



Body – Karmann Ghia Convertible

This section deals only with the assembly and body repair operations which differ from those on the Karmann Ghia Coupé.

Contents:

80 - Description of Body

Assembly Work

81 - Doors and Windows

83 - Convertible Top

85 - Special Hints

Replacement of Body Parts

88 - Windshield Frame

89 - Special Hints



Description of Body

Karmann Ghia Convertible

General

Apart from the top and minor points described here, the construction, shape and trim of the Karmann Ghia Convertible is identical to that of the Coupé.

To compensate for the slightly reduced stability **when the top is open** the body of the Karmann Ghia Convertible is reinforced at the following places:

- a - at the hinge pillar upper sections by means of stiffeners welded into the windscreen frame;
- b - at the side members by welded reinforcements;
- c - at the lock pillars by the main hinge brackets and their supports;
- d - at the quarter panels by welded-on reinforcement plates;
- e - at the upper part of top compartment and quarter panels by welded-in sheet metal stiffeners.

Variations from the Karmann Ghia Coupé

- 1 - The rear window is 730 x 320 mm and made of flexible plastic material.
- 2 - No quarter windows.
- 3 - The interior lamp is under the instrument panel.



Door and Striker Plate Adjustment

When the door and striker plate have been installed the position of the door in the door opening should be checked with the top open as follows:

- 1 - Alignment of door and side panel
- 2 - Alignment of door and quarter panel
- 3 - Uniform clearance between door and lock pillar

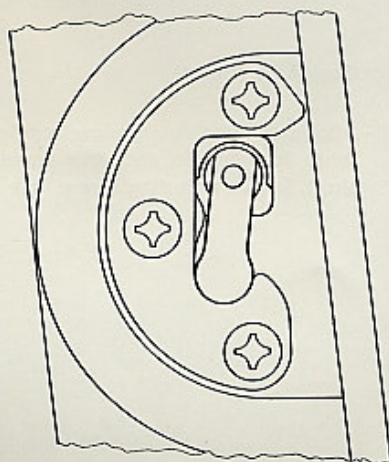
If these positions are not correct proceed as follows:

Re 1 - Remove striker plate and loosen door hinges at the hinge pillar only. Move the door in or out as required and re-tighten hinge screws.

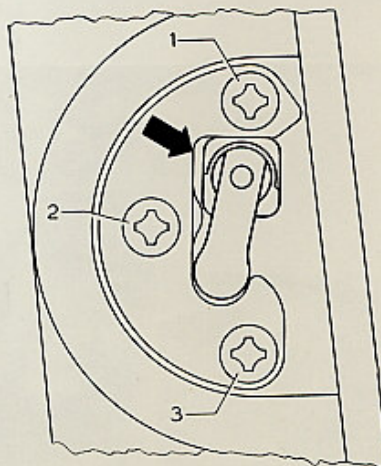
Re 2 - Install striker plate and adjust. The striker plate is properly adjusted if:

- a - The door is correctly aligned with the quarter panel;
- b - No play can be felt between lock and striker plate when forcing the door handle in and out. To align the door and quarter panel move the striker plate in or out.

Play will exist between lock and striker plate if the upper part of the latch does not rest against the striker plate.



correct

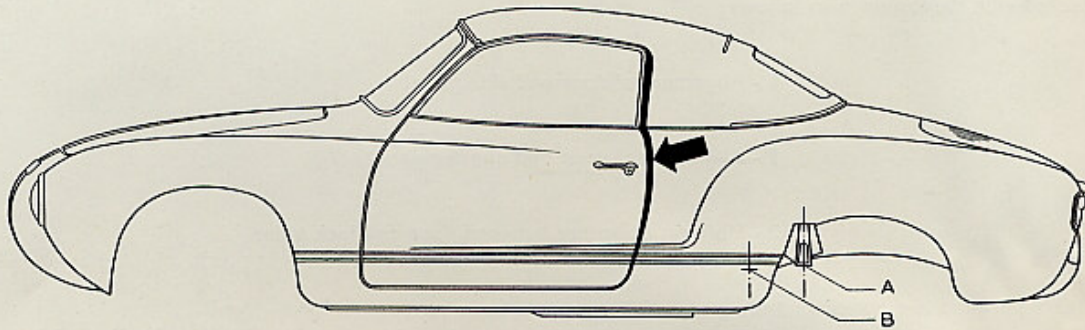


incorrect

In this case loosen screws 1 and 2 slightly and move the striker plate out at the top. Tighten screws and check play.

If the door springs back when slammed to, loosen screws 1 and 2 again and move the striker in slightly at the top.

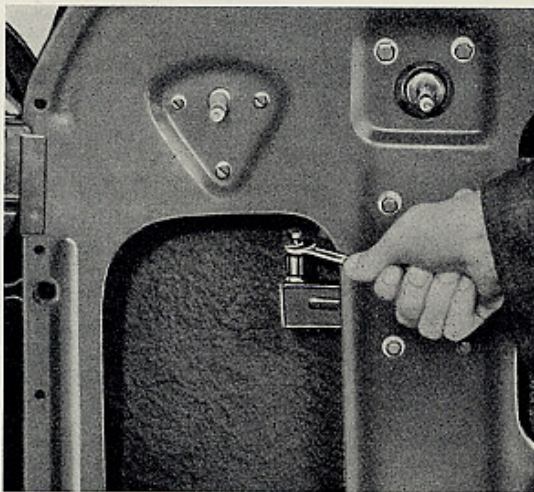
Re 3 - When the gap between door and lock pillar widens towards the top instead of being uniform over the full length, loosen the body securing screws and remove them at points A and B.



Insert 3 mm thick hard rubber packings left and right at the points indicated. Re-tighten the screws which were loosened to a torque of 3 mkg. If the door gap is still not correct, insert thicker packings.

Adjustment of Door Window Glass

One essential requirement for door glass adjustment is the correct fit of the door in the door opening.



Vertical Adjustment

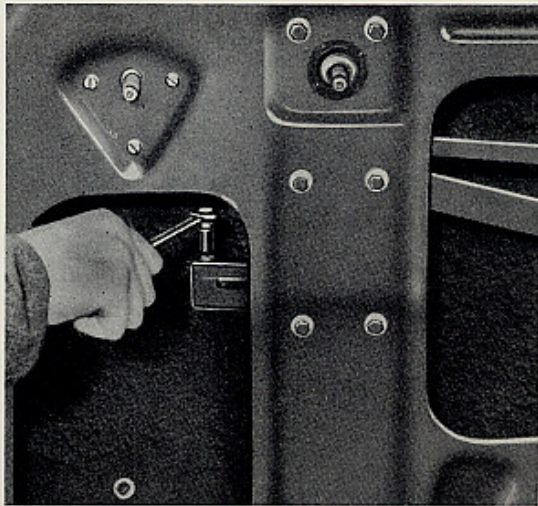
1 - After removing the window regulator handle, inner door handle, door trim panel and plastic sheet, loosen adjusting screw lock nut.

- 2 - Regulate the door glass by turning the adjusting screw to left or right.

Turning to left — lowers glass
Turning to right — raises glass

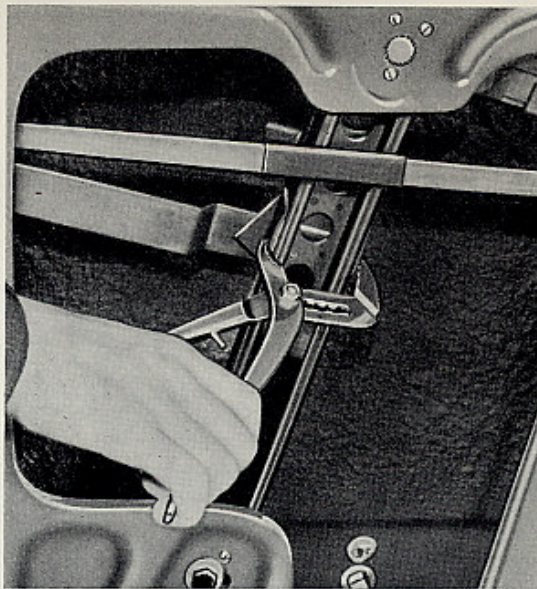
- 3 - With top and door closed, check correct vertical adjustment of door glass.

- 4 - Secure adjusting screw by tightening lock nut.



Longitudinal Adjustment

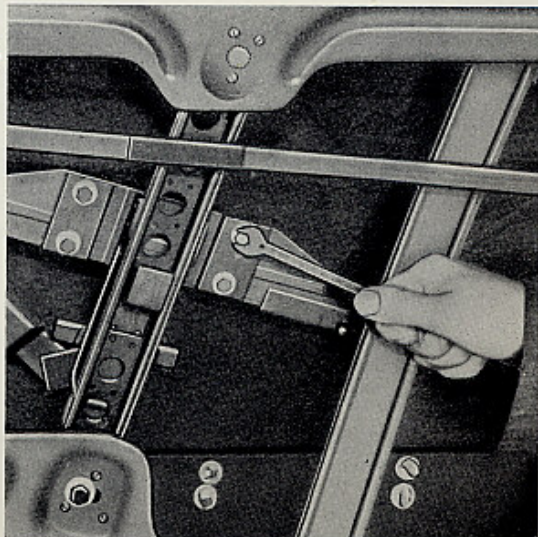
- 1 - Check play between window lift channel runner and the guide rail. If necessary reduce the clearance by squeezing the runner together with a suitable pair of pliers (Waterpump pliers).

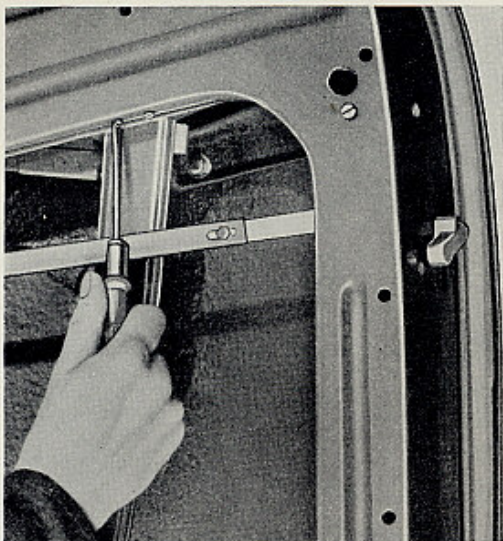


- 2 - Loosen four window lift channel screws.

- 3 - Move door glass with lift channel to the front or rear as required.

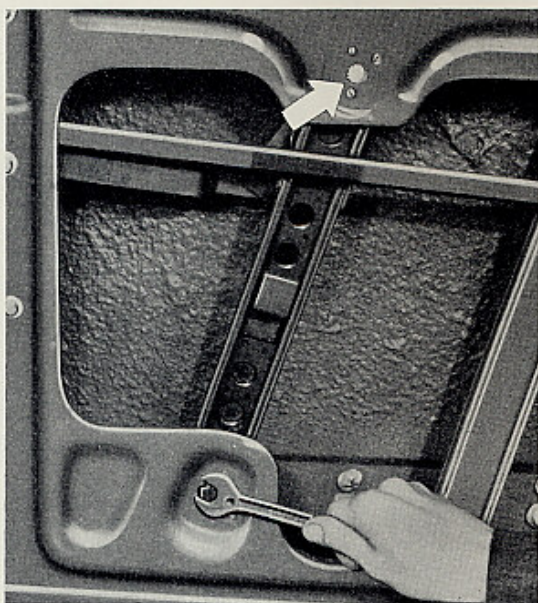
- 4 - Tighten screws.



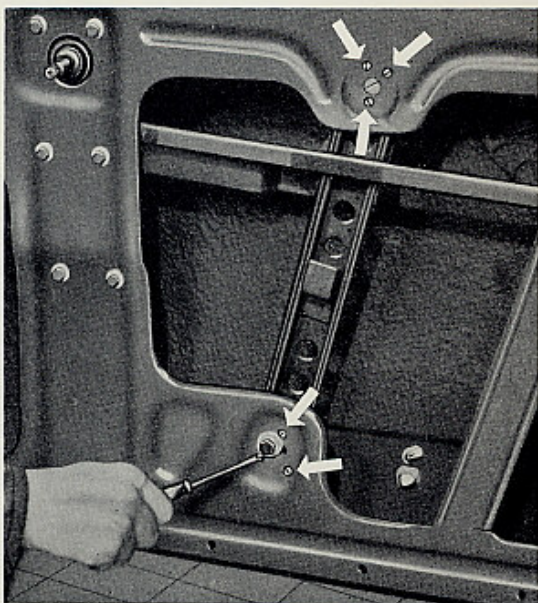


Side Adjustment

- 1 - Check door glass for side rock. If necessary loosen the top screws of the window roller bracket and with the window in the fully raised position press the bracket hard against the roller and tighten screws.



- 2 - Loosen hexagon and countersunk head screws on guide rail.



- 3 - Correct the window glass position by screwing the 3 threaded pins at top and bottom of guide rail in or out.

The location for the adjustment of the door glass is given by the main roof frame weatherstrip at the top and the front and rear weatherstrips at the sides.

- 4 - Tighten hexagon and countersunk head screws.



Convertible Top

General

The top is supported by the top linkage which is composed of two side metal roof frames and two hinged linkages joined together by wooden and tubular bows which give cross support. The whole assembly is supported by two main hinges mounted in brackets bolted to special pillars in the body.

The outer cover is made of special waterproof top material which is rubberised underneath. A rubberised hair pad, sewn into a linen sheet and secured to the top linkage, pads out and shapes the top in addition to providing insulation against heat and cold. The contours of the top are, where necessary, evened out by additional wadding. The underside of the top linkage is covered by a headlining of loosely woven material.

In the folded position the top is retained by two spring catches.

Lubrication

A few drops of oil should be applied to the hinge joints of the top linkage when required. Wipe the dirt and dust off the joints before oiling.

Care of the Roof

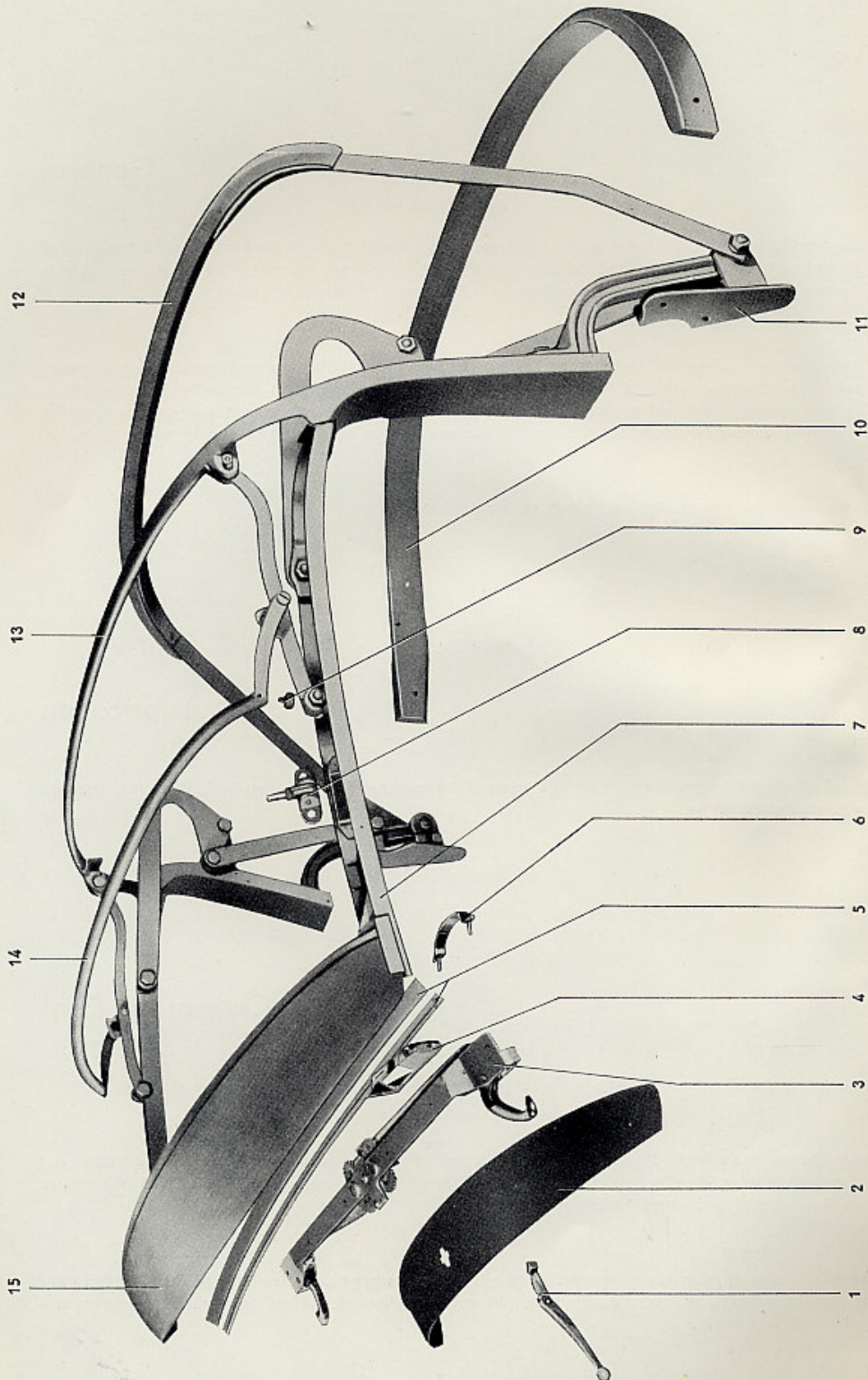
The proper treatment and care of the top has a large influence on its appearance and service life.

The top must always be perfectly dry before being lowered. When very dusty the top should be beaten out lightly and brushed thoroughly with a soft brush in line with the lay of the material, as the sharp dust particles can damage the material and cause friction marks.

Friction marks can also appear when the catches do not hold the opened top firmly in position. In this case the catches must be adjusted by loosening the lock nuts, screwing the catches further into their retainers and tightening the lock nuts again.

