

■ GIULIA AND 1750 MODELS ■

■ BODY ■

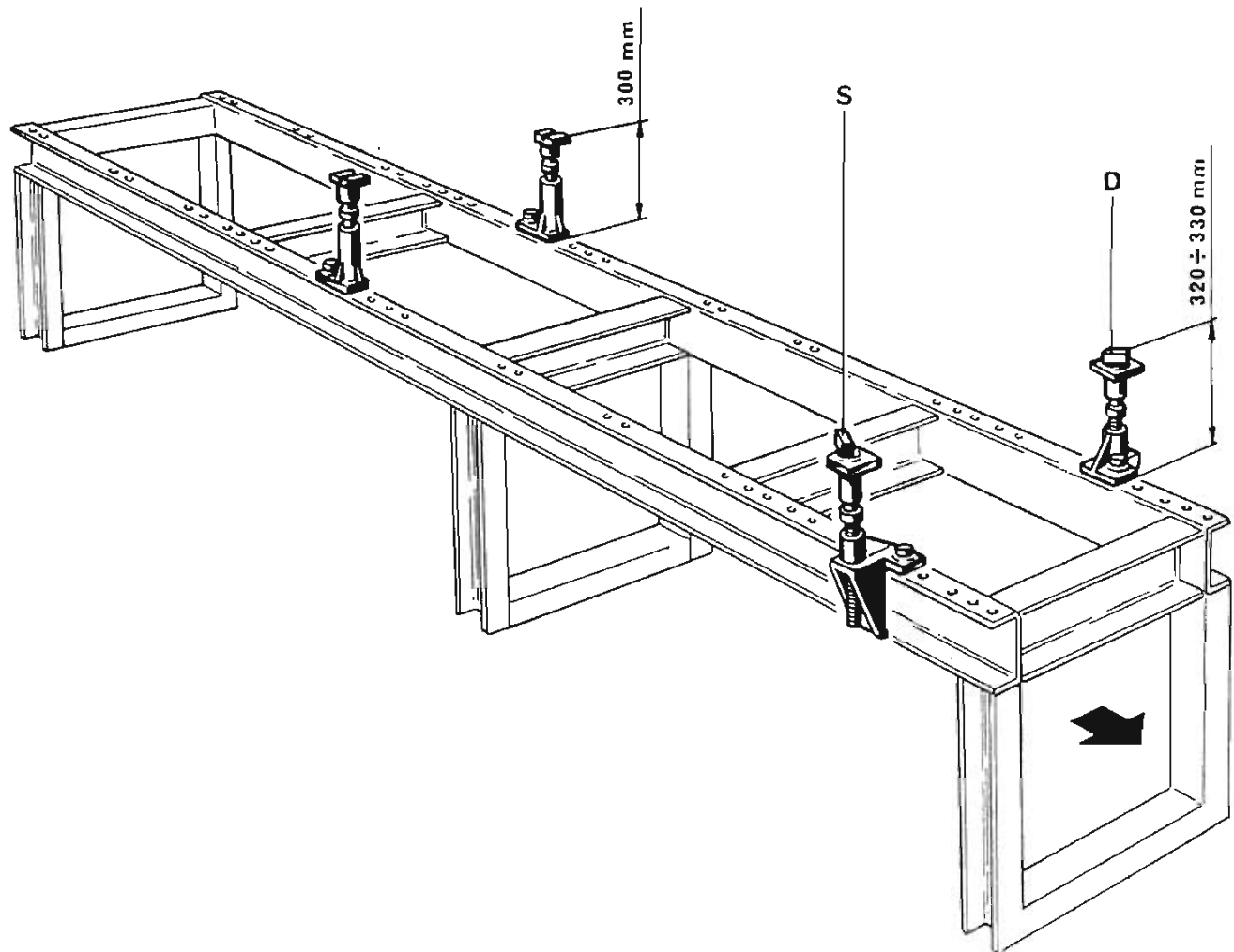
Alfa Romeo

SHOP MANUAL



BODY ALIGNMENT CHECKING BENCH

PREPARING THE BENCH AND THE BODY



- Place the bench on a level floor.
- Fit the front and rear screw jacks (do not lock in place those at the rear) and adjust them to the following height from the bench top:
 - Front: 320 to 330 mm
 - Rear: 300 mm

It is essential that each pair of jacks is set to the same height.

CAUTION – Make sure the front jack with the S marking is placed at the right side while that with the D marking is at the left side.

THIS PUBLICATION IS DESIGNED TO GIVE THE ALFA ROMEO SERVICE NETWORK A COMPLETE BACKGROUND OF INFORMATION ABOUT CHECKING, REPAIRING AND REFINISHING THE BODY; FURTHER, THE REPAIR, REMOVAL AND INSTALLATION, INSPECTION AND ADJUSTMENT OF MAJOR ITEMS, ESPECIALLY THOSE OF THE 1750 SALOON, ARE COVERED IN DETAILS.

BEST RESULTS CAN BE OBTAINED ONLY WHEN CHECKING AND RECONDITIONING WORK IS PERFORMED WITH THE AID OF THE SUITABLY PROVIDED SPECIAL TOOLS AND WHEN ONLY GENUINE ALFA ROMEO REPLACEMENT PARTS ARE USED.

THIS MANUAL SHOULD BE KEPT CONTINUOUSLY UP-TO-DATE BY THE ADDITION OF NEW SPECIFICATIONS AND INSTRUCTIONS ISSUED AT INTERVALS BY THE TECHNICAL SERVICE DIVISION IN THE REGULAR "INFORMATION SHEETS" AND "MODIFICATION INSTRUCTIONS"

Direzione Assistenza *Alfa Romeo*

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GENERAL NOTES ON BODY REPAIRING

When undertaking any body repair operation, it is advisable to follow a standard technique as detailed in the following notes. If the body shows deep distortions resulting from a collision or an accident, the damaged parts must be replaced with new ones; this will ultimately save money and will ensure that both car's styling and structure are restored.

All body component parts are available as spares and are also entered in the spare parts catalogue of the model concerned.

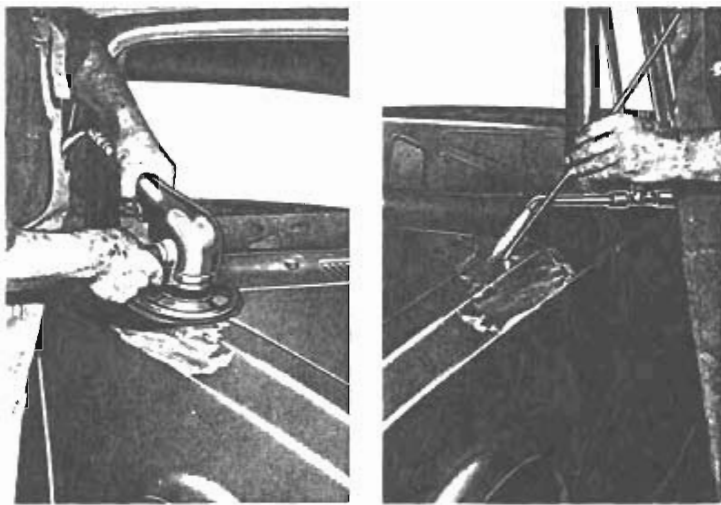
- For replacing, the damaged parts must be cut off along the joining lines, suitably designed for this purpose, with the aid of tin snips, trimming shears, hack saws or similar means suitable for straight cutting the sheet metal without warping it. To drill through the spot welds, use drills slightly larger in diameter than spots (drill O.D. from 3 to 4 mm) so as to avoid stressing the parts to be left in while attempting to tear off spot welds. To separate arc welded parts, use chisel to chip off the beads or grind the beads down in order to prevent putting structural components under undue strains; with the chisel, part then sheet metal panels from each other.
- Trim and smooth out the edges of cut off panels. Properly fill all holes, left after drilling the spot welds, by welding with a filler rod. Carefully trim with a file the edges to be joined together both of body sheet metal and replacement panel and get rid of any sign of finish material from areas to be welded.
- To prevent the spot welds from oxidizing, especially those particularly exposed to atmospheric agents, coat the affected parts with a suitable rust inhibiting compound before welding.

WARNING — On models featuring A.C. generators, disconnect terminals before welding to prevent damaging the diodes.

- Keep parts properly positioned by clamping them in place; where this is not practicable, make some spot welds to hold the parts together.

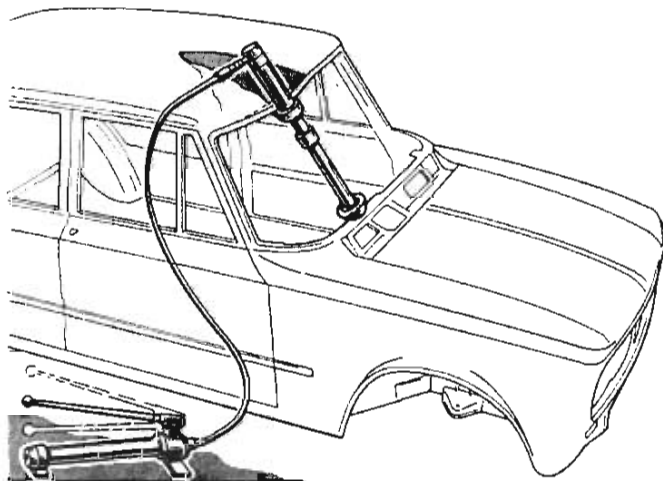
GENERAL NOTES ON BODY REPAIRING

- After ensuring that all parts are in proper alignment, weld the components together following, as to spot weld diameter and spacing or arc welding beads, the factory's technique.
Remove welding scales by peening and smooth out any roughness.
Slight dents or bulges in body panels can be corrected by hammering.



- If imperfections persist, smooth out the affected areas with a body grinder, taking care not to reduce excessively the thickness of sheet metal, especially along the edges or the stiffening ribs. If the surfaces are not perfectly flush, fill low spots with body solder.

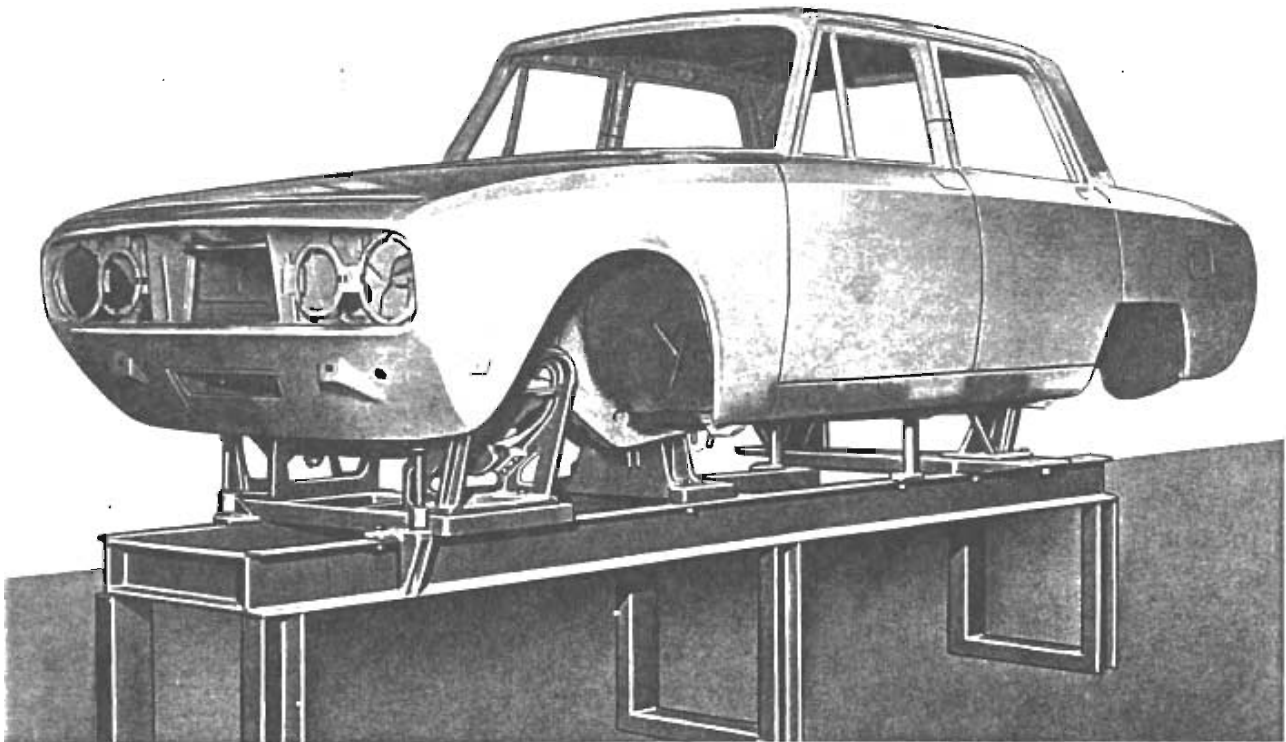
- If suitable templates are not available, doors and lids can be checked for proper fit with their openings by means either of new replacement parts or doors and lids themselves of the car being repaired provided that not warped out of shape.



- Should an opening require to be brought back into alignment with the use of hydraulically-controlled straightening jacks, special care must be taken to avoid stressing out of line other parts of body that previously checked within alignment limits.

Performing the repair operations in workmanlike manner, as a guarantee that the structural strength has not been impaired, rests on the operator's skill and responsibility.

CAUTION – When accomplishing repair works, always use suitable clothing and observe all safety precautions as prescribed by safety regulations.



If the body shows sign of warping it must undergo a bench check.

To this purpose, remove the engine compartment lid and all mechanical units: engine, clutch, gearbox, rear axle, front and rear suspension, steering gear, radiator, exhaust pipe.

An overhead crane is the most convenient means for hoisting the body and placing it over the bench.

