VIPER

Introduction

This manual has been prepared for use by all body technicians involved in the repair of the VIPER RT/10 Roadster and GTS Coupe.

This manual shows:

- Typical body panels
- The weld locations for frame components
- The types of welds for the frame components
- The types of fasteners
- What panels must be replaced and not repaired

Viper RT/10 Roadster

Viper GTS Coupe

Chrysler Corporation reserves the right to make improvements in design or to change specifications to these vehicles without incurring any obligation upon itself.

VIPER ROADSTER, COUPE

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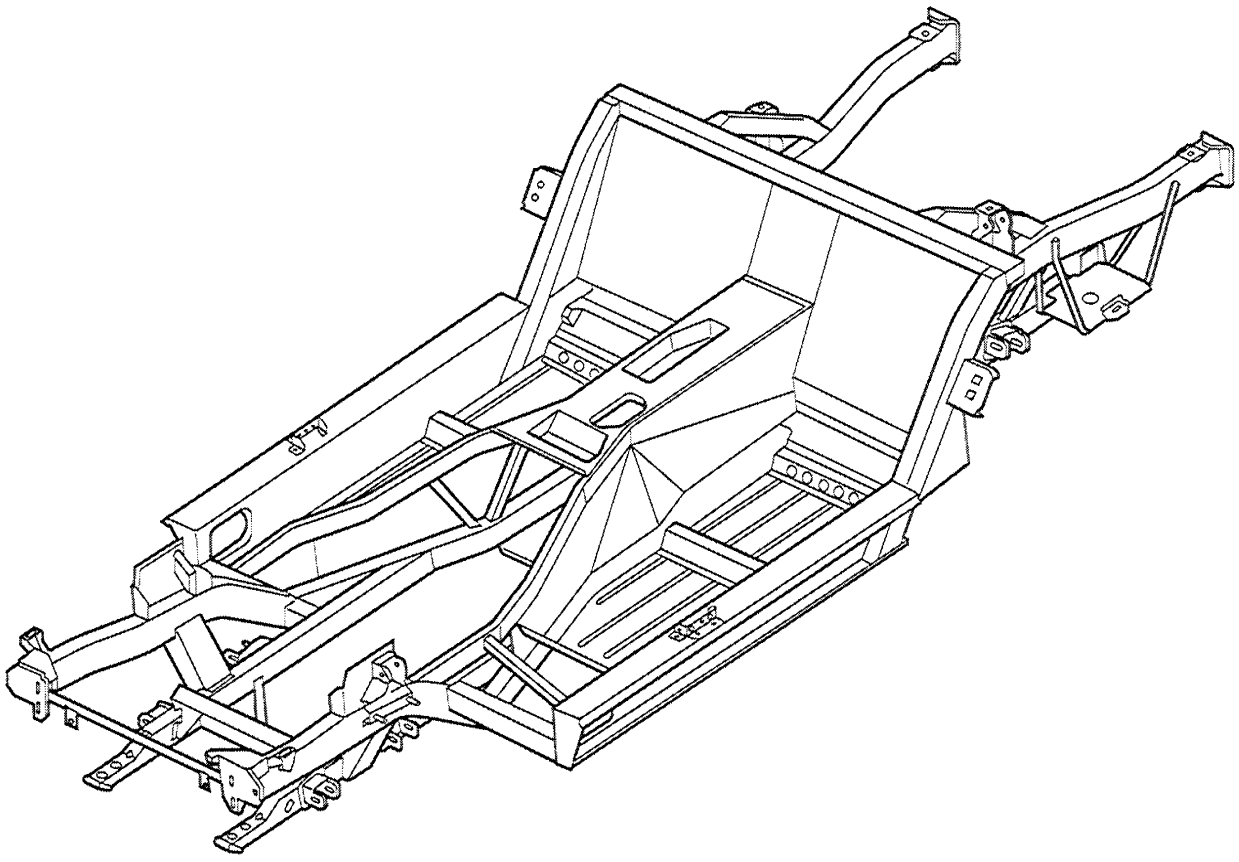
Viper RT/10 Roadster

Viper GTS Coupe

VIPER

Frame Construction Characteristics



CONSTRUCTION

The VIPER frame is constructed of galvannealed tubing and sheet metal to ensure long life protection from corrosion. The frame is built on a fixture with very strict tolerances to ensure correct frame alignment. The frame is constructed using a flux core MIG welding wire to ensure good penetration of all welds. After the frame is cleaned and prepared, it is coated with a corrosion resistant cathodic electrodeposition primer.

SERVICEABLE PARTS

Front Frame Assembly (Includes *)

*Front Upper Frame Rail Assembly

Left and Right Side Sill Assemblies

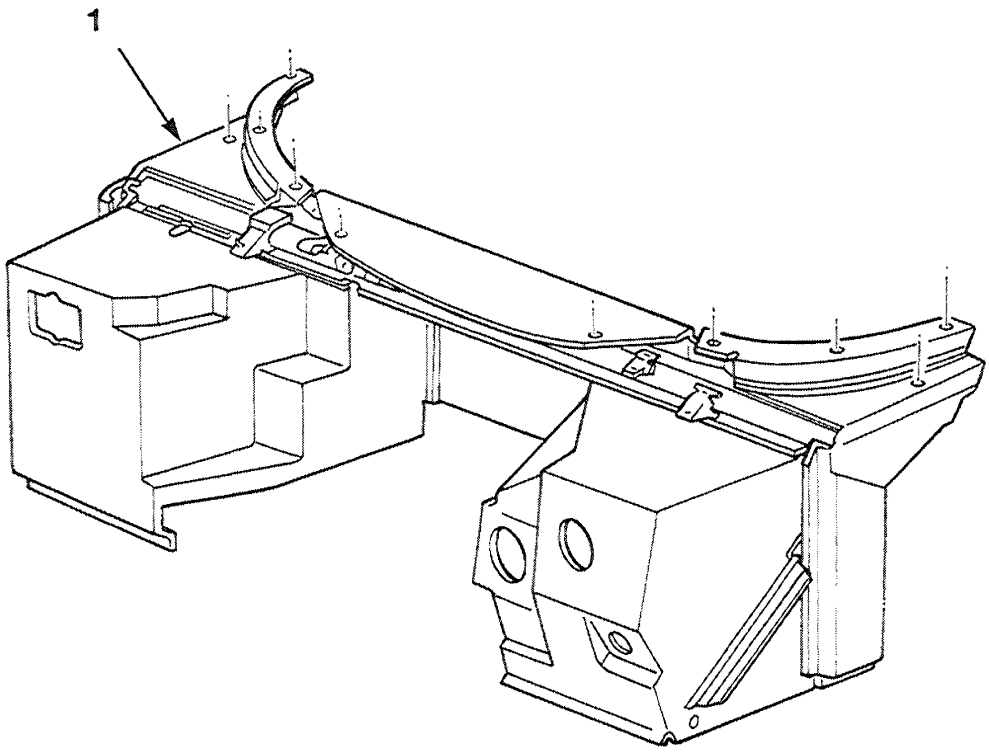
Left and Right Rear Upper Frame Rail Assemblies

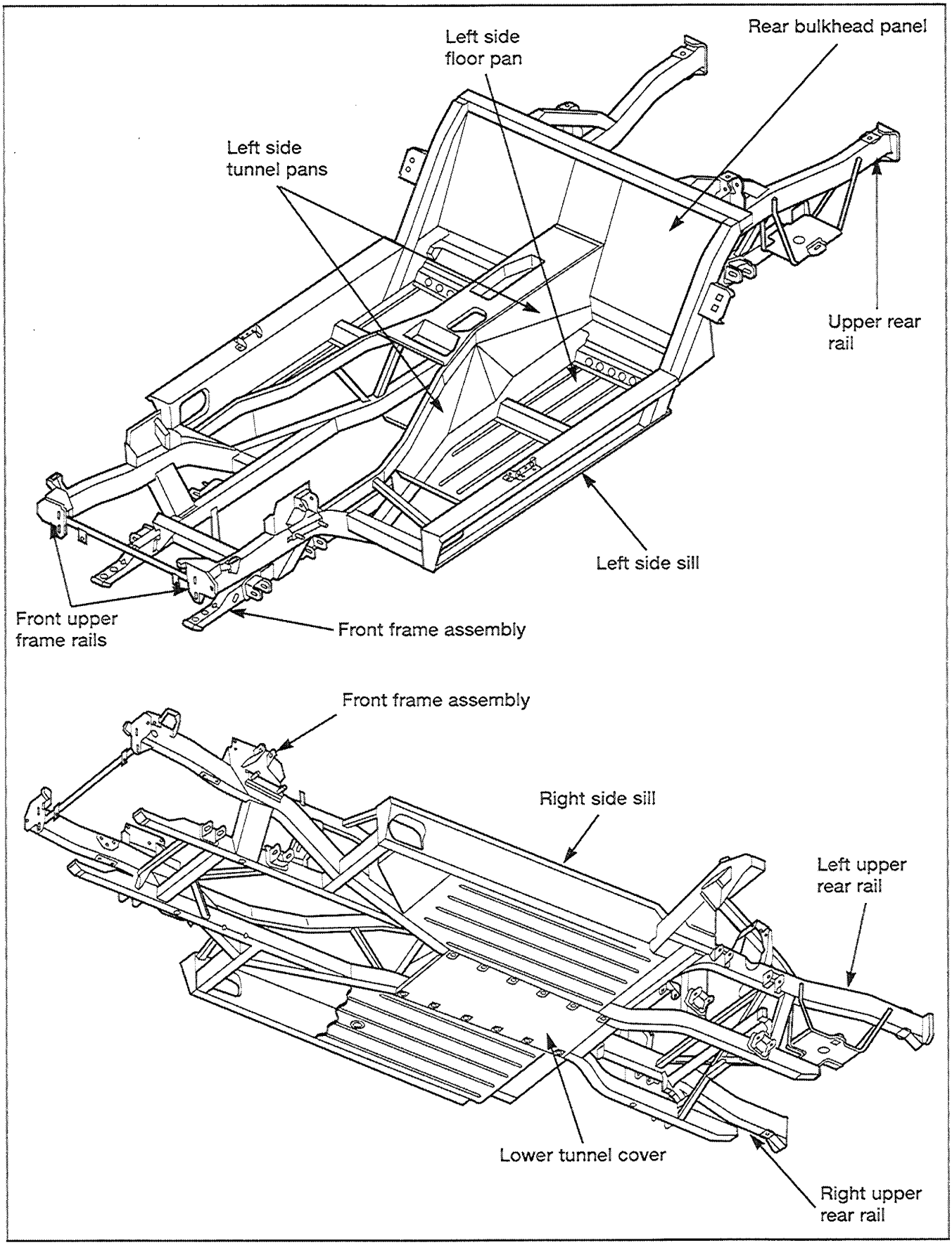
Lower Tunnel Cover

TOE BOX ASSEMBLY

1. Toe Box

Toe Box panels are constructed of galvannealed sheet steel.




Left side
floor pan
Rear bulkhead panel
Left side
tunnel pans
Upper rear
rail
Left side sill
Front upper
frame rails
Front frame assembly
Front frame assembly
Right side sill
Left upper
rear rail
Lower tunnel cover
Right upper
rear rail

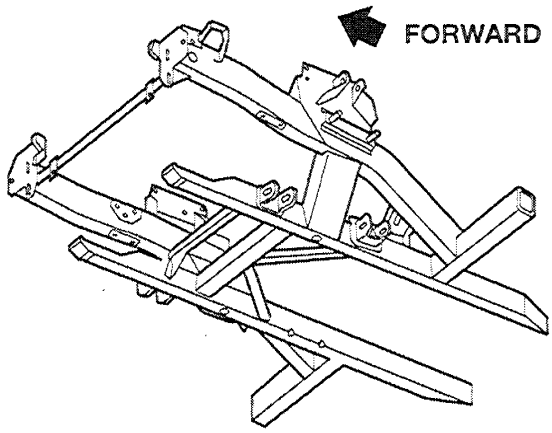
FRONT FRAME ASSEMBLY (COMPLETE)

The complete front frame assembly is a serviceable unit. It includes the front upper frame rail, the cross-member assemblies, and the frame portion ending just in front of the lower dash panel.

The front frame assembly comes complete with all mounts, hardware, and bracing to complete the repair.

CAUTION: When removing this section, care should be taken not to damage the side rails where the front frame assembly is attached.

At the factory, this assembly is butt welded to the side frame rails using MIG flux core wire. Replacement repairs should follow the same procedure.

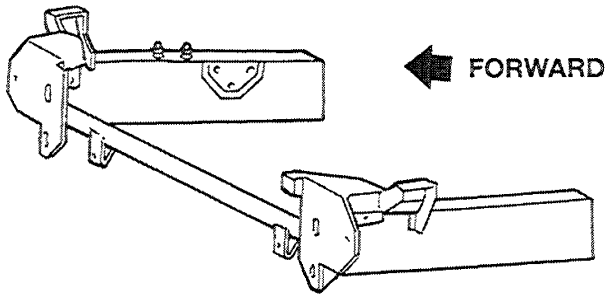


FRONT FRAME ASSEMBLY (COMPLETE)

FRONT UPPER FRAME RAIL ASSEMBLY

The front upper frame rail assembly is a serviceable unit. This section begins at the front of the frame and includes the portion of the frame ending at the front shock uprights.

The front upper frame rail assembly comes complete with all mounts, hardware, and bracing required to complete the repair.



FRONT UPPER FRAME RAIL ASSEMBLY

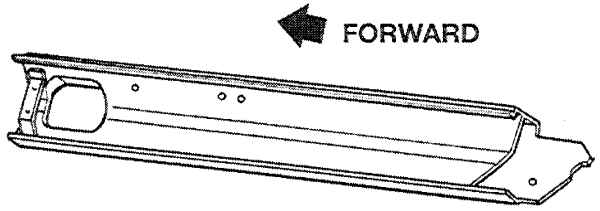
SIDE SILL ASSEMBLIES

The right and left side sill assemblies are serviced as separate units. While they are more of an inner body panel than a frame member, they are covered here because they are an integral part of the frame assembly.

The side sill assemblies provide an exit opening and house the exhaust components that run along the outside of the frame.

To replace these panels, the old sill should be cut out using a die grinder or other type of tool that will not damage adjacent panels.

The side sills come with all related bracing, weld nuts, and jack locator. The new sill will have a light primer coating. This coating should be removed at surfaces where the welding will take place to ensure good weld penetration. This light coat of primer still requires top coating to assure proper corrosion protection.

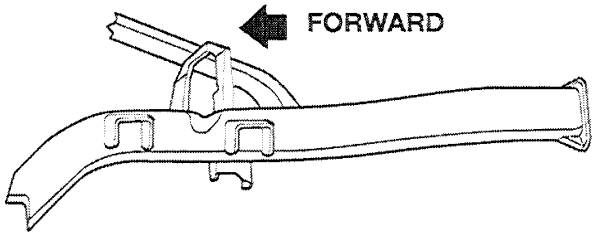


LEFT SIDE SILL

UPPER REAR RAIL ASSEMBLY

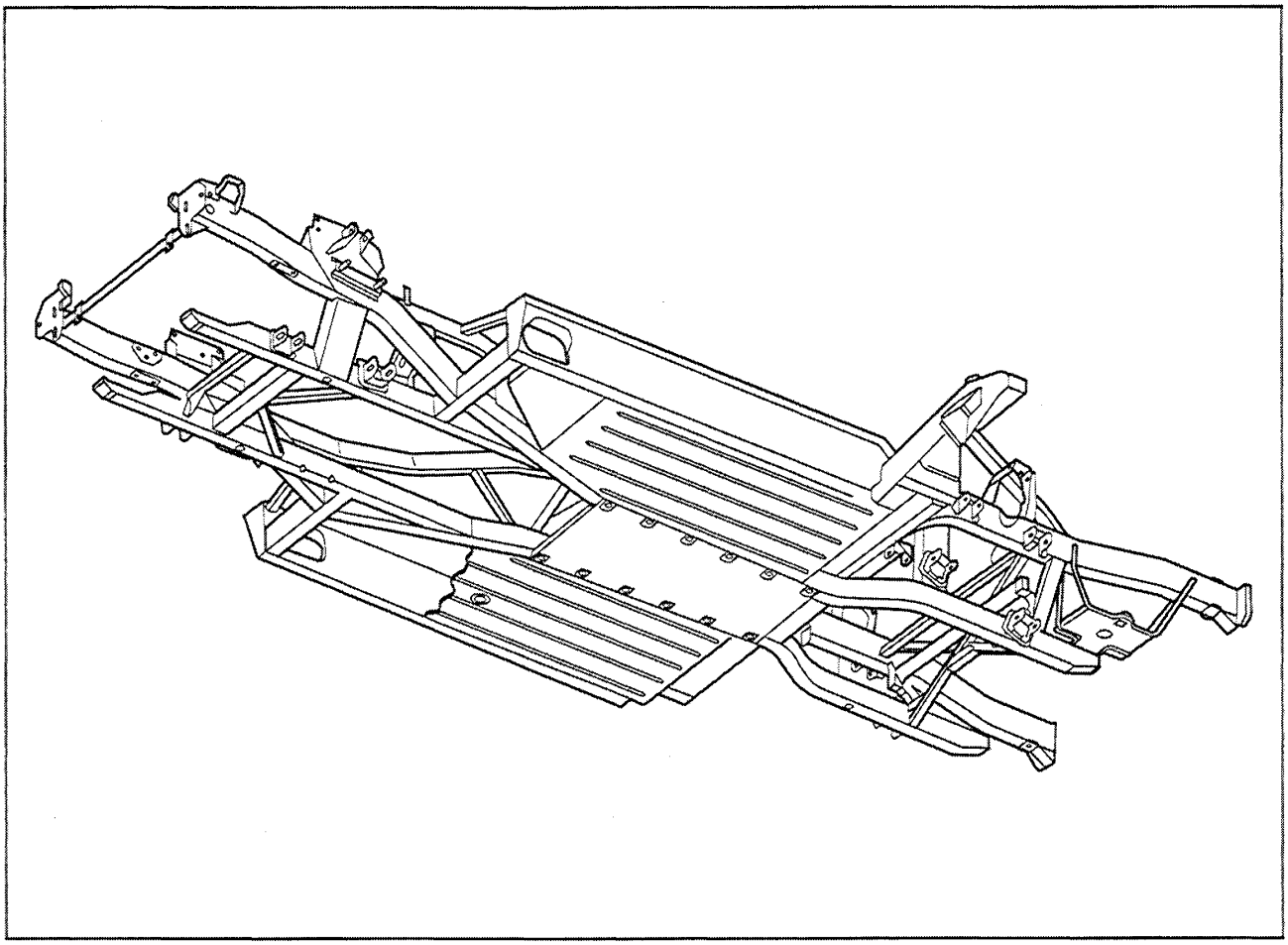
The right and left upper rear frame assemblies are serviced as separate units. The replacement pieces run from the end of the frame, where the bumper reinforcement mounts, back into the center section of the frame.

The upper rear rail assemblies come complete with all mounts, hardware and bracing required to complete the repair.



LEFT UPPER REAR RAIL

VIPER
Frame Repair



NOTE: Chrysler requires that repairs be made on a frame machine using a good measurement system. PLP (principle locator points) are pierced to achieve excellent repair potential. Frame repairs that require welding must be made with flux core MIG wire.

EXPLANATION OF SECTION CONTENTS

The major construction of the frame is welded tubing. Here are some examples for replacement of these parts.

SYMBOLS

Some of the operations for frame section replacement are designated by the following symbols.

Rough cutting of panel to be replaced	+ + + + MIG Plug Weld	WWWW MIG Arc Welding

1 3 2 4

Continuous Stitch MIG Weld

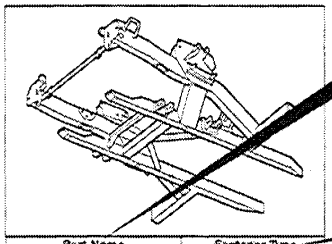
Alternate stitch welds until you have a continuous MIG weld.

Indicates the name of the parts being fastened together. These parts are illustrated in the box above.

Indicates the type of weld to be performed and the type of welding wire to be used.

Indicates area of repair being referred to.

Front Frame Assembly



Part Name	Fastener Type
Front Frame Assembly	Flux Core MIG Butt Weld
Main Frame Rails	Flux Core MIG Butt Weld
Braces	Flux Core MIG Butt Weld
Upper Tunnel Rails	Flux Core MIG Butt Weld
Side Sills	Flux Core MIG Butt Weld

CAUTI

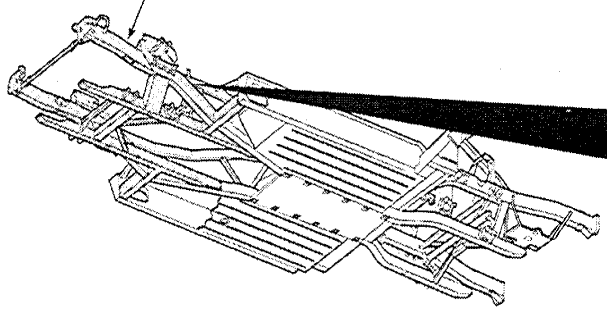
put inserts in collapse areas. Strengthening parts will change the way collision damage is absorbed, possibly endangering the passengers.

When removing this section, care should be taken not to damage the side rails where the front frame assembly is attached.

Do not section in the following area

- Suspension
- Structural part mounting locations
- Dimensional reference holes
- Compound shapes/reinforcements
- Reinforcements (except as noted)
- Compound structures
- Collapse/crush zones
- Engine or drivetrain mounting locations

Front frame replacement section



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NOTE: Do some test welds to double check your equipment and to insure your welds are the very best quality and conform to the American Welding Society standards.

NOTE: For weld specifications contact:

American Welding Society

550 Northwest Le Juene Rd.

P. O. Box 351040

Miami, Florida 33135

Phone: (305) 443-9353

Points which require particular attention during welded frame section replacement work.

The frame section removal instructions and accompanying illustrations are given in the order in which the work is to be performed.

The frame section installation instructions and accompanying illustrations are given in the order in which the work is to be performed.

In order to keep the instructions brief and simple, obvious work procedures (such as removal of a panel after it has been cut) have been omitted where possible.

Front Frame Assembly

NOTES WITH REGARD TO REPAIR WORK

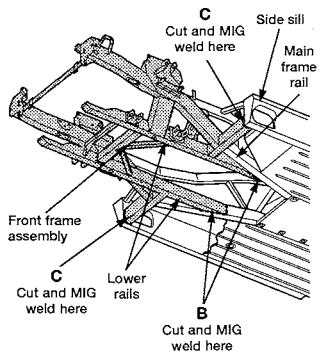
- The complete front frame assembly includes the front upper frame rails, the crossmember assemblies, and the frame portion ending just in front of the lower dash panel.
- The front frame assembly comes complete with all mounts, hardware and bracing to complete the repair.

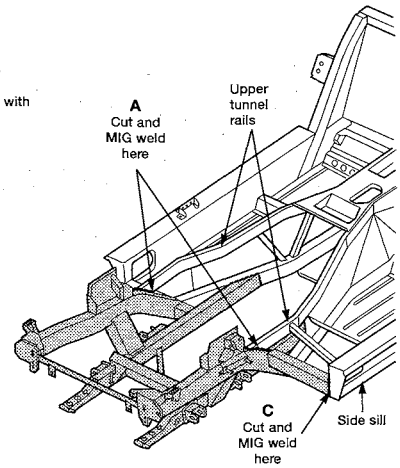
REMOVAL

1. The frame should be straightened and squared before removing front frame assembly.
2. Remove all MIG butt welds at locations where (A) upper tunnel rails, (B) lower rails, and (C) side sills attach to front frame assembly. Use a die grinder or other suitable means.

INSTALLATION

1. Clean and prep all rails and braces.
2. Tack weld new front frame assembly in place using flux core wire.
3. Measure and recheck alignments.
4. Complete MIG welding using flux core wire.
5. Treat all weld areas (inner and outer) with corrosion protection.





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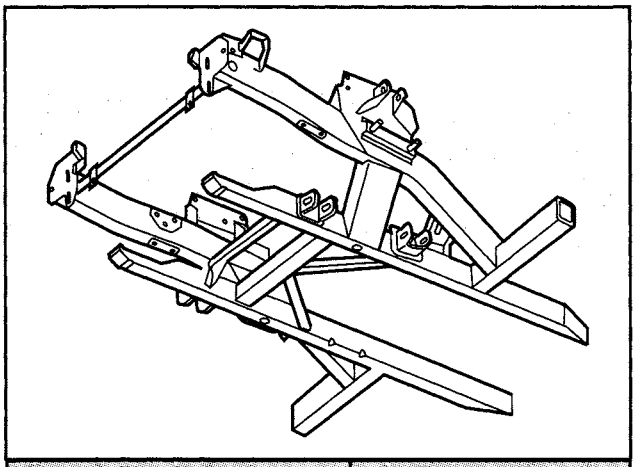


Part Name	Fastener Type
Front Frame Assembly	Flux Core MIG Butt Weld
Main Frame Rails	Flux Core MIG Butt Weld
Braces	Flux Core MIG Butt Weld
Upper Tunnel Rails	Flux Core MIG Butt Weld
Side Sills	Flux Core MIG Butt Weld

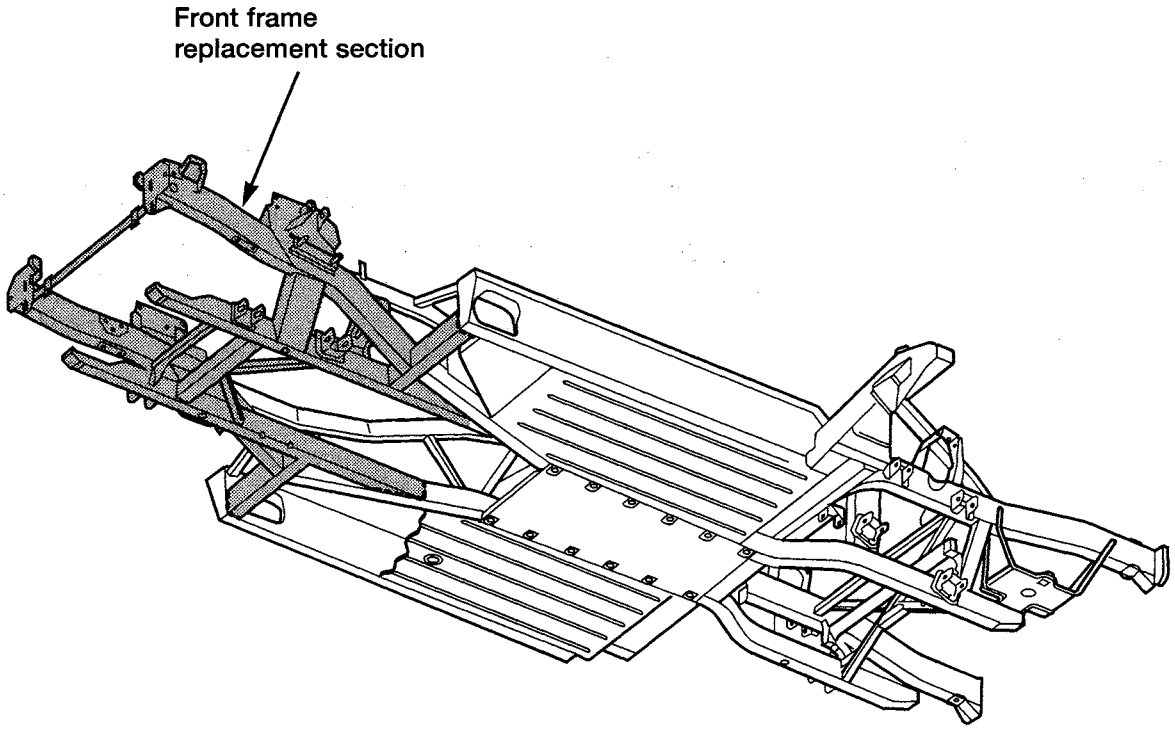
CAUTIONS:

DO NOT put inserts in collapse areas. Strengthening the parts will change the way collision damage is absorbed, possibly endangering the passengers.

When removing this section, care should be taken not to damage the side rails where the front frame assembly is attached.

Do not section in the following areas:

- Suspension mounting locations
- Structural part mounting locations
- Dimensional reference holes
- Compound shapes/reinforcements
- Reinforcements (except as noted)
- Compound structures
- Collapse/crush zones
- Engine or drivetrain mounting locations



NOTES WITH REGARD TO REPAIR WORK

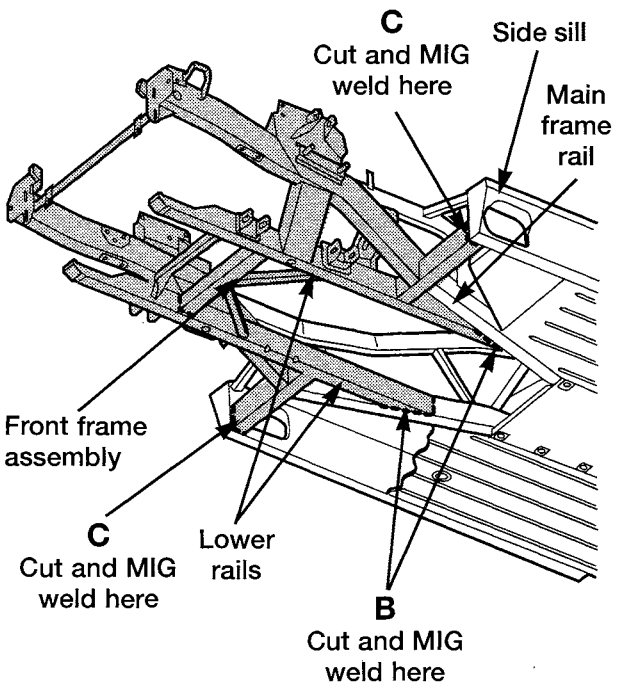
- The complete front frame assembly includes the front upper frame rails, the crossmember assemblies, and the frame portion ending just in front of the lower dash panel.
- The front frame assembly comes complete with all mounts, hardware and bracing to complete the repair.

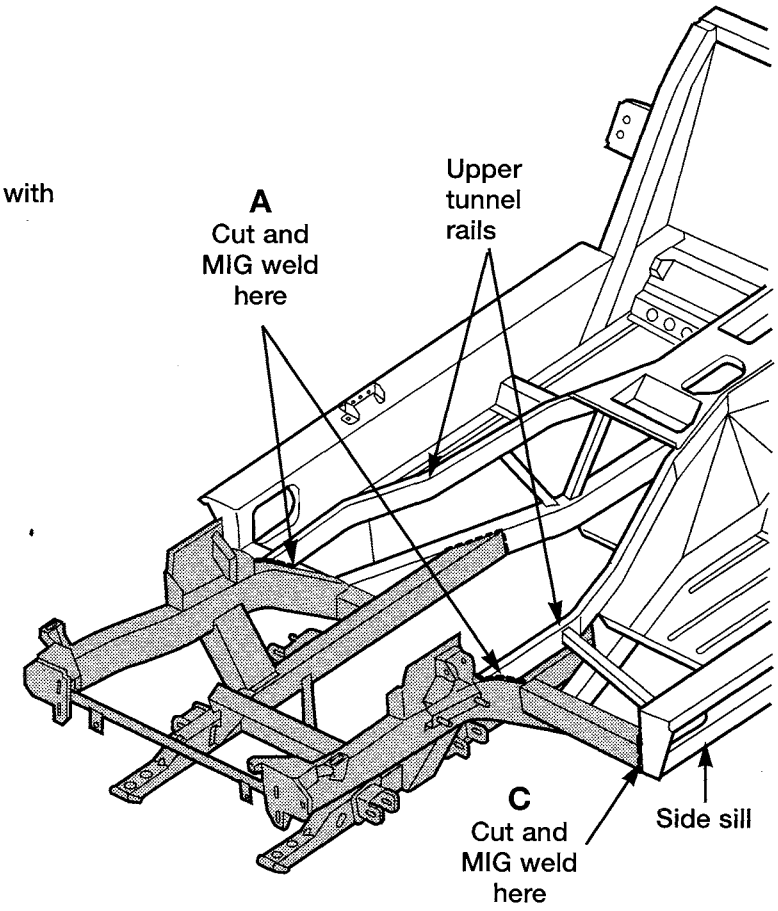
REMOVAL

1. The frame should be straightened and squared before removing front frame assembly.
2. Remove all MIG butt welds at locations where (A) upper tunnel rails, (B) lower rails, and (C) side sills attach to front frame assembly. Use a die grinder or other suitable means.

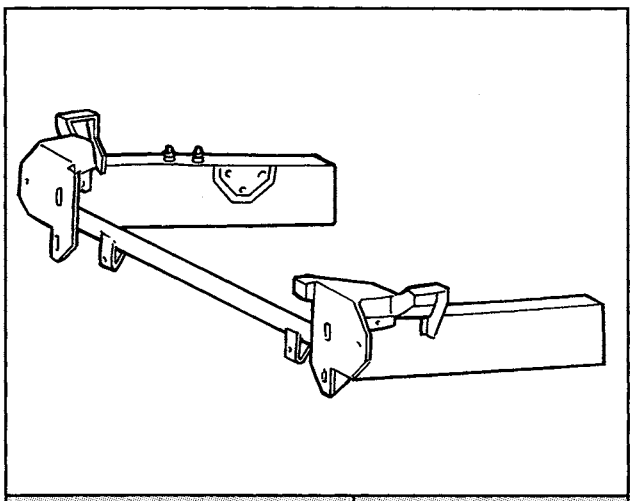
INSTALLATION

1. Clean and prep all rails and braces.
2. Tack weld new front frame assembly in place using flux core wire.
3. Measure and recheck alignments.
4. Complete MIG welding using flux core wire.
5. Treat all weld areas (inner and outer) with corrosion protection.





Front Upper Frame Rail Assembly



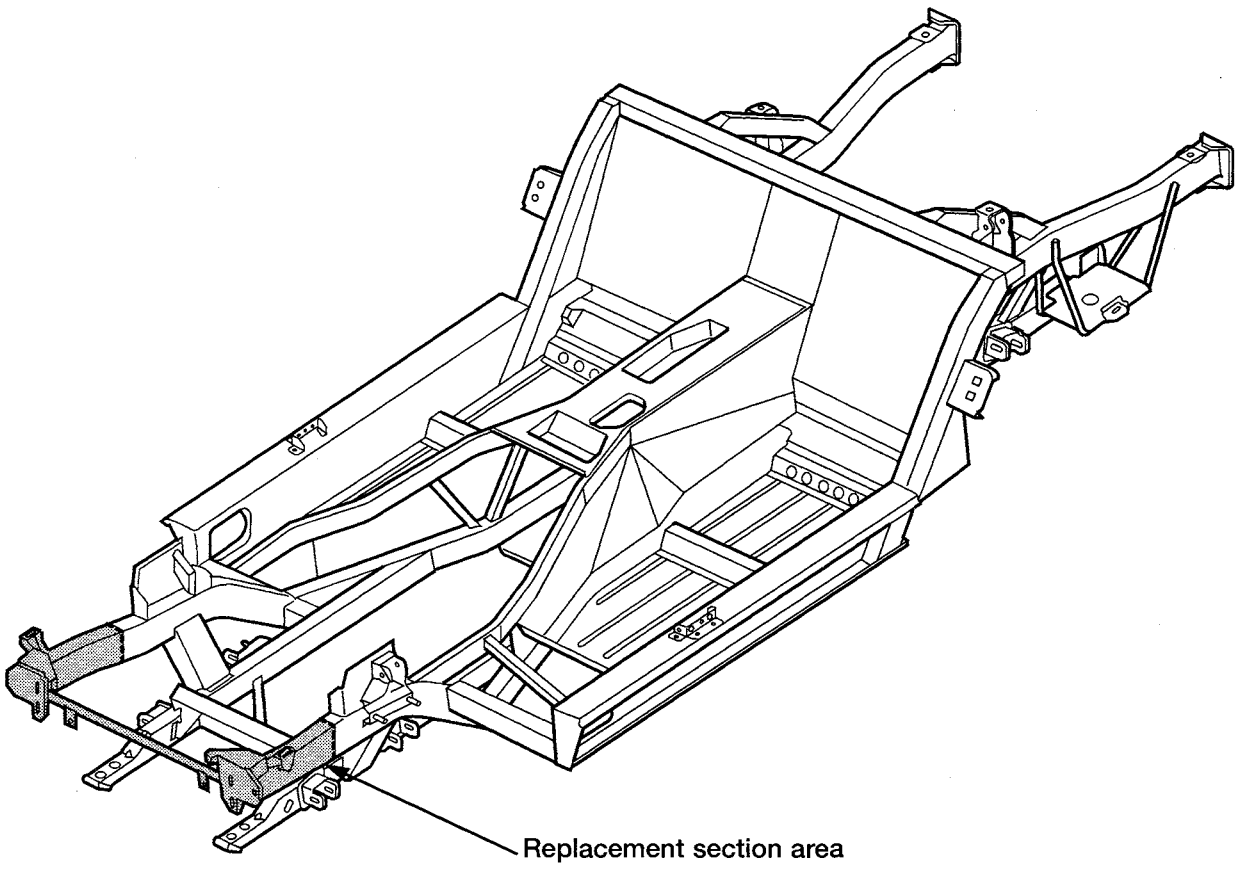
Part Name	Fastener Type
Upper Frame Rail	Flux Core MIG Weld
Splice Insert	Flux Core Plug & MIG Weld

CAUTIONS:

DO NOT put inserts in collapse areas. Strengthening the parts will change the way collision damage is absorbed, possibly endangering the passengers.

Do not section in the following areas:

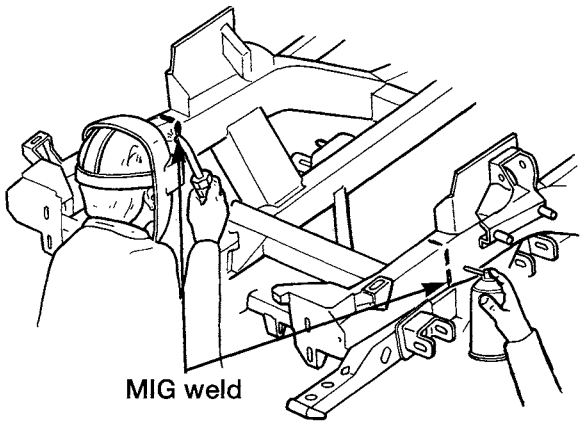
- Suspension mounting locations
- Structural part mounting locations
- Dimensional reference holes
- Compound shapes/reinforcements
- Reinforcements (except as noted)
- Compound structures
- Collapse/crush zones
- Engine or drivetrain mounting locations



NOTES WITH REGARD TO REPAIR WORK

- The front upper frame rails and cross support are serviced as a complete assembly.
- All or a portion of the replacement assembly may be used depending on the extent of damage.
- This assembly will have to be sectioned into the vehicle frame.

Follow recommended I-CAR repair procedures for sectioning of frame and body panels.

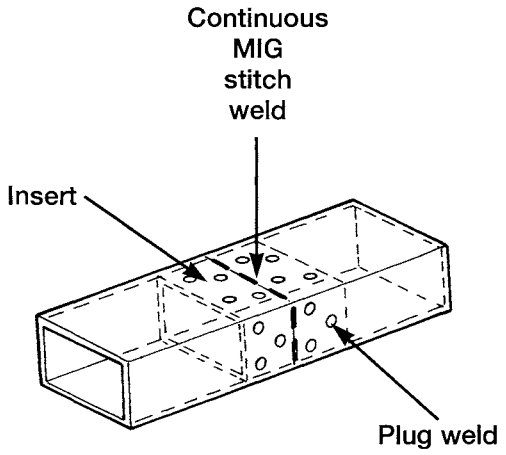


REMOVAL

The frame should be straightened and squared before cutting damaged portion from frame rails.

Use a die grinder or reciprocating saw. Do not use a cutting torch to cut frame areas.

Determine the area where the new section is to be installed. This depends on the splice method being used (overlap or insert).



INSERT METHOD

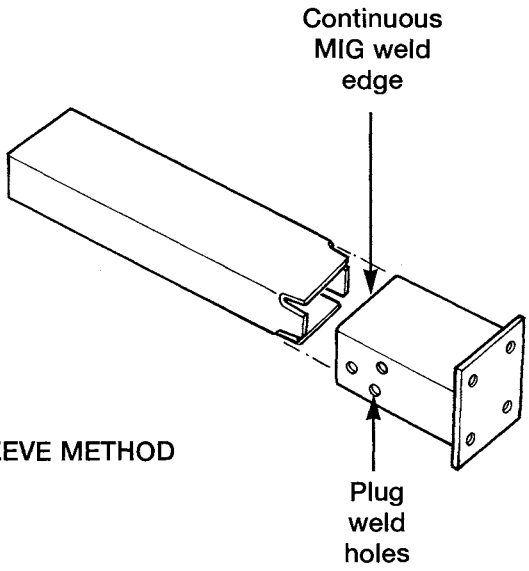
INSTALLATION

Mount and temporarily tack weld new section in place.

Measure for square, and check all alignment dimensions.

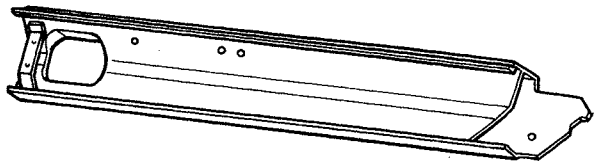
Complete all MIG welding (must use flux core wire).

Clean and treat all surfaces (inner and outer) of repair area with corrosion protection.



SLEEVE METHOD

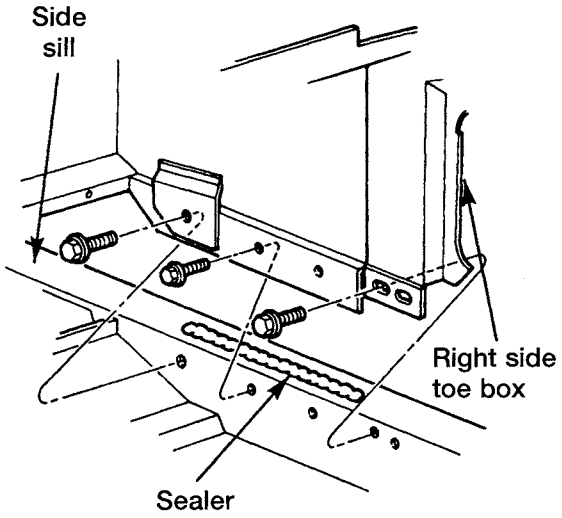
Frame Side Sill Assembly

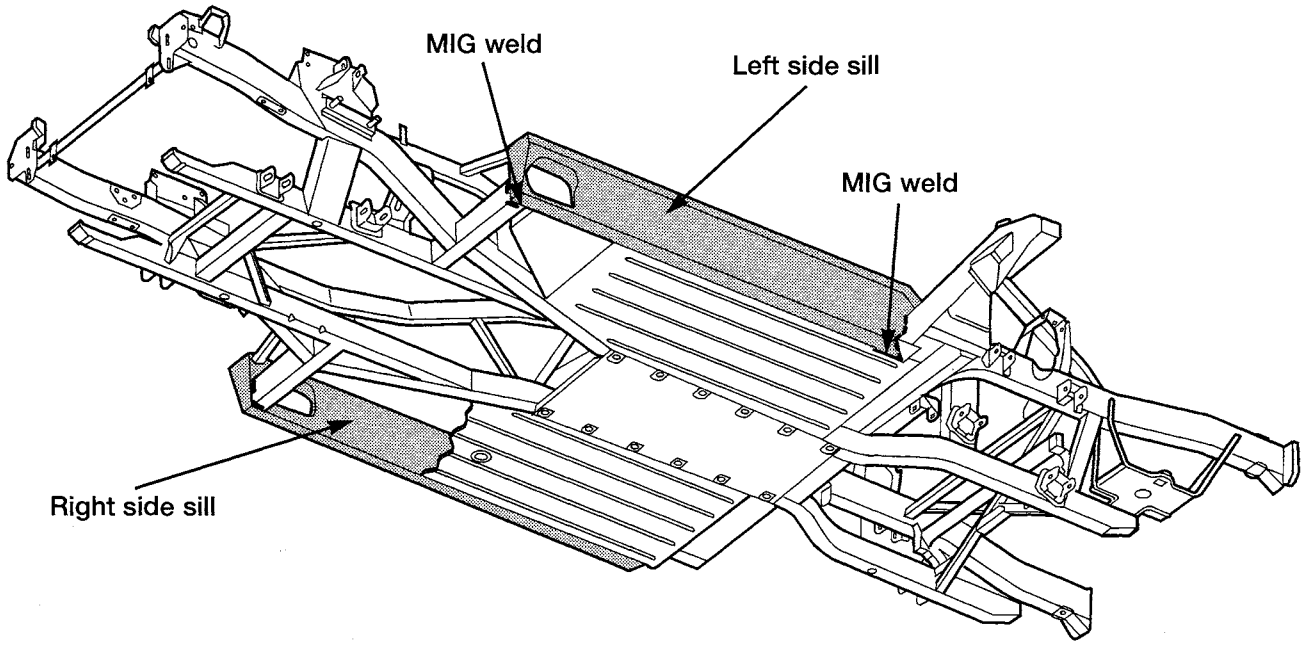


Part Name	Fastener Type
Side Sill to Floor Pan	Flux Core MIG Stitch Weld
Side Sill to Front Frame Rail	Flux Core MIG Butt Weld
Side Sill to Toe Box L Side	Sealer & Bolts (3)
Side Sill to Toe Box R Side	Sealer & Bolts (5)
Side Sill to Rear Frame Upright	Flux Core MIG Weld

CAUTIONS:

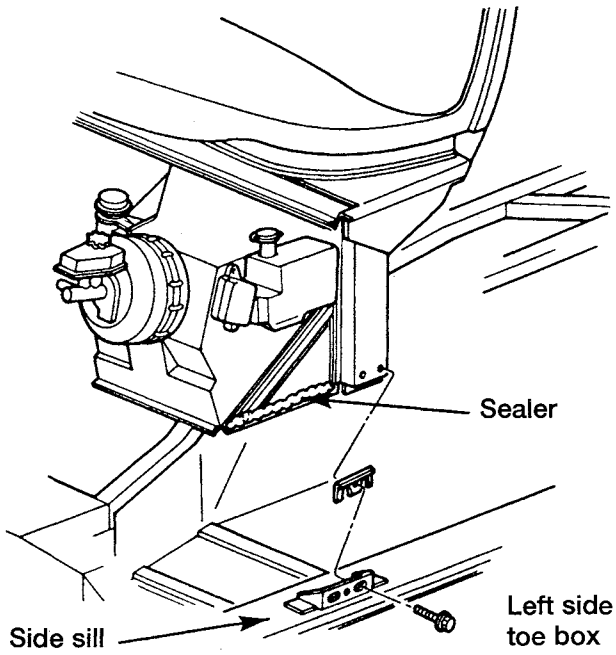
- When removing damaged side sills care should be taken not to damage adjacent panels.
- Remove all flammable materials before grinding or welding.
- All attaching fasteners requiring replacement must be of the same size, type, quality, and corrosion resistance.





