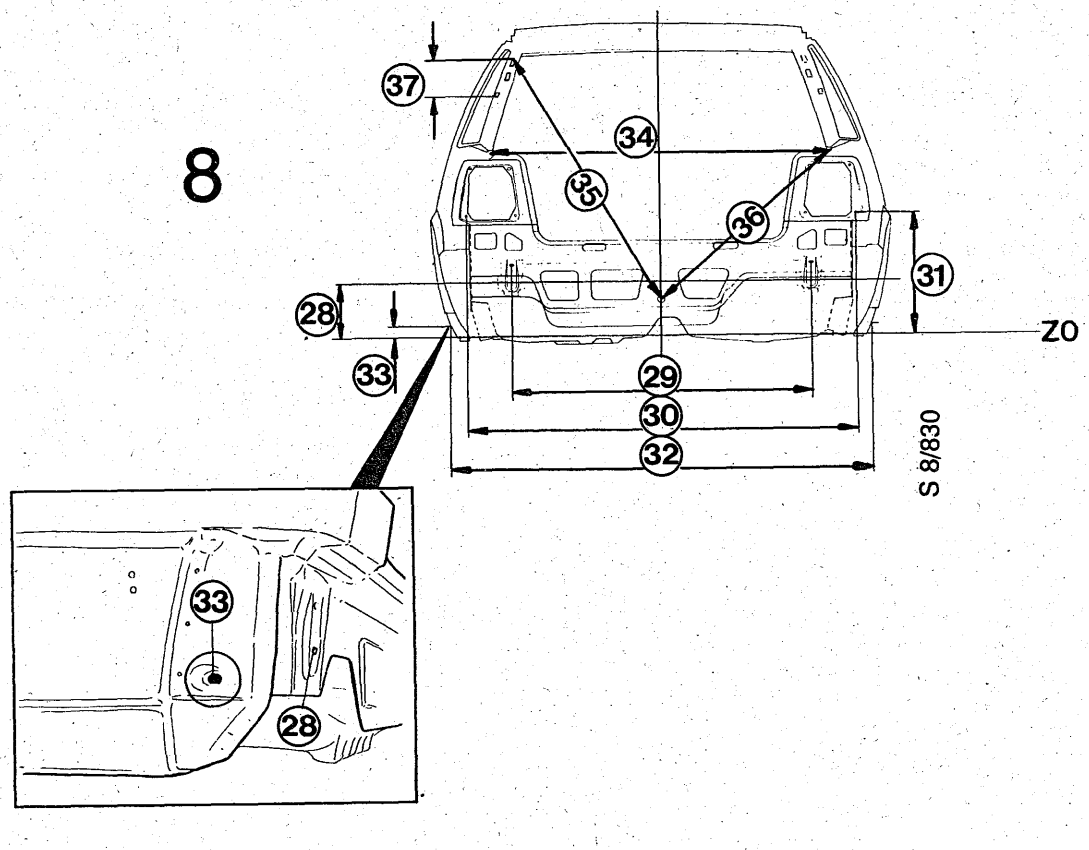
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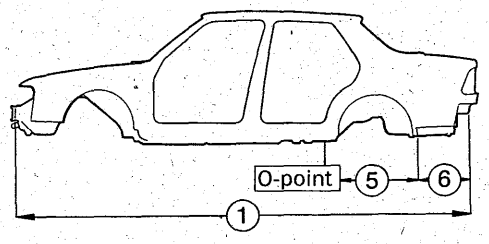
Additional body dimensions and data, Saab 9000 CD

Item No.	Fig. No.	Dimension, mm	Measuring points	Direction
1	9	4385.0 ± 3	Overall length: *bumper hole in front cross-member Bumper hole in bumper abutment surface	X.1 X.1
5	9	898.0 ± 1	*0-point - *front hole for torque arm	X.1
6	9	494.0 ± 2	*Front hole for torque arm - rear edge of bumper abutment surface	X.1
28	10	198.5 ± 1	Z0 - *lower hole for bumper mounting	Z.1
29	10	1142.0 ± 1	*Distance between bumper mountings	Y.1
31	10	459.0 ± 1	Z0 - *lower screw hole for rear light cluster	Z.1
33	10	155.0 ± 1	Z0 - side panel at *mounting point for bumper	Z.1
34	10	1293 ± 2	Distance between rear upper corners in aperture	Y.3
41	11	1326.0 ± 1	*Distance between mounting points for seat-belt reels	Y.1
42	11	1368.0 ± 1	Distance between LH and RH upper mountings for backrest	Y.1
59	12	667.0 ± 1	Y0 - vertical distance in rear window aperture	Z.1
60	13	1017.5 ± 2	Y0 - *datum hole - hinge pin mounting (centre)	Diag. 3
61	12	1445.0 ± 1	Distance between front and rear corners	Diag. 2
61	13	1347 ± 1	Minimum distance in window aperture between upper side panel corner - lower side panel corner	Diag. 3

Additional body dimensions and data, Saab 9000 CS

Item No.	Fig. No.	Dimension, mm	Measuring points	Direction
1	14	1152 ± 2	*Datum hole, torsional rigidity member - *hole for hinge mounting, inside of roof member	Diag. 2
2	16	1625 ± 2	Top rear corner of rear wing - upper corner at joint between side panel and roof	Diag. 2
3	15	690 ± 1	*Lower inside datum hole in mounting frame - *Y0 datum hole in rear bumper abutment	Diag. 2
4	16	1141 ± 2	Top rear corner of rear wing - *hole for hinge mounting, outside of roof member	Y.3
5	15	1407 ± 2	Distance Y0 at top of datum hole in rear bumper abutment - *hole for hinge mounting, inside of roof member	Y.3



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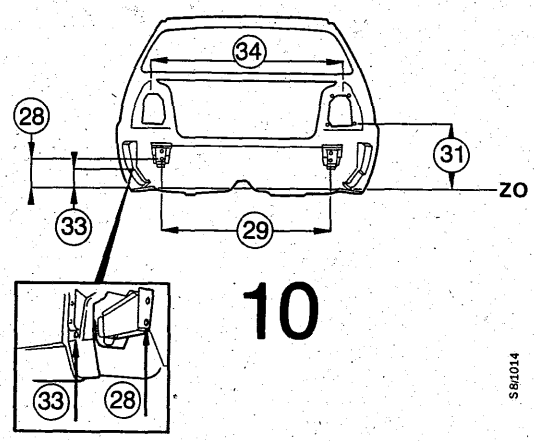

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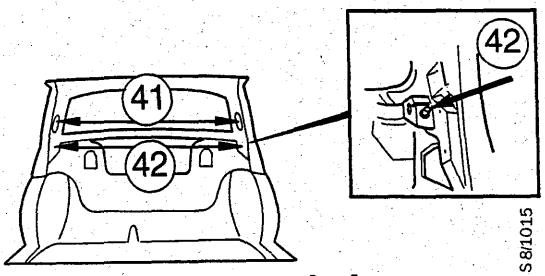

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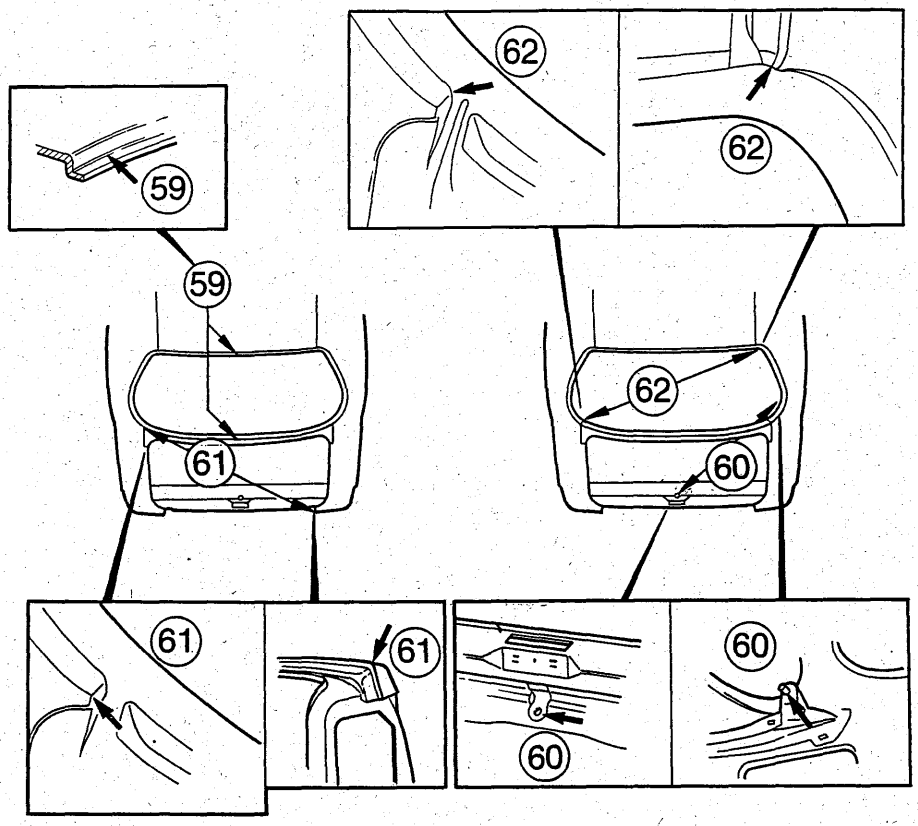

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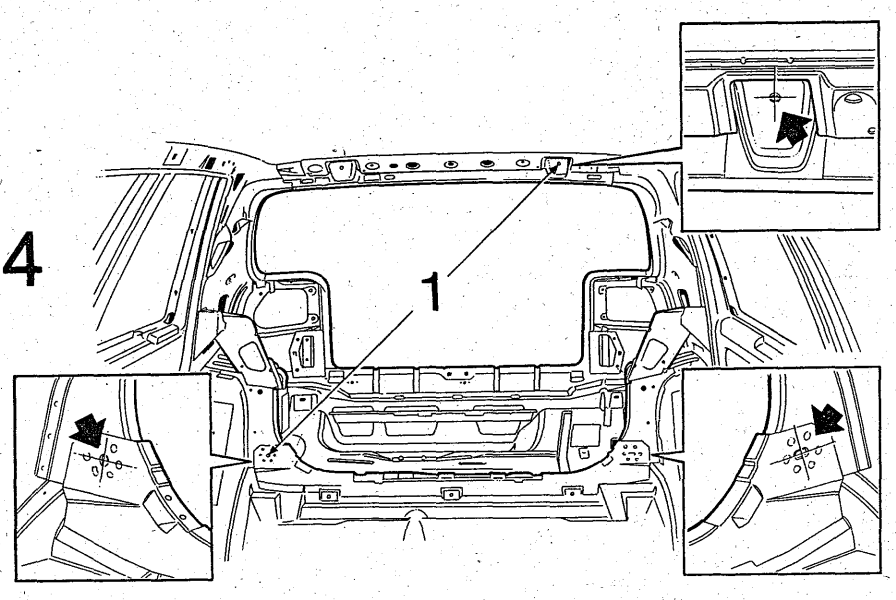

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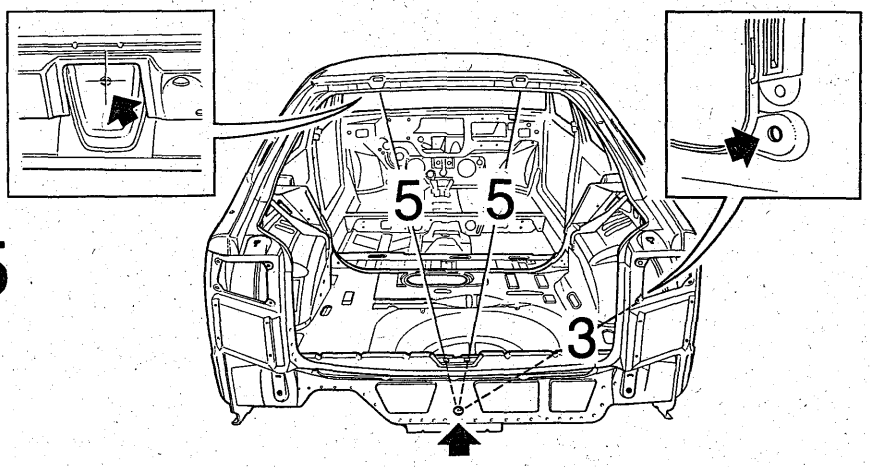

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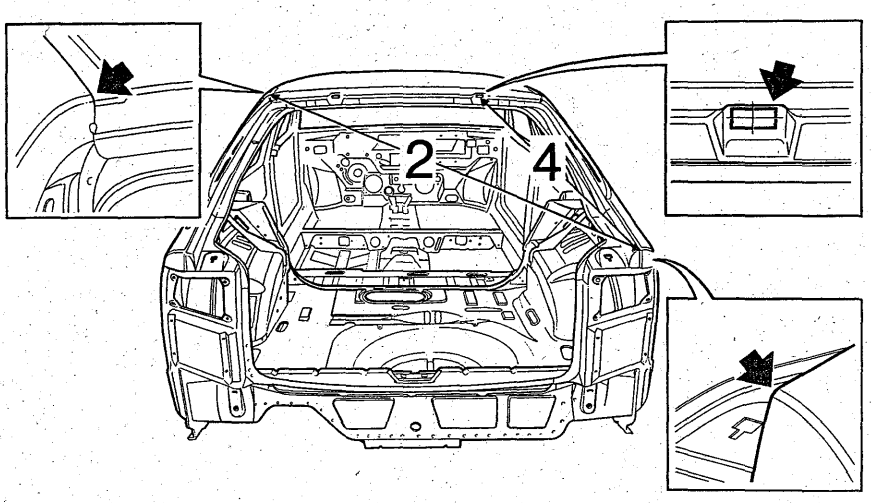
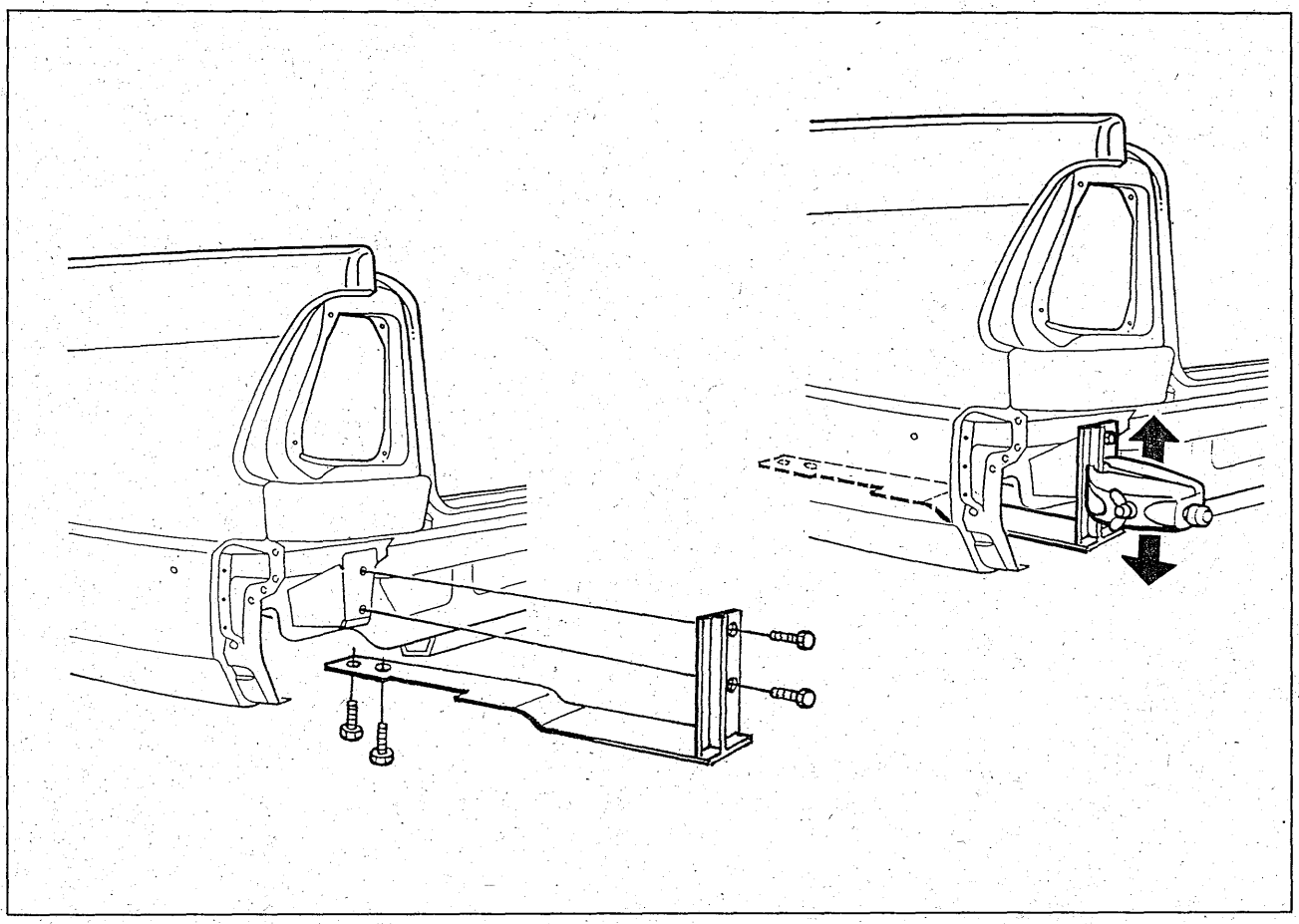




Puller alignment tool

A special puller alignment tool is available to facilitate straightening the bodywork after a rear-end collision. There are two versions of this tool, one for the Saab 9000 CS and one for the Saab 9000 CD. The tool should be fitted as shown in the illustration.

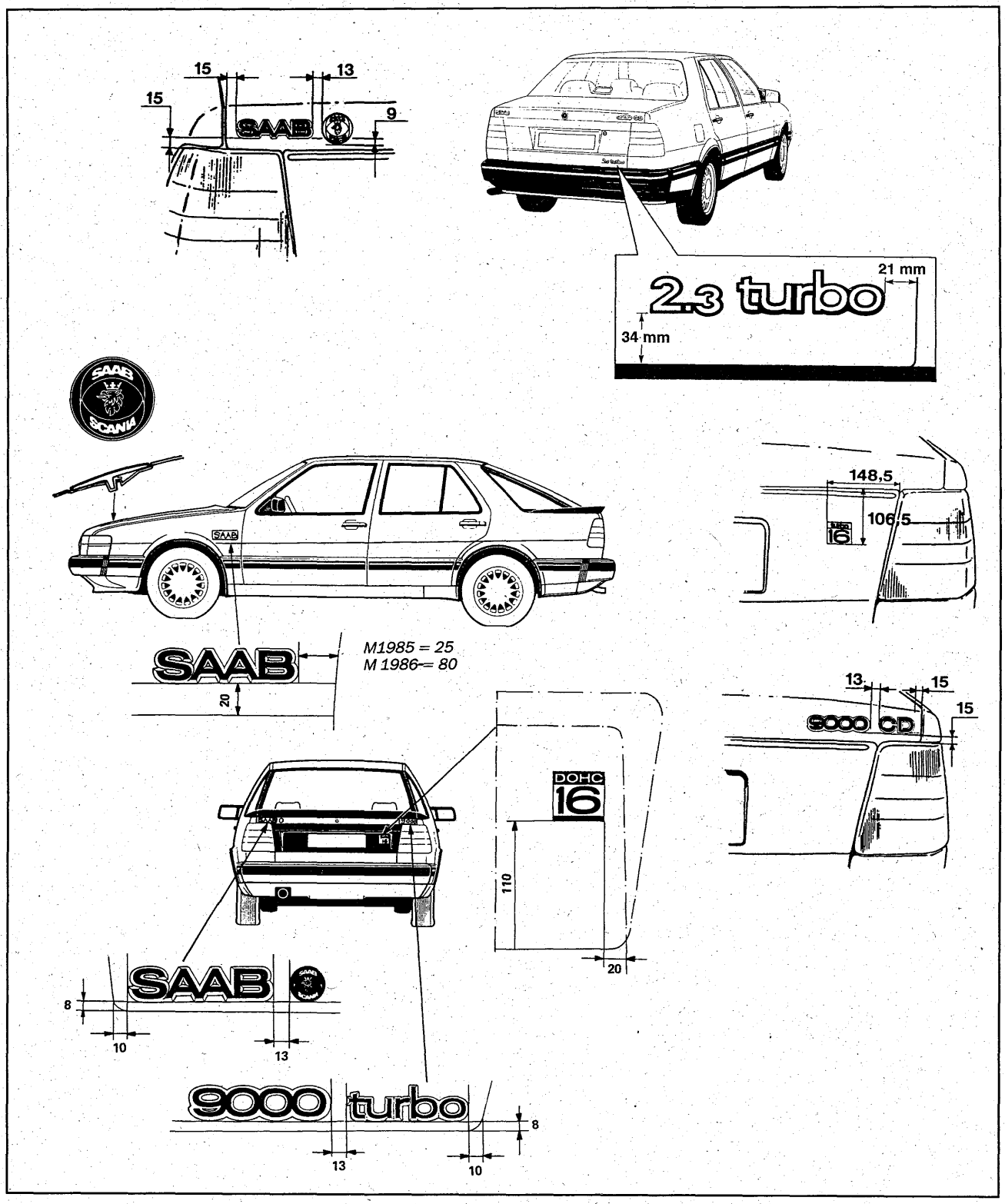
Part number

Saab 9000 CS and CC

82 92 864 — right-hand side
82 92 872 — left-hand side

Saab 9000 CD

82 92 880 — right-hand side
82 92 898 — left-hand side

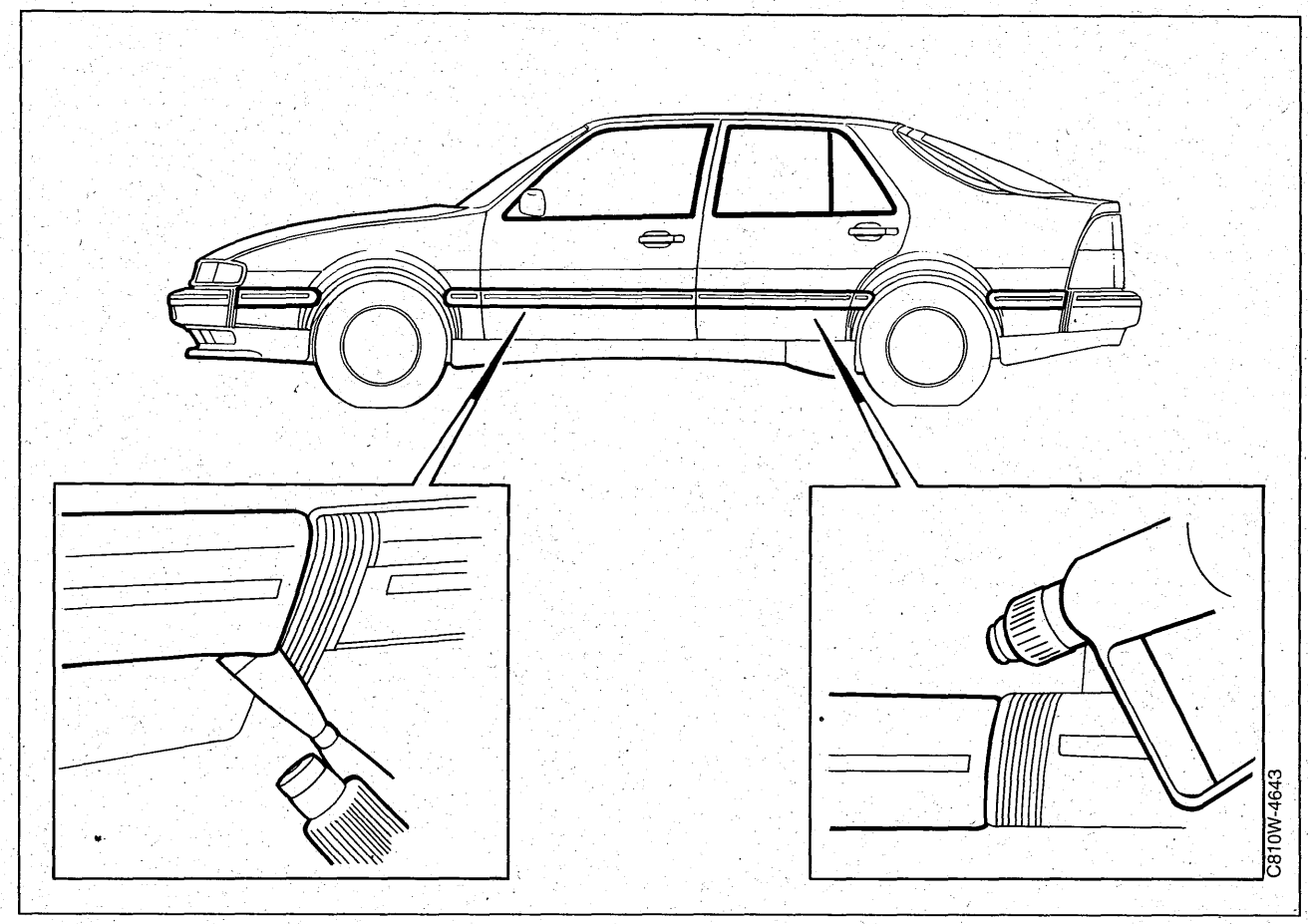


Emblem mounting positions, dimensions in mm

Mouldings and emblems

Bonnet emblems and mouldings along the side of the car are fitted with studs which are pressed into plastic fasteners in the body. The bottom edges and ends of mouldings are also held in position by adhesive tape. All other emblems are secured by means of adhesive tape only.

To ensure that the tape sticks firmly, the paintwork must first be thoroughly cleaned with benzine.



Trim mouldings

To remove

1 Remove the moulding as follows.

Important

Stick adhesive tape on the putty knife to avoid damaging the paintwork.

- Use a hot-air gun to heat the bottom of the moulding while sliding a putty knife along it to unstick the adhesive tape securing it to the body.

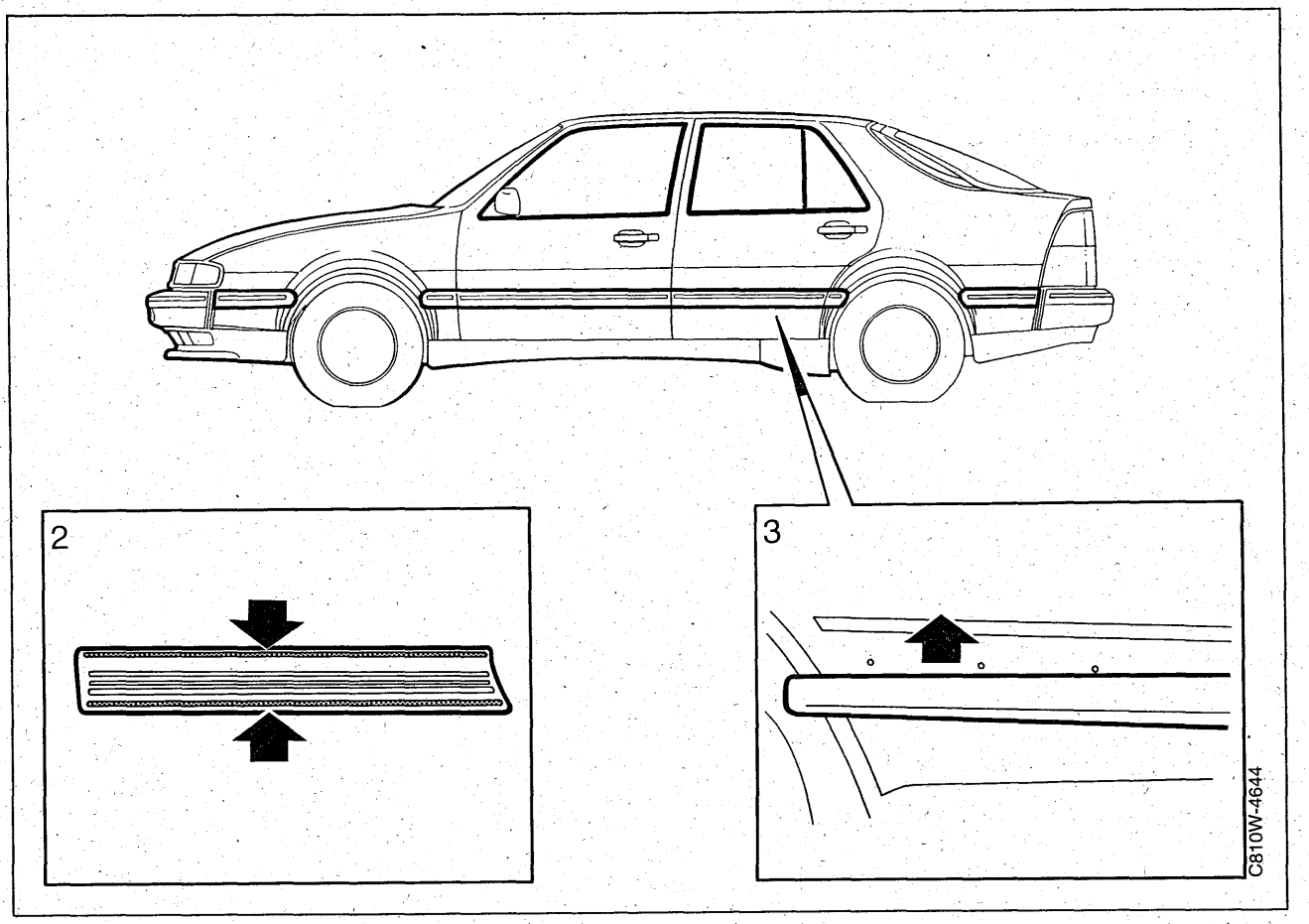
Important

Do not use so much heat as to damage the paintwork or moulding.

- Release the clips by means of a putty knife.
- Use a hot-air gun to heat the top of the moulding and remove same.

Important

Do not pull the moulding away as this could cause the finish paint or clear enamel to flake off.



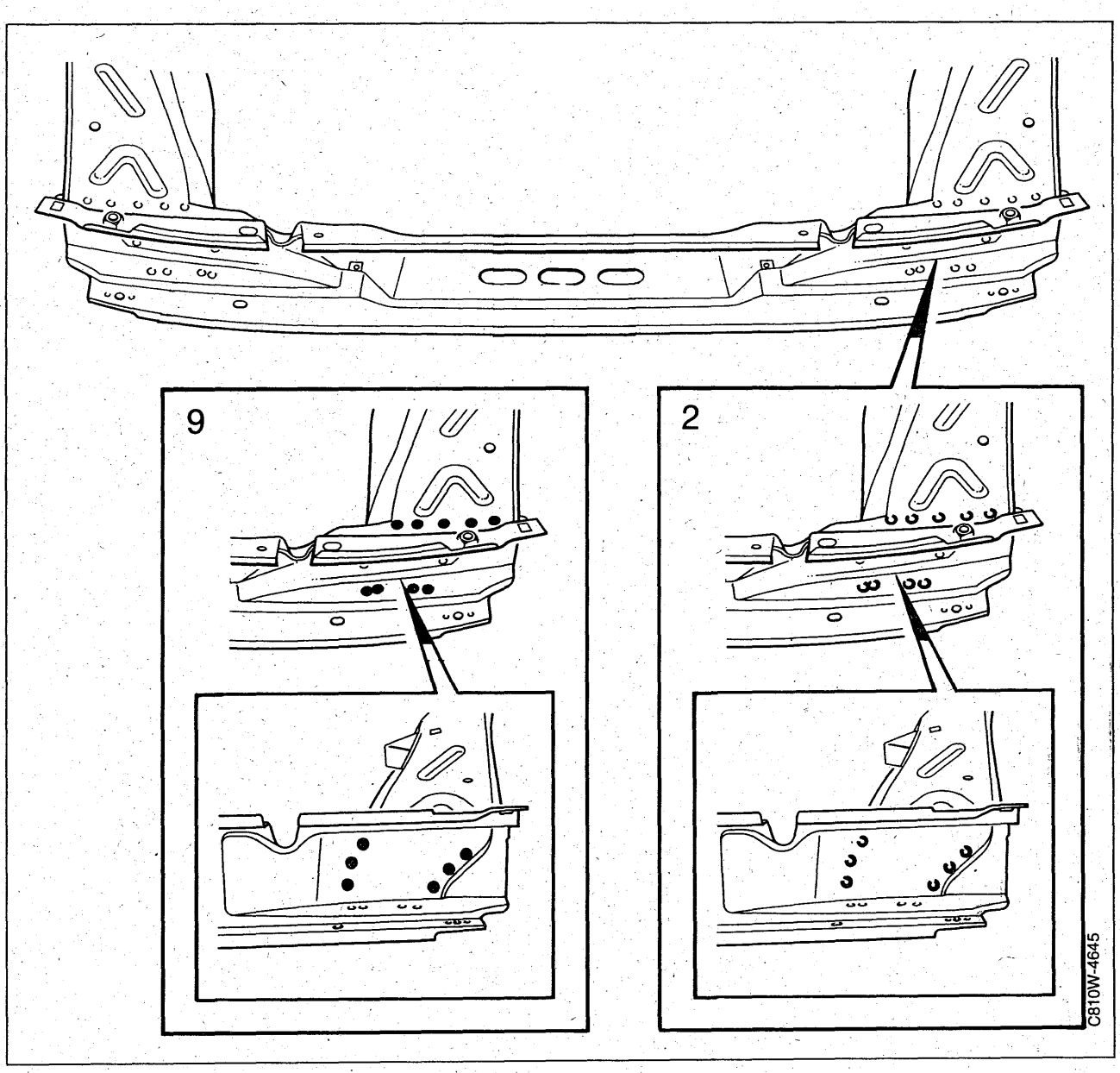
To fit

1 Use benzine to clean the moulding, removing all traces of dirt and adhesive. Replace any damaged clips if the moulding is to be refitted.

2 Stick double-sided adhesive tape to the cleaned moulding.

Double-sided adhesive tape: see spare parts catalogue. Use benzine to remove all traces of dirt and adhesive on the car. Replace any damaged fasteners for the clips.

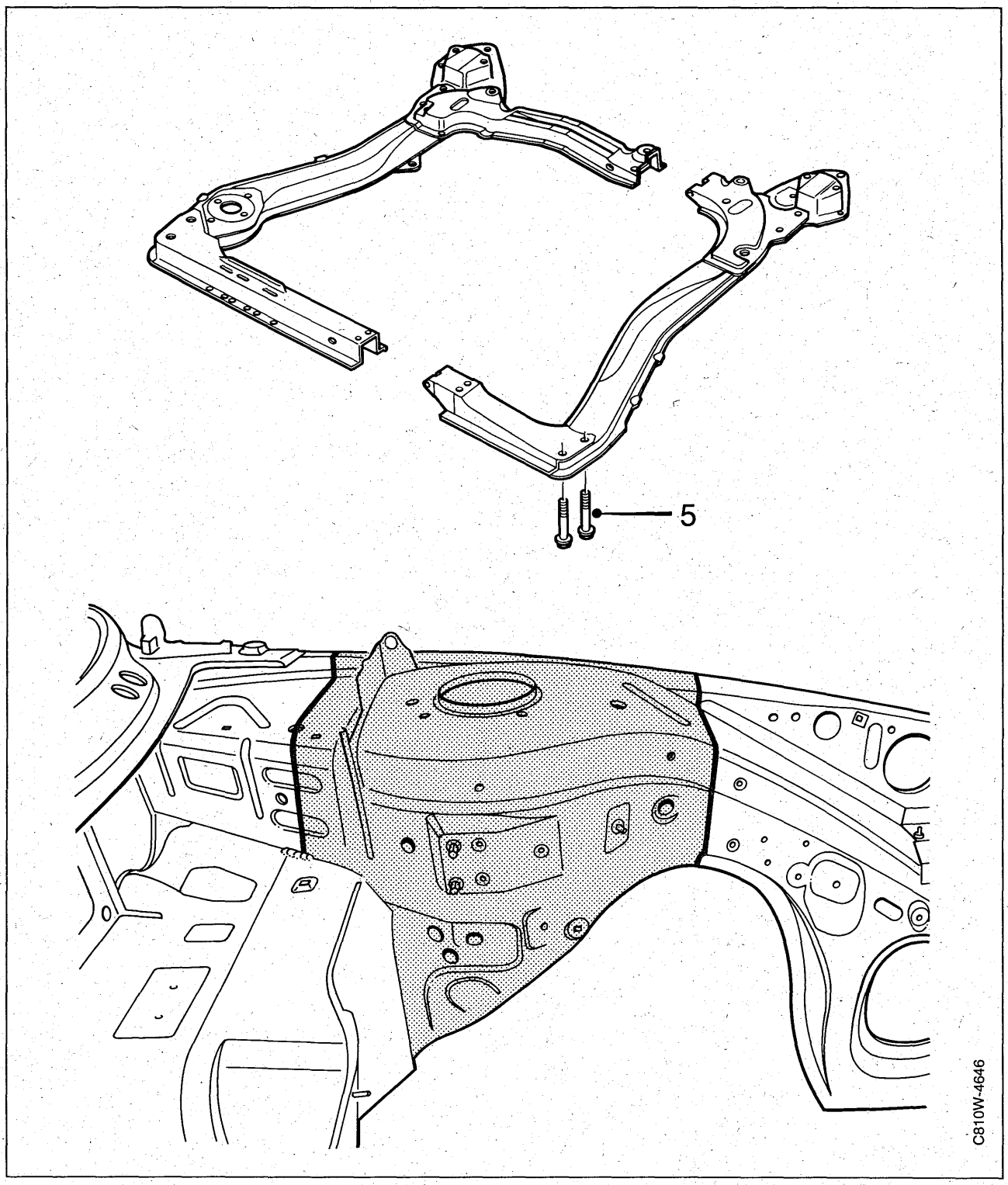
3 Insert the moulding clips in the plastic fasteners and align the moulding. Press the moulding firmly against the car body.



Front cross-member

The radiator member must be removed in order to fit a replacement front cross-member.

1 Mount the car on an aligning bench.
2 Drill out the spot welds and lift out the front cross-member.
3 Realign any deformed metalwork.
4 Use a grinder to clean the areas on the spare part and wheel housings which are to be welded.
5 Apply welding primer to the surfaces of the spare part and bodywork that are to be spot welded. Use Teroson Zinkspray.
6 Fit the new front cross-member and fix it in position by means of two welding clamps.
7 Align the front cross-member and fix it with a couple of spot welds.
8 Fit wings and bumper in position to check the alignment of the front cross-member.
9 Spot weld the front cross-member.
10 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.
11 Apply primer to all surfaces which have been ground clean. Use Standox 1K Füllprimer.
12 Use Terostat 1K-PUR to seal joints and metal folds.
13 Apply underseal to the underside of the front cross-member. Use Terostat 9320.



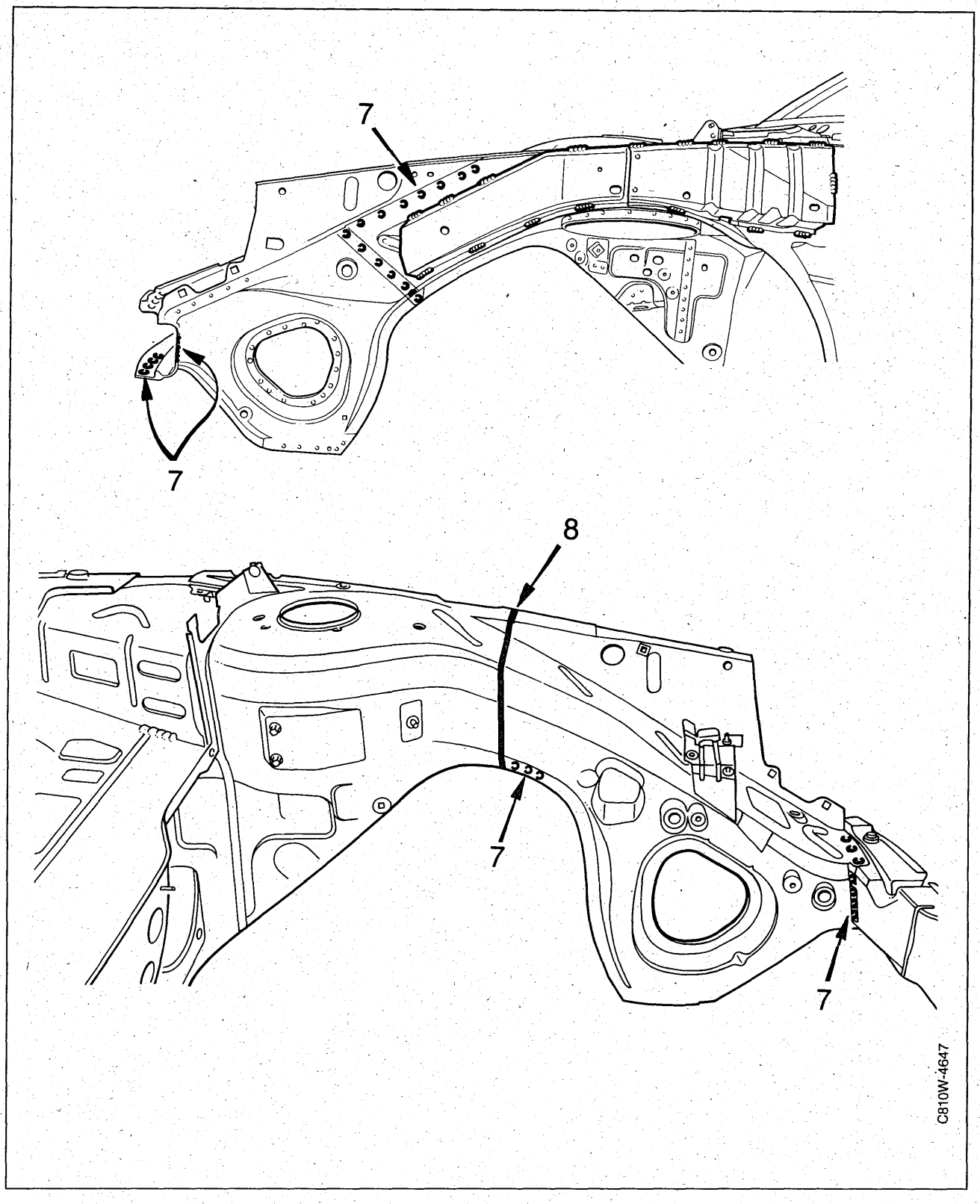
Part of front wheel housing

When working on model year 1991 and earlier cars, first consult pages 810- 21, 810- 22 and 810- 23 in this section.

1 Mount the car on an aligning bench.
2 Remove the front wing.
3 Remove the radiator member.
4 Realign to the correct measurements, if necessary.
5 Undo both bolts securing the wheel housing to the front of the subframe. Expose the wheel housing.
6 Make a mark where the wheel housing is to be cut.

Important

The wheel housing must **not** be cut and welded within the area shown.



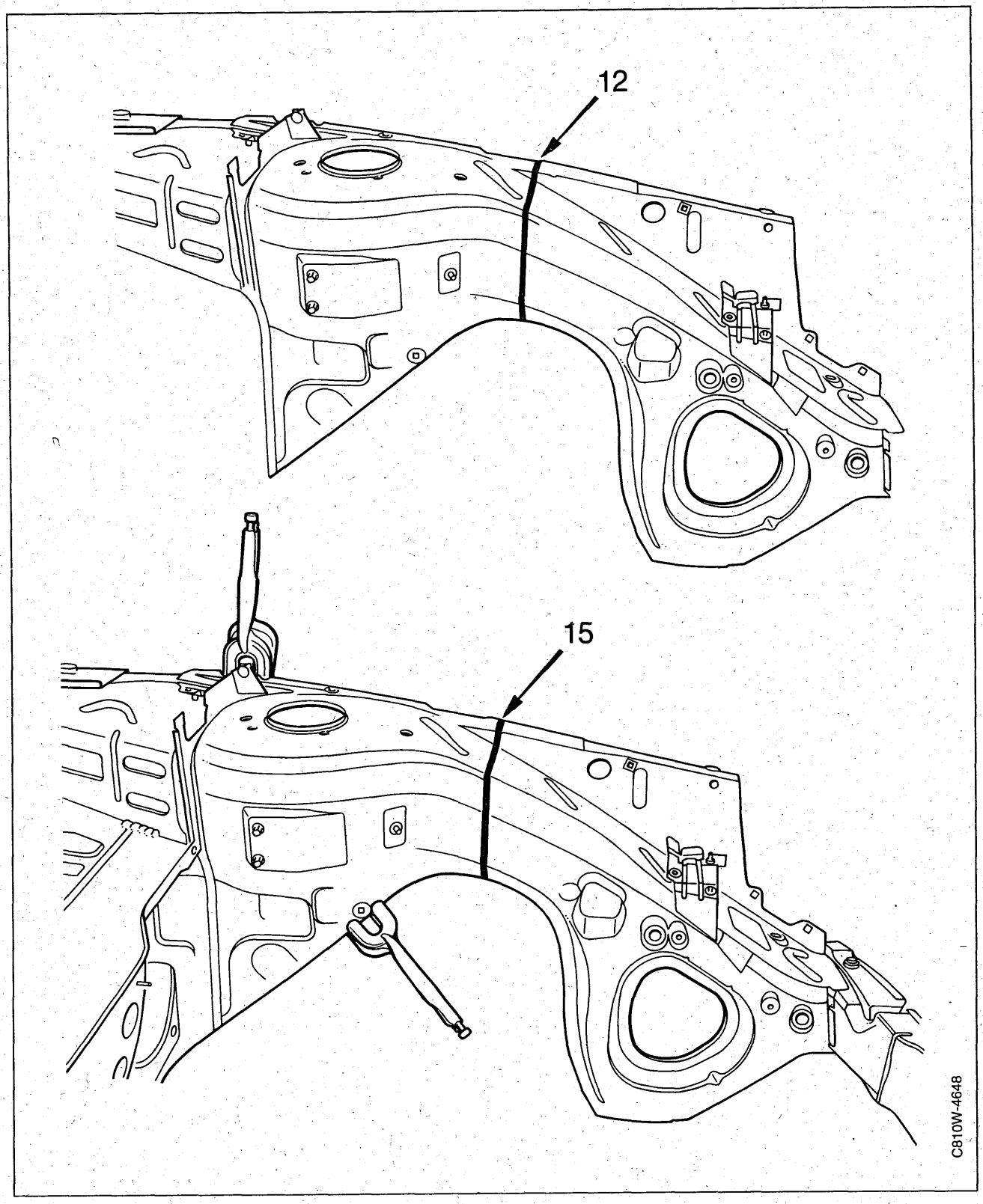
7 Drill out the welds in that part of the wheel housing that is to be replaced.

8 Cut where marked.

9 Knock loose the front part of the wheel housing.

10 Realign any deformed metalwork.

11 Use a grinder to clean the edges of the wheel housing and front cross-member.



12 Cut the spare part roughly to size so that it will overlap the joint location by 30 mm.

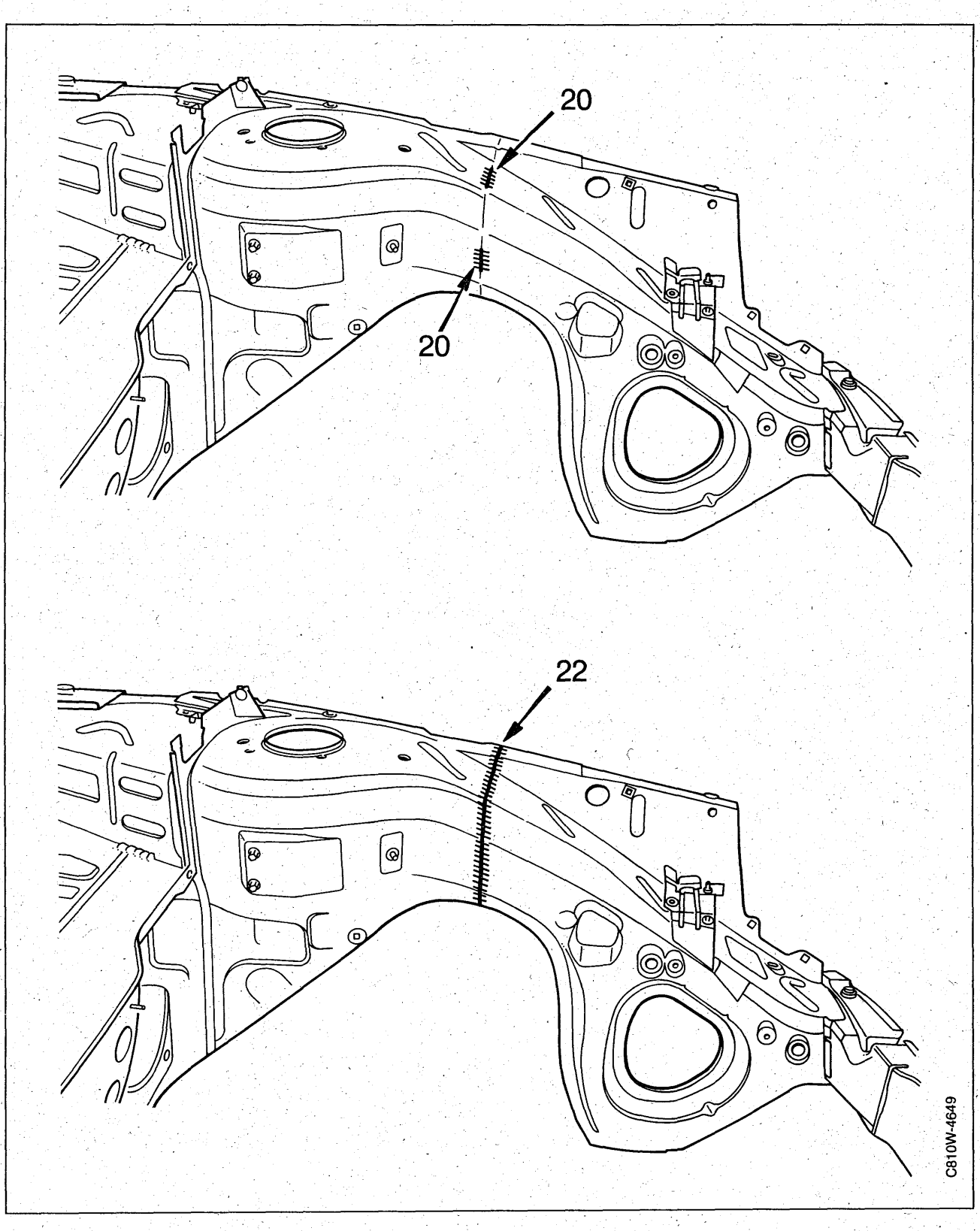
13 Position the spare part on the wheel housing and front cross-member and fix it with a couple of welding clamps.

14 Fit and tighten the two bolts securing the wheel housing to the subframe.

15 Cut through the spare part and wheel housing simultaneously to obtain an edge-to-edge fit.

16 Remove the spare part and grind the primer off the edges that are to be welded.

17 Apply welding primer to the surfaces that are to be spot welded or, in certain cases, plug welded. Use Teroson Zinkspray.



18 Position the spare part and fix it with a couple of welding clamps.

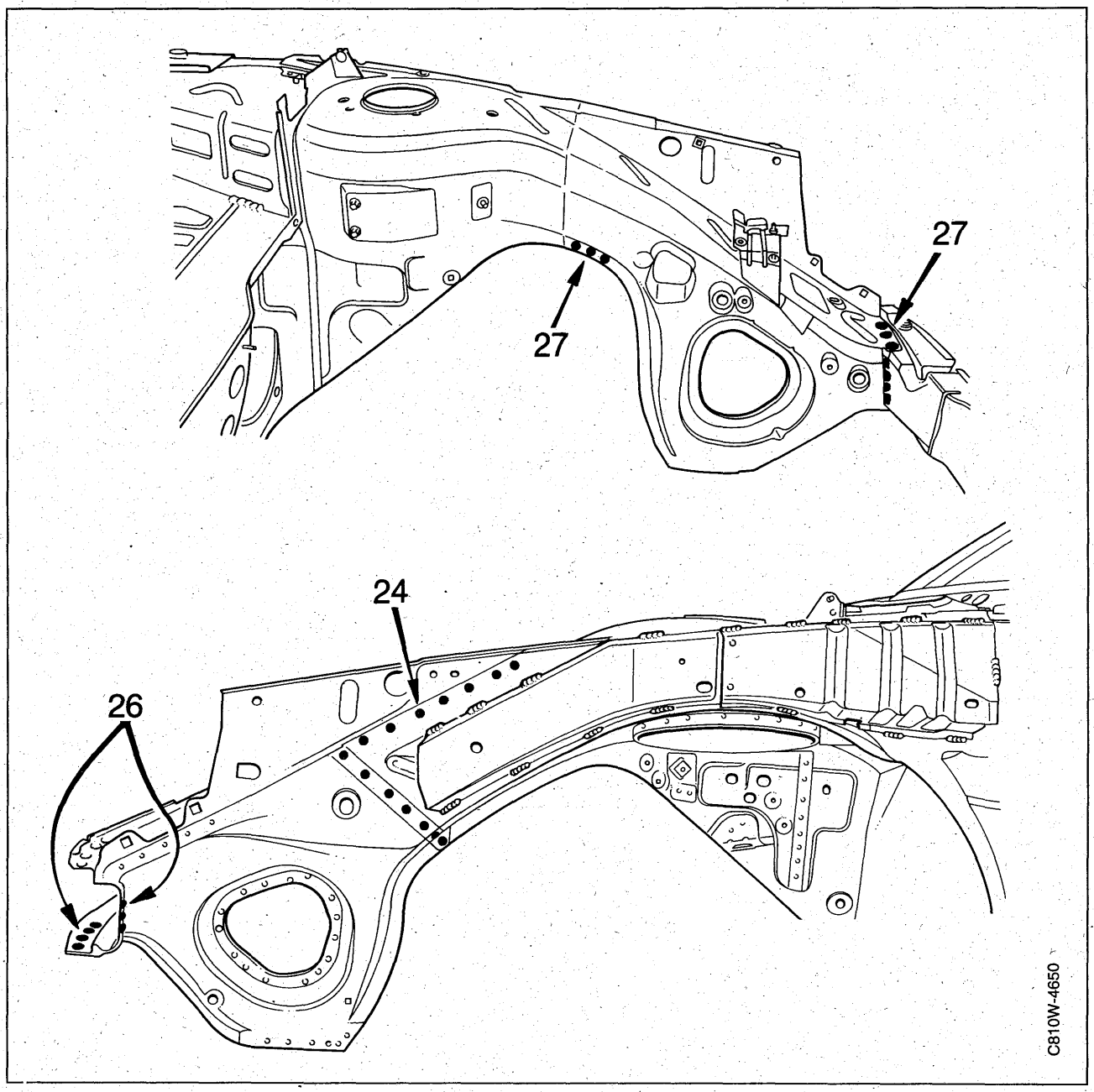
19 Fit and tighten the two bolts securing the wheel housing to the subframe.

20 Fix the spare part to the wheel housing with a couple of tack welds.

21 Fit the front wing and bonnet in place. Check the fit and clearance. Check the measurements of the wheel housing and its position. Adjust as necessary.

22 Remove the front wing and bonnet. Weld the spare part and the wheel housing together.

23 Go over the welded joint with a grinder.



24 Plug weld the spare part to the outer part of the wheel housing.

25 Go over the welds with a grinder.

26 Spot weld the spare part to the front cross-member. First weld six spots as shown so that the spare part is fixed to the front cross-member before continuing with the remaining spot welding work.

27 Spot weld the rest of the spare part.

28 Go over the welds with a grinder.

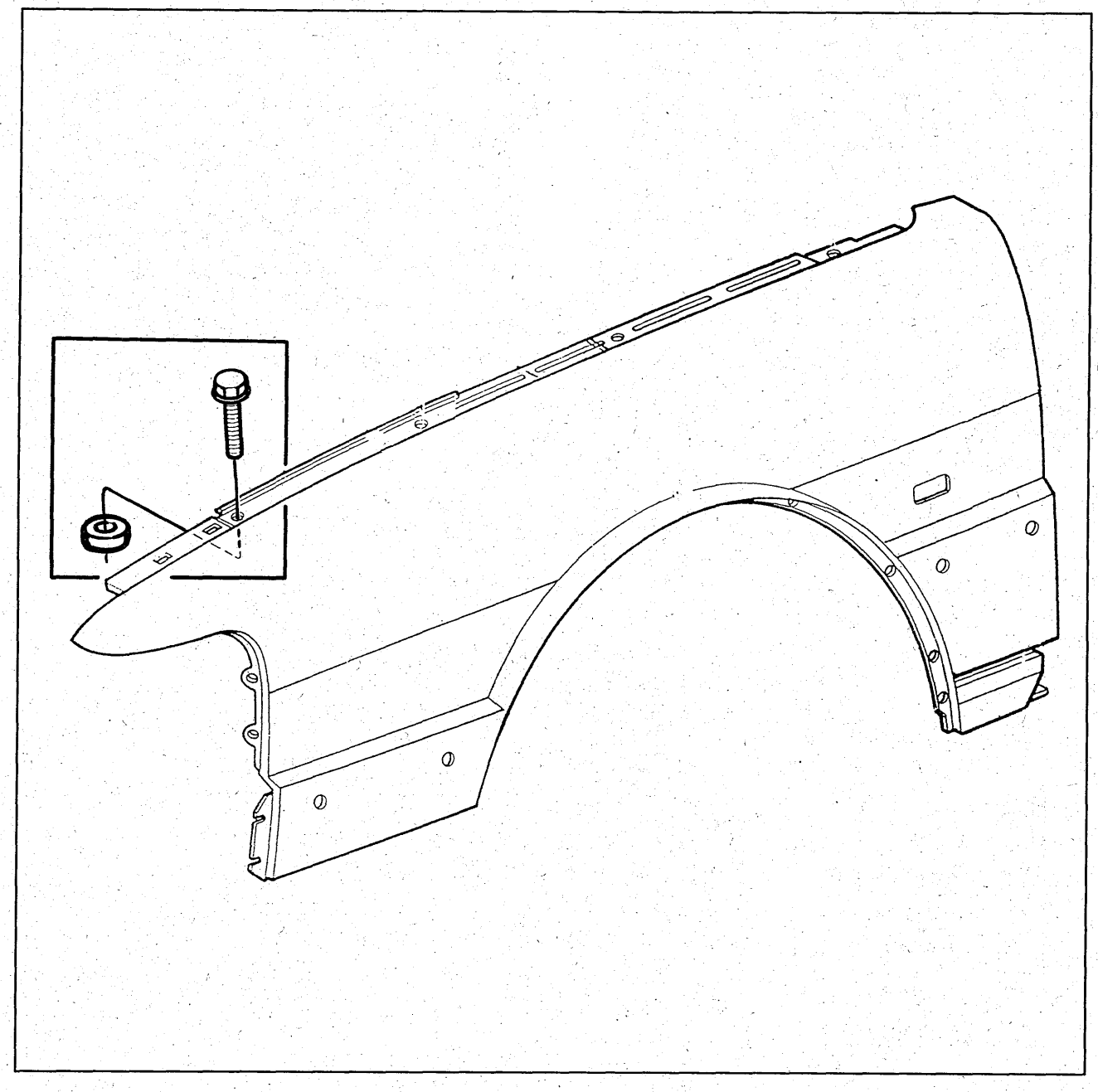
29 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

30 Apply primer to all surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

31 Seal joints and metal folds with Terostat 1K-PUR.

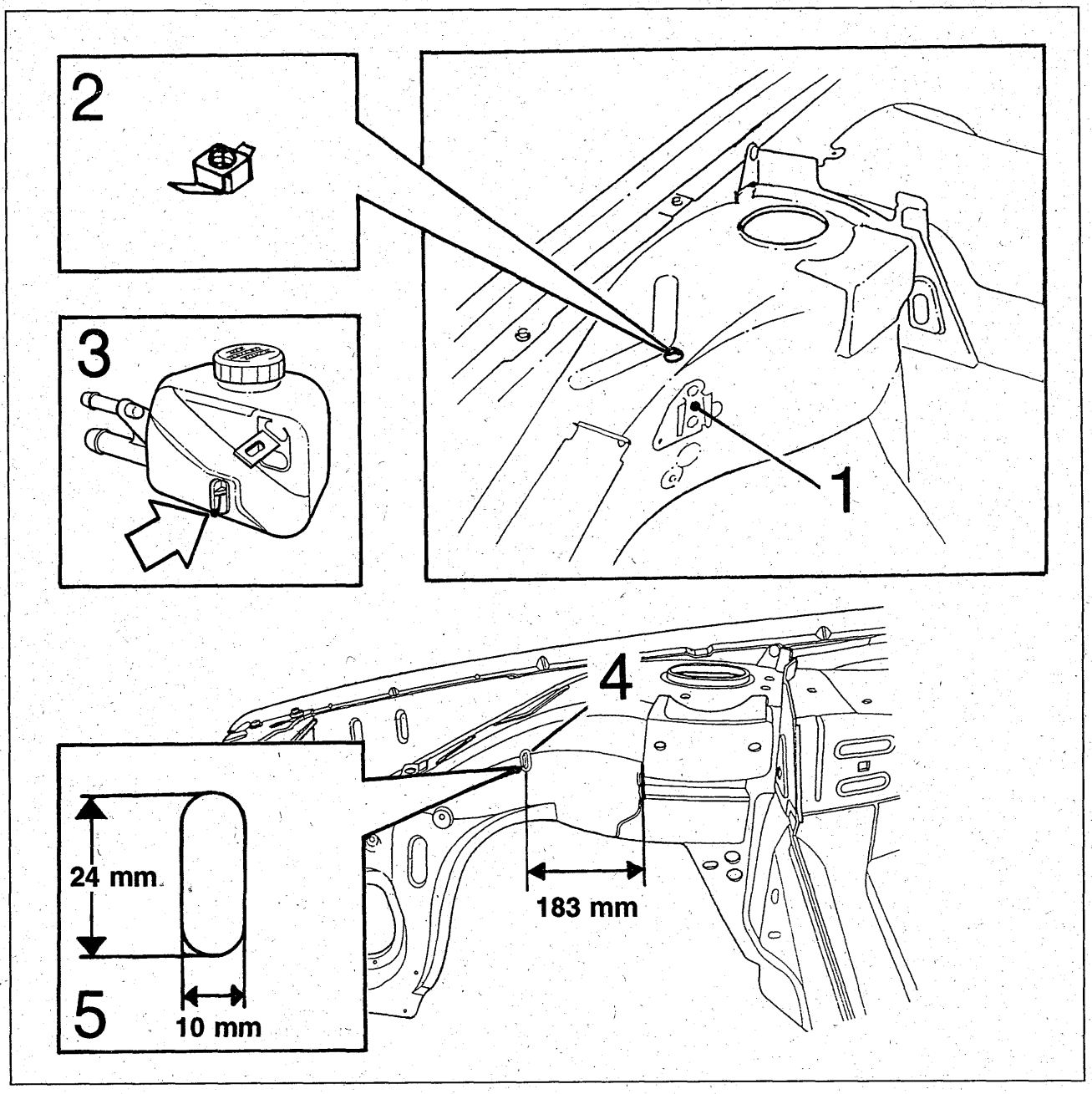
32 Apply underseal to the underbody and in the wheel housing. Use Terostat 9320.

33 Apply anti-corrosion agent to the inside of the wheel housing after it has been painted. Use Terotex HV 400 or Mercasol 1.



Wheel housings, both sides, model year 1991 and earlier cars

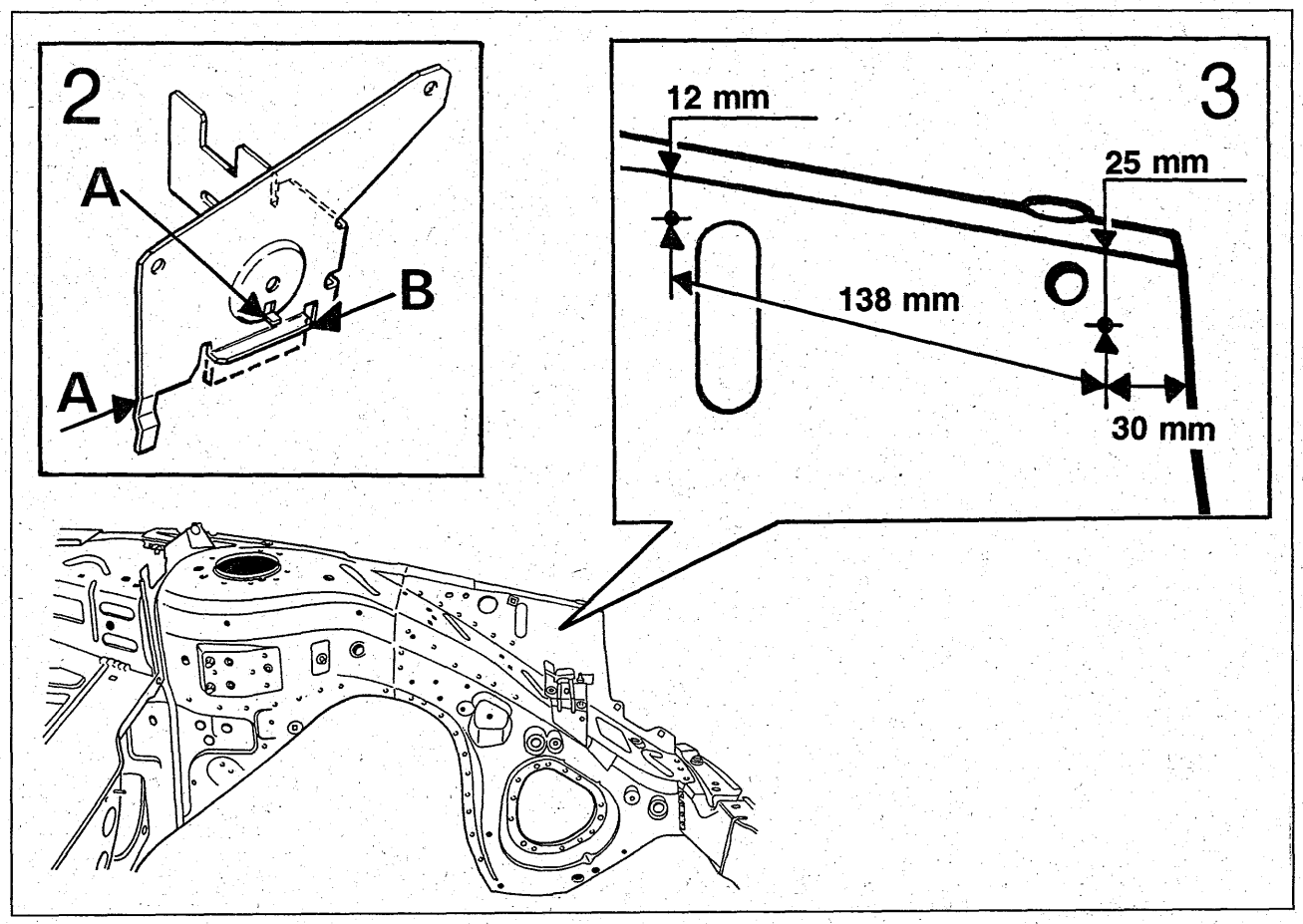
Fit the spacer, part No. 79 75 006, and bolt, part No. 79 22 362, between the wheel housing and the wing in the same way as on the Saab 9000 CC, model year 1992.



Wheel housing, RH side, model year 1991 and earlier cars

If a joint is made in the wheel housing on model year 1991 and earlier cars behind the bracket for the power steering hydraulic fluid reservoir, or a complete replacement wheel housing is fitted, a hole for the reservoir must be made in the new wheel housing.
Note that this hole must be made before the car is given anti-corrosion treatment and painted.

1 Drill out the spot welds securing the bracket for the hydraulic fluid reservoir to the new wheel housing and remove the bracket.
2 Fit the nut washer in place on the new wheel housing.
3 Apply marking paint to the lower locating lug of the hydraulic fluid reservoir.
4 Fit the reservoir in position and mark the position of the locating lug hole. It should be 183 mm from the front of the torque arm mounting.
5 Make an elongated hole with a wide of 10 mm and a length of 24 mm.
6 Mount the hydraulic fluid reservoir temporarily to check the fit. Final mounting should be carried out when the car has been painted.

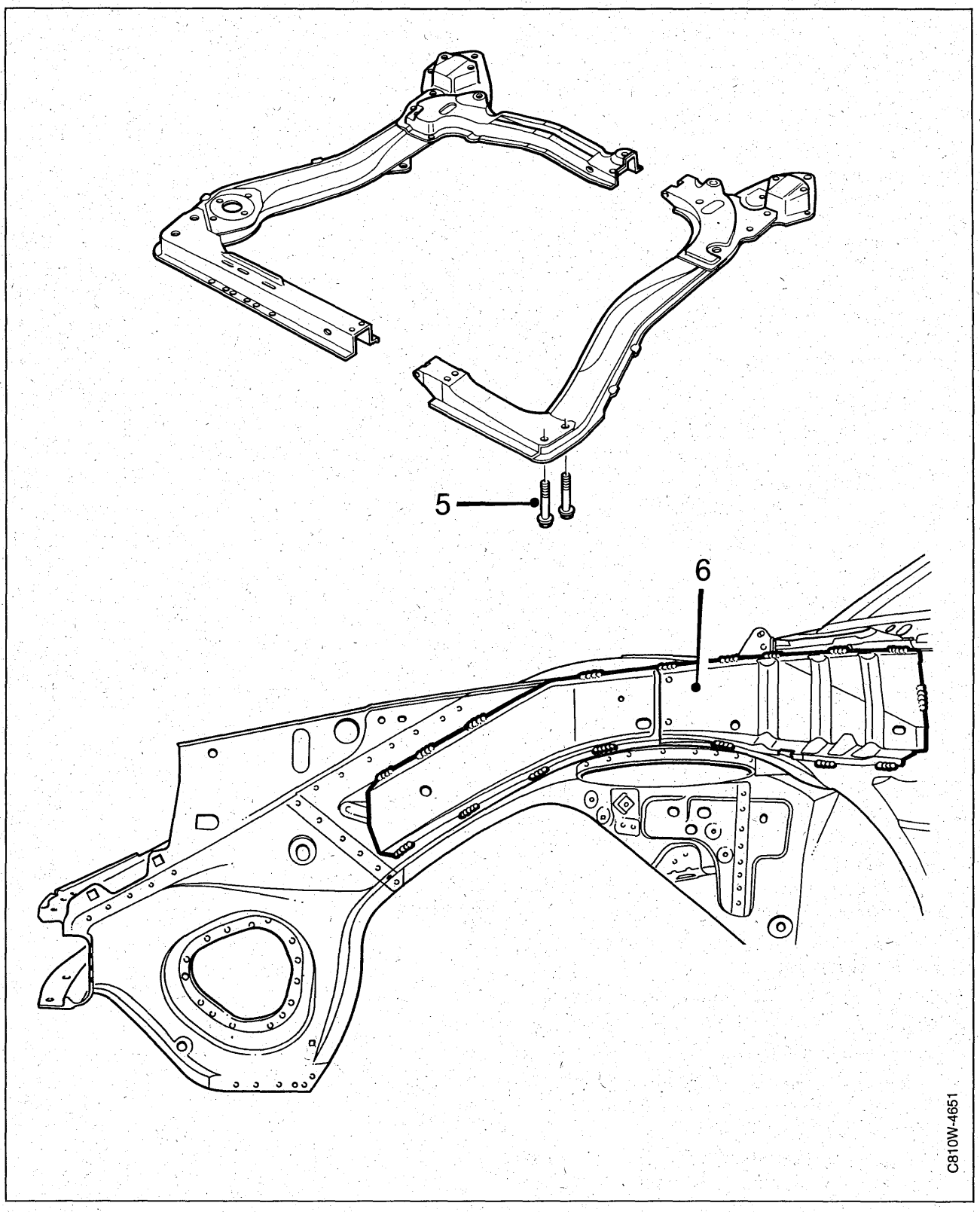


Wheel housing, LH side, model year 1991 and earlier cars

When replacing the wheel housing on the LH side of model 1991 and earlier cars, the bracket for the front relay box must be transferred to the new wheel housing.

This should be done before the car is given anticorrosion treatment and painted.

1 Remove the bracket for the front relay box from the old wheel housing.
2 Cut (A) and bend (B) the bracket as shown.
3 Mark the positions of the mounting holes on the new wheel housing as shown.
4 Fit the bracket in place according to the markings and drill three holes, using the bracket as a template. Use a 4 mm drill bit.
5 Mount the bracket when the car has been given anti-corrosion treatment and been painted.



Front wheel housing

When working on model year 1991 and earlier cars, first consult pages 810- 21, 810- 22and 810- 23in this section.

1 Mount the car on an aligning bench.

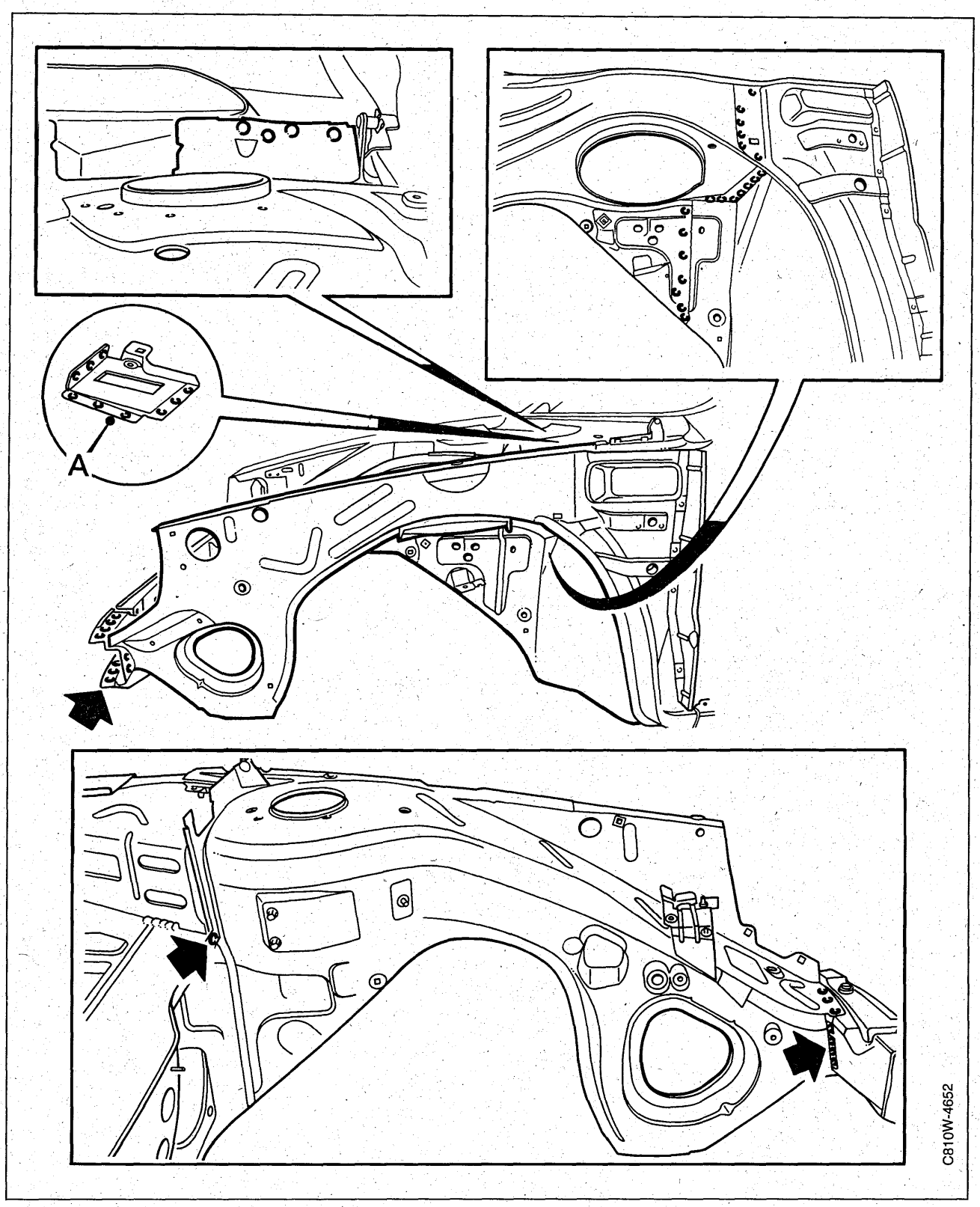
2 Remove the front wing.

3 Remove the radiator member.

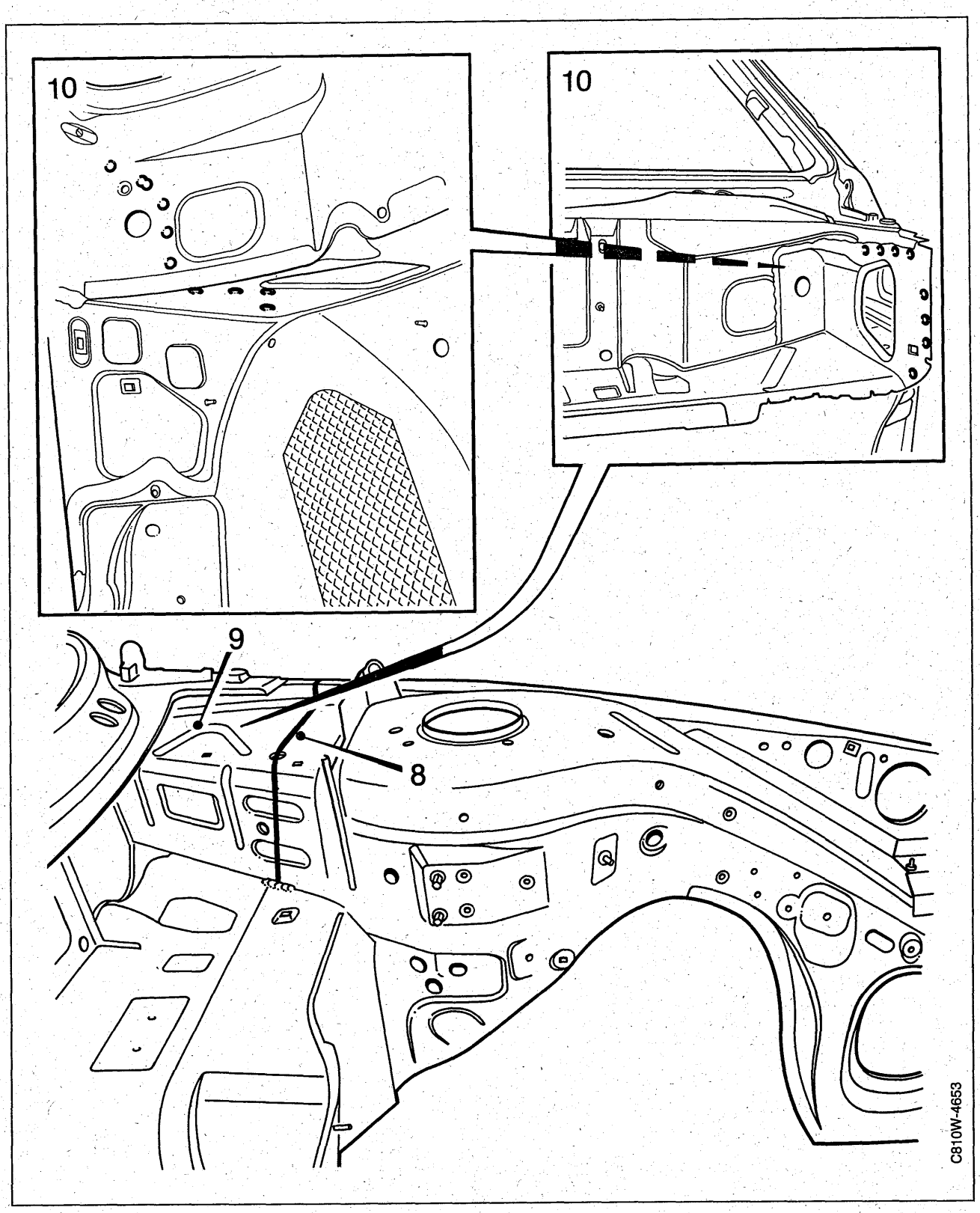
4 Realign to the correct measurements, if necessary.

5 Undo both bolts securing the wheel housing to the front of the subframe. Expose the wheel housing.

6 Grind away the welds securing the reinforcement member to the wheel housing.



7 Drill out the spot welds.
Collect the metal plate at the upper end (A) of the wheel housing. It is to be transferred to the new wheel housing.

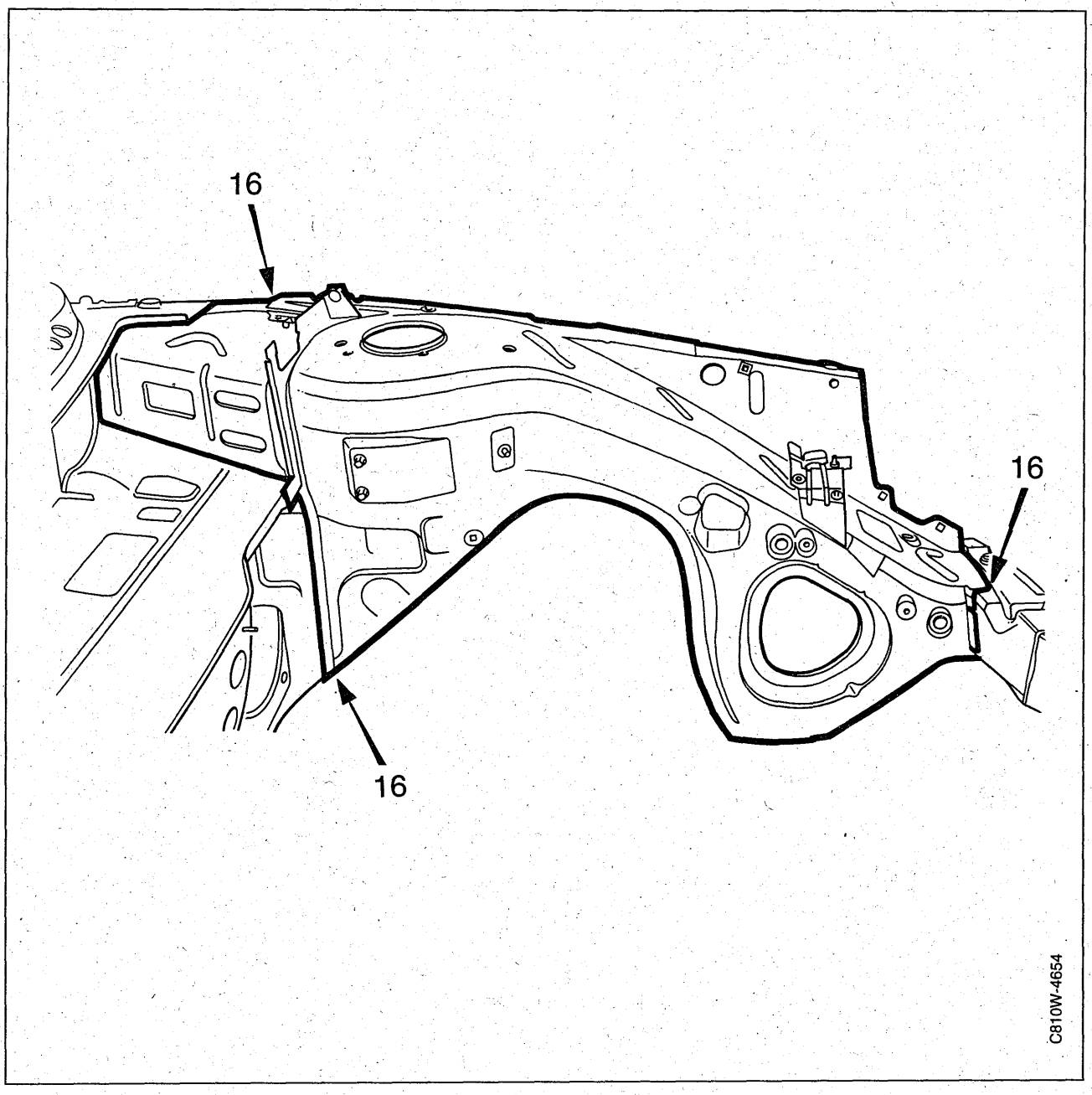


8 Cut away the front part of the wheel housing.

9 Cut away the rest of the wheel housing so that the remaining spot welds will be accessible.

10 Drill out the remaining spot welds and knock the sheet metal edges loose.

11 Realign any deformed sheet metal edges.



12 Use a grinder to clean the areas on the body and the metal plate at the upper end of the wheel housing that are to be welded.

13 Apply welding primer to the areas that are to be welded. Use Teroson Zinkspray.

14 Use a grinder to clean the areas on the new wheel housing that are to be welded.

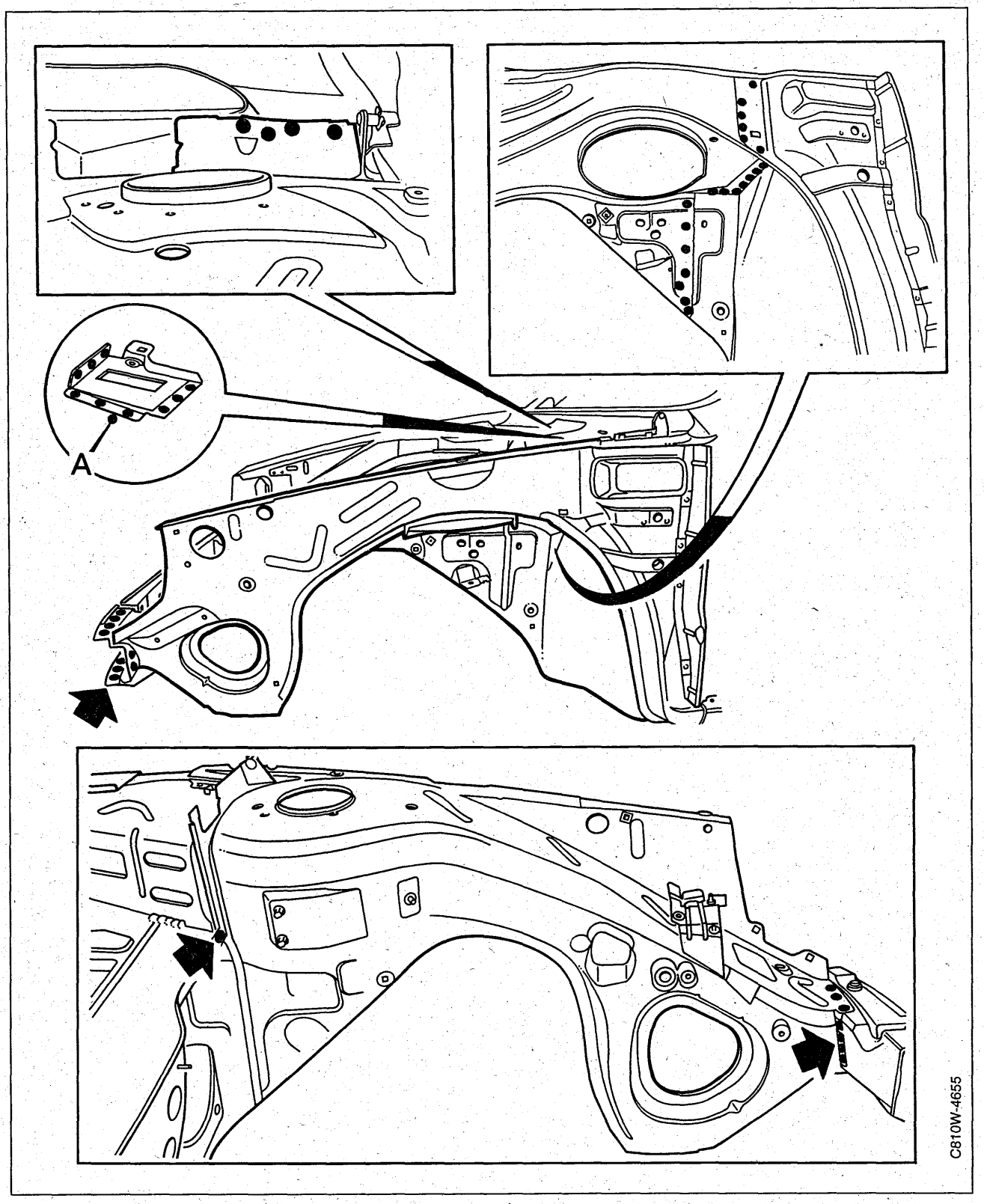
15 Apply welding primer to the areas that are to be welded. Use Teroson Zinkspray.

16 Fit the new wheel housing in position by means of a few welding clamps. Fit and tighten the two bolts securing the wheel housing to the sub-frame.

17 Measure and adjust the wheel housing until it is correctly aligned.

18 Secure the wheel housing to the body and the front cross-member by means of a couple of tack welds.

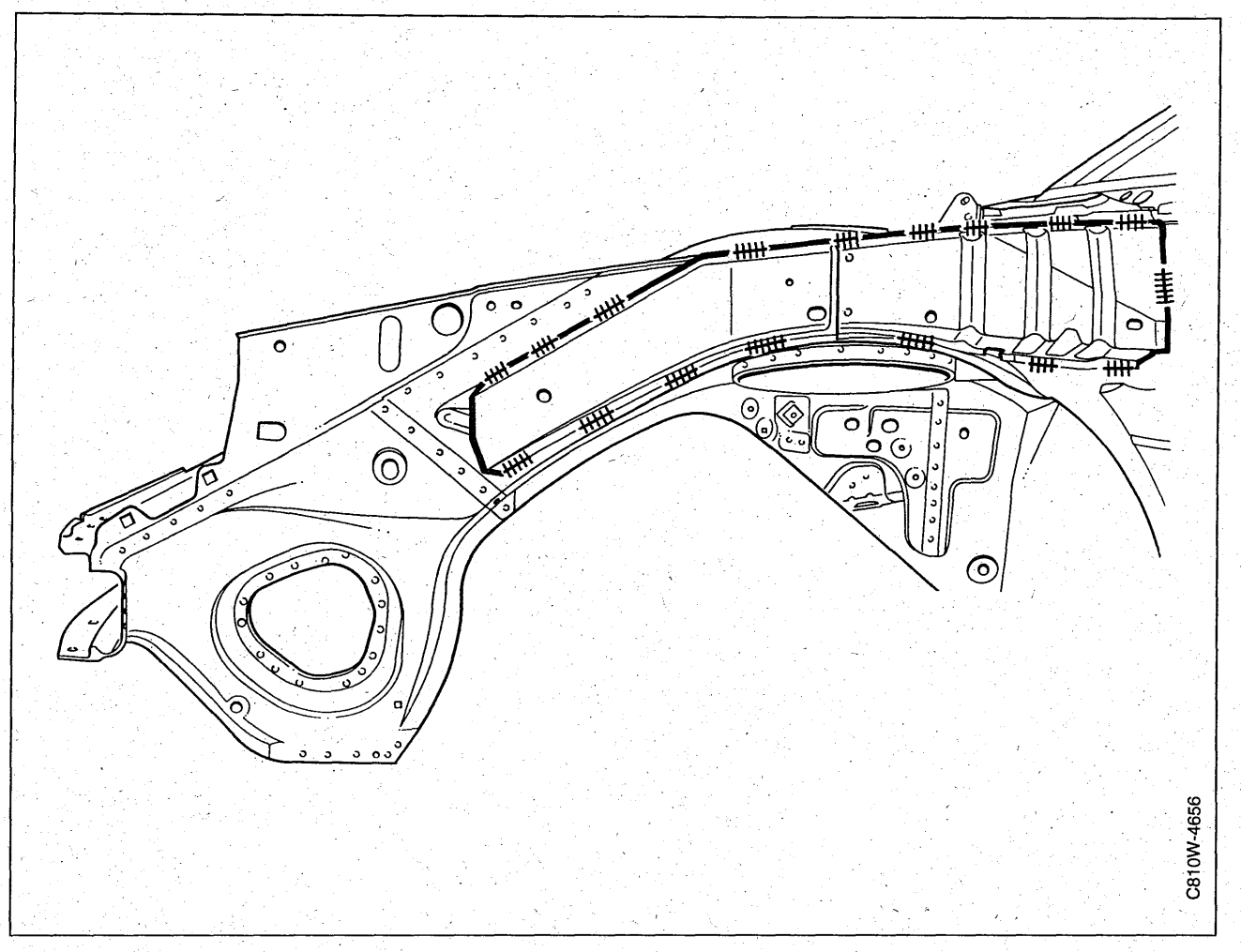
19 Fit the wing, radiator member and bonnet in position to check the alignment of the wheel housing. Adjust as necessary.



20 Remove the wing, radiator member and bonnet.

21 Weld the wheel housing in place and also the metal plate at the top of the wheel housing (A).

22 Go over the welds with a grinder.



23 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

24 Apply primer to the metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

25 Use a grinder to clean the surfaces on the outside of the wheel housing where the reinforcement member is to be welded in place.

