

# 41 Body

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## BODY JOBS ON CONVERTIBLES

This section only describes special repairs for convertibles.  
Repairs, which are identical or practically identical with those  
for sedans and/or four wheel drive models, are not described here.

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# 41 Body

## BODY JOBS ON CONVERTIBLES

This section only describes special repairs for convertibles.  
Repairs, which are identical or practically identical with those  
for sedans and/or four wheel drive models, are not described here.

41 35 110 Rear side panel, right — replace ..... 41 - 301C

## INTRODUCTION

This repair manual for body jobs is supplied for skilled workers and consequently it is assumed, that persons referring to this manual will be well qualified, conscientious workers with the necessary amount of responsibility.

Instructions are therefore limited to information on factory approved repair methods as well as related tips and working aids.

The described body repair jobs refer to the complete or partial replacement of parts with original BMW replacement parts or sections of replacement parts. Straightening and dent removal must be adapted to a pertinent damage scope. Concerned welding and spot welding seams must be inspected and, if necessary, repaired.

Refer to the cut out parts for the quantity and location of welding spots, inert gas welded seams and brazed connections. Use inert gas plug welding instead of spot welding in non-accessible areas.

Most pictures show a rough, unpainted bodyshell. Remove or cover all car parts, which are in the repair zone and are in danger of being subjected to heat, sparks or dust.

Disconnect the ground lead on the battery or body connection point. Protect electric leads against dangers of mechanical or thermal influence.

Conform with safety precautions for cars with SRS.

Conform with fire and accident prevention regulations.

Welding can be performed after removal of control units, if

- there is guarantee of about 1 meter (3 feet) distance between welding and ground connections and
- there is guarantee of good electric connection between welding and ground points (no rubber mounts or anything similar).

If not, thermal development must be considered especially in case of autogen welding (decisions must be made for each individual case).

In spite of continuous quality control in welding by the factory, it is still possible that some welded points could be faulty. They will be repaired in the factory subsequently, either with inert gas spot welding or, when not accessible, with 15 mm (0.590") long inert gas welded seams on the flange end. Consequently repaired welded seams on the body do not always indicate repairs by a third party.

*For example:* left engine carrier member resistance spot welded - right engine carrier member welding repaired with inert gas welding.

*Important!*

The steering gear must be inspected and maybe replaced after an accident or accident-similar driving conditions - see Service Information 32 01 88 (828).

Seal off all sealing seams, sealed in original state, with a body sealing compound immediately after repairing. Replace damaged anti-drumming insulation.

Seal new sheet metal parts or the cavities, seams, creases and folds produced by new sheet metal parts with a body sealing compound immediately.

Source of supply for workshop equipment, aids, sealing materials, cements and similar products: HWB (a Business Division of BMW AG).

## REMOVING PVC MATERIAL IN REPAIR ZONE

Corrosion inhibition after repairing begins already with the professional removal of PVC undercoating, anti-drumming compound and seam sealing compound in the repair zone.

Remove PVC material with a rotating steel brush, or heat PVC to maximum 180° C (355° F) with a hot air blower and scrape off with a spatula.

Burning off the PVC material or heating it above 180° C (355° F) with a gas flame torch or similar tool would produce strong corrosion-promoting hydrochloric acid.

Health impairing vapors would also be set free.

New undercoating would not have sufficient adhesion on burnt PVC material and consequently undersurface rusting would be possible.

## WELDING GALVANIZED SHEET METAL

Hot galvanized and galvanized sheet metal is used to a greater extent for components of the body, which are especially subject to corrosion.

Conformance with the following points is necessary when working with these parts.

The welding smoke contains poisonous zinc oxide, so that especially good extraction is necessary in the welding bay.

Do not grind off zinc coat for resistance spot welding and inert gas welding.

The zinc coat, however, must be ground off for brazing jobs.

If at all possible welded connections should be made with resistance spot welding.

Welding current is boosted by at least 10 % as compared with blank sheet metal. Apply as high as possible electrode contact force (make break out test on sample sheet metal). A coat of spot welding paste can be applied for better sealing.

Inert gas welding should be preferred to autogen welding in areas not accessible for resistance spot welding, because of the lower heat dispersion.

Machining or forming of galvanized sheet metal in warm state is normal.

Make sure of thorough extraction of poisonous vapors.

Remove burnt residual zinc completely.

Align, grind down and tin out visible joints as normally.

## RECOMMENDED WORKING METHODS AND TOOLS

### 1. *Cutting Out Damaged Parts:*

Determine the location of mating surfaces with help of the replacement part before beginning with the work. Cut out damaged part roughly within the mating surfaces.

#### *Caution!*

Don't damage sheet metal located underneath.

Remove sealing compound, anti-drumming compound and, if applicable, paint to neutralize the connection points. Drill out spot welding. Make sure holes are drilled in the cut out part while drilling. Don't drill in the connection flanges remaining for installation of the new part.

Grind off welded seams with a disc grinder carefully. Heat brazed connections with an autogen gas torch (don't heat excessively!). Lift off scrap metal. Remove residual brazing solder with a steel brush. Straighten and grind all connection points thoroughly.

### 2. *Installing New Parts:*

Prepare connection points to pertinent repairing instructions.

Always perform repairs, which concern the suspension points of the engine, transmission, axles or running gear, on a straightening bench with the attachments belonging to the car type. There are also attachments for different body parts. Check curvature and dimensions of windshield and rear window by installing an original window. Refer to pertinent drawings for the gaps of doors, engine hood and trunk lid.

Coat mating surfaces intended for resistance spot welding with zinc dust paint. Only remove the protective paint from galvanized replacement parts. Drill 8 mm (0.315") dia. holes with same spacing as the drilled out welded spots in connections not accessible for the spot welding tongs and insert gas plug weld.

Produce inert gas welded seams according to the part cut out.

Produce brazed connections with as little as possible heat dispersion and without excessive heat. Procedures deviating from standard connections will be described in the repair manual. Grind down welded seams visible on outside surfaces.

#### *Caution!*

Don't grind down the sheet metal too thin.

Straighten and tin out irregularities. Tinning out is supposed to prepare the surface to such an extent, that only a coat of fine filler has to be applied prior to spraying on paint.

Seal off all welding seams, which had been sealed in original state, with a body sealing compound immediately after repairing.

Replace damaged anti-drumming compound. Seal new sheet metal parts or the cavities, seams, creases and folds produced by new sheet metal parts with a body cavity sealing compound immediately.

### SAFETY PRECAUTIONS FOR WORKING ON BODIES OF CARS WITH SRS

#### Caution!

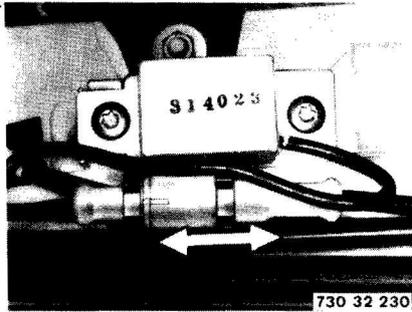
Improper handling could cause unwanted activation of SRS and in turn lead to injury! Refer to Group 32 for complete details on safety regulations.

Parts of SRS must not be subjected to heat greater than 100° C (212° F), not even briefly.

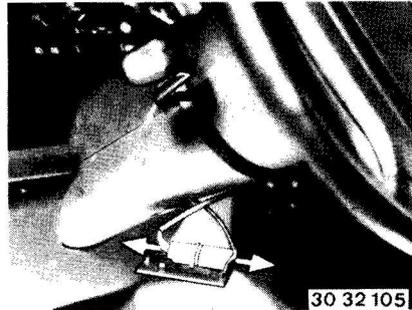
If there is danger that working on the body could subject the parts of SRS to strong vibrations, they should be removed as a precautionary measure.

In case of deformation or when installing the holders for both crash sensors in the left and right front wheel houses, make sure that the holders are aligned parallel to the car's longitudinal axis precisely.

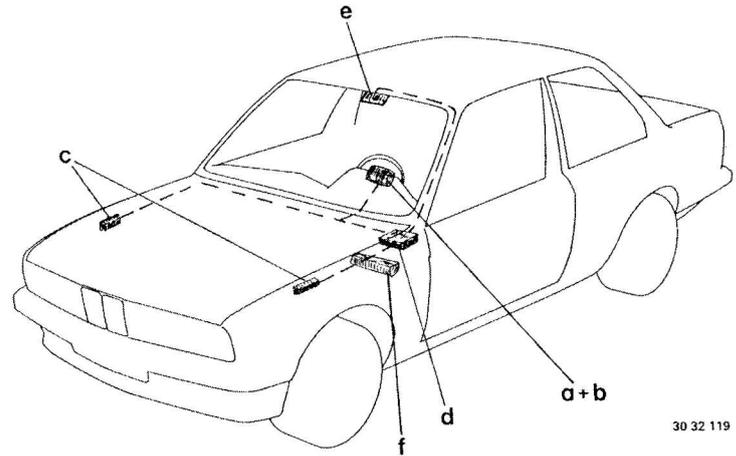
Also refer to the repairing instructions and safety regulations concerning SRS in Group 32.



Disconnect both poles of the car's battery and cover the battery poles before working with an electric welder. Disconnect the plugs of both front sensors in the left and right wheel houses.



Lift the cap out of the lower steering wheel casing section and disconnect the plug.



30 32 119

#### Components:

- a) SRS steering wheel with impact shell and impact pad, in which the airbag, gas generator and ignition pill are integrated.
- b) Contact ring – guarantees power supply to the ignition pill.
- c) Two crash sensors (left and right in front wheel houses) and safety switch left.
- d) Electronic diagnosis unit (in glove box) with integrated safing sensor (prevents unwanted activation).
- e) SRS indicator lamp integrated in check control unit.
- f) Knee guard.

# 41-004

## FRAME ALIGNMENT CONTROL DIMENSIONS – BMW '3' Series / E 30

– Sedans and Convertibles –

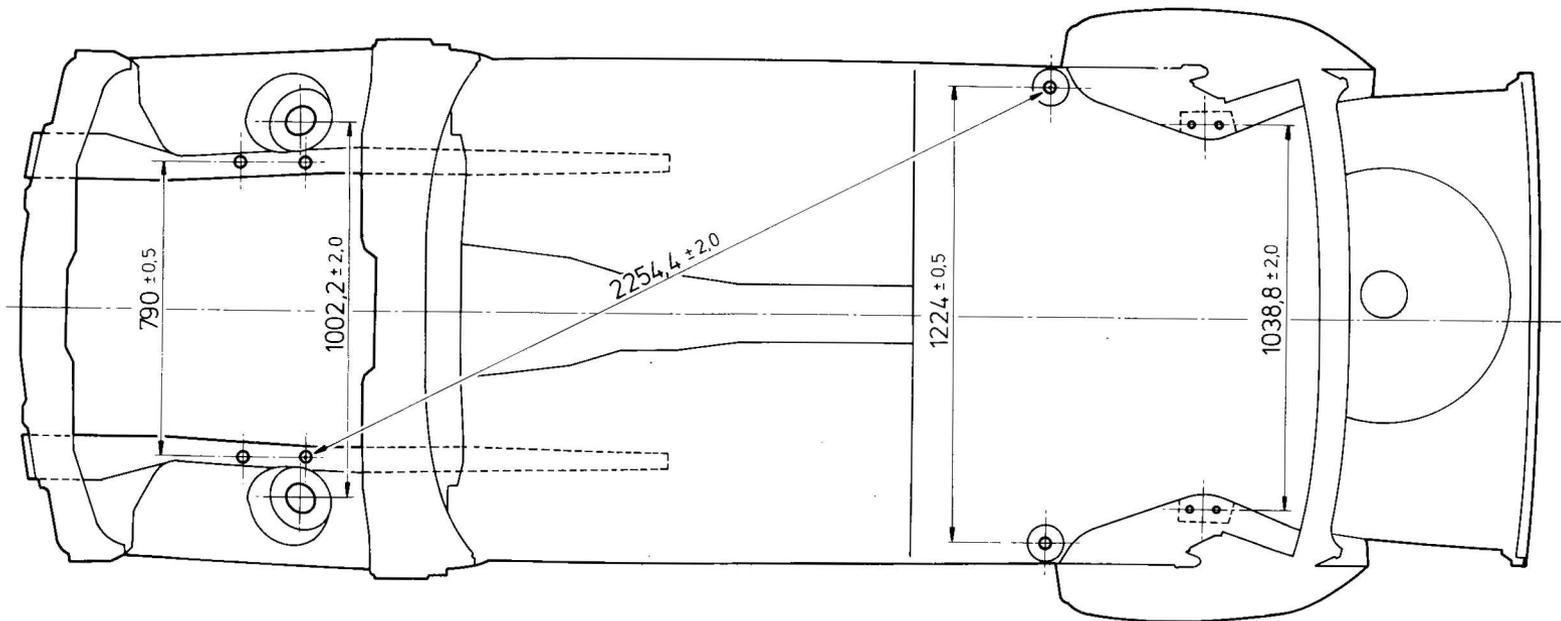
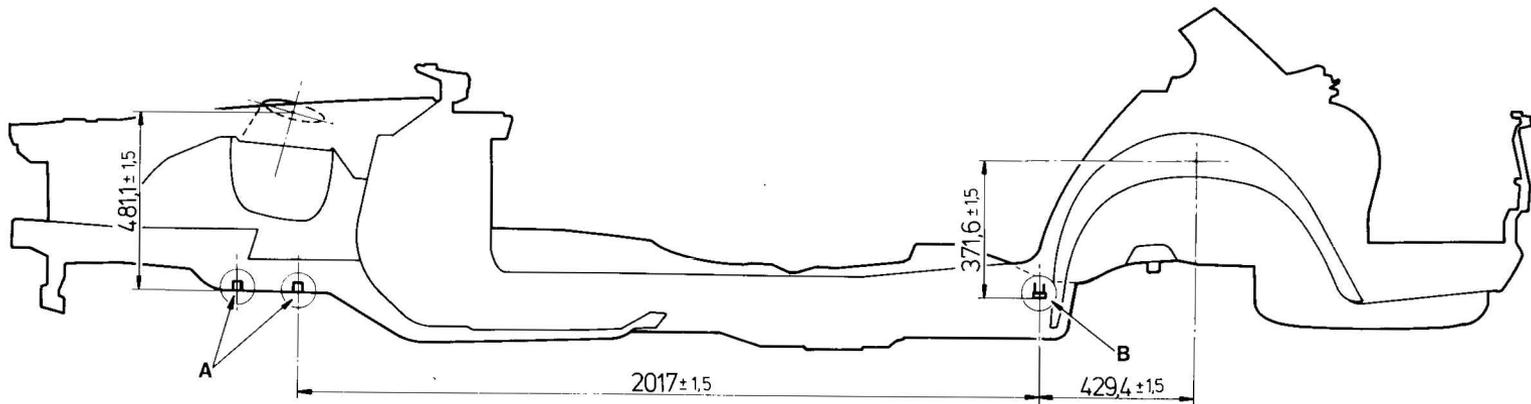
A Front axle take-up

B Rear axle take-up

All dimensions in mm

*Note:*

Only use the following values for a rough inspection, Repairs can only be carried out correctly with the approved set of attachments and a straightening bench.



# 41-005

## FRAME ALIGNMENT CONTROL DIMENSIONS – BMW '3' Series / E 30

– All Wheel Drive Cars –

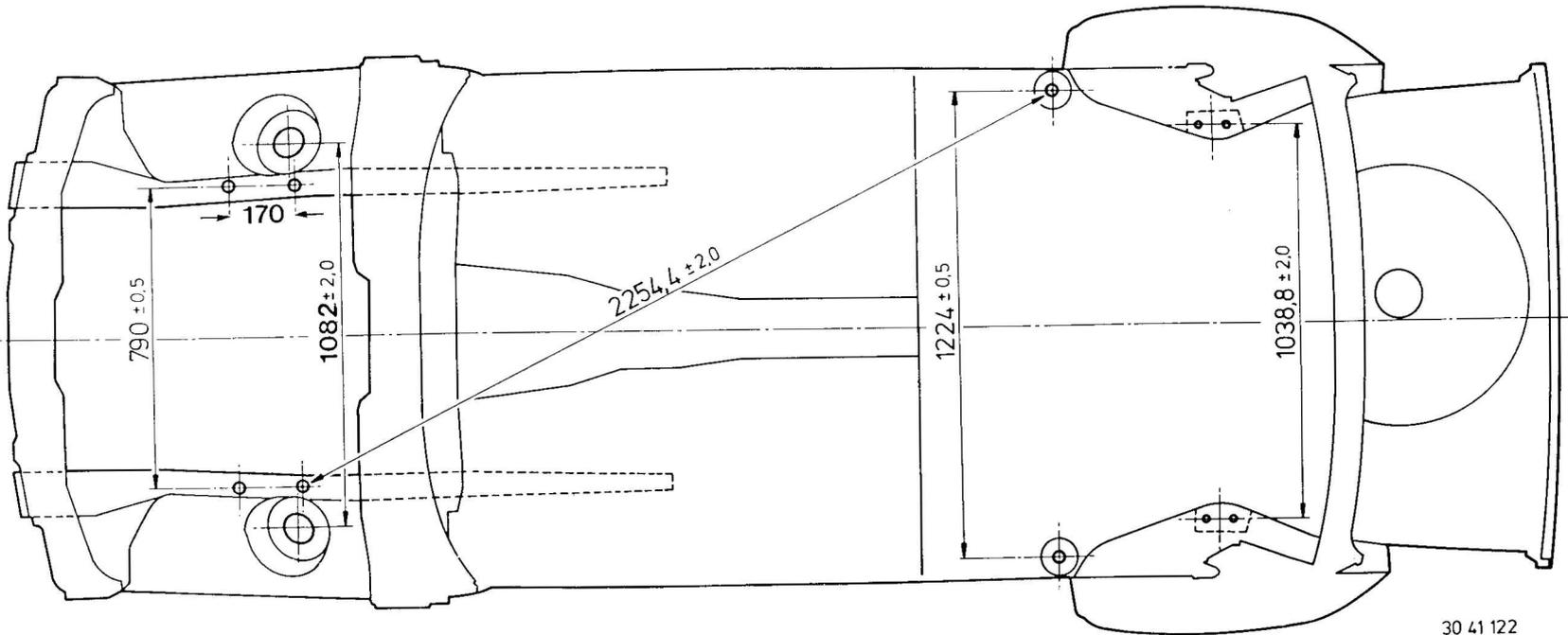
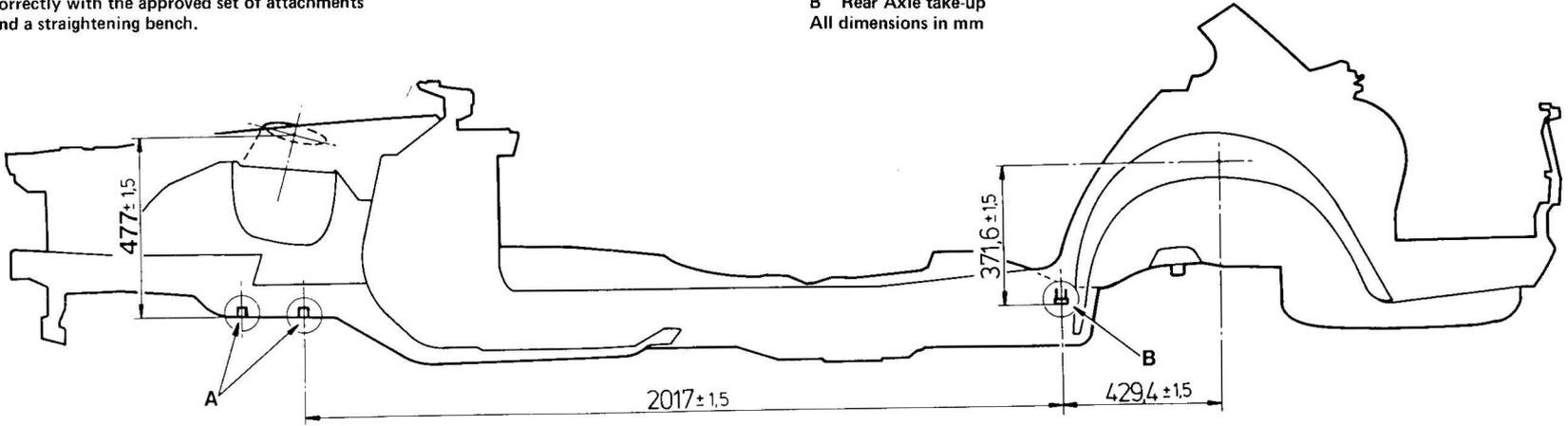
A Front axle take-up

B Rear Axle take-up

All dimensions in mm

### Note:

Only use the following values for a rough inspection. Repairs can only be carried out correctly with the approved set of attachments and a straightening bench.



# 41-006

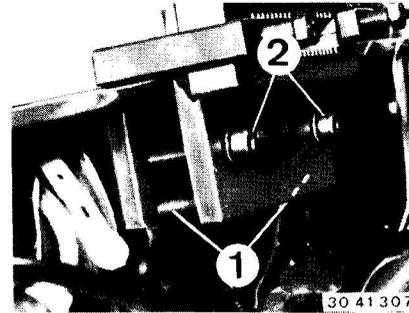
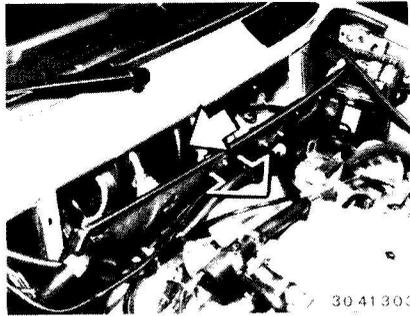
## DIE STAMPING CHASSIS NUMBER

The chassis number has to be die stamped new, if the old chassis number is destroyed or removed during body repairs.

*Note:*

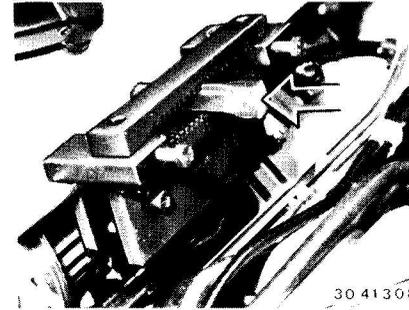
The chassis number can also be die stamped after finishing the assembly work.

This requires removing the cover on the compartment wall and cover for the blower motor.

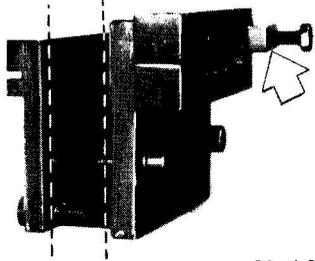


Align base plate for stamp guide parallel with bolts (1).  
Push up fixture completely.  
Tighten bolts (2).

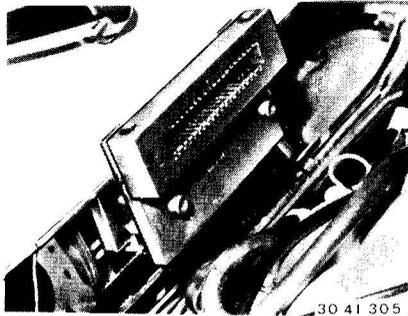
Assemble fixture 41 1 001 that smooth side of base plate faces stamp guide.  
Screw in bolts only enough that the spacing holders can be inserted later.



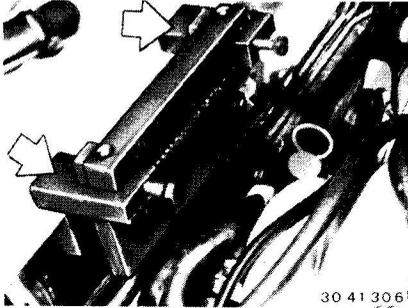
Insert numbers 41 1 002 in fixture separately and knock in tight.  
If parts or the complete body is replaced in workshops, die stamp a "+" before and after the number instead of the BMW emblem for definite identification.



Apply fixture and place base plate on surface for the chassis number.



Apply and clamp down spacing holders 41 1 003 on the left and right sides.



**REPAIRING BODY PARTS MADE OF GLASS FIBER REINFORCED PLASTICS**

Limited damage on parts made of glass fiber reinforced plastics, e.g. trunk lid of M 3 cars, can be repaired with the described repairing method.

There is chiefly application of two methods for the production of glass fiber reinforced plastic parts in standard car production.

SMC = Sheet Moulding Compound = processing method with polyester resin saturated sheets (prepegs), which are then hardened with application of pressure and heat. Prepegs are a sheetlike, free-flowing base compound consisting of glass fibers, fillers and unsaturated polyester resin.

BMC = Bulk Moulding Compound = injection moulding method with application of heat and high pressure producing a sauerkraut-similar compound, in other words a compound which is not sheetlike.

**Identification:**

Strong solid parts, insensitive to solvents. Flame test: crispy charcoaled, yellowish red, strongly sooting flame. Consequently only damage, which has no influence on the stiffness and strength of mounting points, may be repaired.

**POSSIBLE REPAIRING****Possible Repairing Limitations:**

In extreme driving conditions body parts will be subjected to strong vibrations and wind pressure or suction. Consequently only damage, which has no influence on the stiffness and strength of mounting points, may be repaired.

**Example – Trunk Lid for E 30 / M 3 Cars:**

Broken off or torn corners and damage on the outer panel may be repaired. Repairs may not be carried out on the supporting inner panel elements and threaded inserts of mounting points. Replace a part when in doubt.

Repairing glass fiber reinforced plastic parts will considerably depend on the type of damage, preparation of the damaged zones and qualification as well as perfection of the work. It is recommended to practice repairs on parts no longer required in order to have sufficient experience.

The company approved ultraviolet hardening repair system\* is distinguished by the following advantages in application as compared with conventional two-component resins.

1. Single component system, no mixing or mixing errors.
2. No waste, since excessive material will not hardened when not subjected to light and can be reused.
3. Very long application time in closed rooms (only slight influence from light entering the room through closed windows); fast hardening after ultraviolet radiation (direct sunshine, ultraviolet lamp\*).
4. Glass sheets pre-impregnated, no air inclusions.
5. Easy moulding of impregnated glass sheets without dirtying hands.
6. Uniform handling of entire repair system from resin to finish filler.
7. Brushes and other tools can be stored until needed again without washing them when light is kept off of them (covered with aluminum foil, placed in boxes, or in a similar manner).

**Tool Requirements:**

Hand tools and equipment already used for working with sheet metal can be applied as material removing tools. It is only necessary to purchase an ultraviolet lamp\* required for hardening of the resin. Cutting and grinding tools must be sharp and must not smear. The use of unsuitable tools will subject the material surface to excessive heat and cause "polished" spots. Only repair plastic parts at room temperature.

**\* Source of Supply:****Plastic Materials:**

Lothar Reif GmbH  
 Relo-Kunststoffe  
 Kolpingstr. 2  
 D-7850 Lörrach  
 Phone: 07621 / 40360  
 Telex: 0773516

**Ultraviolet Lamp:**

HWB (A Business Division of BMW AG)

## SAFETY PRECAUTIONS WHEN REPAIRING GLASS FIBER REINFORCED PLASTIC PARTS

Grinding dust must be removed on site with suitable extraction and a vacuum cleaner or machines with integrated extraction.  
Protective goggles and a mask must be worn during grinding operations.

Conform with the following points when working with and storing polyester resins.

### Personal Protective Equipment:

Gloves, goggles.

### Working Hygiene:

Good ventilation and regular washing of hands; no contact with food.

### First Aid:

Take off dirty clothes immediately. If dust has gotten in eyes, rinse out thoroughly with water and go to a physician. Dab coated skin and wash thoroughly with water and soap. If great amount of vapors are inhaled, go outdoors in the fresh air and, if necessary, visit a physician.

### Information on Toxicology:

Systems containing styrol will irritate eyes, skin and the respiratory track. No damaging effects are known from decades of use as long as handling is correct.

### Measures in Case of Fire:

Fire extinguishing agents: water mist (no water stream), powders, foam, CO<sub>2</sub> and halon.

### Scrapping:

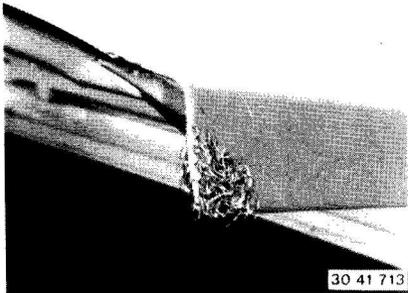
Never let it get into drink water systems.  
It can be brought to a normal refuse station after hardening.

## REPAIRING GLASS FIBER REINFORCED PLASTIC PARTS

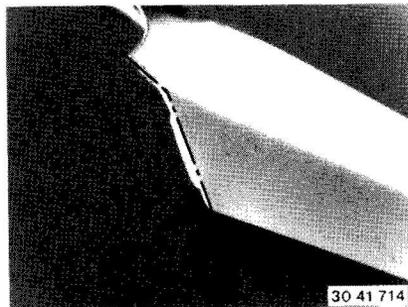
Assumed Damage:  
Damaged Corner on Trunk Lid:

*Note:*

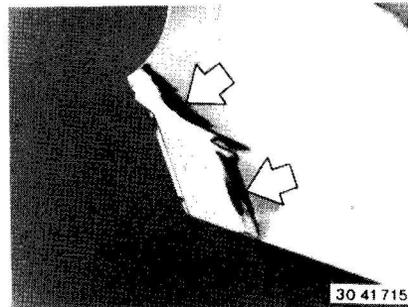
The following repairing instructions can only describe general procedures. Procedures must be adapted to the pertinent type of damage. See the introduction for additional information.



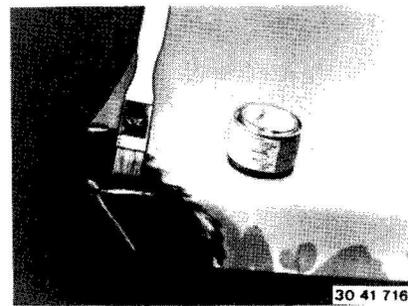
30 41 713



30 41 714



30 41 715



30 41 716

Grind off damaged corner until firm, non-fibrous laminate is visible.

*Note:*

Grind off that much further, if gasoline, oil or something similar has penetrated into the damaged area.

Grind mating surfaces in flat-flowing transition.

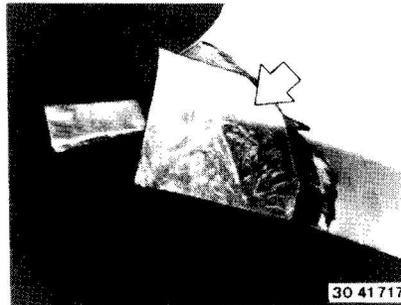
*Note:*

The plastic surface has a graphite coat to make it conductive for the painting method used in standard production.

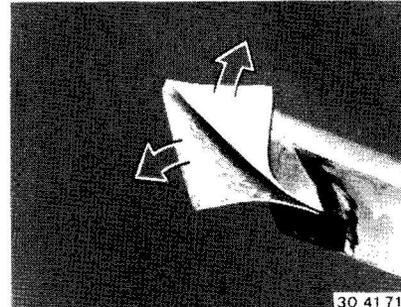
Grind off the graphite coat outside of the damaged area.

Clean ambient area with acetone.

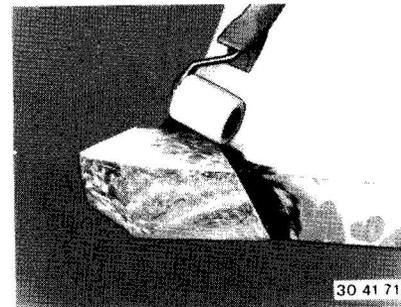
Coat mating surfaces with an adhesion agent.



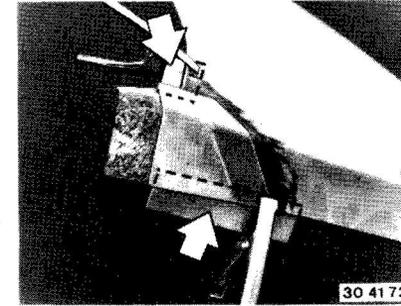
30 41 717



30 41 718



30 41 719



30 41 720

Remove repair bandage from aluminum foil and cut off to size.

*Important!*

Material hardens in sunshine.

Close aluminum bag immediately to keep out light.

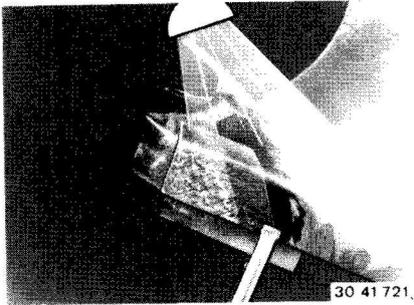
Pull off transparent plastic sheet on one side.

Place repair bandage on damaged surface and mold.

Press out air bubbles.

Use a rubber roller, if necessary.

If applicable, cover inside of damaged surface with the pulled off sheet and keep it stretched by applying strips of metal or plastic until hardening is finished.



30 41 721

Aim an ultraviolet lamp on damaged surface. The hardening time will depend on the lamp version, scope and strength of laminate. Gain experience by making tests, if necessary. Hardening time for 1 mm (0.039") coat = approx. 2 minutes.

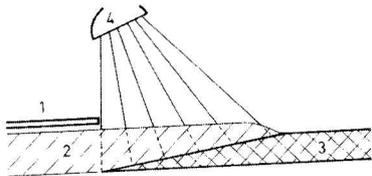
*Important!*

Chemical reaction produces heat, which could lead to self-destruction of the laminate. If necessary, interrupt the ultraviolet lamp treatment occasionally.

*Note:*

Ultraviolet radiation is only effective when applied direct. There is no hardening in zones of shade or on covered laminate. This can be exploited, in that some sections are covered and only certain surfaces are hardened, or are cemented. The remaining sections can then be molded and hardened separately.

- 1 Cover
- 2 Repair material
- 3 GFP part
- 4 Ultraviolet lamp



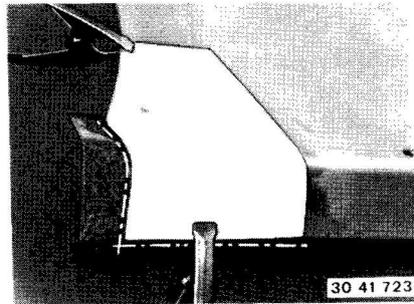
30 41 722

*Important!*

Pull off foil. Build up laminate to final thickness by cutting repair bandages to size, hardening and grinding inbetween as necessary.

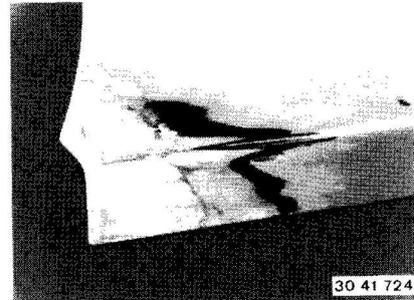
*Important!*

Remove foil between layers. Harden the laminate with an ultraviolet lamp. Transfer the edge shape with a paper template from the other side.



30 41 723

Grind inside and outside of repaired area. Remove irregularities with a glass fiber putty.



30 41 724

## REPAIRING GLASS FIBER REINFORCED PLASTIC PARTS

### Assumed Damage:

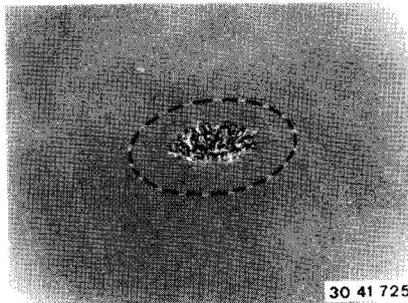
Hole or Damaged Laminate in Outer Trunk  
Lid Panel Between Reinforcement Ribs:

### Note:

The following repairing instructions can only  
describe general procedures.

Procedures must be adapted to the pertinent  
type of damage.

See introduction for additional information.

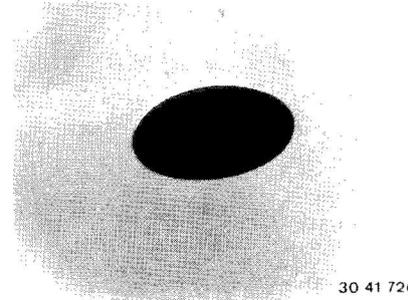


30 41 725

Cut out damaged area until firm, non-fibrous  
laminate is visible.

### Note:

Grind off that much further, if gasoline, oil  
or something similar has penetrated into the  
damaged area.

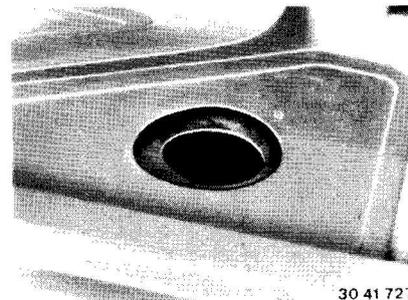


30 41 726

### Note:

The trunk lid consists of inside and outside  
panels.

If both panels are damaged, cut out the  
damaged area on the inside a little larger.



30 41 727

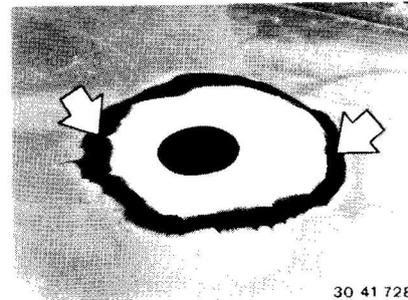
Grind mating surfaces in flat-flowing transition.

### Note:

The plastic surface has a graphite coat to make  
it conductive for the painting method used in  
standard production.

Grind off the graphite coat outside of the  
damaged area.

Clean ambient area with acetone.

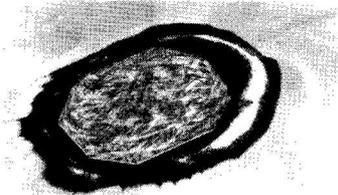


30 41 728



30 41 729

Coat mating surfaces with an adhesion agent.



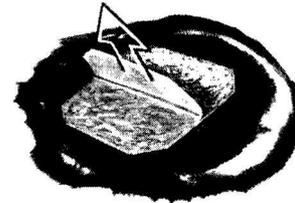
30 41 730

Remove repair damage from aluminum foil  
and cut off to size.

### Important!

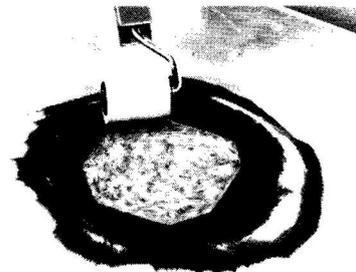
Material hardens in sunshine.

Close aluminum bag immediately to keep out  
light.



30 41 731

Pull off transparent plastic sheet on one side.



30 41 732

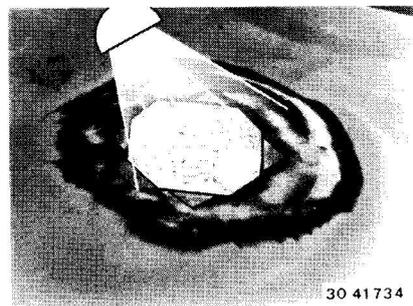
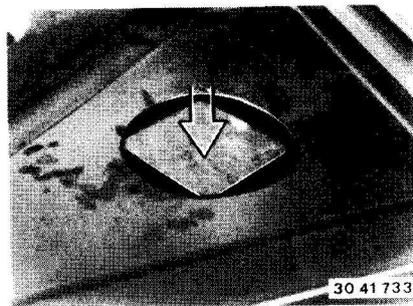
Place repair bandage on the damaged surface  
and press on all around.

Press out air bubbles.

Use a rubber roller, if necessary.

*Note:*

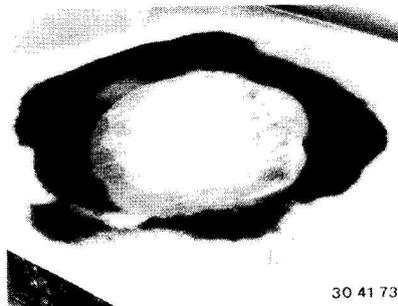
In case of large damage, cover the inside of the hole with the pulled off sheet and hold it with a piece of metal or something similar until hardening is finished.



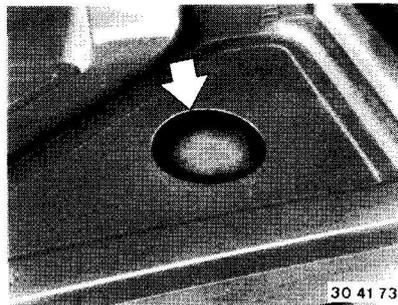
Aim an ultraviolet lamp on the damaged surface. The hardening time will depend on the lamp version, scope and strength of laminate. Gain experience by making tests, if necessary. Hardening time for 1 mm (0.039") coat = approx. 2 minutes.

*Important!*

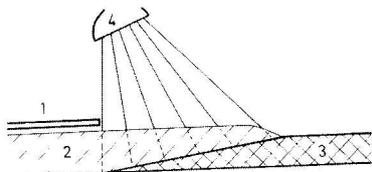
Chemical reaction produces heat, which could lead to self-destruction of the laminate. If necessary, interrupt the ultraviolet lamp treatment occasionally.



Grind the repaired area.  
Remove irregularities with a glass fiber putty.



Repair the inside panel to the instructions for the outside.



30 41 722

*Note:*

Ultraviolet radiation is only effective when applied direct. There is no hardening in zones of shade or on covered laminate. This can be exploited, in that some sections are covered and only certain surfaces are hardened, or are cemented. The remaining sections can then be molded and hardened separately.

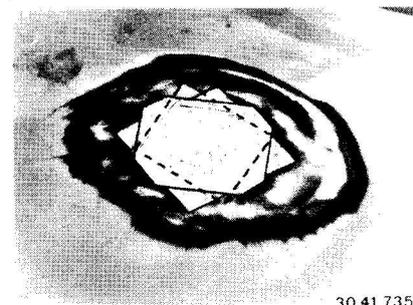
- 1 Cover
- 2 Repair material
- 3 GFP part
- 4 Ultraviolet lamp

## Pull off foil.

Build up laminate to final thickness by cutting repair bandages to size, hardening and grinding inbetween as necessary.

*Important!*

Remove foils between layers.  
Harden the laminate with an ultraviolet lamp.



## 41 11 011/ REPLACING RIGHT / LEFT FRONT ENGINE CARRIER (PARTIAL 001 REPLACEMENT) WITH WHEEL HOUSE – All Wheel Drive --

Refer to information on page 41 - 001.

Remove or disconnect following parts:

ground lead on battery, bumper, wheel house trim top and bottom, all radiator grill sections, engine hood lock, engine hood release, front spoiler, all headlights, front fog lamps if applicable, both bumper brackets, horns, heater wall seal, entrance cover strips, front seat, instrument panel trim, carpet on A pillar, passenger compartment carpets partially, footwell insulation sheet partially, brake booster with brake master cylinder if applicable, fuel filter, ignition coil, brake lines partially, engine, front axle with transmission, engine compartment wires partially, radiator trim, data plate.

Check and adjust front wheel alignment.

Remove both side panels.

Remove front panel with front wall – see 41 33 001.

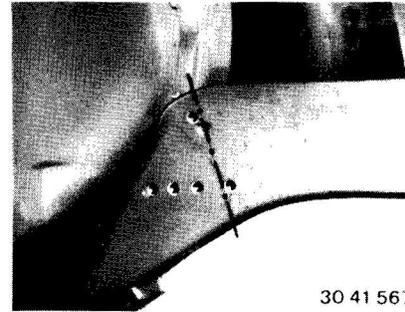
Remove wheel house – see 41 14 021.

*Note:*

If the console holding the ABS acceleration pick-up is straightened or welded on the left wheel house, the acceleration pick-up must be adjusted afterwards.

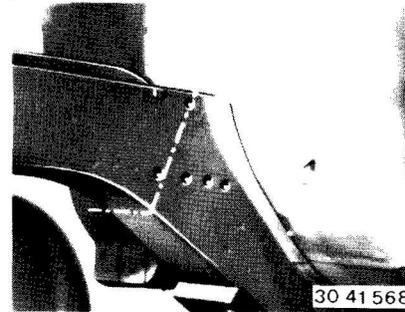
See Group 34 (ABS – All Wheel Drive) for adjusting procedures.

Drill out spot welds.



30 41 567

Drill out spot welds.

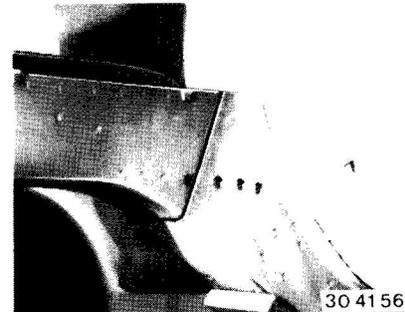


30 41 568

Cut through engine carrier on side and bottom.

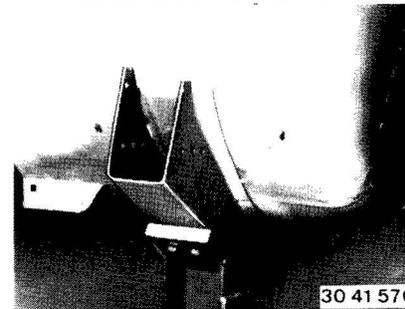
*Important!*

Be careful not to damage metal sheet on inside.



30 41 569

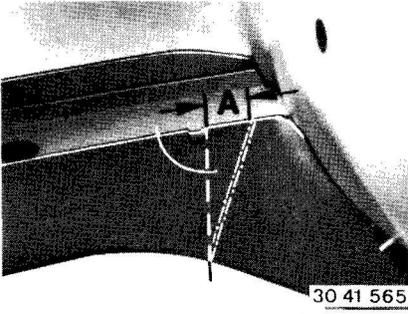
Lift off engine carrier front section. Straighten and grind mating surfaces.



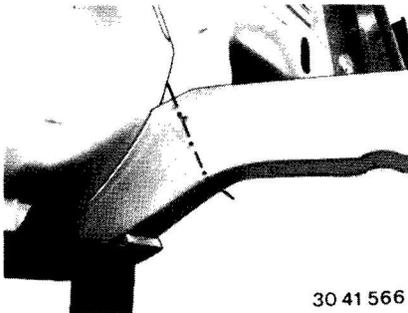
30 41 570

Mark cut according to sketch.  
A = 30 mm (1.181")

Transfer determined cut to outside.



30 41 565



30 41 566

Transfer cut to new engine carrier.

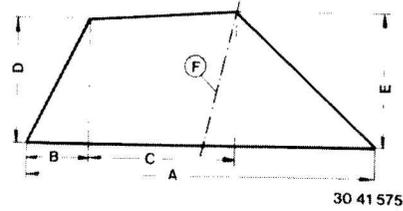
*Note:*

Consider width of joint.

Prepare two sheet metal reinforcements for sides to sketch.

Sheet metal thickness = 1.8 mm (0.071").

- A = 120 mm (4.724")
- B = 21 mm (0.827")
- C = 50 mm (1.968")
- D = 44 mm (1.732")
- E = 47 mm (1.850")
- F = Cutting line on engine carrier



30 41 575

30 41 571

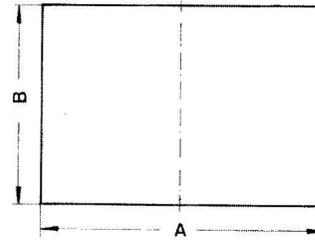
Drill out spot welds on inside and outside.

Prepare sheet metal reinforcement for bottom to sketch.

Adapt to curvature of carrier.

Sheet metal thickness = 1.8 mm (0.071").

- A = 55 mm (2.165")
- B = 80 mm (3.150")



30 41 576

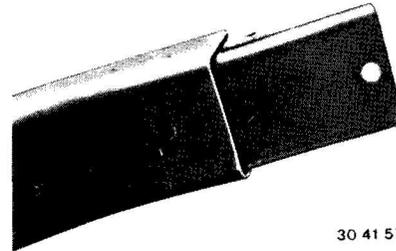
30 41 572

Cut through engine carrier on side and bottom.

*Important!*

Be careful not to damage sheet metal on inside.

Mark location of and drill holes for plug spot welding in new engine carrier.

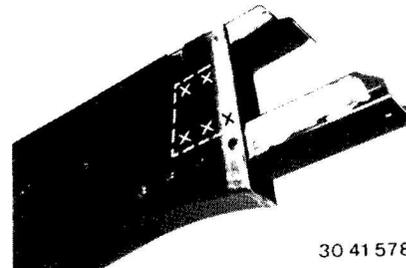


30 41 577

30 41 573

Straighten and grind mating surfaces.

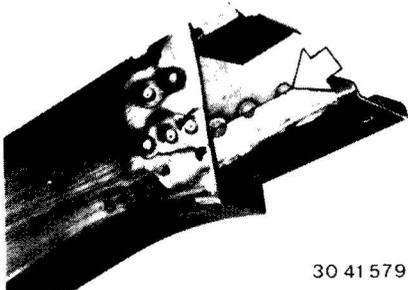
Match shape of reinforcement plates on inside and outside of new engine carrier. Drill holes for plug spot welding.



30 41 578

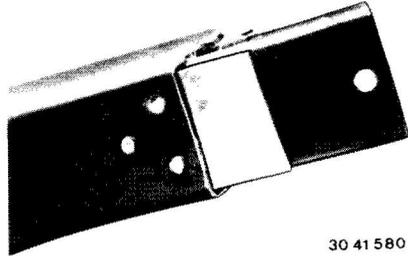
30 41 574

Slide in reinforcement plates half their distance and plug spot weld.  
Tack weld ends on available reinforcement slightly.



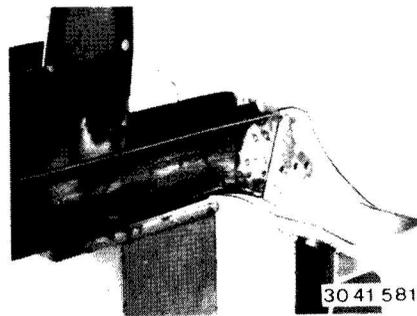
30 41 579

Slide in bottom reinforcement plate half its distance and plug spot weld.



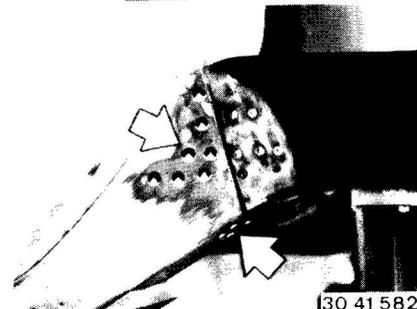
30 41 580

Set up car on straightening bench.  
Fit in engine carrier.



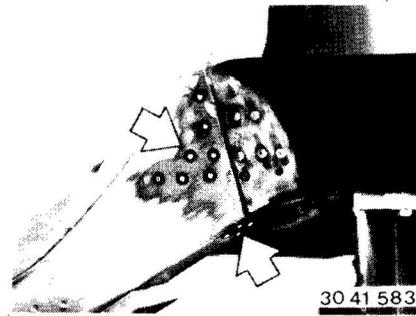
30 41 581

Drill holes for plug spot welding in area of reinforcements.  
*Note:*  
Reinforcement plates must bear on engine carrier.



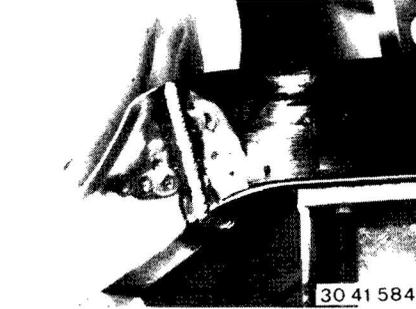
30 41 582

Plug spot weld all reinforcements through provided holes.



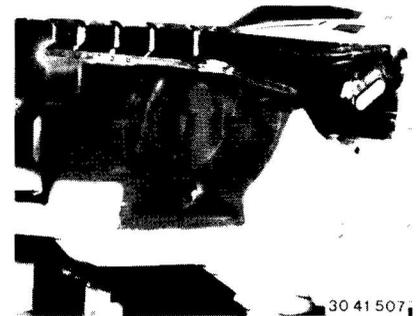
30 41 583

Inert gas weld the joint.



30 41 584

Install wheel house and front wall.  
Coat all joints with body sealing compound\*.  
Spray out wheel house with anti-drumming compound\*.



30 41 507

\* See Specifications

### 41 11 015 REPLACING LEFT FRONT ENGINE CARRIER (WITH WHEEL HOUSE)

Refer to information on page 41 - 001. Remove or disconnect following parts. Battery on ground pole, bumper, upper and lower wheel house trim panels, all radiator grill sections, engine hood lock and catch, front spoiler, all headlights, front fog lamps when applicable, both bumper brackets, two-tone horns, heater wall seal, entrance cover, front seat, dashboard trim panel, carpet on A pillar, carpet in passenger compartment partially, footwell insulation sheet partially, brake booster with master cylinder, fuel filter, ignition coil, brake pipes partially, engine, front axle with transmission, engine wire harness partially, radiator trim panel and data plate.