NOTES WITH REGARD TO REPAIR WORK

- Door surround panels must be removed to replace side sill panel.
- The side sills come with all related bracing, weld nuts, and jack locator.

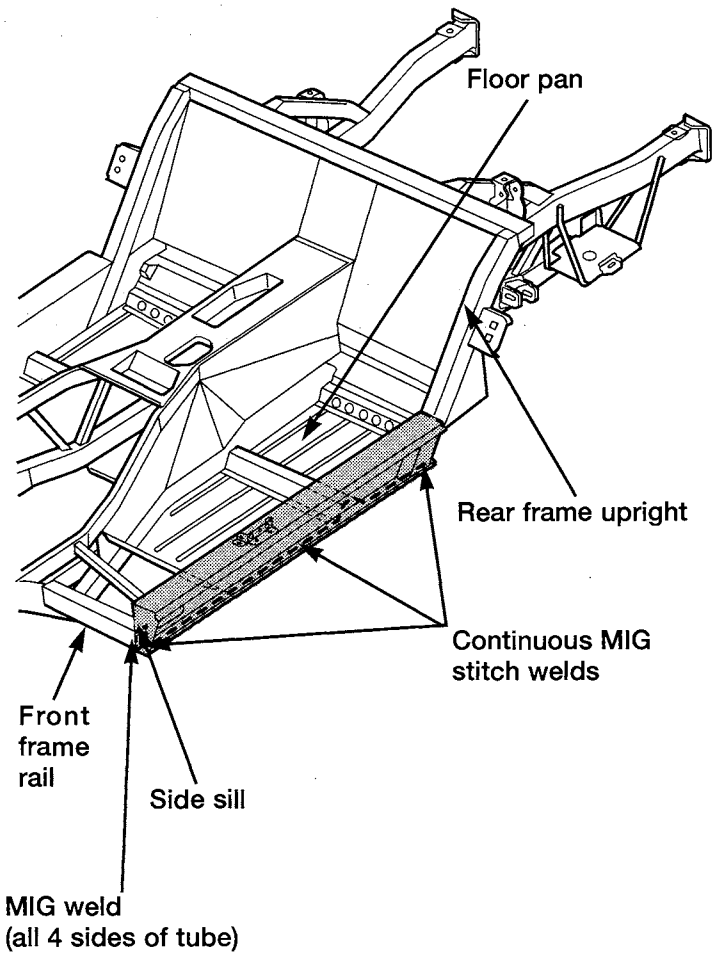


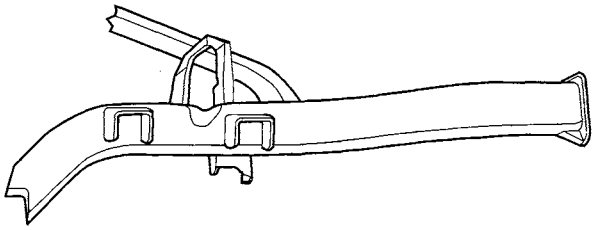
REMOVAL

1. Remove screws at lower toe box to side sill.
2. Cut all MIG welds using a die grinder or other suitable tool.
3. Clean all sealer from component surfaces.

INSTALLATION

1. Fit new side sill assembly in place, and check for fit and alignment.
2. Apply sealer to toe box attaching area.
3. Reinstall bolts at toe box attaching area.
4. Tack weld side sill in place.
5. Re-check alignment.
6. Complete MIG stitch and butt welds.
7. Apply sealer to floor pan/side sill mating area.
8. Treat all repair areas with corrosion protection.





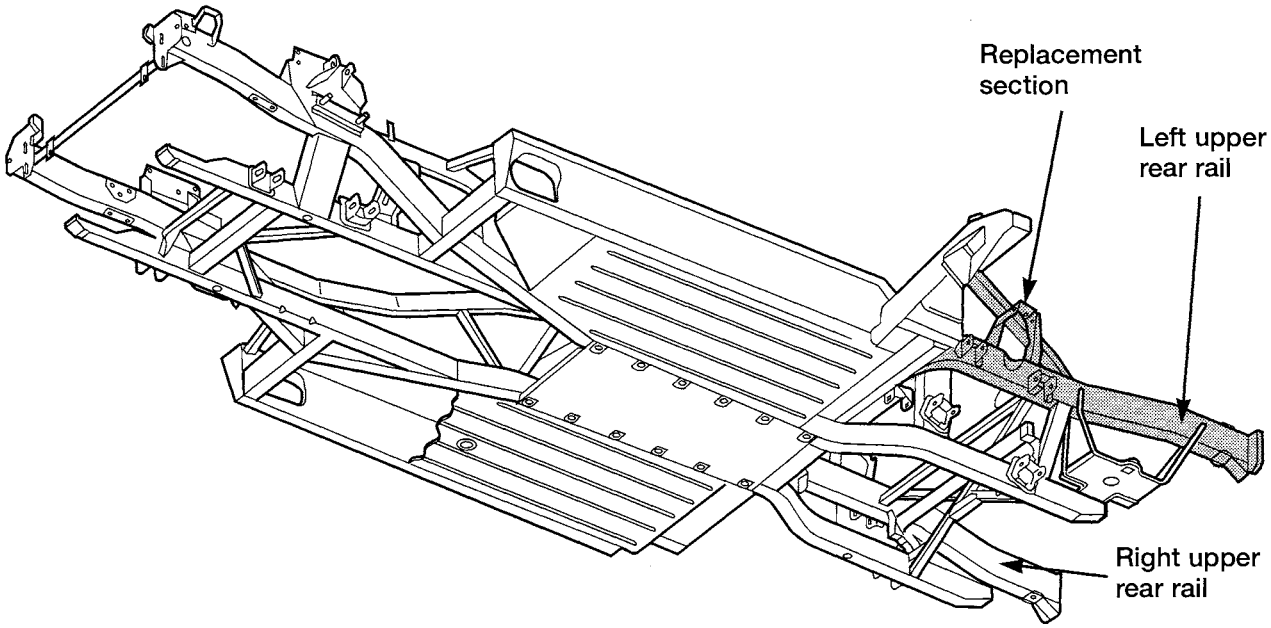
Part Name	Fastener Type
Upper Rear Rail to Frame Rail	Flux Core MIG Butt Weld
R Upper Rear Rail to Frame Rail	Flux Core MIG Butt Weld

CAUTION:

When replacing the upper rear rail, if only a section of it is used, DO NOT put inserts in collapse areas. Strengthening the parts will change the way collision damage is absorbed, possibly endangering the passengers.

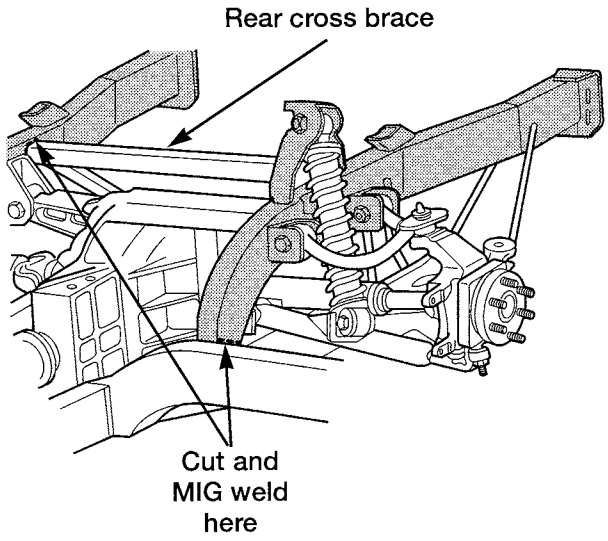
Do not section in the following areas:

- Suspension mounting locations
- Structural part mounting locations
- Dimensional reference holes
- Compound shapes/reinforcements
- Reinforcements (except as noted)
- Compound structures
- Collapse/crush zones
- Engine or drivetrain mounting locations



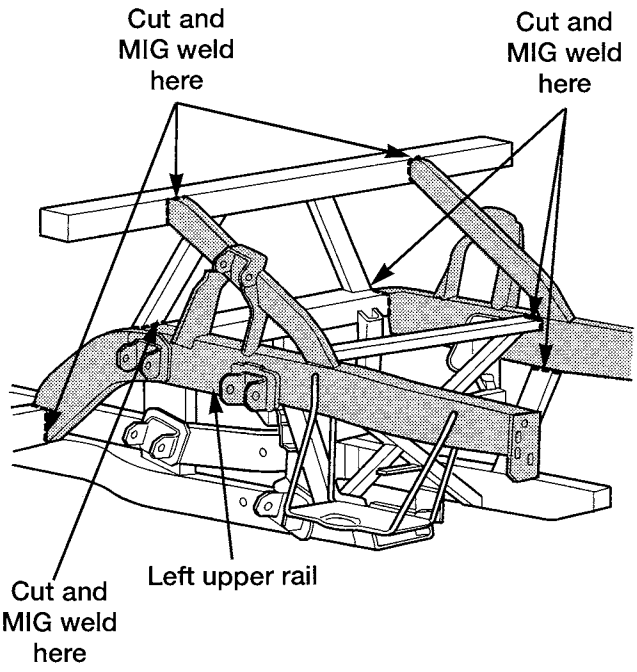
NOTES WITH REGARD TO REPAIR WORK

- The upper rear rail assemblies come complete with all mounts, hardware, and bracing required to complete the repair.
- The trunk pan assembly must be removed when replacing the entire upper rail assembly.
- Remember to remove all flammable materials before beginning this repair.



REMOVAL

1. The frame should be straightened and squared before removing the damaged upper frame rail assembly.
2. Cut all MIG butt welds securing upper rear frame rail to lower main frame rails, diagonal braces and cross braces.
3. Clean and prep all remaining frame tubing for new rail installation.

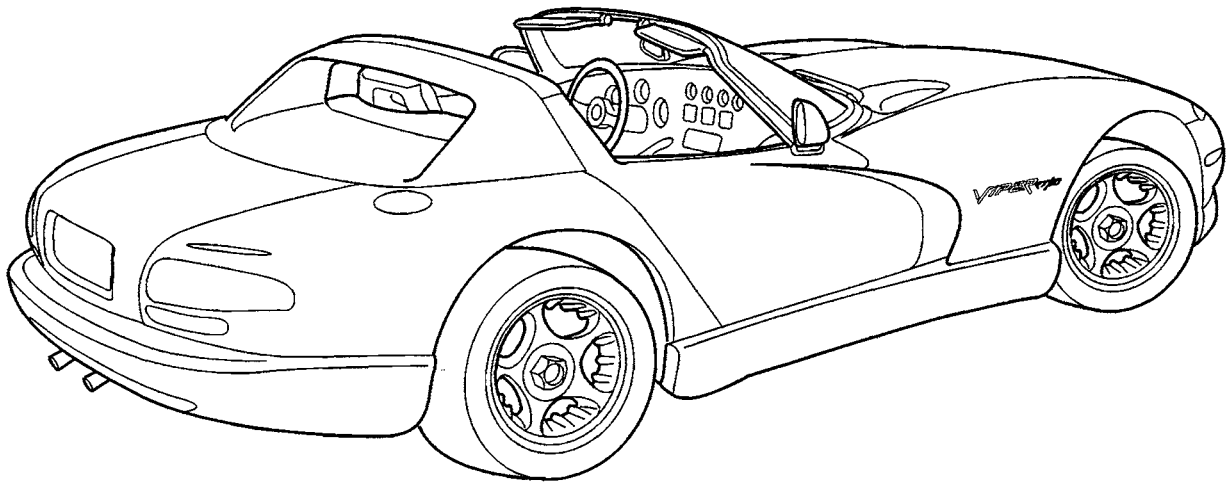


INSTALLATION

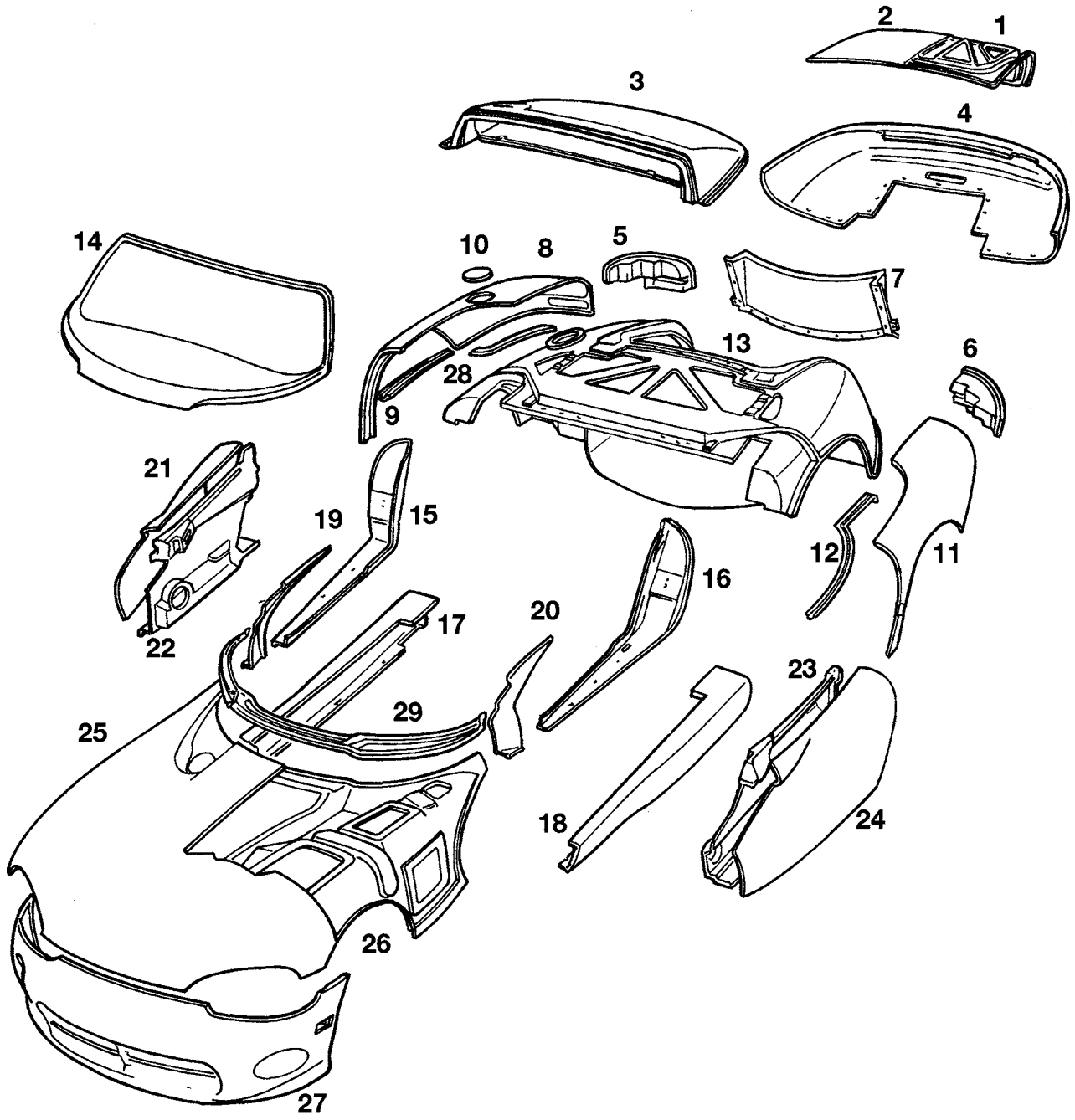
1. If replacing entire rail, position, measure, and align new rail and tack weld into place.
2. If sectioning, refer to front upper frame rail assembly in this section.
3. Double check all measurements, and perform MIG welding using flux core wire.
4. Clean and treat all inner and outer repair areas with proper corrosion protection.

VIPER

RT/10 Roadster
Body Construction Characteristics



BODY COMPONENTS — VIPER RT/10 ROADSTER



BODY PANELS ILLUSTRATED

1 Panel - Deck Lid Inner

2 Panel - Deck Lid Outer

3 Panel Assy - Sport Cap

4 Fascia - Rear

5 Support - Tail Lamp/Right

6 Support - Tail Lamp/Left

7 Panel - Fuel Tank Closeout

8 Panel - Rear Quarter/Right

9 Support - Rear Quarter Panel/Rt. Front

10 Door - Fuel Filler

11 Panel - Rear Quarter/Left

12 Support - Rear Quarter Panel/Left

13 Trunk Pan Assembly

14 Windshield - Frame Assy.

15 Panel - Door Surround/Right

16 Panel - Door Surround/Left

17 Panel - Sill Outer/Right

18 Panel - Sill Outer/Left

19 Panel - Hinge Cover/Right

20 Panel - Hinge Cover/Left

21 Panel - Front Door Outer/Right

22 Panel Assy. - Front Door Inside/Right

23 Panel Assy. - Front Door Inside/Left

24 Panel - Front Door Outer/Left

25 Panel - Hood Outer

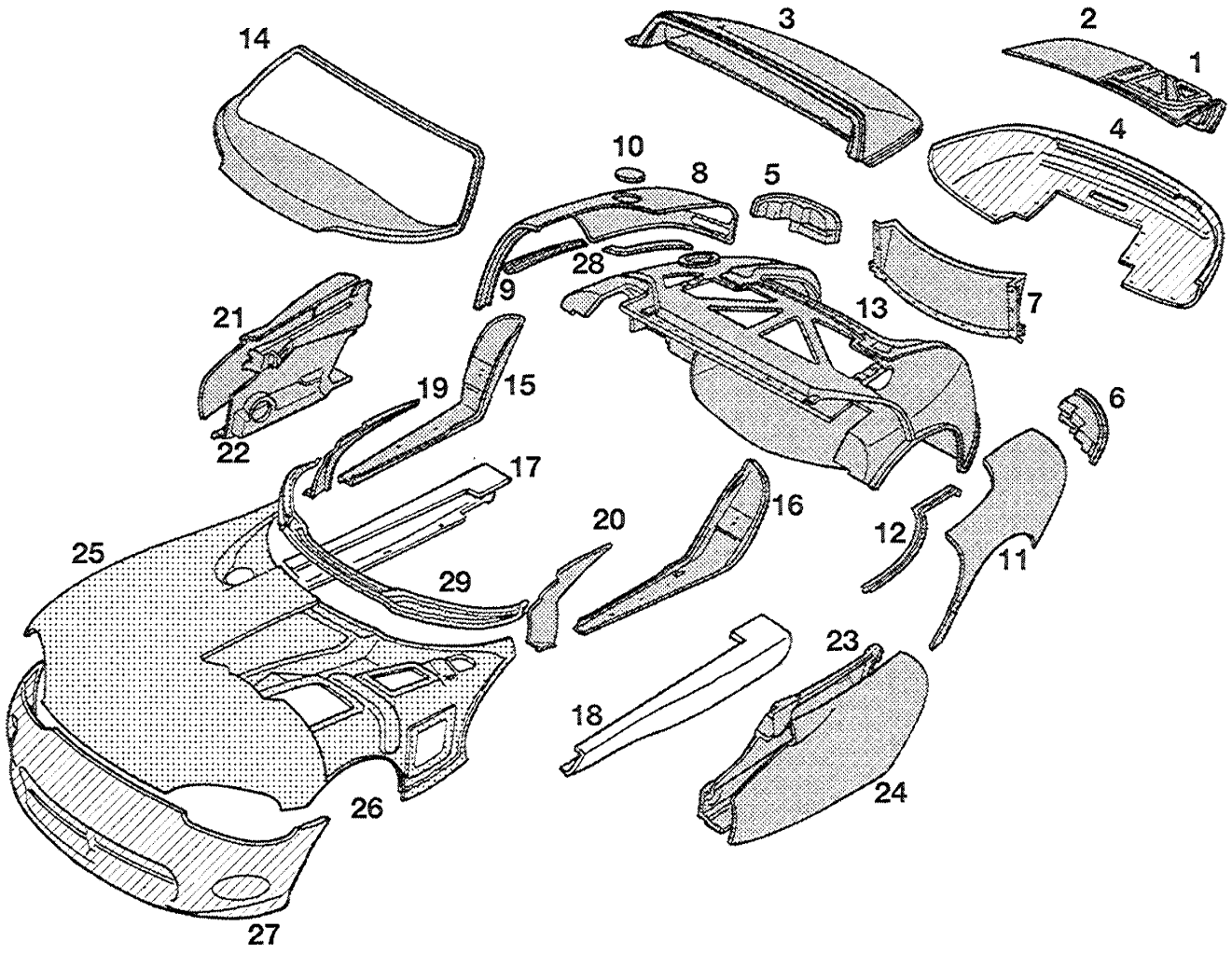
26 Panel - Hood Inner/Left, Right, Center

27 Panel - Fascia/Front

28 Support - Rear Quarter Panel/Right Rear

29 Panel - Cowl Trim

BODY COMPONENT MATERIALS — VIPER RT/10 ROADSTER



RTM RIM SMC Aluminum

INTRODUCTION

All Body Panels are made of plastic type materials. Different processes are used to create and shape the panels. Most body and internal structure panels are produced from the RTM process. Flexible panels are produced from the RIM process.

All panels are fastened with adhesive, rivets, bolts, and screws or a combination of these fasteners.

Service repair is enhanced as all exterior panels can be easily removed.

- RTM (Resin Transfer Molding) — A continuous fiberglass mat is placed in a heated, preforming tool to establish the basic shape. The preform is then placed in a lower heated tool (200°F) where the resin is injected. The part is allowed to cure which takes approximately 20 minutes. The panels are then trimmed by robotics using a laser cutting or water jet process.

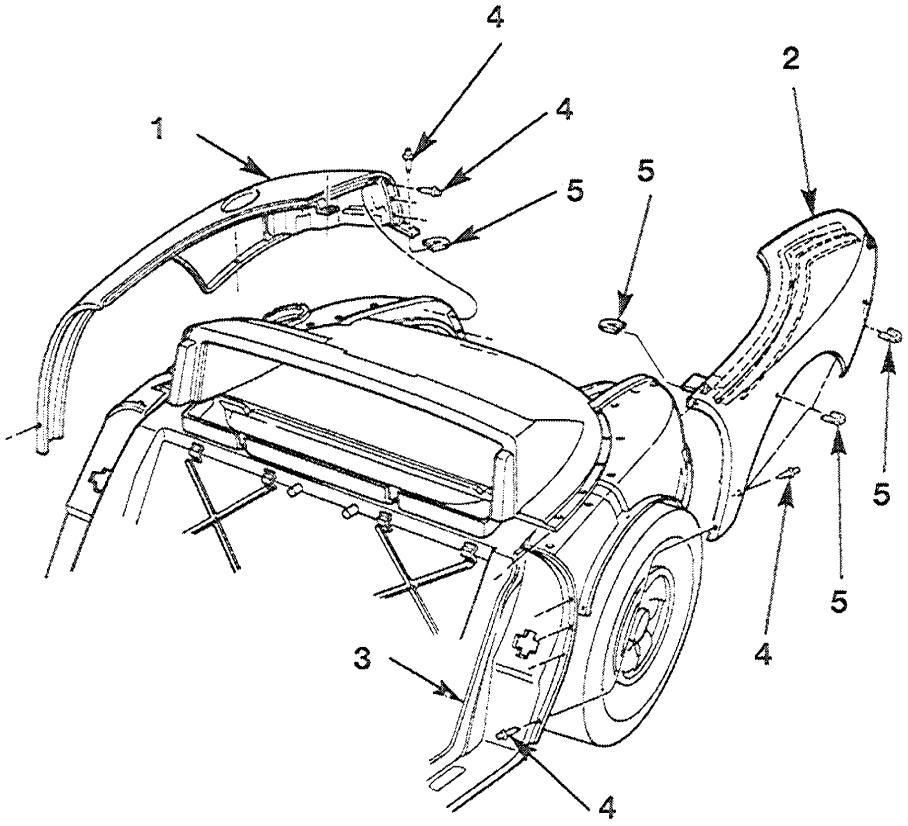
- RIM (Reaction Injection Molding) — This process has produced highly flexible plastic panels throughout the industry, an example is the VIPER/RT10 bumper fascias.

- Repair procedures for RTM panels are very similar to SMC panels. Refer to the Panel Repair section on page 61.

- SMC (Sheet Molded Compound) — This material is repaired the same as RTM. It is constructed using short fiberglass strands usually less than 2" long. Sheet stock of glass impregnated resin matting is placed into the mold and pressed under heat to flow material throughout the mold. Tooling is shear edge designed to mold to net (i.e. no trimming at periphery required).

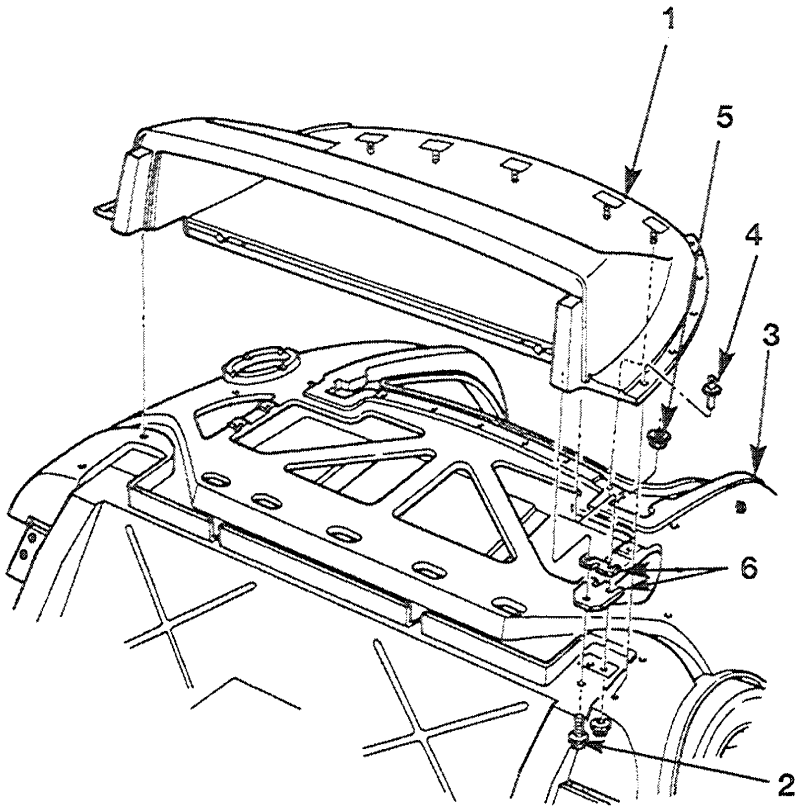
QUARTER PANELS

1. RH quarter panel
2. LH quarter panel
3. LH door surround panel
4. Panel attachment rivets (28)
5. Panel alignment shims



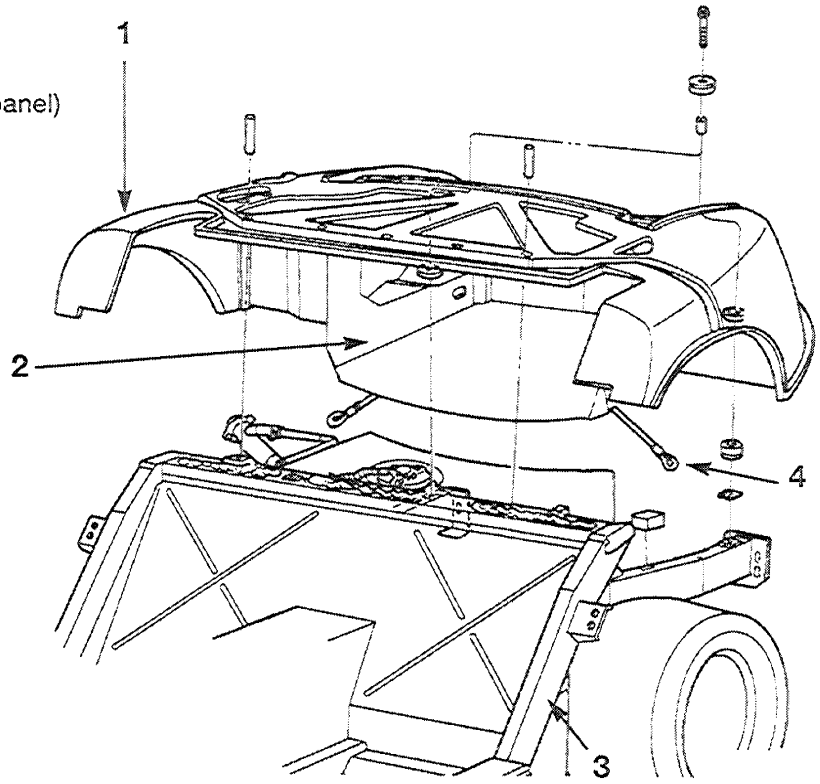
SPORT CAP

1. Sport cap panel
2. Sport cap attachment screws (2)
3. Trunk pan assembly
4. Panel attachment rivets (9)
5. Sport cap attachment nuts (9)
6. Panel alignment shims



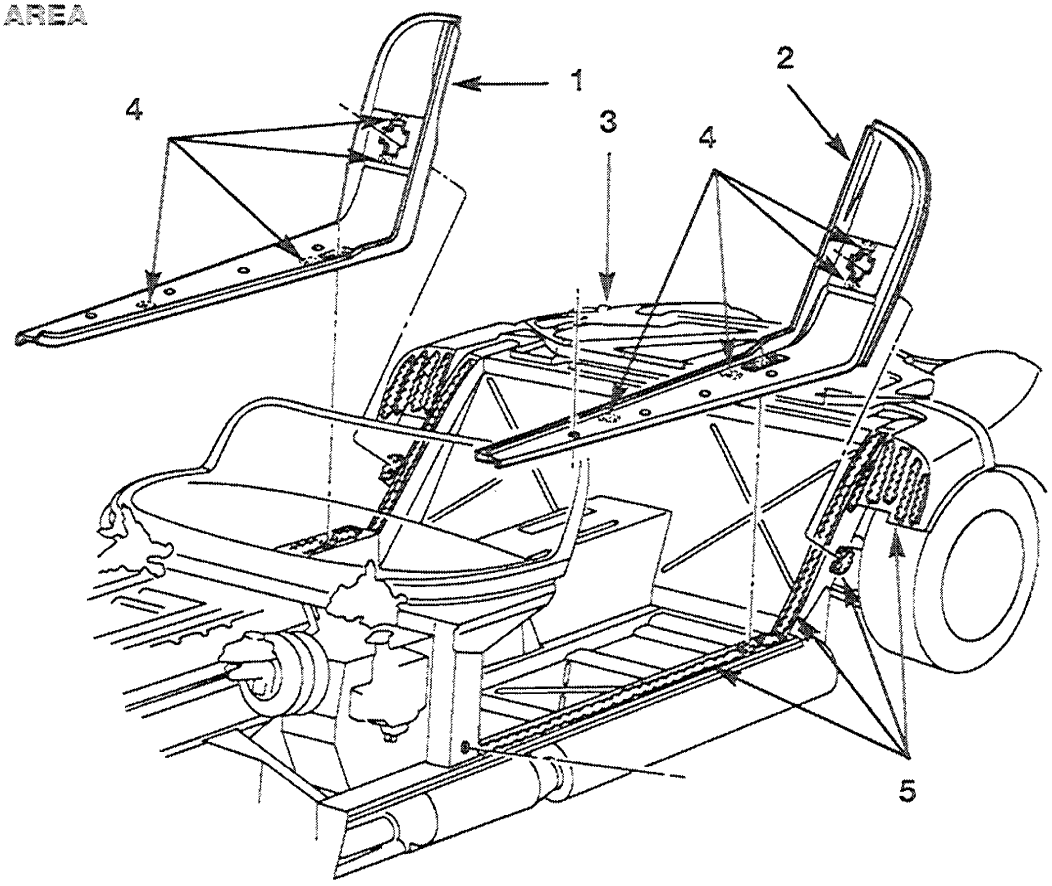
TRUNK AREA

1. Trunk closeout panel
2. Trunk pan (bonded to trunk closeout panel)
3. Frame assembly
4. Trunk pan tie-down cable



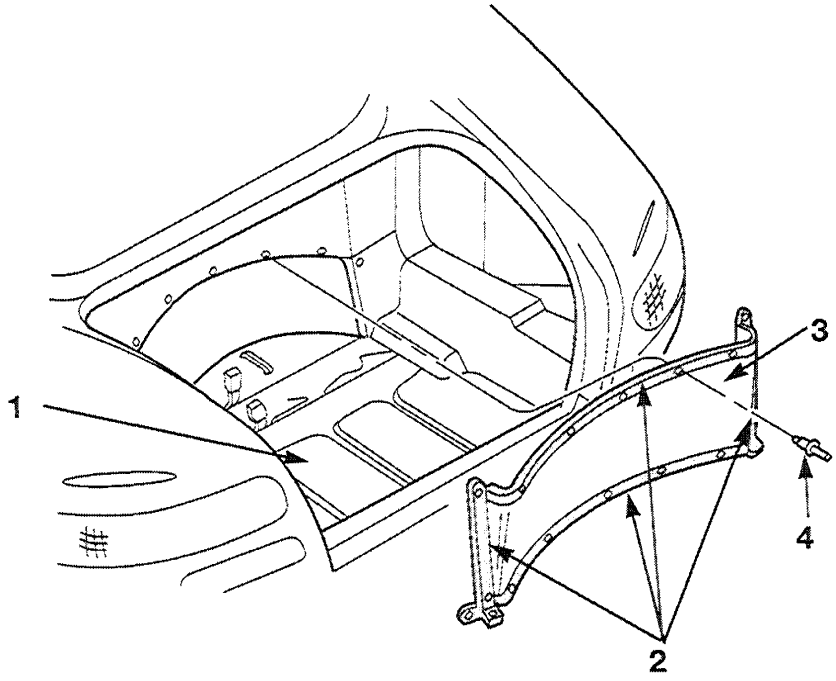
DOOR SURROUND AREA

1. RH door surround
2. LH door surround
3. Trunk closeout panel
4. Shims
5. Structural adhesive



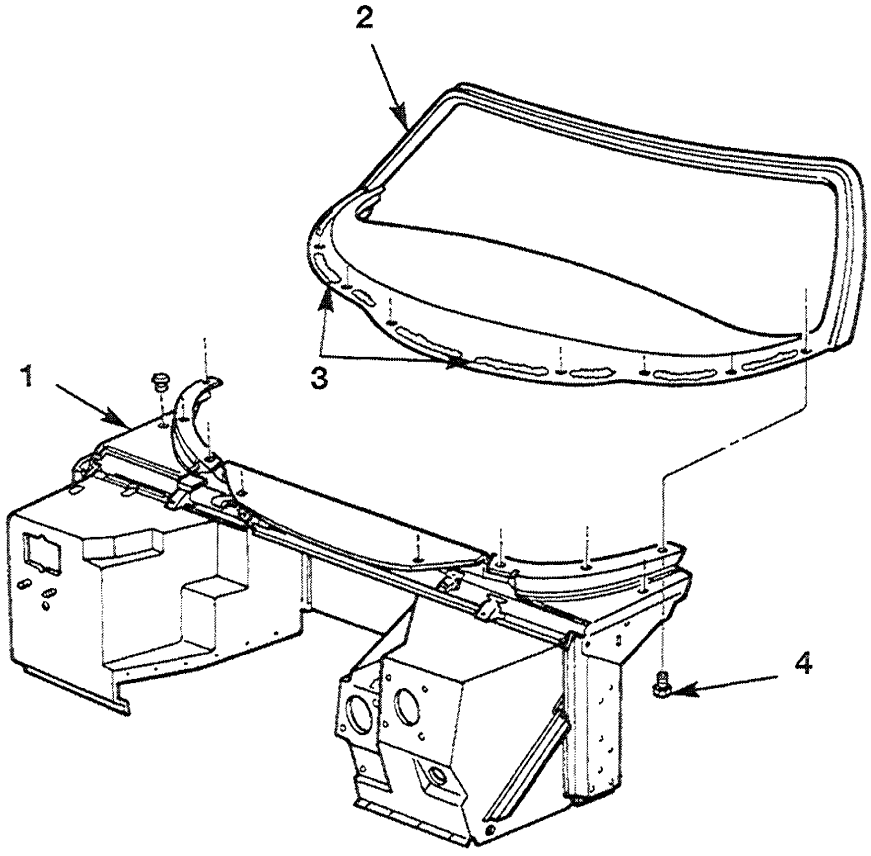
FUEL TANK ACCESS PANEL

1. Trunk pan assembly
2. Fuel tank access panel sealer (RTV)
3. Fuel tank access panel
4. Panel attachment rivets (18)



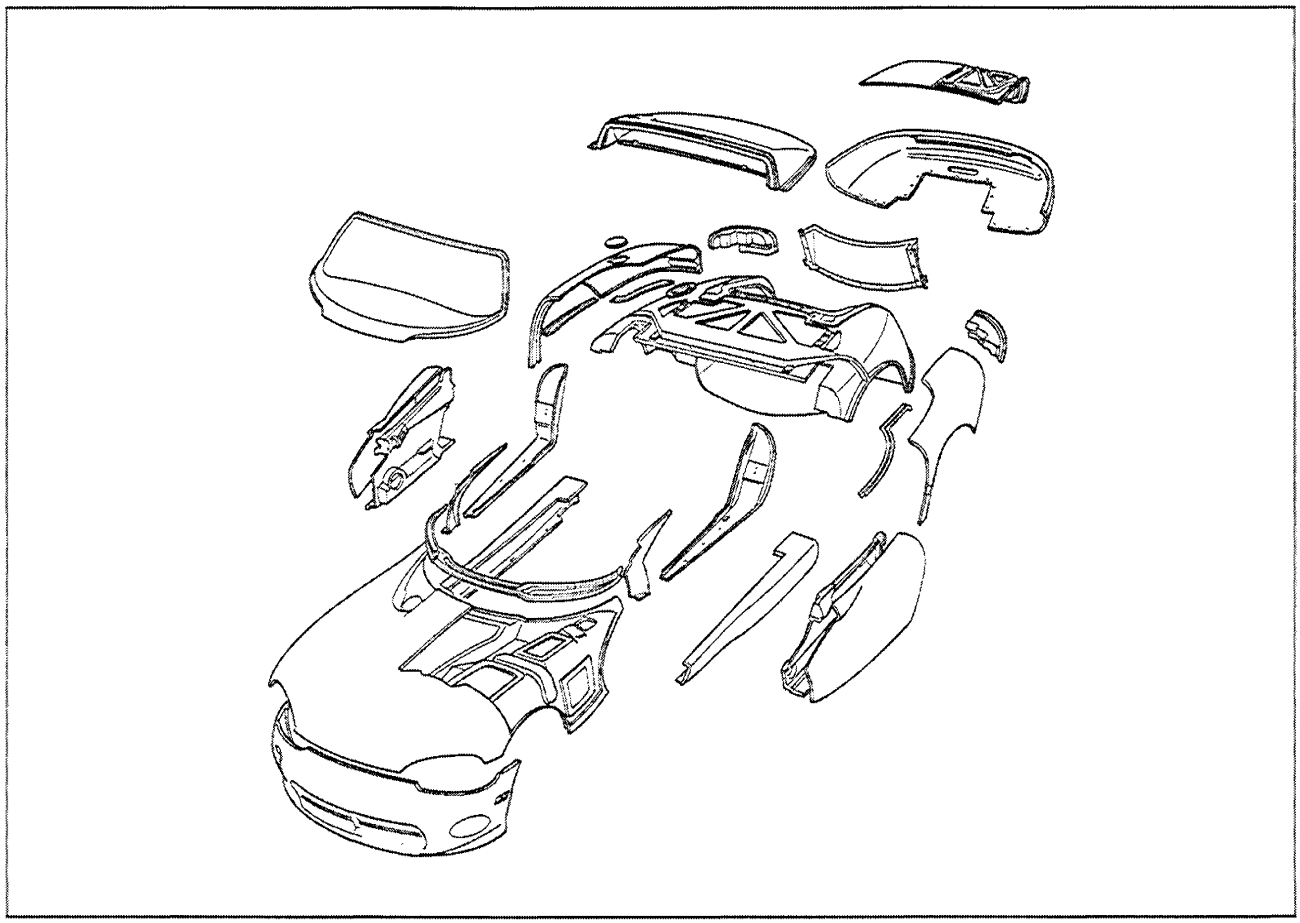
WINDSHIELD FRAME ASSEMBLY

1. Dash panel assembly
2. Windshield frame and surround
3. Structural adhesive
4. Windshield frame attaching bolts



VIPER

RT/10 Roadster Body Panel Replacement



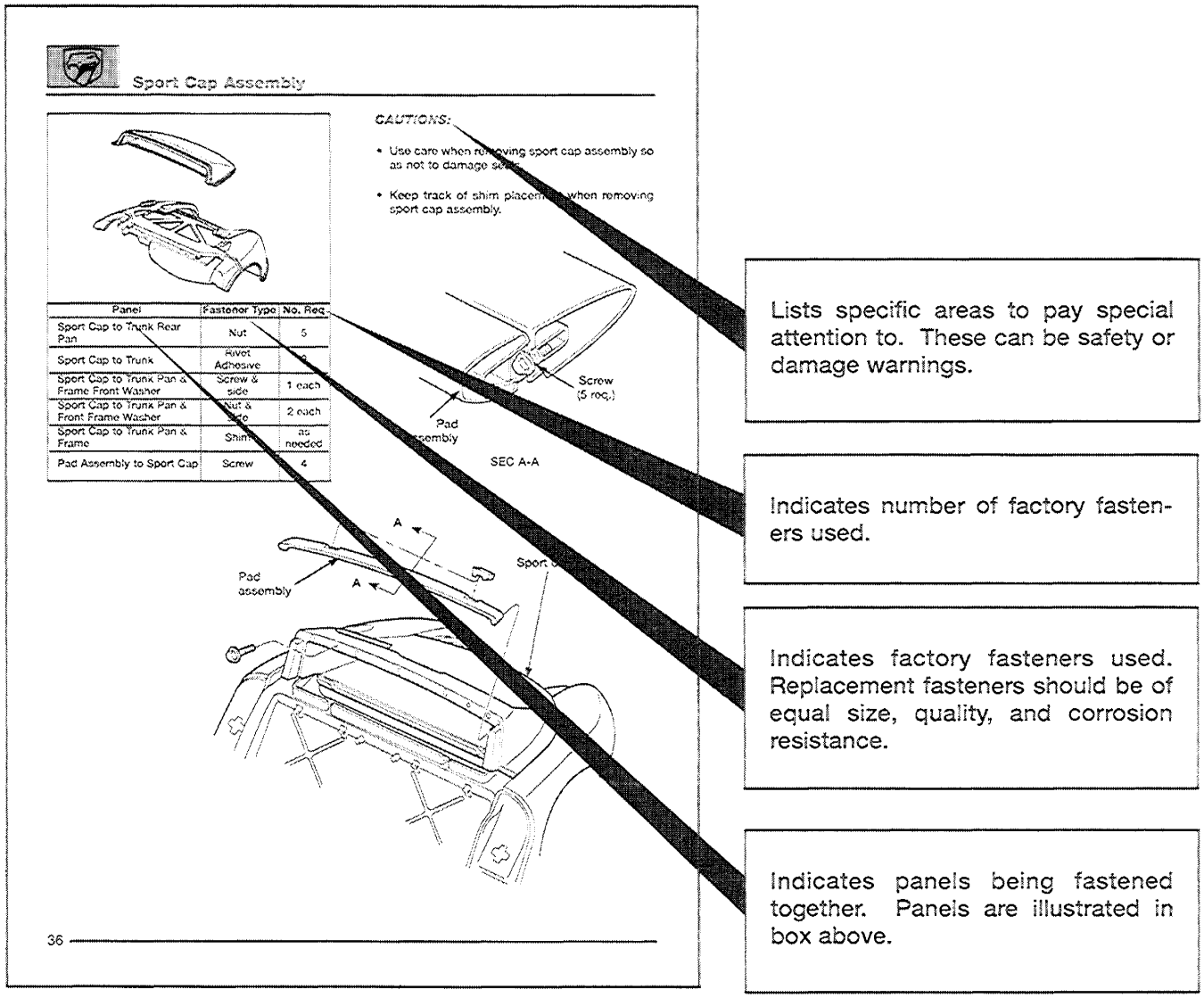
EXPLANATION OF SECTION CONTENTS

When servicing the VIPER RT/10, it is important to know how the body panels are secured to the vehicle. Many of the body panels are bonded to each other with adhesive. Some panels are bonded to the frame. Others are fastened to each other and to the frame with rivets, conventional hardware (i.e., capscrews and sheet metal screws), and Christmas tree fasteners.

The exterior body panels are fastened with rivets, screws, and bolts. Some panels are fastened with a combination of structural adhesive, screws, and bolts. This manual indicates the location and type of fastener to use.

The trunk pan assembly is secured to the frame using a combination of structural adhesive and conventional hardware. The door surround panels are bonded to the frame and to trunk pan assembly. The sport cap and the rear quarter panels are attached to the trunk pan assembly with rivets, nuts and bolts. The rear deck lid is installed on hinges that are secured to the rear clip with nut and washer assemblies. The door hinge is secured to the toe box with bolts. The hood is mounted with bolts and washer assemblies to hinges secured to the frame.

Do not use a torch or any other open flame device. If a plastic panel requires replacement, and it is bonded to another plastic panel, use extreme caution not to distort the plastic panel to which it is bonded. For example: The door surround panel is bonded to the trunk pan. If either panel is damaged beyond repair, one or the other may be salvaged.



Lists specific areas to pay special attention to. These can be safety or damage warnings.

Indicates number of factory fasteners used.