26 Use a grinder to clean the areas on the reinforcement member that are to be welded.

27 Fit the reinforcement member in position and weld it in place.

28 Clean the welds with Scotch-Brite or the like to remove the superficial coating of welding slag.

29 Apply primer to the metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

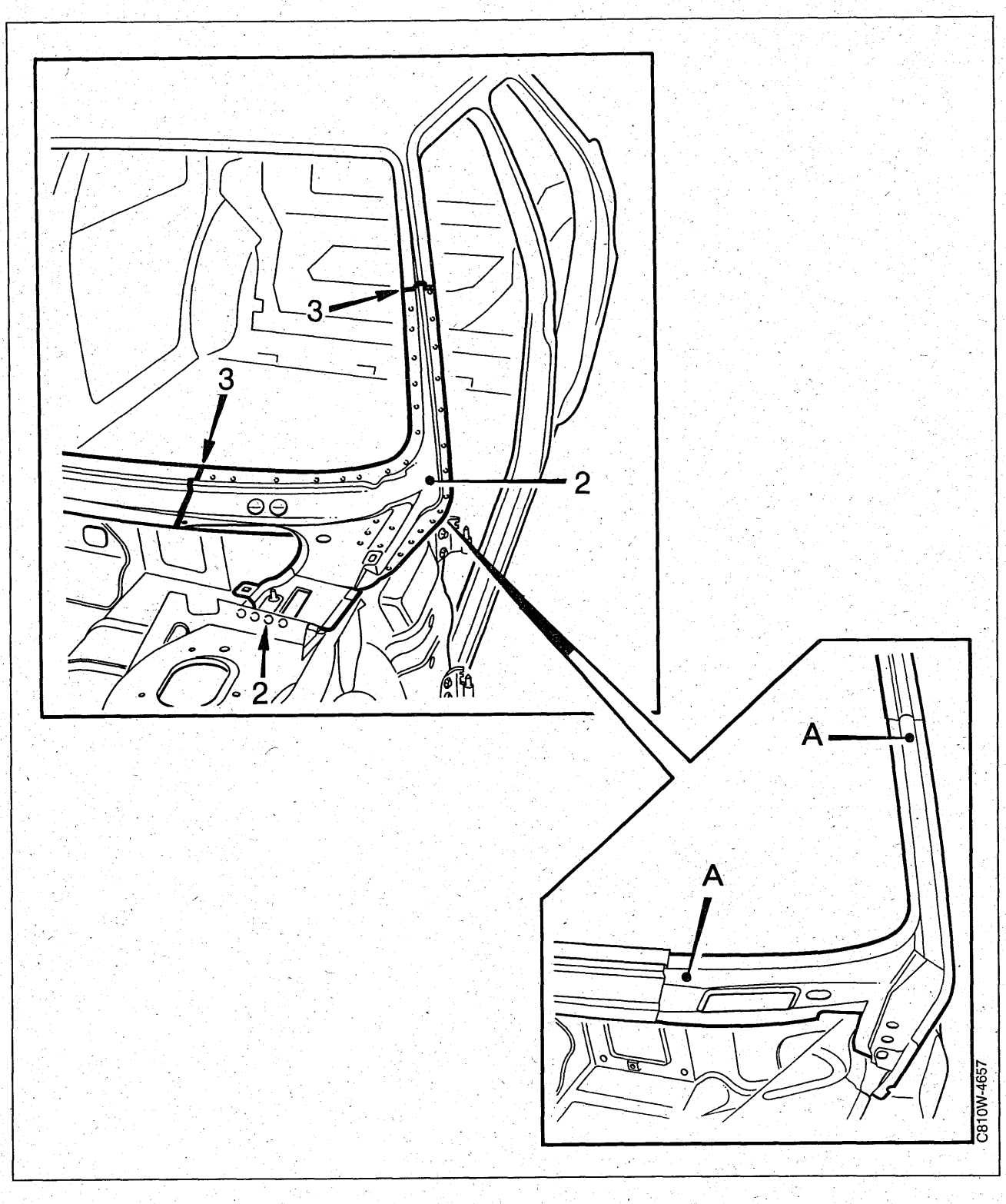
30 Use Terostat 1K-PUR to seal joints and metal folds.

31 Apply underseal to the underbody and in the wheel housing. Use Terostat 9320.

32 Paint the wheel housing and wing edges.

33 Fit the radiator member and wing back in place.

34 Apply anti-corrosion agent to the inside of the wheel housing after it has been painted. Use Terotex HV 400 or Mercasol 1.

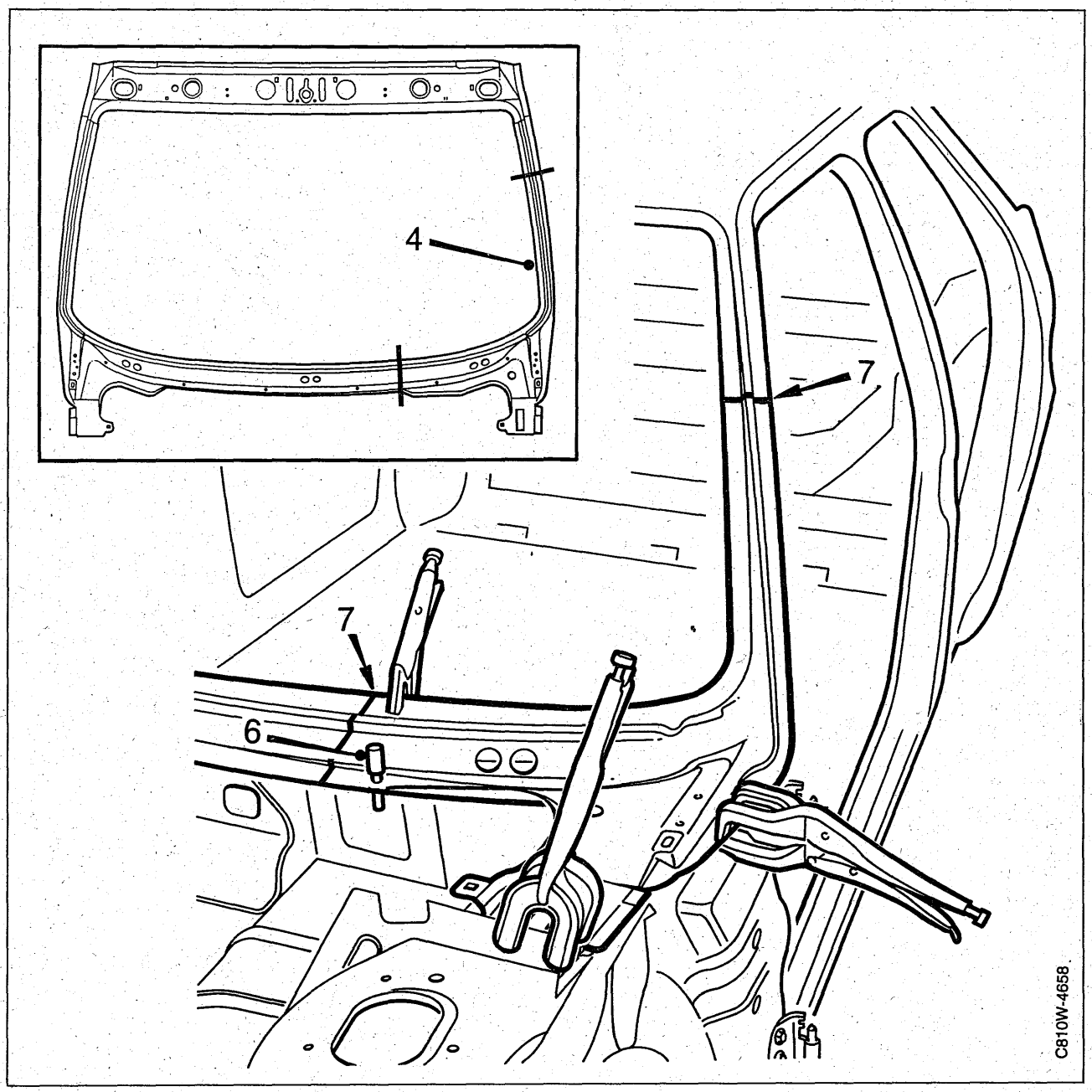


Part of windscreen frame

1 The windscreen must have been removed.

2 Drill out the welding points in that part of the windscreen frame that is to be replaced.

3 Cut through the affected part of the windscreen at the approximate places and knock it loose. Take care to avoid damaging the lower parts (A) of the windscreen frame and the A pillar.



4 Cut the spare part roughly to size so that it will overlap the joint locations on the body.

5 Realign any deformed metalwork.

6 Position the spare part and fix it with a couple of welding clamps. Use the hole at the front of the windscreen frame to facilitate alignment.

7 Cut through the spare part and the windscreen frame simultaneously so that they can be welded together edge-to-edge. Take care to avoid damaging the lower part of the windscreen frame.

8 Realign any deformed metalwork.

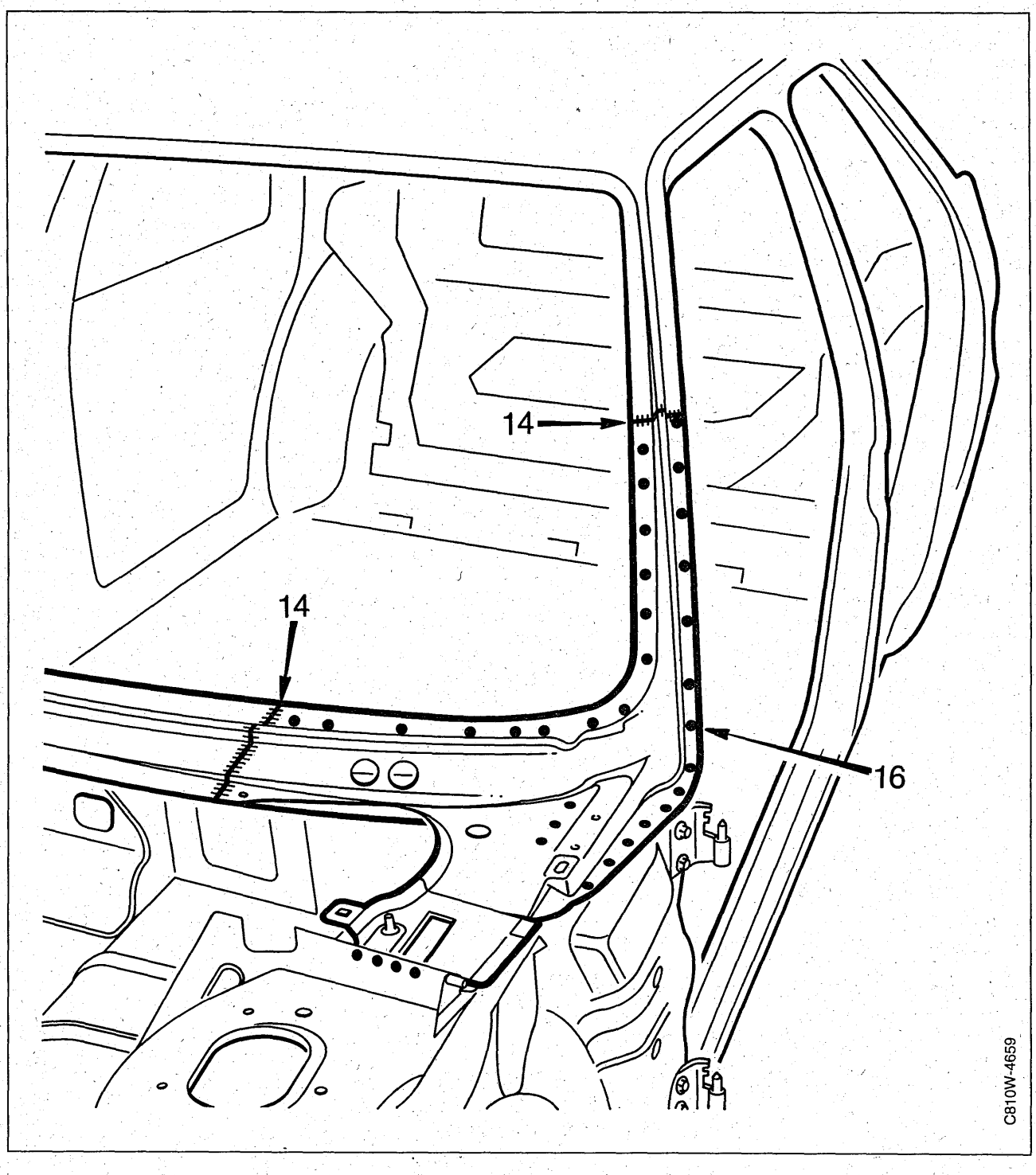
9 Use a grinder on the areas of the windscreen frame and spare part that are to be welded together.

10 Apply welding primer to the areas of the windscreen frame and spare part that are to be welded together. Use Teroson Zinkspray.

11 Position the spare part and fix it with a couple of welding clamps.

12 Fix the spare part in the windscreen frame by means of a couple of tack welds.

13 Fit the windscreen in position and check the fit and alignment of the windscreen frame. Adjust as necessary.



14 Weld the joints between the spare part and the windscreen frame.

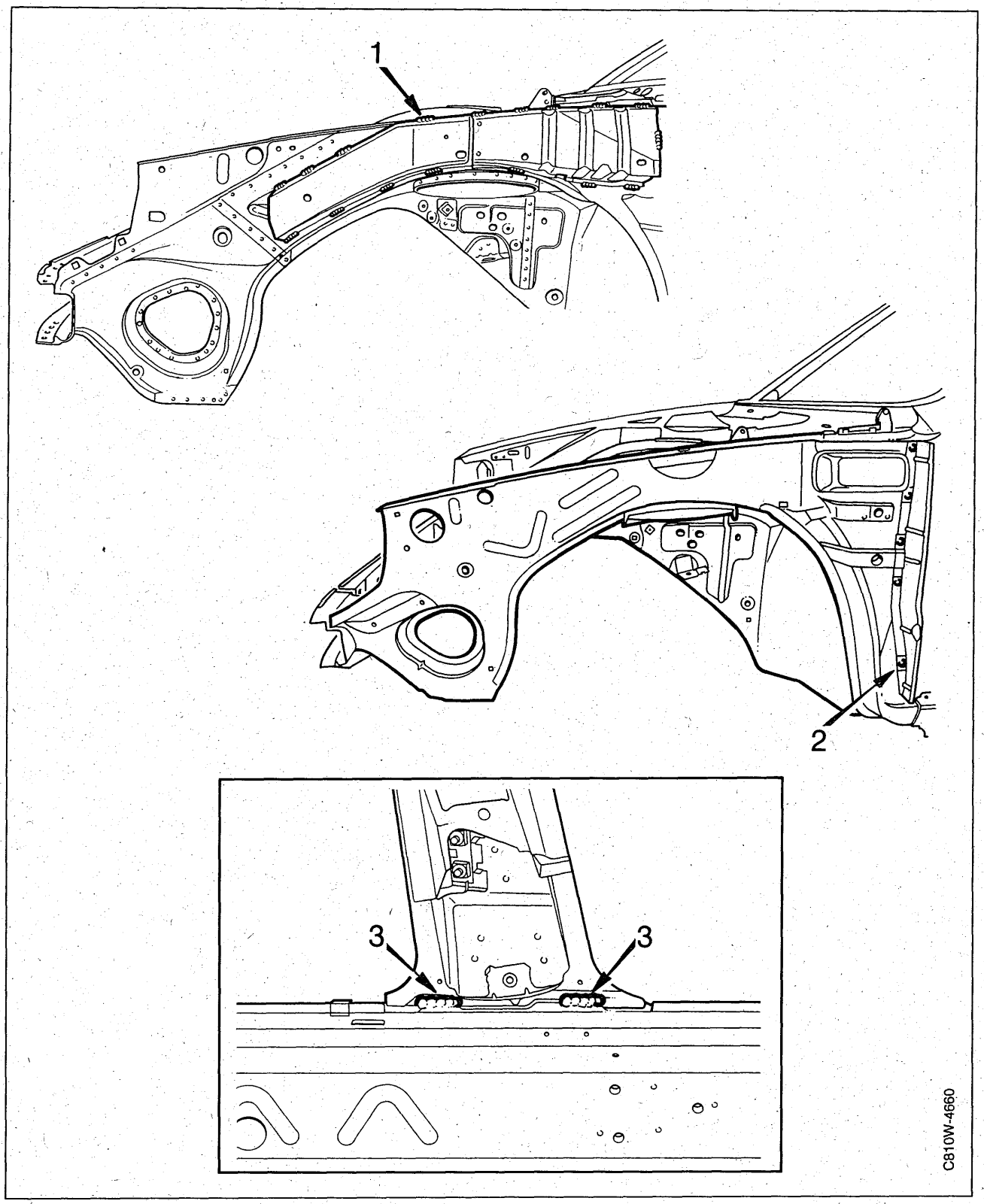
15 Go over the welds with a grinder.

16 Spot weld the spare part in place.

17 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

18 Apply primer to the metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

19 Use Terostat 1K-PUR to seal joints and metal folds.



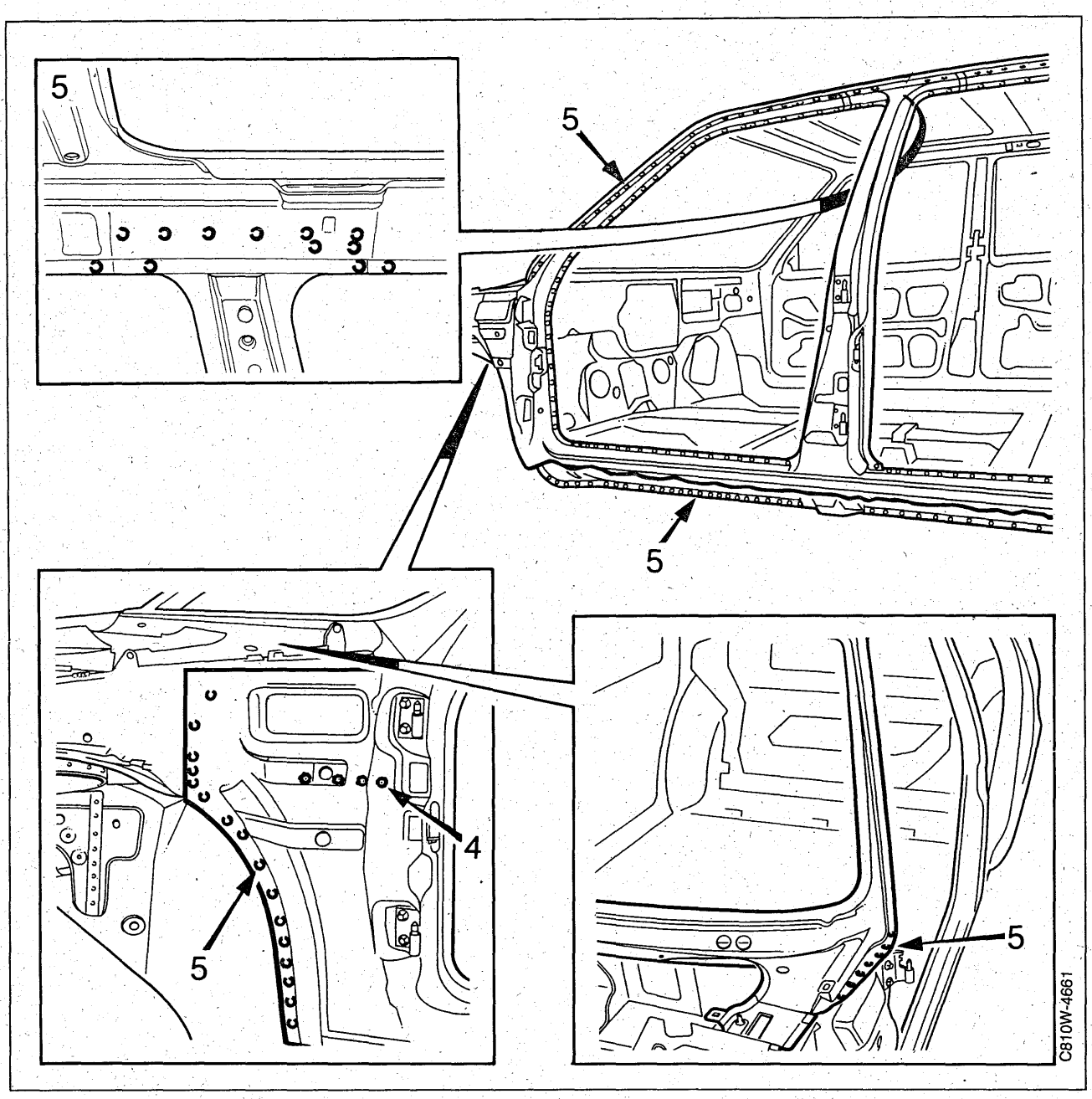
Door frame

When fitting a replacement door frame on model year 1990 and earlier cars, first turn to page 810-37.

1 Grind away the welds securing the reinforcement member to the outside of the wheel housing.

2 Drill out the rivets securing the front wing fillet.

3 Grind down the seam welds on the inside of the B pillar at the bottom.



4 Grind down the four plug welds in the front part of the door frame.

5 Drill out the spot welds in the door frame.

6 Realign any deformed metalwork.

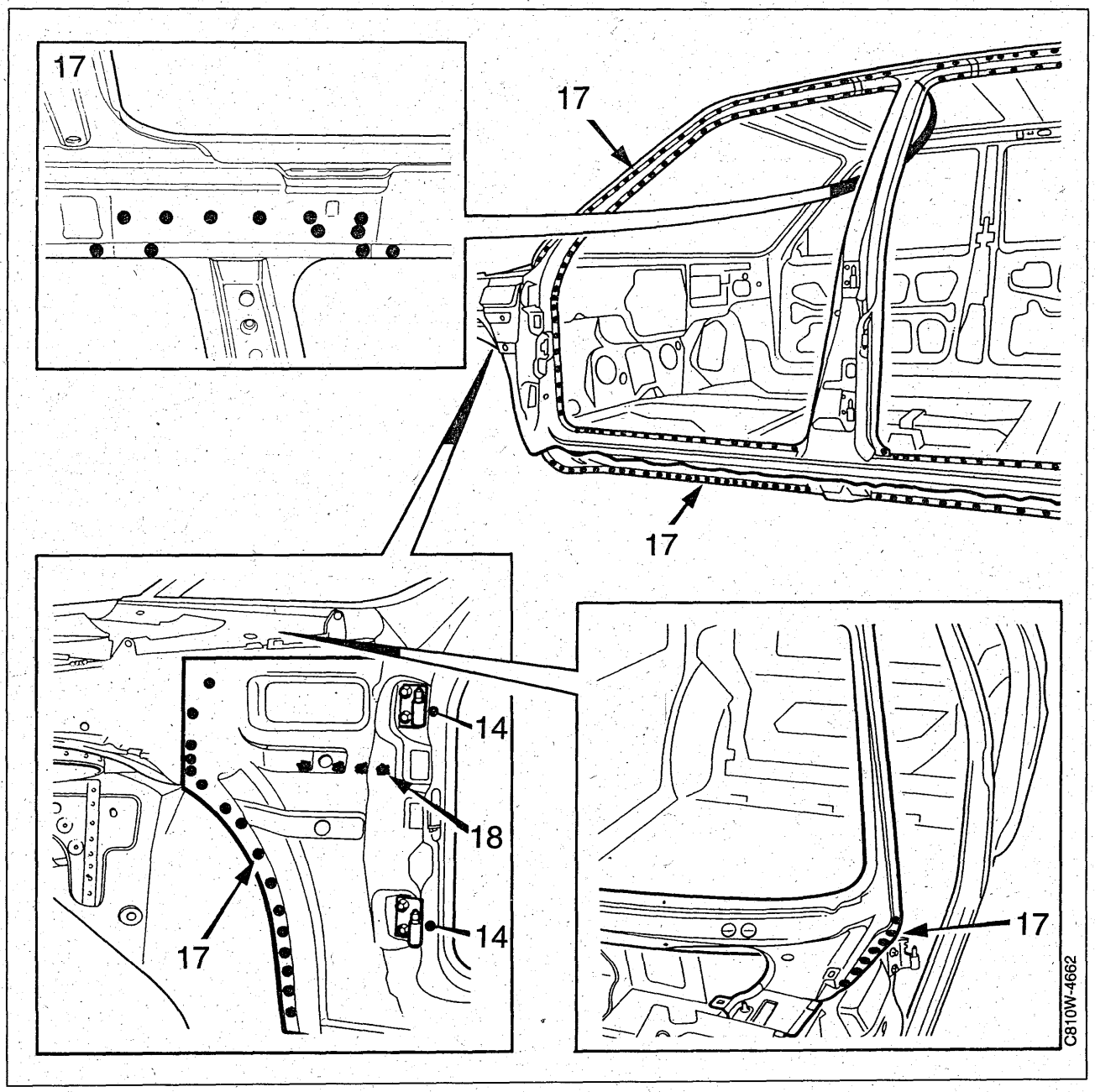
7 Use a grinder to clean the areas on the body that are to be welded.

8 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

9 If the door frame is to be mounted on a model 1990 or earlier car, the reinforcement in the door frame sill must first be removed.

10 Use a grinder to clean the areas on the new door frame that are to be welded.

11 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.



12 Fix the new door frame in position by means of some welding clamps.

13 Secure the door frame to the body by means of a couple of spot welds.

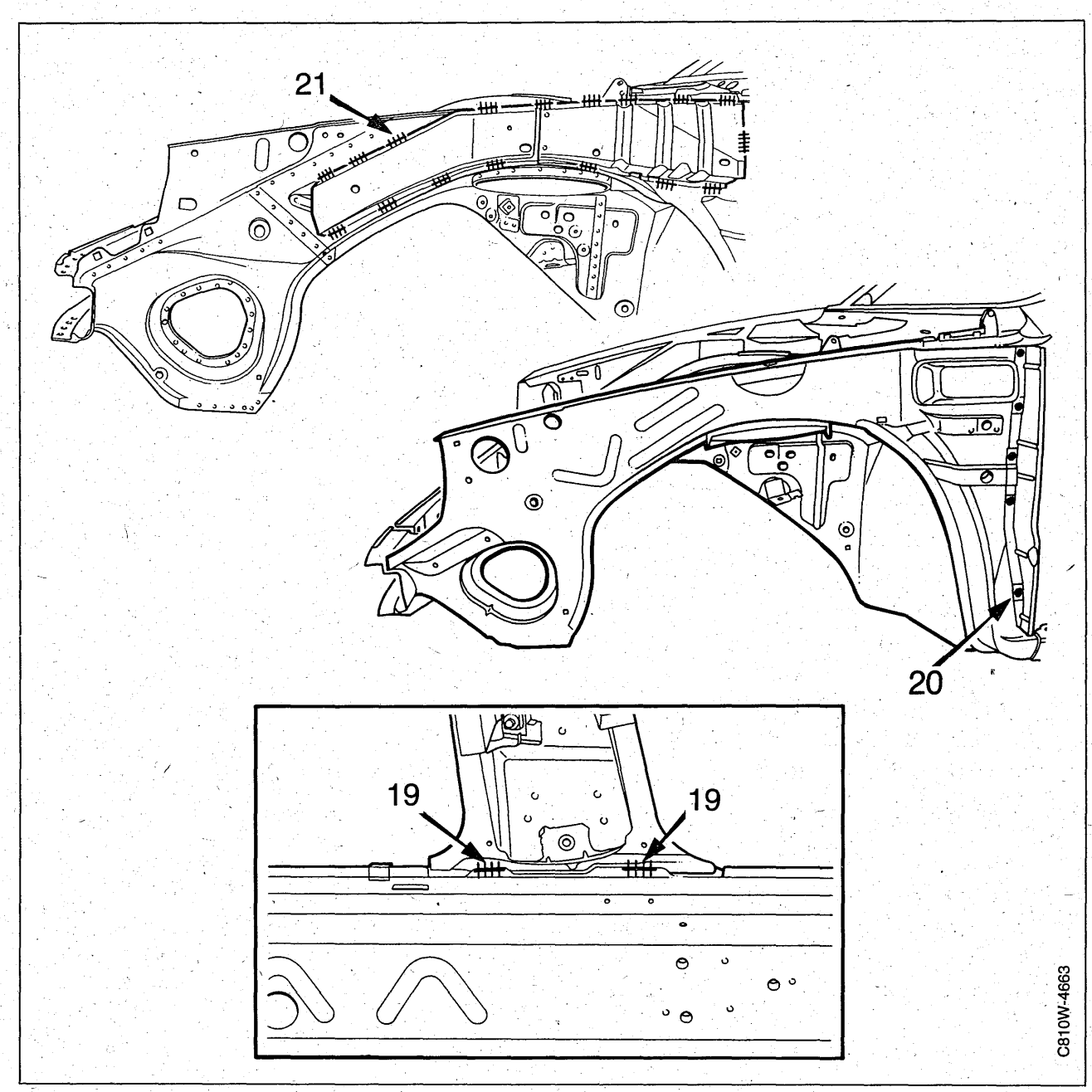
14 Transfer the hinges to the new door frame.

15 Mount the doors and fit the front wing in place. Check that the hinges are within the permissible range of adjustment. Adjust as necessary.

16 Remove the doors and front wing.

17 Spot weld the door frame in place.

18 Plug weld the front part of the door frame as shown.



19 Seam weld in two places on the inside of the B pillar at the bottom.

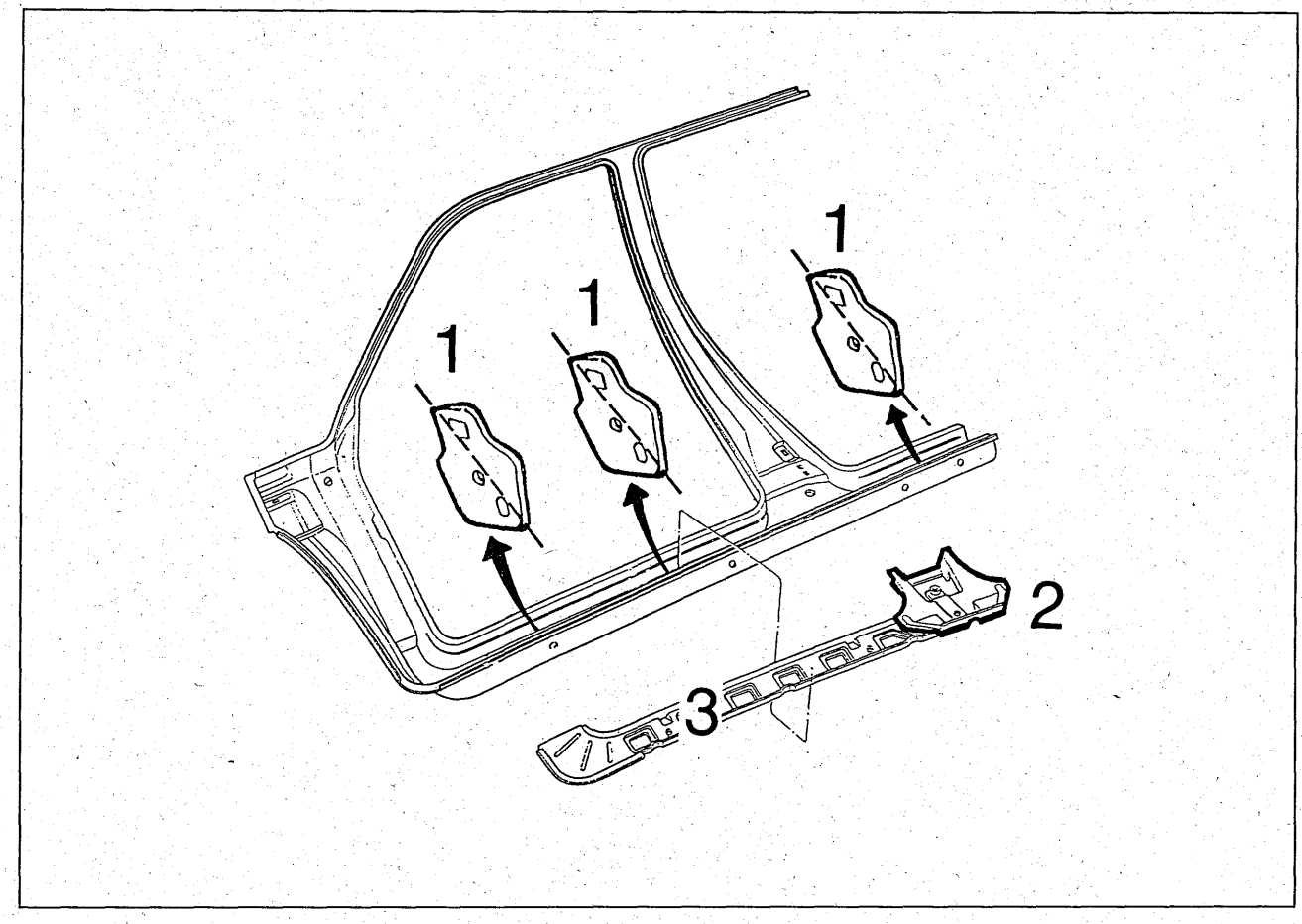
20 Rivet the front wing fillet in place.

21 Seam weld the reinforcement member to the outside of the wheel housing.

22 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

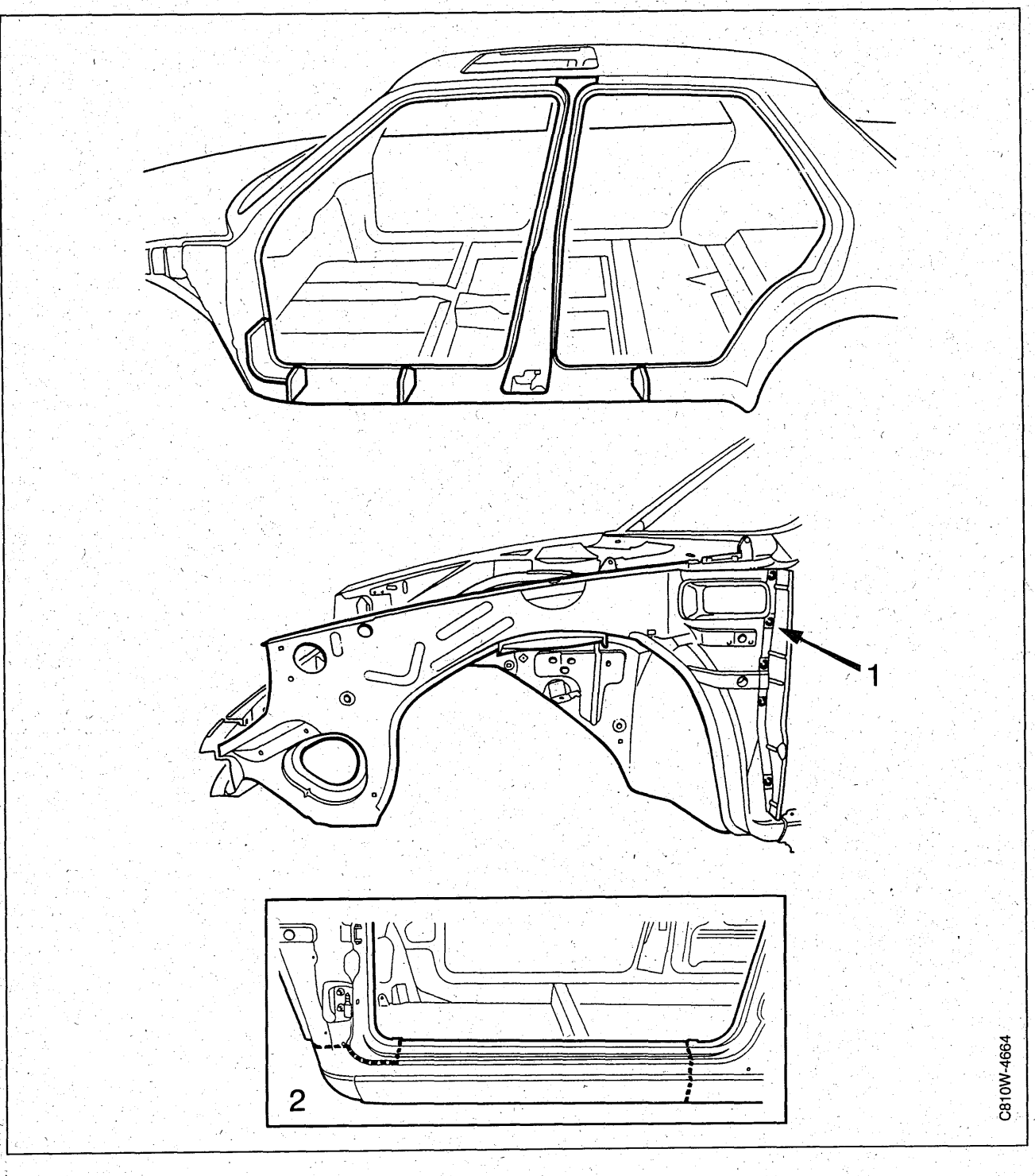
23 Apply primer to all surfaces that have been ground clean. Apply it abundantly at the joints so that it penetrates well into all nooks and crannies.
Use primer of high quality, such as Standox 1K Füllprimer.

24 Apply Terostat 1K-PUR sealant to joints and metal folds.



Replacement of door frame and outer sill, model year 1990 and earlier cars

When replacing the door frame or outer sill on model year 1990 and earlier cars, the three reinforcement bulkheads (1) in the sill will have to be cut. The seat-belt anchorage (2) will also have to be drilled loose from the reinforcement member (3).



Part of outer sill

On model year 1991 and later cars the sill is reinforced with bulkheads. On these cars the sill must be cut in such a way that the bulkheads are not damaged.

Important

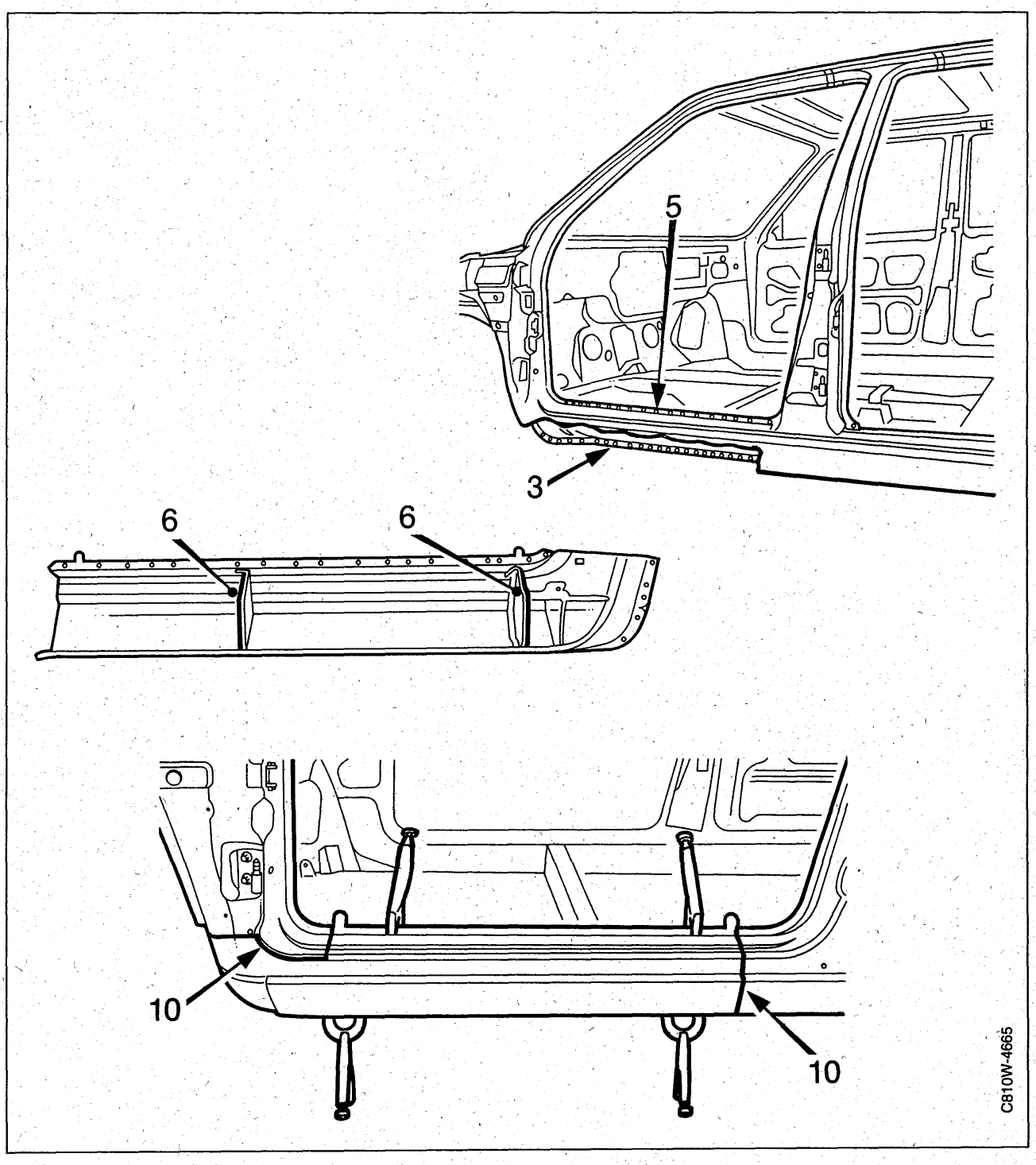
Body reinforcement members must never be cut and joined. A damaged reinforcement member must always be replaced by a new one. This is mandatory.

When fitting a replacement door frame on model year 1990 and earlier cars, first turn to page 810- 37.

1 Drill out the rivets securing the front wing fillet.

2 Mark the places where the sill is to be cut.

On model year 1991 and later cars the marks must be made as shown so that the sill can be cut without damaging the reinforcment bulkheads inside it.



3 Drill out the spot welds at the bottom of the sill.

4 Cut the sill as marked.

5 Drill out the spot welds at the top of the sill.

6 On model year 1991 and later cars the sill is reinforced with bulkheads. These bulkheads must be transferred to the new sill.

7 Cut the spare part roughly to size so that it will overlap the joint location by 3-4 cm.

8 Weld the reinforcement bulkheads to the spare part.

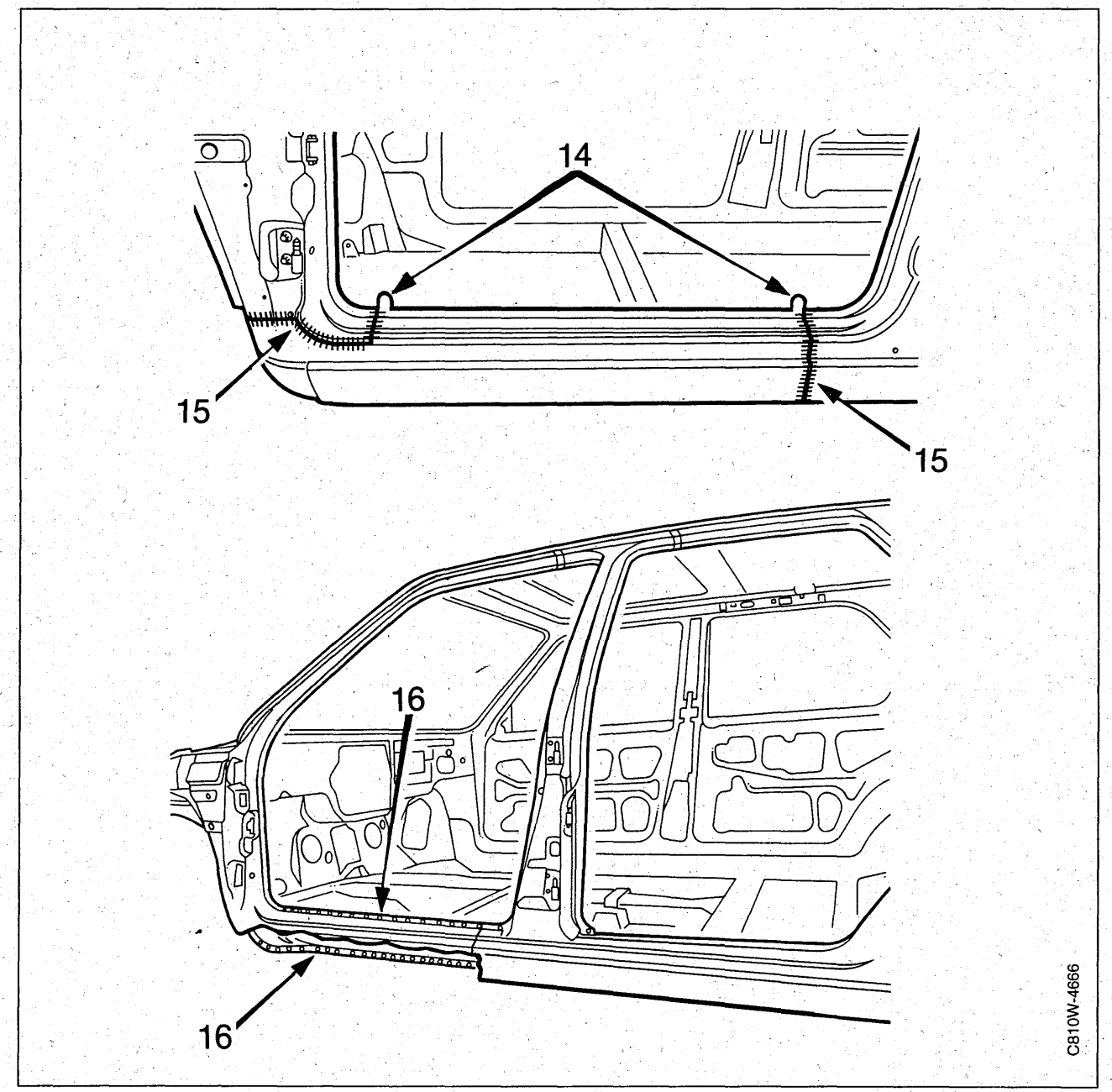
9 Position the spare part and fix it with welding clamps.

10 Cut through the sill and spare part simultaneously to obtain an edge-to-edge fit.

11 Remove the spare part.

12 Grind the areas on the spare part that are to be welded.

13 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.



14 Position the spare part and bend down the "ears". Fit the doors and check for fit and alignment.

15 Weld the joints on the sill by means of continuous welding.

16 Spot weld the sill in place.

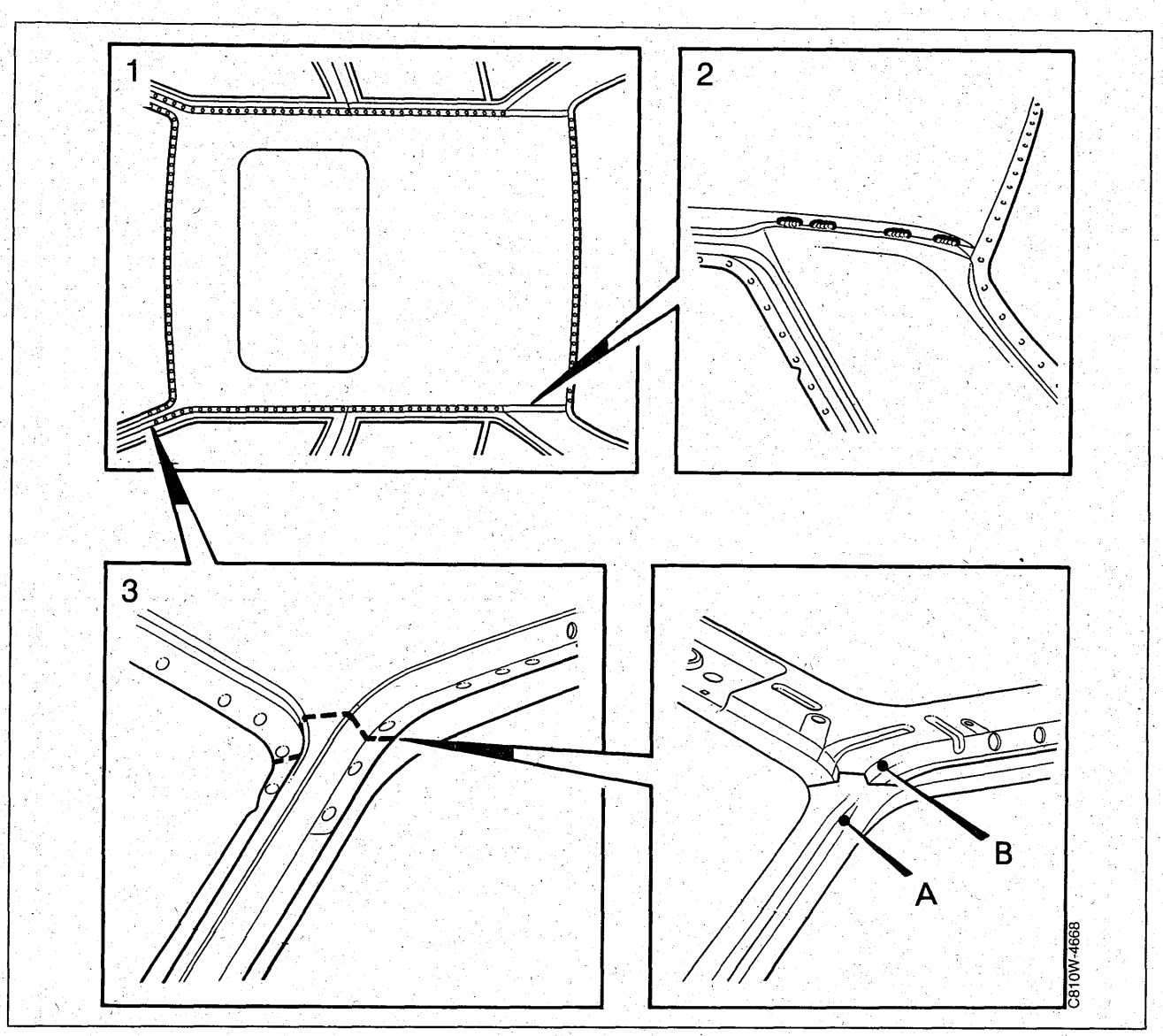
17 Go over the continuous welds with a grinder.

18 Wash off surplus welding primer.
Welding primer makes for poorer adhesion of paint, filler and sealant.

19 Apply primer to the metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

20 Use Terostat 1K-PUR to seal joints and metal folds.

21 Apply underseal to the underside of the sill. Use Terostat 9320.



Roof

1 Drill out the spot welds.

2 Grind away the welds at the top of the C pillars.

3 Cut the roof away from the A pillars. Cut in the direction of a line extending along the fold to avoid damaging the reinforcement in the A pillar (A) or roof-bow (B).

4 Knock away the roof and the remaining sheet metal at the top of the A pillars.

5 Cut through the adhesive joints between the roof and the roof members. Lift off the roof.

6 Realign any deformed metalwork.

7 Use a grinder on the surfaces that are to be welded to the new roof. Using masking tape to protect the paintwork on the B and C pillars as well as at the tops of the door frames.

8 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

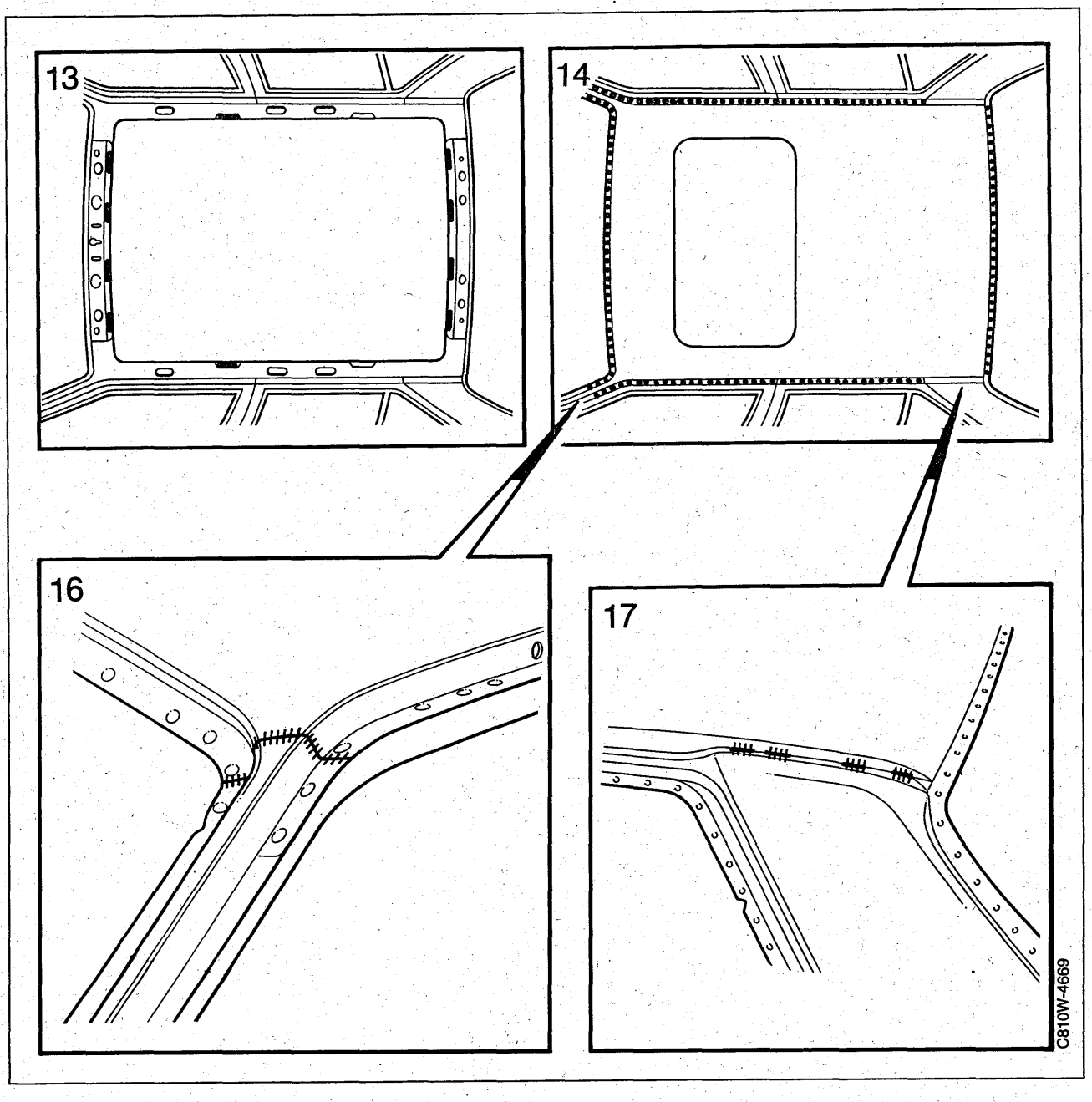
9 Use a grinder on the areas of the new roof that are to be welded.

Important

At the rear end of the roof are two cut-outs for the tailgate hinges. On model year 1989 and earlier cars, metal plates should be welded in these cut-outs to close them up, since the hinges on these cars are affixed to the D pillar.

10 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

11 Place the new roof in position and fix it by means of welding clamps. Check the fit at the door frame. Check the dimensions of the apertures for the windscreen and rear window and adjust as necessary.



12 Fit the windscreen and rear window in place and check their fit and alignment. Adjust as necessary.

13 Apply Terostat 1K-PUR sealant as shown.

14 Secure the roof by spot welding it in place.

15 Check the dimensions of the apertures for the windscreen and rear window. Adjust as necessary.

16 Weld the joints between roof and A pillars (continuous welds).

17 Seam weld in four places at the top of the C pillars as shown. The clips holding the moulding between the roof and the C pillars are to fit under the folded metal between the welds.

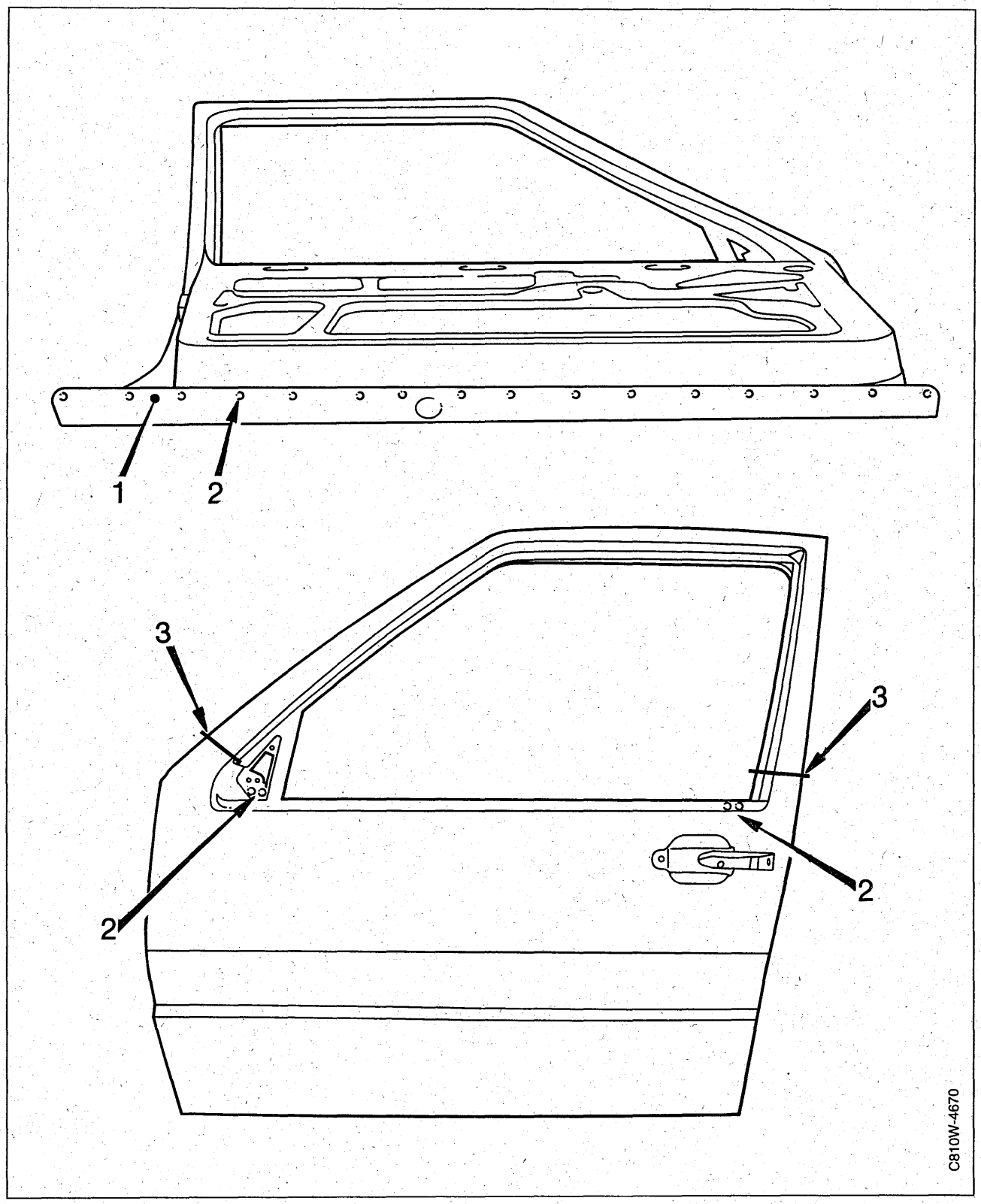
18 Go over the welds with a grinder.

19 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

20 Realign any deformed metalwork.

21 Apply primer to all surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

22 Use Terostat 1K-PUR to seal joints and metal folds.



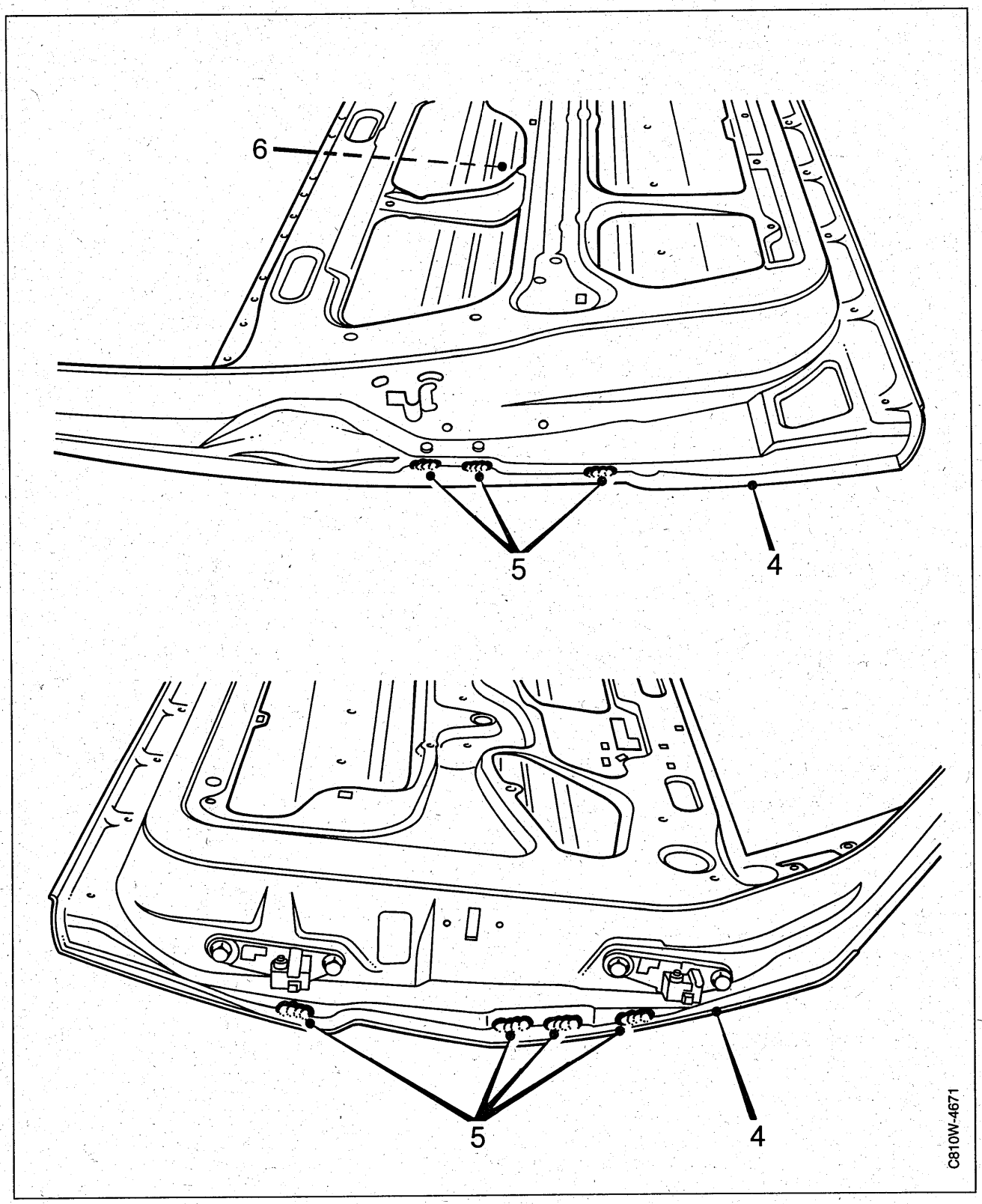
Door panel

1 Remove the anti-corrosion compound to uncover the spot welds. Use a knife and Scotch-Brite or the like.

2 Drill out the spot welds. Be careful to drill in the door panel only so that the underlying door structure is not damaged.

3 Cut the door panel away from the door frame as shown.

Be careful to cut the door panel only so that the underlying door structure is not damaged.



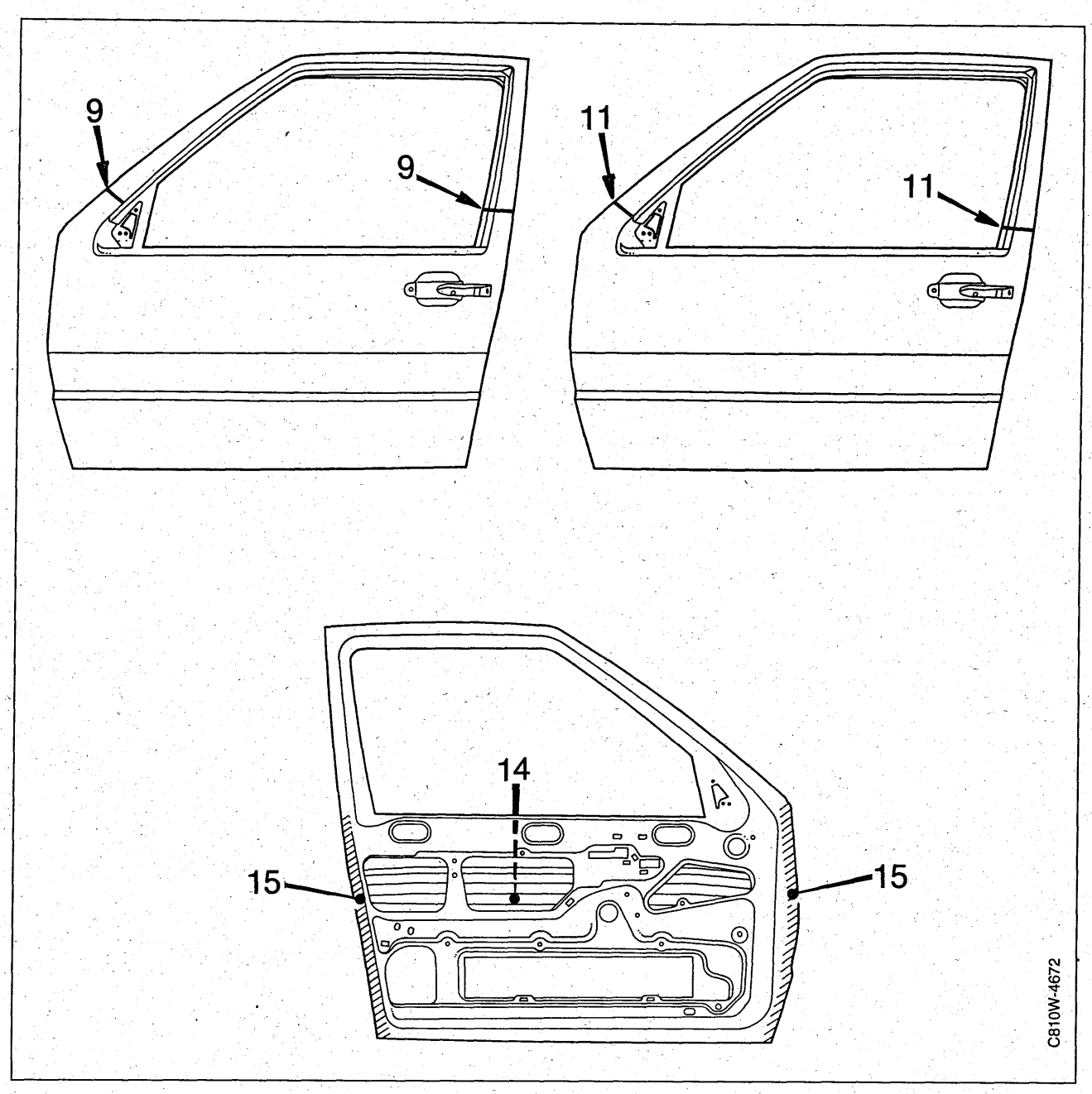
4 The door panel is folded over the door structure at leading and trailing edges. Grind through the folds so that the door panel comes away from the structure.

5 Grind down the seam welds holding the remaining sheet metal strips to the inside of the door structure.

6 Detach the door panel from the sealant on the collision reinforcement member.

7 Knock the door panel loose and lift it away.

8 Use a grinder to clean the door structure.



9 Cut the new door panel roughly to size so that it overlaps the joint locations on the door by 3 cm.

10 Fit the new door panel on the door structure and fix it by means of a couple of welding clamps.

11 Cut through the door panel and the outer sheet metal of the door frame simultaneously in order to obtain an edge-to-edge fit.

Be careful not to damage the inner sheet metal of the door frame.

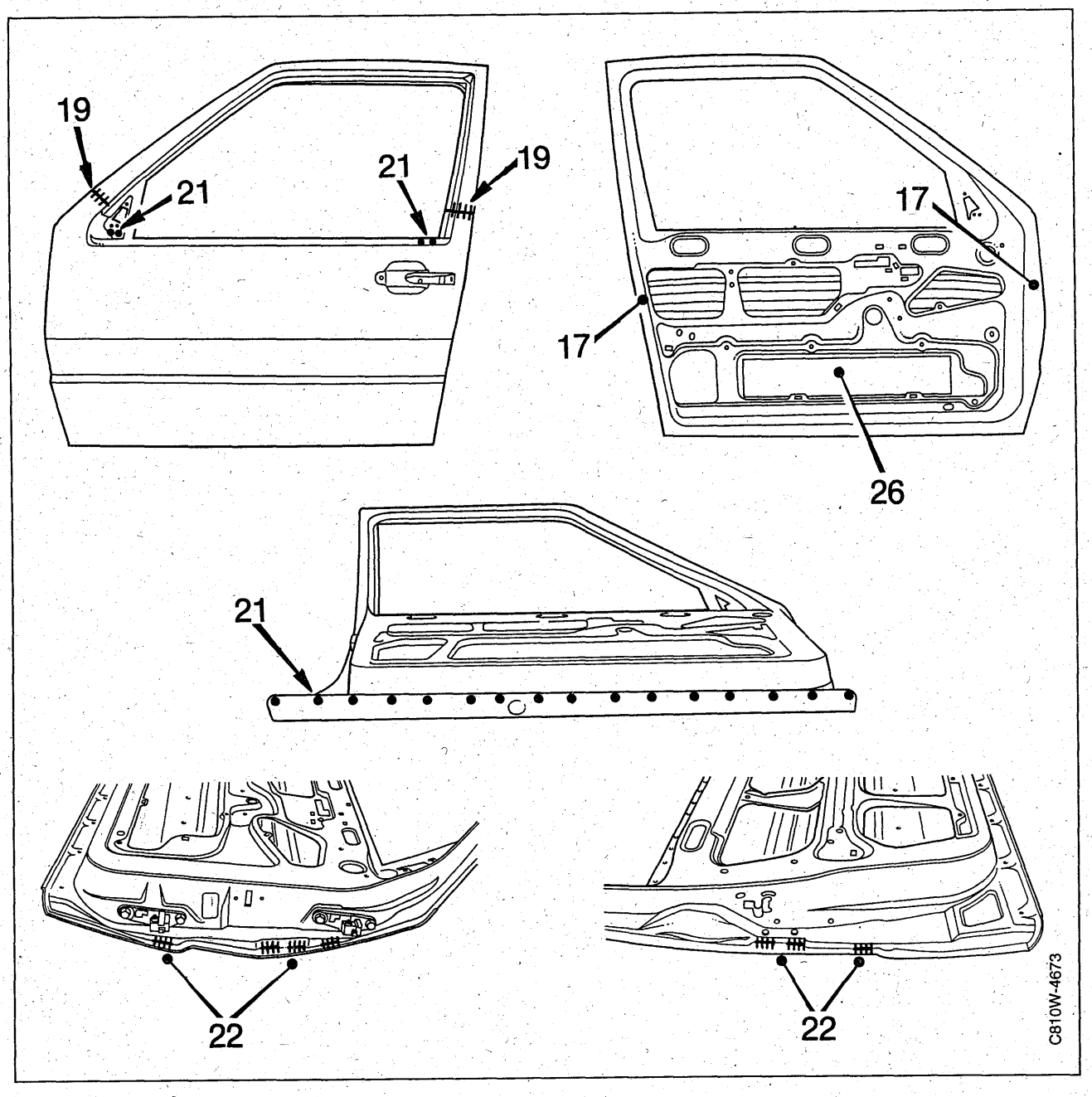
12 Remove the door panel and use a grinder to clean the areas on the door structure and door panel that are to be welded.

13 Apply Teroson Zinkspray to the areas ground clean on the door structure and door panel.

14 Apply Terostat 1K-PUR between the collision reinforcement member and the door panel.

15 Apply Teromix 6700 adhesive to the inside of the leading and trailing edges of the door panel.

16 Fit the door panel to the door structure and fix it with a couple of welding clamps. Tack weld the door panel to the door frame.



17 Fold the leading and trailing edges of the door panel round the door structure. Start with a plastic mallet and continue with a hammer. Work along the edges several times.

18 Fit the door in place and check its fit and alignment with the body, Adjust as necessary.

19 Weld the joints between the door panel and door frame (continuous welds).

20 Go over the welds with a grinder.

21 Spot weld the door panel as shown (along the lower edge and in two places above the door handle and another two at the door mirror mounting).

22 Seam weld the folds at the leading and trailing edges of the door.

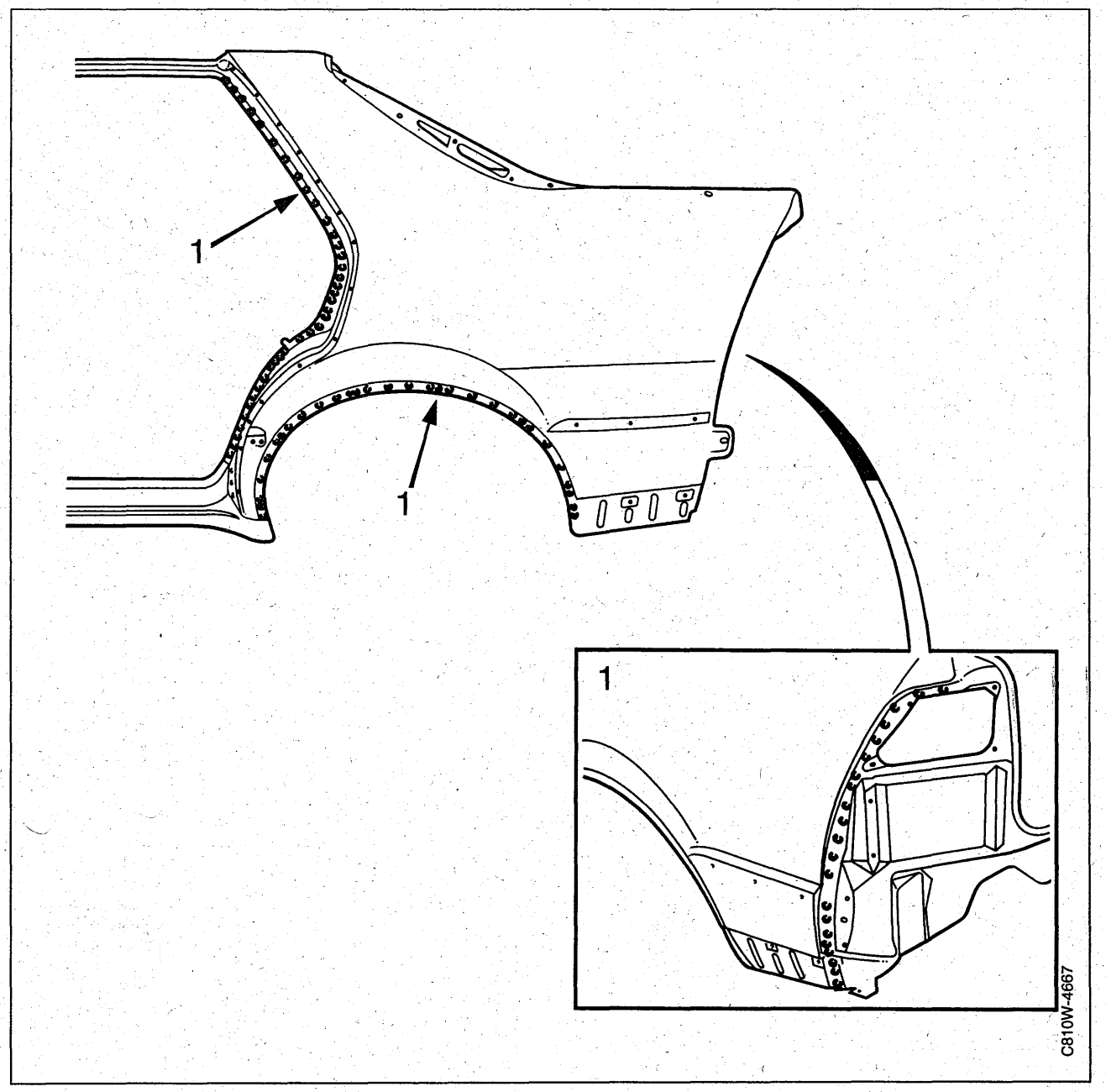
23 Wash surplus welding primer off the door. Welding primer makes for poorer adhesion of paint, filler and sealant.

24 Apply primer to all surfaces that have been ground clean and are not to be filled. Use primer of high quality, such as Standox 1K Füllprimer.

25 Use Terostat 1K-PUR to seal joints and metal folds.

26 Fit a slab of insulating material to the inside of the door panel.

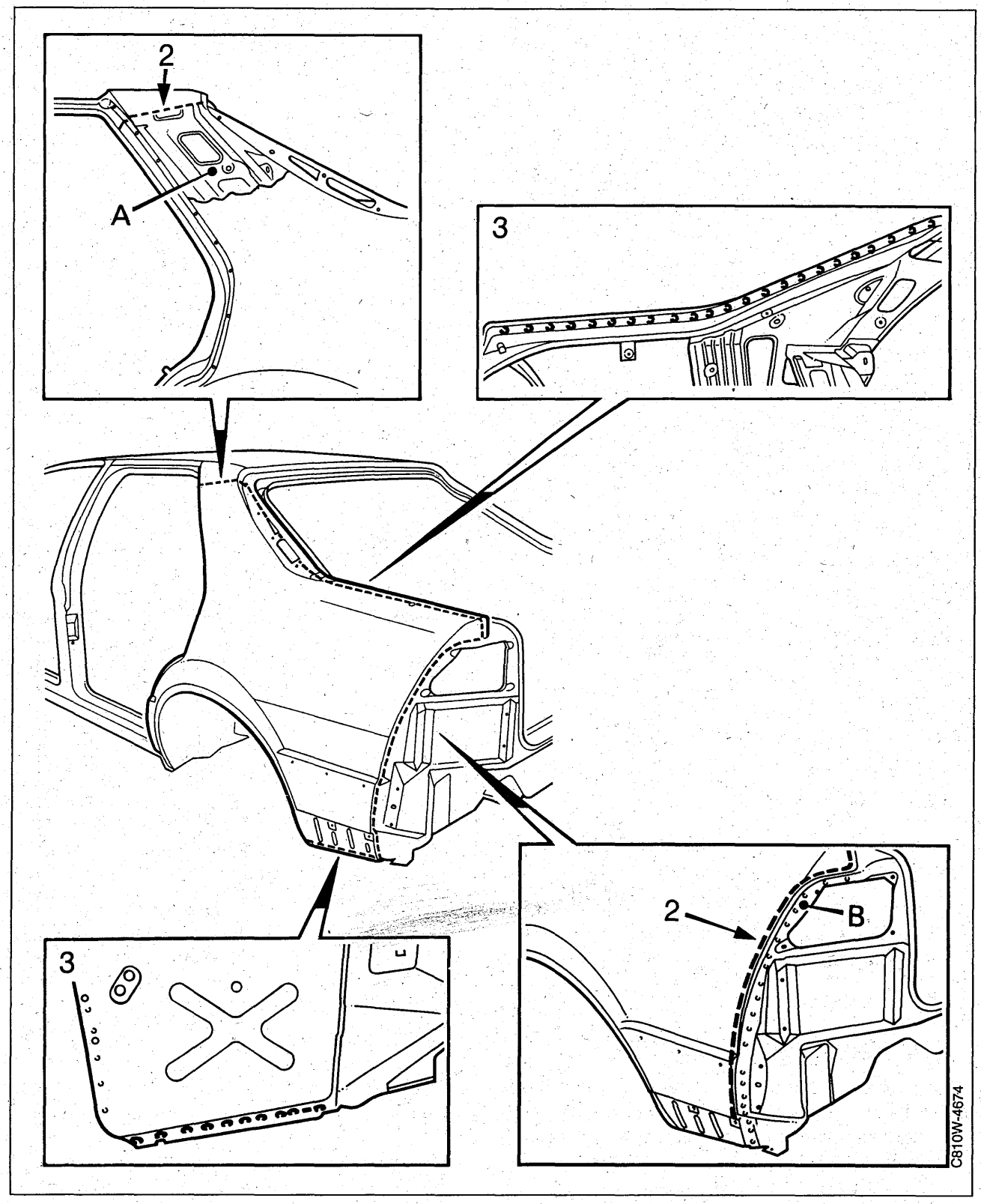
27 Apply anti-corrosion agent to the door after it has been painted.



Side panel, Saab 9000 CS

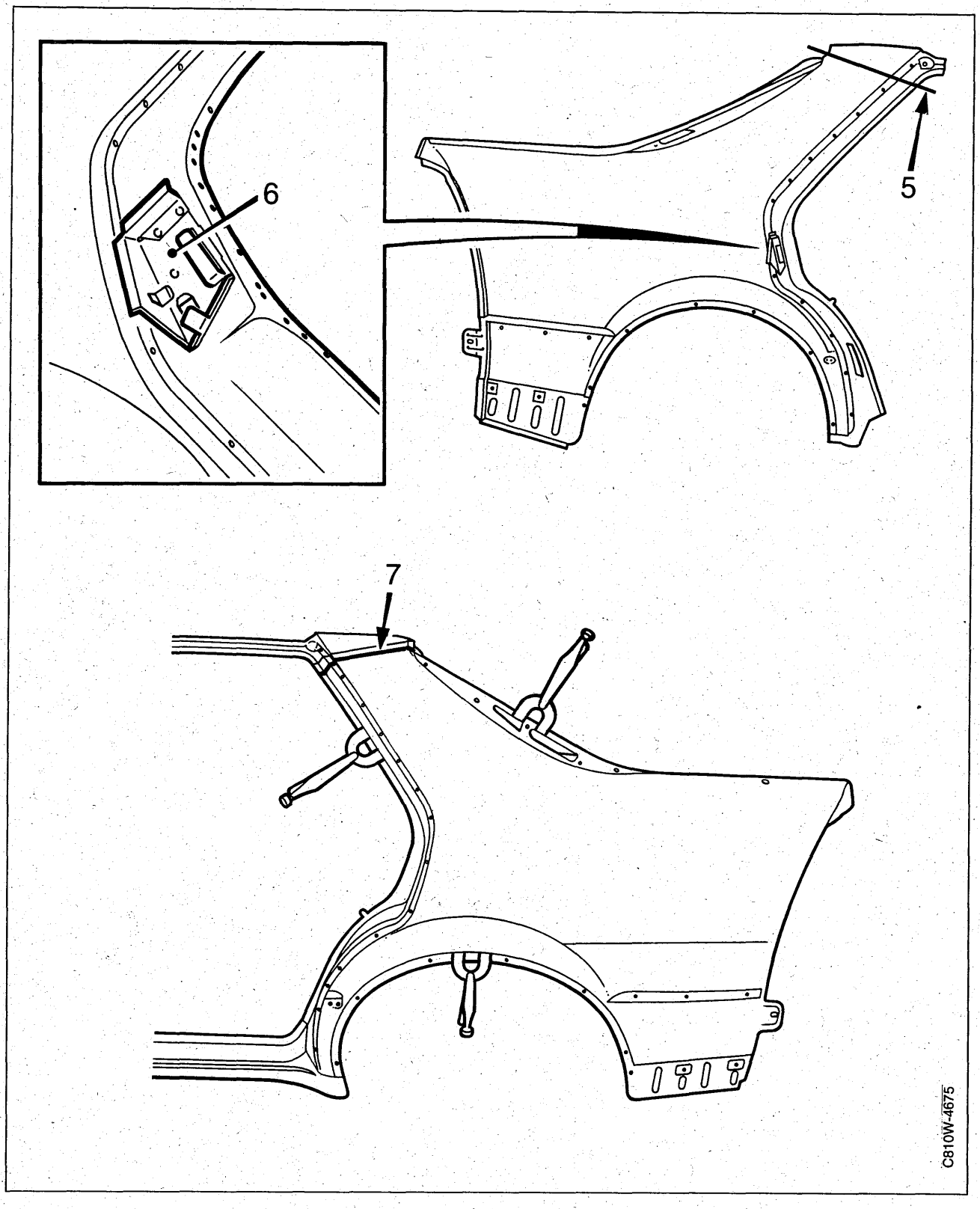
If the roof is intact, the side panel can be suitably cut and joined a slight distance down the C pillar. This will avoid damaging the paintwork on the roof when the new side panel is welded in place.

1 Drill out the spot welds that can be reached with a spot weld drill.



2 Cut the side panel roughly to size as shown. The reinforcement in the C pillar (A) must not be damaged. Do not cut through the rear light cluster frame (B).

3 Drill out the spot welds in the edges of the sheet metal remaining after the panel has been cut roughly to size.



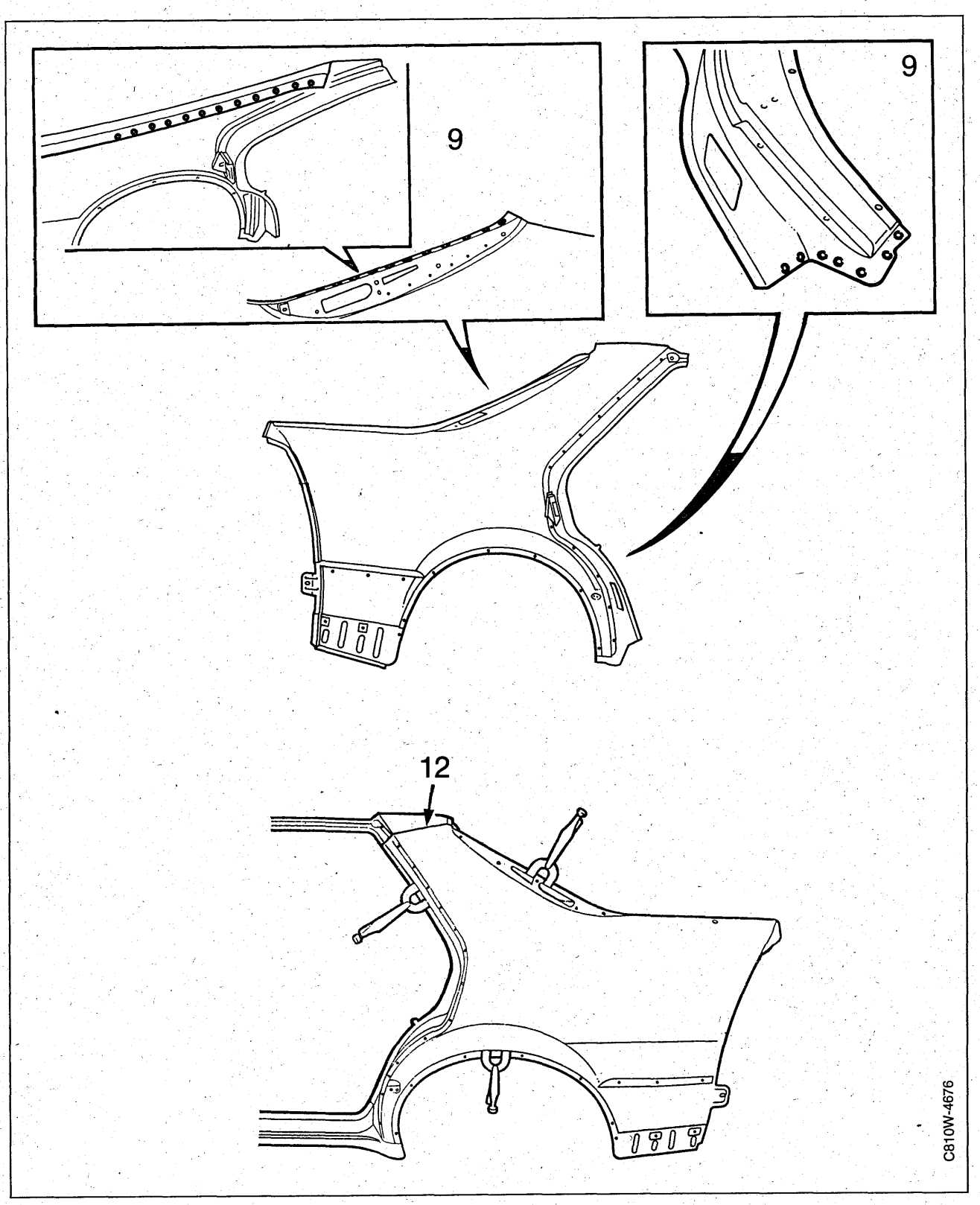
4 Realign any deformed metalwork.

5 Cut the new panel roughly to size so that it overlaps the joint location at the top of the C pillar by about 3 cm.

6 Transfer the locking plate from the old side panel to the new one.

7 Position the side panel by means of a few welding clamps. Cut through the new and old side panels simultaneously so that they can be welded together edge-to-edge.

8 Lift down the side panel and use a grinder on the edges that are to be welded.



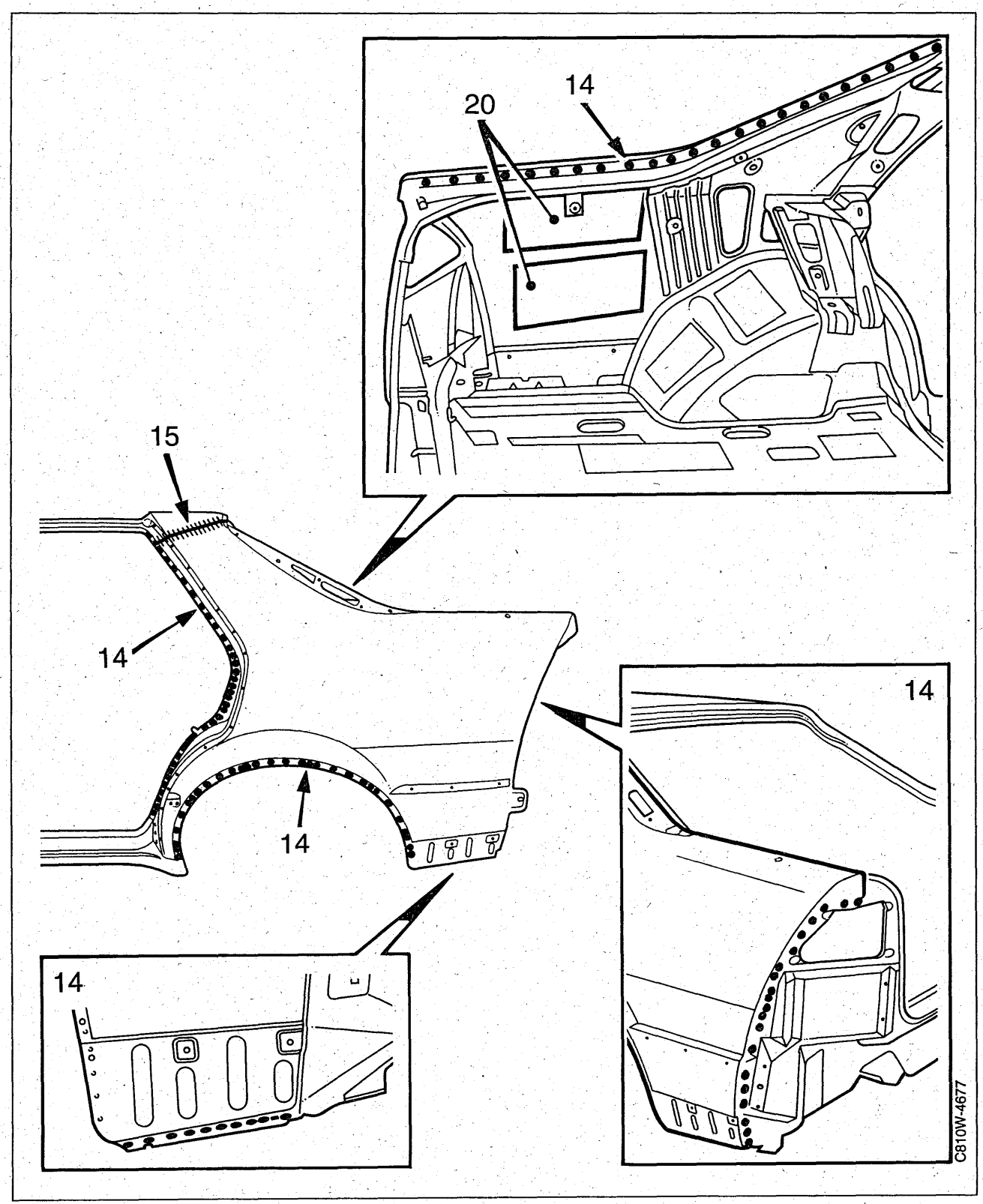
9 Punch holes for plug welding int he side panel as shown.