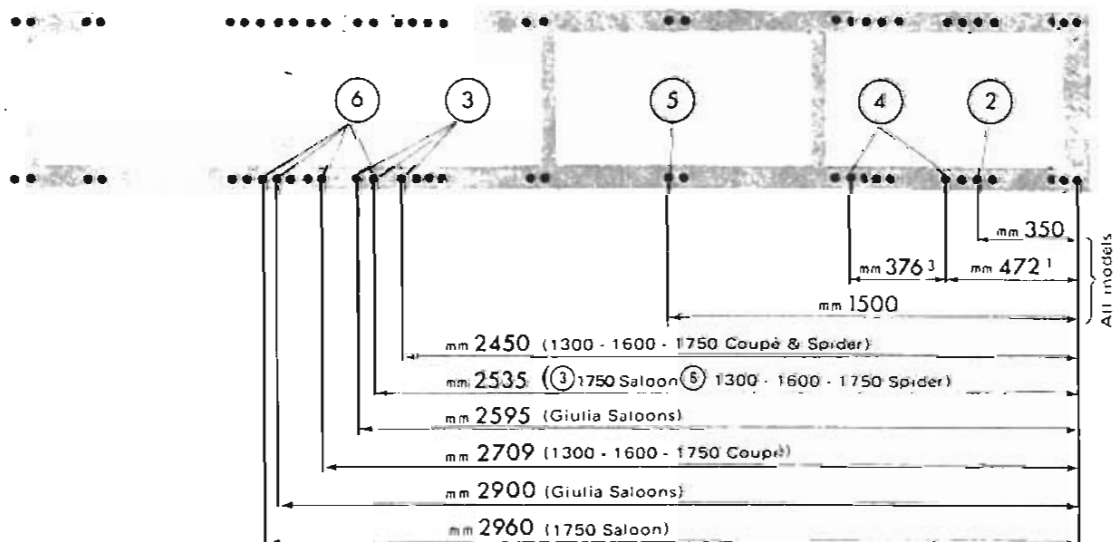
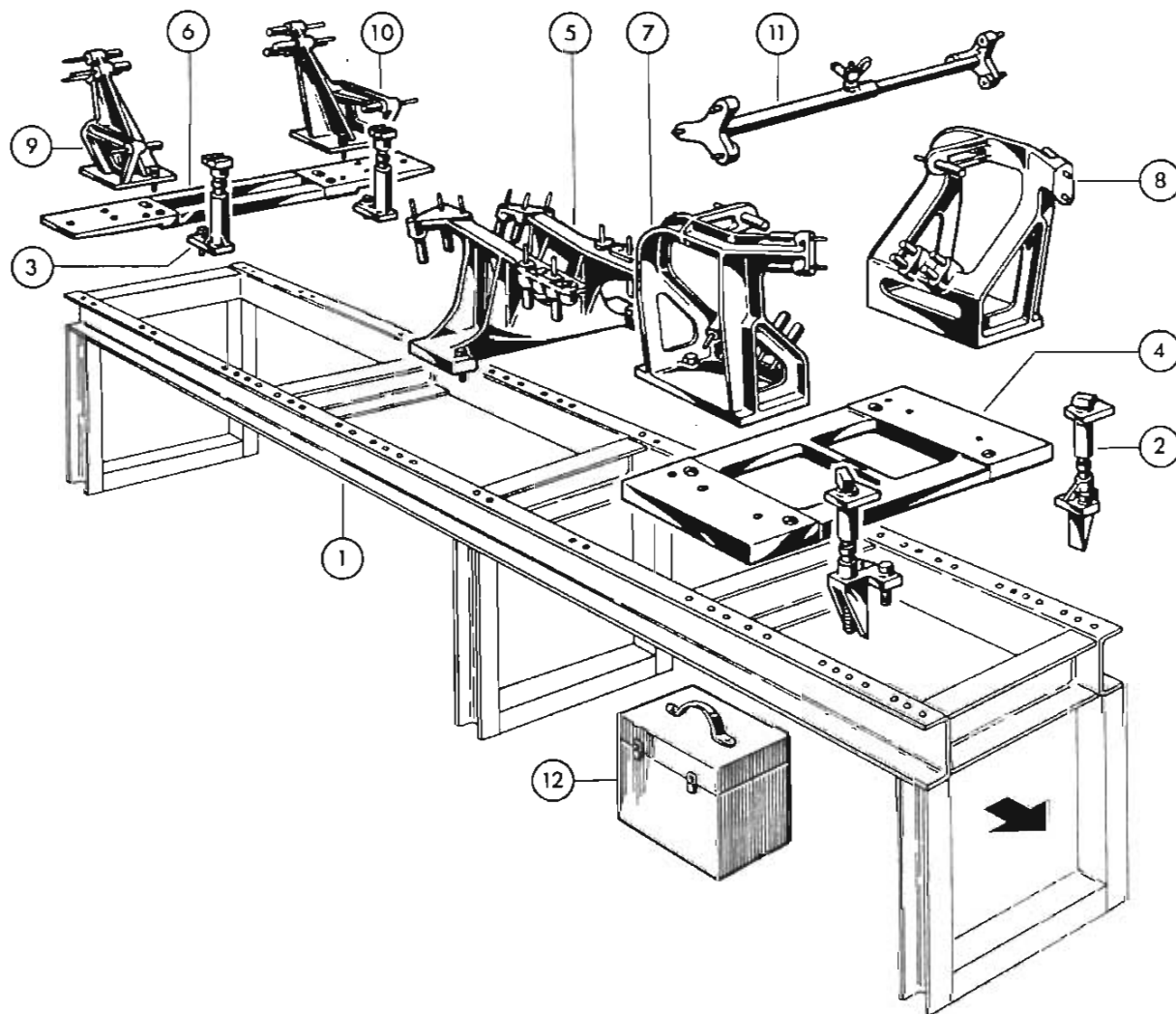
If the body does not fit or fits improperly to the alignment checking jigs, it must be brought back into line or the distorted components replaced with new ones.

As an aid for the bodyman, further details on this matter are given in the following pages together with the procedures for carrying out the checks and some repairs.

BODY ALIGNMENT CHECKING BENCH

POSITIONING THE JIGS

The position of the jigs varies according to the car model. The dimensions specified below should therefore be adhered to as applicable.

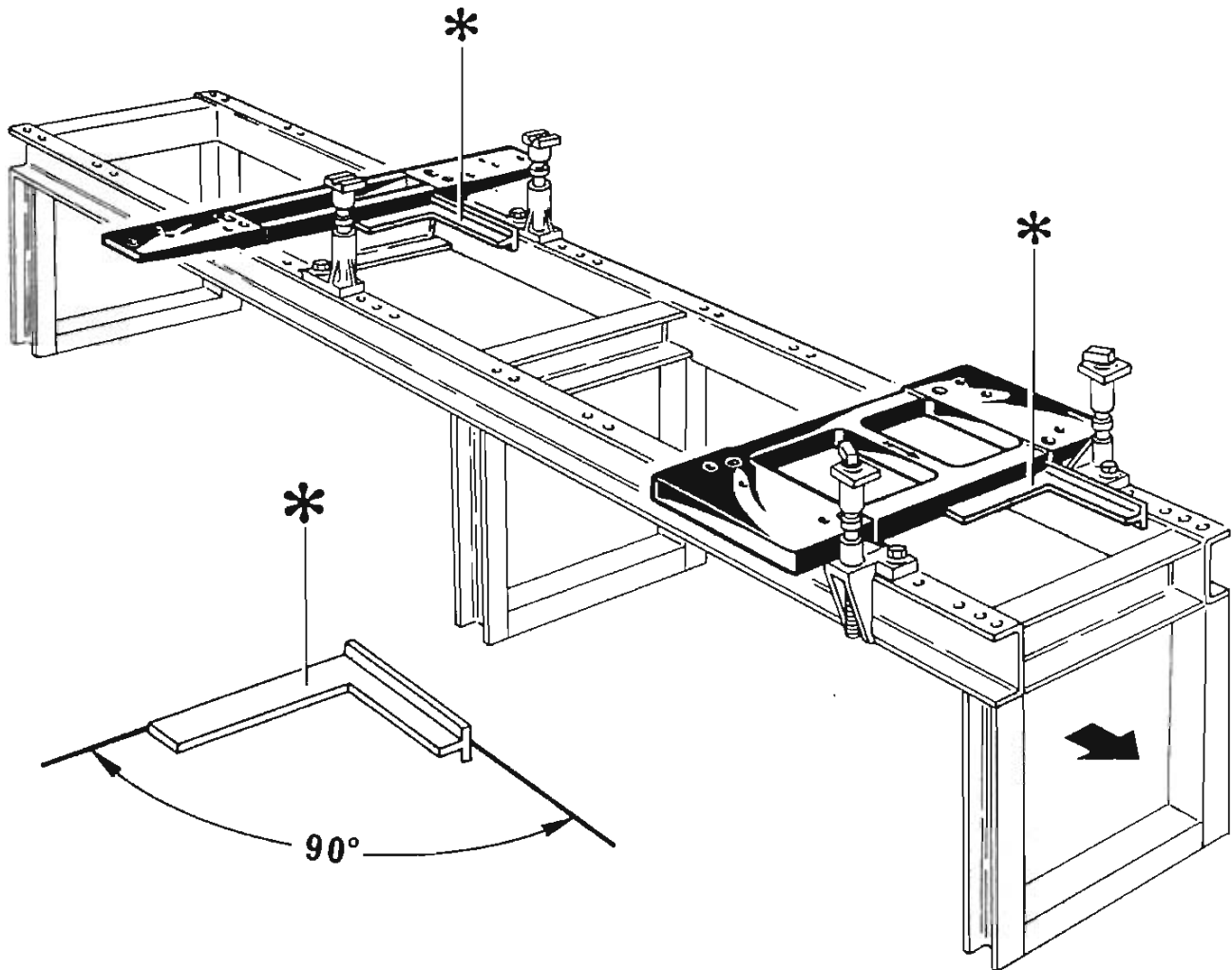


COMPONENT PARTS

LIST OF COMPONENTS OF BENCH A.8.0901				
Item no.	Part no.	Quantity	Nomenclature	Car model
1	A.8.0007	1	Bench with jig positioning holes	All models
2	A.8.0016	2	Screw jack for front support of frame	
3	A.8.0017	2	Screw jack for rear support of frame	
4	A.8.0068	1	Front plate for resting of front suspension jig	
5	A.8.0083	1	Jig for checking gearbox support cross-member and center cross-member attachments	All models less 1750 Saloon
	A.8.0073	1	Jig for checking gearbox support cross-member and center cross-member attachments	Only 1750 Saloon
6	A.8.0013	1	Cross member for resting of rear suspension jigs	All models
7	A.8.0072	1	Jig for checking R.H. front suspension attachments	
8	A.8.0071	1	Jig for checking L.H. front suspension attachments	
9	A.8.0054	1	Jig for checking R.H. rear suspension attachments	
10	A.8.0055	1	Jig for checking L.H. rear suspension attachments	
11	A.8.0056	1	Extension gauge for checking steering box & relay crank attachments	
12	A.8.0801	1	Box containing 36 steel dowels as detailed below	

DOWEL SET				
Item no.	Part no.	Quantity	Nomenclature	Car model
12	A.8.0057	4	Parallel dowels for holes of lower arm of front suspension	All models up to model year 68
	A.8.0064	8	Parallel dowels for holes of lower arm of front suspension	All models from model year 68
	A.8.0060	8	Threaded dowels — 4 of which for gearbox attachment holes — 4 of which for the holes in slanting rods of front suspension upper arms	All models
	A.8.0061	6	Threaded dowels for center cross-member attachment holes	
	A.8.0062	2	Parallel dowels for radius rod attachment holes	
	A.8.0063	6	Parallel dowels for T-arm attachment holes	
	A.8.0059	2	Parallel dowels for hole of transverse rod of front suspension upper arm	
NOTE — Dowels are not supplied separately, but as a set.				