Indicates factory fasteners used. Replacement fasteners should be of equal size, quality, and corrosion resistance.

Indicates panels being fastened together. Panels are illustrated in box above.

Body panels attached with structural adhesive can be heated using a heat gun. The panel can then be pried loose and the adhesive removed with a flat blade scraper.

If a plastic panel that is bonded to the frame requires replacement, and the removal of the panel reveals bare metal, corrosion protection must be reapplied to the metal. Failure to reapply the corrosion protection, may result in premature failure of frame-to-plastic panel adhesion.

NOTES:

- Always torque fasteners to the specified torque when tightening.
- The structural adhesive used to bond the panels is a two-part epoxy type.
- Body panels attached with rivets can be removed with a drill motor and 5 mm (0.187 in.) bit.
- Always mark shim location and number when removing panels.
- Shims are used with bolts and screws and adhesives. Shims are used to assist body panel alignment.

Indicates the torque to be used when tightening fasteners.

Points which require particular attention during panel replacement work.

The panel removal instructions and accompanying illustrations are given in the order in which the work is to be performed.

The panel installation instructions and accompanying illustrations are given in the order in which the work is to be performed.

In order to keep the instructions brief and simple, obvious work procedures (such as removal of a panel after it has been cut) have been omitted where possible

Sport Cap Assembly

Fastener Type	Torque	Min.	Max.
Sport Cap to Frame Screws	40 ft lbs	30	50
Sport Cap to Frame Nuts	40 ft lbs	30	50
Sport Cap to Trunk Pan Nuts	90 in lbs	80	100
Pan Assembly to Sport Cap	75 in lbs	60	90

NOTES WITH REGARD TO REPAIR WORK

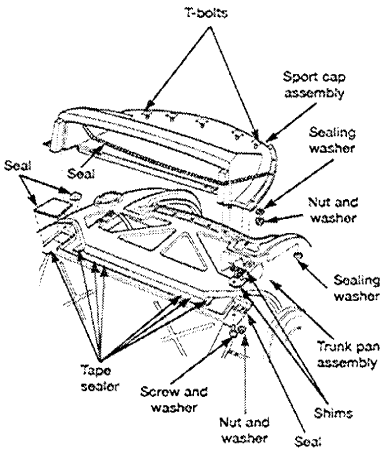
- It is necessary to remove both quarter panels to remove the sport cap assembly.

REMOVAL

1. Remove pad assembly from sport cap.
2. Remove nuts (5) from T-bolts at rear of sport cap.
3. Remove nuts, screws, and washers from front outer uprights at frame.
4. Using a drill motor with a 5mm (0.187 in.) drill bit, remove rivets (5 each side) from sport cap.
5. Lift sport cap from vehicle.
6. Note shim number and locations.

INSTALLATION

1. Check seal condition. Replace, if necessary.
2. Place shims in proper locations.
3. Place sport cap on vehicle.
4. Align and adjust shim placement, as necessary.
5. Using appropriate tool, install pop rivets (5 each side).
6. Install nuts on T-bolts, and torque to specification.
7. Install nuts, screws, and washers at sport cap to frame location. Torque to specification.
8. Install sport cap pad assembly.



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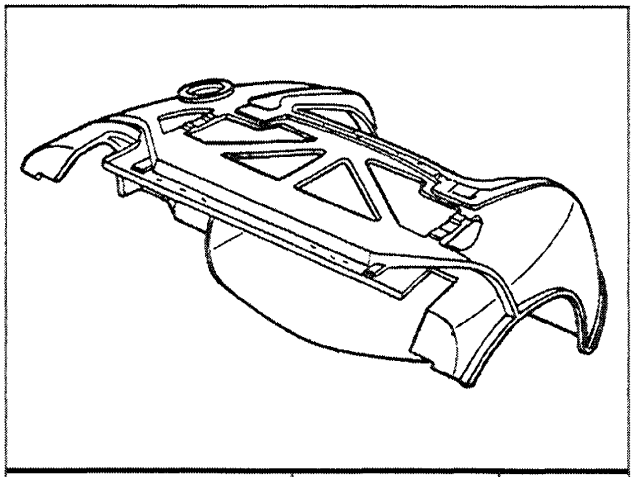
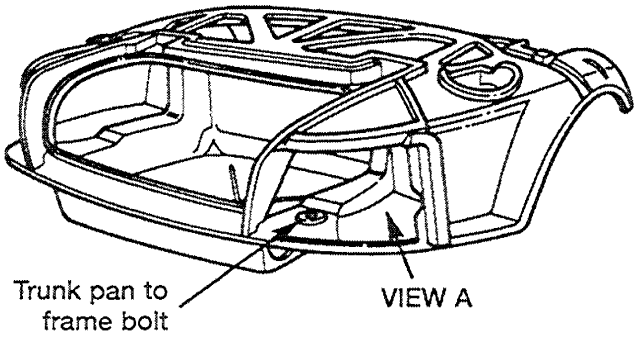
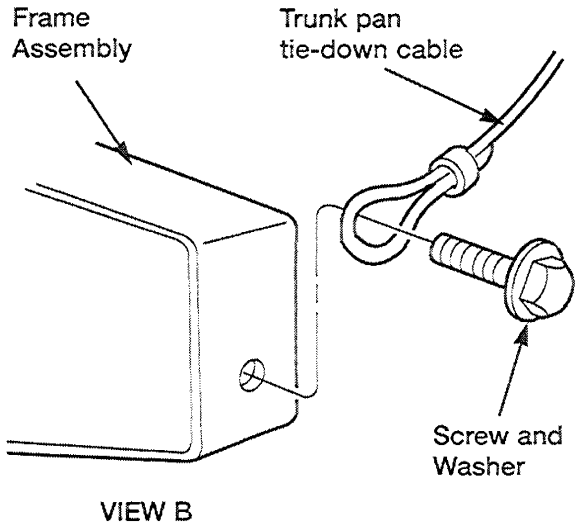


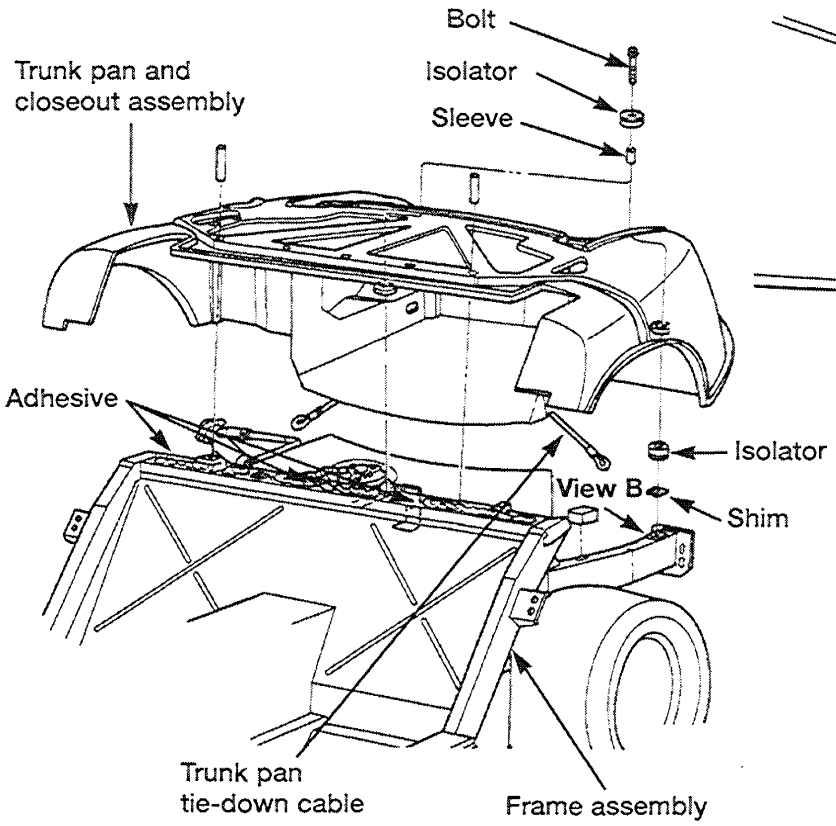
Part Name	Fastener Type	No. Req.
Trunk Pan to Frame at Bulkhead	2 Part Structural Adhesive	—
Trunk Pan to Frame at Rear	Bolt Isolators Sleeve Nuts	2 4 2 2

CAUTIONS:

- Keep track of shim placement when removing old trunk pan.
- When heating area where structural adhesive is, do not use an open flame device. Use a heat gun.
- If fuel tank removal is necessary, follow service manual procedures.



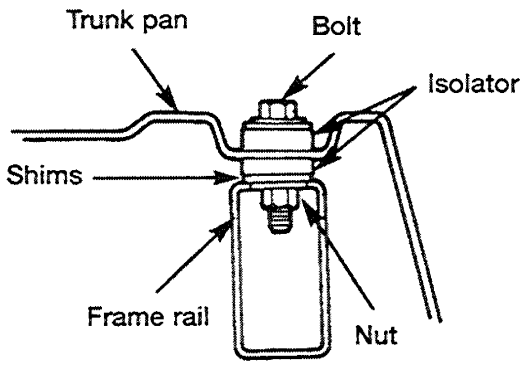




NOTES WITH REGARD TO REPAIR WORK

- Many exterior panels need to be removed to gain access to the trunk pan assembly.
- Refer to appropriate section for a particular panel removal.

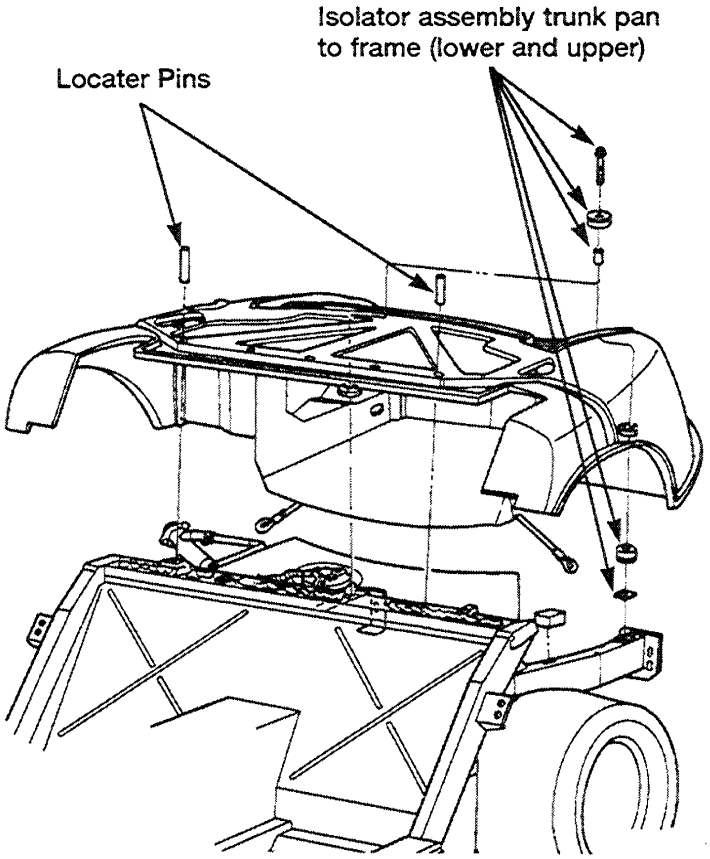
Fastener Type	Torque	Min.	Max.
Truck Pan Bolt	40 ft lbs	30	50



VIEW A

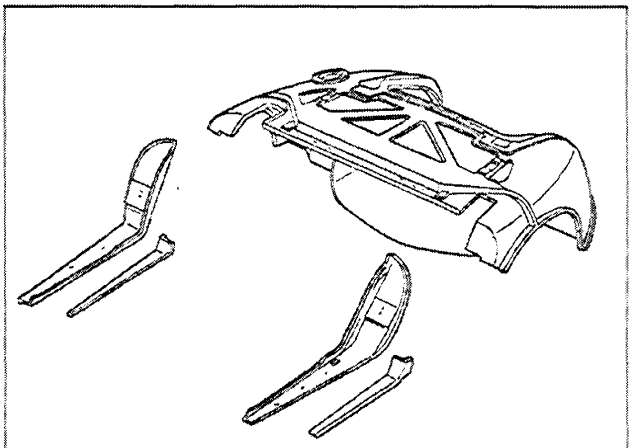
REMOVAL

1. Remove attaching bolts and isolators, also mark shim locations.
2. Heat 121°C (250°F) trunk pan area along bulkhead upper rail to soften the structural adhesive.
3. After you have broken the adhesive seal, remove the screws holding the trunk pan tie-down cables to the frame. Remove trunk pan.
4. Remember to mark shim locations.



INSTALLATION

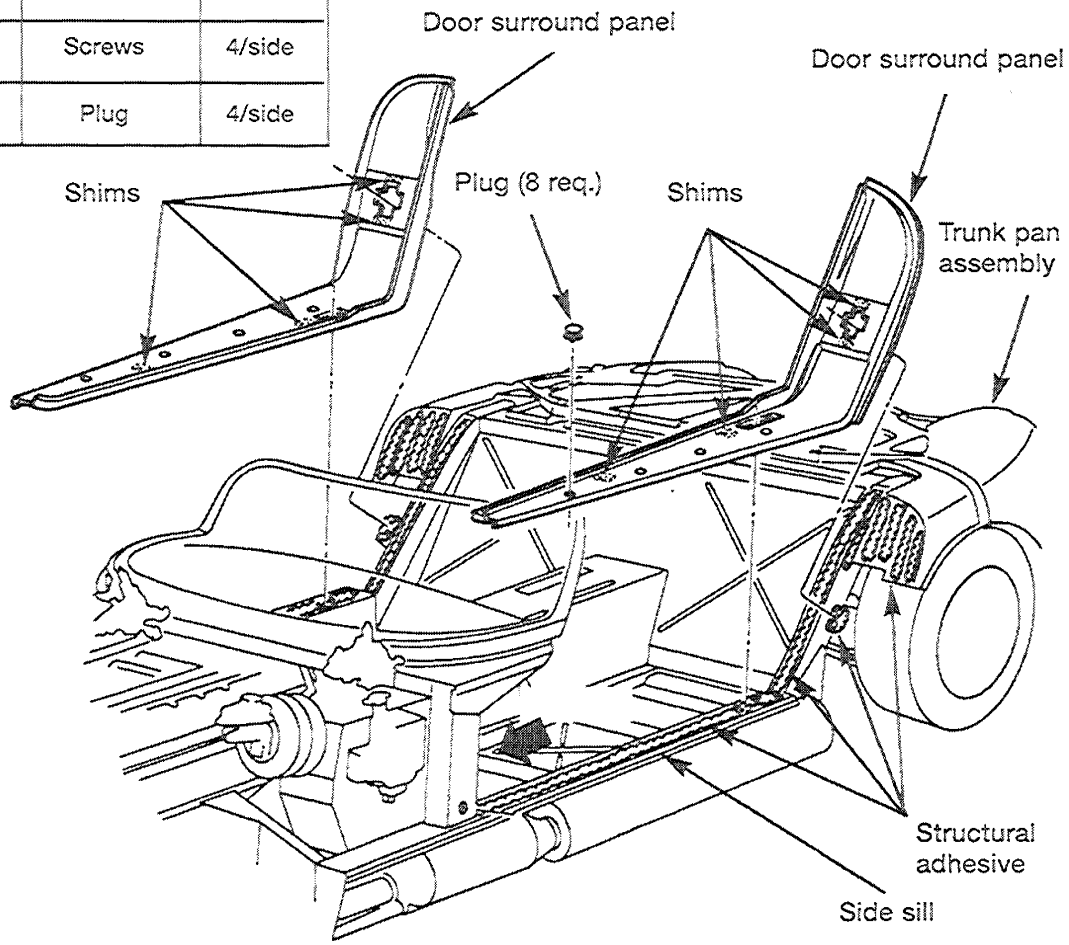
1. Clean old adhesive from upper bulkhead rail. Repair any corrosion protection damage.
2. Place isolators on rear frame rails. Temporarily place new trunk pan on frame.
3. Align and shim as necessary. Mark shim placement.
4. Remove pan, and apply 2-part structural adhesive to upper bulkhead rail.
5. Place trunk pan back on frame, using locater pins.
6. Install bolts through isolators, and install nuts. Torque to specification.



Panel	Fastener Type	No. Req
R Door Surround to Sill	Structural Adhesive	—
L Door Surround to Sill	Structural Adhesive	—
R Door Surround to Trunk Pan	Structural Adhesive	—
L Door Surround to Trunk Pan	Structural Adhesive	—
Outer Side Sill Cover to Side Sill	Screws	6/side
Outer Side Sill Cover to Side Sill	Screws	4/side
Side Sill Screws Access Plugs	Plug	4/side

CAUTIONS:

- Use care when removing outer panels to gain access to door surround panel.
- Keep track of shim placement, and number when removing panels.
- Do not use an open flame to heat panels to soften structural adhesive. Use a heat gun capable of temperatures above 121°C (250°F).
- Do not use excessive force to pry door surround away from trunk pan.



NOTES WITH REGARD TO REPAIR WORK

- Side sill outer cover, door surround hardware, and quarter panel must be removed before beginning door surround removal.

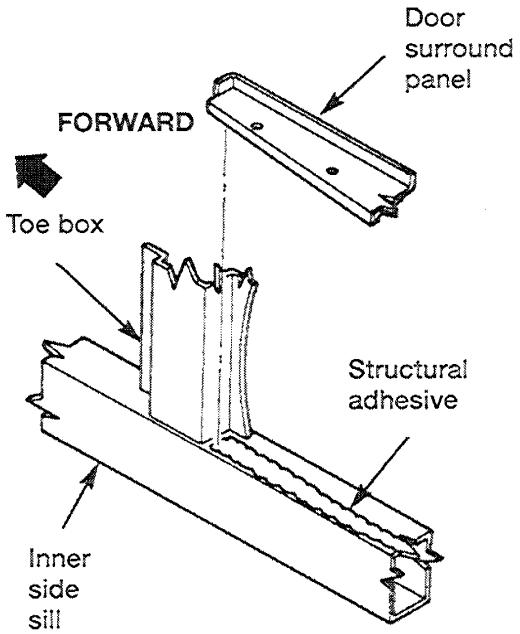
REMOVAL

1. Trim door surround panel with a die grinder or body saw to expose adhesive. Be careful not to damage adjacent panels.
2. Heat panel using a heat gun 121°C (250°F) to soften adhesive.
3. Pry panel loose, and cut adhesive with a scraper.
4. Remove panel, and clean old adhesive from inner side sill and trunk pan. Mark shims.

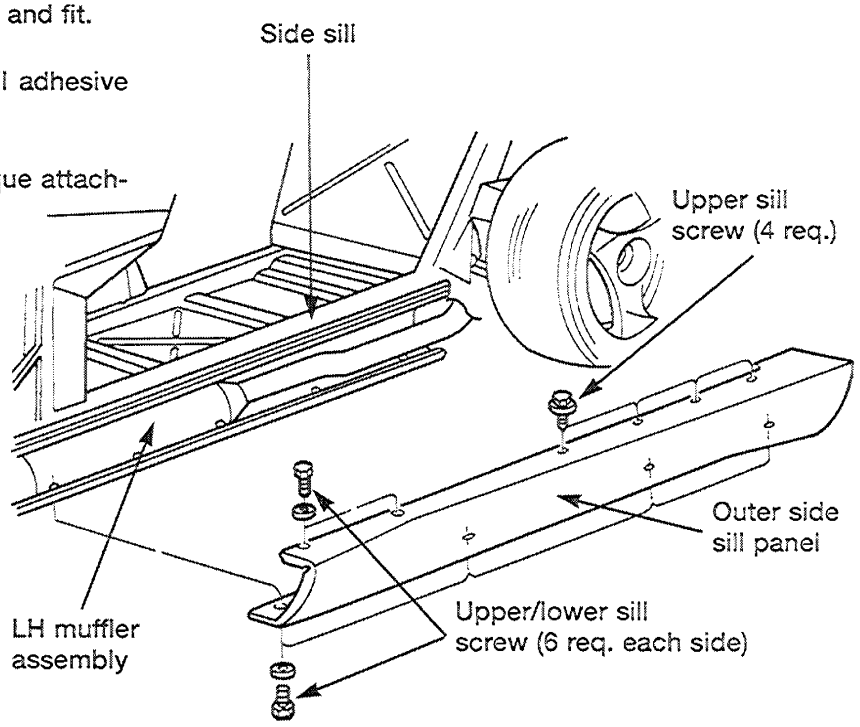
INSTALLATION

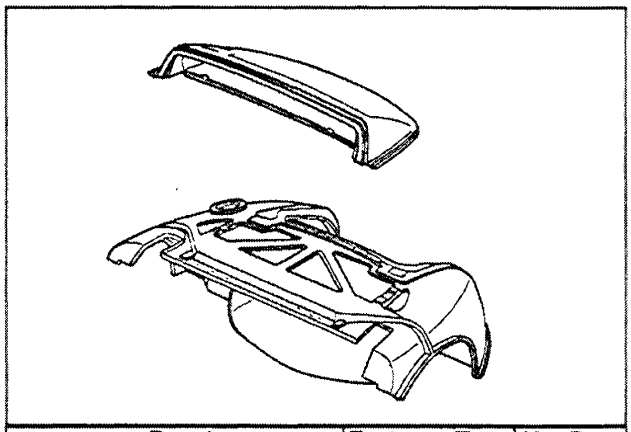
1. Temporarily fit new panel in place.
2. Align and shim as necessary.
3. Mark shim locations.
4. Remove panel, and apply structural adhesive to inner sill structure and trunk pan areas.
5. Install panel, and recheck alignment and fit.
6. Clamp and hold panel in place until adhesive cures.
7. When installing side sill covers, torque attaching screws to specification.

Fastener Type	Torque	Min.	Max.
Upper & Lower Sill Screws	35 in lbs	30	40
Upper Sill Screws	35 in lbs	30	40



VIEW A

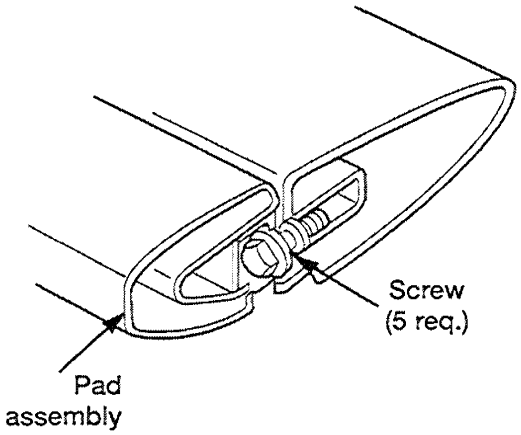




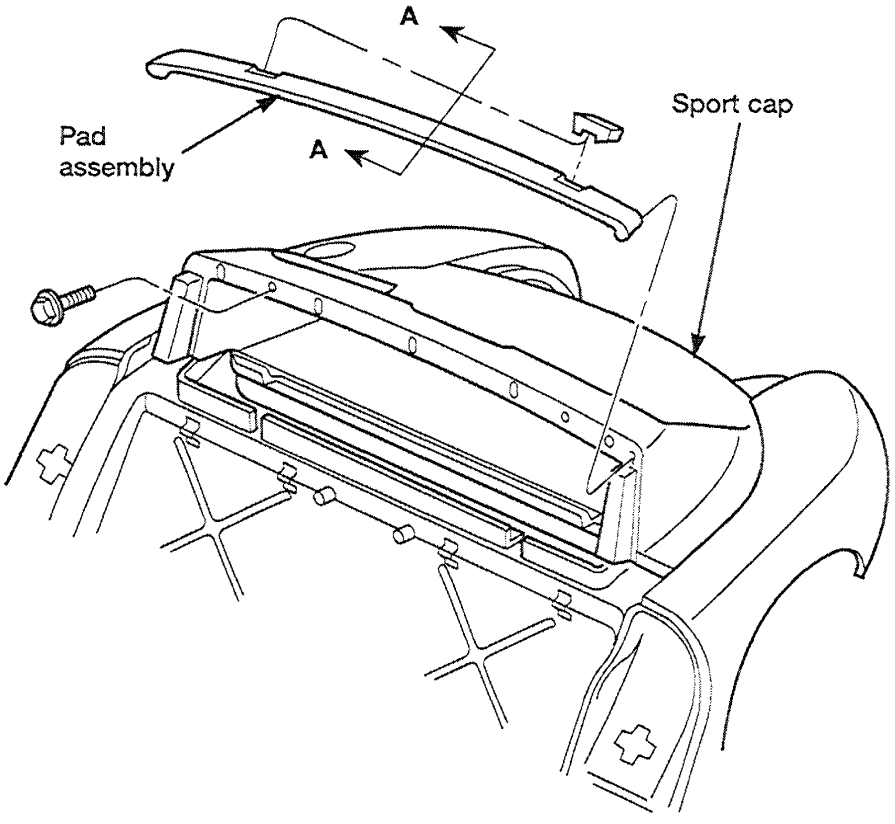
Panel	Fastener Type	No. Req
Sport Cap to Trunk Rear Pan	Nut	5
Sport Cap to Trunk	Rivet Adhesive	9
Sport Cap to Trunk Pan & Frame Front Washer	Screw & side	1 each
Sport Cap to Trunk Pan & Front Frame Washer	Nut & side	2 each
Sport Cap to Trunk Pan & Frame	Shim	as needed
Pad Assembly to Sport Cap	Screw	4

CAUTIONS:

- Use care when removing sport cap assembly so as not to damage seals.
- Keep track of shim placement when removing sport cap assembly.



SEC A-A



NOTES WITH REGARD TO REPAIR WORK

- It is necessary to remove both quarter panels to remove the sport cap assembly.

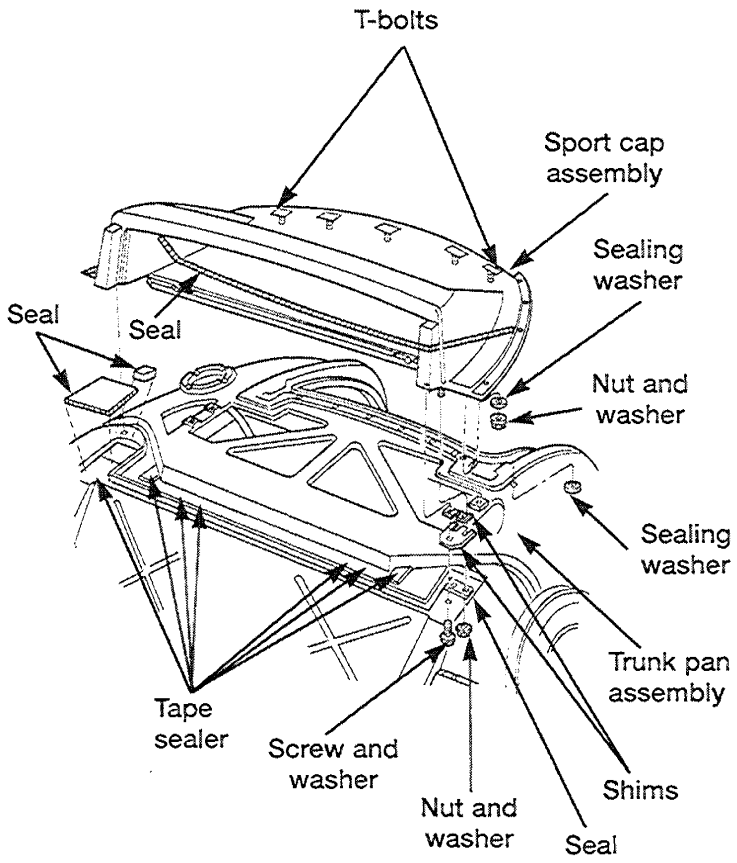
REMOVAL

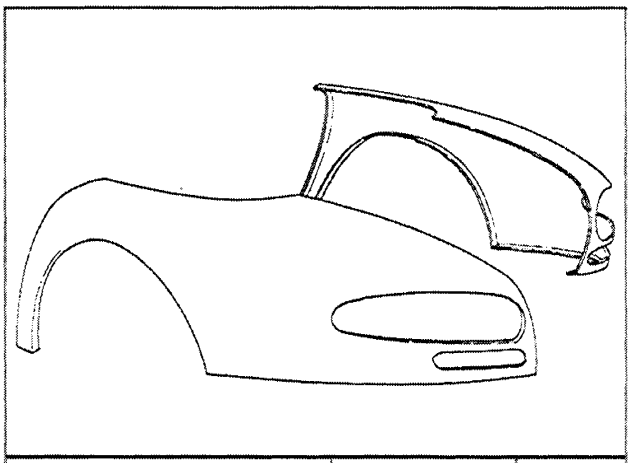
1. Remove pad assembly from sport cap.
2. Remove nuts (5) from T-bolts at rear of sport cap.
3. Remove nuts, screws, and washers from front outer uprights at frame.
4. Using a drill motor with a 5mm (0.187 in.) drill bit, remove rivets (5 each side) from sport cap.
5. Lift sport cap from vehicle.
6. Note shim number and locations.

INSTALLATION

1. Check seal condition. Replace, if necessary.
2. Place shims in proper locations.
3. Place sport cap on vehicle.
4. Align and adjust shim placement, as necessary.
5. Using appropriate tool, install pop rivets (5 each side).
6. Install nuts on T-bolts, and torque to specification.
7. Install nuts, screws, and washers at sport cap to frame location. Torque to specification.
8. Install sport cap pad assembly.

Fastener Type	Torque	Min.	Max.
Sport Cap to Frame Screws	40 ft lbs	30	50
Sport Cap to Frame Nuts	40 ft lbs	30	50
Sport Cap to Trunk Pan Nuts	90 in lbs	80	100
Pan Assembly to Sport Cap	75 in lbs	60	90

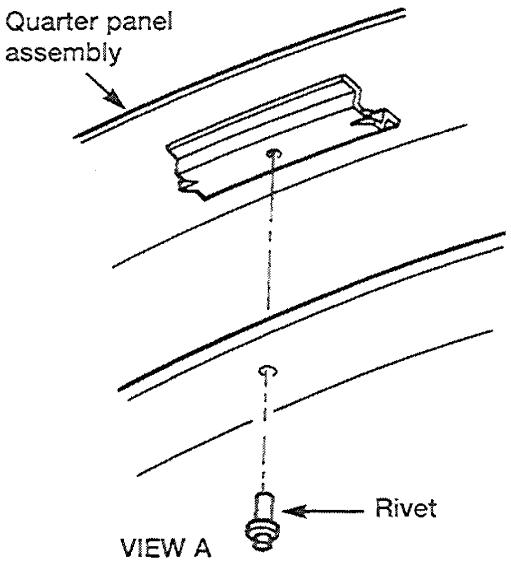


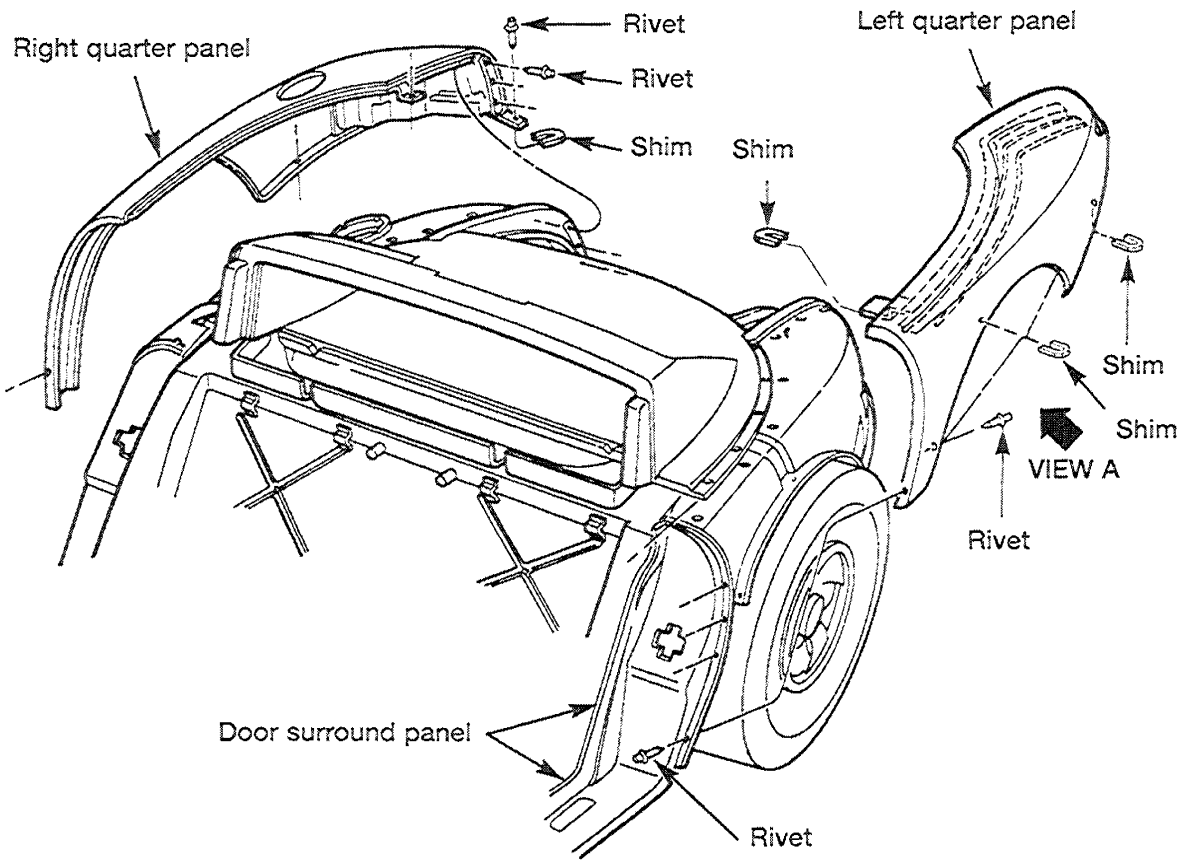


Panel	Fastener Type	No. Req
R Quarter Panel to Trunk Pan	Rivet	13
L Quarter Panel to Trunk Pan	Rivet	13
R Quarter Panel to Door Surround	Rivet	1
L Quarter Panel to Door Surround	Rivet	1

CAUTIONS:

- Keep track of shims (number and placement) when removing quarter panels.





NOTES WITH REGARD TO REPAIR WORK

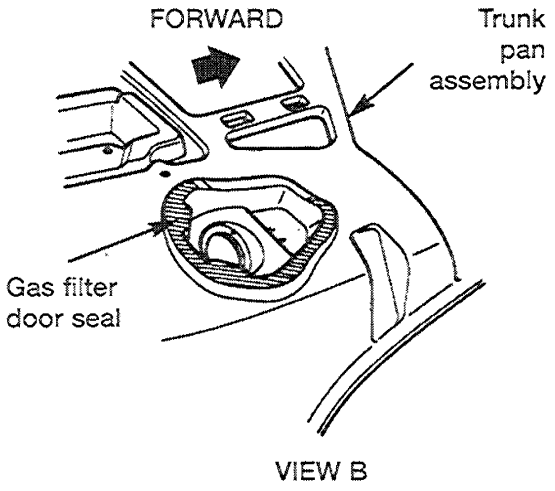
- Replacement quarter panels have all reinforcements, tail lamp inner housings, and braces installed.

REMOVAL

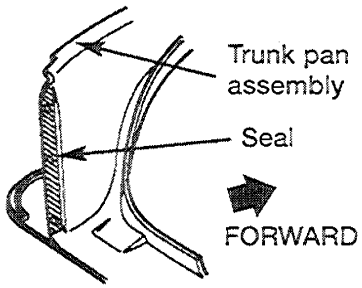
1. Remove rear bumper/fascia assembly and other components as outlined in service manual.
2. Using a drill motor with a 5mm (0.187 in.) bit, carefully drill out all pop rivets attaching quarter panel to door surround and trunk pan.
3. Remove nuts at bottom rear quarter panel.
4. Remove quarter panel.

INSTALLATION

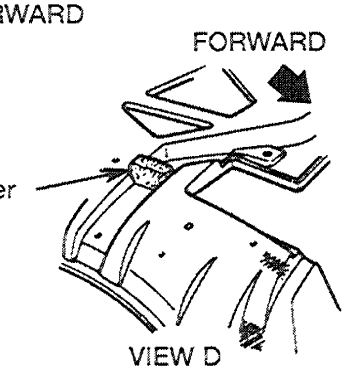
1. Replace foam tape seals around taillight housings and trunk openings if damaged.
2. Place new quarter panel on trunk pan and align. Adjust with shims as necessary to obtain proper fit and clearance.
3. Using an appropriate tool, install pop rivets to secure quarter panel to trunk pan and door surround panels.



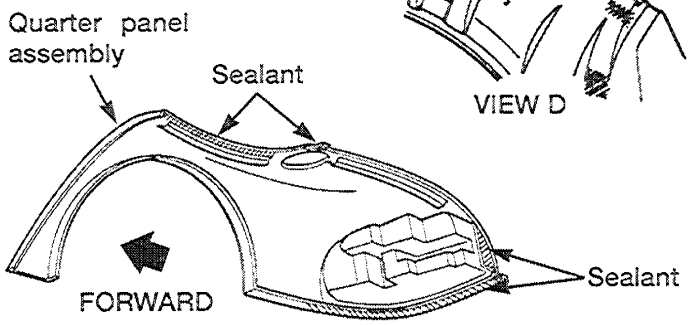
VIEW B

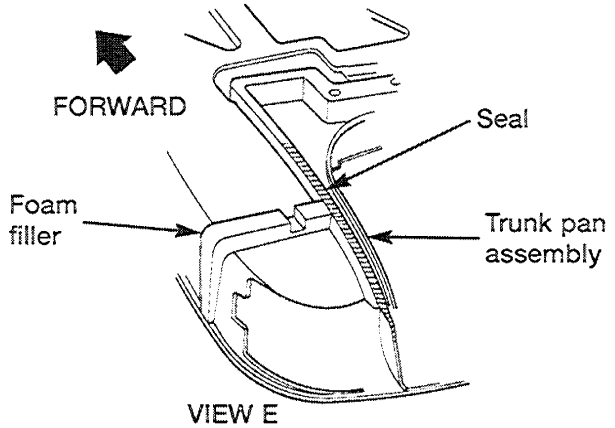


VIEW C

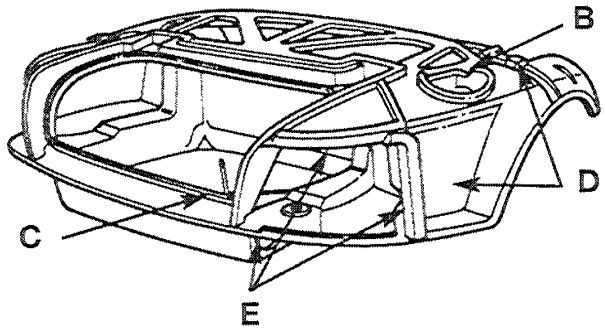


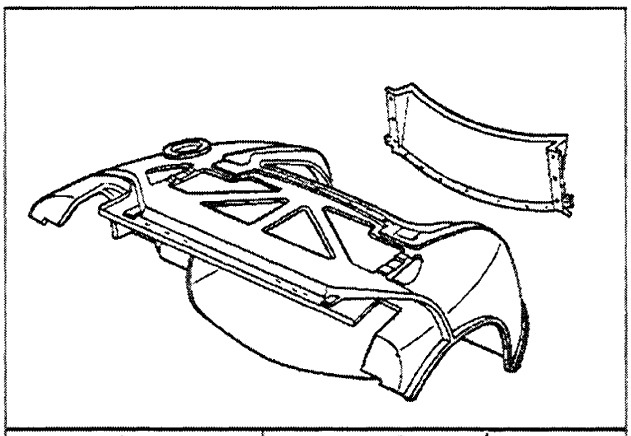
VIEW D





VIEW E

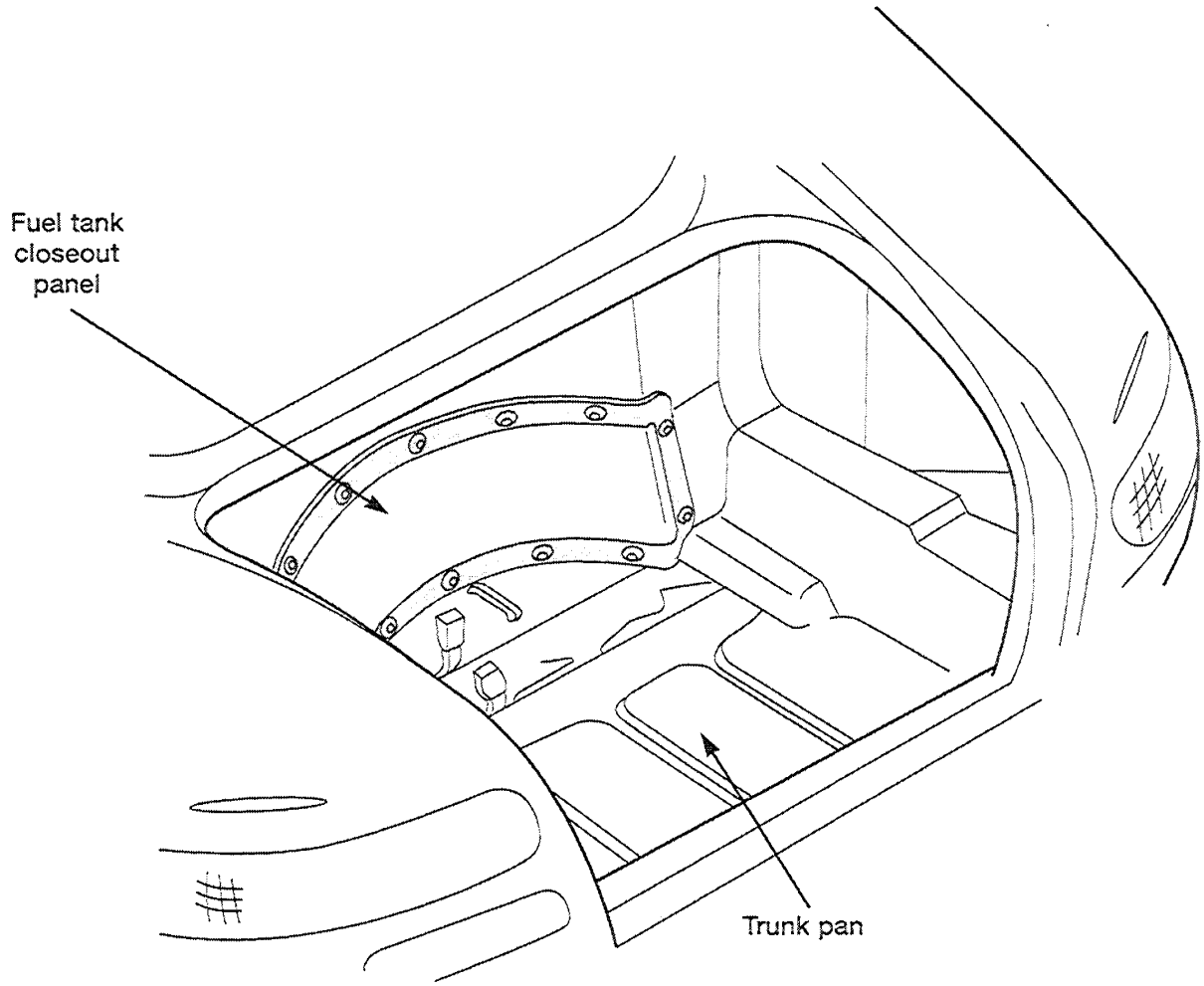




Panel	Fastener Type	No. Req
Fuel Tank Closeout to Trunk Pan	Pop Rivet	18
Fuel Tank Closeout to Trunk Pan	RTV Silicone	—

CAUTIONS:

- Use care when removing fuel tank closeout panel. Do not damage plastic fuel tank.
- Heat will not help in the removal of RTV. When removing the closeout panel, the RTV must be cut.



NOTES WITH REGARD TO REPAIR WORK

- All old sealer must be removed before installing new panels.

REMOVAL (FUEL TANK CLOSEOUT)

1. Using a drill motor with a 5mm (0.187 in.) diameter drill bit, drill out the 18 pop rivets retaining the tank closeout panel.

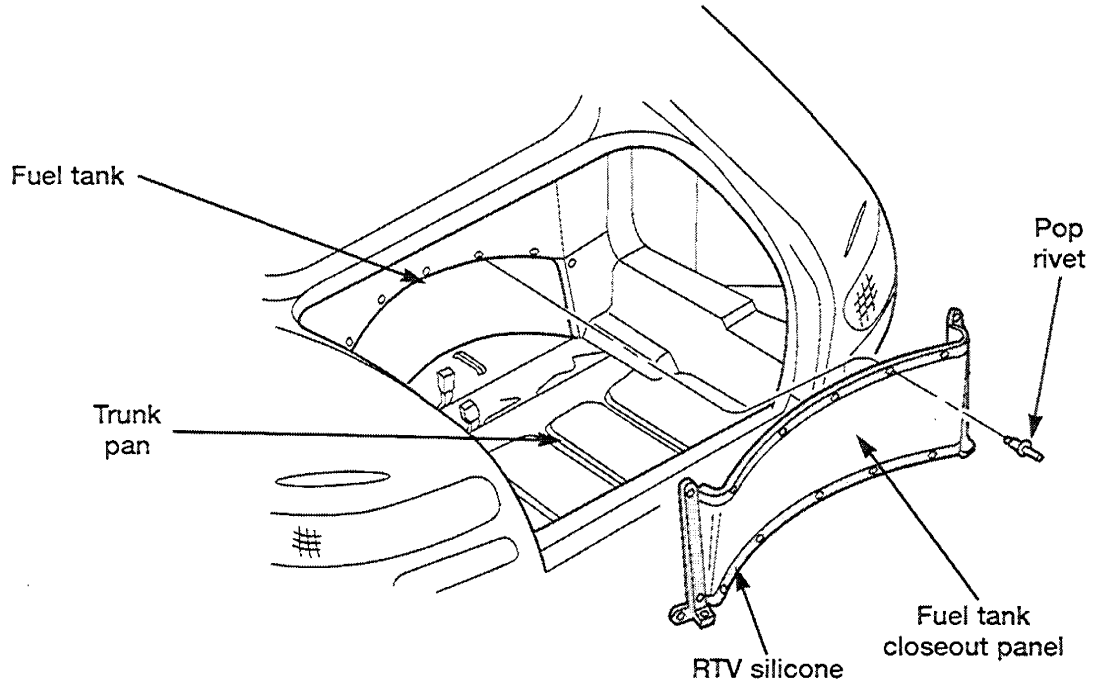
2. Using a screwdriver, pry panel outward to loosen RTV sealant.