10 Use a grinder on the areas of the body that are to be welded.

11 Apply Teroson Zinkspray between the metal surfaces that are to be spot welded or plug welded.

12 Position the side panel by means of a few welding clamps and fix it with a couple of tack welds.

13 Check the fit and alignment of the rear door, tailgate, rear light cluster and corner panel. Adjust as necessary.



14 Weld the side panel in place.

15 The joint on the C pillar should first be welded (continuous weld) and then filled with tin solder.

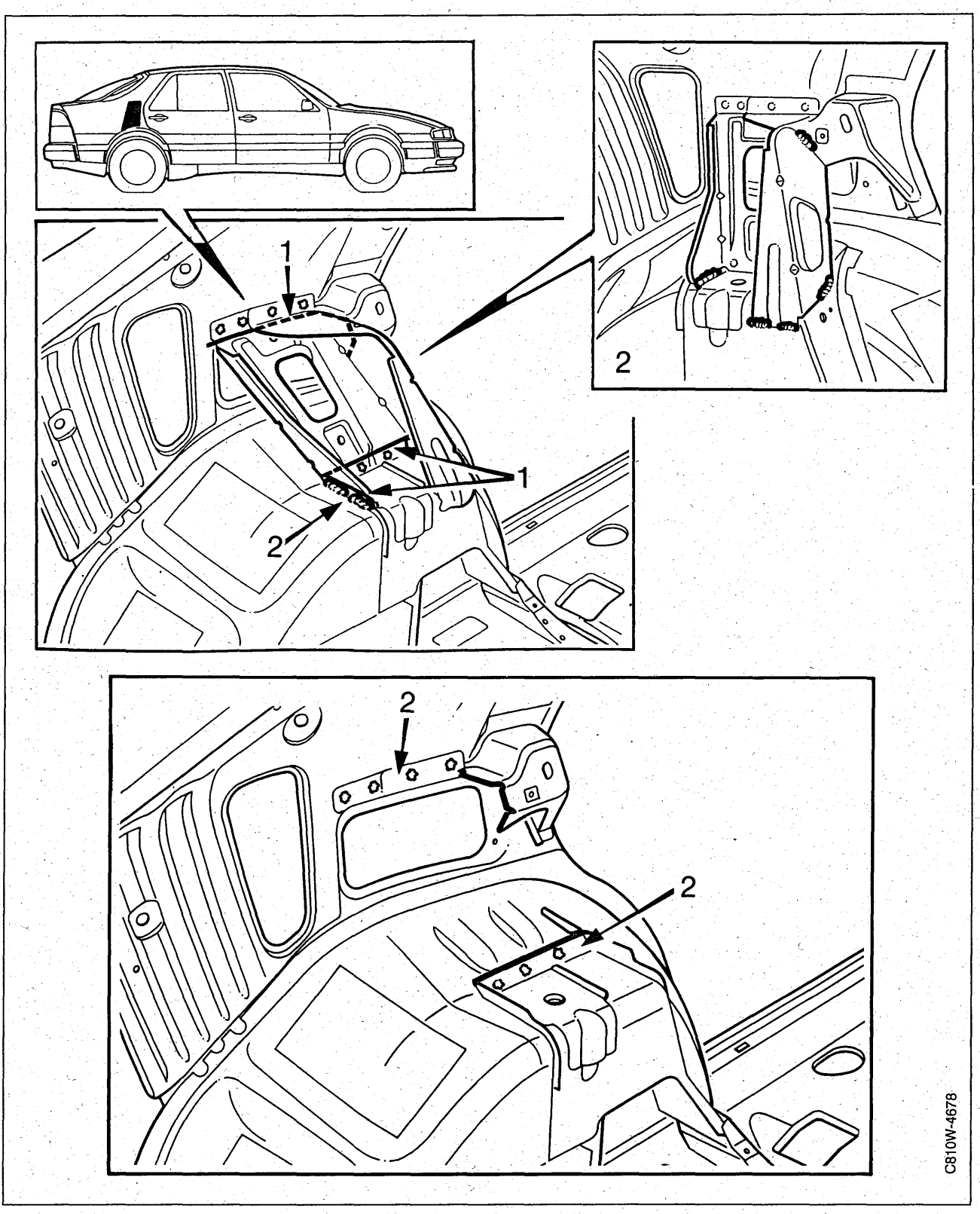
16 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

17 Go over the welds with a grinder.

18 Apply primer to all surfaces that have been ground clean and are not to be filled. Use primer of high quality, such as Standox 1K Füllprimer.

19 Seal joints and metal folds with Terostat 1K-PUR sealant.

20 Fit slabs of sound insulating material to the side panel.



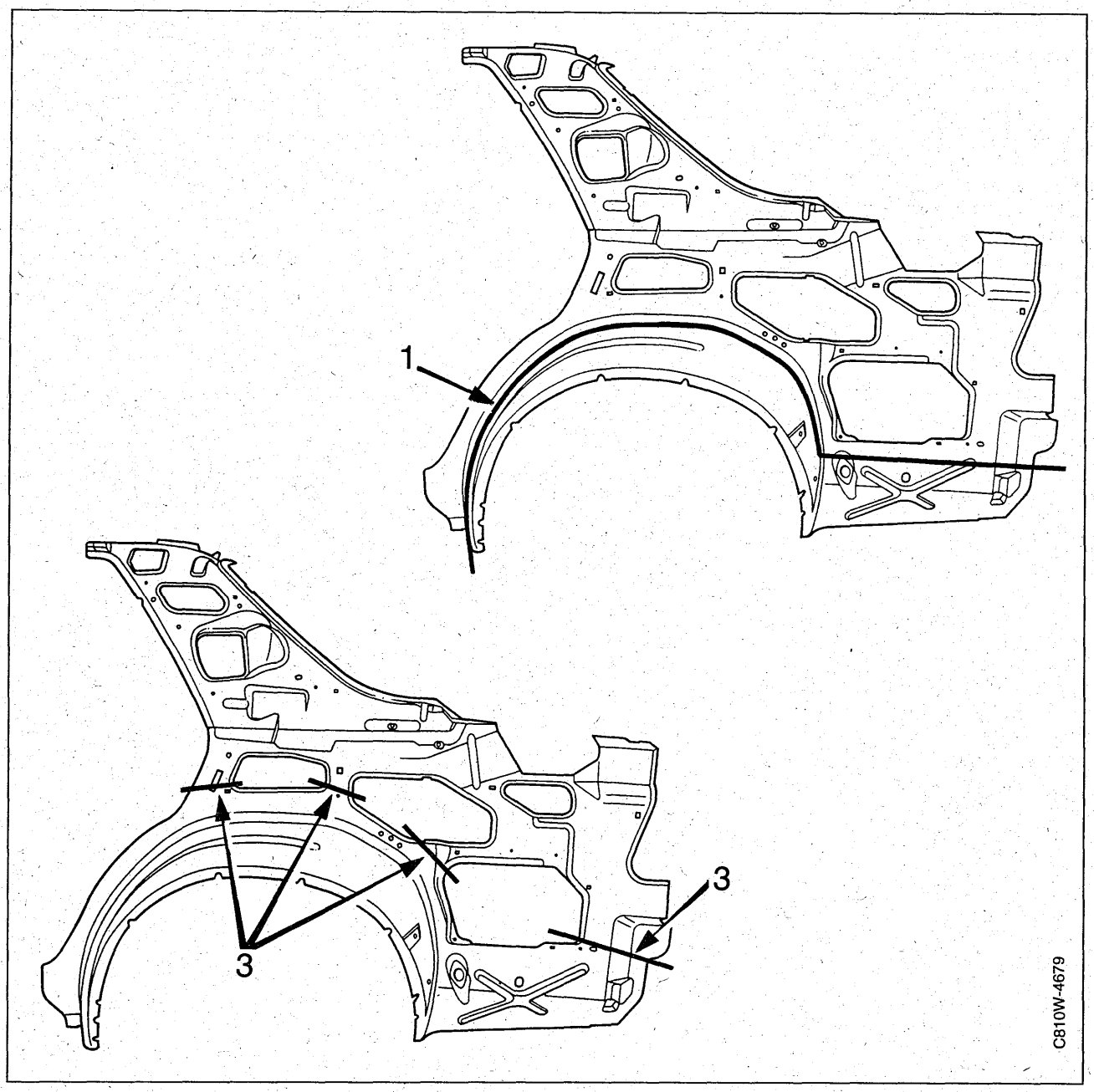
Reinforcement member, rear wheel housing

1 Roughly cut the reinforcement member away.

2 Use a grinder on the welds and remove the remaining edges of sheet metal.

3 Use a grinder on the areas that are to be welded.

4 Locate the new reinforcement member and weld it in position. There should be just as many welds in the same places as before.



Rear outer wheel housing, Saab 9000 CD

The rear outer wheel housing is an integrated part of the inner side panel. When fitting a replacement wheel housing, cut it free from the inner side panel. Then cut the new wheel housing free from the spare part and spot weld it to the inner side panel.

The outer side panel should be removed when fitting a replacement outer wheel housing.

1 Cut the wheel housing free from the inner side panel.

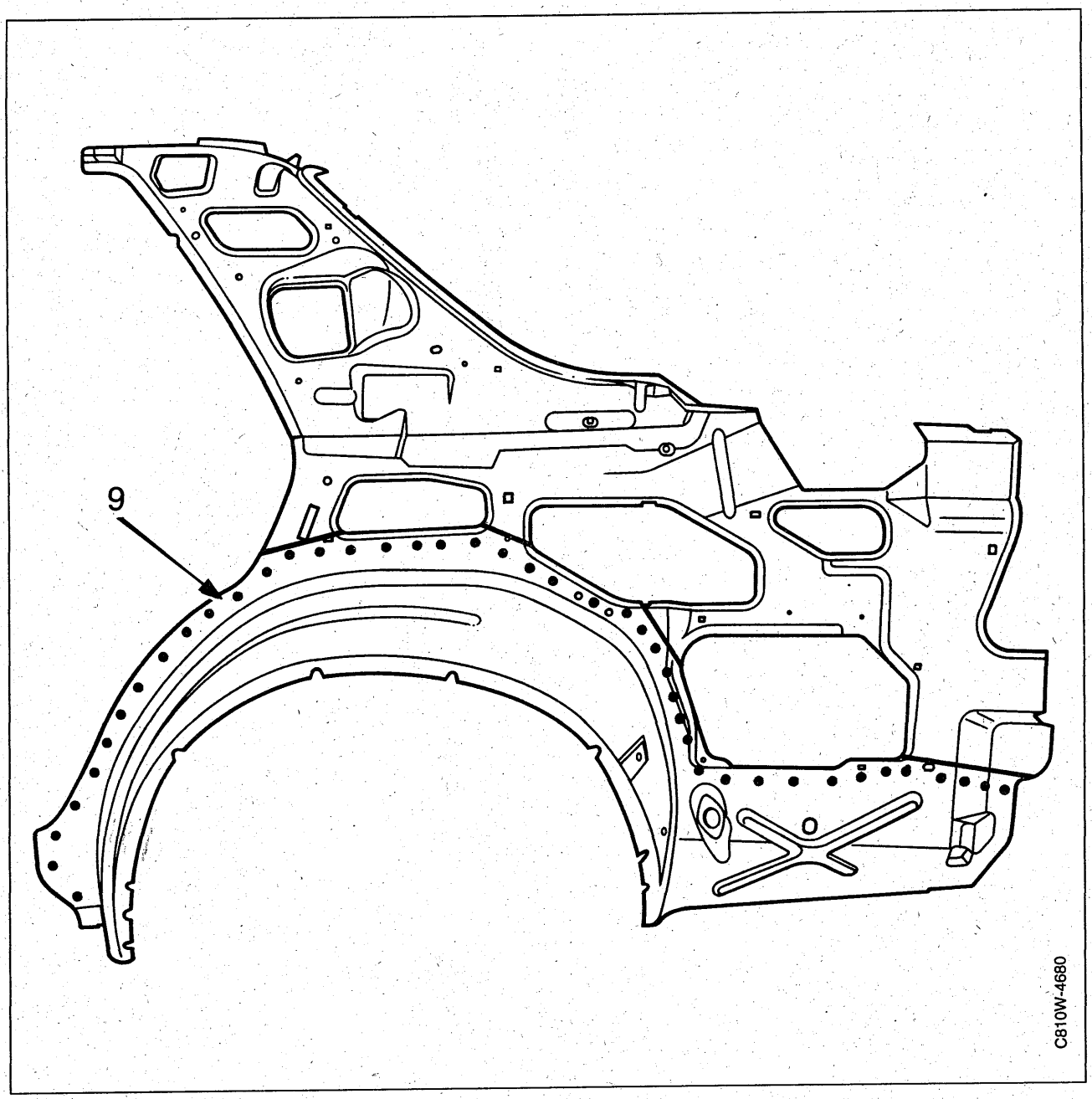
2 Realign any deformed metalwork and use a grinder on the surfaces that are to be welded to the inner side panel.

3 Cut the new wheel housing to fit. Cut slightly above the wheel housing itself so that it can be spot welded to the inner side panel.

4 Use a grinder to clean the areas on the new wheel housing that are to be welded.

5 Apply Teroson Zinkspray welding primer between the metal surfaces that are to be welded.

6 Fit the new wheel housing in place and fix it with welding clamps.



7 Fit the outer side panel, rear door and boot lid in place and check their fit and alignment. Measure the rear window aperture.

8 Fix the new wheel housing to the inner side panel by means of a couple of spot welds.

9 Lift down the outer side panel and spot weld it to the new wheel housing.

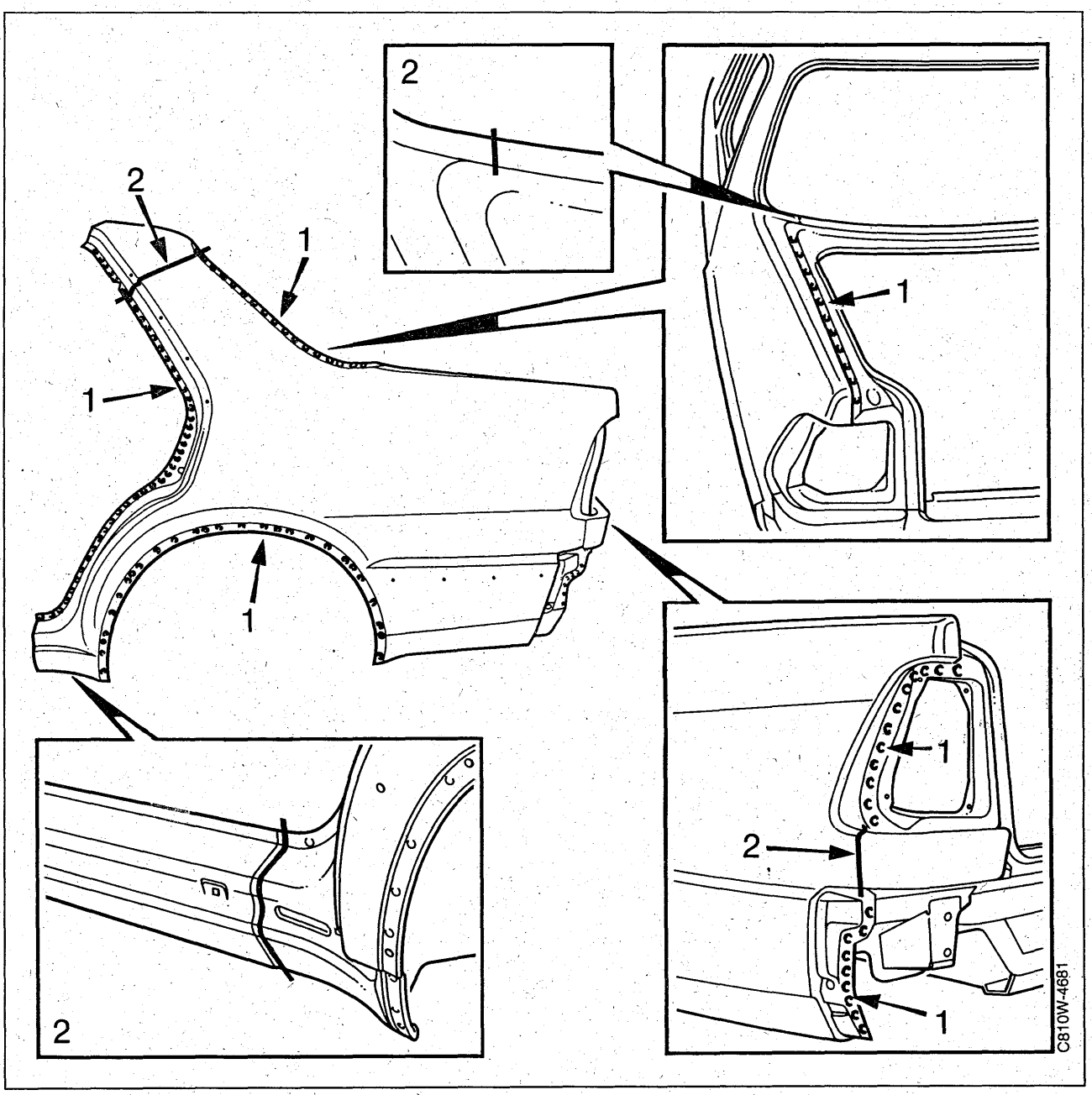
10 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

11 Apply primer to the metal surfaces that have been ground clean. Use Standox 1K Füllprimer.

12 Seal joints and metal folds with Terostat 1K-PUR sealant.

13 Apply Terotex HV 400 or Mercasol 1 cavity sealant.

Fit the outer side panel in place as described on page 810-51.



Side panel, Saab 9000 CD

1 Drill out the spot welds.

2 Roughly cut the wing free as shown.

Important

The reinforcement inside the C pillar must not be damaged.

3 Realign any deformed metalwork.

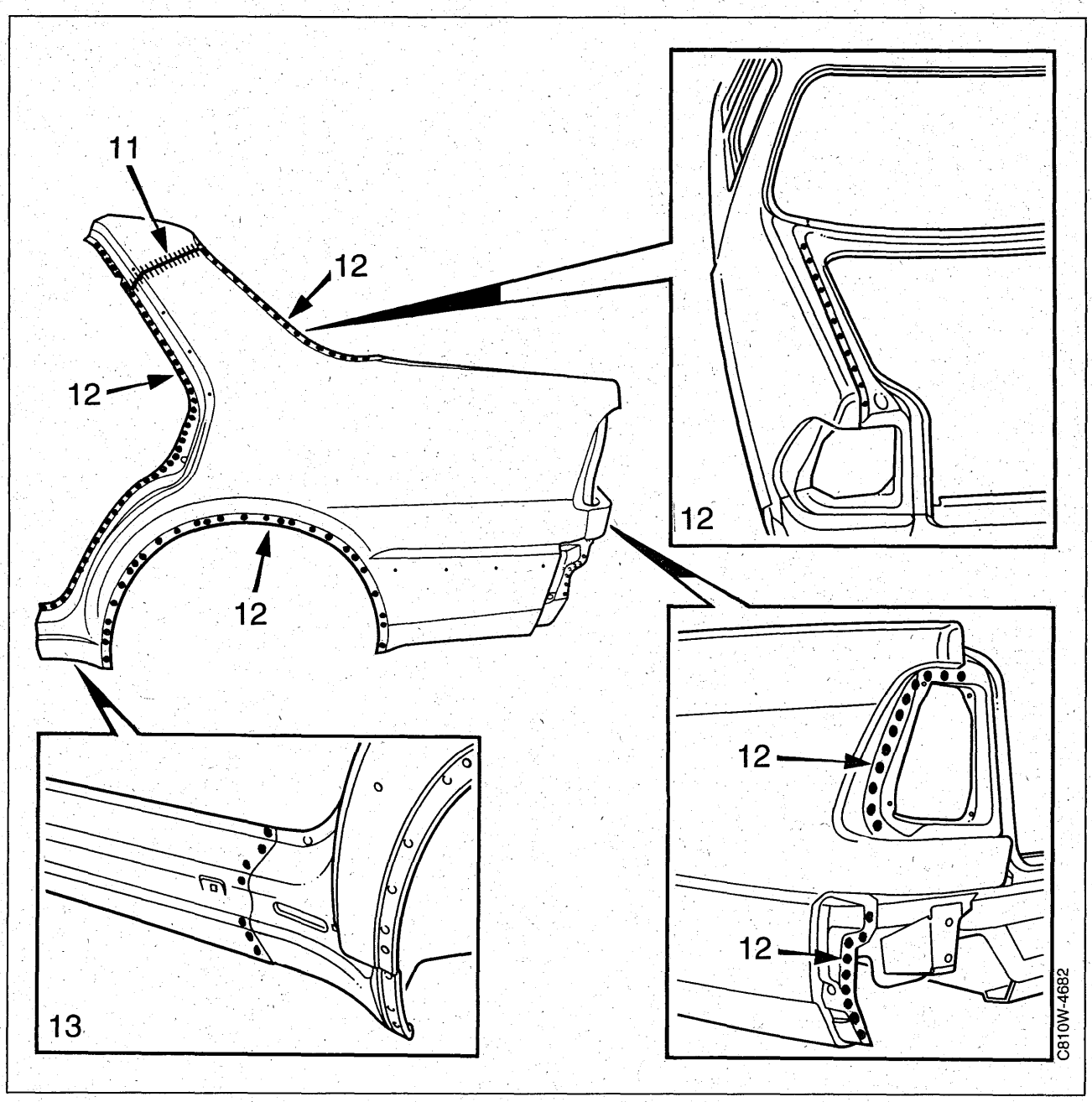
4 Use a grinder to clean the surfaces that are to be welded to the new wing.

5 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

6 Use a grinder to clean the surfaces of the new wing that are to be welded.

7 Apply welding primer to the surfaces of the new wing that are to be spot welded. Use Teroson Zinkspray.

8 Cut the new wheel housing roughly to size so that it will overlap the joint location by about 3 cm.



9 Position the new wing by means of a few welding clamps and then fix it with a couple of tack welds. Check its fit and alignment with the rear window, boot lid and door. Measure the door aperture. Adjust as necessary.

10 Cut through the spare part and C pillar simultaneously.

11 Weld the joint on the C pillar (continuous weld).

12 Spot weld the wing in place.

13 Plug weld the side panel to the sill.

14 Go over the welds with a grinder.

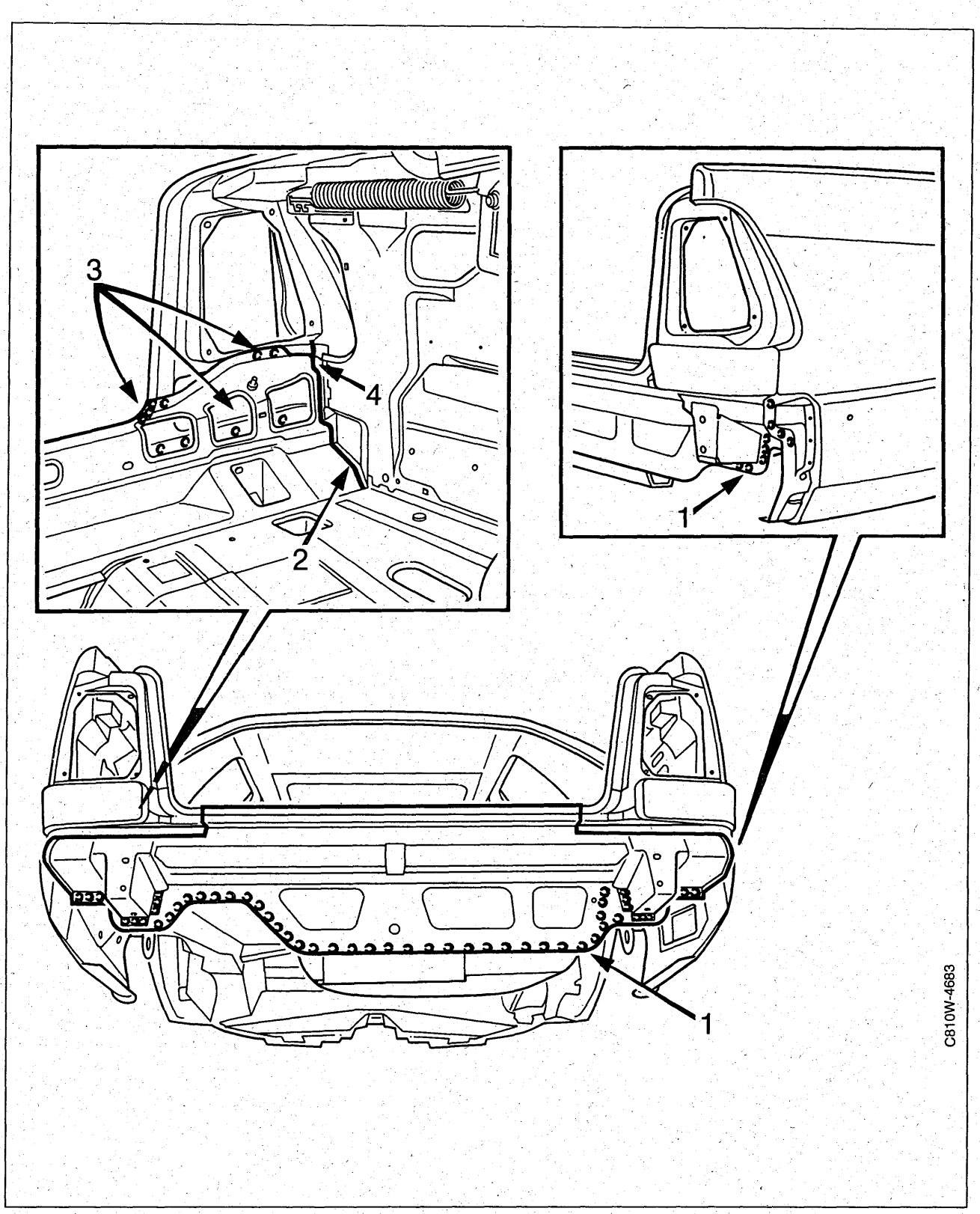
15 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

16 Apply primer to the metal surfaces that have been ground clean and are not to be filled. Use primer of high quality, such as Standox 1K Füllprimer.

17 Use Terostat 1K-PUR to seal joints and metal folds.

18 Apply underseal to the underside of the side panel. Use Terostat 9320.

19 Fit a slab of sound insulating material to the inside of the side panel.



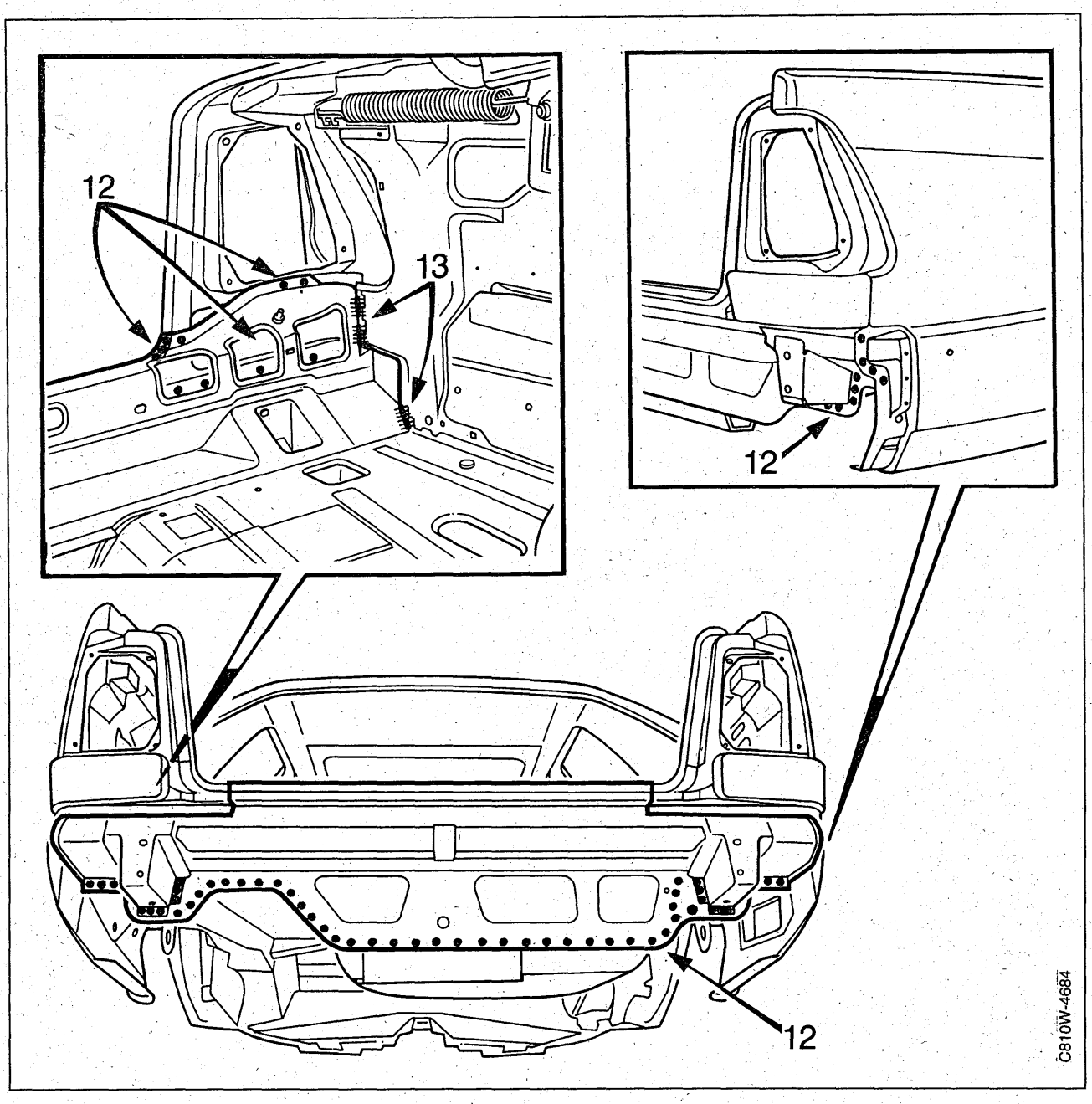
Rear bumper abutment, Saab 9000 CD

1 Drill out the spot welds on the outside of the rear bumper abutment.

2 Cut the rear bumper abutment roughly as shown so that all the spot welds on the inside will be exposed and accessible.

3 Drill out the spot welds on the inside of the rear bumper abutment.

4 Lift away the rear bumper abutment and remove the remaining strips of sheet metal.



5 Realign any deformed metalwork.

6 Use a grinder to clean the surfaces of the body that are to be welded.

7 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

8 Use a grinder to clean the surfaces of the new rear bumper abutment that are to be welded.

9 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.

10 Position the new rear bumper abutment and fix it with a few welding clamps.

11 Fit the boot lid and bumper in position and check the fit and alignment of the rear bumper abutment.

12 Spot weld the new rear bumper abutment in place.

13 Seam weld the rear bumper abutment to the inner side panel.

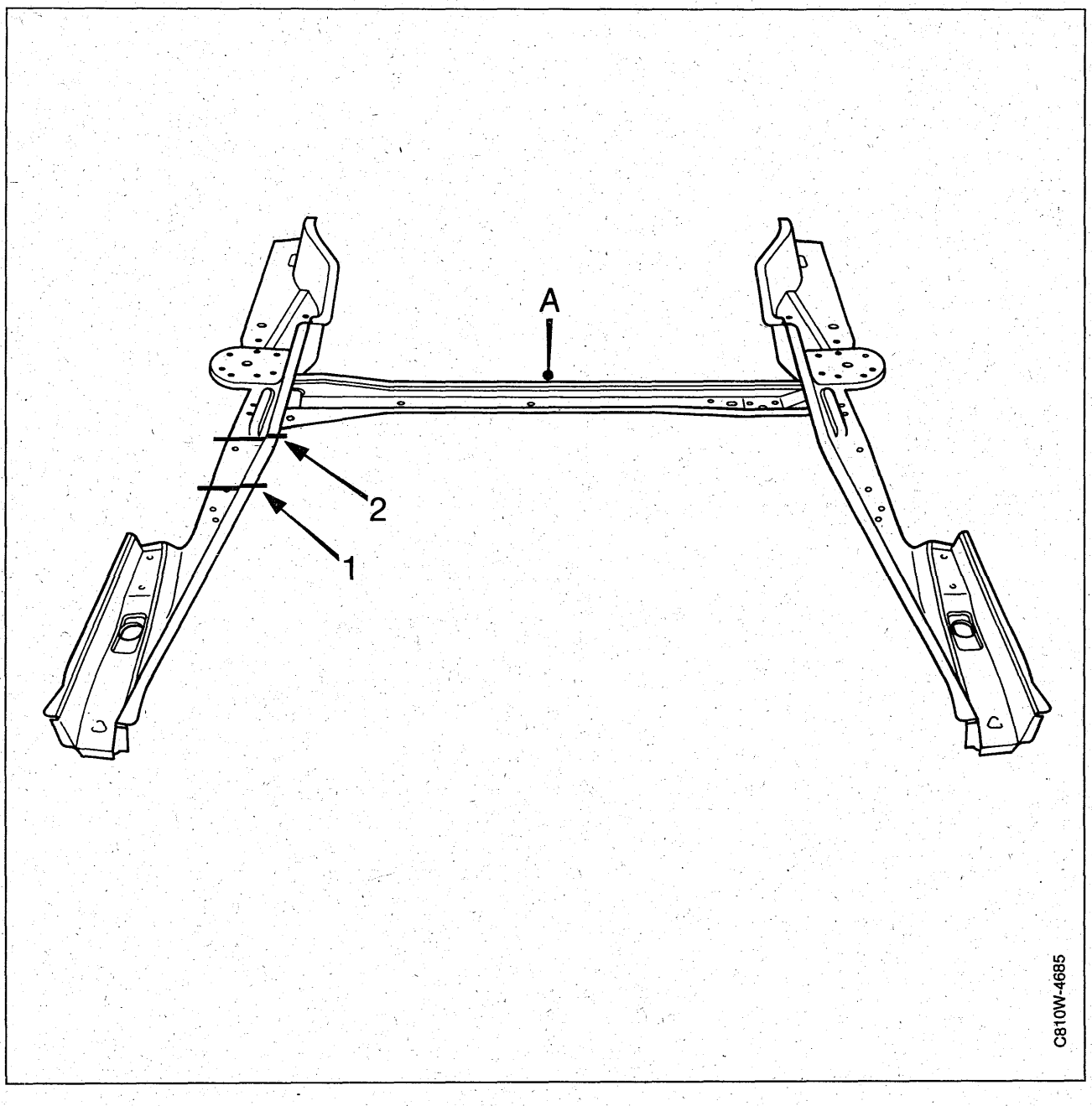
14 Go over the welds with a grinder.

15 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

16 Apply primer to all metal surfaces that have been ground clean. Use Standox 1K Füllprimer.

17 Seal joints and metal folds with Terostat 1K-PUR sealant.

18 Apply underseal to the underside of the rear bumper abutment. Use Terostat 9320.



Part of subframe member

The rear bumper abutment must be removed when fitting a replacement subframe member.

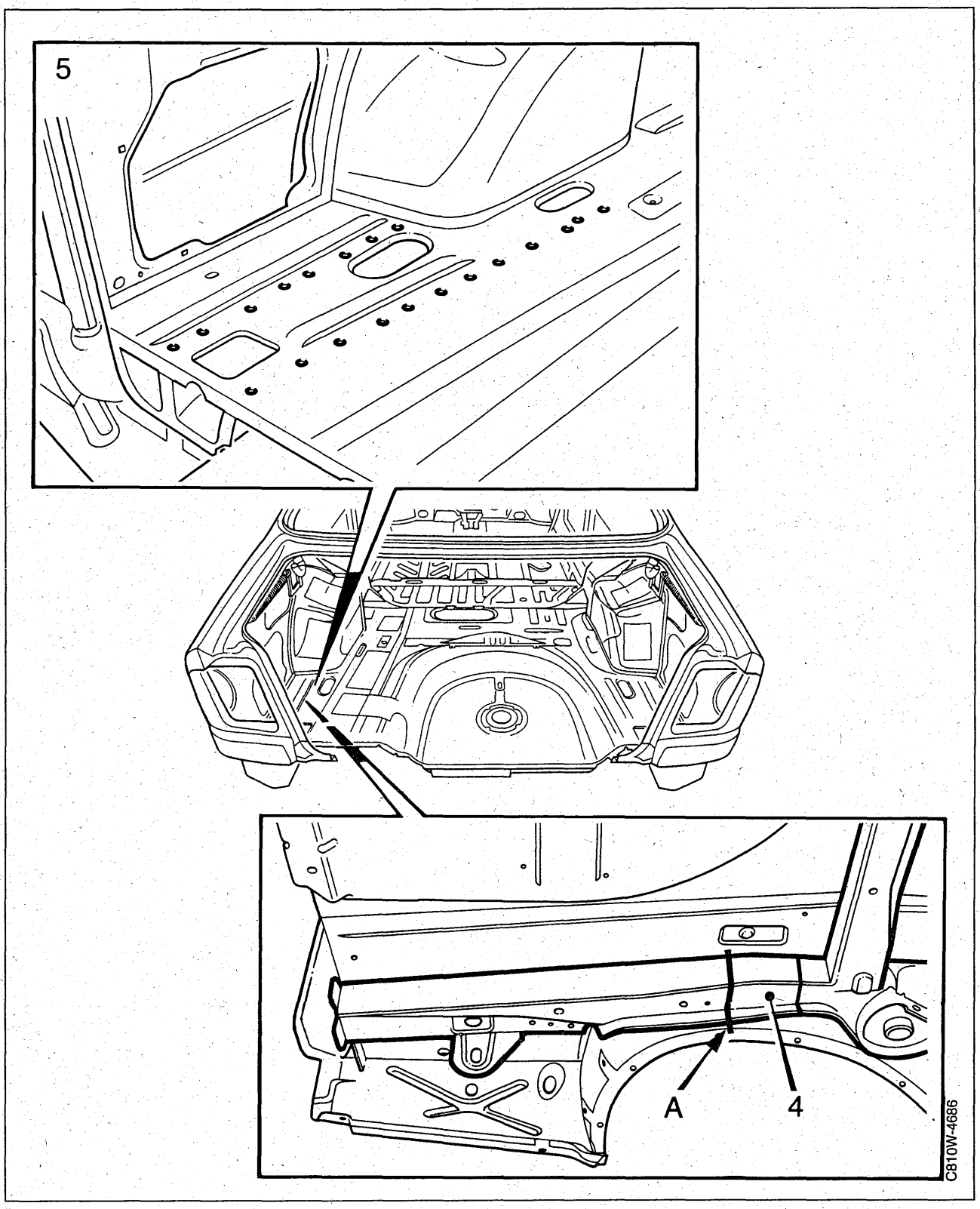
Important

Welded joints in the subframe member may only be made behind the cross-member (A). If damage to the subframe member extends further towards the front beyond the cross-member, the entire subframe member will have to be replaced.

1 Roughly cut the spare part so that it overlaps the joint location by about 50 mm.

2 Cut out a template from the remainder of the spare part.

Use this template to cut the damagedsubframe member so that it will be possible to butt-weld the spare part to it edge-to-edge.



3 Scrape off the underseal compound to expose the subframe member at the joint location.

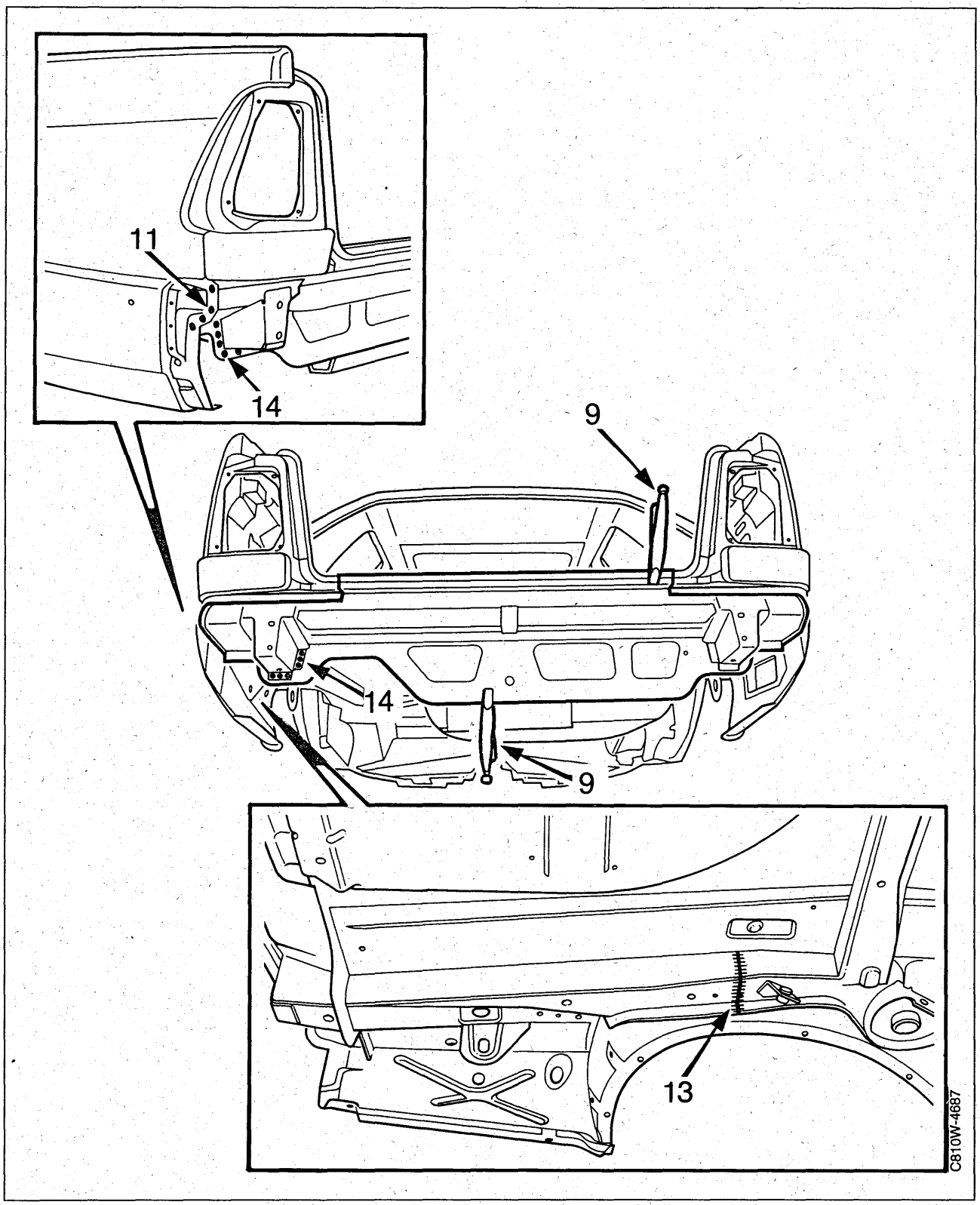
4 Position the template and cut the subframe member at the rear edge of it (A).

5 Drill out the spot welds and remove the damaged part of the subframe member.

6 Realign any deformed sheet metal edges.

7 Use a grinder to clean the surfaces on the body, rear bumper abutment and subframe member that are to be welded.

8 Apply welding primer to the surfaces that are to be spot welded. Use Teroson Zinkspray.



9 Fit the rear bumper abutment in place and fix it with a couple of welding clamps.

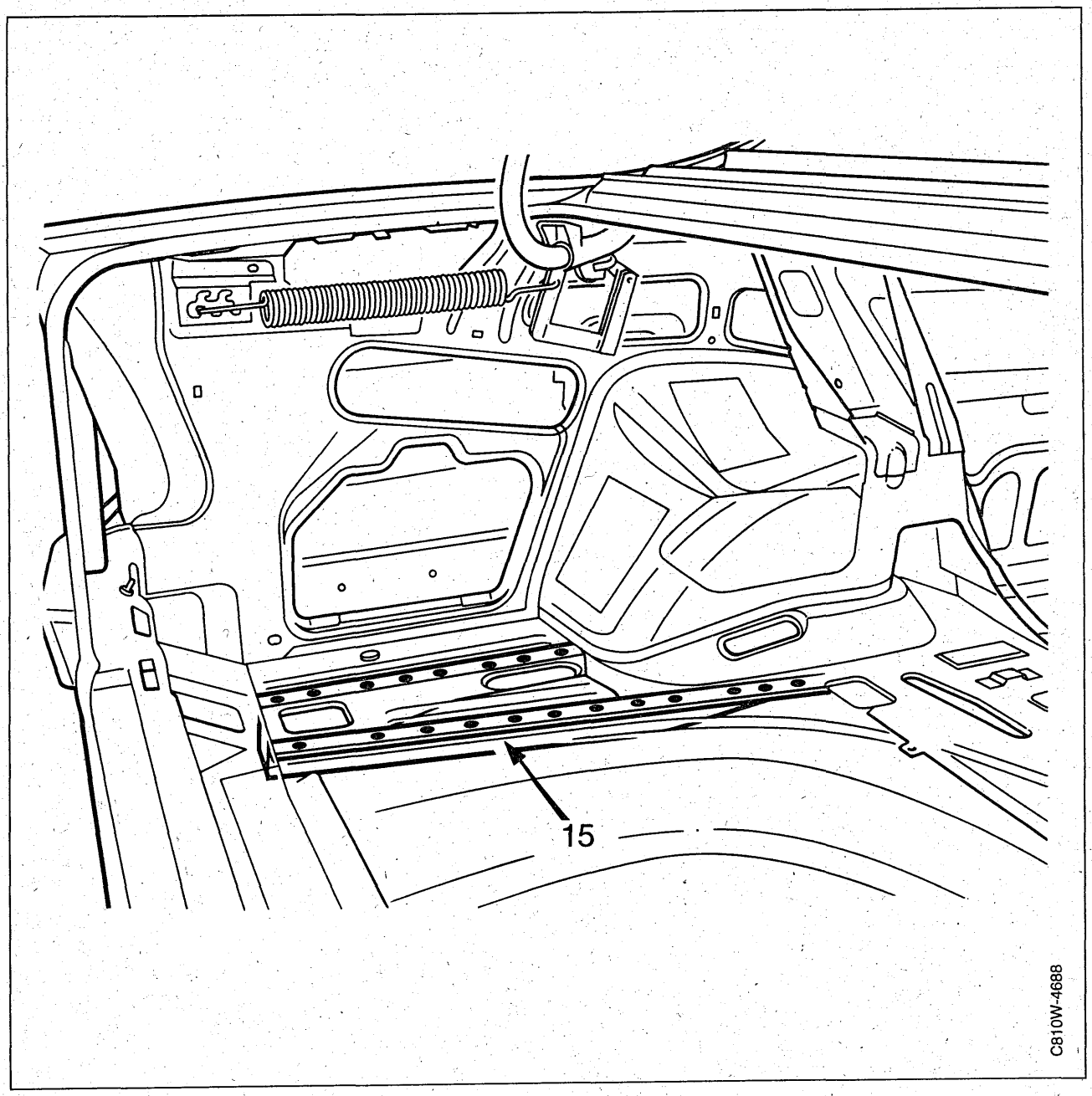
10 Fit the bumper and boot lid in place and check their fit and alignment.

11 Remove the bumper and boot lid and spot weld the rear bumper abutment to the luggage compartment wall.

12 Fit the subframe member in place and fix it with a couple of welding clamps.

13 Weld the joint on the subframe member (continuous weld).

14 Weld the subframe member to the rear bumper abutment.



15 Plug weld the subframe member to the luggage compartment floor.

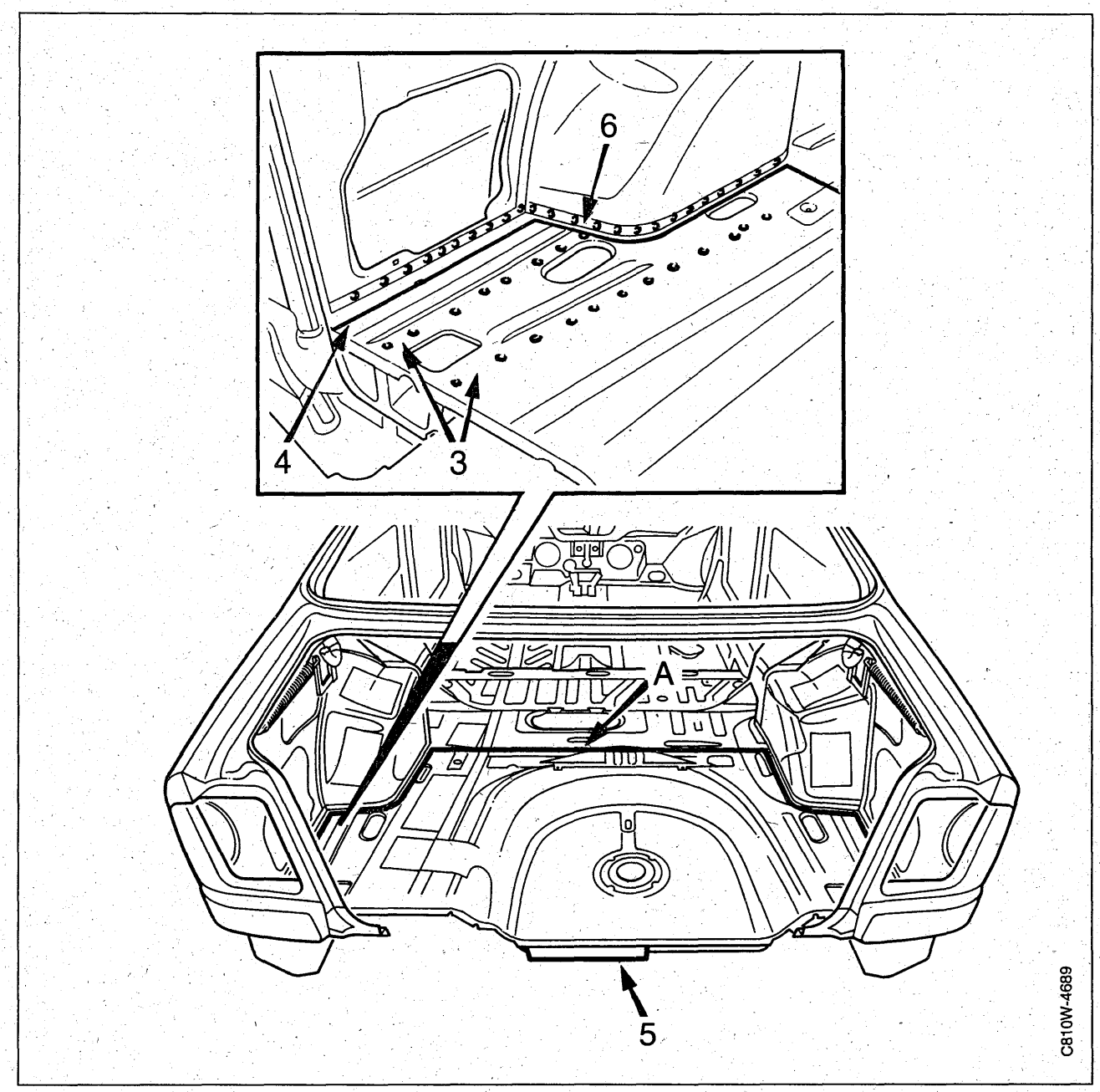
16 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

17 Apply primer to the metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

18 Use Terostat 1K-PUR to seal joints and metal folds.

19 Apply underseal to the underbody. Use Terostat 9320.

20 Spray anti-corrosion agent into the subframe member after it has been painted. Use Terotex HV 400 or Mercasol 1.



Part of rear floor, Saab 9000 CD

1 Mount the car on an aligning bench.

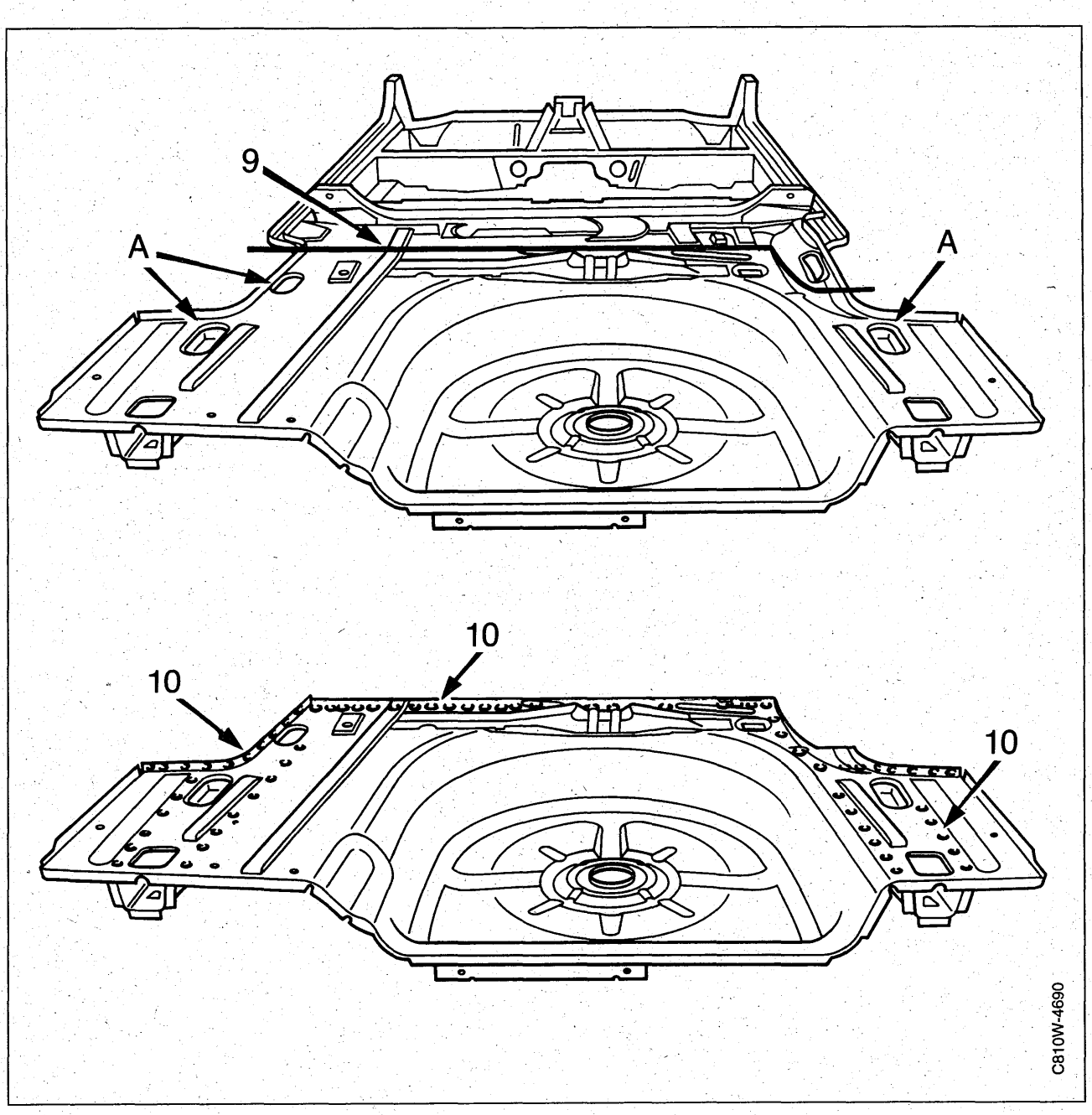
2 Remove the rear bumper abutment as described on page 810-53.

3 Drill out the spot welds securing the floor to the frame members.

4 Cut the floor section roughly to size and lift it out. At its front edge (A), the floor section should be cut immediately behind the reinforcement member on the underside of the floor so that the spare part can subsequently be cut with a 20 mm overlap, enabling it to be plug welded to the floor and reinforcement member.

5 Cut free the tow-bar reinforcement on the underside of the spare wheel well. It is to be transferred to the new floor.

6 Drill out the spot welds holding the sides of the floor to the wheel housings and remove the remaining edges of sheet metal.



7 Realign any deformed metalwork.

8 Use a grinder on the surfaces of the body that are to be welded.

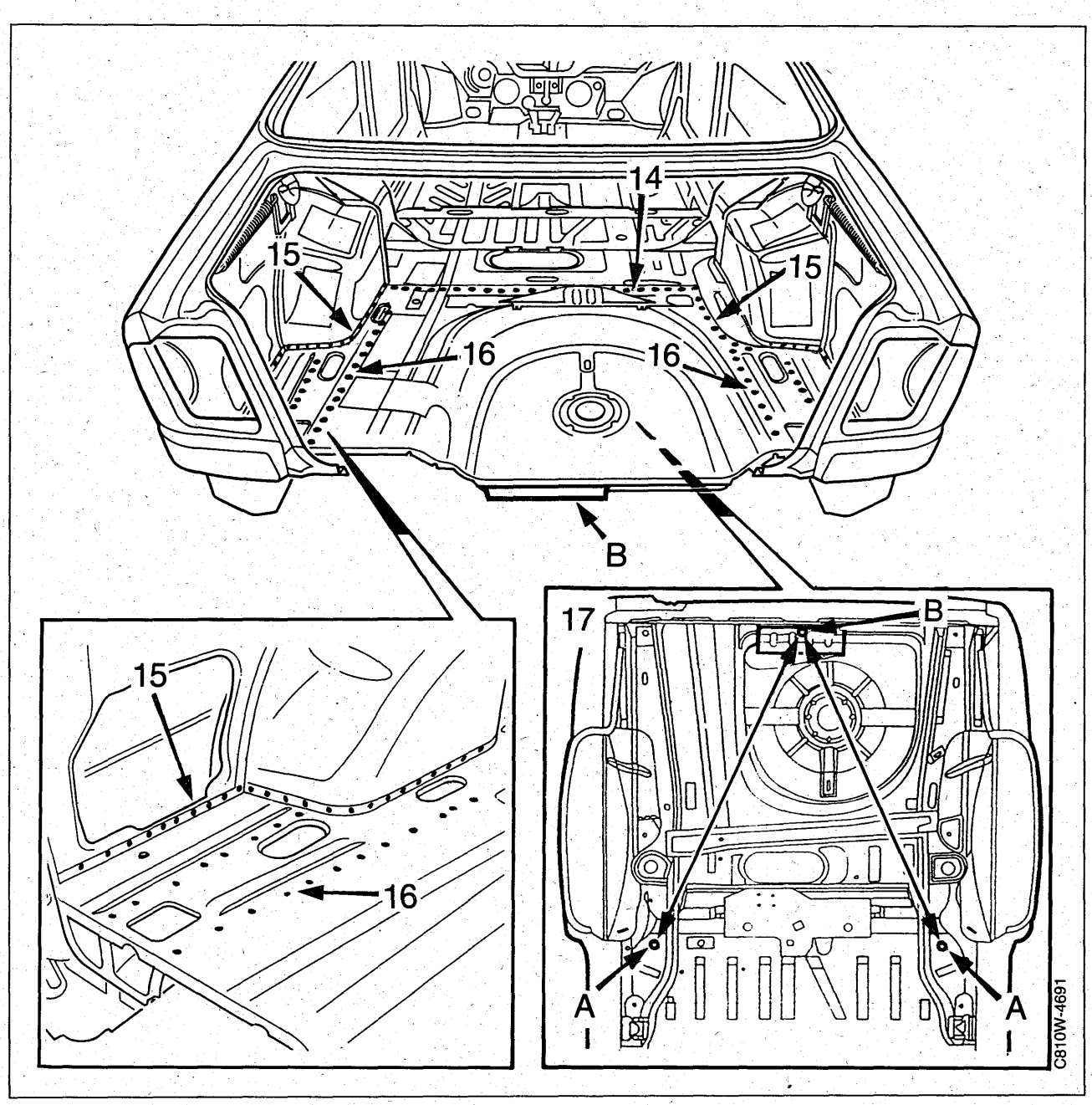
9 Cut the spare part so that it overlaps the joint by 20 mm. Use the elongated holes in the old floor on both sides as reference points (A).

10 Punch holes for plug welding where this is possible. Drill other holes using a 6 mm drill bit. Note that the floor must be spot welded wherever it is accessible for spot welding.

11 Grind the areas on the spare part that are to be welded.

12 Apply Teroson Zinkspray welding primer between the metal surfaces that are to be welded.

13 Position the floor in the car and fix it with welding clamps.



14 Plug weld the front edge of the floor.

15 Plug weld and spot weld the sides of the floor.

16 Plug weld the floor to the frame members.

17 Measure up the position of the tow-bar reinforcement. The distance between the front mounting holes (A) for the spring links and the centre hole (B) for the tow-bar reinforcement should be 1319 mm.

18 Use a grinder on the surfaces that are to be welded, position the reinforcement and weld it in place.

19 Fit the rear bumper abutment as described on page 810- 57.

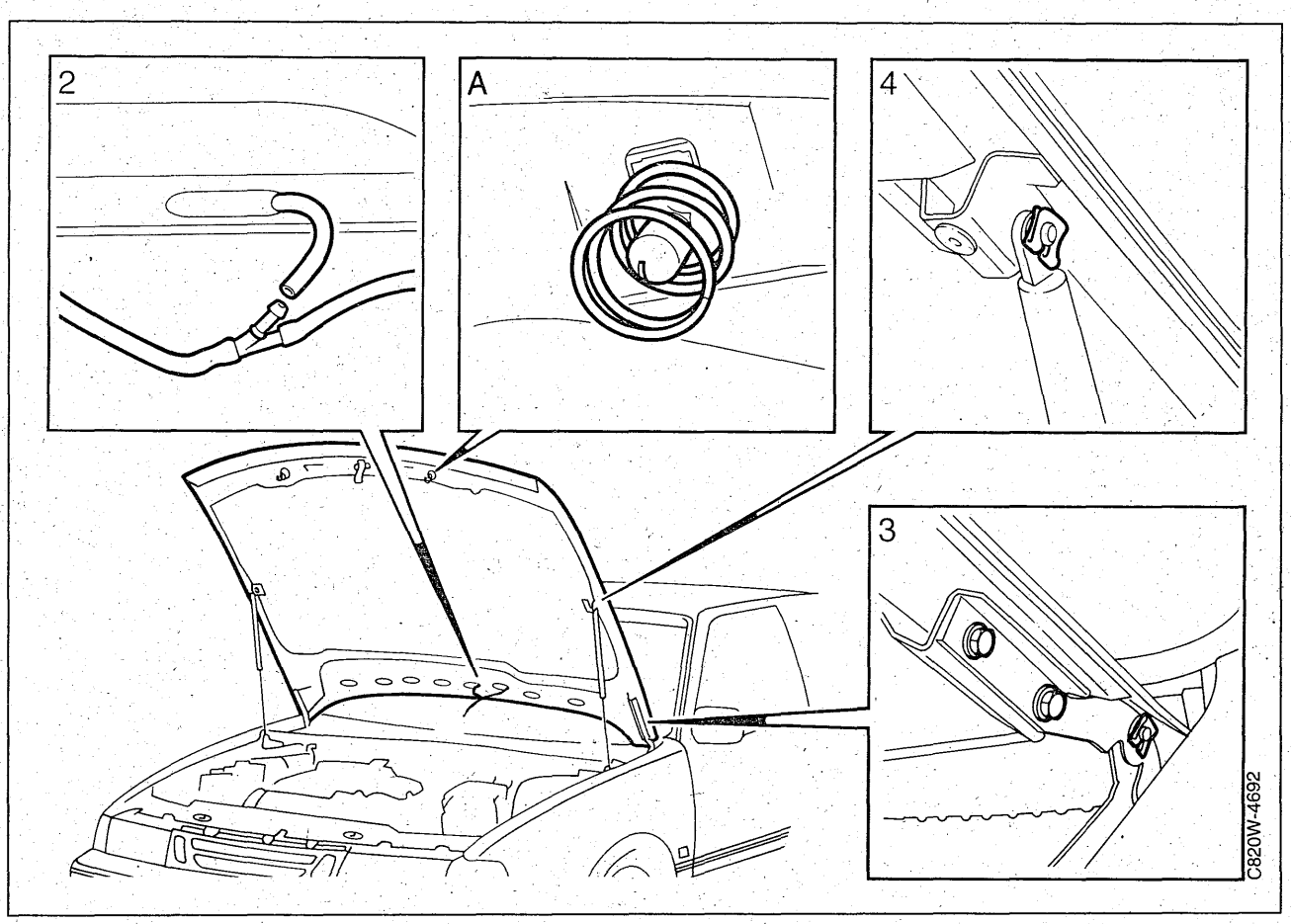
20 Wash off surplus welding primer. Welding primer makes for poorer adhesion of paint, filler and sealant.

21 Apply primer to all metal surfaces that have been ground clean. Use primer of high quality, such as Standox 1K Füllprimer.

22 Seal joints and metal folds with Terostat 1K-PUR sealant.

23 Apply underseal to the underside of the floor. Use Terostat 9320.

Bonnet and grille



Bonnet

Removal and fitting

1 Release the bonnet by means of the lever inside the car.

2 Open the bonnet wide and disconnect the hose to the washer jets.

On model year 1987 and later cars, also unplug the connector for the engine bay lighting. This is located behind the rubber grommet on the left-hand side of the bulkhead partition.

3 Remove the clips from the hinge clevis pins.

4 Detach the gas struts from the bonnet and fold them down towards the front.

5 Press out the clevis pins from the hinges and get someone to help you lift off the bonnet.

Fit in reverse order.

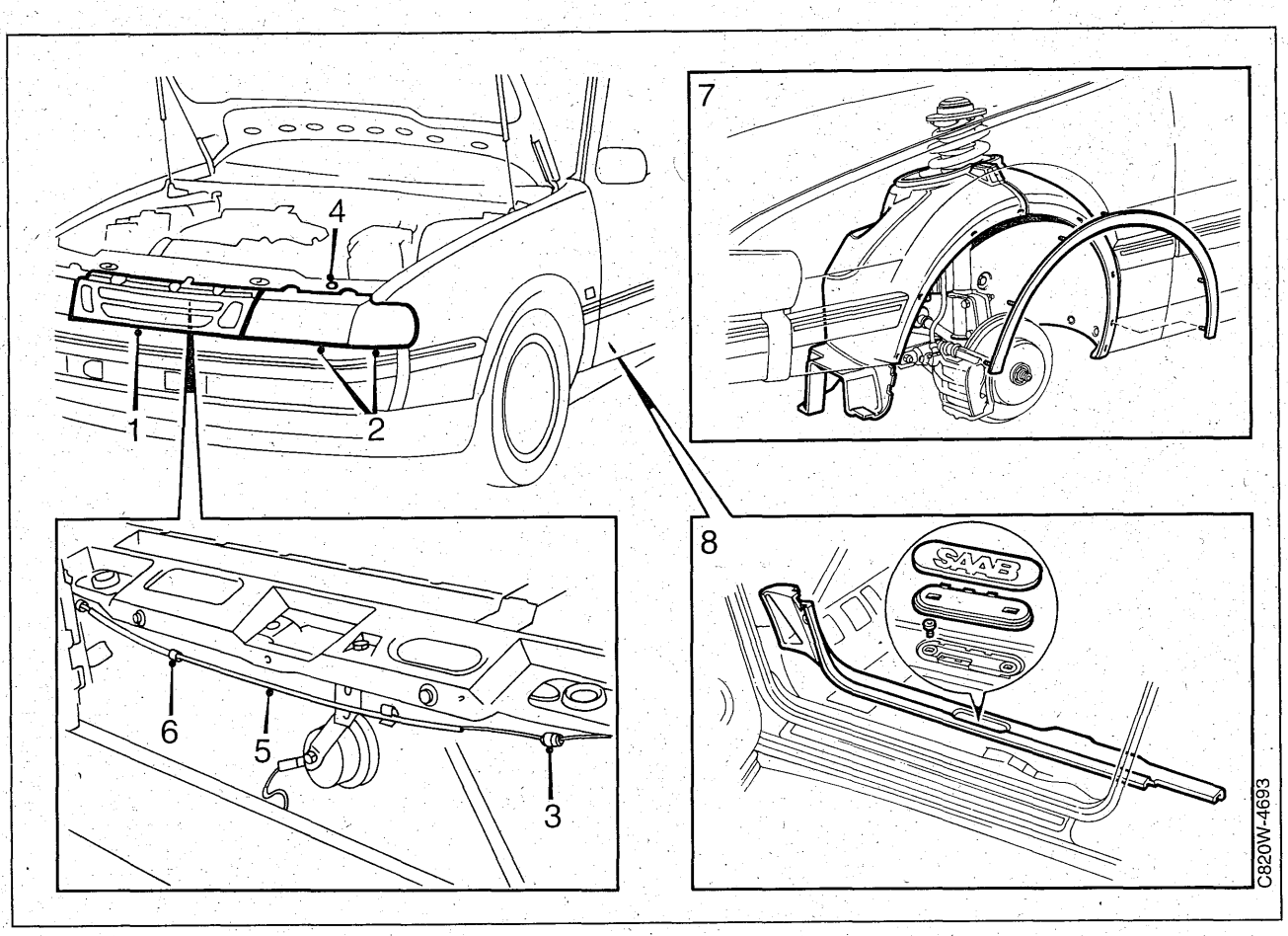
Adjustment

The hinge mounting holes are elongated to permit the position of the bonnet to be adjusted.
The height of the bonnet can be adjusted by means of the striker pins.

- Undo the locknut and turn the pin with a screwdriver (A).
- Tighten the locknut after adjustment.

After adjustment:

- Open and close the bonnet a few times to check the operation of the bonnet locks. The bonnet should be dropped from a height of about 300 mm (12").
- Pull the leading edge of the bonnet upwards at the locks to check the operation of each lock.



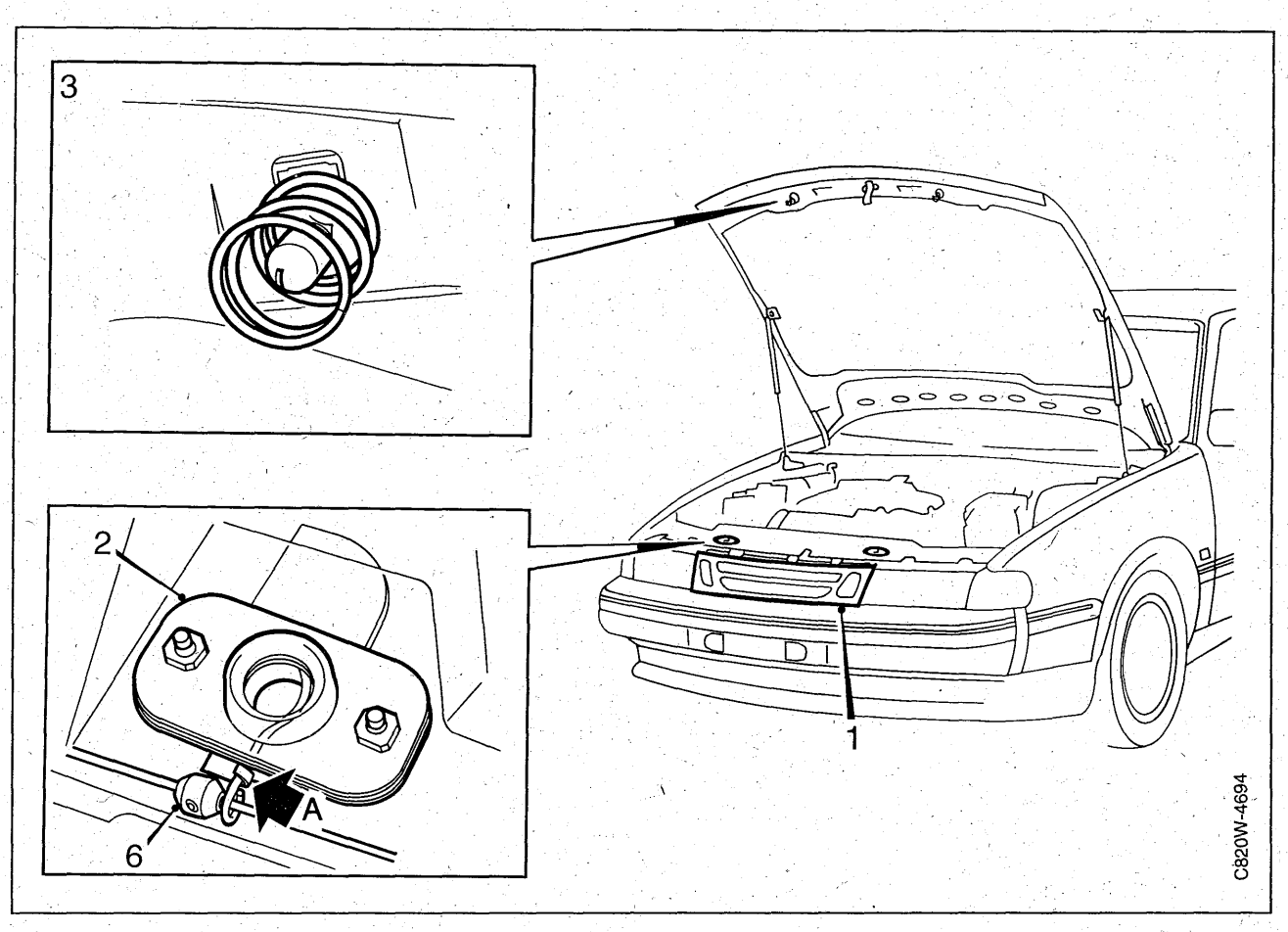
Bonnet-release cable

If the bonnet release mechanism is broken and the bonnet lock cannot be released from inside the car, the bonnet can be opened by inserting a screwdriver between the bonnet and the grille and pressing the catches to the right.

1 Remove the grille.
2 Remove the left-hand headlamp and direction indicator.
3 Undo the cable stops.
4 Unscrew the cable clip from above the headlamp.
5 Detach the cable from the clip on the radiator member.
6 Remove the clips from the radiator member.
7 Jack up the front of the car. Remove the left-hand front wheel and wing liner.
8 Remove the scuff plate from the left-hand front door sill and fold back the carpet under the dashboard.
9 Disconnect the cable from the release lever. Release the clip and withdraw the cable.

Fit in reverse order.

Open and close the bonnet a few times to check the operation of the bonnet locks. The bonnet should be dropped from a height of about 300 mm (12"). Pull the leading edge of the bonnet upwards at the locks to check the operation of each lock.



Fitting a new bonnet lock

Important

On model year 1986 and earlier cars, chassis number CG1006124 (left-hand drive) and earlier, and chassis number CG1007702 (right-hand drive) and earlier, the bonnet locks and striker pins are supplied as sets and must be replaced together as a unit.

1 Remove the grille.

2 Remove the bonnet lock and striker pin.

3 Fit a new striker pin complete with washer, spring and nut.

4 Fit a new bonnet lock but do not tighten the retaining bolts.

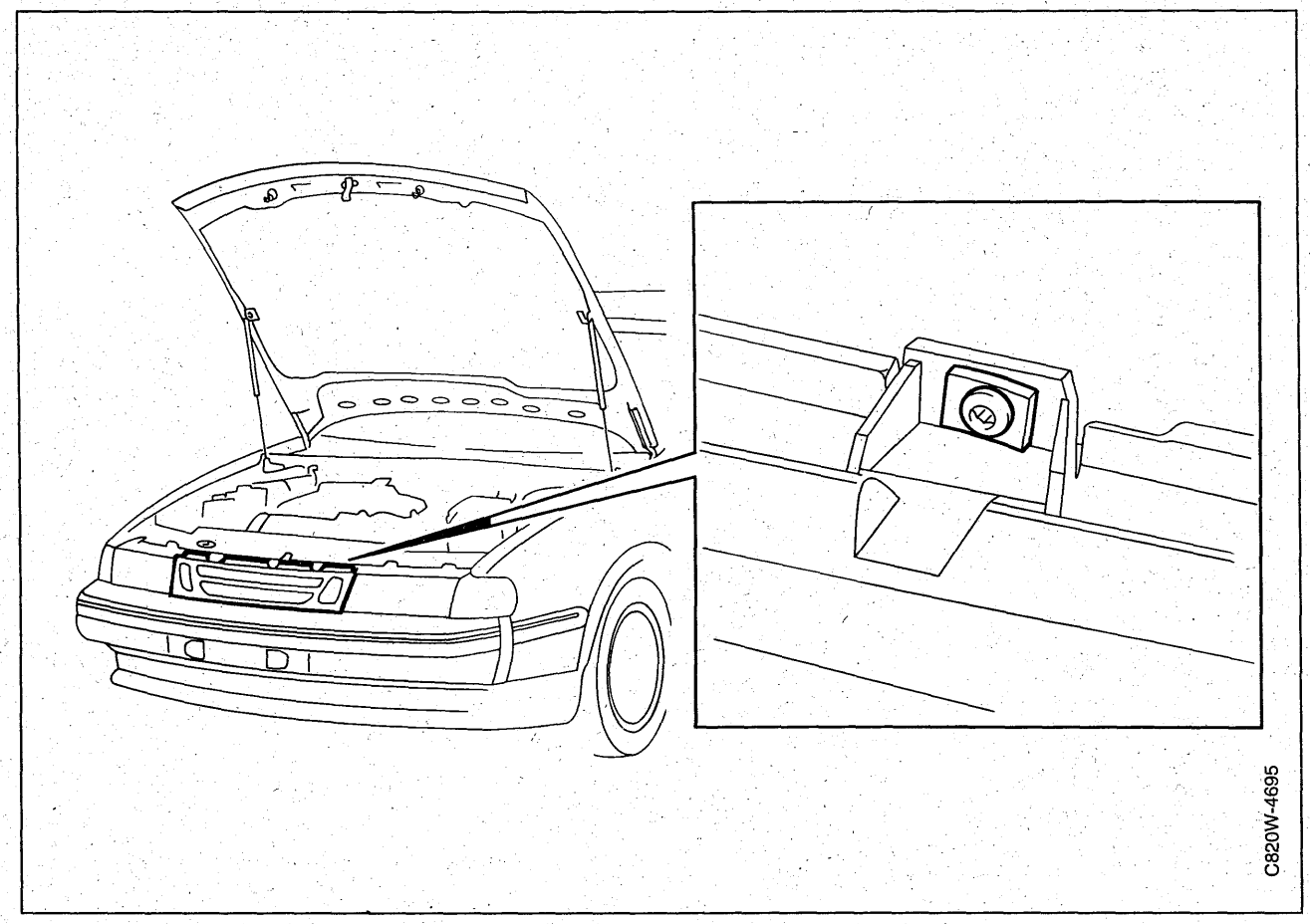
5 Close the bonnet carefully, ensuring that the lock is aligned with the striker pin. Tighten the retaining bolts.

6 Fit the cable and cable stop. Check that the spring abuts against the stop (A) in the home position and that there is a slight clearance between the cable stop and spring.

7 Adjust the striker pin to obtain a good fit between bonnet and wings.

8 Open and close the bonnet a few times to check the operation of the bonnet locks. The bonnet should be dropped from a height of about 300 mm (12").
Pull the leading edge of the bonnet upwards at the locks to check the operation of each lock.

9 Refit the grille.

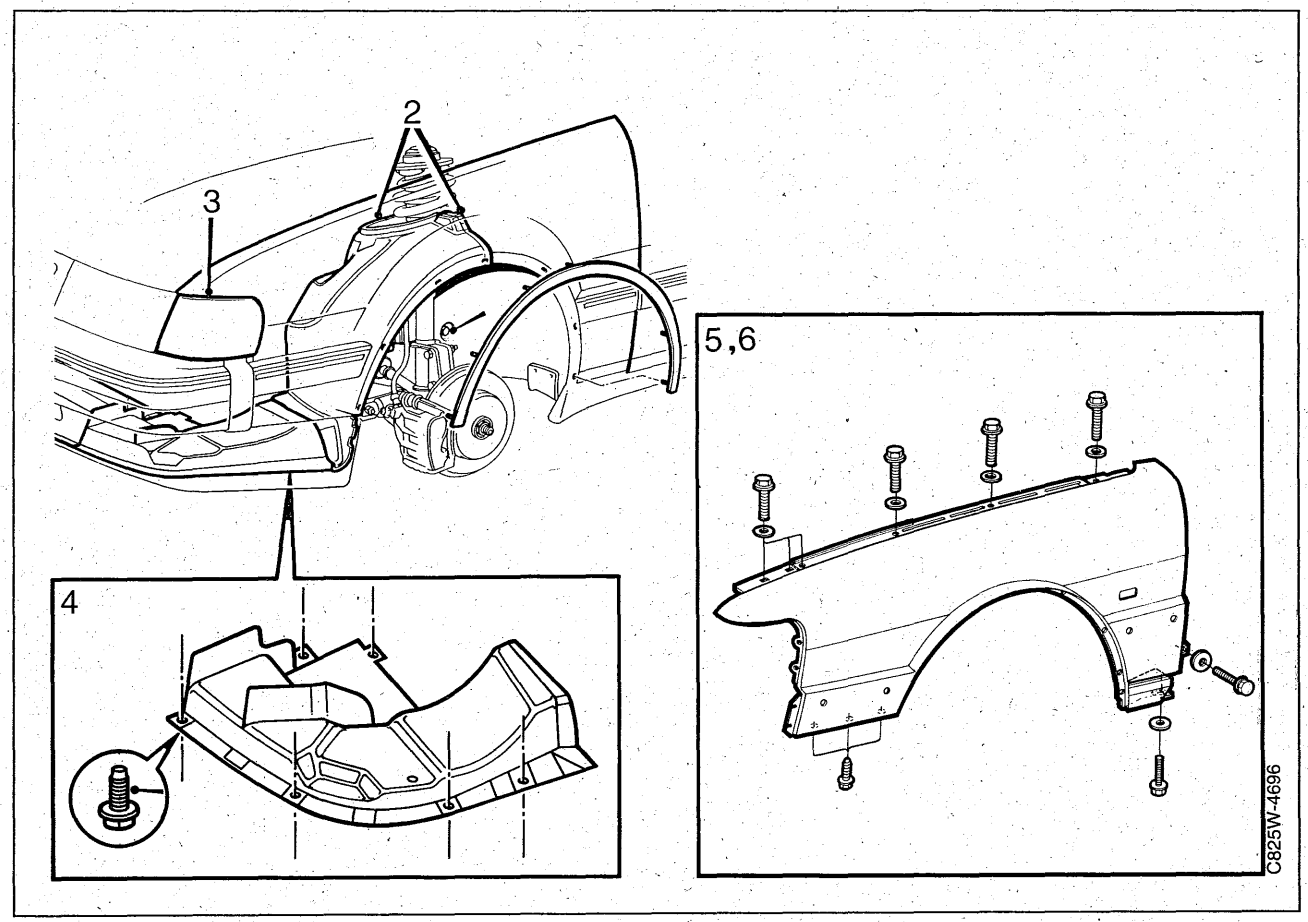


Grille

Removal and fitting

The grille can be removed after undoing the retaining screws.

Front wings



Front wings, to remove

1 Jack up the front of the car and remove the front wheel.

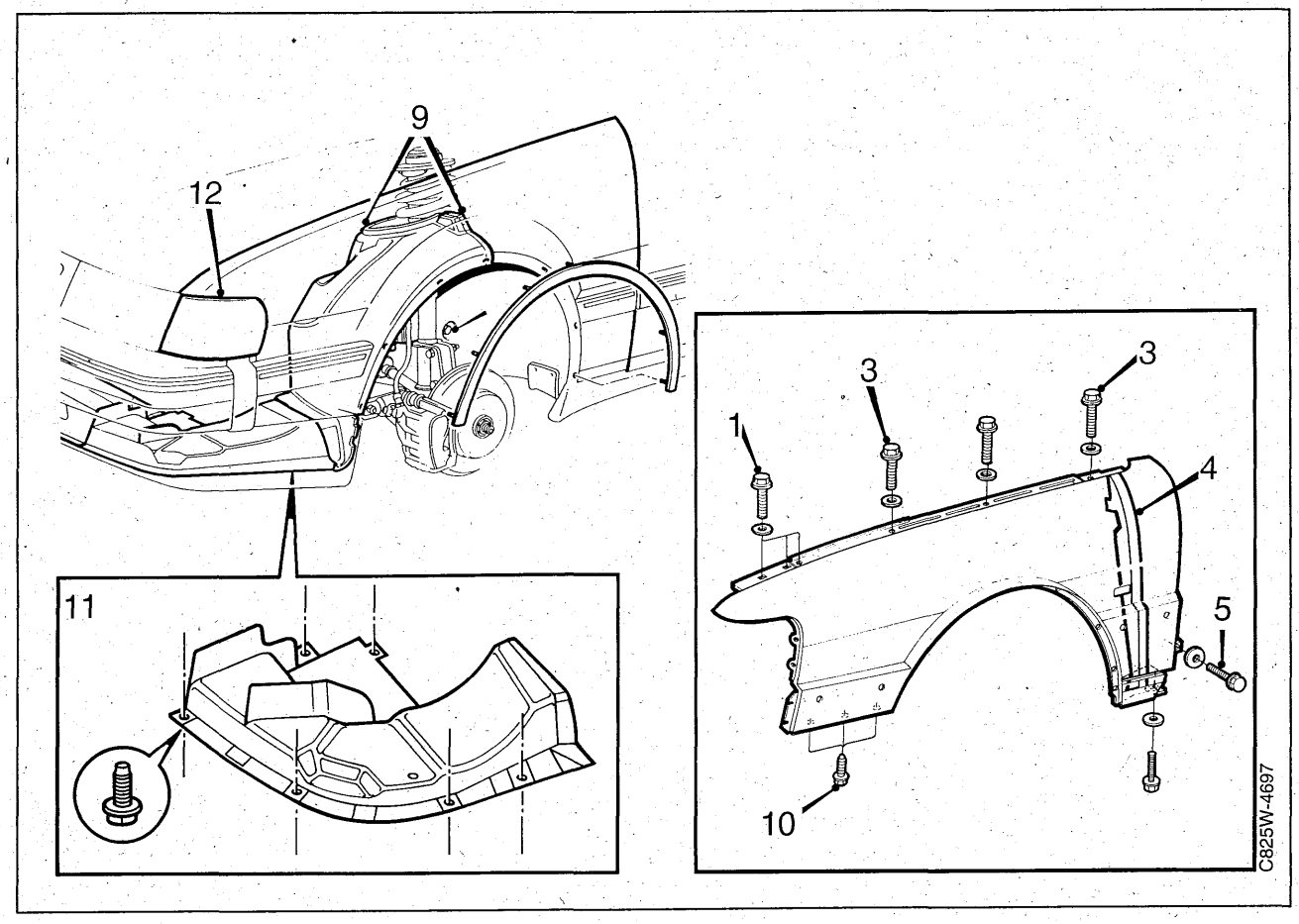
2 Undo the eight nuts securing the wing liner to the wing and the seven screws securing the wing liner to the wheel housing. Lift out the front and rear halves of the wing liner.

3 Remove the front direction indicators.
Model year 1986 and earlier cars:
Remove the direction indicator repeater lamp.

4 Remove the outer shield panel.
Secured with six screws.

5 Remove the three bolts securing the spoiler to the edge of the wing.

6 Remove the bolts securing the wing to the body and lift off the wing.



Fitting a painted and corrosion-protected wing

1 Insert three self-tapping screws in the leading edge of the wing and fit the plastic clips for the trim.

2 Insert the front of the wing in the bumper.

3 Insert the front and rear bolts in the edge of the wing.

4 Fit the fillet at the trailing edge of the wing.

5 Fit the two screws in the trailing edge of the wing.

6 Adjust the fit and alignment of the wing with the door and bonnet.

7 When the fit and alignment are correct, fit and tighten all screws and bolts.

8 On cars with chassis number:

G1016484 (LH drive) and subsequent
G1012254 (RH drive) and subsequent

fit the bolt in the wing fillet.

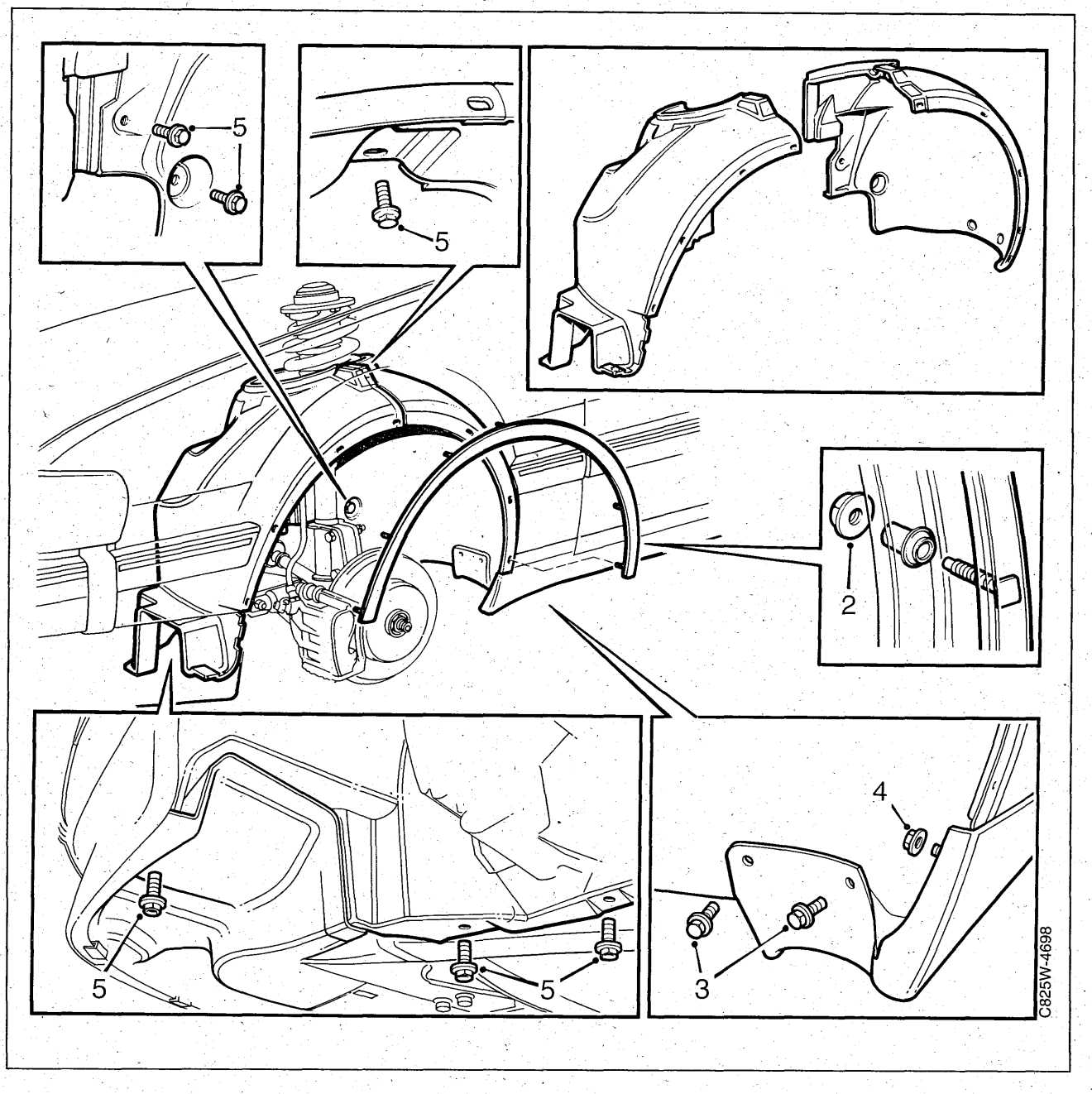
9 Fit the wing liner and wheel arch trim.

10 Fit the spoiler (three bolts) to the front of the wing.

11 Fit the outer shield panel.

12 Fit the direction indicator and, on model year 1986 and later cars, the direction indicator repeater lamp.

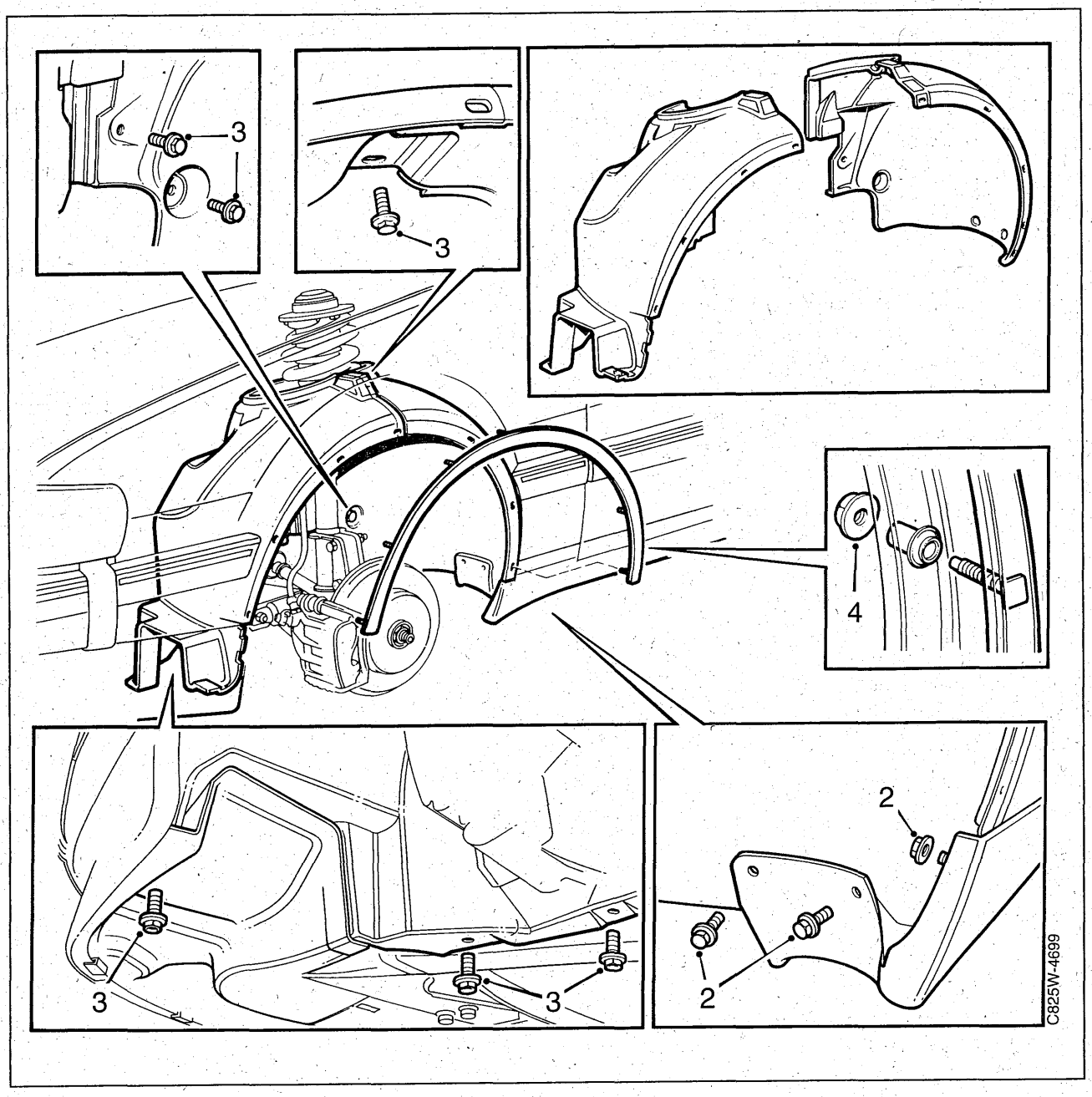
13 Fit the trim and emblem.