PREPARING THE BENCH AND THE BODY

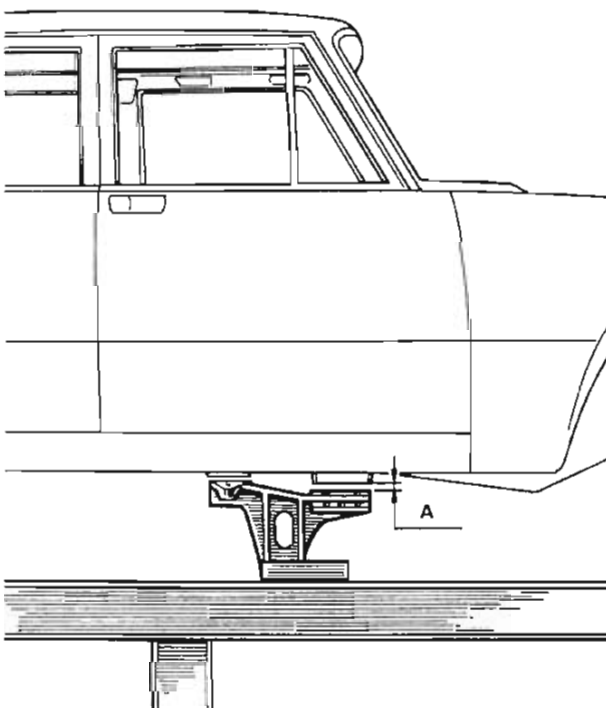
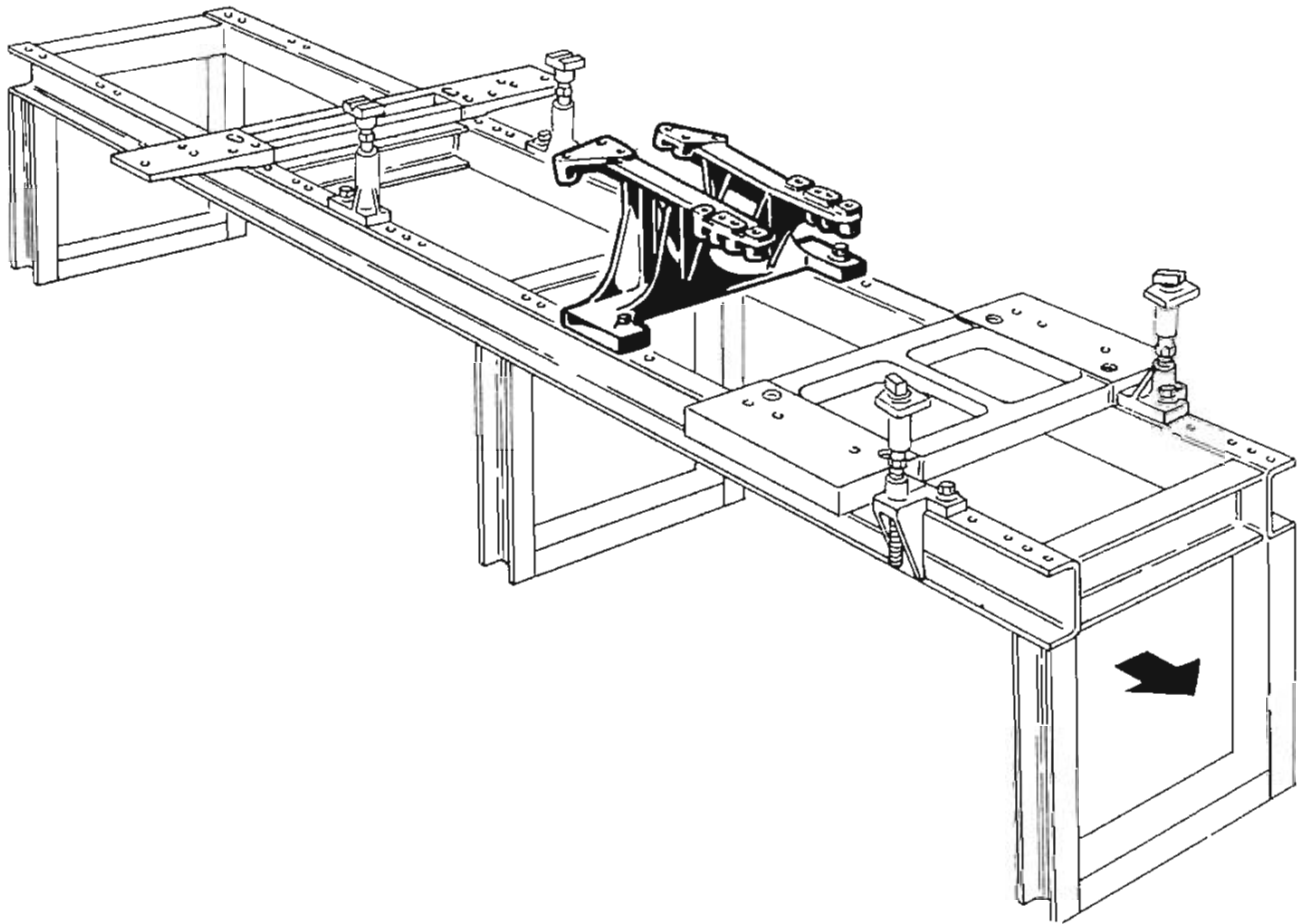


- Secure in place the front plate and the rear cross-member making certain they are exactly at right angle with the rails.

WARNING – The accuracy of results depends closely upon the correct setting of plate and cross-member.

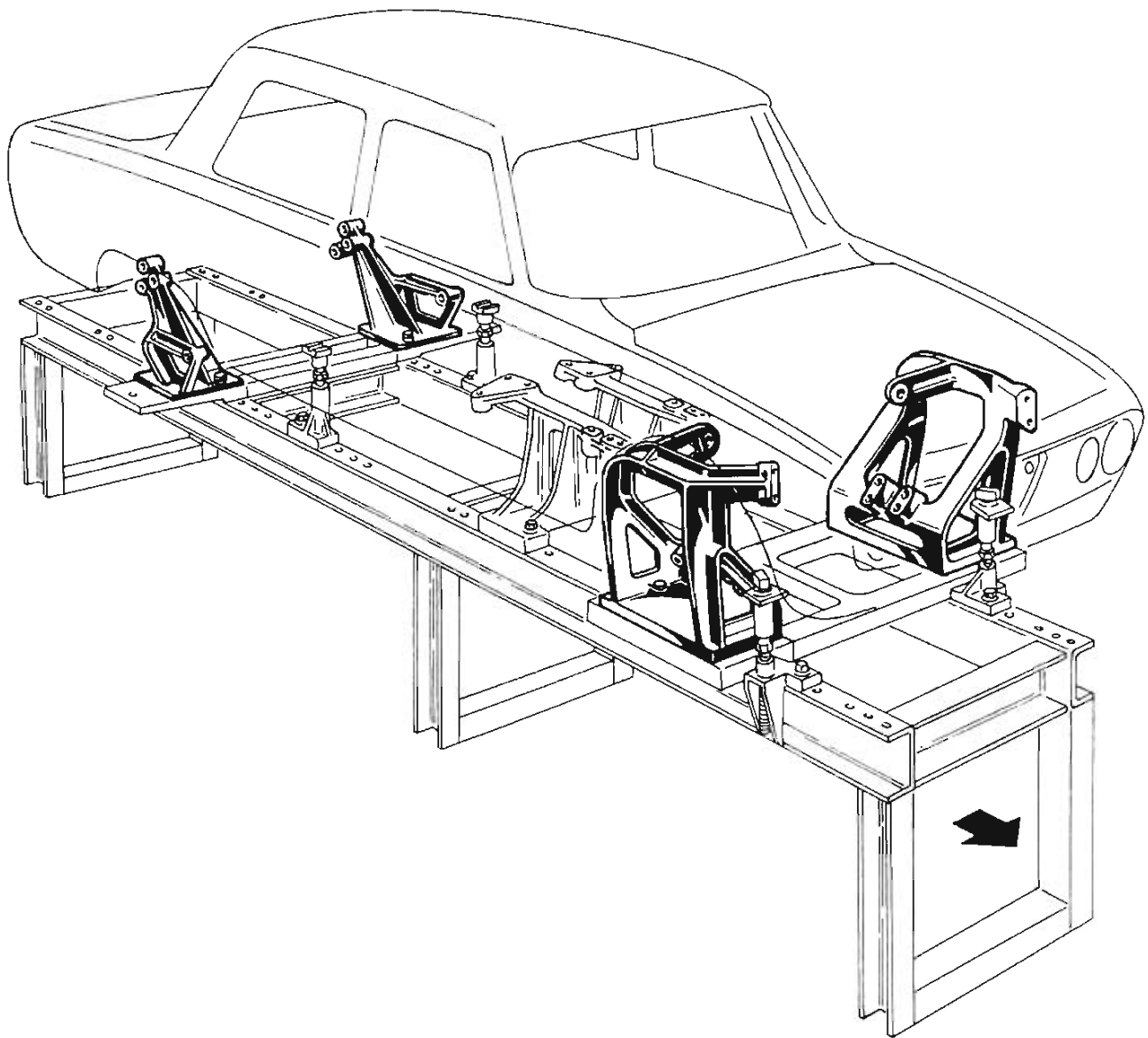
BODY ALIGNMENT CHECKING BENCH

PREPARING THE BENCH AND THE BODY



- Secure in place the centre jig for checking the gearbox support cross member and centre cross member attachments.
- Hang the body over the bench then lower it slowly on the rear jacks. Adjust the position of the rear jacks lengthwise and secure them in place. Lower the body further so that it rests on the four jacks.
- Act on the adjusting screws of jacks until there is a clearance A of 4 to 5 mm between the body and the centre jig.

PREPARING THE BENCH AND THE BODY



- Bring the suspension attachment checking jigs close to the body after having placed them on the suitable surfaces of the bench cross members. Secure in place only after the body has been definitively positioned.

CAUTION – Should any difficulty arise in mounting the rear jigs, slightly raise the body.

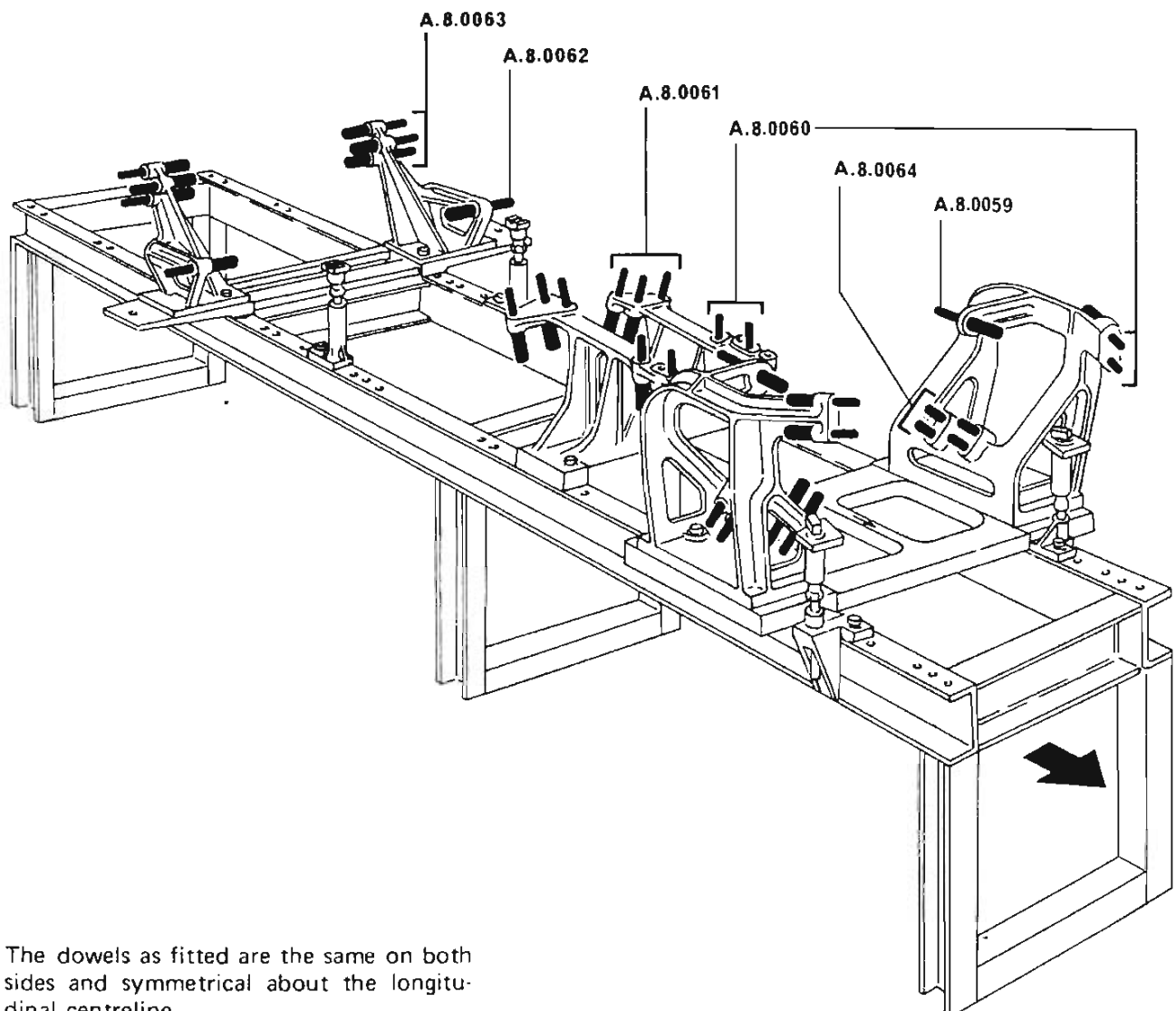
- Lower the four jigs until there is a clearance A of 1 to 2 mm between the body and the centre jig. The body is definitively positioned when the attaching holes are in line with those in the jigs.
- Firmly secure the jigs to the supporting cross members.

ALIGNMENT CHECKING

Usually, the procedure for checking the body alignment starts with the checking of front suspension attachments first, then with that of rear suspension attachments. However, this sequence may not be followed strictly as it depends much on the type of work to be performed. For example, if the rear end of the body has been repaired, the front end will be set first and then the check carried out on the rear end; conversely, if the front is the end affected by repairs or any doubt exists on the alignment of front suspension attachments, the order of operations shall be reversed.

If the repairs have been skillfully carried out, all dowels should match freely the respective holes or, at the most, after a slight pressure is applied by hand. Never deliver blows to the dowels or apply pressure on them other than manually. The diameter of each dowel is much smaller than the bore of the corresponding hole in the jig; this clearance corresponds to the maximum tolerance allowed for the positioning of the hole.

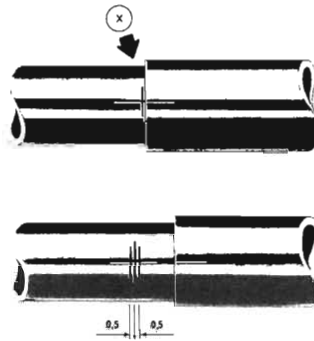
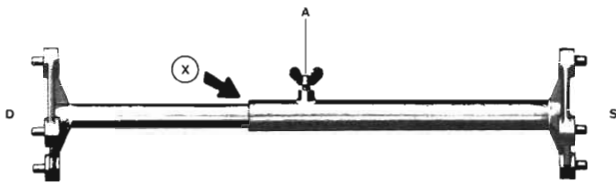
The illustration below shows the dowels as fitted for checking the alignment of the 1750 Saloon body.



The dowels as fitted are the same on both sides and symmetrical about the longitudinal centreline.