Never use fuel, spot removers or other solvents for removing spots as these fluids will destroy the rubber layer in the top cover, causing leaks and shortening the life of the top. Light surface marks can often be removed by rubbing gently with a crust of white bread or a soft white rubber (eraser).

Top Frame



- 1 - Handle for Top Lock
- 2 - Cover Plate for Header
- 3 - Top Lock
- 4 - Cover Plate for Lock Hooks
- 5 - Weatherstrip

- 6 - Top Handle
- 7 - Roof Frame
- 8 - Top Retaining Catches
- 9 - Plug — Intermediate Bow
- 10 - Rear Body Bow

- 11 - Main Hinge
- 12 - Rear Bow
- 13 - Main Bow
- 14 - Intermediate Bow
- 15 - Header

The top should be washed only when it is exceptionally dirty. Only clear water, without any chemical solutions or additives should be used. Beat the top out lightly and brush thoroughly before washing. Add soap flakes to lukewarm water and beat into suds. Moisten the top with clear water, apply the thick suds and scrub with a soft brush, rubbing in one direction only. Rinse the top with clear water and if necessary, repeat the scrubbing with the soap suds. The final rinse must be continued until all traces of soap are removed and the water runs off quite clear. Be sure the top is thoroughly dry before lowering.

Washing with soap flakes should not be carried out more than once every six months.

After washing the top, rinse all traces of soap suds from the vehicle finish and dry off.

Top Assembly

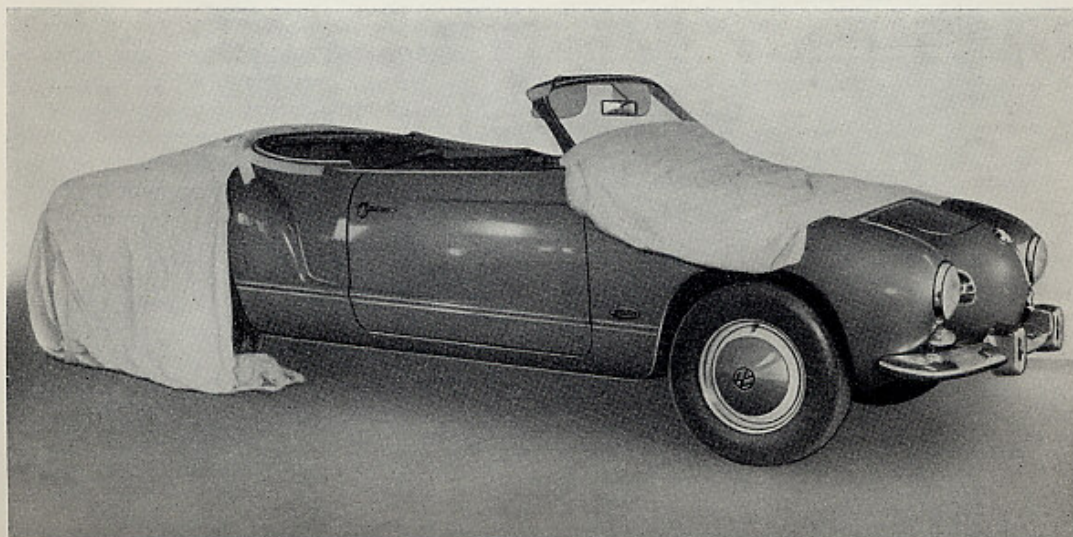
The description of the Convertible top assembly serves as a guide for the sequence of operations. The work should, where possible, be carried out by a skilled man who is familiar with top construction. If two men can be employed, the task of fitting the top cover will be made considerably easier.

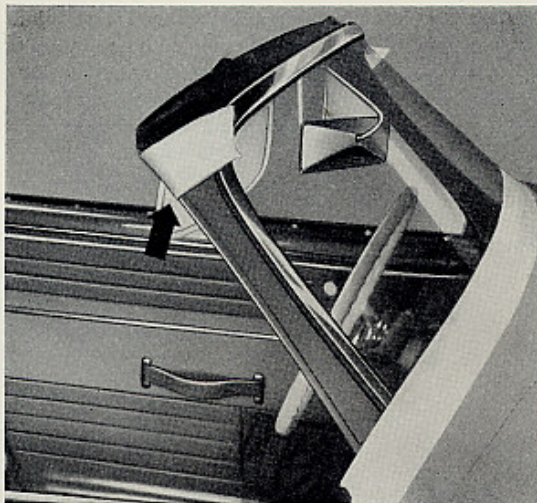
The assembly of individual parts of the top described in some paragraphs can naturally be carried out separately.

The tools required are listed in the "Body General" section — under the heading "Workshop Equipment".

In order to avoid paint damage it is recommended that the front and rear parts of the body are covered with sheets.

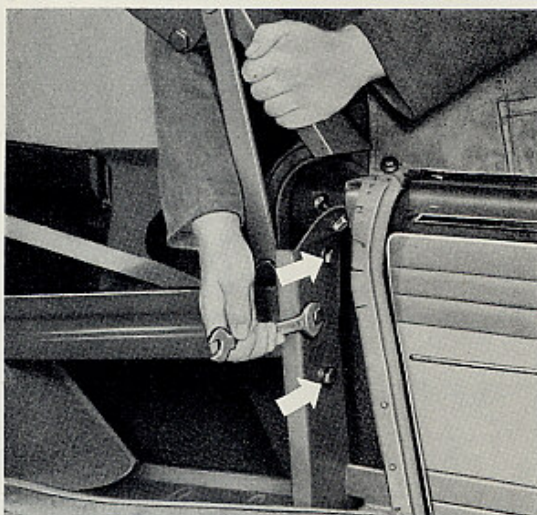
The sheet at the front should be secured about halfway up the windshield with adhesive tape so that any nails which fall down will not get underneath the sheet.





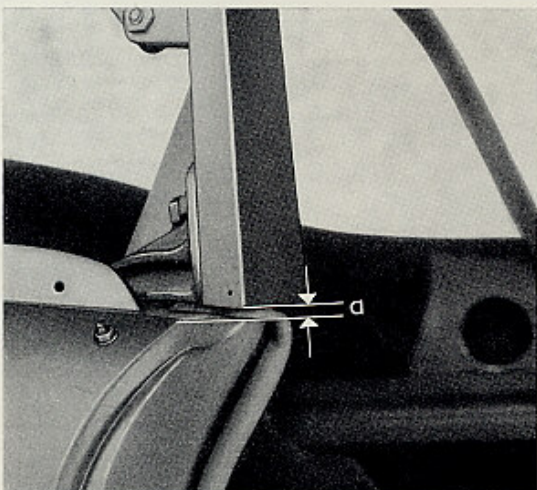
The corners of the windshield frame should also be covered with adhesive tape to prevent paint damage occurring if the pliers should slip when tensioning the top cover.

Installation of Top Frame



1 - Before commencing work on the top assembly remove front seats and rear quarter trim panels. Wind the door windows down.

2 - Place top frame in position and bolt the main hinges to the screwed plates on the support pillars. Pull the main bow outwards as far as possible.



3 - Extend the linkage to the front and secure the header to the windshield frame with the top lock. In this — normally closed — condition the clearance between the lower edge of the main bow and the lock pillar should be 6 mm. If this is not so, loosen the frame and move up or down as required.

a - 6 mm (0.236")

- 4 - In the closed position the clearance between the uncovered header and the windshield frame should be:

- a - in the center 7 mm (0.275")
- b - in the area of the locking hooks 5 mm (0.196")
- c - tapered to 2 mm (0.078") at the ends

This clearance is essential in order to leave sufficient space for the rubber weatherstrip and top cover.

Note:

If the clearance is too small the front moulded rubber seal of the header can lift or press out the windshield weatherstrip at the top and cause leaks to appear.

Insufficient clearance between header and windshield frame can also create excessive tension at the top locks and lead to distortion of the windshield frame.

In these cases it is possible to rasp the header off slightly.

- 5 - Tack a 1 mm thick cardboard strip, 200 mm (7.8") long and 15 mm (0.6") wide under the header in the area of the lock mechanism (Arrow).

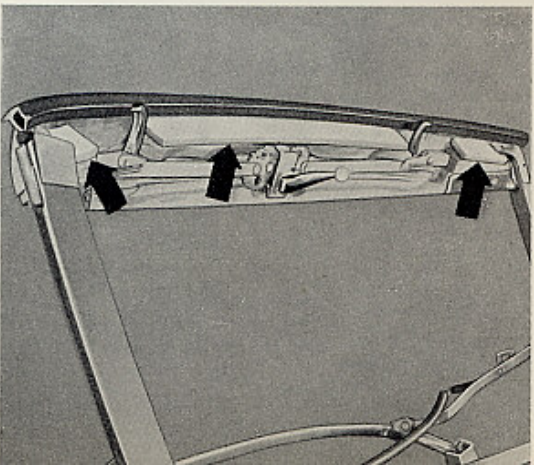
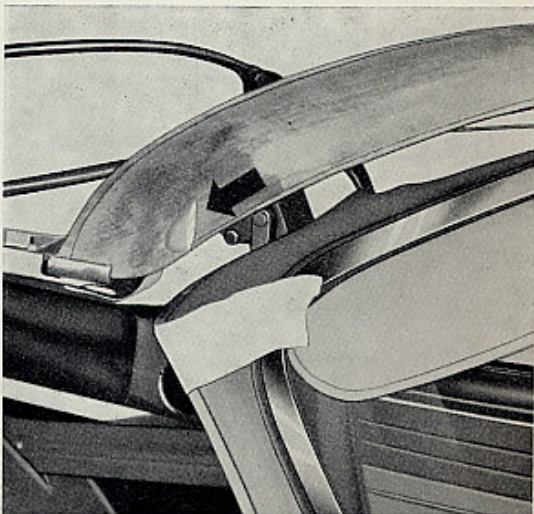
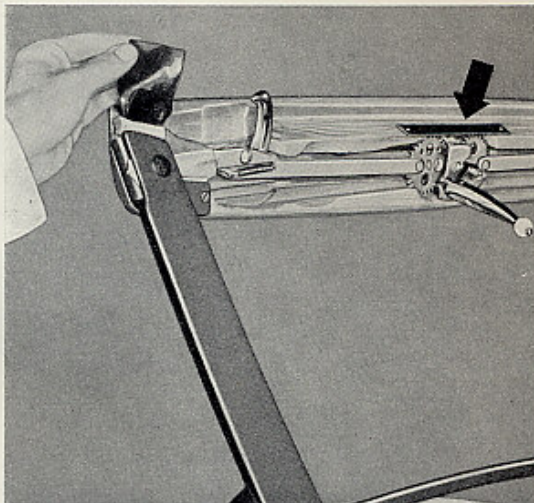
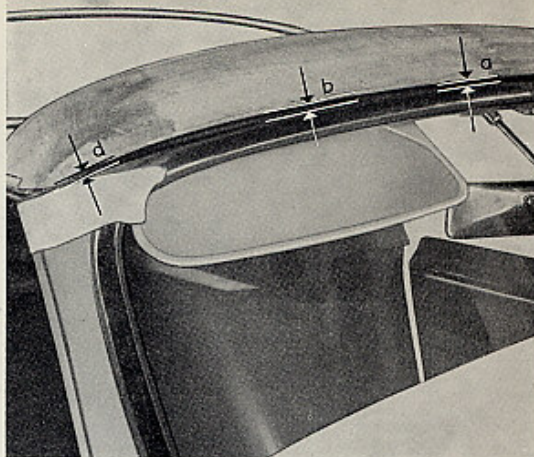
Cement two pieces of foam rubber underneath the header at the frame ends and finally cement two suitably shaped pieces of top cover material over roof frame, foam rubber pieces and header.

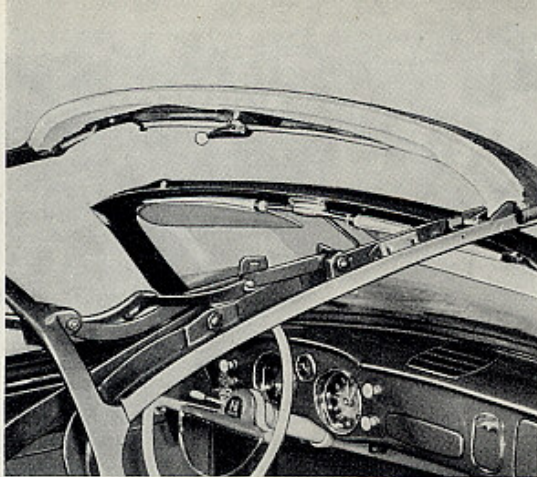
This preparatory work is necessary in order to achieve a uniform surface between roof frame and header and so avoid leaks at this point.

- 6 - Make a groove at each end of the header with a rasp. These grooves accommodate the top cover seams which are nailed on later.

- 7 - Coat the underside of the header with adhesive and cement suitably cut lengths of foam rubber strip (Part No. 141 871 605) in between and to the left and right of the locking hooks (Arrows).

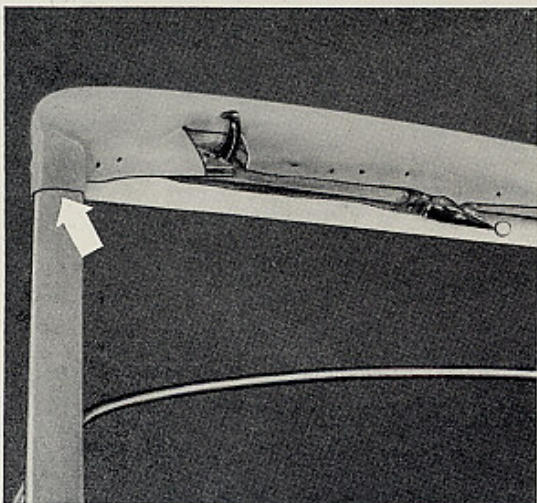
Cement the weatherstrip (Part No. 141 871 607) to the front edge of the header. The overhanging ends should be cut off exactly at the joint between roof frame and header.





- 8 - Cut a piece of headlining material roughly 100 mm x 1250 mm (3.9" x 49.2") and a piece of top material 180 mm x 1400 mm (7" x 55") of colors to match the top and headlining of the vehicle.

- 9 - Coat the header rear edge up to the recess on the top with adhesive and cement the headlining strip into position. Cut off the surplus material round the locking hooks and at the edge of the recess.



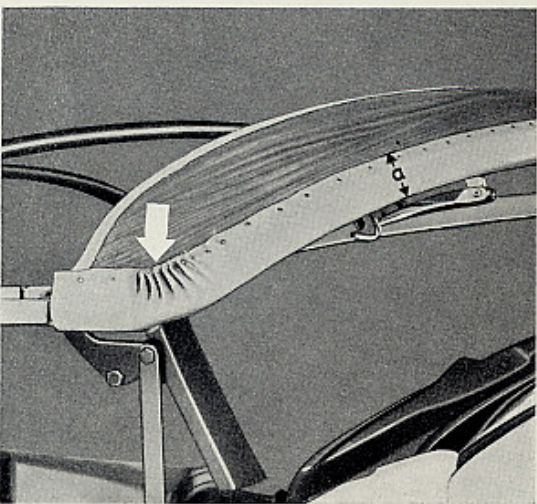
- 10 - Tack top material strip underneath the header and cut the strip out to fit round the locking hooks. Coat the roof frame ends with adhesive and cement the strip into position (Arrow).

Important

To avoid rust formation use only brass pins and tacks to secure the top cover and the webbing strips.

Note:

12 mm Brass pins Part No. 151 871 471
14 mm Tacks Part No. 151 871 473

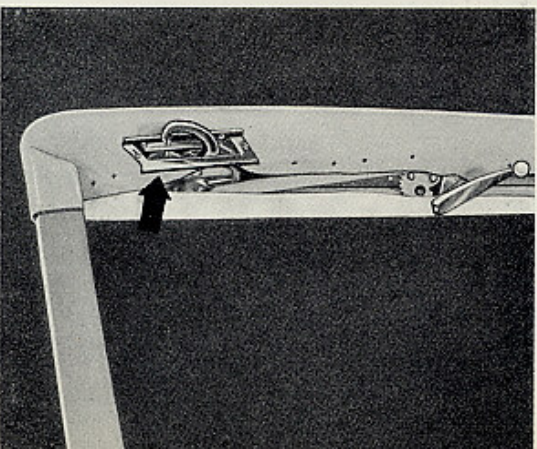


a = 40 mm (1.574")

- 11 - Lightly tension the top cover strip and tack to the top of the header. Close the top and nail the strip at intervals of 40 mm whilst keeping a slight tension on the material. To ensure uniform tension it is advisable to nail evenly in both directions from the center outwards.

To ensure a better fit at the ends of the header lay the material in small folds round the curves and then tack. Do not cut the material or make the folds too large as this may cause leaks.

Trim the surplus material off above the line of tacks.

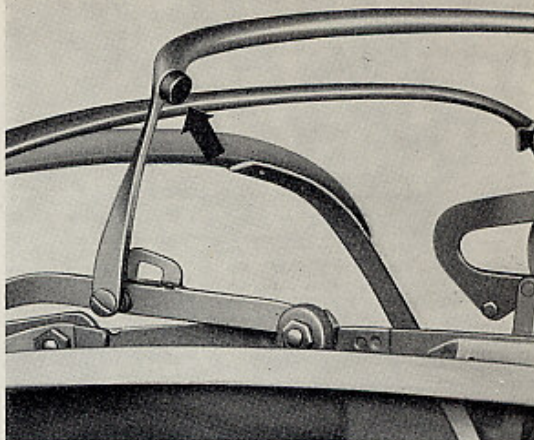


- 12 - Screw the lock hook cover plate into position, after checking that the hooks have sufficient working clearance. It is advisable therefore, to tighten the side screws first and finally the front ones.

- 13 - Coat the intermediate bow rubber plugs with adhesive and insert them in the appropriate holes.

Note:

The plugs are intended to stop rattling noises. Check that they are securely seated.