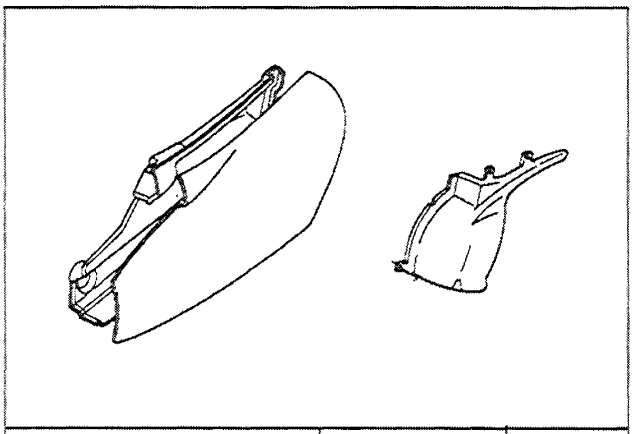
INSTALLATION

1. Clean all panel mating surfaces. RTV will not adhere to RTV.

2. Apply RTV sealer to perimeter of fuel tank closeout panel.

3. Using appropriate tool, install pop rivets.



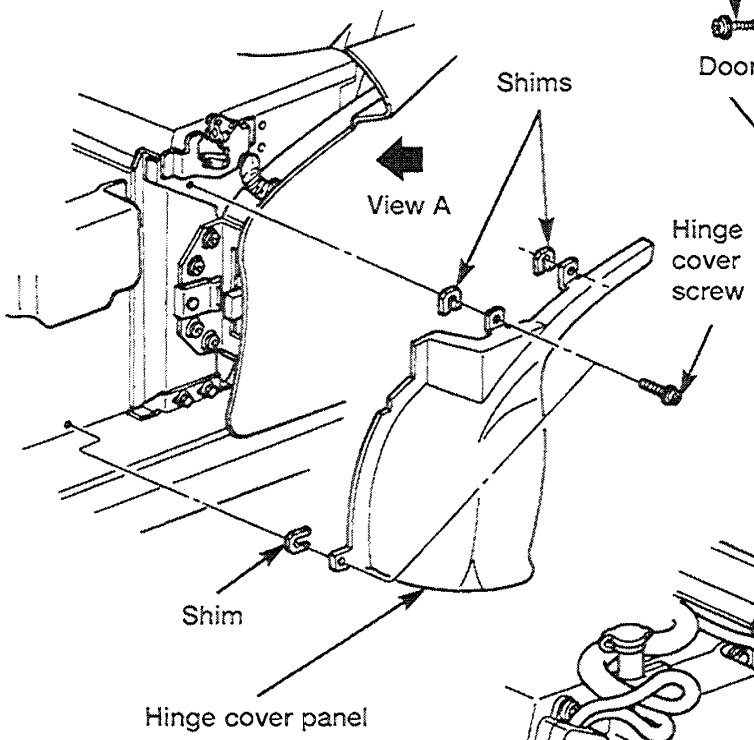


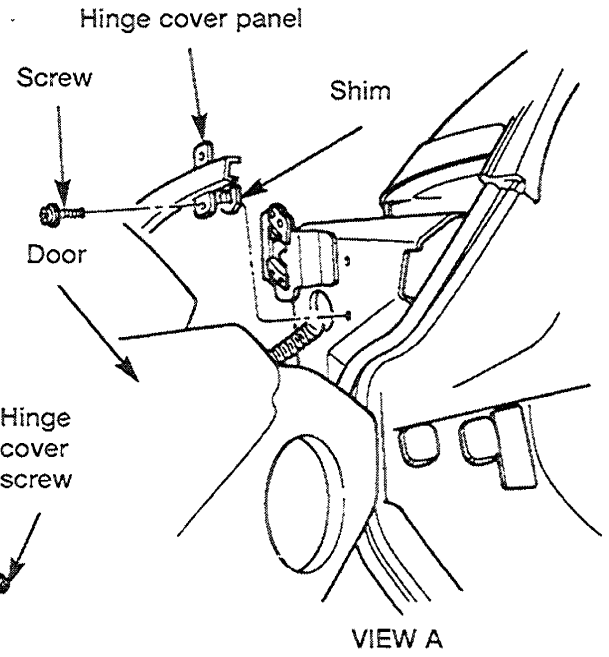
Panel	Fastener Type	No. Req
Door Hinge to Body	Screw & Washer	4 each door
Door Hinge Cover to Body	Screw	4 each cover
Door Hinge to Door	Bolts & Washer	4 each side

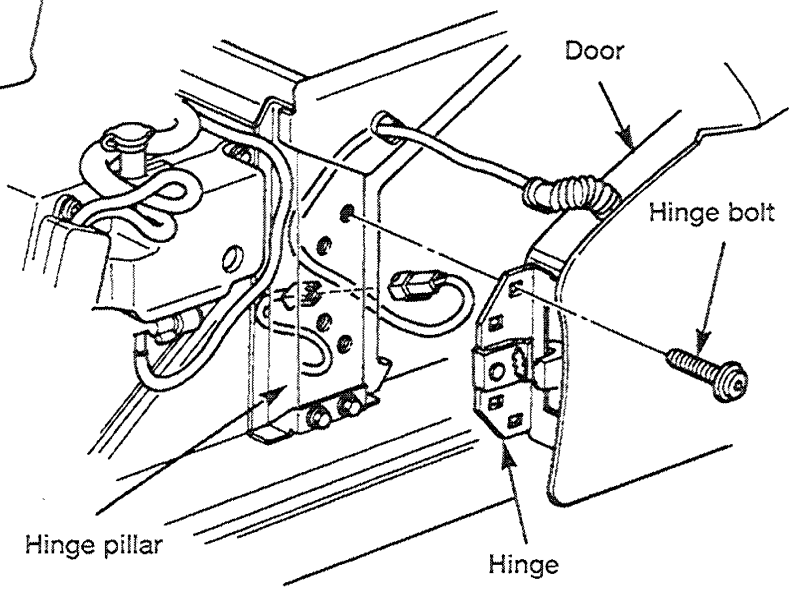
Fastener Type	Torque	Min.	Max.
Door to Body Screw & Washer	300 in lbs	250	350
Hinge Cover to Body Screws	300 in lbs	25	45

NOTES:

- Refer to the specifications and dimensions for door gaps.
- When removing hinge cover panel, mark shims for reinstallation.



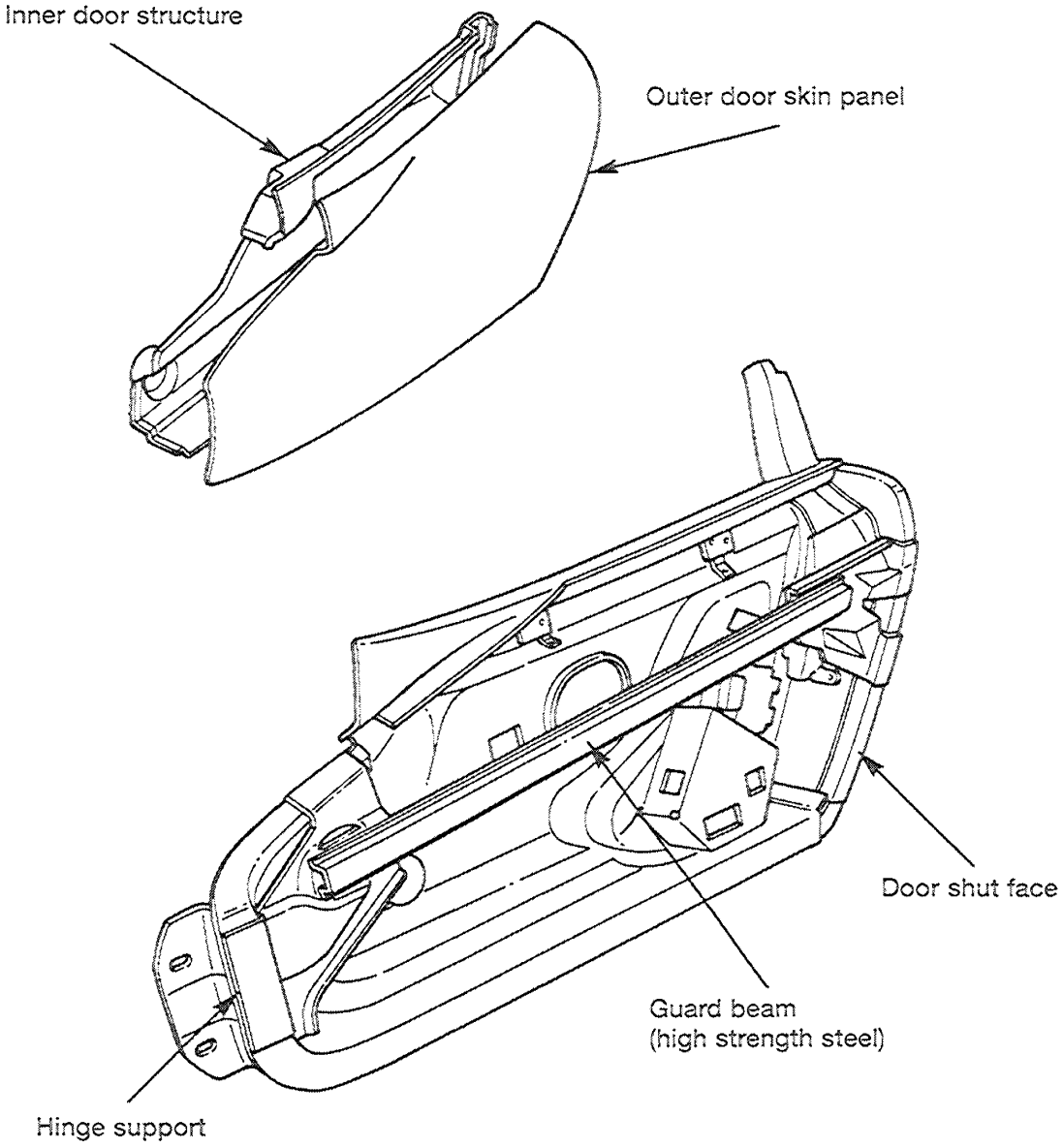




The inner door structure is made of a steel structure consisting of the hinge support, door shut face, and the guard beam. A plastic inner panel is bonded with adhesive and riveted to the steel inner structure. The plastic outer skin panel is bonded with structural adhesive to the inner plastic panel and the steel structure.

The door is serviced as an assembly only.

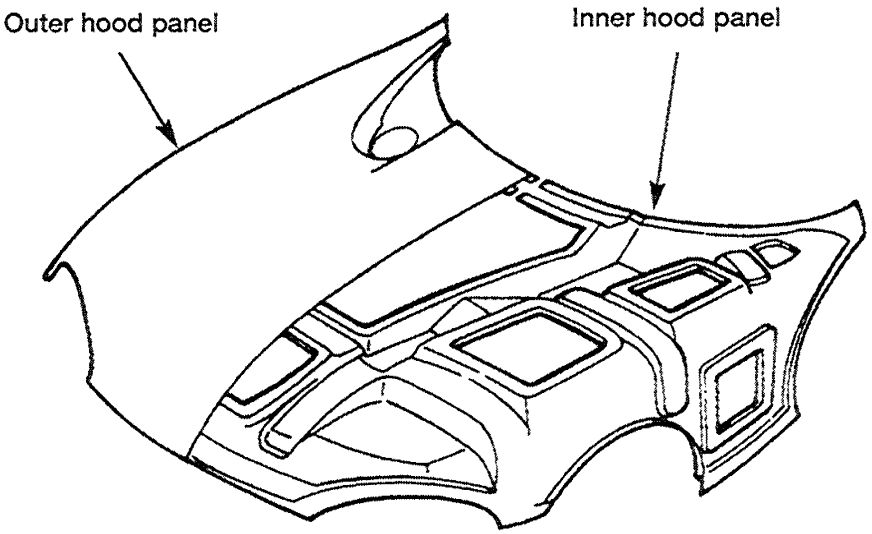
NOTE: The door guard beam is made of high strength steel and should not be heated or straightened. The door should be replaced.

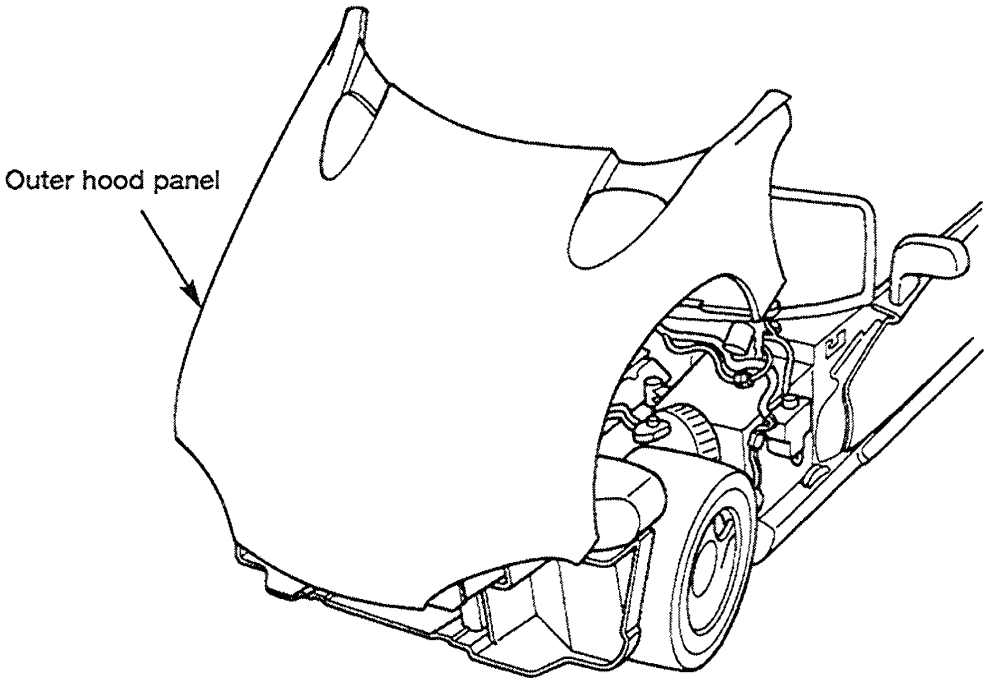


HOOD ASSEMBLY

- The hood is serviced as a complete assembly only. The inner and outer panels are not serviced separately. The outer hood panel is bonded to the inner structure panel with structural adhesive.

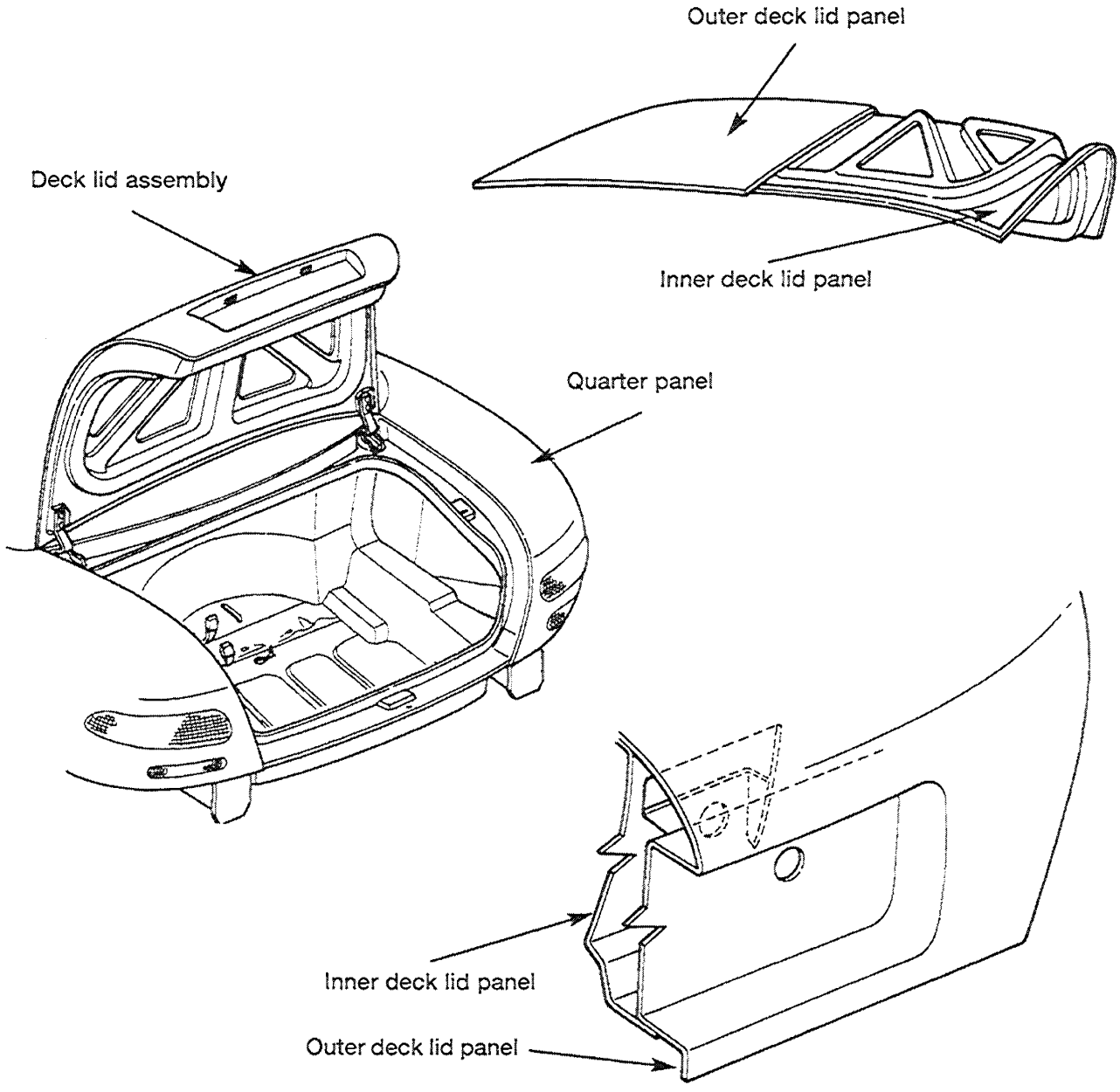
- Repair to the hood assembly can be performed using a rigid plastic panel repair methods outlined in the Body Panel Repair section.





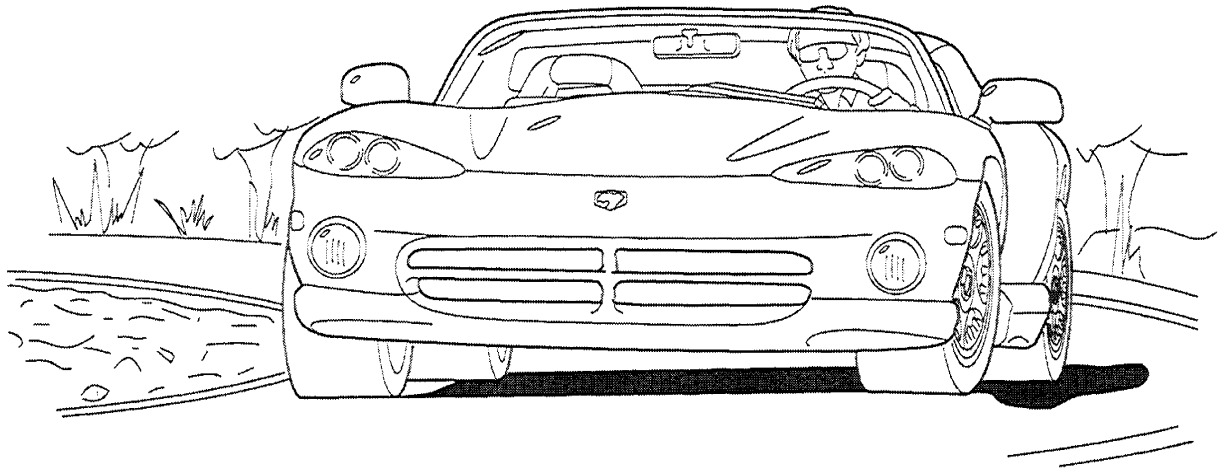
DECK LID ASSEMBLY

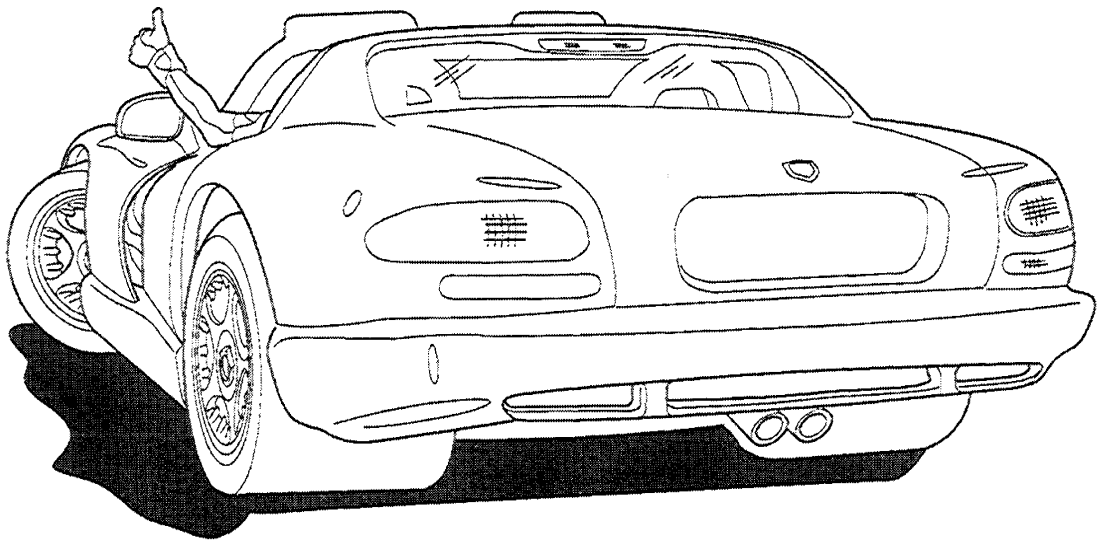
- The deck lid is serviced as a complete assembly only. The inner structure panel and the outer RTM panels are not serviced separately. The outer RTM panel is bonded to the inner panel using structural adhesive.
- Repair to the deck lid assembly can be performed using methods outlined in the Body Panel Repair section.
- Alignment and opening gaps are achieved by shimming and adjusting at the deck lid hinges.



VIPER

RT/10 Roadster
Bumper & Fascia

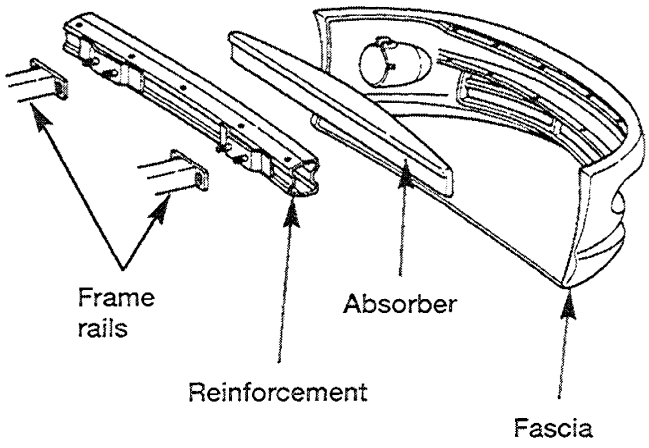




FRONT BUMPER AND FASCIA

The front bumper and fascia assembly must be removed as a complete unit. Once removed from the vehicle, the fascia, reinforcement bar and energy absorber can be accessed. Refer to service manual for removal and installation procedures.

The bumper reinforcement is made of high strength steel. This high strength steel should never be heated or straightened. Replacement is necessary to maintain the proper protection in the event of a collision.

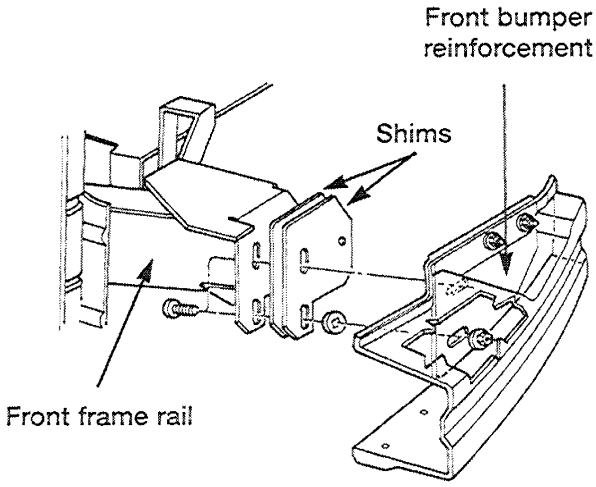


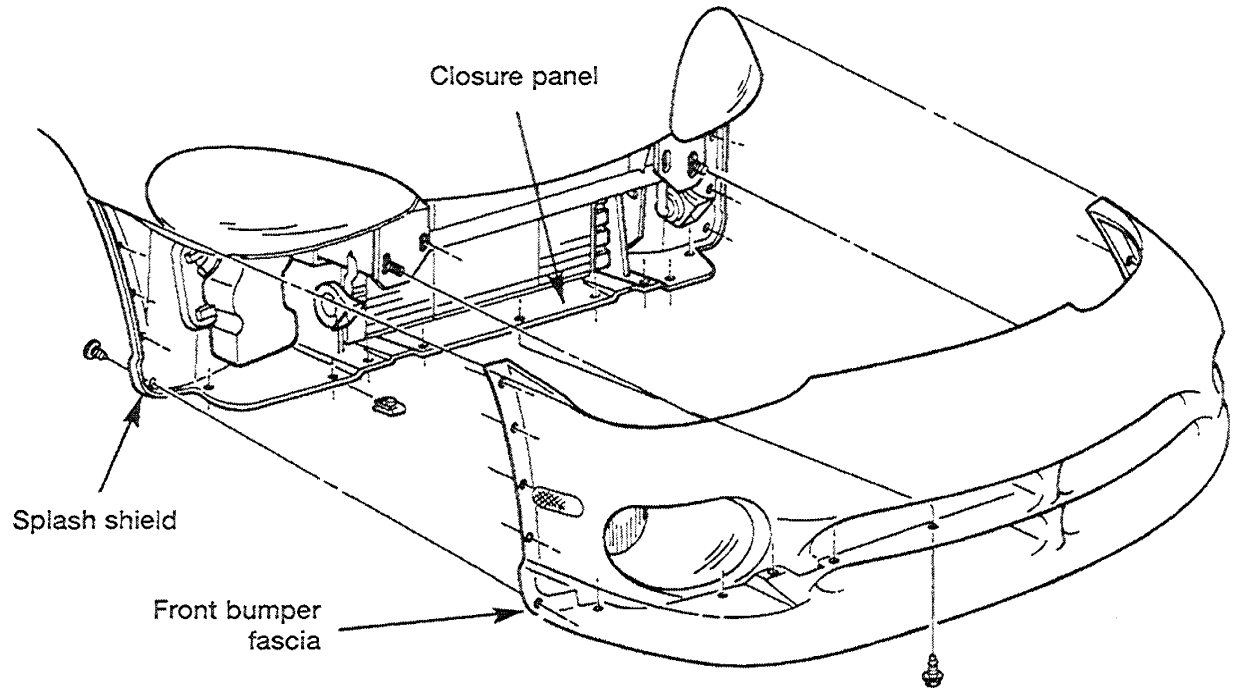
FASTENER NOTE:

All replacement fasteners must be of the same strength, quality, size, corrosion resistance, and appearance as the fastener being replaced.

FASCIA REPAIR

The fascia is made of RIM plastic. Repair and refinishing of these panels is outlined in the Body Panel Repair section.

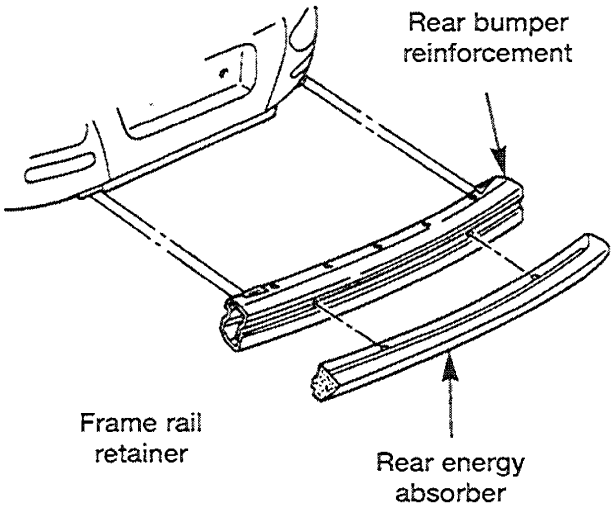




REAR BUMPER AND FASCIA

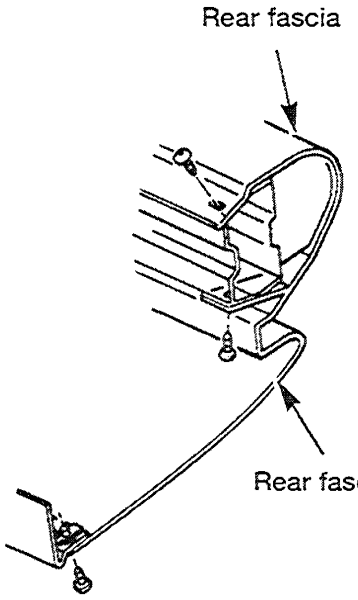
The rear bumper and fascia assembly must be removed as a complete unit. Once removed from the vehicle, the fascia reinforcement bar and energy absorber can be accessed. Refer to service manual for removal and installation procedures.

The bumper reinforcement is made of high strength steel. Ultra high strength steel should not be heated to straighten damage areas. Replacement is necessary to maintain the proper protection in the event of a collision.



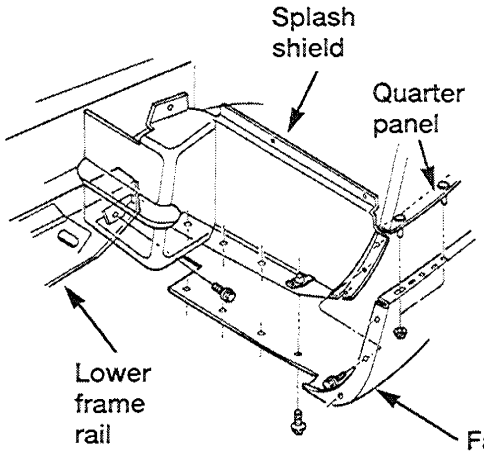
FASTENER NOTE:

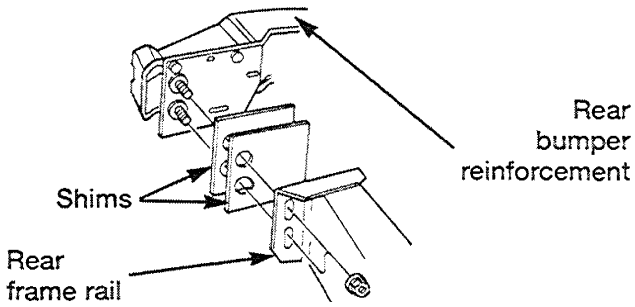
All replacement fasteners must be of the same strength, quality, size, corrosion resistance and appearance as the fastener being replaced.

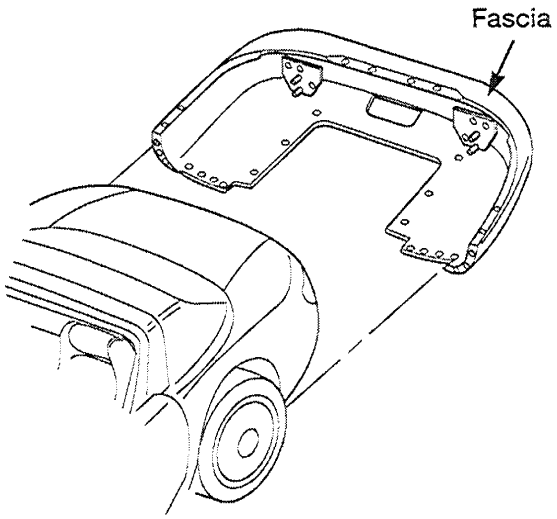


FASCIA REPAIR

The fascia is made of RIM plastic. Repair and refinishing of these panels is outlined in the Body Panel Repair Section.



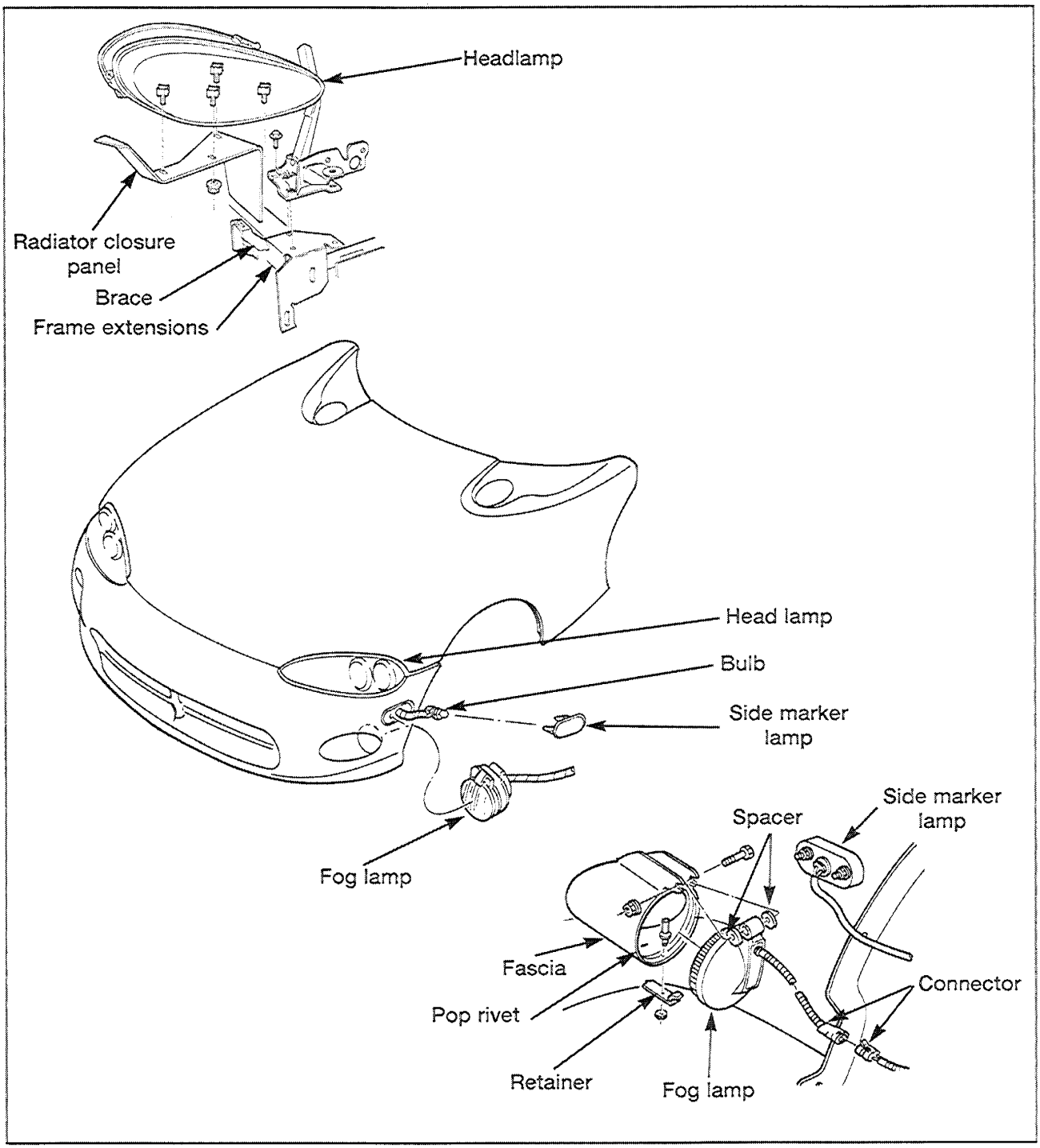


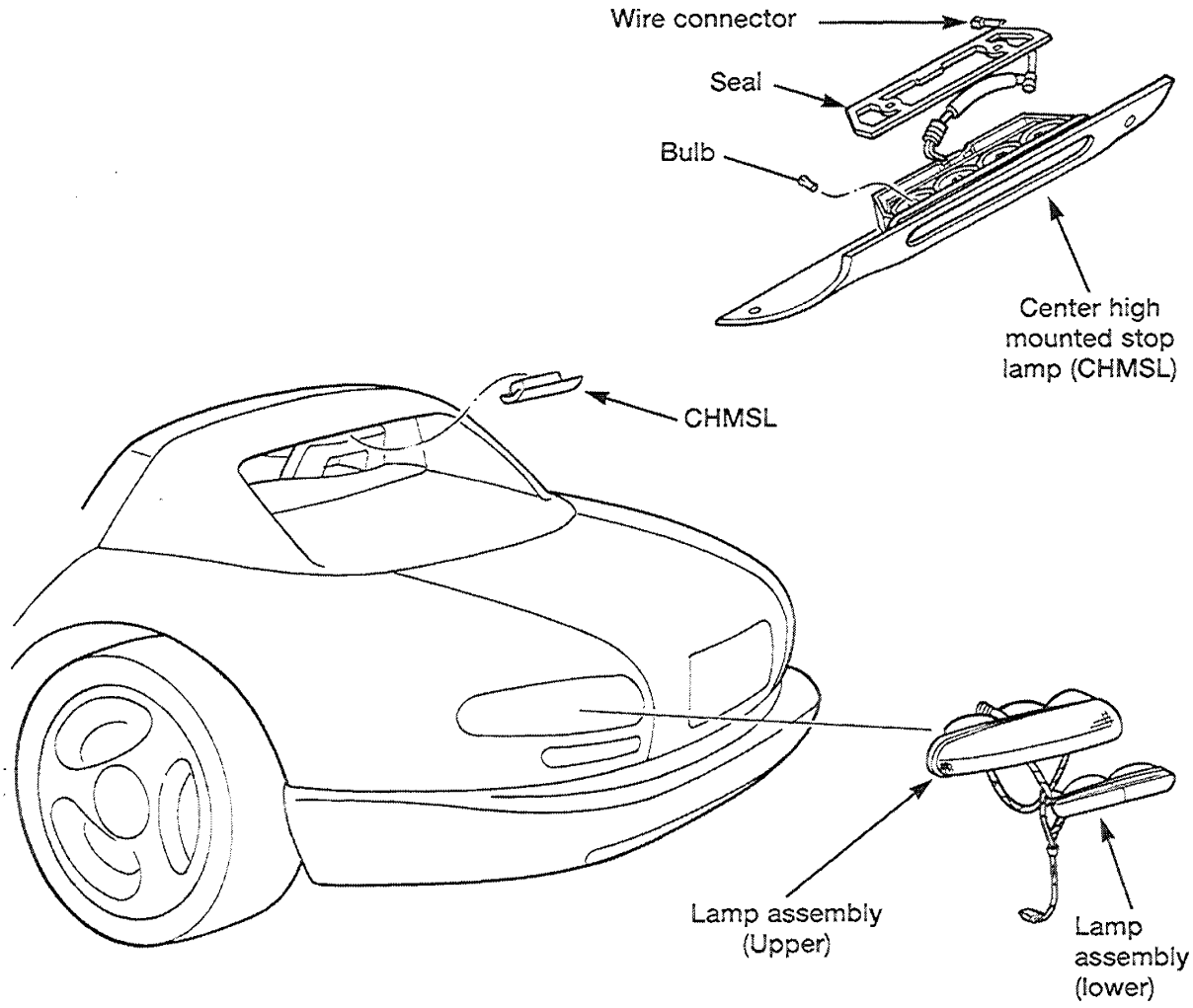


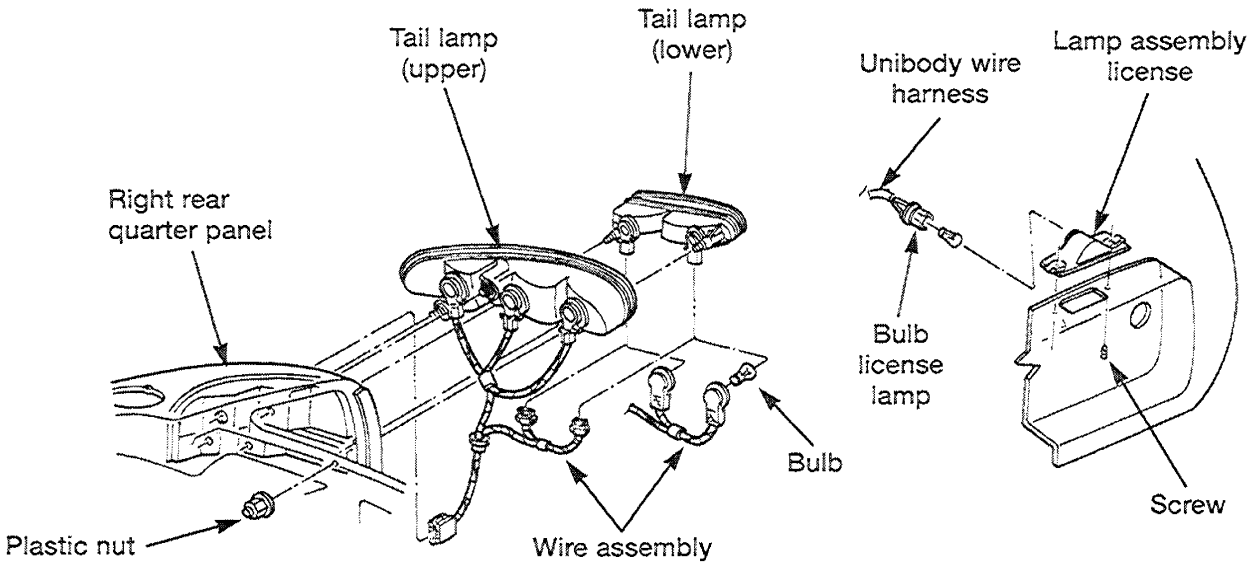
VIPER

RT/10 Roadster

Exterior Lighting

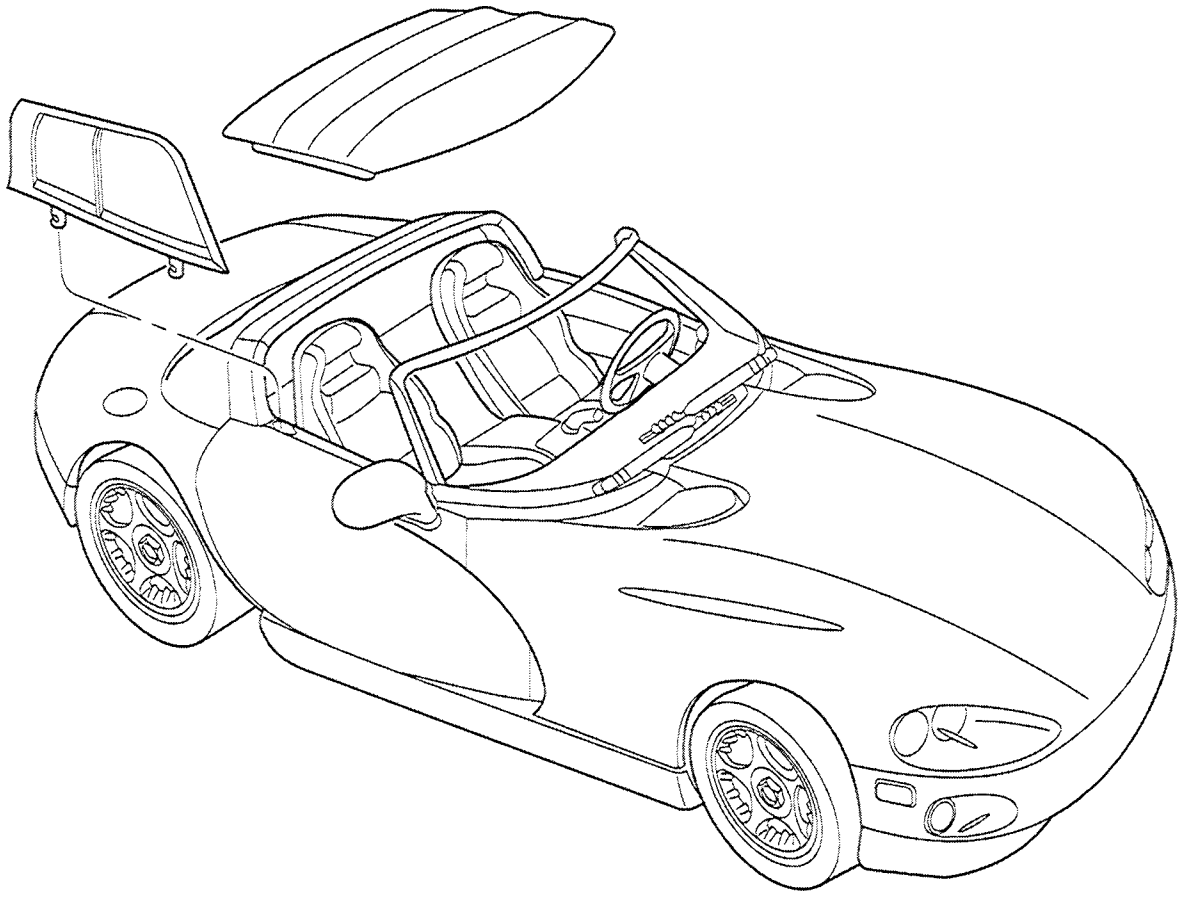



Wire connector
Seal
Bulb
Center high mounted stop lamp (CHMSL)
CHMSL
Lamp assembly (Upper)
Lamp assembly (lower)


Tail lamp (upper)
Tail lamp (lower)
Right rear quarter panel
Plastic nut
Wire assembly
Bulb
Unibody wire harness
Lamp assembly license
Bulb license lamp
Screw

VIPER

RT/10 Roadster
Greenhouse



WINDSHIELD REPLACEMENT SAFETY PRECAUTIONS AND WARNINGS

WARNING: DO NOT USE URETHANE ADHESIVE OR PRIMER IN CLOSED WORK AREA. PERSONAL INJURY CAN RESULT.