BODY ALIGNMENT CHECKING BENCH

ALIGNMENT CHECKING



For checking the steering box and the relay crank attachments, use the extension gauge, special tool P.N. A.8.0056, and, acting from inside the engine compartment, proceed as follows:

- Hold the extension gauge in such a way that the wing nut A is pointing upward and make sure that the end flanges bearing the markings S and D are positioned respectively at the left and at the right skirt.
- Slacken the wingnut A and extend the gauge so that the dowels on the end flanges can be inserted in the holes in the skirts.
- Check that the reference marks on the two gauge tubes are aligned perfectly or within a maximum tolerance of ± 0.5 mm.

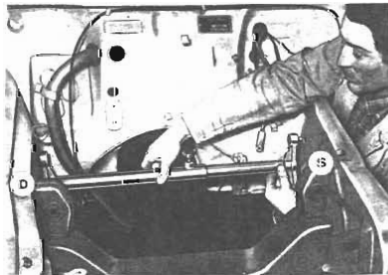
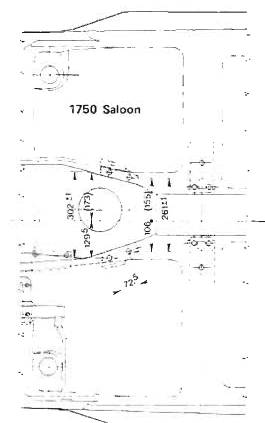
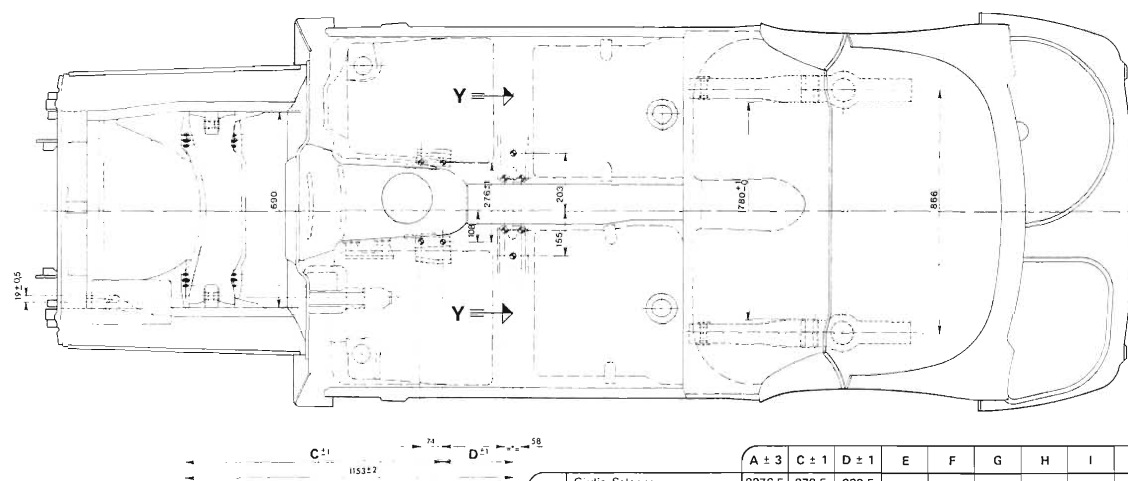
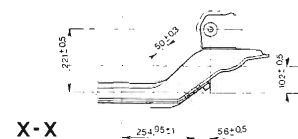


DIAGRAM OF DIMENSIONS OF MAIN UNIT ATTACHMENTS

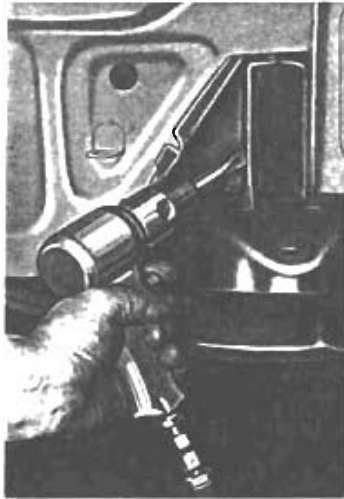


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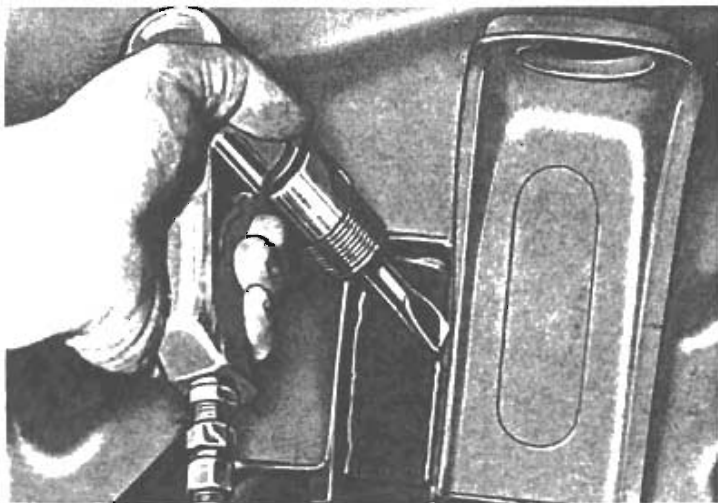
		A ± 3	C ± 1	D ± 1	E	F	G	H	I	L
MODEL	Grulia Saloons	2376.5	872.5	280.5	187.9	25	98.5	30	133.9	74.6
	1750 Saloon	2436.5	870	283						
	Coupé 1300-1600	2216.5	872.5	280.5	190.5	34.2	101.25	33.25	131.75	70.5
	Coupé 1750		909	244						
	Spider 1300-1600	872.5	280.5							
	Spider 1750	2116.5	872.5	280.5						

14

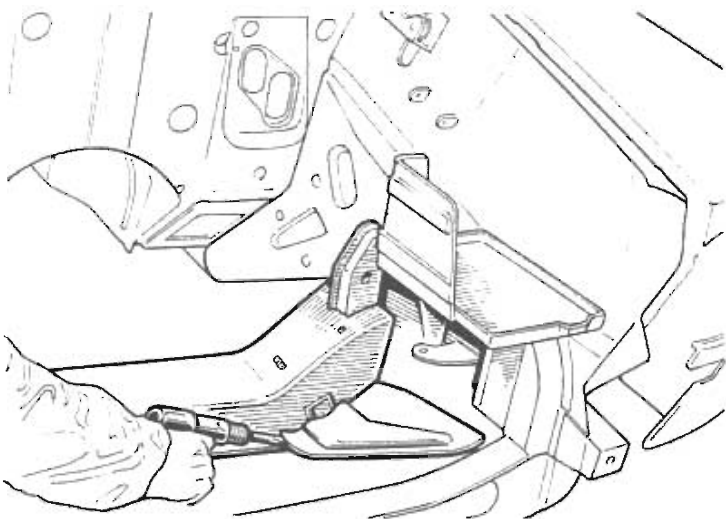
FRONT CROSS MEMBER REPLACEMENT



- Break off the seams between skirt inner panel and cross member through the opening so obtained.



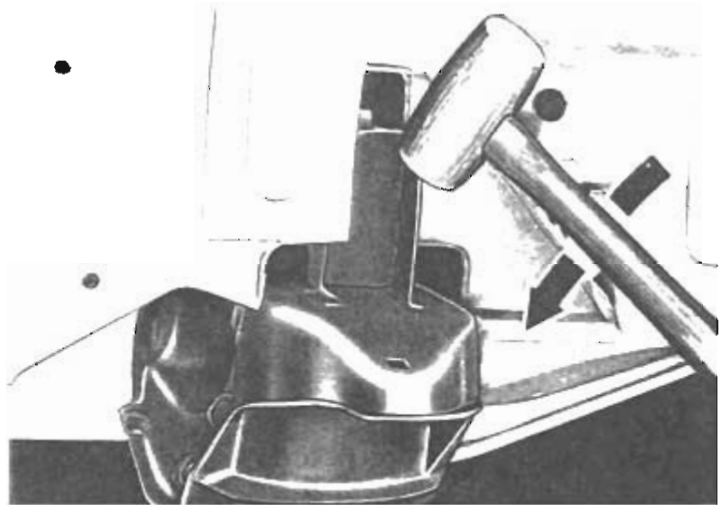
- Chip off the spot welds on skirt inner panel (shock absorber mounting side).



- From inside the engine compartment chip off the spot welds along the gusset.

FRONT CROSS MEMBER REPLACEMENT

- Start removing the cross member by tapping lightly with a mallet so as not to strain the adjoining structural components; then, take out the cross member by raising the body.



REINSTALLATION

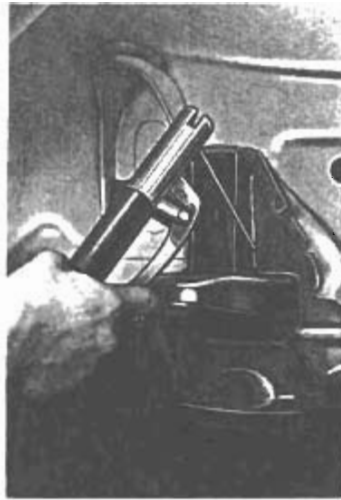
- Cut the opening A in the shock absorber mounting.
- Place the new cross member on the positioning fixture and secure in place.
- Lower the body on the frame alignment checking bench.
- Check for the proper fitting of cross member with fender skirt panels.
- Secure the cross member to the body with clamps and spot welding; then, take away the positioning fixture.



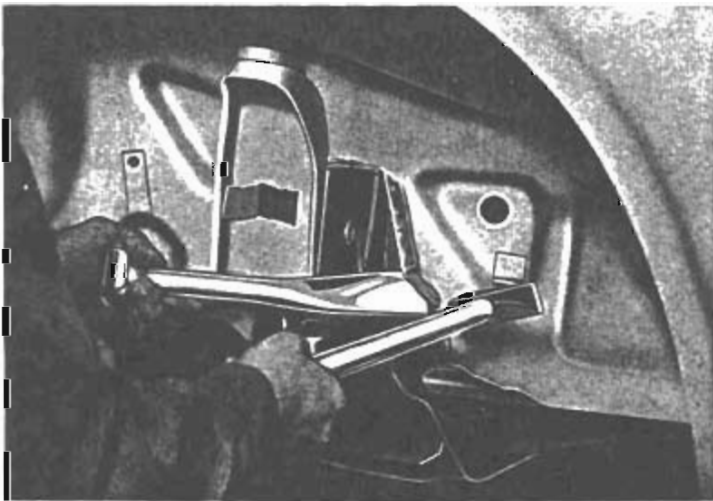
- Spot weld as shown through the opening A previously made.

BODY REPAIR

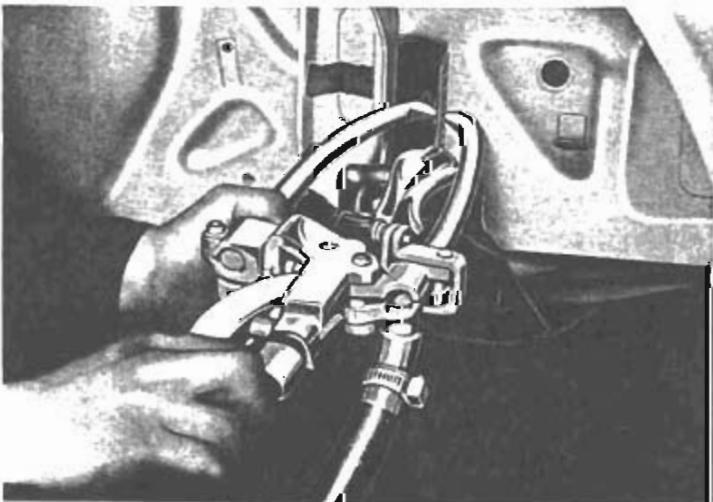
FRONT CROSS MEMBER REPLACEMENT



- Arc weld the bottom edges of skirt inner panel to the cross member.



- With suitable tools, close the opening in skirt outer panel as shown.



- Clamp properly the edges of skirt panel to the cross member.
- Spot weld the edge of skirt panel to the suspension arm attachment.

FRONT CROSS MEMBER REPLACEMENT



- Complete the arc welding of the remaining skirt panel edges.



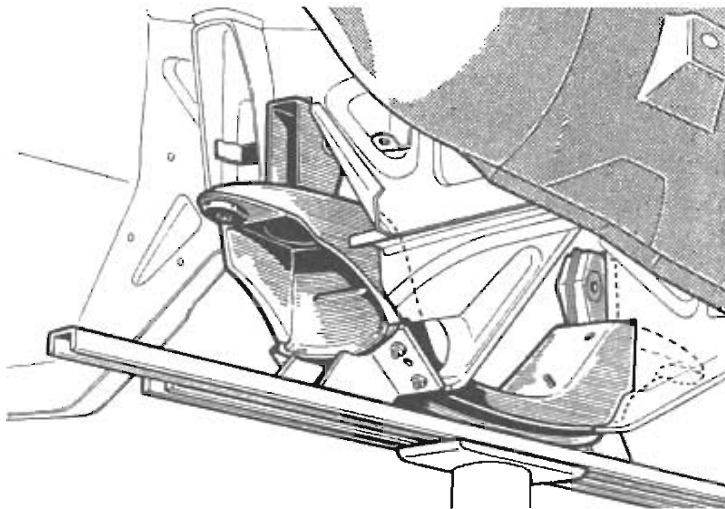
- Secure in place the front gussets with suitable clamps and spot weld them to the cross member.
- Flatten and close by welding the openings previously cut through.