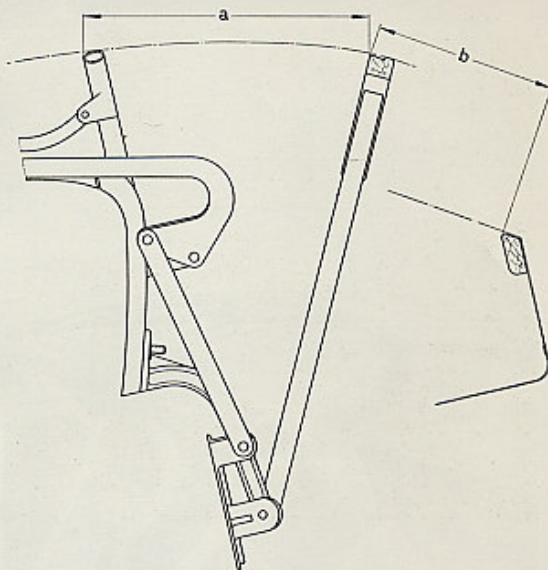


- 14 - Lay the top frame forward and secure with the lock. Adjust rear bow to measurements.

Important

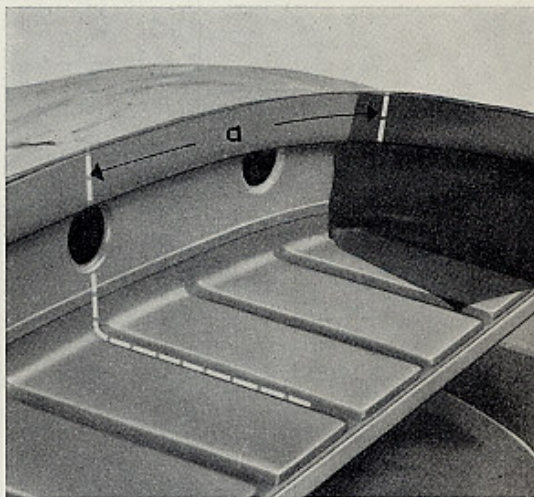
These measurements should be strictly adhered to as they govern the satisfactory padding and folding of the top.

$$a = 350 \text{ mm} \pm 5 \text{ mm} (13.78 \pm 0.2")$$
$$b = 469 \text{ mm} \pm 5 \text{ mm} (18.5 \pm 0.2")$$



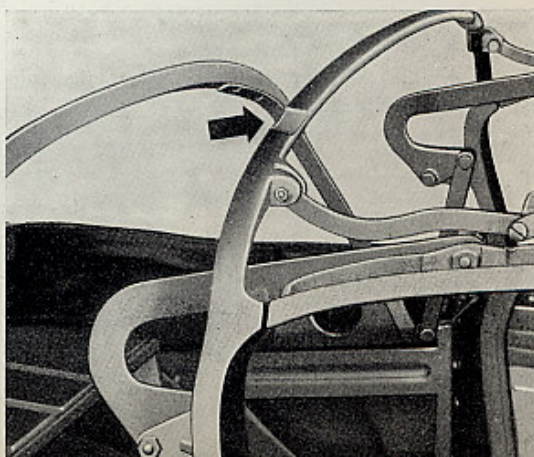
- 15 - Cut the webbing strips to size and tack them to the rear body bow 420 mm to left and right of the center line.

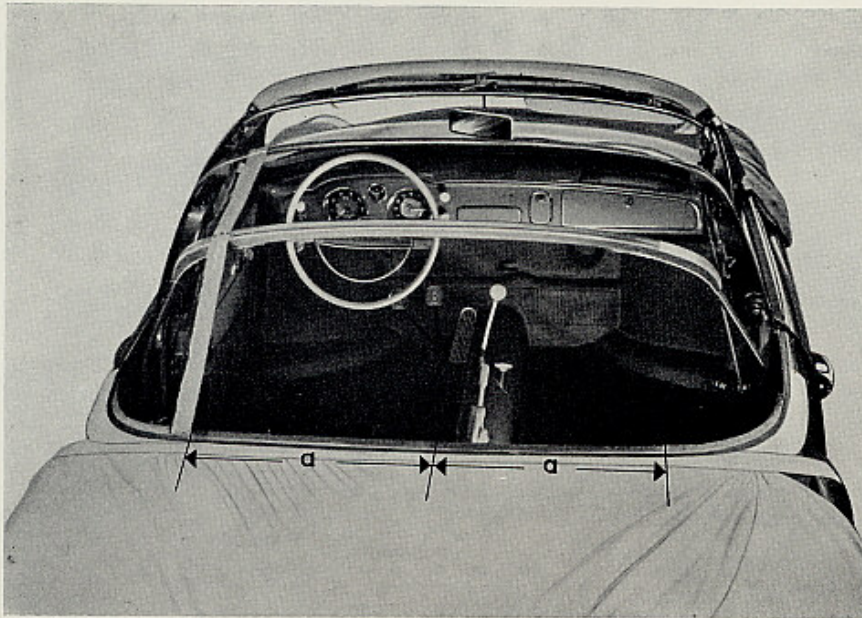
$$a = 420 \text{ mm} (16.53")$$



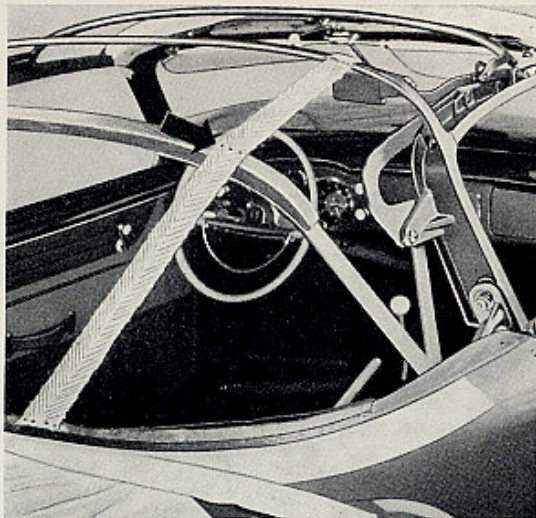
- 16 - The main bow has two grooves on the top to take the webbing strips. The grooves should be coated at top and bottom with adhesive.

- 17 - Pull the webbing strips hard to the front, cement them into the grooves and sew securely.





$a = 420 \text{ mm (16.53")}$



18 - Mark the width of the webbing strips on the rear bow. Lay the bow back slightly and chisel or rasp out the places marked to a depth equal to the thickness of the webbing strips so that the strips do not stand proud.



19 - Position rear bow to the correct measurement and tack on the webbing strips.

Headlining Installation

The headlining — without rear portion — is supplied as a spare part completely finished with the support strips which are used to secure it to the roof bows. The rear portion with the rear window is sewn to the main headlining after the top cover has been installed.

To ensure that the headlining fits properly it should be secured to the individual bows in the following order with the **roof closed**:

- a - Main bow
- b - Rear bow
- c - Header
- d - Intermediate bow

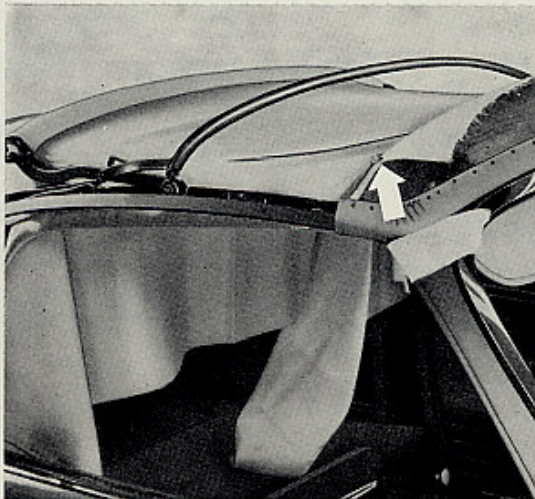
It is secured to the rear body bow at a later stage.

The operation is carried out as follows:

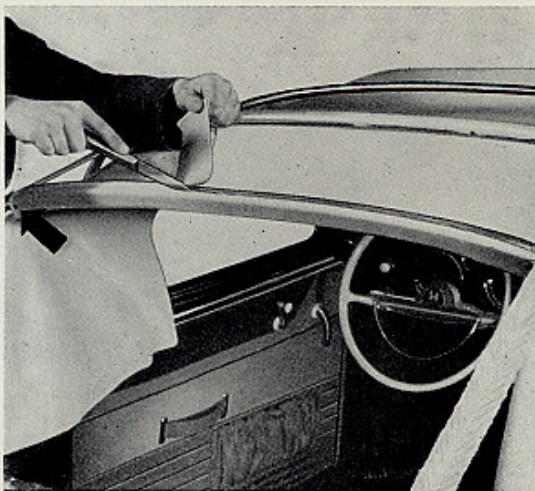
1 - Coat the top and front edges of the main bow with adhesive.

2 - Pull the headlining up by the appropriate support strip until the seam in the lining contacts the underside of the main bow. Cement the lining in position, cut out the openings for the webbing strips and cut off the surplus headlining material.

3 - Pull headlining to the front, tension slightly and secure to the header with one tack each side. To avoid the possibility of tearing the material it is advisable to insert the tacks in the longitudinal seams (Arrow).



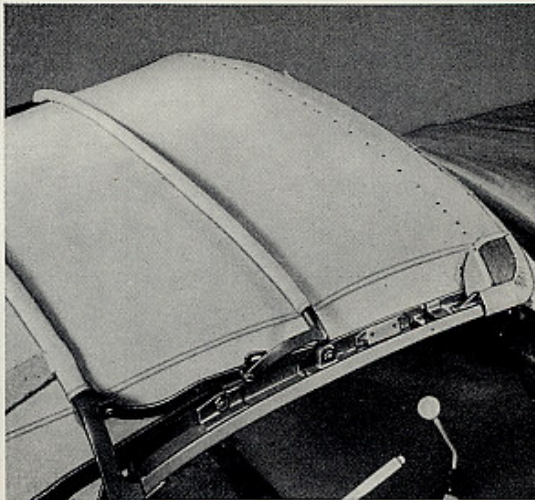
4 - Coat rear and top edges of rear bow up to the recess with adhesive. Pull supporting strip up to seam and cement to rear bow under tension. Insert a tack each side for additional security. Cut off surplus headlining material.



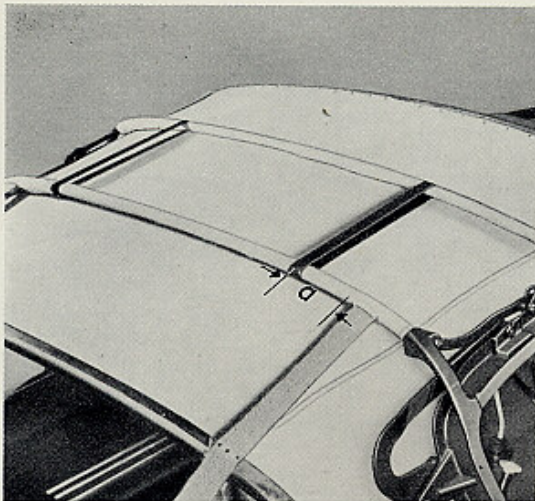
5 - Tension the headlining uniformly and tack to the recessed surface on the top of the header.

6 - Coat the top of the intermediate bow with adhesive. Pull the support strip up to the seam and cement round the bow. Cut off surplus material.

7 - After completion of these operations check from inside that the headlining is taut, free from folds and that the seams of the supporting strips are straight. If necessary, correct on the appropriate bows.



The surplus headlining material at the header can now be cut off and the ends of the supporting strips on the tubular bows sewn.

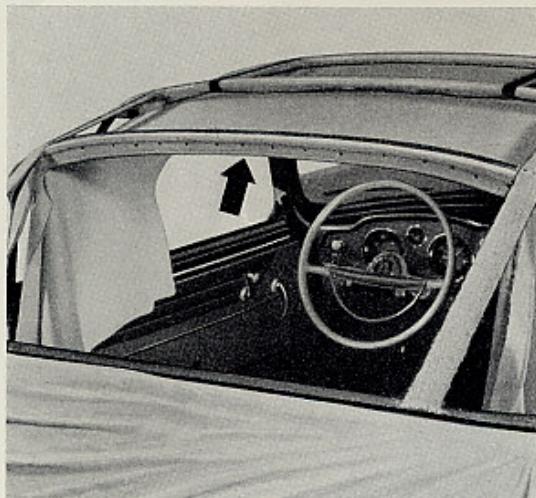


$a = 90 \text{ mm (3.54")}$

8 - Cut 20 mm (0.78") wide openings in the supporting strips 90 mm (3.54") to the left and right of the webbing strips.

Insert two 550 mm (21.6") long rubber bands through these holes and sew them together.

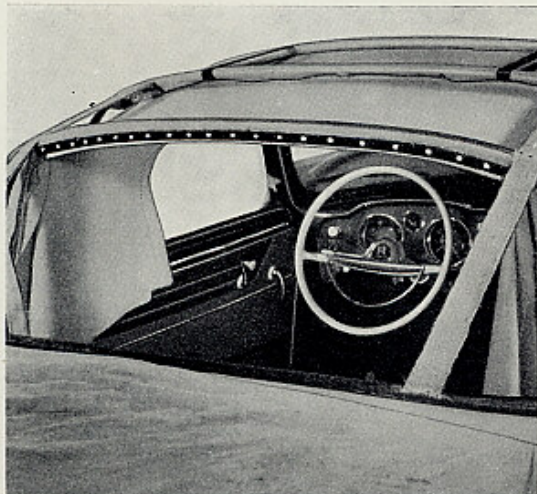
These rubber bands pull the intermediate bow back when the roof is opened and thus ensure proper folding.



9 - A 2.10 m (82.6") length of beading, in the same color as the headlining, is supplied with the spare headlining.

This beading is tacked to the lower rear edge of the rear bow between the webbing strips so that the bead protrudes slightly below the rear bow.

The ends, which should be of equal length, remain hanging down for the time being.



10 - A cardboard strip 1 mm thick, 15 mm (0.6") wide and of suitable length is tacked over the beading and holds it straight and firm against the rear bow.

Linen Sheet and Rubberised Hair Padding Installation

General

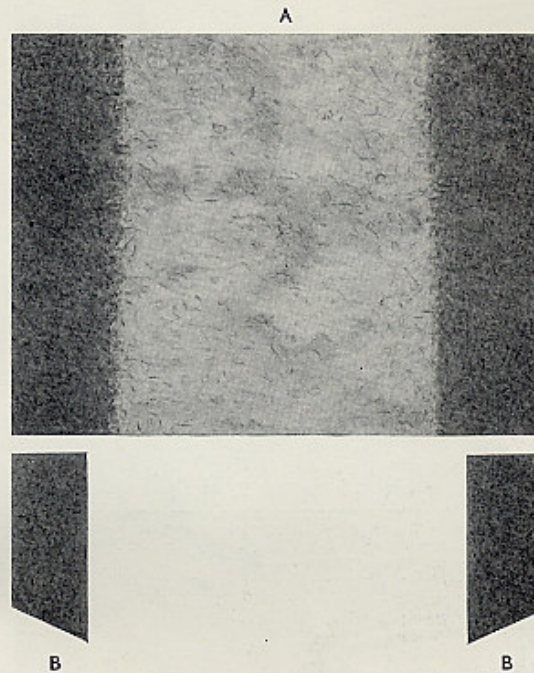
The rubberised hair pad upholsters and shapes the Convertible top and also provides good insulation. It consists of three parts, the roof portion (a) and the two rear portions (b).

The rubberised hair padding is sewn in and onto the appropriately shaped pieces of linen sheet. The linen sheets are then secured to the roof frame.

Two different types of material are used:

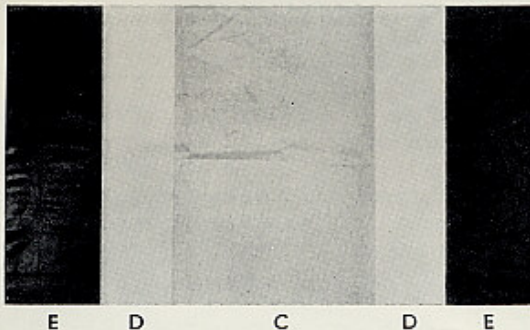
a - a thick, light-colored linen material

b - a thinner, black lining material, known to the trade as "Nessel or Molton Cloth".



The linen material serves as the foundation to which the rubberised hair pads are sewn and the lining material is used to enclose the pads.

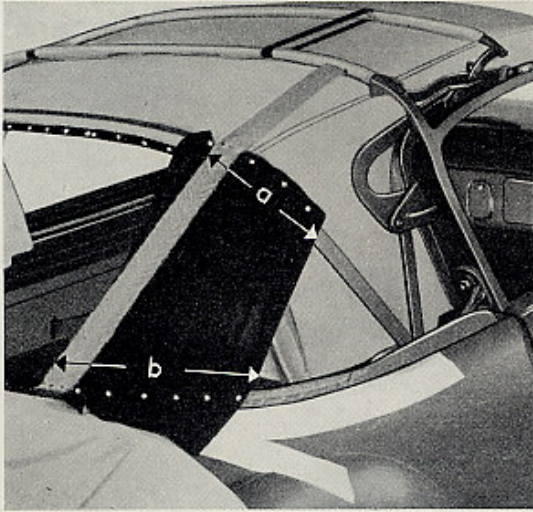
The linen and lining material is supplied in three separate parts in the same manner as the rubberised hair padding, namely the large roof portion and the two rear portions which each consist of one piece of linen and one of lining material. The roof portion comprises one linen sheet (C), two top material pieces (D) and two lining material pieces (E).



The two pieces of top material sewn to left and right of the linen sheet are for appearances sake only and merely prevent the linen material from showing at the sides when the roof is laid back.

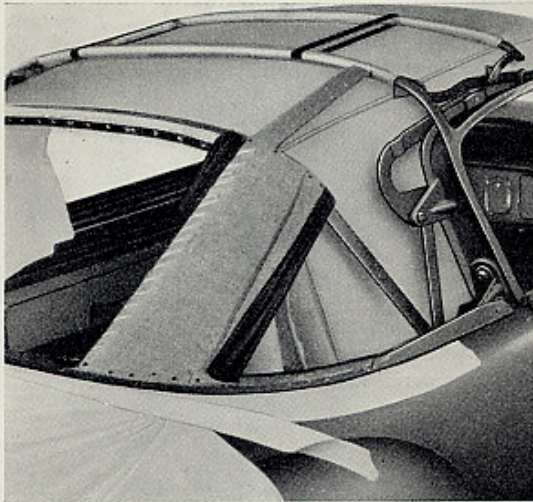
All the rubberised hair parts and linen material pieces are combined in an installation set and supplied as a spare part under the designation "Top Padding" (Part No 141 871 057).