Remove both side panels.

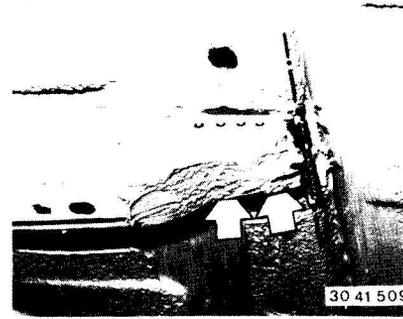
Remove front panel with front wall – see 41 33 001.

*Installation:*

Check and adjust front wheel alignment.

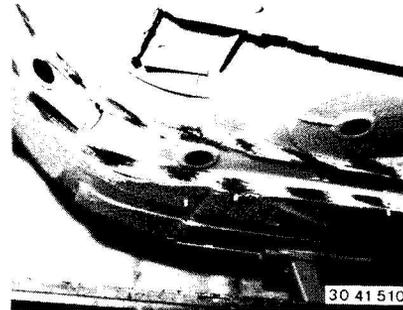
Remove wheel house – see 41 14 021.

Uncover spot welding seams on inside of car.  
Drill off welding spots.



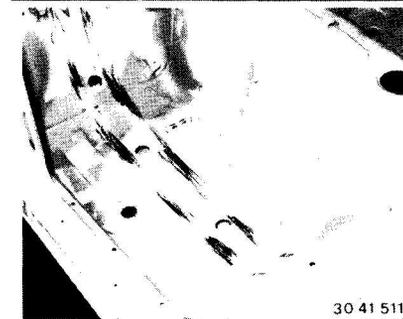
30 41 509

Uncover points of connection on end of engine carrier.  
Drill off welding spots.  
Grind off welding seam.  
Remove engine carrier.



30 41 510

Straighten and grind points of connection.



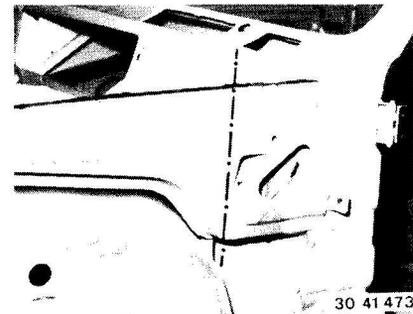
30 41 511

Straighten and grind points of connection.

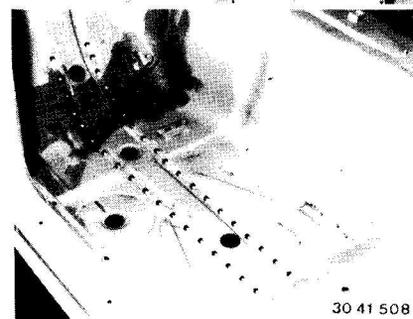


30 41 512

Grind points of connection on new engine carrier.



30 41 473



30 41 508

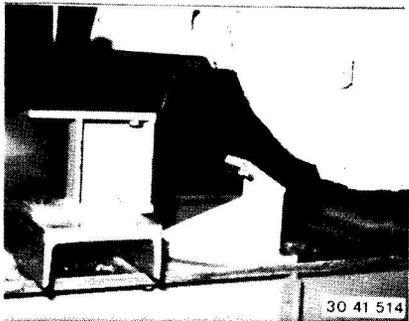
# 41-105

Drill holes for plug spot welding in engine carrier at rear.



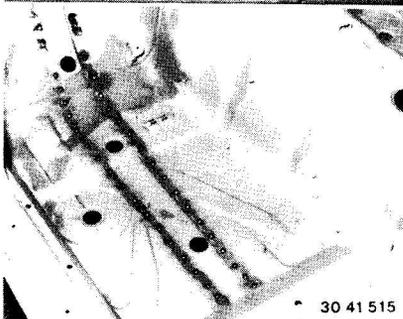
30 41 513

Set up car on straightening bench.  
Install engine carrier.



30 41 514

Plug spot weld engine carrier from the passenger compartment.

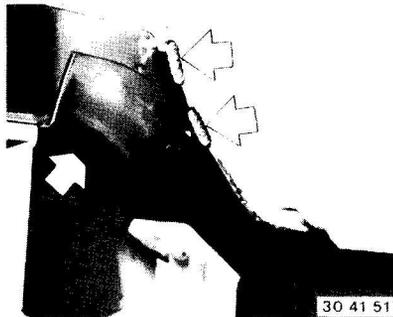


30 41 515

Plug spot weld engine carrier at rear on sides.  
Weld rear with two inert gas welding seams.



30 41 516



30 41 517

Seal engine carrier on inside and outside of separating wall with short inert gas welding seams.

Install wheel house -- see 41 14 021.  
Seal all welding seams with joint sealing compound\*.  
Replace damaged anti-drumming compound\*.

\* Source: HWB

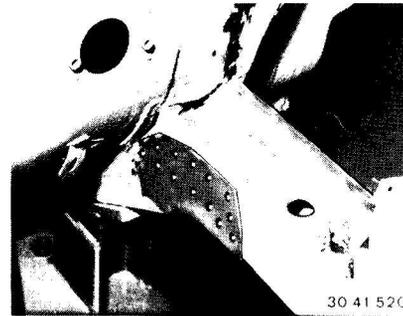
**41 11 026 REPLACING FRONT ENGINE CARRIER SECTION AND LEFT FRONT CENTER SECTION (WITH WHEEL HOUSE)**

Refer to information on page 41 - 001. Remove or disconnect following parts: Battery on ground pole, bumper, upper and lower wheel house trim panels, all radiator grill sections, engine hood lock and catch, front spoiler, all headlights, front fog lamps when applicable, both bumper brackets, two-tone horns, heater wall seal, entrance cover, front seat, dashboard trim panel, carpet on A pillar, passenger compartment carpet partially, footwell insulation sheet partially, brake booster with master cylinder, fuel filter, ignition coil, brake pipes partially, engine, front axle with transmission, engine wire harness partially, radiator trim panel, data plate. Remove both side panels. Remove front panel with front wall -- see 41 33 001.

*Installation:*

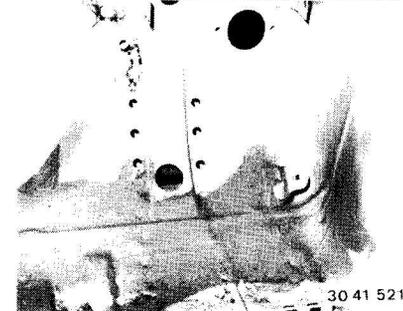
Check and adjust front wheel alignment.

Remove wheel house -- see 41 14 021.



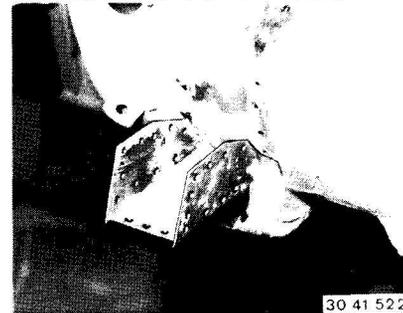
30 41 520

Uncover points of connection.  
Drill off welding spots.



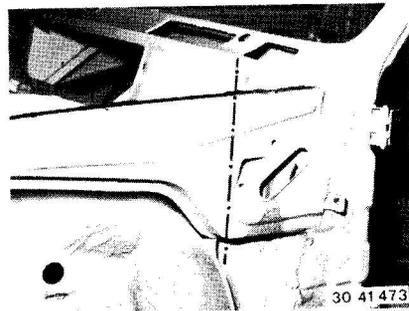
30 41 521

Drill off welding spots.  
Lift off engine carrier.



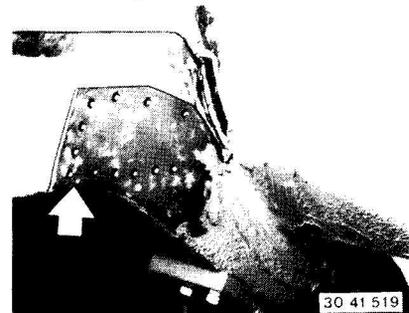
30 41 522

Straighten and grind points of connection.



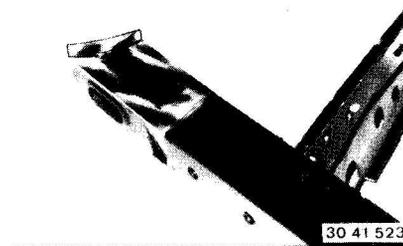
30 41 473

Uncover points of connection.  
Drill off welding spots.

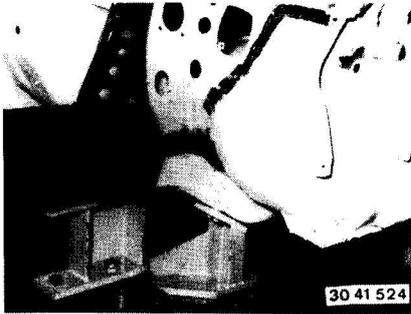


30 41 519

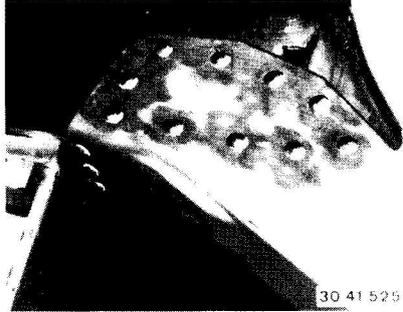
Grind points of connection on new engine carrier.



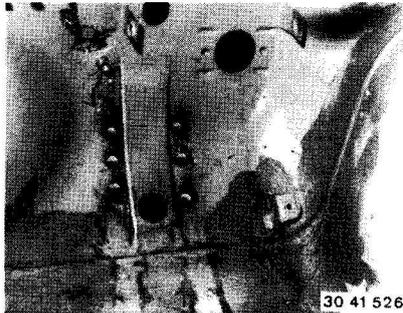
30 41 523



Set up car on straightening bench.  
Set up engine carrier.



Plug spot weld engine carrier through  
provided holes.



Plug spot weld engine carrier through  
provided holes.

Install wheel house — see 41 14 021.  
Seal all welding seams with joint sealing  
compound\*.  
Replace damaged anti-drumming compound\*.

# 41-108

## 41 11 043/ REPLACING LEFT/RIGHT ENGINE CARRIER FRONT SECTION WITHOUT 044 WHEEL HOUSE

Refer to information on page 41 - 001.

Remove or disconnect following parts.

Disconnect battery ground lead.

Remove radiator grill, headlight, front fog light, two-tone horns, engine hood lock, data plate and radiator.

Disconnect wire harness as required.

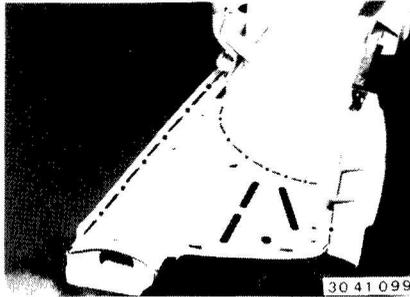
Remove engine hood complete with hinge — see 41 61 000 / 41 61 050.

Remove front bumper — see 51 11 000.

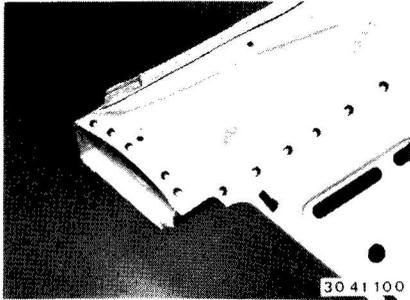
Remove both front side panels — see 41 35 000.

Replace front panel complete with front wall — see 41 33 001.

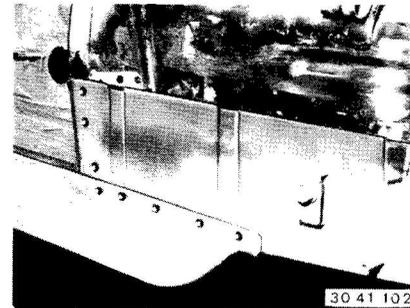
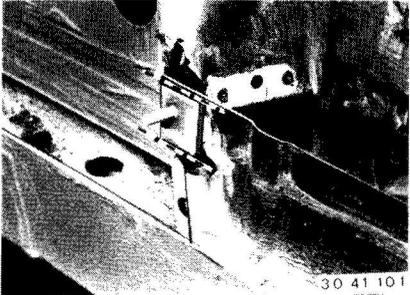
Cut out cover along line.



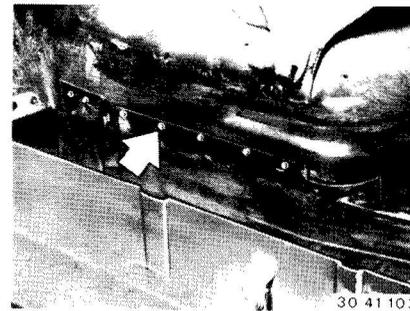
Drill off welding spots.



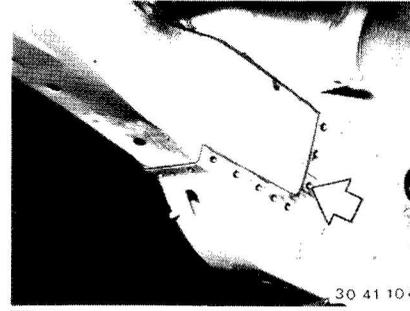
Cut off bracket.



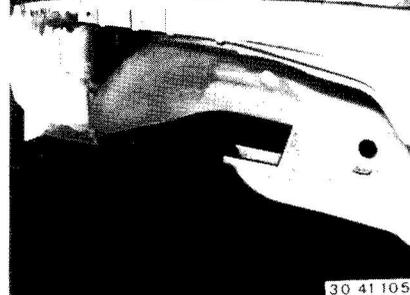
Drill off welding spots.



Drill off welding spots.



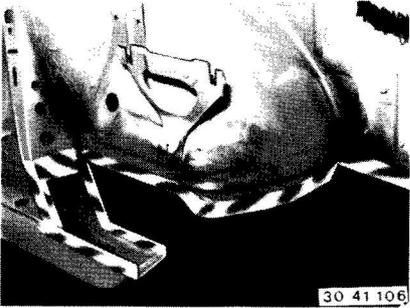
Drill off welding spots.  
Take off engine carrier front section.



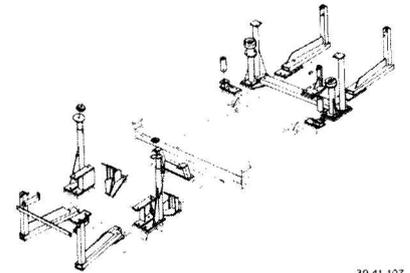
Remove scrap metal.  
Straighten and grind mating surfaces.

# 41-109

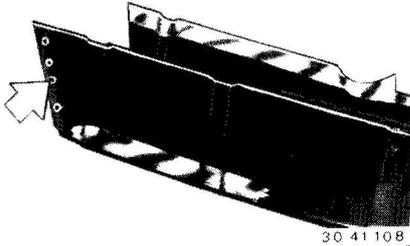
Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



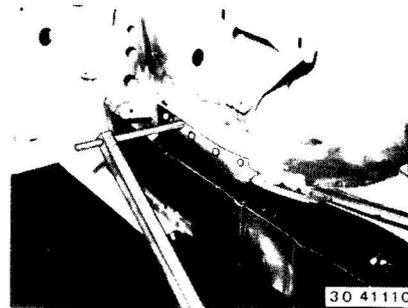
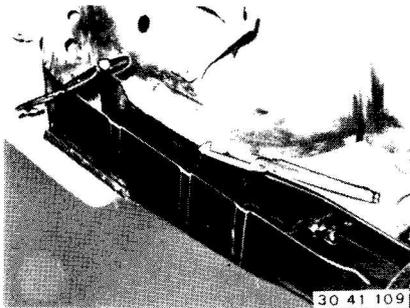
Take up car on straightening bench.



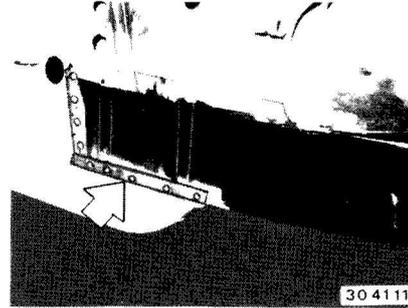
Grind and coat mating surfaces on new engine carrier front section with zinc dust paint.  
Drill holes in area of wheel house support for plug spot welding.



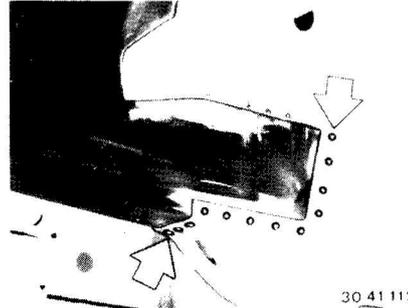
Install and clamp new engine carrier front section.



Spot weld engine carrier front section on wheel house.



Inert gas plug weld engine carrier front section on wheel house support and engine carrier.



Inert gas plug weld engine carrier and wheel house from outside.



Weld on bracket.  
Check position.

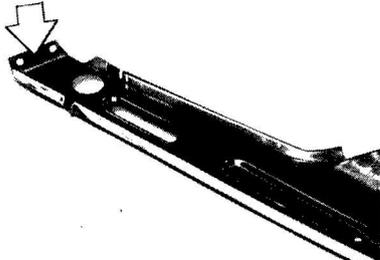
# 41-110

Grind and coat mating surfaces on cover plate with zinc dust paint.



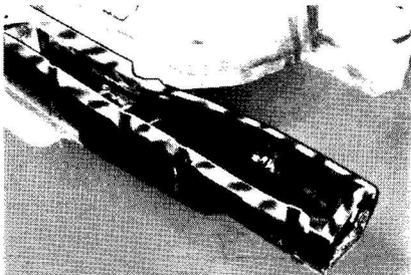
30 41 114

Drill holes for inert gas plug welding at joint between support and wheel house.



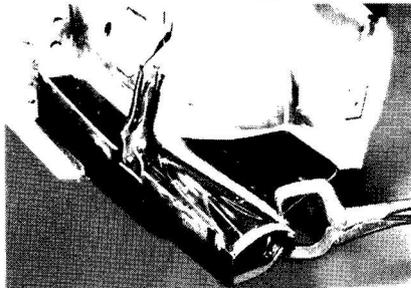
30 41 115

Grind and coat mating surfaces with zinc dust paint.



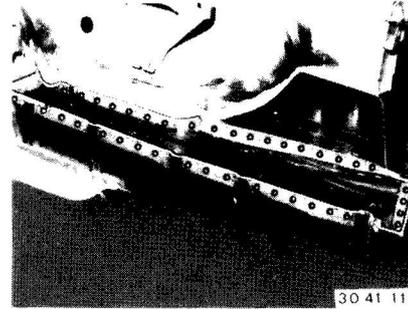
30 41 116

Install and clamp end plate.



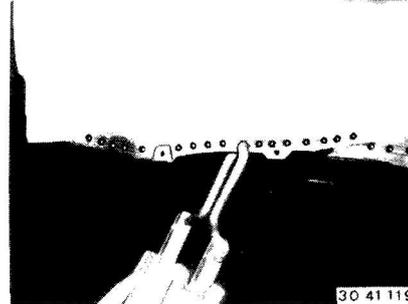
30 41 117

Spot weld end plate.



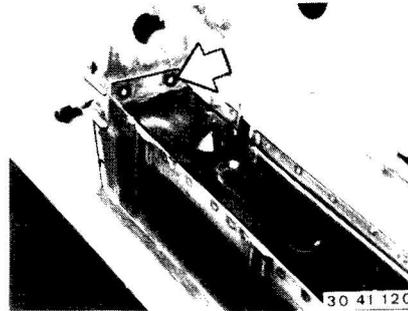
30 41 118

Spot weld end plate on wheel house.



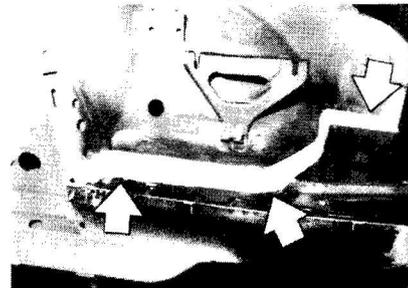
30 41 119

Inert gas plug spot weld end plate on wheel house support.



30 41 120

Seal joints with body sealing compound\*.  
Spray an anti-drumming coat\* on wheel house in engine carrier.



30 41 121

\* Source: HWB

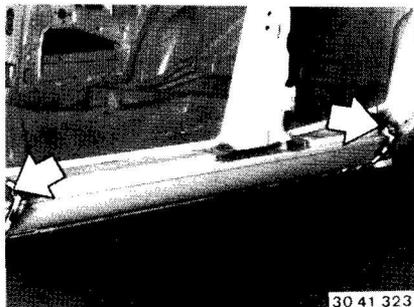
## 41 11 101 REPLACING LEFT OR RIGHT SIDE MEMBER COVER

- Four Door Model -

Refer to information on page 41 - 001.

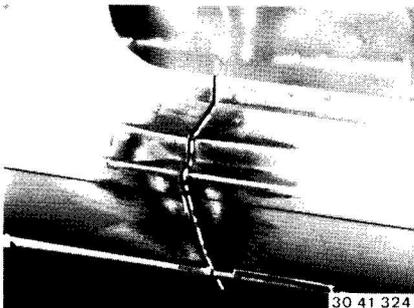
Remove or disconnect following parts.

Rear door, front seat, B pillar plate, seat belt, entrance cover strip, front and rear cover plates, front and rear door opening edge guards as required, carpet as required, rear seat cushion, thrust strut mountings and fuel tank.



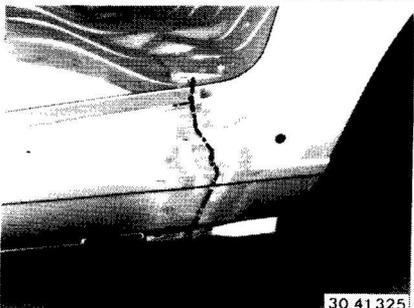
30 41 323

Uncover mating surfaces.  
Remove brazing solder.



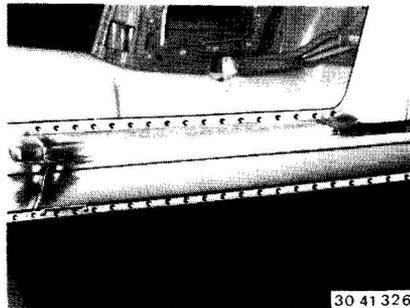
30 41 324

Cut through front cover.



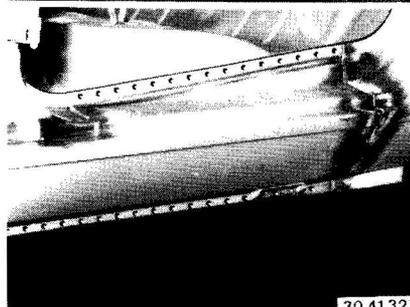
30 41 325

Cut through rear cover.



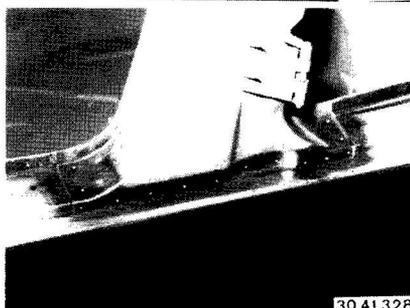
30 41 326

Drill off welding spots.



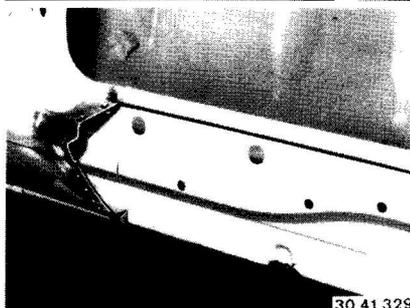
30 41 327

Drill off welding spots.



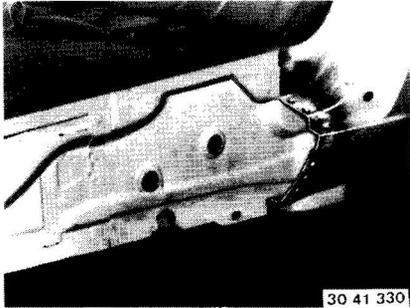
30 41 328

Drill off welding spots on B pillar.  
Lift off cover.



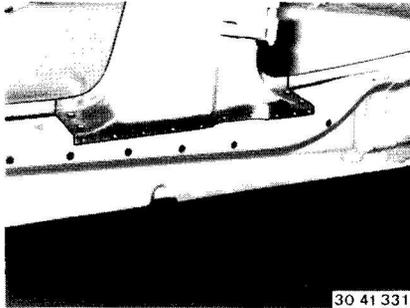
30 41 329

Drill off scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding  
with zinc dust paint.



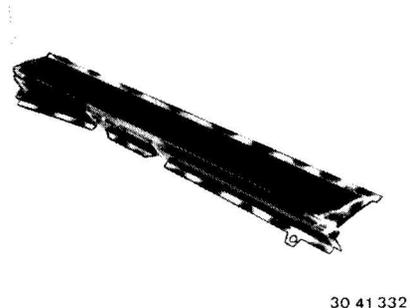
30 41 330

Drill off scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



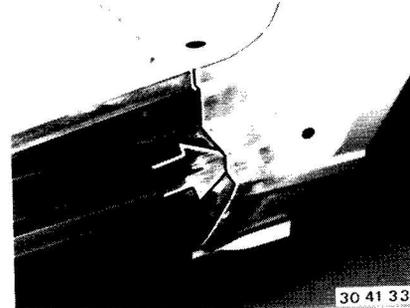
30 41 331

Straighten and grind mating surfaces on B pillar.



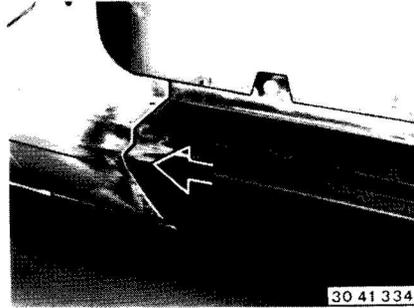
30 41 332

Grind mating surfaces on new cover.  
Coat mating surfaces required for spot welding with zinc dust paint.



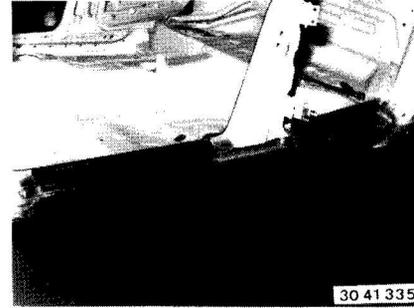
30 41 333

Slide rear end of new cover underneath side panel about 25 mm (1") further than standard.  
If necessary, remove several welding spots on side panel.



30 41 334

Push up front end of cover and slide it underneath the A pillar joint.



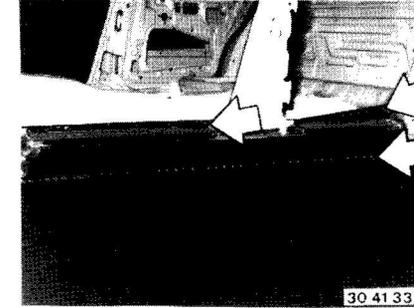
30 41 335

Straighten and tack weld cover.



30 41 336

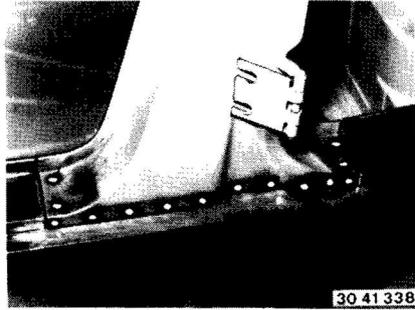
Install front and rear doors, and check gaps.



30 41 337

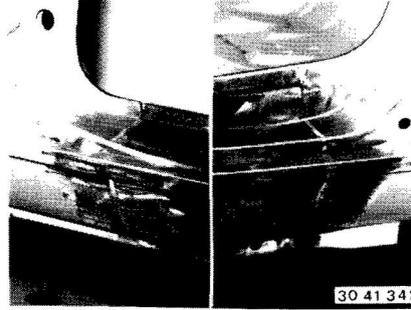
Spot weld cover at top and bottom.

# 41-113



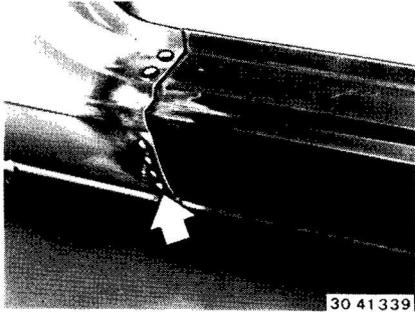
Plug spot weld the B pillar joint.

30 41 338



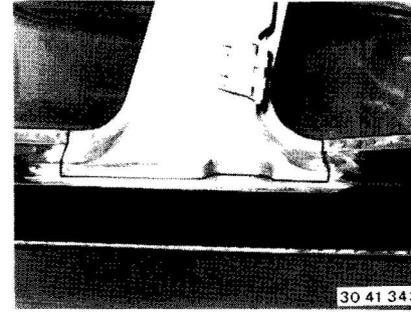
Grind mating surfaces.  
Tin out joints, if necessary.

30 41 342



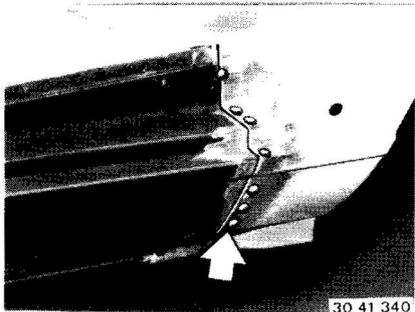
Plug spot weld the A pillar joint.

30 41 339



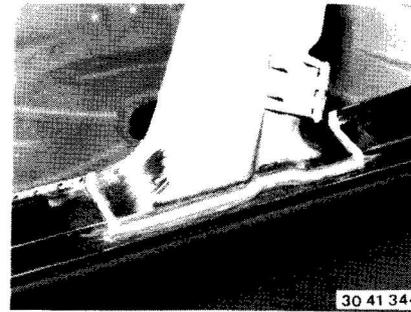
Grind mating surfaces.

30 41 343



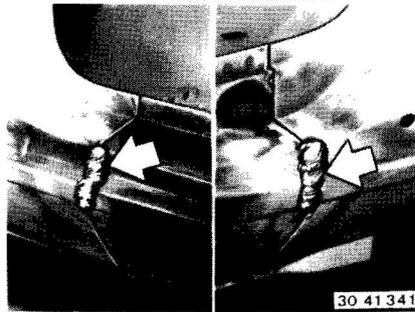
Plug spot weld the C pillar joint.

30 41 340



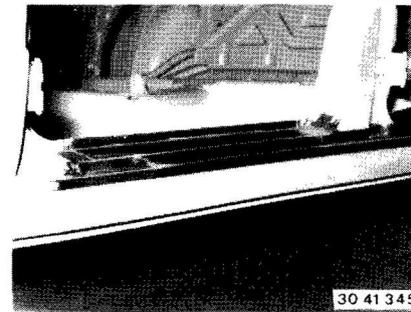
Seal off joints on B pillar connection with a joint sealing compound.

30 41 344



Braze edge of A pillar connection and C pillar butt joint.

30 41 341



Spray coat of anti-drumming material on bottom of cover.

30 41 345

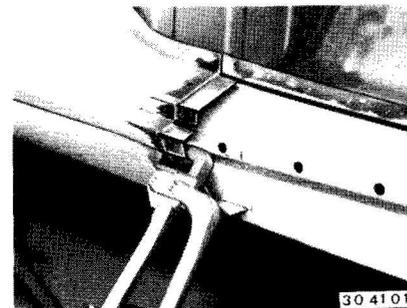
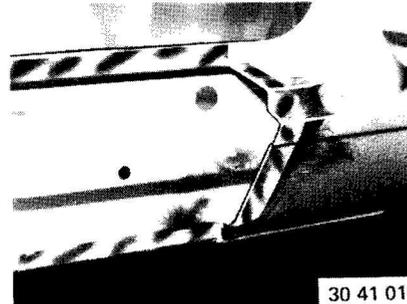
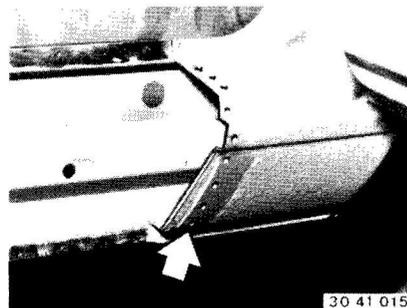
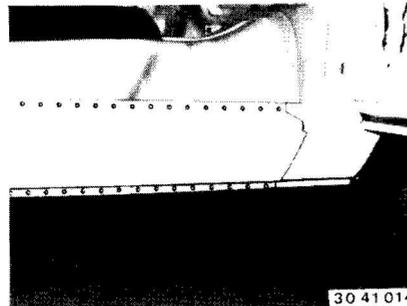
## 41 11 121 REPLACING COVER FOR LEFT OR RIGHT SIDE MEMBER (PARTIAL REPLACEMENT WITHOUT REMOVAL OF DOOR)

Refer to information on page 41 - 001  
 Remove front seat 52 10 000.  
 Remove inner and outer entrance rail plates, edge guard of front door opening and seat belt on entrance rail.  
 Fold back carpet partially.

Mark cutting lines.  
 Cutting line must be at least distance A = 30 mm (1.181") away from B pillar connection.

Cut through cover.

Cut through cover on connection of A pillar.

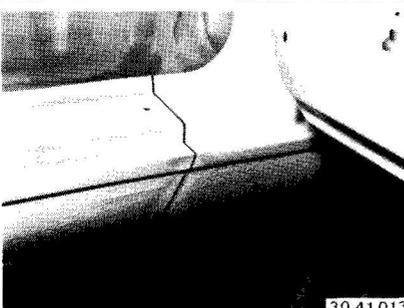
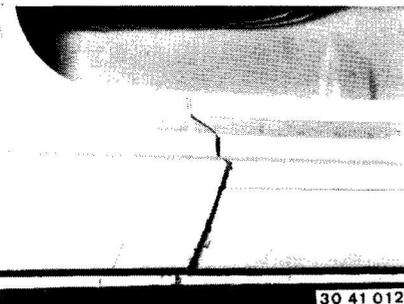
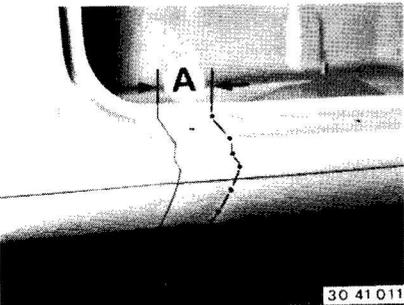


Drill out spot welds.  
 Lift off cover.

Drill out spot welds.  
 Remove scrap metal.  
*Note:*  
 Cover is brazed along edge.

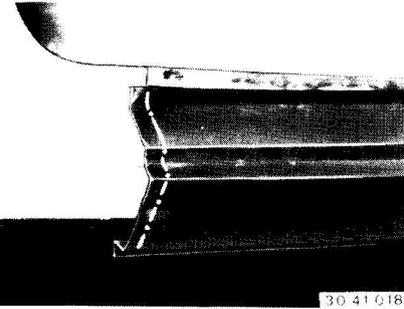
Straighten and grind mating surfaces.  
 Coat surfaces for spot welding with zinc dust paint.

Make cut in rear of connecting surfaces and shoulder with a shouldering pliers.



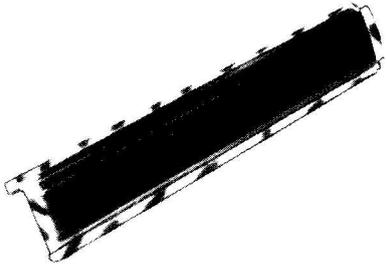
# 41-115

Cut new cover to size to match mating surfaces and fit in.



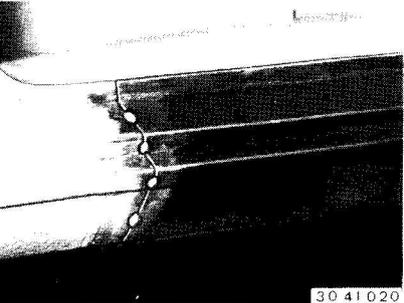
30 41 018

Grind mating surfaces.  
Coat surfaces for spot welding with zinc dust paint.



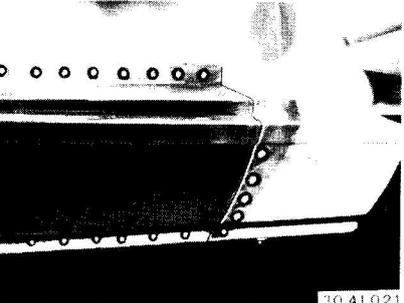
30 41 019

Insert and tack weld cover.



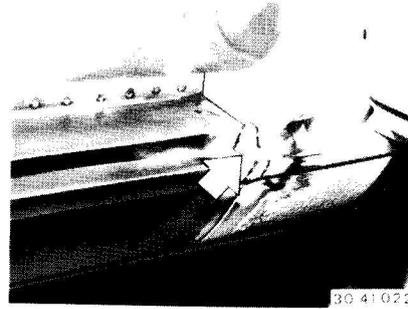
30 41 020

Spot weld cover at top and bottom.  
Plug spot weld front through standard bores.



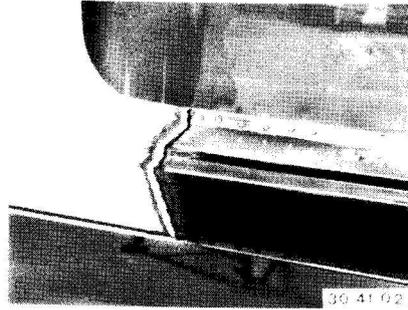
30 41 021

Braze gap on edge.



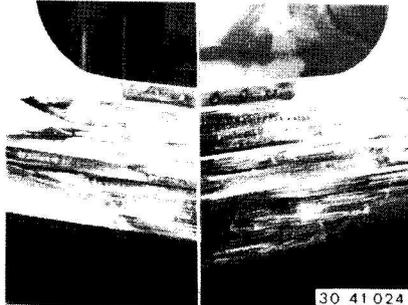
30 41 022

Inert gas weld rear of mating surface.



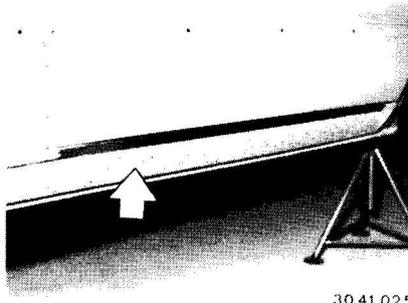
30 41 023

Grind and tin mating surfaces.



30 41 024

Spray an anti-drumming compound\* on bottom of cover.



30 41 025

\* Source: HWB

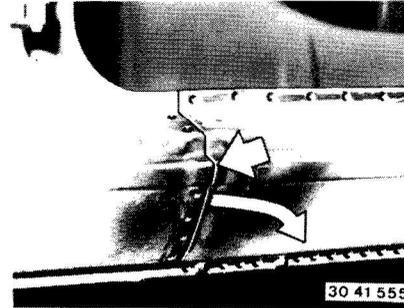
# 41-116

## 41 11 510 REPLACING COVER FOR LEFT OR RIGHT SIDE MEMBER (REAR SIDE PANEL REMOVED) — TWO DOOR MODEL —

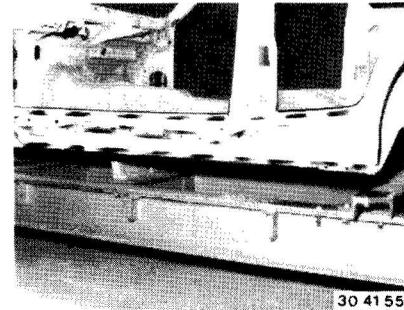
Refer to information on page 41 - 001.

Remove or disconnect following parts:

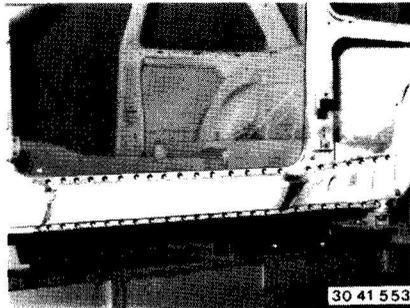
ground lead on battery, rear bumper, left tail light assembly, trunk mats, wall trim, left wheel house trim, tail panel trim, trunk lid seal, rear window complete with rubber frame, side window, rear seat cushion and backrest, front seat, side trim panel, hatrack, entrance cover strip, front door pillar carpet, passenger compartment carpets partially, roof liner partially, seat belt, door pillar trim, front door seals, door striker, C pillar air extraction mask, rear side panel rubbing strip, left wheel house cover, fuel tank complete, brace on floor assembly and wire harness in trunk partially.



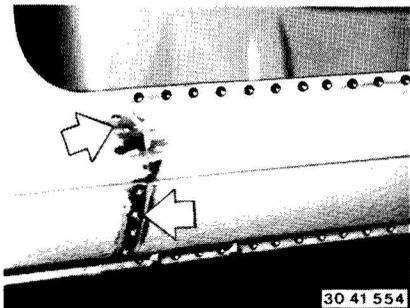
Remove brazing solder.  
Pull out cover underneath front door pillar.



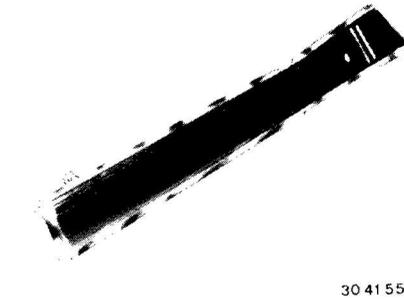
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



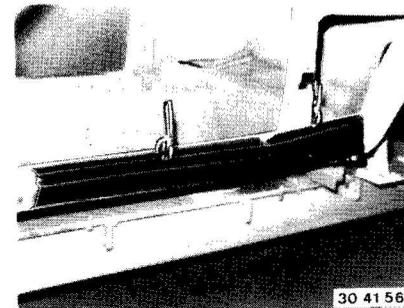
Remove side panel — see 41 35 101.  
Make joints accessible.  
Drill out spot welds.



Drill out spot welds.

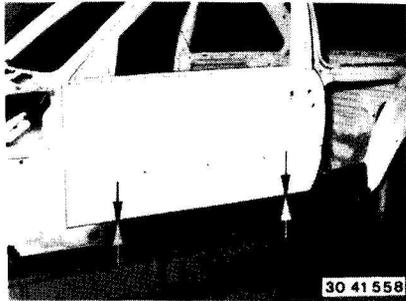


Grind mating surfaces on new cover.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



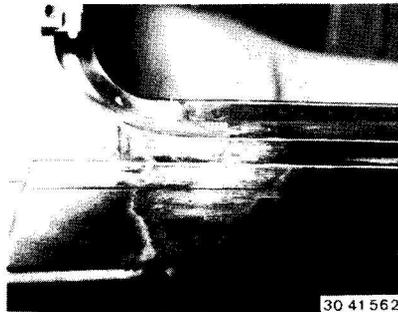
Set up and clamp cover.

# 41-117



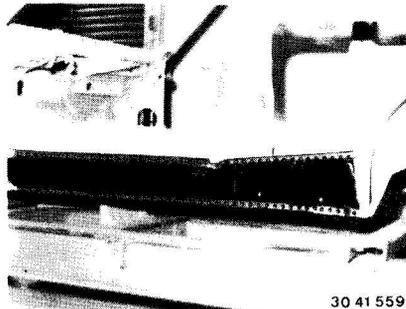
30 41 558

Install door and check gap.  
Also clamp on rear side panel if necessary.



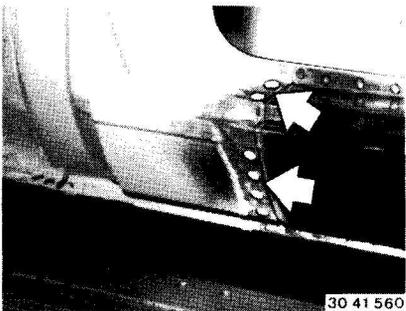
30 41 562

Grind down joints, tinning if necessary.  
Spray anti-drumming compound on cover after  
installation of rear side panel.



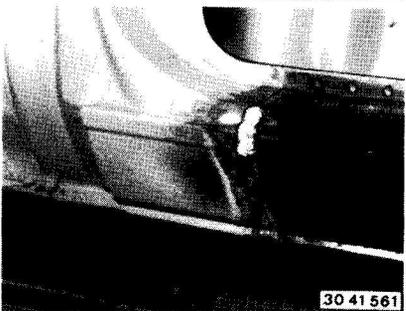
30 41 559

Spot weld cover.



30 41 560

Plug spot weld joint with door pillar.



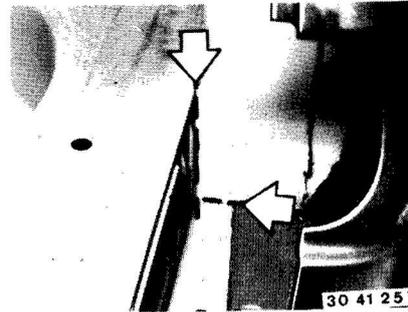
30 41 561

Braze joint along edge.

# 41-118

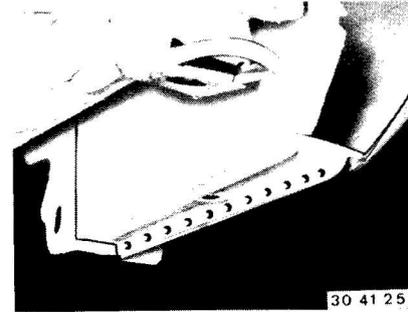
## 41 12 535 REPLACING COMPLETE REAR TRUNK FLOOR PLATE — Tail Panel Removed —

Refer to information on page 41 - 001.  
Remove or disconnect following parts.  
Final drive, right wheel house cover, fuel filler neck, complete fuel tank and, if applicable, heavy layer mat.



Cut off trunk floor plate on left and right wheel houses.

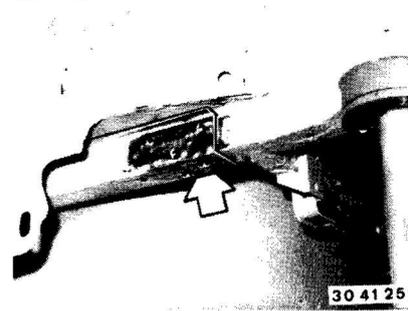
Uncover joints.  
Drill off welding spots.



Uncover and drill off welding spots.

30 41 254

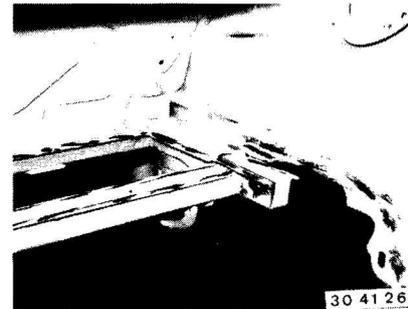
Drill off welding spots along side members about 80 mm (3.150") toward rear.



Uncover mating surfaces of left and right side members.  
Drill off welding spots.  
Lift out trunk floor plate complete with side members.

30 41 255

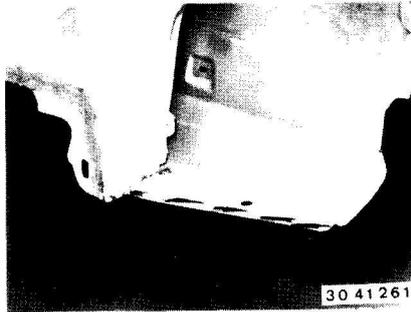
Cut off trunk floor plate at wheel house on left and right sides.



Remove scrap metal.  
Straighten and grind mating surfaces.

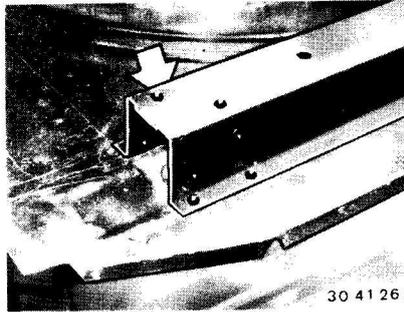
30 41 256

30 41 260



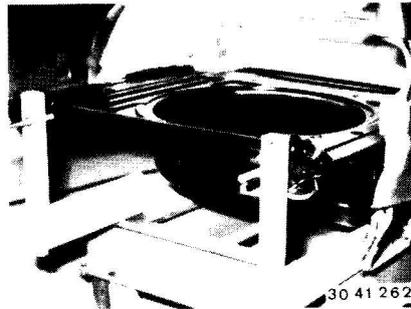
30 41 261

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces intended for spot welding with zinc dust paint.



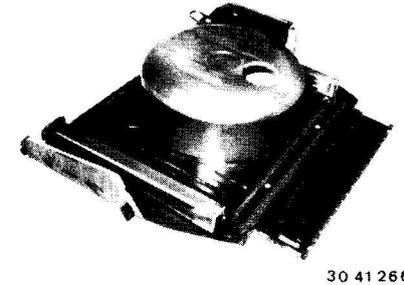
30 41 265

Drill holes for plug welding in mating surfaces of side members.  
*Note:*  
Drill holes on flange of side members through trunk floor plate as well.



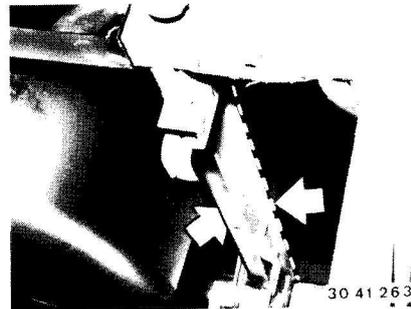
30 41 262

Set up car on straightening bench.  
Fit in trunk floor plate.



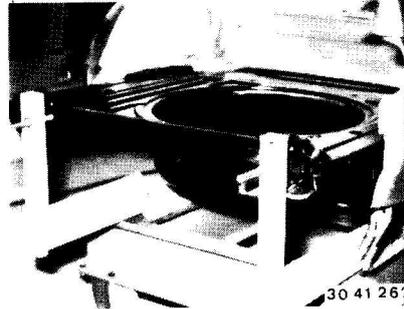
30 41 266

Grind down all mating surfaces.  
Coat mating surfaces intended for spot welding with zinc dust paint.



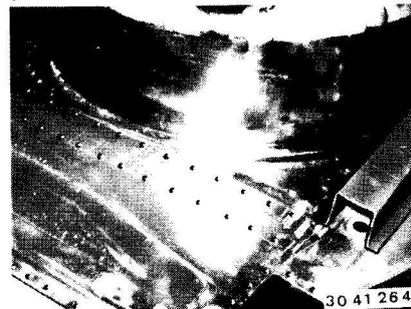
30 41 263

Mark location of cross member on trunk floor plate.



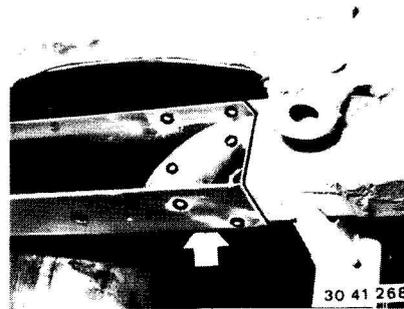
30 41 262

Install trunk floor plate and straighten according to straightening bench.



30 41 264

Lift off trunk floor plate.  
Drill holes for plug spot welding in mating surfaces not accessible for spot welding.  
Spacing of holes = 40 mm (1.575").

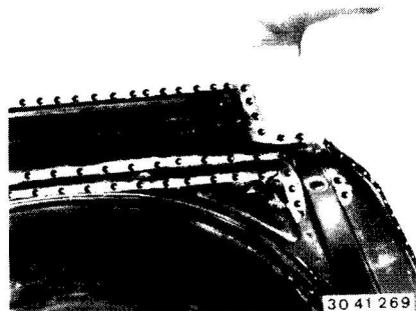


30 41 268

Plug spot weld both side members.