Wing liner, Saab 9000 CS

To remove

1 Jack up the car and remove the wheel.
2 Remove the wheel arch trim.
3 Remove the bolts securing the sill scuff plate to the wing liner.
4 Remove the nut securing the sill scuff plate to the edge of the wing.
5 Remove the wing liner retaining bolts.
6 Bend the wing liner forward in front of the sill scuff plate.
7 Lift out the front and rear halves of the wing liner.



To fit

1 Fit the front half of the wing liner in position.

Its leading edge should be fitted over the front spoiler.

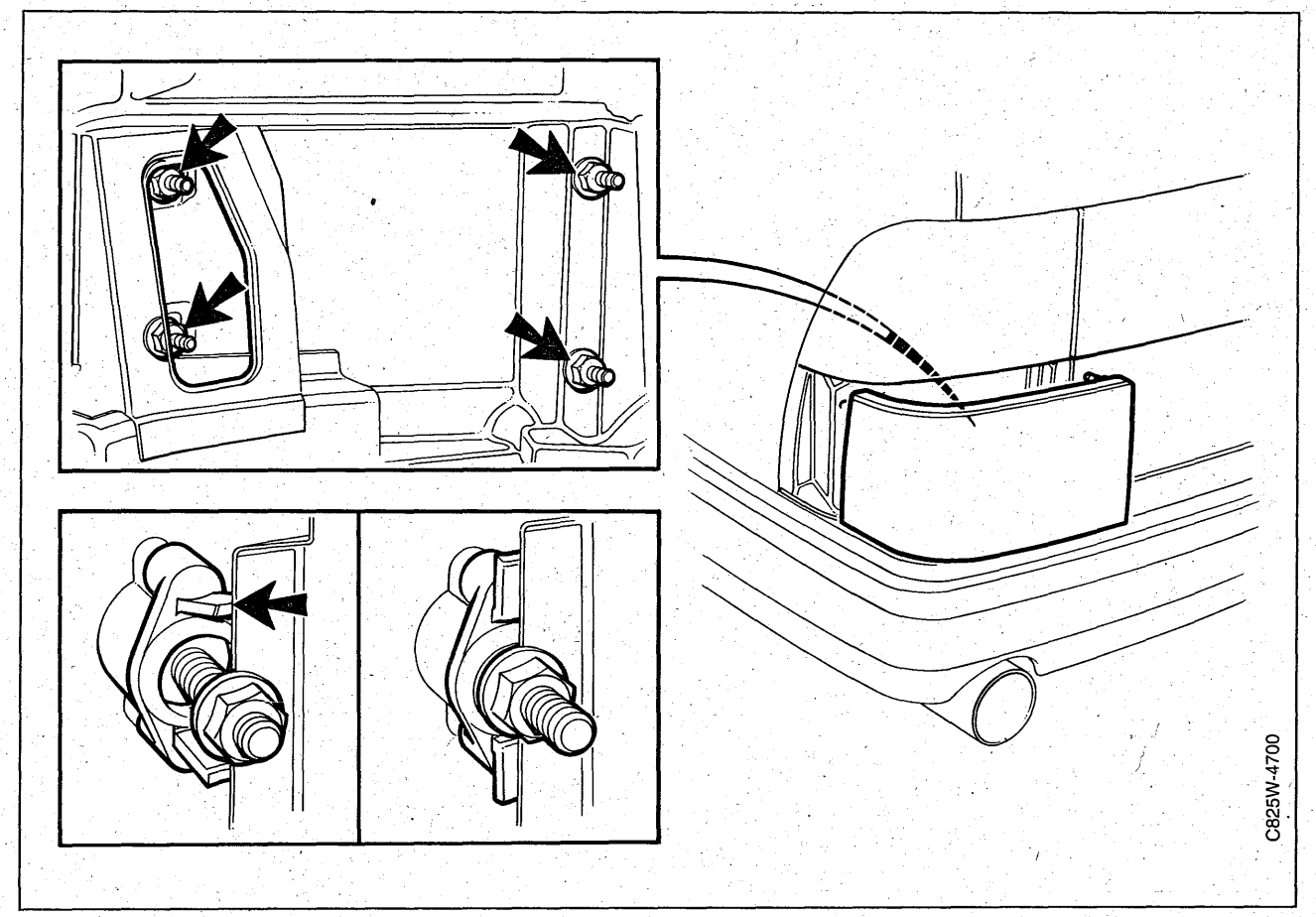
2 Fit the rear half of the wing liner in position with its trailing edge behind the leading edge of the sill scuff plate.

Tighten the bolts securing the wing liner to the sill scuff plate.

3 Tighten the remainder of the wing liner retaining bolts.

4 Refit the wheel arch trim.

5 Refit the wheel.



Corner panel, Saab 9000 CS

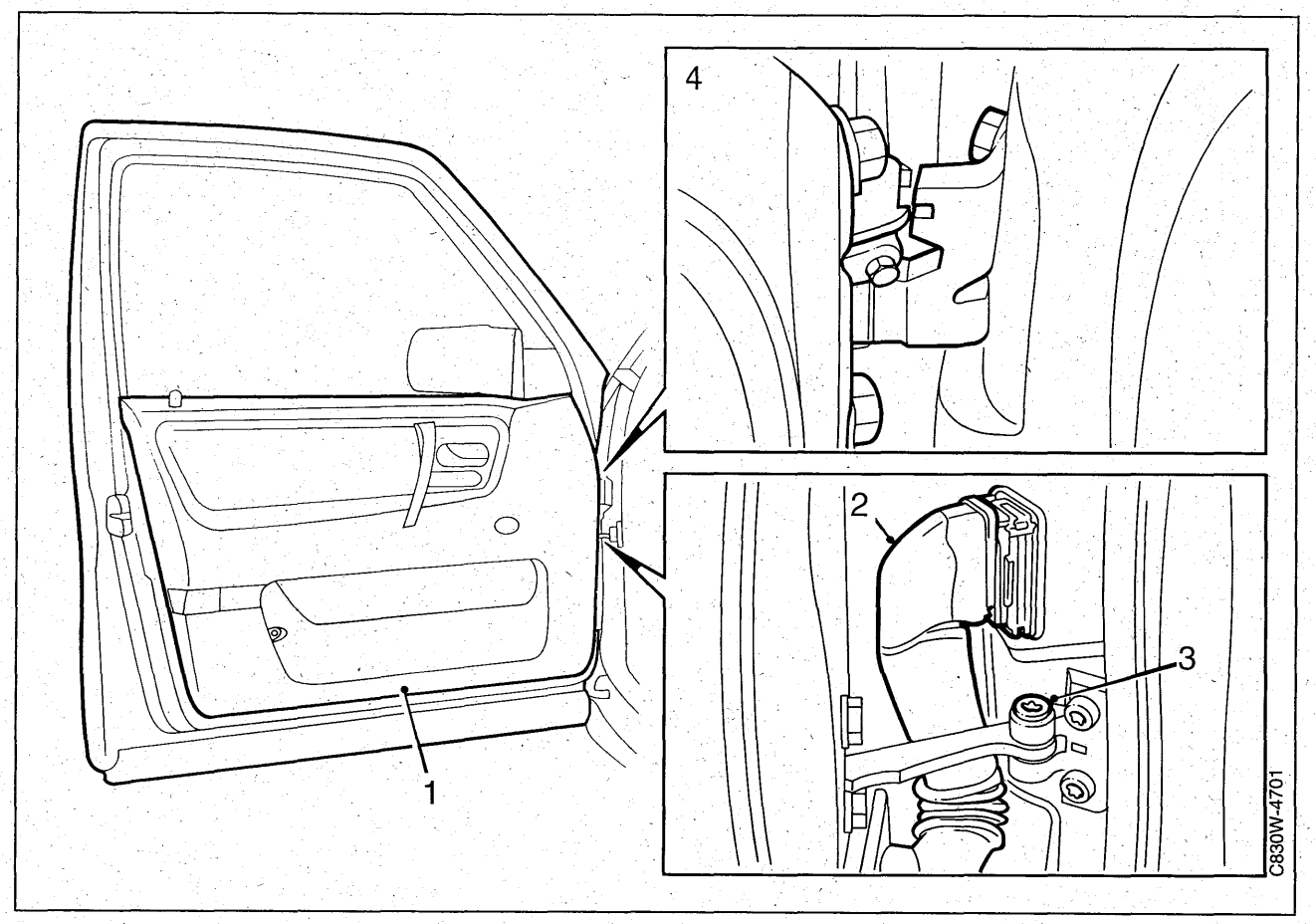
To remove

1 Fold back the luggage compartment trim inside the corner panel.
2 Undo the retaining nuts and lift away the corner panel.

To fit

1 Fit the corner panel in position. Check that the tabs on the rubber spacers round the screw taps bend outwards as shown.
2 Tighten the retaining nuts.
3 Fit the luggage compartment trim back in position.

Doors, sunroof, tailgate and boot lid



Front doors

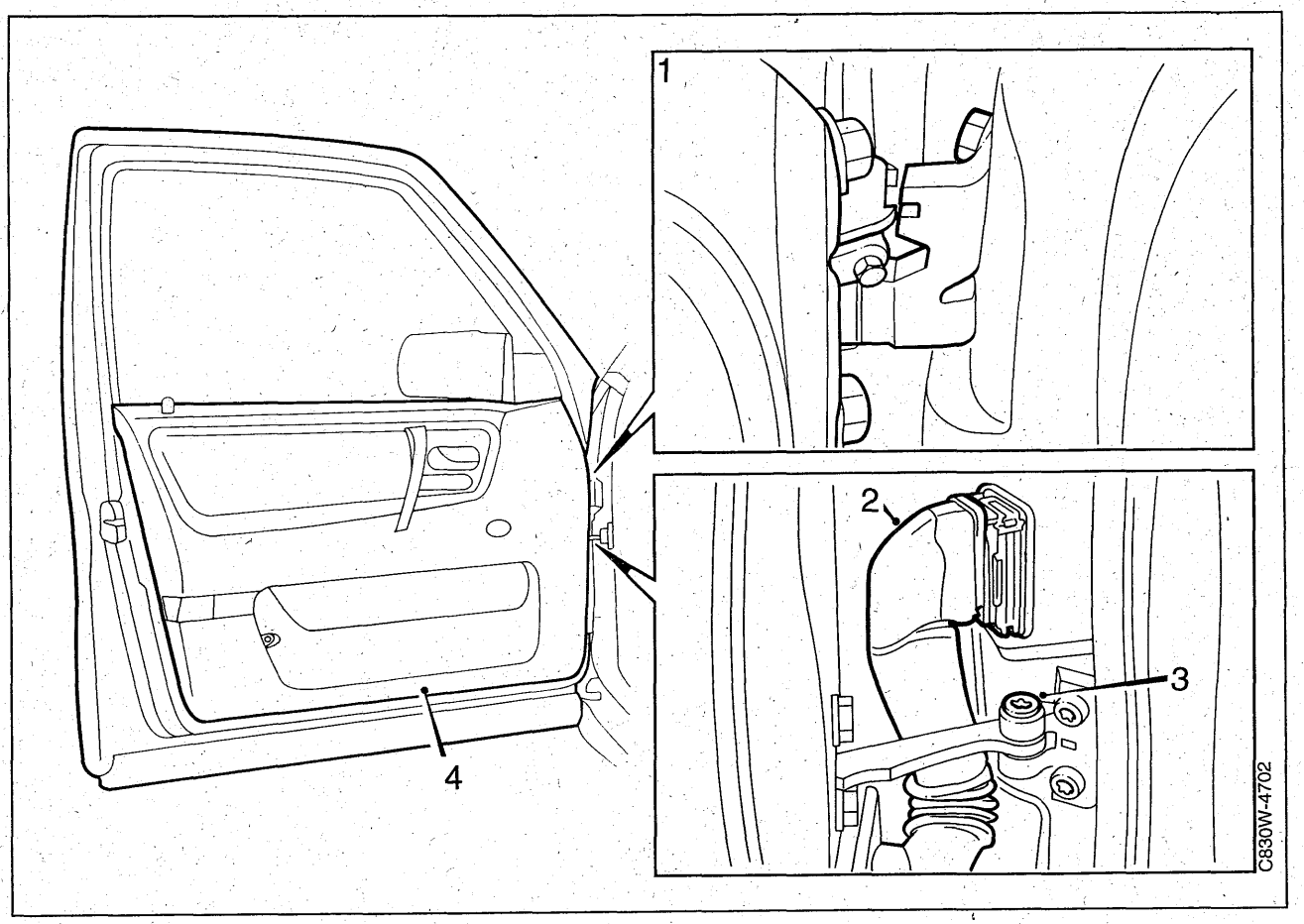
To remove

1 Remove the door trim panel and plastic moisture barrier.

2 Unplug the electrical connectors in the door. On model year 1988 and later cars a 22-pin connector is fitted in the A pillar. Remove the red plastic retaining clip, using two screwdrivers. Unplug the connector.

3 Remove the door keep retaining bolt. Model year 1990 and earlier cars: Drive out the door keep expanding pin.

4 Carefully lift the door off its hinges. The door must be wide open to ensure that it clears the hinge groove.



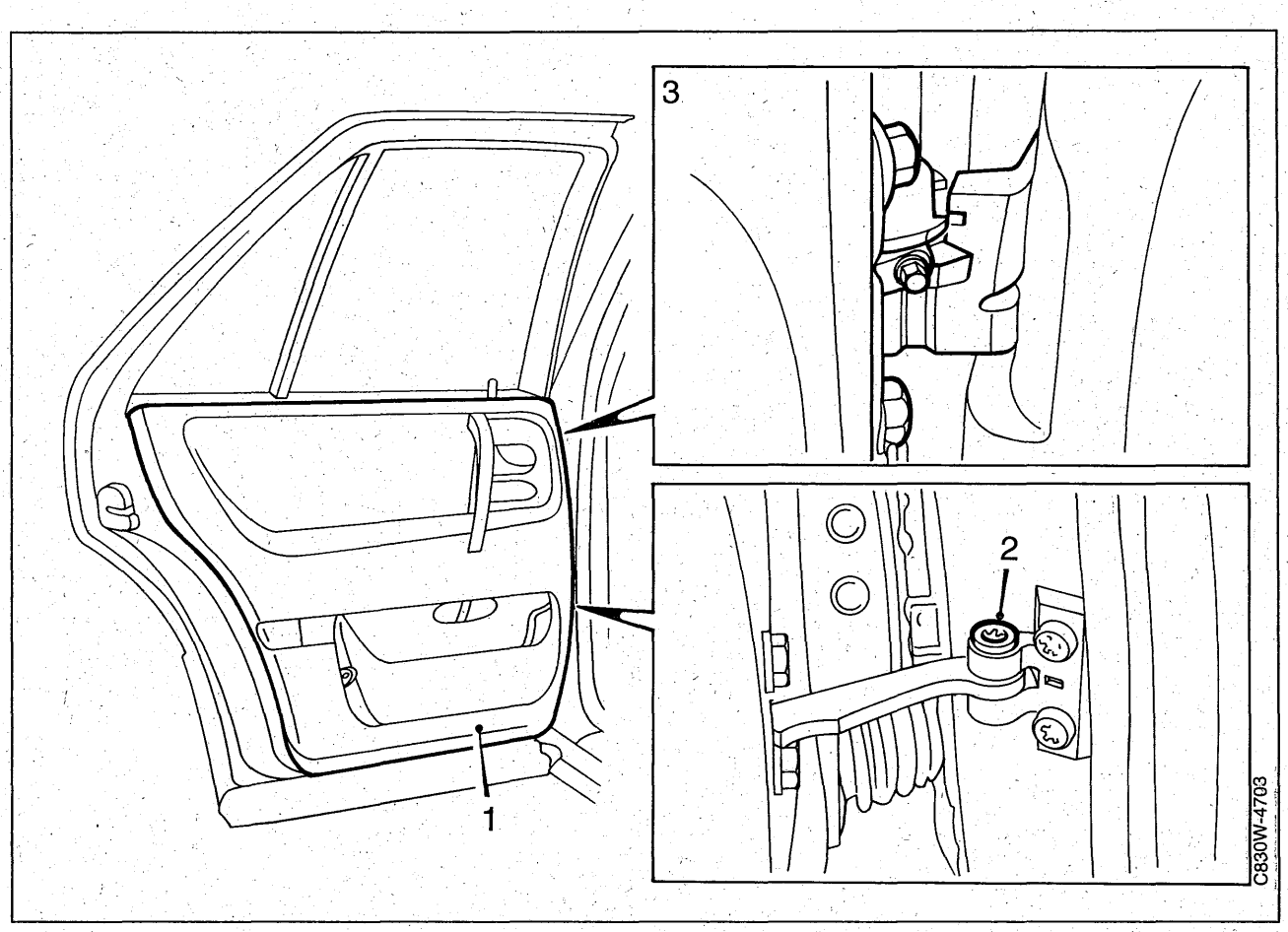
To fit

1 Lift the door onto its hinges.

2 Feed the wiring harness through the hole in the door and plug in the connectors. 2-pin connector, model year 1988 and later cars:
Plug the connector halves together. Press in and slide back the connector body to secure it in place. Refit the red plastic retaining clip.

3 Tighten the door keep retaining bolt.
Model year 1990 and earlier cars:
Fit a new door keep expanding pin.

4 Refit the door trim.



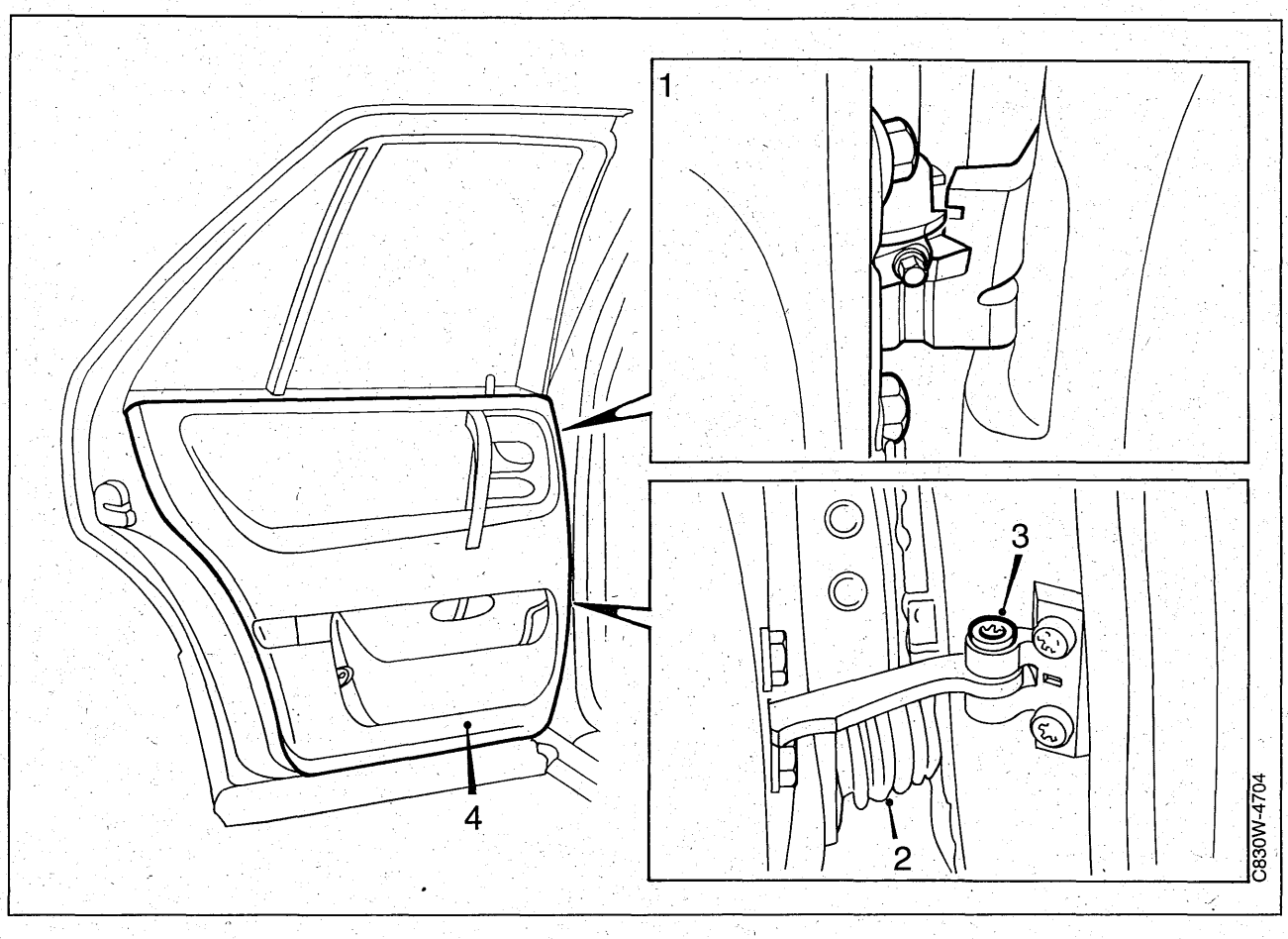
Rear doors

To remove

1 Remove the door trim panel. Unplug the electrical connectors at the electric motors. Ease out the rubber grommet and withdraw the wiring through the hole in the door.

2 Remove the door keep retaining bolt.
Model year 1990 and earlier cars:
Drive out the door keep expanding pin.

3 Carefully lift the door off its hinges. The door must be wide open to ensure that it clears the hinge groove.



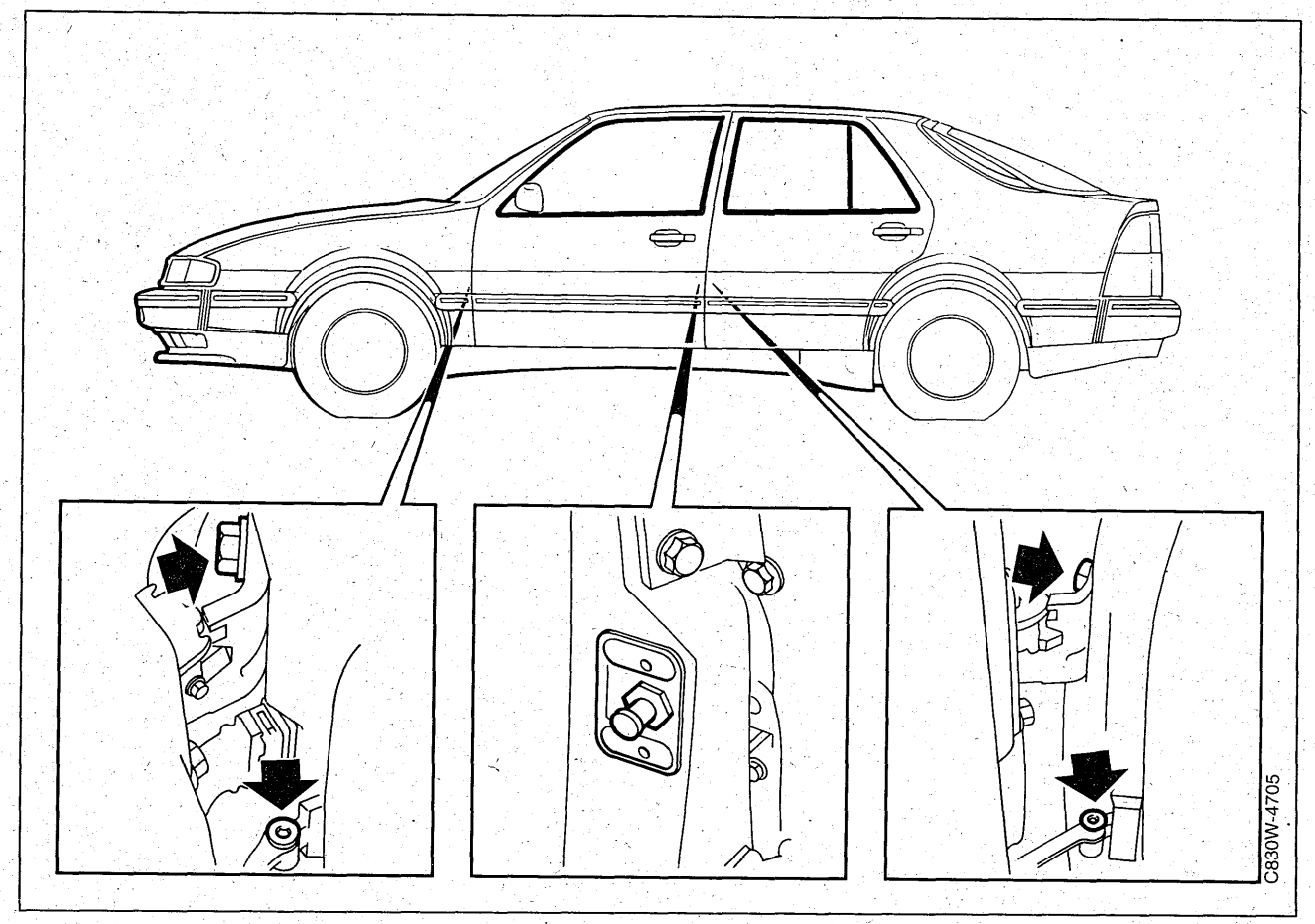
To fit

1 Lift the door onto its hinges.

2 Feed the wiring harness through the hole in the door and plug in the electrical connectors. Refit the rubber grommet.

3 Tighten the door keep retaining bolt.
Model year 1990 and earlier cars:
Fit a new door keep expanding pin.

4 Refit the door trim panel.



Adjustment of front and rear doors

Front doors

Remove the door keep expanding pin.

Slacken the hinge retaining bolts in the body, following which the door can be adjusted vertically and horizontally.

Tools:

82 92 476 Torx E12
82 92 484 NV13

After adjustment, apply paintable sealant round the hinge and bolts and touch up the paintwork with a brush.

Refit the door keep expanding pin.

Rear doors

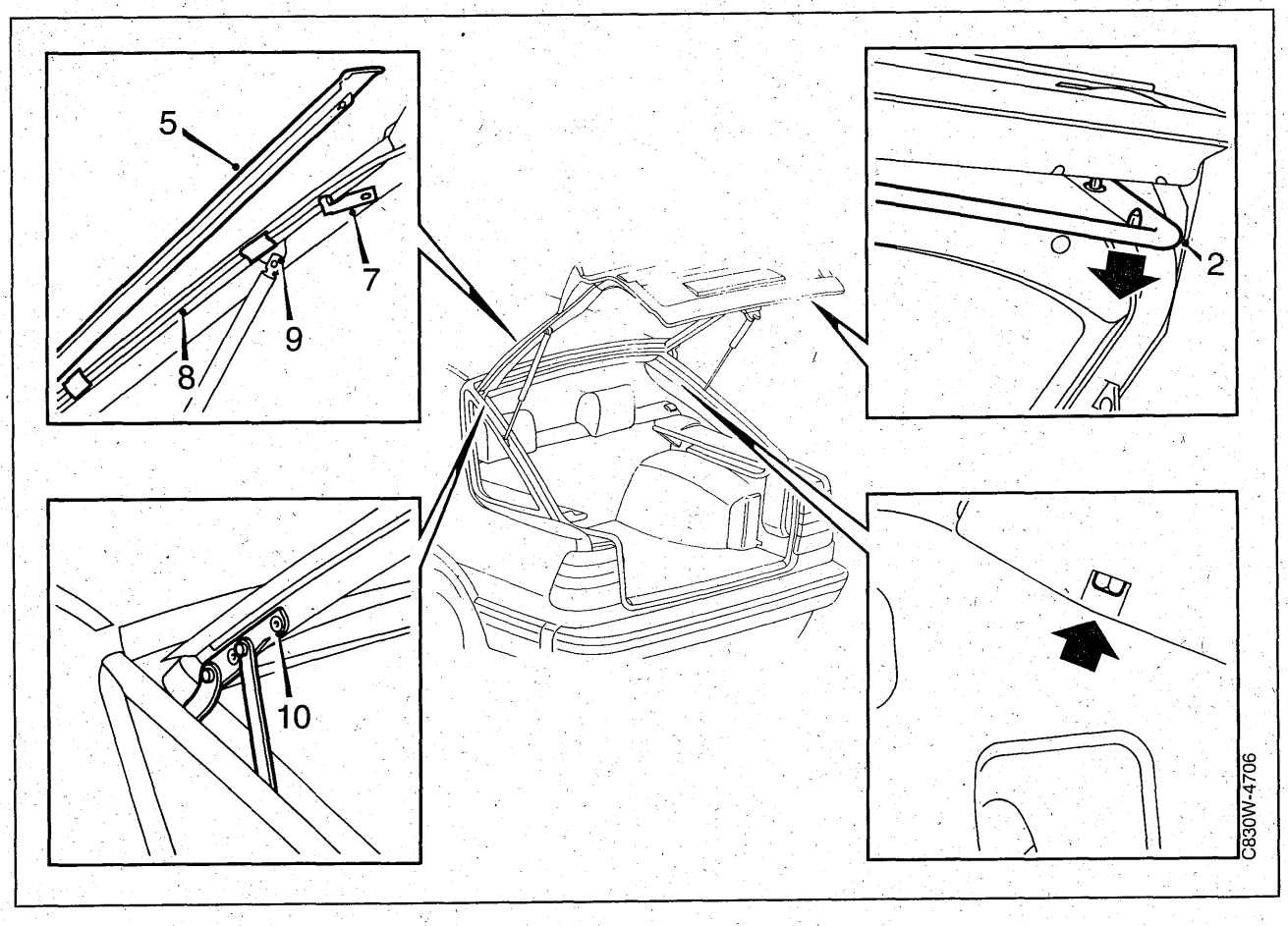
Adjustment of the rear doors is carried out in the same way as for the front doors, except that the door keep need not be disconnected.

Front and rear door striker plates

Holding the backplate in position, unscrew the striker pin.

Tools:

2 92 450 Socket
82 92 468 Peg spanner for backplate



Tailgate

Removal, fitting

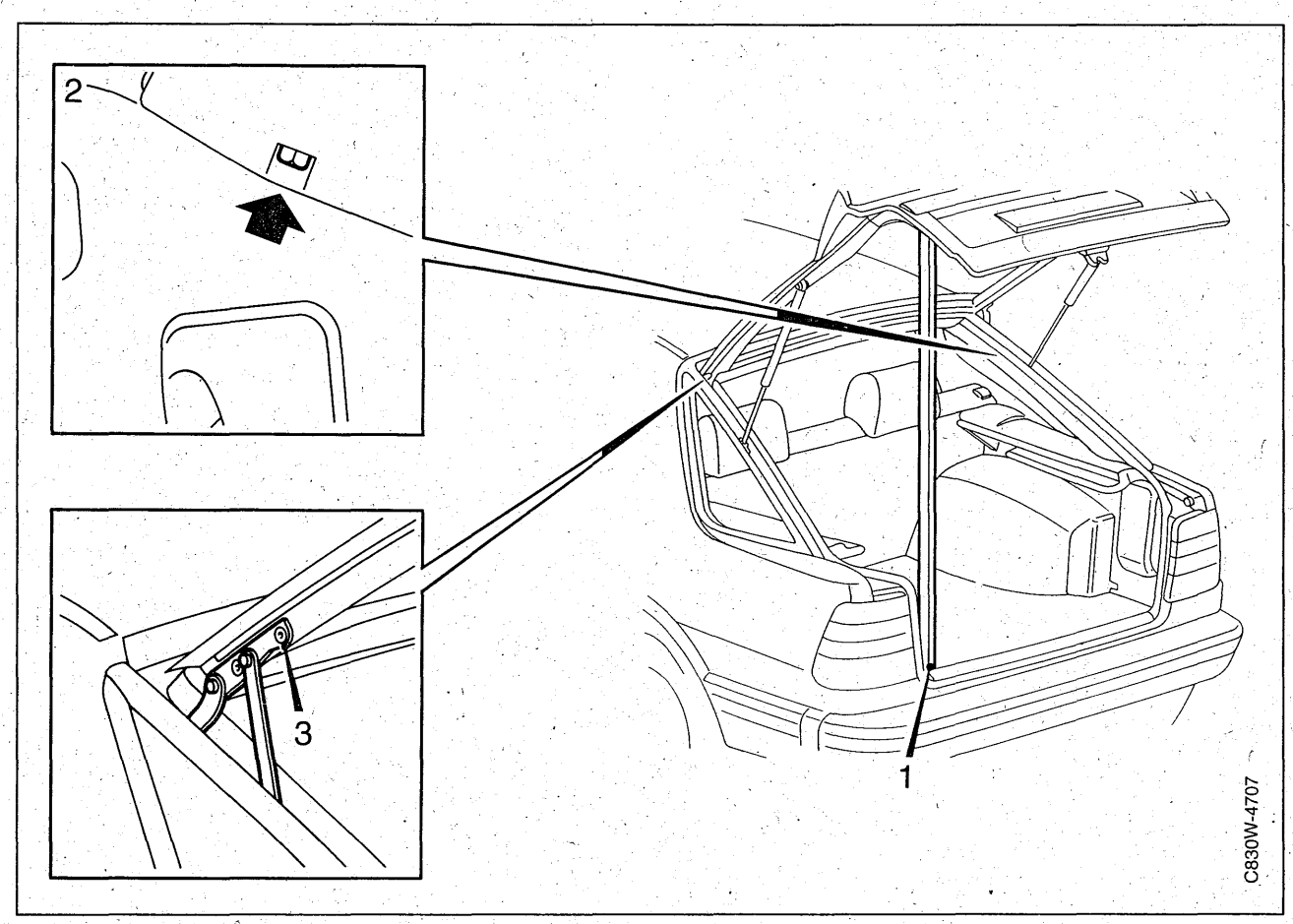
1 Stick a length of masking tape on the roof to avoid damaging the paintwork.
2 Remove the tailgate trim.
3 Unplug the electrical connectors on LH and RH sides.
4 Label the leads and disconnect them from the connectors.
5 Remove the trim mouldings from both sides of the tailgate.
6 Remove the guides and lead-through and withdraw the leads.
7 Remove the cable clips.
8 Release the electric leads from the clips along the top edge of the tailgate.
9 Remove the clips on the gas springs at the tailgate.

   Prop up the tailgate and remove the gas springs (prop length about 1 450 mm).
10 Undo the tailgate bolts and, with someone to help you, lift off the tailgate.

Fit in reverse order.

To adjust

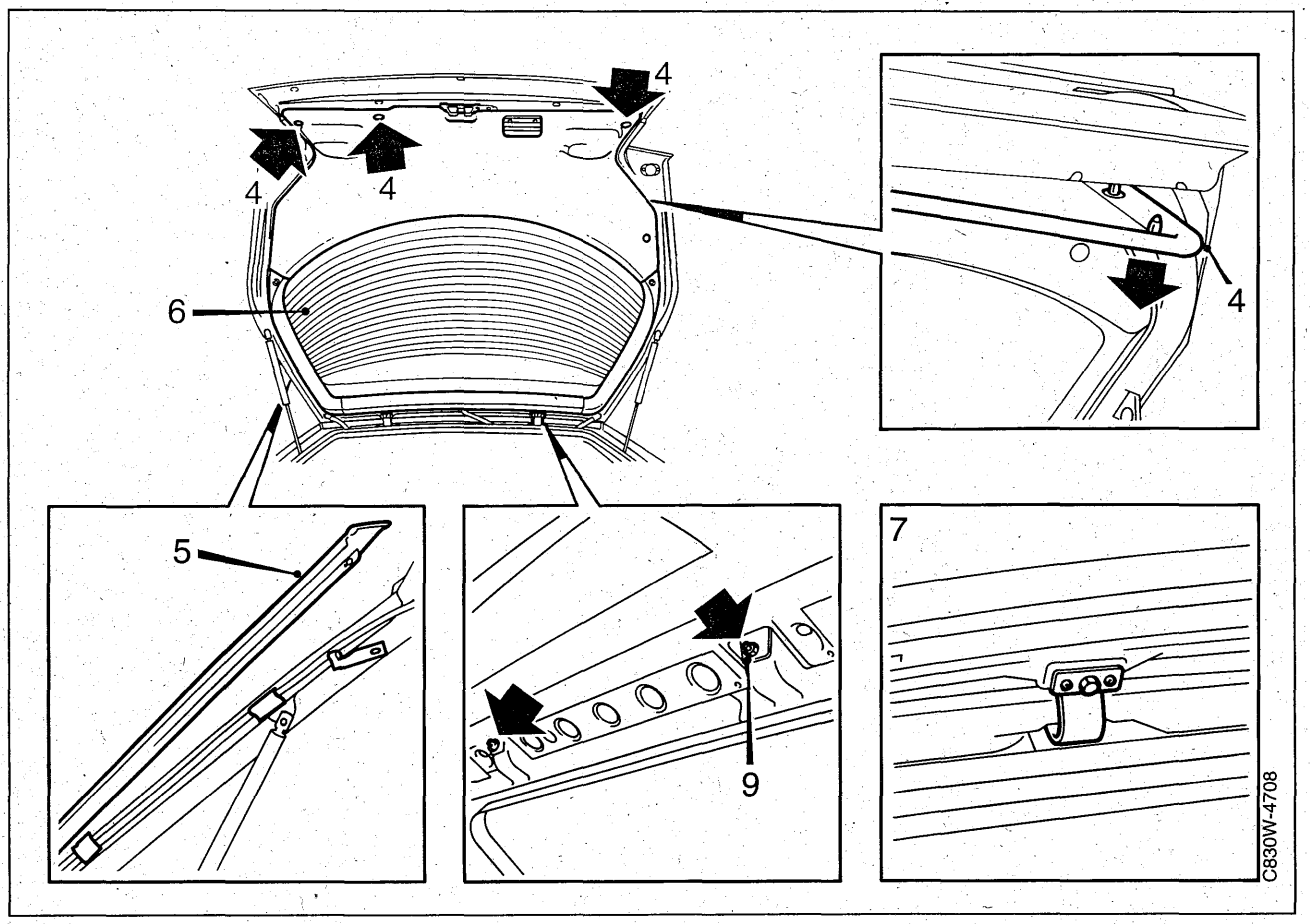
Remove the covers from the D pillar. Undo the nuts on the inside of the pillar. Adjust the position of the hinge and retighten the nuts. Refit the covers.



Replacement of tailgate hinge, model year 1989 and earlier cars

1 Prop up the tailgate (prop length about 1 450 mm).
2 Remove the covers from the D pillar.
3 Remove the hinge bolts and nuts and lift away the hinge.

Fit a new hinge and adjust the fit of the tailgate.



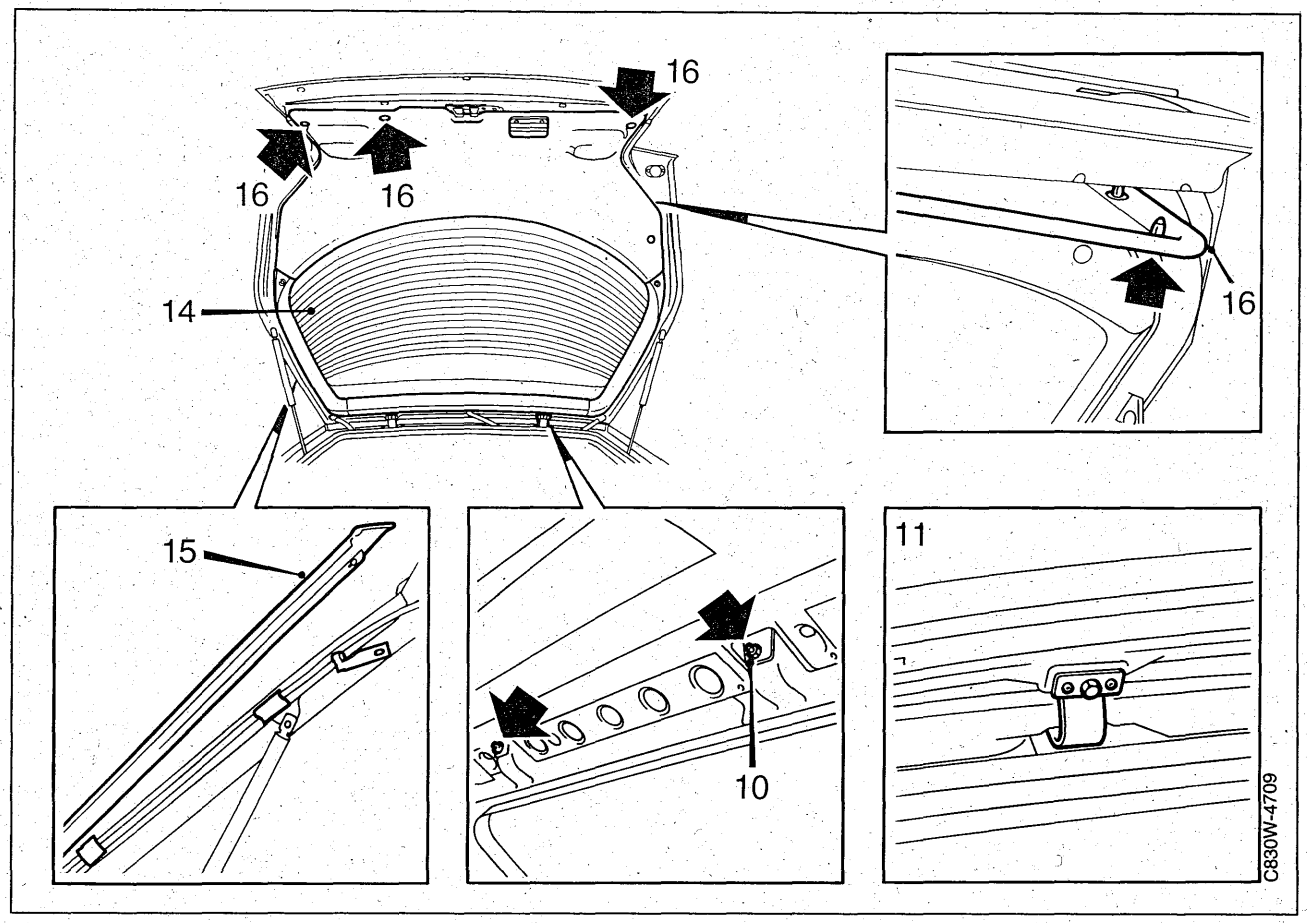
Replacement of tailgate hinge, model year 1990 and later cars

1 Remove the headlining, see section 851 of Service Manual 8:2 "Interior equipment".
2 Stick a length of masking tape along the rear edge of the roof to avoid damaging the paintwork.
3 Open the tailgate.
4 Remove the tailgate trim.
5 Remove the trim mouldings.
6 Remove the rear window, see section 843.

Important

Change the hinges one at a time.

7 Remove the bolts securing the hinge to the tailgate.
8 Prop up the tailgate by means of a roll of tape, block of wood or the like.
9 Remove the nut holding the hinge to the roof and remove the hinge.



10 Fit the new hinge in place and spin on the nut holding it to the roof.

11 Insert the bolts securing the hinge to the tailgate.

12 Carry out points 7-11 on the other hinge.

13 Roughly adjust the position of the tailgate and tighten the nuts and bolts on both hinges.

14 Refit the rear window, see section 843.

15 Refit the trim mouldings.

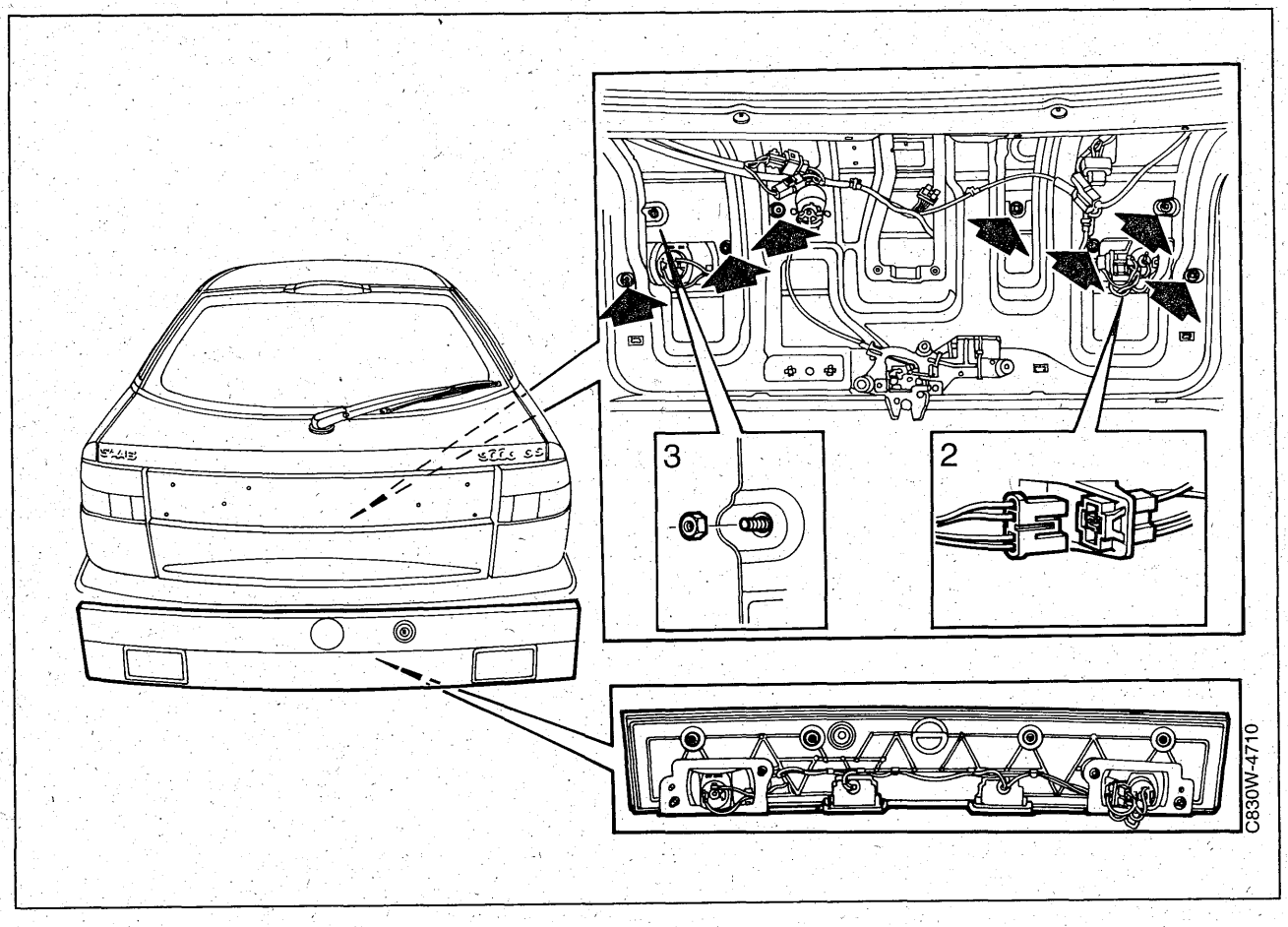
16 Refit the tailgate trim.

17 Refit the headlining, see section 851 of Service Manual 8:2 "Interior equipment".

18 Adjust the tailgate to its final position as follows:

- Slacken the hinge locking screws.
- Slacken the hinge retaining bolts and adjust the position of the tailgate.
- Tighten the locking screws.
- Tighten the retaining bolts.

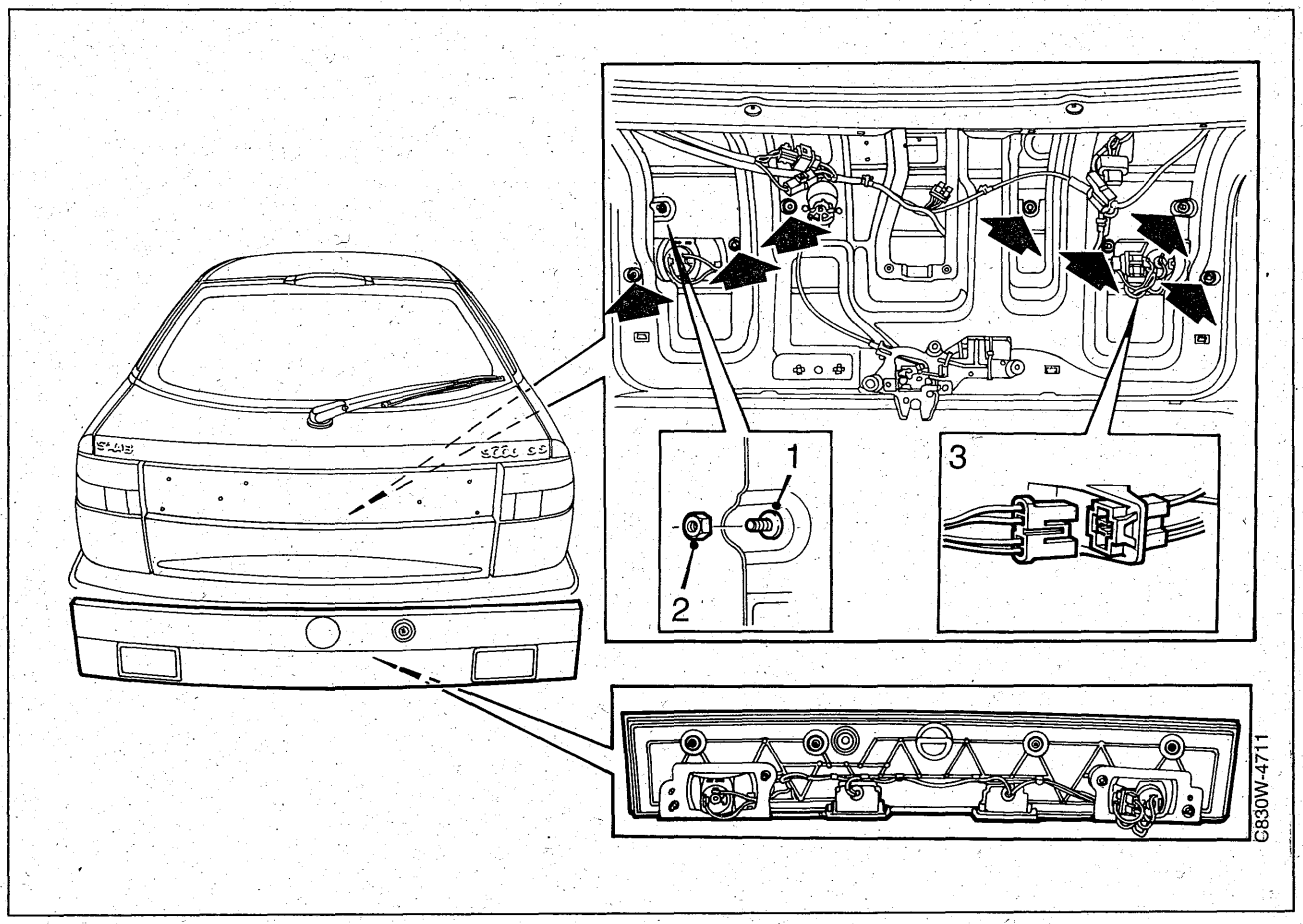
19 Remove the masking tape.



Tailgate trim panel, Saab 9000 CS

To remove

1 Remove the trim on the inside of the tailgate.
2 Unplug the connector adjacent to the left-hand rear light cluster.
3 Remove the trim panel retaining nuts and lift away the panel.

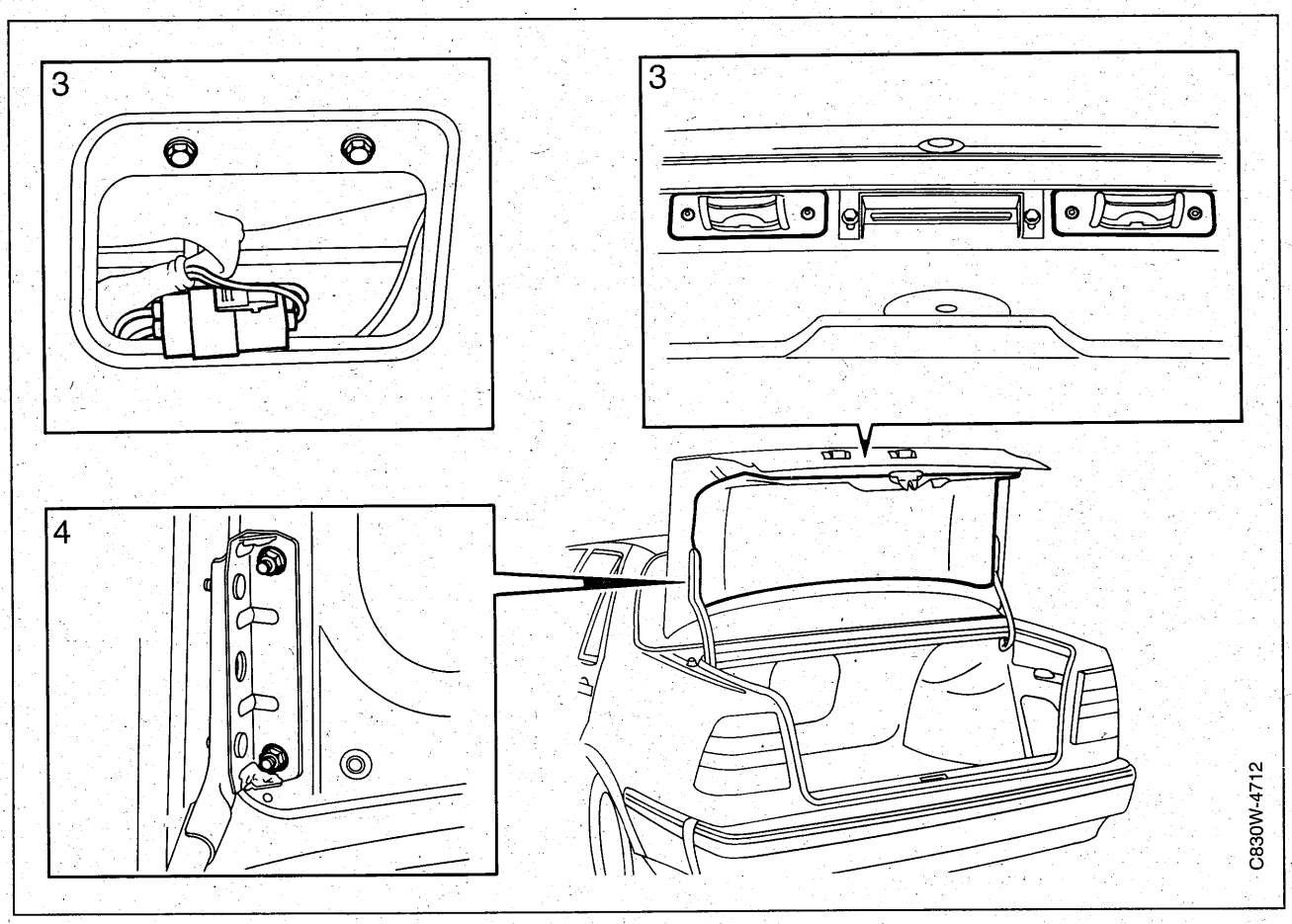


To fit

1 Check that the foam rubber seals are in position round the threaded studs.

2 Fit the trim panel in position and tighten the retaining nuts.

3 Refit the tailgate trim.



Boot lid, Saab 9000 CD

Removal and fitting

1 Disconnect the negative battery cable.

2 Remove the boot lid trim.

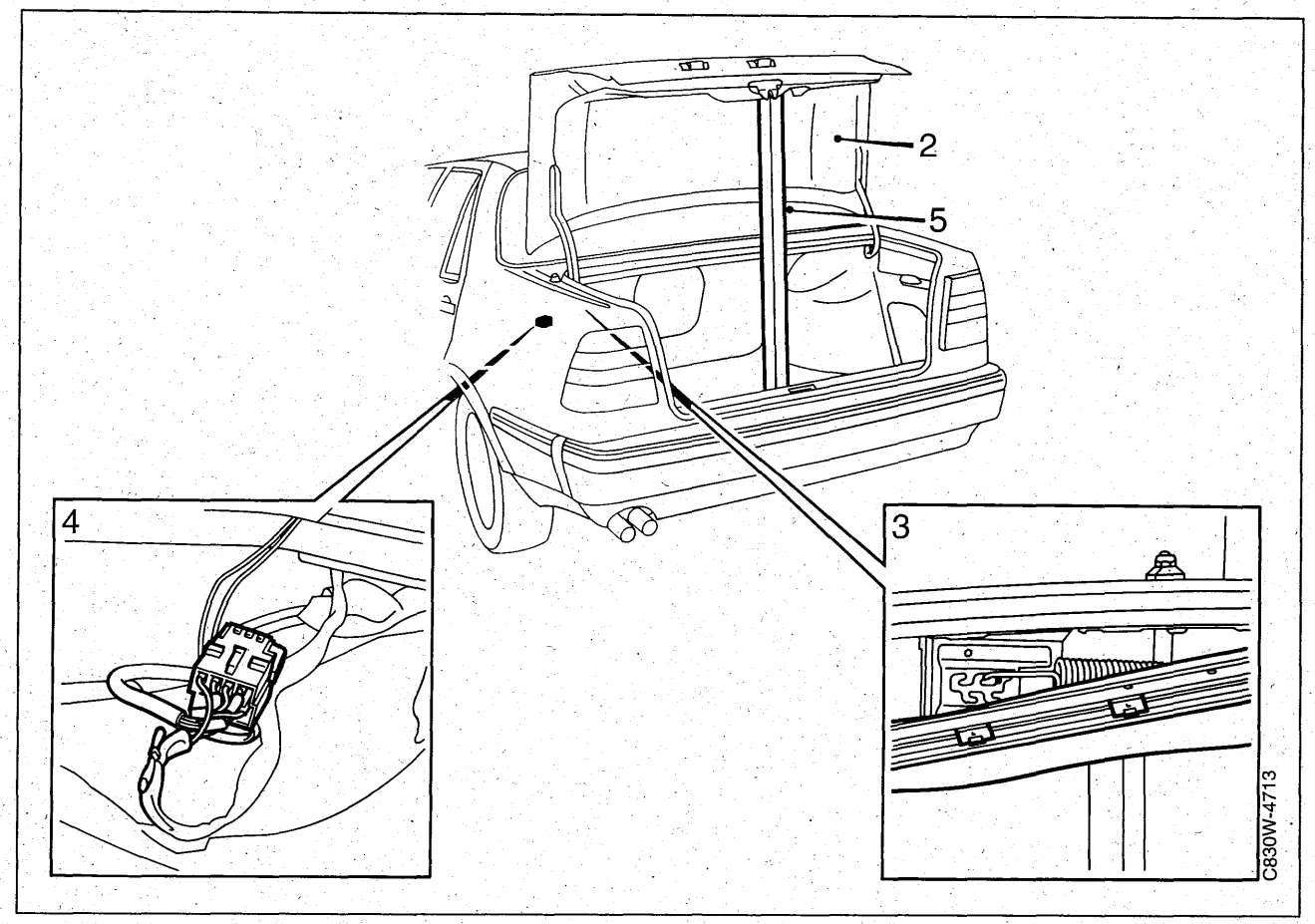
3 Release the electric wiring from the boot lid as follow

- Unscrew the number plate lamps and unplug the connectors.
- Label the leads and disconnect them. Disconnect the connector from the central locking motor leads.

4 Remove the bolts securing the boot lid to the hinges. Ask someone to help you lift away the boot lid.

Fit in reverse order.

After fitting, adjust the fit and alignment of the boot lid.



Boot lid hinge, Saab 9000 CD

Removal and fitting

1 Protect the rear window with corrugated cardboard or the like.

2 Remove the boot lid trim.

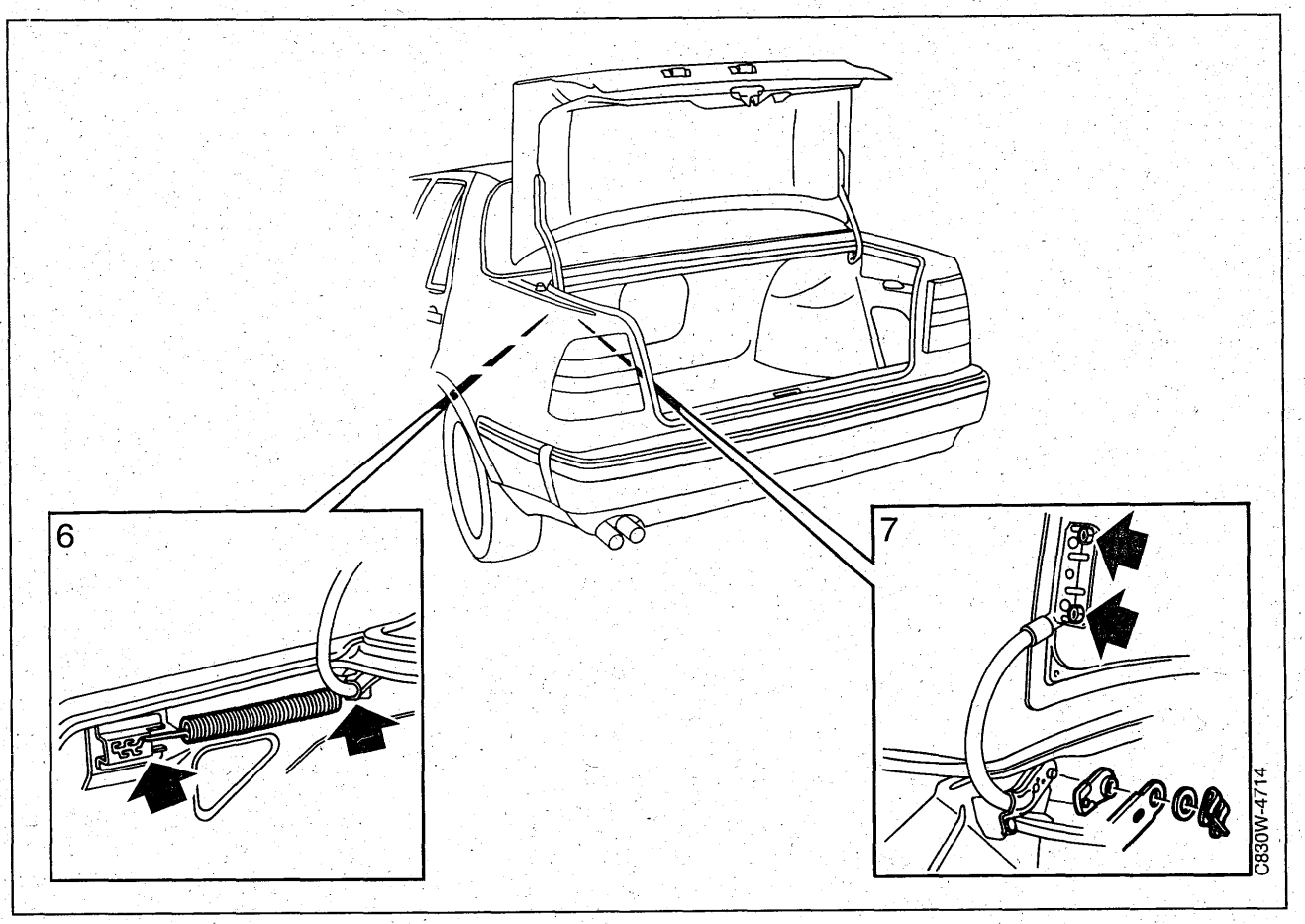
3 Release the retaining strip from the side panel.

Left-hand side:
Remove the speed screws.
Fold down the trim.

4 Release the electric leads from the hinge on the left-hand side as follows:

- Withdraw and unplug the connector located behind the side panel.
- Label and remove the leads from the connector so that they can be pulled through the hinge.
- Cut the cable ties holding the leads in place.
- Unscrew the cable clamp and pull the leads through the hinge.

5 Prop up the boot lid.



6 Unhook the spring from its rear attachment point and from the hinge.

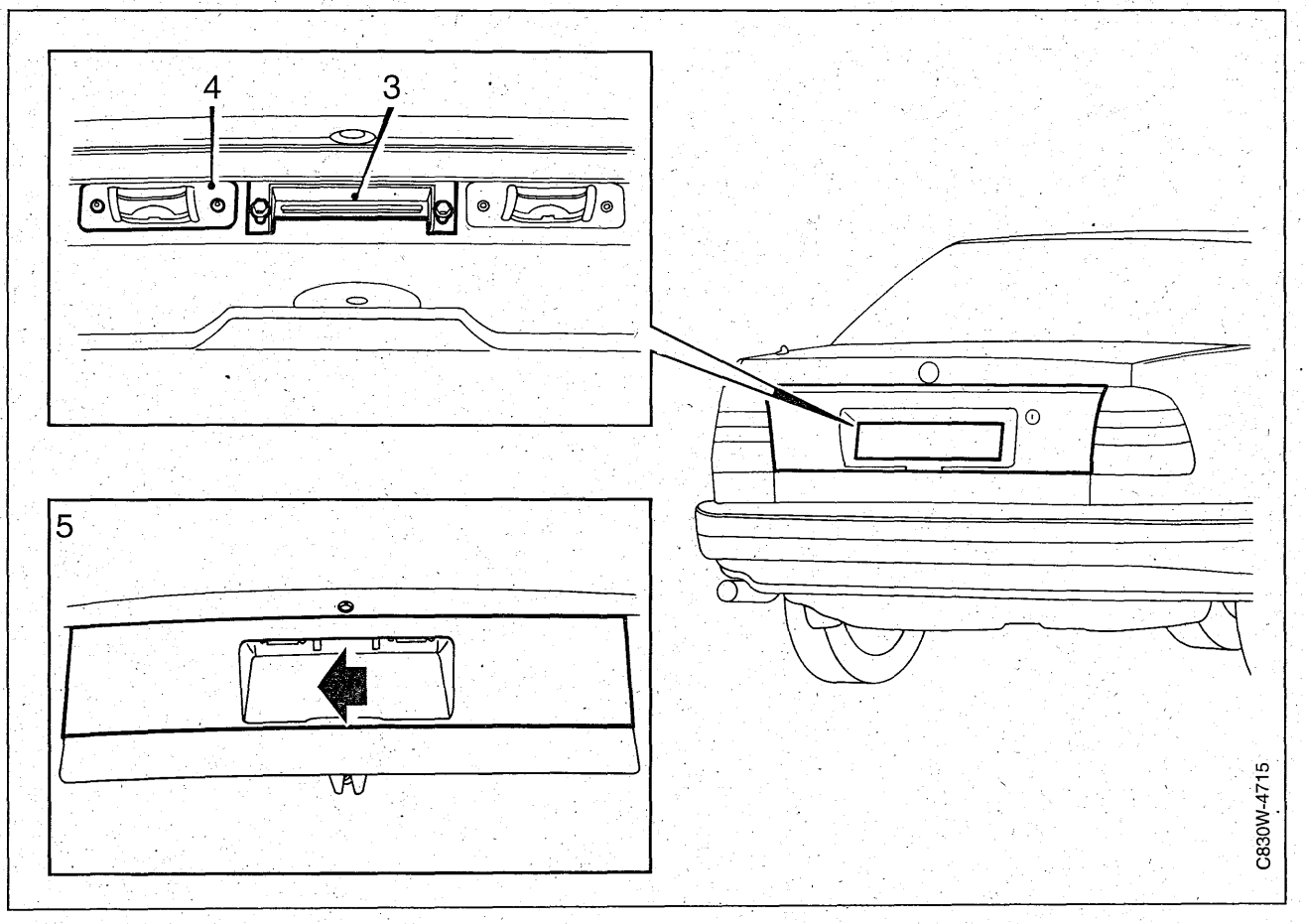
7 Remove the hinge as follows:

a. Remove the retaining clip from the hinge pivot pin.

b. Mark and remove the nuts securing the hinge to the boot lid.

c. Withdraw the hinge. Collect the bush and washer.

Fit in reverse order.

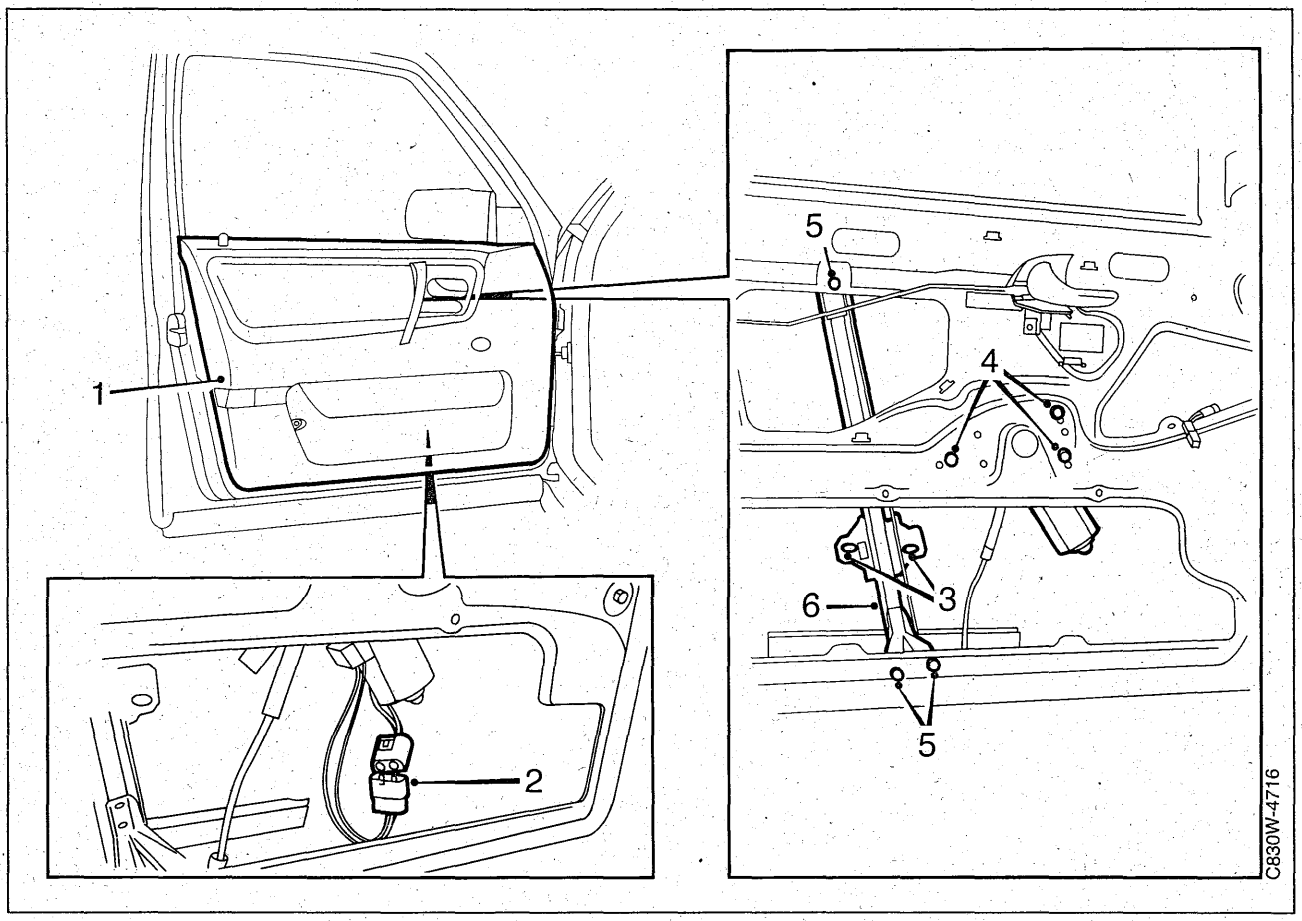


Boot lid trim panel, Saab 9000 CD

Removal and fitting

1 Remove the number plate.
2 Remove the screw and washer fitted under the number plate.
3 Remove the opening handle.
4 Remove the left-hand number plate lamp.
5 Slide the trim to the left so that it unhooks from the plastic rivets.

Fit in reverse order.



Electric window lifts

Front doors

1 Remove the door trim panel and plastic moisture barrier.

2 Lower the window to the halfway position, cut the cable tie and unplug the window lift motor connectors.

3 Undo the bolts securing the window glass to the lift channel. Carefully lower the glass inside the door.

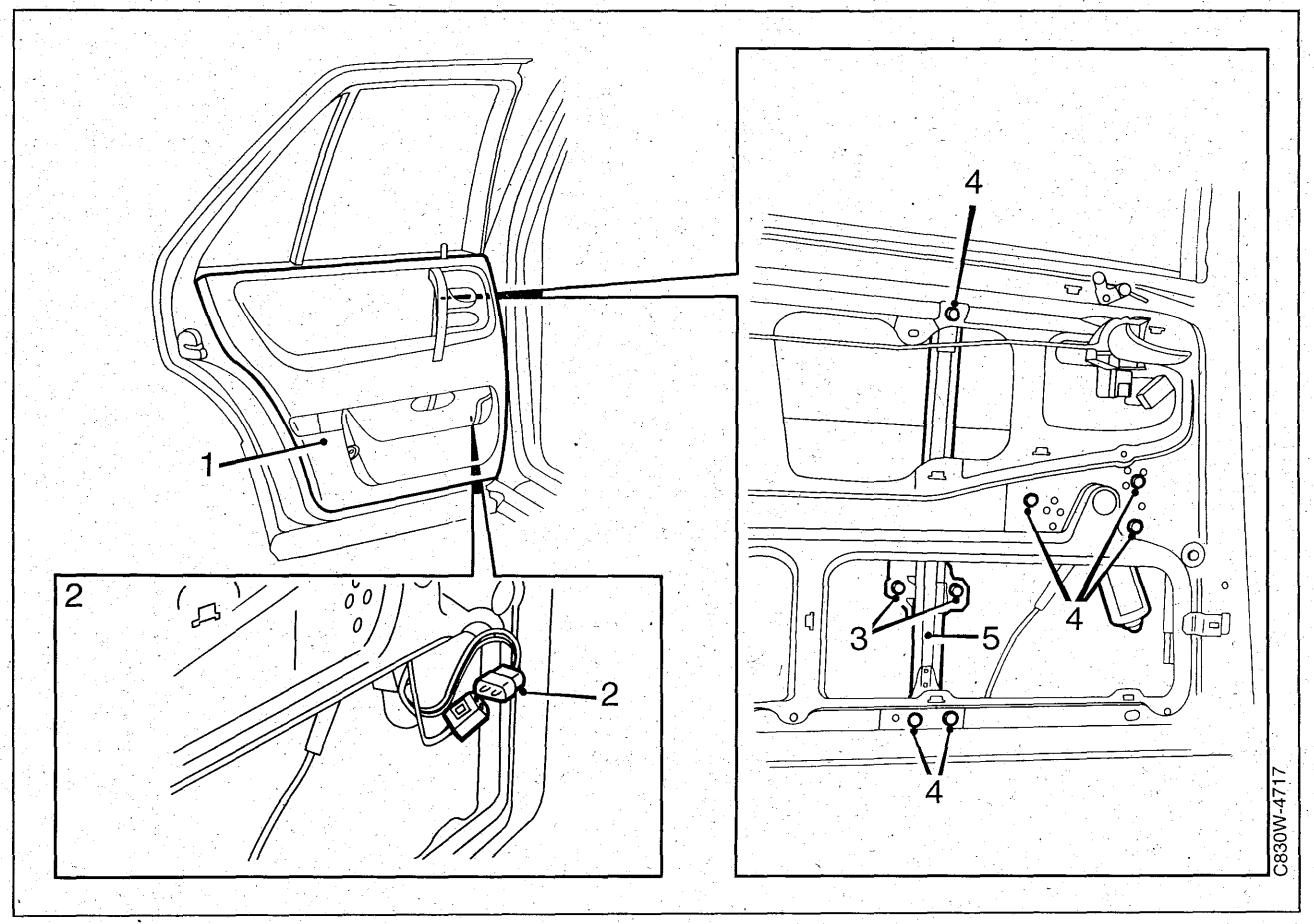
4 Undo the nuts securing the electric motor to the door.

5 Remove the window lift assembly screws.

6 Lift out the window lift assembly.

Fit in reverse order.

Adjust the fit of the glass in the frame.



Rear doors

1 Remove the door trim panel and plastic moisture barrier.

2 Lower the window to the halfway position, cut the cable tie and unplug the window lift motor connectors.

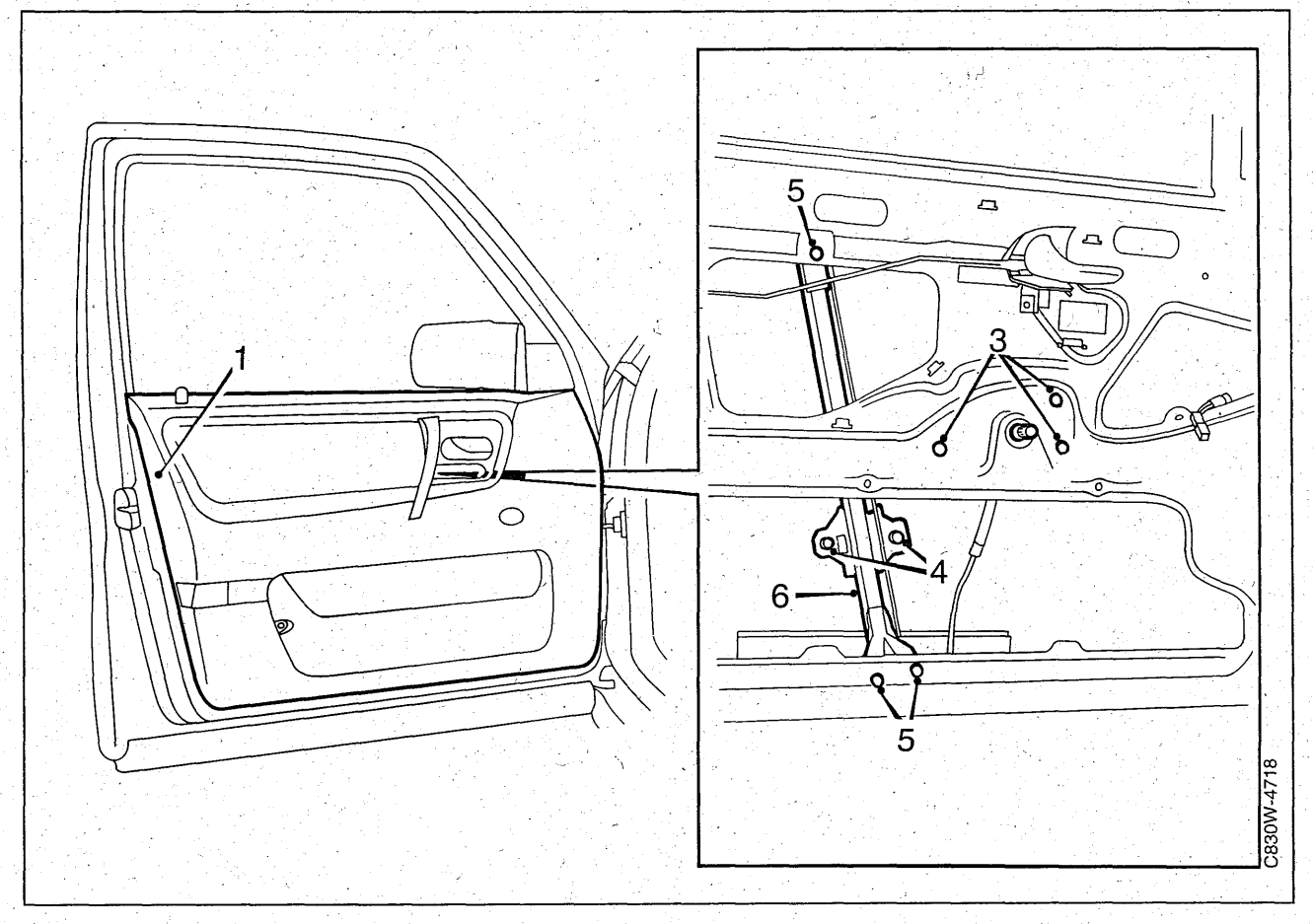
3 Undo the bolts securing the window glass to the lift channel. Carefully lower the glass inside the door.

4 Undo the nuts securing the electric motor to the door. Remove the window lift assembly screws.

5 Lift out the window lift assembly.

Fit in reverse order.

Adjust the fit of the glass by inserting the bolts in the glass lift channel but without tightening them. Raise the window to the closed position and then tighten the bolts.



Manual window regulators

Front doors

1 Remove the door trim panel and plastic moisture barrier.

2 Wind the window down to the halfway position.

3 Undo the nuts securing the regulator mechanism.

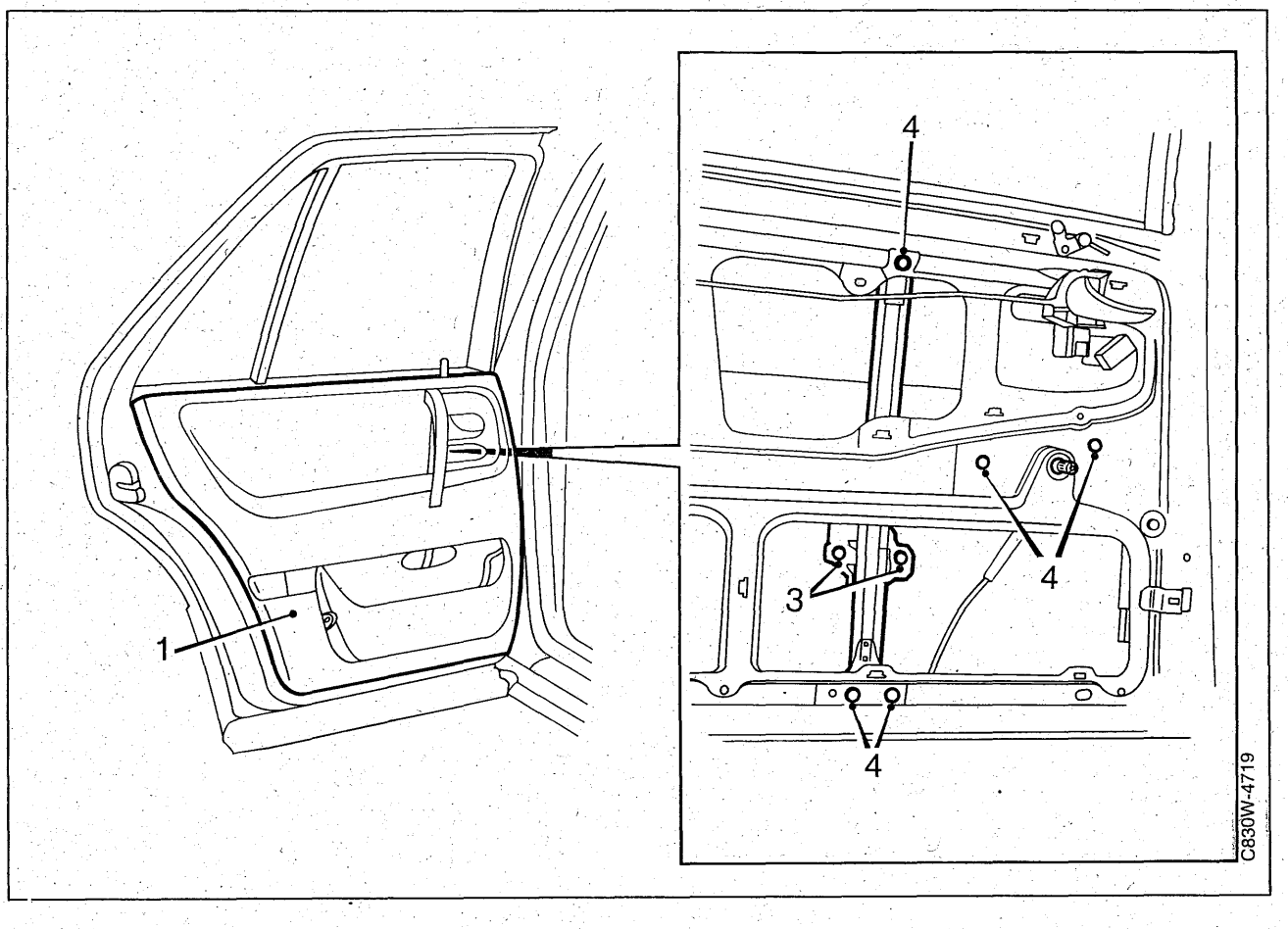
4 Undo the bolts securing the window glass to the lift channel. Carefully lower the glass inside the door.

5 Remove the window lift assembly screws.

6 Lift out the window lift assembly.

Fit in reverse order.

Adjust the fit of the glass by inserting the bolts in the glass lift channel but without tightening them. Raise the window to the closed position and then tighten the bolts.



Rear doors

1 Remove the door trim panel and plastic moisture barrier.

2 Wind the window down to the halfway position.

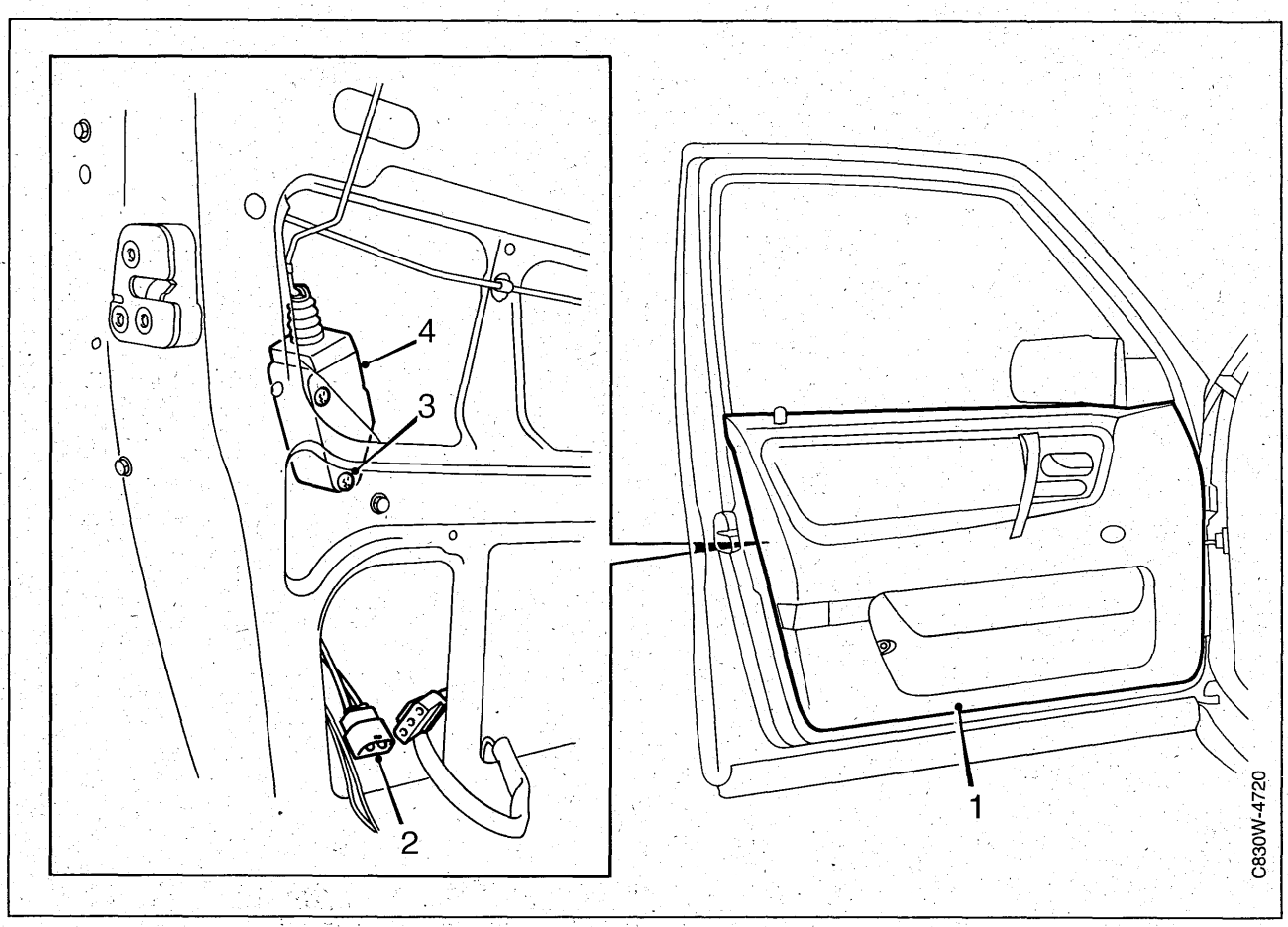
3 Undo the bolts securing the window glass to the lift channel. Carefully lower the glass inside the door.

4 Undo the nuts securing the regulator mechanism. Remove the regulator mechanism retaining bolts.

5 Lift out the window lift assembly.

Fit in reverse order.

Adjust the fit of the glass by inserting the bolts in the glass lift channel but without tightening them. Raise the window to the closed position and then tighten the bolts.

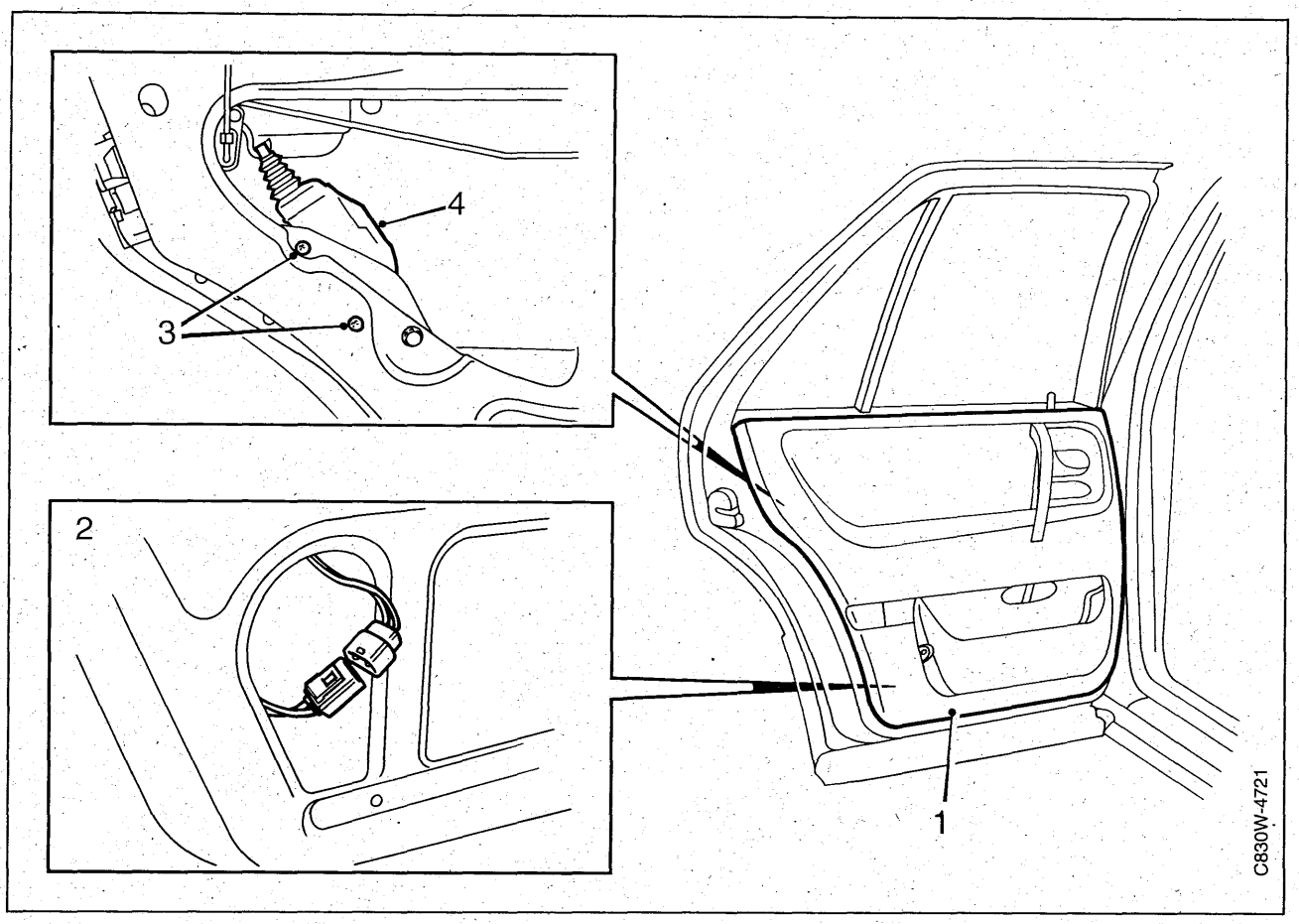


Central locking system

Replacement of lock motor, front door

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Unplug the connectors.
3 Remove the screws.
4 Unhook the lock motor and lift it out.