PROTECT SKIN FROM COMING IN CONTACT WITH URETHANE. PERSONAL INJURY CAN RESULT.

WEAR EYE AND HAND PROTECTION WHEN WORKING WITH GLASS. PERSONAL INJURY CAN RESULT.

CAUTION:

Protect all painted or trimmed surfaces from coming in contact with urethane or primers. Damage will result.

Do not damage painted surfaces when removing moldings or cutting urethane around windshield.

It is difficult to salvage a windshield during the removal operation. The windshield is part of the unibody structure. The urethane bonding used to secure the windshield to the fence is difficult to cut or clean form any surface. If the moldings are set in urethane, it would also be unlikely they could be salvaged. Before removing the windshield, check the availability of the windshield and moldings from the parts supplier.

WINDSHIELD REMOVAL

1. Remove inside rear view mirror.
2. Remove cowl cover. Refer to Cowl Cover Removal paragraph in this group.
3. Remove windshield molding (Fig. 1). Pull outward on molding at the bottom of A-pillars using pliers.
4. Cut urethane bonding from around windshield using a suitable sharp cold knife. A pneumatic cutting device can be used if available (Fig. 2).
5. Separate windshield form vehicle.

WINDSHIELD INSTALLATION

CAUTION:

Follow urethane manufacturer's recommended curing time before returning the vehicle to use.

The windshield fence should be cleaned of old urethane bonding material. Support spacers should be cleaned and properly installed at bottom of windshield opening.

1. Place replacement windshield into windshield opening, and position glass in the center of the opening against the support spacers. Mark the glass at the support spacers with a grease pencil or pieces of masking tape and ink pen to use as a reference for installation. Remove replacement windshield from windshield opening (Fig. 3).

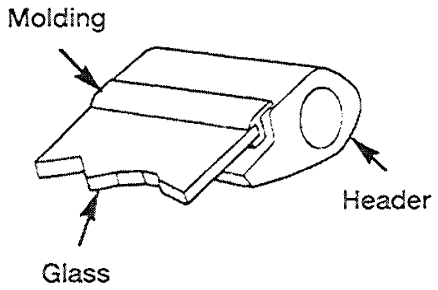


Fig. 1 Windshield Molding

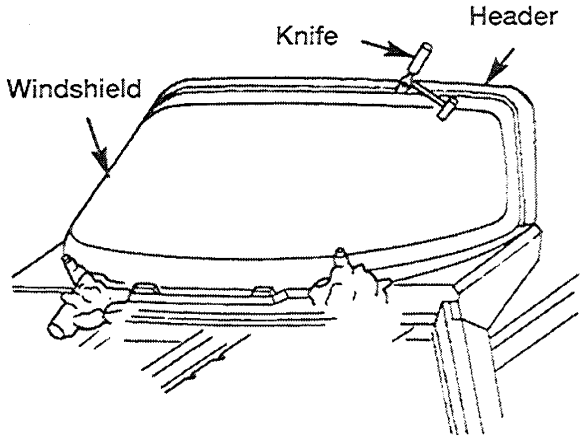


Fig. 2 Cut Urethane Around Windshield

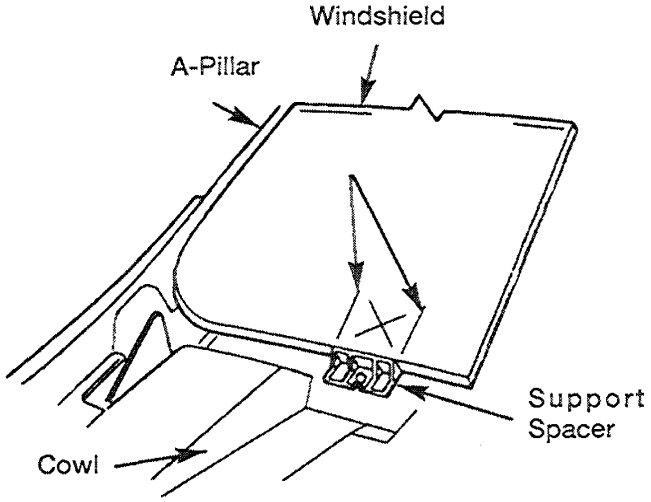


Fig. 3 Center Windshield and Mark at Support Spacers

2. Position the windshield inside up on a suitable work surface with two padded, wood 10 cm by 10 cm by 50 cm (4 in. by 4 in. by 20 in.) blocks, placed parallel 75 cm (2.5 ft.) apart (Fig. 4).

3. Clean inside of windshield with Mopar® Glass Cleaner and lint-free cloth.

4. Apply clear glass primer 25mm (1 in.) wide around perimeter of windshield and wipe with clean/dry lint-free cloth.

5. Apply black-out primer 15mm (.75in.) wide on top side and sides of windshield and 25 mm (1 in.) on bottom of windshield. Allow at least three minutes drying time.

6. Position spacers on windshield opening fence as indicated (Fig. 5).

7. Install windshield molding (Fig. 1).

8. Apply a 10mm (0.4 in.) bead of urethane around perimeter of windshield.

9. With the aid of a helper, position the windshield over the windshield opening. Align the reference marks at the bottom of the windshield to the support spacers.

10. Slowly lower windshield glass to windshield opening fence. Guide the tip molding into proper position if necessary. Push windshield inward to fence spacers at bottom and until top molding is flush to roof line (Fig. 6).

11. Clean excess urethane from exterior with Mopar® Super Clean or equivalent.

12. Apply 150mm (6 in.) lengths of 50mm (2 in.) masking tape spaces 250mm (10 in.) apart to hold molding in place until urethane cures (Fig. 7).

13. Install cowl cover and wipers.

14. Install inside rear view mirror.

15. After urethane has cured, remove tape strips and water test windshield to verify repair.

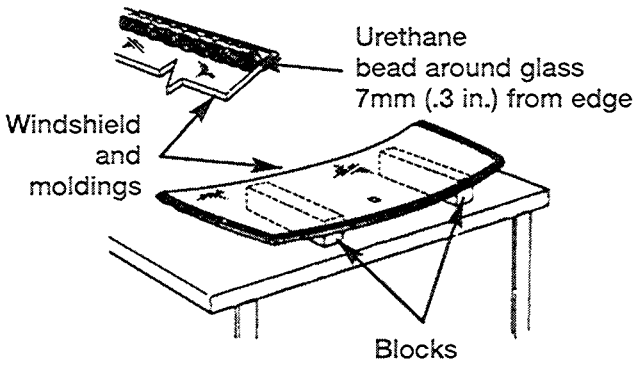


Fig. 4 Work Surface Set Up

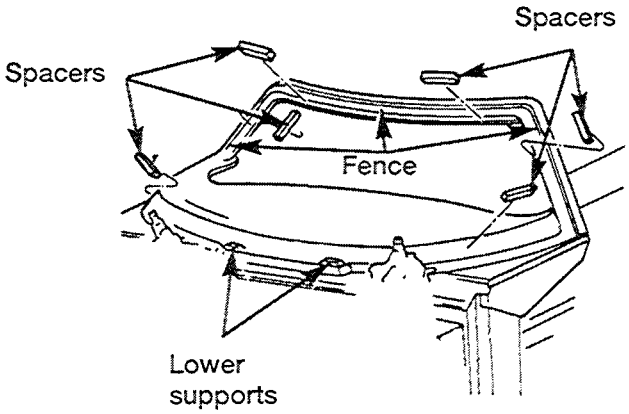


Fig. 5 Position Urethane Compression Spacers

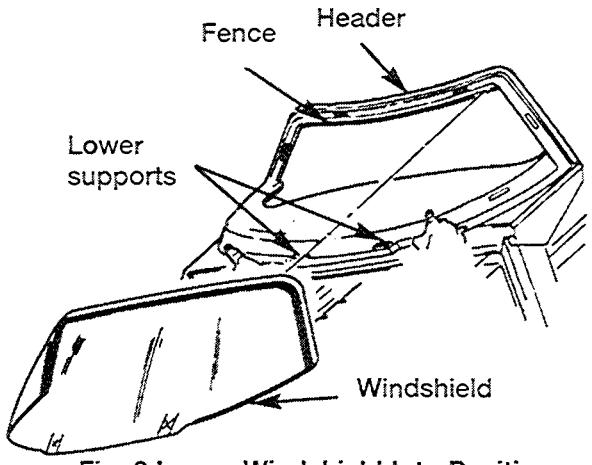


Fig. 6 Lower Windshield Into Position

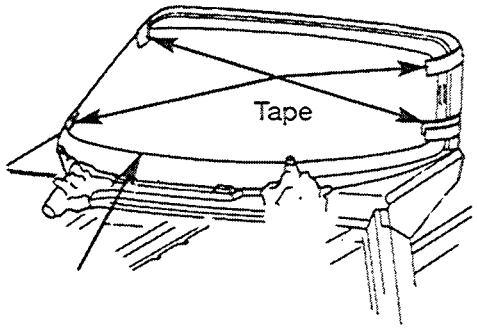
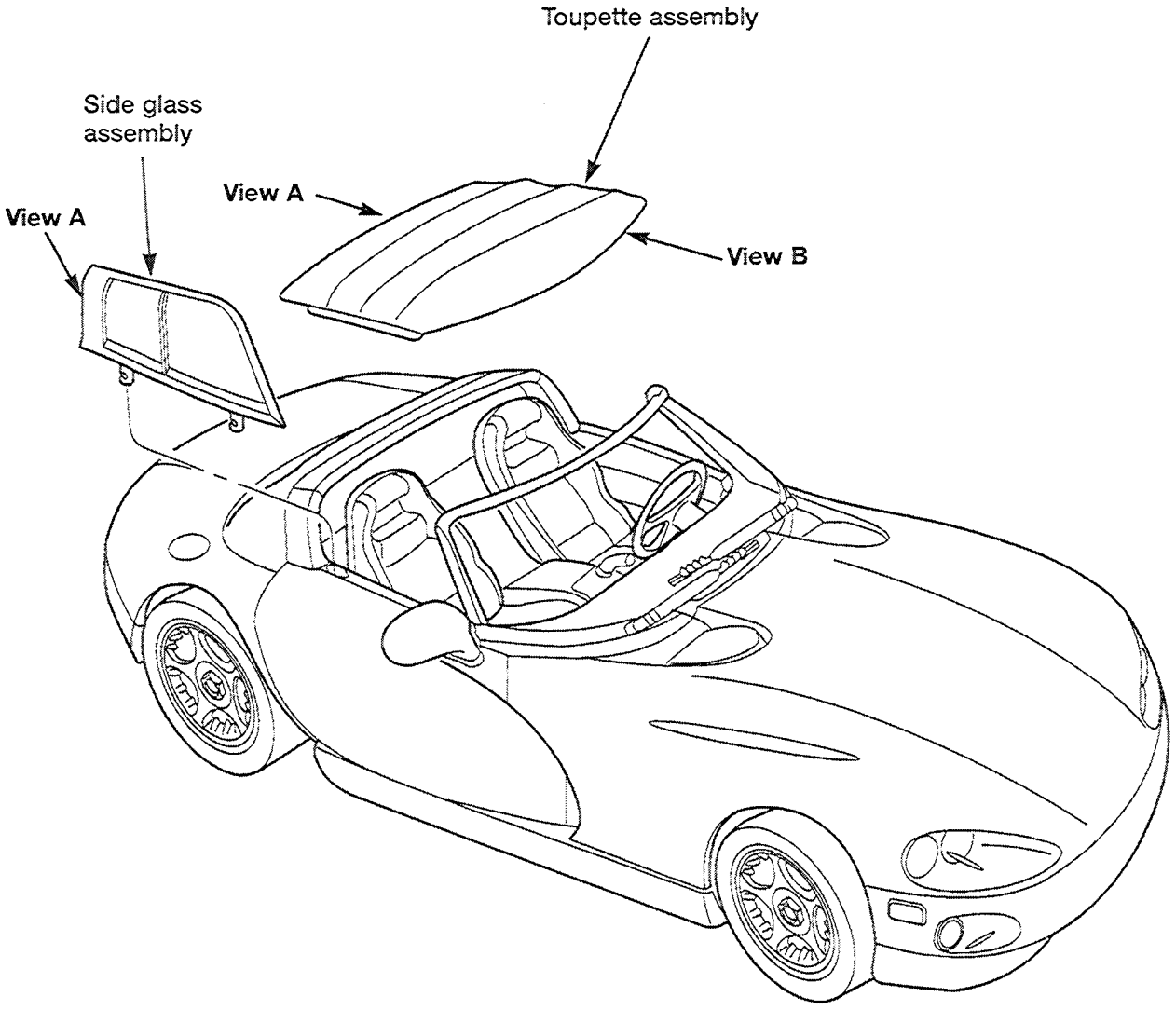


Fig. 7 Apply Tape to Retain Windshield Molding

SOFT TOP, SIDE WINDOWS, TONNEAU COVER, REAR WINDOW

The soft top, side windows, tonneau cover, and rear window are all removable. The soft top attaches to the roof through locking pins (View A) on the rear. Release levers at the front and rear of the top allow for easy installation and removal. The latching handles at the front release when pulled outward. The release lever at the rear is located in an indentation where the header and fabric meet. Pressing on this lever releases the locking blades.

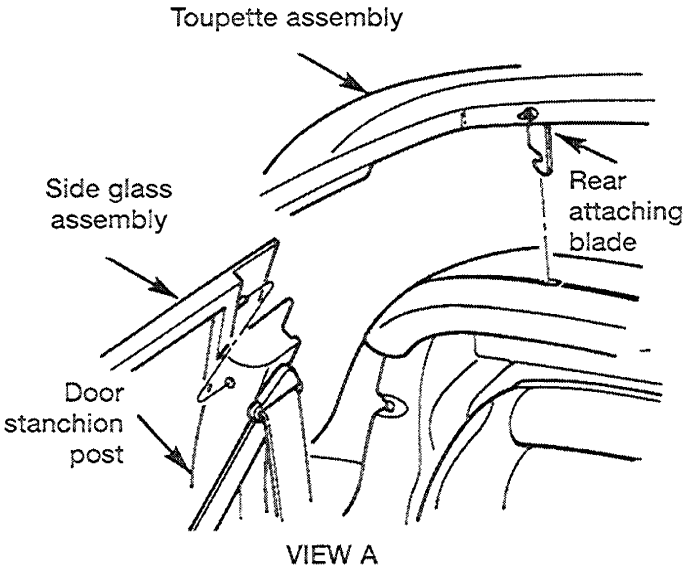
VIPER's "Regalite" side windows attach to the Viper stanchions and to the door panels. Locking blades in the bottom of the windows fit into and then are slid rearward in slots in the door panels. Thumbscrews at the top rear of the windows attach to fasteners at the top of the stanchions. The window panels are not detachable from the window frames.



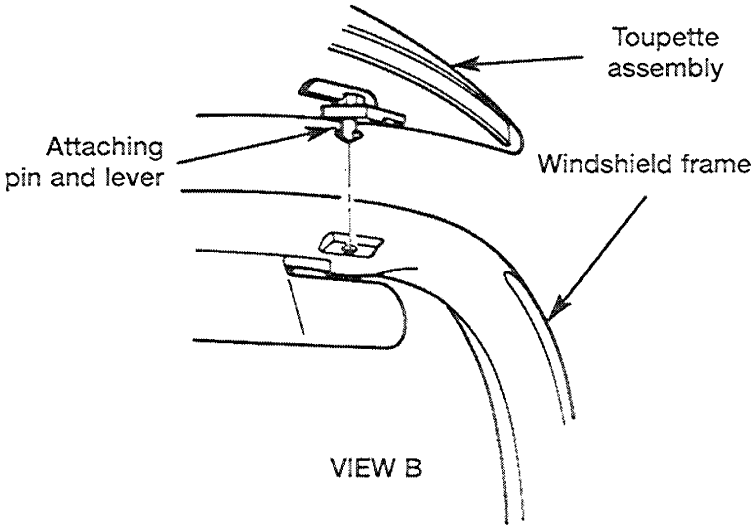
The removable rear window is held in place by 3 lower snaps and 2 retractable upper latch pins.

The rear window can be removed by pulling down and twisting tow pins in the roof. The window is then tilted forward and lifted out over the seat.

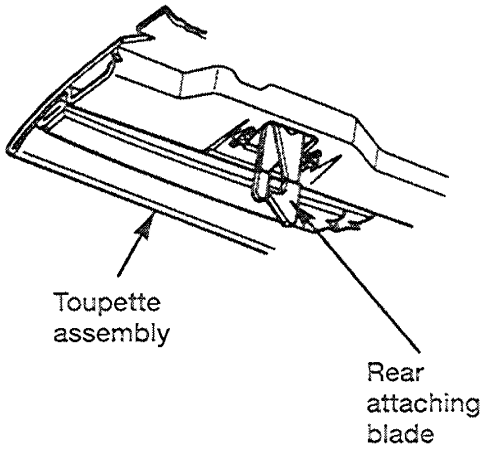
NOTE: A storage bag allows the owner to stow the top, cover, windows, and rear window in the VIPER's trunk.

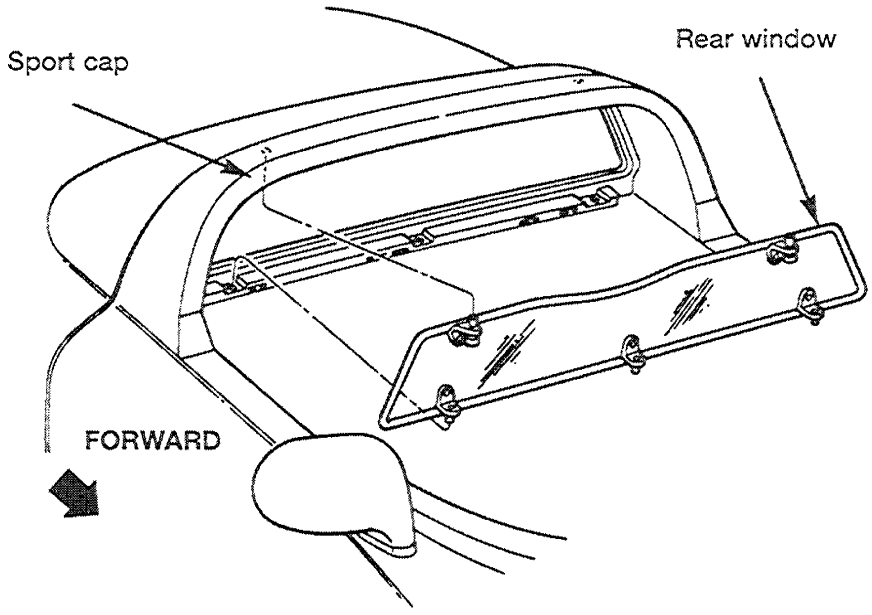


VIEW A



VIEW B



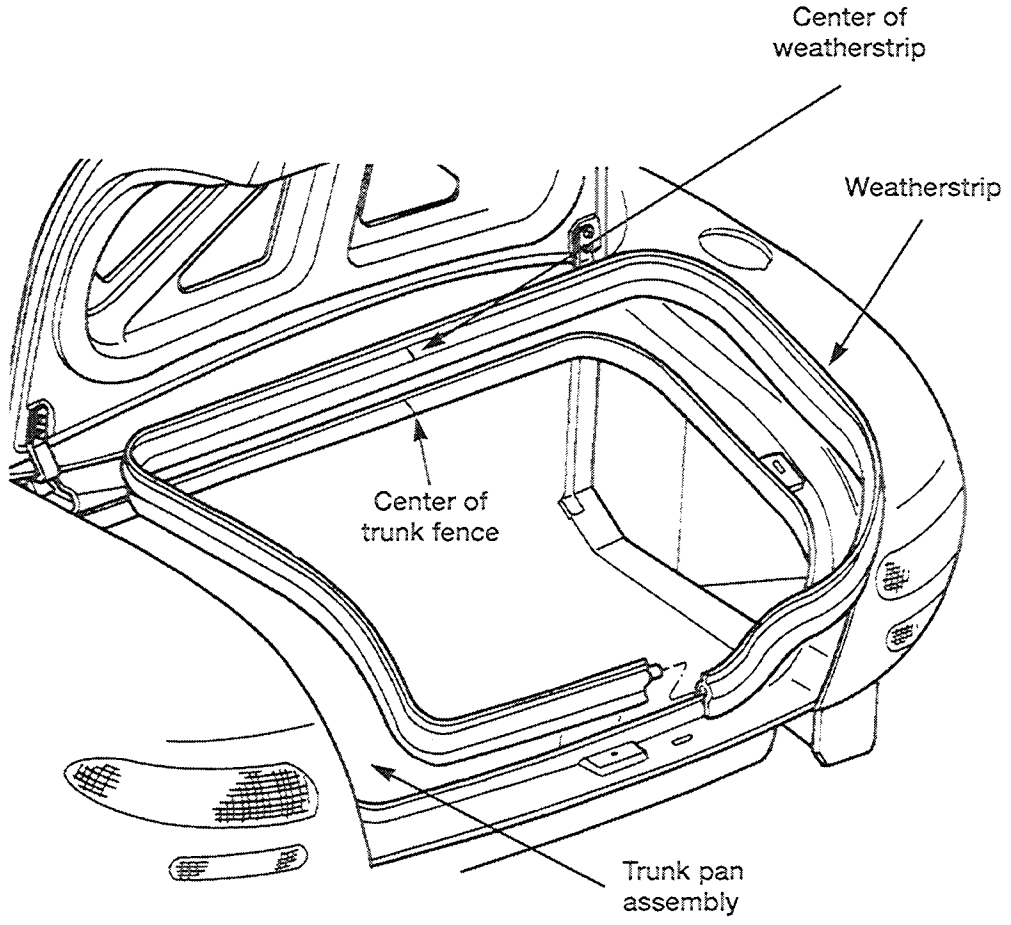


VIPER
RT/10 Roadster Weatherstrips

DECK LID OPENING

The VIPER trunk utilized a 1 piece weatherstrip which fits over a lip on the trunk pan. The ends are connected by a special connector.

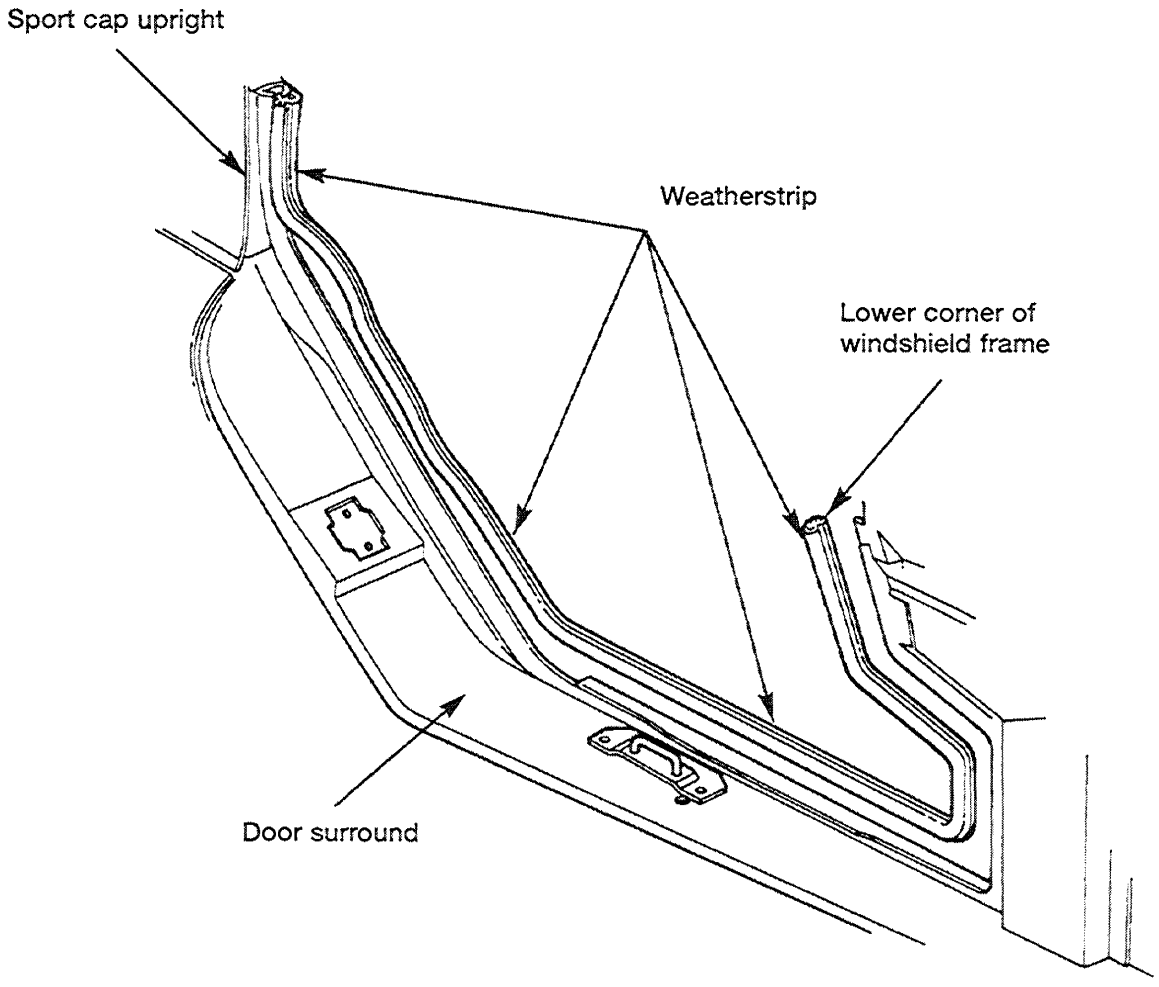
The weatherstrip helps create a trough around the deck lid opening to channel the water away from the opening.



DOOR OPENINGS

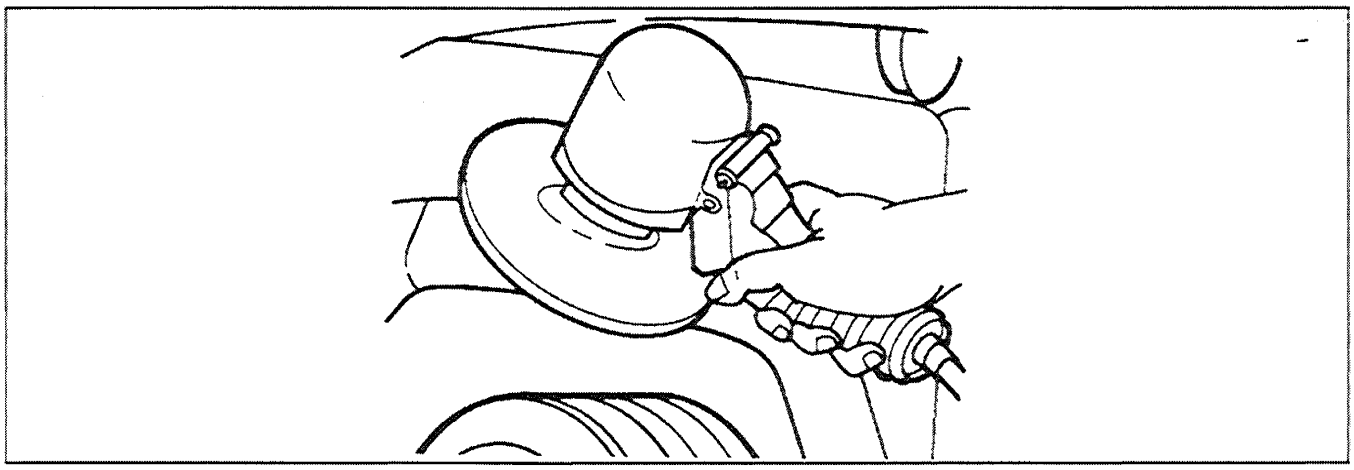
The door opening weatherstrip fits over a formed lip on the door surround panels. The lip is similar to a pinch weld lip on a vehicle using metal panels.

The weatherstrip runs from the lower corner of the windshield frame at the upper door opening to the sport cap uprights.



VIPER

Body Panel Repair



GENERAL INFORMATION

Resin Transfer Molded (RTM) body panels are reinforced with a continuous fiberglass mesh. Epoxy resin is injected into a gel-coated and fiberglass-lined mold to form a body panel. Sheet molded compound (SMC) body panels are constructed with fiberglass strands usually 1" or shorter, epoxy resin formed into sheet stock and pressed in mold flowing material to form a sheet molded compound (SMC) body panel. RTM and SMC body panels can be repaired with epoxy adhesive aftermarket products. Refer to instructions provided by the manufacturer of products being used to repair RTM or SMC. Chrysler Corporation recommends that a trained automotive body technician perform body panel repair procedures.

SAFETY PRECAUTIONS AND WARNINGS

WARNING: EYE PROTECTION SHOULD BE USED WHEN SERVICING RTM AND SMC COMPONENTS. PERSONAL INJURY CAN RESULT.

USE AN OSHA APPROVED BREATHING DEVICE WHEN MIXING EPOXY, GRINDING RTM AND SMC, AND SPRAYING PAINT OR SOLVENTS IN A CONFINED AREA. PERSONAL INJURY CAN RESULT.

AVOID PROLONGED SKIN CONTACT WITH EPOXY RESIN, PETROLEUM, OR ALCOHOL BASED SOLVENTS. PERSONAL INJURY CAN RESULT.

DO NOT VENTURE UNDER A HOISTED VEHICLE THAT IS NOT PROPERLY SUPPORTED ON SAFETY STANDS. PERSONAL INJURY CAN RESULT.

CAUTIONS:

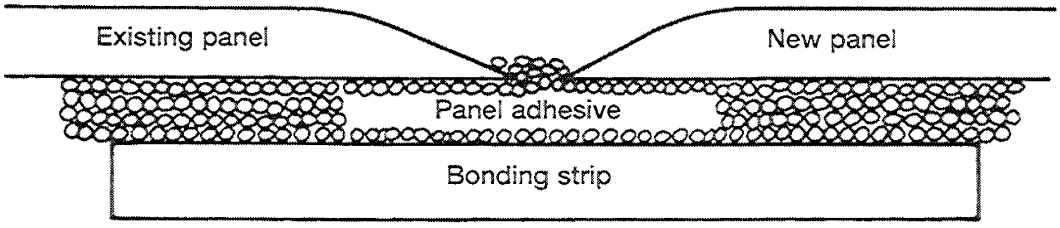
- When holes must be drilled or cut in body panels, verify locations of internal body components and electrical wiring. Damage to vehicle can result.
- Do not use abrasive chemicals or compounds on undamaged painted surfaces around repair areas. Damage to finish can result.

PANEL SECTIONING

If it is required to section a large panel for an SMC or RTM repair, it will be necessary to reinforce the panel with epoxy structural adhesive (rigid repair adhesive). To bond two plastic panels together, a reinforcement must overlap both panels. The panels must be "V'd" at a 20 degree angle. The area to be reinforced should be washed, then sanded. Be sure to wipe off any excess soap and water when finished. Lightly sand or abrade the plastic with an abrasive pad or sandpaper. Blow off any dust with compressed air or wipe with a clean dry rag.

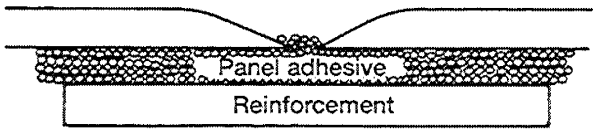
When bonding SMC or RTM panels, use a two-part epoxy adhesive. Properly mix parts A and B, and apply it to the panels being repaired. Be sure that enough adhesive has been applied to allow squeeze out and to fill the full bond line. Once the pieces have been brought together, do not move them until the adhesive is cured. The assembly can be held together with clamps, rivets, etc. A faster cure can be obtained by heating with a heat lamp or heat gun.

After the parts have been bonded and have had time to cure, rough sand the seam and apply the final adhesive filler to the area being repaired. Smooth the filler with a spatula, wooden tongue depressor, or squeegee. For fine texturing, a small amount of water can be applied to the filler surface while smoothing. The cured filler can be sanded as necessary and, as a final step, cleanup can be done with soapy water. Wipe the surface clean with a dry cloth allowing time for the panel to dry before moving on with the repair.



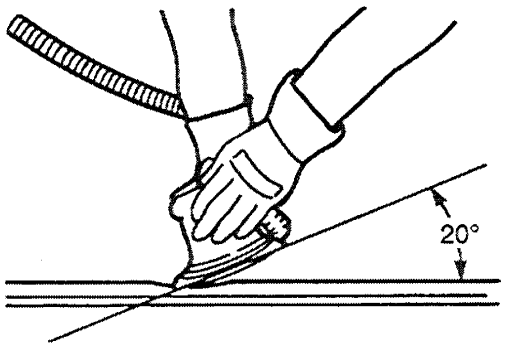
PANEL REINFORCEMENT

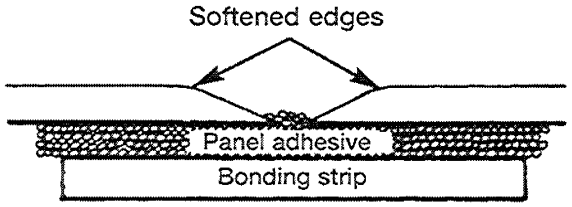
Structural repair procedures for rigid panels such as Sheet Molded Compound (SMC) or Resin Transfer Molded (RTM) with large cracks and holes will require a reinforcement backing. Reinforcements can be made with several applications of glass cloth saturated with epoxy structural adhesive. Semi-rigid or flexible repair materials should be used for semi-rigid or flexible part repairs. Open meshed fiberglass drywall tape can be used to form a reinforcement. The drywall tape allows the resin to penetrate through and make a good bond between the panel and the epoxy adhesive. Structurally, the more drywall tape used, the stronger the repair.

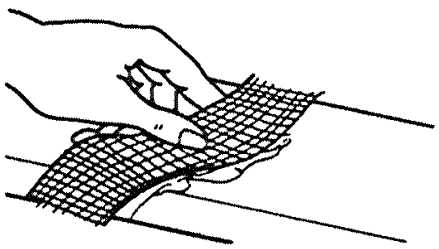


Another kind of repair that can be done to repair large cracks and holes is to use a scrap piece of similar plastic and bond with structural adhesive. The reinforcement should cover the entire break and should have a generous amount of overlap on either side of the cracked or broken area.

When repairing plastic, the damaged area is first "V'd" out, or beveled. Large bonding areas are desirable when repairing plastic because small repairs are less likely to hold permanently. Beveling the area around a crack at a 20 degree angle will increase the bonding surface for a repair. It is recommended that sharp edges be avoided because the joint may show through after the panel is refinished.





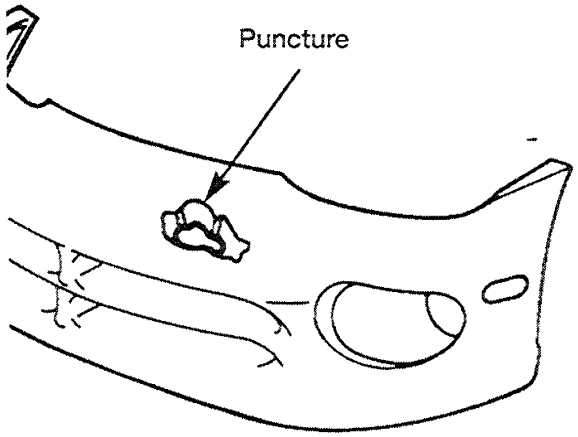


NOTES:

- Panel repair for both flexible and rigid panels are basically the same. The primary difference between flexible panel repair and rigid panel repair is in the adhesive materials used.

- The technician should first decide what needs to be done when working on any type of body panel. One should determine if it is possible to return the damaged part to its original strength and appearance without exceeding the value of the replacement part.

- When plastic repairs are required, it is recommended that the part be left on the vehicle whenever possible. That will save time, and the panel will remain stationary during the repair. Misalignment can cause stress in the repair areas and can result in future failure.



VISUAL INSPECTION

Sheet Molded Compound (SMC) and Resin Transfer Molded (RTM), because they are composites, react differently to impact than sheet metal does. Composite materials can mask the severity of an accident. Adhesive bond lines, interior structure of the doors, and steel structure need to be inspected carefully to get a true damage assessment. Close inspection may require partial removal of interior trim or inner panels.

Identify the type of repair:

Puncture or Crack - Damage that has penetrated completely through the panel. Damage is confined to one general area; a panel section is not required. However, a backer panel, open fiberglass tape, or matted material must be bonded from behind.

PANEL SURFACE PREPARATION

If a body panel has been punctured, cracked, or crushed, the damaged area must be removed from the panel to achieve a successful repair. All spider web cracks leading away from a damaged area must be stopped or removed. To stop a running crack in a SMC or RTM panel, drill a 6mm (0.250 in.) hole at the end of the crack farthest away from the damage. If spider web cracks cannot be stopped, the panel would require replacement. The surfaces around the damaged area should be stripped of paint and freed from wax and oil. Scuff surfaces around repair area with 360 grit wet/dry sand paper, or equivalent, to assure adhesion of epoxy repair materials.

PATCHING PANELS

An RTM or SMC panel that has extensive puncture type damage can be repaired by cutting out the damaged material (Fig. 1). Use a suitable reciprocating saw or cut-off wheel to remove the section of the SMC or RTM panel that is damaged. The piece cut out can be used as a template to shape the new patch. It is not necessary to have access to the back of the panel to install a patch. Bevel edges of cutout at 20 degrees to expose a larger bonding area on the outer side. This will allow for an increased reinforcement area.

PANEL PATCH FABRICATIONS

A patch can be fabricated from any rigid fiberglass panel that has compatible contour with the repair area. Discard SMC or RTM panels. Lift gates and fenders can be used to supply patch material. If existing material is not available or compatible, a patch can be constructed with epoxy and reinforcement mesh (drywall tape). Perform the following operation if required:

1. Cover waxed paper or plastic with adhesive backed nylon mesh (drywall tape) larger than the patch required (Fig. 2).

2. Tape waxed paper or plastic sheet with mesh to a surface that has a compatible contour to the repair area.

3. Apply a liberal coat of epoxy adhesive over the reinforcement mesh (Fig. 2). If necessary apply a second or third coat of epoxy and mesh after first coat has cured. The thickness of the patch should be the same as the repair area.

4. After patch has cured, peel waxed paper or plastic from the back of the patch.

5. If desired, a thin film coat of epoxy can be applied to the back of the patch to cover mesh for added strength.

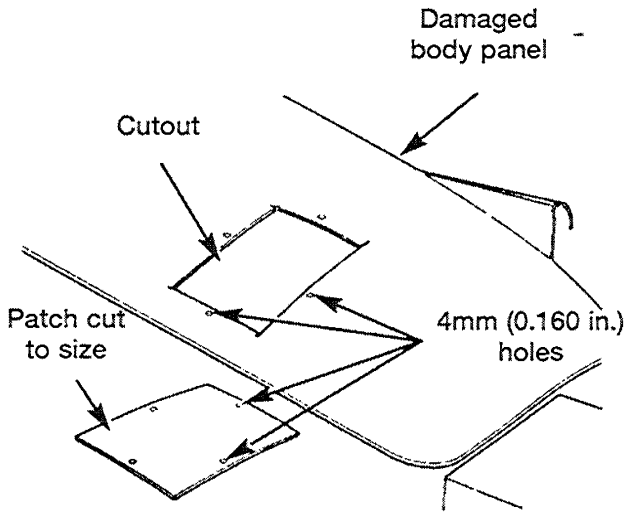


Fig. 1 Damaged Panel Cutout and Patch

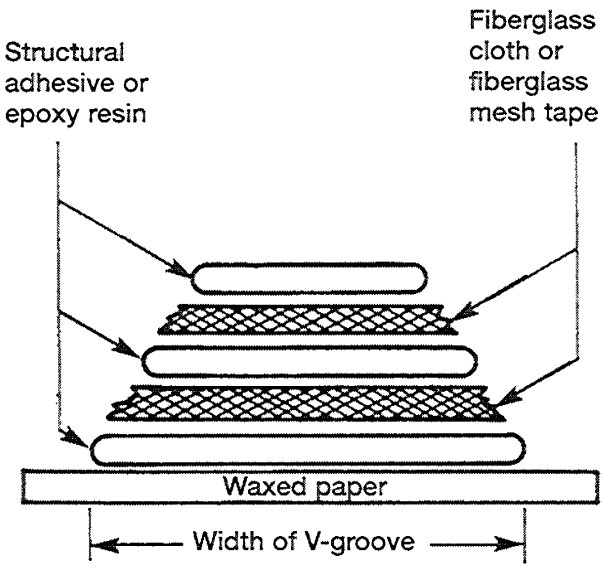


Fig. 2 Fabricated Panel

PANEL PATCH INSTALLATION

1. Make a paper or cardboard pattern the size and shape of the cutout hole in the panel.
2. Trim 3mm (0.125 in.) from edges of pattern so patch will have a gap between connecting surfaces.
3. Using the pattern as a guide, cut the patch to size.
4. Cut scrap pieces of patch material into 50mm (2 in.) squares to use as patch supports to sustain the patch in the cutout.
5. Drill 4mm (0.160 in.) holes 13mm (0.5 in.) in from edge of cutout hole (Fig. 1).
6. Drill 4mm (0.160 in.) holes 13mm (0.5 in.) away form edge of patch across form holes drilled around cutout (Fig. 1).
7. Drill 3mm (0.125 in.) holes in the support squares 13mm (0.5 in.) from the edge in the center of one side.
8. Scuff the backside of the body panel around the cutout hole with a scuff pad or sandpaper.
9. Mix enough epoxy to cover one side of all support squares.
10. Apply epoxy to the support squares on the half with the hole predrilled in it.
11. Using number 8 sheet metal screws, secure support squares to back side of body panel with epoxy sandwiched between the panel and the squares (Fig. 3).
12. Position patch in cutout against support squares and adjust patch until the gap is equal along all sides (Fig. 5).
13. Drill 3mm (0.125 in.) holes in the support squares through the pre-drilled holes in the patch.
14. Apply a coat of epoxy to the exposed ends of the support squares (Fig. 4).

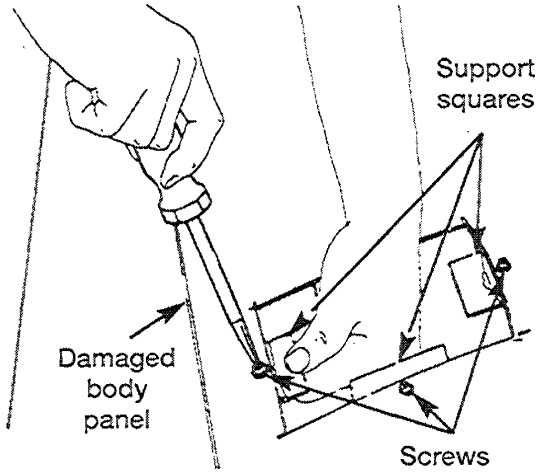


Fig. 3 Secure Support Squares to Body Panel

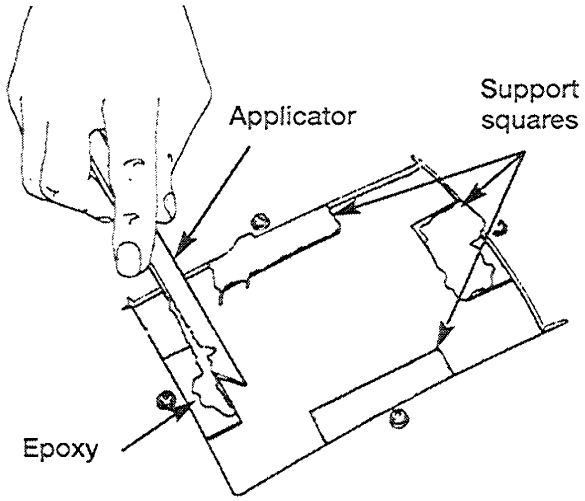


Fig. 4 Apply Epoxy to Support Squares

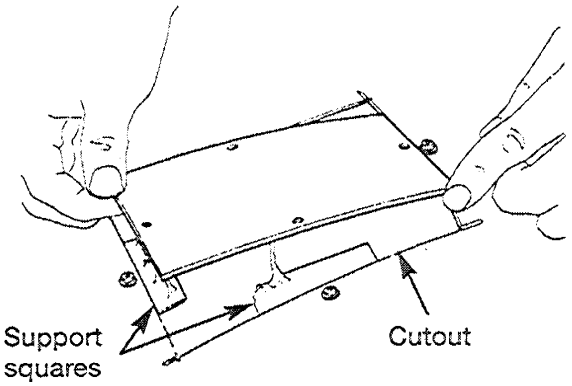


Fig. 5 Position Patch in Cutout and Align

15. Install screws to hold the patch to support squares (Fig. 6). Tighten screws until patch surface is flush with panel surface.

16. Allow epoxy to cure, and remove all screws.

17. Using a 125mm (5 in.) 24 grit disc grinder, grind a 50mm (2 in.) to 75mm (3 in.) wide and 2mm (0.080 in.) deep path across the gaps around the patch (Fig. 7). With compressed air, blow dust from around patch.

18. Apply adhesive backed nylon mesh (drywall tape) over gaps around patch (Fig. 8).

19. Mix enough epoxy to cover the entire patch area.

20. Apply epoxy over the mesh around patch, and smooth epoxy with a wide spreader to reduce finish grinding. Use two to three layers of mesh and epoxy to create a stronger repair (Fig. 9).

PATCHED PANEL SURFACING

After patch panel is installed, the patch area can be finished using the same methods as finishing other types of body panels. If mesh material is exposed in the patched area, grind surface down, and apply a coat of high quality rigid plastic body filler. Prime, block sand, and paint as required.