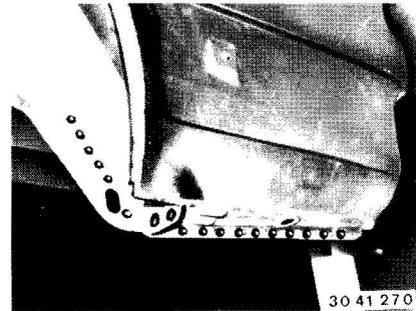
## 41-120

Plug spot weld front of trunk floor plate, on cross member, side members and wheel houses.



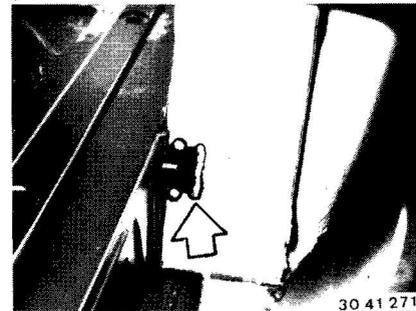
30 41 269

Spot weld cross panel on wheel houses.  
Spot weld side panels.



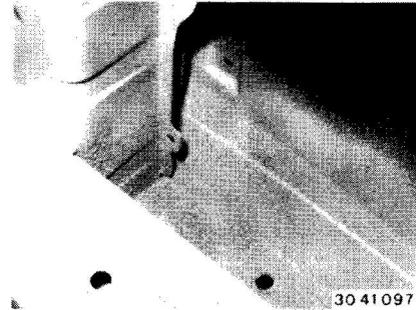
30 41 270

Weld on reinforcement bracket.



30 41 271

Install tail panel.  
Seal off all joints at top and bottom with a body sealing compound\*.  
Spray an anti-drumming compound\* on underside of car, wheel houses and bottom of tail panel.



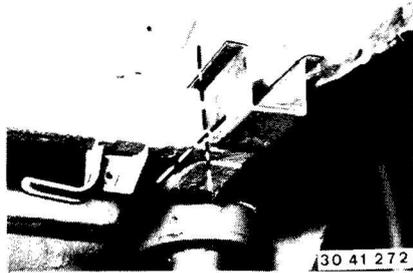
30 41 097

\* Source: HWB

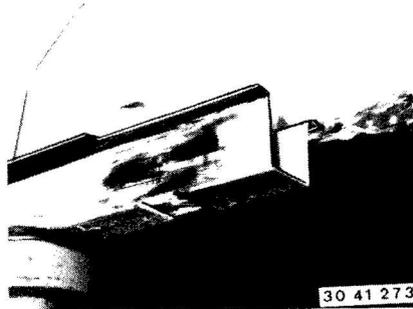
# 41 - 121

## 41 12 545 REPLACING CROSS MEMBER ON TRUNK FLOOR PLATE — TRUNK FLOOR PLATE REMOVED —

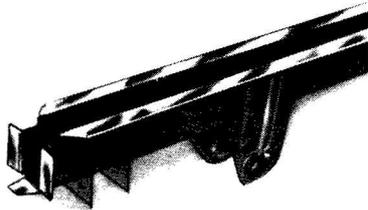
Refer to information on page 41 - 001.  
Cut off cross member along line.



Remove scrap metal.  
Straighten, grind and coat mating surfaces with  
zinc dust paint.

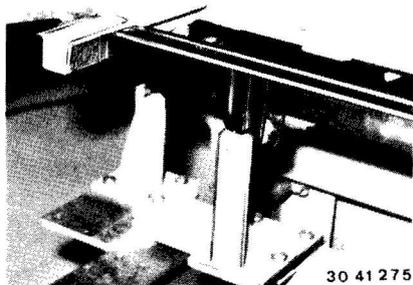


Grind mating surfaces on new cross member  
and coat with zinc dust paint.

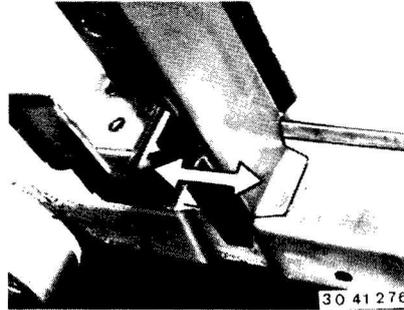


30 41 274

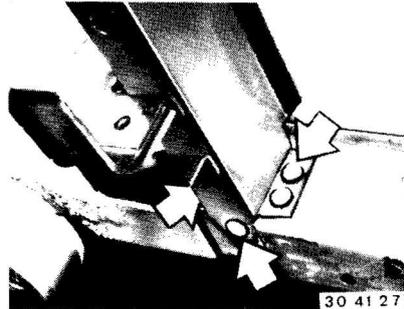
Install cross member with straightening bench  
attachment and clamp.



30 41 275



Align cross member in height, toward front and  
rear, according to seams in side members.



Spot weld cross member on left and right sides.

## 41 14 021 REPLACING LEFT FRONT WHEEL HOUSE

Refer to information on page 41 - 001.

Remove or disconnect following parts:

ground lead on battery, bumper, upper and lower wheel house trim, all radiator grill sections, engine hood lock, engine hood release, front spoiler, all headlights, front fog lamps if applicable, both bumper brackets, horns, heater wall seal, entrance cover strip, front seat, instrument panel trim, carpet on A pillar, passenger compartment carpets partially, footwell insulation sheet partially, brake booster with brake master cylinder, fuel filter, ignition coil, brake lines partially, engine, front axle and transmission, engine compartment wire harness partially, radiator trim, data plate.

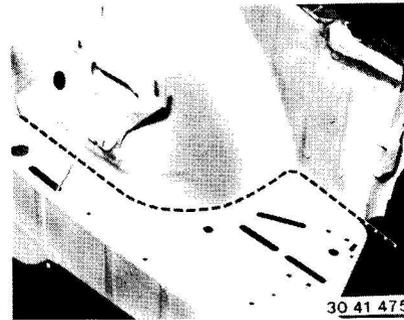
Check and adjust front wheel alignment.

Remove both side panels.

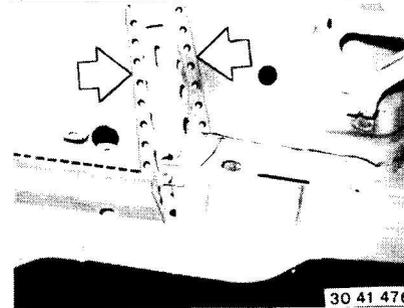
Remove front panel with front wall — see 41 33 001.



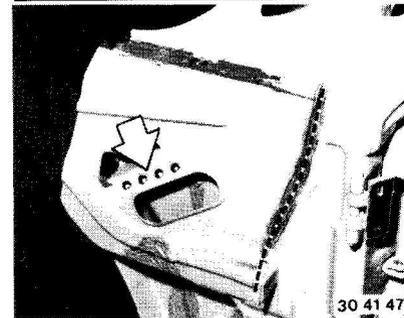
Cut off wheel house along line.



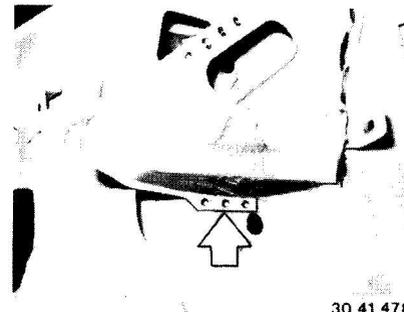
Cut off wheel house on end plate.



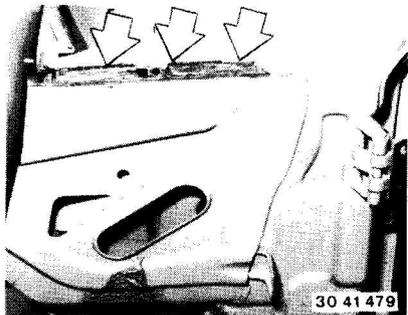
Cut off wheel house on engine carrier.  
Drill out wheel house support.  
Lift off wheel house.



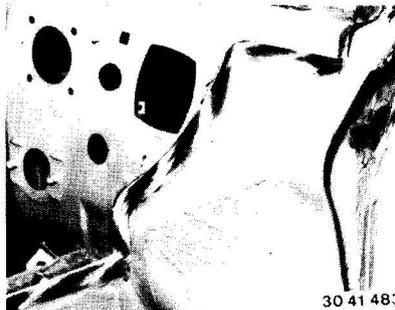
Drill out spot welds.  
Grind off welding seams.



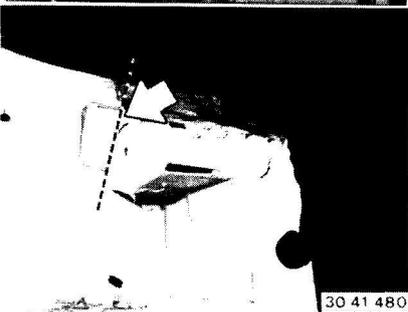
Remove joint sealing compound.  
Drill out spot welds.



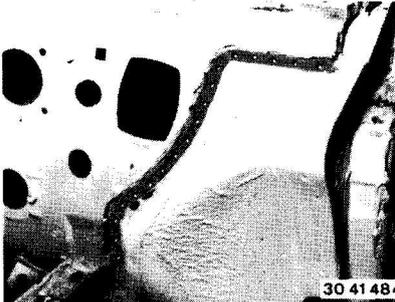
Remove brazing solder.  
Lift off end plate.



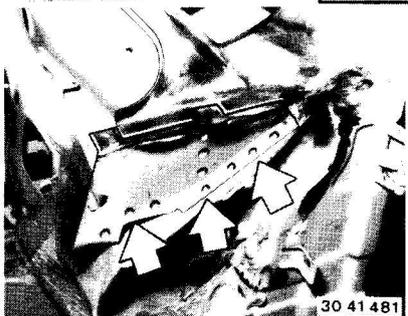
Remove scrap metal.  
Straighten and grind mating surfaces.



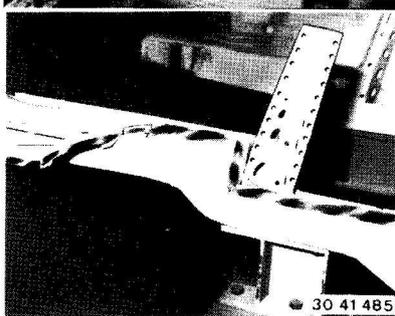
Cut off holder for end plate.



Drill holes for plug spot welding in area of engine compartment wall.



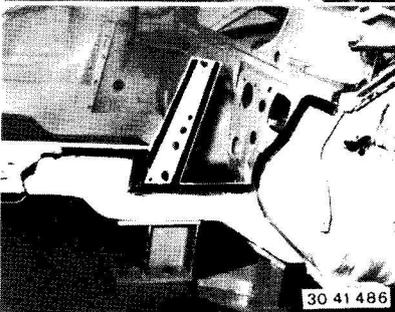
Drill out spot welds.  
Remove scrap metal.



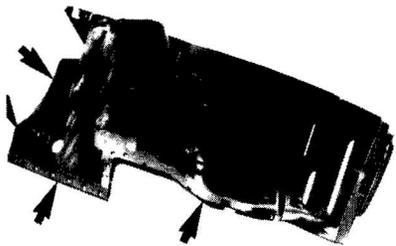
Remove scrap metal.  
Straighten and grind mating surfaces.



Remove scrap metal.  
Straighten and grind mating surfaces.

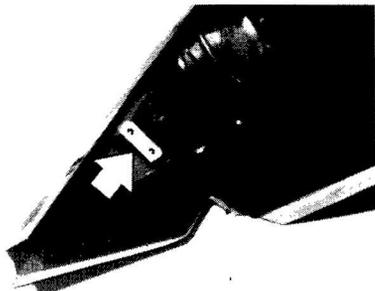


Coat all mating surfaces with zinc dust paint.



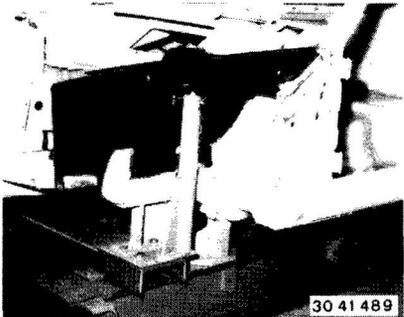
Grind and coat mating surfaces with zinc dust paint.  
Drill holes for plug spot welding in area of engine carrier.

30 41 487



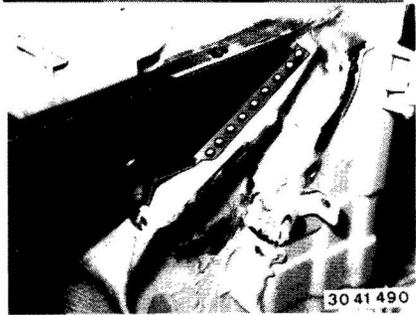
Drill holes for plug spot welding in holder for engine hood lock.

30 41 488



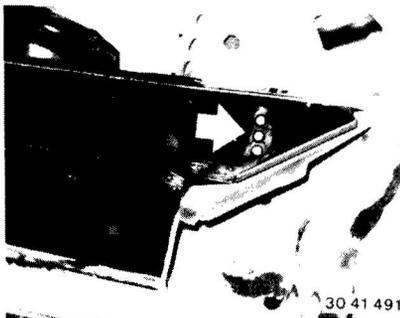
Set up car on straightening bench.  
Install, align and tack weld new wheel house.

30 41 489



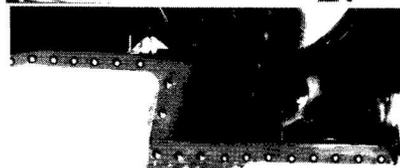
Spot weld wheel house on heater separating wall.

30 41 490



Plug spot weld areas not accessible for spot welding tongs.

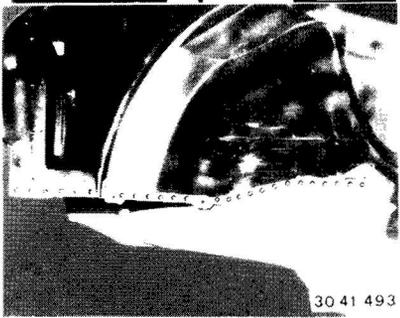
30 41 491



Spot weld wheel house on engine carrier.

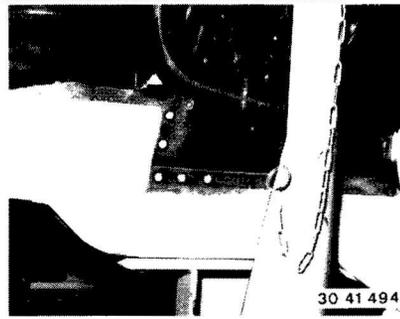


30 41 492



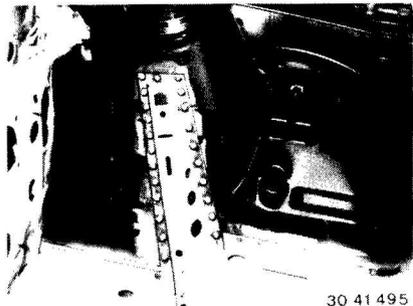
Spot weld wheel house on end plate.

30 41 493



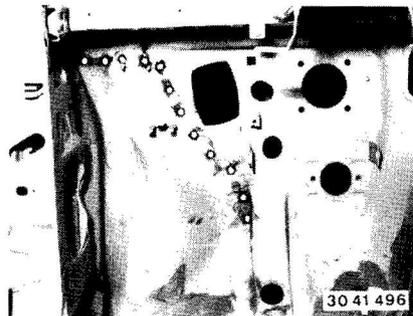
Plug spot weld wheel house through provided holes.

30 41 494



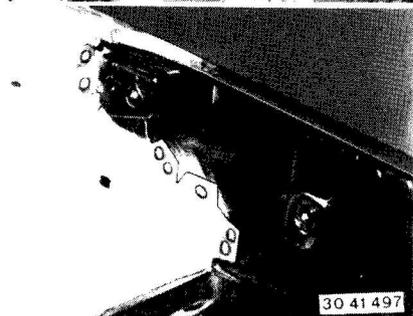
Plug spot weld support on wheel house.

30 41 495



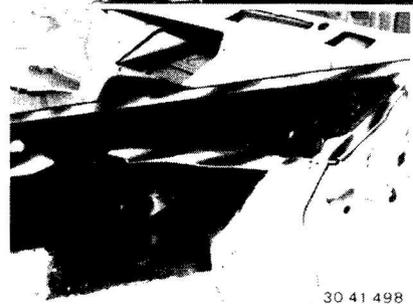
Plug spot weld in area of engine compartment wall from the passenger compartment.

30 41 496



Plug spot weld engine hood lock holder and heater separating wall on wheel house.

30 41 497



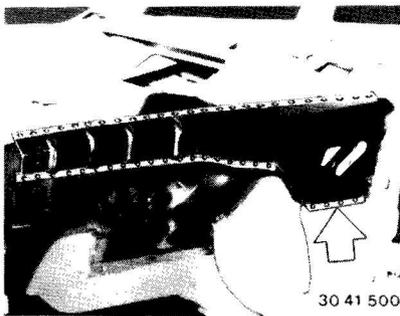
Grind mating surfaces for end plate. Coat mating surfaces needed for spot welding with zinc dust paint.

30 41 498



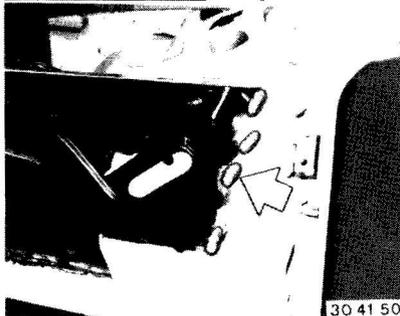
Grind mating surfaces on end plate. Coat mating surfaces needed for spot welding with zinc dust paint.

30 41 499



Install and spot weld end plate.

30 41 500



Inert gas weld end plate in A pillar area.

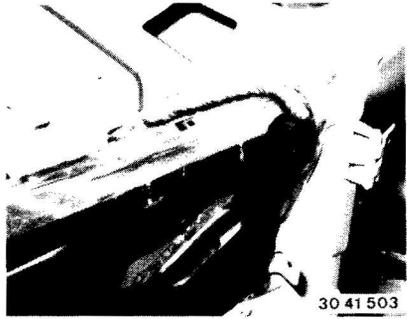
30 41 501



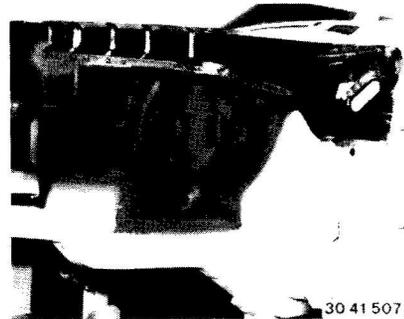
Plug spot weld the heater separating wall joint.

30 41 502

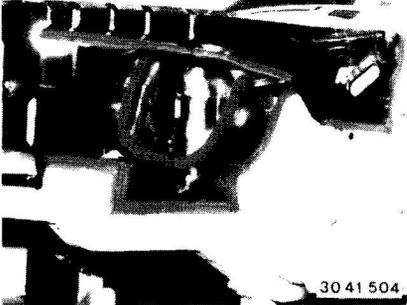
# 41-126



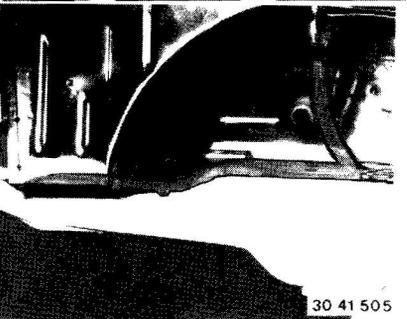
Braze wheel house and end plate on cow panel.



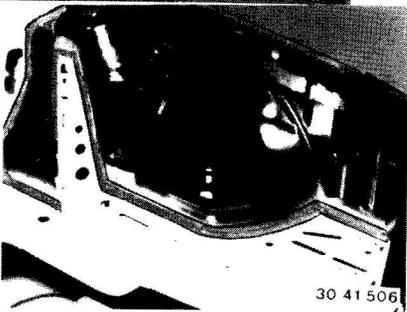
Spray out wheel house with an anti-drumming compound.



After Installation of Front Panel:  
Seal mating surfaces with a body sealing compound.



Seal mating surfaces with a body sealing compound.



Seal mating surfaces with a body sealing compound.

## 41 14 132 REPLACING RIGHT REAR WHEEL HOUSE OUTSIDE SECTION AND SIDE PANEL (PARTIAL REPLACEMENT UP TO WINDOW LINE)

Refer to information on page 41 - 001.  
Replace right rear side panel (partial replacement up to window line) 41 35 291.

Drill off welded spots.  
Lift off wheel house outside section.

Straighten and grind mating surfaces.  
Coat surfaces provided for spot welding with a zinc dust paint.

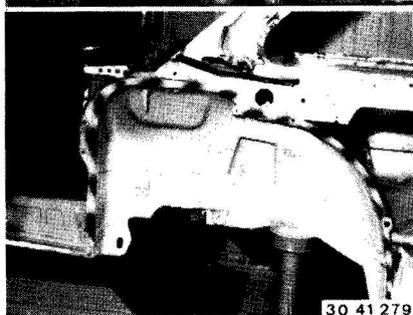
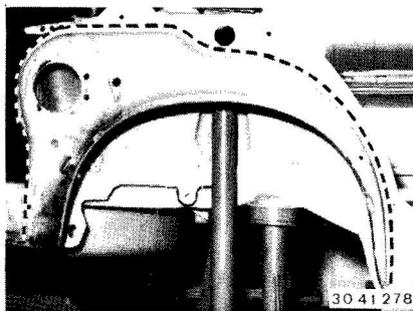
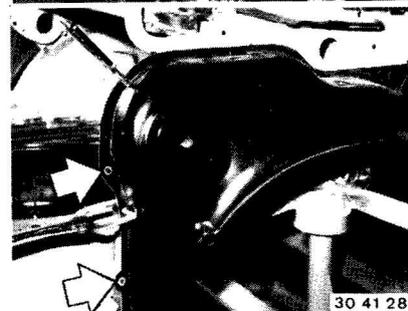
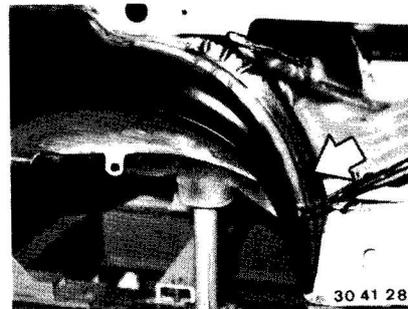
Grind and coat mating surfaces on new wheel house outside section with zinc dust paint.

Clamp on wheel house outside section and align with dowel pin bores.

Clamp on wheel house outside section and align with dowel pin bores.  
If necessary, tack weld wheel house outside section and install side panel for checking.

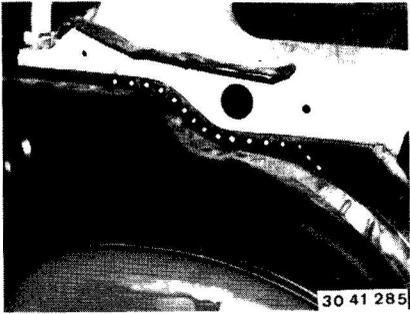
Spot weld inside of wheel house outside section.

Spot weld inside of wheel house outside section.

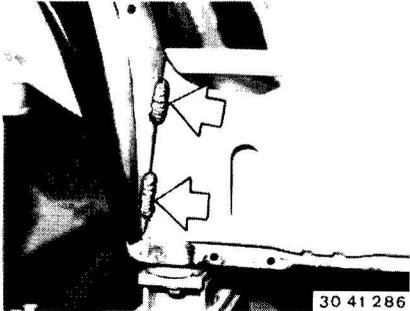


# 41-128

Plug spot weld mating surfaces not accessible for spot welding.



Inert gas weld wheel house outside section on cover for side member.



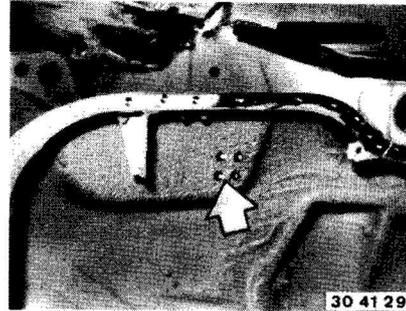
## 41 14 181 REPLACING RIGHT REAR WHEEL HOUSE COMPLETE AND SIDE PANEL

Refer to Information on page 41 - 001. Remove right rear wheel house outer section and side panel. Remove complete rear axle carrier additionally or, if applicable, complete trailing arm.

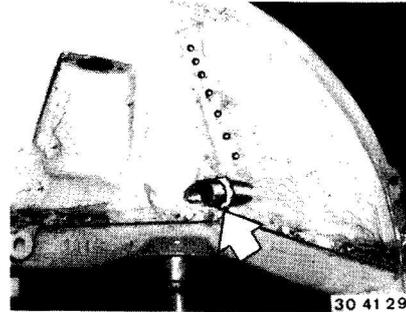
Uncover and drill off welding spots.

Uncover and drill off welding spots.

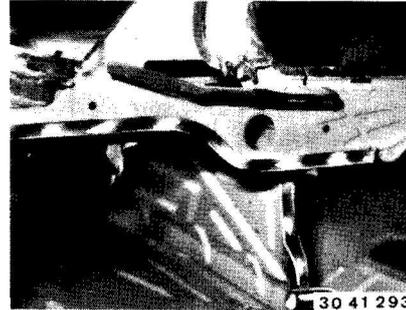
Uncover and drill off welding spots.



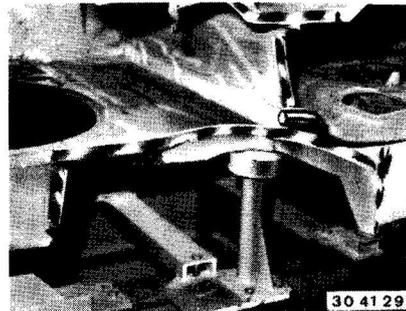
Drill off welding spots for hinge support.



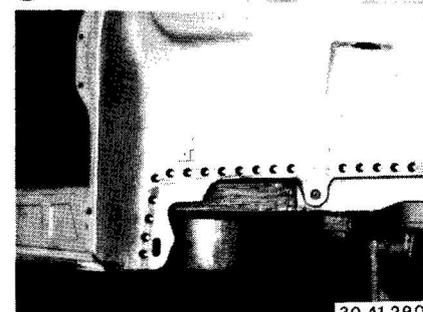
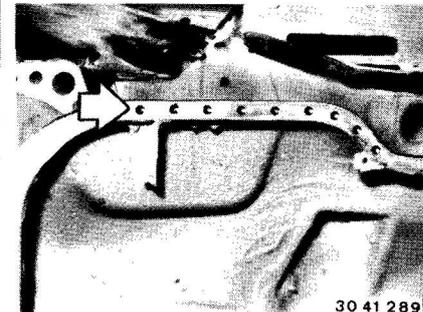
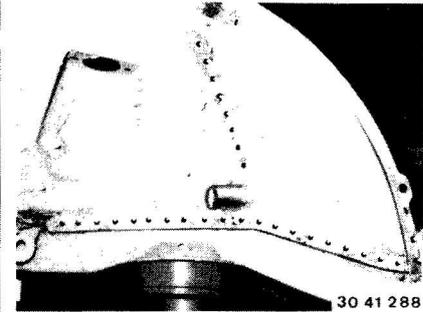
Remove brazing solder on pipe for vent line. Take off wheel house.

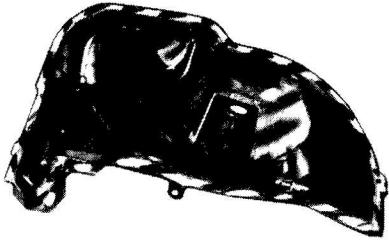


Straighten and grind points of connection. Coat points of connection required for spot welding with zinc dust paint.



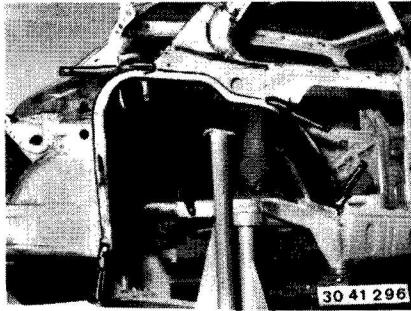
Straighten and grind points of connection. Coat points of connection required for spot welding with zinc dust paint.





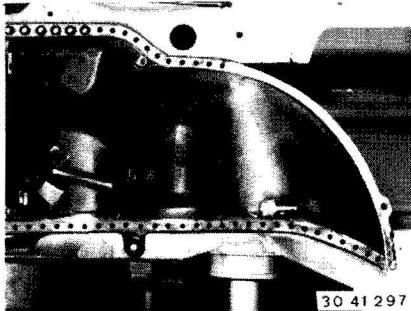
30 41 295

Grind mating surfaces on new wheel house inside section.  
Coat mating surfaces needed for spot welding with zinc dust paint.



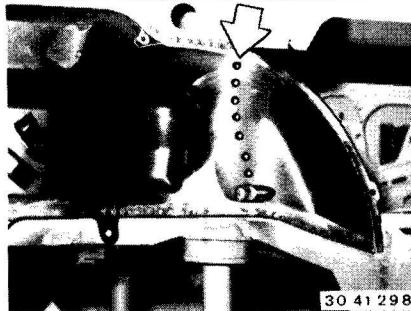
30 41 296

Place car on straightening bench.  
Fit in wheel house.



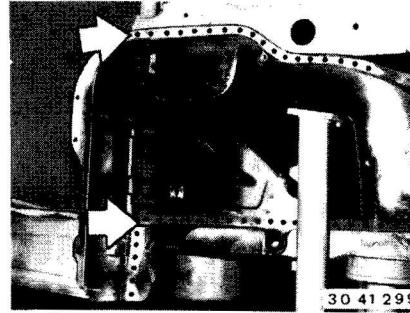
30 41 297

Spot weld wheel house.



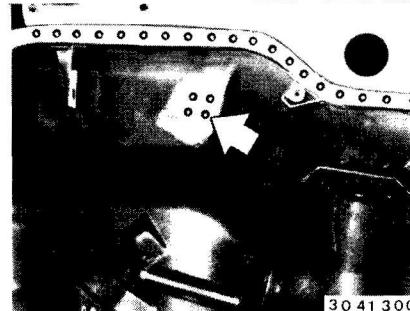
30 41 298

Spot weld wheel house.



30 41 299

Spot weld wheel house.  
Inert gas weld those mating surfaces which are not accessible for spot welding.



30 41 300

Spot weld or, if necessary, plug spot weld trunk lid hinge support.



30 41 302

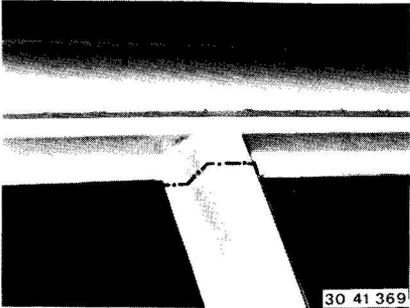
Braze pipe for tank vent.  
Grind and prepare mating surfaces for wheel house outside section.

# 41-201

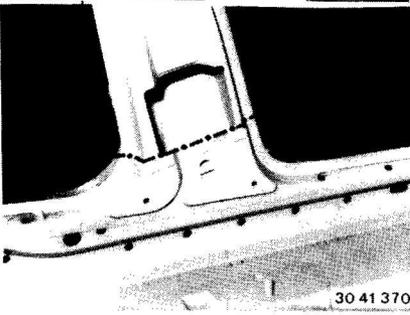
## 41 21 051 REPLACING LEFT OR RIGHT CENTER DOOR PILLAR — Four Door Model —

Refer to information on page 41 - 001.  
Remove or disconnect following parts.  
Rear door, front seat, B pillar plate, seat belt,  
front and rear entrance cover strips and covers,  
front and rear door opening edge guards as  
required, carpet on entrance, roof liner as  
required, rear seat cushion and backrest.

Saw through B pillar along line.



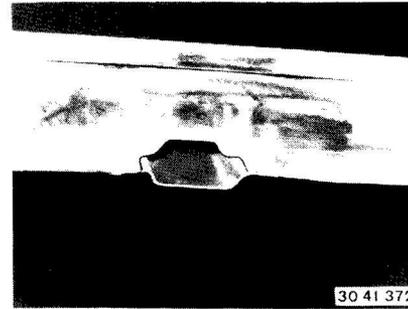
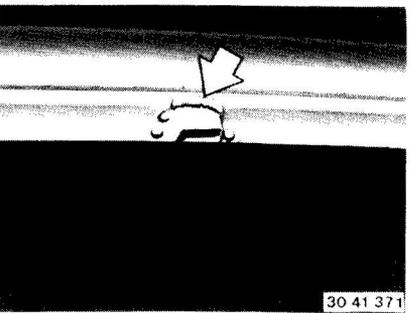
Saw completely through B pillar at cutting  
point on opening in end plate.



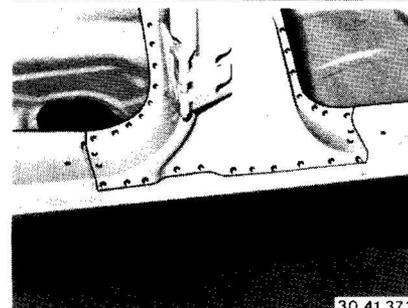
Drill off welding spots.  
Heat brazing solder and remove scrap metal.

*Note:*

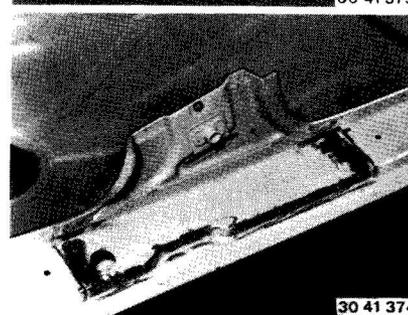
Apply a coat of heat protection paste on roof  
and rain molding to avoid damaging the roof  
panel paint finish.



Remove scrap metal.  
Straighten and grind mating surfaces.



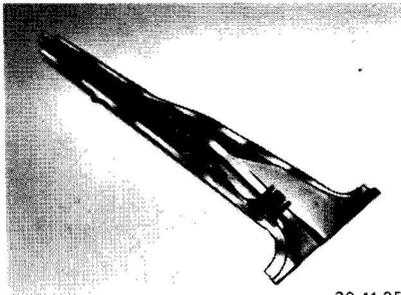
Drill off welding spots.  
Lift off rest of B pillar on outside.



Remove scrap metal on end plate.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding  
with zinc dust paint.

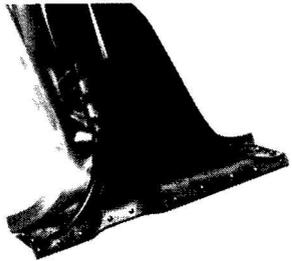


Grind and coat mating surfaces on end plate  
required for spot welding with zinc dust paint.  
Install, align and tack weld end plate.



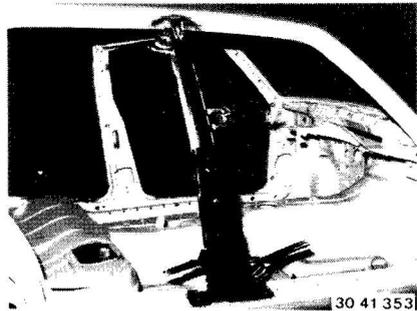
Grind mating surfaces on new B pillar.  
Coat mating surfaces required for spot welding  
with zinc dust paint.

30 41 351



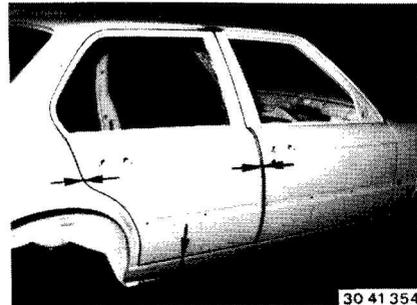
Drill holes for plug spot welding in mating  
surfaces required for plug spot welding.

30 41 352



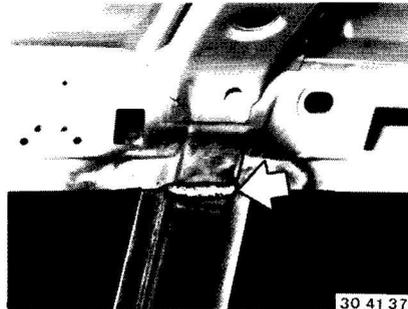
Clamp and tack weld B pillar.

30 41 353



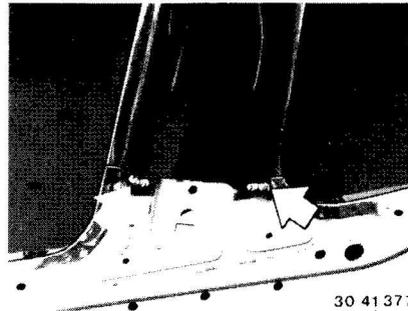
Install rear door and check gaps.

30 41 354



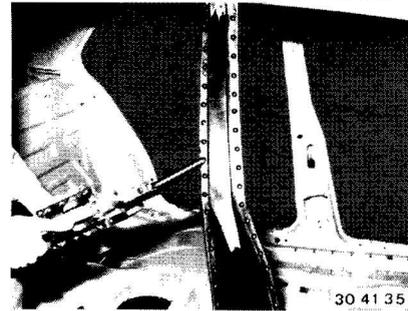
Inert gas weld end plate on roof frame.

30 41 376



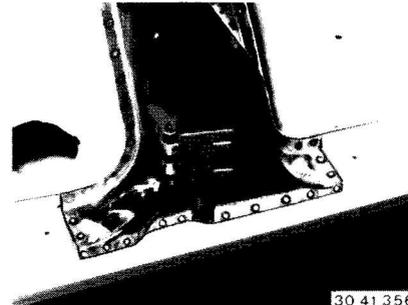
Inert gas weld end plate on bottom joint.

30 41 377



Spot weld B pillar on end plate.

30 41 355



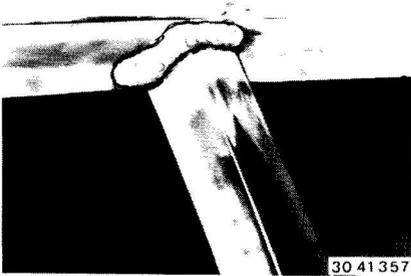
Plug spot weld joint on cover for side member.

30 41 356

**Braze joint on roof frame.**

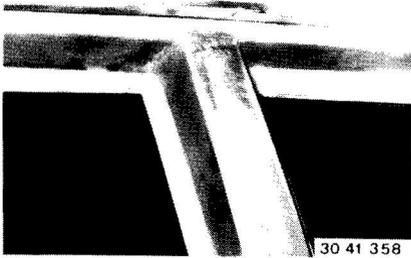
*Note:*

Apply coat of heat protection paste on roof and rain molding to avoid damaging the roof panel paint finish.



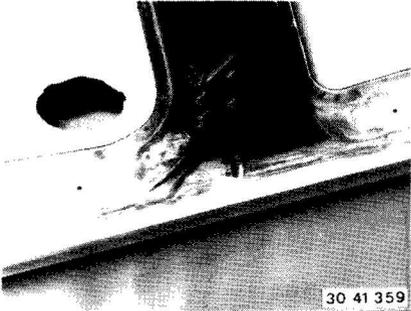
30 41 357

**Grind down joints.**



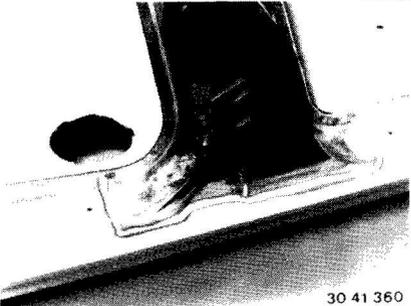
30 41 358

**Grind down joints.**



30 41 359

**Seal joint on cover for side member with a joint sealing compound.**



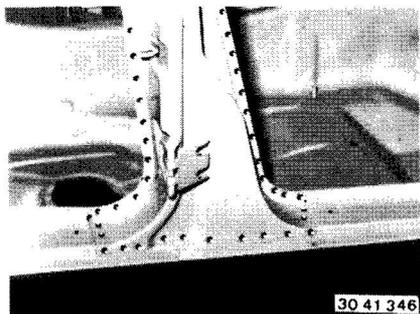
30 41 360

## 41 21 . . . REPLACING LEFT OR RIGHT CENTER DOOR PILLAR OUTER SECTION

— Four Door Model —

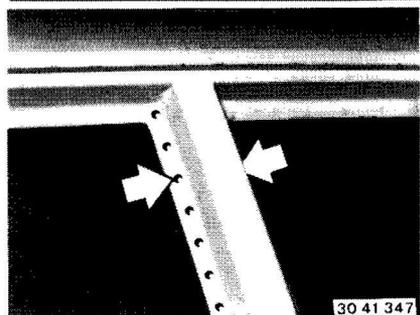
Refer to information on page 41 - 001. Remove or disconnect following parts. Rear door, front seat, B pillar plate, seat belt, front and rear entrance cover strips and cover plates, front and rear door opening edge guards as required, carpet on entrance, roof liner as required, rear seat cushion and backrest.

Drill off welding spots.



30 41 346

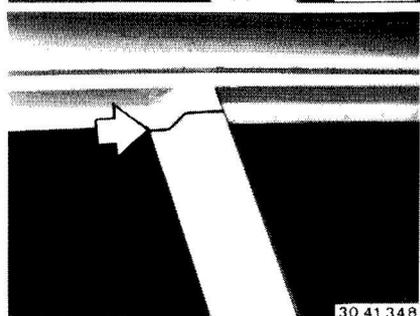
Drill off welding spots.



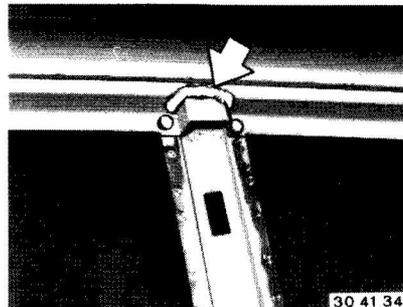
30 41 347

Cut through B pillar along line.

*Caution!*  
Don't damage the end plate.  
Lift off B pillar.



30 41 348

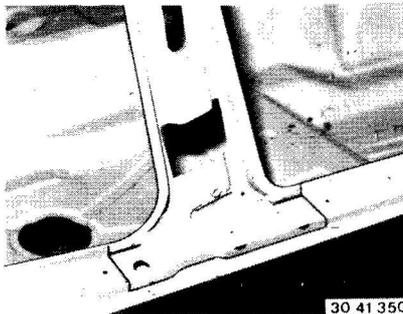


30 41 349

Heat brazing solder.  
Remove scrap metal.

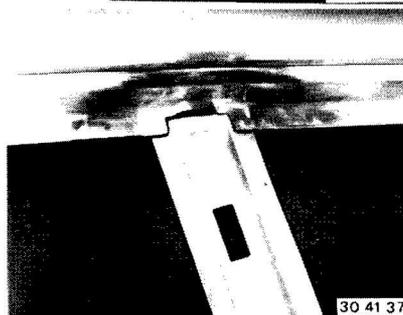
*Note:*

Apply coat of heat protection paste on roof and rain molding to avoid damaging the roof panel paint finish.



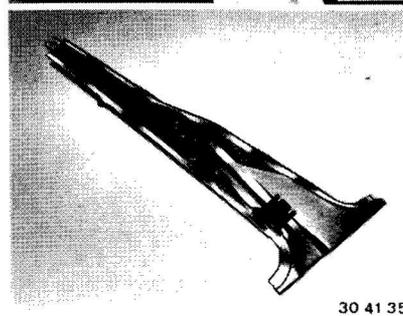
30 41 350

Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



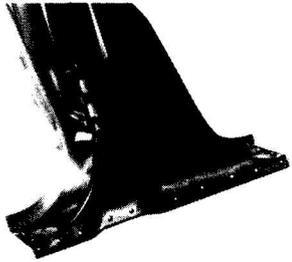
30 41 378

Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.

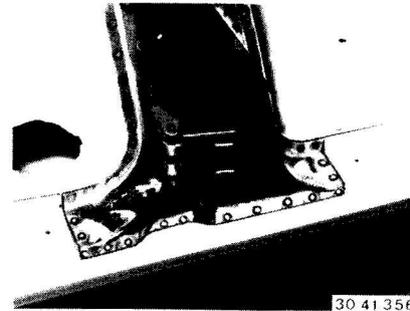


30 41 351

Grind mating surfaces on new B pillar.  
Coat mating surfaces required for spot welding with zinc dust paint.



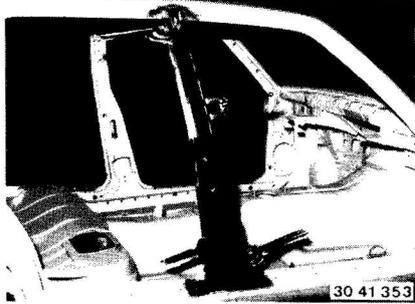
Drill holes in mating surfaces required for plug spot welding.



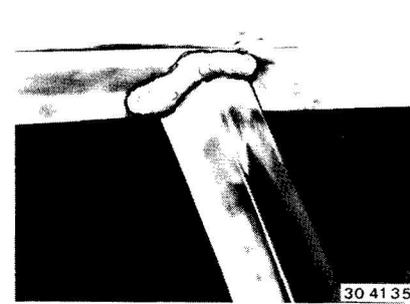
Plug spot weld joint on cover for side member.

30 41 352

Clamp and tack weld B pillar.



30 41 353



Braze joint on roof frame.

*Note:*

Apply coat of heat protection paste on roof and rain molding to avoid damaging the roof panel paint finish.

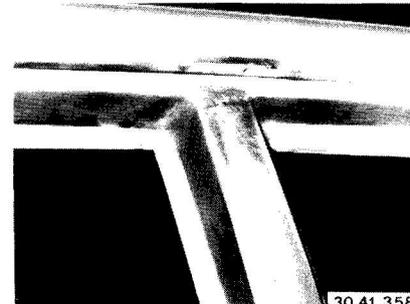
30 41 357

Install rear door and check gaps.



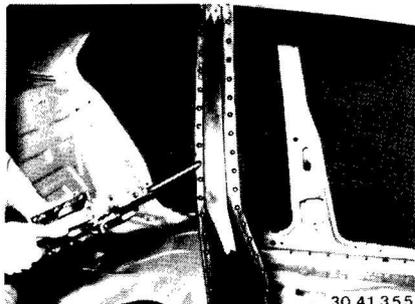
30 41 354

Grind down joints.



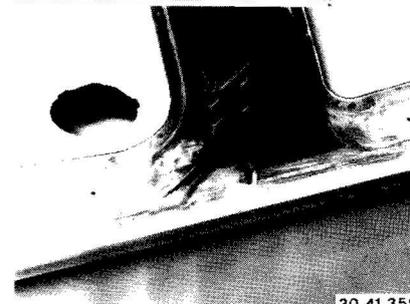
30 41 358

Spot weld B pillar on end plate.



30 41 355

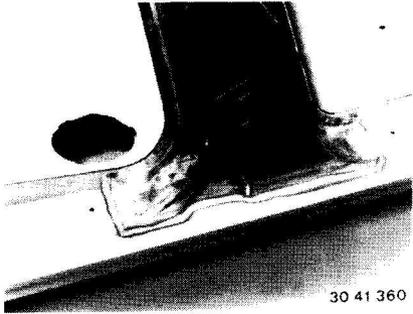
Grind down joints.



30 41 359

## 41-206

Seal joint on cover for side member with a joint sealing compound.

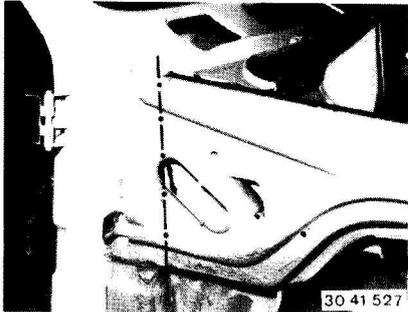


30 41 360

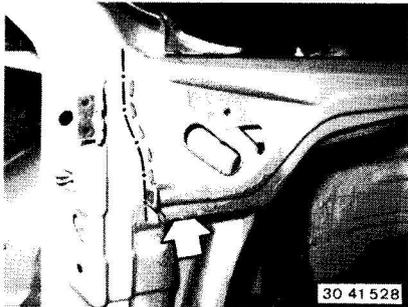
## 41 21 501 REPLACING LEFT OR RIGHT FRONT DOOR PILLAR - Front Side Panel Removed -

Refer to information on page 41 - 001.

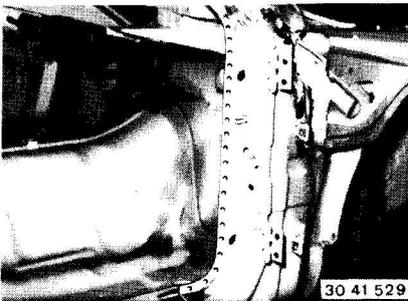
Remove or disconnect following parts:  
ground lead on battery, roof ornamental strip, front seat, entrance cover strip,  
entrance cover plate, instrument panel trim, engine hood release lever partially,  
door pillar carpet, passenger compartment carpets partially, air inlet grill on cowl  
panel and windshield with rubber frame.



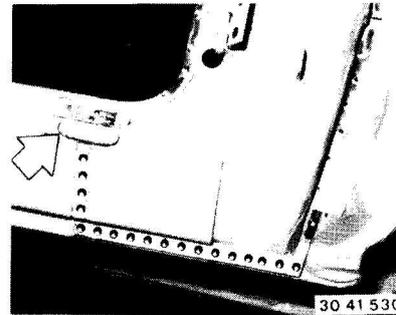
Cut through end plate along line.



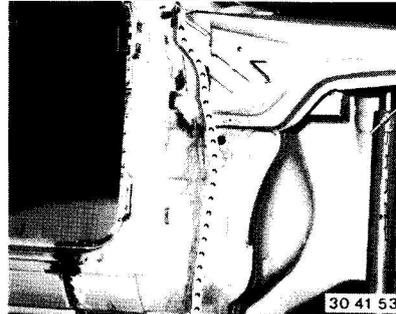
Grind off welding seams.  
Drill out spot welds from underneath.  
Remove end plate section.



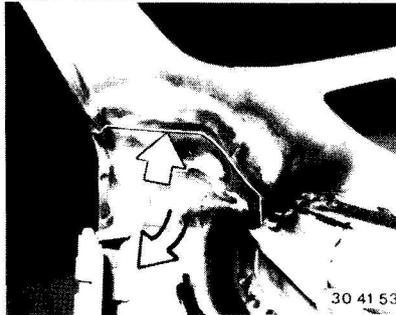
Make joints accessible.  
Drill off spot welding seam.



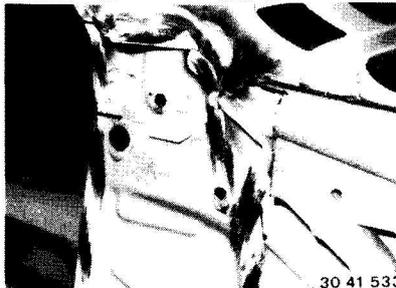
Drill out spot welds.  
Remove brazing solder.



Drill out spot welds.



Remove brazing solder.  
Lift off door pillar.

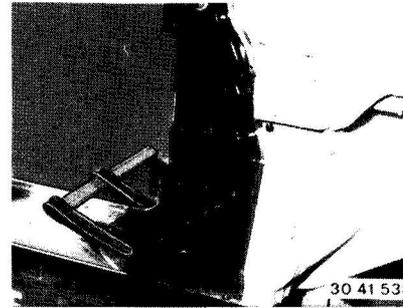
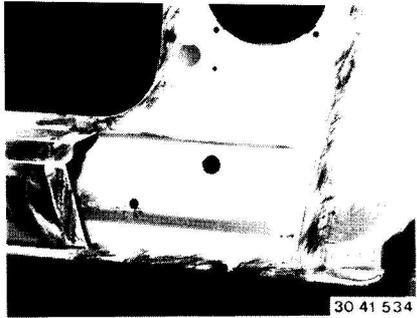


Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding  
with zinc dust paint\*.

\* Source: HWB

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding with zinc dust paint.

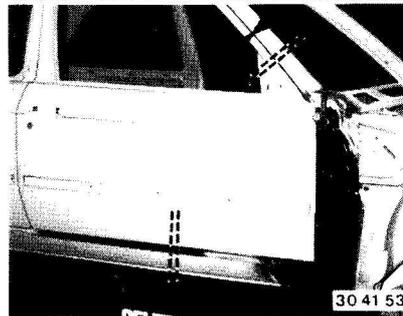
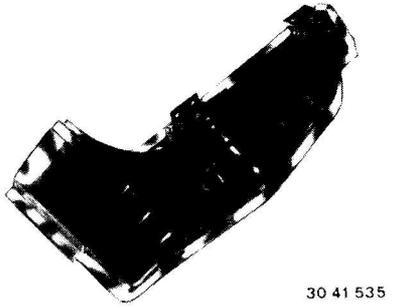
Clamp and align door pillar.  
Tack weld at several points.