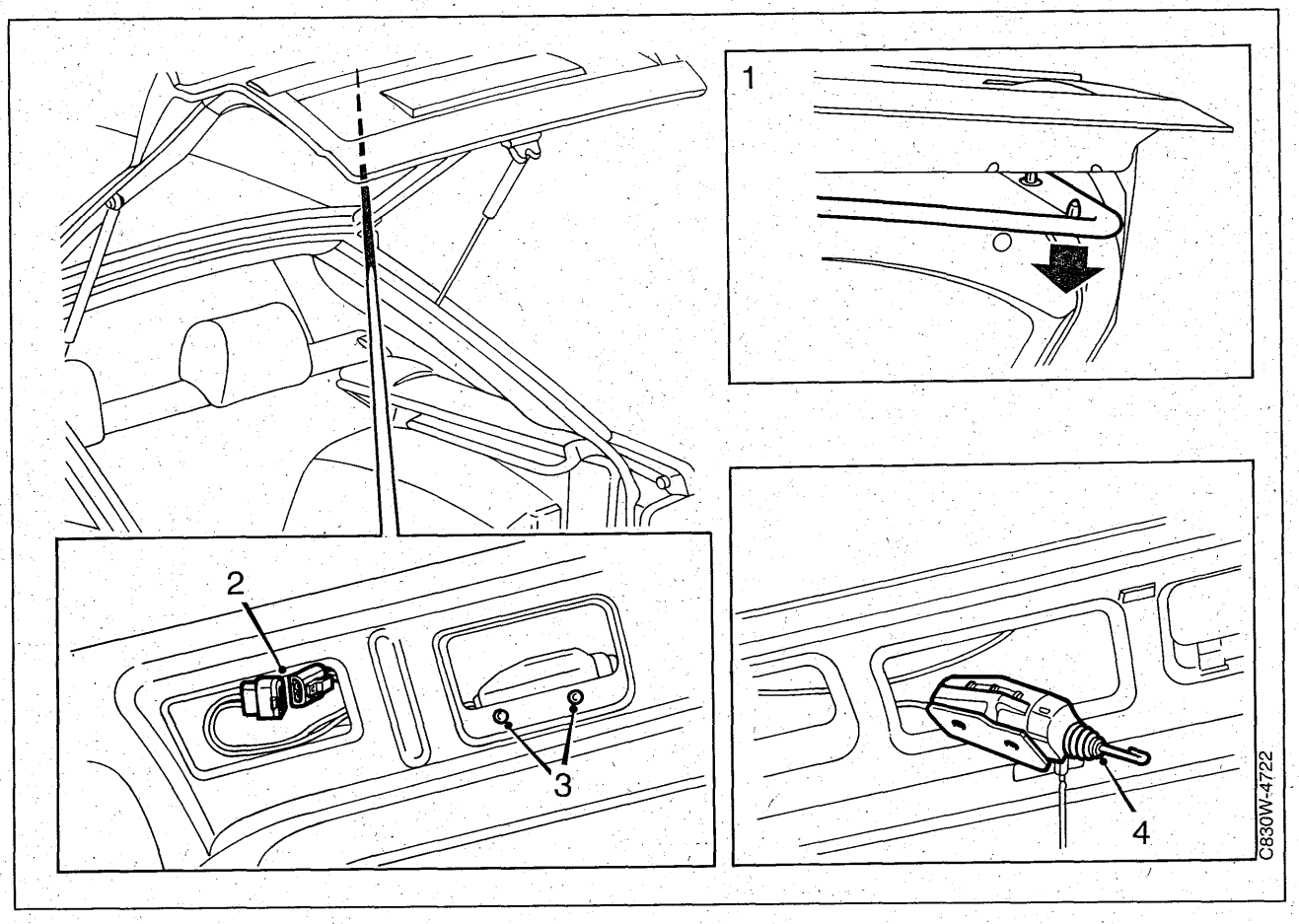
Fit in reverse order.



Replacement of lock motor, rear door

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Unplug the connector.
3 Remove the screws.
4 Unhook the motor and lift it out.

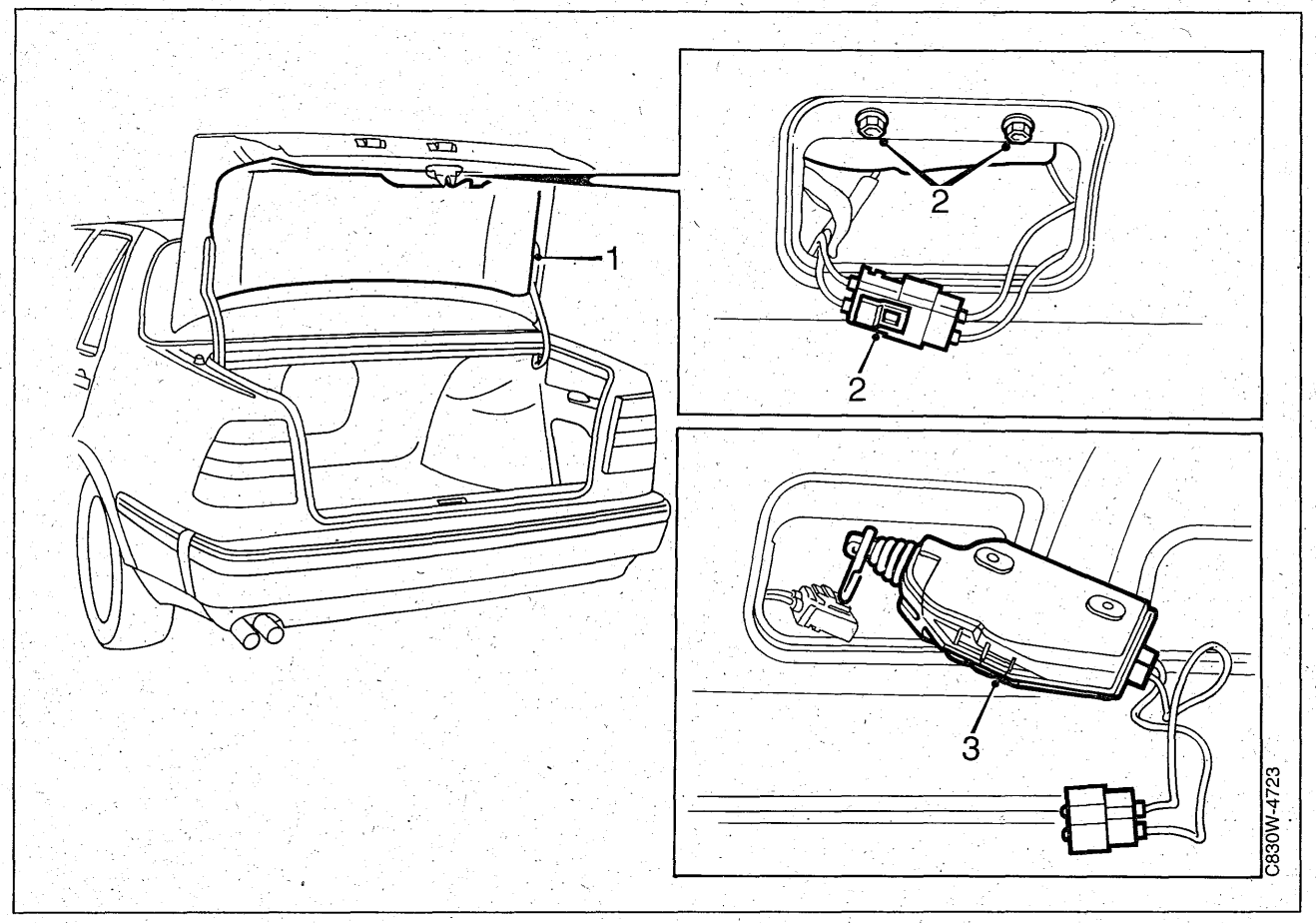
Fit in reverse order.



Replacement of lock motor, tailgate
Saab 9000 CC and CS

1 Remove the tailgate trim.
2 Unplug the connector.
3 Remove the two lock motor retaining bolts.
4 Lift out the lock motor and unhook the linkage.

Fit in reverse order.

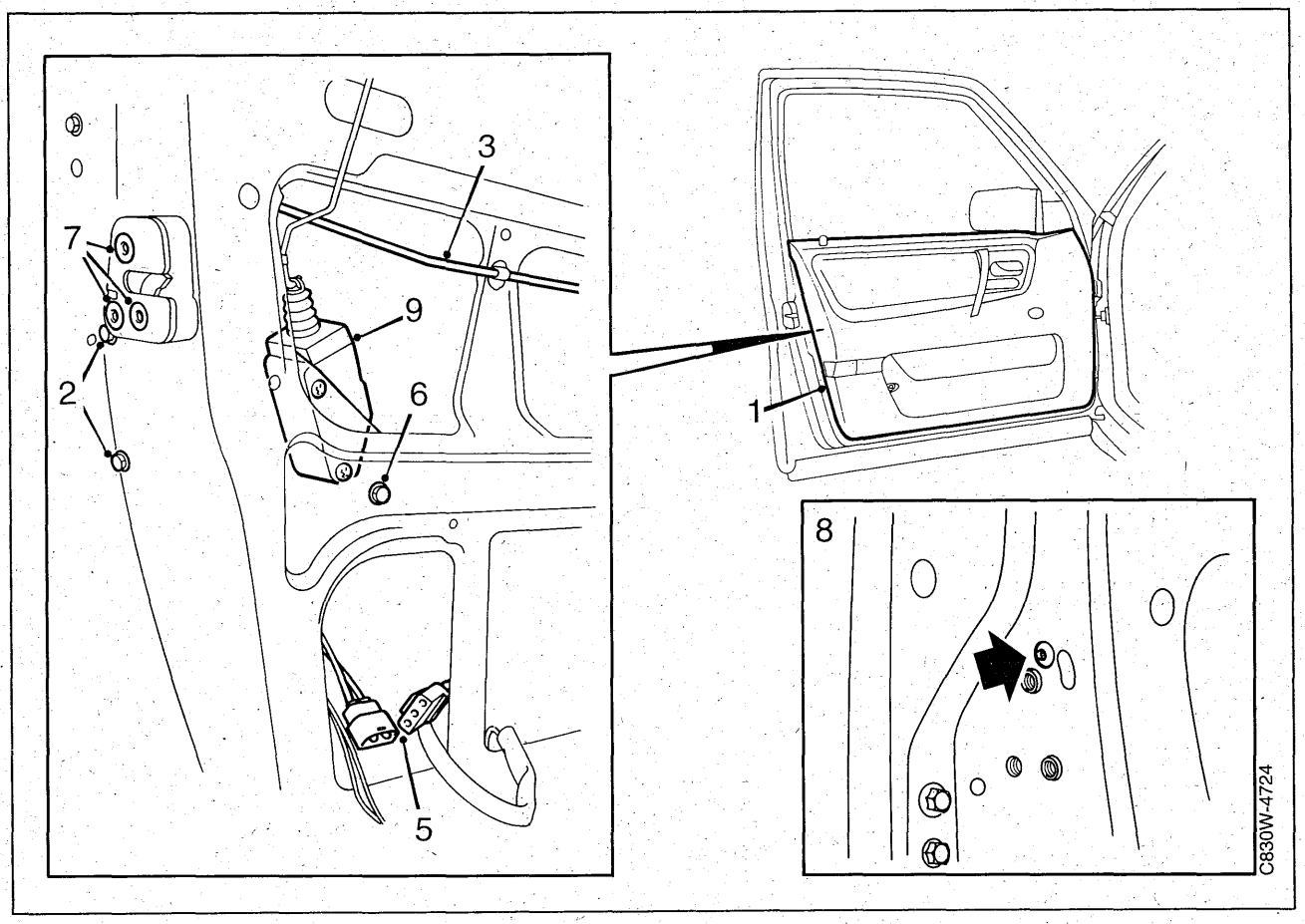


Central locking system, boot lid, Saab 9000 CD

Removal and fitting

1 Remove the boot lid trim.
2 Withdraw and unplug the lock motor connector. Remove the two motor retaining bolts.
3 Lift out the motor and unhook the linkage.

Fit in reverse order.

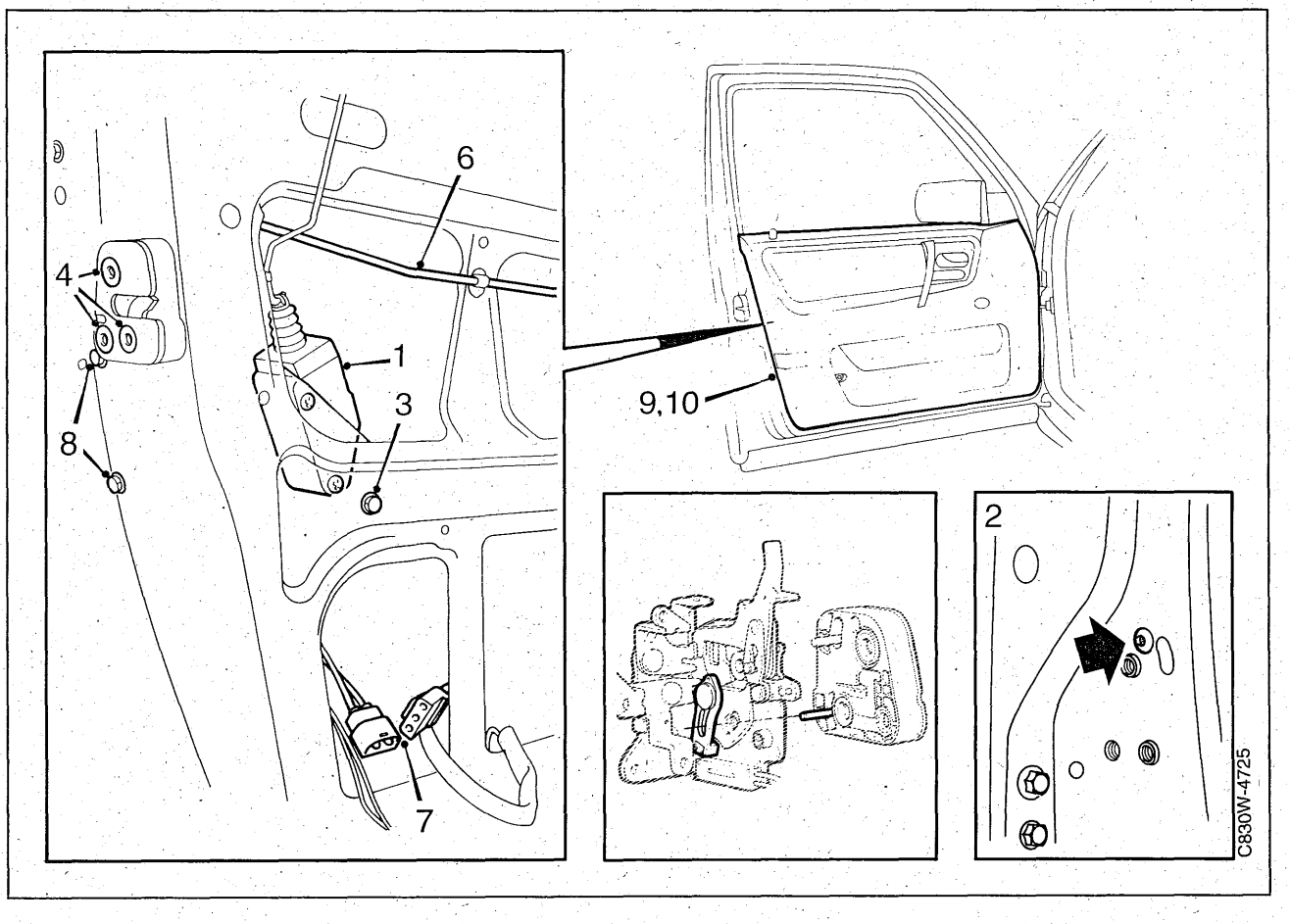


Door locks

Door lock replacement, front doors

To remove

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Remove the bolts securing the guide bar and lift it out.
3 Remove the lock mechanism link from the inside door handle.
4 Undo the ball joint in the lock cylinder linkage.
5 Cut the cable tie and unplug the connectors.
6 Remove the lock motor bracket retaining bolt.
7 Remove the lock retaining screws and lift out the lock.
8 Remove the lock assembly retaining screw.
9 Lift out the lock assembly complete with lock motor.



To fit

Where applicable, transfer the clips, linkage and lock motor to the new lock mechanism.

1 Lift the lock and lock motor assembly into position.

2 Fit the lock assembly retaining screw.

3 Bolt the lock motor bracket to the door.

4 Fit the latch unit, making sure that the locating peg enters the slot

Important

Press the latch to the locking position before mounting the latch unit. Unless this is done, the door indicating switch could be broken.

Do not forget to use the inside or outside door handle to open the door lock once the lock assembly has been fitted. This is to prevent damage to the striker plate and lock when the door is closed.

5 Reconnect the ball joint to the lock cylinder.

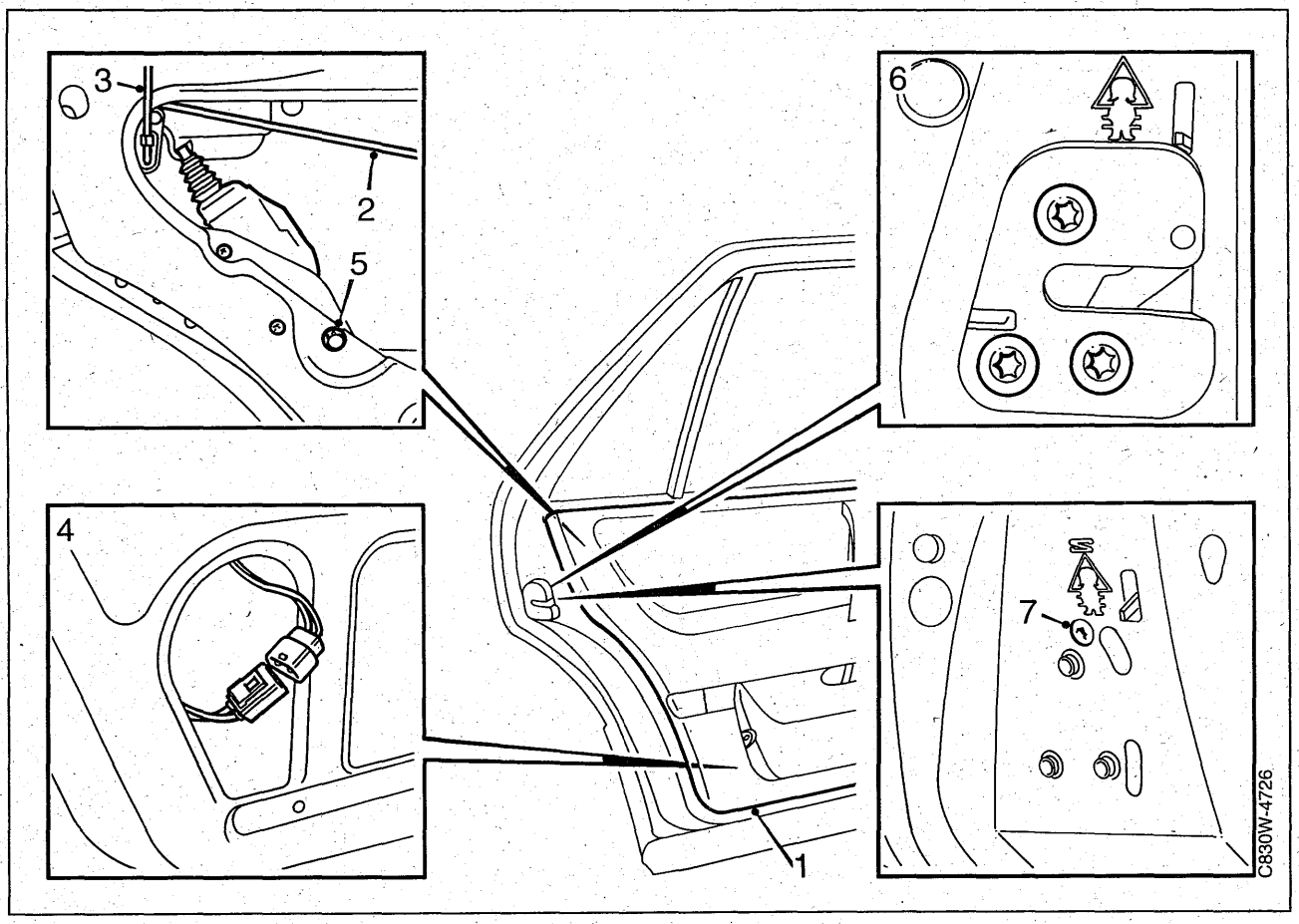
6 Fit the tie rod for the inside door handle.

7 Plug in the connectors and fasten the electric leads by means of a cable tie inserted through the connectors.

8 Fit the guide bar for the window glass. Insert the bolts. Adjust the guide bar so that the glass slides freely and then tighten the bolts.

9 Refit the plastic moisture barrier.

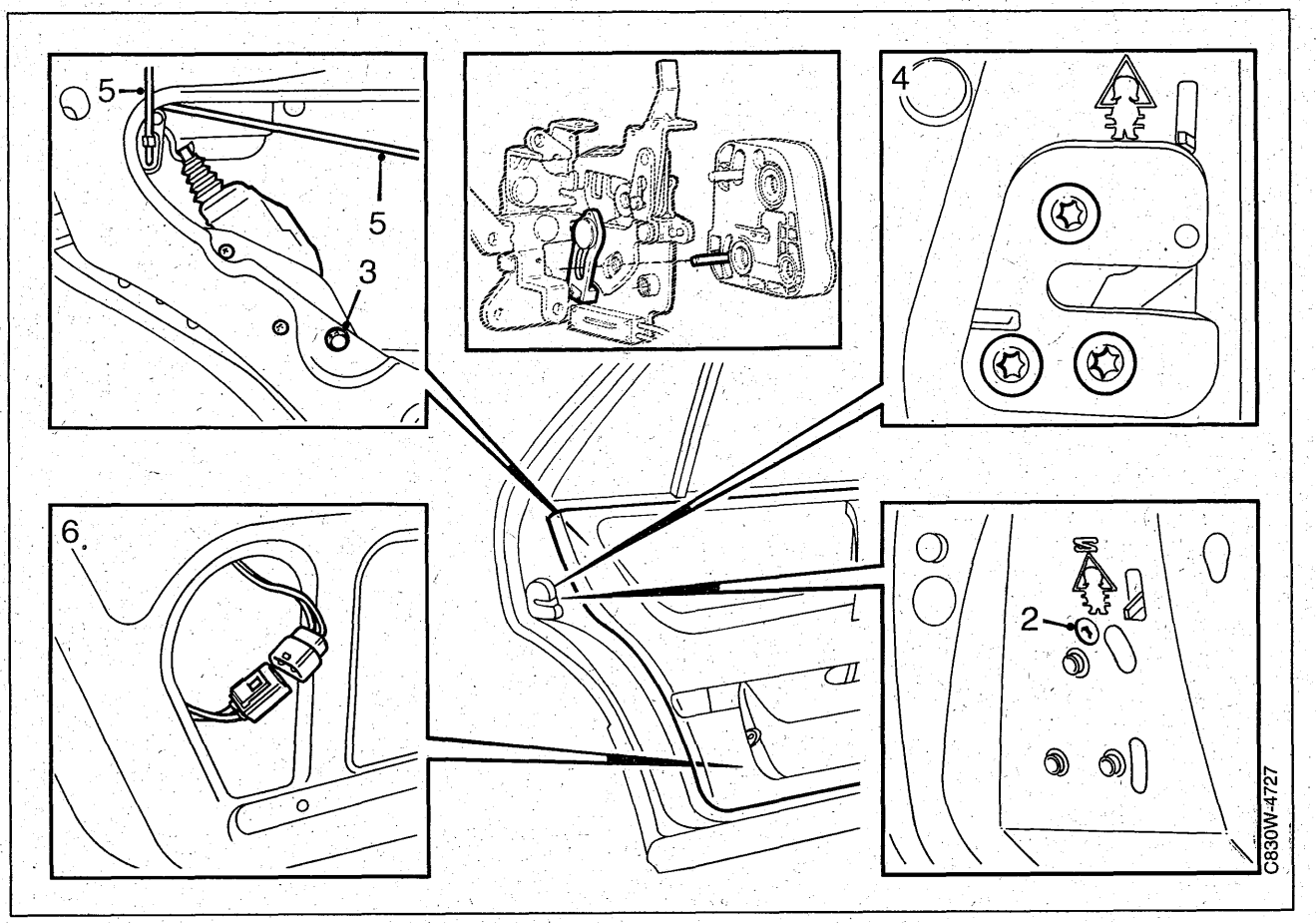
10 Refit the door trim panel.



Door lock replacement, rear door

To remove

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Disconnect the inside door handle tie rod from the lock mechanism.
3 Disconnect the locking button link from the lock mechanism.
4 Cut the cable tie and unplug the connectors.
5 Remove the lock motor bracket retaining bolt.
6 Remove the lock retaining screws and lift out the lock.
7 Remove the lock assembly retaining screw.
8 Lift out the lock assembly complete with lock motor.



To fit

Where applicable, transfer the clips and lock motor to the new lock assembly.

1 Lift the lock and lock motor assembly into position.

2 Fit the lock assembly retaining screw.

3 Bolt the lock motor bracket to the door.

4 Fit the latch unit, making sure that the locating peg enters the slot

Important

Press the latch to the locking position before mounting the latch unit. Unless this is done, the door indicating switch could be broken.

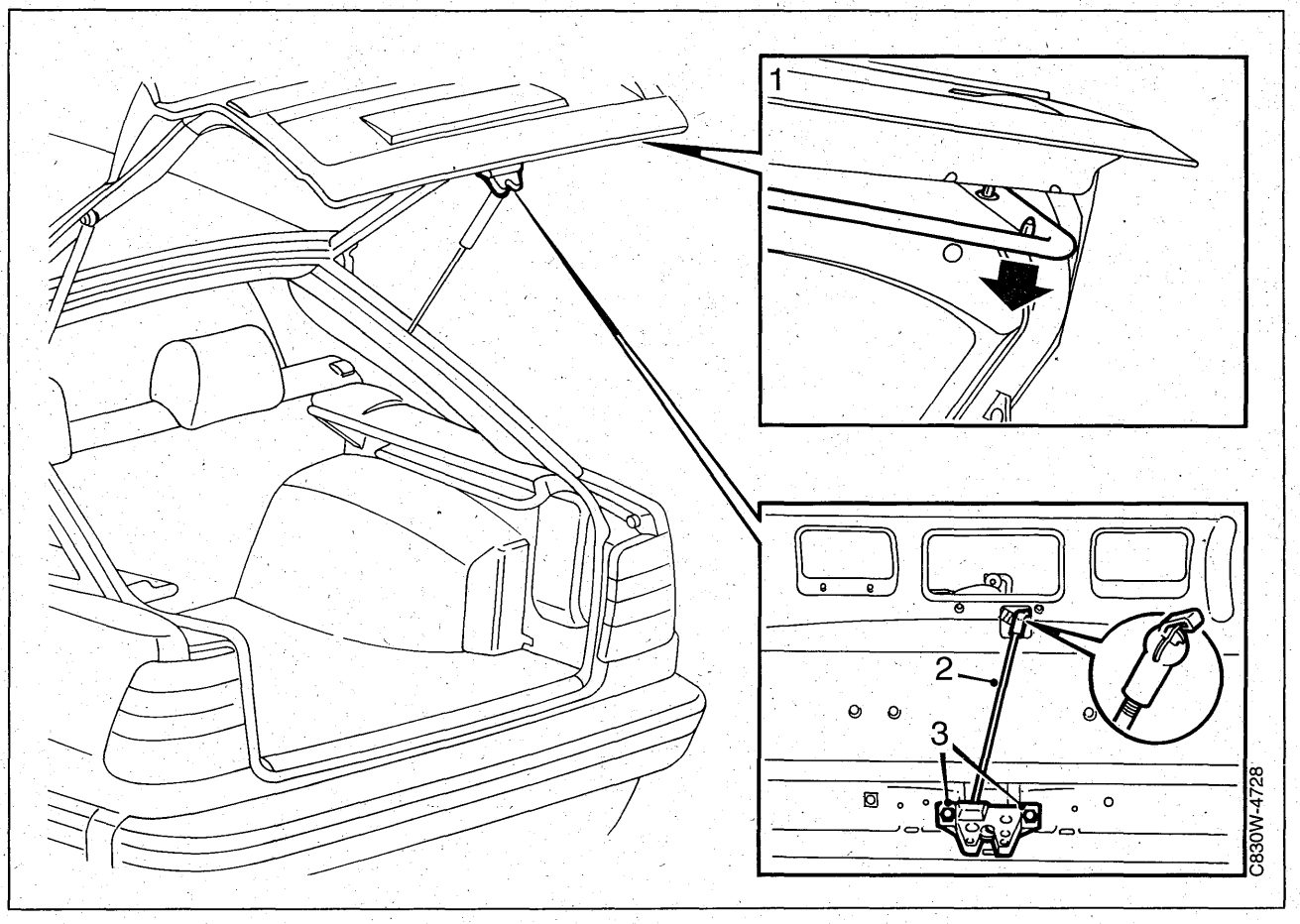
Do not forget to use the inside or outside door handle to open the door lock once the lock assembly has been fitted. This is to prevent damage to the striker plate and lock when the door is closed.

5 Reconnect the locking button link and inside door handle tie rod to the lock mechanism.

6 Plug in the connectors and fasten the electric leads by means of a cable tie inserted through the connectors.

7 Refit the plastic moisture barrier.

8 Refit the door trim panel.



Replacement of tailgate lock

To remove

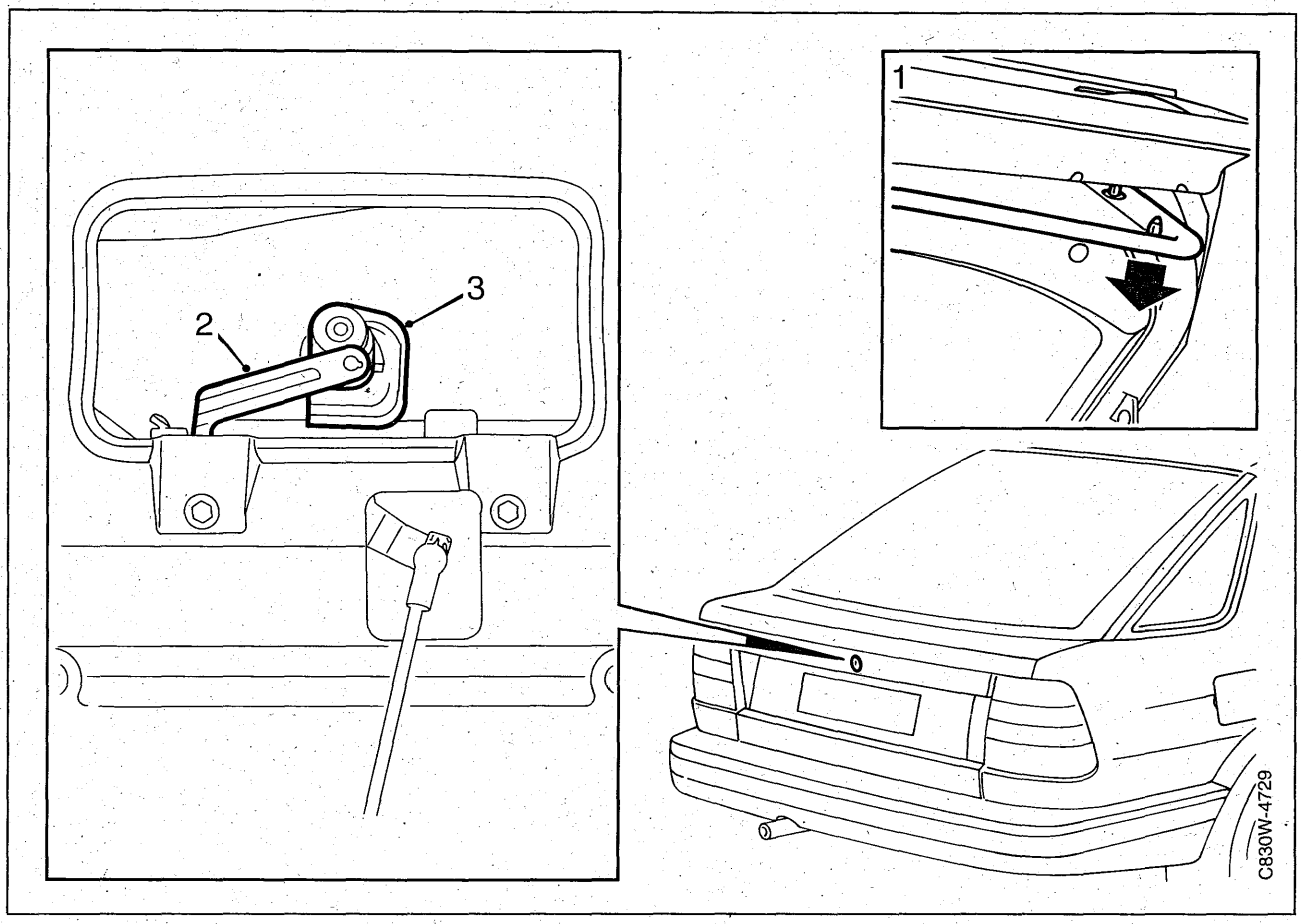
1 Remove the tailgate trim.
2 Disconnect the linkage from the handle.
3 Remove the two bolts and lift out the lock.

To fit

1 Fit the lock and connect the linkage. Adjust the fit and align the lock correctly with the striker plate.

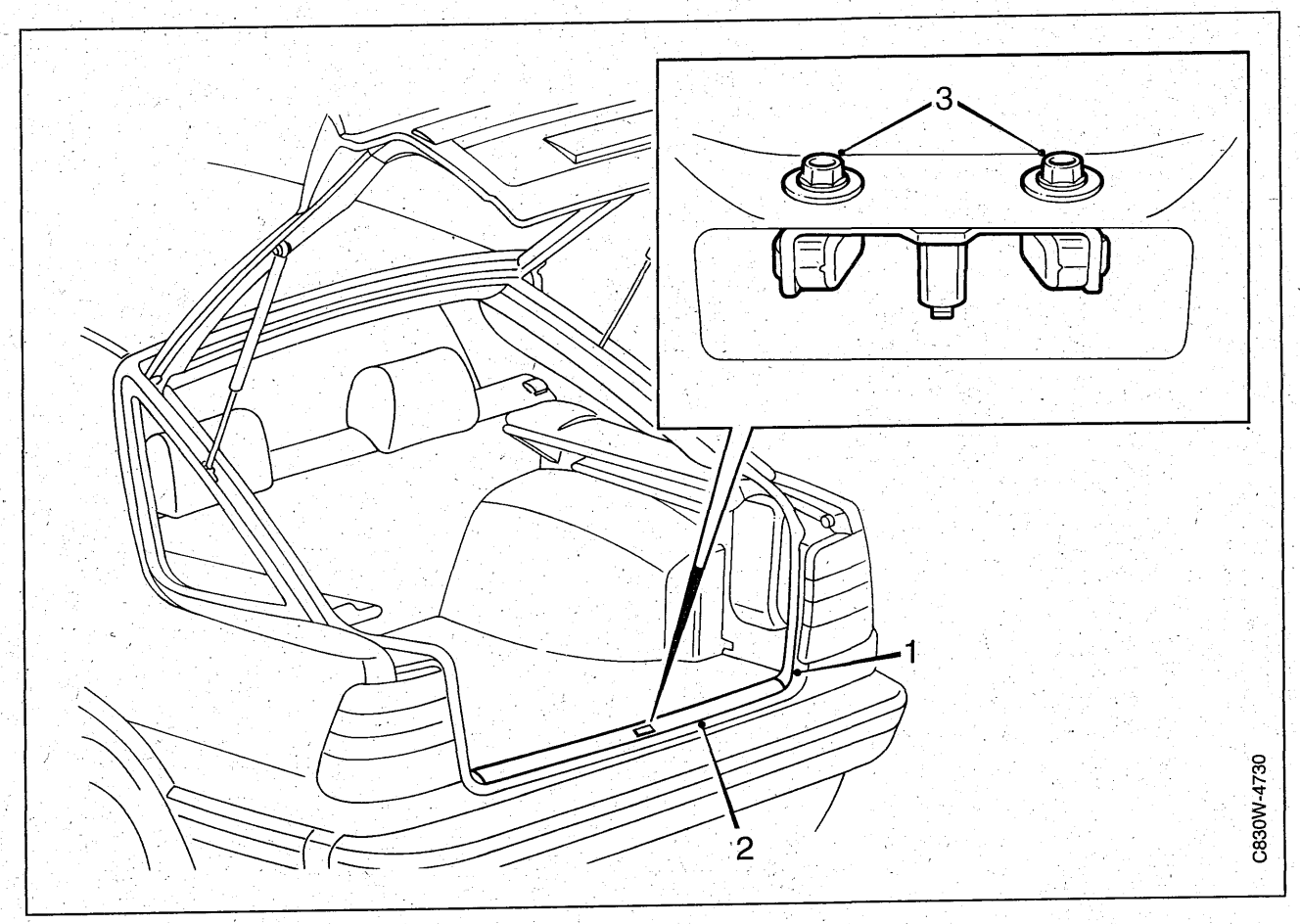
Important

Make sure that there is some play in the handle when the tailgate is locked.



Replacement of tailgate lock cylinder

1 Remove the tailgate trim.
2 Disconnect the link from the ball joint at the lock cylinder.
3 Use a screwdriver to slide back the cylinder retainer and withdraw the lock cylinder.



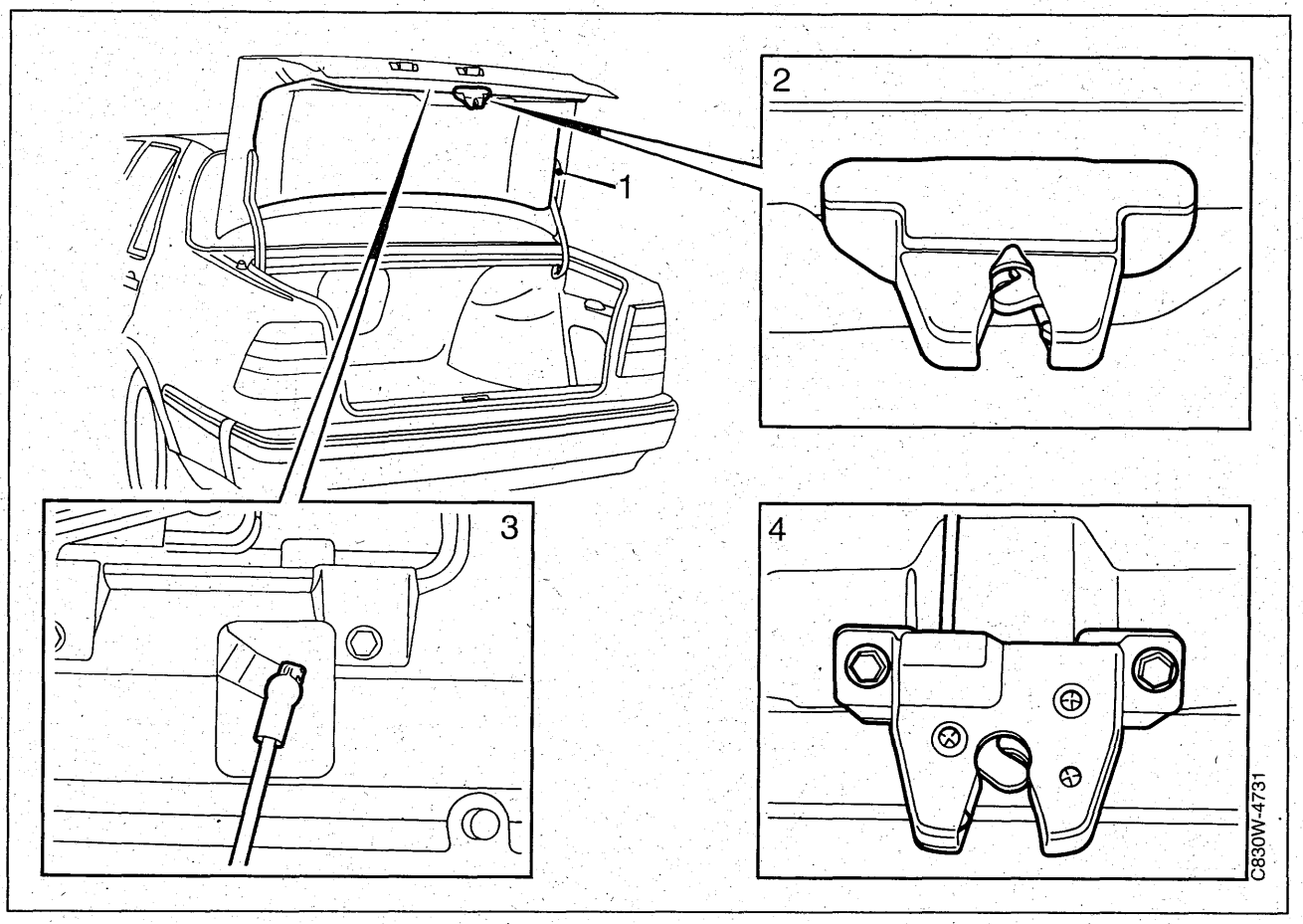
Replacement of tailgate striker plate

1 Remove the left-hand and right-hand covers over the rear light clusters.

2 Undo the scuff plate retaining screws and remove the scuff plate.

3 Remove the bolts and lift off the striker plate.

Fit a new striker plate and align it correctly with the lock.



Boot lid lock, Saab 9000 CD, model year 1989 and earlier cars

Removal and fitting

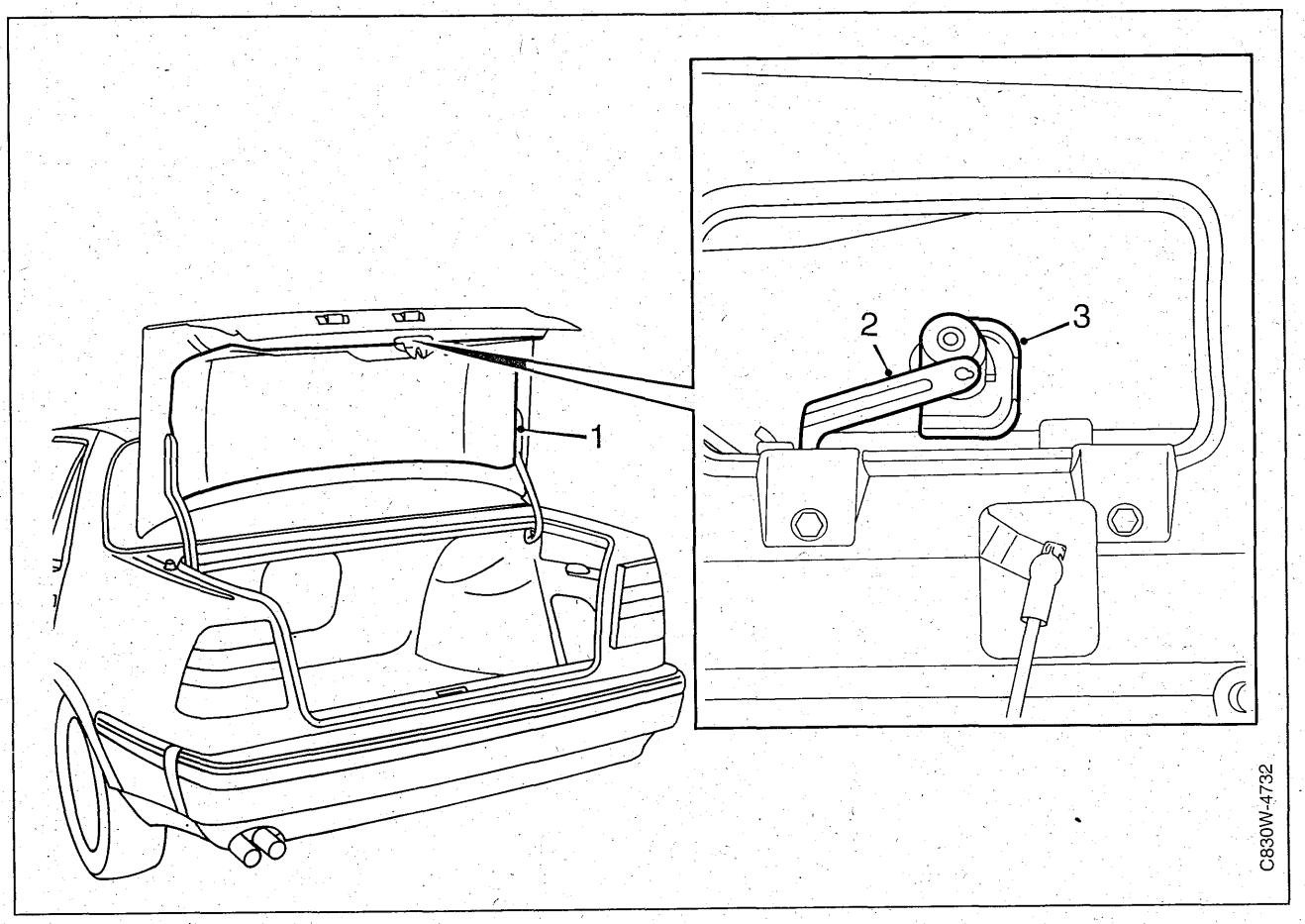
1 Remove the boot lid trim.
2 Remove the protective cover from the lock.
3 Disconnect the linkage from the handle.
4 Remove the two bolts and lift out the lock.

To fit

5 Fit the lock and connect the linkage. Adjust the fit and align the lock correctly with the striker plate.

Important

Make sure that there is some play in the handle when the tailgate is locked.

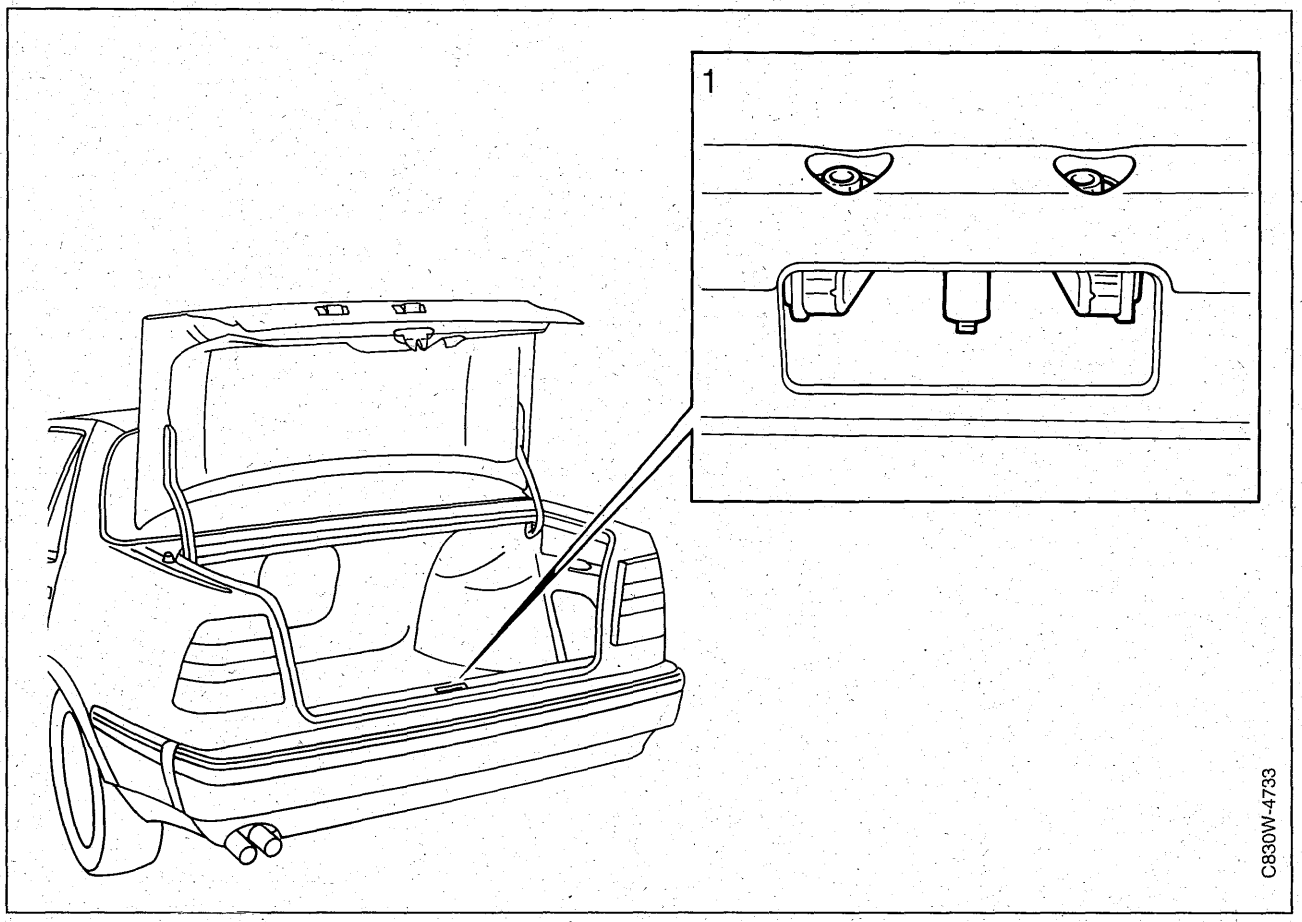


Boot lid lock cylinder, Saab 9000 CD, model year 1989 and earlier cars

Removal and fitting

1 Remove the boot lid trim.
2 Disconnect the link from the ball joint at the lock cylinder.
3 Use a screwdriver to slide back the cylinder retainer and withdraw the lock cylinder.

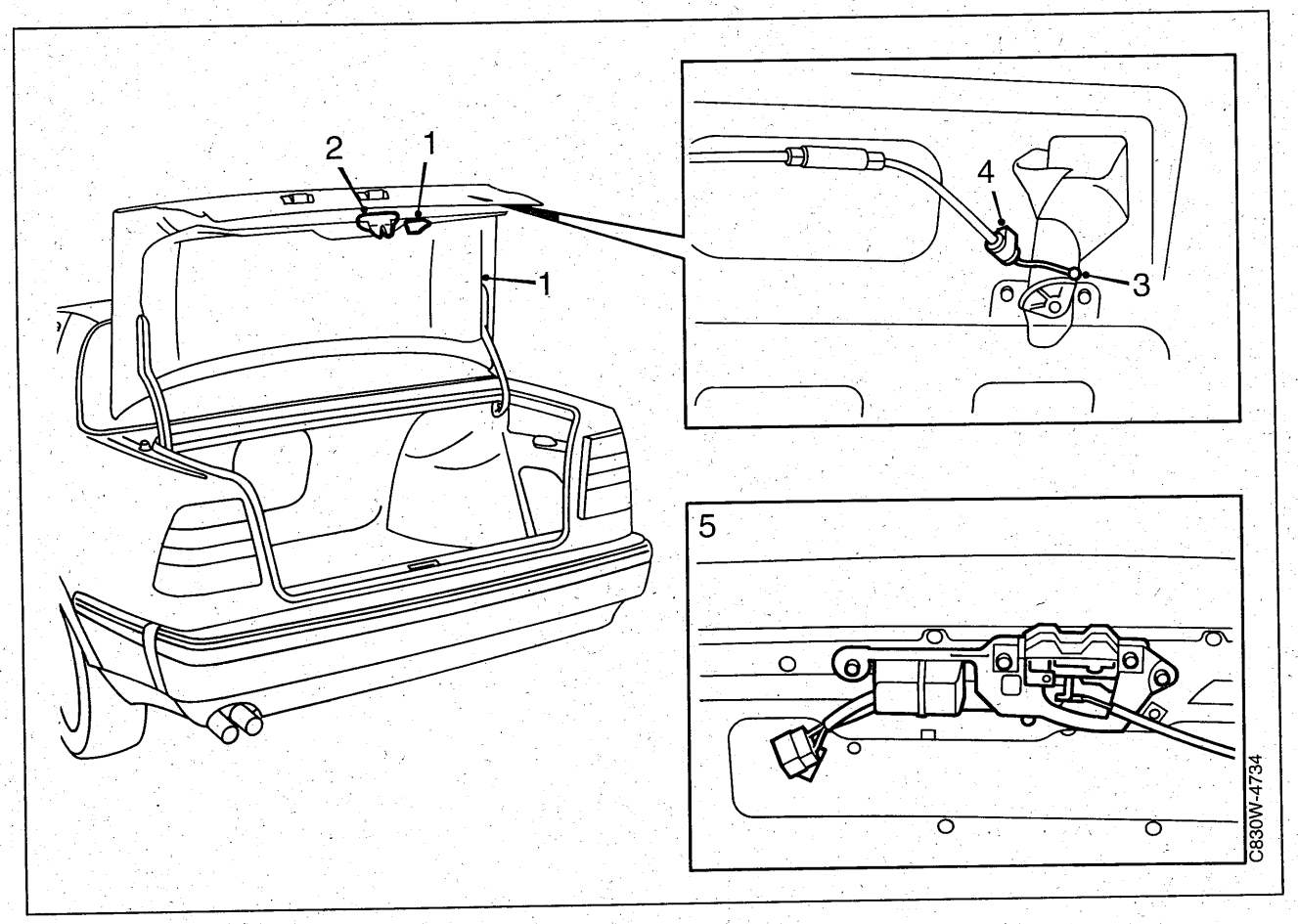
Fit in reverse order.



Striker plate, Saab 9000 CD

Removal and fitting

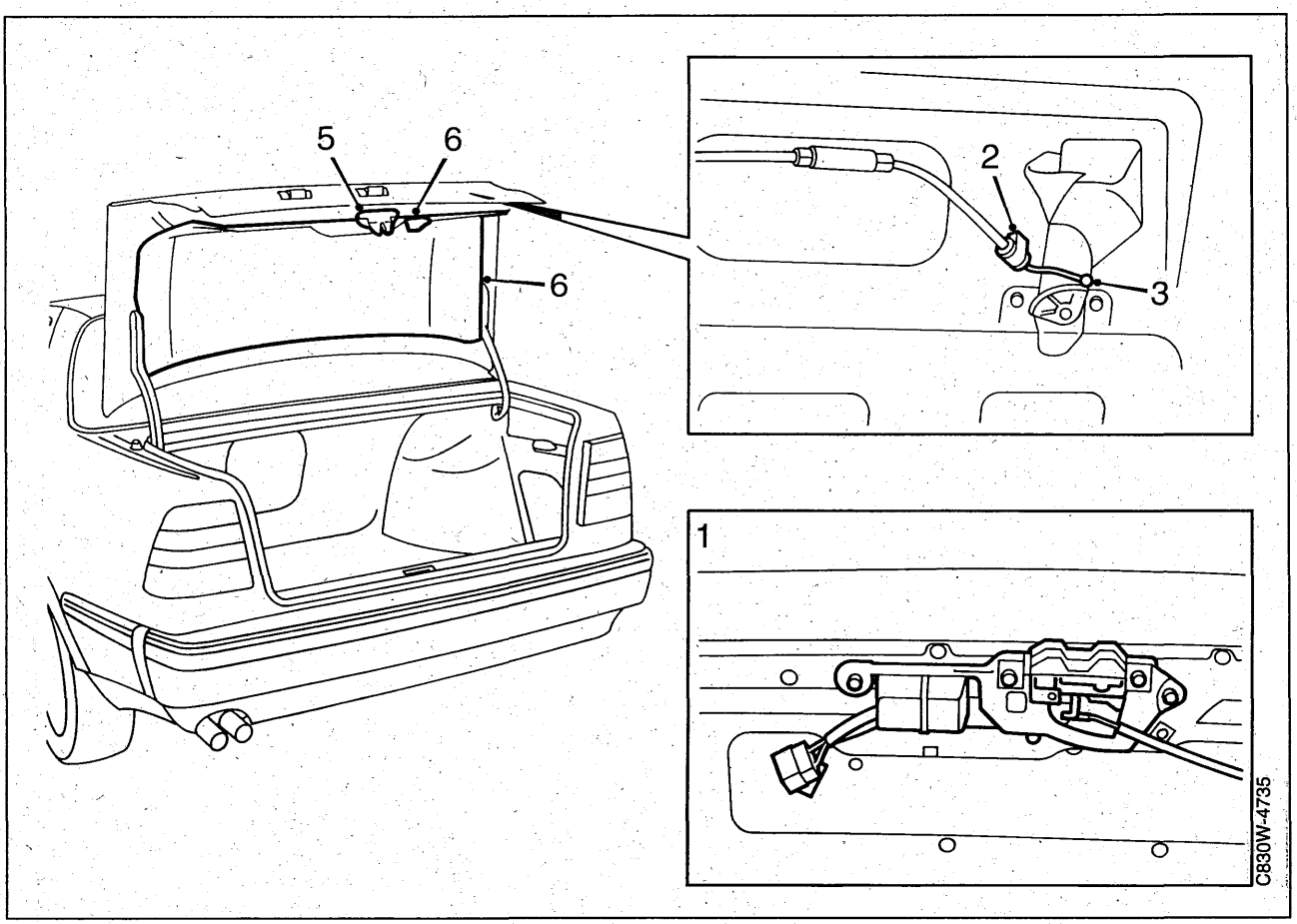
1 Remove the bolts and lift off the striker plate.
2 Fit a new striker plate and align it correctly with the lock.



Boot lid lock, Saab 9000 CD, model year 1990 and later cars

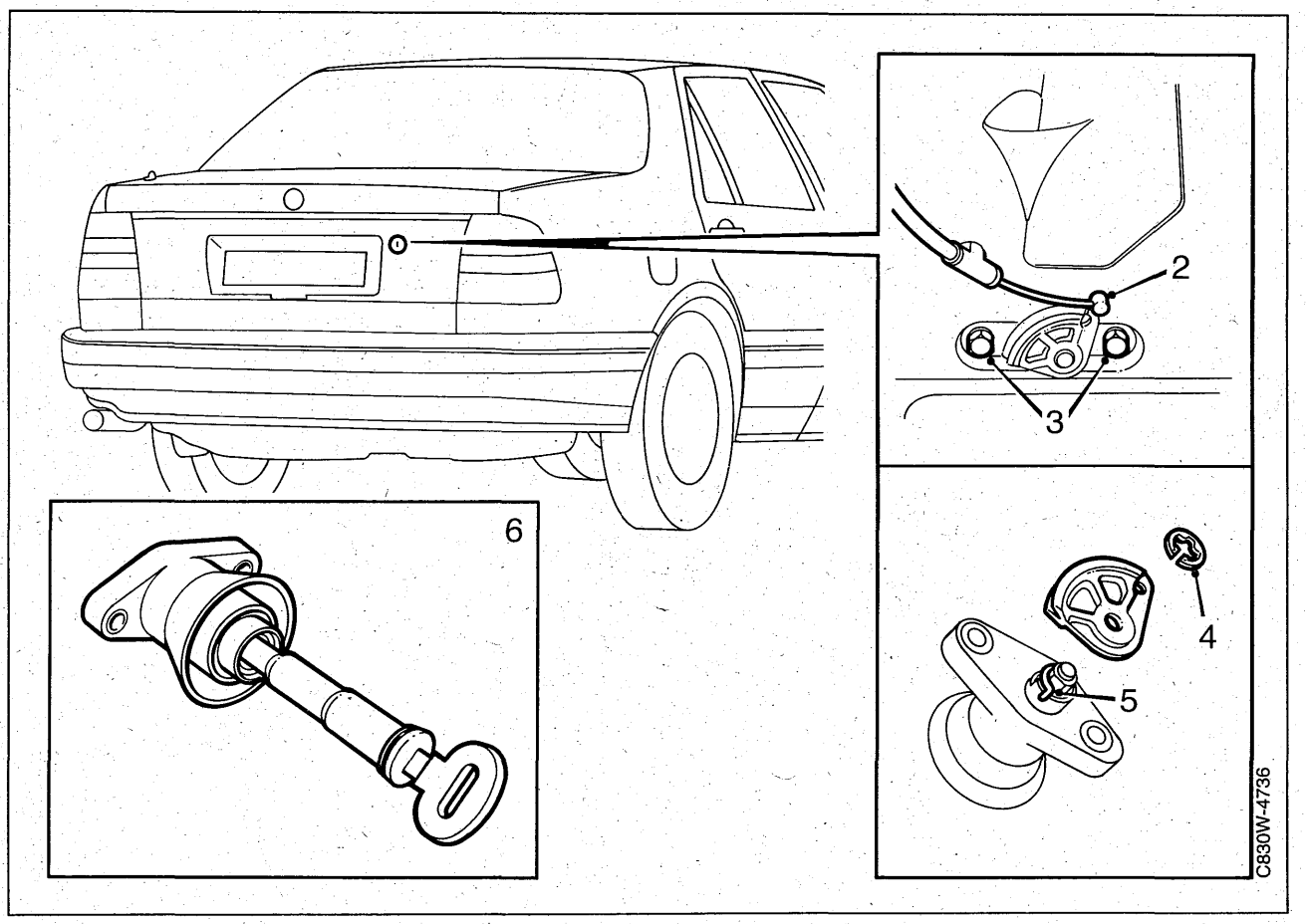
To remove

1 Remove the handle and boot lid trim.
2 Remove the protective cover.
3 Disconnect the cable from the lock cylinder driver.
4 Remove the cable bracket from the boot lid.
5 Unplug the connectors and remove the lock.



To fit

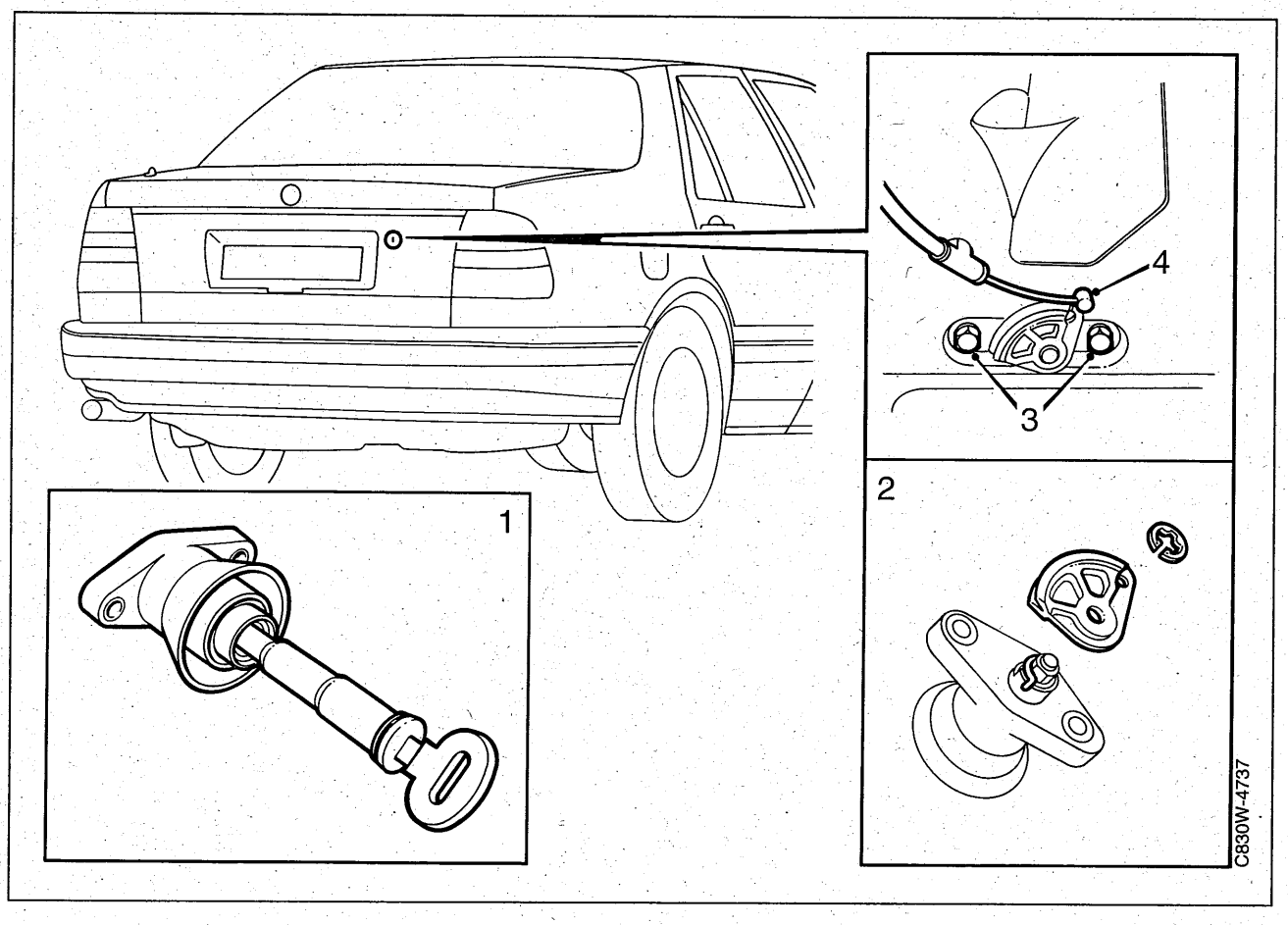
1 Fit the lock in the boot lid and plug in the connectors.
2 Fasten the cable bracket to the boot lid.
3 Connect the cable to the lock cylinder driver.
4 Check that the cable is of the correct length and that the lock is in proper working order.
5 Refit the protective cover.
6 Refit the boot lid trim and handle.



Boot lid lock cylinder, Saab 9000 CD, model year 1990 and later cars

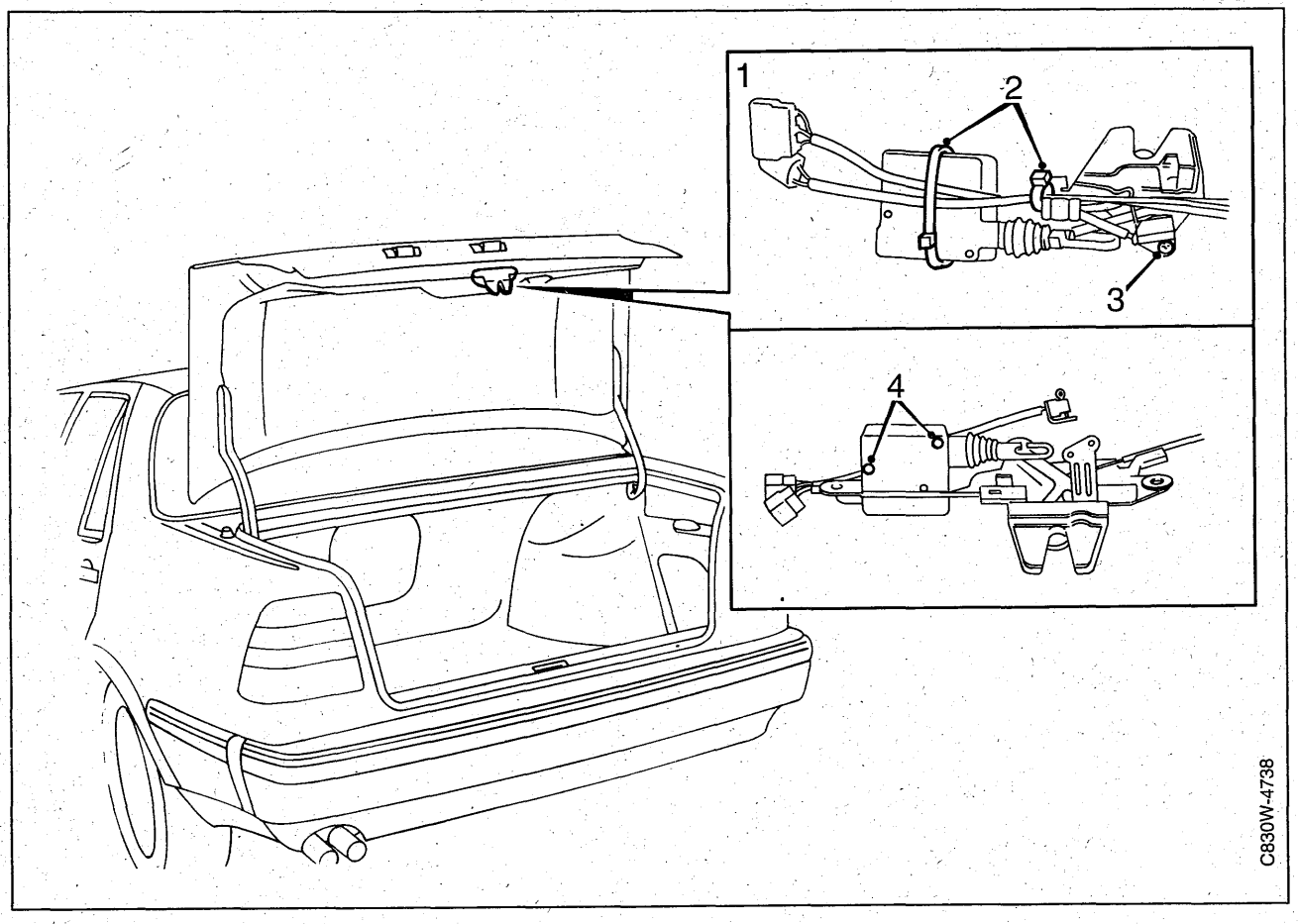
To remove

1 Remove the handle and boot lid trim.
2 Disconnect the cable from the lock cylinder driver.
3 Remove the two retaining bolts, rotate the unit 1/4 turn and withdraw it. Collect the seal on the outside of the boot lid.
4 Remove the circlip on the driver and lift off the driver.
5 Remove the spring.
6 Press out the lock cylinder.



To fit

1 Fit the lock cylinder in place.
2 Fit the spring, driver and circlip in place.
3 Fit the unit in place and tighten the retaining bolts. Make sure that the driver is correctly positioned.
4 Fasten the cable to the driver.
5 Fit the outer seal in place.
6 Check the operation of the lock.
7 Refit the boot lid trim and handle.

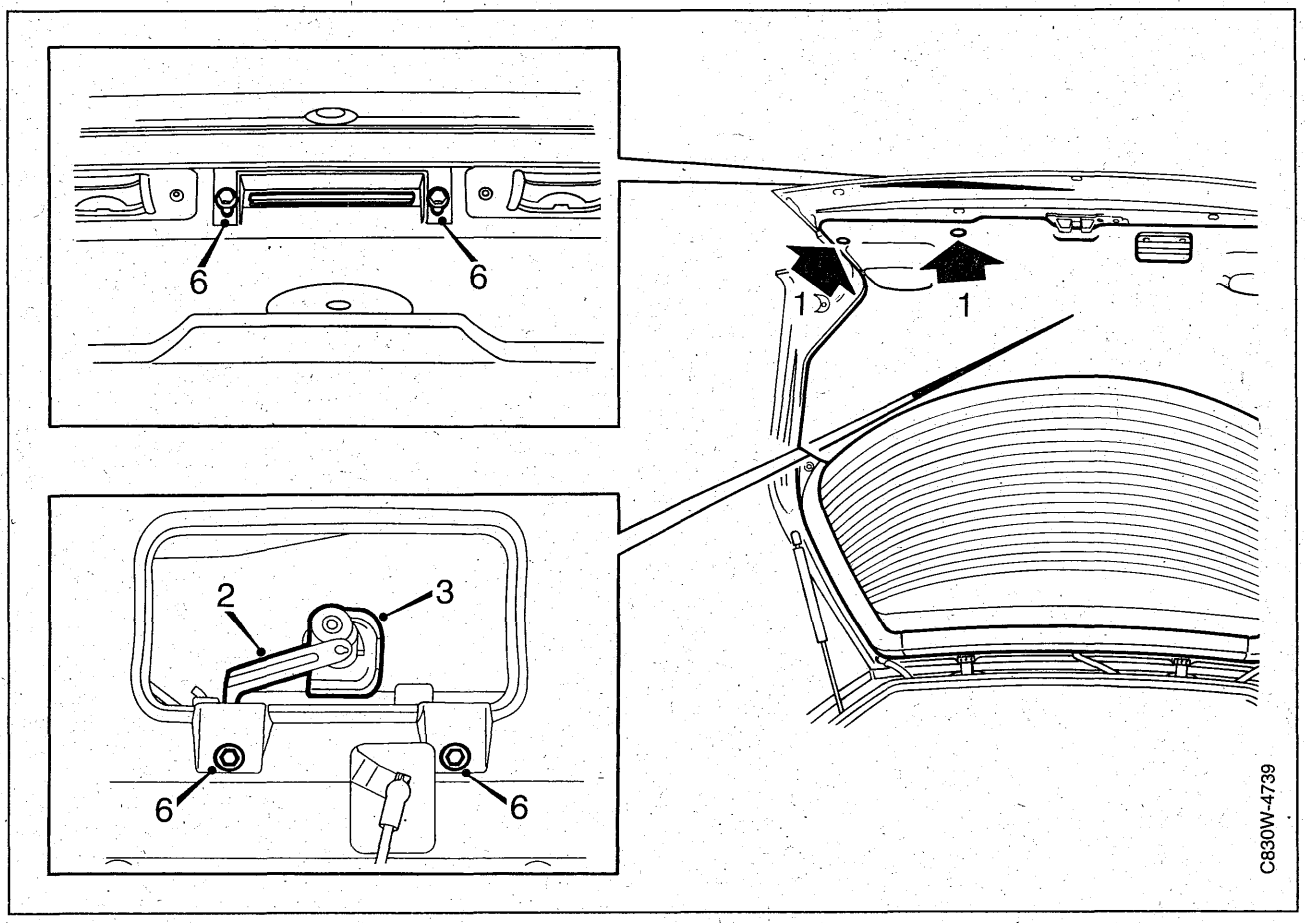


Dismantling the motor

1 Remove the lock.
2 Cut the cable ties.
3 Remove the microswitch retaining screw.
4 Undo the two motor retaining bolts and remove the motor.

Assembling the motor

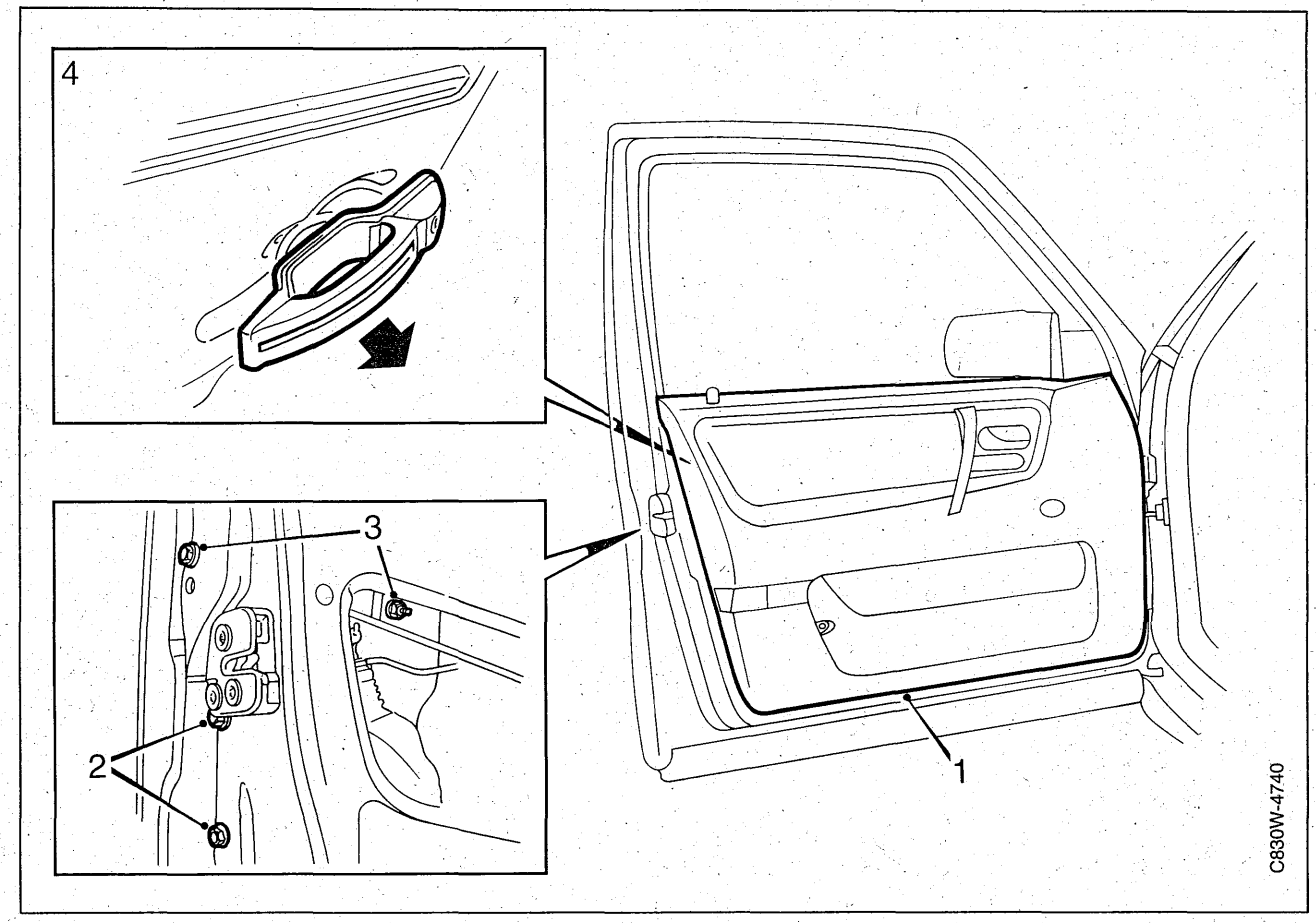
5 Fit the motor in place and tighten the two retaining bolts.
6 Tighten the microswitch retaining screw.
7 Fit new cable ties.
8 Refit the lock.



Replacement of boot lid handle

1 Remove the boot lid trim.
2 Disconnect the linkage from the handle.
3 Disconnect the link at the lock cylinder.
4 Unscrew the lock motor and unhook the linkage.
5 Use a screwdriver to remove the cylinder retainer and withdraw the lock cylinder.
6 Remove the four bolts securing the handle.
7 Lift out the handle.

Fit in reverse order.



Replacement of outside door handle, front doors

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Remove the bolts securing the guide bar and lift it out.
3 Remove the nut and bolt.
4 Twist the front of the handle downwards.

Important

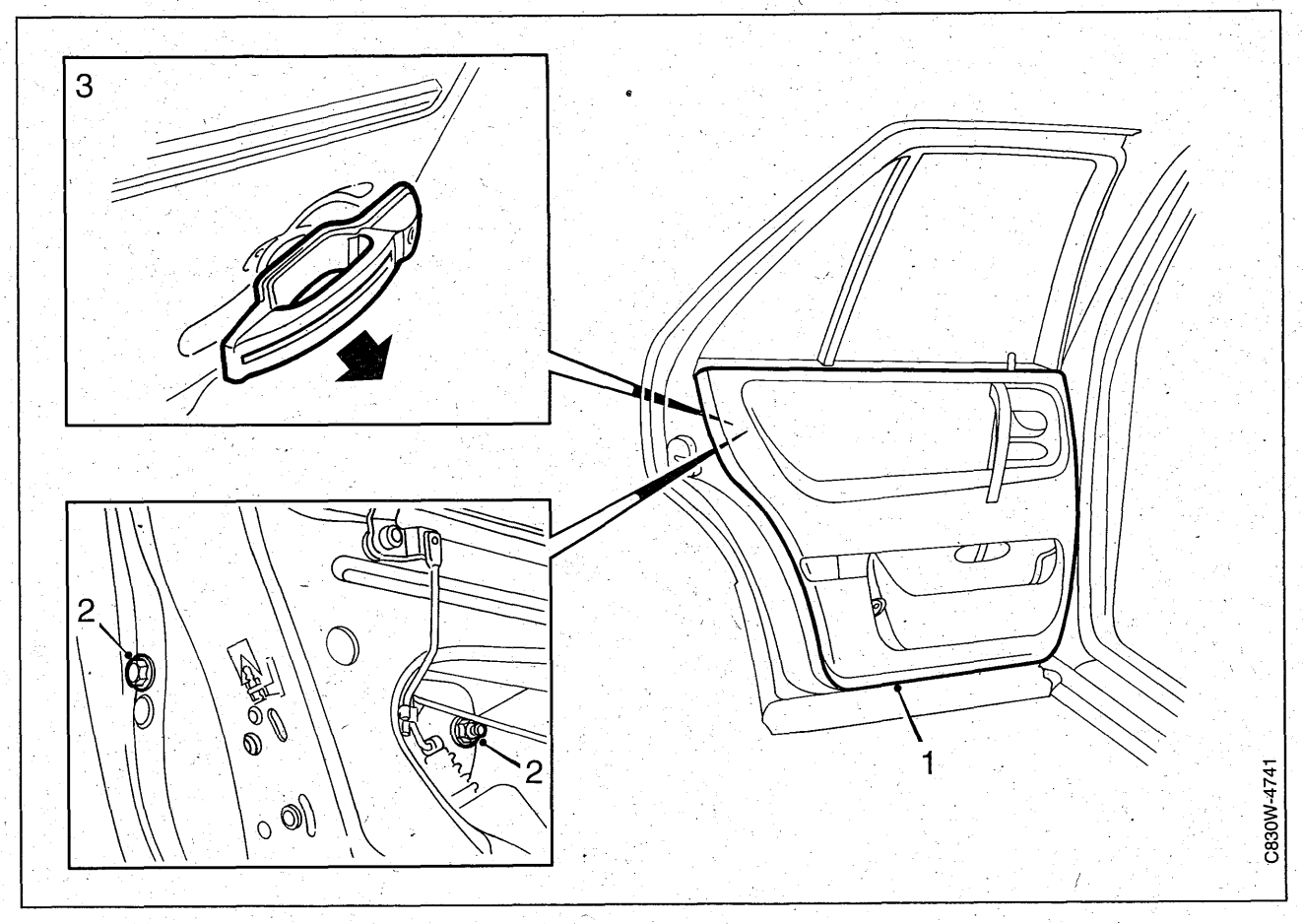
Make sure that the screw does not scratch the paintwork.

5 Lift out the handle. Open the ball joint and disconnect it from the handle.

Fit in reverse order.

Important

Make sure that the handle's driver is on the correct side of the lock mechanism's lever.



Replacement of outside door handle, rear doors

1 Remove the door trim panel and fold back the plastic moisture barrier.
2 Remove the nut and bolt.
3 Twist the front of the handle downwards and lift out the handle.

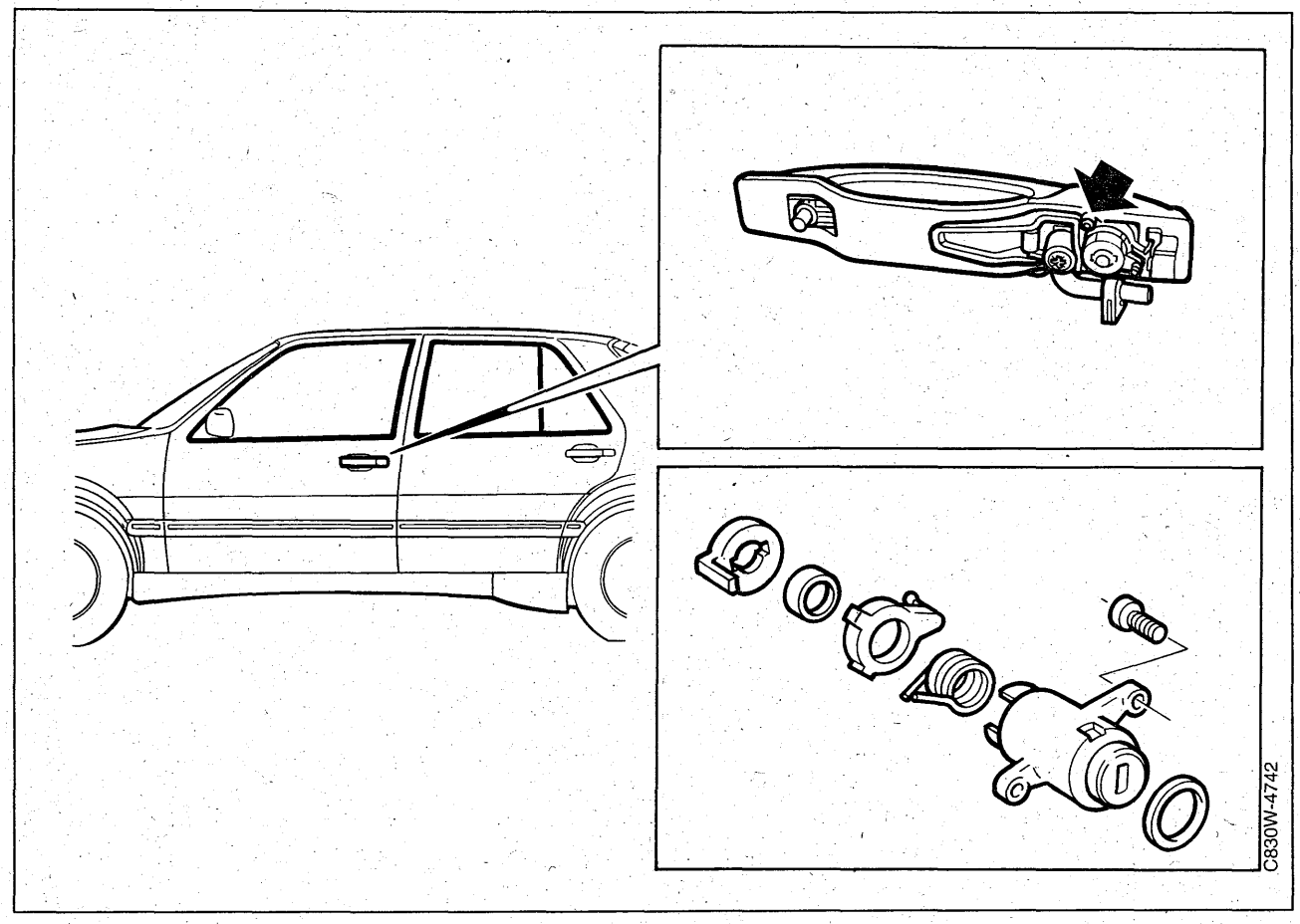
Important

Make sure that the screw does not scratch the paintwork.

Fit in reverse order.

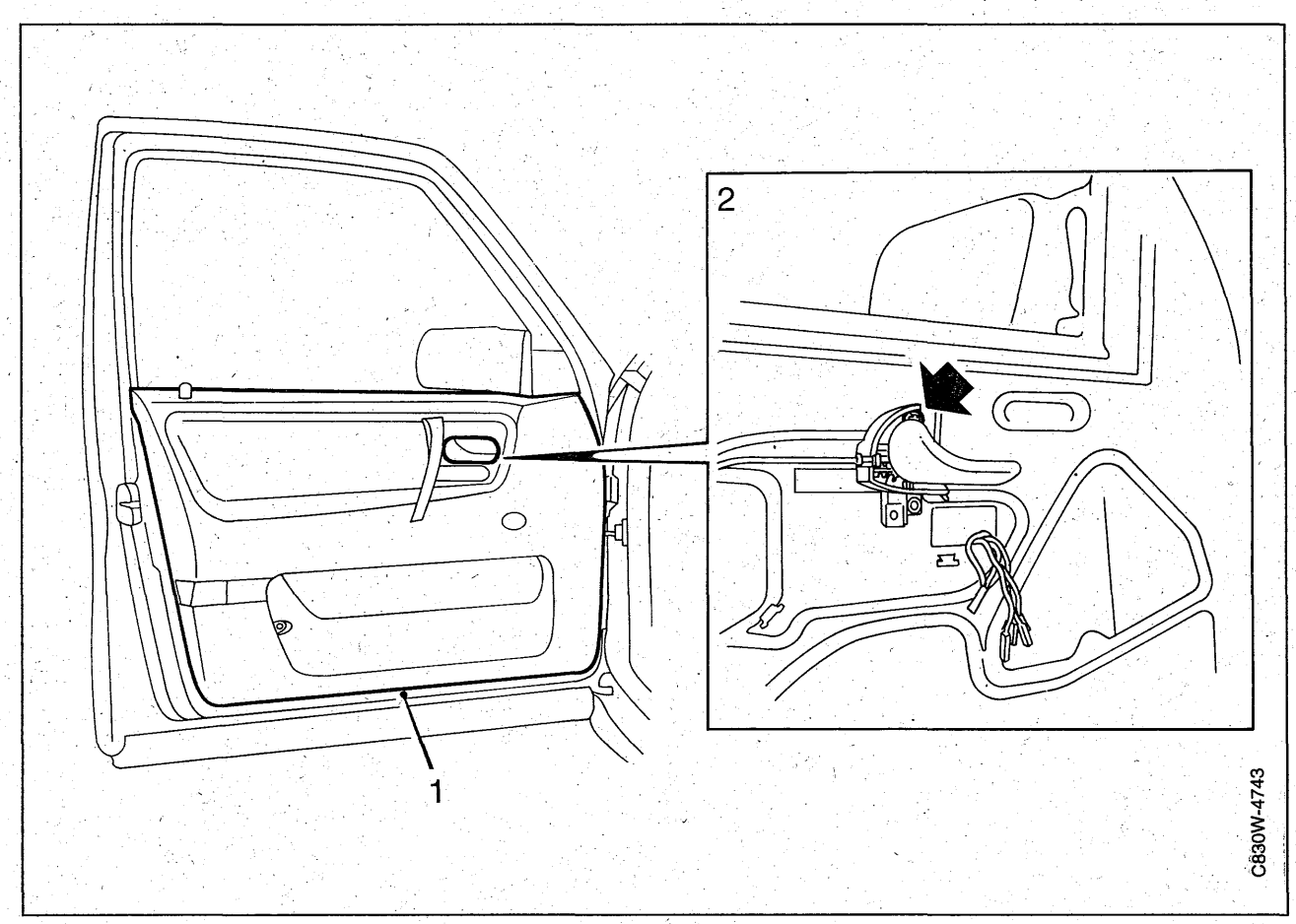
Important

Make sure that the handle's driver is on the correct side of the lock mechanism's lever.



Replacement of lock cylinder, front doors

Remove the handle. Undo the screws and withdraw the lock cylinder.

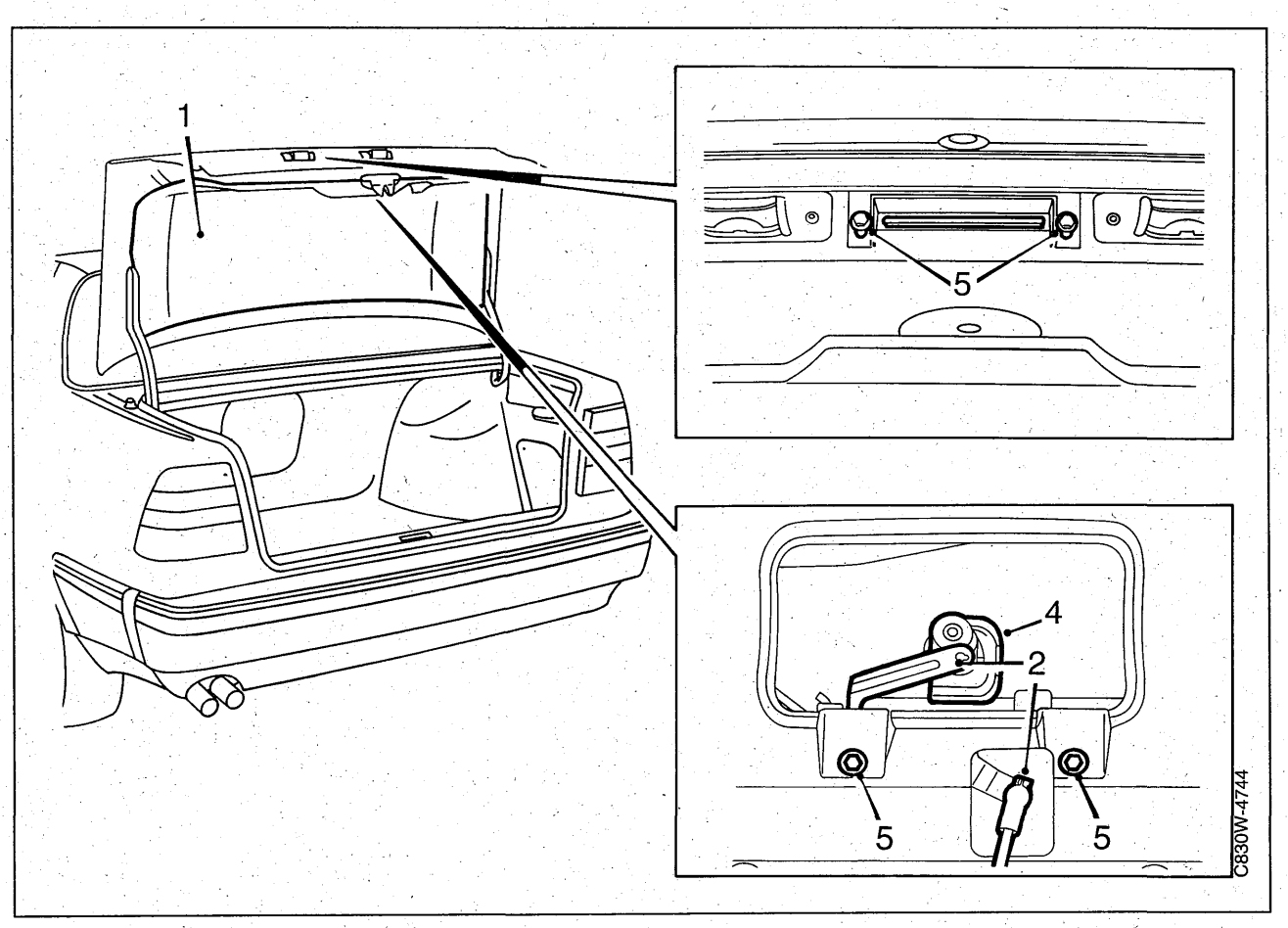


Replacement of inside door handle

1 Remove the door trim panel and plastic moisture barrier.

2 Undo the screws. Unhook the lever and remove the door handle.

Fit in reverse order.



Boot lid handle, Saab 9000 CD

Removal and fitting

1 Remove the boot lid trim.
2 Disconnect the link from the handle and the link from the ball joint at the lock cylinder.
3 Unscrew the lock motor and unhook the linkage.
4 Use a screwdriver to remove the cylinder retainer and withdraw the lock cylinder.
5 Remove the four bolts securing the handle and lift out the handle.