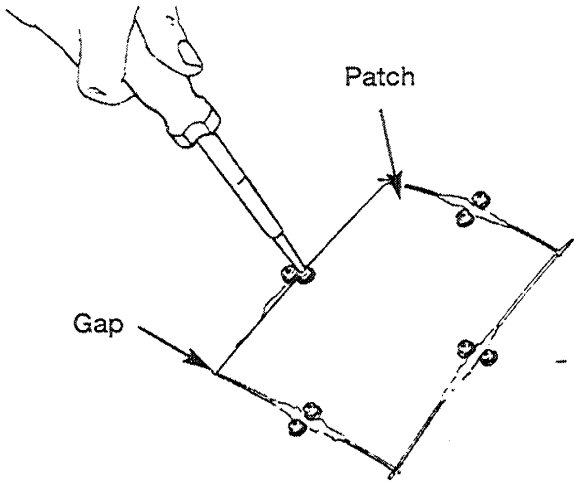


Fig. 6 Install Screws

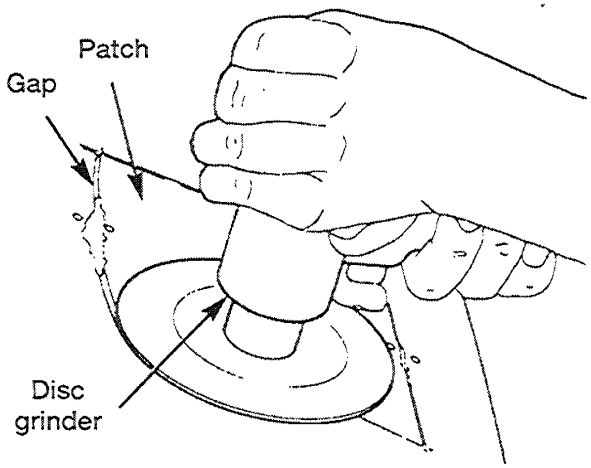


Fig. 7 Grind Surface

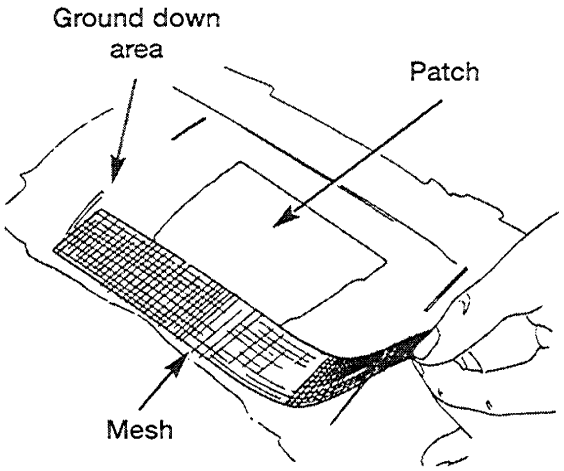


Fig. 8 Cover Gaps with Mesh

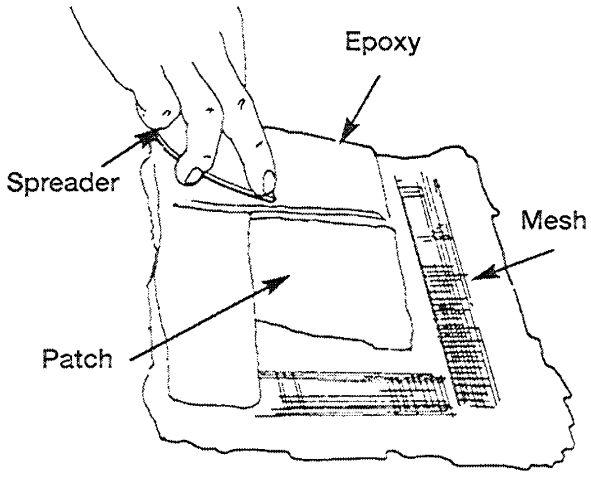
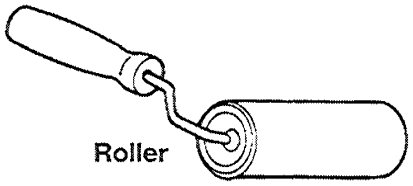


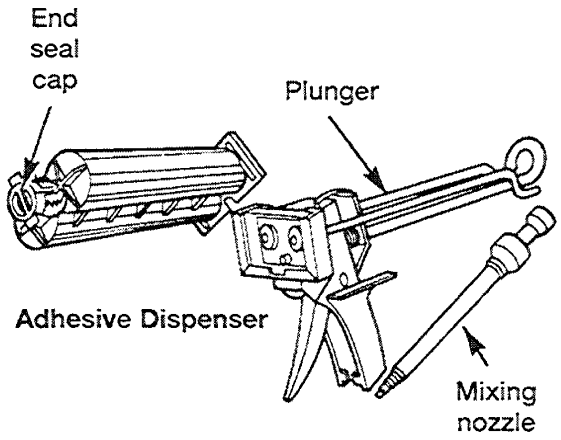
Fig. 9 Cover Mesh with Epoxy

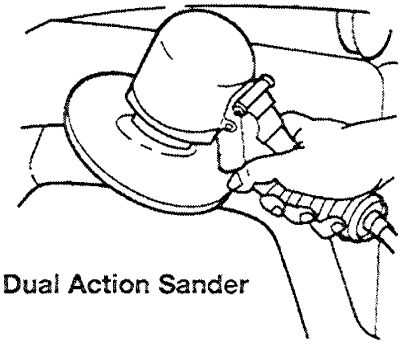
REFINISHING

Plastic panel refinishing is not different from refinishing metal surfaces, except that plastic panels do not require corrosion protection. After the damaged area has been repaired, the surface is then sanded, filled, and sanded again, to provide a smooth finish into the surrounding painted area. A plastic parts primer coating may be required with some plastics to enhance paint or filler adhesion (adhesion promoter). When applying the final coats of paint, they must be blended into the surrounding undamaged area in the usual fashion. During the final steps of the refinishing process, it is recommended that you follow the paint manufacturer's instructions for painting plastic surfaces.

TOOLS





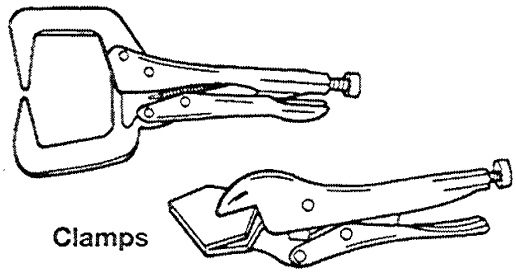


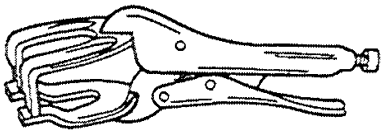
ADHESIVES

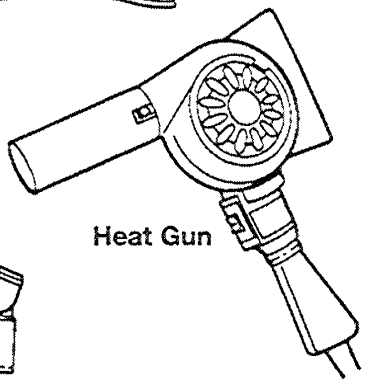
Structural adhesives are available from American Sure Seal, Kent, 3M, and other manufacturers. The bonding procedures must be performed using a structural compound for rigid panels and a flexible compound for flexible plastics.

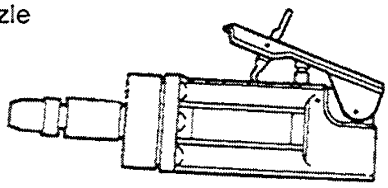
MATERIALS

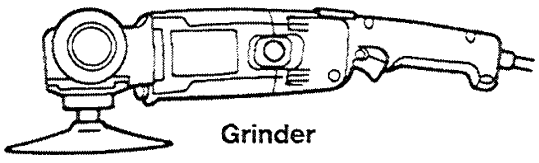
- Fiberglass Cloth or Mat
- Open Mesh Fiberglass or Nylon Drywall Tape (Available at hardware stores)
- Rigid Adhesives
- Flexible Adhesives
- Finishing Products
- Wax Paper





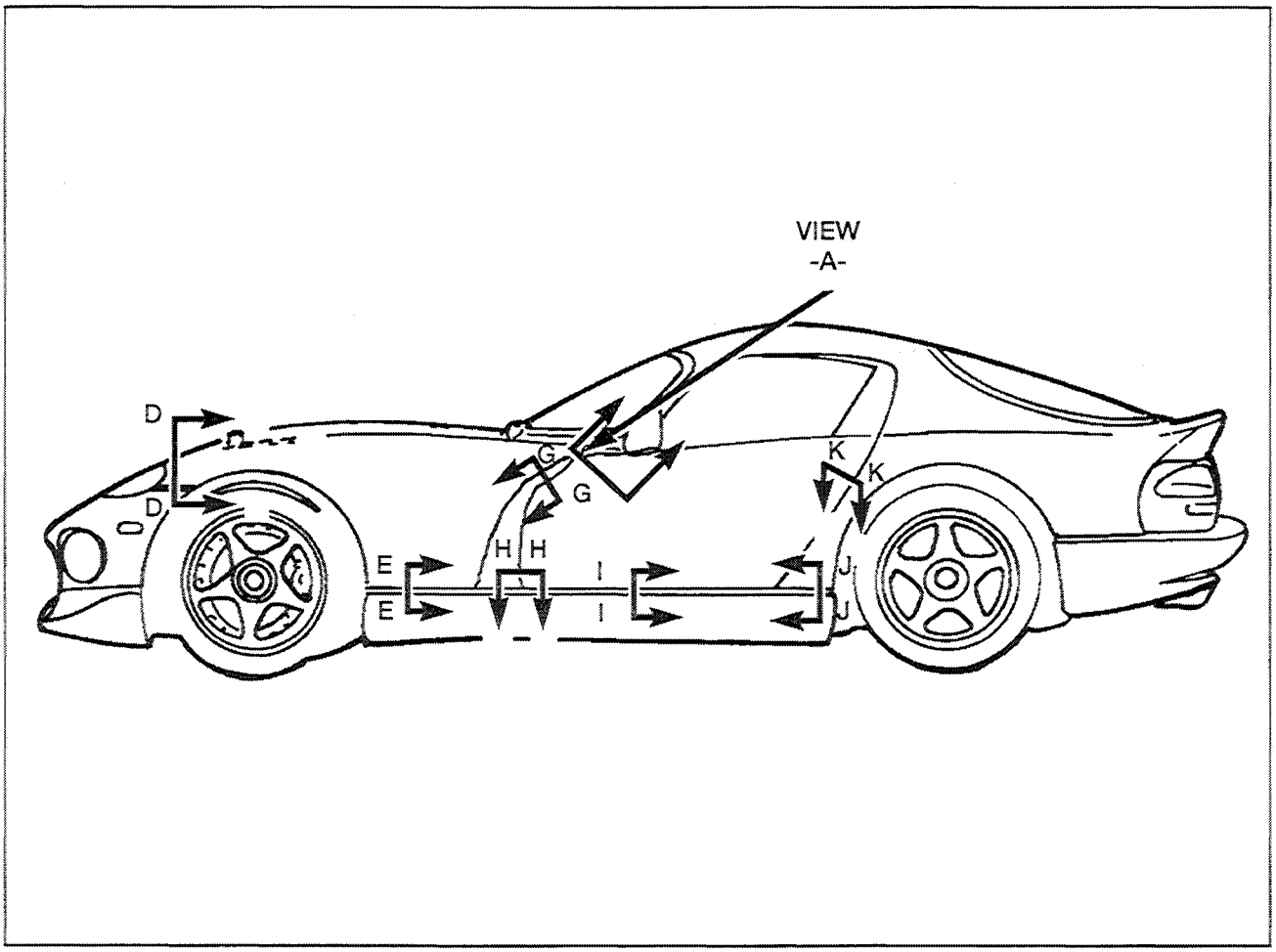




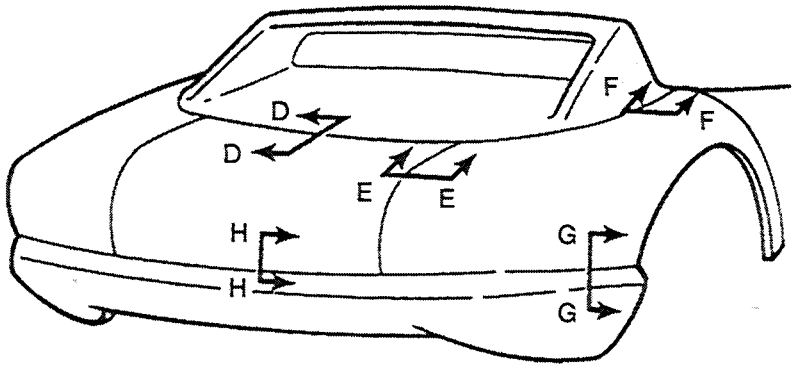


VIPER

Specifications & Dimensions



Some body panels are aligned using shims. The door, deck lid, hood, and bumper gaps should be set to specifications by adding or removing shims or mechanically adjusting.


D
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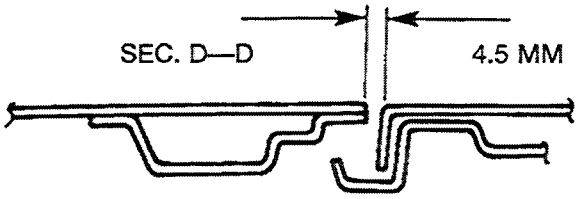
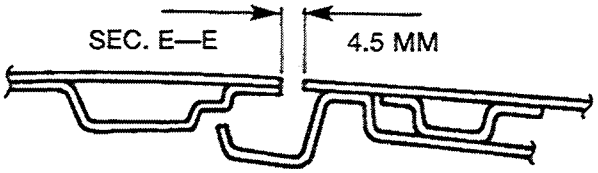

SEC. D—D
4.5 MM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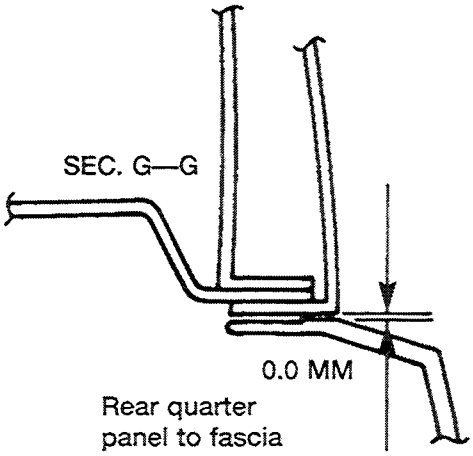
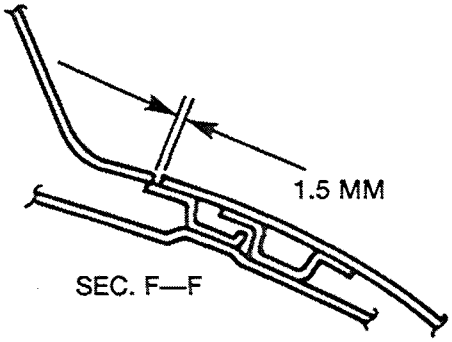
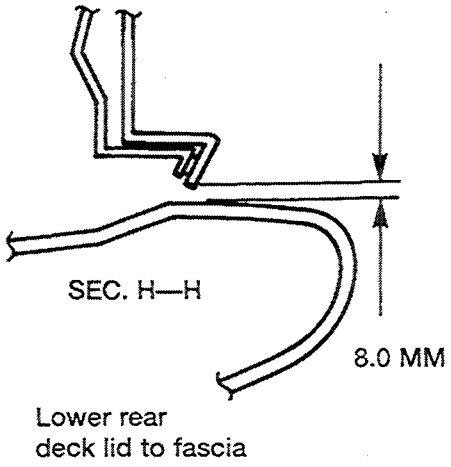
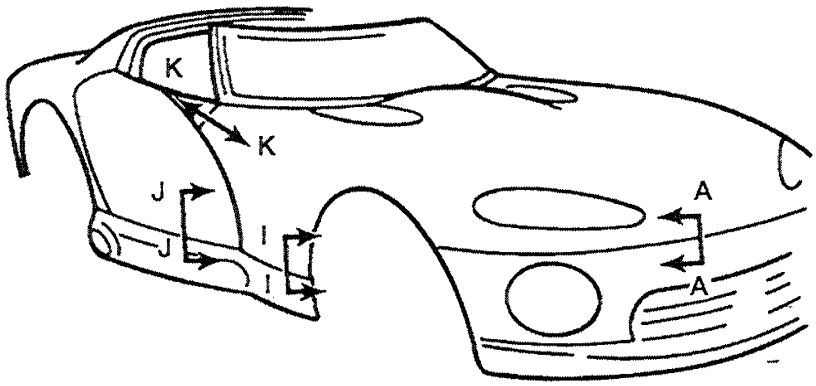
4.5 MM


SEC. G—G
0.0 MM
Rear quarter
panel to fascia


1.5 MM
SEC. F—F


SEC. H—H
8.0 MM
Lower rear
deck lid to fascia


K
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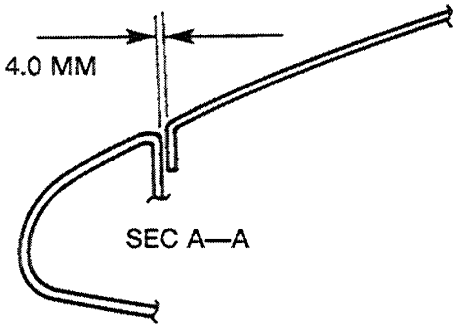
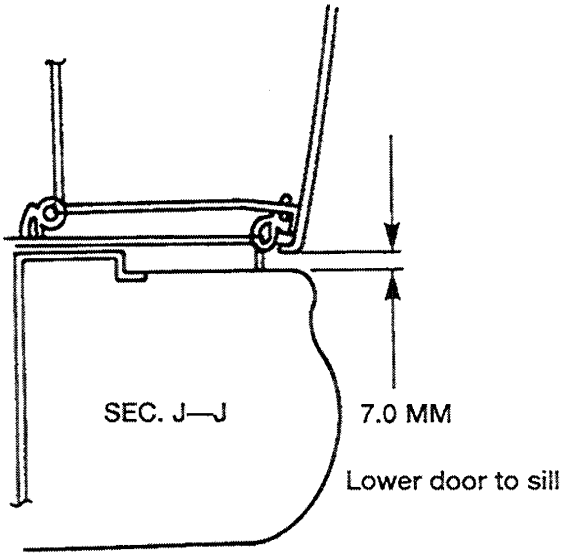
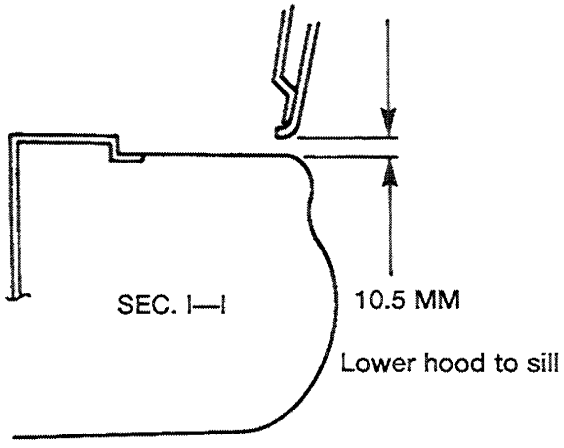
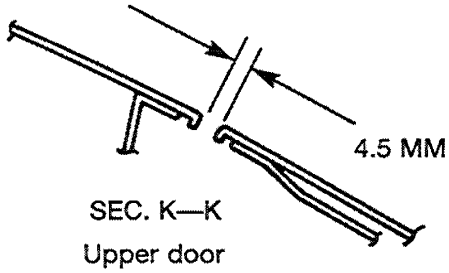
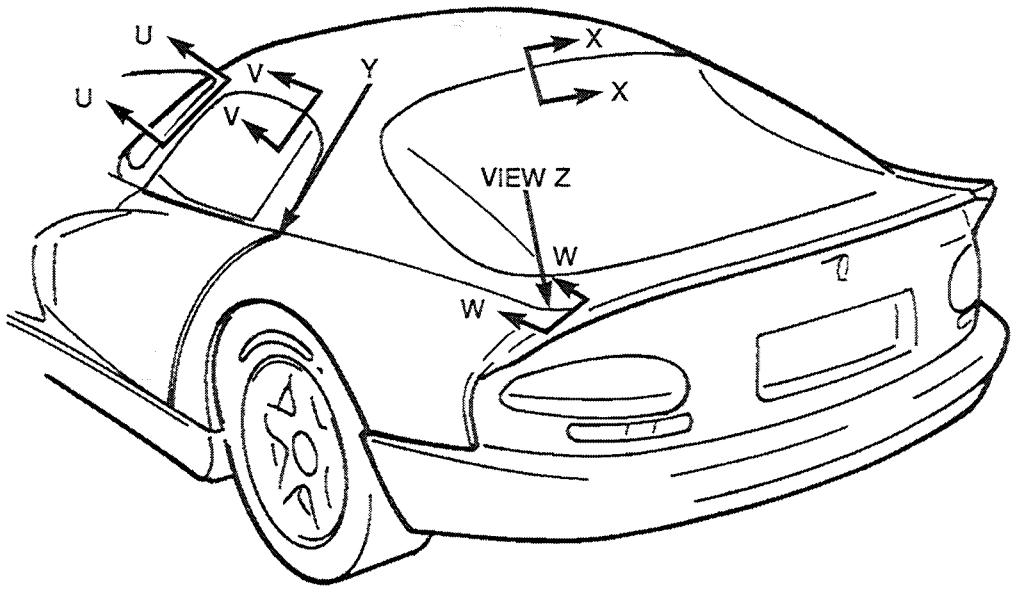

4.0 MM
SEC A—A


SEC. J—J
7.0 MM
Lower door to sill


SEC. I—I
10.5 MM
Lower hood to sill


4.5 MM
SEC. K—K
Upper door


U
U
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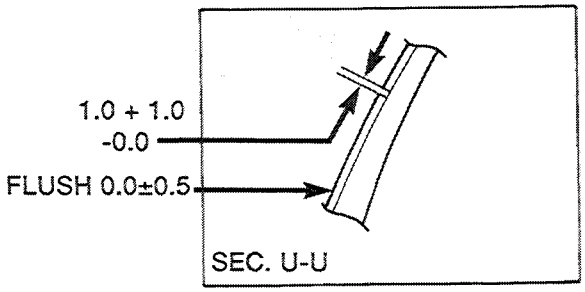
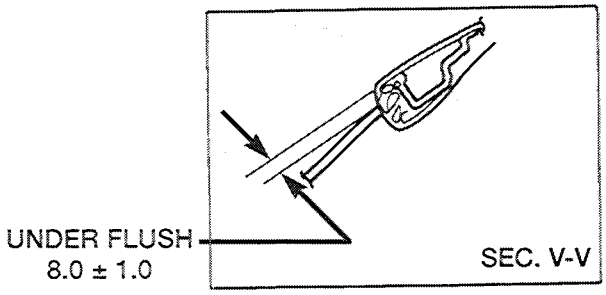
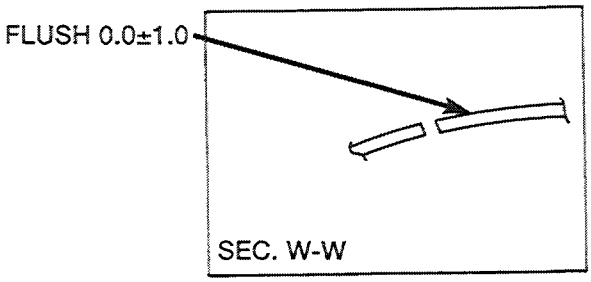
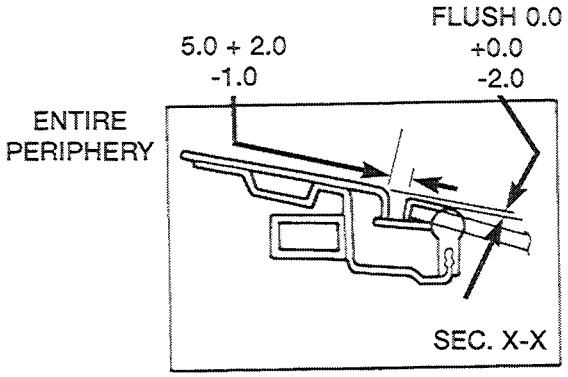
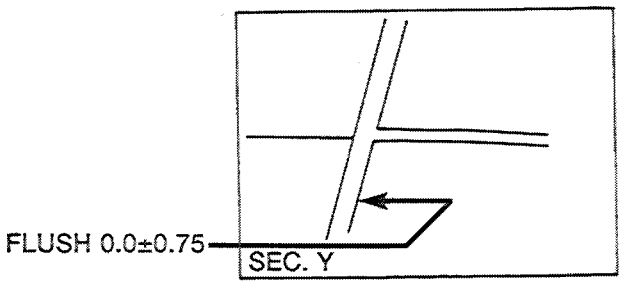
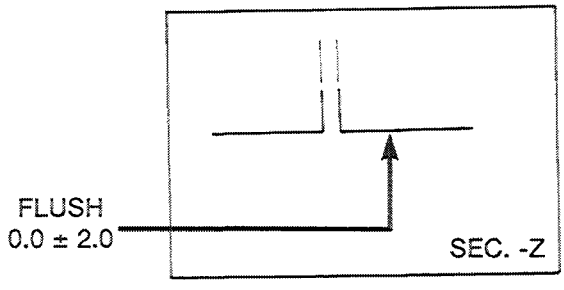

1.0 + 1.0
-0.0
FLUSH 0.0±0.5
SEC. U-U

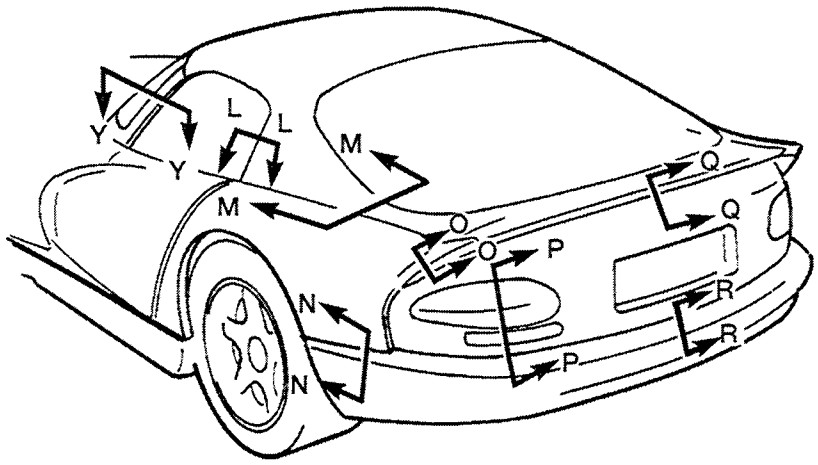

UNDER FLUSH
8.0 ± 1.0
SEC. V-V

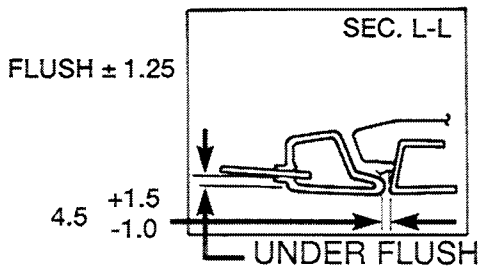

FLUSH 0.0±1.0
SEC. W-W

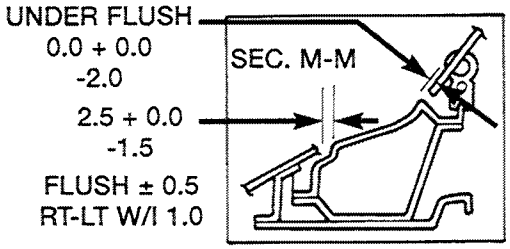

FLUSH 0.0
+0.0
-2.0
5.0 + 2.0
-1.0
ENTIRE
PERIPHERY
SEC. X-X

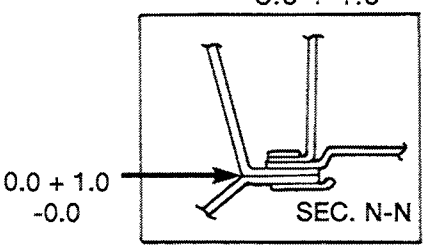

FLUSH 0.0±0.75
SEC. Y

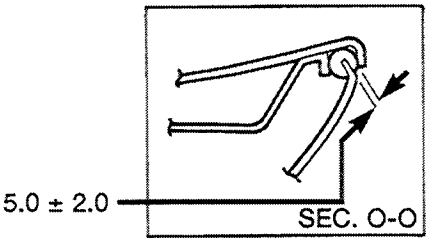

FLUSH
0.0 ± 2.0
SEC. -Z

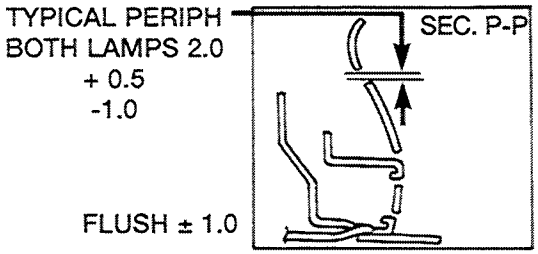

Y
Y
L
L
M
M
Q
Q
O
O
P
P
R
R
N
N

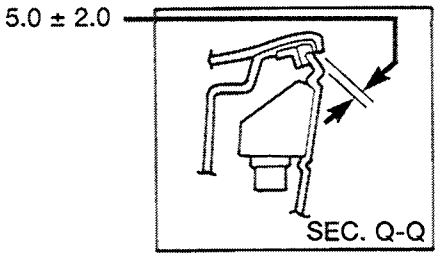

SEC. L-L
FLUSH ± 1.25
4.5 +1.5 -1.0
UNDER FLUSH
8.0 ± 1.0

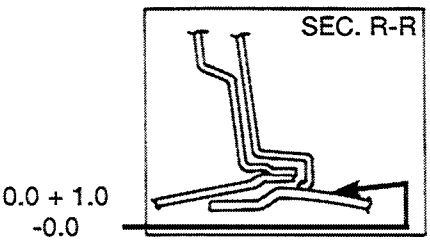

UNDER FLUSH
0.0 + 0.0
-2.0
SEC. M-M
2.5 + 0.0
-1.5
FLUSH ± 0.5
RT-LT W/I 1.0

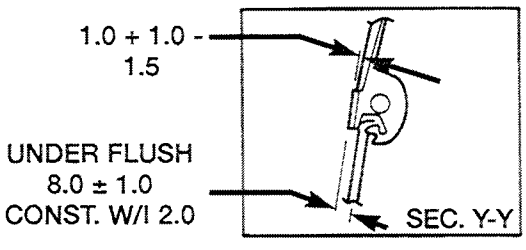

0.0 + 1.0
-0.0
SEC. N-N

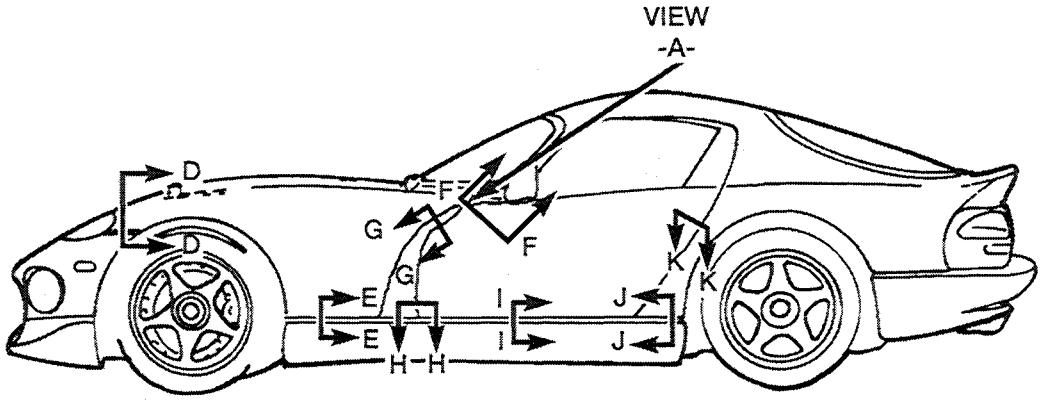

5.0 ± 2.0
SEC. O-O

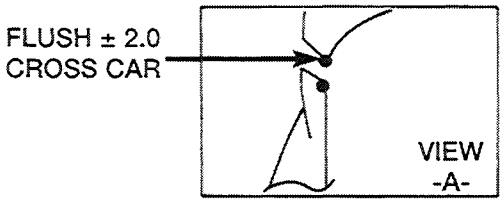

TYPICAL PERIPH
BOTH LAMPS 2.0
+ 0.5
-1.0
SEC. P-P
FLUSH ± 1.0

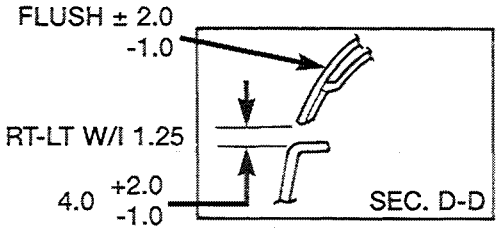

5.0 ± 2.0
SEC. Q-Q

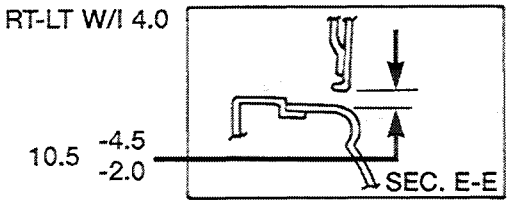

SEC. R-R
0.0 + 1.0
-0.0

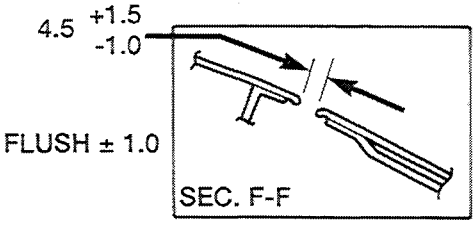

1.0 + 1.0 -
1.5
UNDER FLUSH
8.0 ± 1.0
CONST. W/I 2.0
SEC. Y-Y

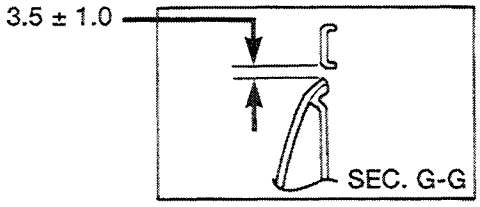

VIEW
-A-
D
D
F
F
G
G
E
E
H-H
I
I
J
J
K
K

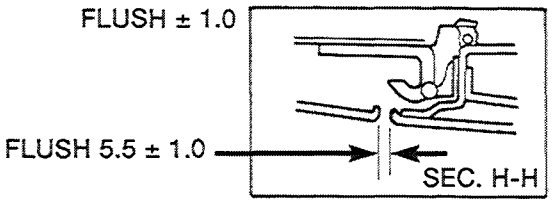

FLUSH ± 2.0
CROSS CAR
VIEW
-A-

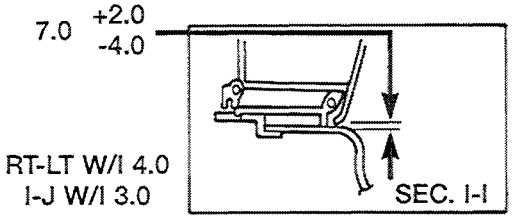

FLUSH ± 2.0
-1.0
RT-LT W/I 1.25
4.0 +2.0
-1.0
SEC. D-D

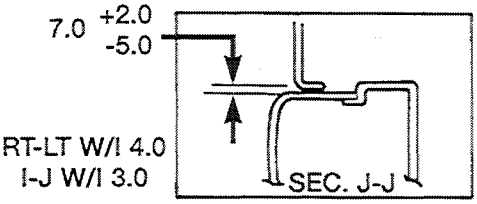

RT-LT W/I 4.0
10.5 -4.5
-2.0
SEC. E-E

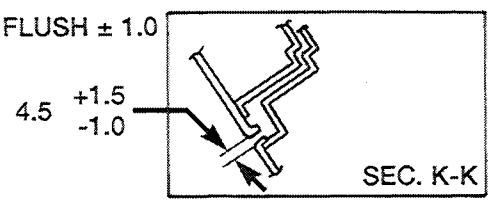

4.5 +1.5
-1.0
FLUSH ± 1.0
SEC. F-F

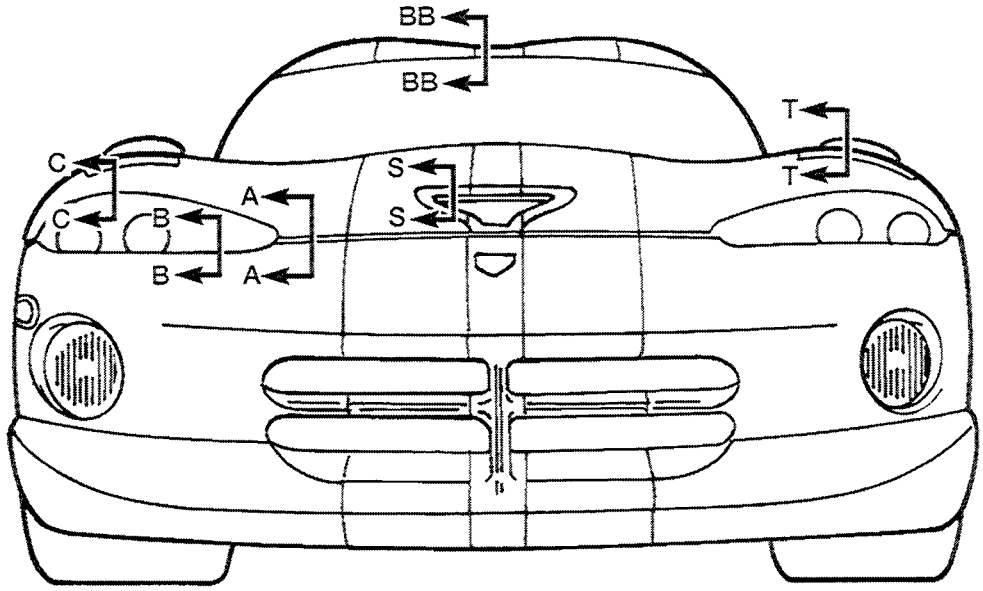

3.5 ± 1.0
SEC. G-G

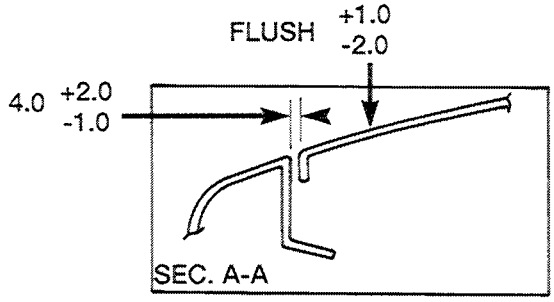

FLUSH ± 1.0
FLUSH 5.5 ± 1.0
SEC. H-H

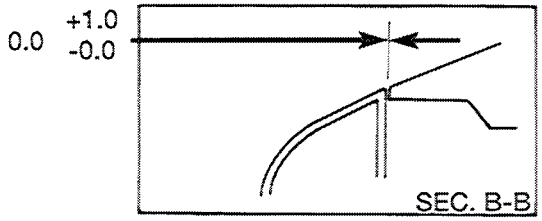

7.0 +2.0
-4.0
RT-LT W/I 4.0
I-J W/I 3.0
SEC. I-I

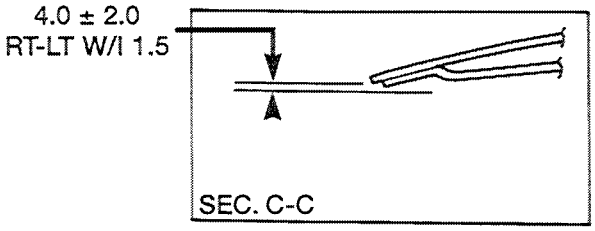

7.0 +2.0
-5.0
RT-LT W/I 4.0
I-J W/I 3.0
SEC. J-J

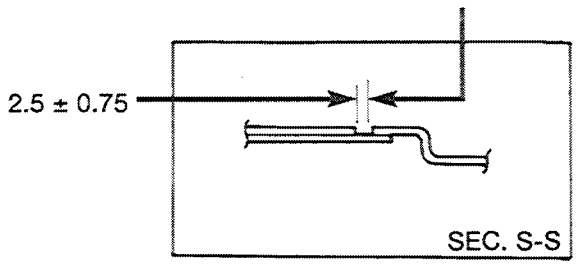

FLUSH ± 1.0
4.5 +1.5
-1.0
SEC. K-K

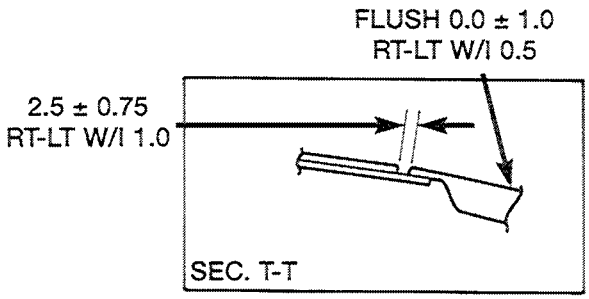

BB
BB
T
T
C
C
B
B
A
A
S
S

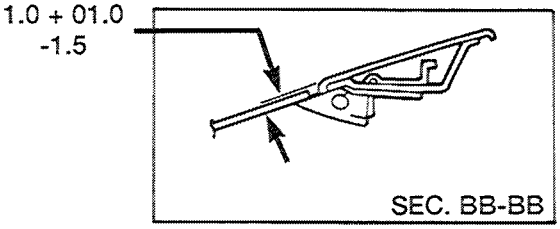

FLUSH
+1.0
-2.0
4.0
+2.0
-1.0
SEC. A-A


0.0
+1.0
-0.0
SEC. B-B

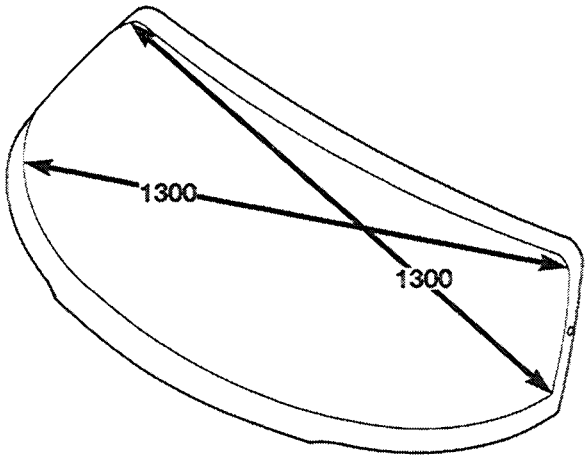

4.0 ± 2.0
RT-LT W/I 1.5
SEC. C-C


2.5 ± 0.75
SEC. S-S

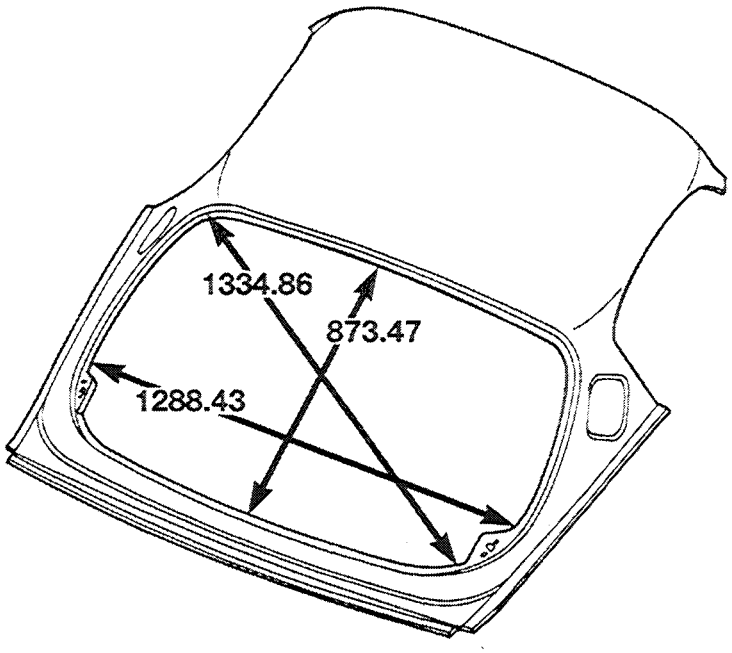

FLUSH 0.0 ± 1.0
RT-LT W/I 0.5
2.5 ± 0.75
RT-LT W/I 1.0
SEC. T-T


1.0 + 01.0
-1.5
SEC. BB-BB

WINDSHIELD OPENING

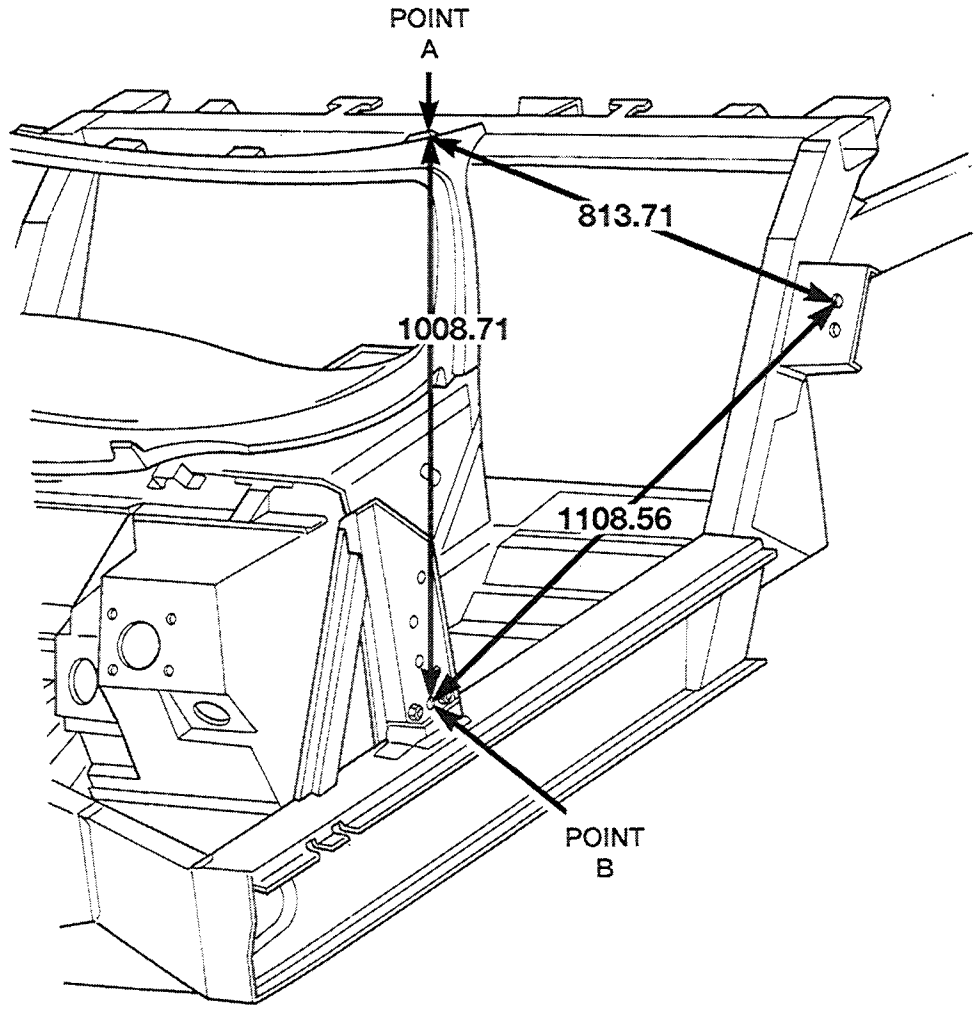


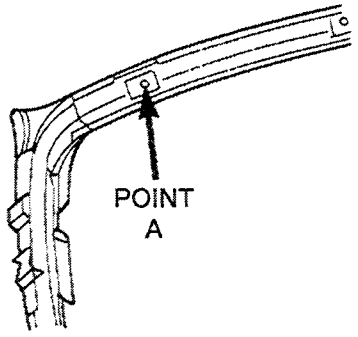
LIFTGATE OPENING

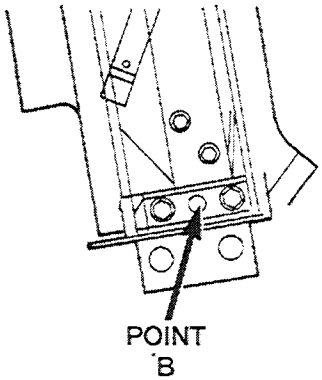


Note: All measurements are in mm. Dimensions referenced from PLP holes are from centerline of hole

DOOR OPENING







Note: All measurements are in mm. Dimensions referenced from PLP holes are from centerline of hole

GENERAL INFORMATION

A vehicle is designed within a three dimensional grid partitioned into 100 mm (3.92 in.) cubes. The lines that make the grid run in three planes are defined as X, Y, and Z. The X-plane extends from the front to the rear of the vehicle. The Y-plane extends from the center line (C/L) of the vehicle outward. The Z-plane extends from Datum (312 mm (12.28 in.) below the frame rails upward. Most Y-plane dimensions are symmetric to the center line.