Grind mating surfaces on new door pillar.  
Coat mating surfaces needed for spot welding with zinc dust paint.

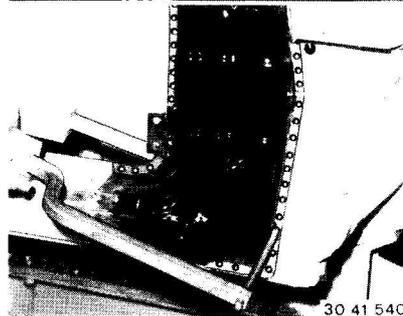
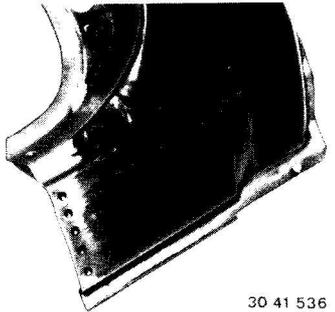
Install door and check gap and plane to entrance and cowl panel.

*Note:*  
Use washers if door is too low.



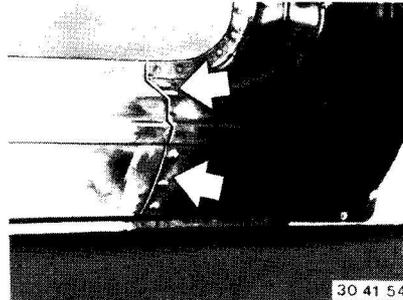
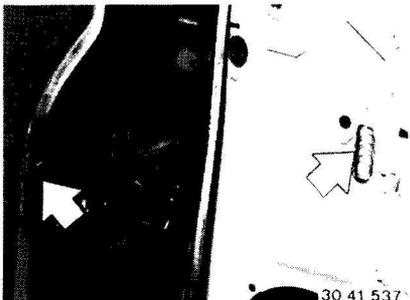
Drill holes for plug spot welding at joint with entrance.

Spot weld door pillar.



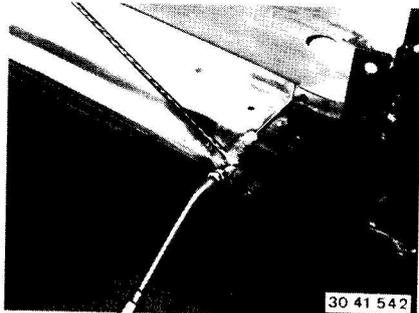
Use insulating tape\* on bearing surface for reinforcement.

Plug spot weld joint with entrance.



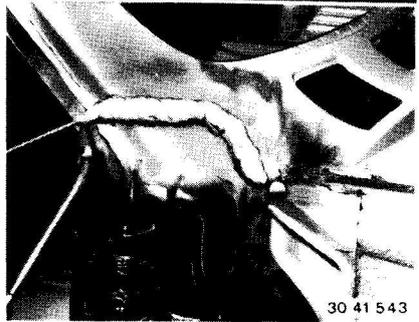
\* Source: HWB

# 41-209



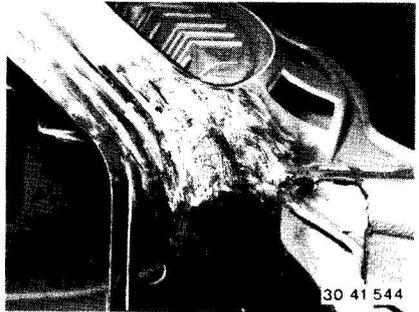
Braze outside edge on entrance.

30 41 542



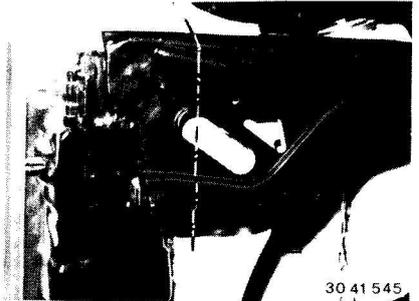
Braze joint with cowl panel.

30 41 543



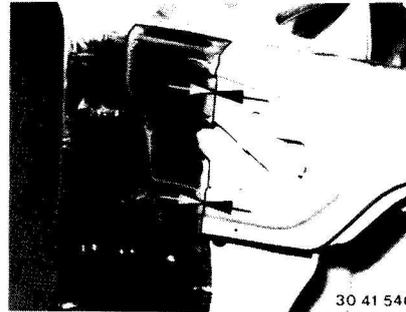
Grind mating surface.

30 41 544



Install new end plate.  
Determine location of cut for partial replacement.

30 41 545



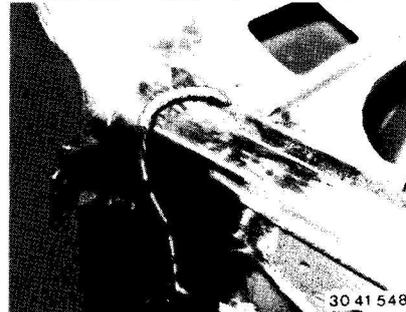
Grind mating surfaces on partial replacement section and fit in.

30 41 546



Inert gas weld partial replacement section.

30 41 547



Braze in cowl panel area.

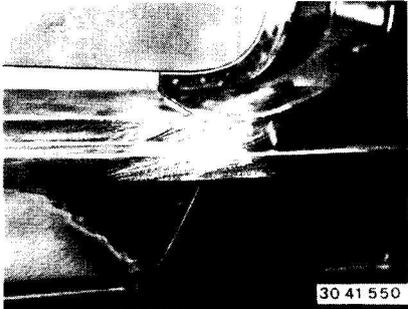
30 41 548



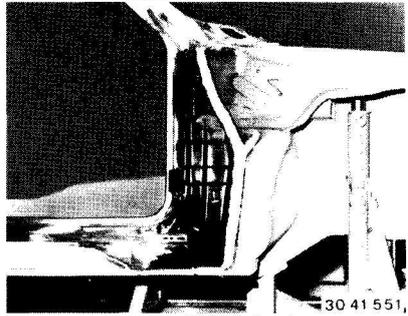
Grind mating surface, tinning if necessary.

30 41 549

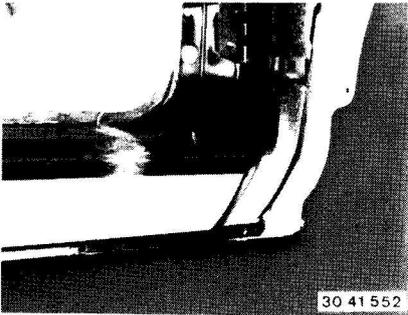
# 41-210



Grind mating surface, tinning if necessary.



Seal all joints with a joint sealing compound\*.

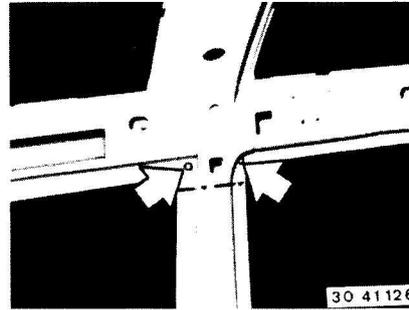


Replace anti-drumming coat on entrance and in wheel house.

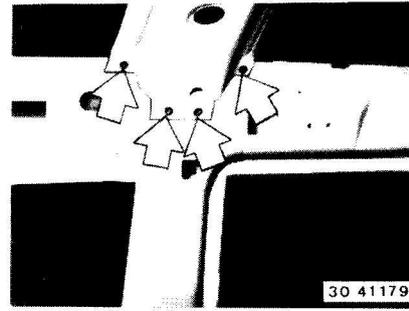
# 41-211

## 41 22 501 REPLACING LEFT OR RIGHT ROOF FRAME -- ROOF PANEL REMOVED --

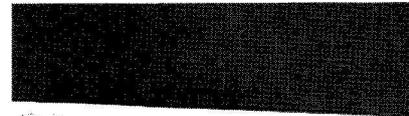
Refer to information on page 41 - 001.  
Remove or disconnect following parts:  
instrument panel trim, grill on bottom of cowl,  
front door, front bumper, front side panel.  
*Important!*  
Support car from underneath that roof frame  
is without pressure.



Cut off B pillar end plate on roof frame.  
Drill off welded spots.

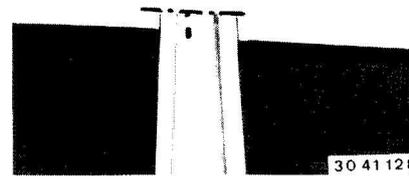


Drill off left and right roof braces.  
*Note:*  
Roof braces are installed after installation of  
roof panel.

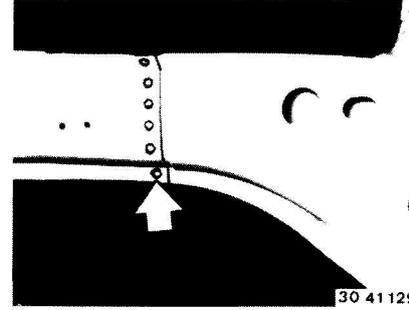


Drill off welded spots on roof frame at front.

Cut off brazed connection between roof frame  
and B pillar.



Drill off roof frame on C pillar.



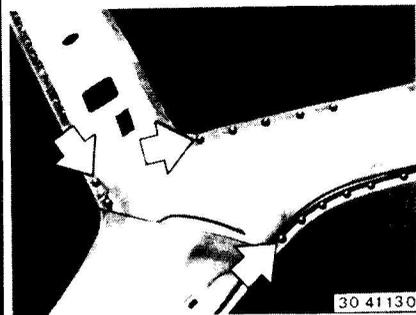
Drill off welded spots on inside.



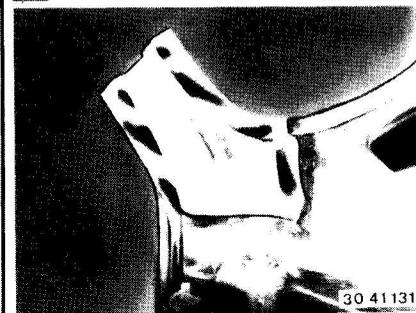
Cut off roof frame along line.



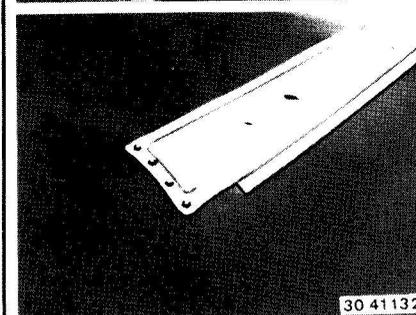
# 41-212



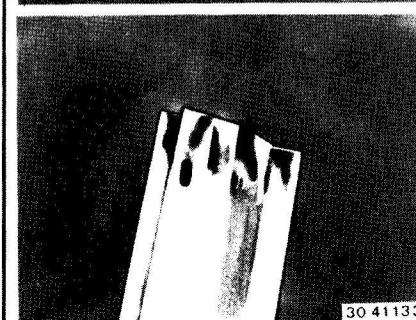
Drill off welded spots.



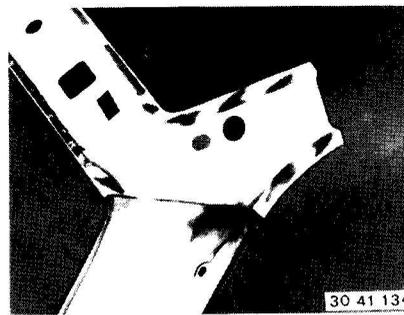
Remove scrap metal.  
Straighten and grind mating surfaces.



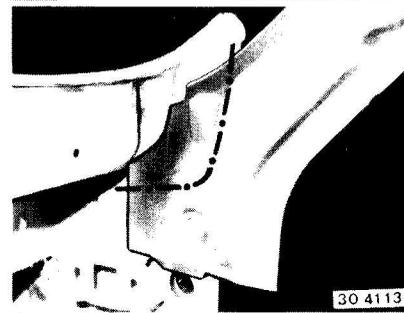
Remove scrap metal.  
Straighten and grind mating surfaces.



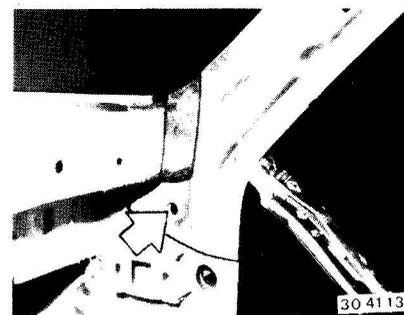
Remove scrap metal.  
Straighten and grind mating surfaces.



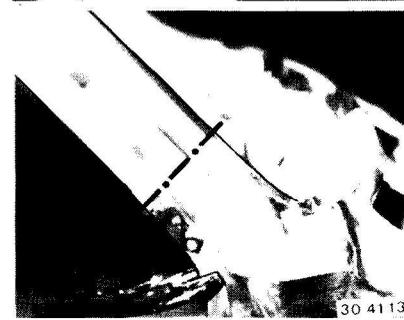
Remove scrap metal.  
Straighten and grind mating surfaces.



Cut new panel for cowl to size, that hole in new part can be aligned with old hole.



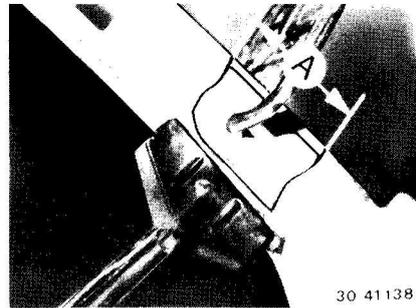
Clamp on panel and align according to hole and seams.



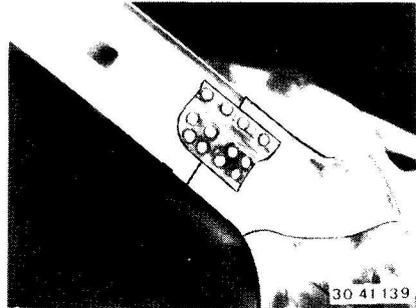
Mark cutting point on panel.  
Take off and cut panel to size.  
Grind mating surfaces.  
Coat mating surfaces needed for spot welding with zinc dust paint.

# 41-213

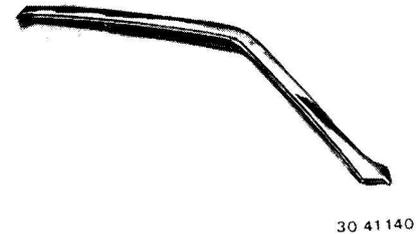
Make up reinforcement A = approx. 40 mm (1.575") from remaining panel and fit in.



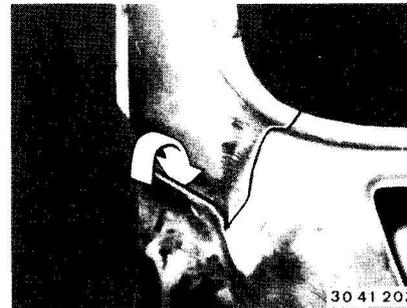
Grind down reinforcement.  
Coat mating surfaces with zinc dust paint.  
Spot weld panel on reinforcement.



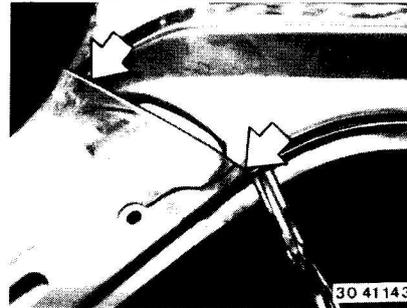
Grind mating surfaces on new roof frame.  
Coat mating surfaces needed for spot welding with zinc dust paint.



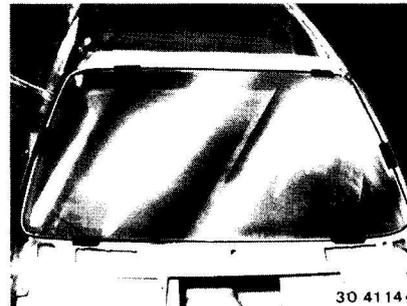
Install and clamp down roof frame complete with cowl, tack welding if necessary.



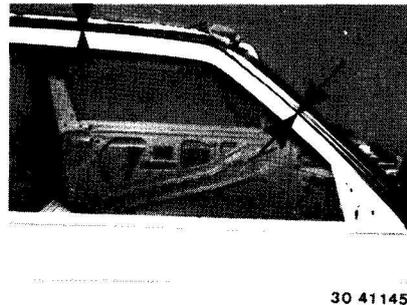
*Note:*  
Make sure cowl panel grabs behind connection for A pillar.



*Note:*  
Roof frame grabs underneath rear side panel.



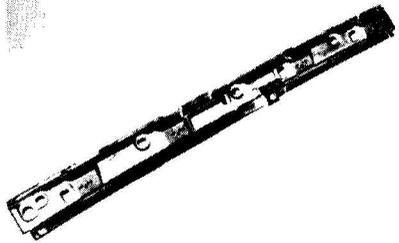
Install windshield with several pieces of rubber frame.  
Make sure of uniform clearance and same curvature between glass and body opening.



Install door and check door gap.

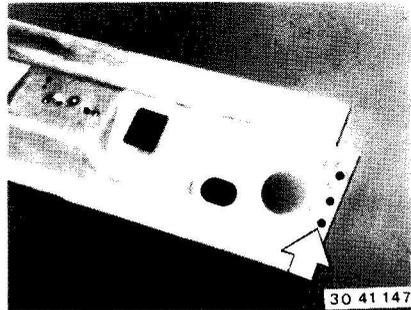
# 41-214

Grind mating surfaces on cover plate.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



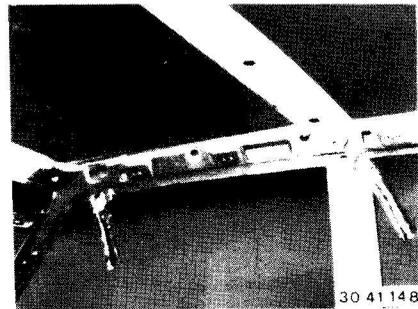
30 41 146

Drill holes for plug spot welding in rear mating  
surface.



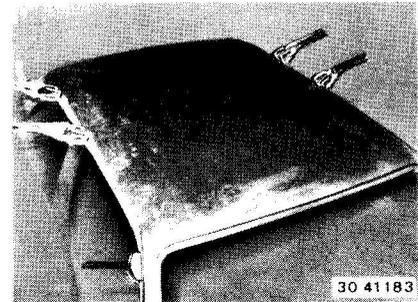
30 41 147

Install and clamp cover plate.  
If necessary, install roof brace to check roof  
frame.

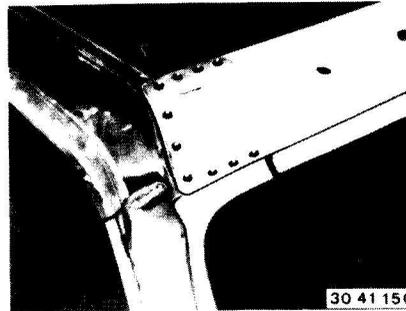


30 41 148

Install and clamp outside roof panel.  
Check seat of outside roof panel.  
Lift off outside roof panel again.

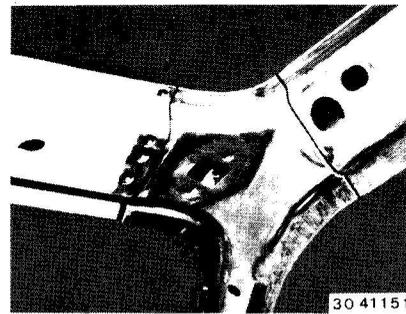


30 41 183



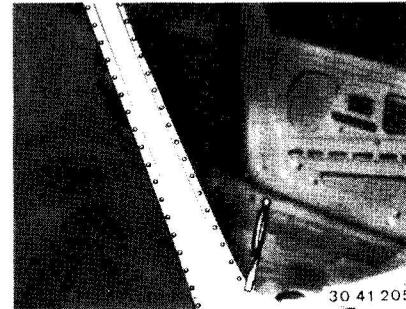
30 41 150

Plug spot weld or spot weld front roof frame  
with roof frame on sides.



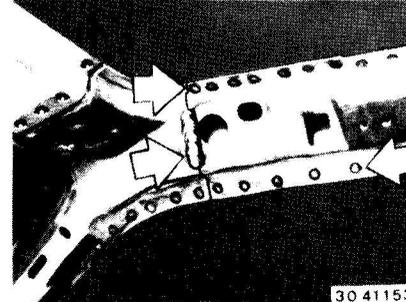
30 41 151

Plug spot weld or spot weld front roof frame with  
cowl panel and roof frame on sides.



30 41 205

Spot weld cowl panel on cowl.

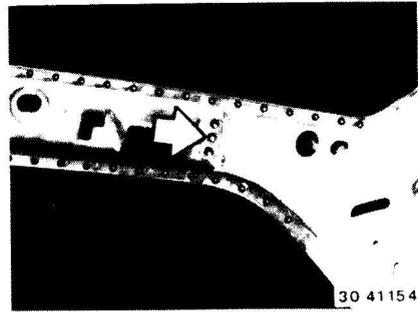


30 41 153

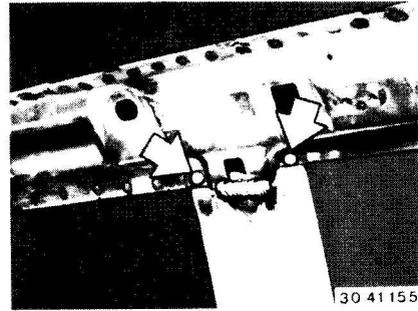
Spot weld end plate.  
Inert gas weld mating surface to cowl panel.

# 41-215

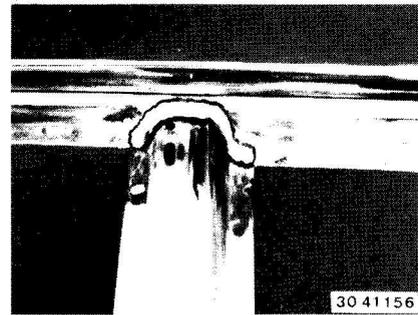
Spot weld end plate and C pillar on side frame.  
Plug spot weld mating surface for C pillar.



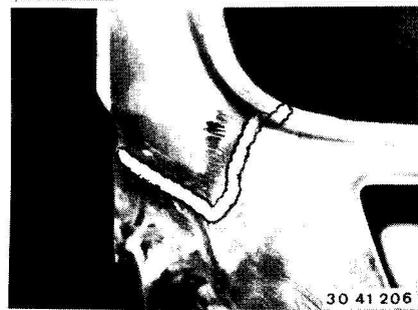
Spot weld or inert gas weld B pillar.



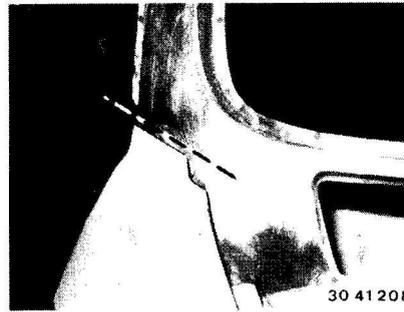
Braze B pillar on outside.



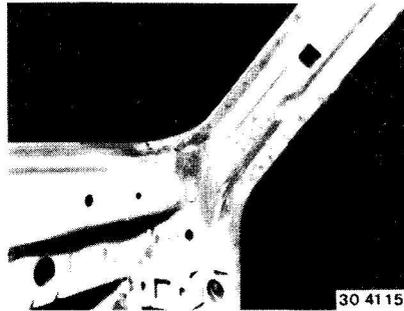
Braze joint on A pillar.



If necessary, tin out joint on A pillar.  
Match contour on front side panel.



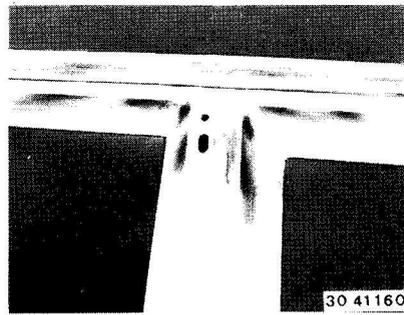
Grind mating surface.



Grind mating surface.

*Note:*

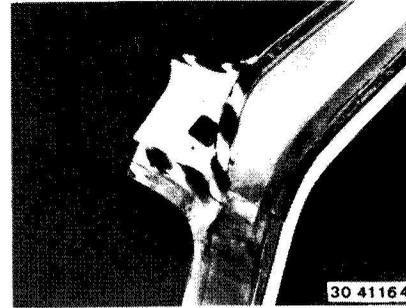
Coat blank metal parts with zinc dust paint  
before installing outside roof panel.



# 41-216

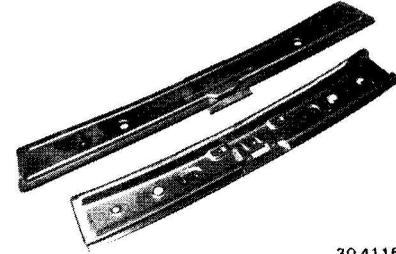
## 41 22 541 REPLACING FRONT ROOF FRAME - ROOF PANEL REMOVED -

Refer to information on page 41 - 001.



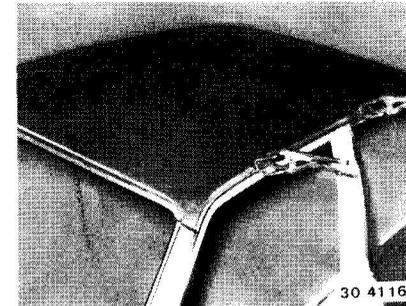
Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding with zinc dust paint.

Cut through roof frame on left and right sides.



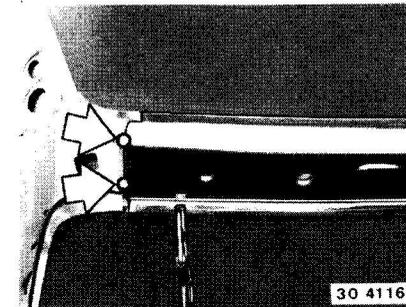
Grind mating surfaces on new parts.  
Coat mating surfaces needed for spot welding with zinc dust paint.

Drill off welded spots on left and right sides.

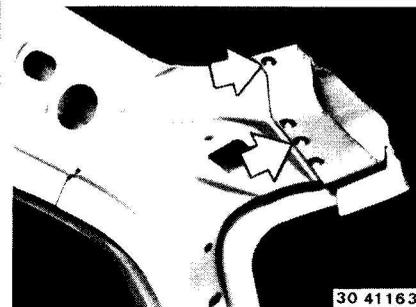
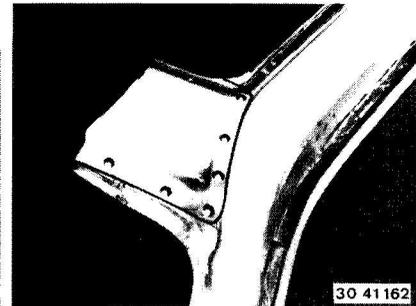
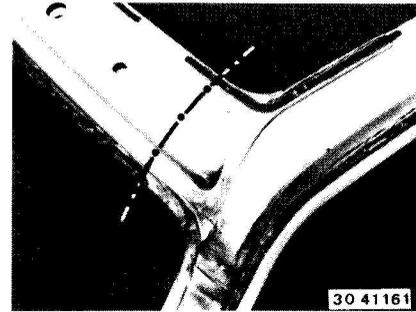


Install and clamp roof panel.

Drill off welded spots.

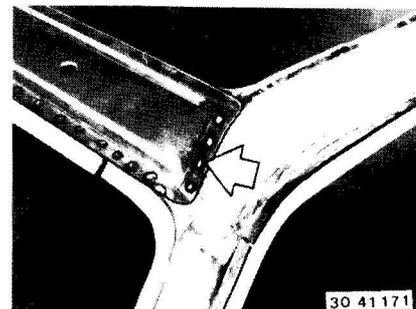
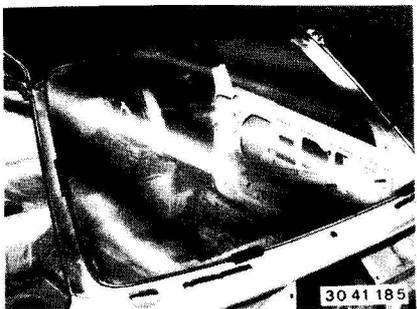


Install and tack weld roof frame inside section.



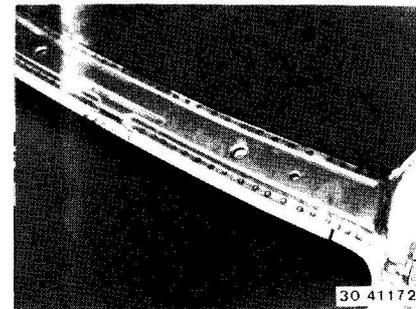
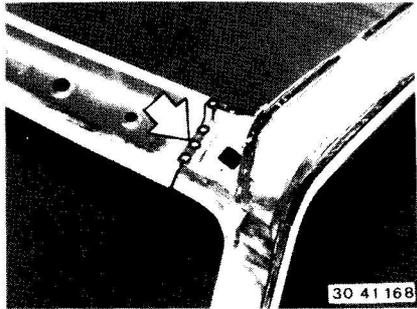
# 41-217

If necessary, install windshield with several pieces of rubber frame. Check for uniform clearance and same curvature between glass and body opening edge.



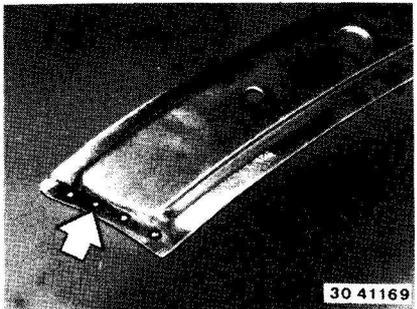
Plug spot weld at provided holes.

Lift off roof panel.  
Spot weld roof frame inside section.

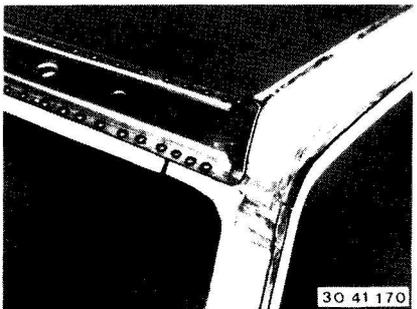


Straighten and grind mating surfaces.  
Coat blank metal parts with zinc dust paint before installing roof panel.

Drill holes in roof frame outside section for inert gas plug welding.



Clamp on and spot weld roof frame outside section.



# 41-301

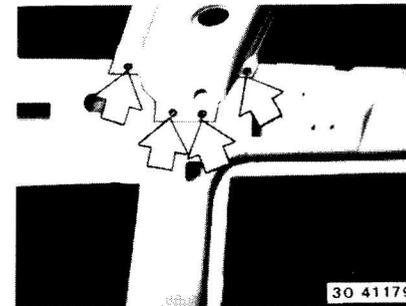
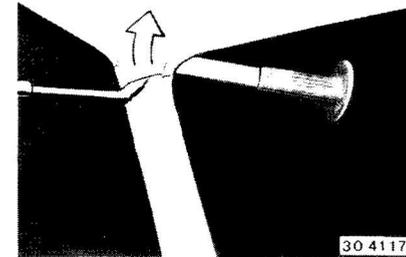
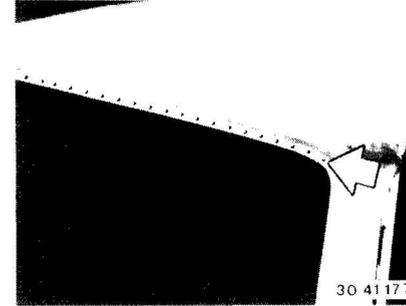
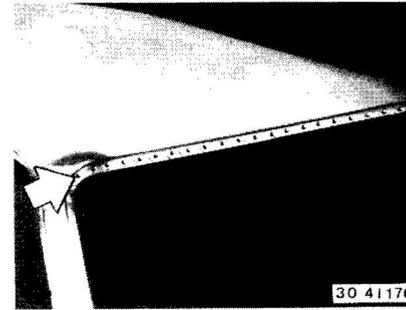
## 41 31 001 REPLACING ROOF PANEL (WITHOUT SUN ROOF)

Refer to information on page 41 - 001.  
Remove or disconnect following parts:  
battery ground lead, windshield and rear window with rubber frames, rear seat cushion and backrest, rear side trim panels, rear side windows, hatrack, both sun visors, A and B pillar plates, edge guards as req., roof liner with braces, inside lights, inside mirror, grab handles, seat belts as req., check control, front top trim, both roof ornamental strips.

Clear front joints.  
Remove brazing solder.

Clear rear joints.  
Remove brazing solder.

Drill off welded spots on rain molding.  
*Note:*  
The spot welded seam is gradually replaced by a roll welded seam.  
If applicable, cut off roof panel.  
Grind off scrap metal after lifting off the roof panel.

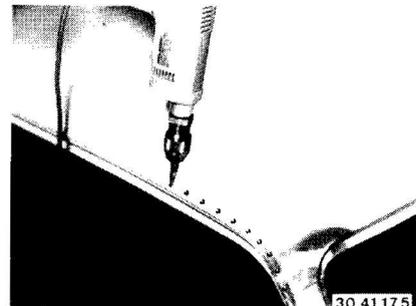
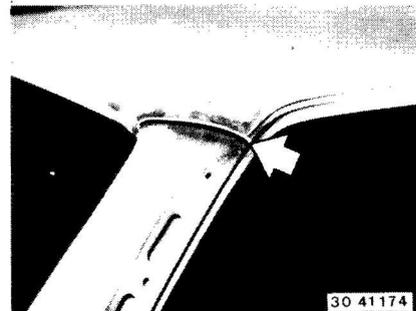
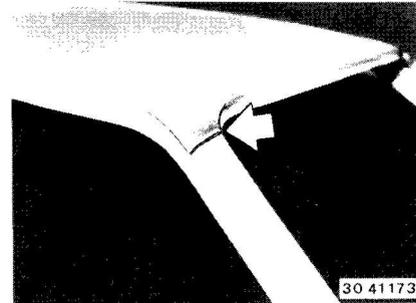


Drill off welded spots in window opening.

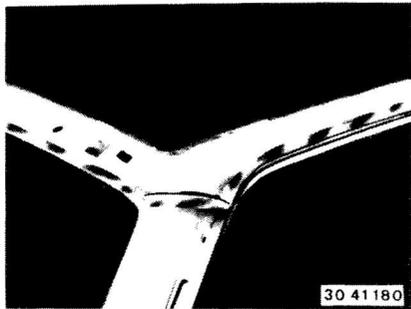
Drill off welded spots on rear window frame.

Lift off roof panel.

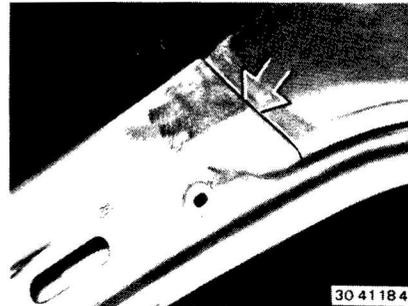
Cut out roof brace on left and right sides.



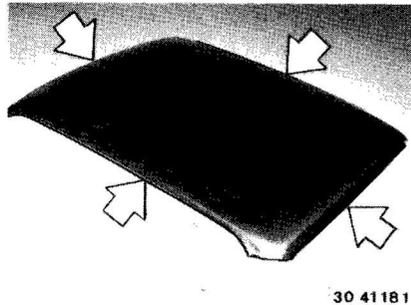
# 41-302



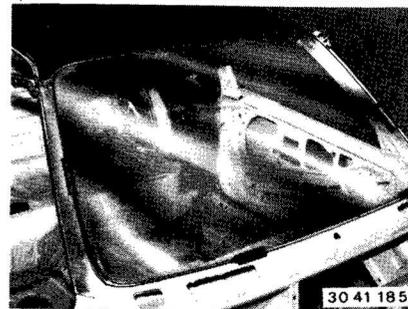
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



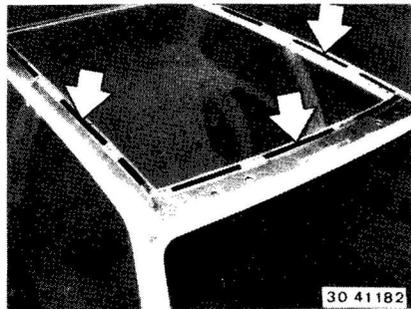
*Note:*  
Roof panel grabs underneath C pillar.  
Check clearance and transition to C pillar,  
correcting if necessary.



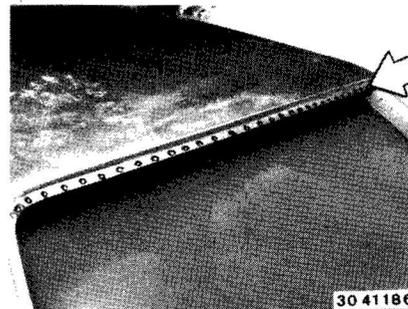
Grind mating surfaces on new roof panel.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



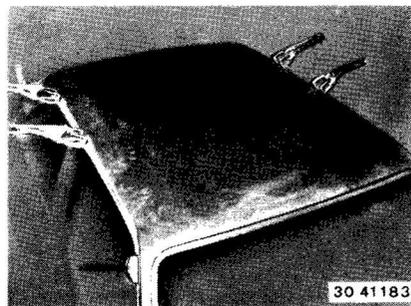
Install windshield and rear window with several  
pieces of rubber frame.  
Check for uniform clearance and same curvature  
between window panes and body opening edges.



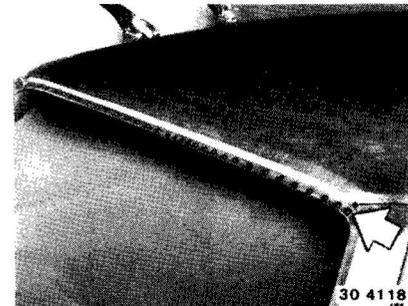
Paste Terostat tape on roof frame.



Spot weld roof panel in windshield opening.

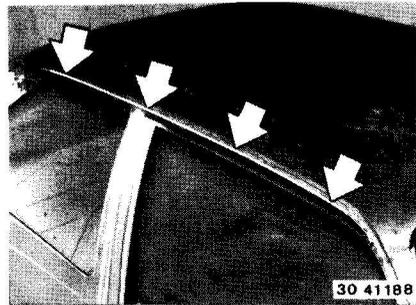


Install and clamp roof panel.

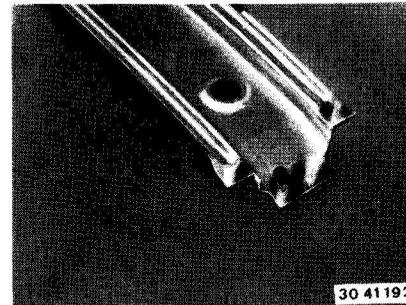


Spot weld roof panel in rear window opening.

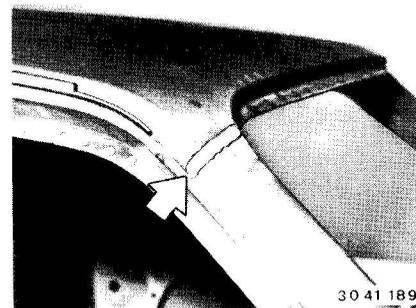
# 41-303



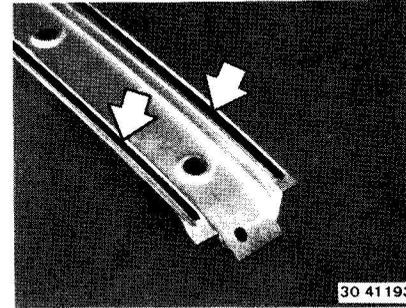
Spot weld roof panel on left and right rain moldings.



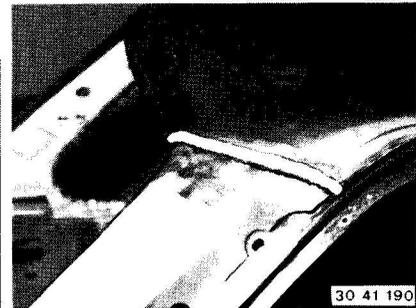
Grind mating surfaces on roof brace.



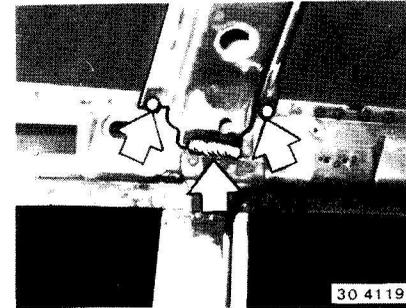
Braze cowl joints on left and right sides.



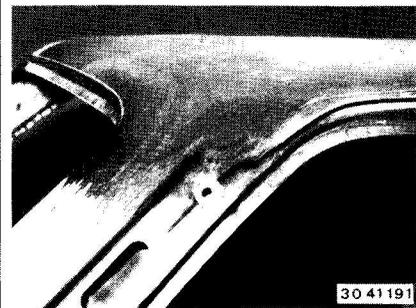
Paste Terostat tape on bearing surfaces of roof panel.



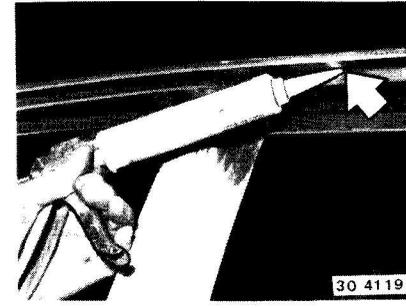
Braze C pillar joints on left and right sides.



Install roof brace and press against roof panel lightly.  
Weld on roof brace on left and right sides.  
Use inert gas welder.



Grind front and rear joints, tinning out if necessary.

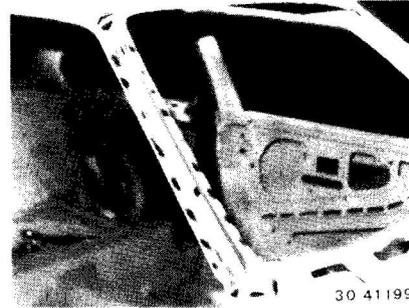


Seal joint between roof frame and roof panel with a body sealing compound.

# 41-304

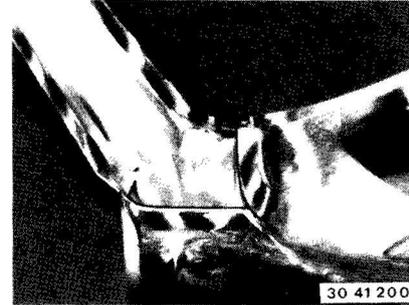
## 41 32 515 REPLACING LEFT OR RIGHT COWL PANEL — ROOF PANEL REMOVED —

Refer to information on page 41 - 001.  
Remove or disconnect following parts:  
instrument panel trim, grill on bottom of cowl,  
front door, front bumper and front side panel.



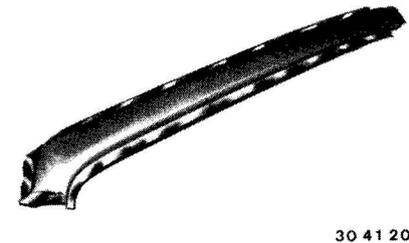
Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.

Drill off welded spots on window opening.  
Cut off panel on outside.



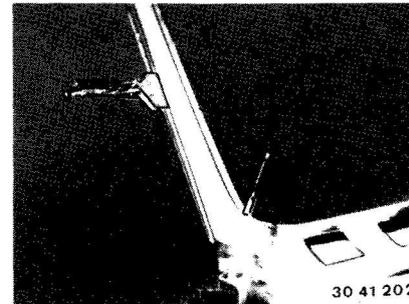
Straighten and grind mating surfaces.

Drill off welded spots on roof frame joint.

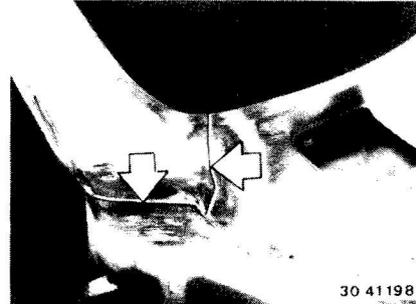
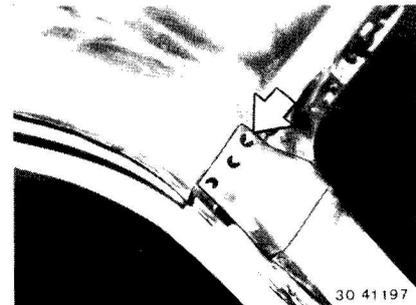
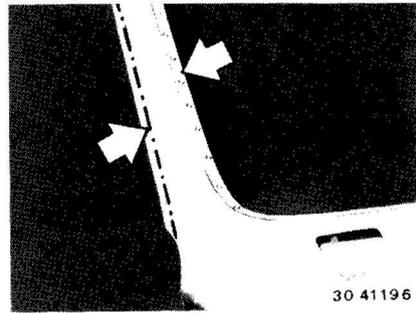


Grind mating surfaces on new cowl.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.

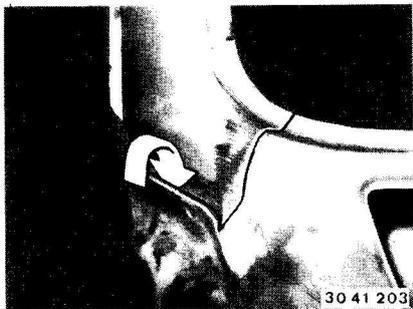
Clear joint surface.  
Remove brazing solder.  
Take off cowl panel.



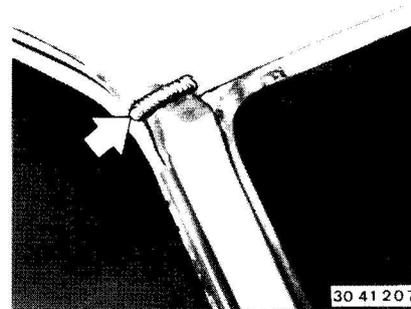
Install and clamp cowl panel, tack welding  
lightly in window opening.



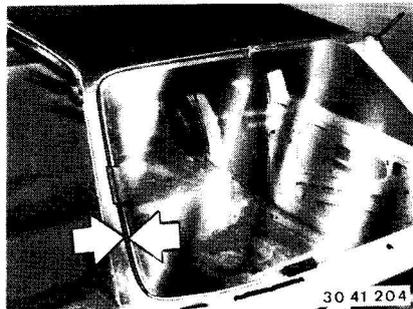
# 41-305



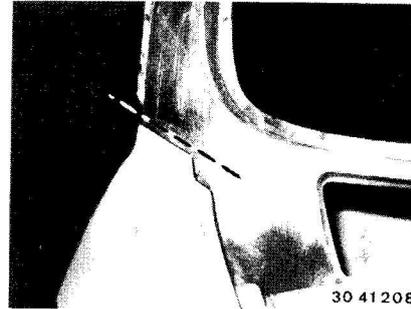
*Note:*  
Make sure cowl panel grabs underneath connection for A pillar.



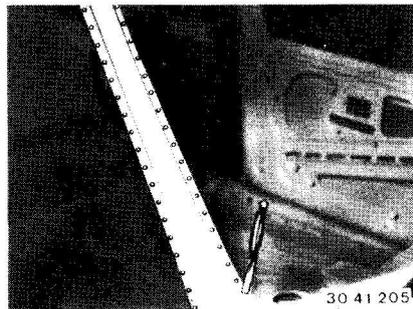
Inert gas weld top joint.



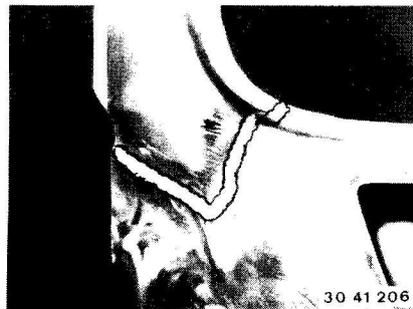
Install roof panel.  
Install windshield with several pieces of rubber frame.  
Check for uniform clearance and same curvature between glass pane and body opening.



If necessary, tin out connection on A pillar.  
Match contour on front side panel.



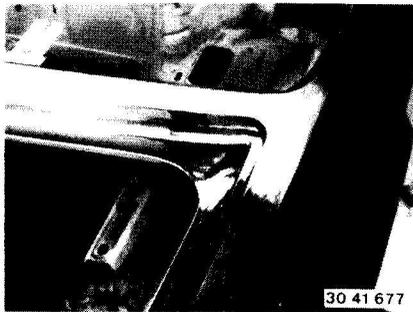
Spot weld cowl panel.



Braze connection on A pillar.

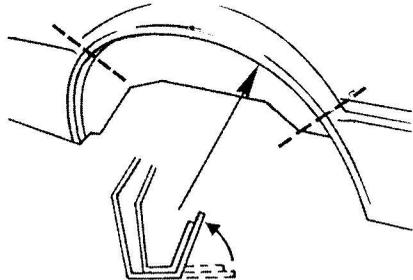
# 41-305 C

Grind down joint, tinning if necessary.



30 41 677

*Important!*  
Cringe the spot welded flange on the wheel opening edge in the shown area.  
Compare with opposite side if necessary.



30 41 741

Seal off all joints with a body sealing compound.  
Replace damaged anti-drumming compound in trunk and on outside.

# 41-306

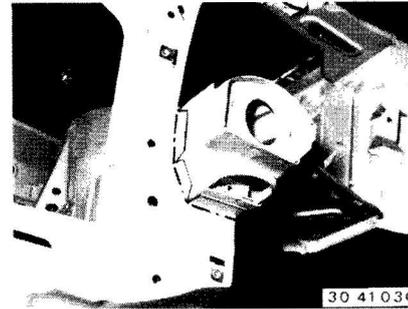
## 41 33 001 REPLACING FRONT PANEL WITH FRONT WALL ASSY.

Refer to information on page 41 - 001  
Disconnect battery ground lead.  
Remove engine hood complete with hinges  
41 61 000 / 41 61 050.  
Remove front bumper 51 11 000.  
Remove both front side panels 41 35 000.  
Remove grill, headlights, front fog lights,  
horns, engine hood lock, data plate and  
radiator.  
Disconnect wire harness partially.

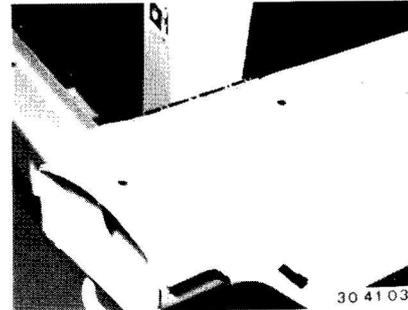
Disconnect front wall on wheel house.

Cut off front wall on wheel house.

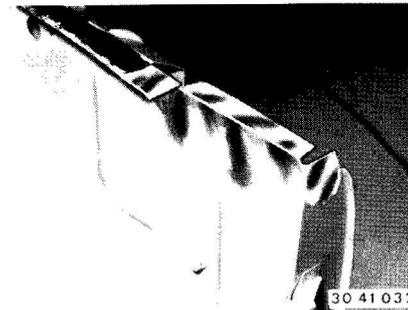
Cut off front wall on engine carrier.



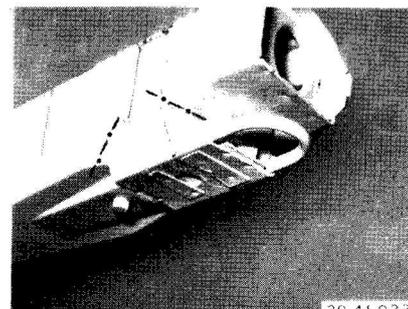
Cut off front wall on engine carrier.



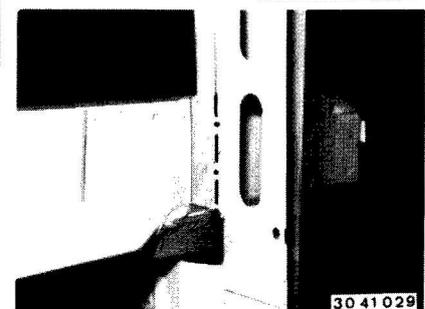
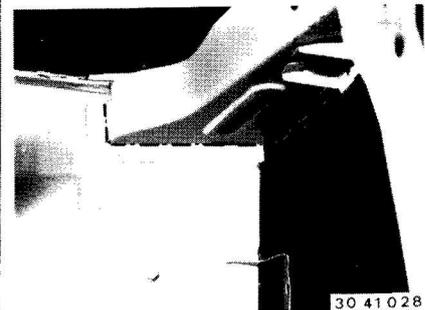
Grind off welding seams.  
Take off front wall.



Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat with zinc dust paint.

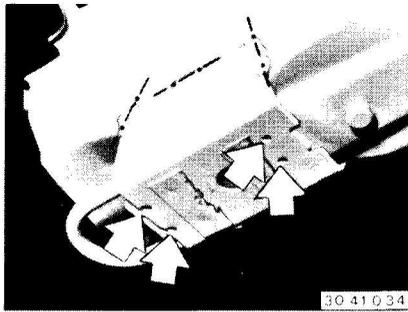


Grind off welding seams on towline eye.

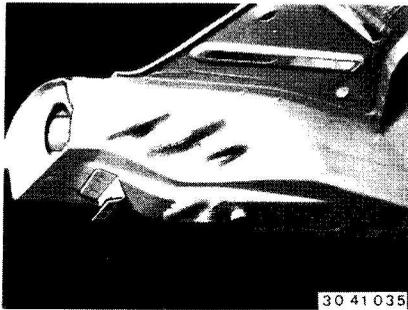


# 41-307

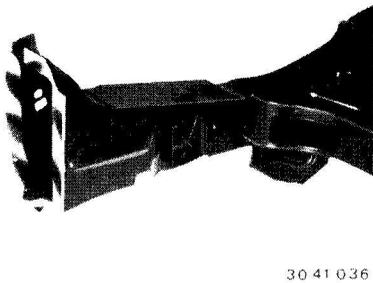
Grind off welding seams on towline eye.  
Drill off welding spots.  
Remove towline eye.



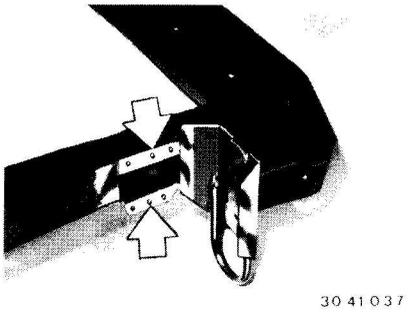
Remove scrap metal.  
Straighten and grind mating surfaces.



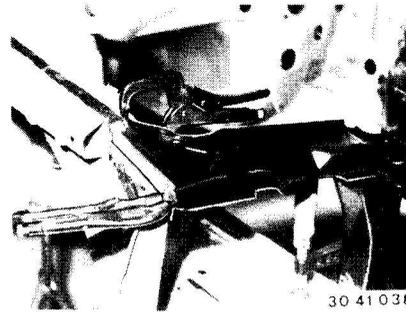
Grind mating surfaces on left and right sides of  
new front wall and coat with zinc dust paint.



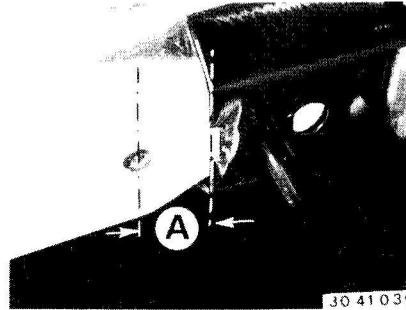
Grind mating surfaces on left and right sides of  
new front panel wall.  
Drill holes for inert gas plug welding.



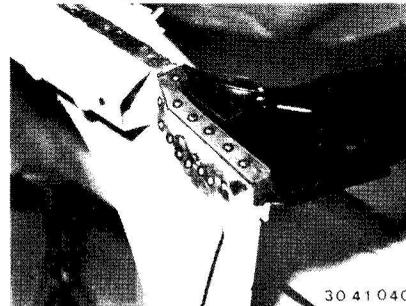
Fit in and clamp front wall.



*Note:*  
Distance A = 33.5 mm (1.319").



Spot weld front wall on wheel house.

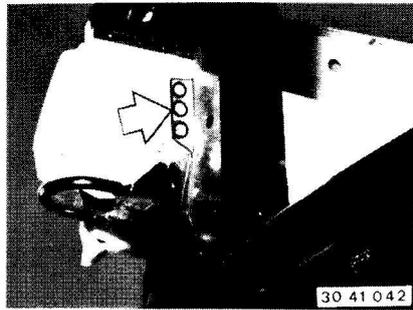


Inert gas weld towline eye on engine carrier  
inside and outside.  
Spot weld and/or inert gas weld bracket.

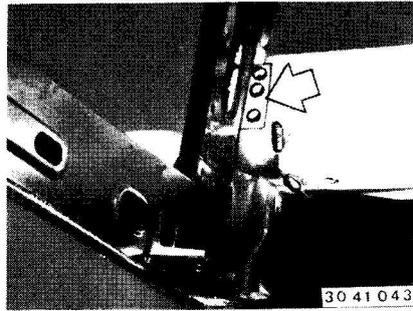


# 41-308

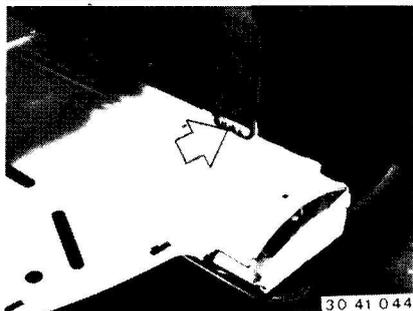
Inert gas plug weld front wall on engine carrier.



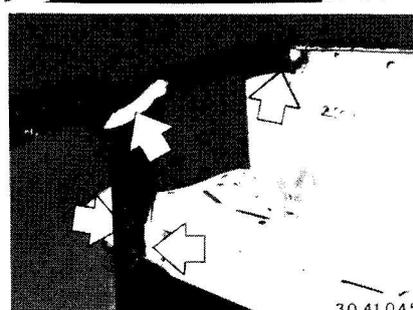
Inert gas plug weld front wall on engine carrier.



Inert gas weld front wall on end plate.



Coat all mating surfaces and joints with a body sealing compound\*.



\* Source: HWB

# 41-309

## 41 34 041 REPLACING TAIL PANEL

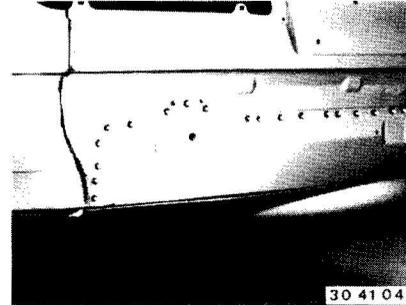
Refer to information on page 41 - 001  
Remove rear bumper.  
Unscrew tail and license plate lights.  
Disconnect wire harness partially.  
Unscrew lock lower section with lock cylinder and license plate.  
Unscrew final muffler holder.  
Pull off trunk lid seal partially.  
Remove trunk mat and spare wheel.

### Note:

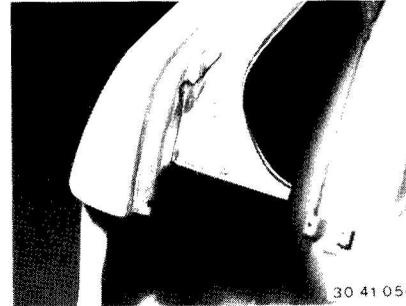
To limit tail panel painting to a minimum, the cut can also be made in the tail light opening. Distance A = 265 mm (10.433").

Cut off left and right tail panel along line.

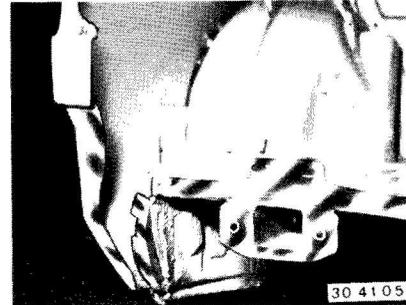
Cut off tail panel along line on left and right sides.



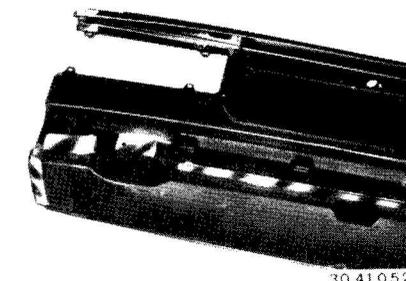
Drill off welding spots.  
Take off tail panel.



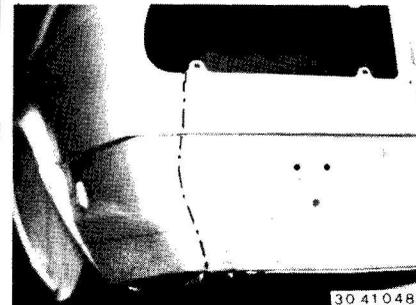
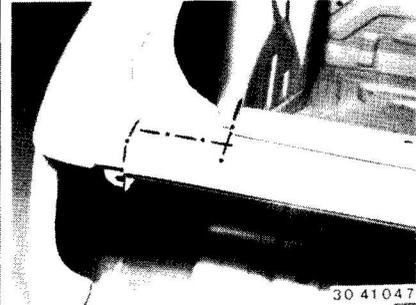
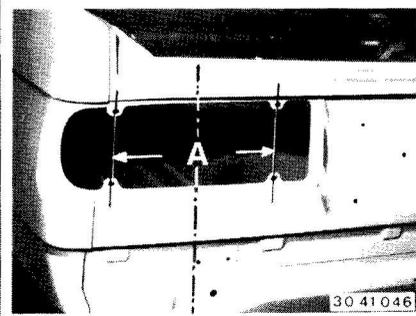
Remove scrap metal.



Remove scrap metal.  
Coat surfaces for spot welding with zinc dust paint.

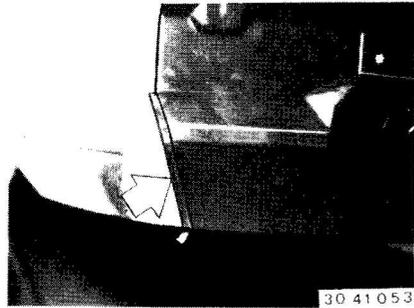


Grind mating surfaces on new tail panel.  
Coat surfaces for spot welding with zinc dust paint.

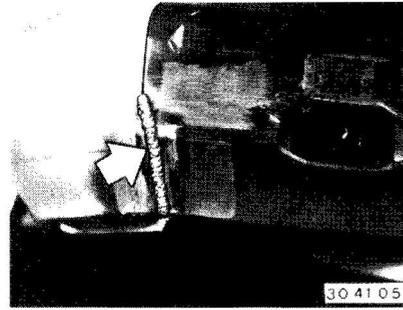


# 41-310

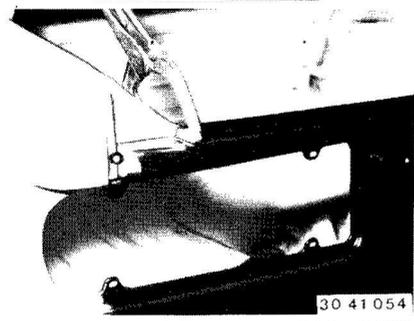
Cut off shouldered metal edge on one side far enough that tail panel can be pushed behind the side panel.



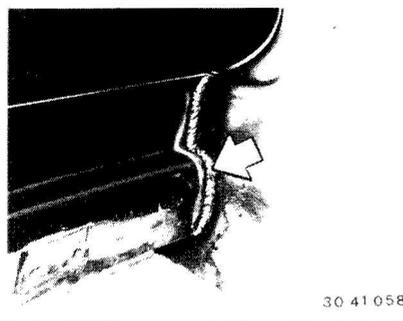
Weld bottom of tail panel on left and right side panels with an inert gas welder.



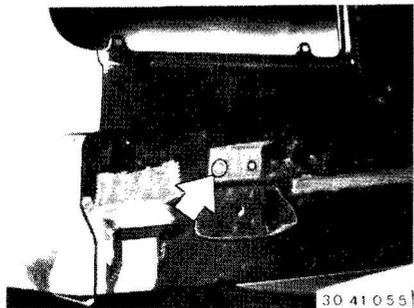
Fit in and tack weld tail panel.



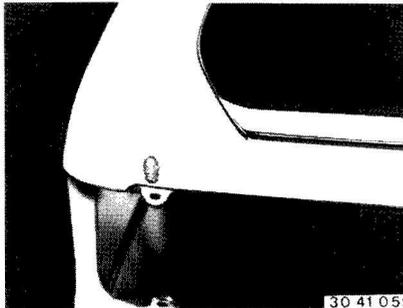
Weld web of tail panel and left and right side panels in area of trunk lid with an autogen welder.



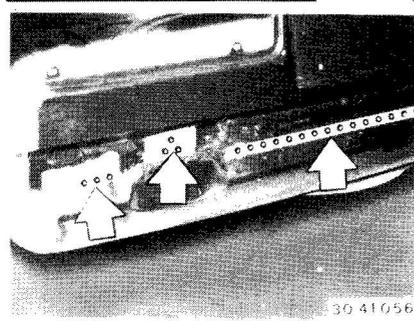
Mount tail panel on bumper bracket with a bolt.



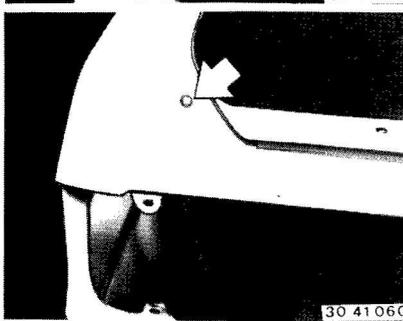
Weld tail panel on side panel.



Spot weld tail panel on trunk floor plate and bumper bracket.

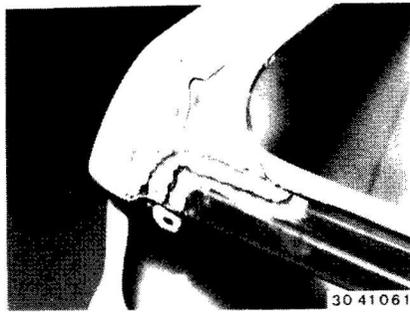


Spot weld tail panel on side panel.



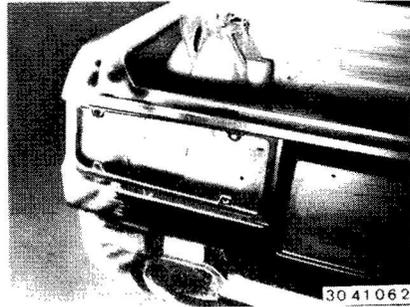
# 41-311

Braze reinforcement corner on tail panel.



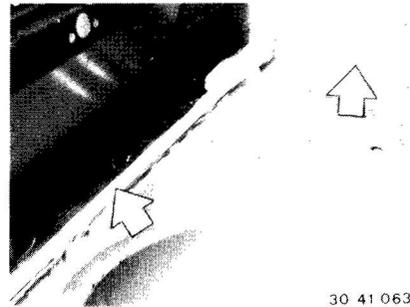
30 41 061

Grind down all welded joints.



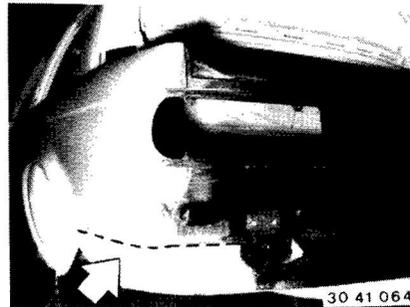
30 41 062

Coat all welded joints with body sealing compound\* and spray with anti-drumming compound\*.



30 41 063

Spray an anti-drumming compound\* on the side panel/tail panel joint underneath the bumper.



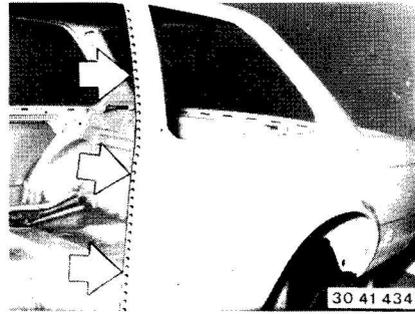
30 41 064

\* Source: HWB

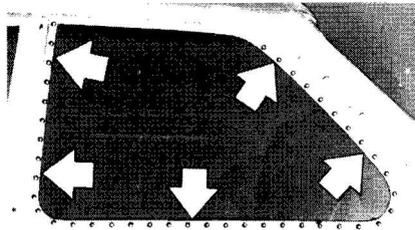
## 41 35 101 REPLACING LEFT REAR SIDE PANEL (UP TO ROOF JOINT) — TWO DOOR MODEL —

Refer to information on page 41 - 001.

Remove or disconnect following parts:  
negative lead on battery, rear bumper, left tail light assembly, trunk mats, wall trim, left wheel house trim, tail panel trim, trunk lid seals, rear window complete with rubber frame, side window, rear seat cushion and backrest, side trim panel, hatrack, entrance cover strip, carpets partially, roof liner partially, door pillar trim, seat belt, front door seals, door striker, C pillar air extraction mask, rear side panel rubbing strip, left wheel house cover, fuel tank complete, brace on floor plate and wire harness in trunk partially.



Make spot welding accessible and drill out spot welds.

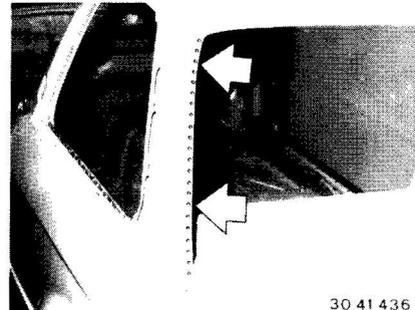


Uncover spot welding and drill out spot welds.

*Note:*

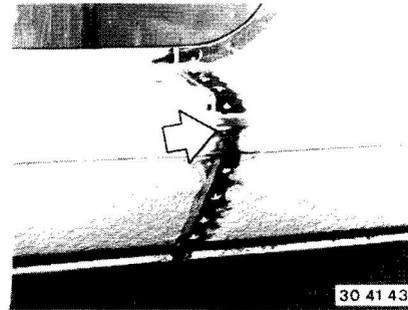
Drill through two panels in area (A) for version with extraction above C pillar.

30 41 435



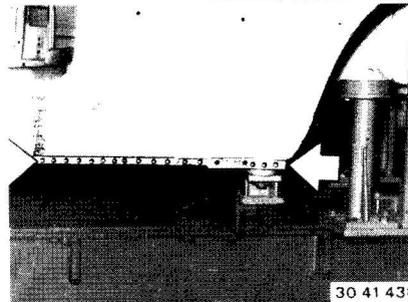
Uncover spot welding and drill out spot welds.

30 41 436



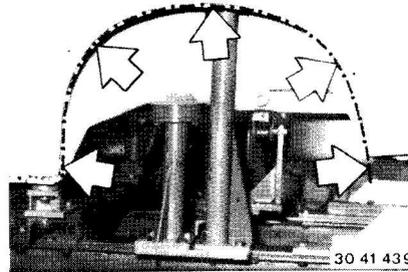
Make spot welding accessible and drill out spot welds.  
Remove brazing solder.

30 41 437



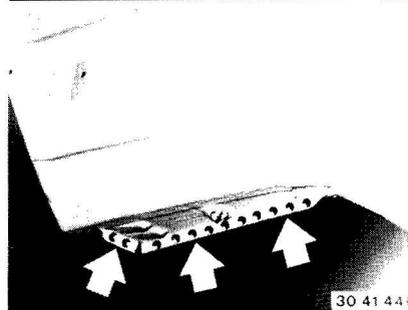
Make spot welding accessible and drill out spot welds.

30 41 438



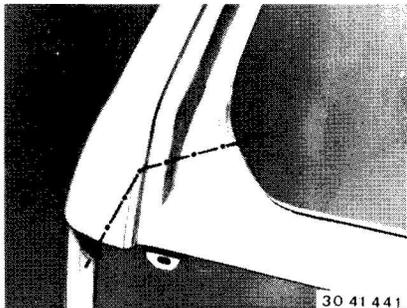
Grind down edge.

30 41 439



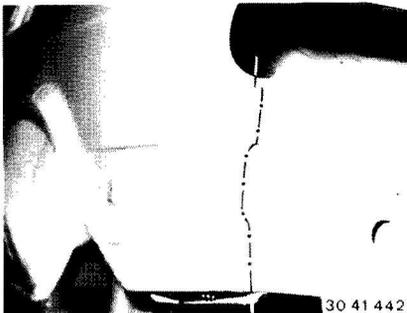
Uncover spot welding and drill out spot welds.

30 41 440



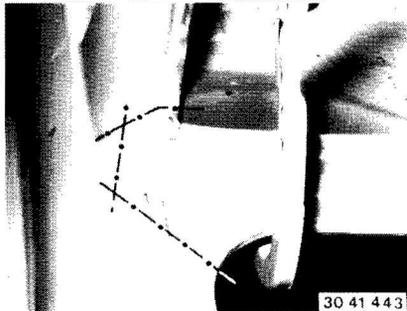
Cut off side panel along line.

30 41 441



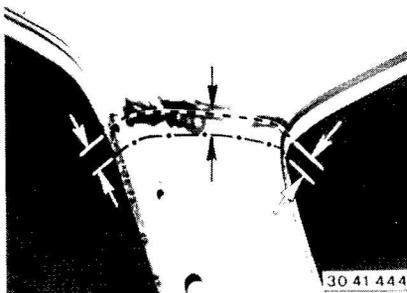
Cut off side panel along line.

30 41 442



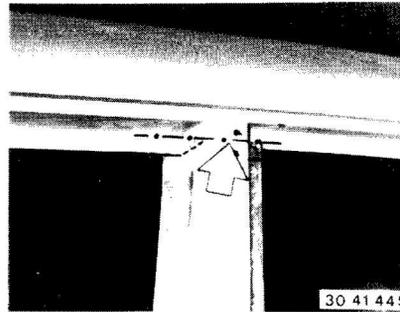
Cut off side panel along line.

30 41 443



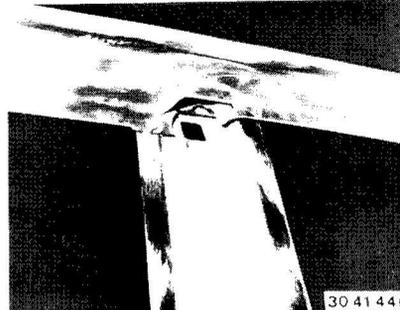
Uncover brazed roof joint.  
Cut through side panel about 10 mm (0.394") below joint.

30 41 444



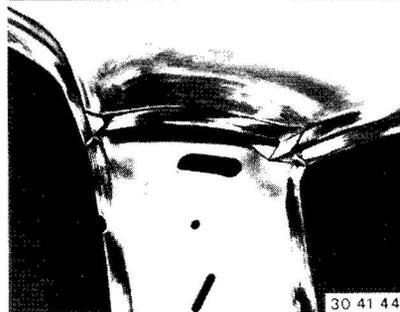
Cut through side panel in area of B pillar at top.  
*Caution!*  
Don't cut the end plate.  
Lift off side panel.

30 41 445



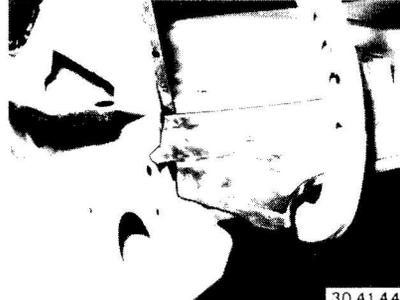
Remove scrap metal (brazing solder).  
Straighten and grind mating surfaces.

30 41 446



Remove scrap metal (brazing solder).  
Straighten and grind mating surfaces.

30 41 447



Remove scrap metal (brazing solder).  
Straighten and grind mating surfaces.

30 41 448

*Note:*  
Side panel and window frame have been changed at bottom.

Correct bottom of window frame accordingly.

There must be a flat channel with the side panel installed.

Remove scrap metal.  
Straighten and grind mating surfaces.

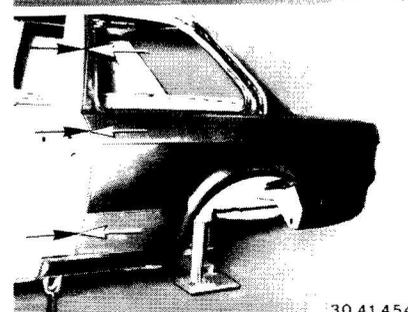
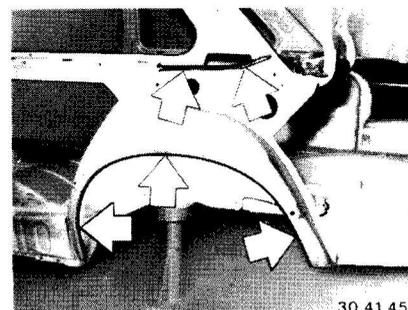
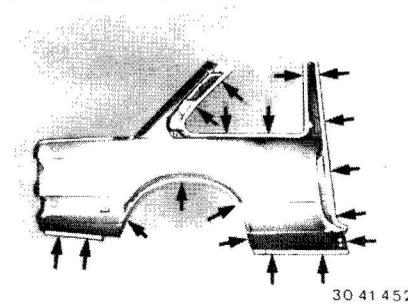
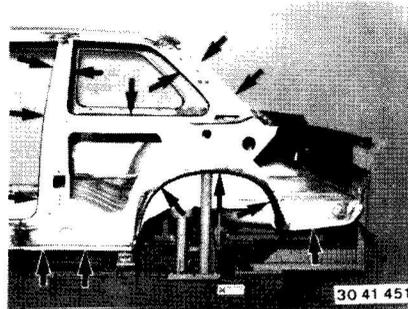
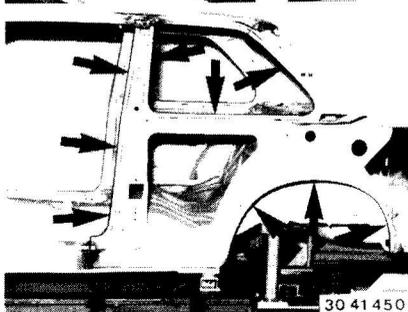
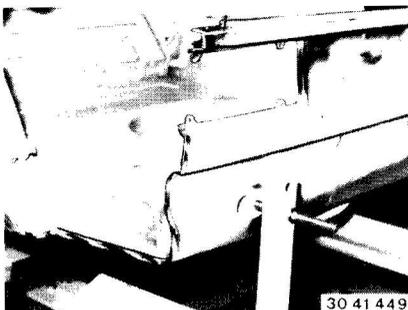
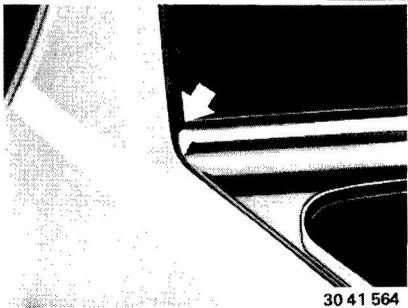
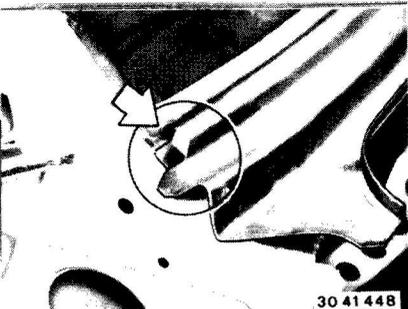
Remove scrap metal.  
Straighten and grind mating surfaces.

Coat mating surfaces needed for spot welding with zinc dust paint.

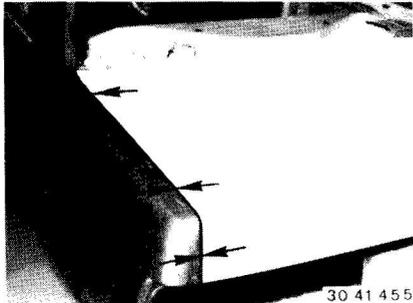
Grind mating surfaces on new side panel.  
Drill holes for plug spot welding at the entrance joint.  
Coat mating surfaces needed for spot welding with zinc dust paint.

Use Terostat tape on wheel house joint and side frame reinforcement.

Install and clamp side panel, tack welding if necessary.  
Check door gap.

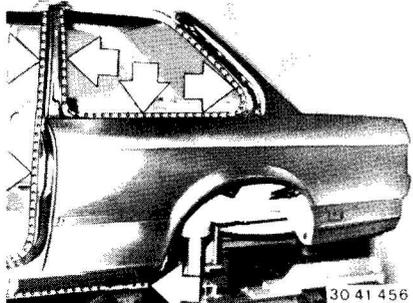


# 41-315



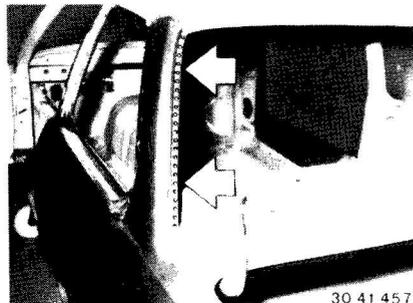
Install trunk lid and check gap.

30 41 455



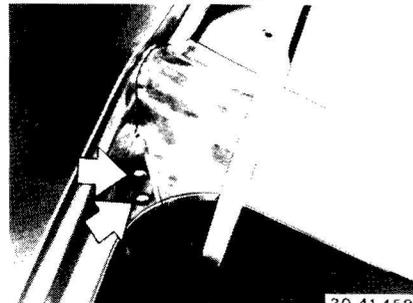
Spot weld side panel.

30 41 456



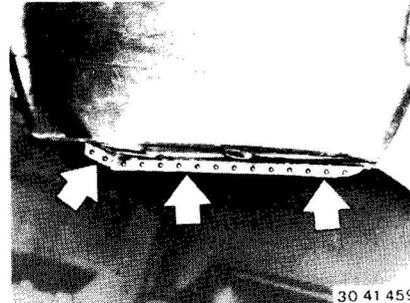
Spot weld side panel.

30 41 457



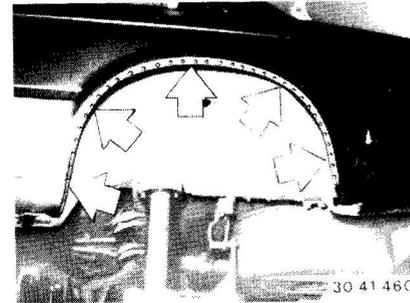
Spot weld side panel in area of trunk.

30 41 458



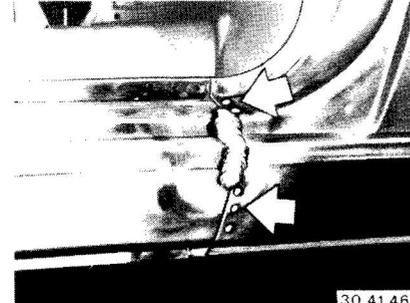
Spot weld side panel.

30 41 459



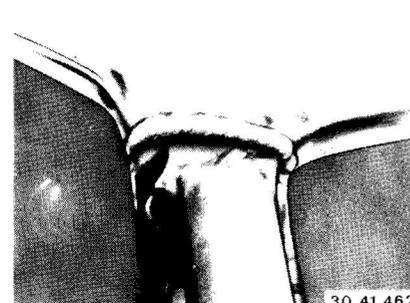
Spot weld side panel in wheel opening.

30 41 460



Plug spot weld side panel on entrance cover strip.  
Braze on outside edge.

30 41 461

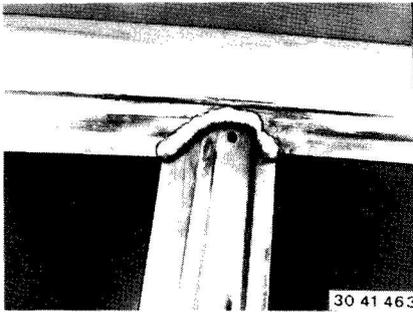


Braze roof joint.

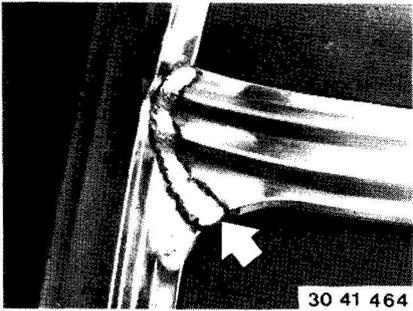
30 41 462

# 41-316

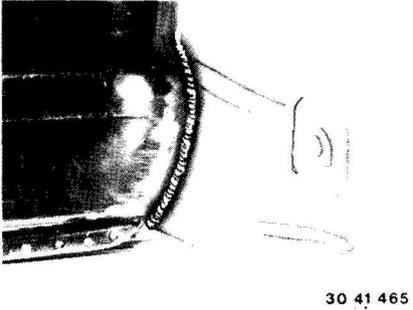
Braze B pillar joint.



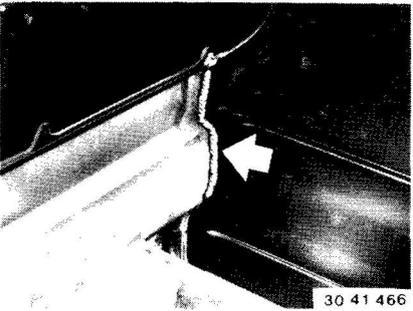
Braze side panel in area of rear window frame and trunk.



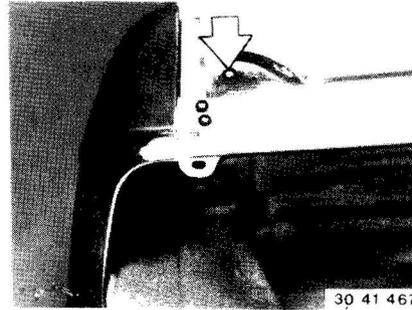
Inert gas weld side panel on tail panel.  
Grind down welding bead.



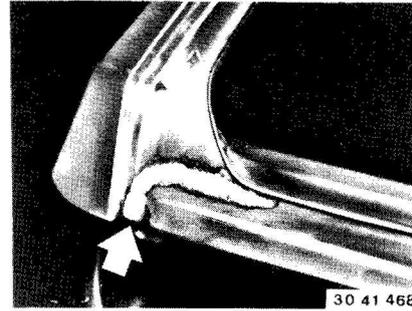
Weld connector between tail panel and side panel from inside with an autogen welder.



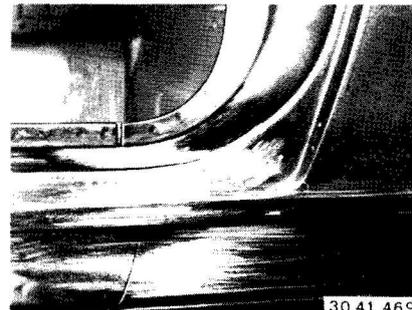
Spot weld tail panel on side panel.



Braze and grind down side panel/tail panel joint.



Grind joint, tinning if necessary.

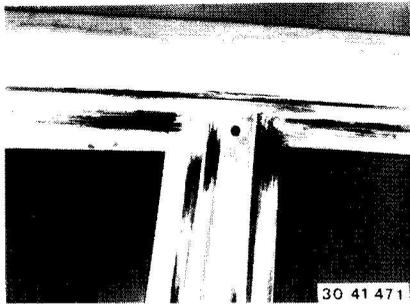


Grind joint, tinning if necessary.

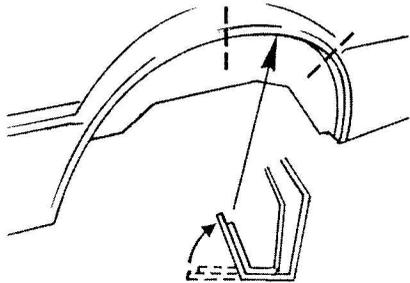


# 41-317

Grind joint, tinning if necessary.



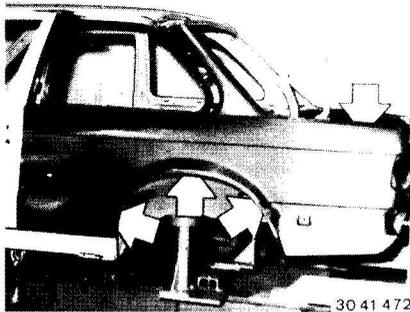
30 41 471



30 41 739

*Important!*

The spot welded flange in the rear area of the wheel opening must be cringed on cars beginning with 1988 models or when using wider tires. Compare with opposite side if necessary.



30 41 472

Seal all joints with a joint sealing compound. Replace damaged anti-drumming coat in wheel house, on bottom of side panel or in trunk.

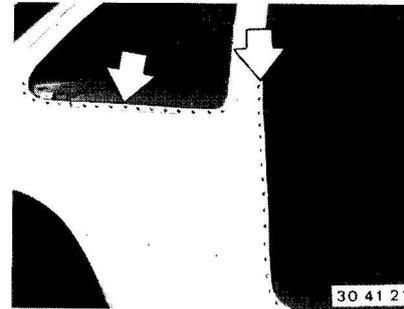
# 41-318

## 41 35 291 REPLACING RIGHT REAR SIDE PANEL (PARTIAL REPLACEMENT UP TO WINDOW LINE) — Two Door Model —

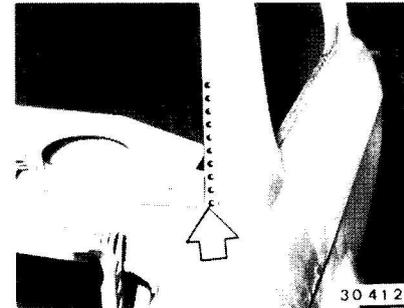
Refer to information on page 41 - 001.

Remove or disconnect following parts.

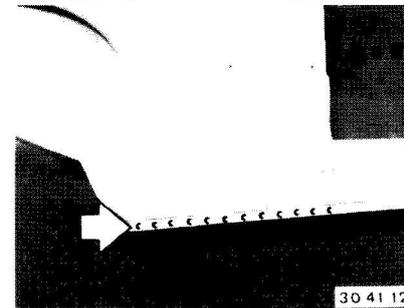
Rear bumper, right tail light assembly, trunk mat, trunk wall trim, right wheel house trim, tail panel trim, trunk lid seal, rear window complete with frame, side window, rear seat cushion and backrest, side trim panel, hatrack, entrance cover strip, carpet as required, roof liner as required, door pillar trim, seat belt, front door weatherstrip, door striker, C pillar air extraction plate, rubbing strip on rear side panel, right wheel house cover, fuel filler neck, expansion tank, complete fuel tank, strut on floor assembly, wire harness in trunk as required.



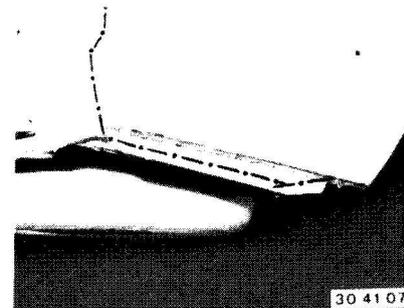
Uncover and drill off welding spots.



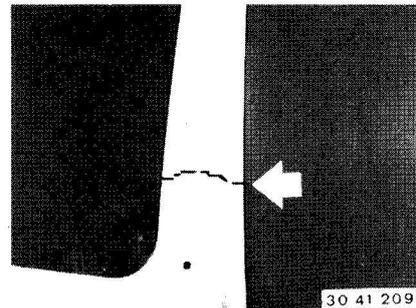
Uncover and drill off welding spots.



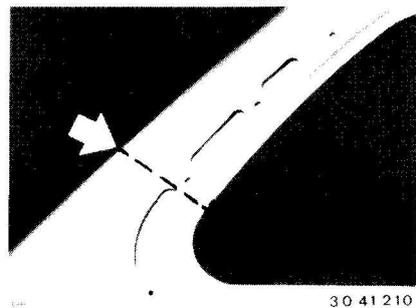
Uncover and drill off welding spots.



Cut off side panel on tail panel and trunk side section.



Determine cutting line for partial replacement.

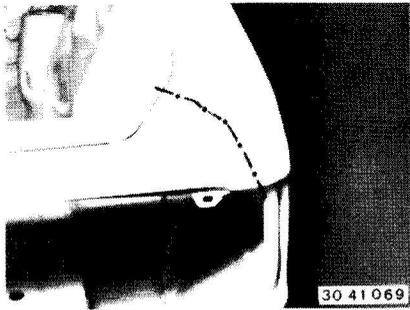


Determine cutting line for partial replacement.

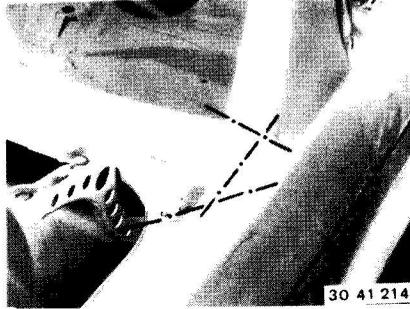
# 41-319

30 41 069

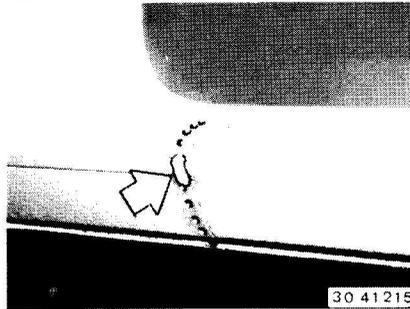
Cut off side panel on tail panel.



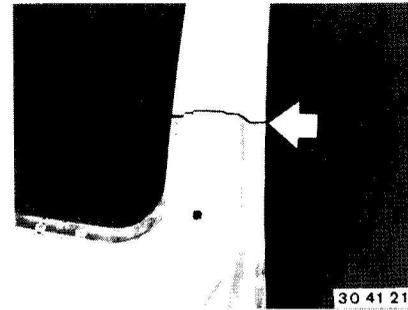
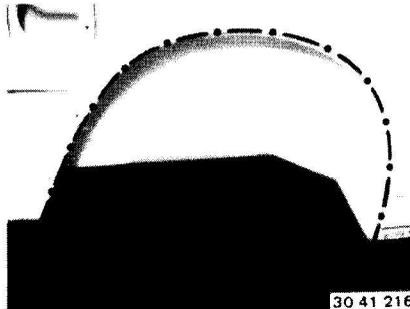
Cut off side panel along line.



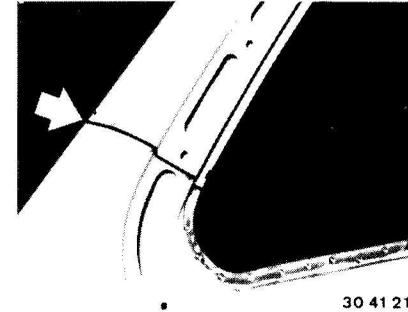
Clear joint and drill off welded spots.  
Remove brazing solder.



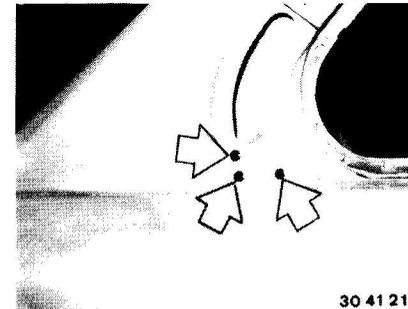
Grind off edge.



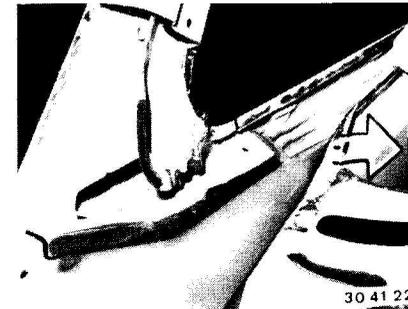
Cut through B pillar to end plate along marked cutting line.



Cut off side panel along line.  
*Caution!*  
Don't cut through guide plate for forced air extraction.

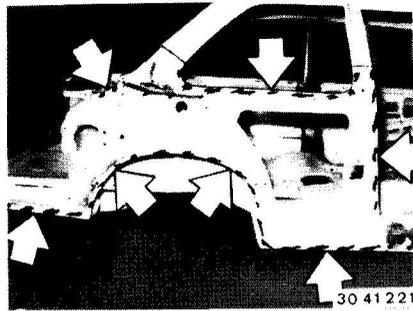


Drill off welded spots.



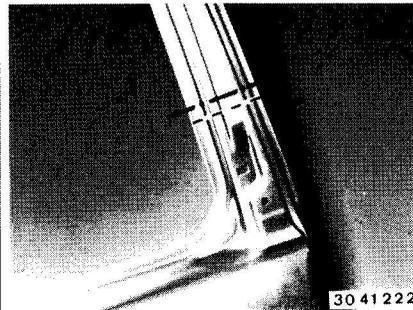
Cut off side panel on guide plate.  
Remove side panel.

# 41-320



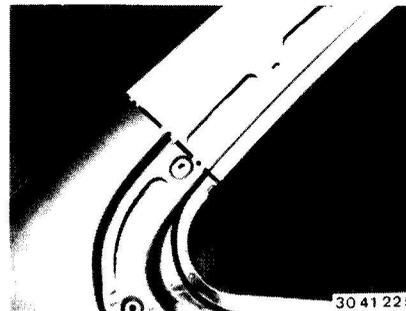
30 41 221

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces needed for spot welding  
with zinc dust paint.



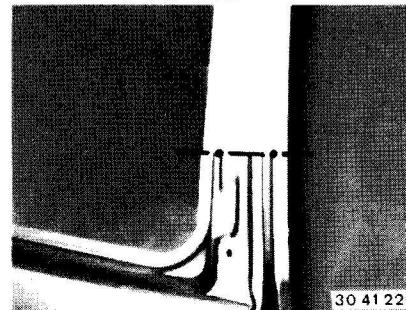
30 41 222

Cut off B pillar on new side panel approx.  
10 mm (0.394") above provided joint.



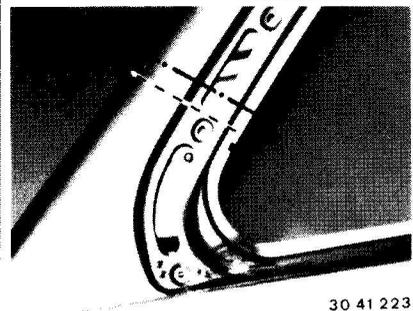
30 41 225

Mount side panel and mark cutting line.



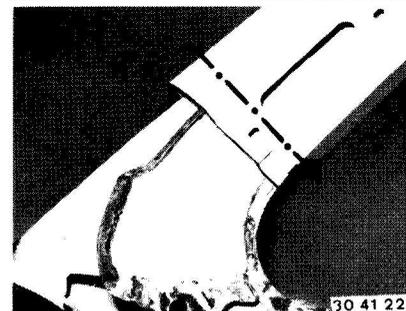
30 41 226

Mark cutting line.



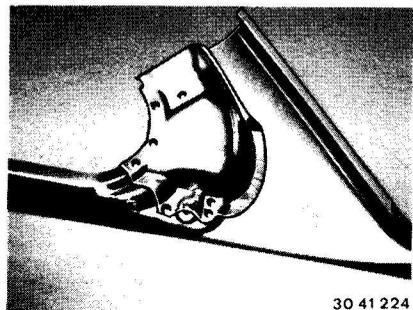
30 41 223

Cut through C pillar on new side panel approx.  
10 mm (0.394") above required joint.



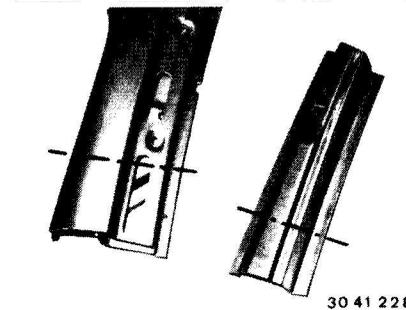
30 41 227

Remove scrap metal on B and C pillars.  
*Caution!*  
Don't damage air guide plate.



30 41 224

Drill off remaining guide plate.  
Clean mating surfaces.

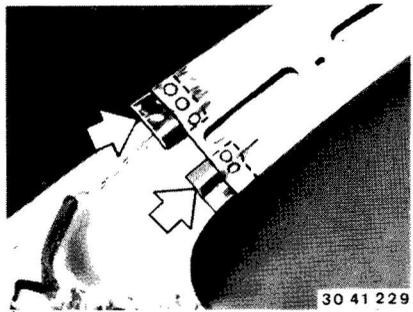


30 41 228

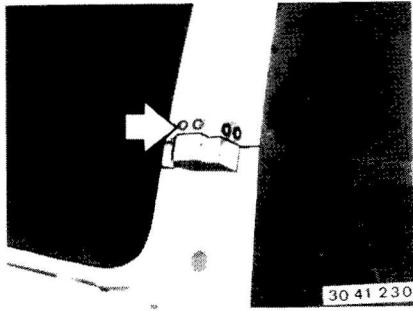
Prepare an approx. 50 mm (2") wide brace  
from pillar sections cut off of the new side  
panel.

# 41-321

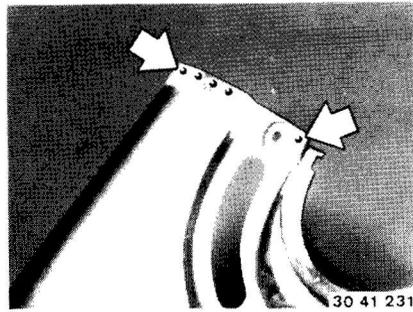
Cut brace to size, sliding half of it into C pillar and spot welding.



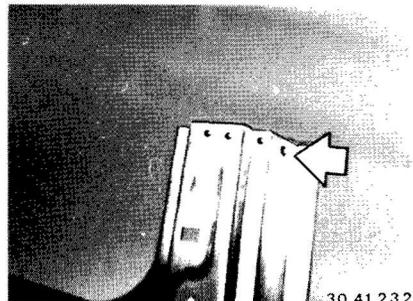
Cut brace to size, sliding half of it into B pillar and spot welding.



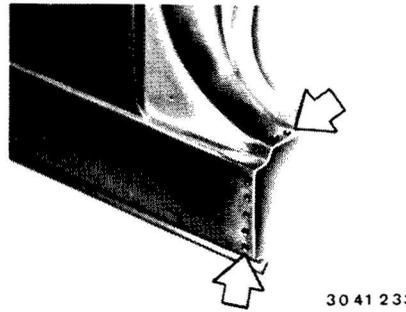
Drill holes for plug spot welding in C pillar joint.



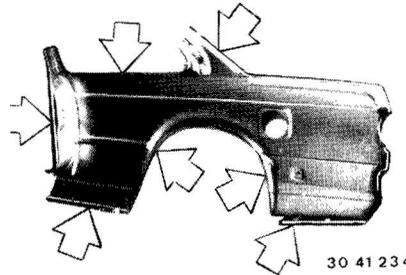
Drill holes for plug spot welding in B pillar joint.



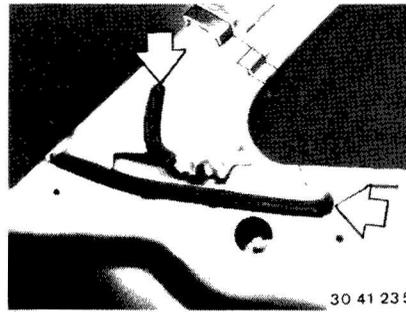
Drill holes for plug spot welding in entrance joint.



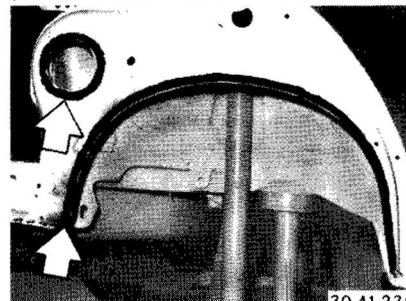
Grind mating surfaces on new side panel. Coat mating surfaces needed for spot welding with zinc dust paint.



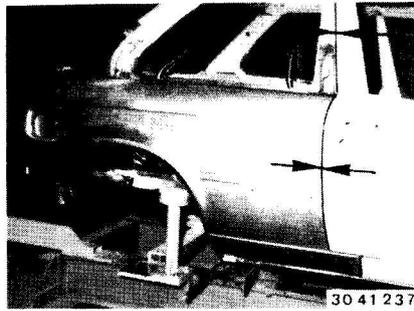
Use body sealing compound on bearing surfaces of air guide plates.



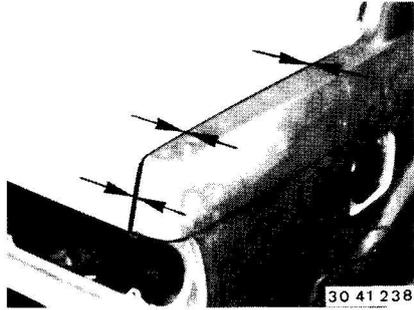
Apply coat of body sealing compound on bearing surface for fuel filler neck and on edge of wheel opening.