Fit in reverse order.

Rear spoiler, Saab 9000 CC

Spoiler side section

To remove

1 Side section with aerial fitted:
Remove the nut and sleeve for the aerial.

Side section without aerial:
Loosen the luggage compartment trim to gain access to the nut securing the cover. Remove the cover.

2 Using a hot-air gun, heat the tape securing the spoiler section until the tape comes away easily. Do not apply so much heat as to damage the paintwork or spoiler section.

Important

Do not use force to remove the spoiler sections as this could cause the paint or enamel to lift.

3 Lift off the spoiler section.

To fit

1 If the spoiler section is to be refitted, first remove all traces of old adhesive and dirt.
2 Stick double-sided adhesive tape to the cleaned surface of the spoiler section.
3 Thoroughly clean the metalwork, removing all traces of old adhesive and dirt.
4 Guide the studs on the spoiler section into the plastic bushes and press the spoiler section into position.
5 Refit the sleeve and nut for the aerial or fit the cover, as appropriate.
6 Refit the luggage compartment trim.

Tailgate spoiler

To remove

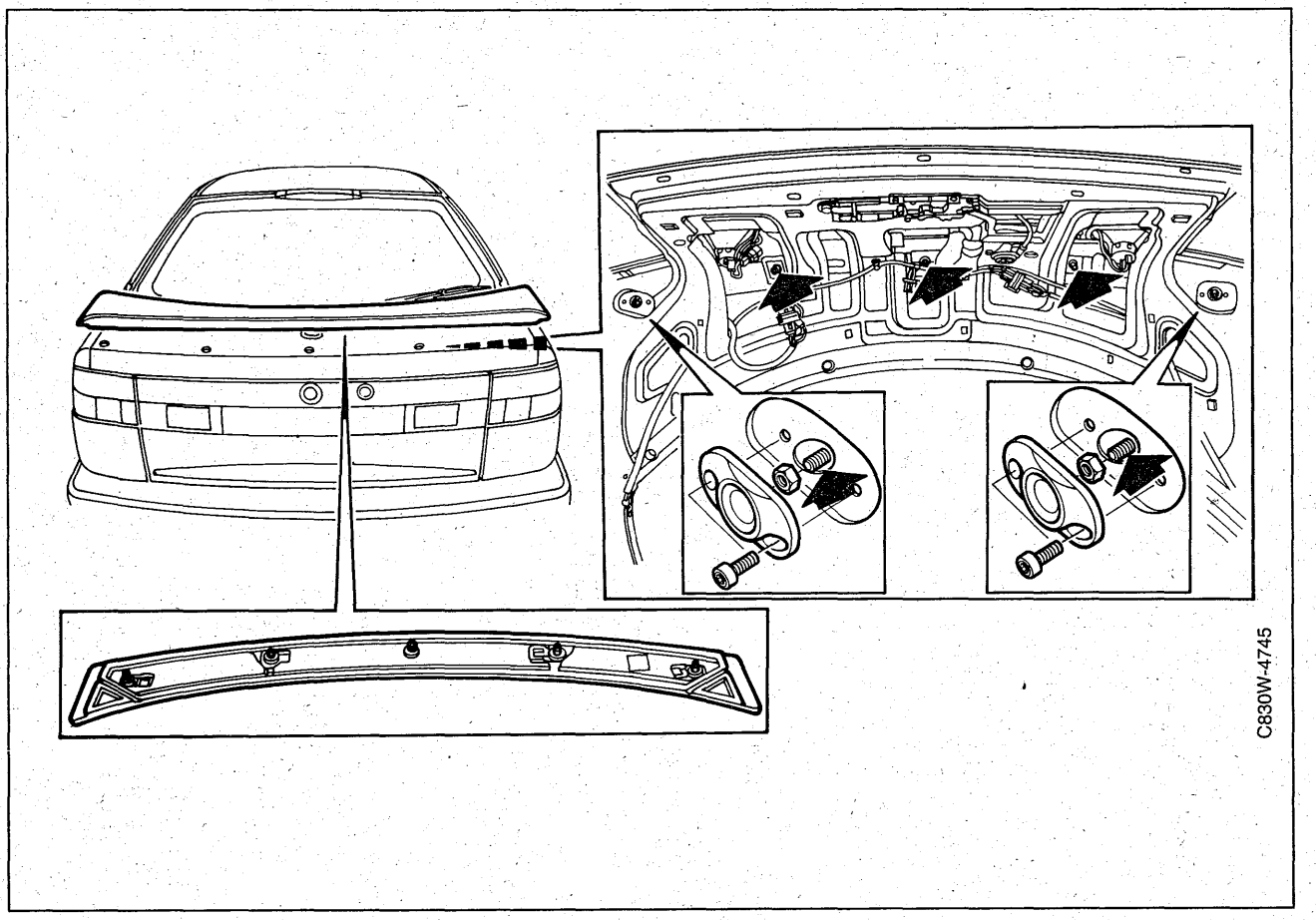
1 Remove the tailgate trim.
2 Remove the tailgate height adjusting stops to gain access to the spoiler's outer retaining nuts.
3 Remove the spoiler retaining nuts.
Model year 1986 and later cars: remove the LH and RH angle brackets.
4 Using a hot-air gun, heat the tape securing the spoiler section until the tape comes away easily. Do not apply so much heat as to damage the paintwork or spoiler section.
5 Lift off the spoiler.

Important

Do not use force to remove the spoiler sections as this could cause the paint or enamel to lift.

To fit

1 If the spoiler section is to be refitted, first remove all traces of old adhesive and dirt. Stick double-sided adhesive tape to the cleaned surface of the spoiler section.
2 Thoroughly clean the metalwork, removing all traces of old adhesive and dirt. Make sure that the zinc tape is correctly positioned.
3 Close the tailgate.
4 Offer up and fit the spoiler. Fit the three plastic nuts first and then the outer nuts.
Model year 1986 and later cars: fit the LH and RH angle brackets.
5 Fit the height adjusting stops.
6 Fit the trim.
7 Adjust the height of the tailgate.



Rear spoiler, Saab 9000 CS

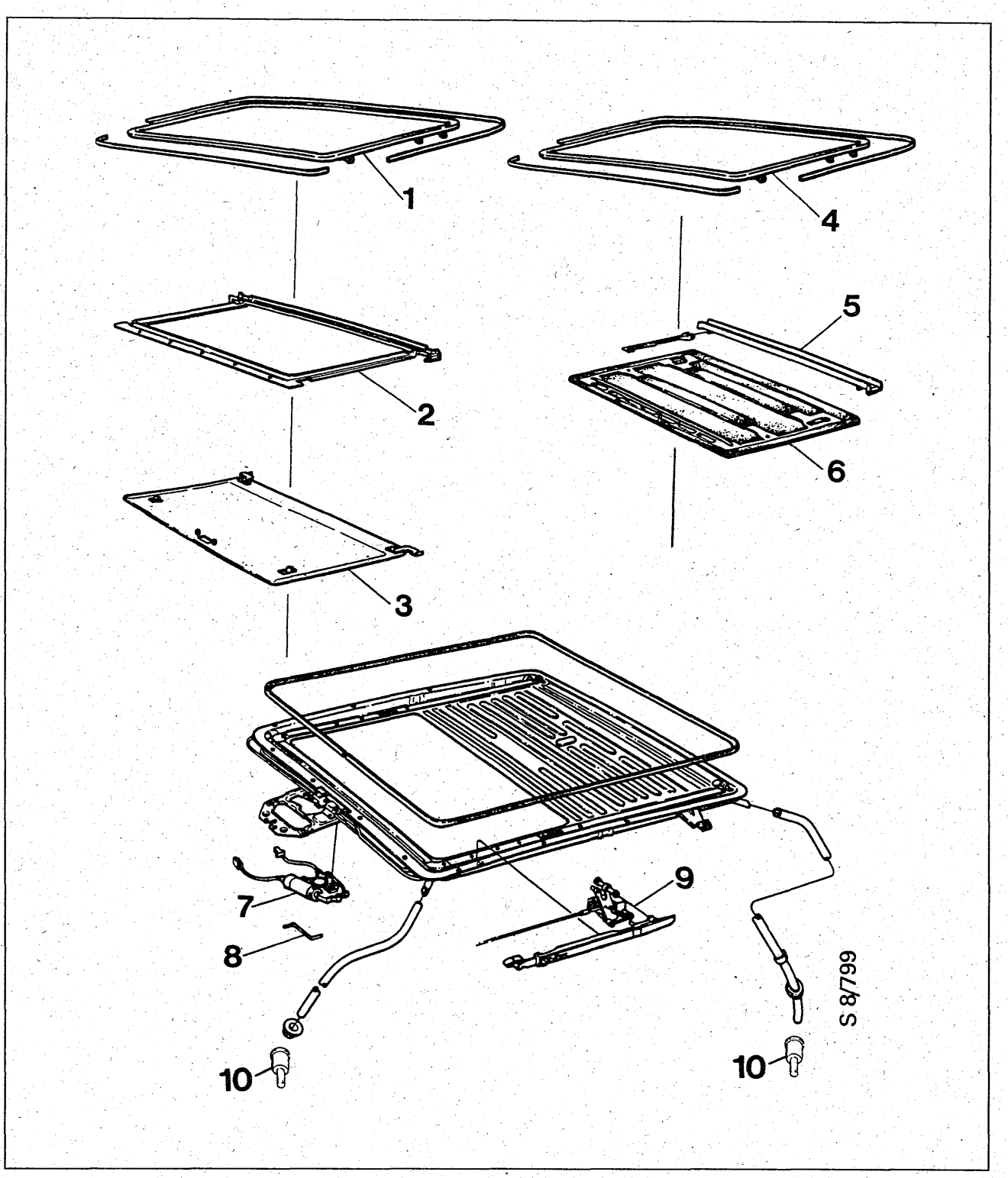
To remove

1 Remove the wear protection pieces mounted on the inside of the tailgate.
2 Undo the spoiler retaining nuts and remove the spoiler.

To fit

1 Offer up the spoiler and tighten the retaining nuts.
2 Screw the wear protection pieces in place.

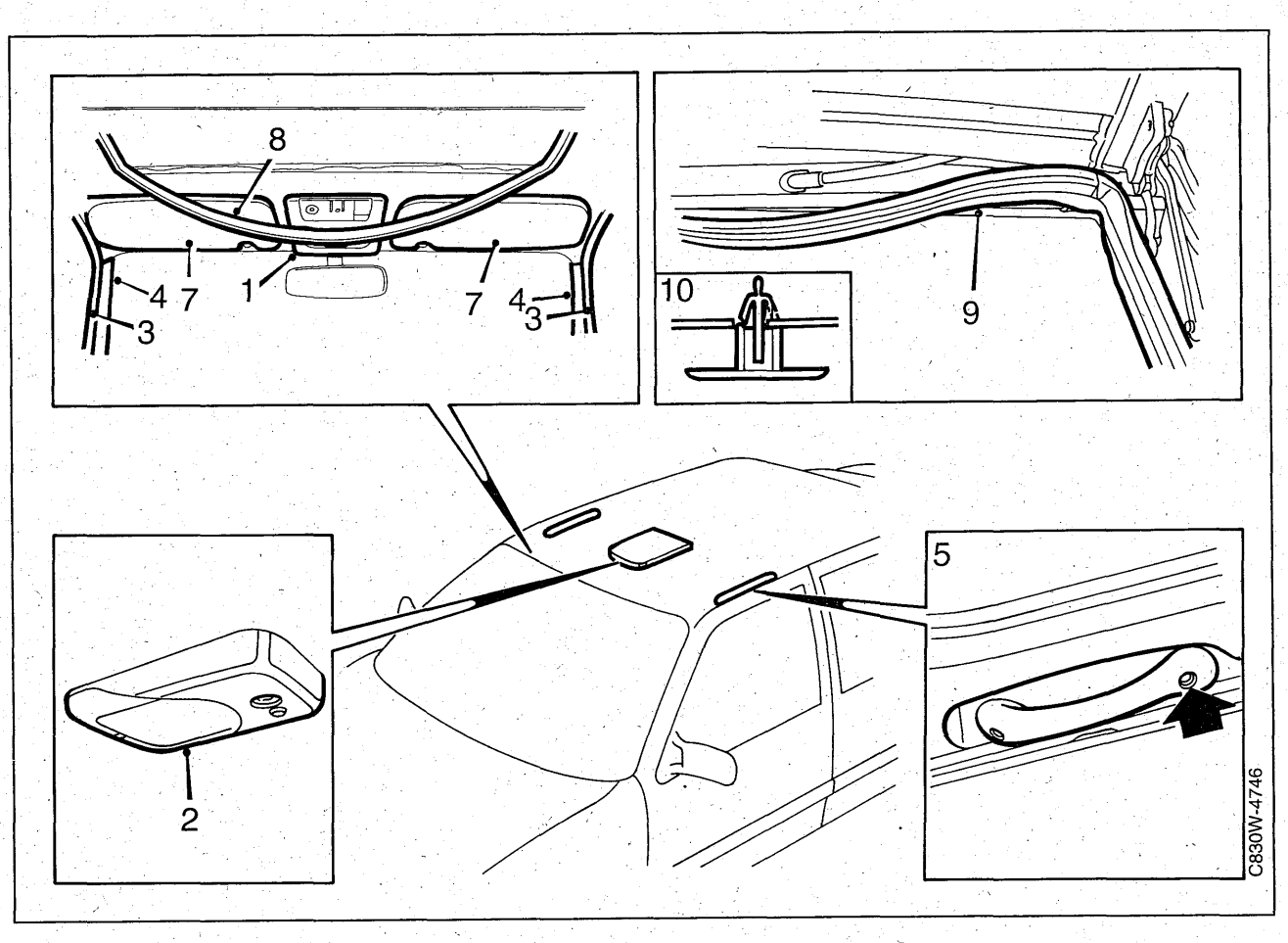
Sunroof



1 Glass sunroof
2 Frame
3 Sunshade

4 Steel sunroof
4 Drain channel
6 Trim

7 Actuating motor
8 Winder
9 Tilt and slide mechanism
10 Non-return valve



Sunroof assembly

To remove

1 Remove the overhead switch panel surround.

2 Pull down the dome light and disconnect the leads.

3 Pull the weatherstrip seals away from the top of the door frames.

4 Remove the A pillar trim.

5 Remove the grab handle and blanking pieces above the doors.

6 Remove the sill scuff plate, seat belt anchorage and B pillar trim from the right-hand side of the car.

7 Remove the sun visors.

8 Remove the moulding from around the sunroof and ease down the trim from the sunroof assembly.

9 Detach the tailgate weatherstrip seal and remove the plastic moulding.

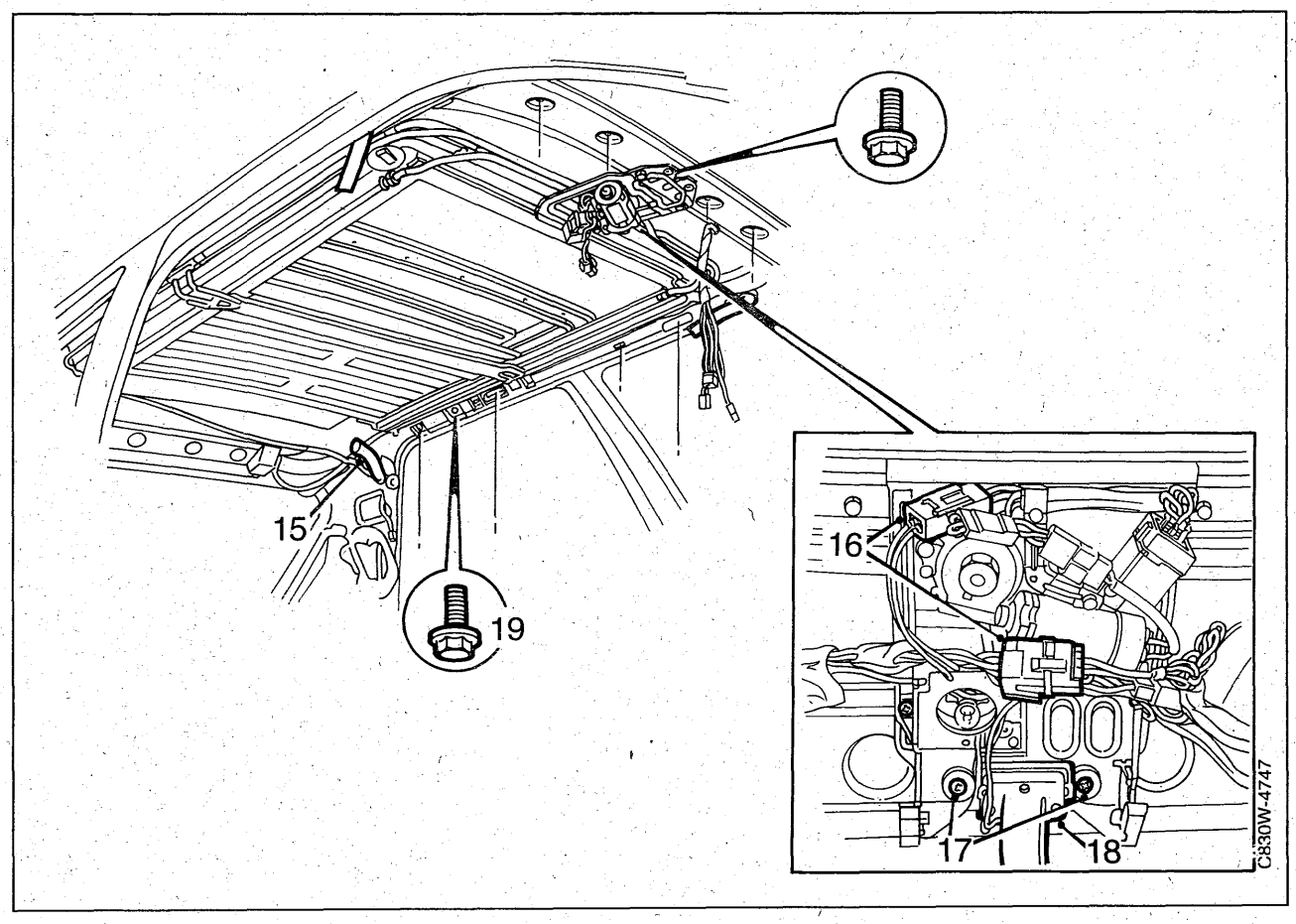
10 Remove the plastic plug-type fastener securing the trailing edge of the headlining. Take care not to pinch the electric lead.

11 Release the headlining at the overhead switch panel and pull down the leading edge.

12 Release the headlining from the left-hand B pillar trim.

13 Pull the headlining forwards to release it from the C pillar trim.

14 Withdraw the headlining through the tailgate.



15 Disconnect the drain hoses (one in each corner).

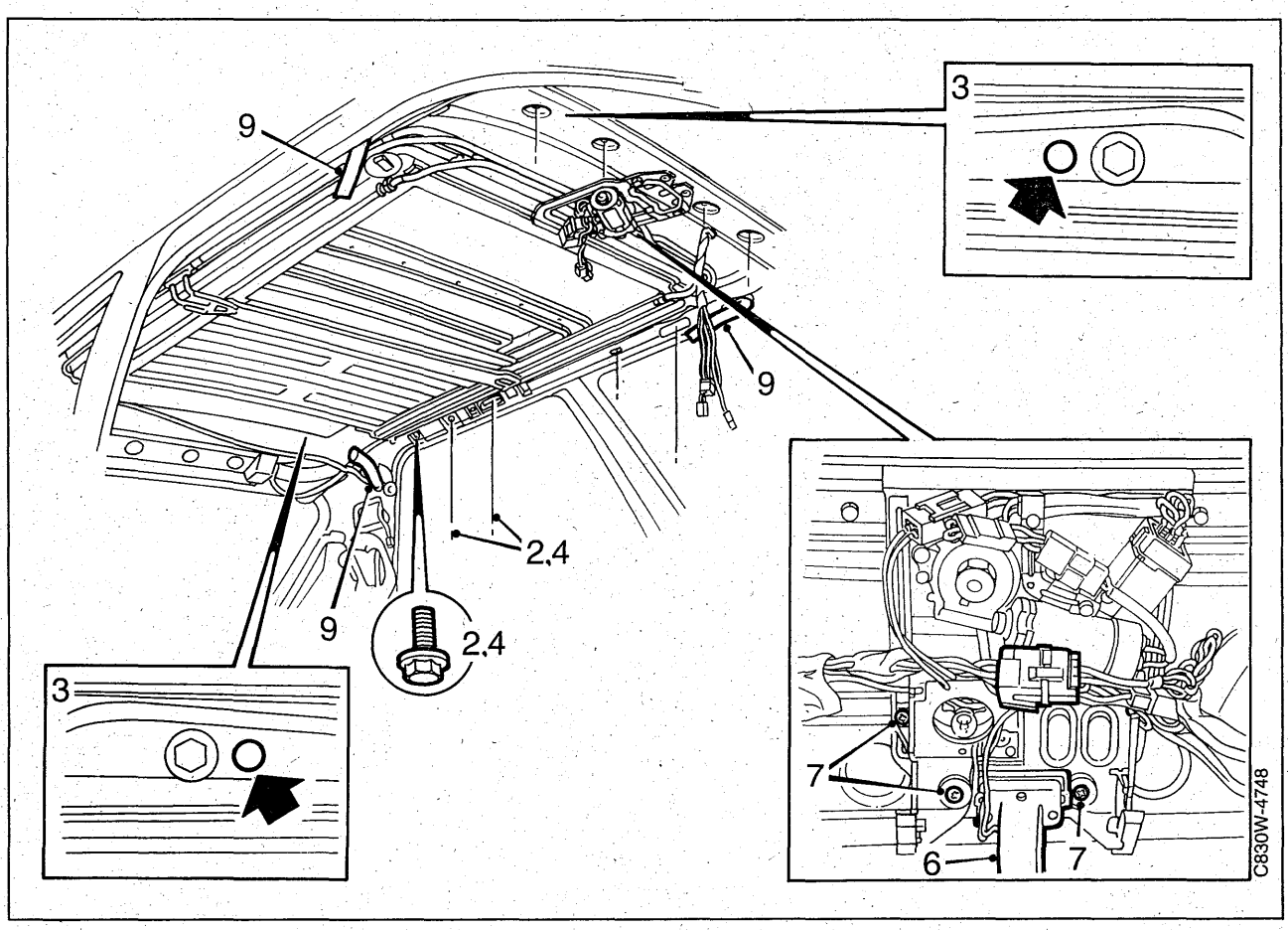
16 Unplug the actuating motor connectors.

17 Undo the overhead switch panel retaining screws and lower the panel base plate.

18 Remove the rear-view mirror.

19 Remove the sunroof assembly retaining screws.

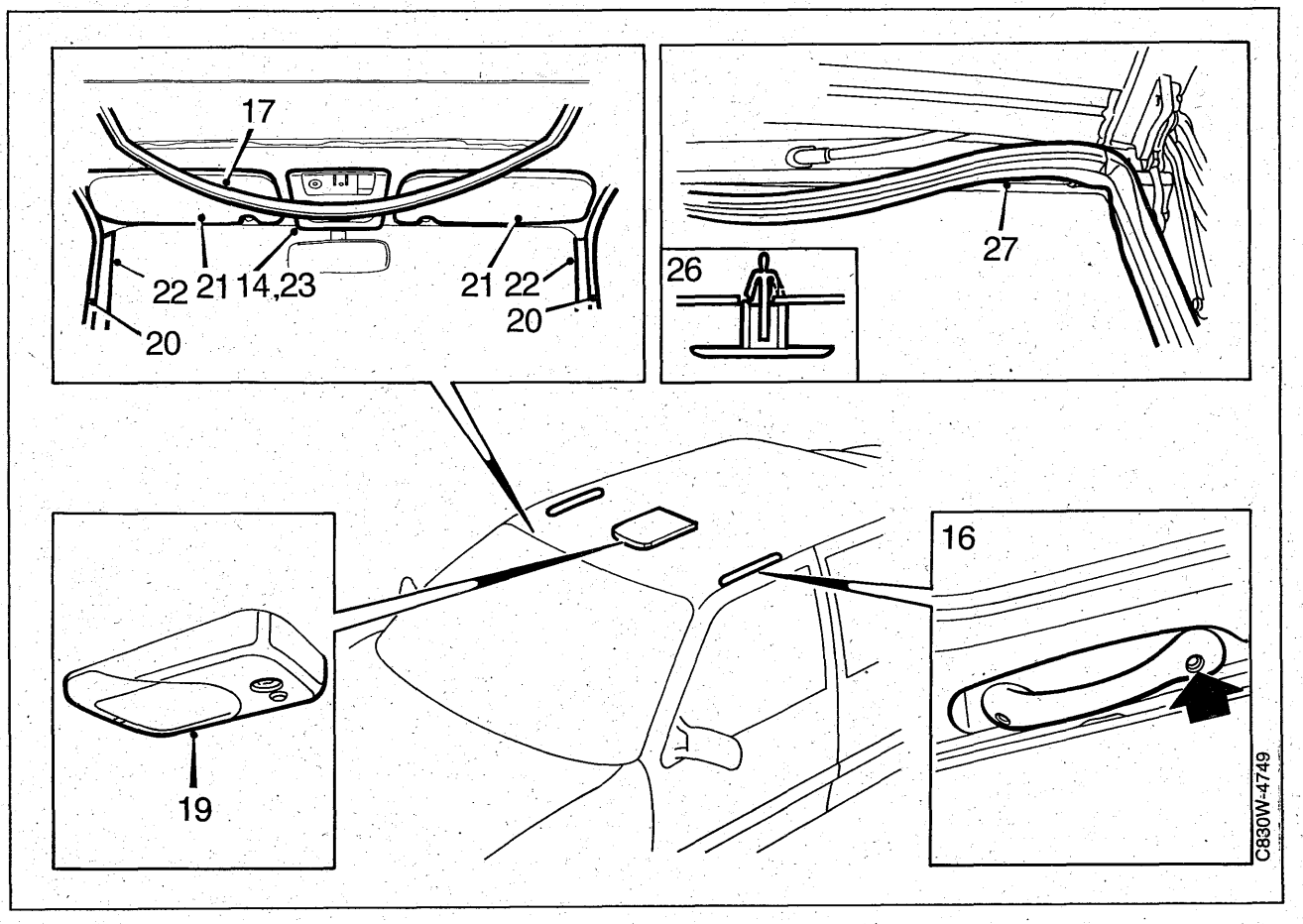
20 Lift out the sunroof assembly.



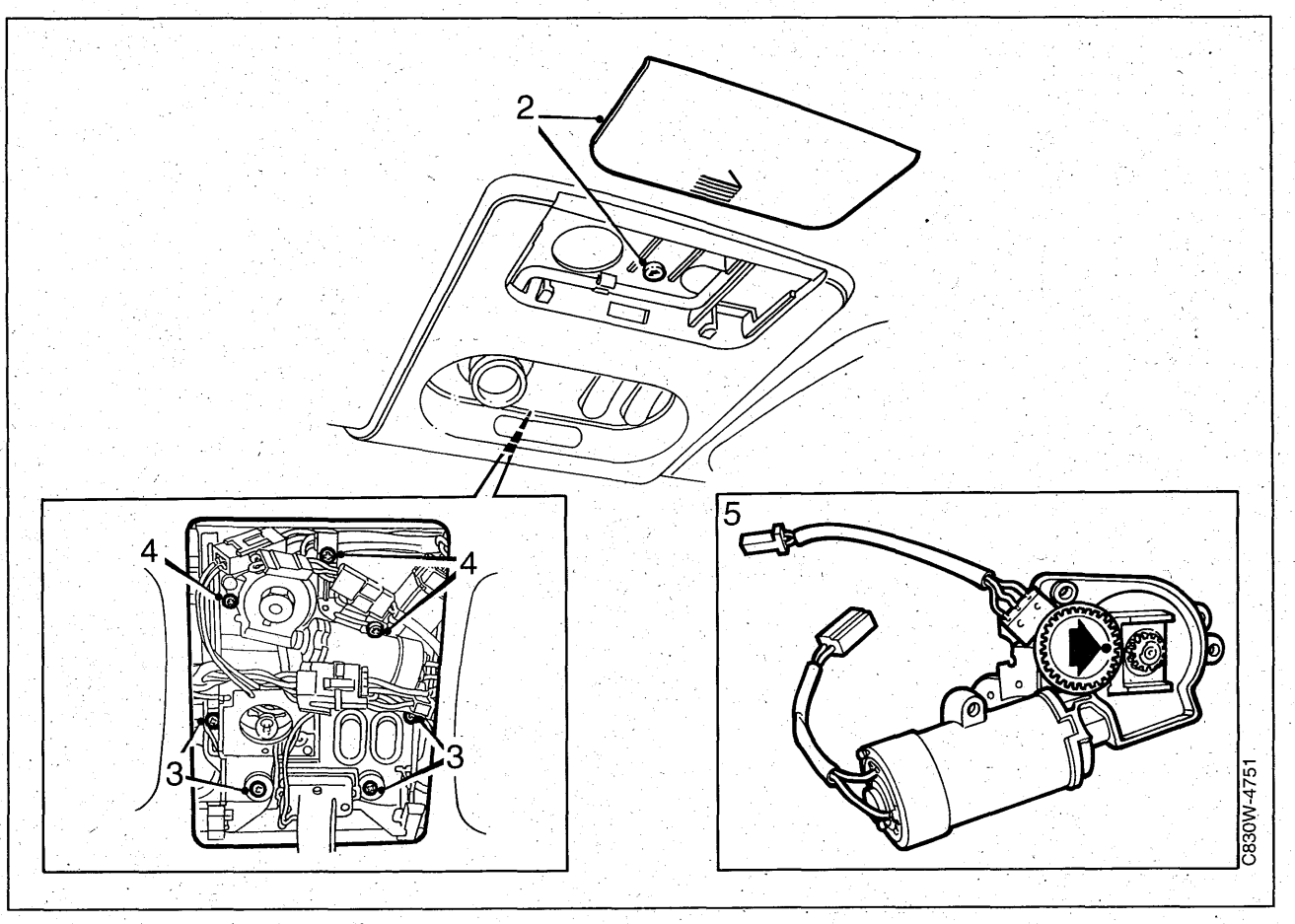
To fit

The sunroof must be fully open in its rearmost position when fitting the sunroof assembly.

1 Lift the sunroof assembly into position.
2 Insert the sunroof assembly retaining screws but do not tighten them.
3 Find the two locating holes in the right-hand side of the sunroof assembly, the front one about 10 mm forward of the front retaining screw and the rear one opposite the B pillar. Guide the sunroof assembly into position in the reinforced frame in the roof by means of two 8 mm drill bits.
4 Starting at the front, tighten the vertical screws.
5 Then tighten the screws in the side fixings.
6 Refit the rear-view mirror.
7 Refit the overhead switch panel base plate.
8 Plug in the actuating motor connectors.
9 Reconnect the drain hoses.



10 Lift the headlining into the car through the tailgate.
11 Slide the headlining forwards past the C pillars.
12 Pull the headlining rearwards so that it fits into position at the C pillar trim.
13 Support the headlining on the left-hand B pillar.
14 Fit the headlining at the overhead switch panel.
15 Fit the door weatherstrip seal at the top of the door frames.
16 Fit the grab handle and blanking pieces above the doors.
17 Apply adhesive to the edge of the headlining and fit the moulding round the sunroof aperture.
18 Refit the right-hand B pillar trim.
19 Refit the dome light.
20 Complete the fitting of the door weatherstrip seals.
21 Refit the sun visors.
22 Refit the A pillar trim.
23 Refit the overhead switch panel surround.
24 Refit the right-hand seat belt guide to the B pillar.
25 Refit the right-hand sill scuff plate.
26 Refit the plastic fastener at the trailing edge of the headlining.
27 Refit the plastic moulding and tailgate weatherstrip seal.



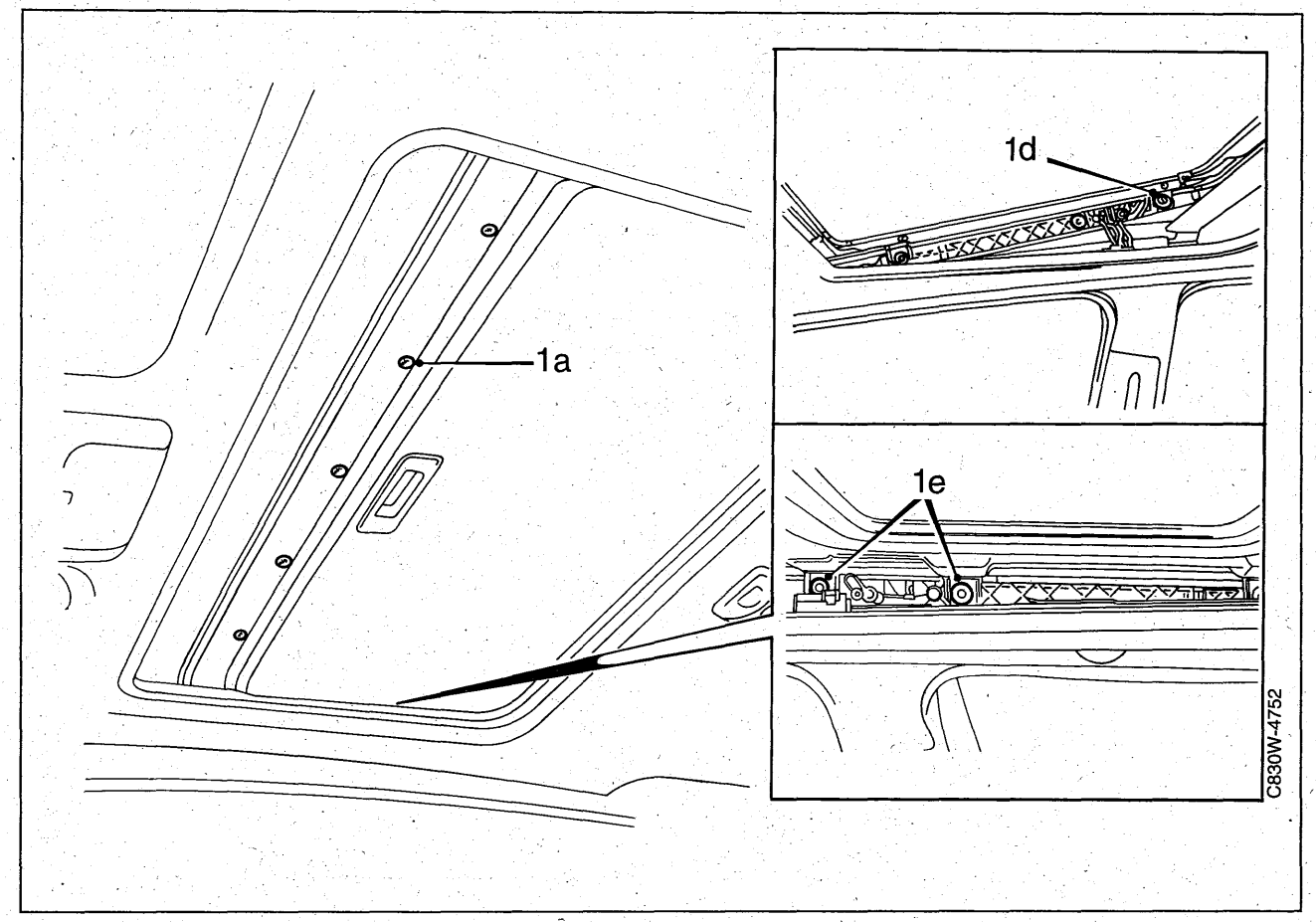
Sunroof motor

Removal and fitting

1 Close the sunroof.
2 Remove the overhead switch panel surround.
3 Undo the overhead switch panel retaining screws and lower the panel base plate.
4 Remove the motor retaining screws.
5 Lift out the motor and unplug the connectors.

Fit in reverse order.

Run the motor until the mark on the plastic gear is in the position shown. This corresponds to the sunroof-closed position.

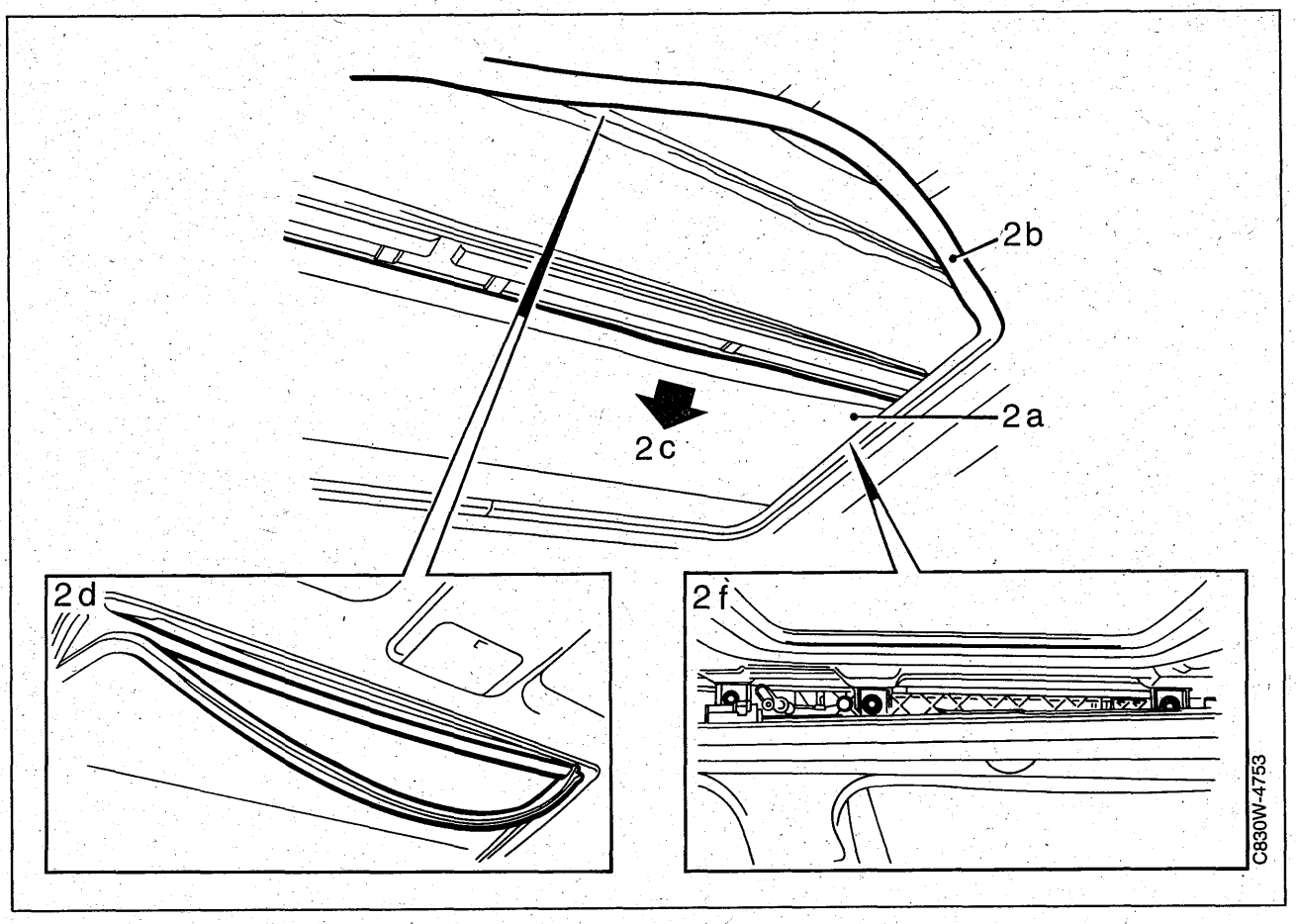


Slide/tilt mechanism and cable

To remove

1 Cars with a glass sunroof:

a. Slide the sunshade rearwards. Open the sunroof and remove the frame retaining screws.
b. Close the sunroof and tilt it open at the rear.
c. Slide the frame rearwards.
d. Remove the rear screw on both sides.
e. Close the sunroof and remove the front screws.
f. Lift off the sunroof.



2 Cars with a steel sunroof:

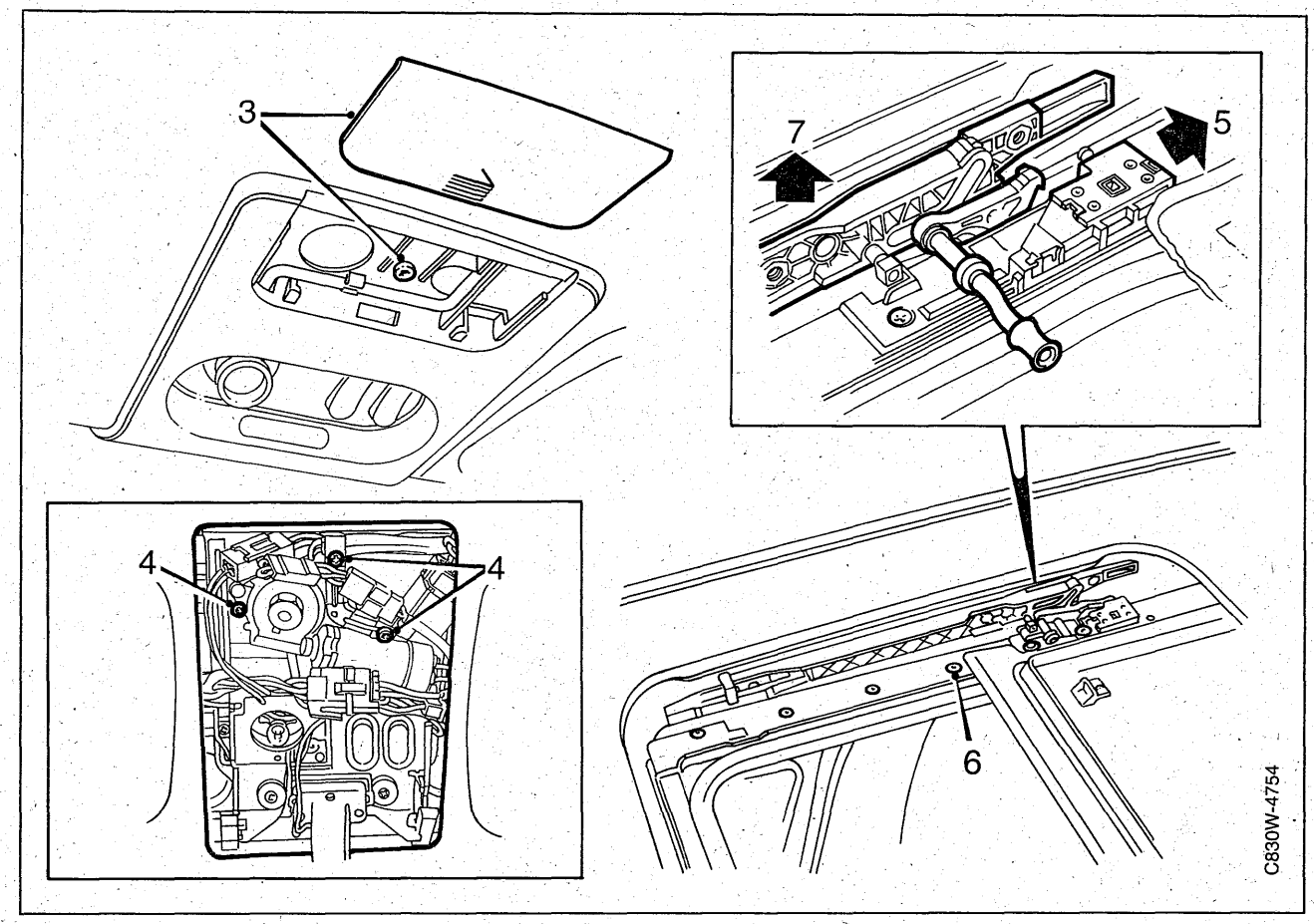
a. Run the sunroof rearwards about 15 cm.
b. Pull away the moulding from the leading edge.
c. Ease down the leading edge of the sunroof trim (held in place by clips).
d. Close the sunroof while simultaneously pulling the trim forwards.

Important

The trim must be pulled forward with the sunroof or the drain channel at its trailing edge will come adrift.

When the sunroof is closed, the trim must hang below the edge of the sunroof aperture.

e. Pull the trim back.
f. Remove the sunroof retaining screws.
g. Lift off the sunroof.



The following applies to both glass and steel sunroofs:

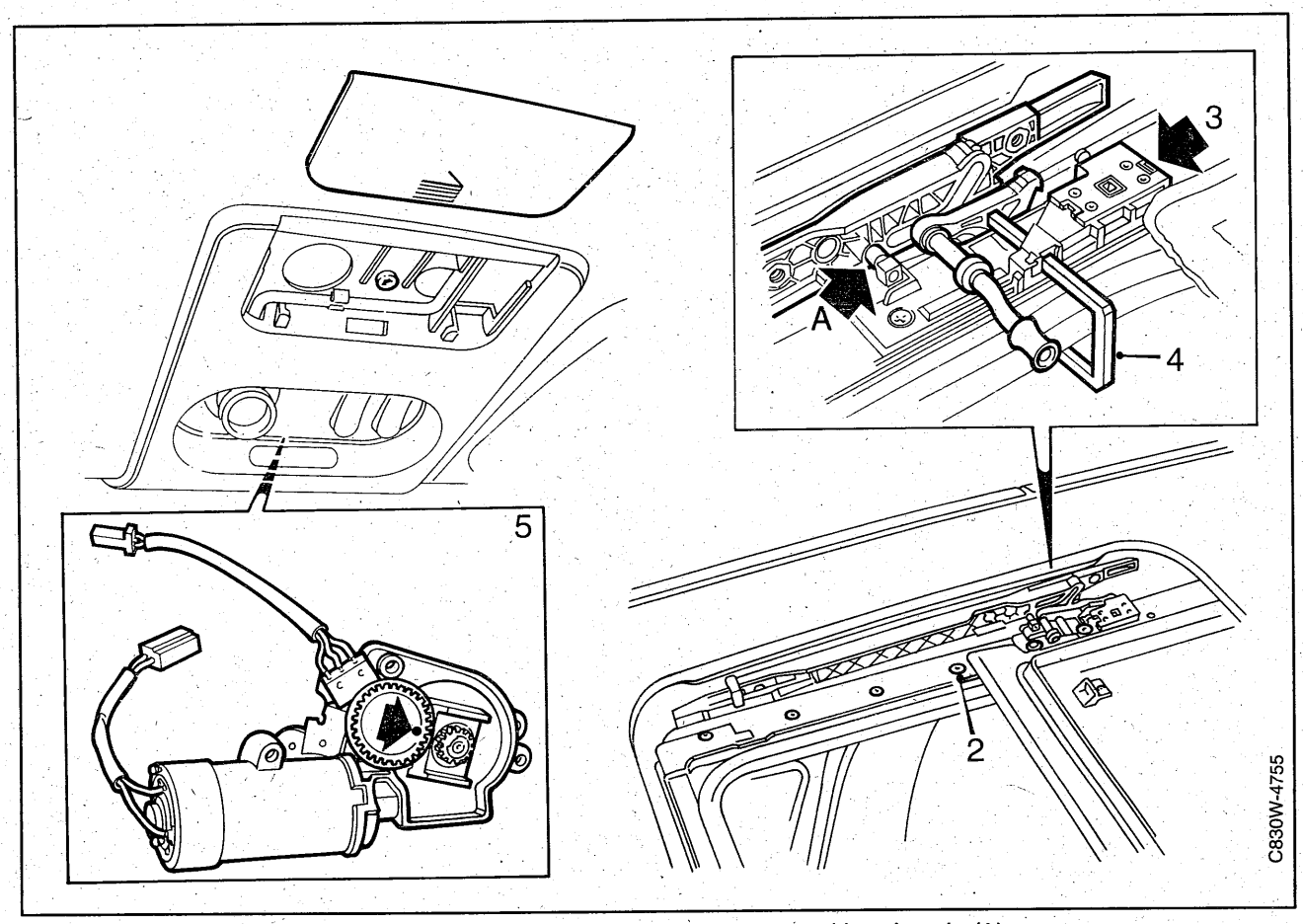
3 Remove the overhead switch panel surround.

4 Remove the motor retaining screws and lower the motor to free the cables.

5 Push the slide mechanism rearwards about 5-10 cm.

6 Unscrew and remove the front guide rail and end piece.

7 Pull the slide mechanism forwards, raise the tilt mechanism and withdraw the cable from the tubular guide.



Special tool fitted. Note the position of the arrowed locating pin (A).

To fit

1 Insert the cable in the tubular guide, fit the slide mechanism in position and push it rearwards.

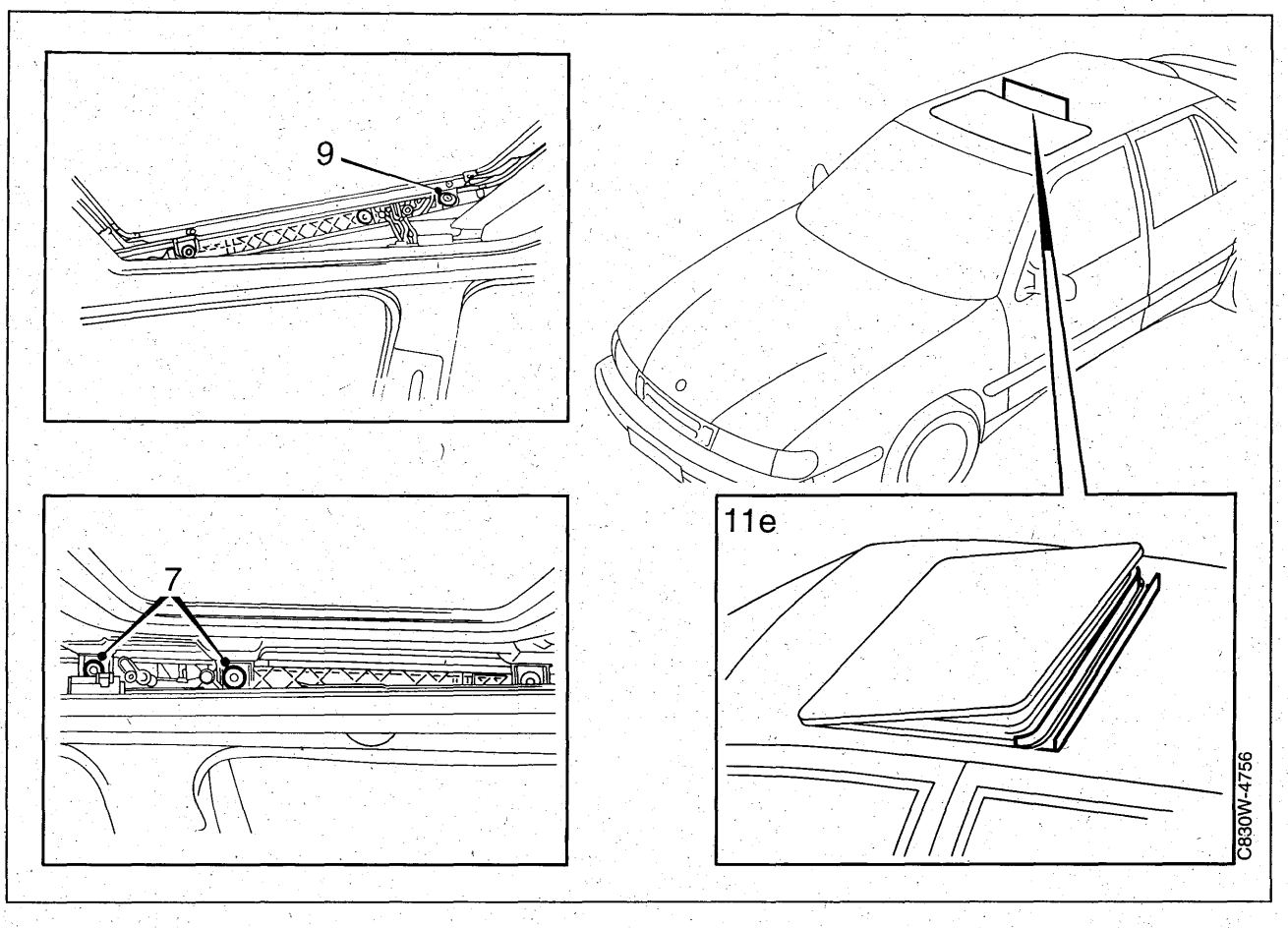
2 Fit the front guide rail and end piece.

3 Push the slide mechanism to the closed position.

4 With the mechanism in the closed position, fit special tools 82 92 500 on both sides through all four parts that are to be secured to each other.

5 Run the motor until the mark on the plastic gear is in the position shown. This corresponds to the sunroof-closed position.

6 Fit the motor.



7 Lift the sunroof into position and fit the two front screws on each side. Adjust the alignment of the sunroof with the car roof and tighten the screws.

Adjustment of the sunroof will be facilitated if a piece of cardboard (about 1 mm thick) is inserted between the trailing edge of the sunroof and the roof of the car.

8 Remove the special tools.

9 Tilt the sunroof open and fit the rear screw on each side.

Important

Never make any adjustment to the sunroof unless the special tools are fitted as described in point 4.

10 Cars with a glass sunroof:

a Slide the frame forwards.

b Lower the sunroof and run it rearwards so that the frame retaining screws can be fitted.

11 Cars with a steel sunroof:

a Lower the sunroof to the closed position.

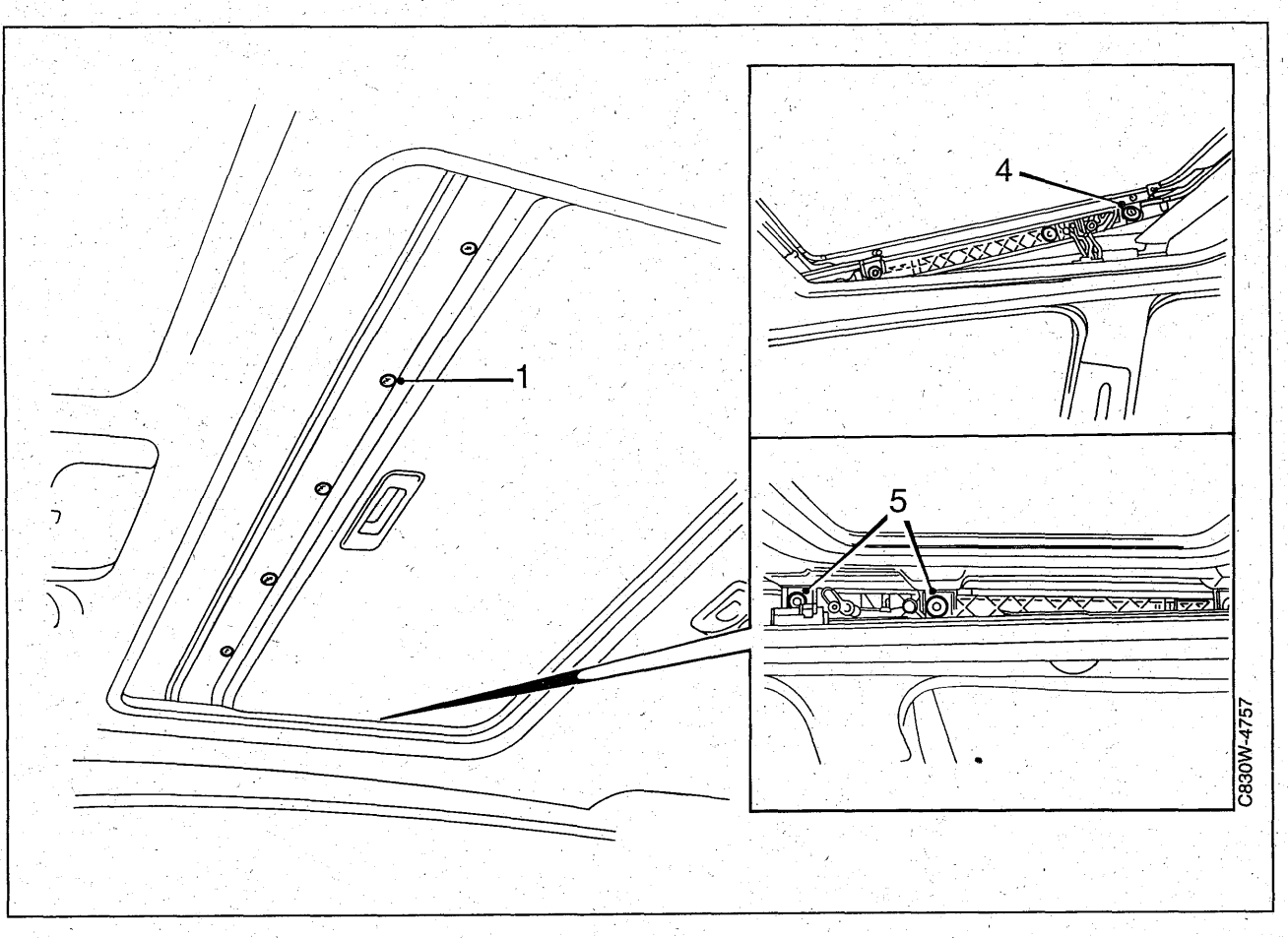
b Slide the sunroof trim forwards and bend the leading edge below the level of the headlining. The trim should now engage in the rear fastener. Open the sunroof slightly and press the trim clips home at the leading edge of the sunroof.

c Fit the moulding.

d Adjust the metal rib in the leading edge of the sunroof trim to ensure that the trim makes a neat fit along the edge of the sunroof aperture.

e Open and close the sunroof several times. Tilt it open and check that the drain channel is fitted correctly.

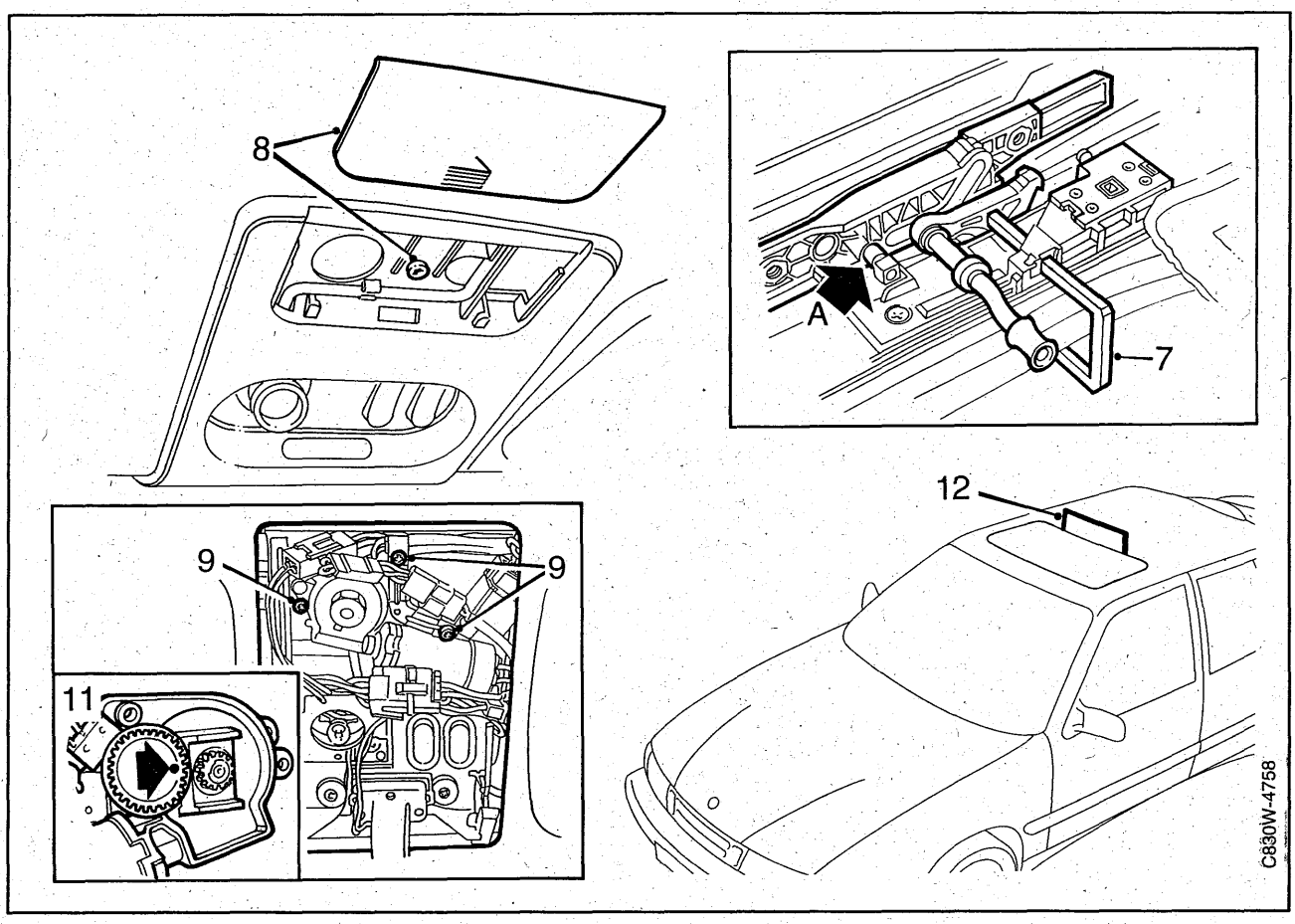
12 Fit the overhead switch panel surround.



Adjusting the sunroof

Glass sunroof

1 Slide the sunshade rearwards. Open the sunroof and remove the frame retaining screws.
2 Close the sunroof and tilt it open at the rear.
3 Slide the frame rearwards.
4 Remove the rearmost screw on both sides.
5 Close the sunroof and remove the front screws.
6 Lift off the sunroof.



A Special tool fitted. Note the position of the locating pin (arrowed).

7 With the mechanism in the closed position, fit special tools 82 92 500 on both sides through all four parts that are to be secured to each other.

Carry out points 8-11 only if the special tools cannot be fitted.

8 Remove the overhead switch panel surround.

9 Remove the motor retaining screws and lower the motor to free the cables.

10 Fit the special tools on both sides as described in point 7.

11 Check that the motor is in the sunroof-closed position. Fit the motor and overhead switch panel.

12 Lift the sunroof into position and fit the two front screws on each side. Adjust the alignment of the sunroof with the car roof and tighten the screws.

Adjustment of the sunroof will be facilitated if a piece of cardboard (about 1 mm thick) is inserted between the trailing edge of the sunroof and the roof of the car.

13 Remove the special tools.

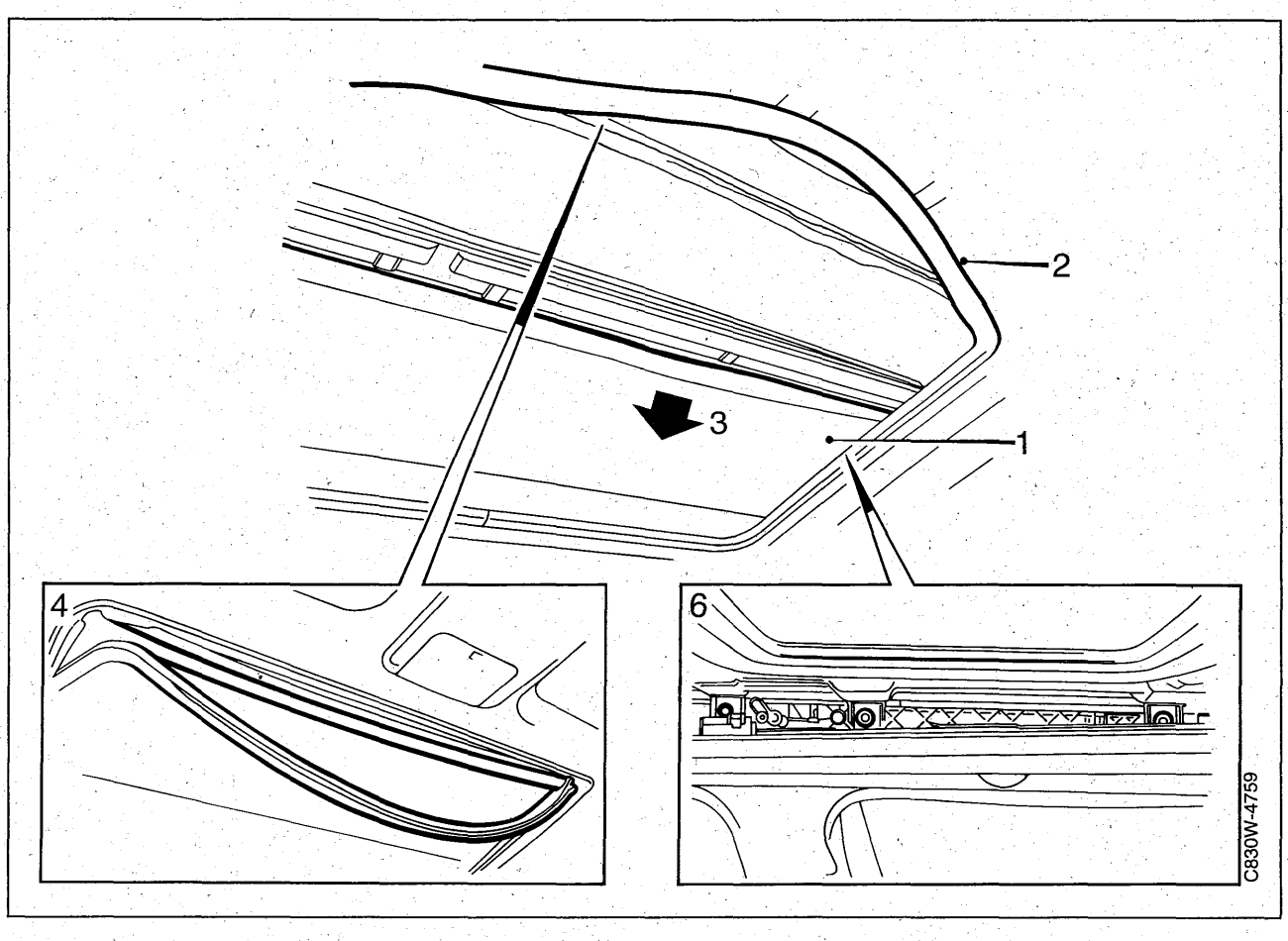
14 Tilt the sunroof open and fit the rear screw on each side.

Important

Never make any adjustment to the sunroof unless the special tools are fitted as described in point 7.

15 Slide the frame forwards.

16 Lower the sunroof and then open it. Fit the frame retaining screws.



Adjusting the sunroof

Steel sunroofs

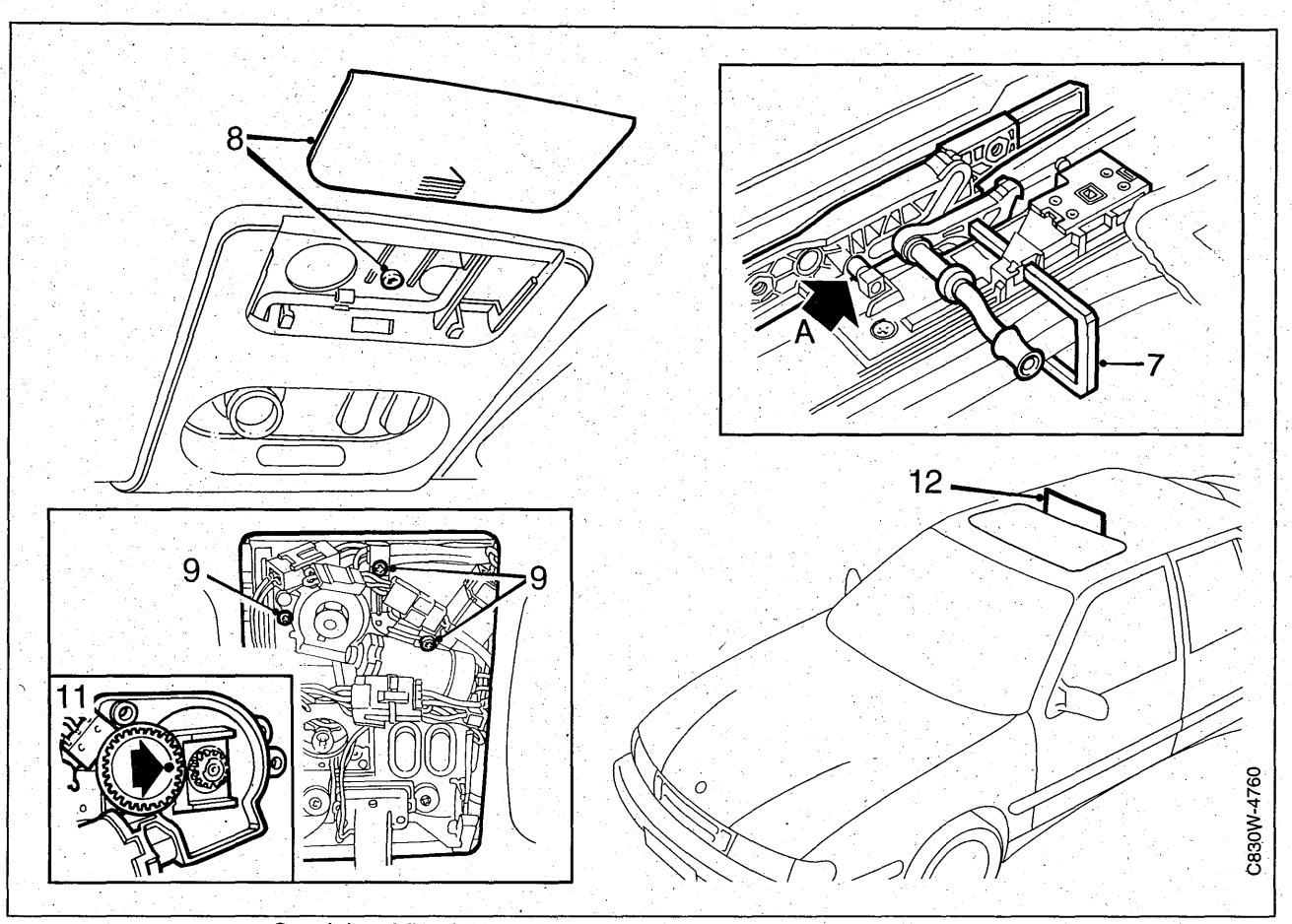
1 Run the sunroof rearwards about 15 cm.
2 Pull away the moulding from the leading edge.
3 Ease down the leading edge of the sunroof trim (held in place by clips).
4 Close the sunroof while simultaneously pulling the trim forwards.

Important

The trim must be pulled forward with the sunroof or the drain channel at its trailing edge will come adrift.

When the sunroof is closed, the trim must hang below the edge of the sunroof aperture.

5 Pull the trim back.
6 Remove the sunroof retaining screws and lift off the sunroof.



Special tool fitted. Note the position of the arrowed locating pin (A).

7 With the mechanism in the closed position, fit special tools 82 92 500 on both sides through all four parts that are to be secured to each other.

Carry out points 8-11 only if the special tools cannot be fitted.

8 Remove the overhead switch panel surround.

9 Remove the motor retaining screws and lower the motor to free the cables.

10 Fit the special tools on both sides as described in point 7.

11 Check that the motor is in the sunroof-closed position. Fit the motor and overhead switch panel.

12 Lift the sunroof into position and fit the two front screws on each side. Adjust the alignment of the sunroof with the car roof and tighten the screws.

Adjustment of the sunroof will be facilitated if a piece of cardboard (about 1 mm thick) is inserted between the trailing edge of the sunroof and the roof of the car.

13 Remove the special tools.

14 Tilt the sunroof open and fit the rear screw on each side.

Important

Never make any adjustment to the sunroof unless the special tools are fitted as described in point 7.

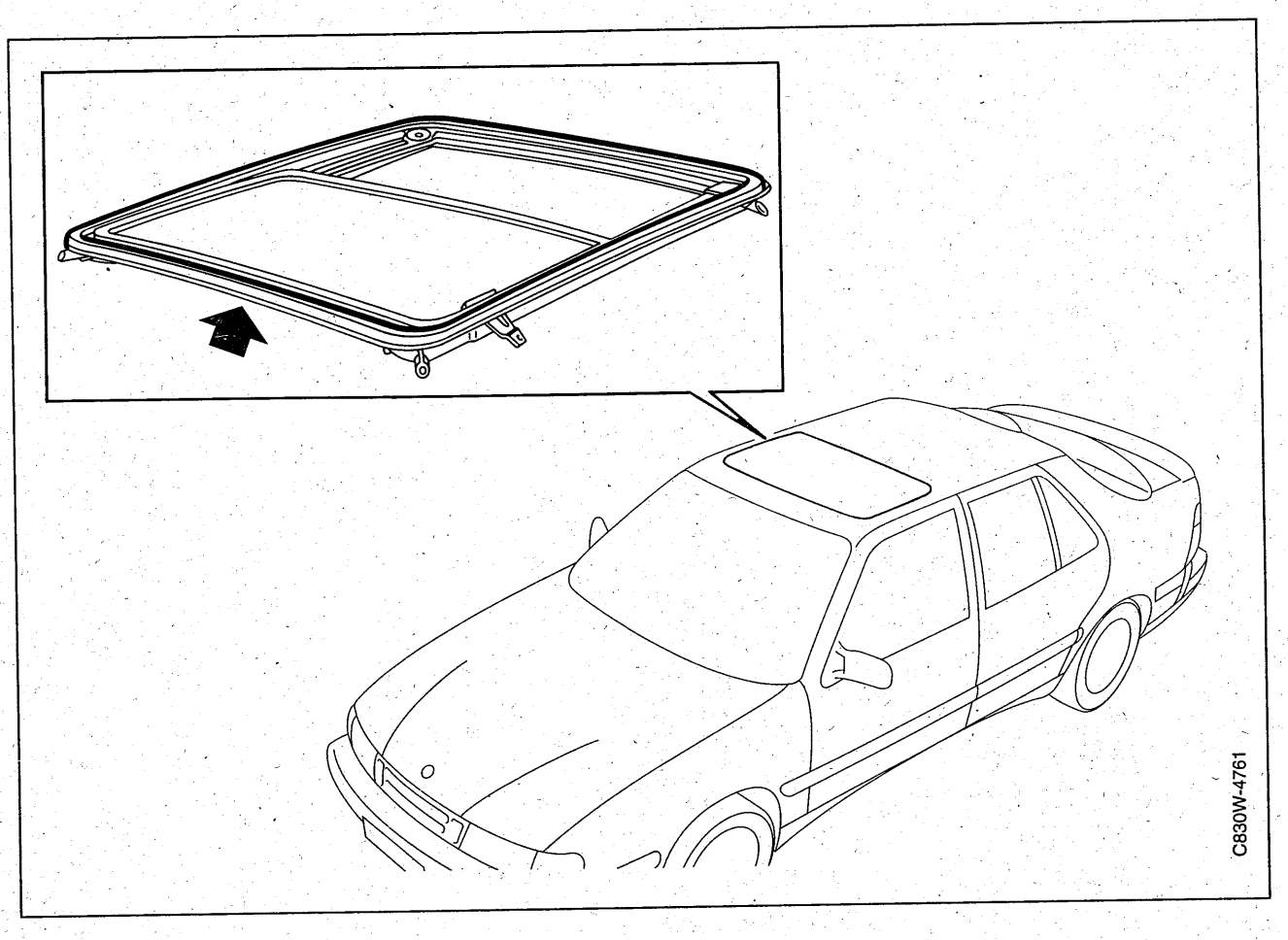
15 Lower the sunroof to the closed position.

16 Slide the sunroof trim forwards and bend the leading edge below the level of the headlining. The trim should now engage in the rear fastener. Open the sunroof slightly and press the trim clips home at the leading edge of the sunroof.

17 Fit the moulding.

18 Adjust the metal rib in the leading edge of the sunroof trim to ensure that the trim makes a neat fit along the edge of the sunroof aperture.

19 Open and close the sunroof several times. Tilt it open and check that the drain channel is fitted correctly.

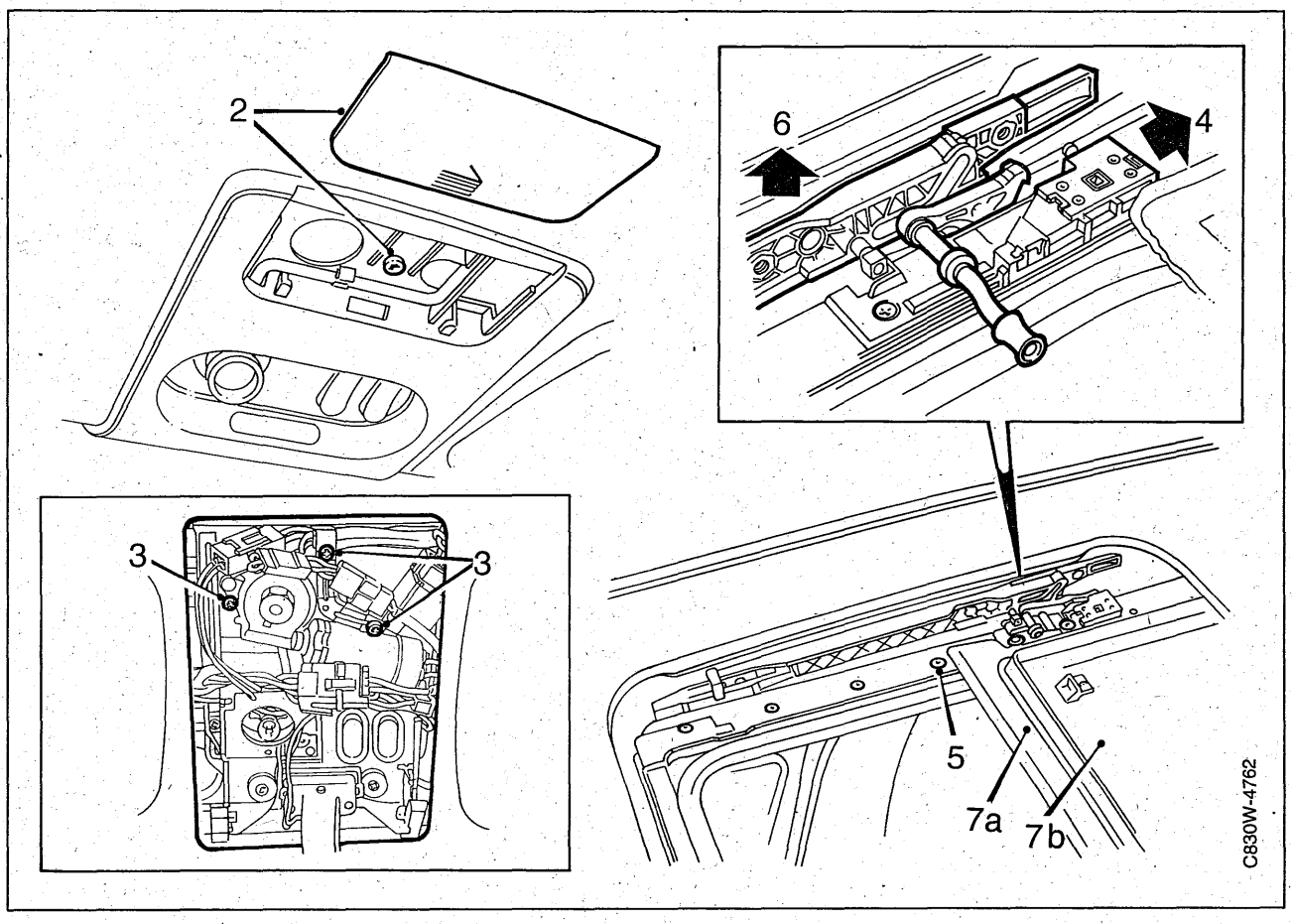


Replacement of sealing strip, glass sunroof

Remove the sunroof and pull away the sealing strip. Clean the groove and fit a new sealing strip.

Replacement of sealing strip, steel sunroof

Remove the sunroof and pull away the sealing strip. Check that the anti-corrosion tape along the edge of the sunroof is in good condition. Fit a new sealing strip.



Sunshade/Trim

To remove

1 Remove the sunroof.

2 Remove the overhead switch panel surround.

3 Remove the motor retaining screws and lower the motor to free the cables.

4 Push the slide mechanism rearwards about 5-10 cm.

5 Unscrew and remove the front guide rail and end piece.

6 Pull the slide mechanism forwards, raise the tilt mechanism and set the slide and tilt mechanism aside.

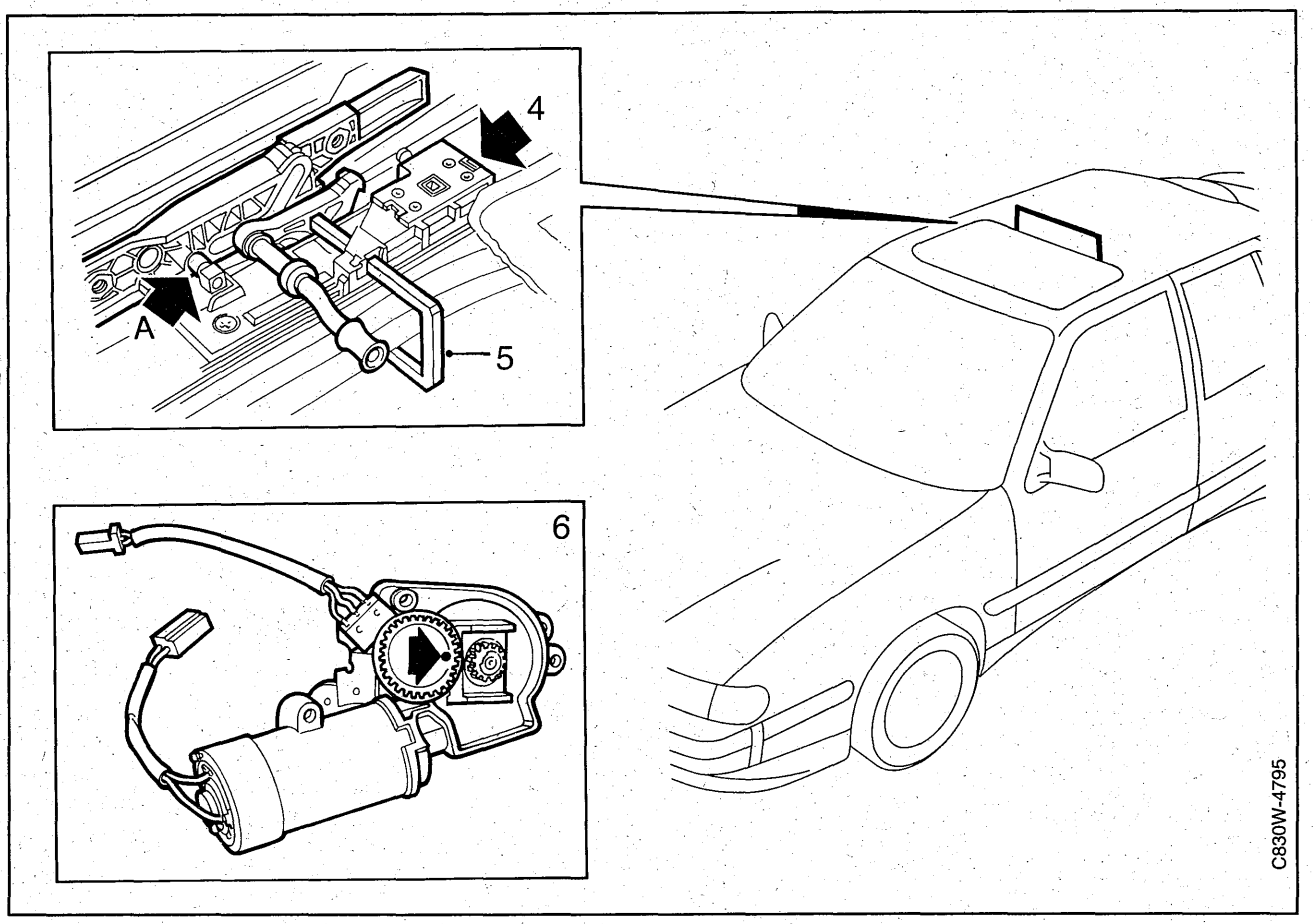
7 Cars with a glass sunroof:

a Pull the frame forwards over the guide rails and lift it out.

b Lift out the sunshade.

8 Cars with a steel sunroof:

a Slide the trim forwards and lift it out carefully to avoid damaging the drain channel fasteners.



Special tool fitted. Note the position of the arrowed locating pin (A).

To fit

1 Cars with a glass sunroof:
Lift the sunshade and frame into position.

1 Cars with a steel sunroof: Refit the sunroof trim, taking care not to damage the drain channel fasteners.

2 Refit the slide and tilt mechanism.

3 Fit the front guide rail and end piece.

4 Push the slide mechanism to the closed position.

5 With the mechanism in the closed position, fit special tools 82 92 500 on both sides through all four parts that are to be secured to each other.

6 Run the motor until the mark on the plastic gear is in the position shown. This corresponds to the sunroof-closed position.

7 Fit the motor.

8 Lift the sunroof into position and fit the two front screws on each side. Adjust the alignment of the sunroof with the car roof and tighten the screws.

Adjustment of the sunroof will be facilitated if a piece of cardboard (about 1 mm thick) is inserted between the trailing edge of the sunroof and the roof of the car.

9 Remove the special tools.

10 Tilt the sunroof open and fit the rear screw on each side.

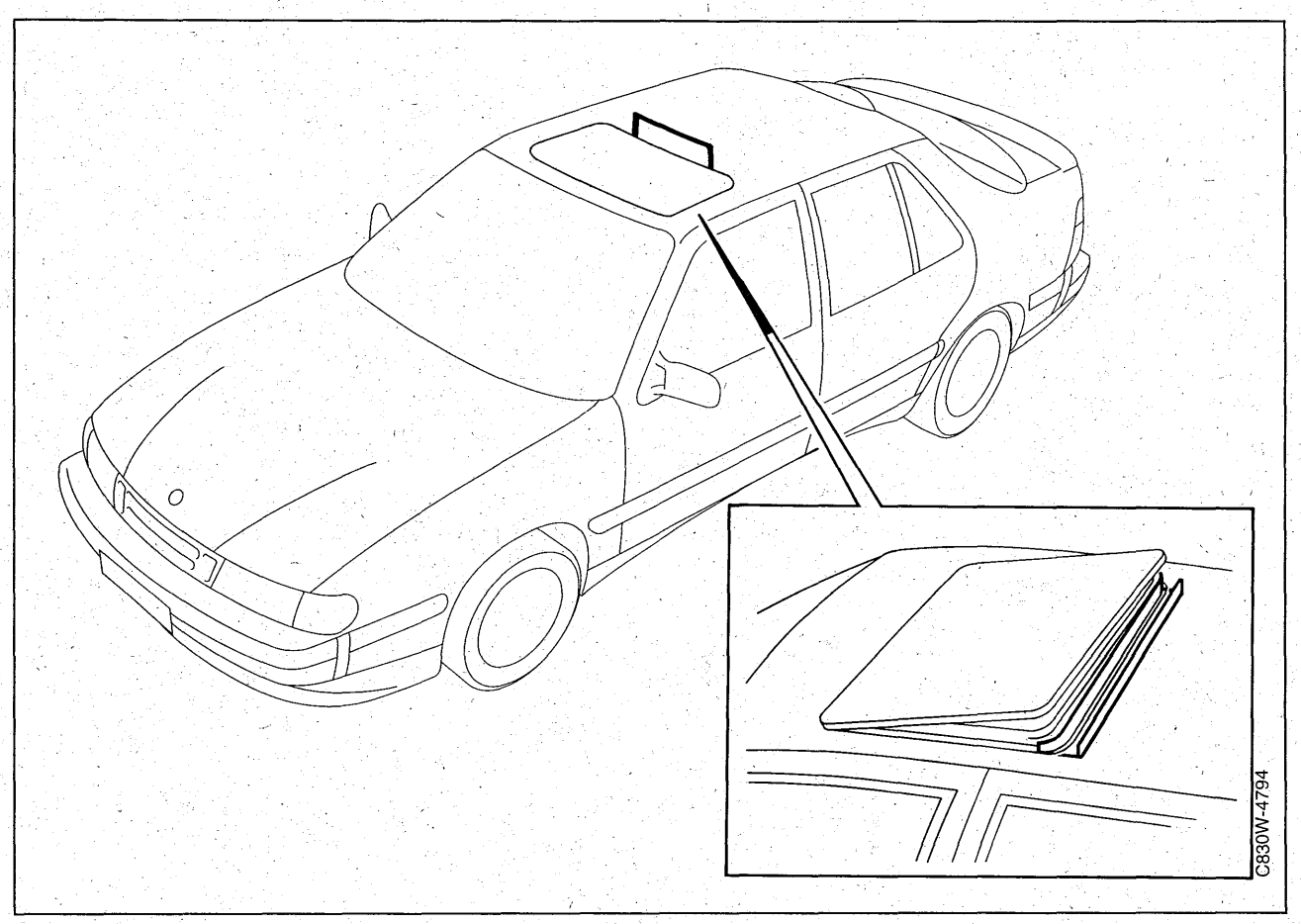
Important

Never make any adjustment to the sunroof unless the special tools are fitted as described in point 5.

11 Cars with a glass sunroof:

a Slide the frame forwards.

b Lower the sunroof and run it rearwards so that the frame retaining screws can be fitted.



12 Cars with a steel sunroof:

a Lower the sunroof to the closed position.

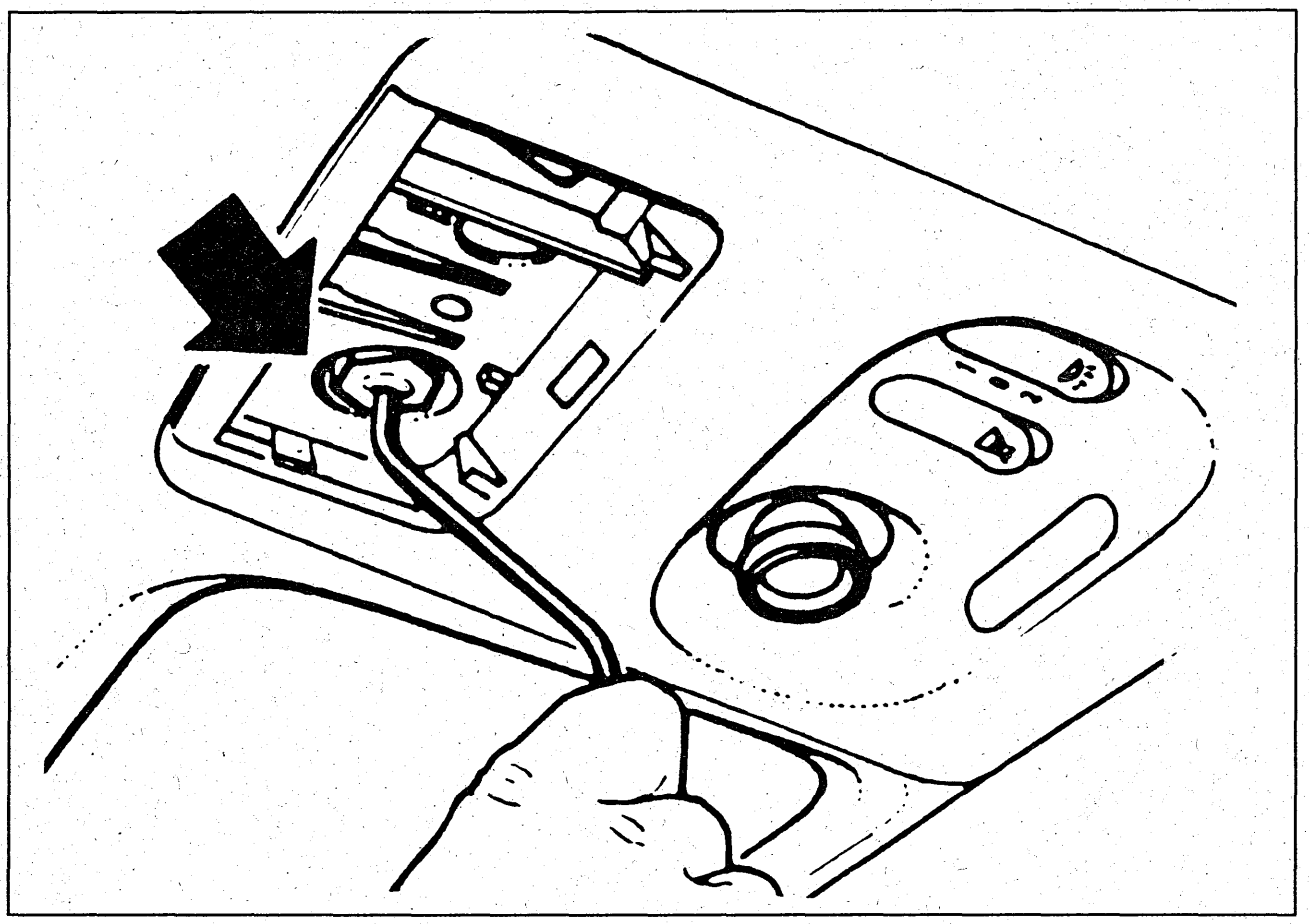
b Slide the sunroof trim forwards and bend the leading edge below the level of the headlining. The trim should now engage in the rear fastener. Open the sunroof slightly and press the trim clips home at the leading edge of the sunroof.

c Fit the moulding.

d Adjust the metal rib in the leading edge of the sunroof trim to ensure that the trim makes a neat fit along the edge of the sunroof aperture.

e Open and close the sunroof several times. Tilt it open and check that the drain channel is fitted correctly.