Upholstering

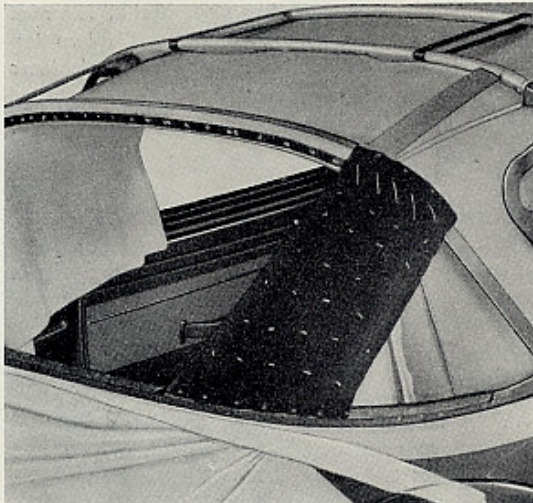


- 1 - Tack the two black lining material pieces to the rear bow and rear body bow to the correct measurements. Cut the material out at the webbing strips. Do not cut off the surplus lining material on the inside.

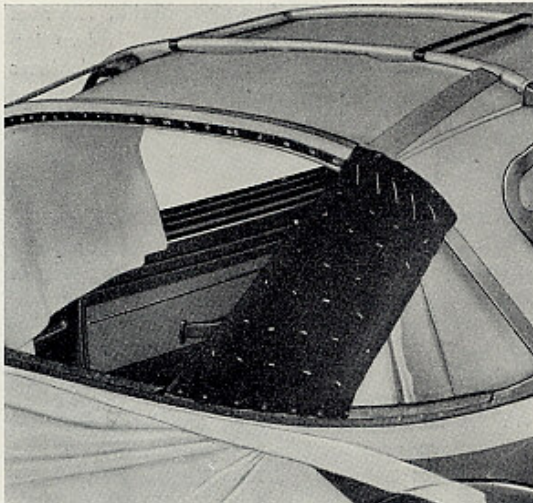
a - 180 mm (7")
b - 200 mm (7.8")



- 2 - Tack the linen material pieces to the rear bow and rear body bow in the same manner. Fold the edges of the linen and lining material back at the outside. Sew the linen sheet securely to the webbing strips.



- 3 - Lay the rubberised hair rear portions in position and sew to the linen sheet at top and sides with small firm stitches. The pads must not cover the rear bow or be sewn on at the bottom near the body bow.



- 4 - Fold the surplus lining material over the rubberised hair padding, tack to the rear and body bows and sew the outer edges. Finally sew padding and lining material together with large stitches. Trim off surplus material at top and bottom.

- 5 - Lay the roof portion of the linen material in position, taking care that the black, rubberised side of the top cover material faces upwards.

- 6 - Tack the linen sheet to the rear bow first, pull firmly to the front and tack to the header.

When tacking, take care that the outer sides of the top cover strip are roughly 10 mm above the roof frame (measured in the center).

a - 10 mm (0.4")

Correct if necessary.

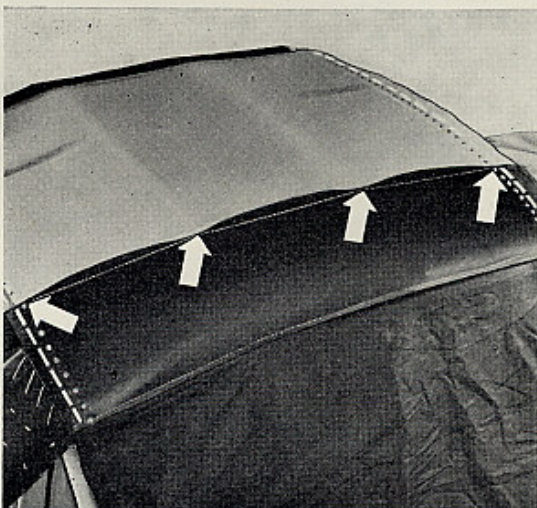


- 7 - Tack the linen sheet in the recess on the rear bow and to the header. To ensure uniform tension in the cross direction as well it is advisable to tack from both sides towards the center.

As the linen material is always cut fuller it is necessary to cut wedge shaped pieces out of the material at the header and rear bow as the formation of folds will cause ridges to appear.

Cut off surplus linen material (see dotted line).

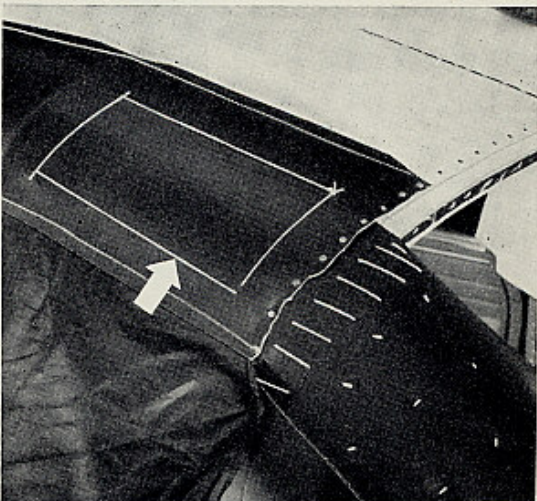
Near the individual bows cut off the surplus material of the longitudinal seams as far as possible without damaging the stitch threads. This will stop the formation of ridges which will later be visible on the top cover.



- 8 - Securely sew the cuts in the linen material and loop stitch the top cover strips in the area between rear intermediate bows.

Note:

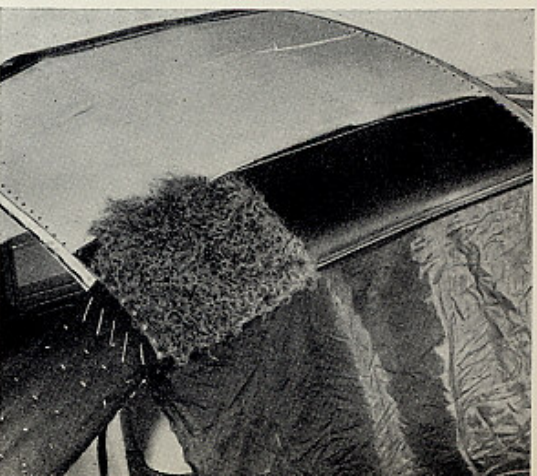
Loop stitches are large, loose stitches made with a thick thread under which the padding material is pushed. They are intended to hold the loose padding material in position.

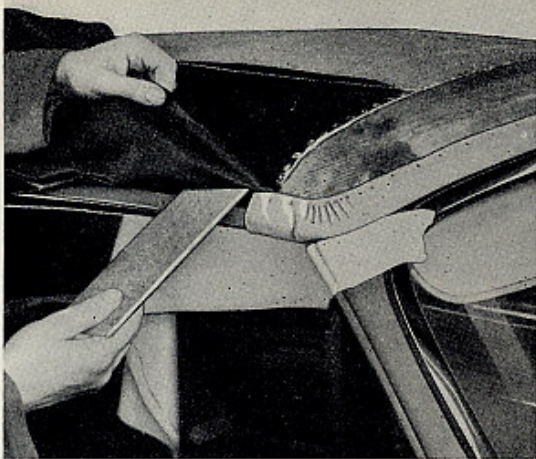


- 9 - Push the padding material — horse hair if possible — under the loop stitches in uniform thickness to level out the depression between the bows.

Important!

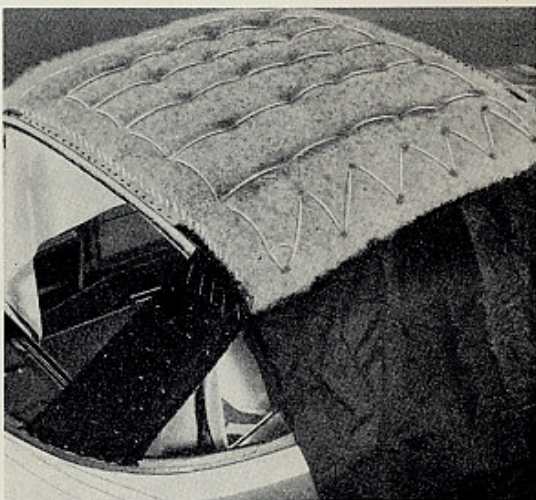
The padding controls the contour of the top at the rear. If the padding is too thick or too thin the top will be uneven.





- 10 - Before sewing the rubberised hair into position insert a piece of cardboard 100 mm wide and of suitable length between the top cover and the headlining at the header.

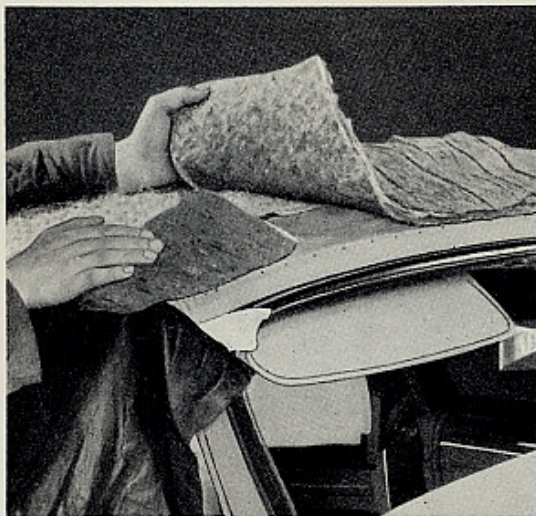
This cardboard, which is removed when the operation is completed, prevents the headlining being caught when the rubberised hair is sewn to the linen sheet.



- 11 - Place the roof portion of the rubberised hair padding in position. The thickened edges should be on the left and right outer sides.

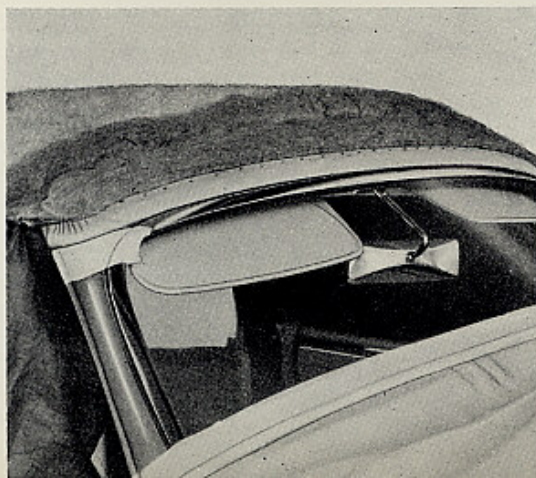
Sew the rubberised hair padding firmly to the linen sheet close to the rear bow.

Pull the padding almost up to the rear edge of the header and sew to the linen sheet. Finally sew the padding to the linen sheet longitudinally with rows of large stitches 100 mm apart.



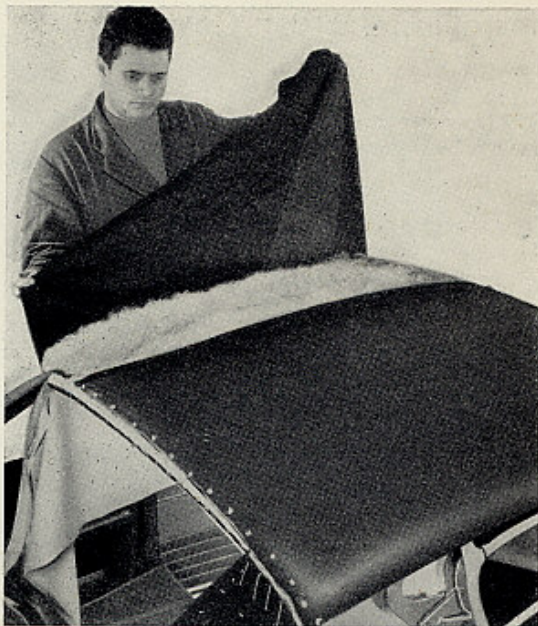
Sew the side outer edges firmly to the top cover strips.

- 12 - To level out the space between the header and the rubberised hair padding, tack a 200 mm (7.8") wide layer of upholstery wadding which has been thinned out at the edges, to the header.



Cut the corners of the wadding to suit the roof shape and tack high enough to avoid the appearance of leaks. The top cover material tacked to the header must butt up against the wadding.

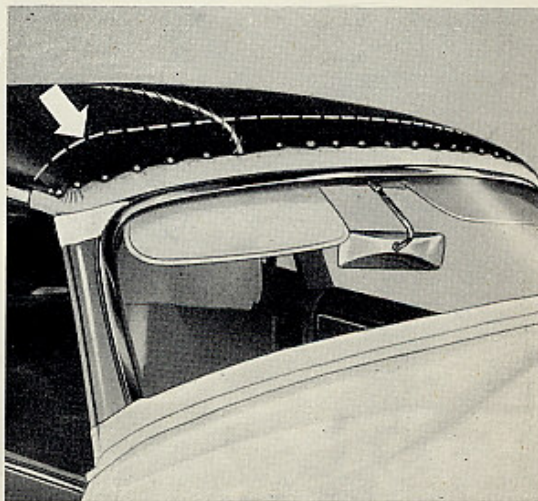
- 13 - Lay one flap of the black lining material over the rubberised hair padding and tack in the recess in the rear bow. At the header end tack the lining over the top material strip. Treat the other flap in the same manner.



- 14 - Cut off surplus lining material and sew the flap joint together with small firm stitches.



- 15 - To give the padding additional support at the front it is advisable to sew the lining and padding together about 100 mm (4") from the header.



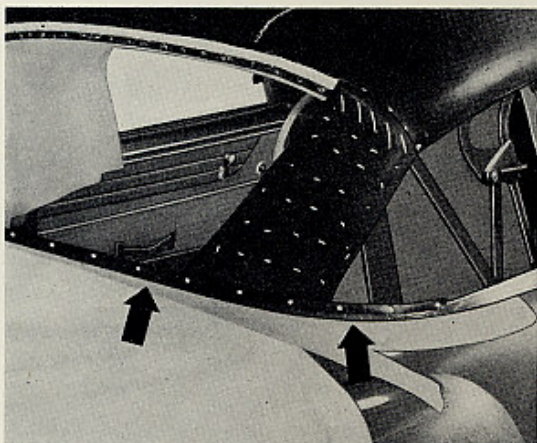
- 16 - Remove the cardboard strip which was inserted before fitting the padding.

Installing the Top Cover

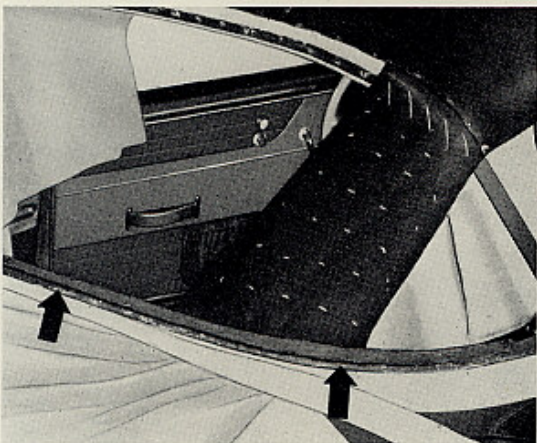
The top cover is supplied in various colors and the choice must be stated when placing the order. The beading for the body bow is supplied with the top cover in the matching color.

The rear window (Part No. 141 845 501) is complete with top cover material and the rear portion of the headlining. The rear portion of the headlining is sewn to the main headlining after the top cover has been completely fitted.

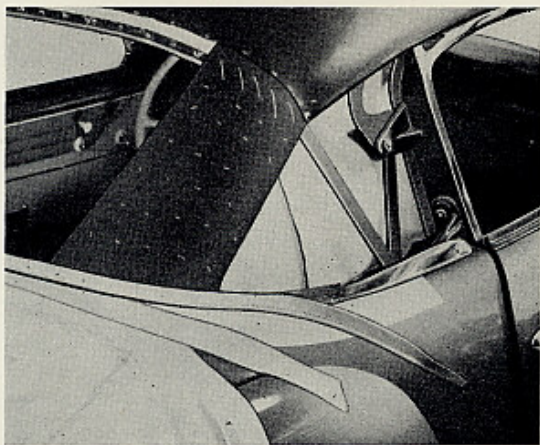
Apart from a few operations the fitting of the top cover is carried out with the top closed.



- 1 - Tack a filler strip to the body bow to reduce the comparatively large clearance between the bow and the body panel. A suitably shaped piece of top cover material can be used for this purpose.



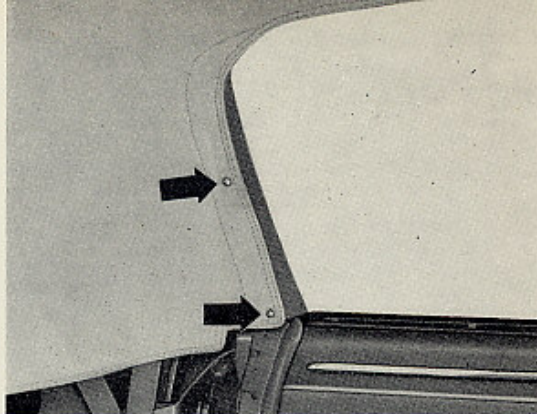
- 2 - Coat the filler strip with sealing compound.