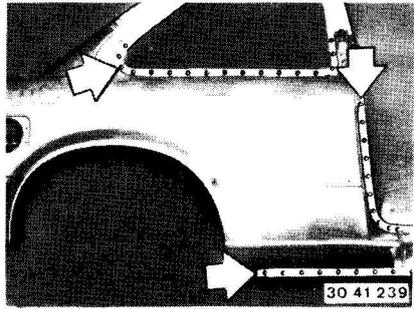
Mount and clamp side panel, tack welding if necessary.  
Check door gap.



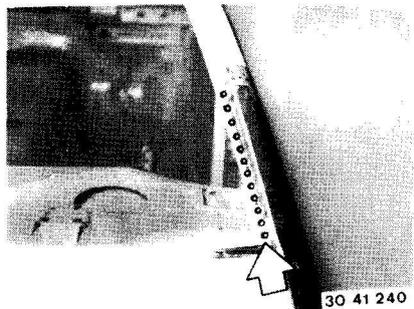
Check trunk lid gap.



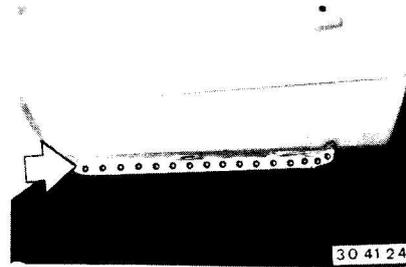
Spot weld side panel.



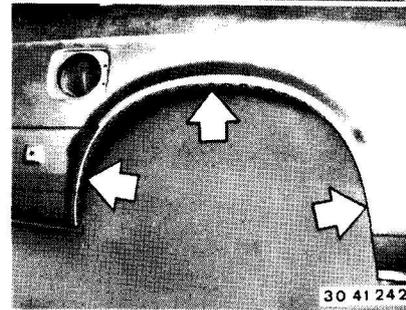
Spot weld side panel on rear window frame.



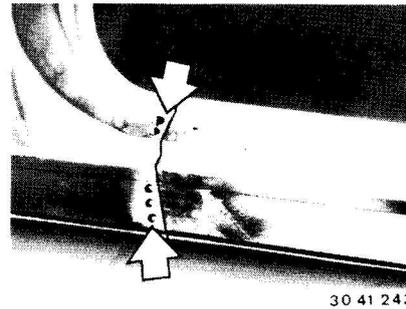
Spot weld side panel on trunk floor plate.



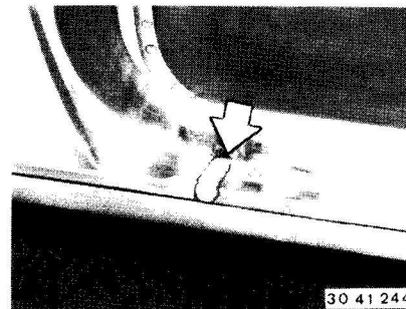
Spot weld side panel in wheel opening.



Inert gas plug weld joint on entrance.

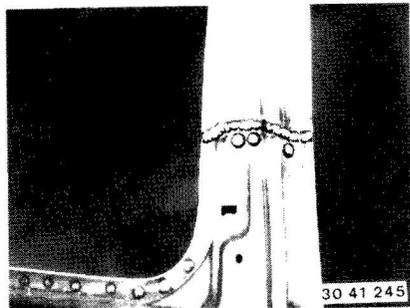


Braze entrance along outside edge.

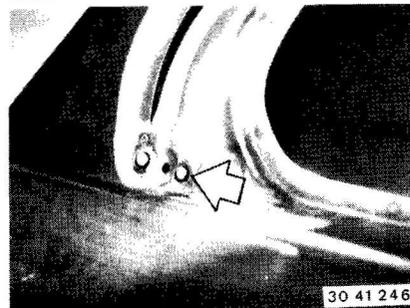


# 41-323

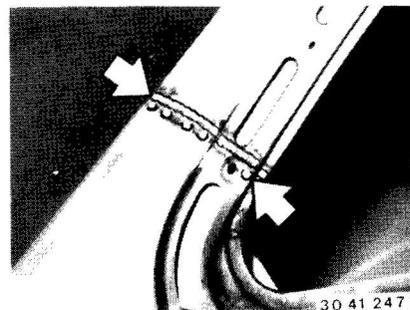
Plug spot weld joint on B pillar.  
Inert gas weld joint.



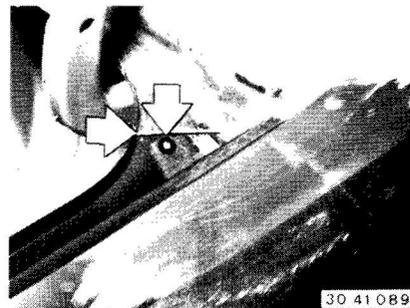
Inert gas plug weld cowl panel.



Plug spot weld joint on C pillar.  
Inert gas weld joint.



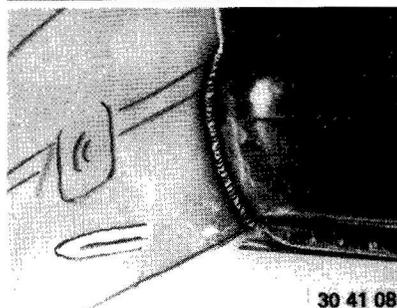
Spot weld side panel on trunk opening edge.



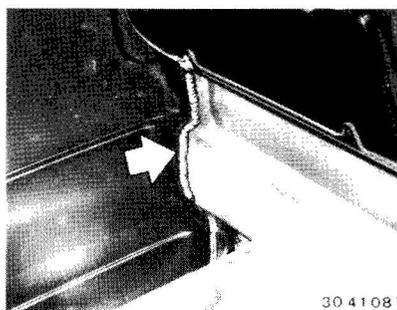
Braze joint.



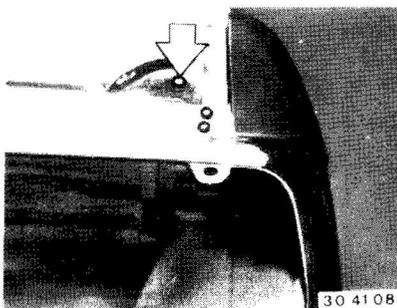
Inert gas weld side panel on tail panel.



Autogen weld connecting panel on tail panel  
and side panel.

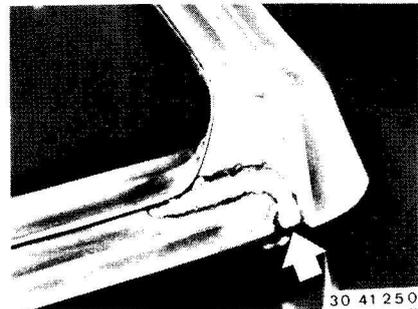


Spot weld tail panel on side panel.

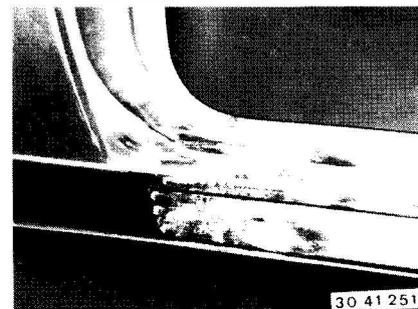


# 41-324

Braze and grind down connecting plate between side panel and tail panel.



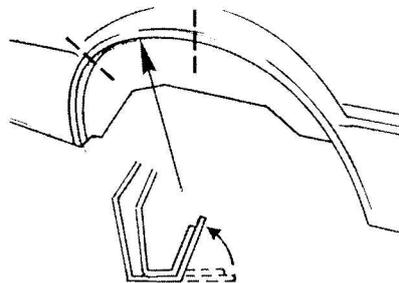
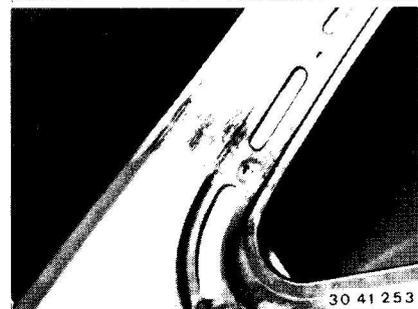
Grind down entrance joint and, if necessary, tin out.



Grind down B pillar joint and, if necessary, tin out.

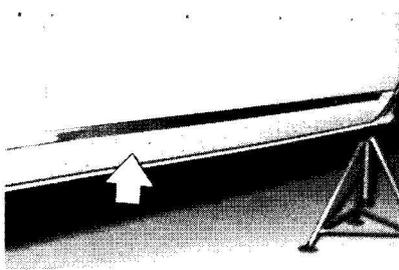


Grind down C pillar joint and, if necessary, tin out.



*Important!*

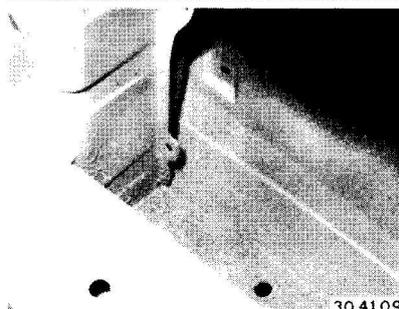
The spot welded flange in the rear area of the wheel opening has to be cringed in cars beginning with 1988 models or when using wider tires. Compare with opposite side if necessary.



Spray an anti-drumming compound\* on side panel and entrance from below.



Spray an anti-drumming compound\* on side panel and tail panel below bumper.

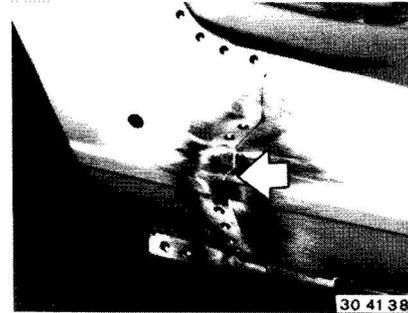


Seal inside of all joints with a body sealing compound\* and spray on an anti-drumming compound\*.

\* Source of Supply: HWB

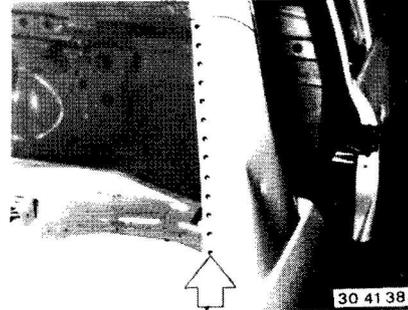
**41 35 291 REPLACING RIGHT REAR SIDE PANEL (PARTIAL REPLACEMENT UP TO WINDOW LINE)  
— Four Door Model —**

Refer to information on page 41 - 001. Remove or disconnect following parts. Complete trunk trim, trunk lid seal, rear bumper, right tail light assembly, upper tail panel plate, spare wheel, rear seat cushion and backrest, hatrack, rear window with frame, entrance cover strip with plate, roof liner as required, carpet as required, rear seat belt, rear door edge guard, door striker, C pillar plate, rear wheel, wheel house cover, expansion tank, fuel tank and thrust strut mountings.



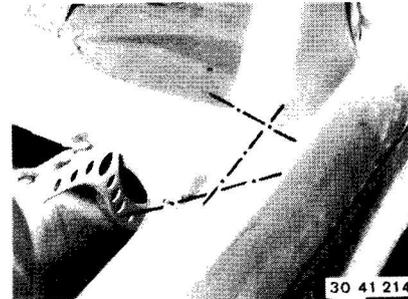
30 41 382

Remove brazing solder.  
Drill off welding spots.



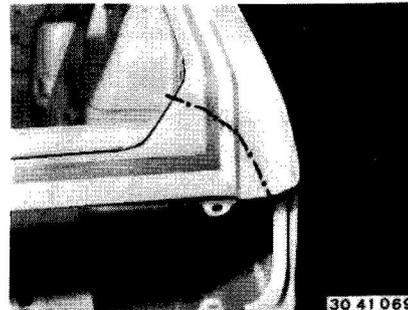
30 41 383

Uncover and drill off welding spots.



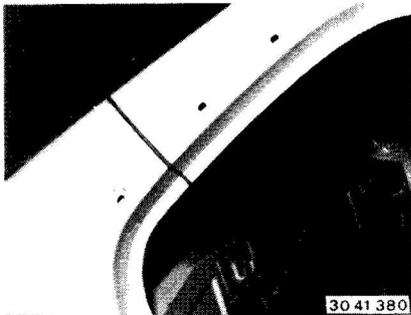
30 41 214

Cut out side panel along line.



30 41 069

Cut off side panel along line from tail panel.



30 41 380

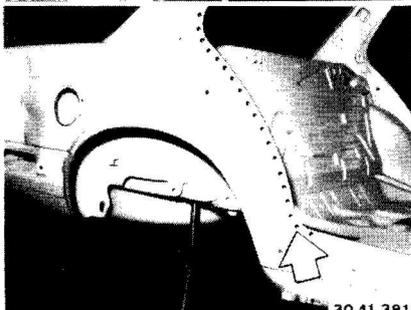
Determine cutting line for partial replacement. Cut through side panel along cutting line up to end plate.

*Caution!*

Don't damage or bend the end plate.

*Note:*

Make cut in such a manner that the paint finish to the roof can be touched up.

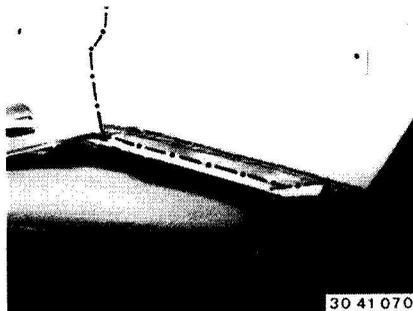


30 41 381

Uncover and drill off welding spots.

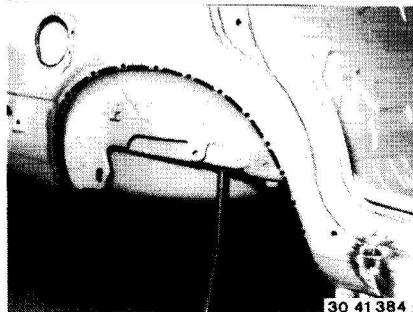
# 41-326

Cut off side panel on tail panel and trunk side section.



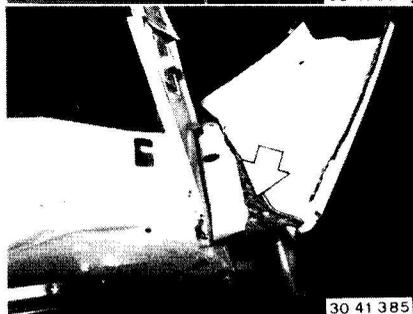
30 41 070

Grind off edge on wheel house.



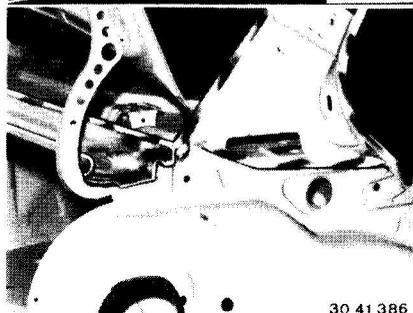
30 41 384

Lift off side panel.  
*Important!*  
Heat or cut open sealing material on C pillar and tank filler neck.

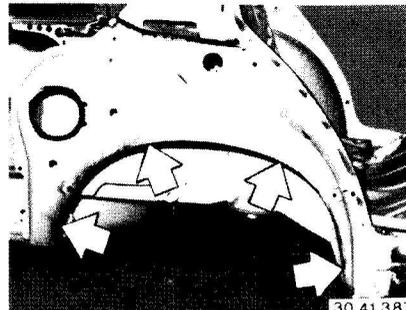


30 41 385

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.

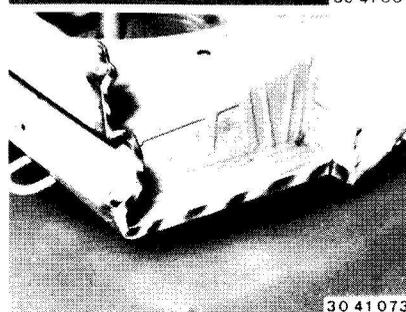


30 41 386



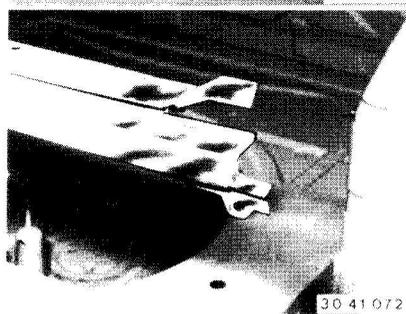
30 41 387

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



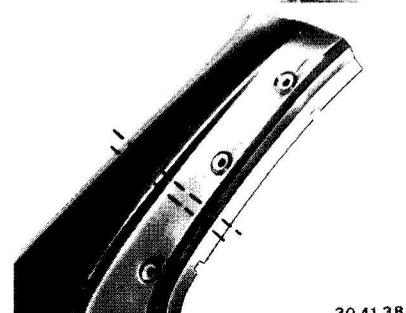
30 41 073

Remove scrap metal.  
Straighten and grind mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



30 41 072

Remove scrap metal.  
Straighten and grind mating surfaces.

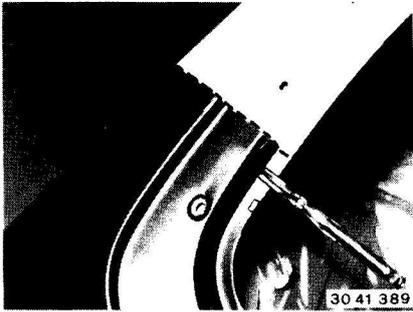


30 41 388

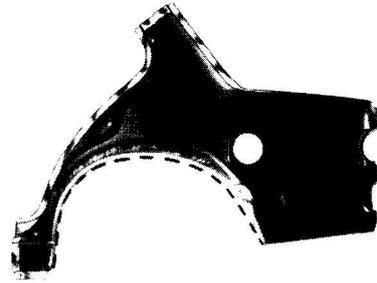
Cut off C pillar from a new side panel about 10 mm (0.394") above the specified joint.

# 41-327

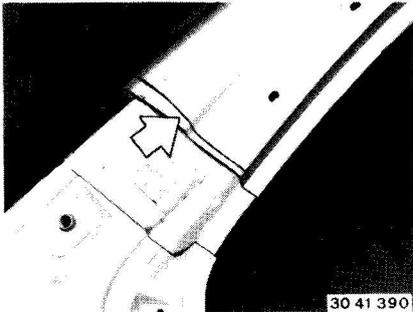
Mount side panel and mark cutting point.



Grind mating surfaces on new side panel.  
Coat mating surfaces required for spot welding with zinc dust paint.



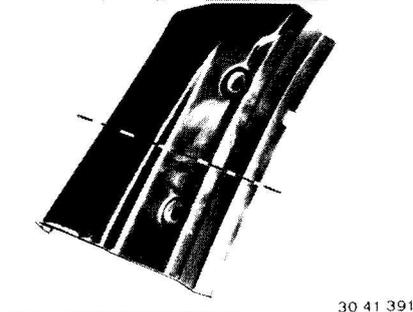
Remove scrap metal on C pillar.  
*Caution!*  
Don't damage end plate on inside.



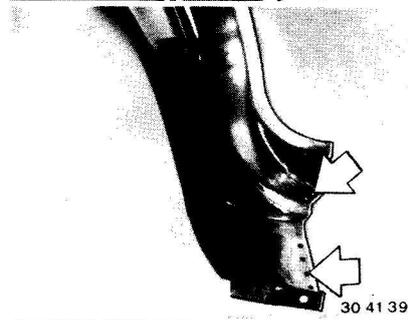
Drill holes for plug spot welding in C pillar joint.



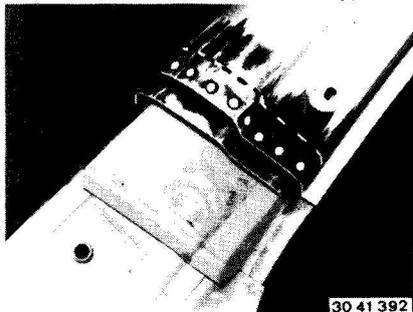
Prepare an approx. 50 mm (2") wide brace  
from a section of the new side panel.



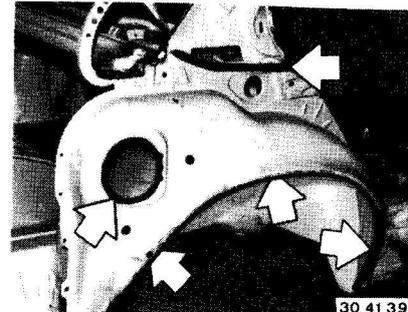
Drill holes for plug spot welding in entrance joint.

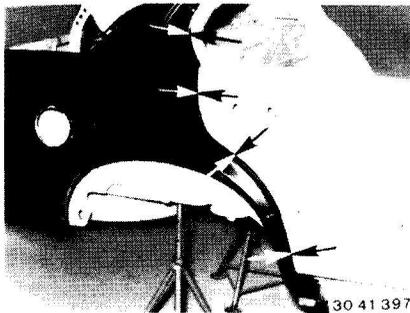


Slide half of brace into C pillar and spot weld.



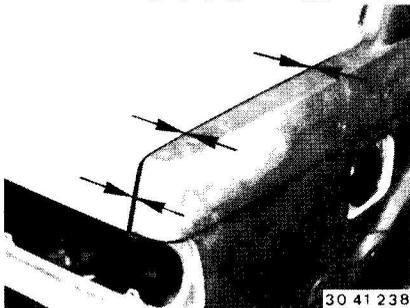
Apply a coat of body sealing compound on the bearing surfaces of the wind guide plate, tank filler neck and wheel opening.





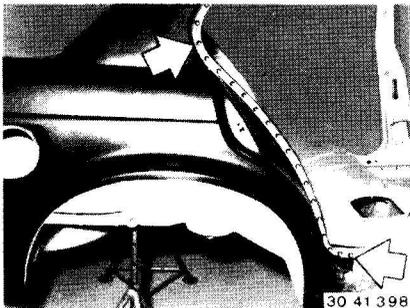
Mount and clamp side panel, tack welding if necessary.  
Check door gaps.

30 41 397



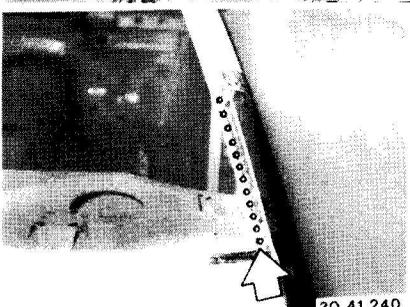
Check trunk lid gap.

30 41 238



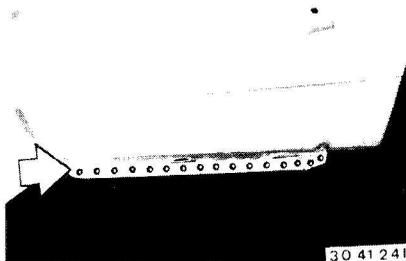
Spot weld side panel in door opening.

30 41 398



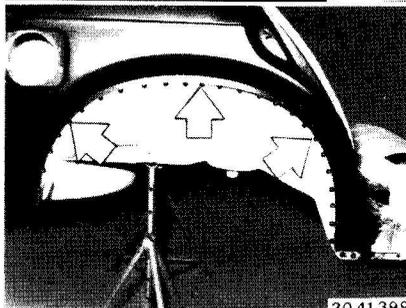
Spot weld side panel on rear window frame.

30 41 240



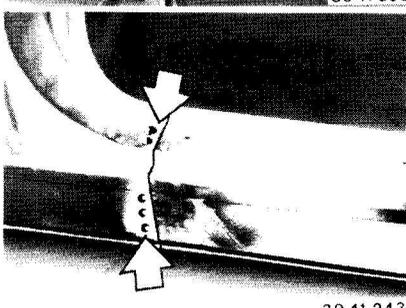
Spot weld side panel on trunk floor plate.

30 41 241



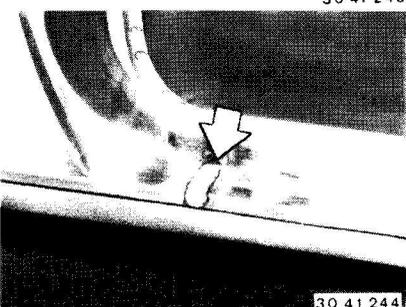
Spot weld side panel in wheel opening.

30 41 399



Inert gas plug weld joint on entrance.

30 41 243

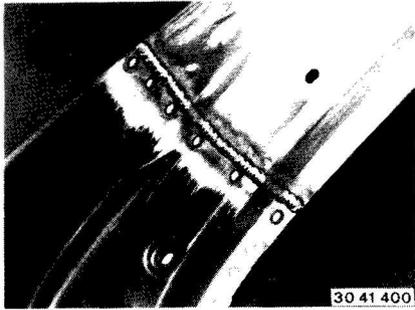


Braze entrance on outside edge.

30 41 244

# 41-329

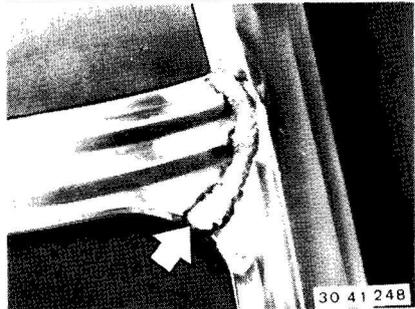
Plug spot weld connection on C pillar.  
Inert gas weld joint.



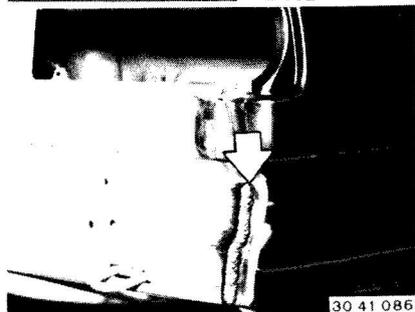
Spot weld side panel in trunk lid opening.



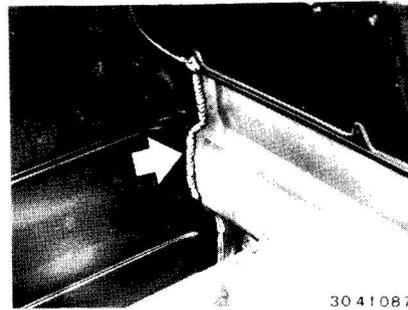
Braze joint.



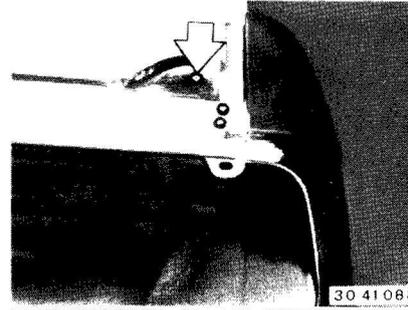
Weld side panel on tail panel (with an inert gas welder).  
Grind down welding seam.



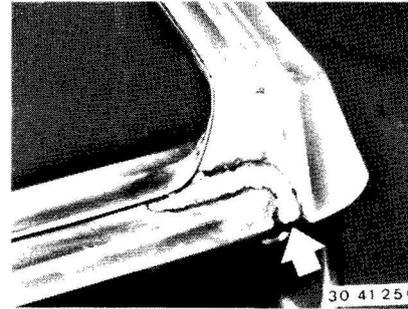
Weld web on tail panel and side panel from inside (with autogen welder).



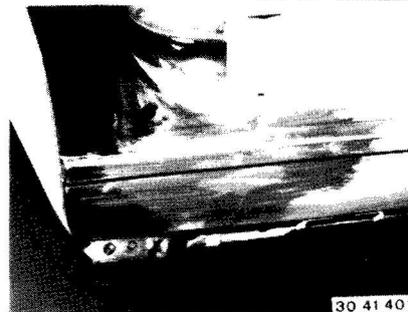
Spot weld tail panel on side panel.



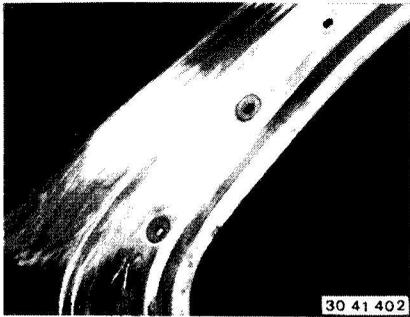
Braze and grind down joint between side panel and tail panel.



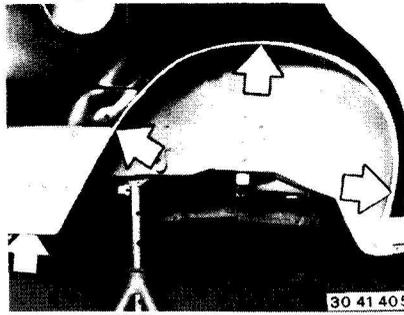
Grind down joint on entrance, tinning if necessary.



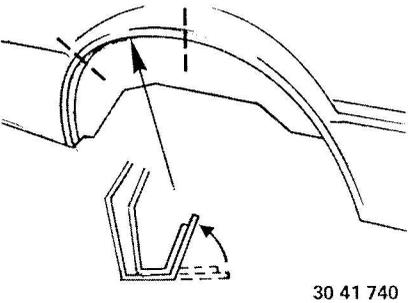
# 41-330



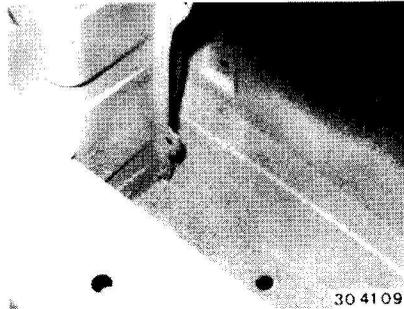
Grind down C pillar joint, tinning if necessary.



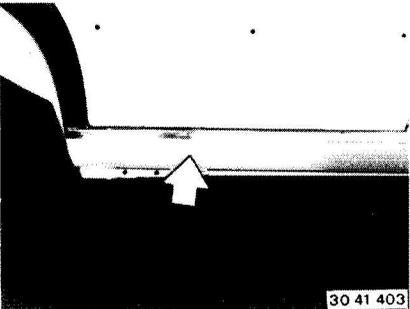
Repair spot welded flange and damaged anti-drumming coat in wheel house and on trunk floor plate.



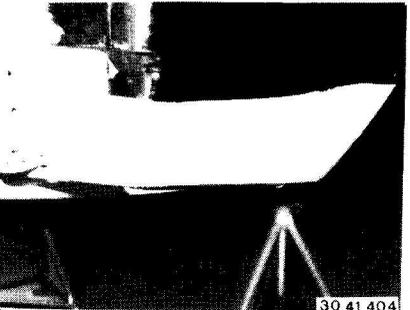
*Important!*  
The spot welded flange in rear area of the wheel opening must be cringed on cars beginning with 1988 models or when using wider tires.  
Compare with opposite side if necessary.



Seal inside of all joints with a body sealing compound\* and spray on a coat of anti-drumming material.



Spray coat of anti-drumming material\* on bottom of side panel and entrance.



Spray coat of anti-drumming material\* on side panel and tail panel below the bumper.

\* Source of Supply: HWB

\* Source of Supply: HWB

# 41-331

## 41 35 338 REPLACING RIGHT REAR SIDE PANEL (PARTIAL REPLACEMENT UP TO WHEEL HOUSE)

Refer to information on page 41 - 001. Remove bumper assembly, tail lights, trunk mat, rear trim panel, right wheel house trim panel, tail panel trim panel, tail panel plate, trunk lid seal, fuel tank assembly, right wheel house cover, fuel filler neck and right expansion tank.

Draw cutting line for partial replacement.

Cut off side panel along the line.

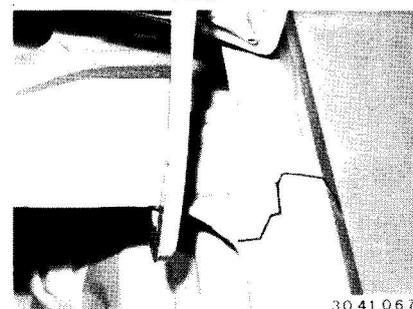
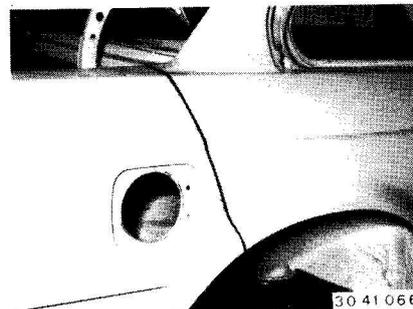
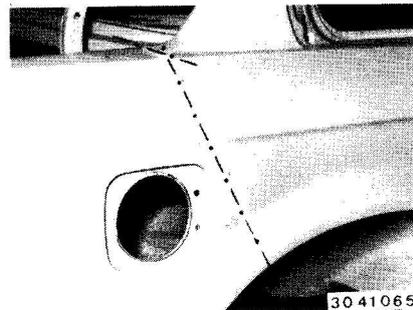
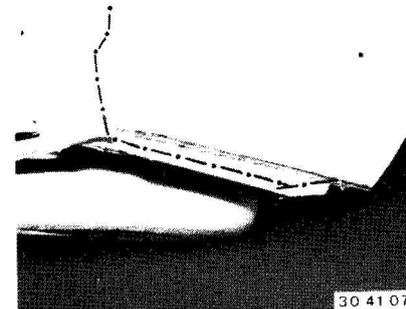
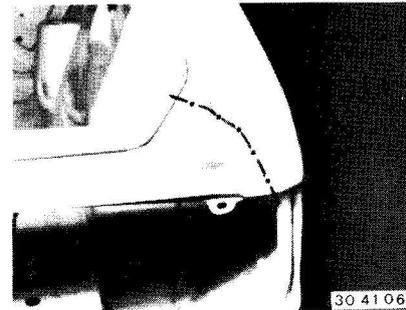
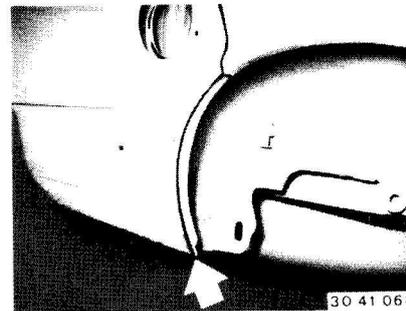
Cut off side panel along the line.

Cut off side panel around the wheel opening.

Cut off side panel on the tail panel.

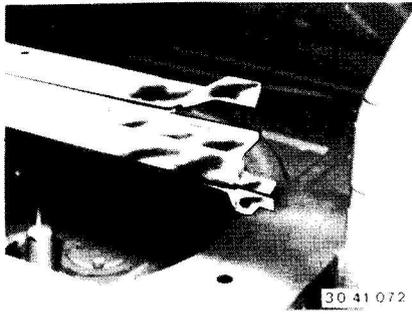
Cut off side panel on tail panel and trunk side section. Take off side panel section.

Remove scrap metal.

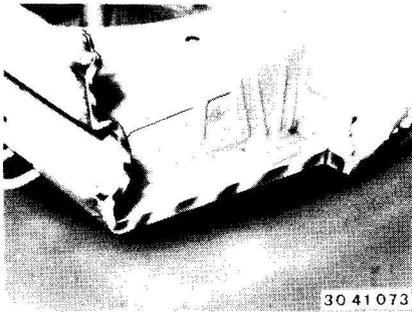


# 41-332

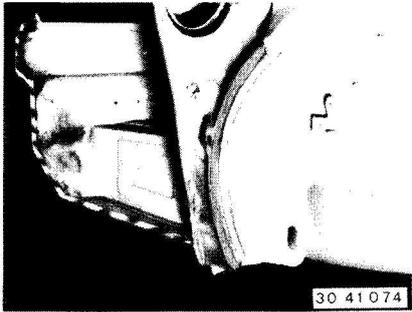
Remove scrap metal.



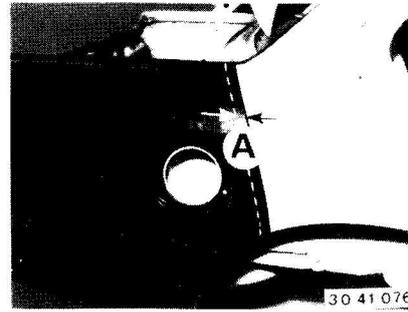
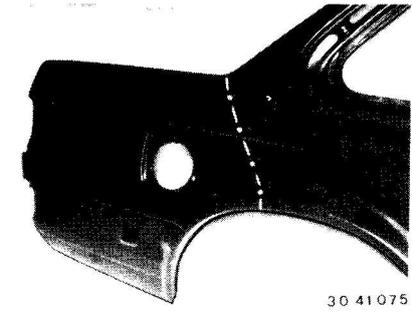
Remove scrap metal.



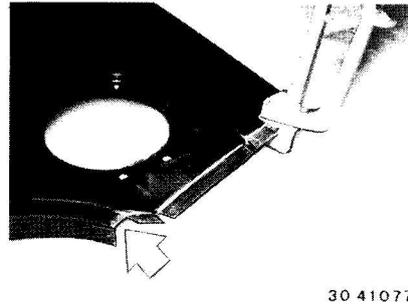
Remove scrap metal.



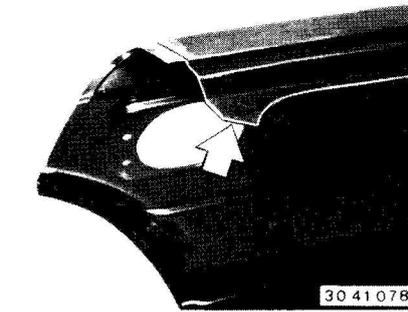
Cut off new side panel to overlap on mating surfaces.



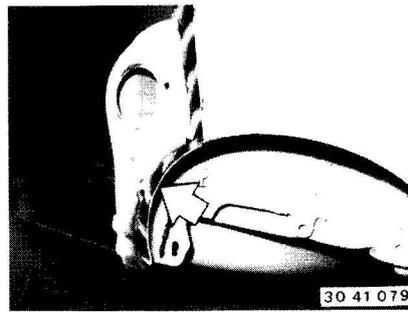
Cut mating surface to size that mating surface overlaps by distance A = 10 mm (0.394").



Make cuts in edges of partial replacement section and shoulder with a shouldering pliers. Disengage wheel house on connection.

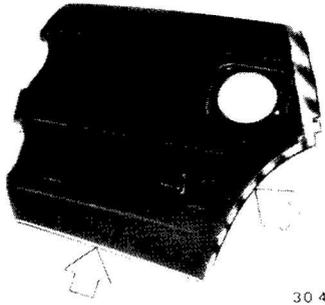


Notch in area of trunk for butt welding.

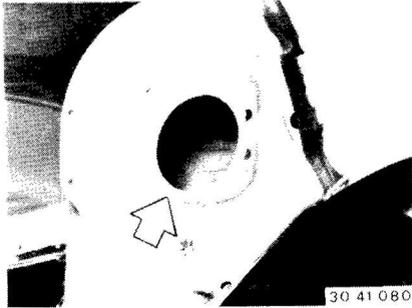


Grind mating surfaces. Apply coat of spot welding paint on wheel house opening.

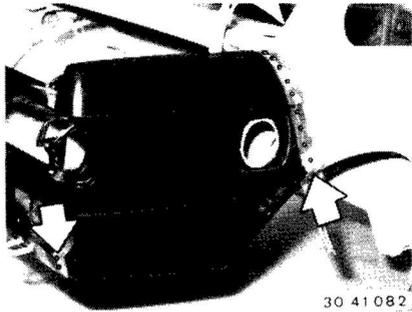
Grind mating surfaces on partial replacement section.  
Apply coat of spot welding paint on wheel house opening and end plate/trunk floor plate.



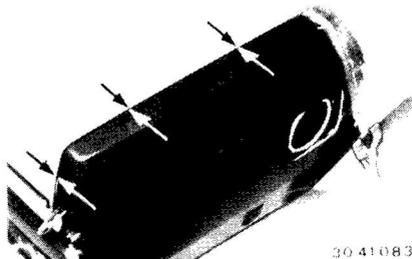
Apply body sealing compound\* in area of fuel tank filler neck.



Clamp on and tack weld partial replacement section.

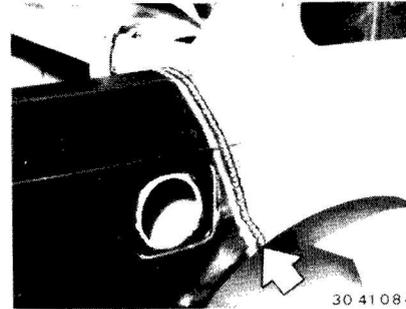


Check gap between trunk lid and side panel.

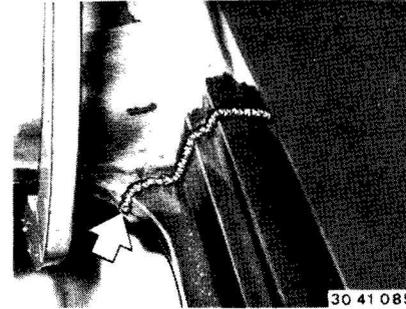


\* Source: HWB

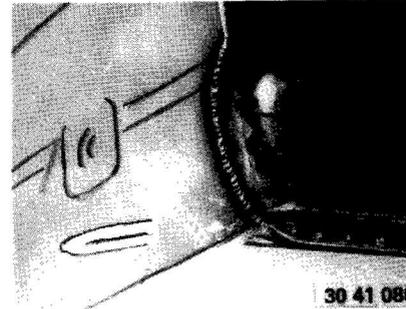
Inert gas weld mating surface joint.



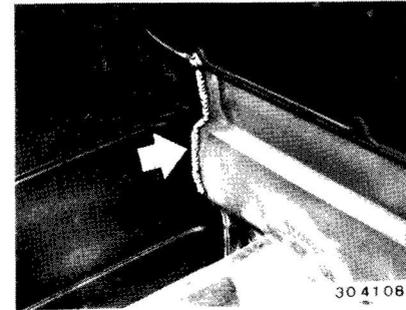
Inert gas weld mating surface joint.



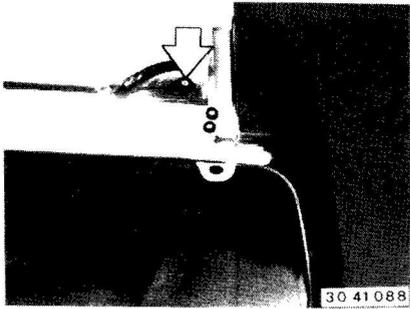
Inert gas weld side panel on tail panel.



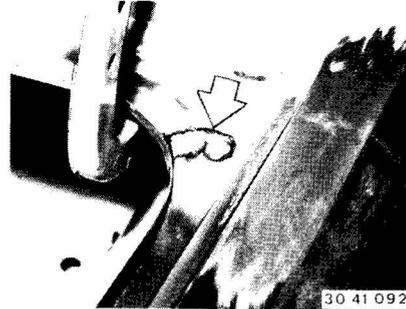
Autogen weld web of tail panel and side panel.



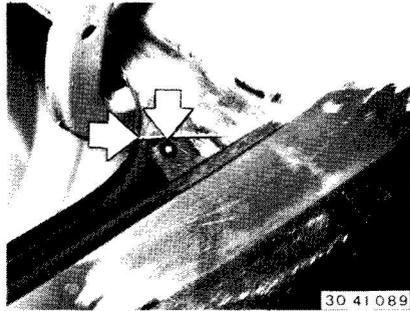
Reinforcement.  
Spot weld tail panel on side panel.



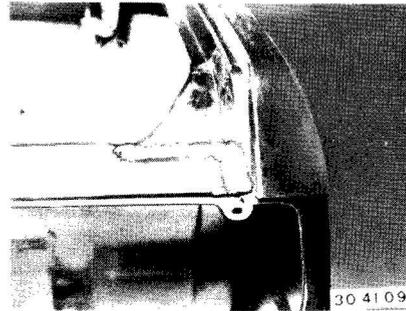
Braze mating surface joint.



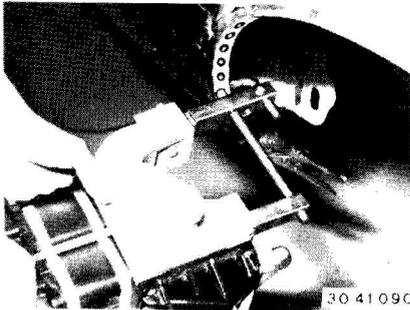
Spot weld side panel in trunk lid opening.



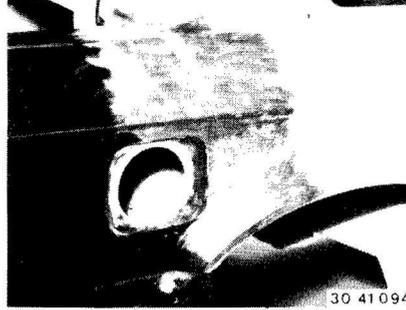
Braze side panel/tail panel reinforcement plate.



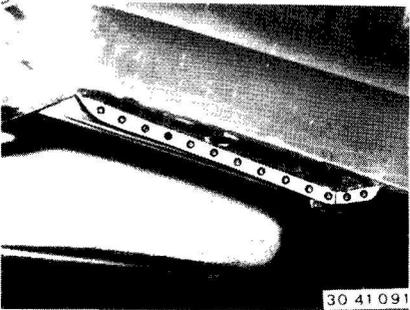
Spot weld side panel in wheel house opening.



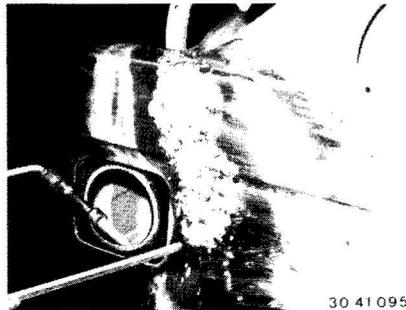
Grind down all welding seams.



Spot weld side panel on joint of trunk floor and wheel house.

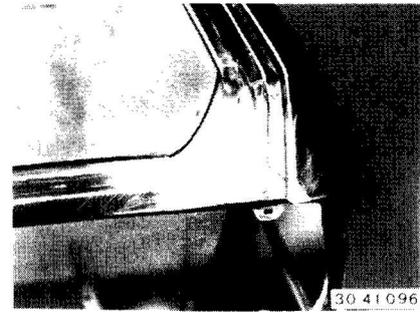


Tin mating surface joints of side panel partial replacement sections.



# 41-335

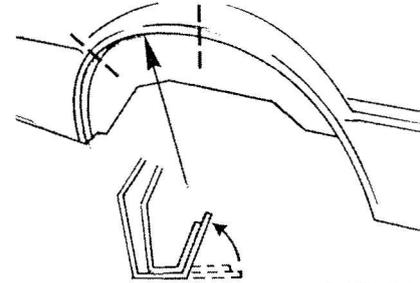
If applicable, tin upper tail panel connecting joint.



30 41 096

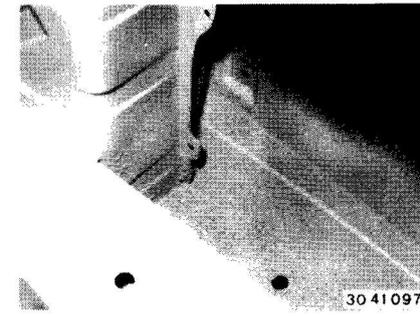
## *Important!*

The spot welding flange in the rear area of the wheel housing opening must be cringed on cars beginning with 1988 models or when using wider tires. Compare with opposite side if necessary.



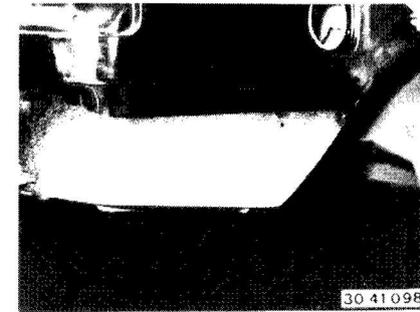
30 41 740

Seal all joints with body sealing compound\*.  
Spray with anti-drumming compound\*.



30 41 097

Spray an anti-drumming compound\* on side panel/tail panel joint underneath the bumper.



30 41 098

\* Source of Supply: HWB

# 41-500

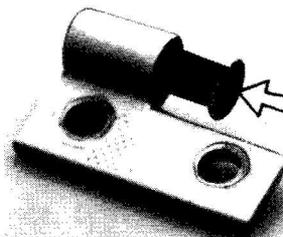
## 41 51 . . . REPLACING BEARING SLEEVES FOR DOOR HINGES

Remove front or rear doors — see 41 51 080 or 41 52 080.

*Note:*

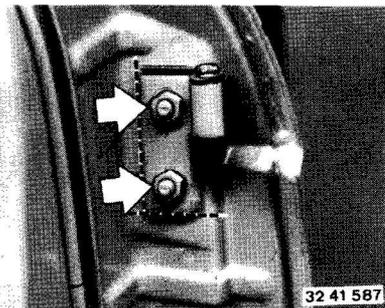
The bearing sleeve fitted with a hinge is on the door in reference to the top hinge or on the body in case of the bottom one. The hinge must be unscrewed on the door to replace the upper bearing sleeve.

Insert new bearing sleeve.



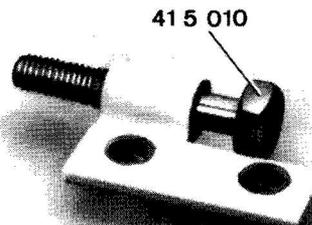
32 41 590

Mark position of door hinge.  
Touch up damaged paint finish.



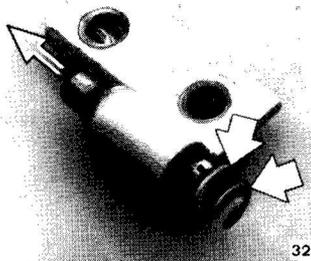
32 41 587

Push in bolt on Special Tool 41 5 010.



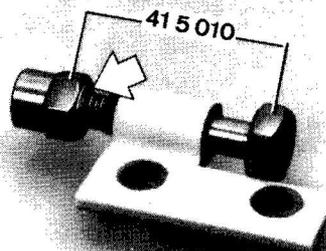
32 41 591

Lift off retainer and washer.  
Pull out bolt.



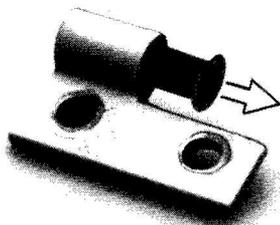
32 41 588

Screw nut on Special Tool 41 5 010 with conical side as shown.  
Cringe the sleeve.  
Unscrew nut.



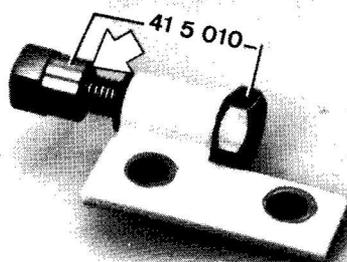
32 41 592

Remove old bearing sleeve.



32 41 589

Screw nut on Special Tool 41 5 010 with flat side as shown.  
Press the cringe flat.  
*Installation:*  
Lubricate bearing surface with grease\*.



32 41 593

\* Source of Supply: HWB

# 41-501

## 41 51 004 ADJUSTING LEFT OR RIGHT FRONT DOOR

### Adjusting Front Door on Hinges:

*Note:*

Engine hood, trunk lid and doors are fitted and bolted in an unfinished body shell. Subsequent adjustments could uncover unpainted surfaces.

These surfaces must be touched up with paint of matching color.

Unscrew bolts at top and bottom.

Use washers (1) to adjust door outside panel surface to same plane as that of the front side panel.

*Note:*

Basic adjustments should be made with 1 mm (0.039") thick washers (1).

Use washers (2) for final adjustments (optionally 0.5 mm/0.020" and 1.0 mm/0.039" thick).