FRONT CROSS MEMBER REPLACEMENT

NOTE – On 1300 and 1600 models (Saloon, Coupe, Spider), when only the cross member requires replacement and the frame alignment checking bench is not available, it is possible to replace the cross member with the special fixture P.N. A.8.0109 following this procedure:

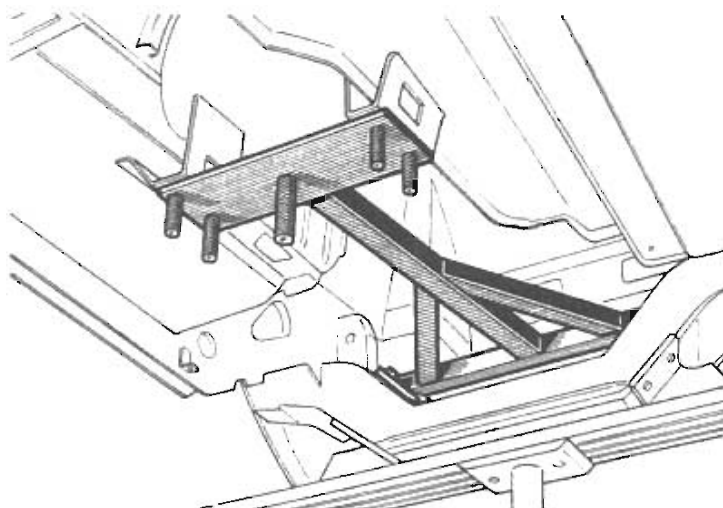
REMOVAL

- Take the cross member off as directed on pages 15 and 16.



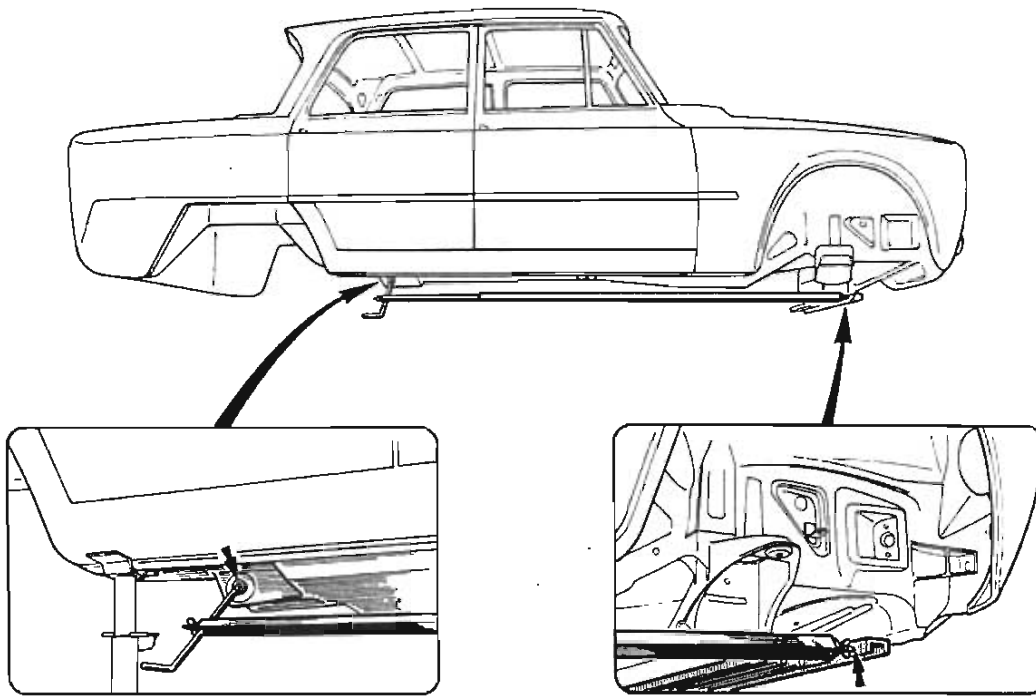
REINSTALLATION

- Place the new cross member on the fixture as shown and make it fit the body.

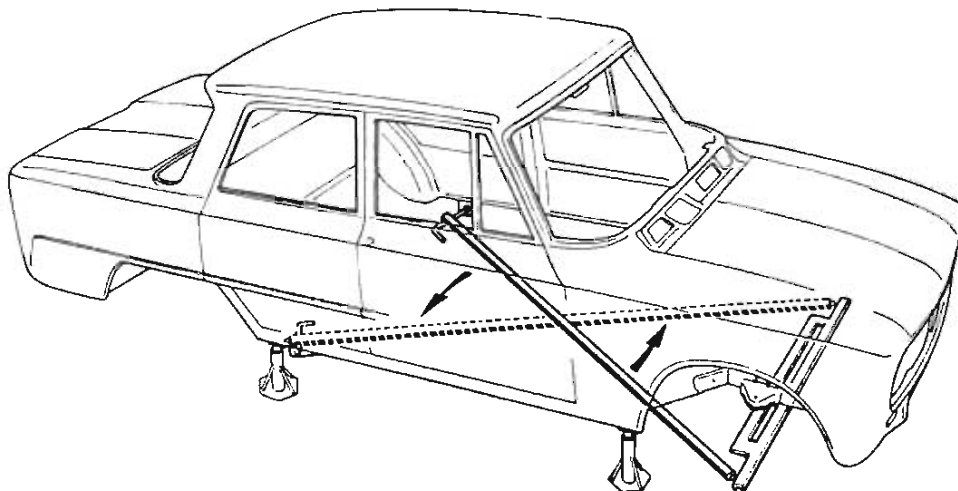


- Install the triangle-shaped part of the fixture and secure it to the engine mounts at the front and to the gearbox attachments at the rear.

FRONT CROSS MEMBER REPLACEMENT



- Check the proper positioning of the cross member by using a frame gauge, taking measurements between the radius rod axis centerlines and the reference marks on the fixture as shown.



- After the above mentioned measurements have been performed, weld the cross member as directed under the chapter in which the installation by means of checking bench is covered.

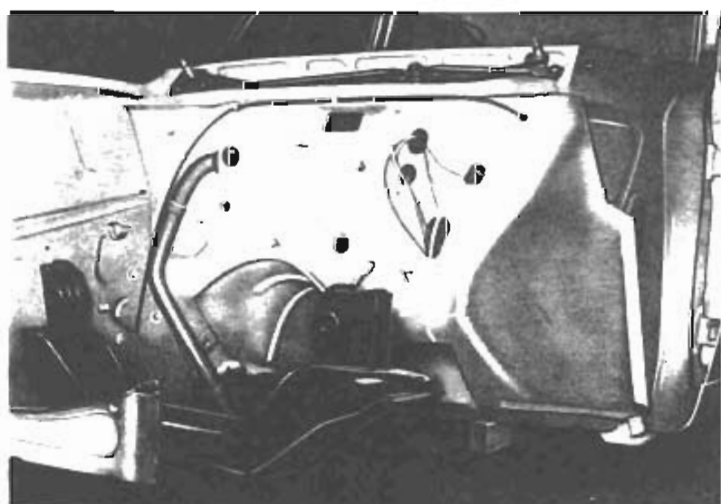
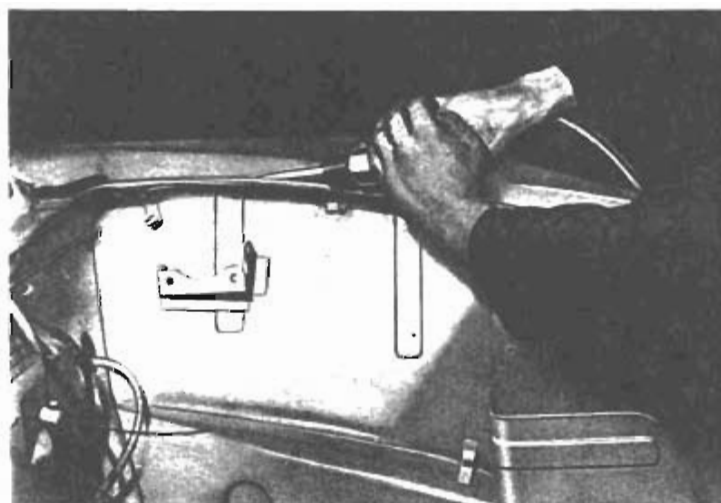
REPLACING THE FENDER AND FRONT PANELS

The same procedure applies to all models in this range.
Giulia Saloon is shown for example purpose.



REMOVING THE FENDER

- Chip off and cut the seams joining the outer panel of fender with front pillar and skirt until the whole panel can be removed.



REMOVING SKIRT AND FRONT PANELS

- If even the front panels and the skirt require replacement, chip off their joining beads and take them away.

REPLACING THE FENDER AND FRONT PANELS

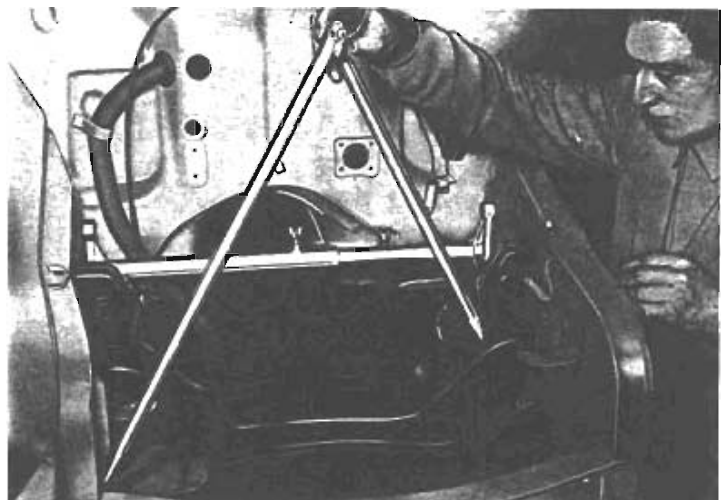
REFITTING THE SKIRT

Before refitting the skirt a careful checking must be made with the bench of the alignment of the other body components involved in the repair and specifically the front cross member either if it is renewed or merely reinstalled.

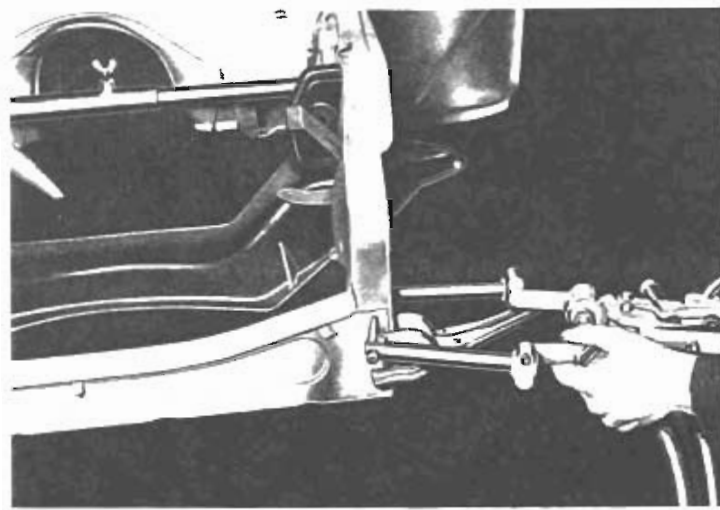
- Properly position the skirt inner panel.
- Place extension reference bar, special tool P.N. A.8.0056, between skirts (refer to page 13).



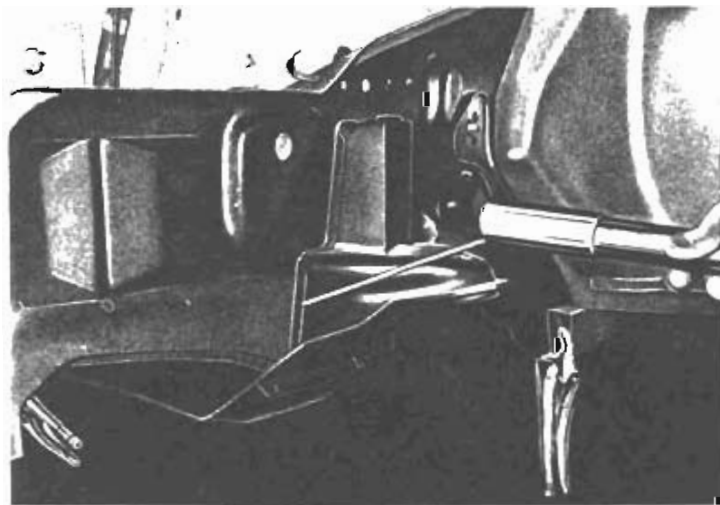
- Check that the skirt is properly positioned by taking measurements with a caliper between the cross member upper threaded hole and the corner made by the opposite skirt with the smaller cross piece at the front.



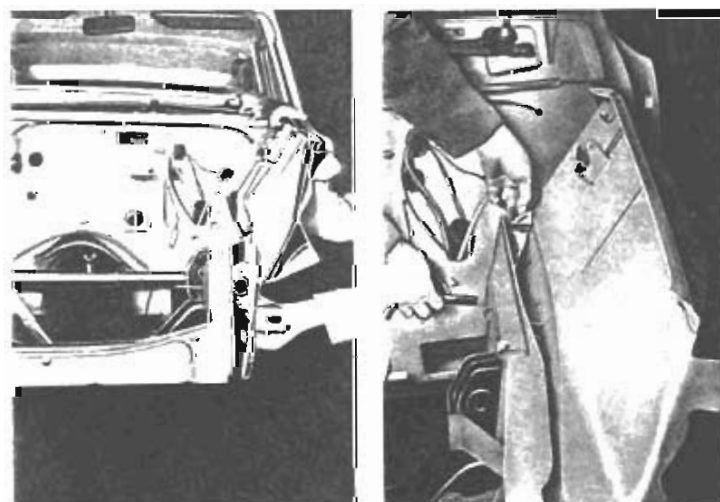
REPLACING THE FENDER AND FRONT PANELS



- Secure the skirt in place clamping together the panel edges.
- Spot weld the skirt to the cross piece.



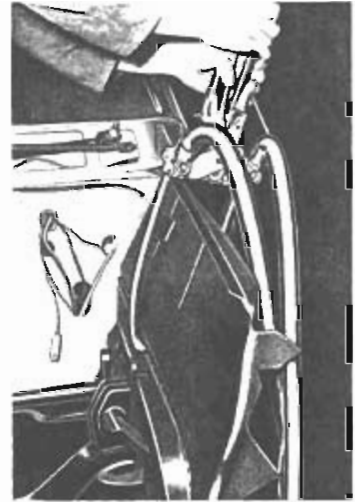
- Arc weld the skirt to the cross member and to the body panels.