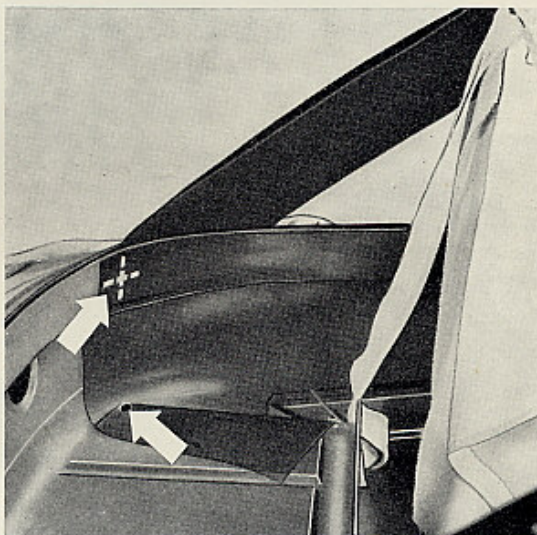
- 3 - Tack the beading to the body bow under side tension so that the bead rests in the body groove against the bow.

For the time being do not tack the beading at the sides, roughly from the ends of the rubberised padding.

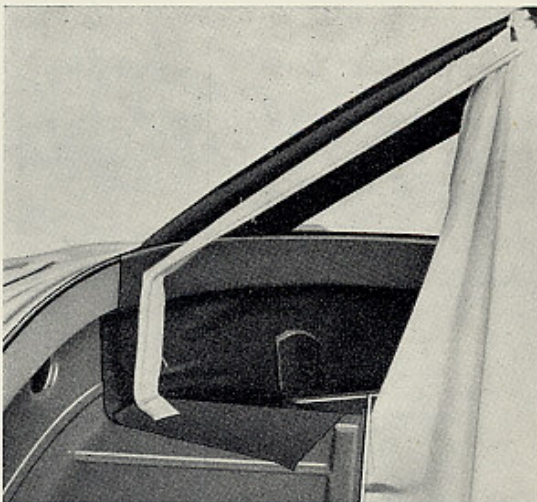
- 4 - Attach the headlining to the main bow on each side with two chrome-plated screws and protective washers.



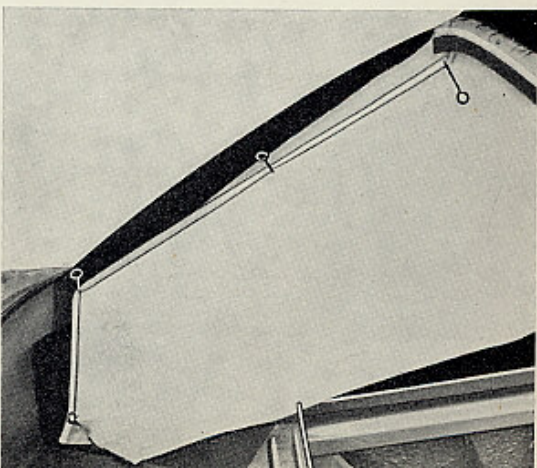
- 5 - Attach the ends of the headlining beading directly under the webbing bands at the center of the bow width with two tacks each and to the bottom panel of the top compartment with a hollow rivet.

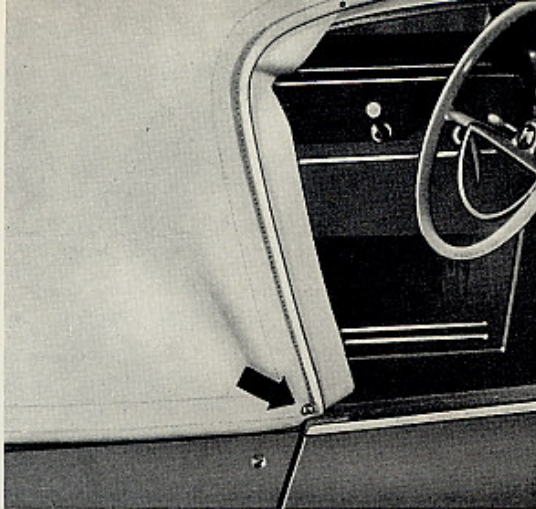


The bead must face towards the center of the vehicle and not be damaged in any way.

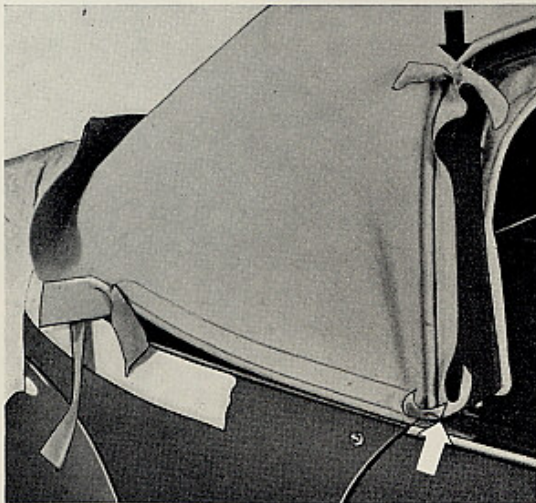


- 6 - Tack the headlining to the beading at the rear. The sewing takes place when the top cover fitting is completed.





- 7 - Place top cover in position and secure to the lower ends of the main bow with a chrome-plated screw and protective washer on each side.

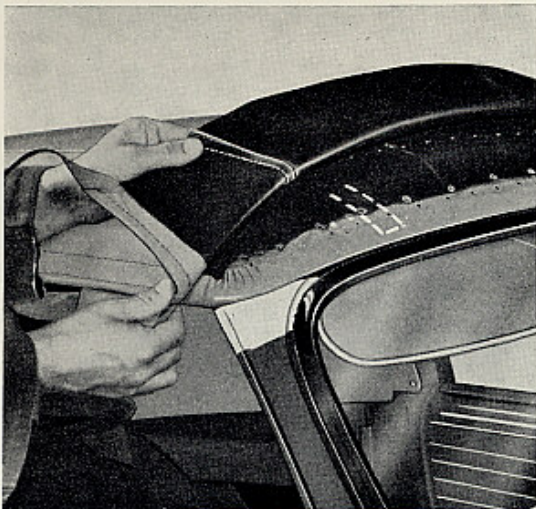


- 8 - Part the surplus top cover material at the sides of the main bow for about 50 mm at top and bottom.

Note:

Parting in this instance means separating the rubber layer from the material layer of the top cover to reduce the thickness of the material, thus avoiding the creation of noticeable ridges.

To facilitate this operation and avoid damaging the material it is advisable to slightly dampen the area to be parted with turpentine. Otherwise a sharp saddler's or parting knife must be used.



- 9 - Cut the rubber layer of the parted material off up to the main bow edge at top and bottom.

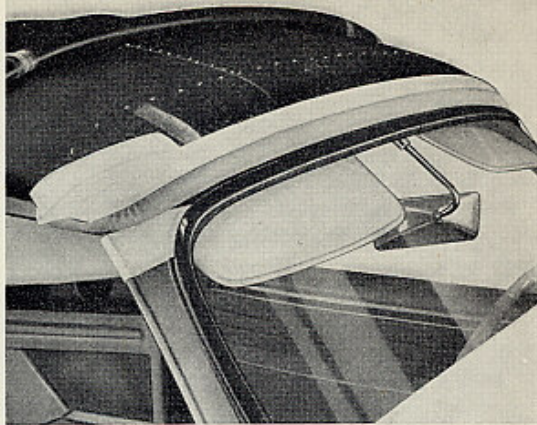
- 10 - To prevent the longitudinal seams in the top cover standing proud of the surface it is necessary to cut the lining and wadding out at the appropriate places and chisel out the header slightly.

To locate the exact position for the cuts, lay the top cover beads on the lower edge of the top frame and mark off the seams.

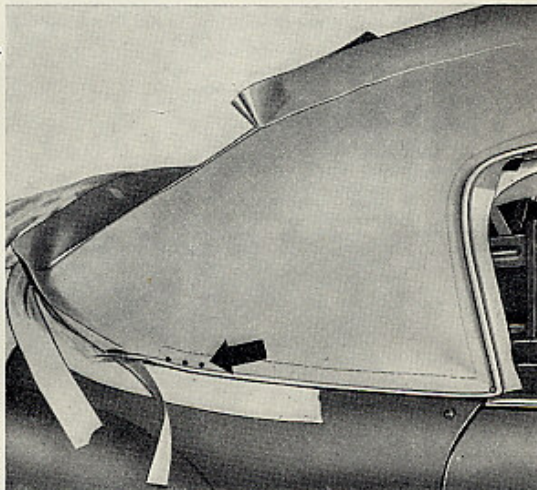


- 11 - Chisel a groove in the header about 2 mm deep and extending down to the front weatherstrip.

- 12 - Apply sealing tape to the joint between the tacked-on top cover strip and the lining material, particularly at the corners. This serves as an additional seal against the possible ingress of water.

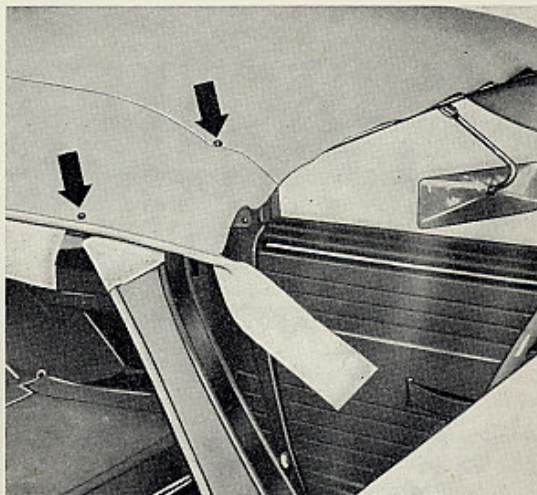


- 13 - Attach the top cover to the body bow under tension, with three tacks each side.



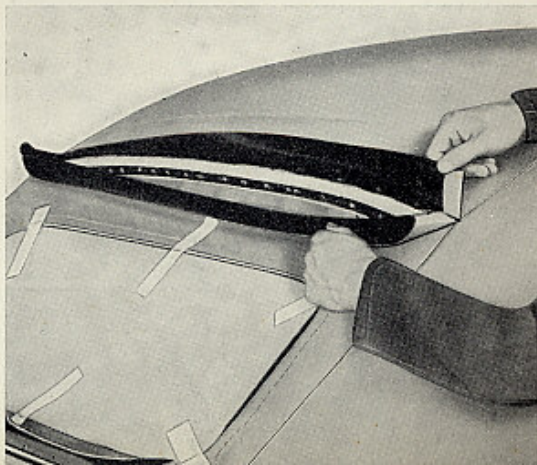
- 14 - Pull the top cover tightly to the rear and attach to the body bow with two tacks.

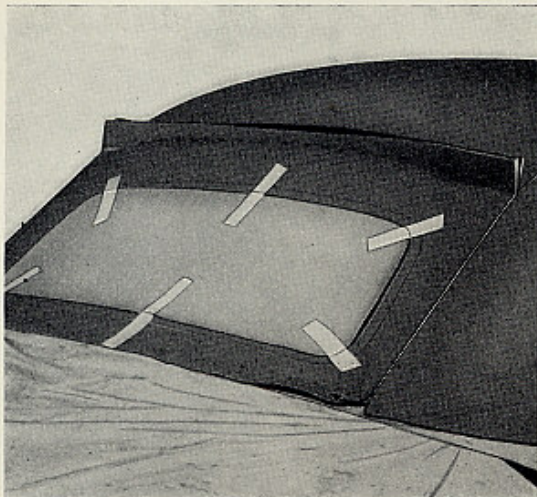
Drive the tacks through the seams to avoid tearing the material.



- 15 - Pull the top cover forward and tack to header at top and sides under tension and free of folds. The top tacks should also be driven through the seams.

When tensioning the top cover take care that the cut in material over the rear window rests exactly in the recess in the rear bow. Correct if necessary.

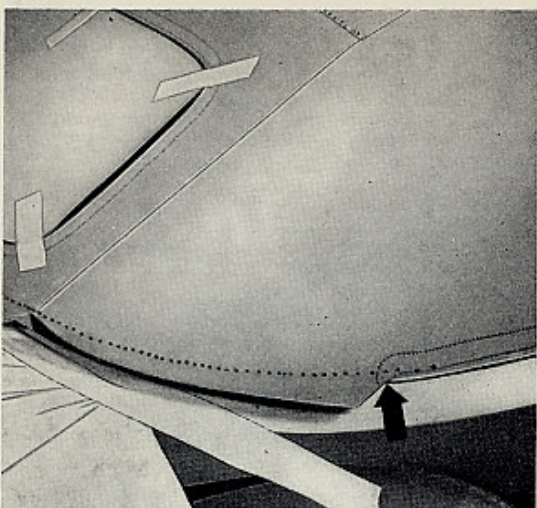




16 - Pull the top cover taut and tack to rear bow and to body bow.

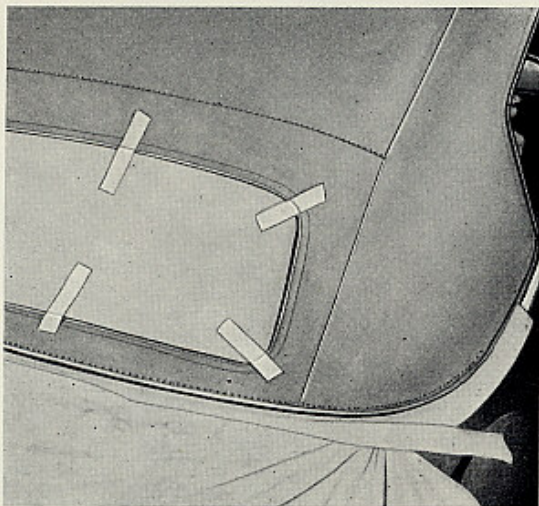
Check that the rear window is horizontally central and correct if necessary by loosening, pulling in the desired direction and retacking.

17 - Under even tension and free of folds tack the top cover in the recess of the rear bow. Tack the lower portion first and then the upper portion over it so that the water running off the roof will not enter the cut. Cut off surplus material.



18 - Coat both ends of the row of tacks with rubber solution — particularly at the seams — taking care that the coated surface is not wider than the trim moulding which is nailed on later.

19 - Cut off the ends of the body beading at the point where the top cover beading ends (see arrow). Part the surplus ends of the top cover beading up to the seam, cut off rubber layer and fold the material part round the body beading to form a smooth joint.



Finally tack top cover and body beading evenly round the top cover seams.

20 - Under tension and free from folds tack the top cover between the longitudinal seams — i. e. under the rear window — to the body bow. Cut off the surplus material taking care not to damage the body beading.

- 21 - Loosen the top cover tacks from the header on one side and at the same time pull the cover forward. Secure the top cover by inserting a chrome-plated screw with washer into the hole provided in the roof frame, taking care that the top cover beading covers the lower edge of the roof frame.

This operation can be carried out best with the assistance of a second saddler.

Treat the other side of the top cover in the same manner.

Important

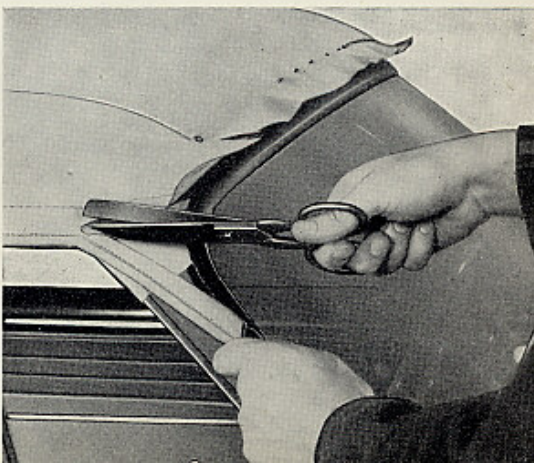
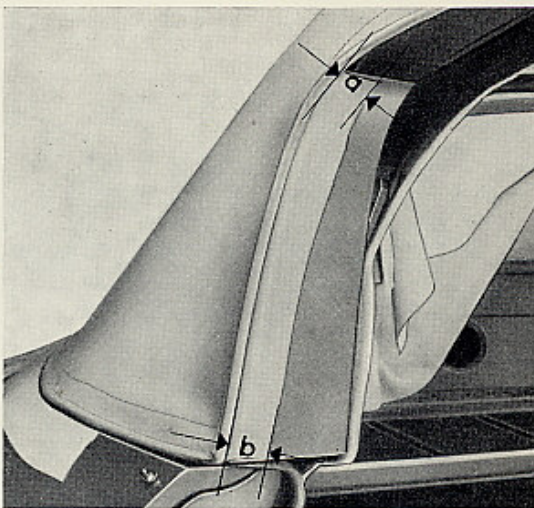
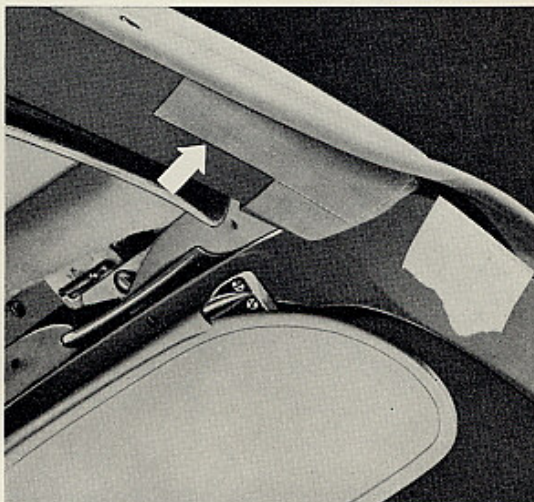
The top must not be opened while tensioning.

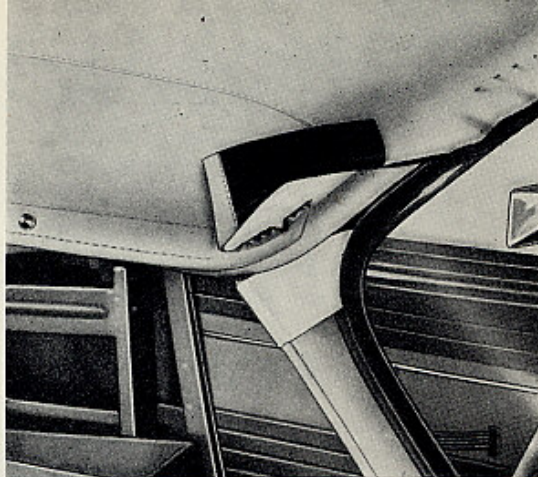
- 22 - Cement the surplus top cover strips to the front roof frame over half its width on both sides.