13 Fit the overhead switch panel surround.



Manual operation of electric sunroof

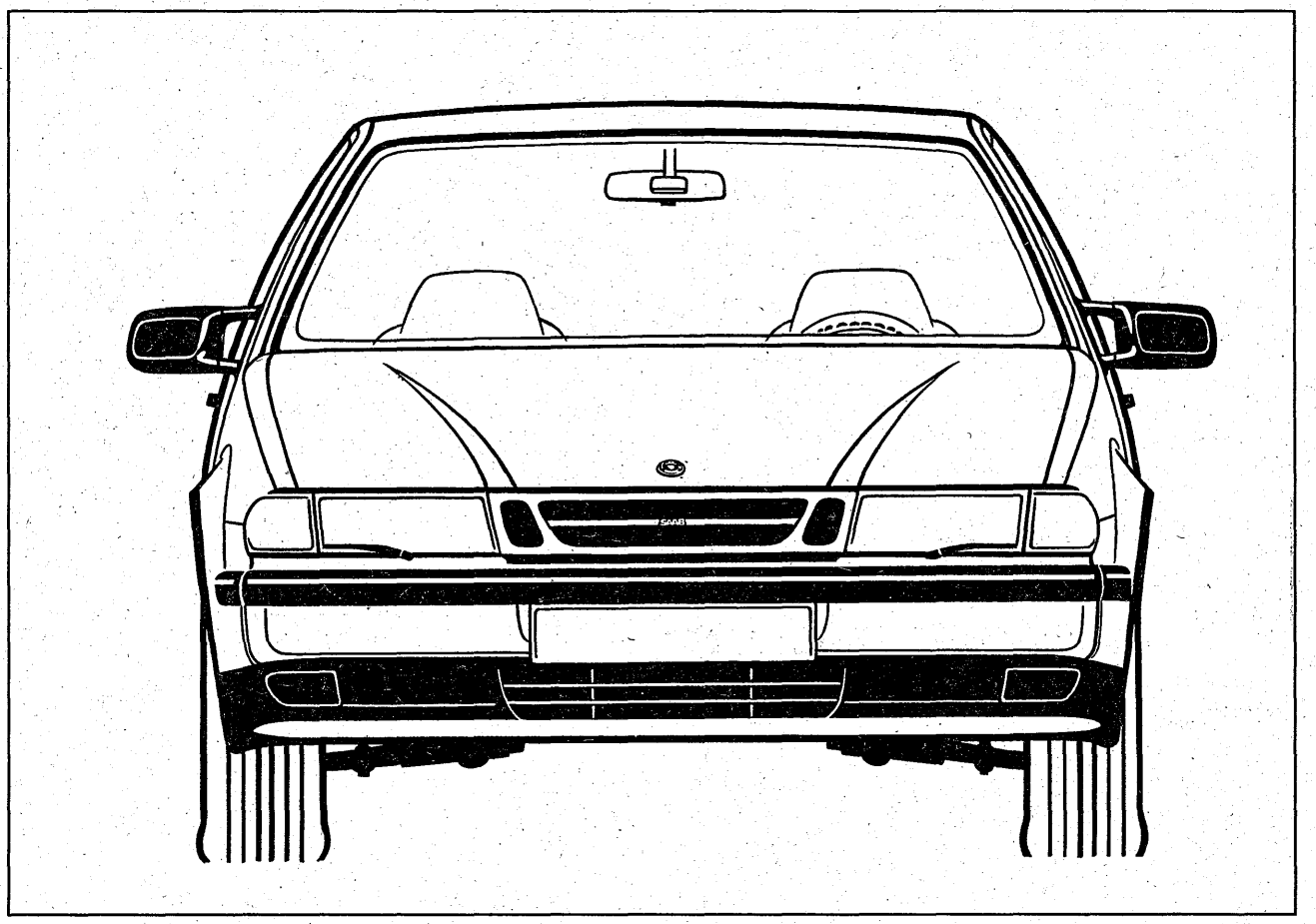
A manual winder for emergency operation of the sunroof (in the event of an electrical fault, for instance) is stored behind the cover in the overhead switch panel. Slacken the nut two or three turns. Insert the short end of the winder in the hexagonal hole and turn it clockwise to close the sunroof. Tighten the nut.

Important

Tighten the nut carefully to avoid damaging the spindle.

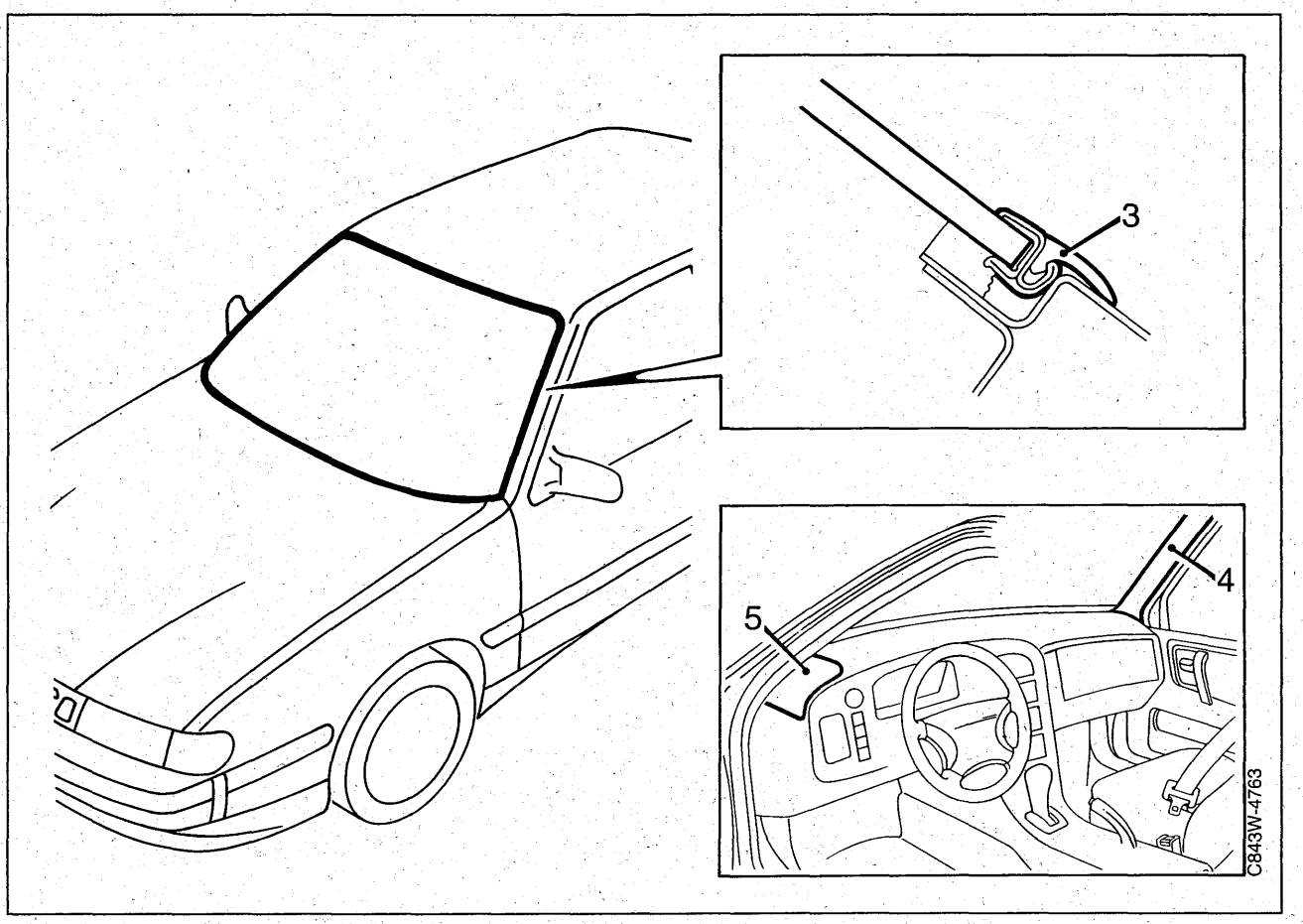
Tightening torque:
7 + 0.5/-0 Nm (5.2 + 0.4/-0 lbf ft)

Window glass



Windscreen

The windscreen of the Saab 9000 is a load-bearing part of the car body structure. It accounts for a large proportion of the body's torsional rigidity. Its design and mounting have been thoroughly tested to ensure conformity with legal collision safety requirements. On cars fitted with an airbag, the airbag is supported by the windscreen when it inflates. For the proper performance of the car and the safety of the occupants, it is therefore of vital importance to ensure that the windscreen is correctly mounted.
The only windscreen adhesive that has been collision-tested and approved for aftermarket use is Betamate E 2400. So that Saab Automobile AB can accept responsibility and guarantee that the car will have the same high standard of collision safety after replacement of the windscreen as it had before, the windscreen **must** be bonded with Betamate E 2400 as described below.



To remove

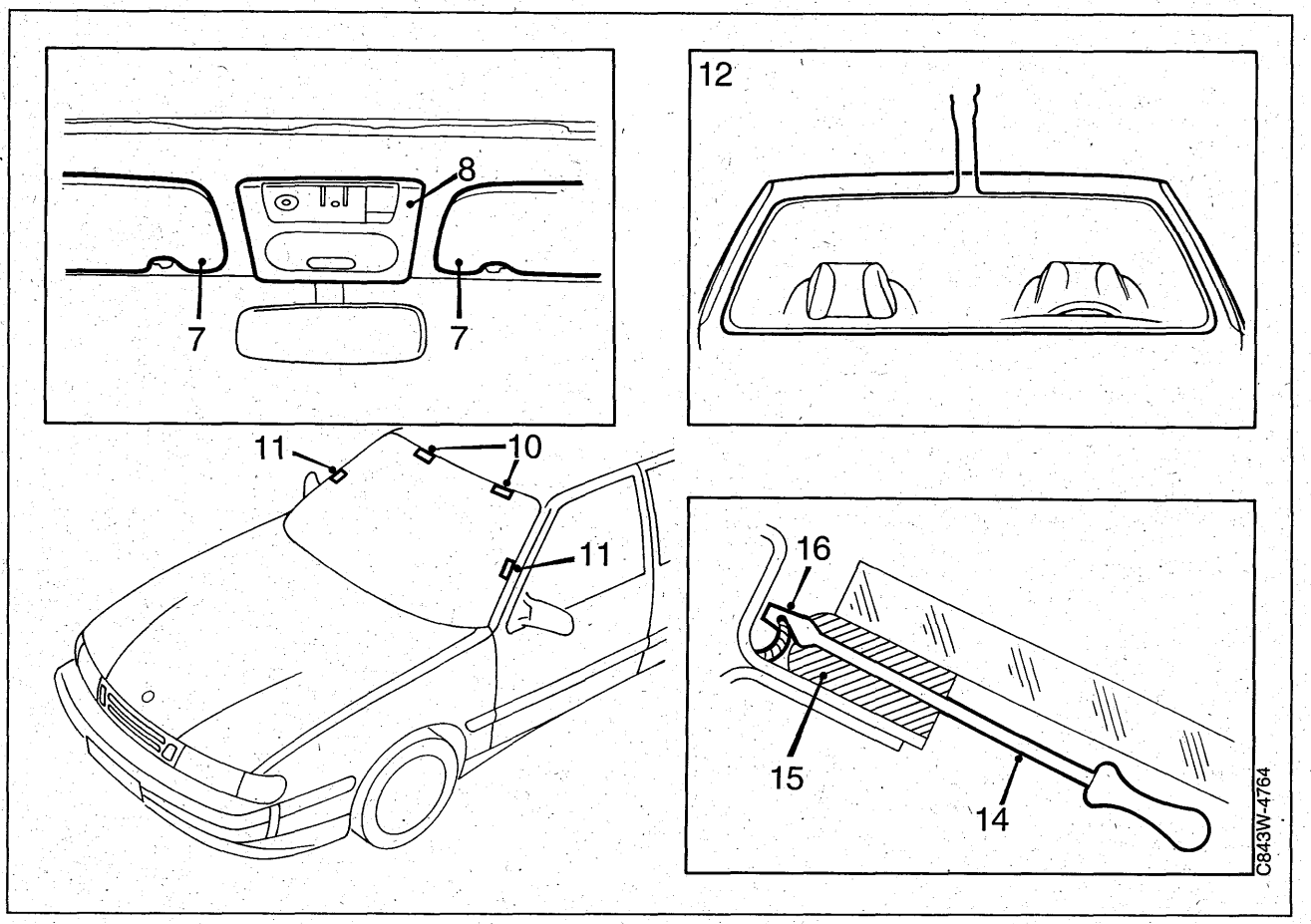
1 Lower the door windows so that the windscreen will not be pressed out by the sudden pressure build-up in the cabin if one of the doors is closed while work is in progress.

2 Remove the windscreen wipers.

3 Remove the moulding round the windscreen.

4 Remove the A pillar trim.

5 Remove the loudspeaker grilles.



6 Place a protective cover over the dashboard.

7 Remove the sun visors and sun visor brackets.

8 Remove the overhead switch panel.

9 Insert two balls of paper between the headlining and the roof so that the headlining is clear of the windscreen.

10 If fitted, cut away the holders at the top of the windscreen and fold them in against the glass.

11 If fitted, undo the holders on the A pillars and fold them in against the glass.

12 Fit the cutting wire, part No. 82 92 831, round the windscreen so that the ends meet at the top of the glass.

13 Press the cutting wire down all round the windscreen, using a wooden wedge or other suitable tool.

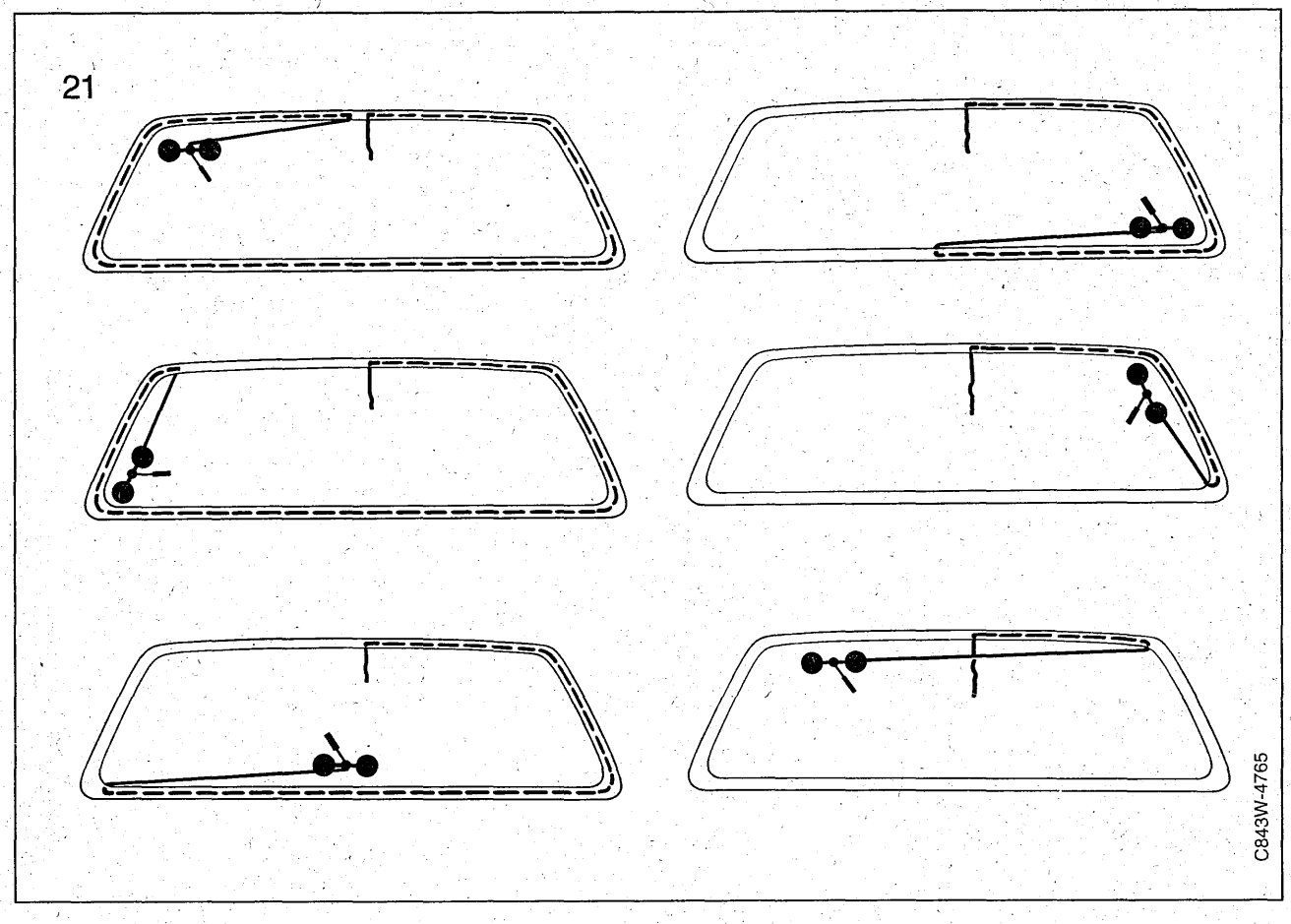
14 Fabricate a special tool by cutting a slot in a long, narrow screwdriver as shown. This will enable you to pull the cutting wire through the sealant quickly and easily.

Alternatively, music wire could be used instead.

15 Press the screwdriver out through the sealant at the top of the windscreen.

16 Hook one end of the cutting wire in the screwdriver and pull the wire through the sealant.

17 Pull the other end of the wire through the sealant in the same way. Avoid crossing the wires.



18 Fit the wire coiler, part No. 82 92 823 at one of the top corners of the windscreen.

19 Pull out the end of the cutting wire nearest the wire coiler and fasten it to the coiler reel.

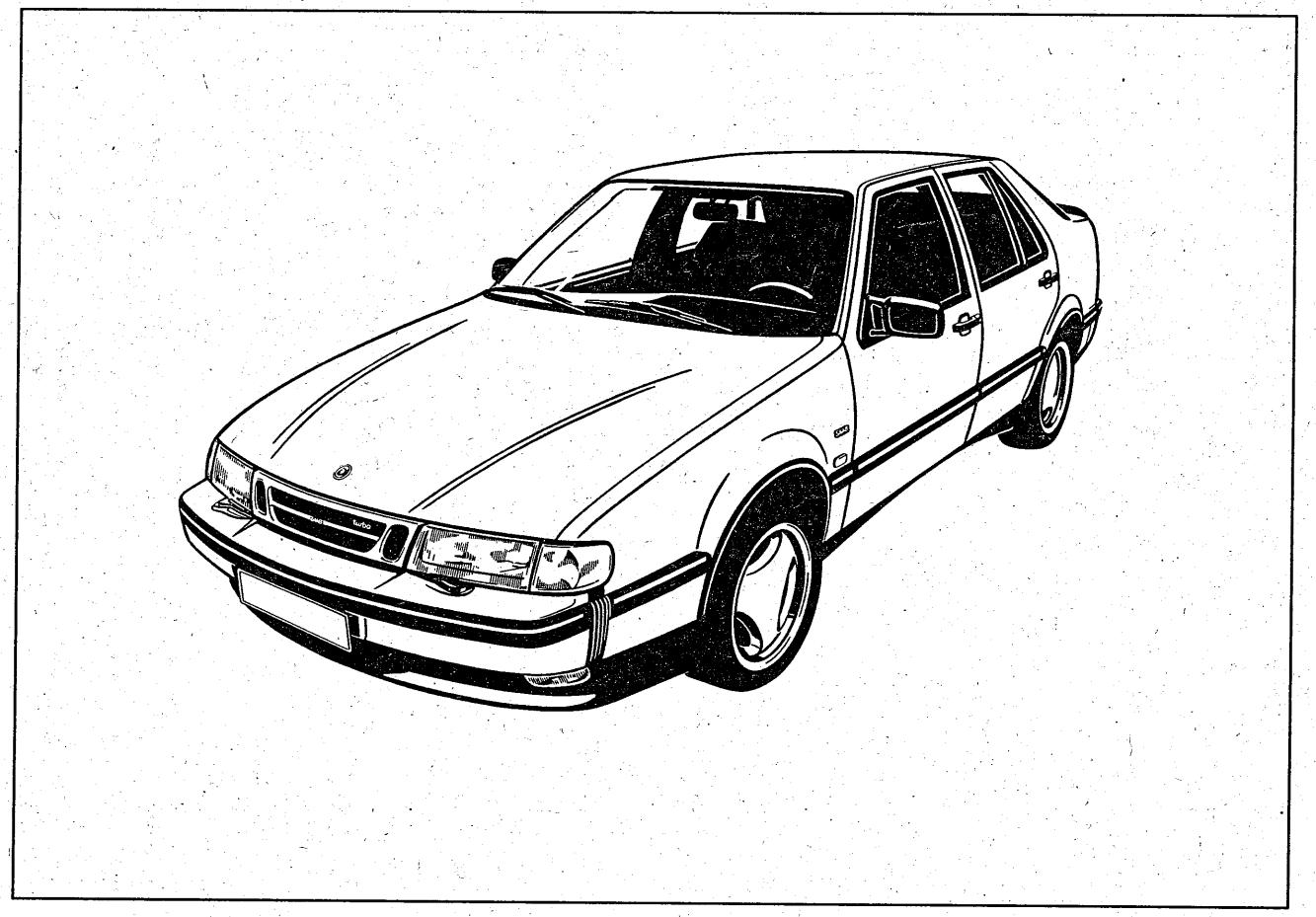
20 Tie the other end of the cutting wire to a piece of wood.

21 Use a ratchet handle to crank the coiler so that the wire cuts through the sealant. Reposition the wire coiler as the windscreen comes loose.

The cutting wire should cut the sealant the whole time and not merely be pulled through it.

Resistance will be greatest at the corners. If there is a danger of the wire breaking, wait for 10-15 seconds to give the wire time to work into the sealant.

22 Lift out the windscreen and make a note of the position of any spacers. These must be put back in the same positions when fitting the new windscreen.



To fit

Important

Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity. To prevent the windscreen from loosening or becoming dislodged, be careful to avoid jolting the car or banging on it during this period.

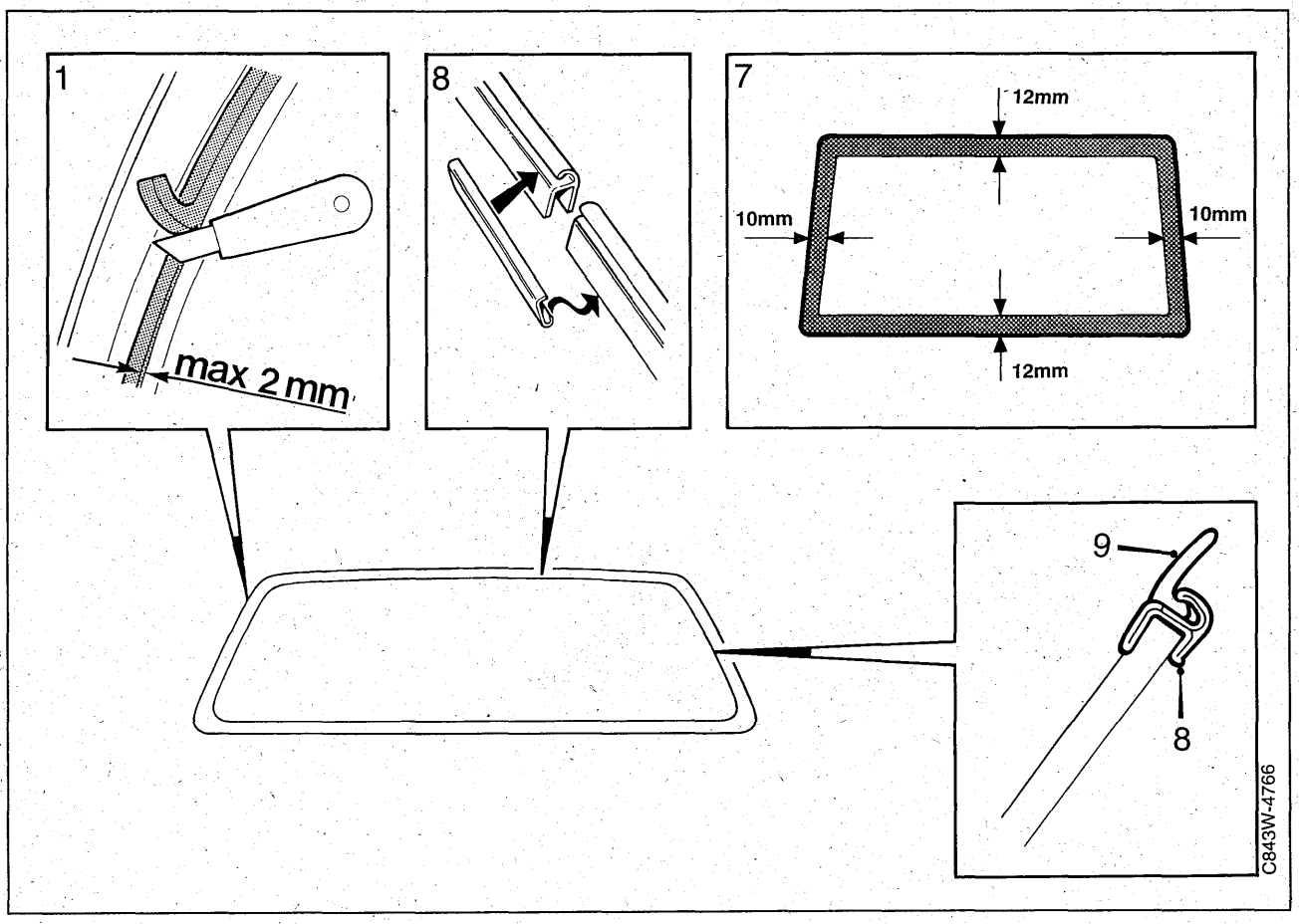
Do not slam the doors, boot lid or bonnet. The car must not be rocked or rolled.

Neither should any clamping of the windscreen take place during the time the adhesive is hardening.

The car should be standing evenly with all four wheels on a level surface when the windscreen is fitted in place. To ensure the best possible results, it is extremely important for all surfaces that have been cleaned or primed to be kept free from dust and dirt while work is in progress. The same goes for the sealant when it has been applied. Once work has been started it should therefore be continued without interruption until the windscreen has been fitted and the adhesive hardened.

The adhesive begins to harden as soon as the contents of the two tubes are mixed. The windscreen should therefore be fitted in place within five minutes from the time application of the bead of adhesive is started.

Note that points 6 — 10 must without exception be carried out in the given order to ensure satisfactory results with maximum adhesion.



1 Trim the bead of adhesive on the frame to a maximum thickness (height) of 2 mm.

2 Use compressed air to blow loose particles and dirt out of the metal frame.

3 Make good any damage to the paintwork.

Important

The paintwork must be flawless to prevent the onset of corrosion.

4 Apply body primer, part No. (45) 301 87 02, to any painted areas that have been touched up. Body primer must **not** be used on old, firmly adhering adhesive.

5 Attach the glass suckers to the outside of the windscreen and place the glass on trestles with the inside facing upwards.

6 Wash the edge of the glass thoroughly, using the cleaning solution supplied with the adhesive kit. Carefully wet the edge with a cloth and then use the lint-free cloth supplied with the adhesive kit to wipe it dry.

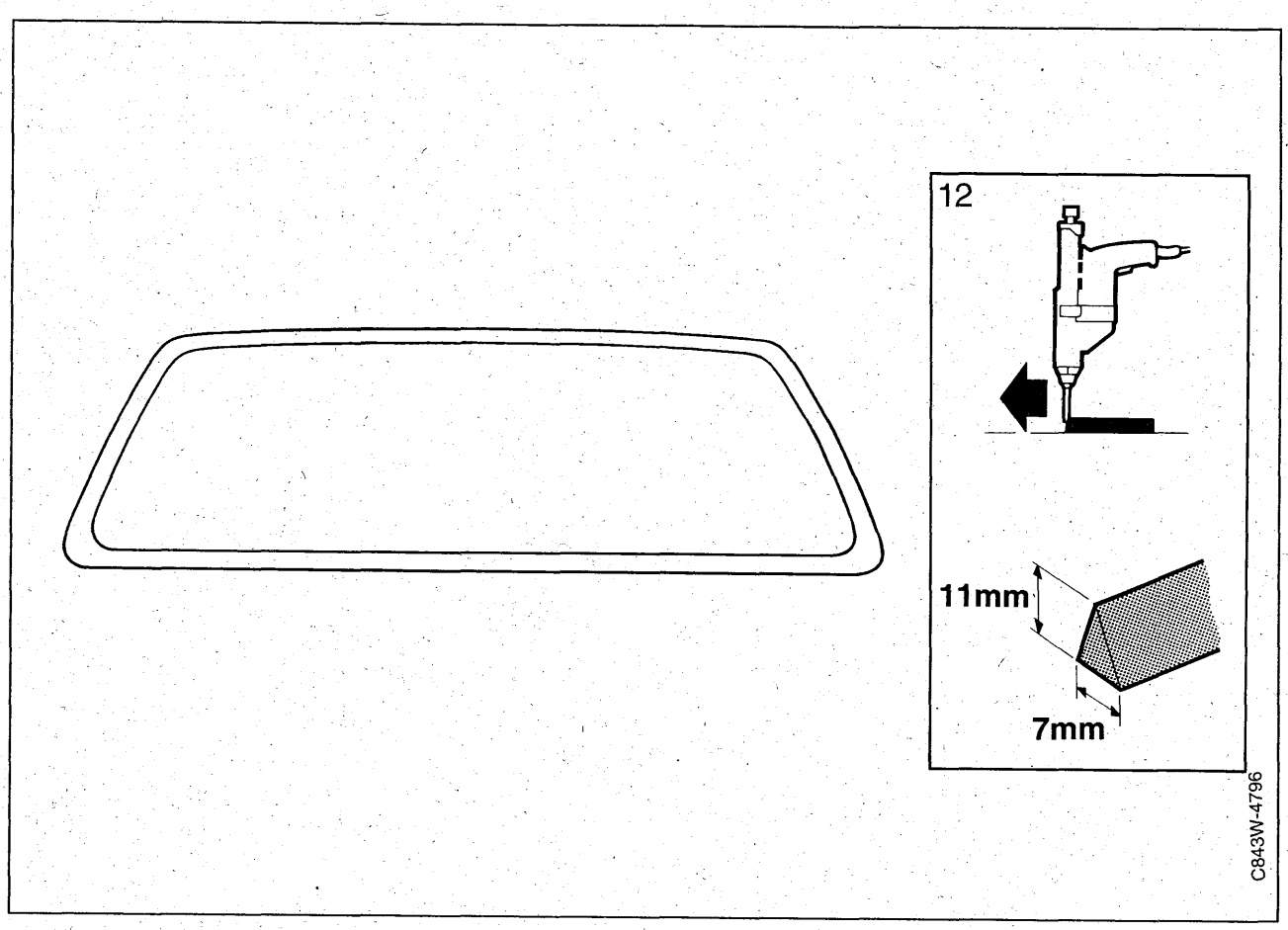
Important

Do not allow the cleaning solution to dry naturally as it may leave traces of grease. Always use clean, lint-free rags and refold them frequently.

7 Apply glass primer to the cleaned surface. Use the glass primer supplied with the adhesive kit.

8 Press the retaining strip with cover pieces onto the glass. Avoid touching the primed surface.

9 Fit the moulding round the windscreen, making sure that the centre mark on the lower edge lines up with the centre of the retaining strip cover piece.
Then press the moulding firmly into the retaining strip. Avoid touching the primed surface.



10 Apply glass primer to the inside of the retaining strip. Use the glass primer supplied with the adhesive kit.

11 Fit the spacers in the same positions in the windscreen aperture as they were before the windscreen was removed.

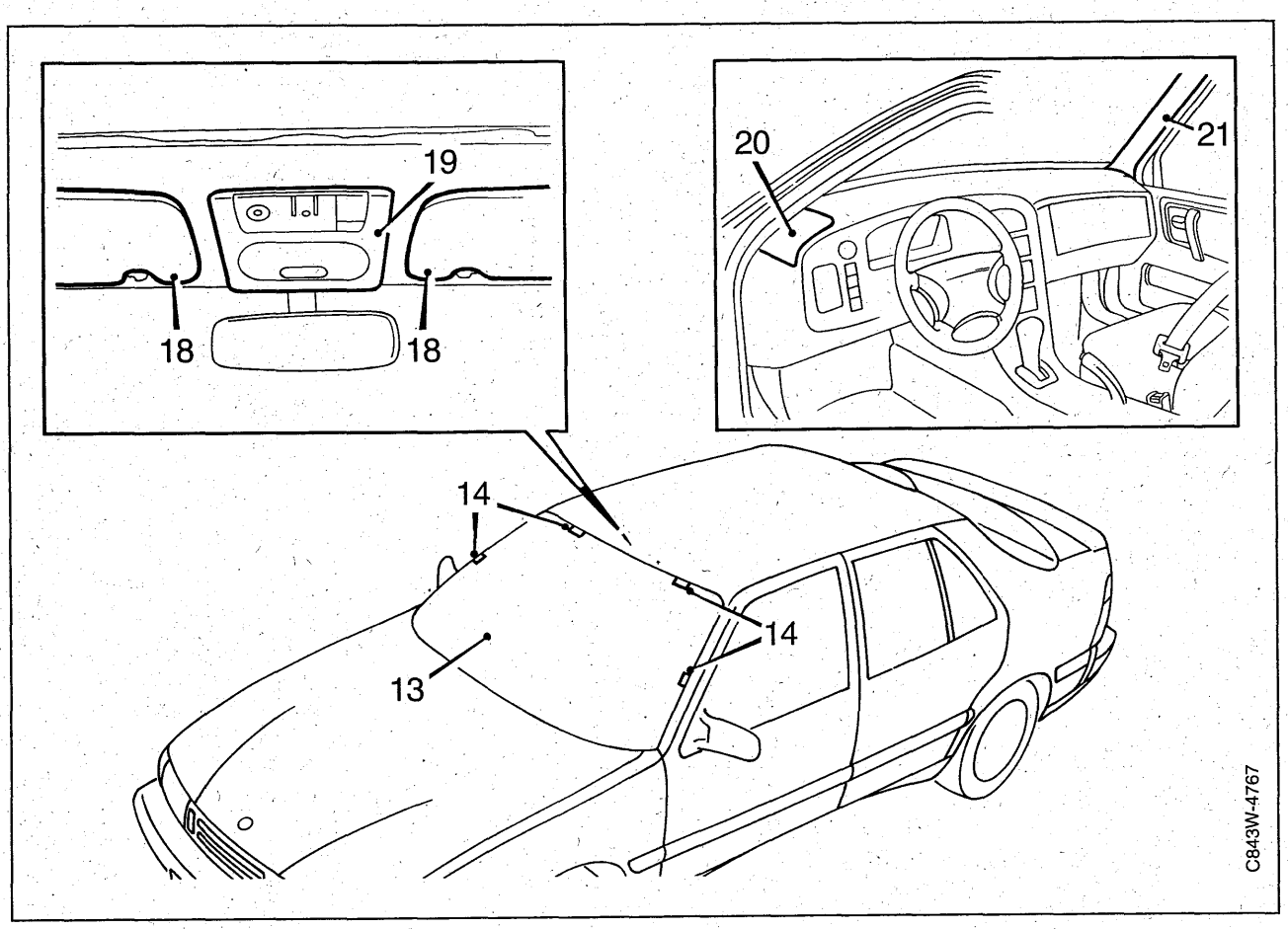
M89 and earlier:
Two of part No. 40 13 603 at top of windscreen.
Two of part No. 69 91 244 at bottom of windscreen.

M90 and later:
Four of part No. 40 13 603 at the glass holders.

12 Apply the adhesive as follows:

- Cut 5 mm off the tip of the adhesive applicator nozzle. Heat the nozzle in hot water and adjust the opening to the shape and dimensions shown (7 x 11 mm).
- Adjust the pressure of the adhesive gun to obtain a bead of adhesive measuring 7 x 11 mm.
- Hold the gun perpendicular to the surface and apply a bead of adhesive to the primed surface along the edge of the retaining strip. Begin from the side of the cover piece at the bottom of the windscreen.

Make sure that there are no cavities or voids in the adhesive.



13 Fit the windscreen in place. Start at the top and press the glass down until it is flush with the surrounding metalwork.

14 Where fitted, fold back the metal tabs at the A pillar and tighten the screws.

Important

No clamping of the widnscreen should take place.

15 Slightly raise the top edge of the moulding in the middle and pour water over it. Check for leaks inside the car.

16 Leave the adhesive to harden before continuing the fitting process. Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity.

17 Remove the balls of paper previously inserted between the headlining and roof panel.

18 Refit the sun visors and sun visor brackets.

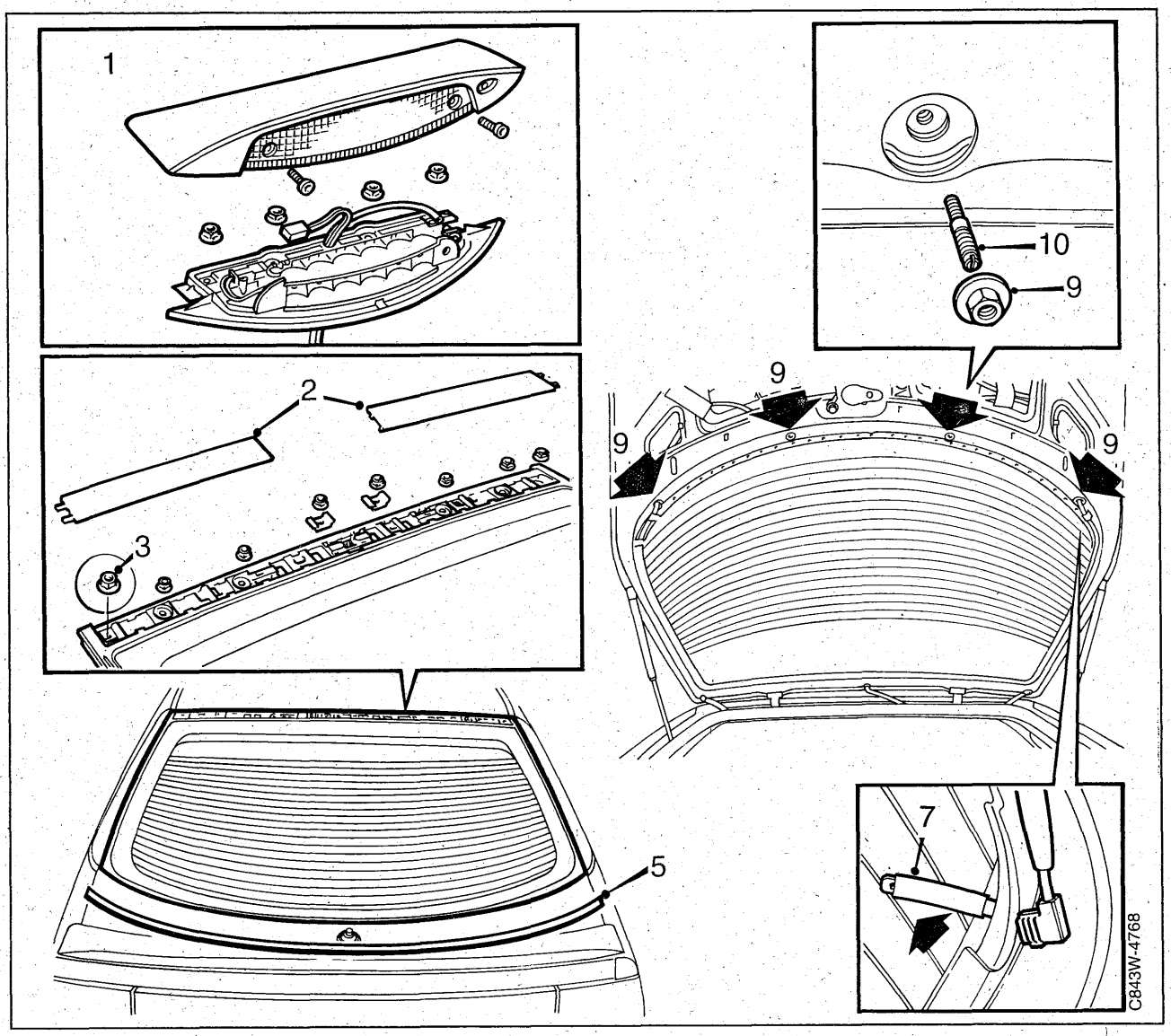
19 Refit the overhead switch panel.

20 Refit the loudspeaker grilles.

21 Refit the A pillar trim.

22 Refit the windscreen wipers.

23 Clean the windscreen both inside and out.



Rear window, Saab 9000 CS

The rear window of the Saab 9000 CS is embedded in a polyurethane moulding which is in turn bonded and screwed to the tailgate. This moulding is never removed from the glass; glass and moulding are fitted and removed as a single unit.

To remove

Lower the door windows so that the rear window will not be pressed out by the sudden pressure build-up in the cabin if one of the doors is closed while work is in progress.

1 Remove the high-level brake light.

2 Remove the right-hand and left-hand mouldings at the top of the rear window. Lift them upwards from the centre.

3 Remove the nuts at the top of the window.

4 Remove the wiper arm, if fitted.

5 Remove the lower moulding.

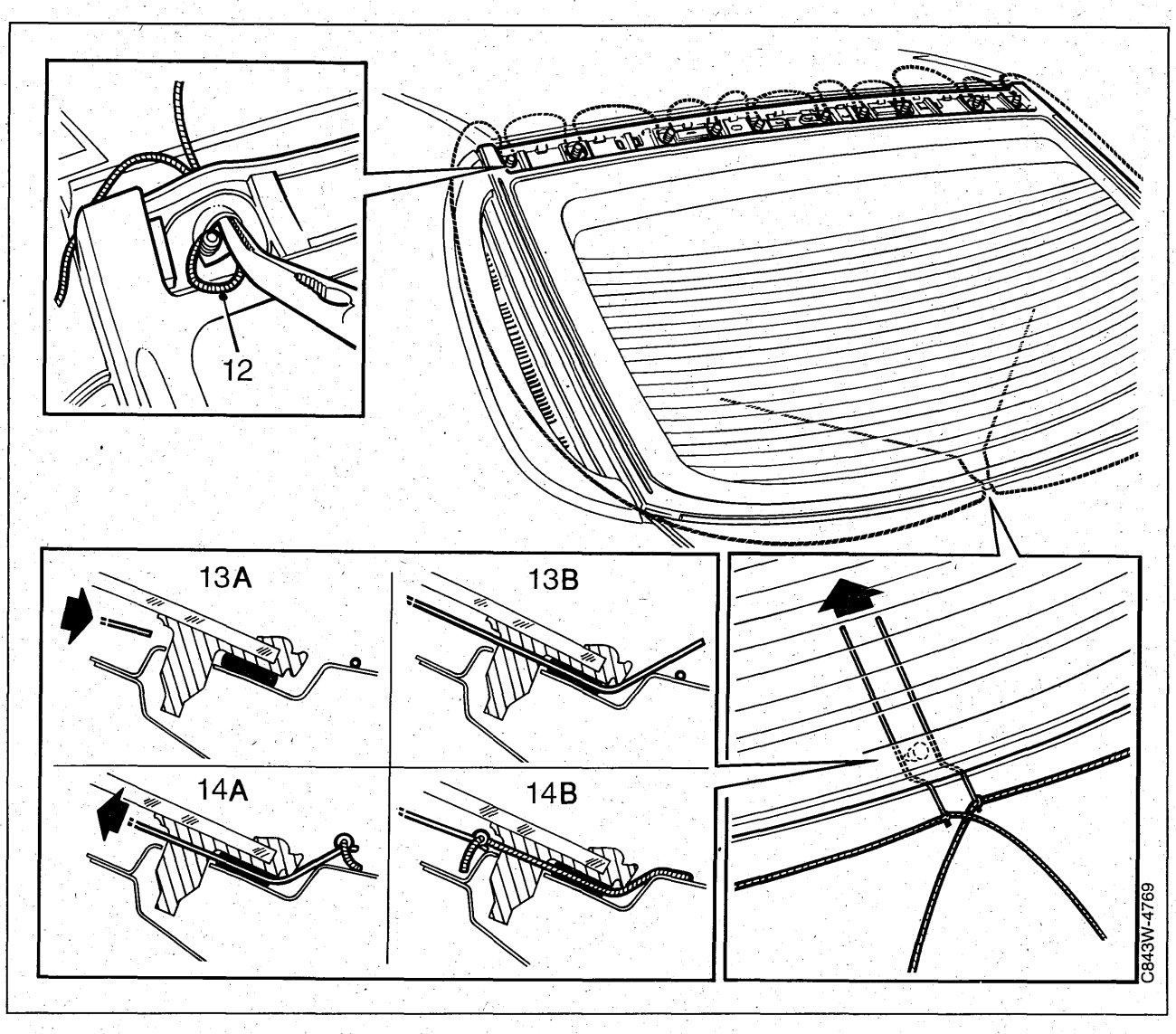
6 Open the tailgate and remove the inside trim and mouldings.

7 Unplug the connector for the rear window heating element and bend the connecting strip inwards against the window.

8 Withdraw the electrical wiring and washer fluid hose from the tailgate.

9 Unscrew the lower rear window retaining nuts. Collect the nuts as they are to be used when refitting.

10 Unscrew the threaded studs.



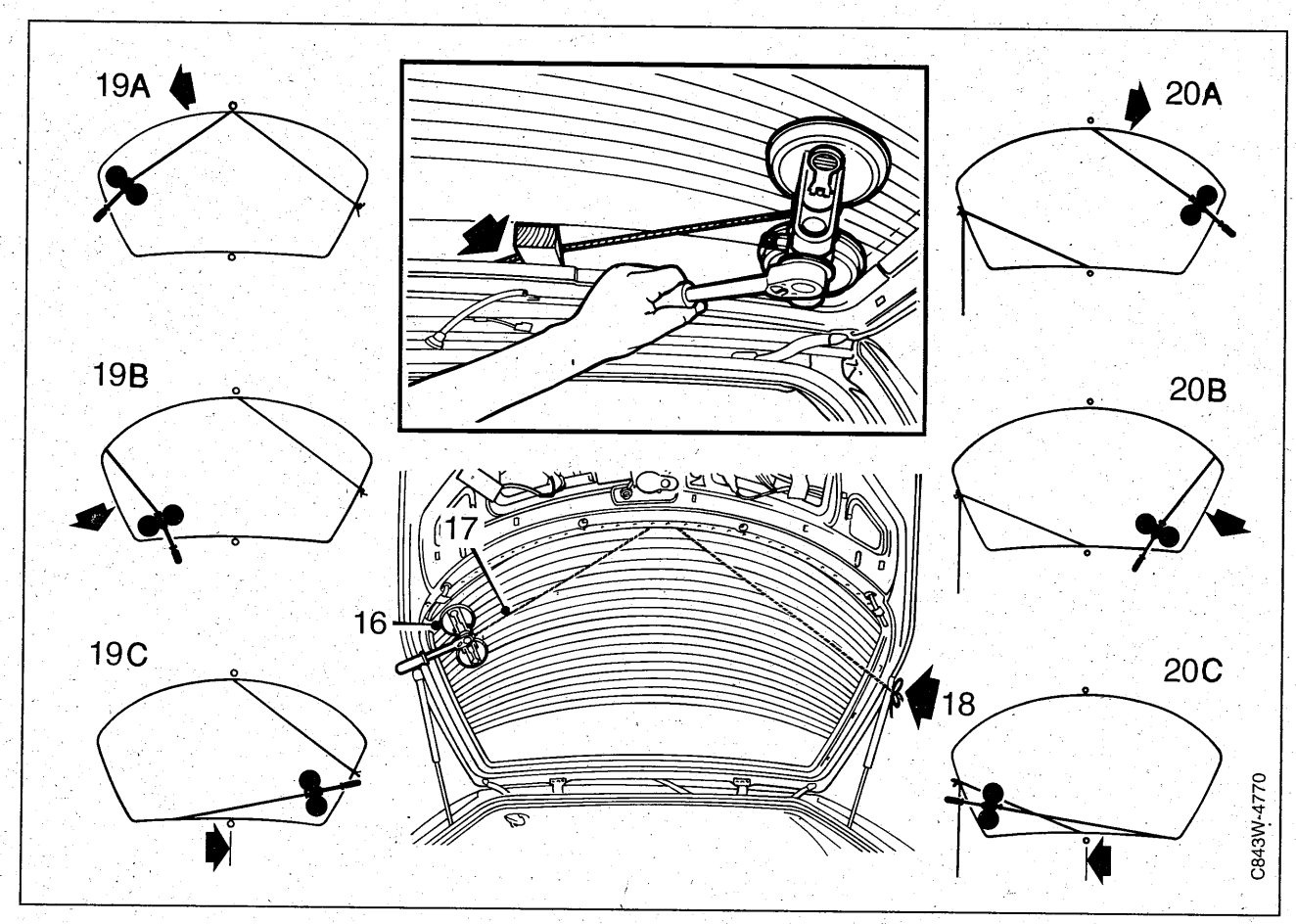
11 Fit the cutting wire, part No. 82 92 831, round the rear window so that the ends meet at the bottom of the glass.

12 Thread the cutting wire round the bottom of the welded bolts along the top of the rear window. Pull the wire to tension it.

13 Using a length of music wire, pierce a hole in the sealant on one side of the locating stud situated midway along the bottom of the rear window.

14 By means of the music wire, pull one end of the cutting wire through the sealant.

15 Pull the other end of the cutting wire through the sealant on the other side of the locating stud in the same manner.



16 Fit the wire coiler, part No. 82 92 823, at one of the bottom corners of the rear window on the inside.

17 Take the end of the cutting wire nearest the wire coiler and fasten it to the coiler reel.

18 Fasten the other end of the cutting wire to one of the tailgate gas springs or the like.

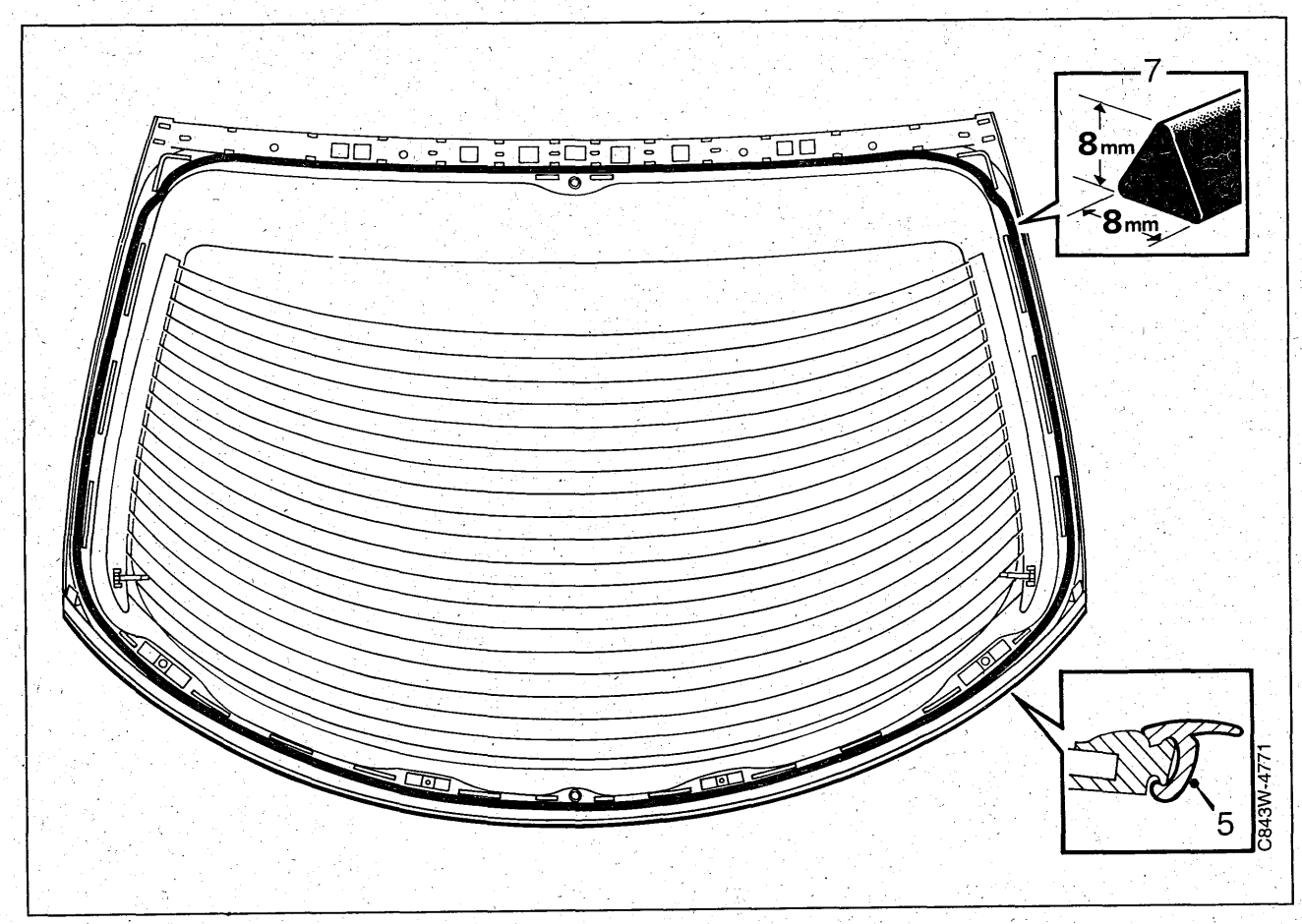
19 Use a ratchet handle to crank the coiler so that the wire cuts through the window. Reposition the wire coiler as the rear window comes loose. Cut it free up to the locating stud at the top of the window.

The cutting wire should cut the sealant the whole time and not merely be pulled through it.

If necessary, a wooden wedge, putty knife or the like can be used to keep the cutting wire away from the tailgate. If it rubs against the metalwork the cutting wire may break. Bear in mind the risk of damage to the paintwork.

20 Cut the rear window free up to the top locating stud. Then transfer the wire coiler to the opposite bottom corner and cut free the remainder of the window in a similar manner.

21 Lift out the rear window.



To fit

Important

Two different types of primer must be used. Paint primer, part No. 30 07 119, for the metal edge of the tailgate, and Betawipe 4000, part No. (45) 30 15 278, for the embedment round the rear window.

Old, firmly adhering adhesive makes a good surface for the application of fresh adhesive. Remove all loose adhesive from the metalwork and glass.

1 Cut away the old adhesive on the tailgate and the rear window, if it is to be refitted, to leave a maximum thickness (height) of 2 mm.

2 Make good any damage to the paintwork that has occurred in connection with removing the rear window. Use a paint applicator.

3 Apply primer to the metal surfaces of the tailgate coming into contact with the adhesive.

Use paint primer, part No. 30 07 119.

Important

Never apply primer to old adhesive. Paint primer should only be used on new tailgates or when there is no old adhesive on which to apply the fresh adhesive.

4 Rest the rear window on trestles and fit suckers to its exterior surface.

5 Press the lower moulding onto the rear window.

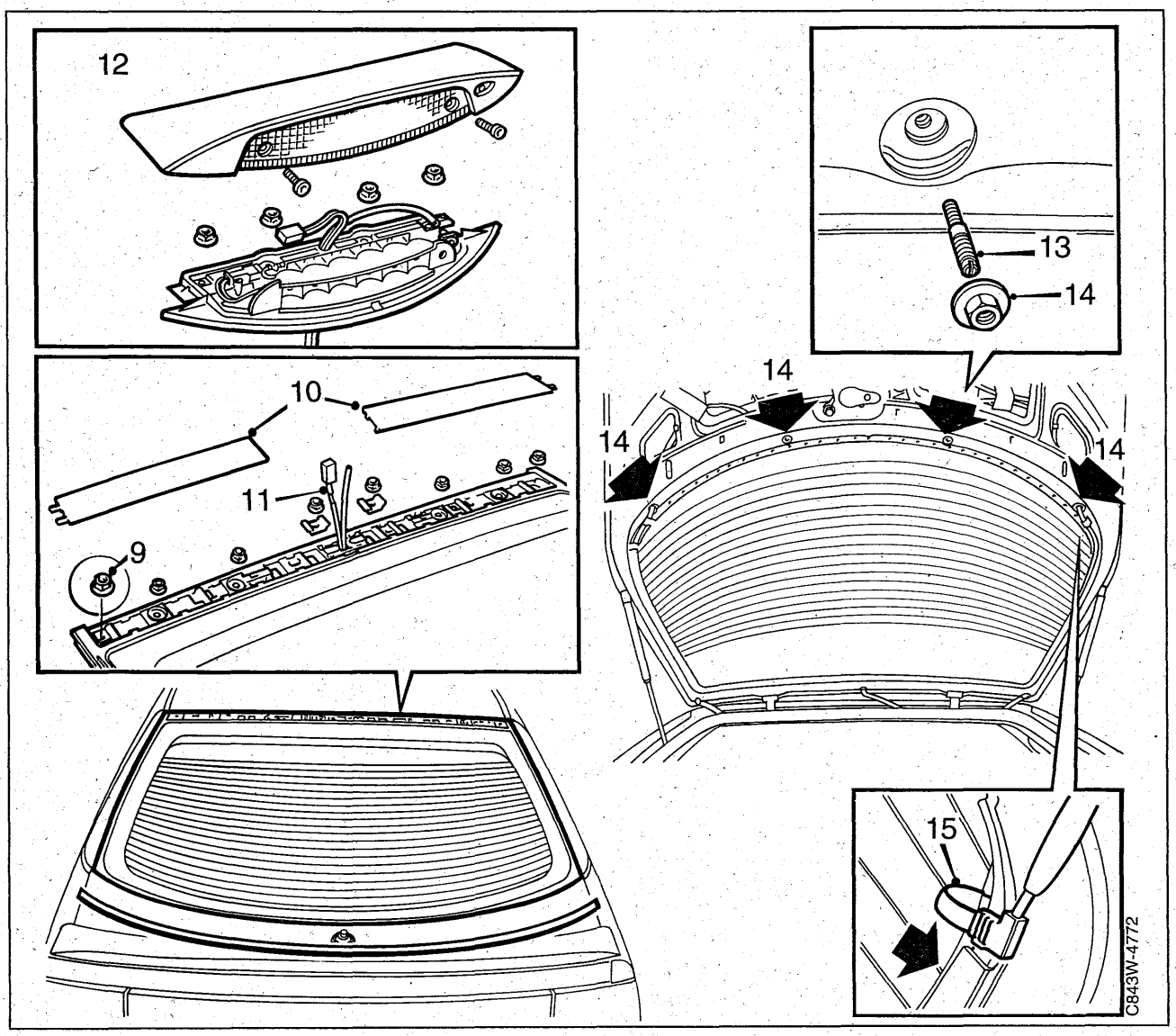
6 Apply Betawipe 4000 primer, part No. (45) 30 15 278, to the embedment where the adhesive is to be applied.

Using a cloth, wet the edge thoroughly and dry it with another cloth. Use clean, lint-free cloths and refold them frequently.

Important

Betawipe 4000 is a special primer for embedded windows. No other primer must be used.

7 Apply adhesive to the embedment round the rear window. A tube of adhesive is sufficient for one window. Avoid getting adhesive on the moulding.
The hardening time of the adhesive is 15 hours at +23°C and 50% relative humidity.



8 Fit the rear window in position, inserting the locating studs in place at top and bottom of the tailgate.

9 Tighten the nuts securing the top of the rear window. Do not tighten them so hard as to risk breaking the welded bolts.

10 Refit the right-hand and left-hand mouldings at the top of the rear window.

11 Thread the electrical wiring for the high-level brake light and the washer fluid hose through the tailgate.

12 Screw the high-level brake light in place, connect the wiring and the washer fluid hose, and finally screw the brake light lens in position.

13 Open the tailgate and tighten the threaded studs at the bottom of the rear window.

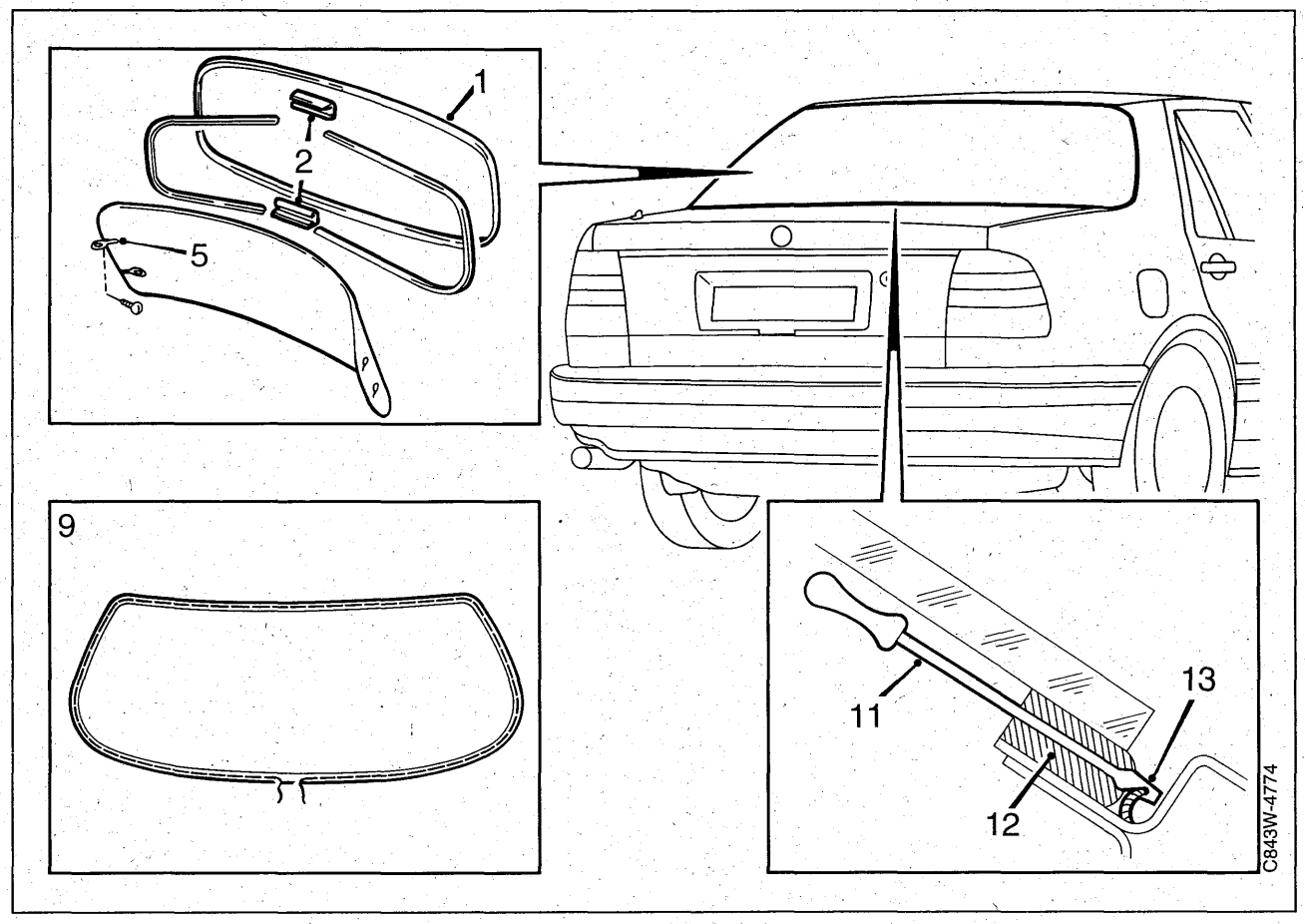
14 Tighten the lower rear window retaining nuts on the threaded studs.

15 Plug in the connector for the rear window heating element and bend the connecting strip round the flange.

16 Carefully close the tailgate without locking it.

17 Refit the rear window wiper arm, where applicable.

18 Refit the trim and mouldings on the inside of the tailgate.



Rear window, Saab 9000 CD

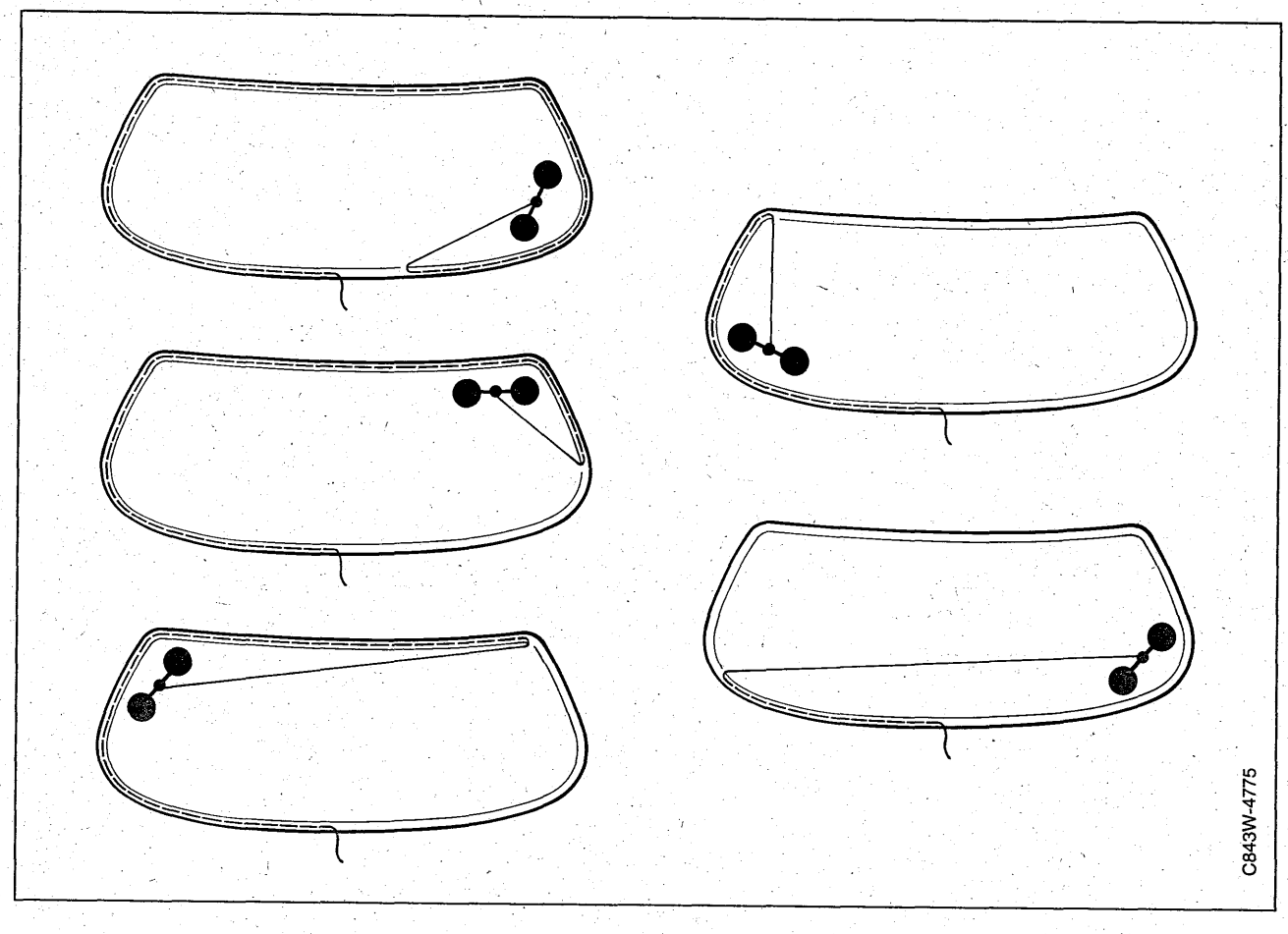
To remove

Lower the door windows so that the rear window will not be pressed out by the sudden pressure build-up in the cabin if one of the doors is closed while work is in progress.

1 Remove the trim moulding.
2 Remove the retaining strip cover pieces.
3 Place a protective cover over the parcel shelf.
4 Remove the C pillar trim.
5 Unscrew the glass holders, if fitted, and bend them up against the glass.
6 Unplug the connector for the rear window heating element and bend the connecting strip up against the glass.
7 Remove the clip securing the rear edge of the headlining.
8 Lift out the high-level brake light.
9 Fit the cutting wire, part No. 82 92 831, round the rear window so that the ends meet at the bottom of the glass.
10 Press the cutting wire down all round the rear window, using a wooden wedge or other suitable tool.
11 Fabricate a special tool by cutting a slot in a long, narrow screwdriver as shown. This will enable you to pull the cutting wire through the sealant quickly and easily.

Alternatively, music wire could be used instead.

12 Press the screwdriver through the sealant at the bottom of the rear window between the ends of the retaining strip.
13 Hook one end of the cutting wire in the screwdriver and pull the wire through the sealant.
14 Pull the other end of the wire through the sealant in the same way. Avoid crossing the wires.



15 Fit the wire coiler, part No. 82 92 823, at one of the bottom corners of the rear window.

16 Pull out the end of the cutting wire nearest the wire coiler and fasten it to the coiler reel.

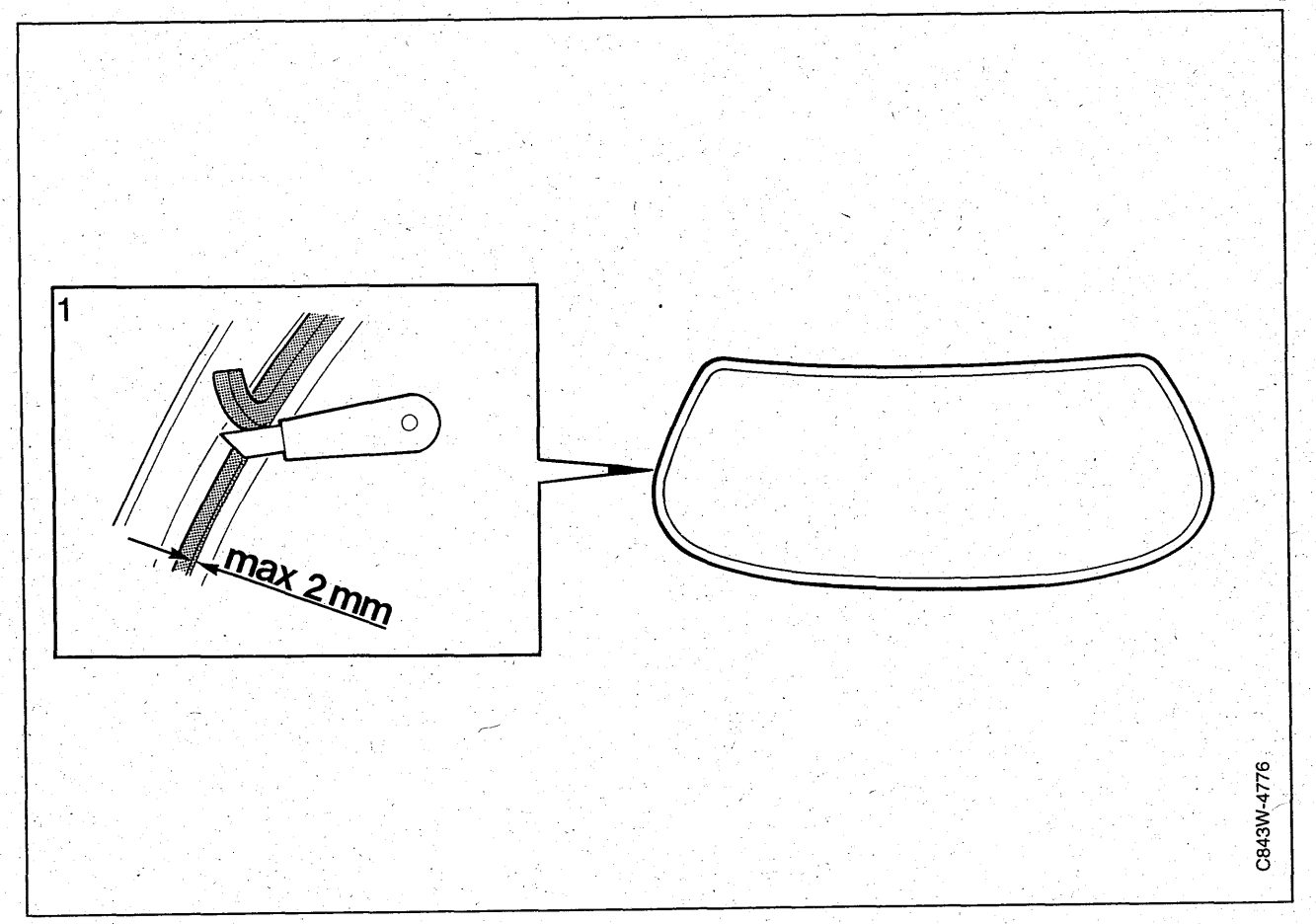
17 Tie the other end of the cutting wire to a piece of wood.

18 Use a ratchet handle to crank the coiler so that the wire cuts through the sealant. Reposition the wire coiler as the rear window comes loose.

The cutting wire should cut the sealant the whole time and not merely be pulled through it.

Resistance will be greatest at the corners. If there is a danger of the wire breaking, wait for 10-15 seconds to give the wire time to work into the sealant.

19 Lift out the windscreen and make a note of the position of any spacers. These must be put back in the same positions when fitting the new windscreen.



To fit

Important

Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity. To prevent the windscreen from loosening or becoming dislodged, be careful to avoid jolting the car or banging on it during this period.
Do not slam the doors, boot lid or bonnet. The car must not be rocked or rolled.
Neither should any clamping of the windscreen take place during the time the adhesive is hardening.

Old, firmly adhering adhesive makes a good surface for the application of fresh adhesive. Remove all loose adhesive from the metalwork and glass.

1 Cut away the old adhesive on the window frame and rear window, if it is to be refitted, to leave a maximum thickness (height) of 2 mm.

2 Blow the window frame clean using compressed air. Do not use chemicals.

3 Make good any damage to the paintwork that has occurred in connection with removing the rear window.

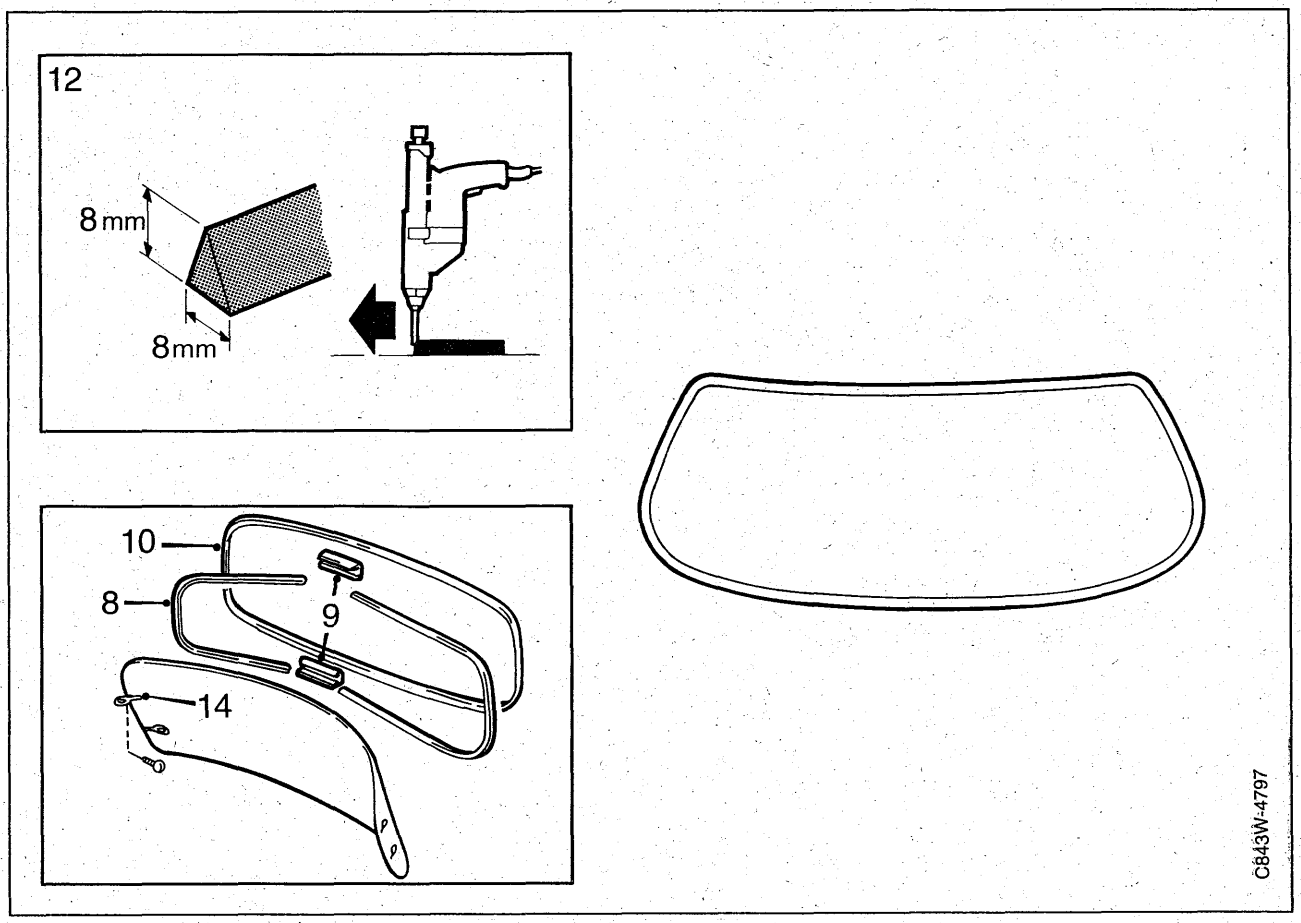
4 Apply primer to the metal surfaces of the window frame coming into contact with the adhesive.

Use paint primer, part No. 30 07 119.

Important

Never apply primer to old adhesive. Paint primer should only be used when there is no old adhesive on which to apply the fresh adhesive.

5 Rest the rear window on trestles and fit suckers to its exterior surface.



6 Clean the edges of the rear window using the cleaning agent supplied with the adhesive kit.

Using a cloth, wet the edge thoroughly and dry it with another cloth. If the cleaning agent is allowed to dry naturally it will leave traces of grease on the glass.

Always use clean, lint-free cloths and refold them frequently.

7 Apply glass primer to the cleaned surface.

8 Press the retaining strip onto the rear window. Avoid touching the primed surface.

9 Fit the cover pieces back in place.

10 Line up the centre mark on the moulding with the centre of the retaining strip cover piece. Then press the moulding firmly into the retaining strip.

11 Fit the spacers in the same positions on the retaining strip as they were before the rear window was removed.

12 Apply the adhesive as follows:

- Adjust the pressure of the adhesive gun and the width of the nozzle to obtain a bead of adhesive measuring 8 x 8 mm.
- Hold the gun perpendicular to the surface and apply a bead of adhesive to the primed surface along the edge of the retaining strip.
  Make sure that there are no cavities or voids in the adhesive.

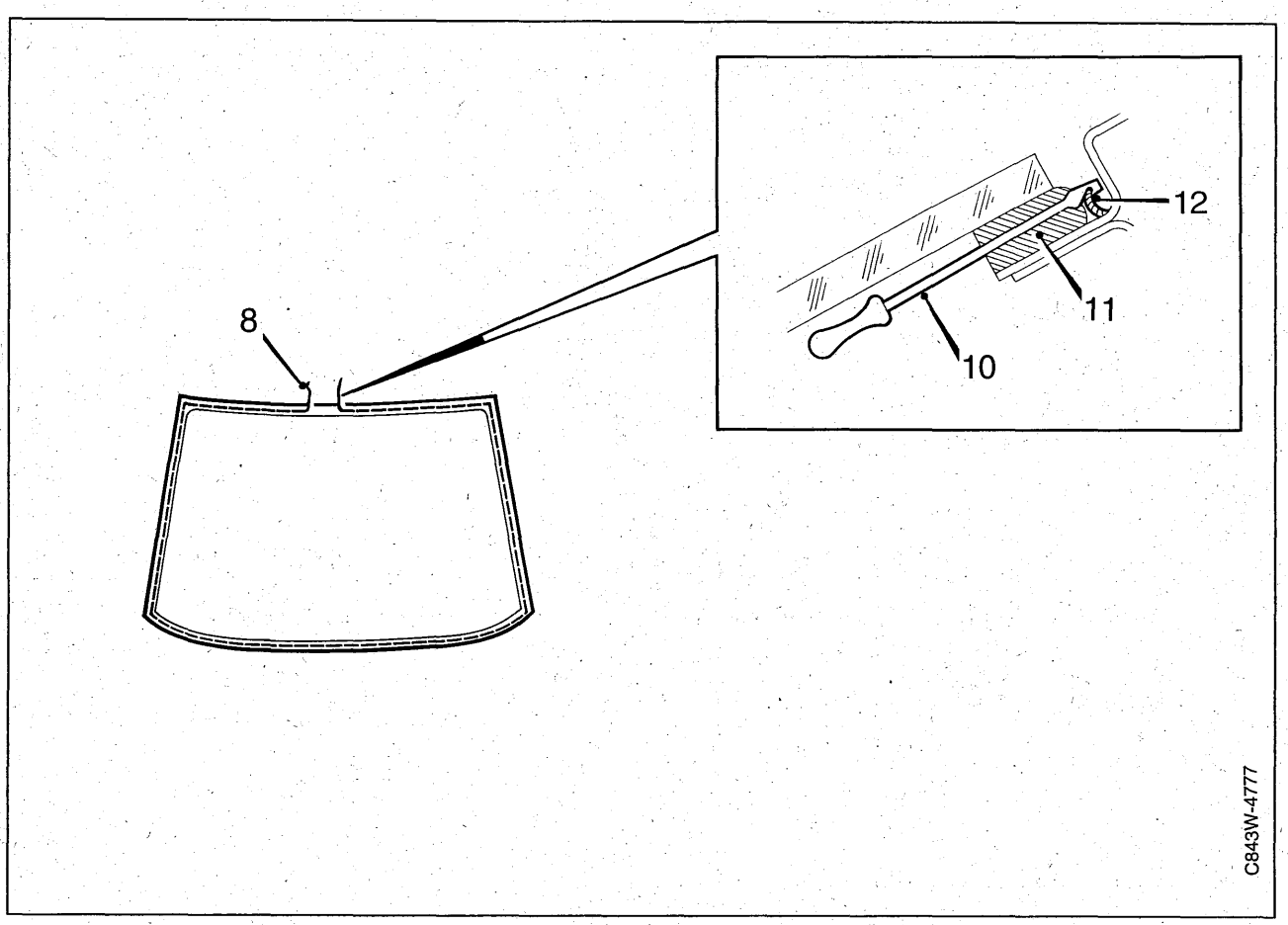
13 Fit the rear window in place. Press the glass down until it is flush with the surrounding metalwork.

14 Where fitted, bend back the glass holders and tighten the screws. Windows without glass holders can be fixed with a couple of pieces of fabric tape.

15 Slightly raise the top edge of the moulding in the middle and pour water over it. Check for leaks inside the car.

16 Leave the adhesive to harden before continuing the fitting process. Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity.

17 Refit other parts that have previously been removed.



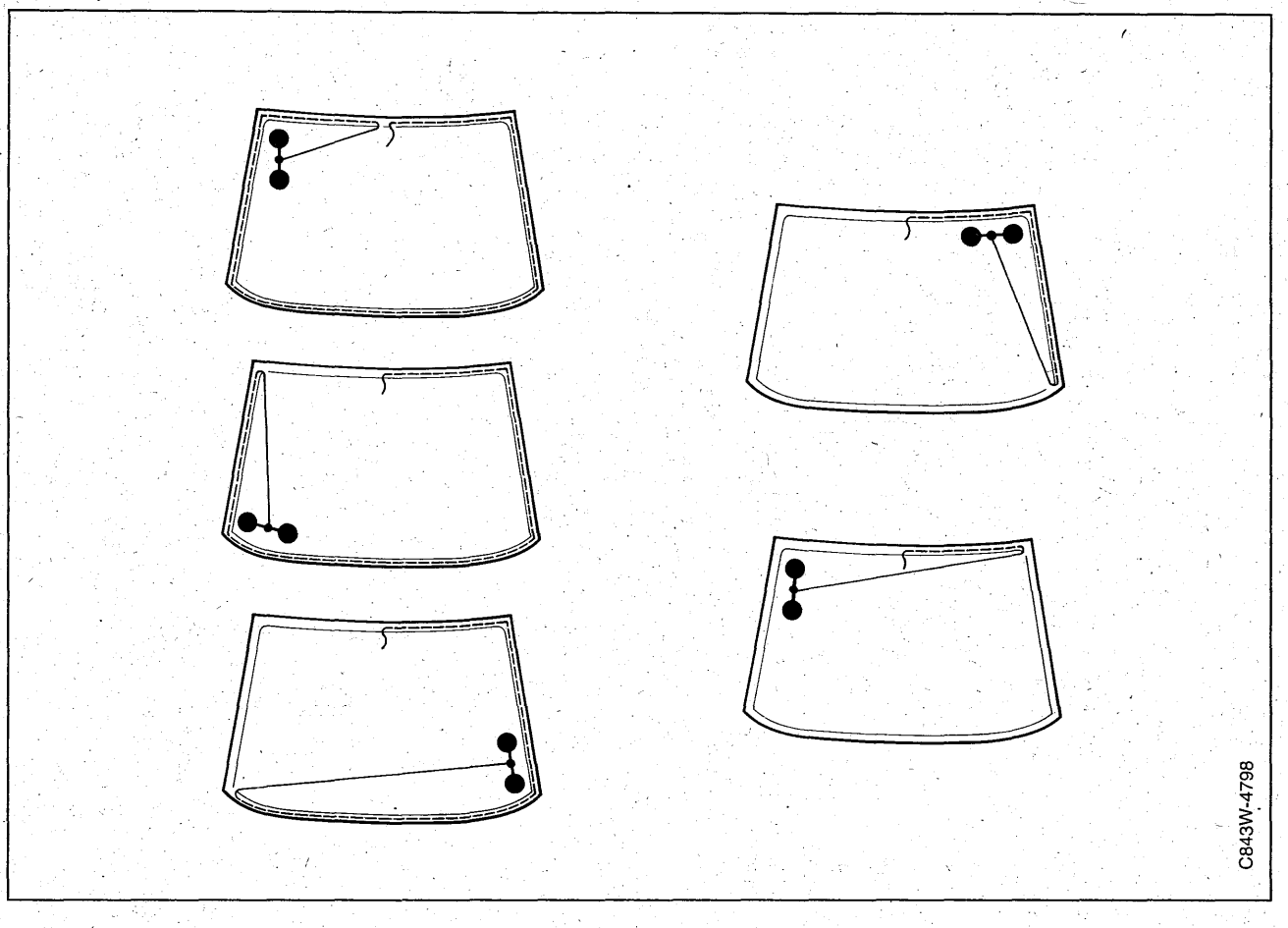
Rear window, Saab 9000 CC

To remove

Lower the door windows so that the rear window will not be pressed out by the sudden pressure build-up in the cabin if one of the doors is closed while work is in progress.

1 Remove the rear window side mouldings.
2 Remove the upper moulding and upper retaining strip.
3 Remove the trim on the inside of the tailgate.
4 Unscrew the holder for the high-level brake and let the brake light and holder hang down, suspended by the electric cable.
5 Remove the lower moulding.
6 Remove the lower retaining strip. Take care not to damage the tailgate spoiler, if fitted.
7 Unplug the connector for the rear window heating element and bend the connecting strip up against the glass. Withdraw the electric leads so that they will not be damaged when the window is cut out.
8 Fit the cutting wire, part No. 82 92 831, round the rear window so that the ends meet at the top of the glass.
9 Press the cutting wire down all round the rear window, using a wooden wedge or other suitable tool.
10 Fabricate a special tool by cutting a slot in a long, narrow screwdriver as shown. This will enable you to pull the cutting wire through the sealant quickly and easily.

   Alternatively, music wire could be used instead.
11 Press the screwdriver through the sealant at the top of the rear window between the ends of the retaining strip.
12 Hook one end of the cutting wire in the screwdriver and pull the wire through the sealant.
13 Pull the other end of the wire through the sealant in the same way. Avoid crossing the wires.



14 Fit the wire coiler, part No. 82 92 823 at one of the top corners of the windscreen.

15 Pull out the end of the cutting wire nearest the wire coiler and fasten it to the coiler reel.

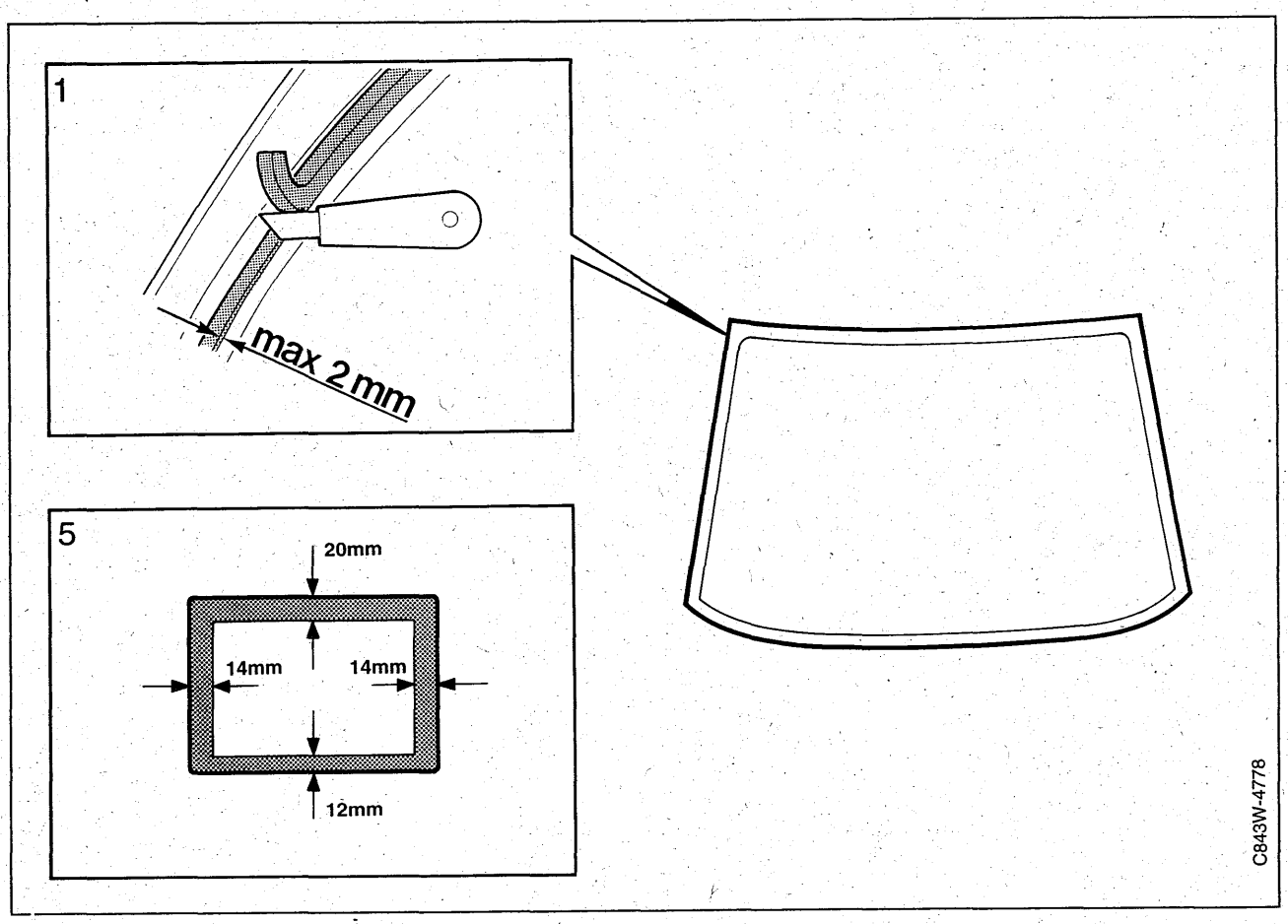
16 Tie the other end of the cutting wire to the hinge on the opposite side.

17 Use a ratchet handle to crank the coiler so that the wire cuts through the sealant. Reposition the wire coiler as the windscreen comes loose.

The cutting wire should cut the sealant the whole time and not merely be pulled through it.

Resistance will be greatest at the corners. If there is a danger of the wire breaking, wait for 10-15 seconds to give the wire time to work into the sealant.

18 Lift out the windscreen and make a note of the position of any spacers. These must be put back in the same positions when fitting the new windscreen.



To fit

Important

Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity. To prevent the windscreen from loosening or becoming dislodged, be careful to avoid jolting the car or banging on it during this period.
Do not slam the doors, boot lid or bonnet. The car must not be rocked or rolled.
Neither should any clamping of the windscreen take place during the time the adhesive is hardening.

Old, firmly adhering adhesive makes a good surface for the application of fresh adhesive. Remove all loose adhesive from the metalwork and glass.

1 Cut away the old adhesive on the tailgate to leave a maximum thickness (height) of 2 mm. If the old rear window is to be refitted, cut away the adhesive on the glass as well to leave a maximum thickness (height) of 2 mm.

2 Make good any damage to the paintwork that has occurred in connection with removing the rear window.

3 Apply primer to the metal surfaces of the tailgate coming into contact with the adhesive.

Use paint primer, part No. 30 07 119.

Important

Never apply primer to old adhesive. Paint primer should only be used on new tailgates or when there is no old adhesive on which to apply the fresh adhesive.