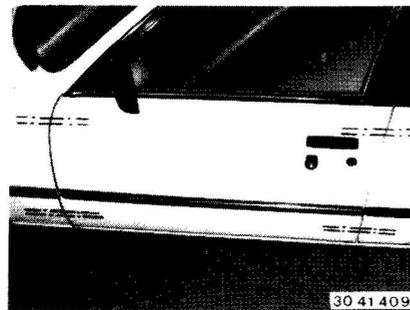
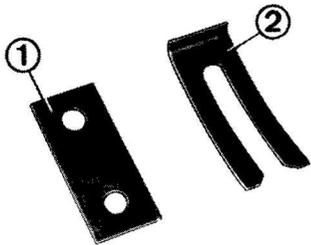
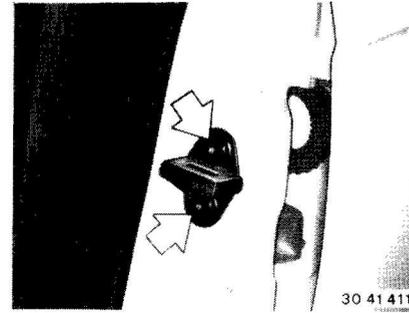
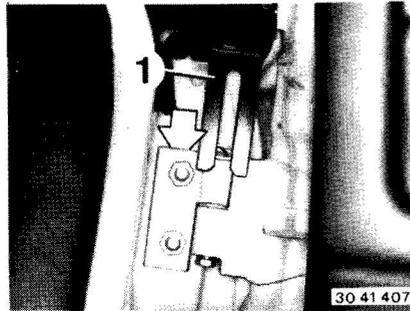
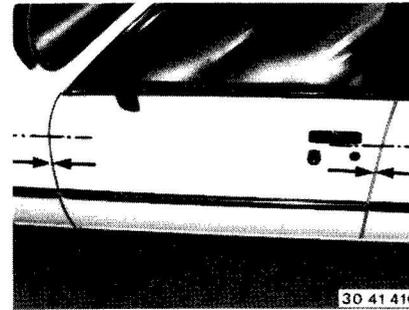
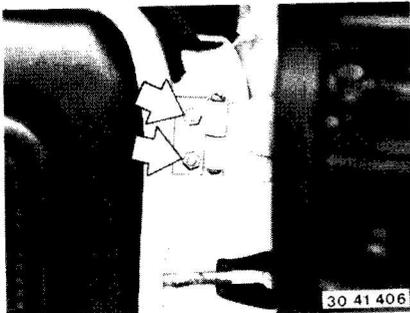
*Note:*

To prevent wind noise and stone damage or to eliminate optical irregularities (tolerances in the curvature), the door outside panel surface may be "adjusted deeper" than the side panel at front by max. 1 mm (0.039").

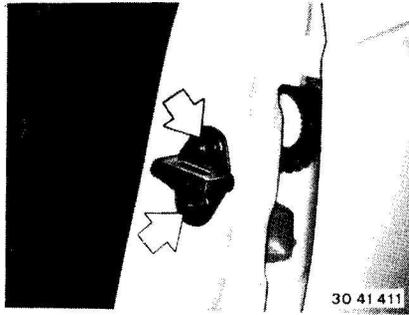
Adjust door forward and back in such a manner to have uniform gaps at front and rear. Adjust height of door according to embossed edge.

*Note:*

Loosen striker on door lock, if necessary.

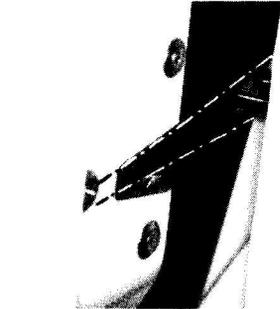


Adjusting Door Lock:  
Loosen Torx bolts.



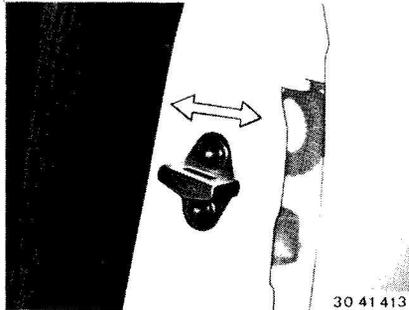
30 41 411

Align striker vertically until guide engages in door without tension.



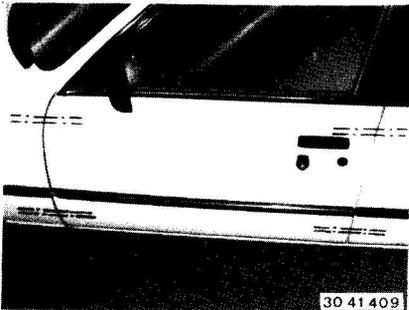
30 41 412

Align striker horizontally until outside surface of closed door (2nd catch) is in same plane with rear side panel or rear door.



30 41 413

*Note:*  
To avoid wind noise and stone damage or to eliminate optical irregularities, the door's outside surface may be "adjusted deeper" than the neighboring rear side panel or rear door by max. 1 mm (0.039").

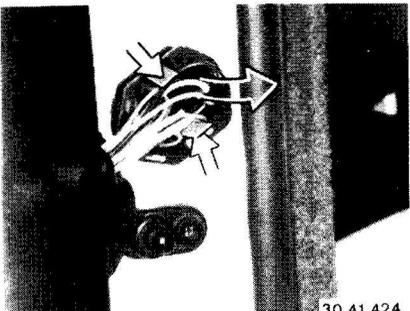


30 41 409

# 41-503

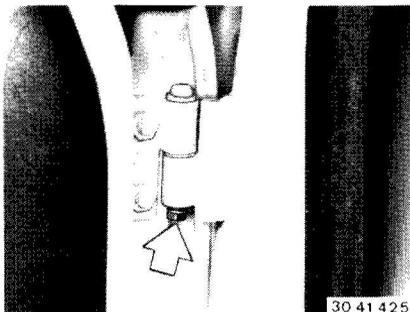
## 41 51 080 REMOVING AND INSTALLING LEFT OR RIGHT FRONT DOOR - Unhingable Door Version -

Disconnect plug for A pillar.



30 41 424

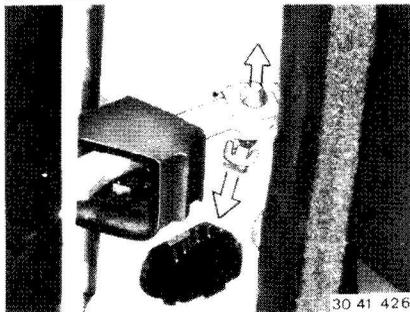
Unscrew bolts at top and bottom.



30 41 425

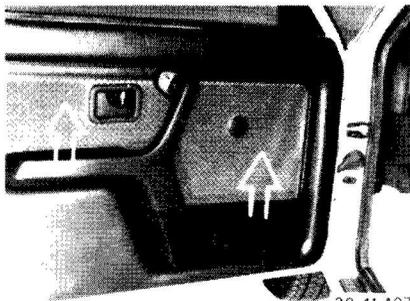
Lift off rubber cap.  
Pull off retainer.  
Press out pin.

**Caution!**  
Be careful not to damage the side panel or  
outside of the door when opening the door.

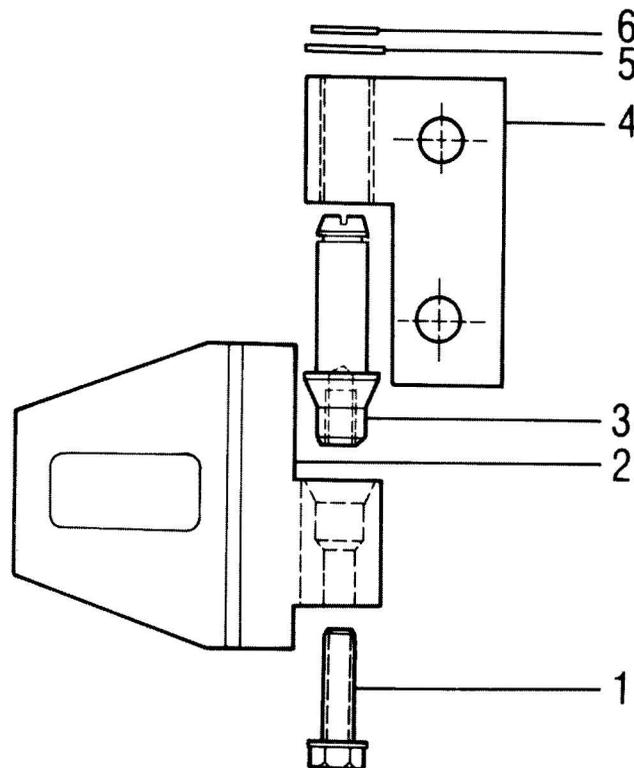


30 41 426

Unhinge front door from above.



30 41 427



30 41 432

- 1 Bolt
- 2 Body end hinge\*
- 3 Hinge pin
- 4 Door end hinge with bearing sleeve\*
- 5 Washer
- 6 Lock washer

\* Sketch shows the top hinge.  
The bearing surface is inversed on the  
bottom hinge.

## 41 51 101 REPLACING LEFT OR RIGHT FRONT DOOR

The following jobs must be performed in the given sequence.

Installation is in reverse sequence.

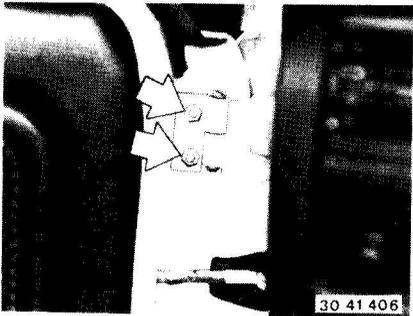
Seal cavities of a new door.

Remove front door trim panel — see .....	51 41 001
Remove door window — see .....	51 32 170
Remove window regulator — see .....	51 32 020
Remove power window, if applicable — see .....	51 33 000
Remove mirror — see .....	51 16 000
Remove complete ornamental frame on window frame — see .....	51 32 410
Remove door lock — see .....	51 21 090
Remove door lock cylinder — see .....	51 21 140
Remove outside handle and locking mechanism — see .....	51 21 300
Remove rubbing strip on front door — see .....	51 15 330
Remove door retarder — see .....	51 21 280

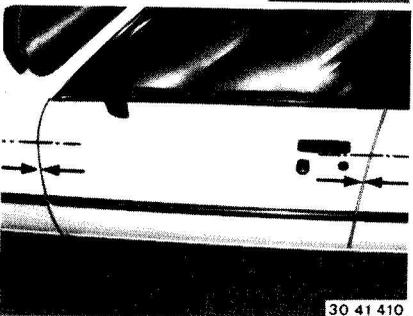
Pull wire harness out of door.

Transfer door weatherstrip from old to new door.

Transfer or replace all clamps and clips.



Unscrew hinges at top and bottom.  
Lift off door.



*Installation:*  
Adjust front door, see 41 51 004.

## 41 52 004 ADJUSTING LEFT OR RIGHT REAR DOOR

### Adjusting Rear Door on Hinges:

Remove door trim panel — see 51 42 001.

Pull off plastic sheet on door as required.

### Installation:

Replace damaged plastic sheet.

Loosen top bolts.

### Note:

Engine hood, trunk lid and doors are fitted and bolted in an unfinished body shell. Subsequent adjustments could uncover unpainted surfaces. These unpainted surfaces must be touched up with paint of same color.

Loosen bottom bolts.

Adjust door panel outside surface to be in same plane with that of front door.

### Note:

Make basic adjustments with 1 mm (0.039") thick washers (1). Final adjustments are made with washers (2) available optionally 0.5 mm (0.020") and 1.0 mm (0.039") thick,

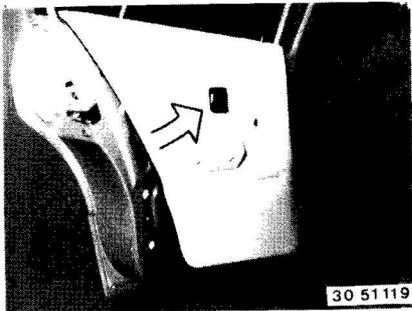
### Note:

To prevent wind noise and stone damage or to eliminate optical irregularities (tolerances in the curvature), the outside surface may be "adjusted deeper" than the front door by max. 1 mm (0.039").

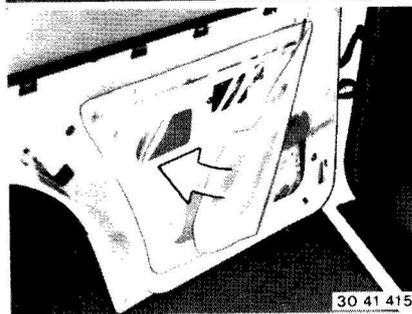
Adjust door forward and back in such a manner, to have an uniform gap at front and rear. Adjust height of door according to embossed edge.

### Note:

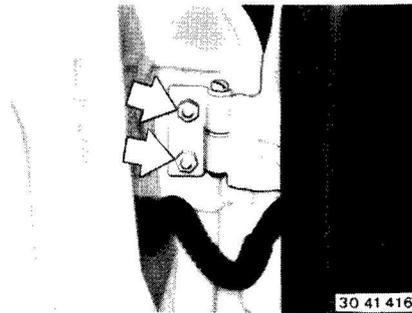
Loosen striker of door lock, if necessary.



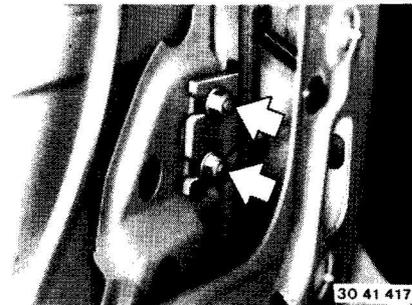
30 51 119



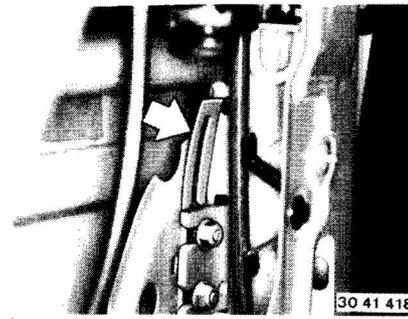
30 41 415



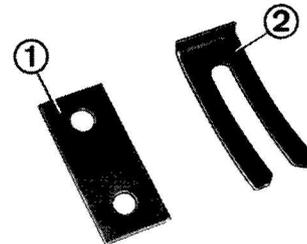
30 41 416



30 41 417



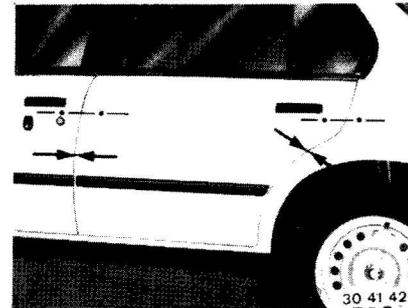
30 41 418



30 41 408

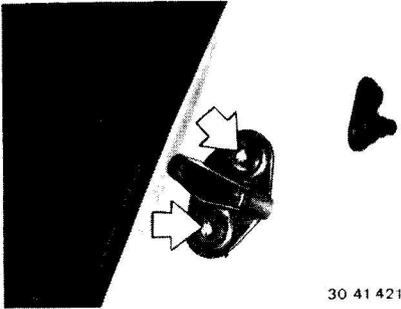


30 41 419



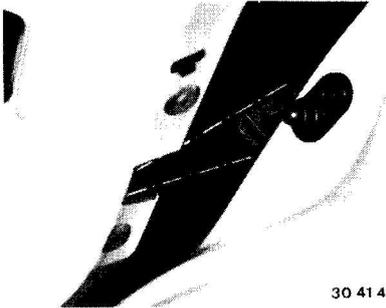
30 41 420

**Adjusting Door Lock:**  
Loosen Torx bolts.



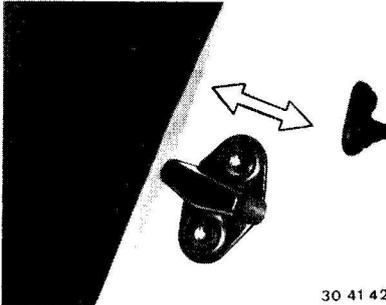
30 41 421

Align striker vertically until guide engages in door without tension.



30 41 422

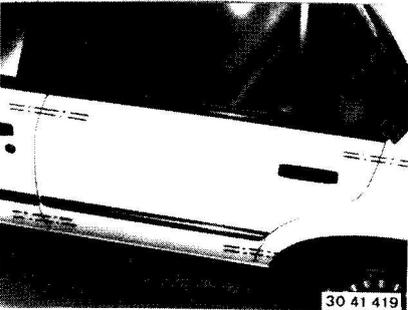
Align striker horizontally until outside surface of closed door (2nd catch) is in same plane with rear side panel.



30 41 423

*Note:*

To prevent wind noise and stone damage or to eliminate optical irregularities, the rear door may be "adjusted deeper" than the neighboring rear side panel by max. 1 mm (0.039").

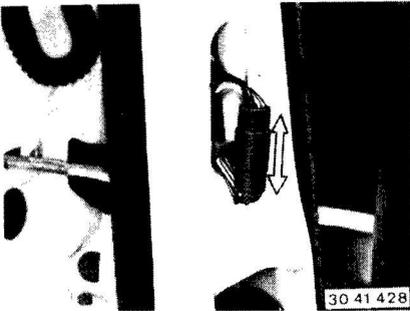


30 41 419

## 41 52 080 REMOVING AND INSTALLING LEFT OR RIGHT REAR DOOR — Unhingeable Door Version —

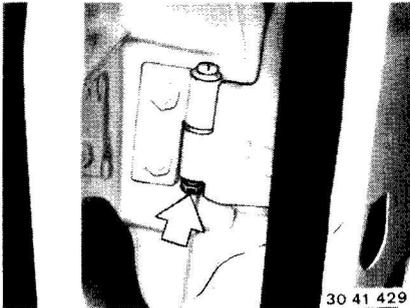
*Note:*

The plug in the B pillar of cars with power windows or central locks must be disconnected.  
Remove plate for B pillar — see 51 43 150.  
Pull door wire harness out of B pillar.



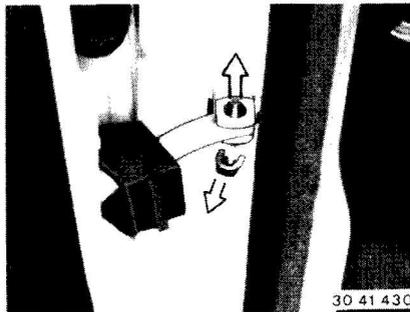
30 41 428

Unscrew bolts at top and bottom.



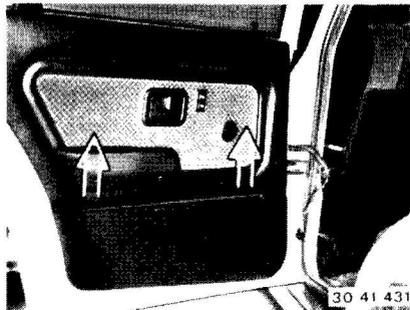
30 41 429

Lift off rubber cap.  
Pull off retainer.  
Press out pin.  
Open front door.  
*Caution!*  
Be careful not to damage outside of door and pillar (B) when opening the rear door.



30 41 430

Unhinge rear door from above.

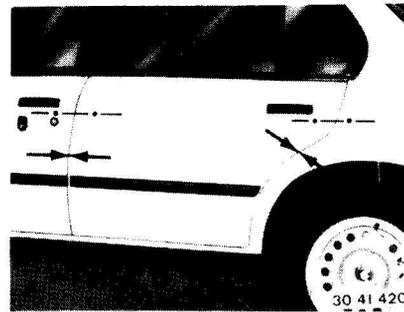


30 41 431

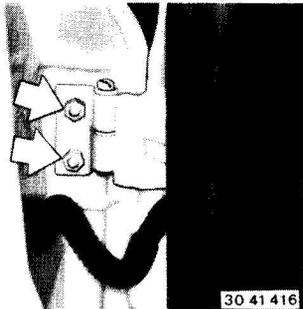
# 41-508

## 41 52 101 REPLACING LEFT OR RIGHT REAR DOOR

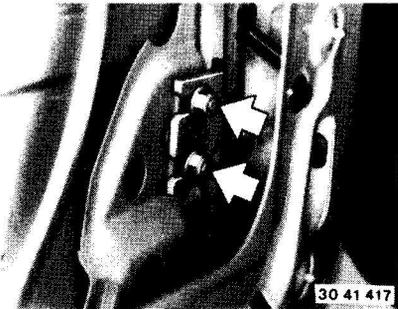
Carry out the following jobs in the given order.  
Installation is in reverse order.  
Seal cavities of the new door.  
Remove door trim panel – 51 42 001.  
Remove door window – 51 34 170.  
Remove window winder – 51 34 020 – or  
power window regulator – 51 37 000.  
Remove window fixed in rear door window  
frame – 51 34 190.  
Remove ornamental frame – 51 34 380.  
Remove door lock – 51 22 090.  
Remove outside handle and lock mechanism  
– 51 22 220.  
Remove rear door rubbing strip – 51 15 360.  
Remove door retarder – 51 22 280.  
If applicable, pull wire harness out of door.  
Transfer door weatherstrips.  
Transfer or replace all clamps and clips.



*Installation:*  
Adjust rear door -- see 41 52 004.



Unscrew hinge at top.



Unscrew hinge at bottom.  
Lift off door.

## 41 61 014 ALIGNING ENGINE HOOD

*Note:*

Engine hood, trunk lid and doors are fitted and bolted in an unfinished body shell. Subsequent adjustments could uncover unpainted surfaces. These surfaces must be touched up with paint of same color.

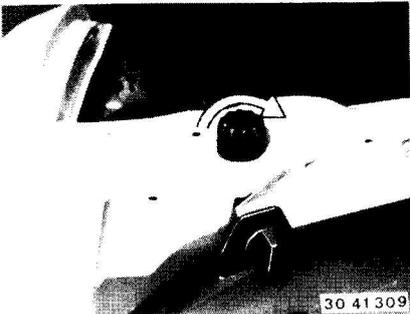
**Adjusting Engine Hood in Body Opening:**  
Screw in left and right stop pads completely.

*Installation:*

Unscrew stop pads after finishing adjustments to have engine hood rest on them with slight tension and in same plane with side panels.

Loosen bolts on left and right sides.

Adjust height of engine hood that hood is approx. 1 mm (0.039") deeper than the side panels.



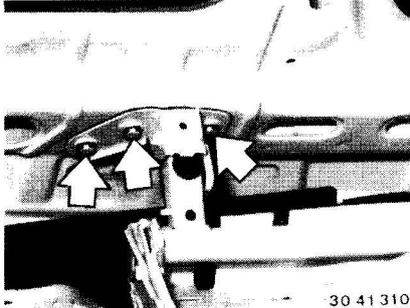
30 41 309



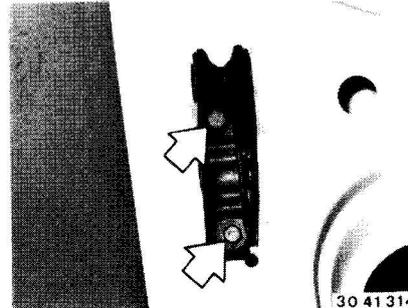
30 41 313

**Adjusting Rear Guide Roller:**

Loosen bolts.



30 41 310



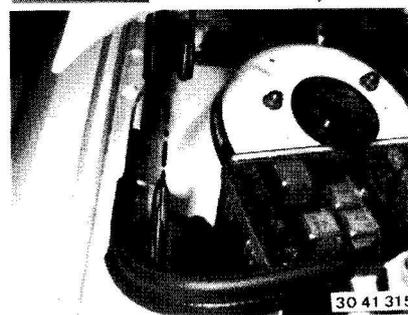
30 41 314

Align engine hood to side panels at front and sides.

Adjust holder laterally until guide roller slides into catch perfectly. Check gap between side panel and engine hood on left and right sides.



30 41 311



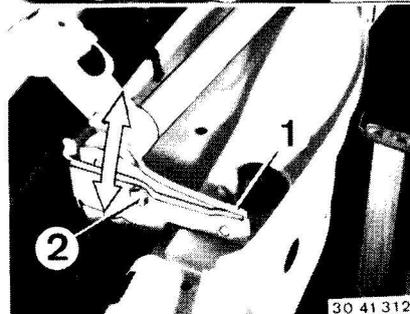
30 41 315

**Engine Hood Height at Front End:**

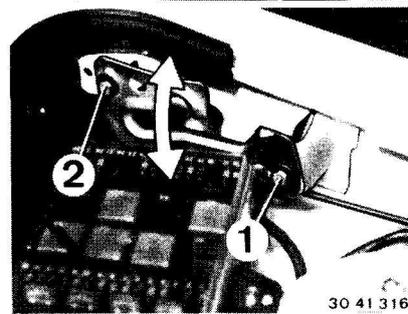
Loosen bolts (1 and 2) on left and right sides. Adjust console up or down with screw (2).

**Engine Hood Height at Rear End:**

Loosen bolts (1 and 2). Adjust catch with bolt (2) in such a manner that surface of closed engine hood is in same plane with side panels.



30 41 312



30 41 316

# 41-602

## 41 62 014 ALIGNING TRUNK LID

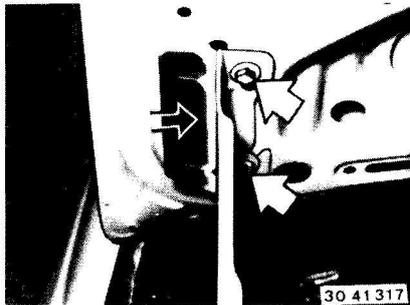
### *Note:*

Engine hood, trunk lid and doors are fitted and bolted in an unfinished body shell. Subsequent adjustments could uncover unpainted surfaces.

These surfaces must be painted with paint of same color as body paint.

### Trunk Lid Height at Front End:

Loosen bolts and install spacers as required.

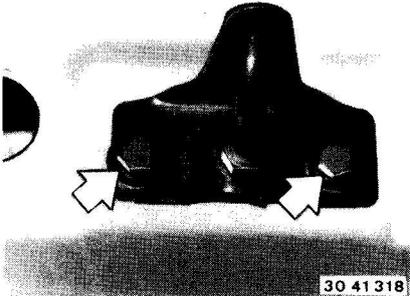


### Aligning Trunk Lid in Body Opening:

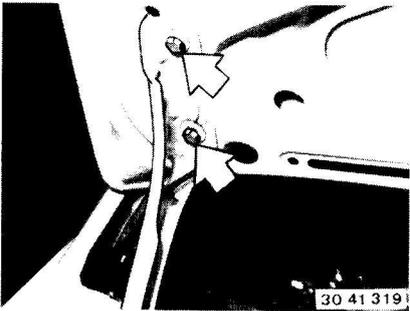
Loosen locking bar, unscrewing if necessary.

### *Installation:*

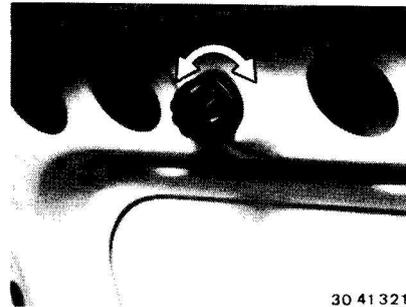
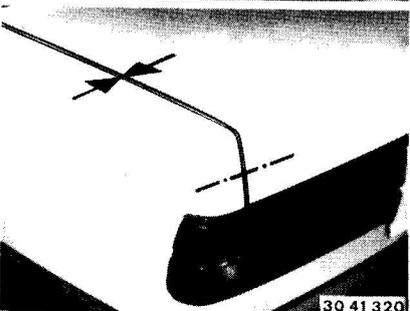
Align locking bar according to lock bottom section.



Loosen bolts.



Align trunk lid.

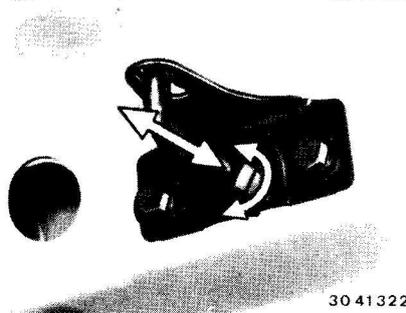


### Trunk Lid Height at Rear End:

Screw in left and right stop pads completely.

### *Installation:*

Unscrew stop pads after finishing adjustments until the trunk lid rests on them with light tension and is in same plane with side panels.



Adjust length of locking bar by turning the nut, until surface of closed trunk lid at rear is approx. 1 mm (0.039") deeper than the side panels.

# 41-101 C

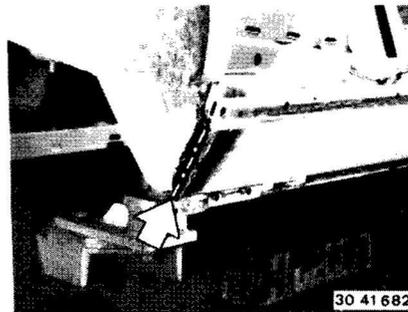
41 11 520 REPLACING COVER FOR  
LEFT OR RIGHT SIDE  
MEMBER  
(Rear Side Panel and Door Pillar  
Removed)  
— Convertible —

Refer to information on page 41 - 001.  
Remove or cover up all car parts, which are  
located in the repair area or subjected to heat,  
sparks and dust.  
Remove front side panel.  
Remove rear side panel — see 41 35 111.  
Remove door pillar with reinforcement — see  
41 21 501.

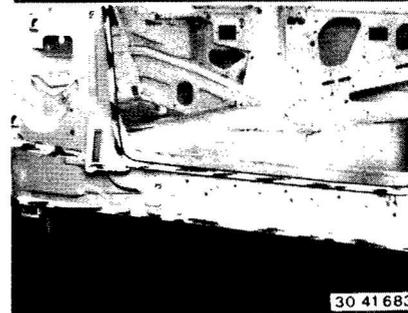
Drill out spot welds.

Grind off welding bead.

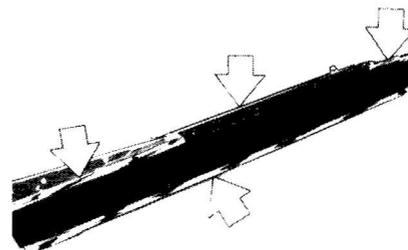
Drill out spot welds.  
Grind off welding beads.



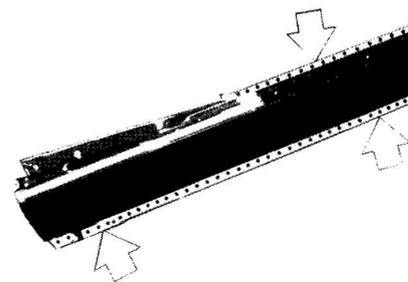
Grind off edge.  
Lift off cover.  
*Important!*  
Don't damage the end plate.



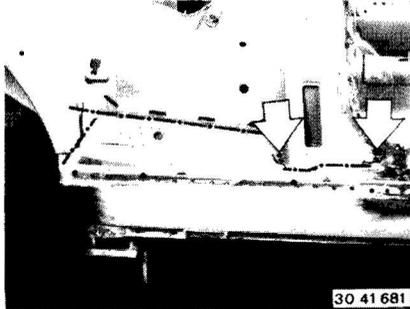
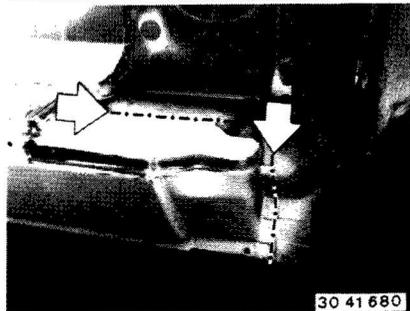
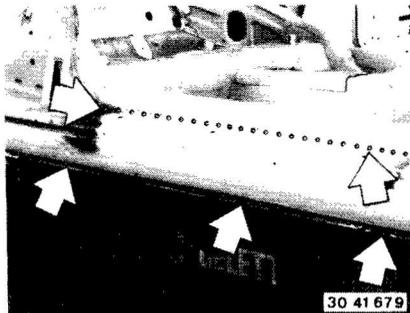
Straighten and grind all mating surfaces.



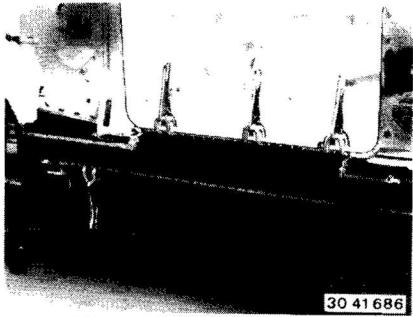
Grind mating surfaces on new cover.



Sheet metal panels are too thick for perfect  
resistance spot welding with workshop  
equipment.  
Drill holes in all mating surfaces required for  
plug spot welding.  
Take spacing between holes from removed  
part.

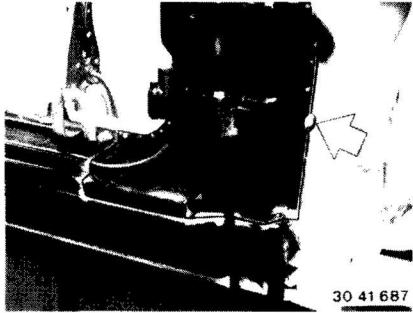


# 41-102 C



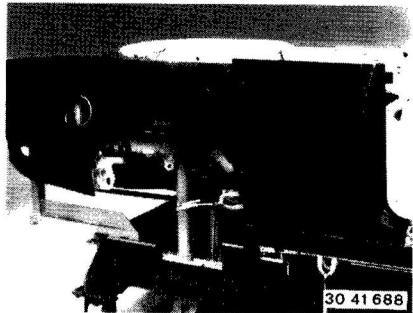
30 41 686

Clamp down and tack weld cover.



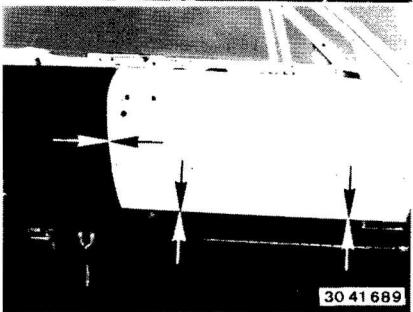
30 41 687

Set up and tack weld new door pillar lightly.  
*Note:*  
Door pillar must be removed again after fitting in.



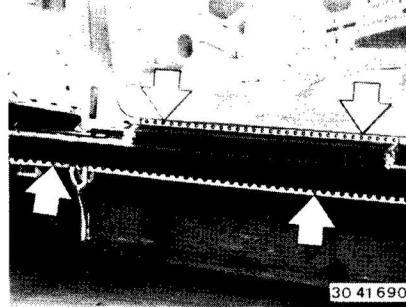
30 41 688

Set up and clamp down rear side panel.



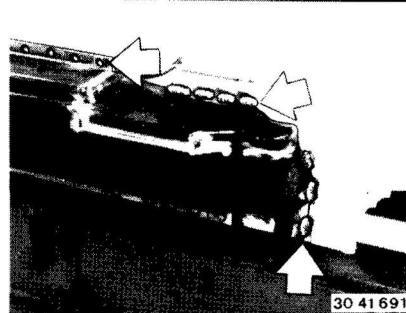
30 41 689

Install door.  
Check gap to entrance and rear side panel.  
Lift off door, door pillar and rear side panel.



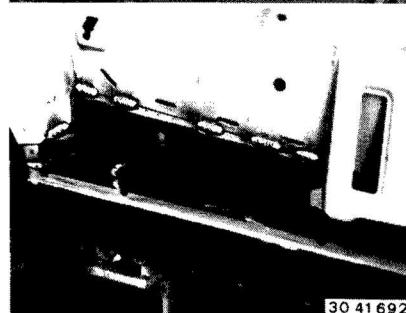
30 41 690

Plug spot weld cover on entrance and underneath.



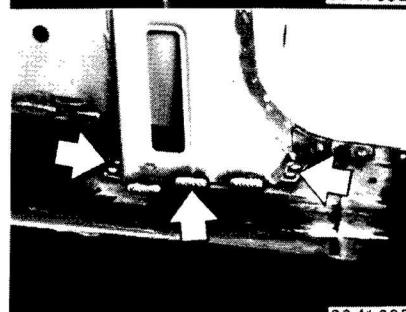
30 41 691

Weld cover on A pillar.



30 41 692

Inert gas weld connection on wheel house and end plate.

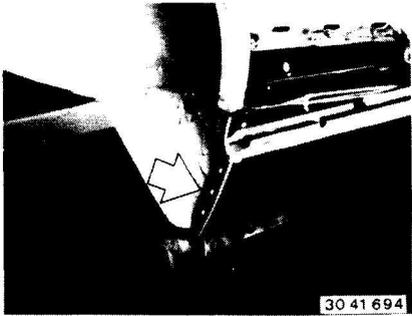


30 41 693

Plug spot weld support through the provided holes and lock with inert gas welding seams.

## 41-103 C

Plug spot weld connection on wheel house at rear.



After Installation of Door Pillar with Reinforcement and Rear Side Panel:  
Seal off connections with body sealing compound.  
Spray on anti-drumming compound on the wheel house, trunk floor plate and entrance from underneath.

# 41-104 C

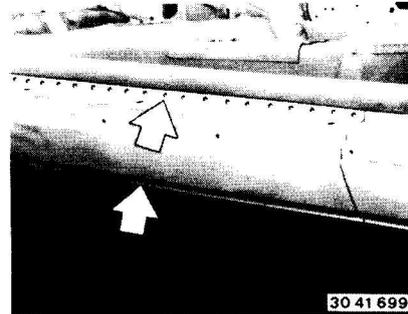
## 41 11 530 REPLACING COVER FOR SIDE MEMBER LEFT OR RIGHT (Partial Replacement From Door Pillar / Rear Side Panel Removed) — Convertible —

Refer to information on page 41 - 001.  
Remove or cover up all car parts, which are located in the repair area or subjected to heat, sparks and dust.  
Remove rear side panel — see 41 35 111.

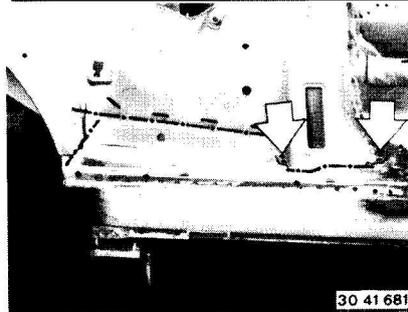
Mark cutting line.  
Cutting line (A) must be at least 40 mm (1.575") away from door pillar connection.

*Note:*  
Make the cutting line in such a manner whenever possible, that the jack holder will not be cut.

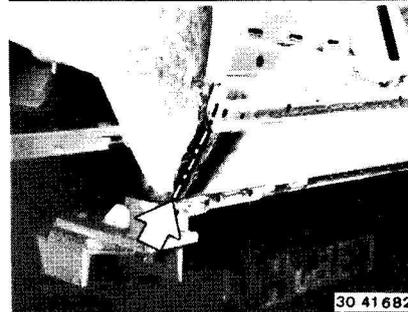
Cut off cover along marked cutting line.



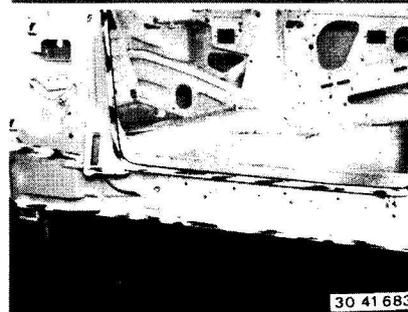
Drill out spot welds.



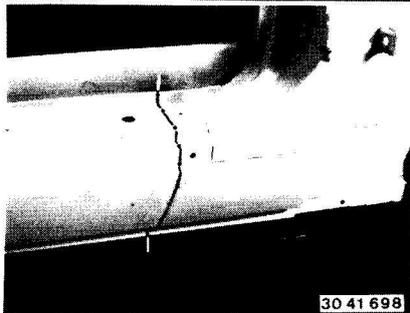
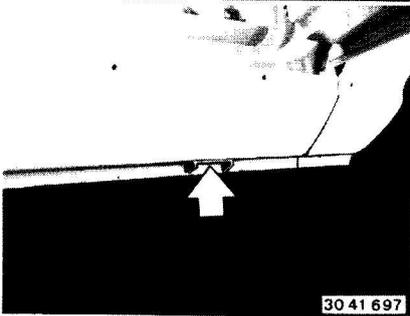
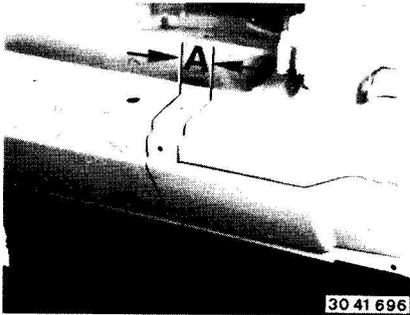
Drill out spot welds.  
Grind off welding beads.



Grind off edge and lift off cover.  
*Important!*  
Don't damage the end plate.

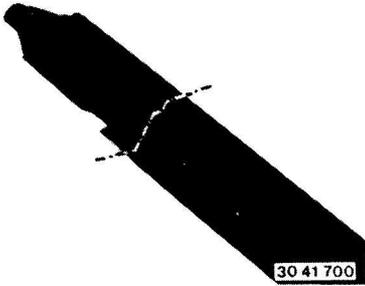


Straighten and grind all mating surfaces.

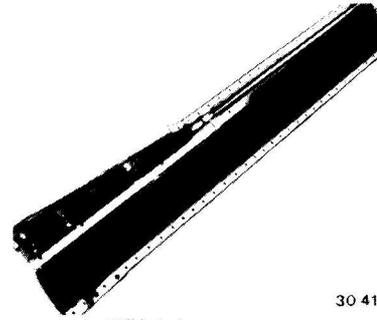


# 41-105 C

Make cutting line on new cover and cut off.

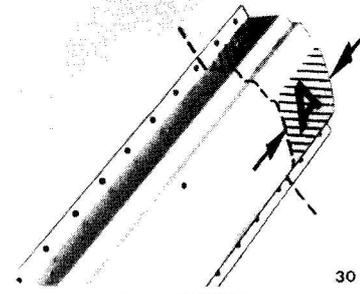


The sheet metal panels are too thick for perfect resistance spot welding with workshop equipment.  
Drill holes for plug spot welding in all mating surfaces required for spot welding.  
Take spacing between holes from the removed part.  
Grind mating surfaces.  
Deburr holes.



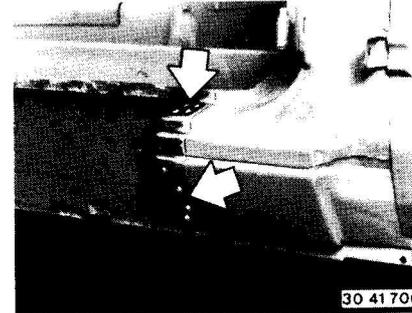
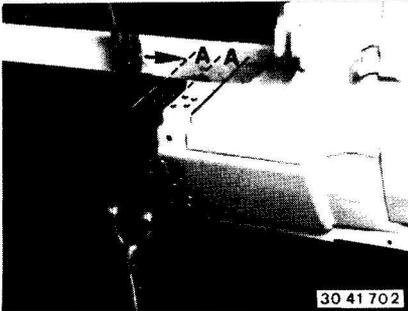
Fit in cover, cutting to size if necessary.

Prepare strips from the cut off cover for reinforcements.  
A = 60 mm (2.362")



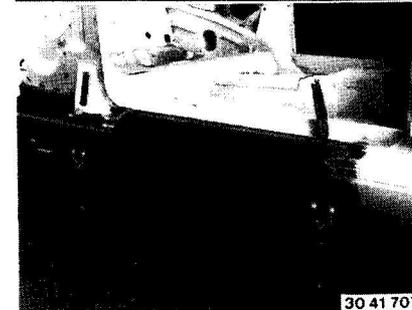
Mark location of and drill plug spot welding holes required for reinforcement strips.  
Distance A = 30 mm (1.181").  
Four holes each at top.  
Six holes each at bottom.

Slide in reinforcement strips half way, align and plug spot weld.

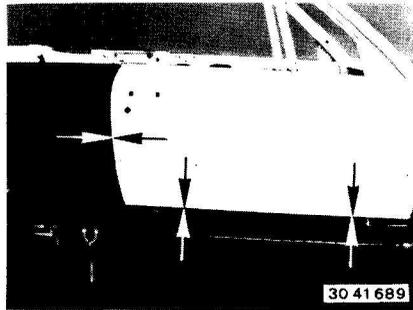


Lift off section panel.  
Grind mating surfaces.  
Deburr holes.

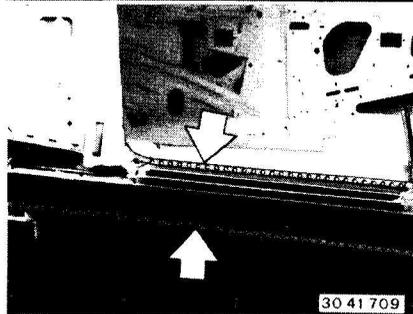
Clamp down and tack weld cover.



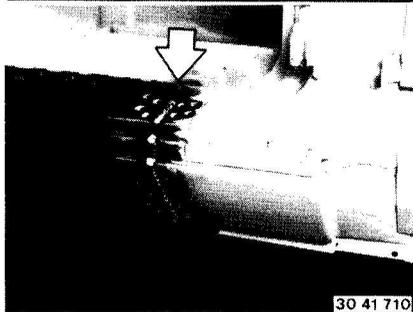
# 41-106 C



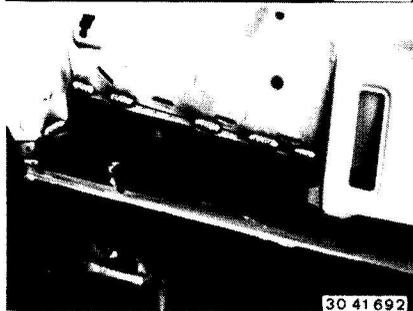
Fit in the rear side panel.  
Install door.  
Check gaps.



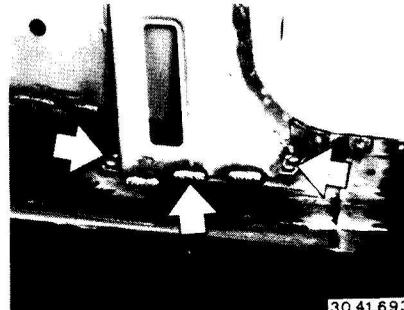
Remove door and rear side panel.  
Plug spot weld cover on entrance and from underneath.



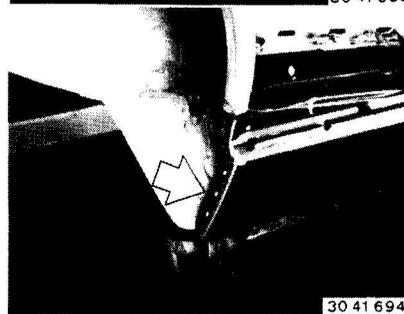
Plug spot weld panel section connection.  
Weld mating surface joint.



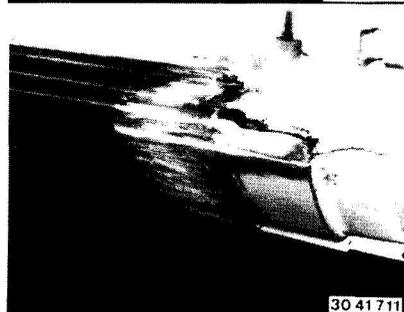
Inert gas weld connection on wheel house  
and end plate.



Plug spot weld the support through the  
provided holes and lock with inert gas welded  
seams.



Plug spot weld connection on wheel house at  
rear.



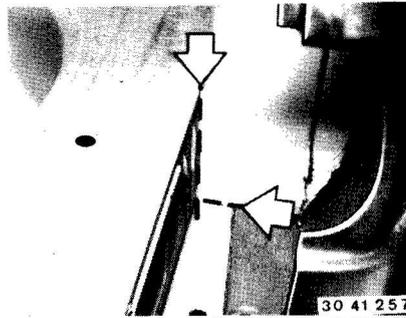
Grind panel section connection, tinning if  
necessary.

After Installation of Rear Side Panel:  
Seal off connections with a body sealing  
compound.  
Spray an anti-drumming compound on the  
wheel house, trunk floor plate and entrance  
from underneath.

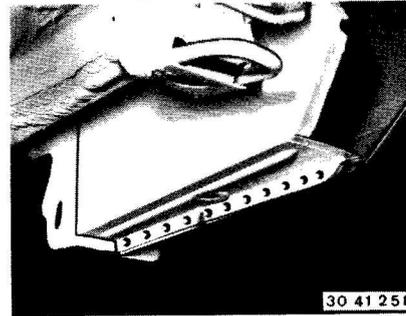
## 41 12 570 REPLACING TRUNK FLOOR PLATE (Partial Replacement in Front of Cross Member) (Tail Panel Removed) - Convertible -

Refer to information on page 41 - 001. Remove or cover up all car parts, which are located in the repair area or subjected to heat, sparks and dust.

Cut off trunk floor plate from wheel house on left and right sides.



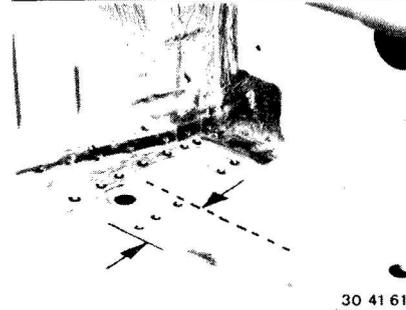
Make left and right connections accessible.



Make left and right spot welding accessible and drill out spot welds.

30 41 607

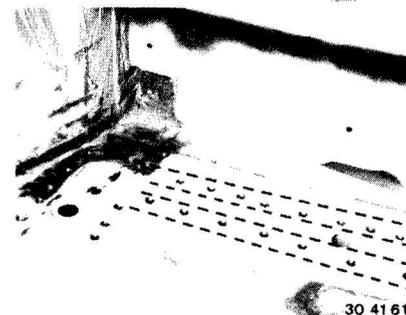
Mark cutting lines at height of transition on left and right sides.



Drill out spot welds on side members forward up to cutting line and approx. 80 mm (3.150") toward rear.

30 41 608

Drill out spot welds on left and right sides.

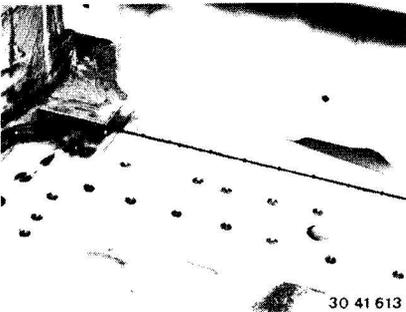


Make connections accessible. Drill out spot welds.

30 41 609

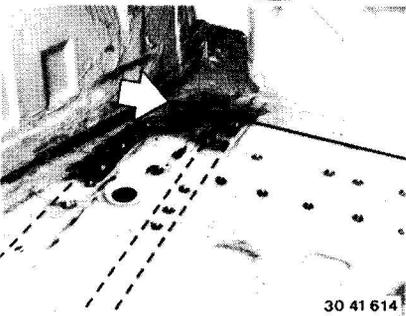
# 41-108 C

Cut off trunk floor plate along marked line.



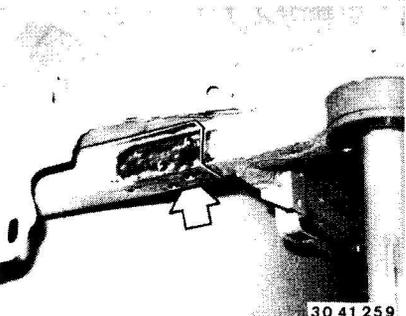
30 41 613

**Important!**  
Don't damage the side members.



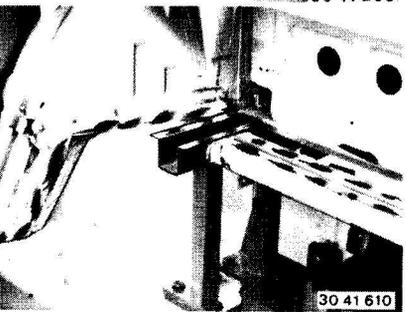
30 41 614

Uncover connections of left and right side members.  
Drill out spot welds.  
Lift off trunk floor plate complete with side members.



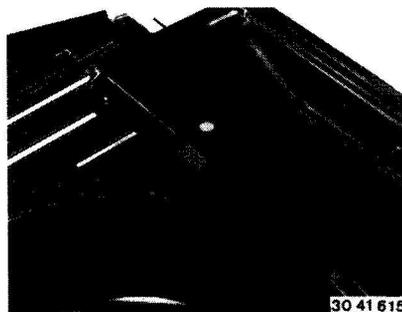
30 41 259

Remove scrap metal.  
Straighten and grind mating surfaces.



30 41 610

Prepare new trunk floor plate for partial replacement.  
Mark line on transition.  
Mark overlapping distance  $A = 20 \text{ mm}$  (0.787") toward front.



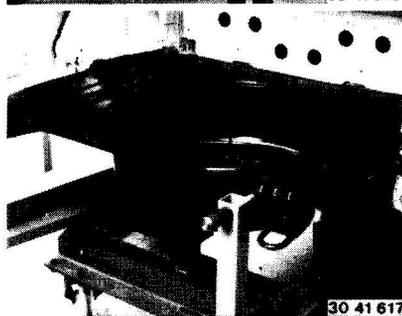
30 41 615

Cut off sheet metal.  
Shoulder the overlap upwards with a shouldering pliers.