- 23 - Cement the surplus top cover strips to the main bow on both sides. The strips must not be more than 30 mm wide at the top and 25 mm at the bottom. Cut off any remaining material.

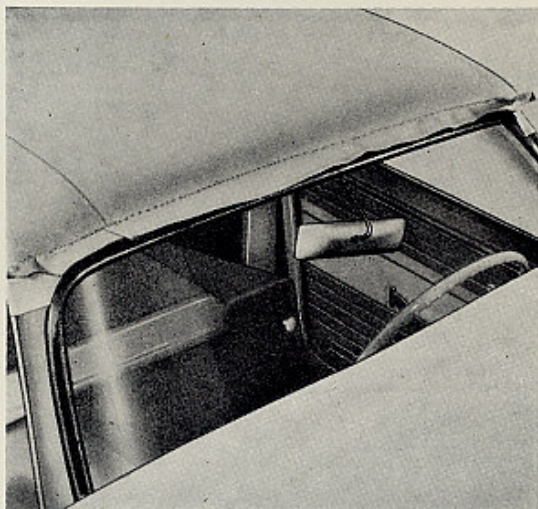
a - 30 mm (1.18")
b - 25 mm (0.98")

- 24 - Cut into the top cover beading far enough to allow a proper fit at the ends of the header.

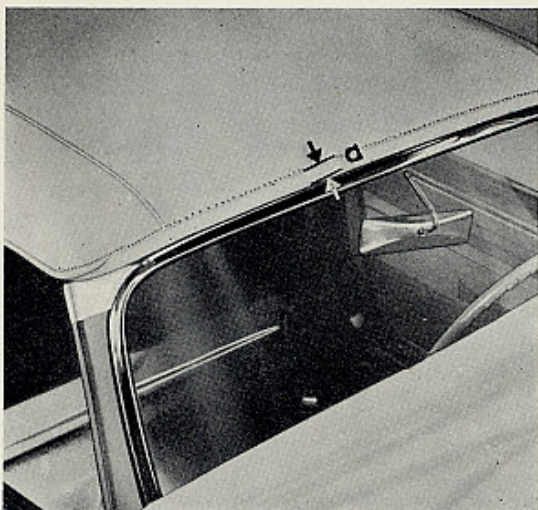




- 25 - Lay the beading round the curved ends of the header and tack so that it tapers off into groove in the header. Coat the row of tacks with rubber solution to improve sealing.



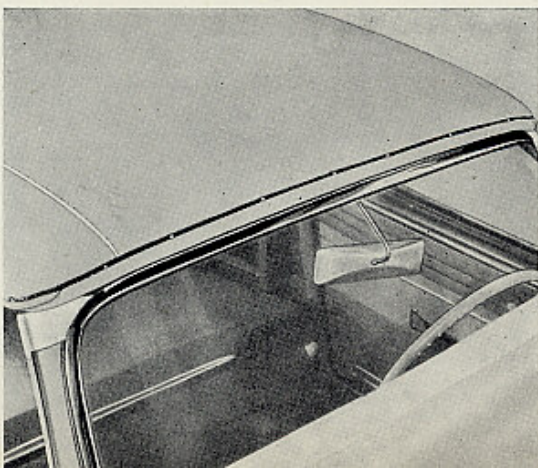
- 26 - If necessary, even out the corners of the header with small amounts of wadding and tack the top cover, without folds, approximately 30 mm above the covered lower edge of the header.



- 27 - Cut the surplus material off straight and cleanly below the row of tacks.

a - 30 mm (1.18")

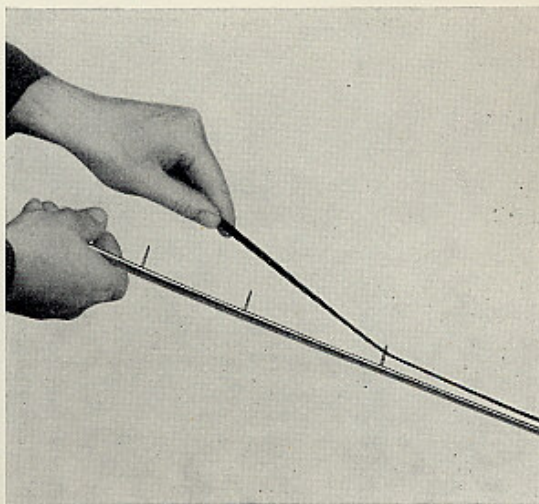
- 28 - Coat the tack row with rubber solution, particularly at the corners, taking care that the coated surface is not wider than the trim moulding which is nailed on later.



- 29 - Tack the trim moulding sealing band over the tack rows on the header and the body bow.

This sealing band is a natural rubber strip of the same width as the trim moulding which is obtainable under Part No. 151 871 435. The band has a light-colored protective strip on one side which must be removed before the band is fitted.

- 30 - To facilitate the correct placing of the band and the trim moulding for the rear bow it is recommended that the band is placed on the moulding first.

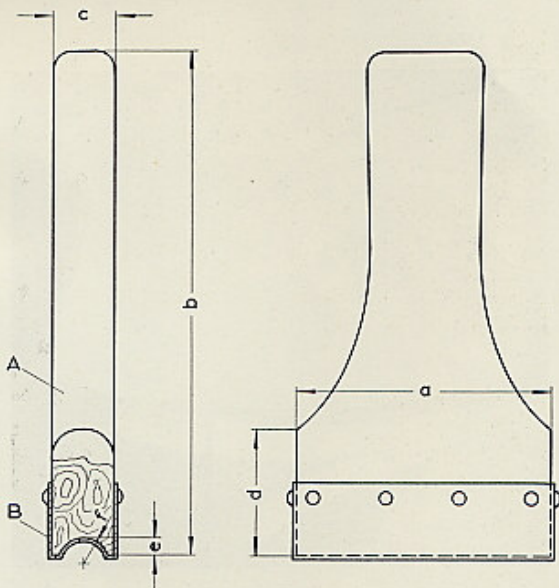


Important

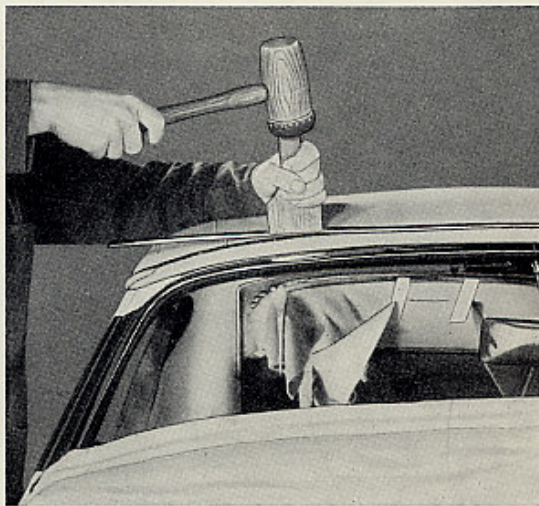
The trim moulding must be installed with the special wooden block to ensure proper fitting and avoid damage to the moulding.

- A - Special block
B - Leather cover (approximately 1 mm thick)

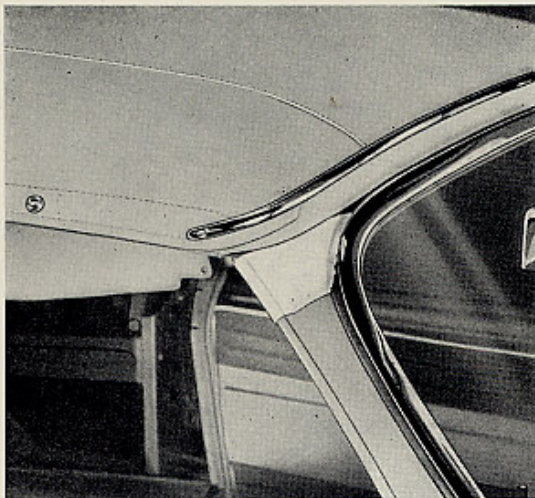
- a - 70 mm (2.75")
b - 140 mm (5.5")
c - 17 mm (0.66")
d - 35 mm (1.37")
e - 5 mm (0.2")
f - 7 mm (0.27")



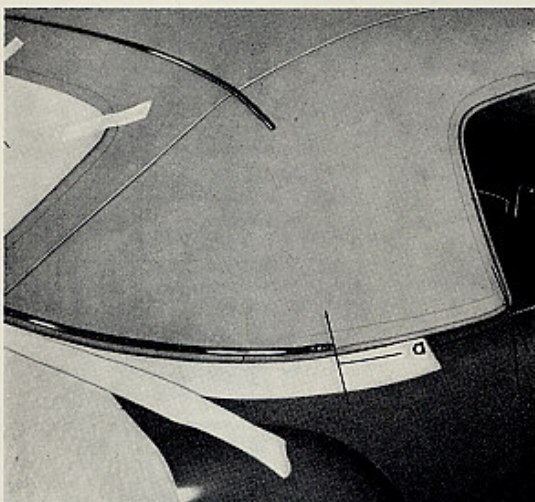
- 31 - Nail trim moulding in position.



To avoid difficulties — such as overhanging at the ends and similar faults — it is advisable to first determine the exact location of the trim moulding by fitting, measuring or marking with chalk. Then start by nailing at one side and work across to the other.



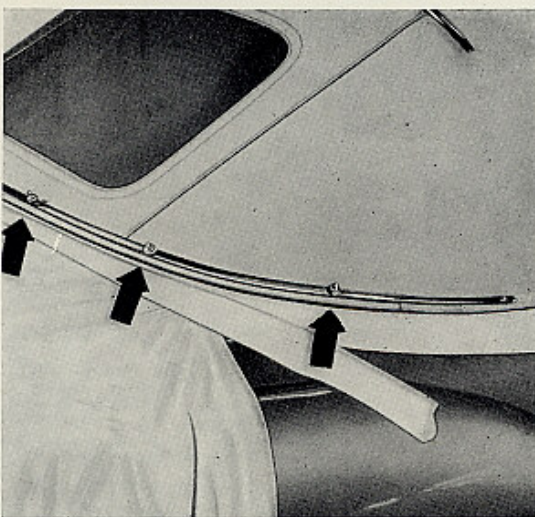
When installing the trim moulding take care that the corners are properly located. Secure the ends of the trim moulding with the special screws (Part No. N 13 864 1).



Before nailing the trim moulding for the body bow on, check that the distance between the ends of the moulding and the lock pillar is 360 mm.

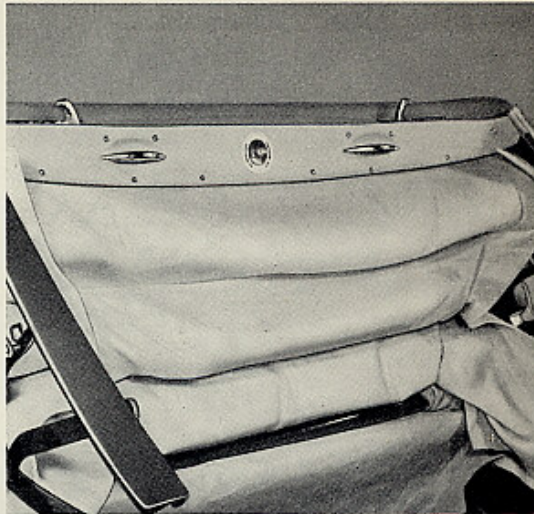
a - 360 mm (14.2")

Secure the ends of the trim moulding for the rear body bow to the body with the counter-sunk tapping screws (Part No. 11 456 1).

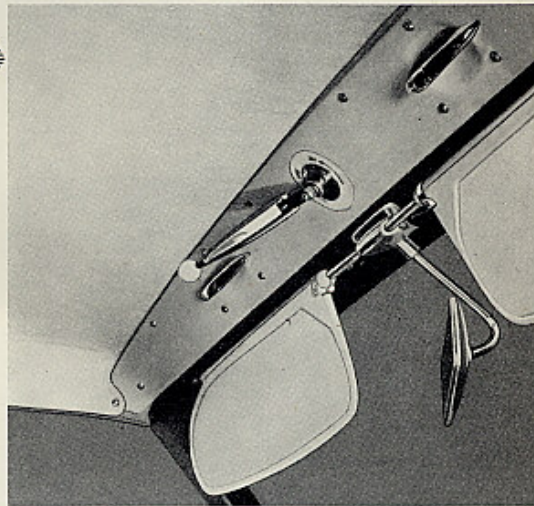


32 - Screw the bottom parts of the press buttons for the top boot and the necessary bases for the buttons into the holes provided in the trim moulding.

- 33 - Attach the leatherette covered plate for the header to the inside of the header with the special screws (Part No. N 12 611 1) and the protective washers (Part No. 141 871 619).

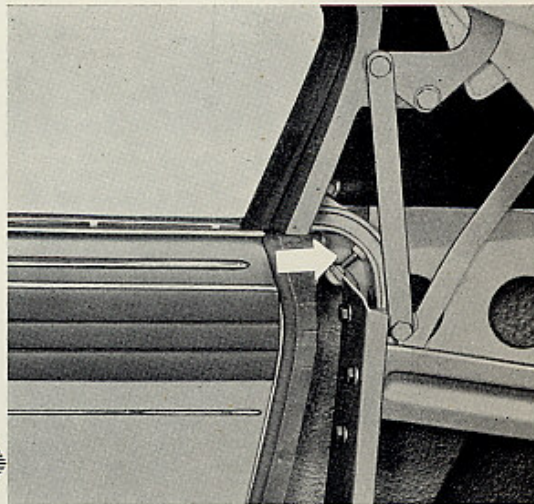


- 34 - Push the top lock handle onto the shaft and secure with the cap nut (Part No. N 11 143 1). Take care that the handle points to the left when the top is closed. Finally attach the headlining to the plate by inserting a counter-sunk screw and special washer in the holes provided at left and right.



The screw points must not touch the roof frame as this will result in noises in the header, if necessary bend the ends of the header plate up away from the roof frame.

- 35 - Open and close the top several times to check the lock.



- 36 - When all the top installation work is finished the roof frame can be adjusted.

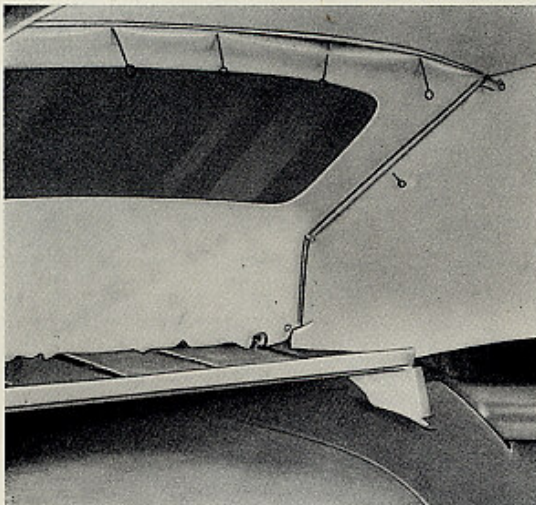
An adjuster screw and lock nut is fitted to each of the main hinge pillars for this purpose.

As already pointed out during the roof frame fitting operation there should be a clearance of 6 mm (0.236") between the lower edge of the main bow and the quarter panel.

Bearing this measurement in mind, loosen the lock nut and turn the screw in until it contacts the main bow without exerting any pressure.

Tighten the lock nut.

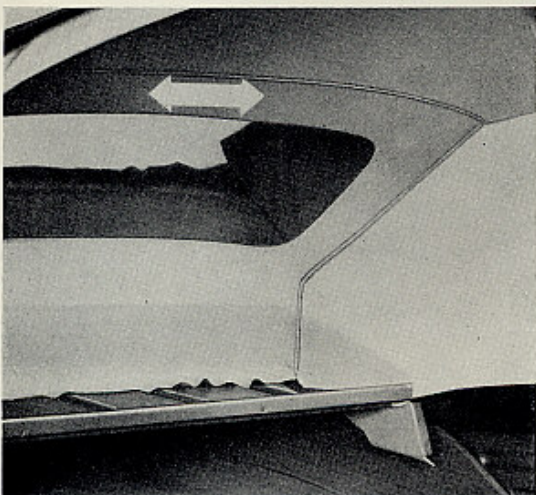
Securing Headlining



As already stated the rear portions of the headlining and the top cover are sewn to the rear window.

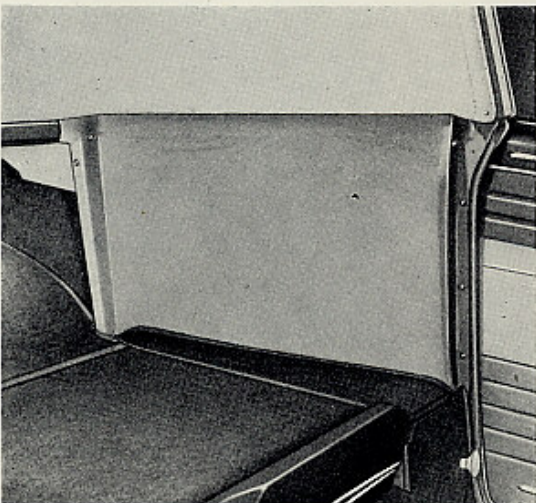
The headlining rear portion is not sewn to the main part until the top cover is completely fitted.

- 1 - Tension the rear portion slightly and pin it to the headlining and the top beading.



- 2 - Sew the rear portion, top beading and headlining together with small invisible stitches.

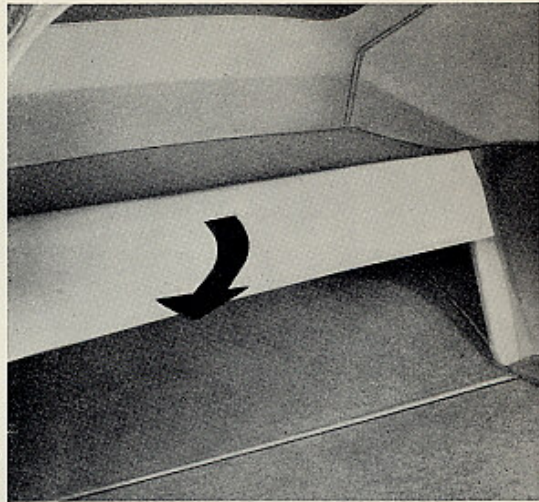
It is advisable to start in the center and work outwards to avoid creases.