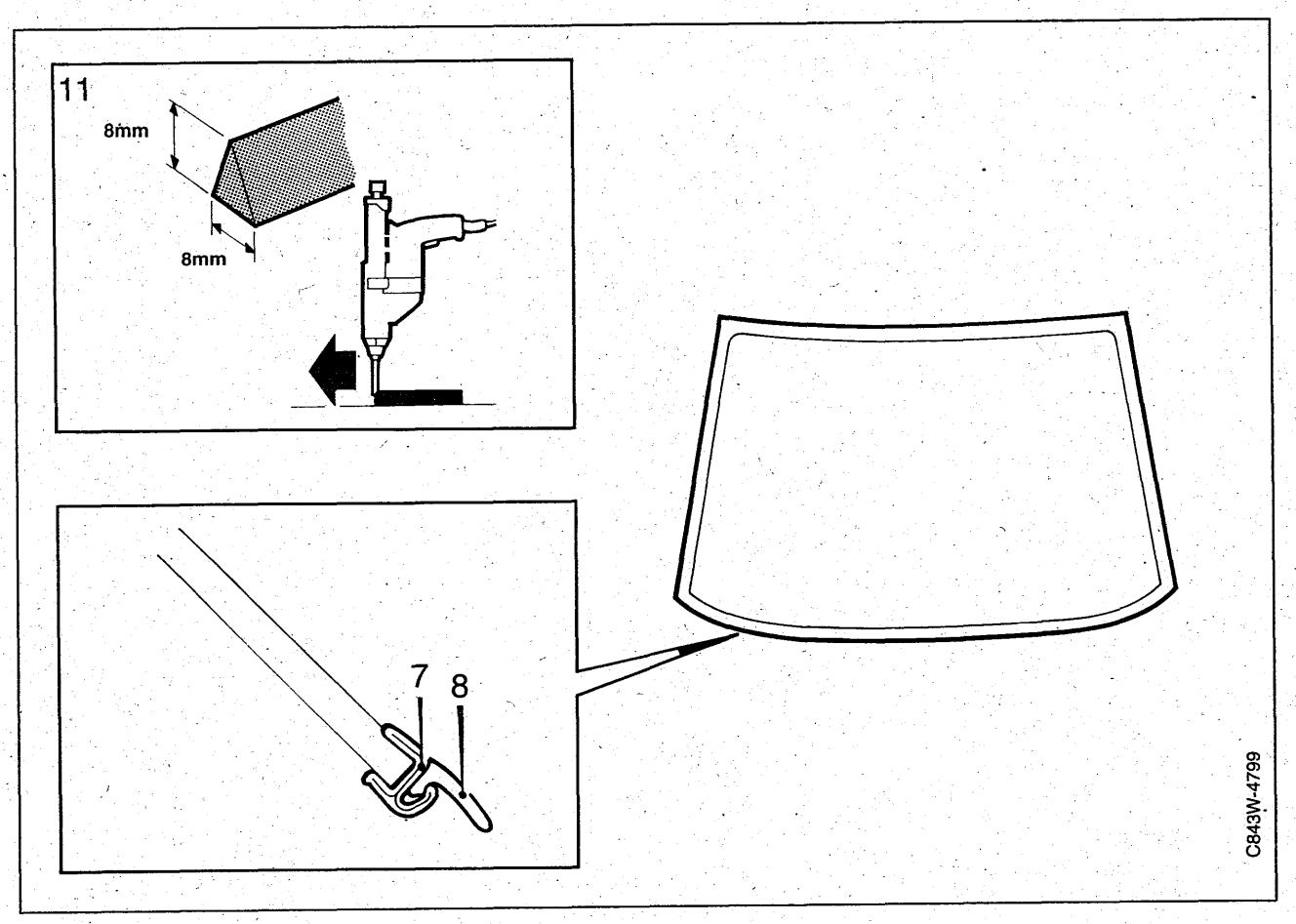
4 Rest the rear window on trestles and fit suckers to its exterior surface.

5 Clean the edges of the rear window using the cleaning agent supplied with the adhesive kit.

Using a cloth, wet the edge thoroughly and dry it with another cloth. If the cleaning agent is allowed to dry naturally it will leave traces of grease on the glass.

Always use clean, lint-free cloths and refold them frequently.

6 Apply glass primer to the cleaned surface.



7 Refit the lower retaining strip.

8 Refit the lower moulding.

9 Refit the upper retaining strip and moulding.

10 Fit the spacers in the same positions on the window frame as they were before the rear window was removed.

11 Apply adhesive to the window as follows:

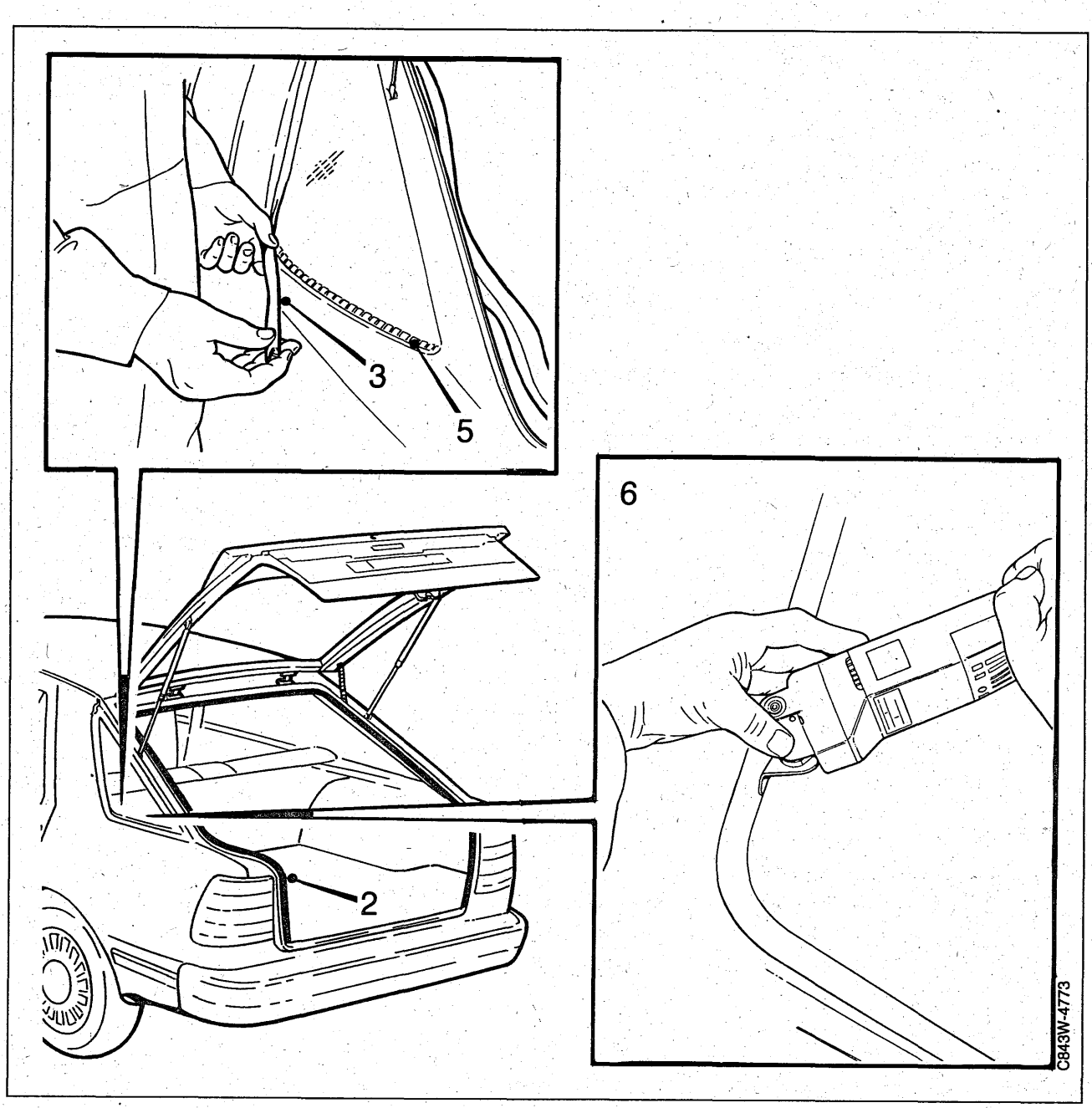
- Adjust the pressure of the adhesive gun and the width of the nozzle to obtain a bead of adhesive measuring 8 x 8 mm.
- Hold the gun perpendicular to the surface and apply a bead of adhesive to the primed surface. At the upper and lower edges of the window it should be applied along the mouldings.
- Make sure that there are no cavities or voids in the adhesive.

12 Fit the rear window in place and adjust its alignment.

13 Slightly raise the top edge of the moulding midway along the top of the window and pour water over it. Check for leaks inside the car.

14 Leave the adhesive to harden before continuing the fitting process. Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity.

15 Refit other parts that have previously been removed.



Rear quarter light, Saab 9000 CC

To remove

1 Remove the parcel shelf.

2 Remove the tailgate weatherstrip by the rear quarter light.

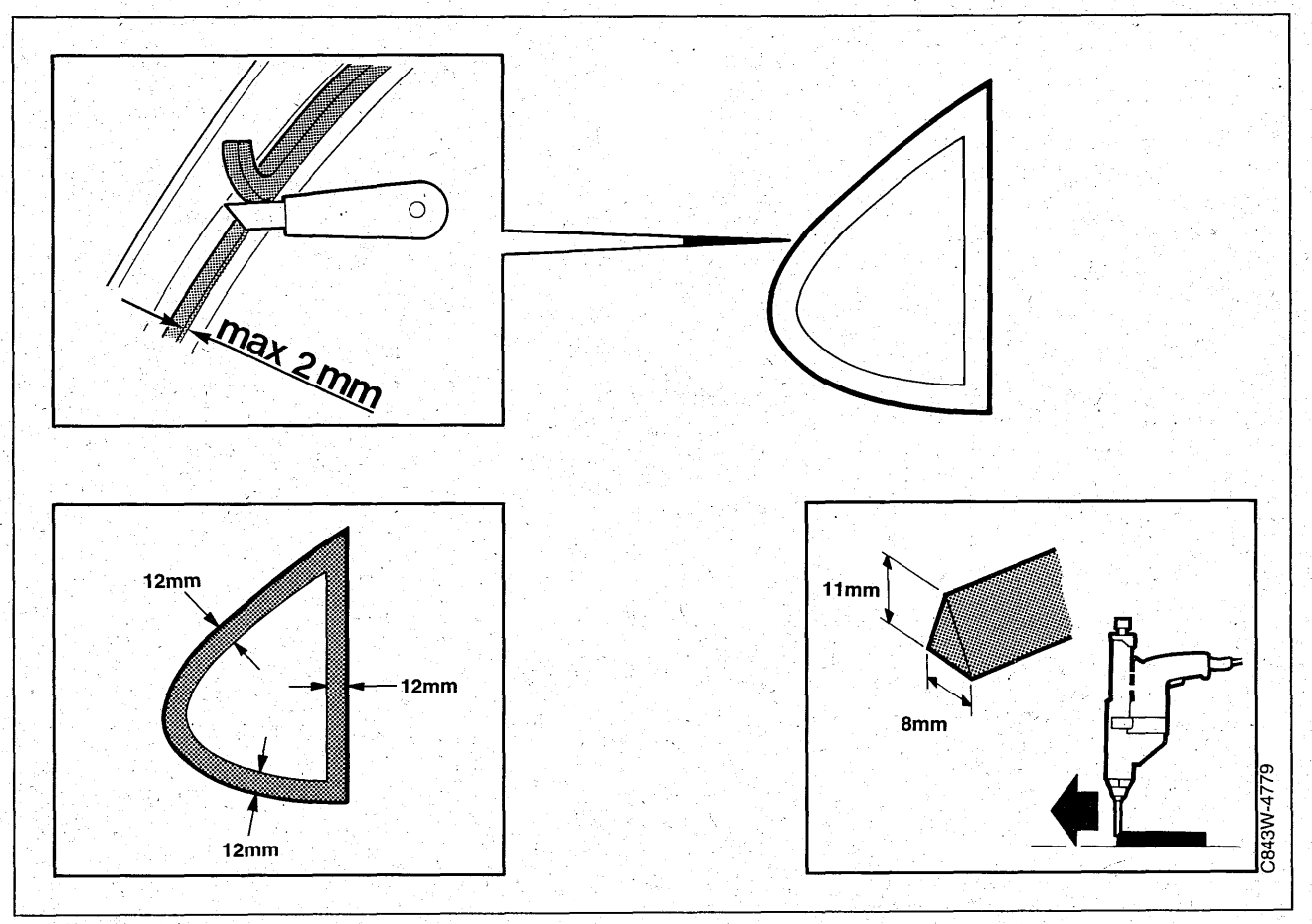
3 Remove the quarter-light mouldings.

4 Cover the paintwork with tape to protect it.

5 Pull away the retaining strip. Pull it upwards to avoid damaging the paintwork.

6 Cut away the glass, using an oscillating cutting machine. Use a 36 mm long knife. Hold the knife against the glass to avoid damaging the paintwork.

7 Remove the glass and cut off the glass holder.



To fit

Old, firmly adhering adhesive makes a good surface for the application of fresh adhesive. Remove all loose adhesive from the metalwork and glass.

1 Cut away the old adhesive on the window frame and rear window, if it is to be refitted, to leave a maximum thickness (height) of 2 mm.

2 Blow the window frame clean using compressed air. Do not use chemicals.

3 Make good any damage to the paintwork that has occurred in connection with removing the rear window.

4 Apply primer to the metal surfaces of the window frame coming into contact with the adhesive.

Use paint primer, part No. 30 07 119.

Important

Never apply primer to old adhesive. Paint primer should only be used when there is no old adhesive on which to apply the fresh adhesive.

5 Clean the edges of the rear window using the cleaning agent supplied with the adhesive kit.

Using a cloth, wet the edge thoroughly and dry it with another cloth. If the cleaning agent is allowed to dry naturally it will leave traces of grease on the glass.

Always use clean, lint-free cloths and refold them frequently.

6 Apply glass primer to the cleaned surface.

7 Press the moulding onto the glass. Avoid touching the primed surface.

8 Apply the adhesive as follows:

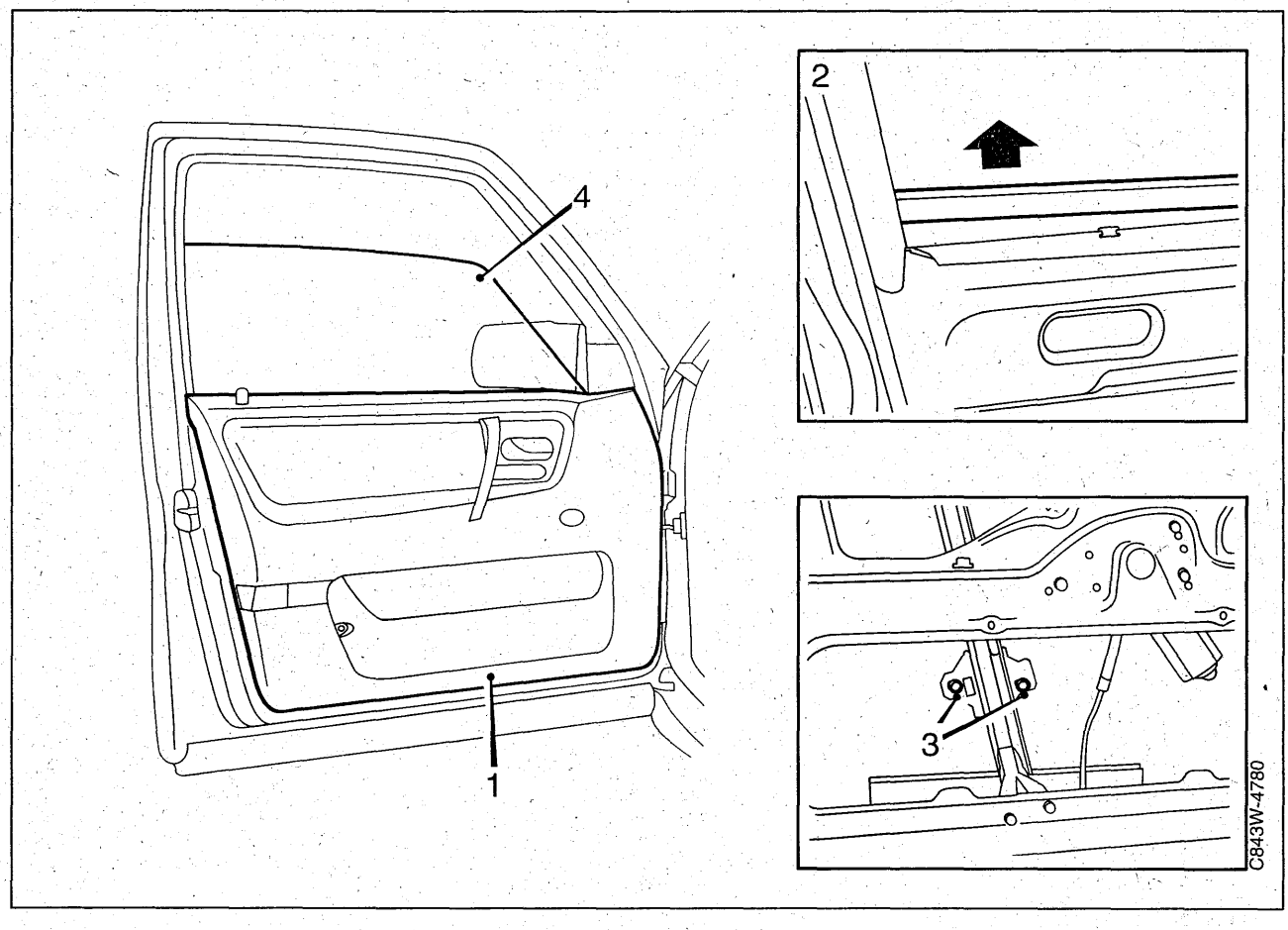
- Adjust the pressure of the adhesive gun and the width of the nozzle to obtain a bead of adhesive measuring 8 x 8 mm.
- Hold the gun perpendicular to the surface and apply a bead of adhesive to the primed surface along the edge of the moulding.

Make sure that there are no cavities or voids in the adhesive.

9 Fit the spacers, part No. 92 59 557, in the frame.

10 Fit the rear window in place. Press the glass down until it is flush with the surrounding metalwork.

11 Leave the adhesive to harden before continuing the fitting process. Betamate E 2400 hardens in four hours at +23°C and 50% relative humidity.

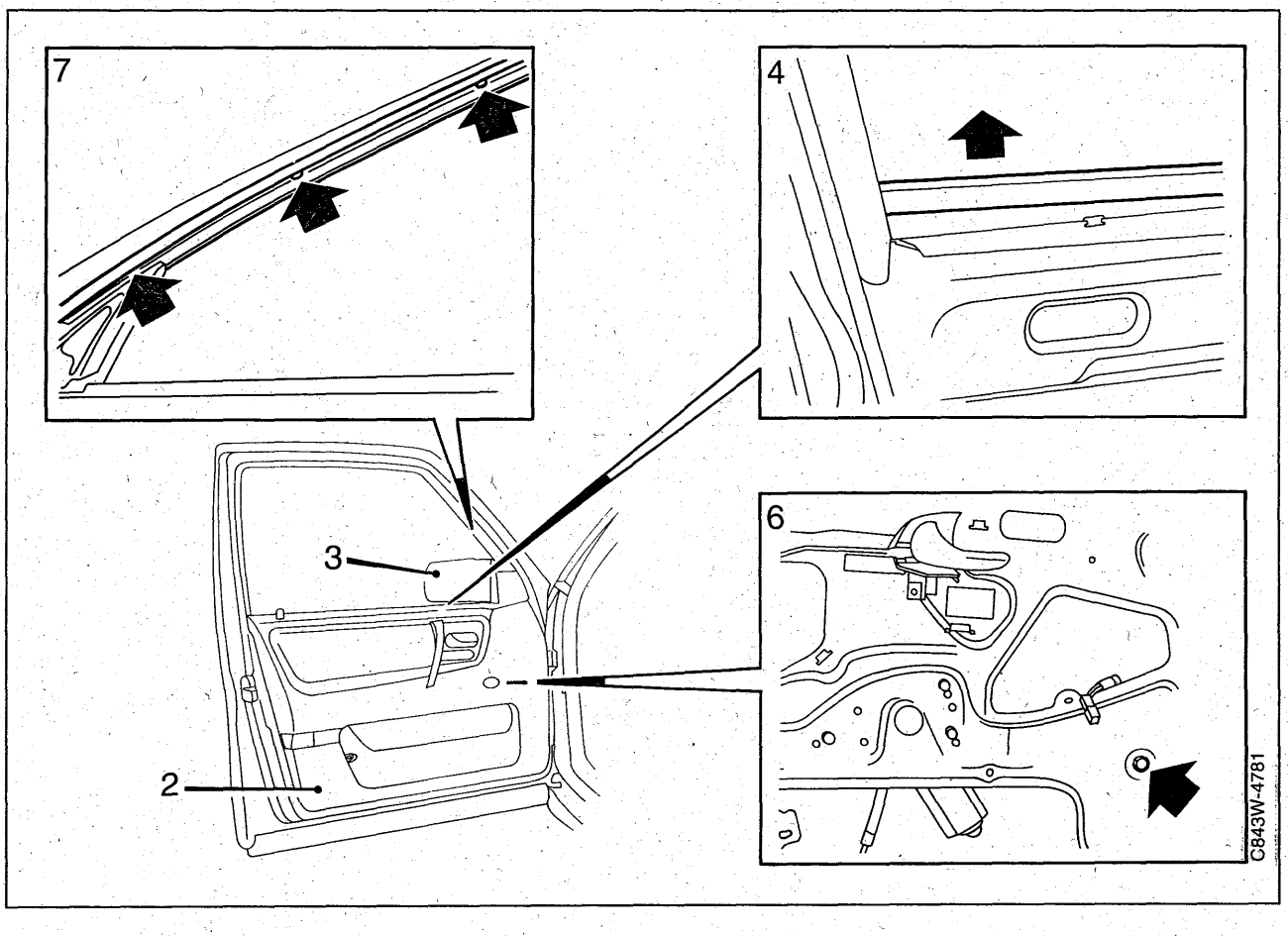


Front doors

To replace the window glass

1 Remove the door trim panel and moisture barrier.
2 Remove the external window seal.
3 Remove the screws securing the glass to the window lift.
4 Carefully lift up the glass.

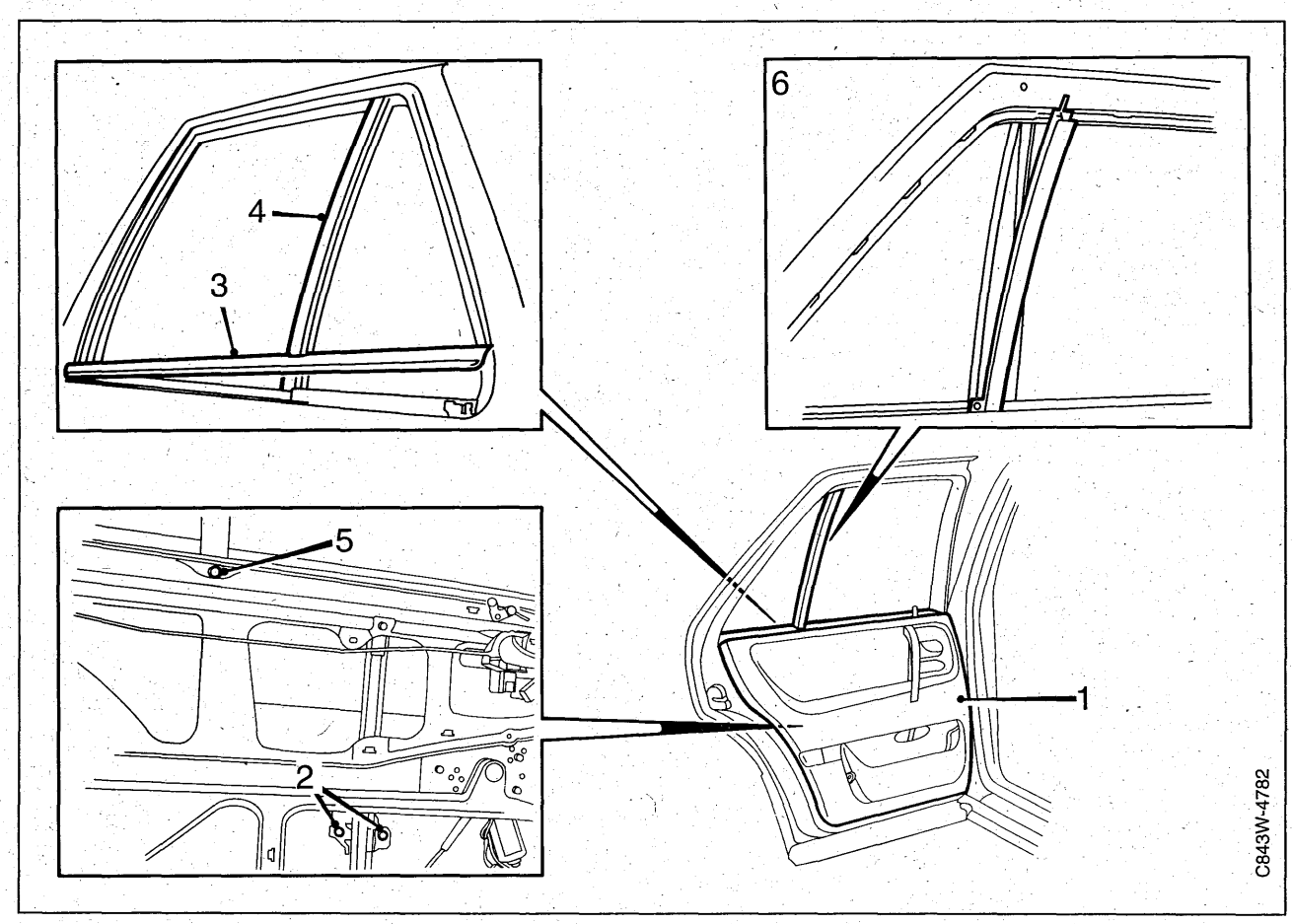
Fit in reverse order.



To replace the window-moulding frame

1 Lower the window.
2 Remove the door trim panel and fold up the leading edge of the plastic moisture barrier.
3 Remove the door mirror.
4 Pull off the external bottom window moulding.
5 Detach the dust-excluder strip from the moulding frame but leave it attached to the window channel.
6 Remove the window channel retaining screw and lower the channel.
7 Undo the screws in the moulding frame and lift out the frame.

Fit in reverse order.

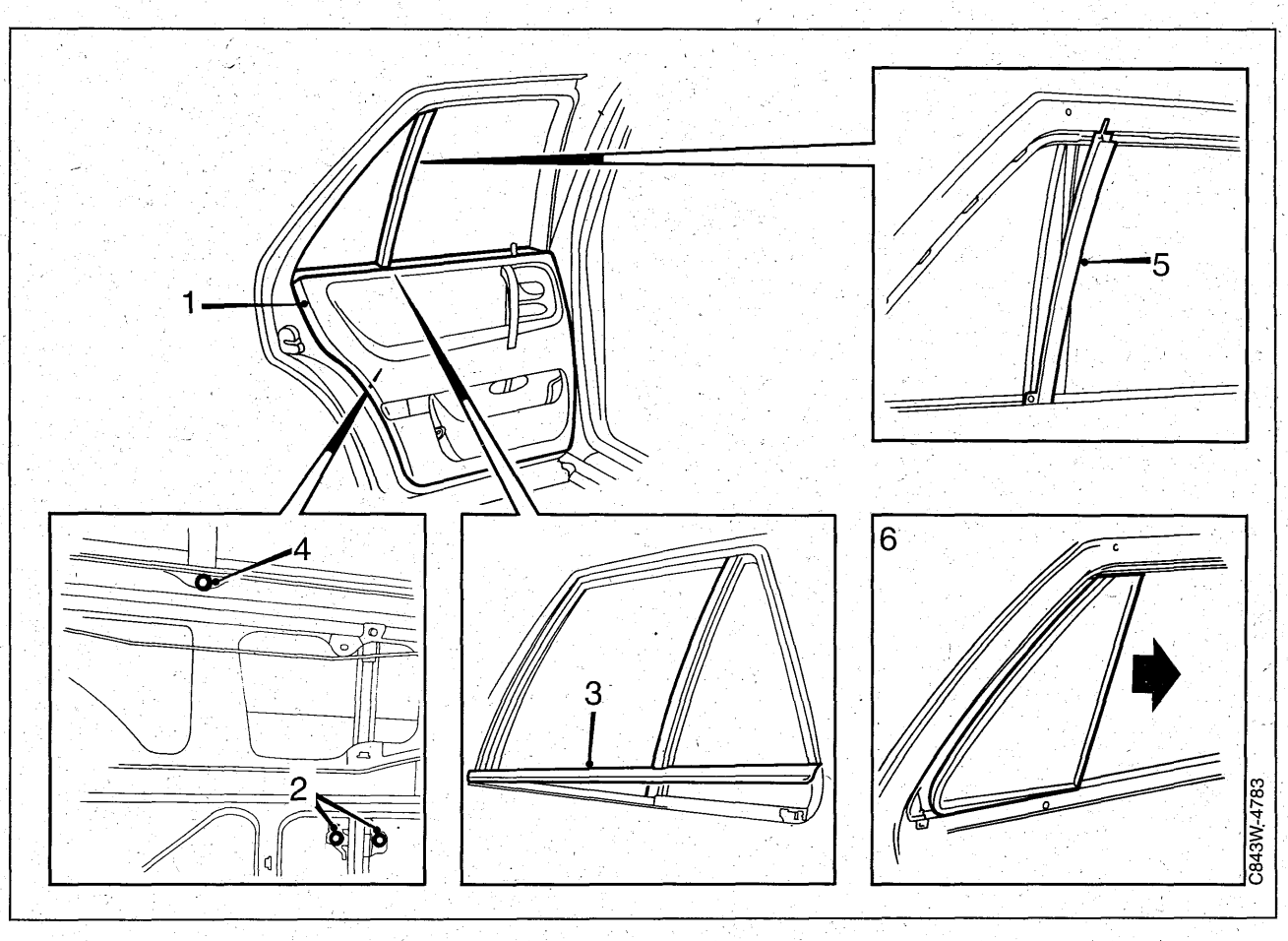


Rear doors

To replace the window glass

1 Remove the door trim panel and moisture barrier.
2 Remove the screws securing the glass to the window lift. Carefully lower the glass inside the door.
3 Carefully remove the external window seal.
4 Detach the window channel seal from the window channel.
5 Remove the window channel retaining screw.
6 Remove the window channel. Collect the spacer and protective cap.
7 Remove the door window.

Fit in reverse order.



To replace fixed window glass

1 Remove the door trim panel and plastic moisture barrier.

2 Remove the screw securing the glass to the window lift. Carefully lower the glass inside the door.

3 Remove the external window seal and detach the window channel seal from the window channel and door frame.

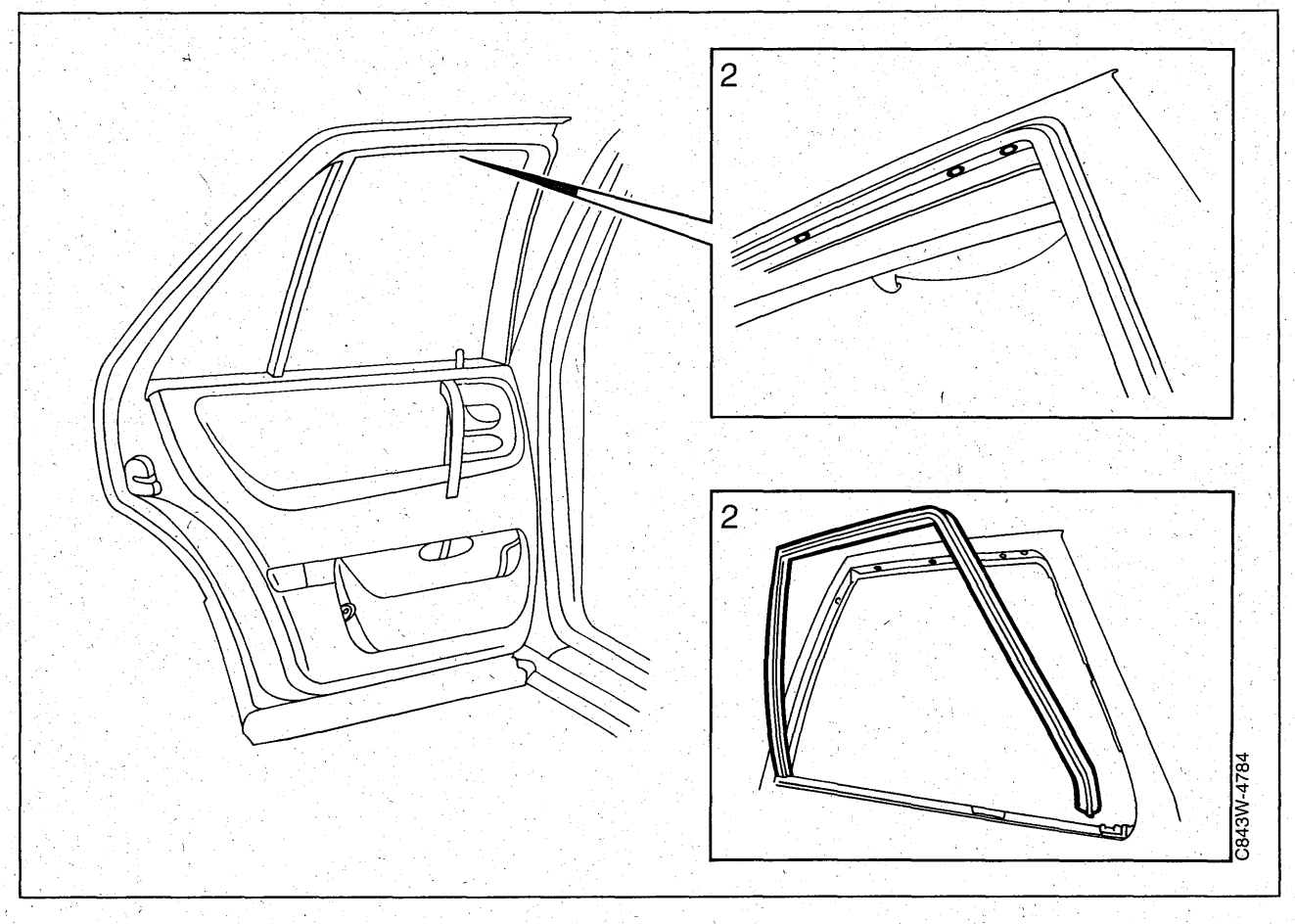
4 Remove the window channel retaining screw.

5 Remove the window channel. Collect the spacer and protective cap.

6 Remove the glass together with the rubber moulding.

Fit in reverse order.

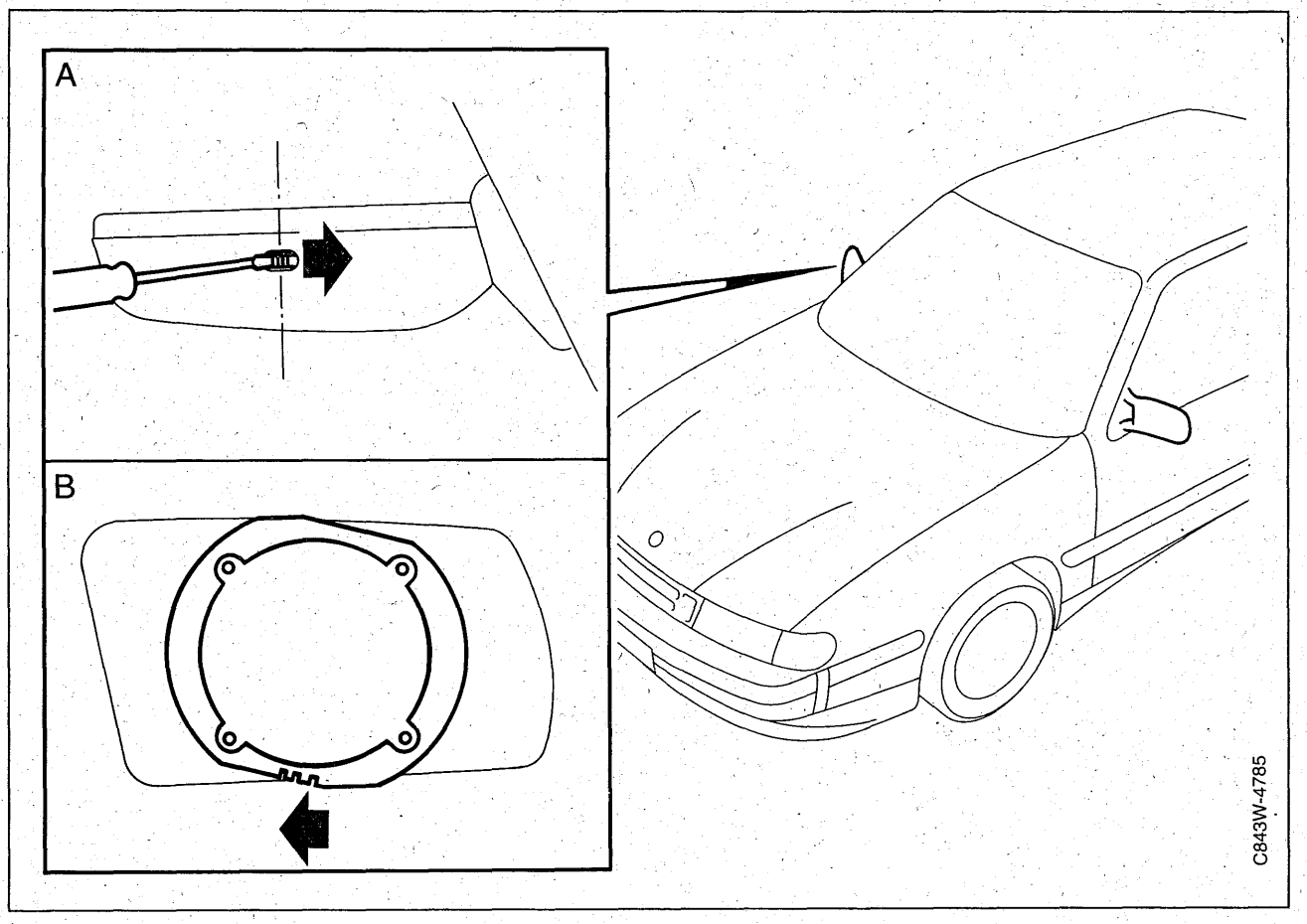
Smear paraffin oil on the rubber moulding to facilitate fitting the glass. Make sure that the spacer and protective cap are fitted in place.



To replace the window-moulding frame

1 Remove the fixed side window glass from the door.

2 Unscrew the moulding frame and fit a new one in its place.



Door mirror

A To remove the glass

1 Adjust the mirror until it is perfectly straight and not tilted in any direction. A notched plastic ring will now be located in the centre of the hole in the bottom of the mirror housing.

2 Insert a screwdriver in the elongated hole and turn the plastic ring two clicks to the right, bringing the third notch to the centre of the hole. The plastic ring should be turned to the right on both left-hand and right-hand door mirrors.

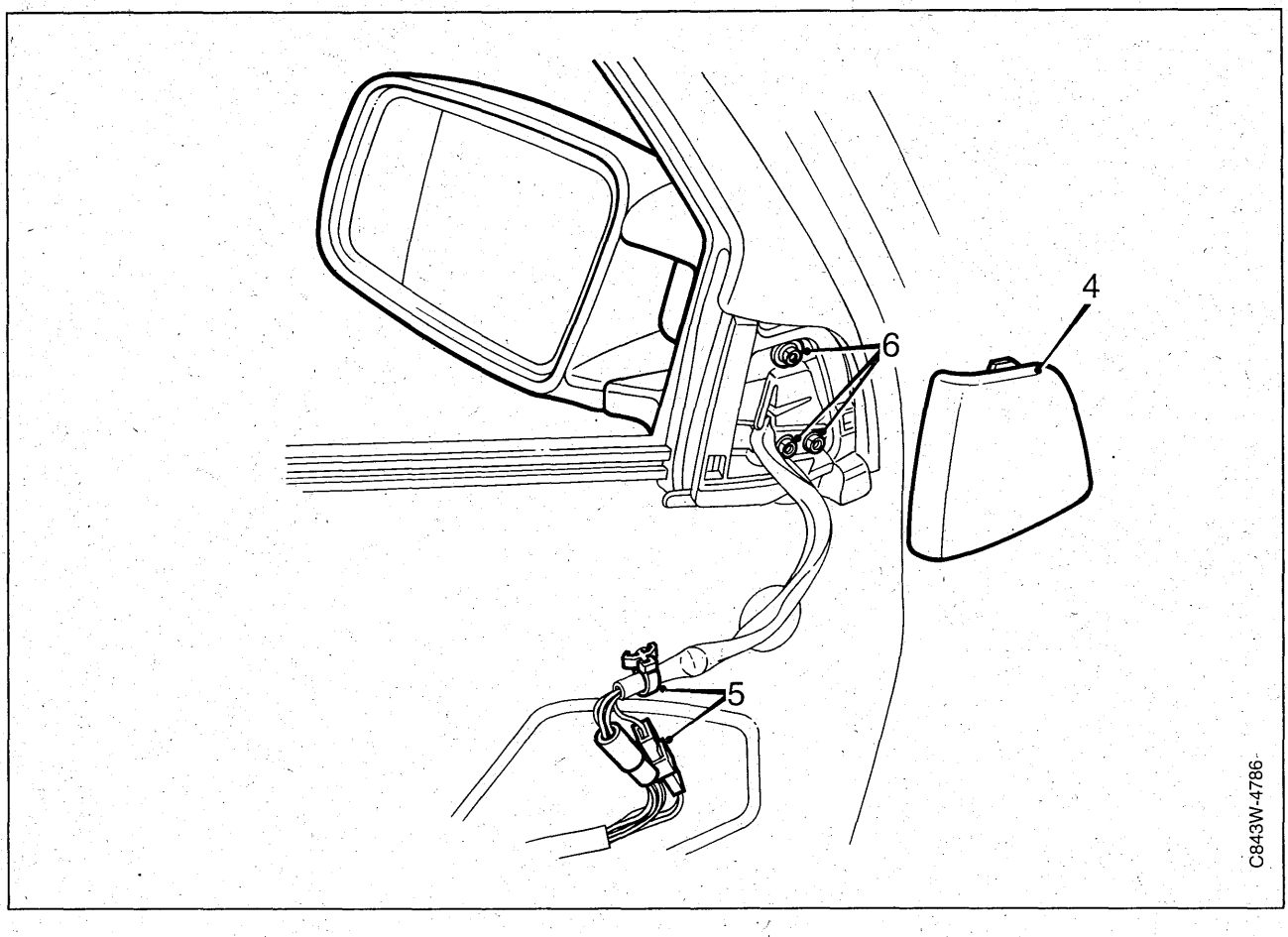
3 Lift out the mirror glass assembly.

B To fit a new mirror glass

1 Insert a new mirror glass assembly in the mirror housing. Turn it slightly anticlockwise until the plastic lugs on the mirror are in line with the slots in the inner circumference of the plastic ring.

2 Fit the mirror onto the driver unit in the housing. The plastic lugs should fit into the hole in the driver ring.

3 Insert a screwdriver into the elongated hole in the mirror housing and turn the plastic ring two clicks to the left to secure it.

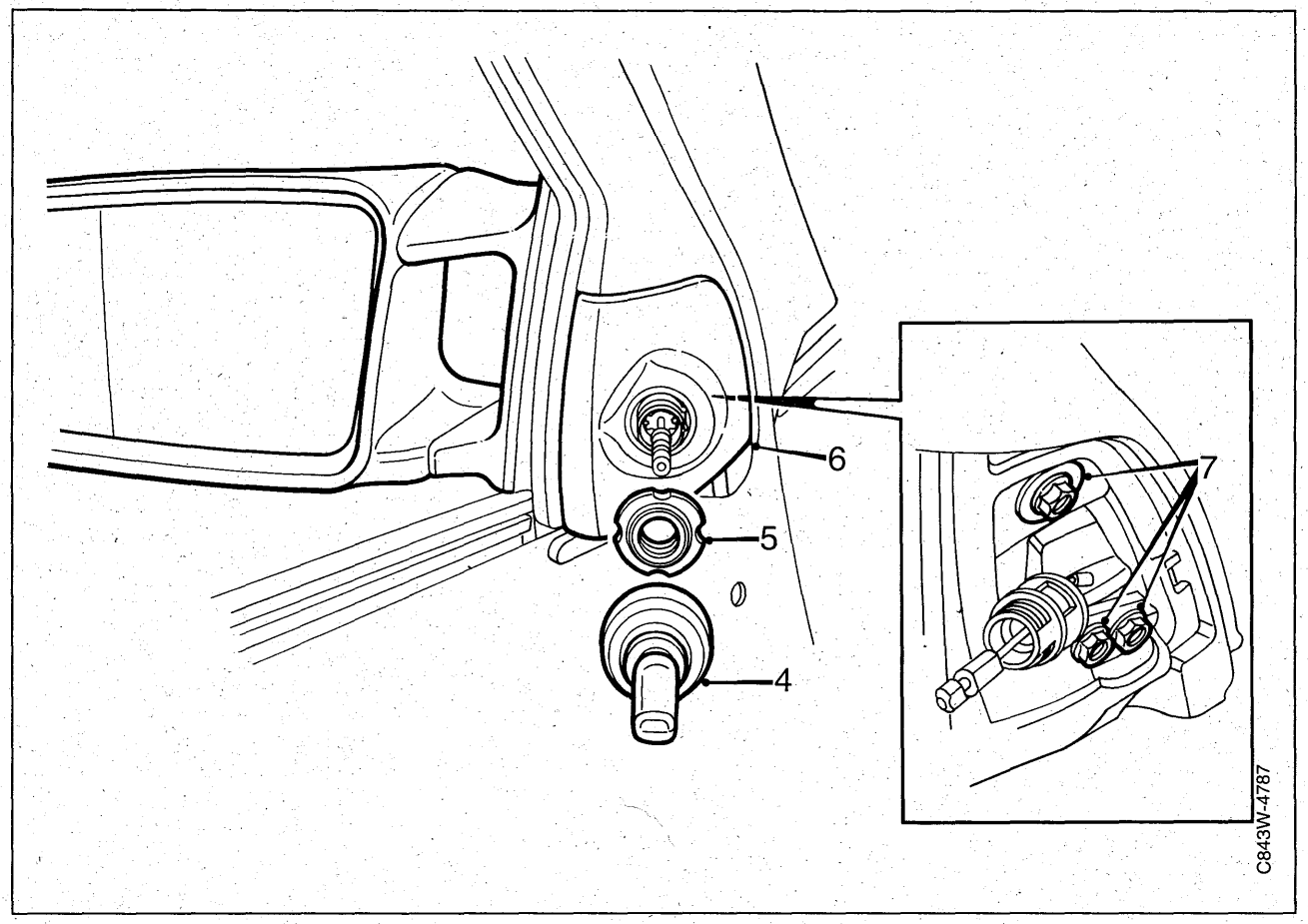


Replacing electric door mirrors

1 Lower the window
2 Fold aside the lip on the window channel seal adjacent to the door mirror.
3 Remove the door trim panel, detach and fold aside the plastic moisture barrier.
4 Remove the cover over the mirror mounting.
5 Remove the clip and unplug the connector.
6 Undo the screws and remove the mirror.

Fit in reverse order.

Make sure that the seals are correctly fitted and in good condition.

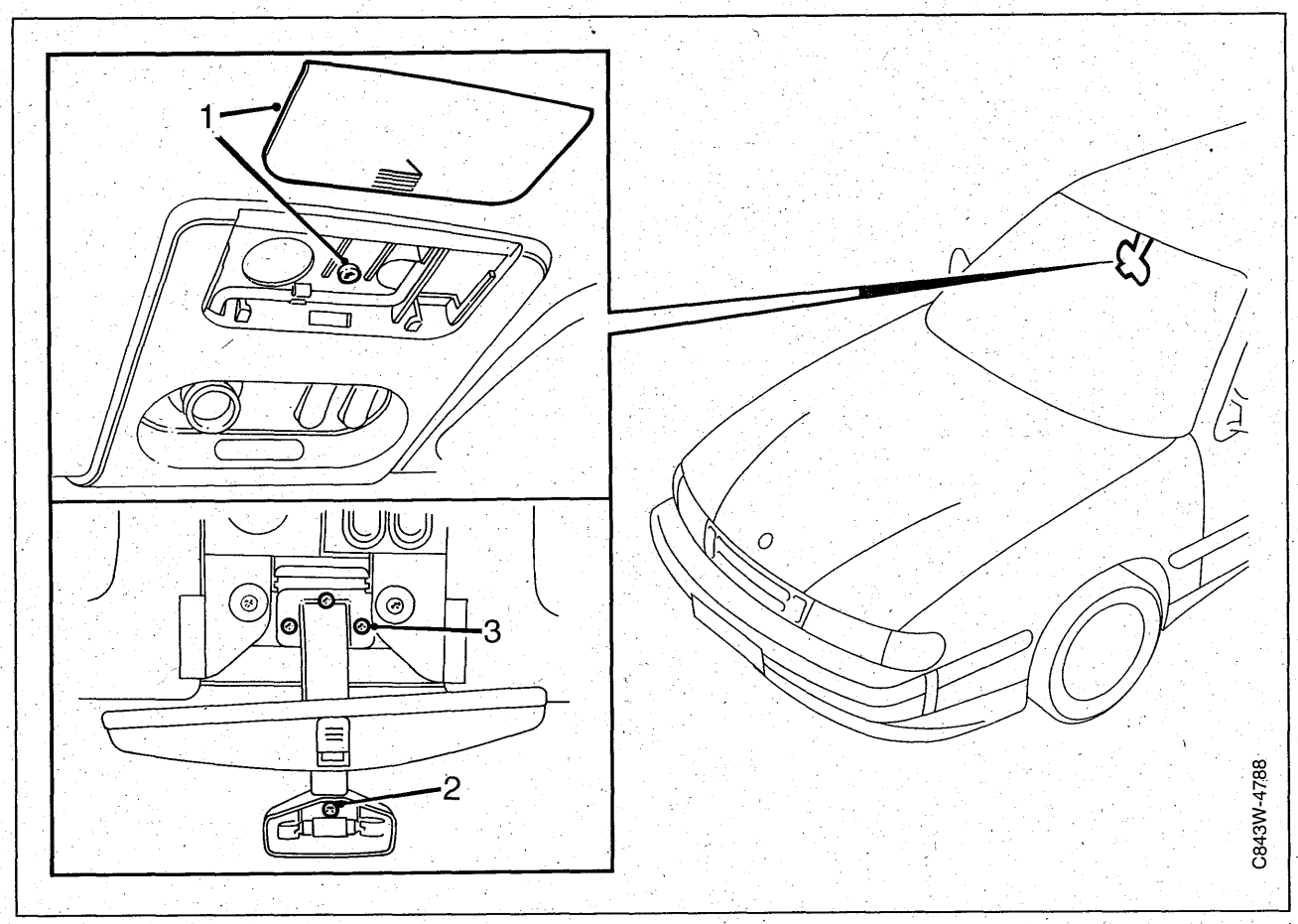


Replacing manual door mirrors

1 Lower the window
2 Fold aside the lip on the window channel seal adjacent to the door mirror.
3 Remove the door trim panel.
4 Remove the rubber gaiter from the adjusting lever.
5 Remove the nut from the adjusting lever.
6 Remove the cover over the mirror mounting.
7 Undo the screws and remove the mirror.

Fit in reverse order.

Make sure that the seals are correctly fitted and in good condition.



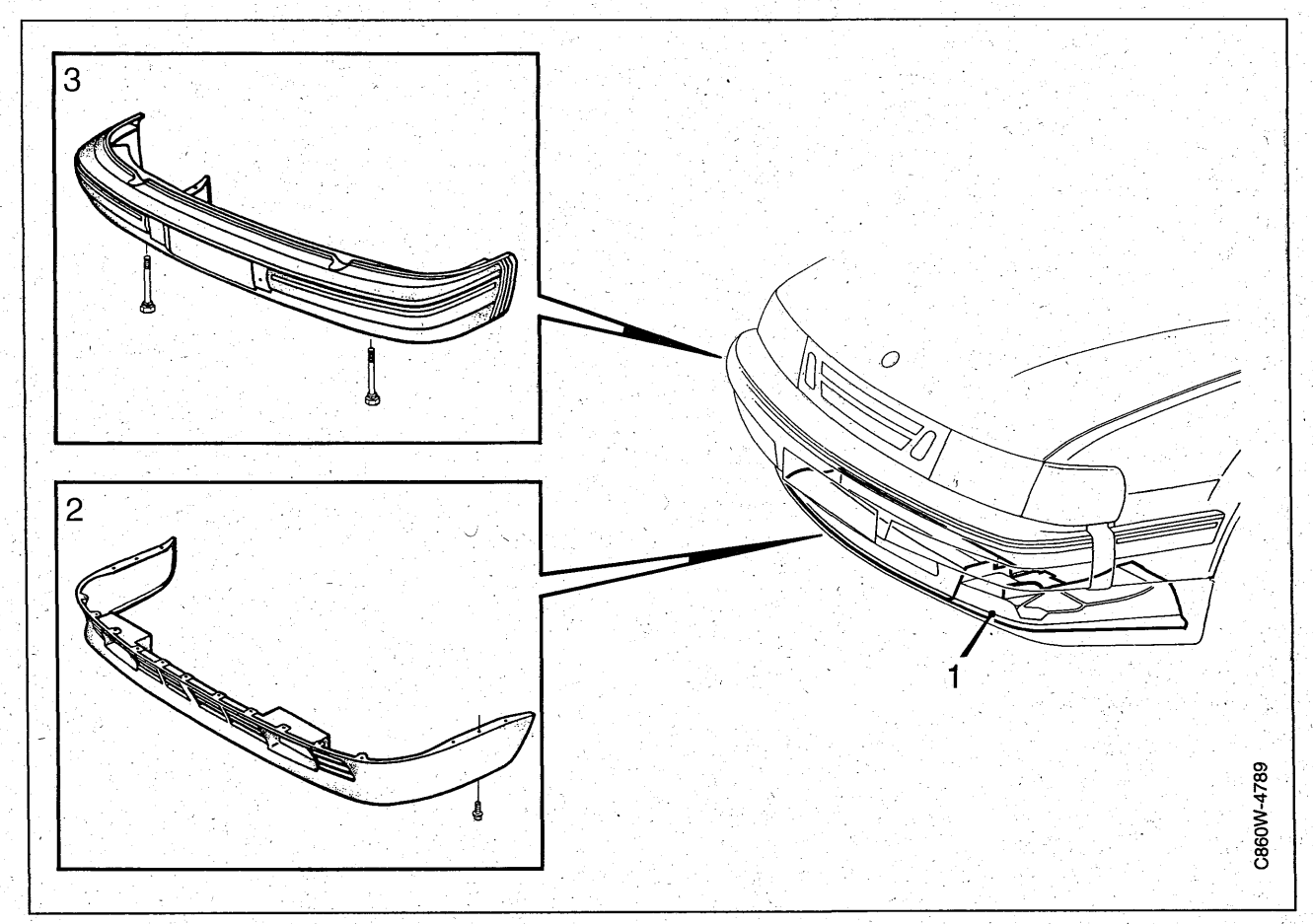
Interior rear-view mirror

Removal and fitting

1 Remove the overhead switch panel surround.
2 Remove the lens from the rear-view mirror lamp. Unscrew the lamp.
3 Unscrew the rear-view mirror from the roof.

Fit in reverse order.

Bumpers



Front bumper

Removal and fitting

1 Remove the two outer sections and the middle section from under the car.

2 Unscrew the temperature sensor and pass it through the hole in the spoiler. Then remove the spoiler retaining bolts.

3 Remove the two bolts securing the bumper and lift it away.

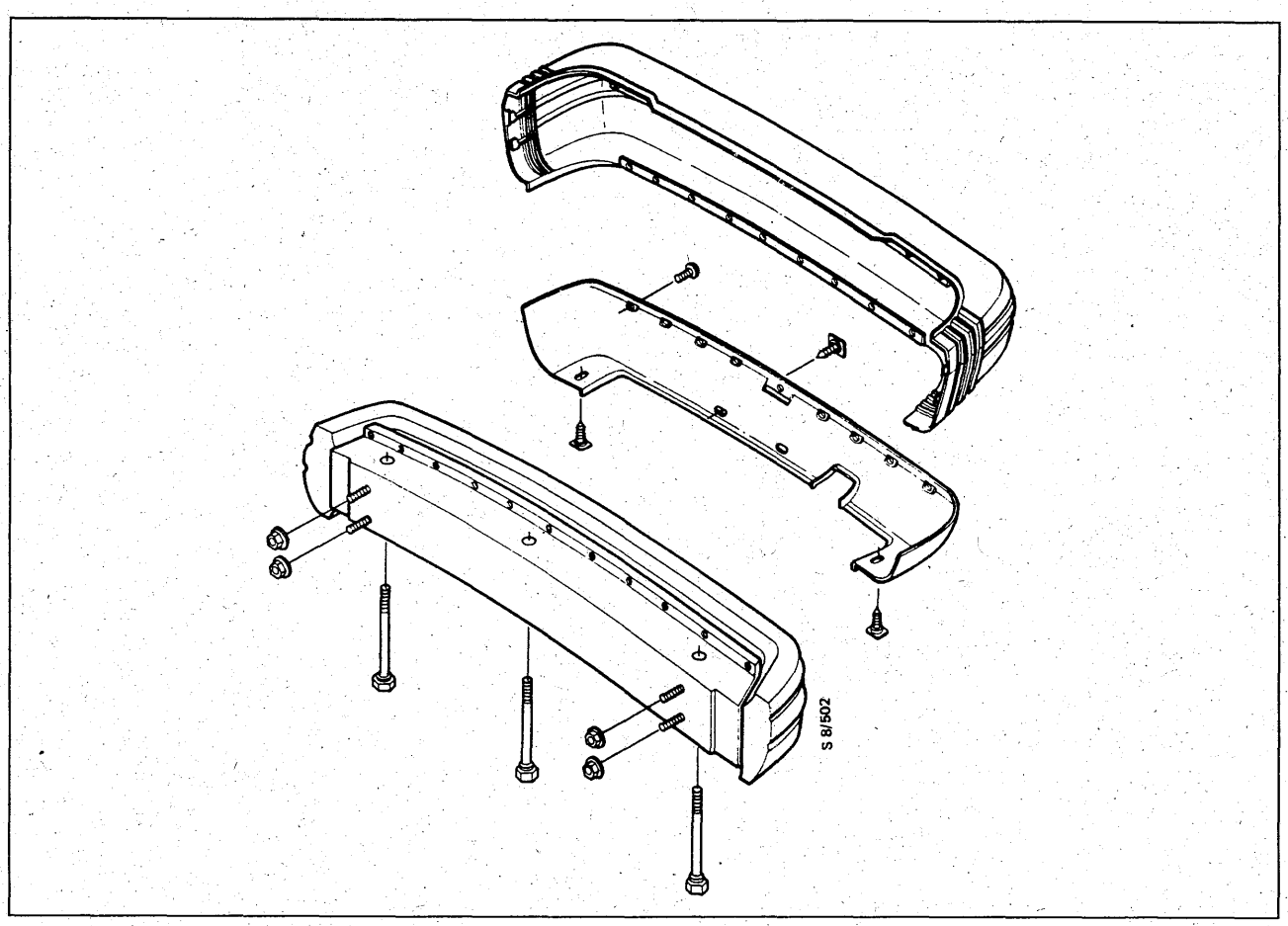
When refitting the bumper, make sure that the "tongues" in the front wings mate with the corresponding slots in the bumper cover.

Fit the outer section first, inserting the rear "tongue" in the leading edge of the wing liner. Fit the retaining bolts but do not tighten them. Fit and align the sections and tighten all retaining bolts.

Dismantling and assembling

Unscrew the metal plates, prise off the outer cover and remove the bumper core.

Fit in reverse order.



Rear bumper

Removal and fitting

1 Undo the two screws securing the cover panel to the body.

2 Raise the panel over the spare wheel well. Fold back the carpet from under the rear light clusters and unscrew the nuts, two on each side.

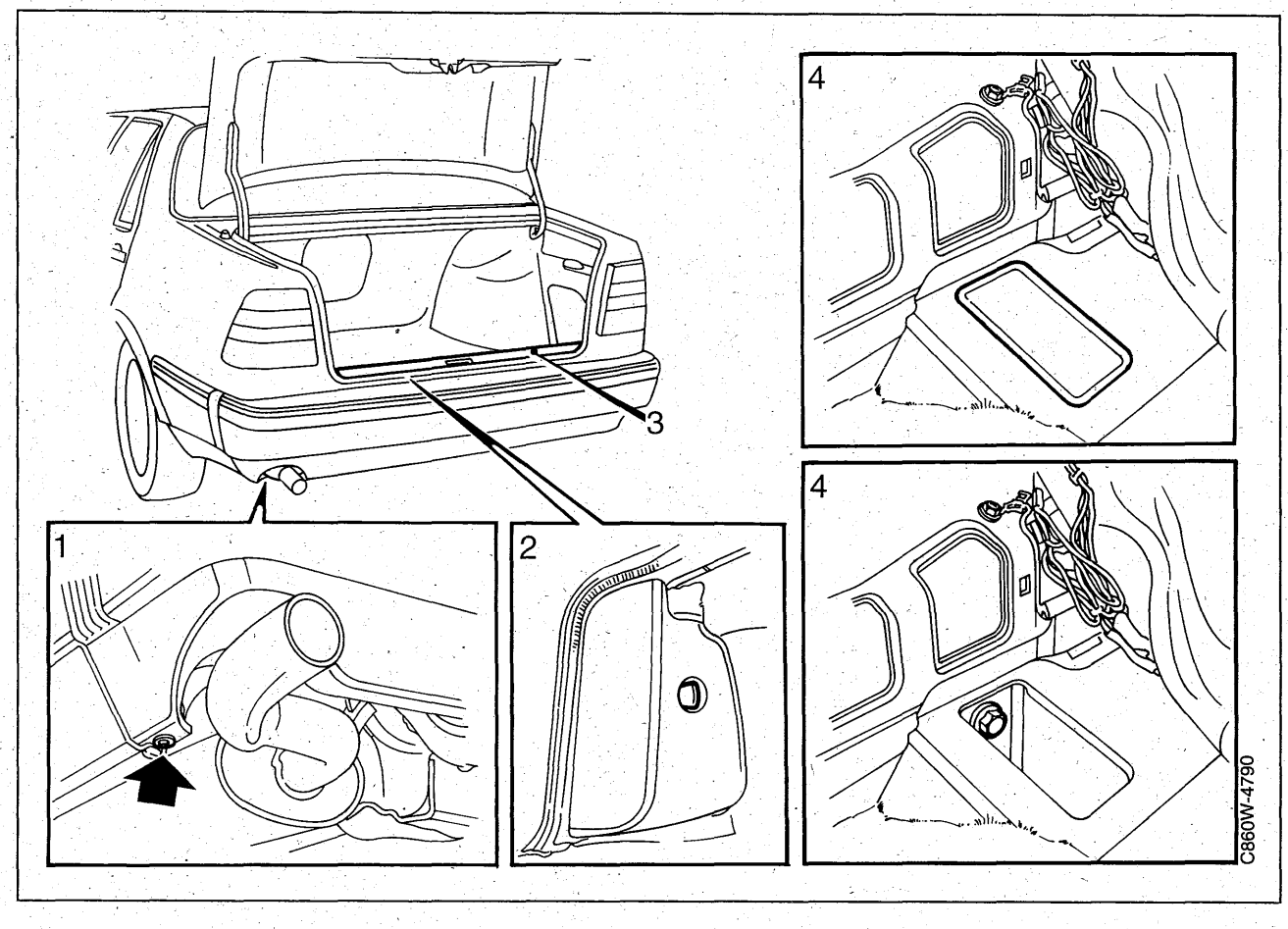
3 Lift the bumper away from the car.
Collect the two rubber spacers.

Fit in reverse order.

Dismantling and assembling

Unscrew the metal plates, prise off the outer cover and remove the bumper core.

Fit in reverse order.



Rear bumper, Saab 9000 CD

Removal and fitting

1 Undo the cover panel retaining screws, one on each side.

2 Remove the protective covers over the rear light clusters and unplug the electrical connectors.

3 Remove the sill scuff plate.

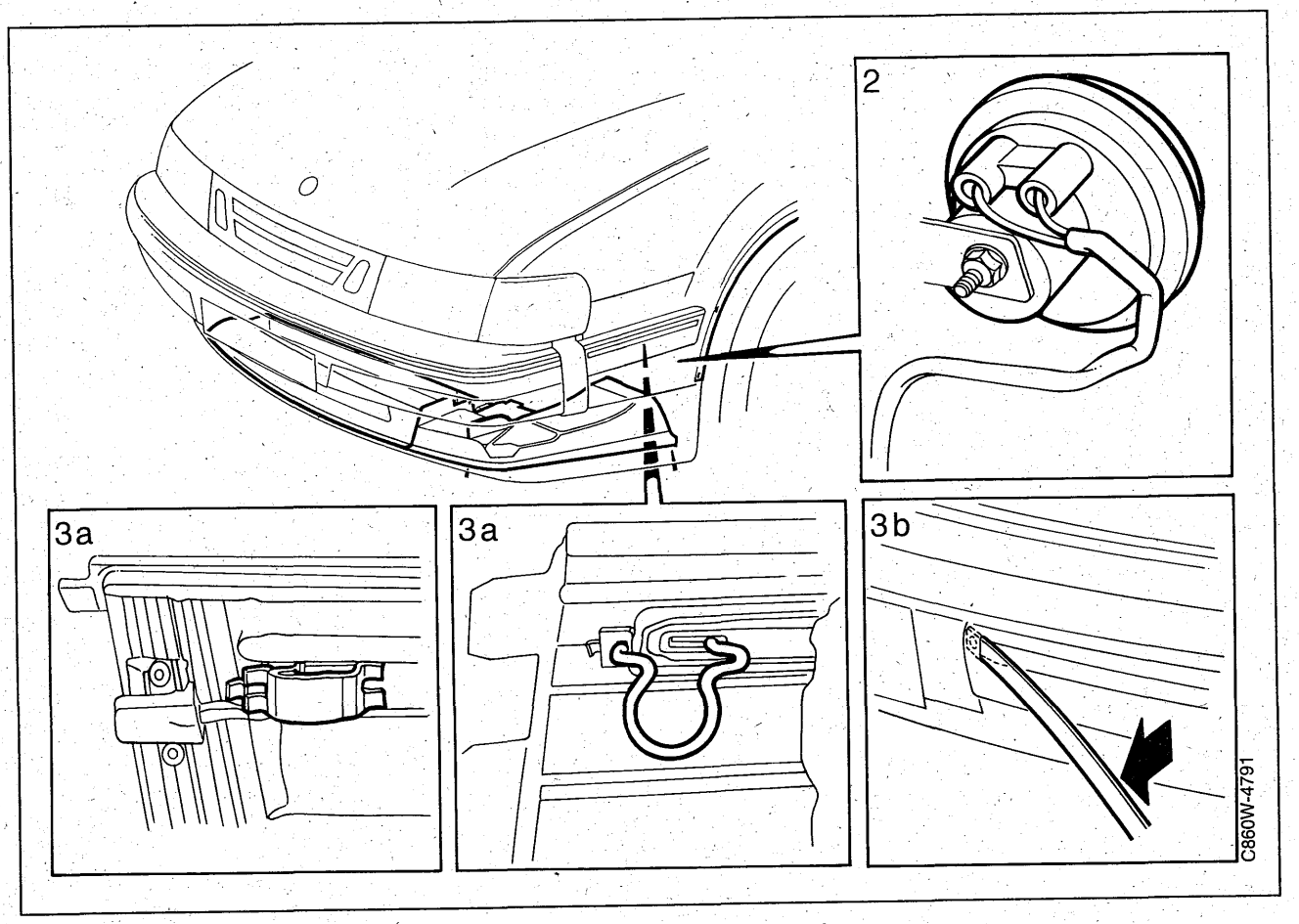
4 Remove the bumper as follows:

a. Raise the panel over the spare wheel well. Fold back the left-hand and right-hand side trim and remove the covers from the bumper retaining nuts.

b. Unscrew the nuts, two on each side.

c. Lift the bumper away from the car. Collect the rubber spacers.

Fit in reverse order.



Front bumper trim

Removal and fitting

1 Remove the left-hand or right-hand outer section, providing access to the trim tensioning spring.

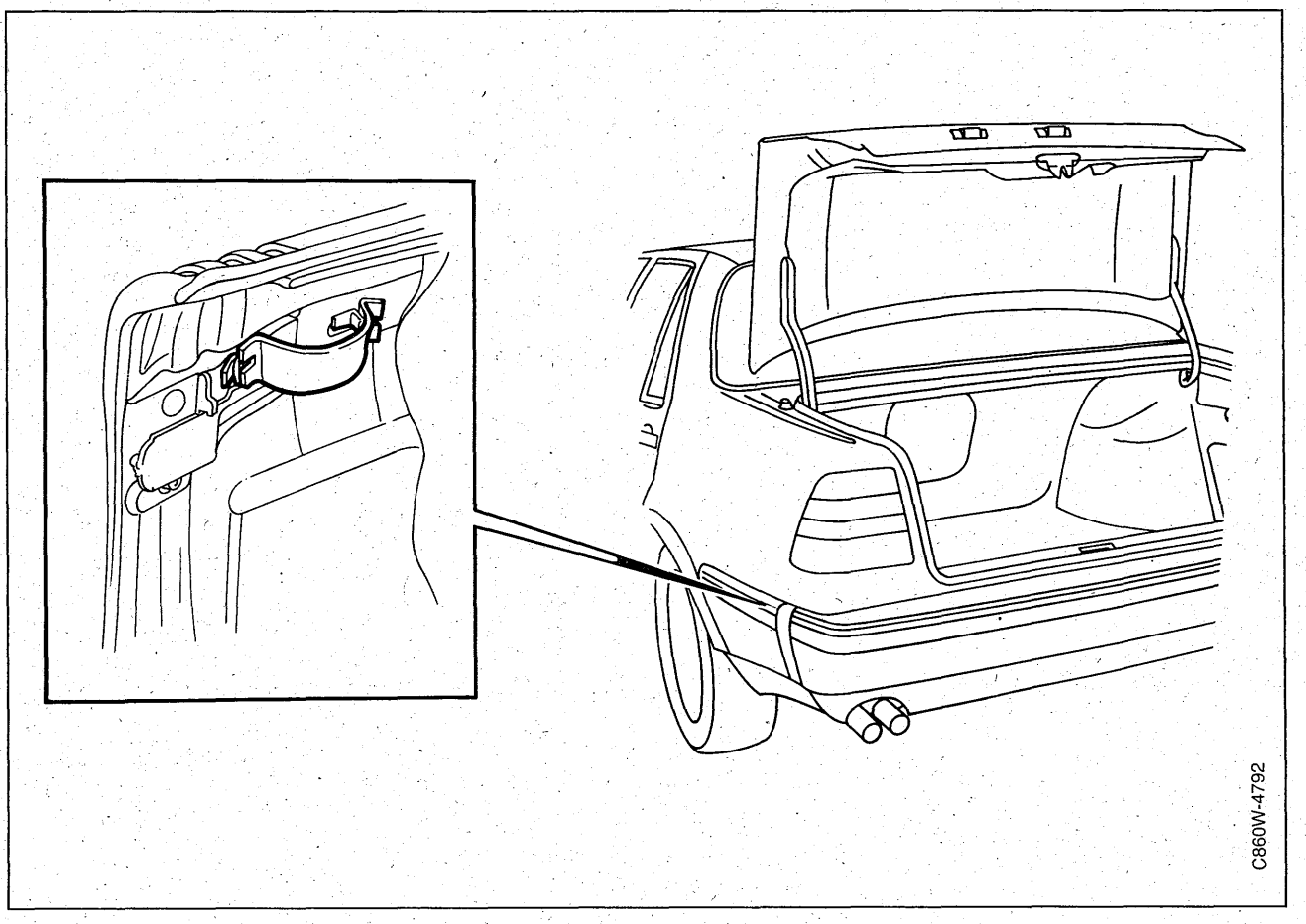
2 Left-hand side:
Remove the horn from the bracket.

3 Remove the trim as follows:

a. Release the trim tensioning spring.

b. Insert a small screwdriver and prise off the hook holding the trim to the bumper.

Fit in reverse order.

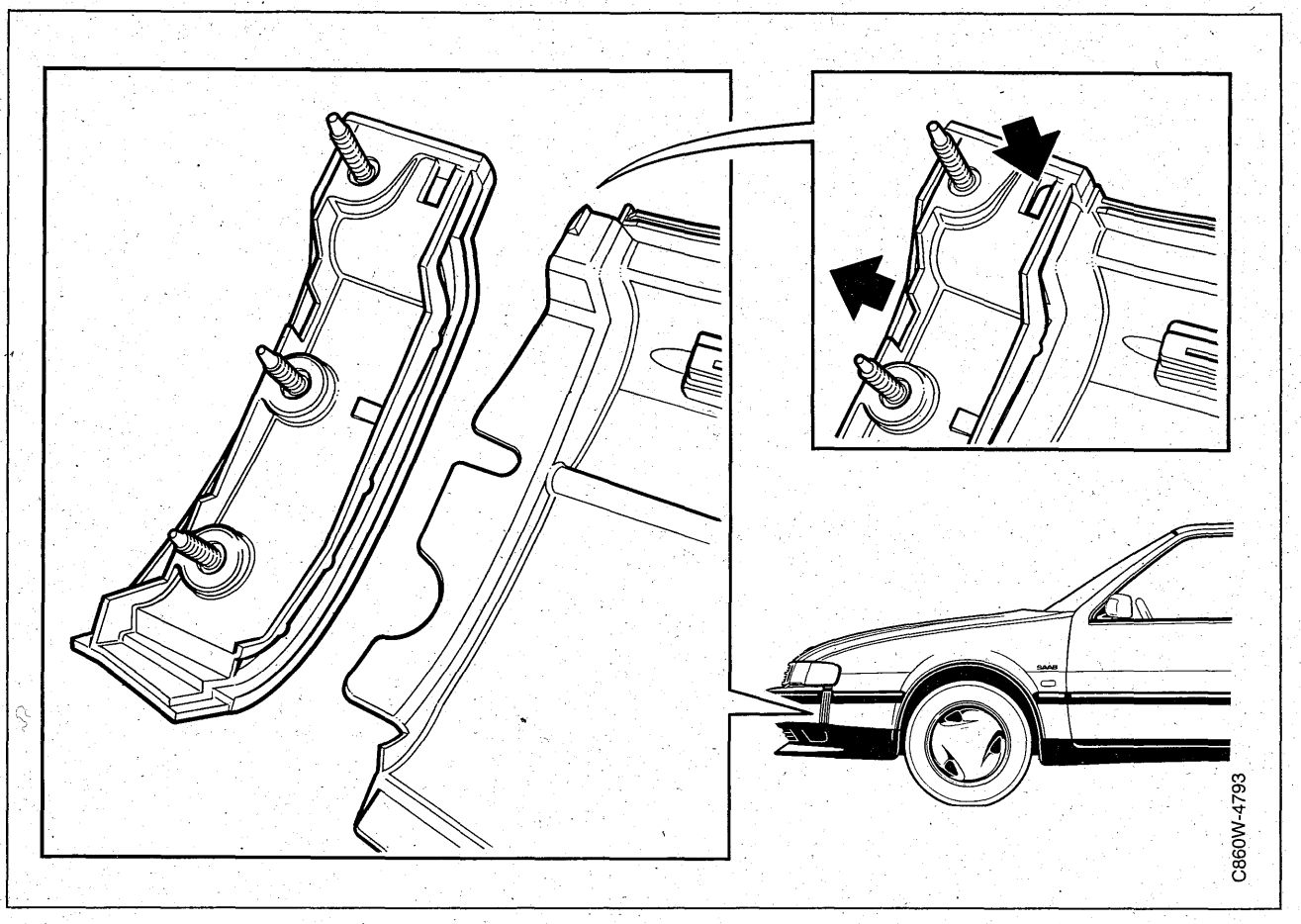


Rear bumper trim

Removal and fitting

1 Remove the bumper.
2 Release the trim tensioning spring and remove the trim.

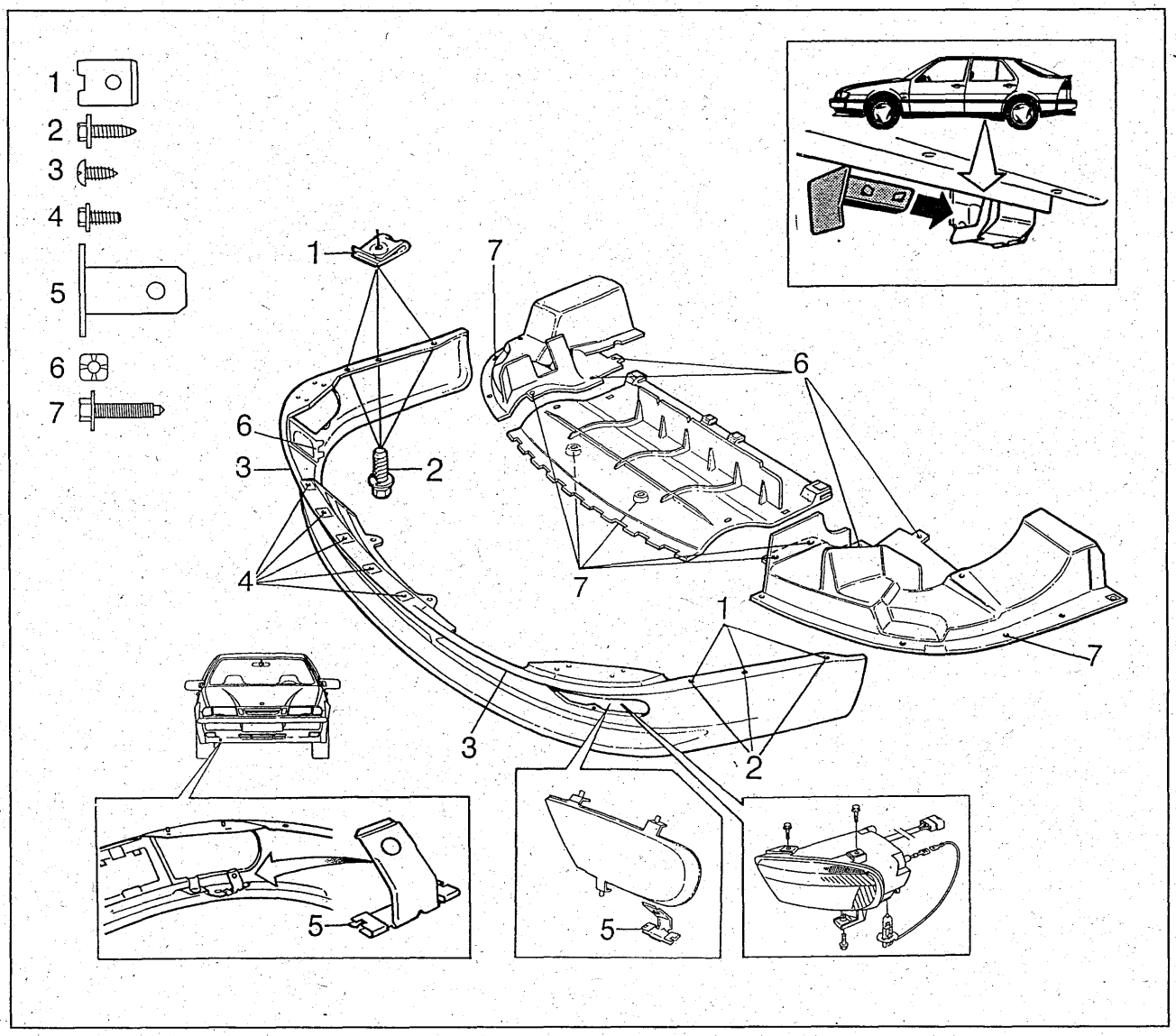
Fit in reverse order.



Bumper cover, Saab 9000 CS

A locking tab (1) is incorporated at either end of the front bumper cover to ensure the fit and alignment of the bumper cover with the body. The locking tabs secure the bumper cover to the side spoilers.

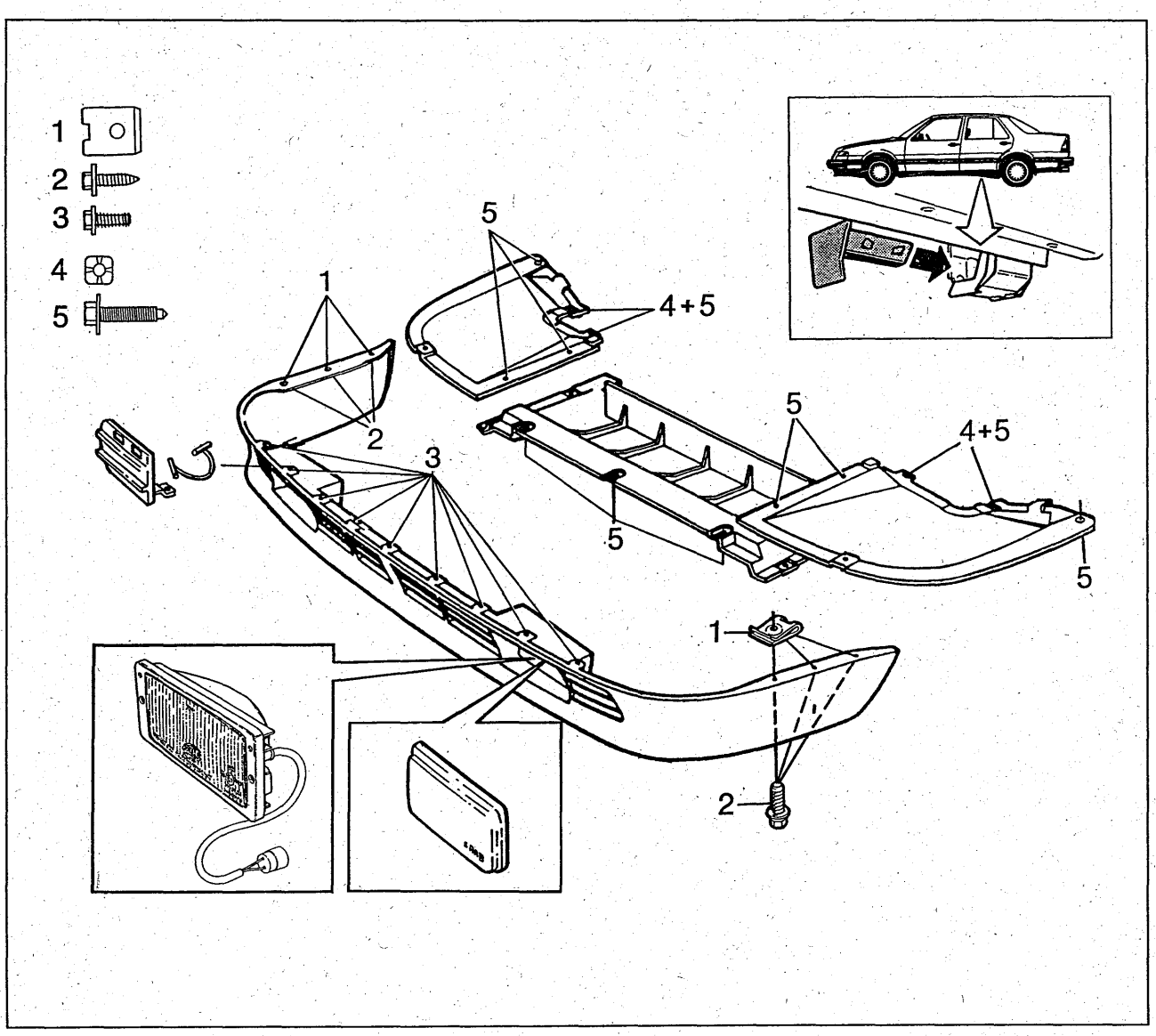
When removing the bumper cover, use a screwdriver or the like to unhook the locking tabs from the side spoilers.



1 Clips (6)
2 Screws (6)
3 Screws (2)
4 Bolts, M4 (5)
5 Clips (2)
6 Clips (4)
7 Bolts, M6 (14)

Front spoiler and air deflector, Saab 9000 CS

Fit the front spoiler and air deflectors as shown.



1 Clips (6)
2 Screws (6)
3 Bolts (9)
4 Clips (4)
5 Bolts, M6 (13)

Front spoiler and air deflector, Saab 9000 CD/CC

On Saab 9000 CD and CC models having chassis number N1014492 and subsequent, fit the front spoiler and air deflectors as shown.

Paintwork repairs

Painting

As described in the "Technical description" section, the body undergoes an extremely thorough surface treatment process during manufacture. To restore the original high standard of corrosion protection and paint finish after a bodywork repair, it is important that the panel beaters and paint shop personnel follow the correct procedures and use the right materials.

Always endeavour to grind away as little of the body's ED layer as possible. Take care to use the right kind of abrasive paper so that the sheet metal surface will not be too coarse for painting.

Repair methods using Standox paint system products are described below.

Painting sheet metal

The work that remains to be done after the welded joints have been gone over with a grinder is described below.

1 Clean the areas with silicon remover. Use Silicon Entferner.

2 Apply top filler. Use Topspackel.

Important

Primer (1K Füllprimer) must not be applied to surfaces that are to be filled.

On the other hand, primer can be applied to surfaces that have already been filled. This is unnecessary, however.

3 Rub down the filler. Do not use abrasive paper coarser than P120. The surface will otherwise be too coarse for painting.

4 Clean ED surfaces with silicon remover and Scotch Brite. Use Silicon Entferner. If necessary, use a fine filler like Topspackel.

5 Apply acid primer (etching primer) on bare sheet metal. Use 1K Füllprimer or Reaktiv Haftprimer.

6 Apply filler to the ED surface and the damaged area. Use 2K-PUR filler.

7 Rub down the filler and the adjacent original paintwork. Use P500 or P400 abrasive paper. P500 is preferable as it does not remove quite as much filler.

8 Clean the areas with silicon remover. Use Silicon Entferner.

9 Solid paint type:
Apply finish paint.

10 Base paint:

a. Apply base paint.

b. Apply clear transparent varnish.

Painting plastic

Unprimed plastic

1 Clean the areas with silicon remover. Use Silicon Entferner.

2 Apply primer, Use Standoflex 2K-Plastic-Grundierfüller.

3 Apply finish paint as described for "Primed plastic".

Primed plastic

1 Clean the areas with silicon remover. Use Silicon Entferner.

2 Flat down with P400 or P500 abrasive paper.

3 Solid paint type:
Apply finish paint (must be elastified).

4 Base paint:

a. Apply base paint.

b. Apply clear transparent varnish (must be elastified).

Paintwork repairs on plastic

In the case of damage to paintwork on plastic, repairs are to be made as follows:

- The damaged paintwork is to be repaired as described for "Unprimed plastic".
- The area round the damaged paintwork is to be repaired as described for "Primed plastic".

Removing paint protector

Paint protector is a water-based acrylate which is dried in an IR oven after application. It should be washed off in connection with pre-delivery service using a high-pressure washer and a special degreasant, Tempro 75 Remover.

Tempro 75 Remover is the only degreasant which may be used. Extruded aluminium and the like could be damaged if other products not recommended by Saab Automobile are used.

Materials

- Tempro 75 Remover
  10 litres - (45) 30 02 482
  25 litres - (45) 30 02 490
- High-pressure washer
- Spray gun

Washing each car consumes about 0.3-0.5 litres of concentrated Tempro 75 Remover, corresponding to about 3-5 litres of diluted solution.

Directions for use

Important

Tempro 75 Remover is a high-alkaline product (high pH). It should be used only on those parts of the body that have been treated with paint protector.

1 Mix Tempro 75 Remover with hot water in the proportion of 2-4%.
If water at a lower temperature is used to rinse off Tempro 75 Remover and the paint protector (see point 5), the concentration should be higher. It should not be higher than 15%, however.

2 Use a high-pressure washer to flush all loose dirt off the car.

3 Apply Tempro 75 Remover by means of a spray gun or high-pressure washer to moisten every part of the body that has been treated with paint protector. The car should be at room temperature to ensure that the paint protector will dissolve.

4 Allow the Tempro 75 Remover to act for about three minutes. Note that it must not be allowed to dry. If it does, apply additional Tempro 75 Remover.

5 Rinse off the Tempro 75 Remover and paint protector by means of a high-pressure washer and hot water (but not hotter than +60°C).

6 Remove any residual paint protector using a sponge and Tempro 75 Remover.

7 Wash the car with a car shampoo.

Repairing plastic components

Repairing plastic components

The repair method described below concerns non-rigid plastic (thermoplastic), which is the type of plastic used for bumpers and sill scuff plates, for instance, on the Saab 9000. The method describes repairs carried out using 3M products.

1 Clean the damaged area with soap and water to remove all dirt, gravel and road salt, if any. Wipe dry.

2 Clean the damaged area with 3M 8984E cleaning agent.
Use isopropyl alcohol or the like on ABS plastic. Wipe dry.

3 Rub down with Scotch Brite on the front and back of the plastic at the damaged area. If the damage extends all the way through the plastic, chamfer the edges to a V on the front.

4 Clean the damaged area with 3M 8984E cleaning agent.

5 Apply 3M 5907 P.A.P. adhesion promoter. Allow to dry.

6 Stick 3M 6945 masking tape over the hole on the front if the damage extends all the way through the plastic.

7 Mix equal parts of 3M 5900 plastic filler to a uniform colour. The filler must be applied within five minutes of mixing the parts.

8 Apply the plastic filler to the back of the damaged area as follows:

- Wet the surface with a thin layer of plastic filler, using a filling knife. Press the plastic against the masking tape if the damage extends all the way through the plastic.
- If necessary, reinforce the repair at the back with fibreglass fabric.
- Allow to harden.

9 Pull off the masking tape when the filler has hardened and rub down the surface with P180 abrasive paper.
Featheredge any paint layer. The plastic filler must not overlap the finish paint.

10 Clean the surface with 3M 8984.

11 Apply a thin layer of 3M 5907 P.A.P. adhesion promoter and allow to dry.

12 Stick masking tape at the front round the damaged area to obtain a slight edge against which to build up the plastic filler.

13 Mix equal parts of 3M 5900 plastic filler to a uniform colour. The filler must be applied within five minutes of mixing the parts.

14 Wet the surface of the damaged area with plastic filler and then build up the filler against the masking tape, slightly higher than the surrounding area.

15 Allow to harden.

16 Rub down with P240 or P320 abrasive paper. Finish with P500 paper or a 3M Superfine abrasive sponge.

17 Clean with 3M 8984 cleaning agent.

18 If scratches are visible after rubbing down:

- Apply 3M 5903 fine filler and allow to harden.
- Rub down with P500 abrasive paper or a 3M Superfine abrasive sponge.
- Clean with 3M 8984 cleaning agent.

19 Apply 3M 5907 P.A.P. adhesion promoter. Allow to dry.

20 Apply 3M 5905 or 5906 primer. First spray on a mist coat of primer and then two spray coats.

21 If necessary, rub down with Scotch Brite grey 7448 or 3M 622 Freecut P500 abrasive paper.

Important

Do not wipe the surface dry with cleaning agent. Use a tack cloth.

22 Paint in accordance with the instructions of the paint manufacturer.

Welding plastic components

Minor damage to parts made of thermoplastic, such as broken retaining lugs on headlamp housings, can be repaired by welding the plastic. Two different methods can be used: welding with filler rod and mirror welding.

Welding with filler rod

When welding with filler rod it is important that the filler rod is made of the same material as the part that is to be repaired. The best results are often achieved if material from the part to be repaired is used as the filler rod.

The strength of the welded joint is also affected by the following factors:

- Welding speed.
  15-20 centimetres per minute is a suitable guiding value.
- Welding temperature.
  Suitable welding temperature varies with the type of plastic and the thickness of the material. Too high or too low a temperature will result in poor fusion of the material.
  When welding in thicker material (> 7 mm), the damaged surface should be cut out to an X joint so that good burn-through will be obtained.
- How hard the filler rod is pressed into the joint.
- The angle between filler rod and base material.

Method description

1 Cut a filler rod from the back of the damaged part, using a knife. Scrape the surface of the filler rod clean with the knife before welding.

2 Cut out the damaged surface to a blunt V joint.

3 Clean the damaged surface with cleaning agent, such as 3M 8984E or Teroson FL T875.

4 Heat the V joint and the filler rod simultaneously, using a hot-air gun. First wait for the filler rod to adhere to the end of the joint. Then press the molten filler rod into the joint, using a cold piece of steel.

5 Continue to heat the joint and filler rod, simultaneously pressing the filler rod into the joint. Proceed a few centimetres at a time until the whole joint is filled with the filler rod. The damage is repaired.

Mirror welding

Mirror welding means that the two damaged surfaces are carefully heated by means of a hot-air gun and then fixed to each other in the correct position, following which they are left to cool.

Workshop Information

User feedback

To

Saab Automobile AB
Workshop Information, MLVI
S-461 80 TROLLHÄTTAN
SWEDEN

Telefax phone no.: +46 520 84370

From

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Comments/suggestions

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Manual concerned: .....

It is important that Saab technicians in the field regard the Workshop Service Manual as their bible, and we therefore strive to make the manual easy to use and to provide accurate information.

By letting us have your views on this manual you will be helping us to maintain a high standard in our literature.

Note down any comments or suggestions you may have on a sheet of paper or take a copy of this page and send us your views at the above address. For greater convenience, you are also welcome to send your comments by fax, using the telephone number shown.

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