- Properly position the skirt outer panel
- Temporarily remove the extension reference bar, special tool P.N. A.8.0056, so as to free the holes.
- Insert between the skirt panels the two spacers for reinforcing the steering box attachment holes.
- Again install the extension reference bar special tool P.N. A.8.0056.

REPLACING THE FENDER AND FRONT PANELS

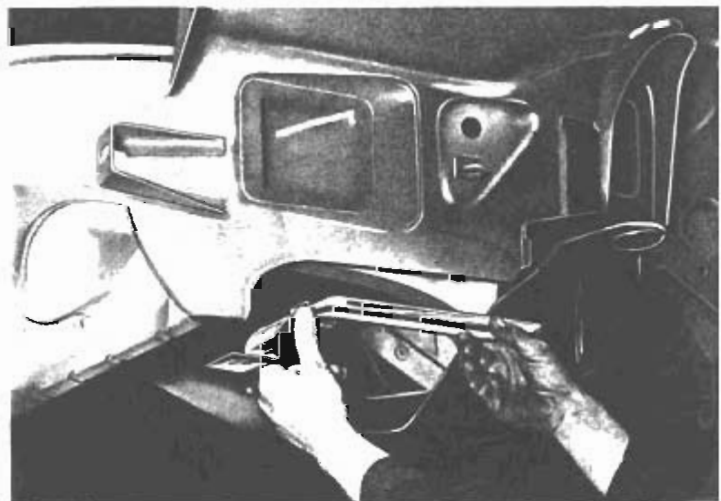
- Spot weld together the front edges of skirt inner and outer panels.
- With extension electrodes spot weld the remaining edges.



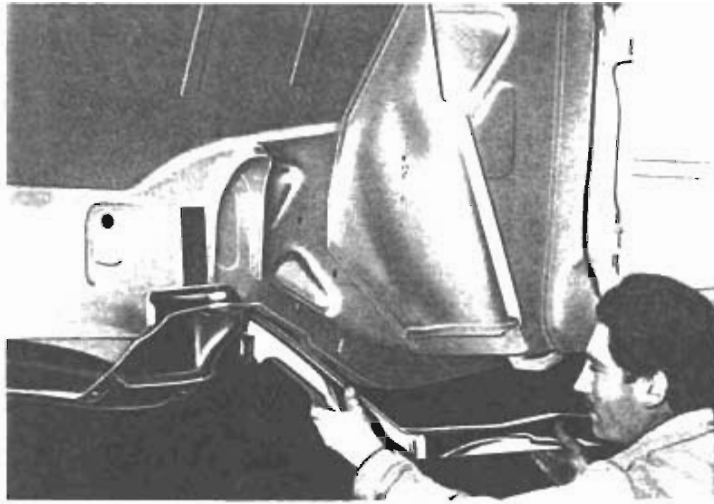
- Arc weld the skirt panels to the cross member and body.



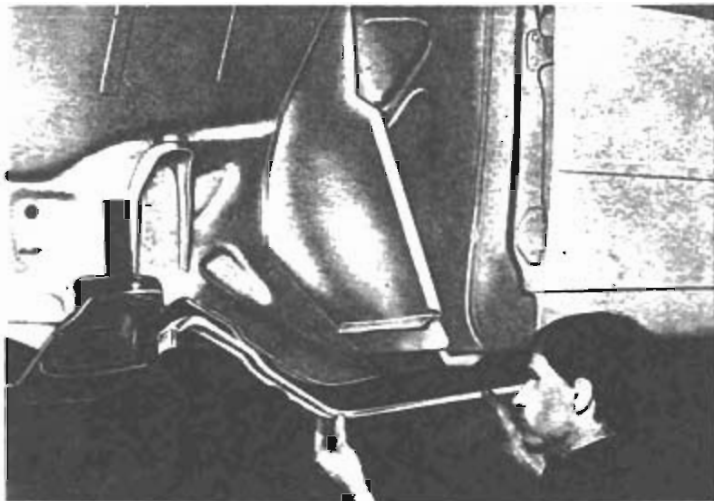
- At the front, position and secure in place with suitable clamps the skirt bottom panel, then spot weld the panel.



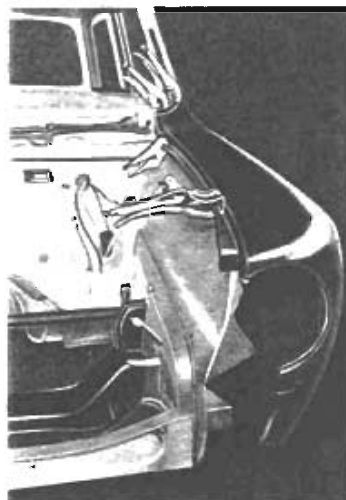
REPLACING THE FENDER AND FRONT PANELS



- At the rear, position and secure in place with suitable clamps the bottom reinforcement of skirt, then spot weld the reinforcement.



- Position and clamp in place the strip closing the reinforcement then spot weld the strip.

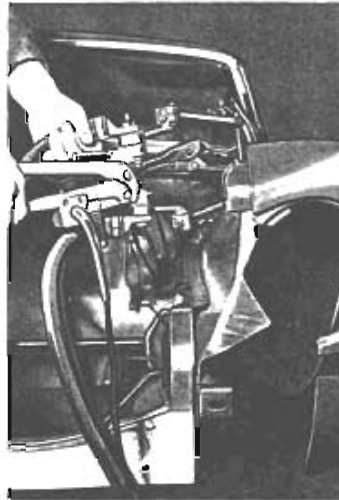


INSTALLING THE FENDER

- Position and secure the fender with clamps making sure it fits flush with the door and body contour.

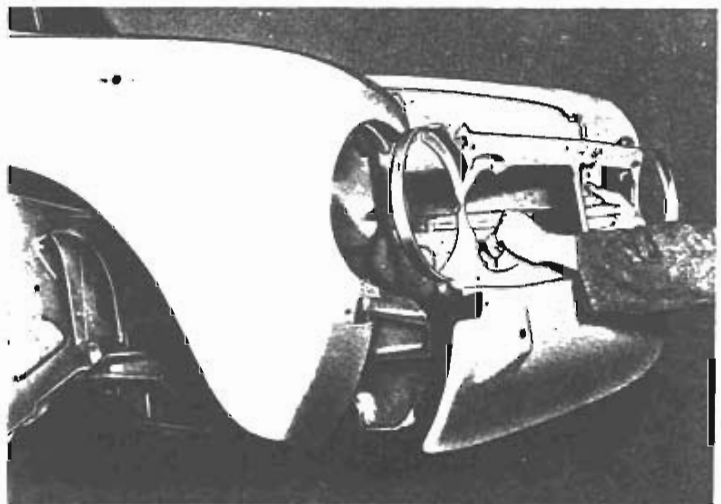
REPLACING THE FENDER AND FRONT PANELS

- Spot weld the fender to the skirt and complete the joining of all parts by arc welding. The use of a welding torch is also allowed provided that special care is taken to prevent overheating.



INSTALLING THE FRONT PANELS

- Position and secure in place the front panels then spot weld and sparingly arc weld.



CAUTION — Before completing the welding, it is advisable to check the assembly with radiator grille and headlamp rims fitted.

BODY REPAIR

REPLACING THE TAIL PANEL

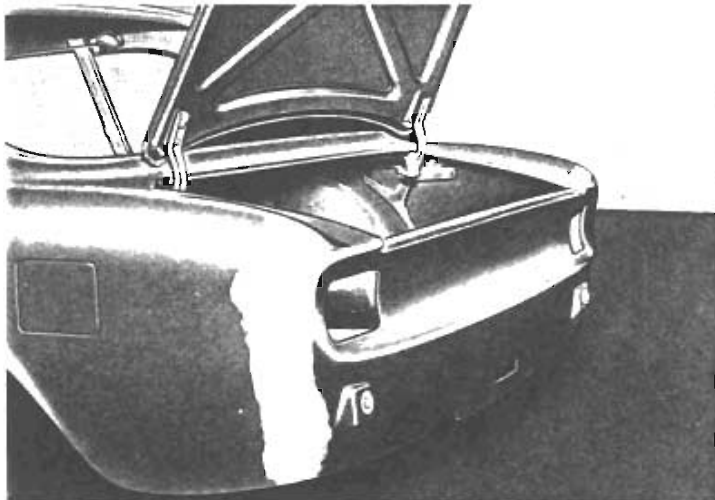
Coupe is shown for example purpose.

REMOVAL

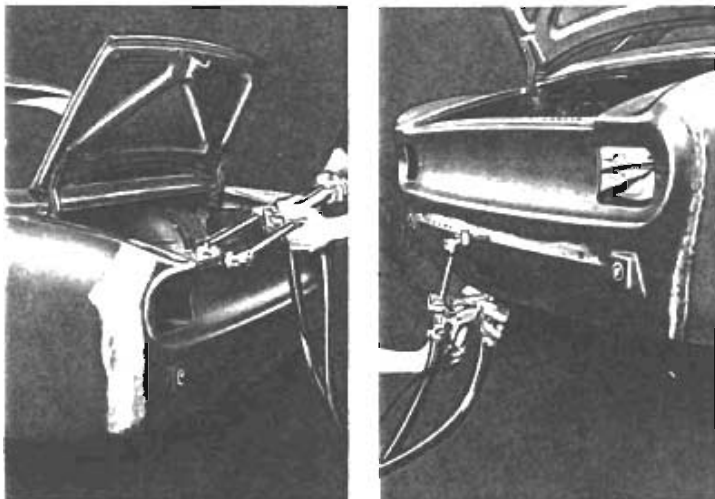
- Cut and chip off the seams to remove the tail panel

INSTALLATION

- Position and secure in place the replacement panel with suitable clamps.



- Check that the panel is in proper alignment with the body and weld the edges to the fenders.



- Then spot weld the tail panel to the remaining structural components.

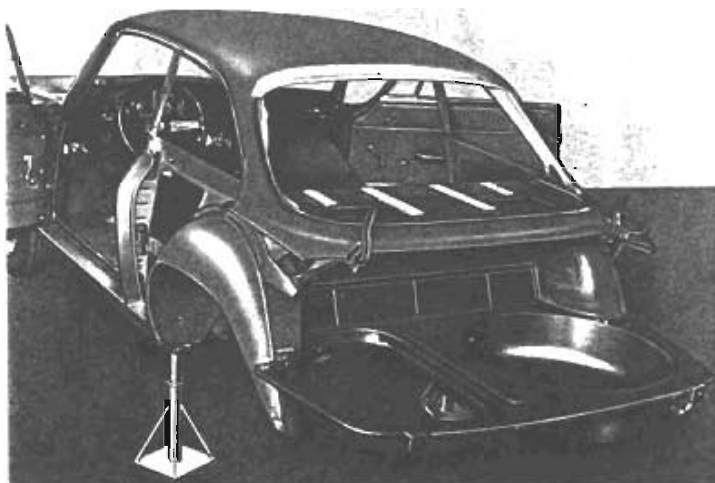
REPLACING THE REAR WING ASSEMBLY

Coupe is shown for example purpose.

NOTE – To make easier the replacement of the rear wing assembly, the whole replacement unit is available as spare.

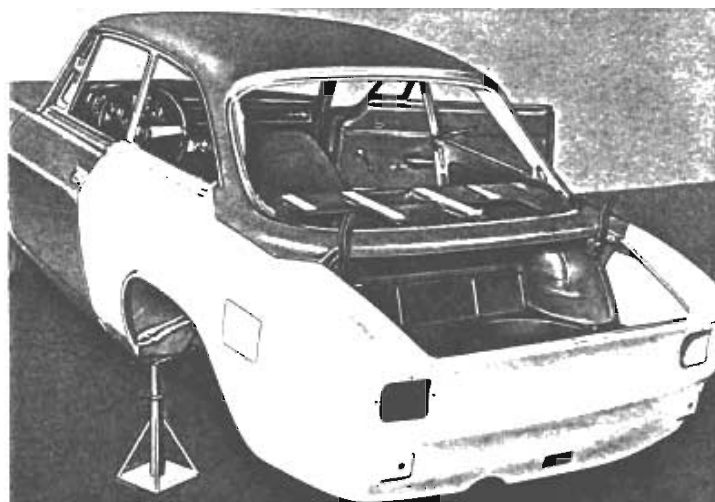
REMOVAL

- Cut off the weld lines to remove the panels as a unit.

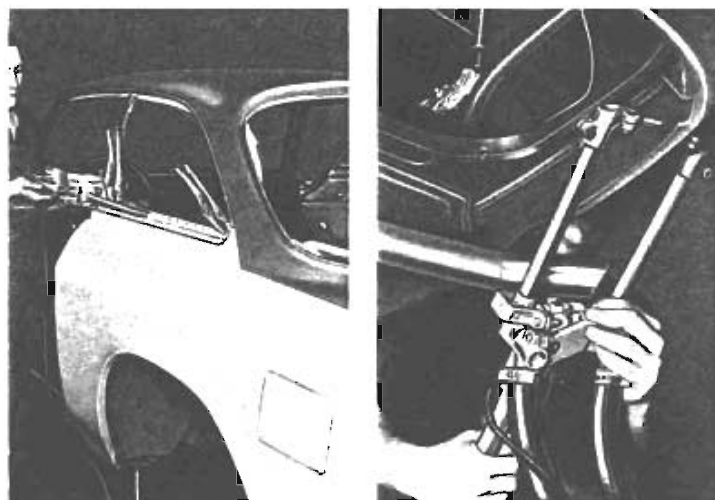


REINSTALLATION

- Position and clamp in place the new wing assembly.



- Carefully check for proper alignment with the body, then spot weld the sheet metal.