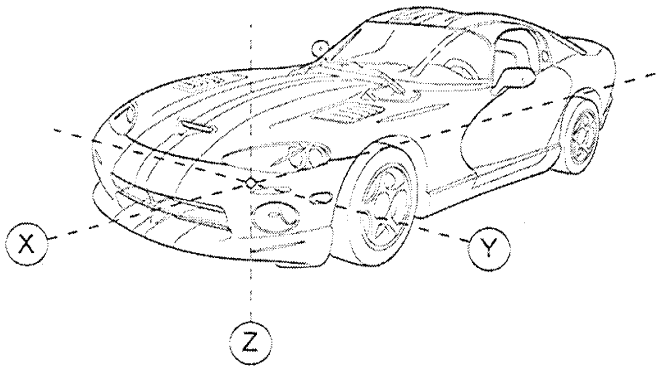


Fig. 1 - X, Y, and Z Planes

SAFETY PRECAUTIONS AND WARNINGS

WARNING: DO NOT VENTURE UNDER A HOISTED VEHICLE THAT IS NOT SUPPORTED ON SAFETY STANDS OR EQUIVALENT.

WEAR EYE PROTECTION WHEN STRAIGHTENING, CUTTING, OR GRINDING METAL OR PLASTIC MATERIALS. PERSONAL INJURY CAN RESULT.

DO NOT CUT OR GRIND FRAME COMPONENTS THAT ARE IN CONTACT WITH FUEL SYSTEM COMPONENTS. FIRE OR EXPLOSION CAN RESULT.

DO NOT ALLOW OPEN FLAME TO CONTACT PLASTIC BODY PANELS. FIRE OR EXPLOSION CAN RESULT.

WHEN WELDED FRAME COMPONENTS ARE REPLACED, 100% PENETRATION WELD MUST BE ACHIEVED DURING INSTALLATION. IF NOT, DANGEROUS OPERATING CONDITIONS CAN RESULT.

CAUTIONS:

Do not anchor or support vehicle on suspension components during frame straightening operations. Damage to suspension can result.

Do not anchor vehicle frame rails to pulling device at locations that are not reinforced. Damage to frame rails can result.

Do not anchor or support vehicle on powertrain components during frame straightening operations. Damage to powertrain can result.

Protect wire harness and plastic components from excessive heat or sparks during frame repair operations.

Protect electrical components form being contaminated by metal fragments during grinding or cutting operations.

To achieve proper vehicle ride height after a suspension component has been loosened, the vehicle must be at design weight and resting on the tires before the suspension can be tightened. Refer to Group 2 Suspension, of the Viper Service Manual for proper procedure.

FRAME DAMAGE REPAIR

The VIPER frame can be quarter sectioned if the frame rails cannot be straightened during collision repair. Only a repair person experienced in structural welding using a TIG or MIG welder should perform frame sectioning procedures. If a frame must be sectioned or straightened, upper and lower control arm shock absorber, steering gear and rear toe link mounting points must be in the design location. The upper shock mounting hole must be properly positioned over the lower control arm mounting locations to achieve proper ride height. The steering gear mounts must be properly positioned to achieve proper front wheel toe pattern. The rear toe links must be properly positioned to achieve proper rear wheel toe pattern.

The frame is constructed with mild steel tubing. The rear of the frame is held rigid by cross braces and stringers. The front of the frame is slightly less rigid. The rear Principle Location Parts (PLPs) on the bottom of both frame rails must be held at a fixed position above the work surface (datum line).

The left rear Principle Location Point (PLP) is the master gauge location to hold the frame in position during production welding. The left front PLP is used to locate side to side position. All frame measurements taken during collision repair should begin at the left rear PLP. If the left rear frame has been damaged, the PLP can be repositioned by taking measurements from undamaged suspension pivot locations. The front of the frame must be supported at the center of the front cross member 250mm from the left PLP. Even though the front frame rail vertical height will vary from side to side, the center of the front crossmember will remain constant. The center of the lower control arm and upper shock mounting holes must be located equally from side to side above the datum line at the dimensions indicated on the Frame Dimensions chart.

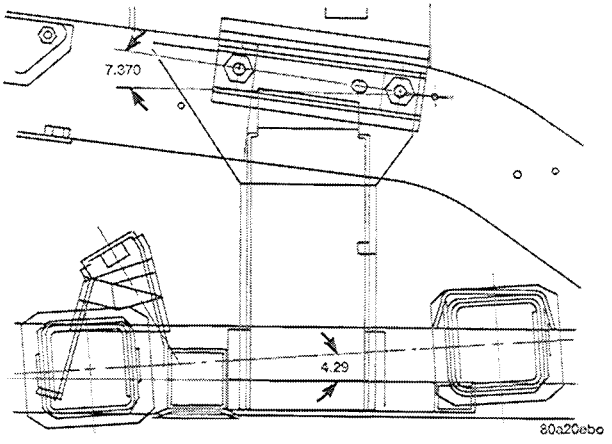
SPECIFICATIONS

FRAME DIMENSIONS

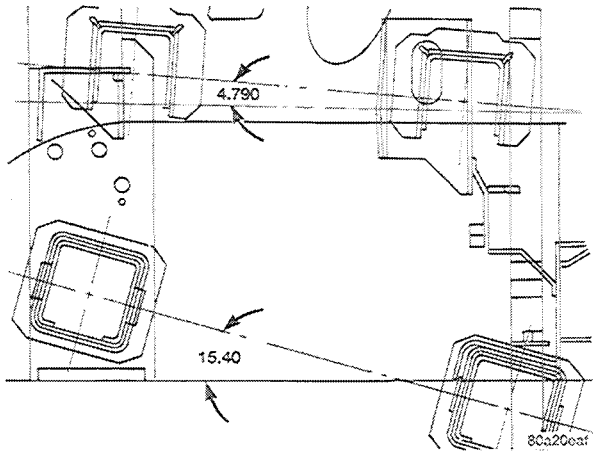
Frame dimensions are listed in metric scale. All dimensions are from center of Principal Locating Point (PLP) or from center to center of PLP and fastener location. The tolerance on all dimensions, except for suspension locations, is ± 3 mm. The tolerance on all dimensions for suspension locations is ± 1 mm.

VEHICLE PREPARATION

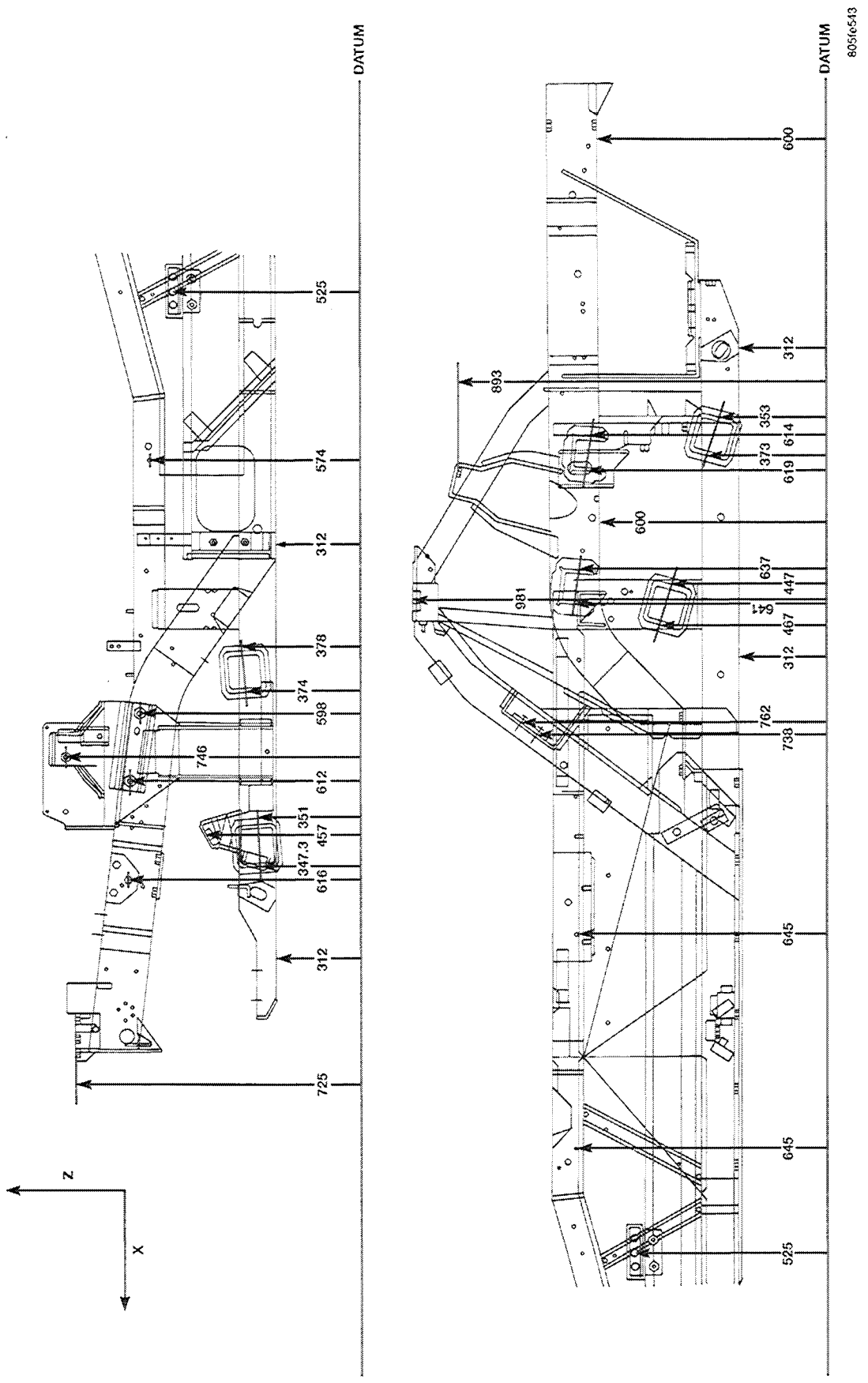
Position vehicle on a level work surface. Using suitable lifting devices and fixtures, adjust the vehicle PLP heights to the specified dimensions above the work surface. Refer to the following illustrations for the proper dimensions and angles.



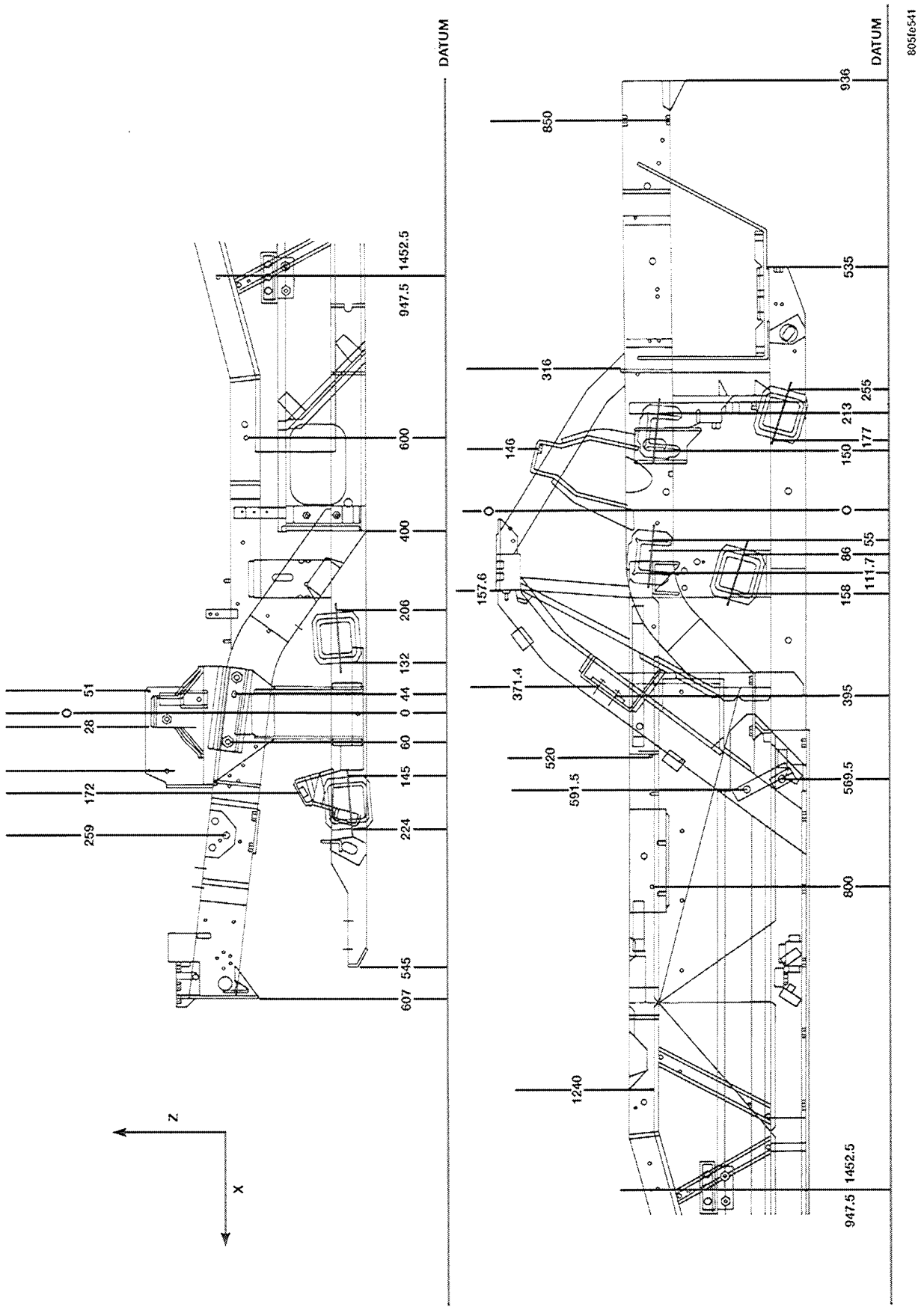
FRONT SUSPENSION MOUNTING ANGLES



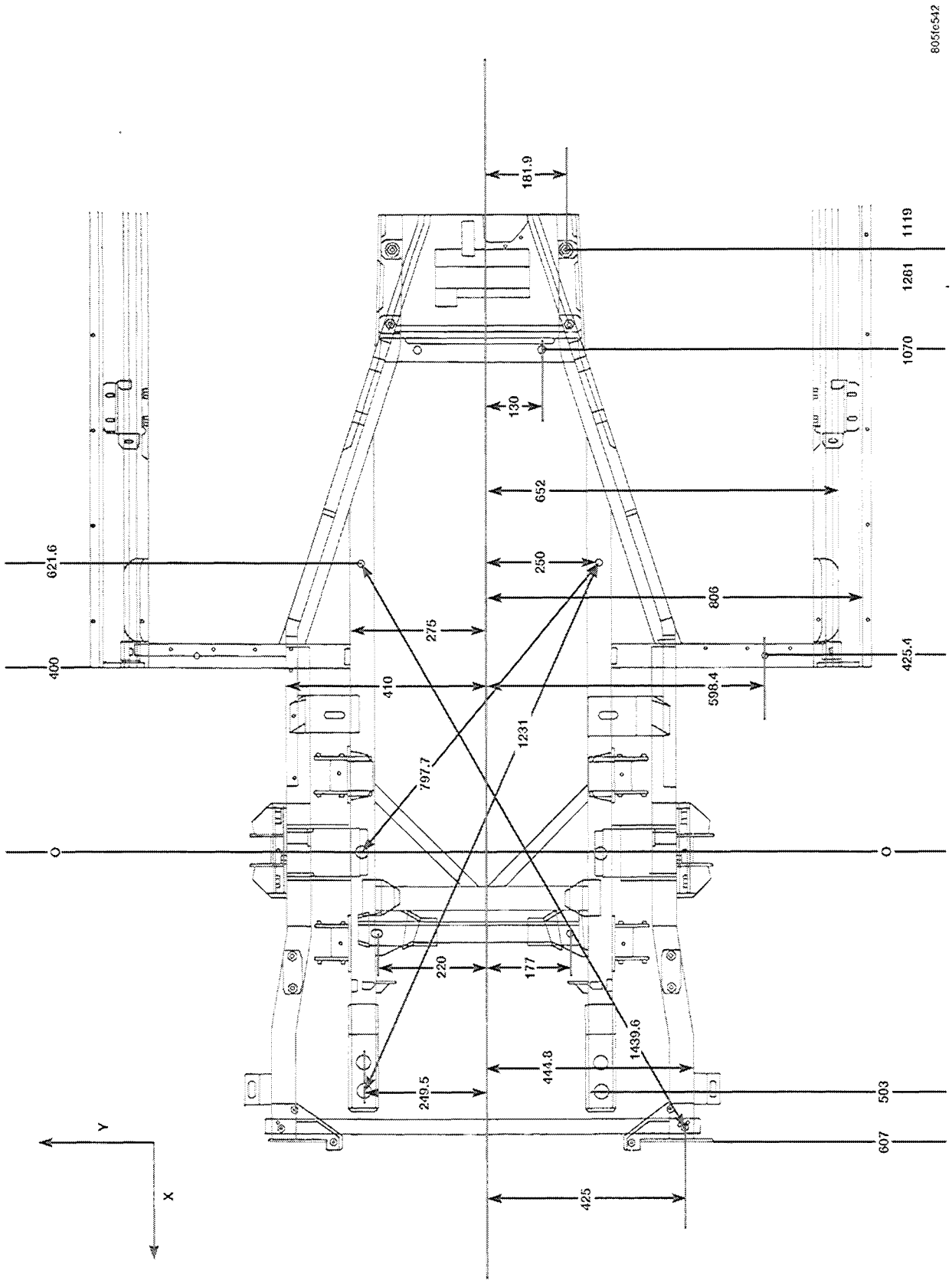
REAR SUSPENSION MOUNTING ANGLES



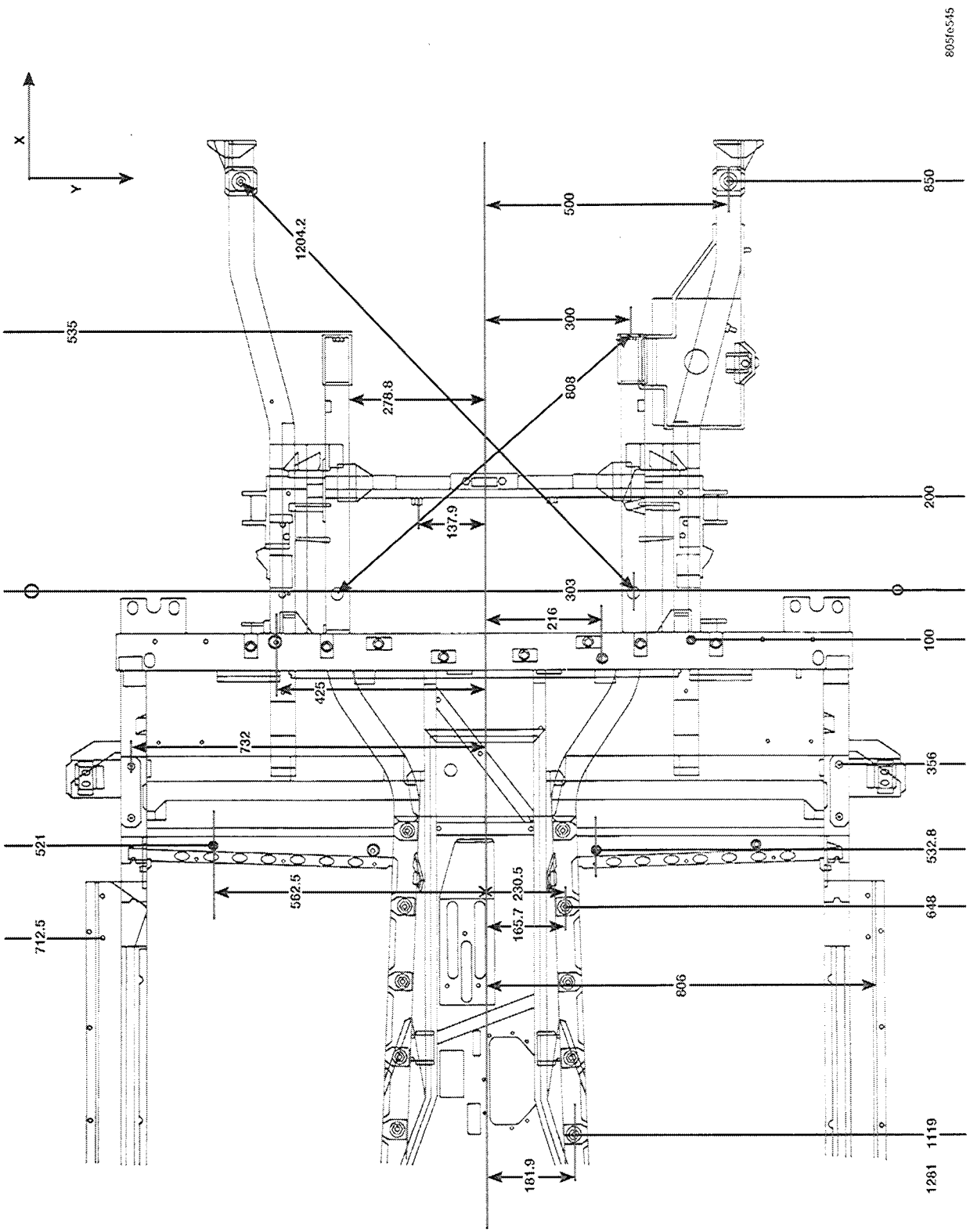
FRAME SIDE VIEW-Z DIMENSIONS



FRAME SIDE VIEW-X DIMENSIONS



FRONT OF FRAME TOP VIEW-X AND Y DIMENSIONS



REAR OF FRAME TOP VIEW-X AND Y DIMENSIONS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	
A														
B														
C														
D														
E														
F														
G														
H														
I														
J														
K														
L														
M														
N														
O														
P														
Q														
R														
S														
T														
U														
V														
W														

This is a very easy way to write up your measurement information. You can tell at a glance when a dimension changes, and you can do what is necessary to stay in specification before you proceed.

Here's how to use this sheet or a similar one since each vehicle manufacturer supplies critical measuring point information.

Each time a correction is made to restore the body to its proper dimension, all readings should be taken again, in addition to the dimension you have just corrected.

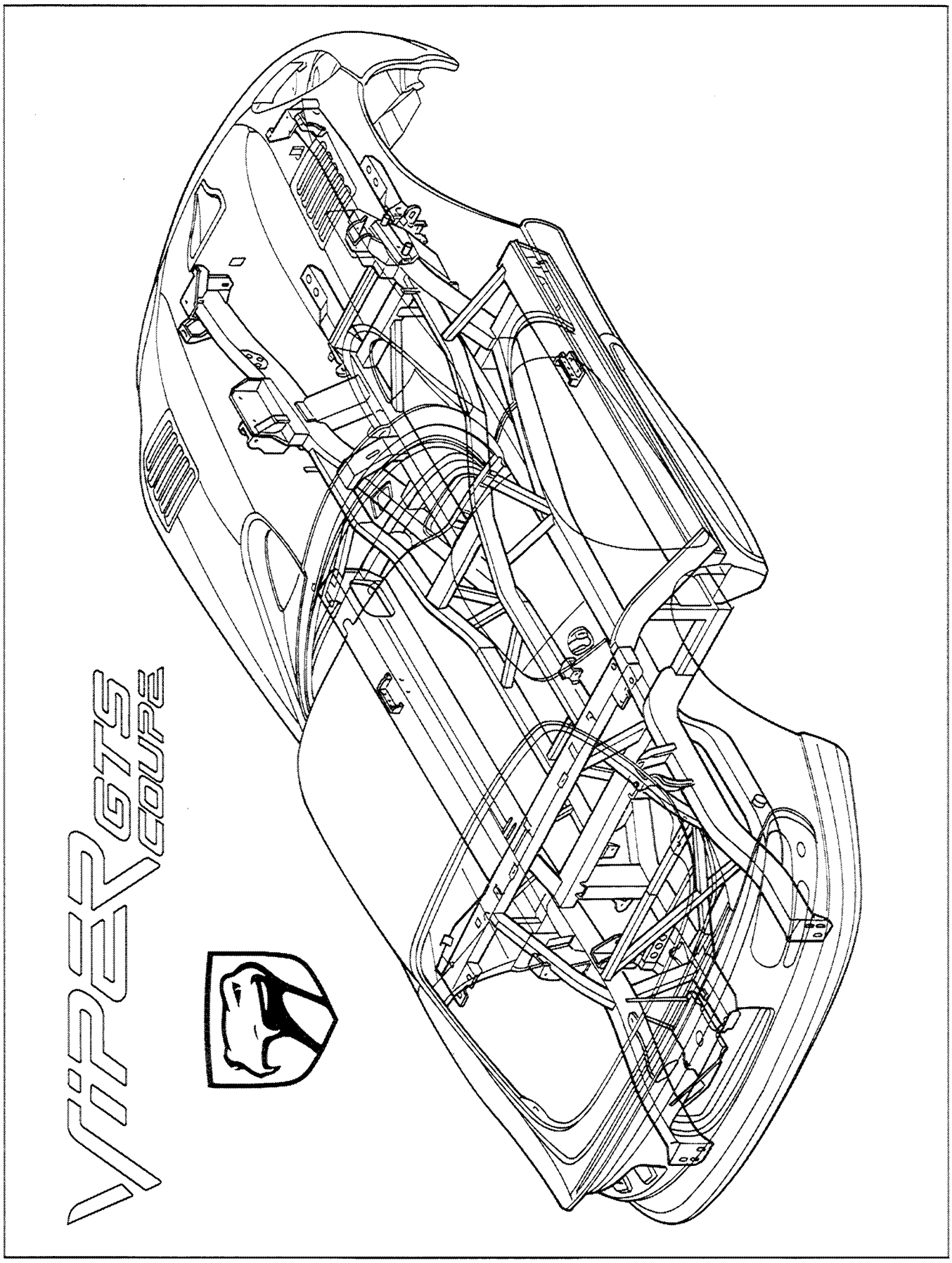
The A-B-C, etc. are the measuring point dimensions. The 1-2-3, etc. are the readings taken at measurement step 1— measurement step 2, etc.

This sheet tells you at a glance how you stand in restoring the body to its proper state.

When using the tram and centering gage system, always compile a list of dimensions each time you measure. This provides the information for measurement comparison, especially during the pulling and straightening phase of body collision repair.

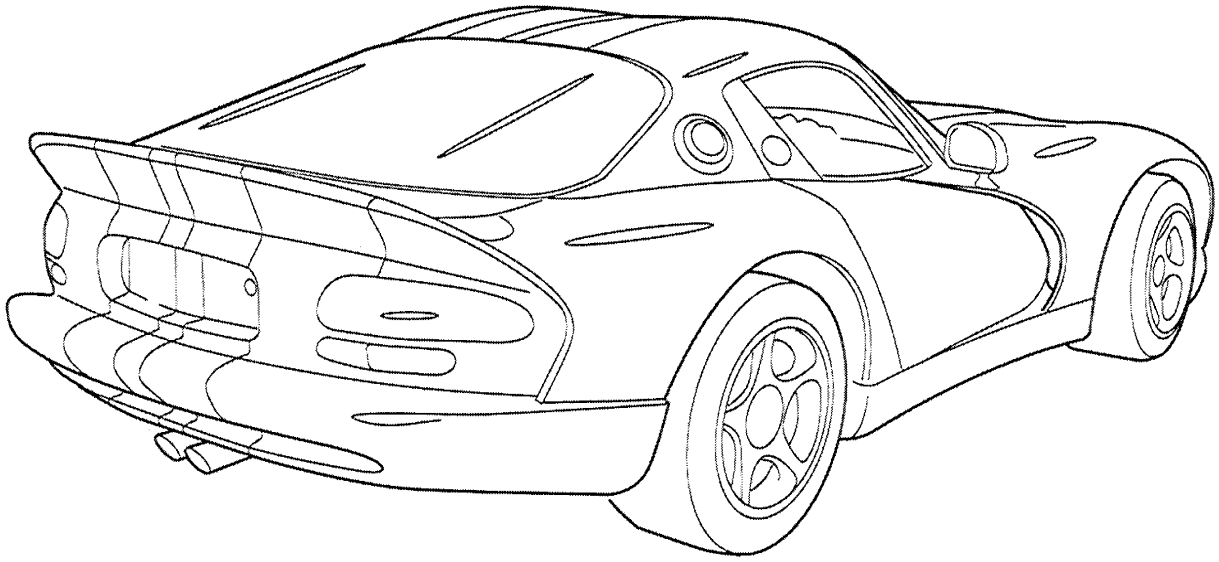
The manufacturer of the equipment supplies information, so be sure you constantly review it and bulletins so you will be up to date on repair techniques.

Viper GTS Coupe

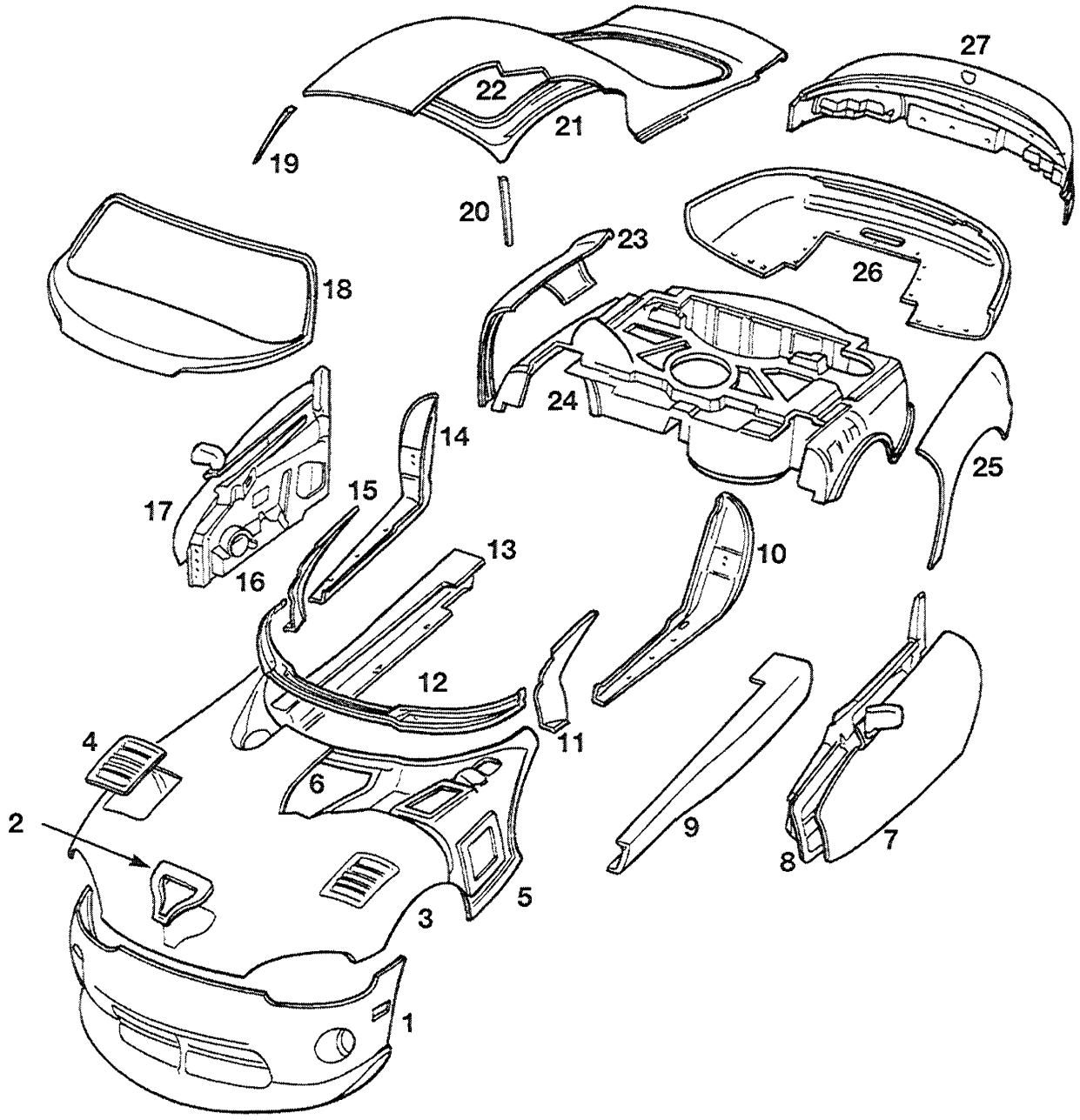

VIPER GTS COUPE

VIPER

GTS Coupe
Body Construction Characteristics



BODY COMPONENTS — VIPER GTS COUPE



BODY PANELS ILLUSTRATED

1 Panel - Fascia/Front

2 Hood - Air Duct

3. Panel - Hood Outer

4. Hood - Louver Assembly

5. Panel - Hood Inner/Left

6. Panel - Hood Inner/Right

7. Panel - Front Door Outer/Left

8. Panel Assy. - Front Door Inside/Left

9. Panel - Sill Outer/Left

10. Panel - Door Surround/Left

11. Panel - Hinge Cover/Left

12. Panel - Cowl Trim

13. Panel - Sill Outer Right

14. Panel - Door Surround/Right

15. Panel - Hinge Cover/Right

16. Panel Assembly - Front Door Inside/Right

17. Panel - Front Door Outer/Right

18. Windshield - Frame Assembly

19. A-Pillar Roof Cover/Right

20. A-Pillar Roof Cover/Left

21. Roof Inner

22. Roof Panel Outer

23. Panel - Rear Quarter/Right

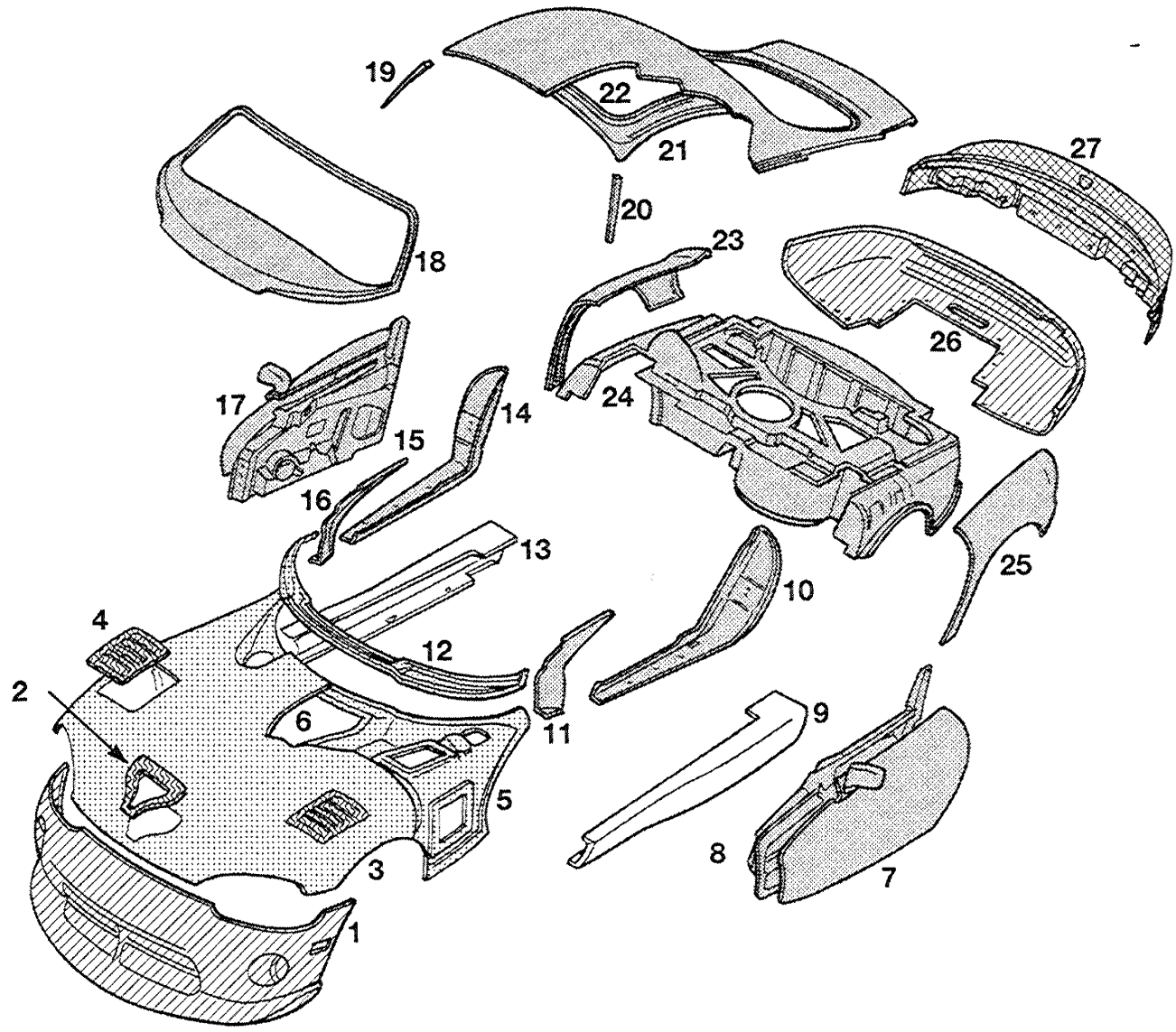
24. Trunk Pan

25. Panel - Rear Quarter/Left

26. Fascia - Rear

27. Tail Lamp Closure Panel

BODY COMPONENT MATERIALS — VIPER GTS COUPE



INTRODUCTION

All Body Panels are made of plastic type materials. Different processes are used to create and shape the panels. Most body and internal structure panels are produced from the RTM or SMC process. Flexible panels are produced from the RIM process. Sill outer panels are aluminum.

All panels are fastened with adhesive, rivets, bolts, and screws or a combination of these fasteners.

Service repair is enhanced as all exterior panels can be easily removed.

- RTM (Resin Transfer Molding) — A continuous fiberglass mat is placed in a heated, preforming tool to establish the basic shape. The preform is then placed in a lower heated tool (200°F) where the resin is injected. The part is allowed to cure which takes approximately 20 minutes. The panels are then trimmed by robotics using a laser cutting or water jet process.

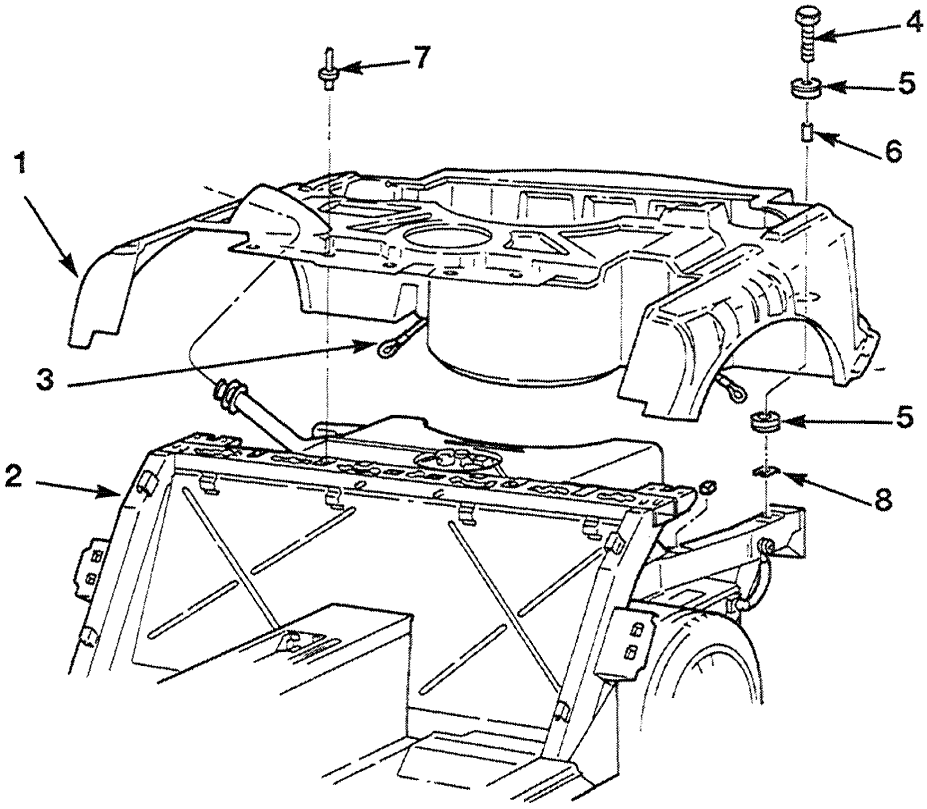
- RIM (Reaction Injection Molding) — This process has produced highly flexible plastic panels throughout the industry. An example is the VIPER GTS bumper fascias.

- Repair procedures for RTM panels are very similar to SMC panels. Refer to the Panel Repair section on page 61.

- SMC (Sheet Molded Compound) — This material is repaired the same as RTM. It is constructed using short fiberglass strands usually less than 2" long. Sheet stock of glass impregnated resin matting is placed into the mold and pressed under heat to flow material throughout the mold. Tooling is shear edge designed to mold to net (i.e. no trimming at periphery required).