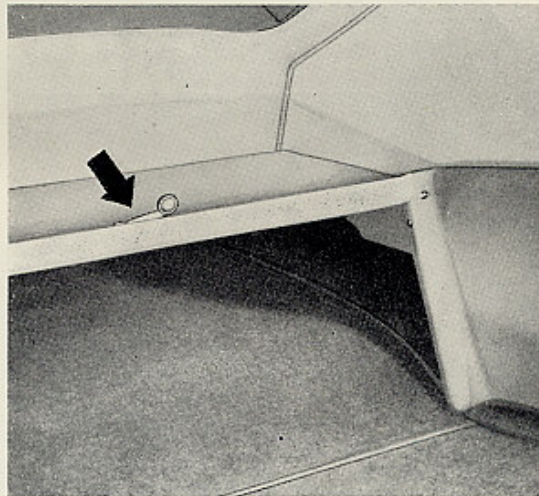
- 3 - Cement the surplus rear portion of the headlining to the top compartment panel.

- 4 - Secure the rear quarter trim panels.

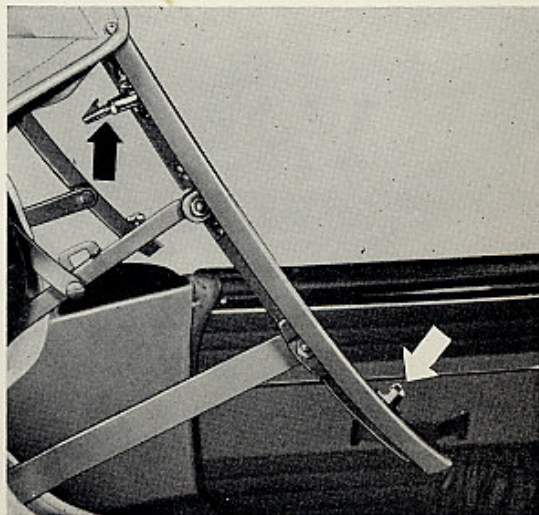
- 5 - Coat the bottom panel of the top compartment with adhesive on the top, front and halfway underneath.



- 6 - Cement the leatherette covered cardboard sheet onto the top compartment bottom panel.

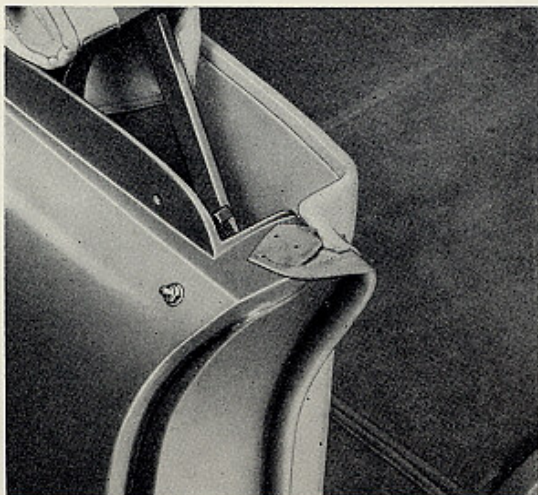


- 7 - Secure the retaining strap for the emergency seat.

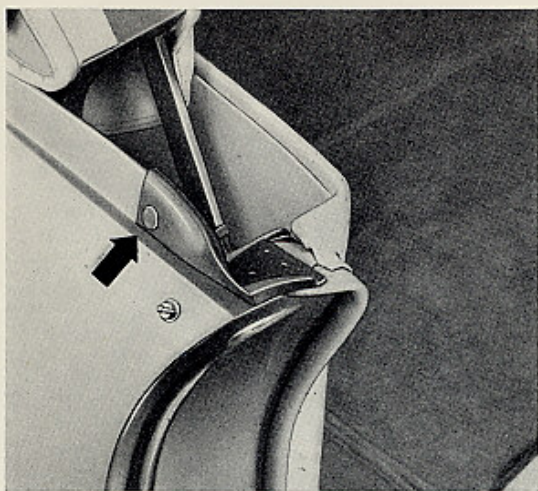


- 8 - Open the top and screw the top catches and coat hooks into the holes provided in the top frame.

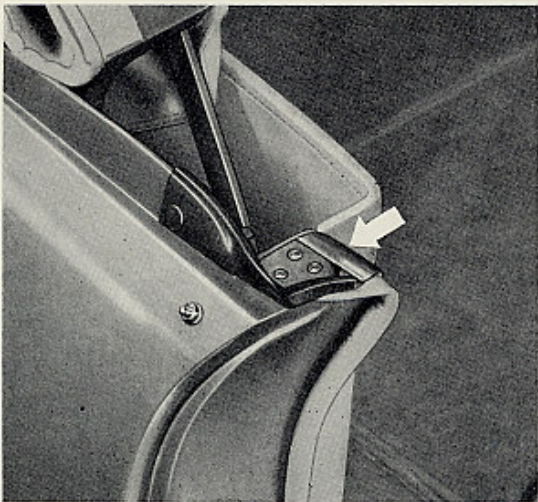
Installing Lock Pillar Trim Plate



Before installing the door window weatherstrips, the seals (Part Nos. 141 853 367/368) and the trim plates (Part Nos. 141 853 365 A/366 A) must be fixed to the lock pillars.



1 - Secure the sealing rubbers to the lock pillars with one hollow rivet each (Part No. 141 853 369).



2 - Attach the trim plates with three chrome-plated screws each (Part No. N 11 322 1).

Installing Door Window Weatherstrips

The door window weatherstrips, under Part Nos. 141 871 925 A/926 A and 141 871 923, are attached to the roof frame, the main bow and the windshield frame.

The weatherstrips are supplied longer than finally required to permit proper fitting and cutting to size. They are attached to the roof frame by metal strips which fit inside the rubber moulding and are secured to the roof frame with tapping screws.

From Chassis No. 2105320 softer weatherstrips were installed. These weatherstrips conform to the window shape better, make window adjustment easier and stop friction noises between the window glass and the rubber lips.

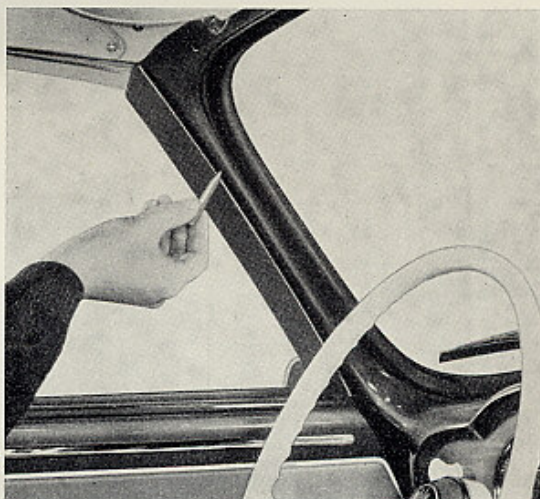
The new weatherstrips, which are supplied under the previous part number, can be subsequently installed without any alterations.

To stop friction noises between weatherstrip and window glass, apply ATE brake cylinder paste to the rubber lips. Wipe the weatherstrips afterwards with a clean cloth.

To stop noises with the softer weatherstrips, roughen the lips with rough emery cloth only as this rubber is self-lubricating and the normal chemical solutions will increase the noise.

- 1 - Before screwing the weatherstrips into position it is necessary to locate them exactly.

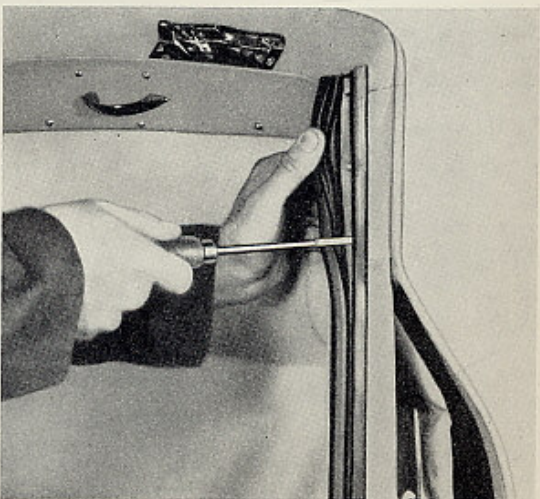
To do this, wind up the window glass and place the weatherstrip in position where it has to be screwed on. Take care that the weatherstrip makes good contact on the door window.



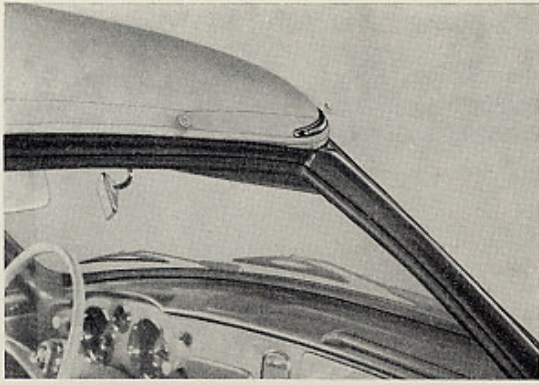
- 2 - Mark the position of the weatherstrip on the inside of the vehicle with a pencil. Do not use a scribe or similar tool.

- 3 - Cut the weatherstrip to size. It is advisable to be on the safe side and leave the weatherstrip slightly too long.

- 4 - To ensure good sealing it is recommended that a strip of sealing band (Part No. 151 871 435) be cemented under the weatherstrip.



- 5 - Drill holes to correspond with the holes in the metal strips and secure the weatherstrip in position.



6 - Cut the weatherstrip to the necessary length. Pay particular attention to the corners, the weatherstrips must fit closely together at this point.



Leaky Top Cover Seams

When the seams of the Convertible top show signs of leakage, carry out a test by spraying the top evenly and lightly with water until the location of the leak is discovered.

The top seams, including those round the rear window, can only be effectively sealed if the thread itself is in good condition. If the thread is damaged or rotted to such an extent that it is no longer tight the only remedy is to replace the cover. Re-sewing is not recommended as experience has proved that the stitches cannot be spaced to conform to the original holes when sewing with a machine. Apart from this the seam holes would be enlarged too much by the tension of the new thread.

The leaks can be eliminated by the use of the seam protecting solution "Happich 7303" which is obtainable from Gebr. Happich GmbH, Wuppertal-Elberfeld, Neunteich 72. The solution is applied underneath all the top seams, including the edges, and rubbed in vigorously until small drops can be seen in the stitch holes from outside. The solution must not come into contact with the outer surface of the top cover as it cannot be removed.

The following operations are necessary to enable the solution to be rubbed into the front seams.

- 1 - Lift the header trim moulding at each side about a third of its length.
- 2 - Remove the screws securing the top cover to the roof frame at the sides.
- 3 - Loosen the top cover at both corners of the header until access is gained to the seams.
- 4 - Open the top until it is free of tension.
- 5 - Rub the solution well into the seams.
- 6 - Secure the top cover to the header and roof frame again.

To treat the rear seams it is merely necessary to open the top about half-way. The seams can then be reached from the side, between the roof frame and the top cover.

The water stains in the headlining caused by the leakage can be removed by rubbing them evenly with a cloth well soaked in a solution of 1 part ammonia and 3 parts water. The headlining must be perfectly dry before the solution is applied.

If the headlining is dirty, the places which have been treated will be lighter in colour. It is advisable, therefore, to wipe the entire headlining with a well soaked cloth after the water stains have been removed.

Leakage at Rear Window

If leaks are found at the rear window of the Convertible, first check the condition of the thread securing the rear window in the top cover. Should the thread be damaged or rotted to such an extent that it is no longer tight, the only remedy is to replace the top cover. Re-sewing is not recommended as experience has proved that the stitches cannot be spaced to conform to the original holes when sewing with a machine. Apart from this the seam holes would be enlarged too much by the tension of the new thread.

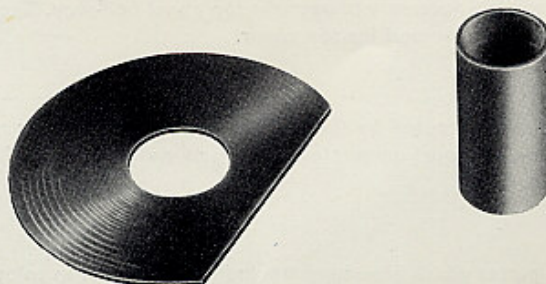
Carry out a test by spraying the area lightly with water. If water penetrates round the window even though the seams appear sound, seal the part between window and top cover with the sealing compound "Epple 55". This compound can be obtained direct from Chemischen Fabrik Epple and Co., Stuttgart-W., Seidenstr. 57.

Waterstains on the headlining under the rear window do not always indicate that the window is leaking. In most cases these stains are caused by condensed water running off the window and soaking into the headlining. A remedy in these cases is possible only if the window is wiped dry when condensation forms. The water stains in the headlining can be removed by rubbing them evenly with a cloth well soaked in a solution of 1 part ammonia and 3 parts water. The material must be perfectly dry before the solution is applied.

If the headlining is dirty, the places which have been treated will be lighter in colour. It is advisable, therefore, to wipe the entire headlining with a well soaked cloth after the stains have been removed.

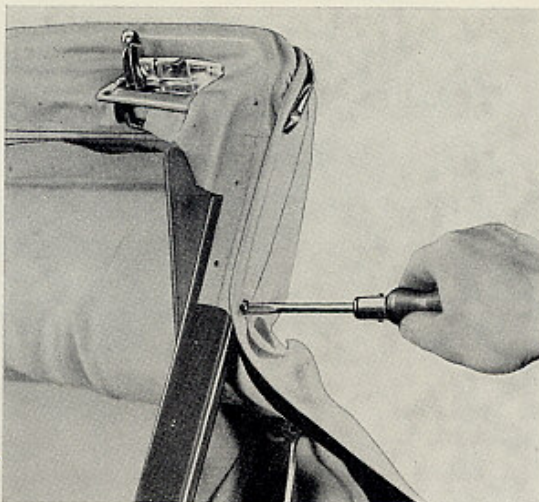
Noises at the Header

From Chassis No. 2125345 onwards anti-squeak washers (Part No. 141871505) and anti-squeak sleeves (Part No. 141871509) were installed in the corner fittings of the Convertible to eliminate noises between the header fittings and the roof frame caused by the stressing of the top frame.



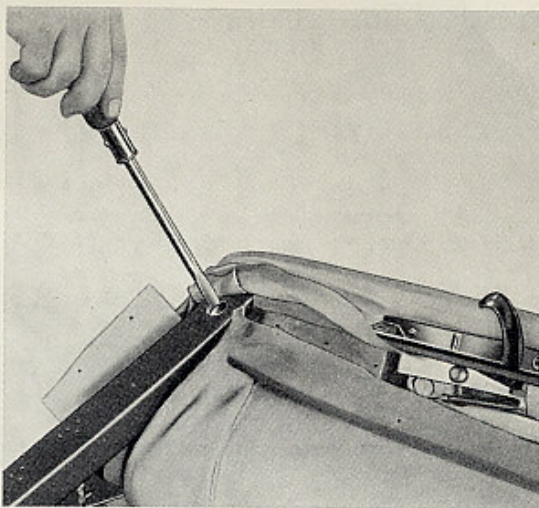
If these noises occur on older Convertible models the plastic parts can be service installed. The following operations are necessary:

- 1 - Open top and fold it back. Remove top lock handle and header cover plate.
- 2 - Loosen both door window weatherstrips on the top frame for about half their length.
- 3 - Remove the screws securing the top cover to the frame at the sides.



- 4 - Loosen the top cover at both corners where it is nailed to the header.

- 5 - Lift the top cover at both sides where it is cemented to the frame until the screws securing the header are exposed.



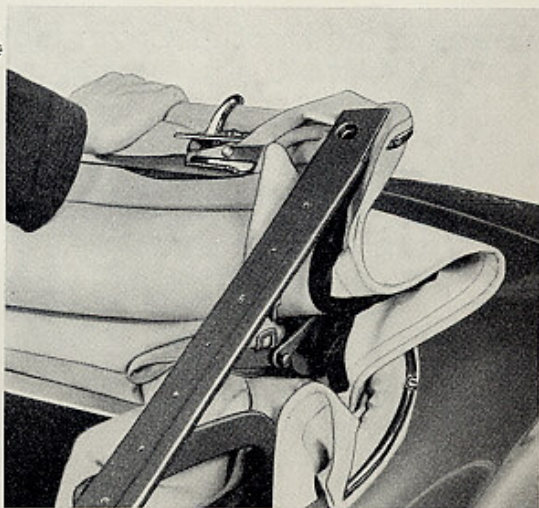
- 6 - Remove the header securing screws taking care that the brass washers under the screws are also withdrawn from the holes.

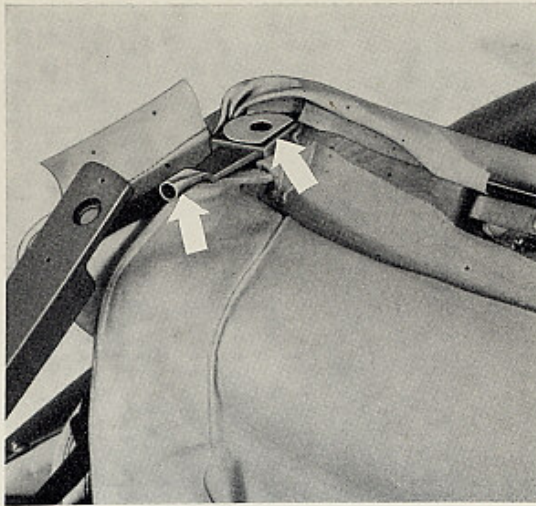
- 7 - Push header out of the top frame.

- 8 - Remove scraps of old material and cement remains from the header corner fittings.

- 9 - Place the sleeves over the rear ends of the corner fittings.

Coat the ends of the corner fittings lightly with adhesive to stop the sleeves slipping off when the header is installed. (Allow adhesive to dry well as the synthetic material does not stick easily.)