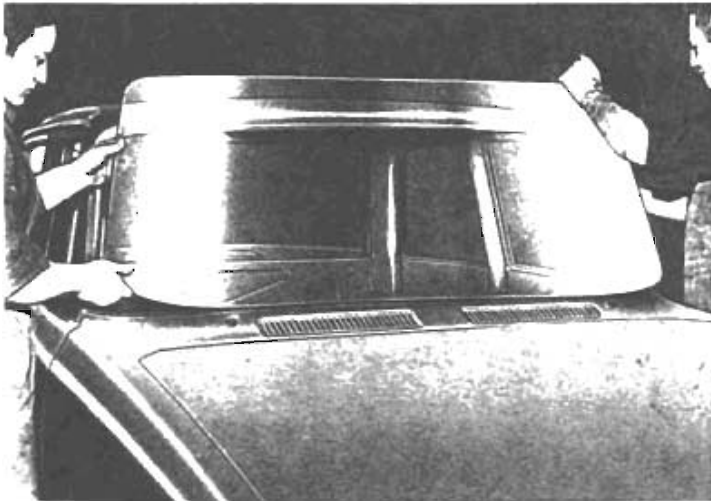
BRINGING WINDSCREEN FRAME BACK INTO SHAPE

The same procedure applies to all models in this range. Giulia and 1750 Saloon are shown for example purpose.

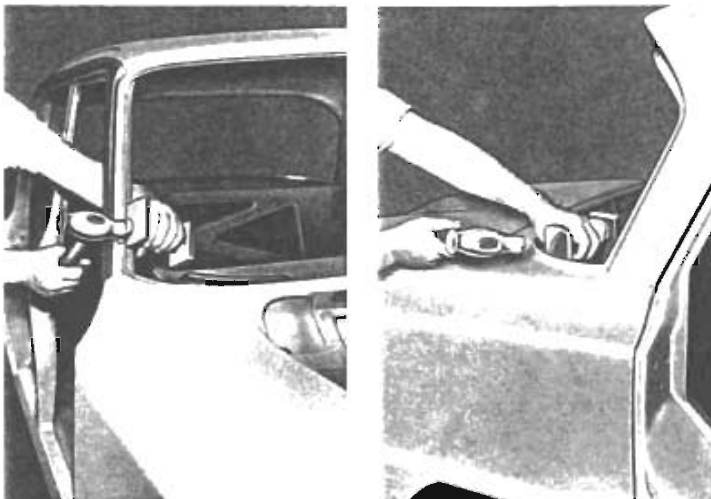


The same procedure applies for realigning the frame of both the windscreen and the rear window.

- With the extension gauge A.8.0112 check that measurements taken diagonally as shown have the same value.



- Try positioning the glass on the frame so as to check whether they fit properly.



- If needed, bring back into shape the weatherstrip mounting lip with a hammer and dolly block.

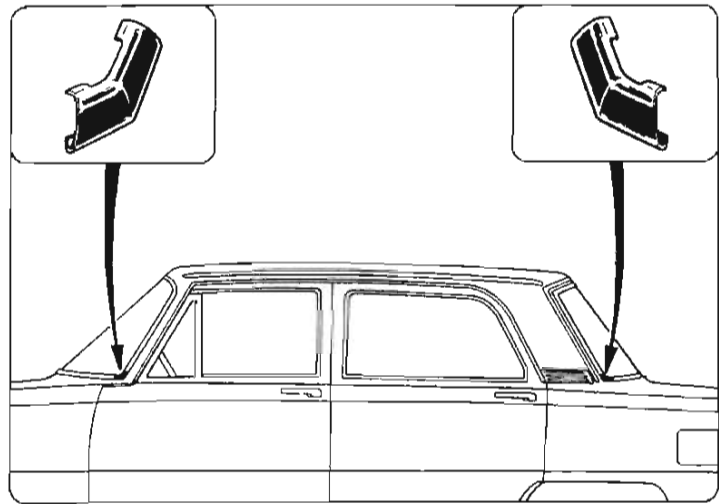
WINDSCREEN AND REAR WINDOW GLASS

The same procedure applies to all Saloon and Coupe models.
Giulia and 1750 Saloon are shown for example purpose.

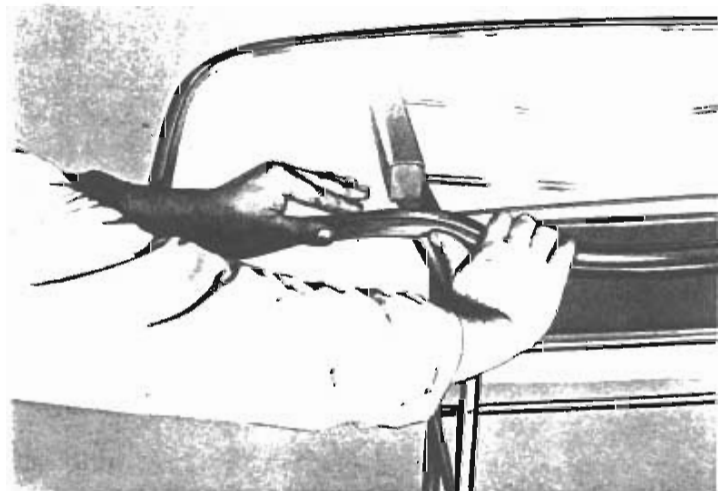
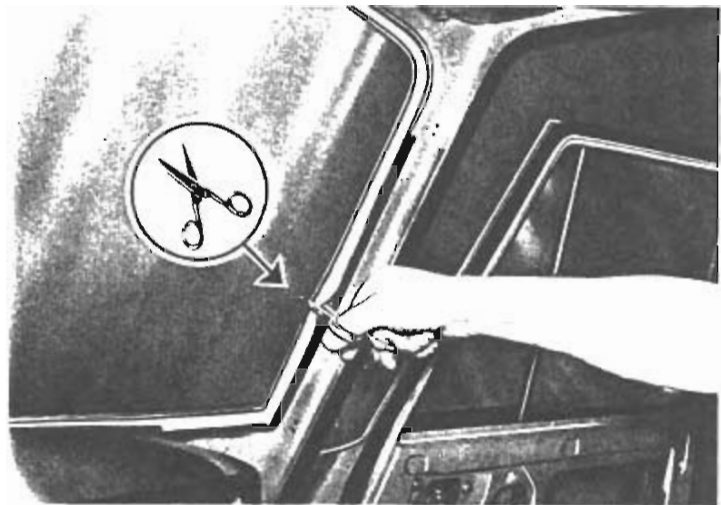
Proceed the same way both for the windscreen and the rear window.

REMOVAL

- Take the corner finishers away of the mouldings.



- From inside out, apply pressure evenly distributed on the glass; from the outside, have an assistant holding the glass when it pops out of weatherstrip.
To make the windscreen removal easier, cut the inner lip of weatherstrip with scissors; in this case the weatherstrip must then be renewed.

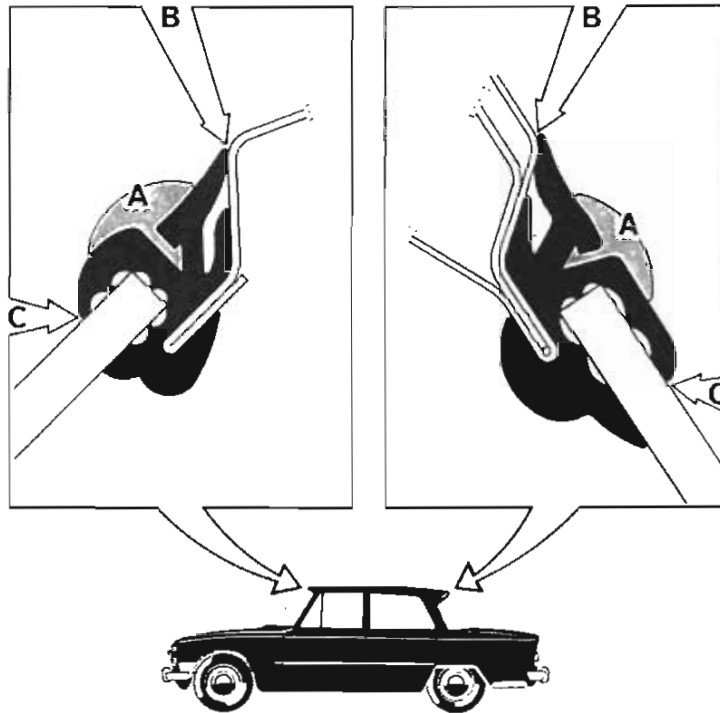


INSTALLATION

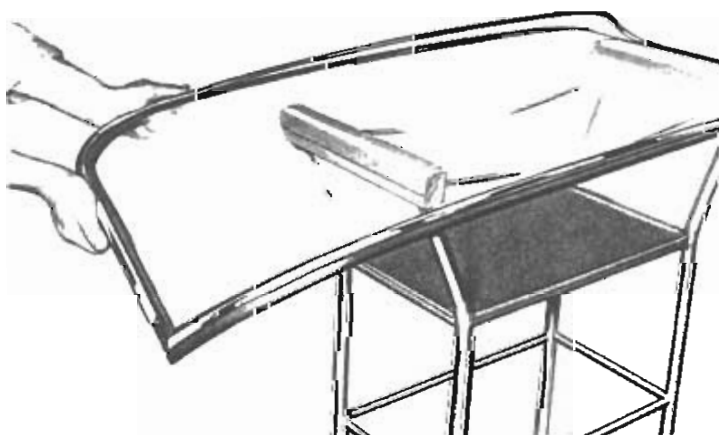
- 1 – Carefully clean the edges of the glass and install the weatherstrip on it.

REMOVAL AND INSTALLATION

WINDSCREEN AND REAR WINDOW GLASS



- 2 – In order to facilitate the installation of the metal moulding A, spray liquid soap to lubricate the weatherstrip.

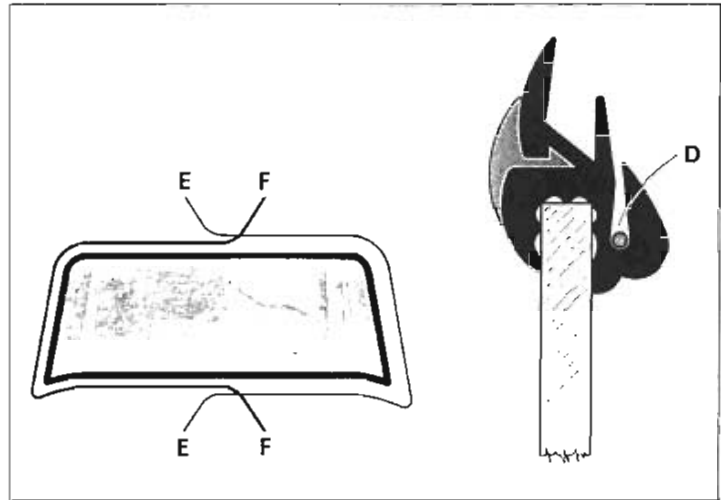


- 3 – Install the metal moulding.

NOTE – The operations 1-2-3 are to be carried out when the weatherstrip needs replacement.

To perform these operations it is advisable to rest the glass on the suitable stand P.N. A.9.0104.

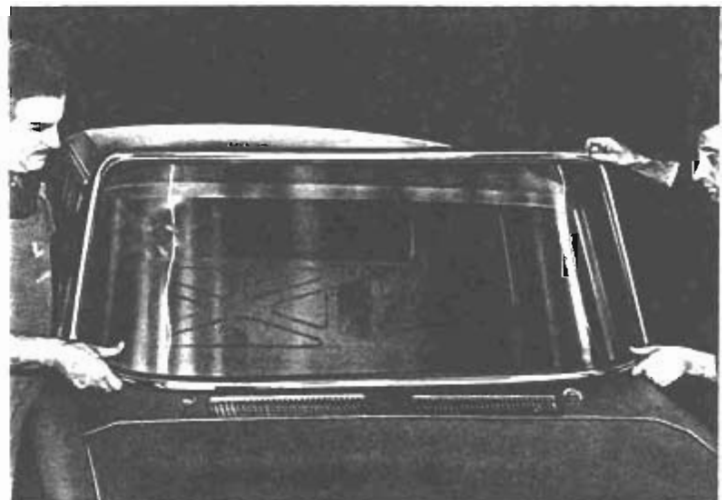
WINDSCREEN AND REAR WINDOW GLASS



- Wrap two cords EE—FF around the outer groove D of weatherstrip as shown.



- Lay a bead of petroleum jelly around the glass opening for ease of installation.



- Place the glass in the opening.

REMOVAL AND INSTALLATION

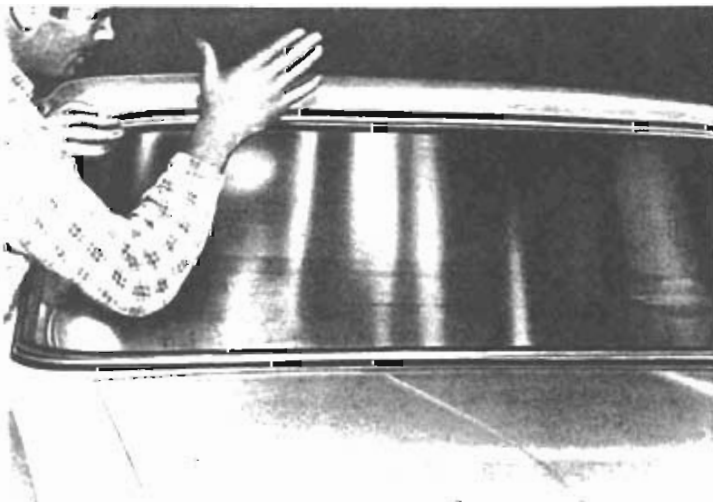
WINDSCREEN AND REAR WINDOW GLASS



- From the outside apply pressure over the glass.