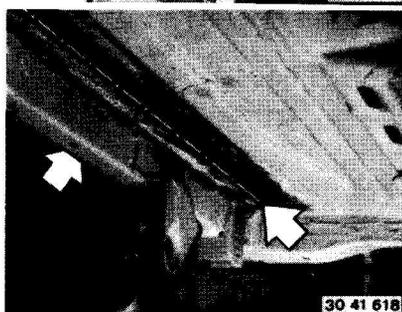
30 41 616

Set up car on straightening bench.  
Fit in trunk floor plate.



30 41 617

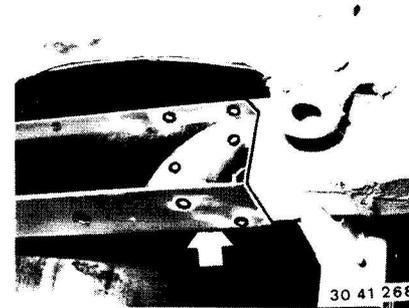
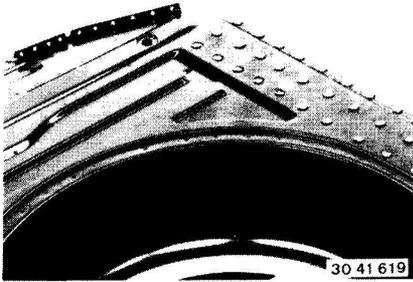
Mark location of cross member on the trunk floor plate.



30 41 618

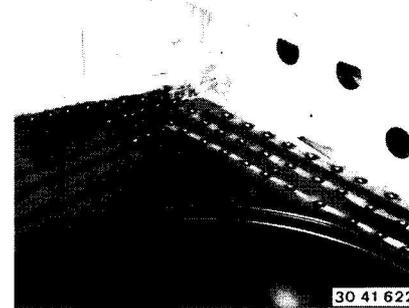
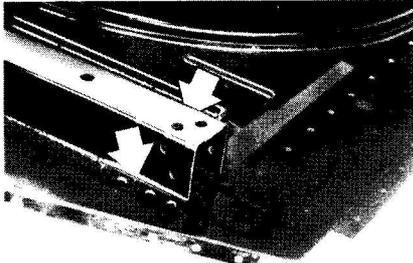
# 41-109 C

Lift off trunk floor plate.  
Drill plug spot welding holes in mating surfaces which are not accessible for spot welding (cross member, partial replacement panel, wheel house).  
Spacing between holes = 40 mm (1.575").



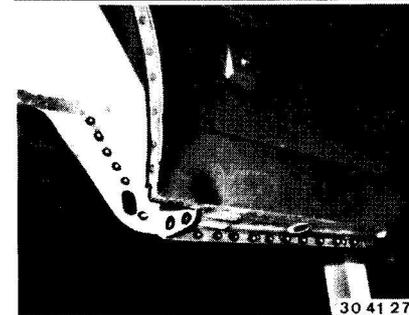
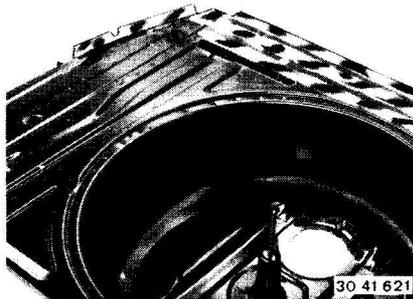
Plug spot weld both side members.

Drill plug spot welding holes in mating surfaces for side members.  
*Note:*  
Drill the holes in the flanges of side members through the trunk floor plate.



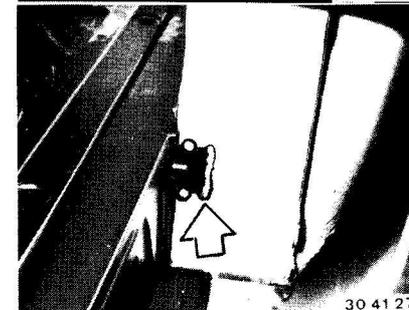
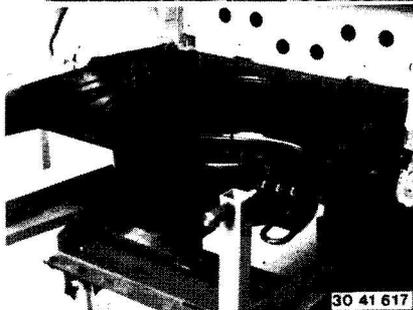
Plug spot weld front end of trunk floor plate on cross member, side members and wheel houses.

Grind all mating surfaces.  
Coat mating surfaces required for spot welding with zinc dust paint.



Spot weld connector on wheel house and side panel at left and right sides.

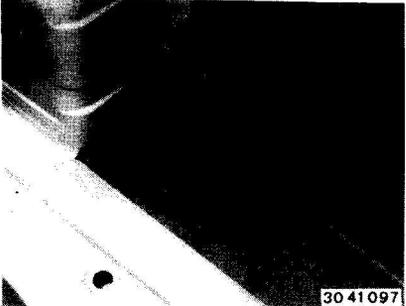
Insert trunk floor plate and align on straightening bench.



Weld on reinforcement brackets if necessary.

## 41-110 C

Install tail panel.  
Seal off all mating surfaces from top and bottom with a body sealing compound.  
Spray an anti-drumming compound on bottom of car, wheel houses and tail panel from underneath.



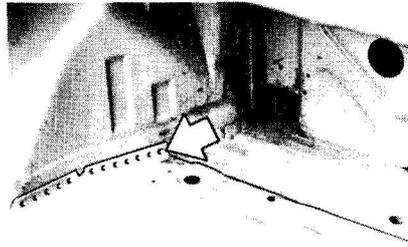
30 41097

# 41-111C

## 41 12 585 REPLACING TRUNK FLOOR PLATE (Partial Replacement Behind Cross Member) (Tail Panel Removed) — Convertible —

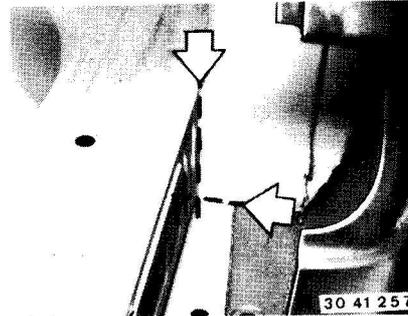
Refer to information on page 41 - 001.  
Remove or cover up all car parts, which are located in the repair area or subjected to heat, sparks and dust.

Drill out spot welds on left and right sides.



30 41 625

Uncover connections on left and right sides.

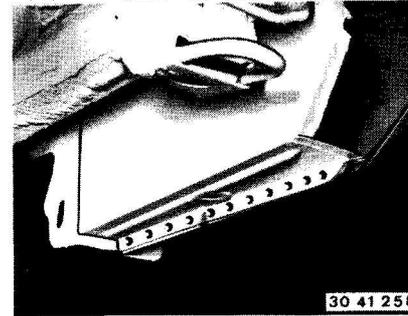


30 41 257

Cut off trunk floor plate at wheel house on left and right sides.

30 41 607

Mark cutting line behind flange of the cross member.  
(Cutting line is approximately along edge of bead.)



30 41 258

Uncover and drill out spot welds on left and right sides.

30 41 623

Cut off trunk floor plate along line.  
*Important!*  
Don't damage the side members.



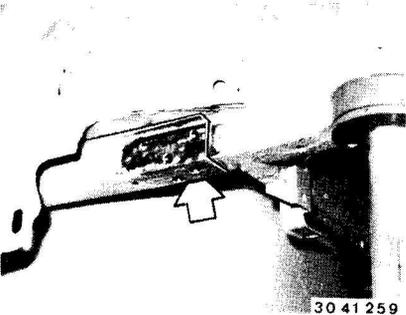
Drill out spot welds along side members approx. 80 mm (3.150") toward rear.

30 41 624

30 41 626

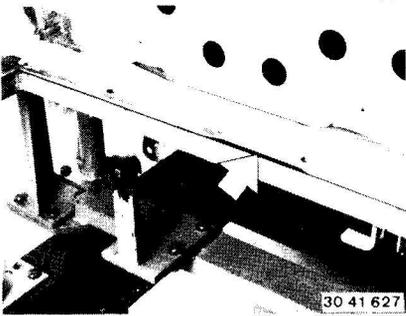
# 41-112 C

Uncover connections of left and right side members.  
Drill out spot welds.  
Lift off trunk floor plate complete with side members.



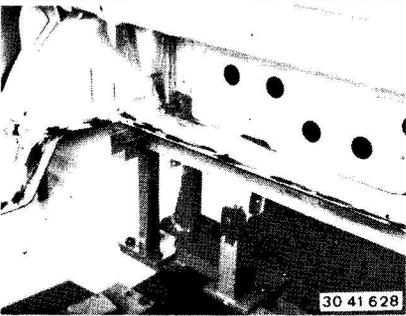
30 41 259

Grind off cut flush with flange of the cross member.  
Check opening in area of the spare wheel well.



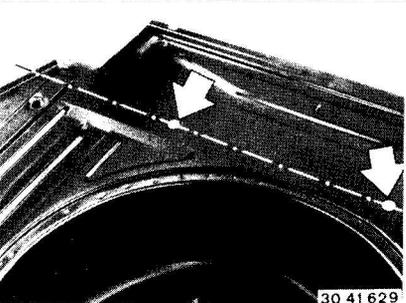
30 41 627

Remove scrap metal.  
Straighten and grind mating surface.  
Coat mating surfaces required for spot welding with zinc dust paint.

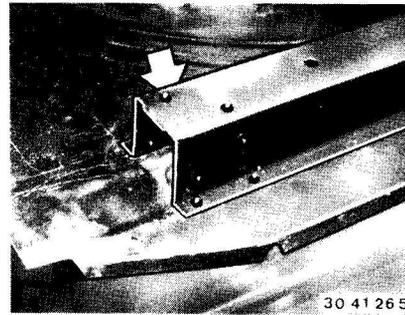


30 41 628

Cut off new trunk floor plate in area of holes.



30 41 629



30 41 265

Drill plug spot welding holes in mating surfaces for side members.

*Note:*

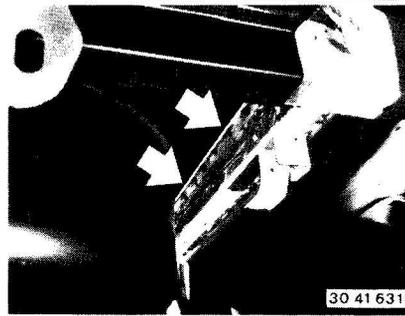
Also drill holes in flanges of side members through the trunk floor plate.  
Drill out spot welds when applicable.

Set up car on straightening bench.  
Insert trunk floor plate.



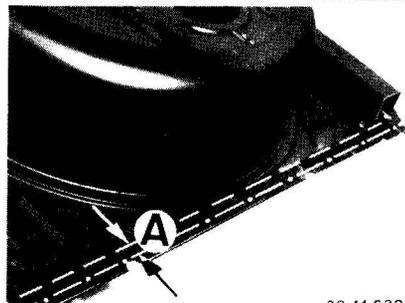
30 41 630

Mark location of cross member connections on new part from underneath.  
Lift off trunk floor plate.



30 41 631

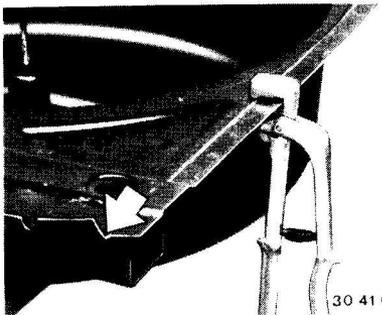
Mark distance A = 20 mm (0.787") forward from the marked line for overlapping.  
Cut off excessive metal.



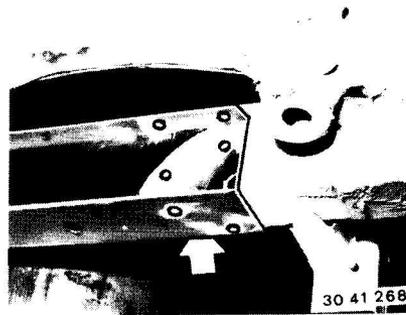
30 41 632

# 41-113 C

Shoulder overlap upwards.  
Notch wheel house spot welding flange on left  
and right sides.



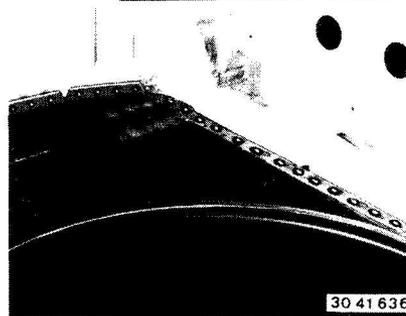
Plug spot weld both side members.



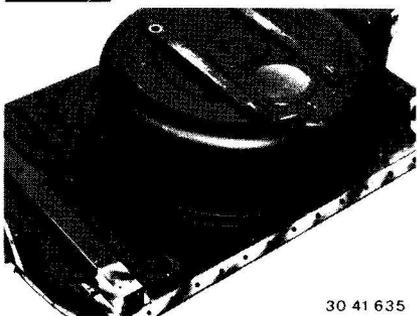
Drill plug spot welding holes in mating  
surfaces which are not accessible for spot  
welding.  
Spacing between holes = 40 mm (1.575").



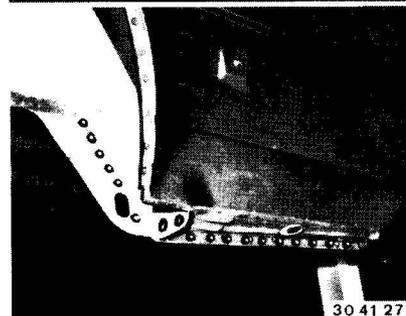
Plug spot weld trunk floor plate on the cross  
member, side members and wheel houses.



Grind all mating surfaces.  
Coating mating surfaces required for spot  
welding with zinc dust paint.



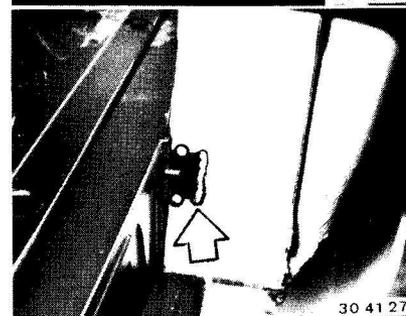
Spot weld connector on wheel house and side  
panel at left and right sides.



Insert trunk floor plate and align on  
straightening bench.

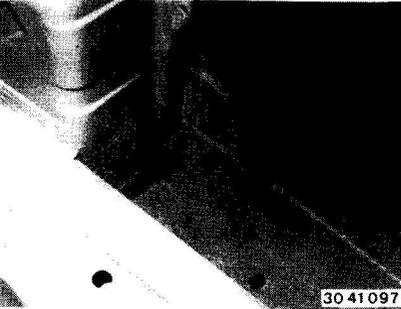


Weld on reinforcement brackets, if necessary.



## 41-114 C

Install tail panel.  
Seal off all mating surfaces from top and bottom with a body sealing compound.  
Spray an anti-drumming compound on underside of car, wheel housings and tail panel from underneath.

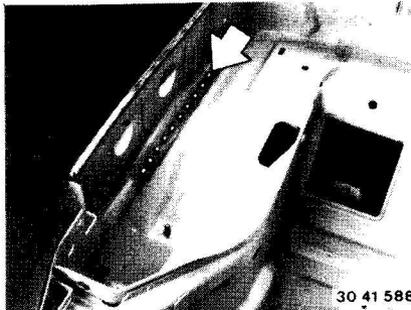


30 41 097

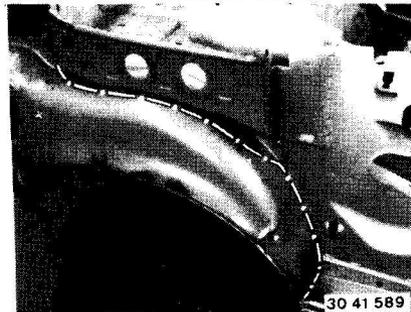
## 41 14 161 REPLACING RIGHT WHEEL HOUSE OUTER SECTION AND REAR SIDE PANEL — Convertible —

Refer to information on page 41 - 001.  
Remove right rear side panel — see 41 35 110.

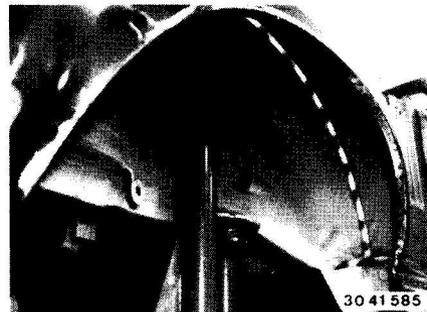
Drill out spot welds.



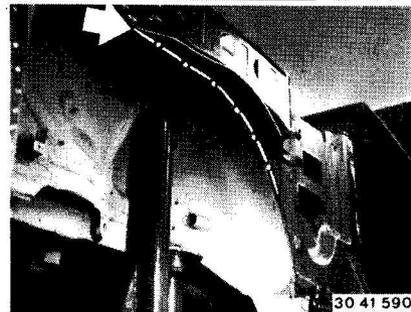
Remove anti-drumming coat on cutting surfaces.



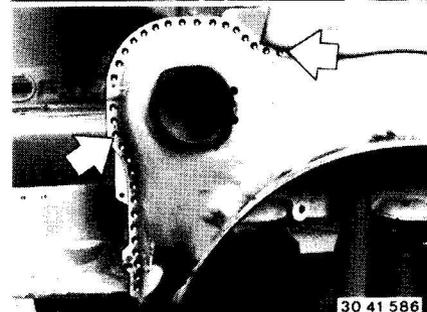
Cut off wheel house outer section along line.  
Lift off wheel house outer section.



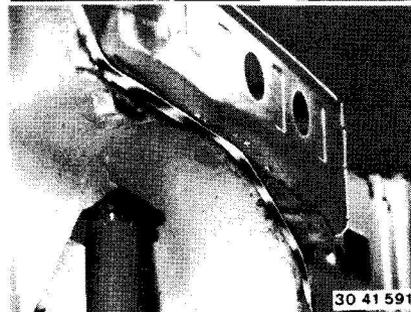
Drill out spot welds.



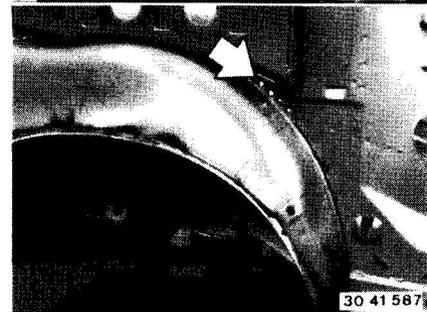
Grind off scrap metal in area of top box on edge.  
*Important!*  
Don't damage the inner wheel house panel.



Drill out spot welds.

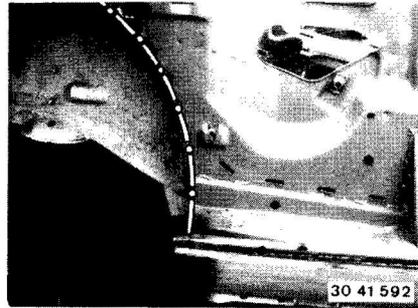


Remove scrap metal.  
Straighten mating surface.



# 41-116C

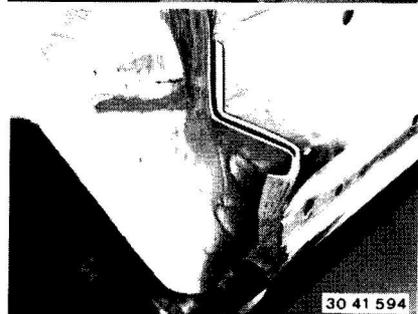
Grind off welding beads.



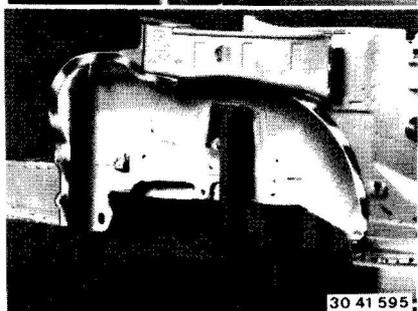
Lift end plate slightly.  
Remove scrap metal.



Remove scrap metal.



Straighten and grind all mating surfaces.  
Coat mating surfaces required for spot  
welding with zinc dust paint.

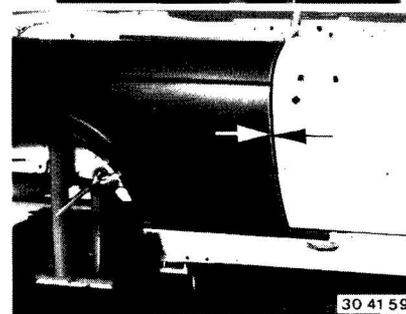


Grind mating surfaces on new wheel house  
outer section.  
Coat mating surfaces required for spot  
welding with zinc dust paint.

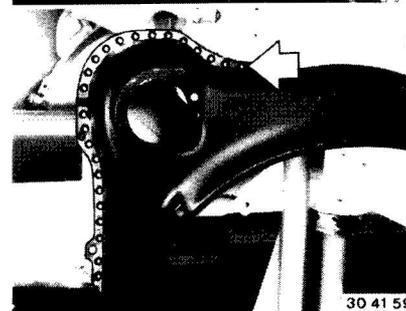
Insert and clamp down new wheel house  
outer section, tack welding if necessary.



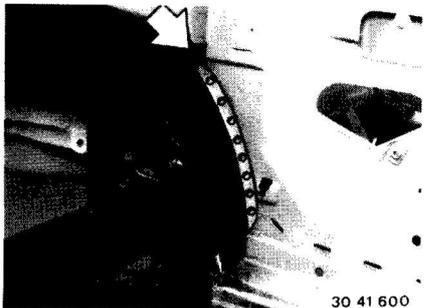
Mount side panel.  
Check door gap and transition to the tail  
panel, correcting with wheel house if necessary.



Spot weld wheel house.  
Prepare areas for plug spot welding, when they  
are not accessible for spot welding tongs.

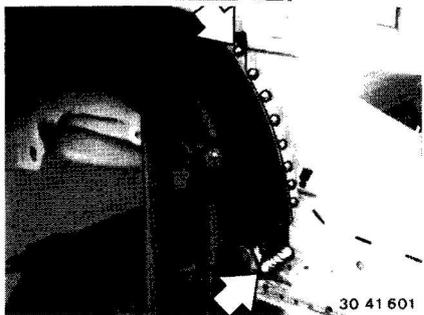


# 41-117 C



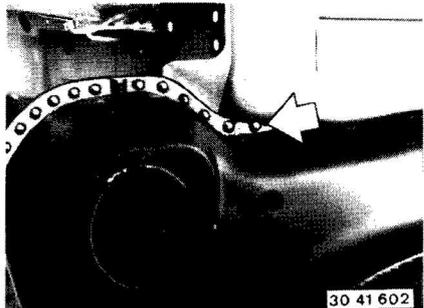
30 41 600

Drill plug spot welding holes through the reinforcement and wheel house outer section in area of the front reinforcement.



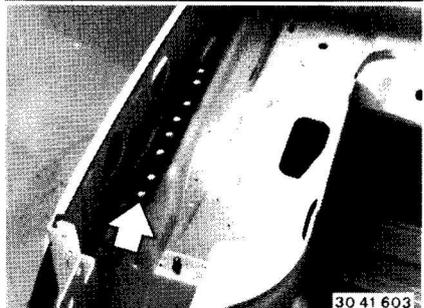
30 41 601

Plug spot weld reinforcement and wheel house outer section on the wheel house inner section.  
Tack weld wheel house on the entrance cover strip.



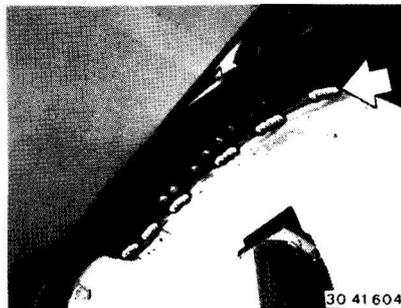
30 41 602

Plug spot weld areas which are accessible for plug spot welding.



30 41 603

Plug spot weld the top box through provided holes.



30 41 604

Inert gas weld wheel house outer section with the inner section in area of the top box by producing beads.



30 41 605

Weld bottom of wheel house on the end plate.

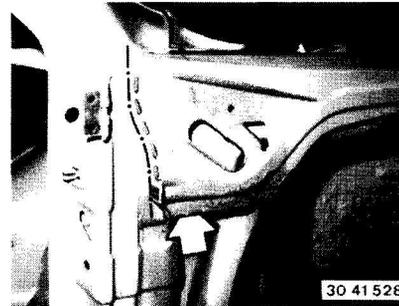
After Installation of Side Panel:  
Seal off joints with a body sealing compound.  
Spray an antidrumming compound on the wheel house.

# 41-201 C

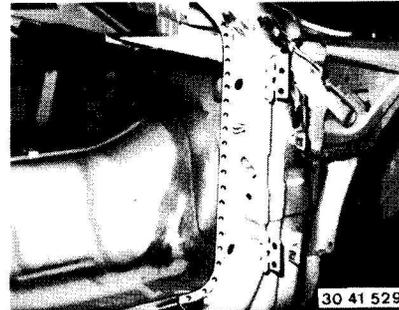
## 41 21 501 REPLACING LEFT OR RIGHT FRONT DOOR PILLAR (Front Side Panel Removed) - Convertible -

Refer to information on page 41 - 001.  
Remove or cover up all car parts, which are located in the repair area or subjected to heat, sparks and dust.

Grind off welding seams.  
Drill out spot welds from underneath.  
Take off end plate.

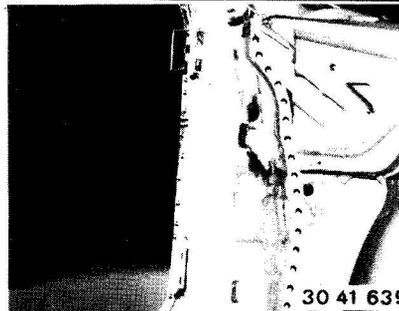


Uncover connections.



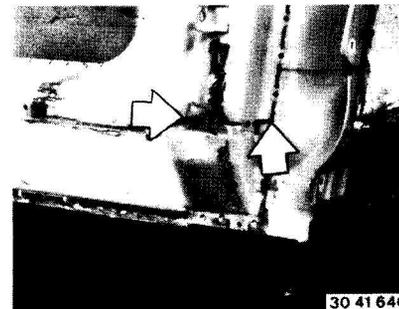
Uncover connections.  
Drill off spot welding seam.

Grind off welding beads.  
Lift off reinforcement.

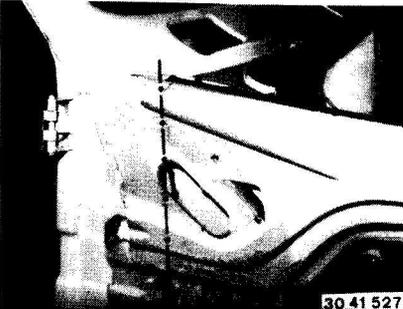
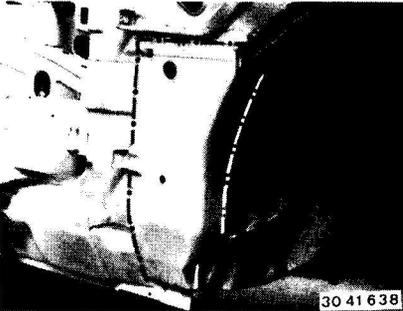
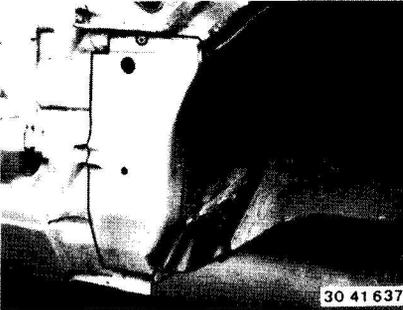


Drill out spot welds.

Cut through end plate along line.

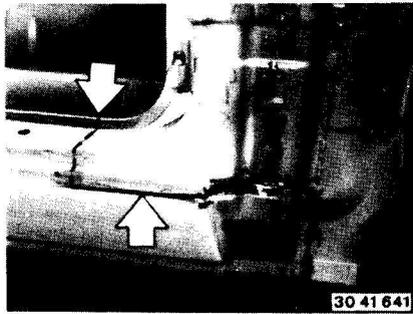


Grind off welding beads.

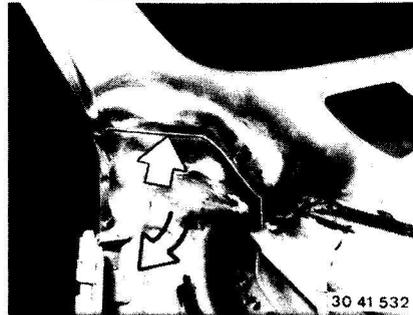


# 41-202 C

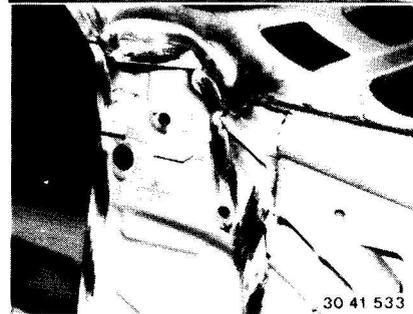
Remove brazing solder.  
Loosen pillar.



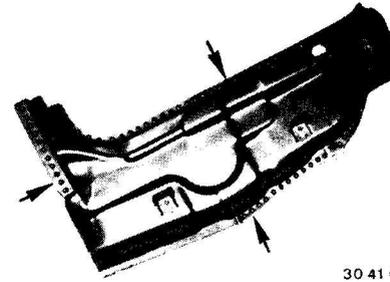
Remove brazing solder.  
Lift off the door pillar.



Remove scrap metal.  
Straighten and grind mating surfaces.

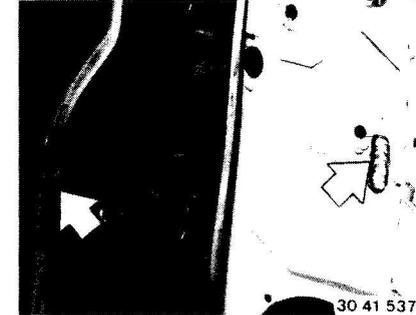


Grind mating surfaces on new door pillar.

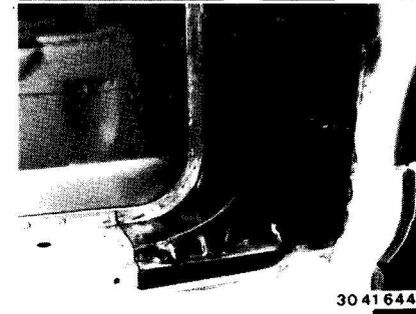


The sheet metal panels are too thick for perfect resistance spot welding with workshop equipment.  
Drill plug spot welding holes in all mating surfaces required for plug spot welding.  
Take spacing between holes from the removed part.

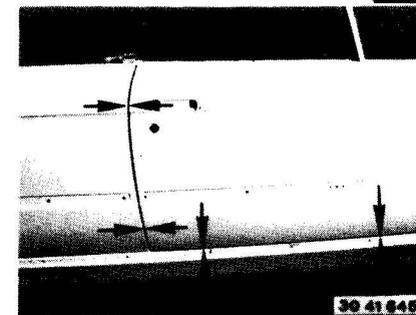
Use sealing tape on bearing surface of the reinforcement.



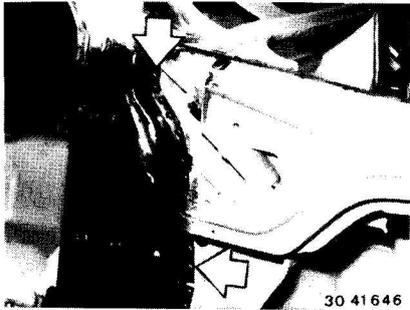
Mount and tack weld new door pillar.



Install door.  
Check gaps of entrance and rear side panel.  
Remove door.

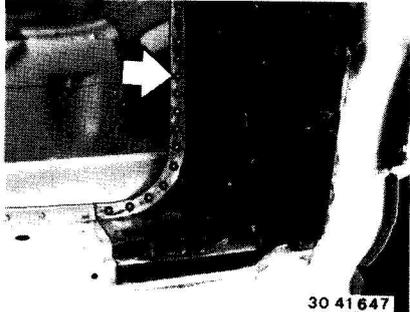


# 41-203 C



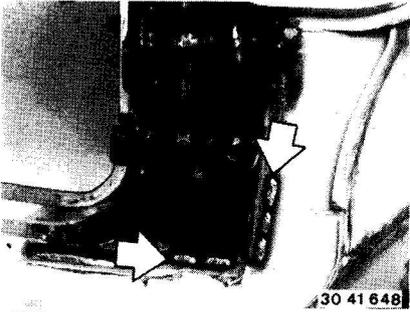
Plug spot weld the door pillar.

30 41 646



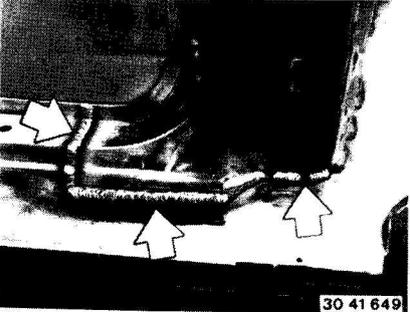
Plug spot weld the door pillar.

30 41 647



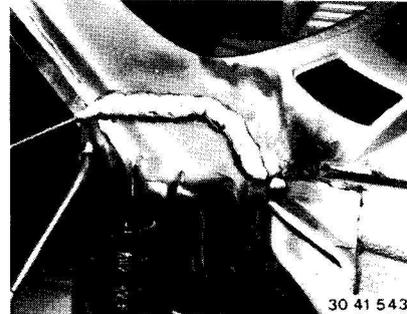
Inert gas weld bottom of door pillar.

30 41 648



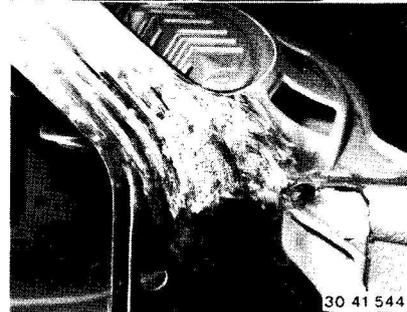
Braze the side member cover joint.

30 41 649



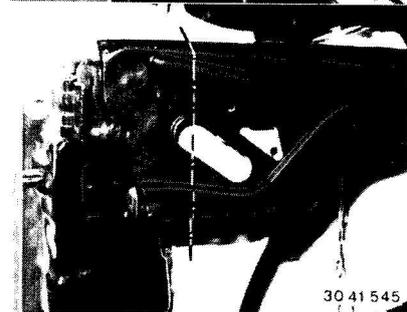
Braze the cowl panel joint.

30 41 543



Grind mating surface.

30 41 544



Install new end plate.  
Mark cutting lines for partial replacement section.

30 41 545



Grind mating surfaces on partial replacement section and fit in section.

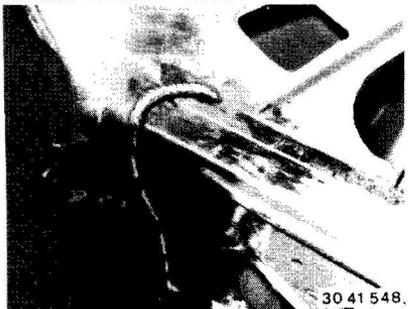
30 41 546

# 41-204 C



Inert gas weld the partial replacement section.

30 41 547



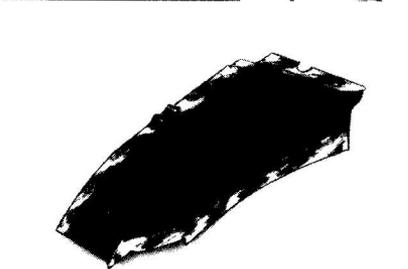
Braze in area of the cowl panel.

30 41 548



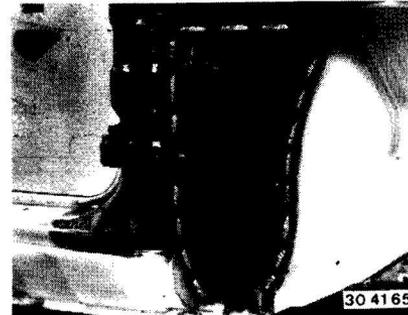
Grind down joints, tinning if necessary.

30 41 549



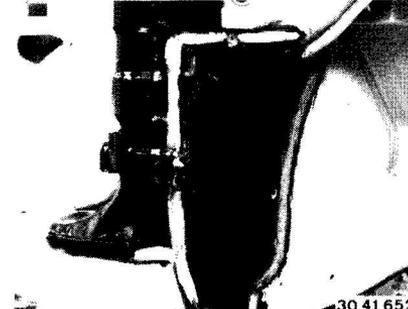
Grind mating surfaces on new reinforcement for door pillar.

30 41 650



Mount and weld the reinforcement.

30 41 651



Seal off all mating surfaces with a joint sealing compound.

30 41 652

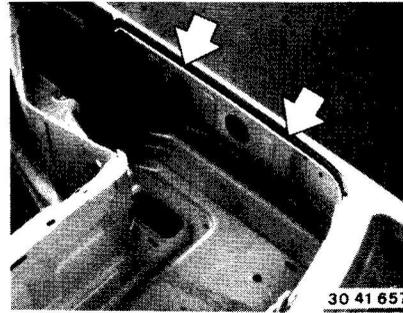
Replace anti-drumming compound on entrance and in wheel house.

# 41-301 C

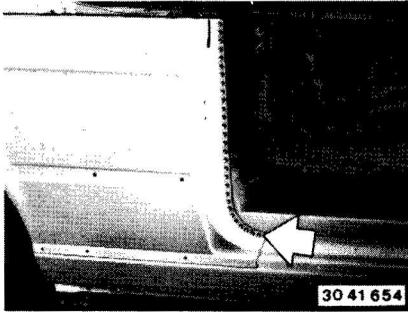
## 41 35 110 REPLACING RIGHT REAR SIDE PANEL — Convertible —

Refer to information on page 41 - 001.  
Remove or cover up all car parts, which are  
located in the repair area or subjected to heat,  
sparks and dust.

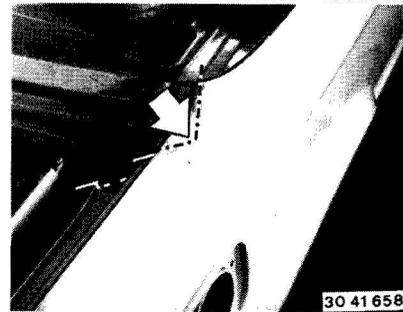
Uncover and drill out spot welds.



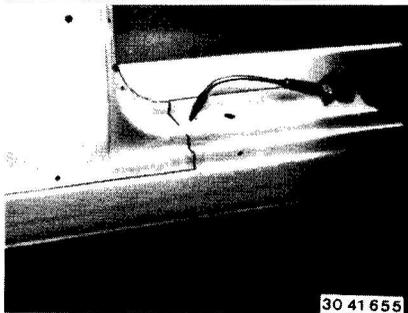
Uncover and drill out spot welds.



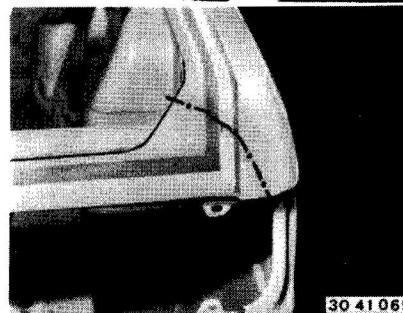
Uncover joint — cut off side panel along line.



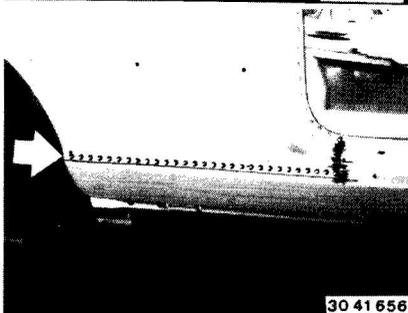
Remove brazing solder.  
Uncover spot welding.



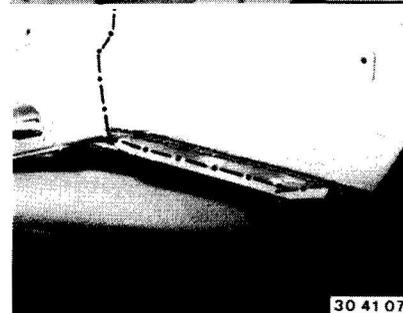
Cut off side panel from tail panel along line.



Uncover and drill out spot welds.



Cut off side panel from tail panel and trunk  
side section.



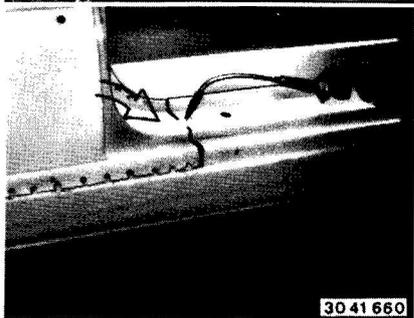
# 41-302 C

Grind off edge on wheel house.



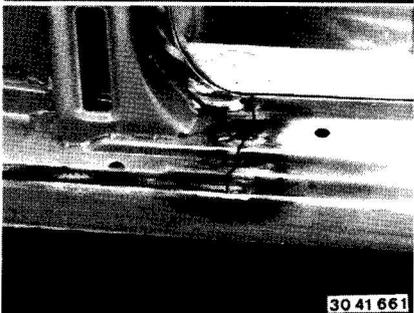
30 41 659

Heat brazing solder.  
Lift off side panel.



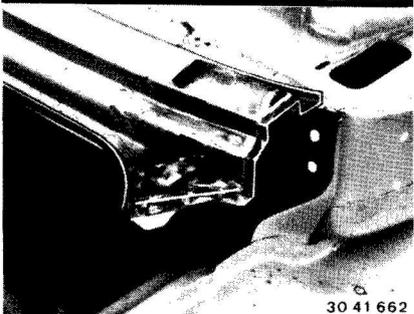
30 41 660

Remove scrap metal.  
Straighten mating surfaces.

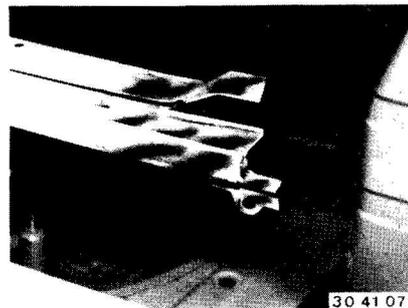


30 41 661

Remove scrap metal.  
Straighten mating surfaces.

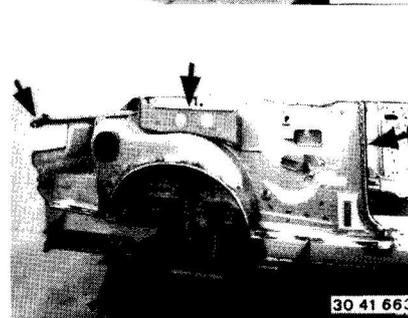


30 41 662



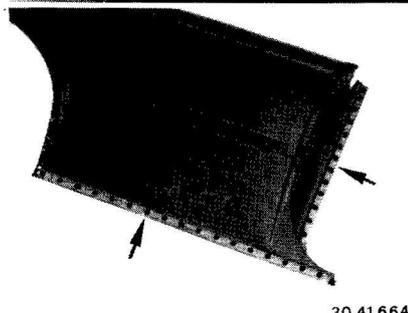
30 41 072

Remove scrap metal.  
Straighten mating surfaces.



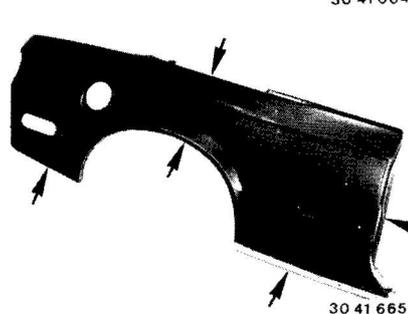
30 41 663

Remove scrap metal.  
Straighten mating surfaces.  
Coat mating surfaces required for spot  
welding with zinc dust paint.



30 41 664

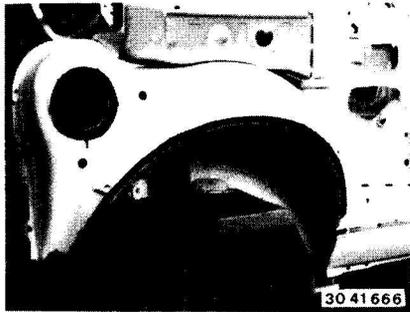
The sheet metal panels are too thick for perfect  
resistance spot welding with workshop  
equipment.  
Drill plug spot welding holes in mating surfaces  
of the "B" pillar and side member cover.  
Take spacing between holes from the removed  
part.



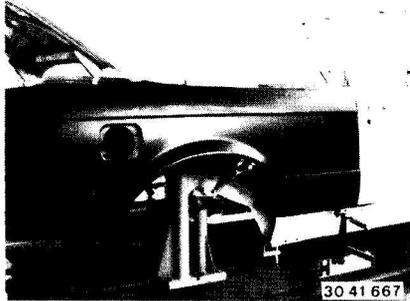
30 41 665

Grind all mating surfaces.  
Coat mating surfaces required for spot  
welding with zinc dust paint.

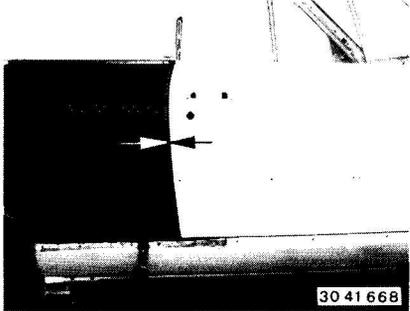
# 41-303 C



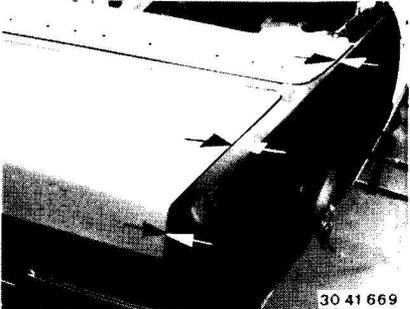
Apply a coat of body sealing compound on the wheel opening surface and fuel tank filler neck.



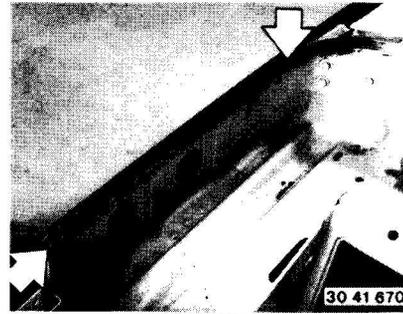
Mount and clamp down side panel, tack welding if necessary.



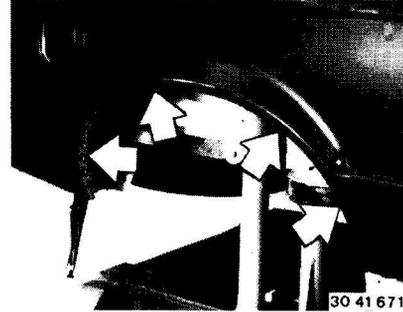
Check door gaps.



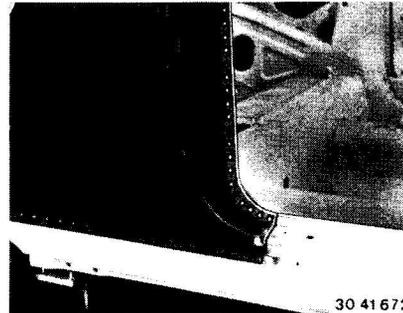
Install trunk lid and top lid. Check gaps.



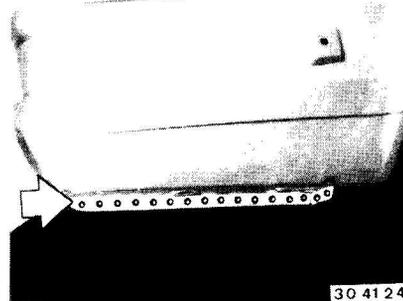
Spot weld side panel on the top box.



Spot weld side panel on wheel opening surface.

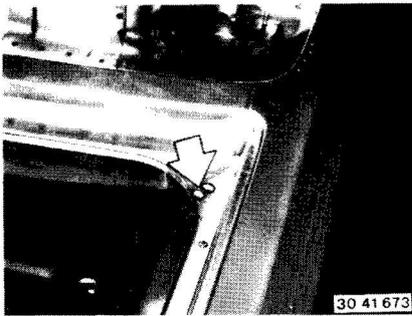


Plug spot weld side panel on side member cover and B pillar.

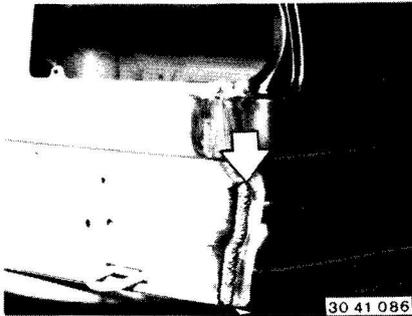


Spot weld side panel on trunk floor plate.

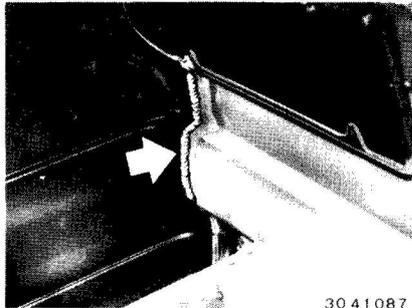
# 41-304 C



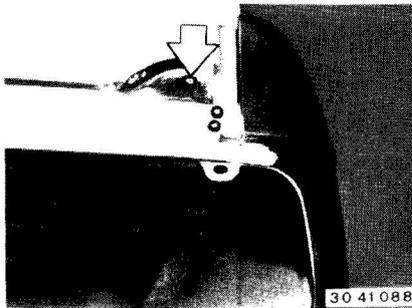
Spot weld side panel on trunk lid opening surface.



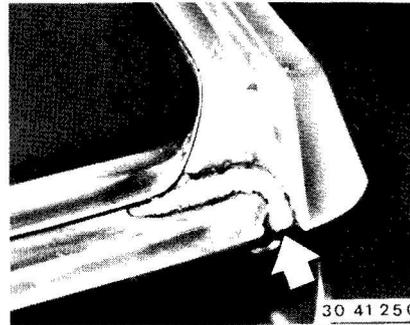
Inert gas weld side panel on tail panel. Grind down the welding bead.



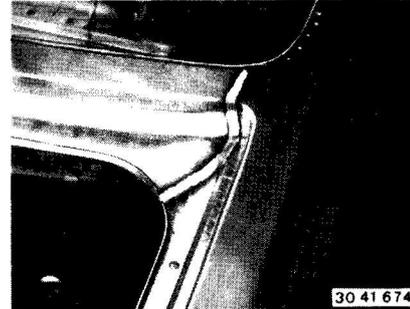
Autogen weld connector on tail panel and side panel from the inside.



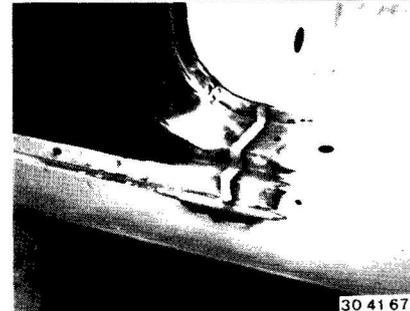
Spot weld tail panel on the side panel.



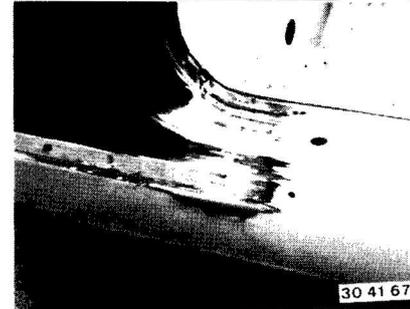
Braze and grind down side panel/tail panel joint.



Braze transition.



Braze entrance.



Grind down joint, tinning if necessary.