10 - Cement the anti-squeak washers over the holes for the header securing screws so that the straight edge faces the vehicle interior. Place a shake-proof washer in the hole in the header fitting.

11 - Locate the header in the roof frame again and insert screws. Take care that the brass washers are correctly in position. While the screws are being tightened move the appropriate side of the roof frame back and forth so that the screws seat properly. The screws should be tightened to a torque of 4 mkg (29 ft. lbs.).

12 - Place the top cover in position again and secure with cement, nails and screws. Install the header cover plate and the lock handle.

Padded Sun Visors

From Chassis No. 2252455 the Convertible has been fitted with padded sun visors instead of the dark-colored plastic material type.

The new type visors can be installed in place of the previous type without any further alteration and are obtainable separately under the Part Nos. 141 857 551 B/552 B.

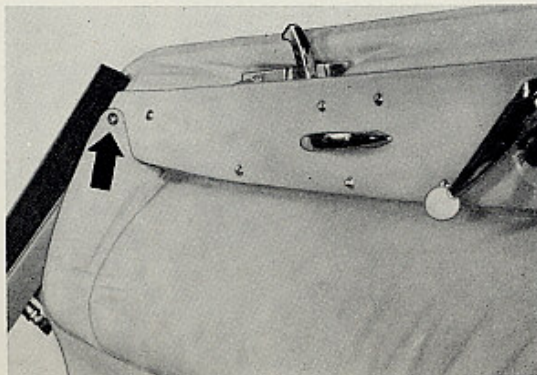
The new rear view mirror with spindles (less visors) is supplied under Part No. 141 857 523 B.

When service installing the new type sun visors on the previous rear view mirror with holder observe the following:

- 1 - Remove securing screws and remove previous sun visors with the two end supports (Part No. 141 857 559).
- 2 - Push the padded sun visors onto the spindles as far as possible and tighten the clamp screws.

The end supports are no longer necessary.

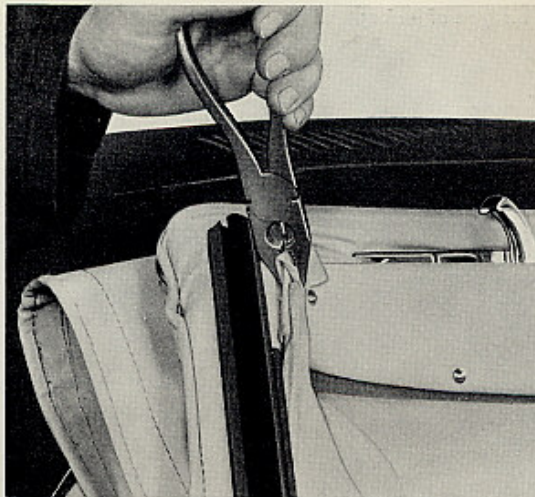
Noises at the Header Cover Plate



Noises occasionally occur at the corners of the header on the Convertible which can be traced to the following source.

The two headlining securing screws at the ends of the header cover plate contact the metal roof frame when the vehicle vibrates.

A remedy can be affected by shortening the screws and slightly bending the ends of the header cover plate so that the screws cannot touch the metal frame of the roof. To avoid soiling or damaging the cover plate when bending it, wrap a piece of cloth round the jaws of the pliers.



Leakage at the Top Header

When leakage occurs at the header of the Convertible, the cause can be as follows:

- a - Insufficient or uneven contact between the header and the windshield frame, particularly at the corners.
- b - Incorrect nailing of the top cover to the header under the front trim moulding.

The leaks can be located and eliminated as follows:

Re a - Light spots on the header contact surface usually indicate the entry of water at this point.

Check that the contact is even by inserting strips of paper between the header and the windshield frame. At the points where the paper strips are not firmly pressed, the header must be sealed by installing additional foam rubber strips of appropriate thickness. First of all check whether the original weatherstrip is deformed or misplaced. Should this be the case, install a new weatherstrip. The most suitable foam rubber strip for sealing is the type used under the roof corners (Part No. 141 871 605).

To replace the weatherstrip, the handle for the top lock and the header cover plate must be removed. If the nails on the inside of the header are removed the front top cover strip can be lifted enough to allow the weatherstrip to be renewed or additional pieces inserted. Nail the top cover in position and carry out a water test. If the leaks have been eliminated, install header cover plate and handle.

Re b - The main top cover is nailed under the front trim moulding together with the strip of material for the header. At the corners of the header the strip of material is nailed in small pleats to follow the curve. If the pleats are too large they act as canals through which the water is forced under the main top cover when the vehicle is moving at high speeds, thus wetting the padding and header. If wadding is used to even out the pleats it must not be visible on the row of nails between main top cover and the header cover as the wadding will soak up moisture.

This type of leakage shows as damp spots in the front part of the headlining and can be eliminated as follows:

Remove:

- 1 - Handle for top lock
- 2 - Header cover plate
- 3 - Header trim moulding
- 4 - Sealing band under the trim moulding.

Loosen the top cover at the roof bow corners as far as necessary and fold up. Renew damp wadding and rubberised hair and dry header. If the header is cracked or the glue is faulty the header must be renewed.

When nailing the header strip in position make the corner pleats smaller before nailing. Coat the upper ends of the pleats well with rubber solution and cover with the widest possible strip of linen. Finally, nail the main top cover to the header again, under tension and free of creases with brass tacks only (Part No. 151871471). The top beading must seat firmly and evenly particularly at the corners of the header. Coat the row of nails on the header with rubber solution. Tack a strip of sealing band (Part No. 151871435) over the nails and install the trim moulding.

Protective Cloth for Rear Window

From Chassis No. 2120400 a soft protective cloth (1050 mm x 650 mm) was supplied with the Convertible. This cloth should be placed over the rear window when the roof is open to avoid the window being scratched.

A folding card was also included with the cloth, giving more detailed instructions as follows:

“Please note the following when opening the top:

When you have unlocked the top and lifted it slightly, place the protective cloth over the rear window. The top can then be folded back, smoothing out the folds between the bows with the back of the hand.

Press the top down until the catches engage. Secure the top boot on the inside first and then outside.”

This text was included in the Instruction Manual at the same time.

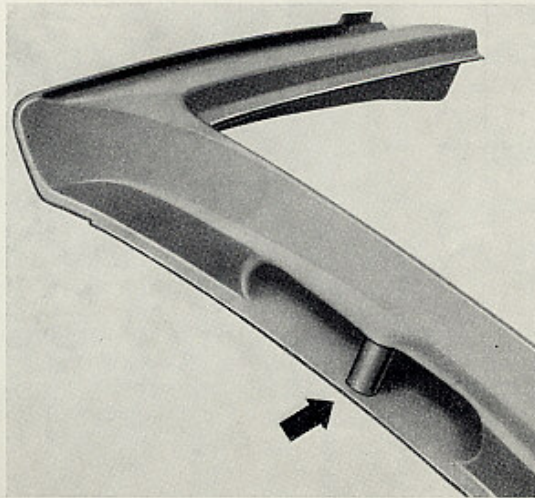


Windshield Frame



The windshield frame is supplied as a complete item and consists of:

- a - Inner panel
- b - Outer panel
- c - The recesses and rollers for the locking hooks



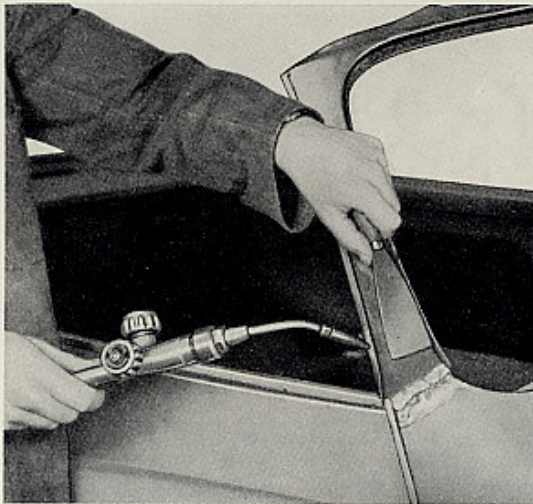
All the parts are welded together. The outer edges of the windshield frame are folded together.

If necessary, replace the complete frame and weld into position with the assistance of the special jig. The use of the jig is strongly recommended as otherwise difficulty can appear when installing the windshield or when closing the top. Further details of other jigs and appliances can be found in "Body General" section under "Workshop Equipment".

Replacing the Windshield Frame

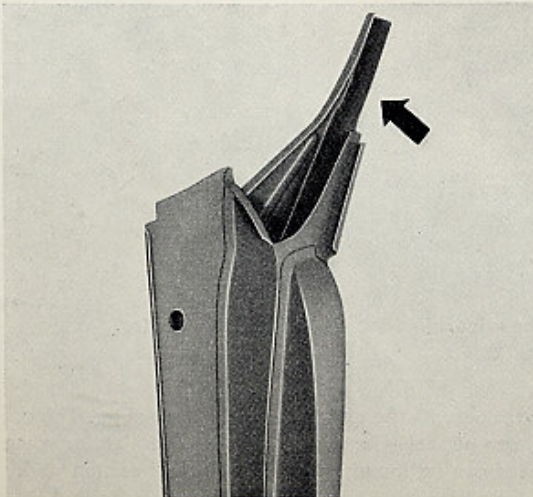
Preparation

- 1 - Disconnect battery.
- 2 - Remove or cover the instrument panel as far as necessary.
- 3 - Remove windshield wiper mechanism.
- 4 - Remove front seats and floor mats.
- 5 - Remove windshield glass.
- 6 - Unscrew the door window weatherstrip at the windshield frame.
- 7 - Remove steering wheel.
- 8 - If no other body repair work is being carried out, remove or adequately cover both doors.
- 9 - Fold top back and cover up to avoid soiling.



Body Repair Work

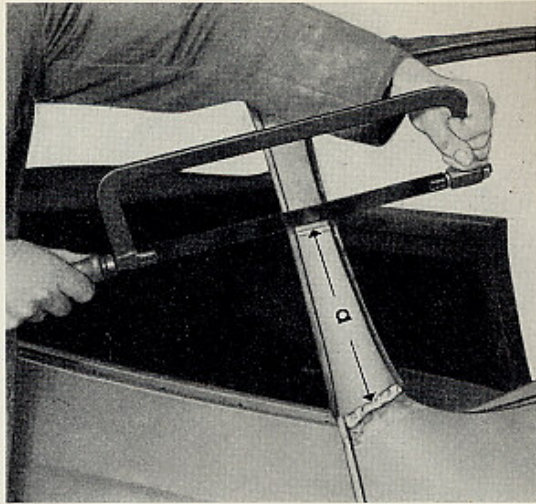
- 1 - Heat the layer of solder on the weld seam with a gas torch and scrape off with a suitable spatula.



- 2 - As already known the hinge pillars of the Convertible have welded-in reinforcement channels at the top which are also welded into the windshield frame.

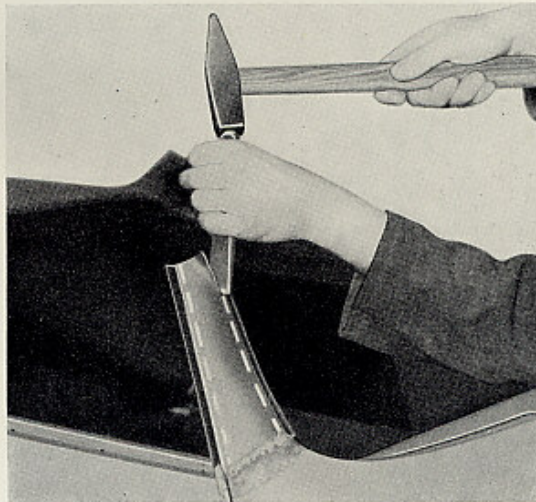
These reinforcement channels must be used again as it is impossible or extremely difficult to weld them into the hinge pillar in situ. For this reason the channels are not supplied separately as spare parts.

- 3 - Saw the pillar off about 200 mm above the weld seam.

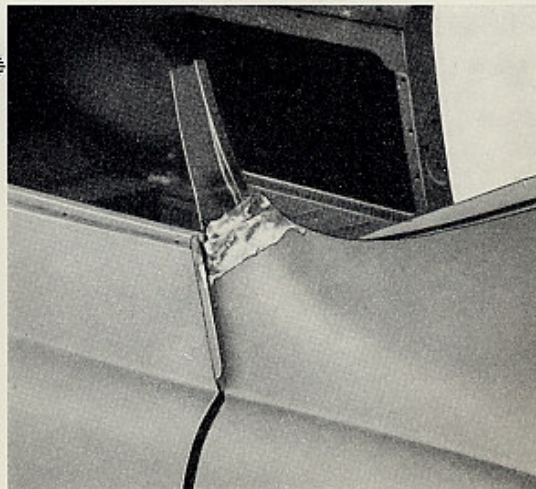


a - 200 mm (7.8")

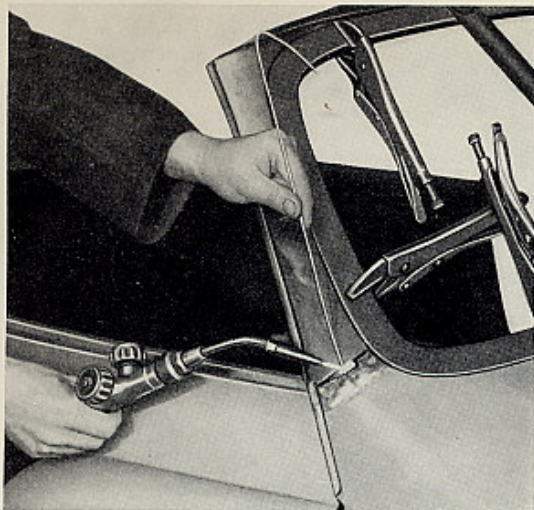
- 4 - Bend up the folded edges of the windshield frame and chisel down the sides of the remaining windshield pillar parts. The reinforcement channels must not be damaged during this operation.



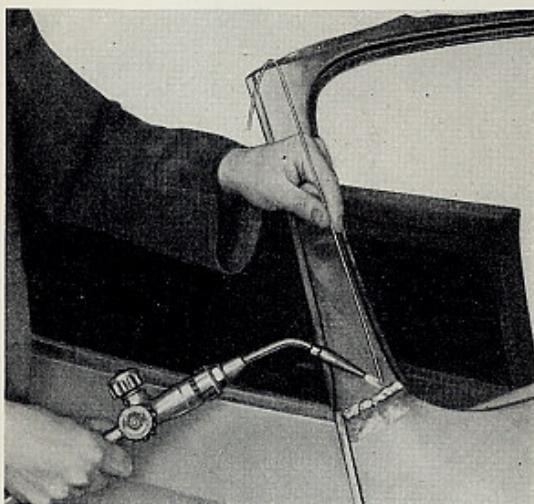
- 5 - Remove metal scraps down to the weld seam and grind or file the weld seams clean. If necessary straighten the reinforcement channel and beat out any dents.



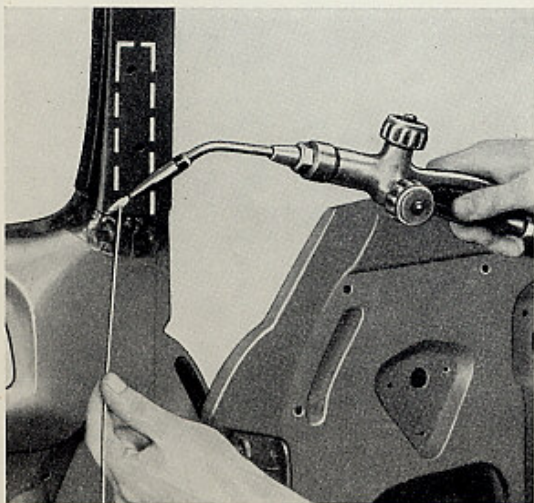
- 6 - Position the new windshield frame, insert the special jig for the windshield glass and secure with clamps.



7 - Tack weld the windshield frame to the body.



8 - Remove the windshield jig and gas weld the frame.



9 - At the bottom of each windshield pillar are three holes which enable the windshield frame to be gas welded to the reinforcement channels.

The dotted line indicates the position of the channel.

10 - Insert the windshield jig again and check the position of the frame. Correct if necessary.

11 - Grind the weld seams off as far as possible and coat all welded and repaired places with solder to ensure a uniform contour.

12 - Grind all reworked places smooth and prepare the vehicle for painting.



Spot Welding Pastes and Paint

A - Spot welding paste

In order to obtain water-tight joints, the parts of metal sheets which are to be welded are given a coating of sealing paste which is not affected by welding.

This standard manufacturing procedure should also be adopted for bodywork repairs.

The paste can be obtained direct from the manufacturers:

| Manufacturer | Designation |
|---|-------------------------------------|
| Bonaval-Werk, Bonn, Germany, Brühler Straße 2—20 | Spot welding paste 59 852 or 60 506 |
| Teroson-Werke G.m.b.H., Heidelberg, Hans-Bunte-Straße 4, Germany | Spot welding paste 2257 |

The paste is applied before welding commences. Before and after welding the paste should not run. At the joints it should form a film which adheres firmly, prevents corrosion and renders the joint water-tight. It must also remain unaffected by degreasing agents and subsequent painting.

Paste which burns during spot welding should cease to do so as soon as the heat is removed.

The paste should only be employed where water-tight seams are stipulated and where it is impossible or difficult to apply sealing compound after welding.

B - Spot welding paint

Spot welding paint is used to prevent corrosion in hollow parts, which cannot be painted after welding due to inaccessibility.

| Manufacturer | Designation |
|--|-------------------------|
| Teroson-Werke G.m.b.H., Heidelberg, Hans-Bunte-Straße 4 | Spot welding paint 2273 |

Before welding, spray or paint all components with spot welding paint.

General

The use of the above products does not simplify the welding process. It may be necessary to step up the welding current, depending on the thickness of the coat applied.

Superfluous material must, however, be removed before the part is given a coat of paint which must stand up to the conditions stipulated for the outside finish. Neither welding paste nor paint can be considered as a substitute for primer to which a top coat can be applied.