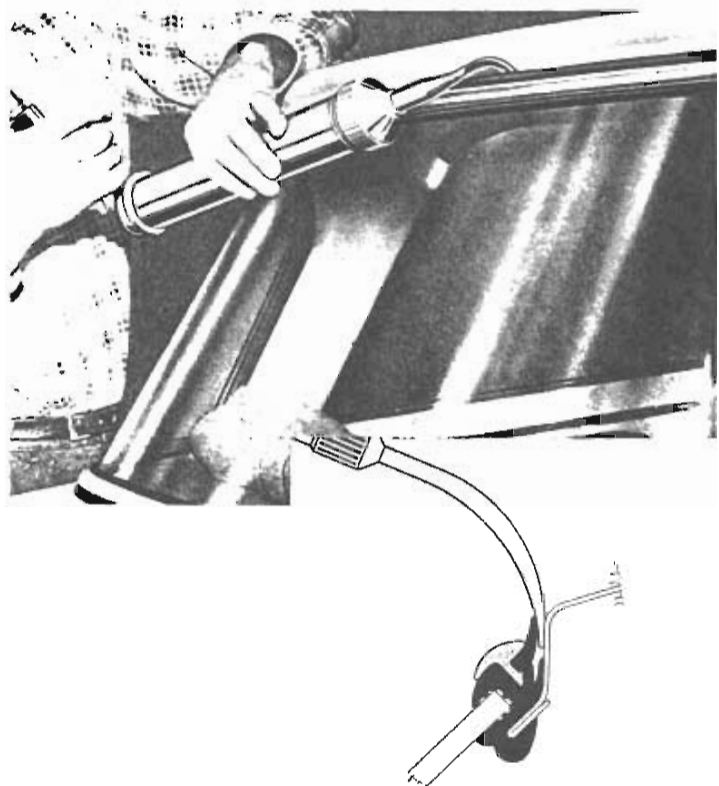
- At the same time, an assistant, pulling from the inside the ends of the cords one at a time, will facilitate the seating of weatherstrip into the glass opening.



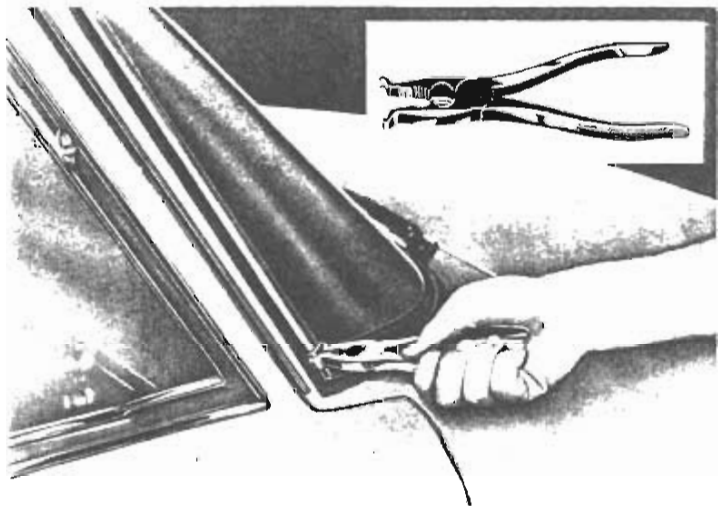
- Tap lightly with the hand on the glass especially in the corners.

WINDSCREEN AND REAR WINDOW GLASS

- Insert the spout of the gun under the weatherstrip lips B and C as shown in the illustration on page 32 and apply the specified sealing compound.



- Refit the corner finishers and secure them in place with the pliers, special tool P.N. A.9.0035

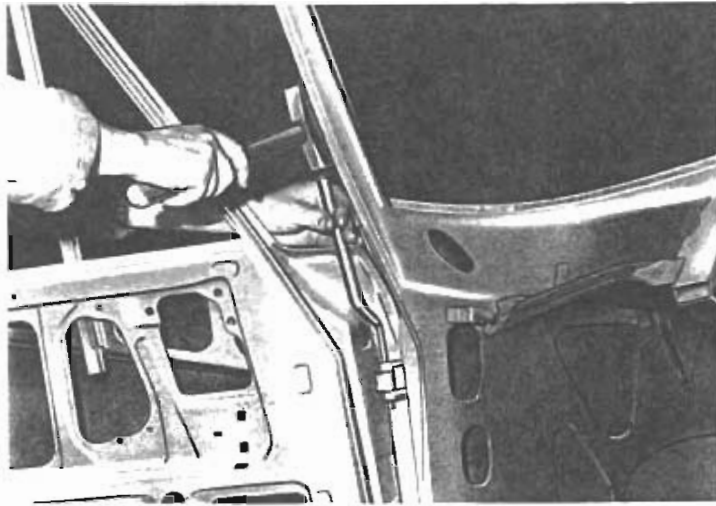


NOTE — Should the weatherstrip show sign of defect which might impair the waterproofing of the windscreen, it must be changed with a new one.
The perfect sealing against water leaks depends upon the way the above mentioned procedure is performed especially as far as care in applying the sealing compound is concerned.

REMOVAL AND INSTALLATION

DOORS

The same procedure applies to all Saloon models.
1750 Saloon is shown for example purpose.



REMOVAL

- Remove the spreader plug and withdraw the hinge pins by tapping lightly with a hammer on a suitable punch which can be easily manufactured or purchased locally. Start from the lower hinge. Hold the door when the hinge pin slips out of the upper hinge.

NOTE – To gain access to the hinge pins of rear doors, open up the front doors.



INSTALLATION

Reverse the removal procedure.

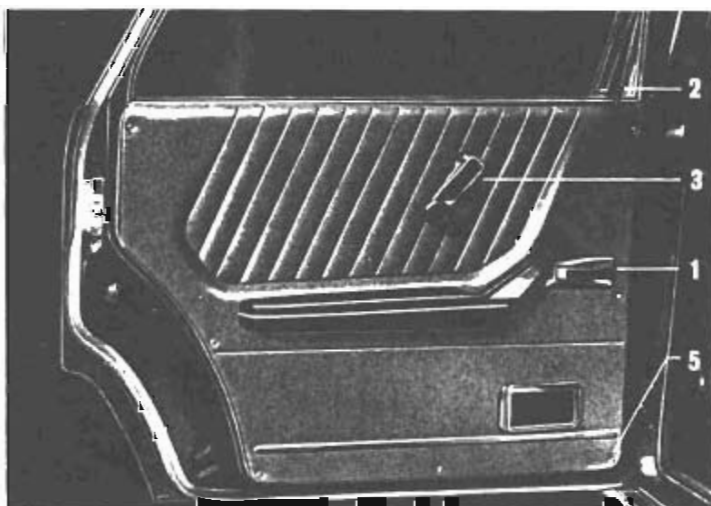
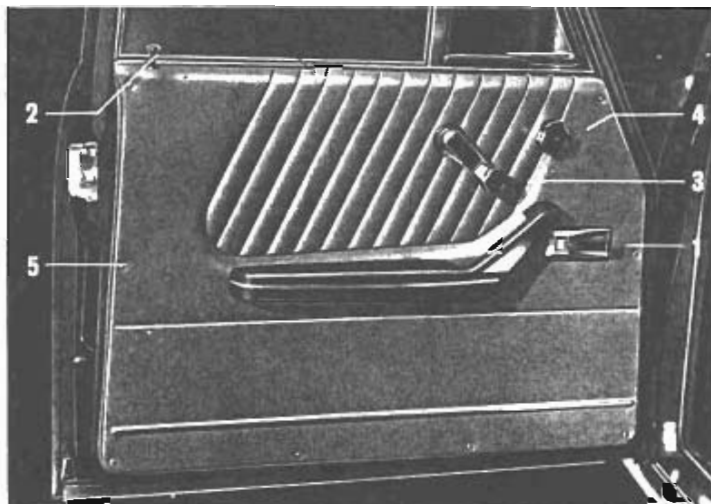
NOTE – If the doors are out of alignment, any adjustment should be made by acting only on the adjustable hinges. To prevent shortening the life of the hinge pins never put the doors under undue strains even by hand.

DOOR TRIM PANELS

1750 Saloon is shown for example purpose.

REMOVAL

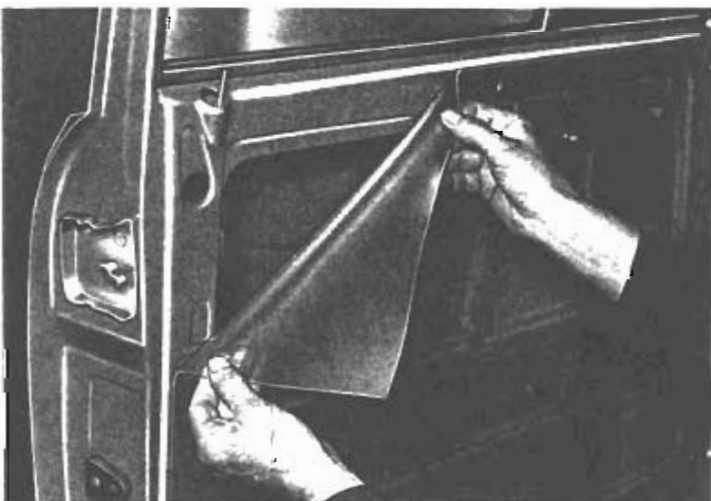
- Take the safety lock button 2 out by unscrewing it.
- Remove the remote control handle support 1, the window regulator handle 3, the vent window knob 4 (front doors) by unscrewing the attaching screws.
- Take the trim panel away by loosening the attaching screws 5.



- Detach the plastic sheet as shown.

INSTALLATION

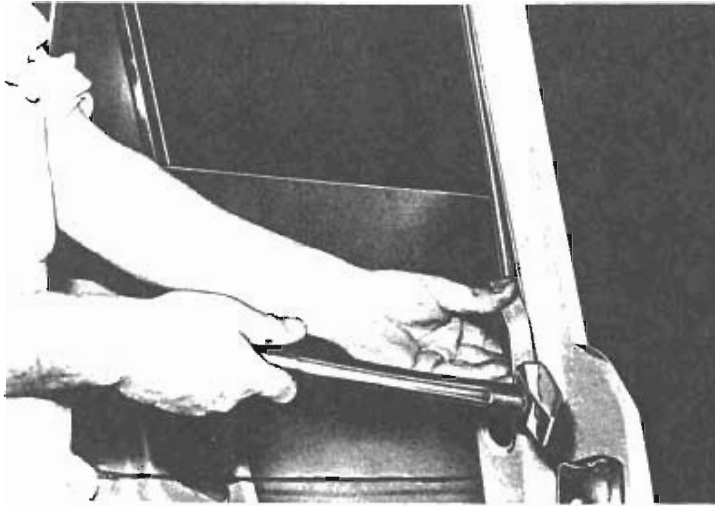
Proceed in reverse order of removal.



REMOVAL AND INSTALLATION

DOOR GLASS FRAMES

The same procedure applies to all Saloon models.
1750 Saloon is shown for example purpose.



REMOVAL

- Start removing the upper frame of door glass by tapping lightly with a mallet and a wooden block at the sides as shown.



- Remove the lower frame in the same way as outlined above.

INSTALLATION

Slide into position the lower frame first, then the upper frame and push them in place by applying even pressure.

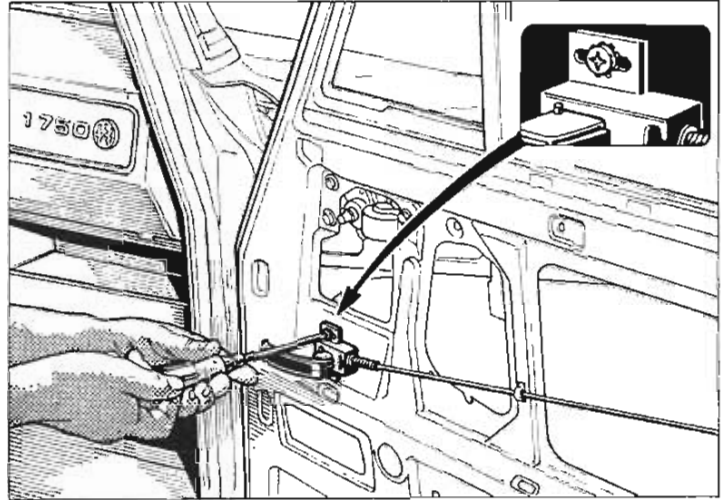
DOOR LOCKS

1750 Saloon is shown for example purpose.

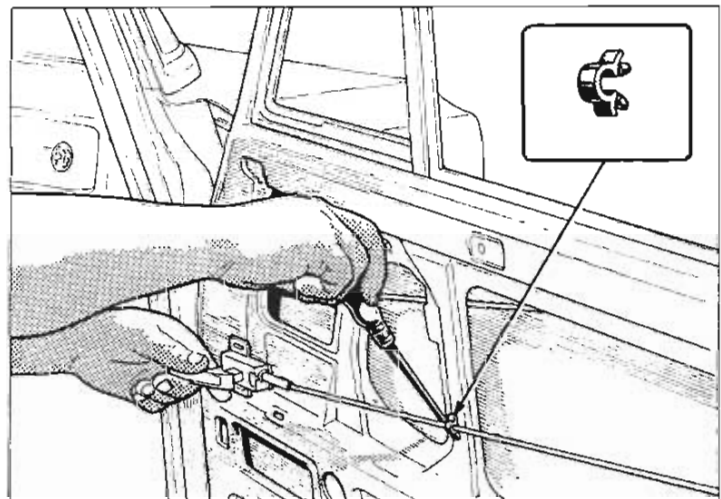
FRONT DOOR LOCKS

REMOVAL

- Remove the door trim panel and detach the plastic sheet (see page 37).
- Loosen the two screws securing the support of remote control handle.



- Pry out of its seat the remote control rod guide.



- Disconnect the outside handle-to-lock link.