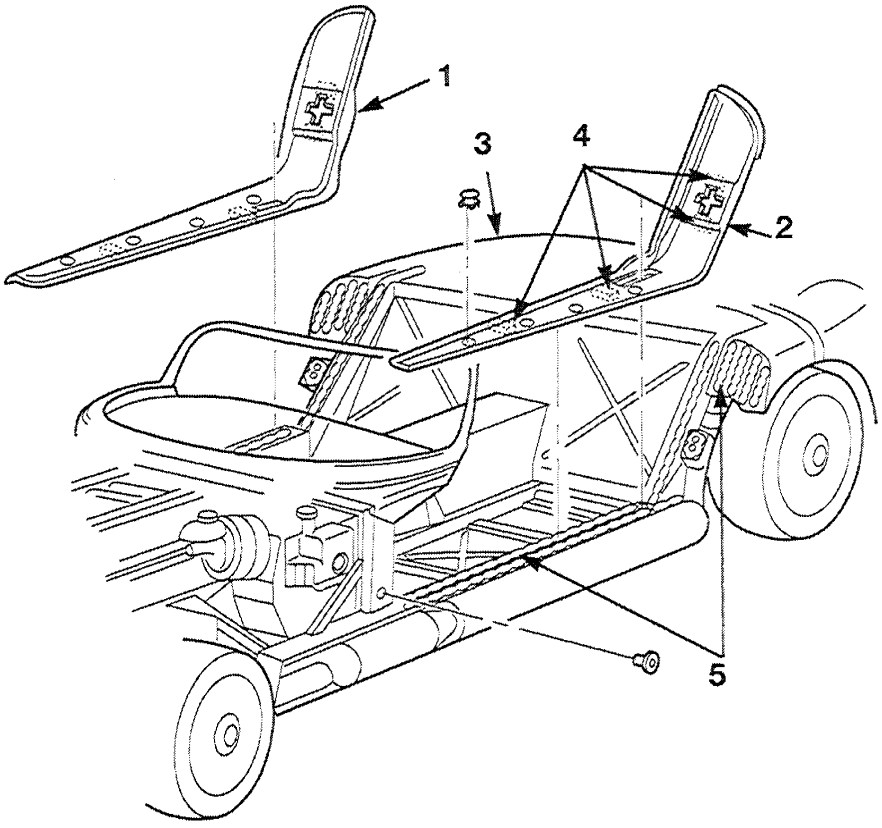
TRUNK PAN ASSEMBLY

1. Trunk pan assembly
2. Frame assembly
3. Trunk pan tie-down cable
4. Bolt
5. Insulator
6. Spacer
7. Rivet
8. Shim



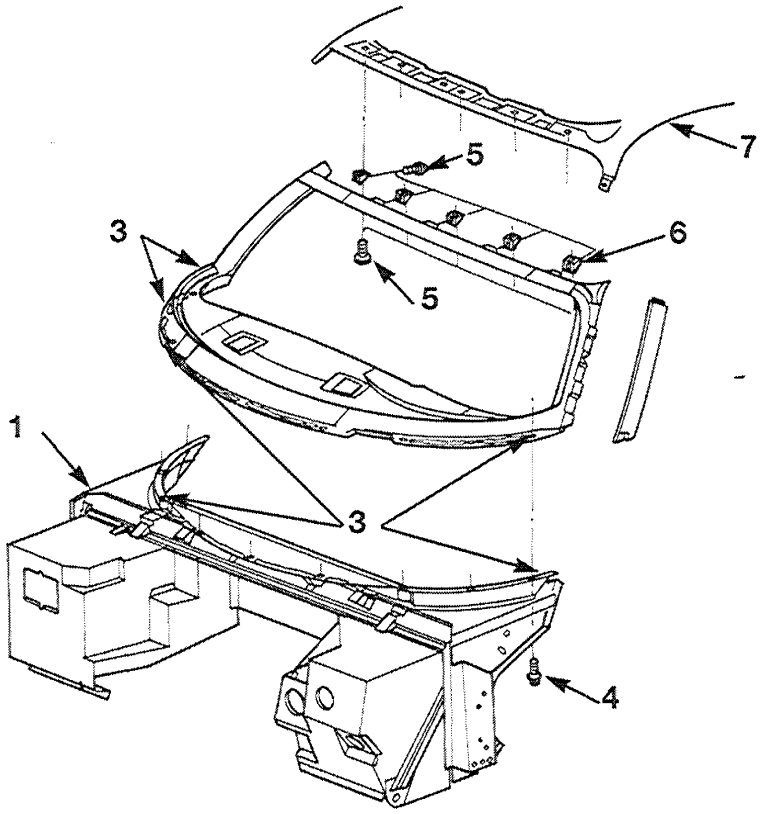
DOOR SURROUND AREA

1. RH door surround
2. LH door surround
3. Trunk closeout panel
4. Shims
5. Structural adhesive



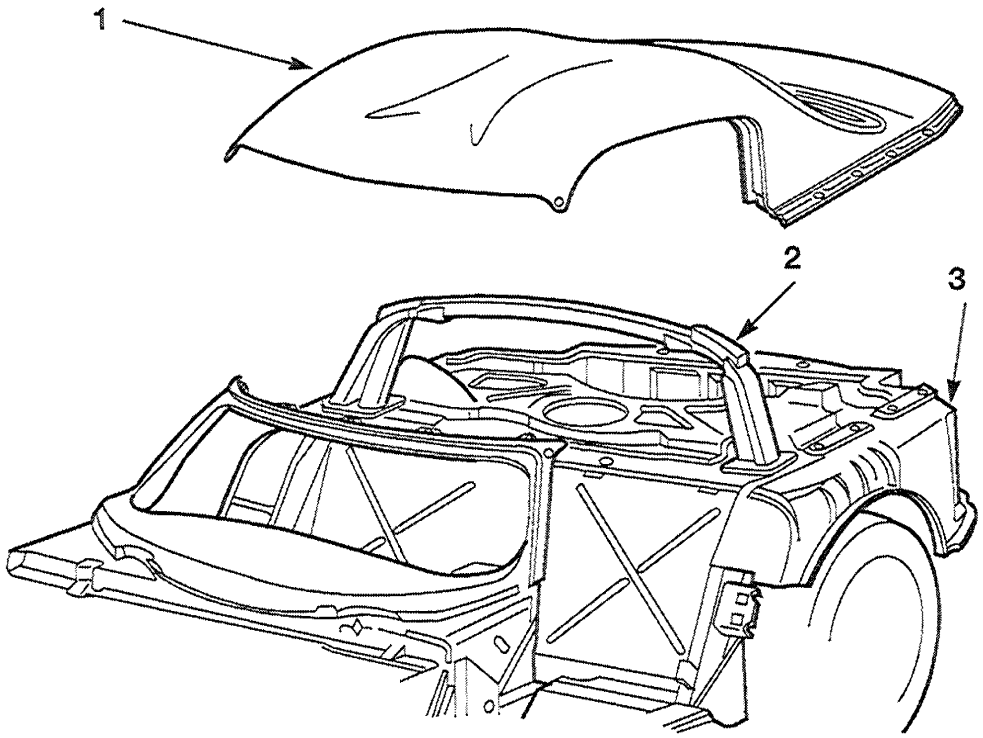
WINDSHIELD FRAME ASSEMBLY

1. Dash panel assembly
2. Windshield frame and surround
3. Structural adhesive
4. Windshield frame attaching bolts
5. Bolt
6. Roof panel brackets
7. Roof



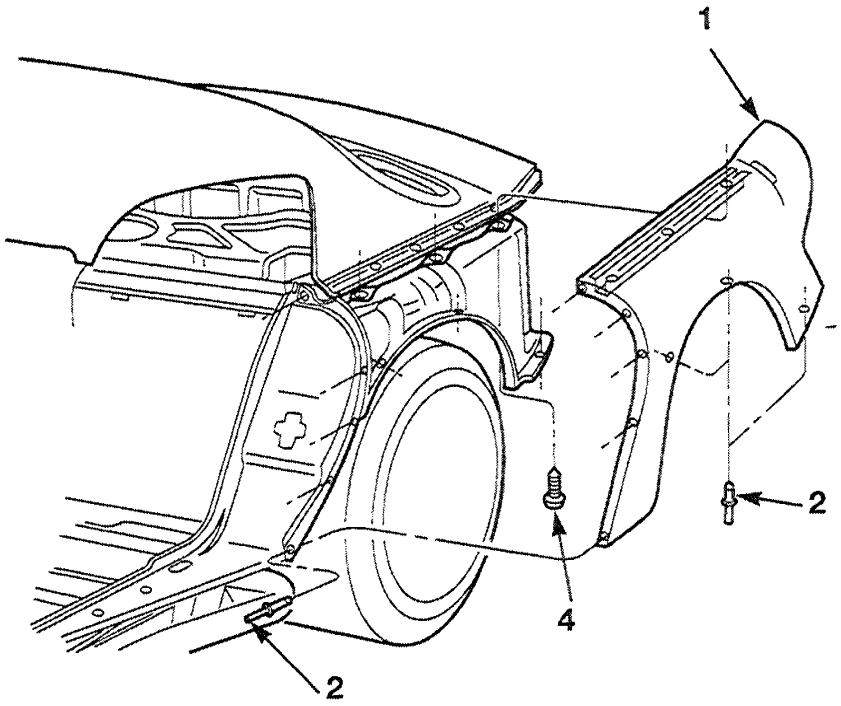
ROOF PANEL ASSEMBLY

1. Roof panel assembly
2. Sports bar
3. Trunk closeout panel



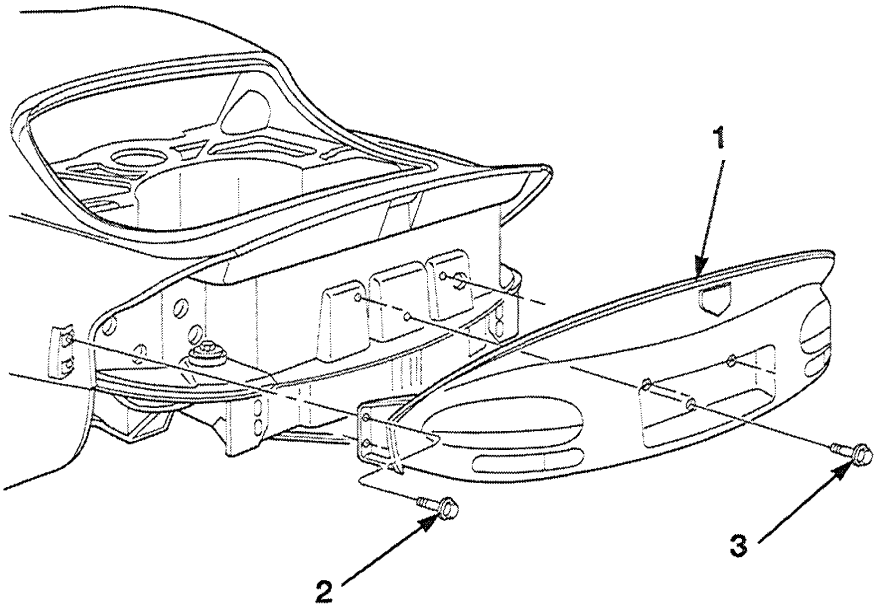
QUARTER PANELS

1. LH quarter panel
2. Rivet
3. U-nut
4. Screw and washer



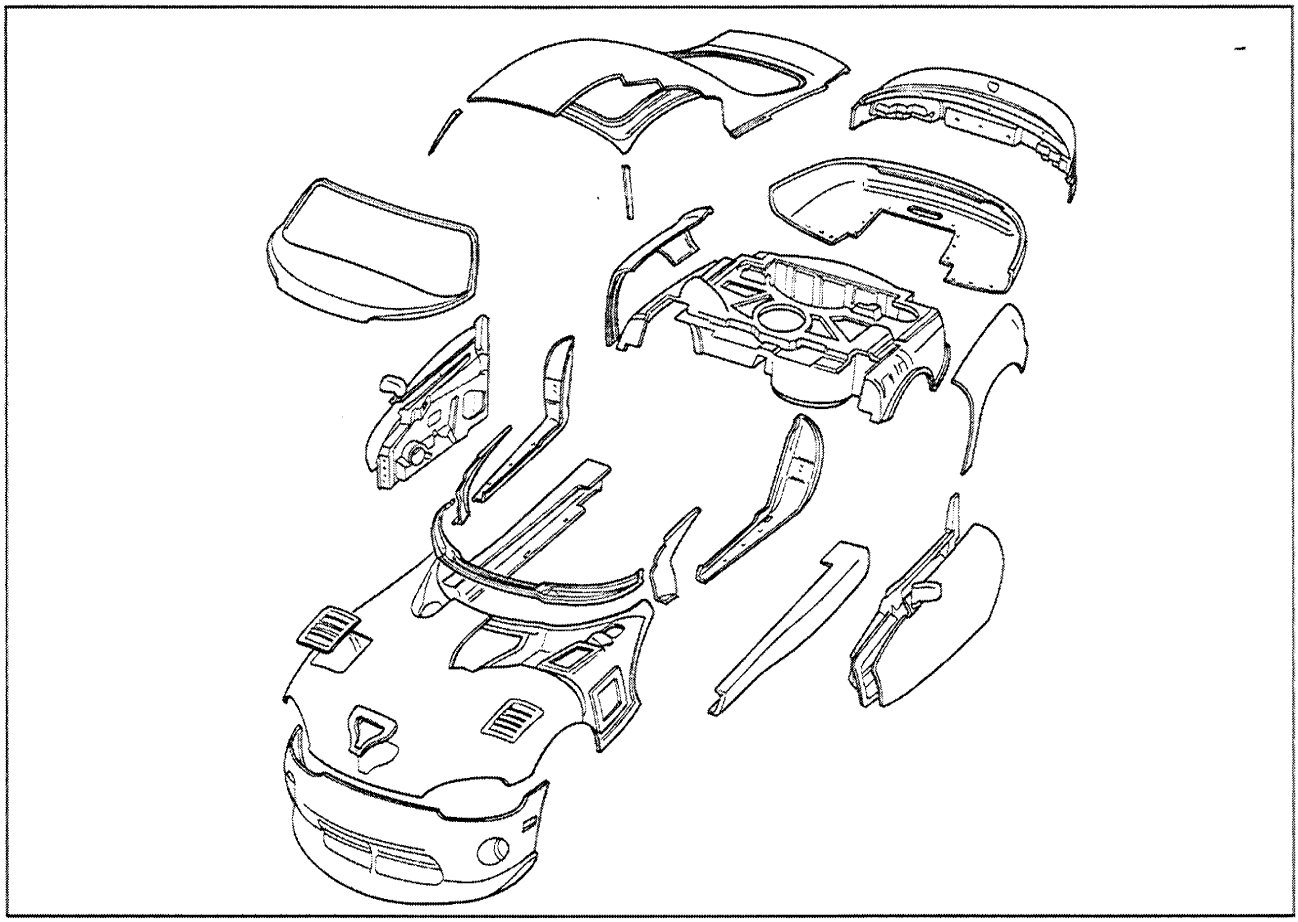
REAR CLOSURE PANEL

1. Rear closure panel
2. Screw and washer
3. Bolts



VIPER

GTS Coupe Body Panel Replacement



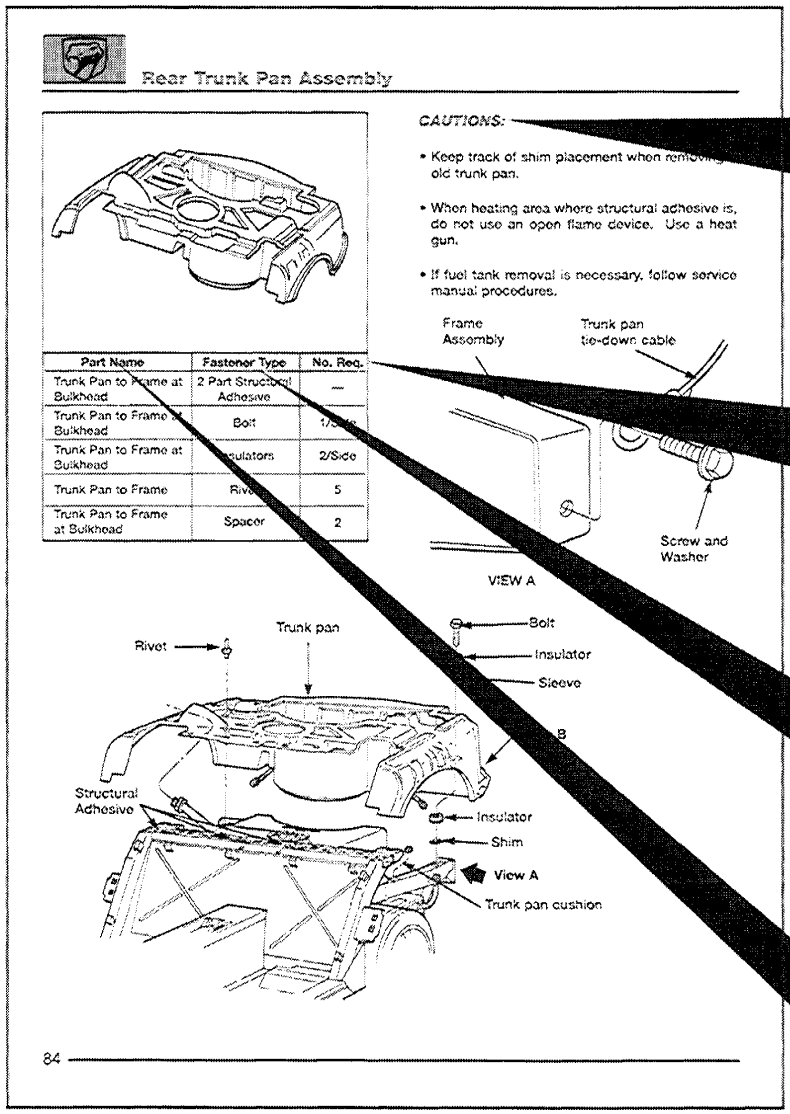
EXPLANATION OF SECTION CONTENTS

When servicing the VIPER coupe, it is important to know how the body panels are secured to the vehicle. Many of the body panels are bonded to each other with adhesives. Some panels are bonded to the frame. Others are fastened to each other and the frame with rivets or conventional hardware (i.e., capscrews or sheet metal screws), and Christmas tree fasteners.

The exterior body panels are fastened with rivets, screws, and bolts. Some panels are fastened with a combination of structural adhesive, screws, and bolts. This manual indicates the location and type of fastener to use.

The trunk pan assembly is secured to the frame using a combination of structural adhesive and conventional hardware. The door surround panels are bonded to the frame and to trunk pan assembly. The sport cap and the rear quarter panels are attached to the trunk pan assembly with rivets, nuts and bolts. The rear deck lid is installed on hinges that are secured to the rear clip with nut and washer assemblies. The door hinge is secured to the toe box with bolts. The hood is mounted with bolts and washer assemblies to hinges secured to the frame.

Do not use a torch or any other open flame device. If a plastic panel requires replacement, and it is bonded to another plastic panel, use extreme caution not to distort the plastic panel to which it is bonded. For example: The door surround panel is bonded to the trunk pan. If either panel is damaged beyond repair, one or the other may be salvaged.



Lists specific areas to pay special attention to. These can be safety or damage warnings.

Indicates number of factory fasteners used.

Indicates factory fasteners used. Replacement fasteners should be of equal size, quality, and corrosion resistance.

Indicates panels being fastened together. Panels are illustrated in box above.

Body panels attached with structural adhesive can be heated using a heat gun. The panel can then be pried loose and the adhesive removed with a flat blade scraper.

If a plastic panel that is bonded to the frame requires replacement, and the removal of the panel reveals bare metal, corrosion protection must be reapplied to the metal. Failure to reapply the corrosion protection, may result in premature failure of frame-to-plastic panel adhesion.

NOTES:

- Always torque fasteners to the specified torque when tightening.
- The structural adhesive used to bond the panels is a two-part epoxy type.
- Body panels attached with rivets can be removed with a drill motor and 5 mm (0.187 in.) bit.
- Always mark shim location and number when removing panels.
- Shims are used with bolts and screws and adhesives. Shims are used to assist body panel alignment.

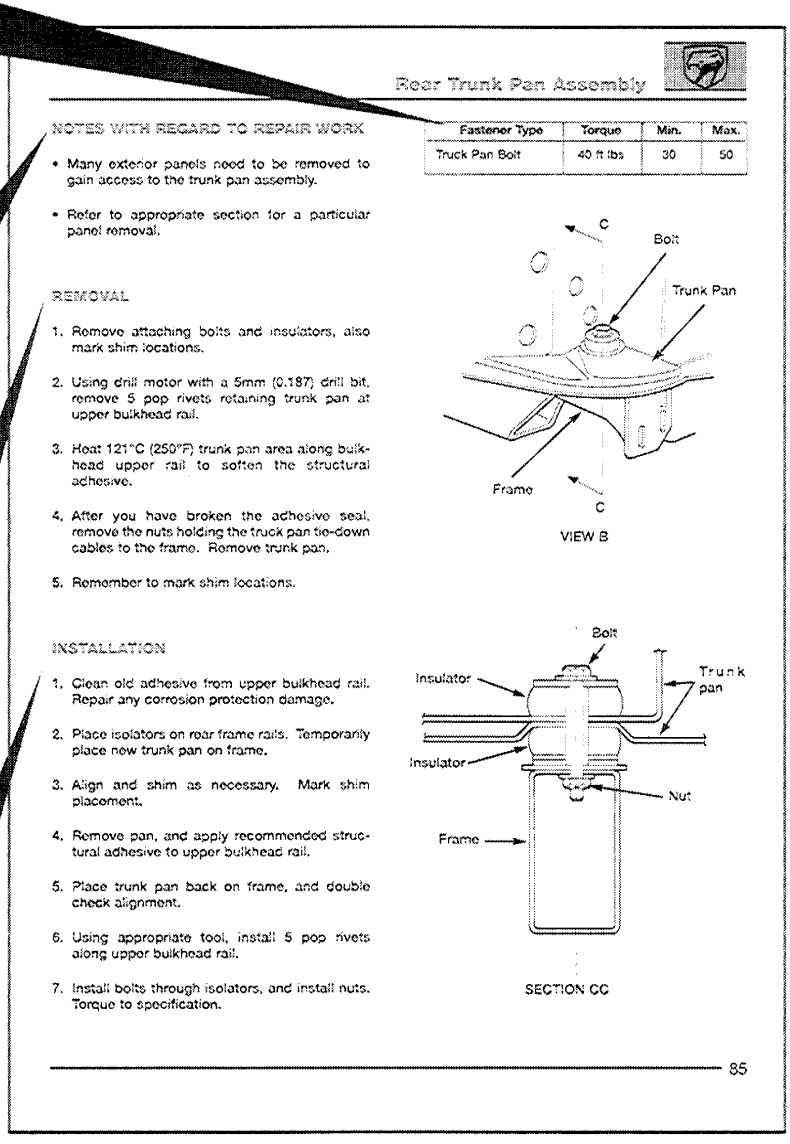
Indicates the torque to be used when tightening fasteners.

Points which require particular attention during panel replacement work.

The panel removal instructions and accompanying illustrations are given in the order in which the work is to be performed.

The panel removal instructions and accompanying illustrations are given in the order in which the work is to be performed.

In order to keep the instructions brief and simple, obvious work procedures (such as removal of a panel after it has been cut) have been omitted where possible



Rear Trunk Pan Assembly

Fastener Type	Torque	Min.	Max.
Truck Pan Bolt	40 ft lbs	30	50

NOTES WITH REGARD TO REPAIR WORK

- Many exterior panels need to be removed to gain access to the trunk pan assembly.
- Refer to appropriate section for a particular panel removal.

REMOVAL

1. Remove attaching bolts and insulators, also mark shim locations.
2. Using drill motor with a 5mm (0.187) drill bit, remove 5 pop rivets retaining trunk pan at upper bulkhead rail.
3. Heat 121°C (250°F) trunk pan area along bulkhead upper rail to soften the structural adhesive.
4. After you have broken the adhesive seal, remove the nuts holding the truck pan tie-down cables to the frame. Remove trunk pan.
5. Remember to mark shim locations.

INSTALLATION

1. Clean old adhesive from upper bulkhead rail. Repair any corrosion protection damage.
2. Place isolators on rear frame rails. Temporarily place new trunk pan on frame.
3. Align and shim as necessary. Mark shim placement.
4. Remove pan, and apply recommended structural adhesive to upper bulkhead rail.
5. Place trunk pan back on frame, and double check alignment.
6. Using appropriate tool, install 5 pop rivets along upper bulkhead rail.
7. Install bolts through isolators, and install nuts. Torque to specification.

VIEW B

SECTION CC

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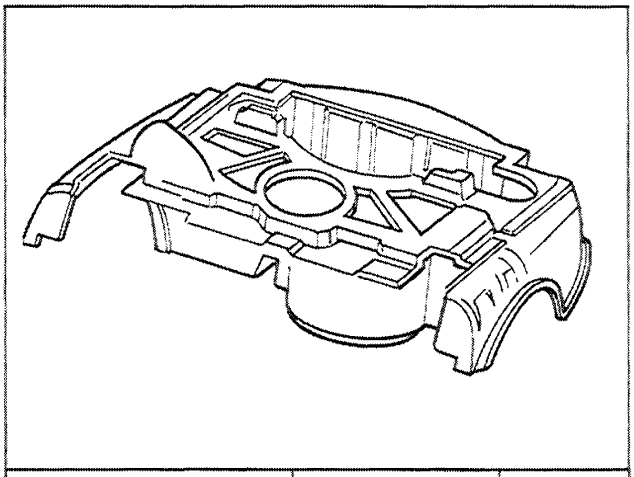
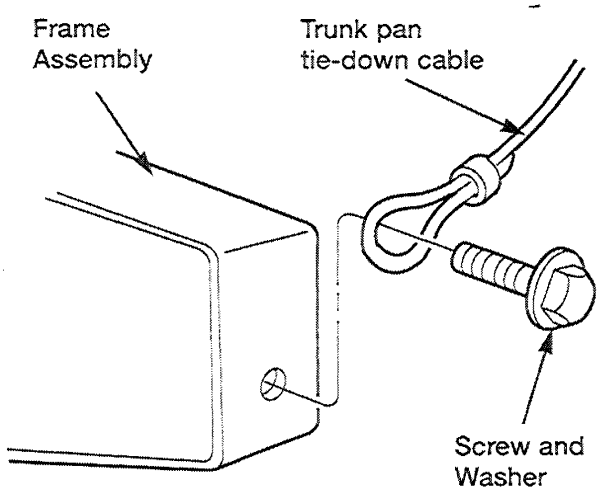


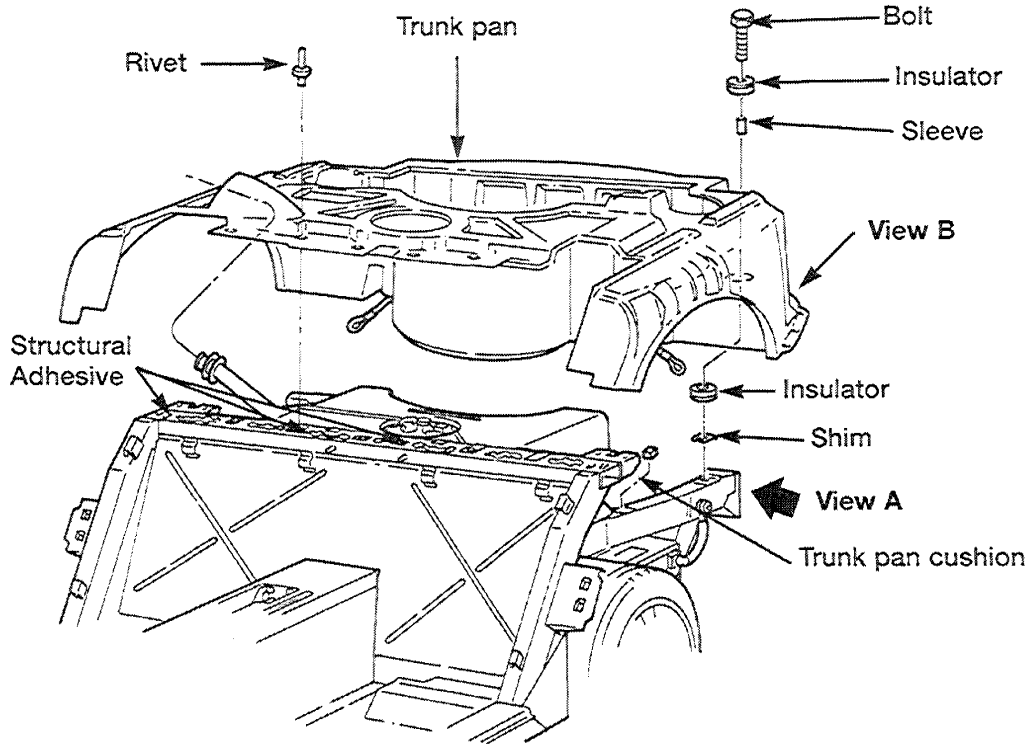
Part Name	Fastener Type	No. Req.
Trunk Pan to Frame at Bulkhead	2 Part Structural Adhesive	—
Trunk Pan to Frame at Bulkhead	Bolt	1/Side
Trunk Pan to Frame at Bulkhead	Insulators	2/Side
Trunk Pan to Frame	Rivet	5
Trunk Pan to Frame at Bulkhead	Spacer	2

CAUTIONS:

- Keep track of shim placement when removing old trunk pan.
- When heating area where structural adhesive is, do not use an open flame device. Use a heat gun.
- If fuel tank removal is necessary, follow service manual procedures.



VIEW A



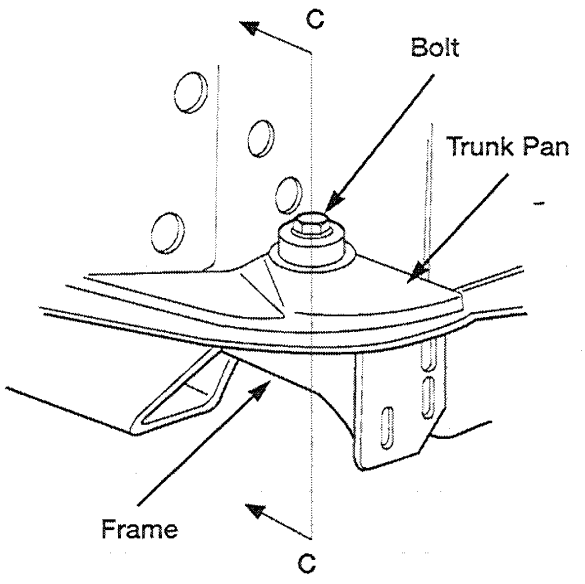
NOTES WITH REGARD TO REPAIR WORK

- Many exterior panels need to be removed to gain access to the trunk pan assembly.
- Refer to appropriate section for a particular panel removal.

Fastener Type	Torque	Min.	Max.
Truck Pan Bolt	40 ft lbs	30	50

REMOVAL

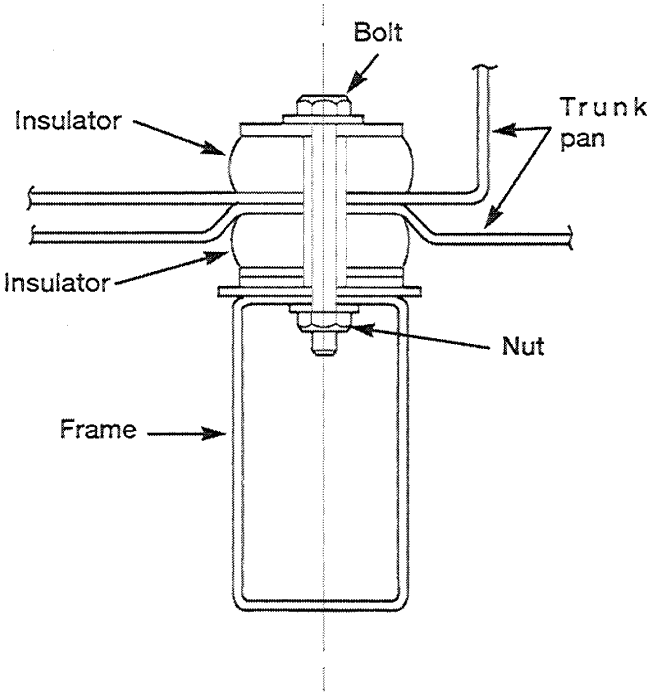
1. Remove attaching bolts and insulators, also mark shim locations.
2. Using drill motor with a 5mm (0.187) drill bit, remove 5 pop rivets retaining trunk pan at upper bulkhead rail.
3. Heat 121°C (250°F) trunk pan area along bulkhead upper rail to soften the structural adhesive.
4. After you have broken the adhesive seal, remove the nuts holding the truck pan tie-down cables to the frame. Remove trunk pan.
5. Remember to mark shim locations.



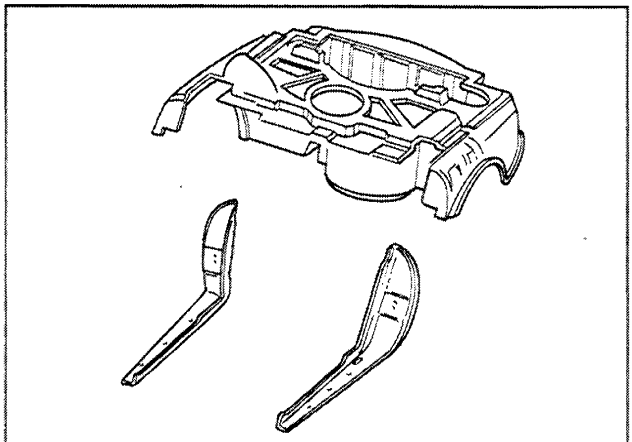
VIEW B

INSTALLATION

1. Clean old adhesive from upper bulkhead rail. Repair any corrosion protection damage.
2. Place isolators on rear frame rails. Temporarily place new trunk pan on frame.
3. Align and shim as necessary. Mark shim placement.
4. Remove pan, and apply recommended structural adhesive to upper bulkhead rail.
5. Place trunk pan back on frame, and double check alignment.
6. Using appropriate tool, install 5 pop rivets along upper bulkhead rail.
7. Install bolts through isolators, and install nuts. Torque to specification.



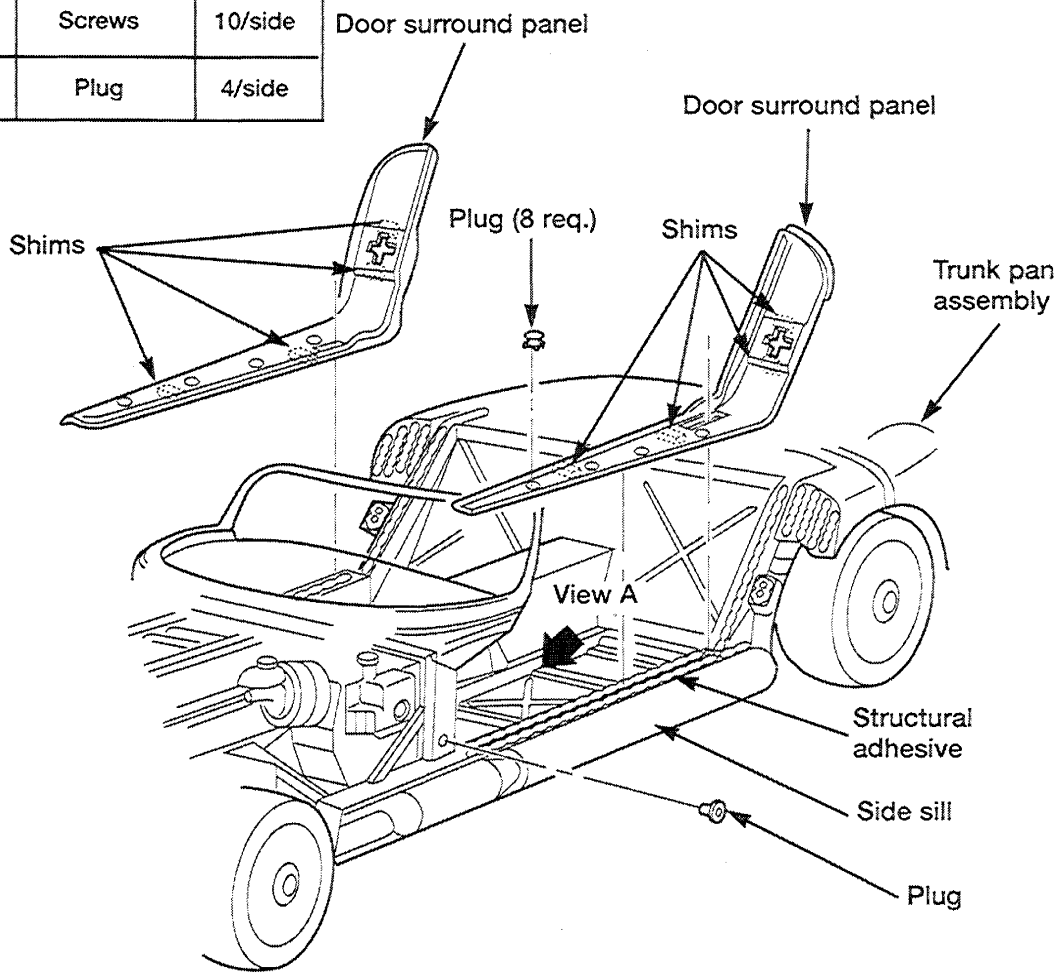
SECTION CC



Panel	Fastener Type	No. Req
R Door Surround to Sill	Structural Adhesive	—
L Door Surround to Sill	Structural Adhesive	—
R Door Surround to Trunk Pan	Structural Adhesive	—
L Door Surround to Trunk Pan	Structural Adhesive	—
Outer Side Sill Cover to Side Sill	Screws	10/side
Side Sill Screws Access Plugs	Plug	4/side

CAUTIONS:

- Use care when removing outer panels to gain access to door surround panel.
- Keep track of shim placement, and number when removing panels.
- Do not use an open flame to heat panels to soften structural adhesive. Use a heat gun capable of temperatures above 121°C (250°F).
- Do not use excessive force to pry door surround away from trunk pan.



NOTES WITH REGARD TO REPAIR WORK

- Side sill outer cover, door surround hardware, and quarter panel must be removed before beginning door surround removal.

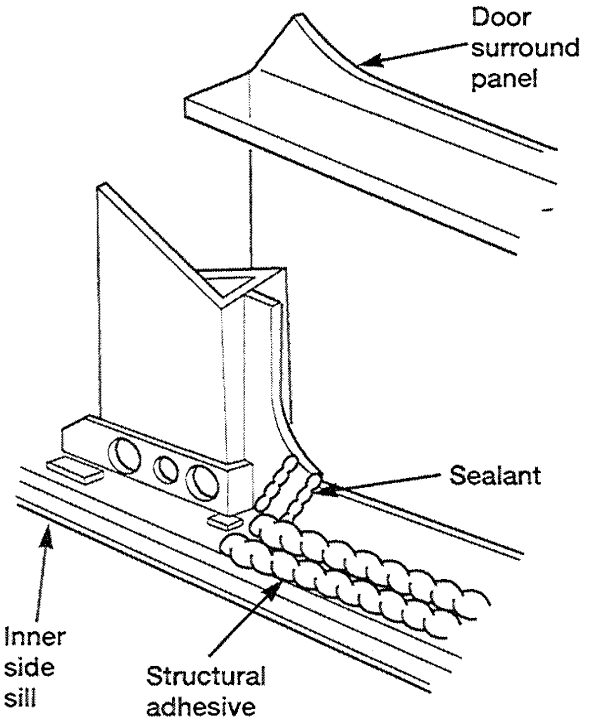
REMOVAL

1. Trim door surround panel with a die grinder or body saw to expose adhesive. Be careful not to damage adjacent panels.
2. Heat panel using a heat gun 121°C (250°F) to soften adhesive.
3. Pry panel loose, and cut adhesive with a scraper.
4. Remove panel, and clean old adhesive from inner side sill and trunk pan. Mark shims.

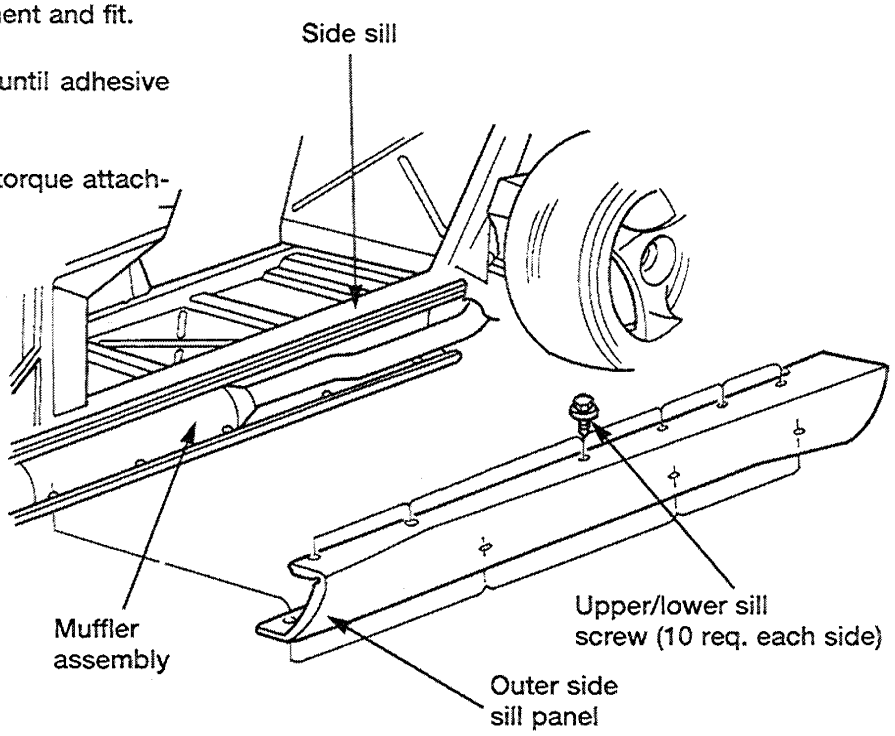
INSTALLATION

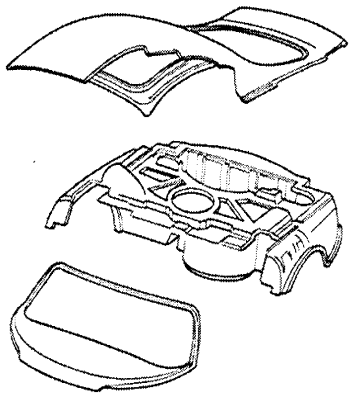
1. Temporarily fit new panel in place.
2. Align and shim as necessary.
3. Mark shim locations.
4. Remove panel, and apply structural adhesive to inner sill structure and trunk pan areas indicated.
5. Install panel, and recheck alignment and fit.
6. Clamp and hold panel in place until adhesive cures.
7. When installing side sill covers, torque attaching screws to specification.

Fastener Type	Torque	Min.	Max.
Upper & Lower Sill Screws	35 in lbs	30	40



VIEW A

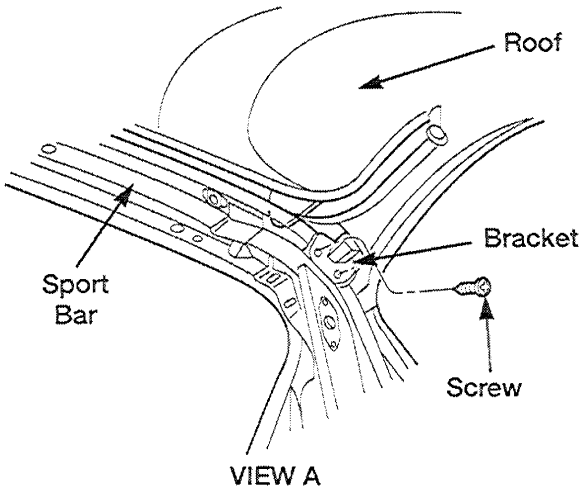


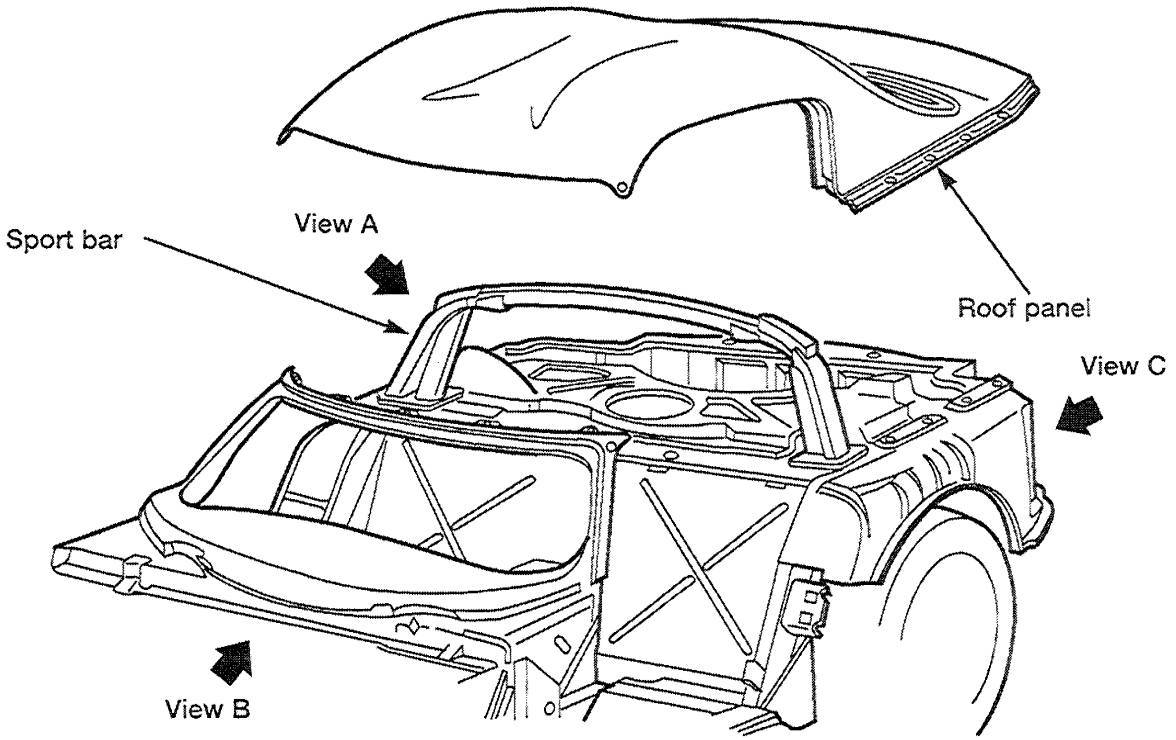


Panel	Fastener Type	No. Req
Rear Roof to Trunk Pan	Nut & Washer	9
Front Roof to Windshield Surround	Roof Panel Bracket	5
Bracket to Roof	Bolt	5
Back of Roof to Trunk Pan	Silicone Adhesive	—
Sport Bar to Roof	Screws	4

CAUTIONS:

- Use care when removing roof assembly so as not to damage seals.
- Keep track of shim placement when removing roof assembly.
- During installation, minimize roof panel movement after it contacts the silicone. Water or air leaks may occur.





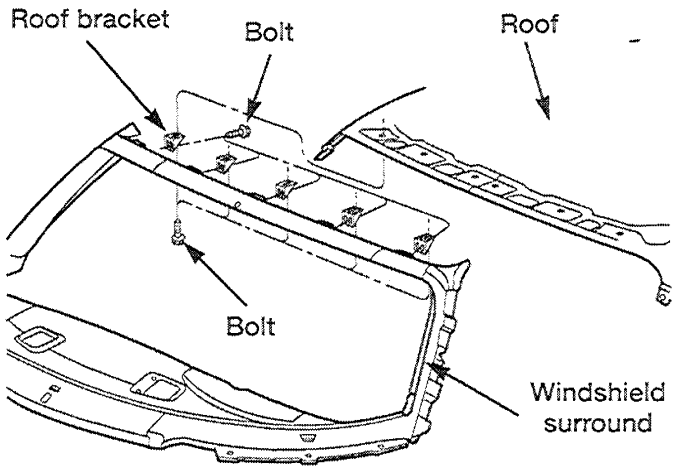
NOTES WITH REGARD TO REPAIR WORK

- Many exterior panels need to be removed to gain access to the roof panel. Also remove liftgate assembly and necessary weatherstripping.
- Refer to the appropriate section for proper procedure.

Fastener Type	Torque	Min.	Max.
Rear Roof to Trunk Pan Bolts	40 ft lbs	30	50
Bracket to Roof Bolt	250 in/lb	200	300
Sport Bar to Roof Screw	250 in/lb	200	300

REMOVAL

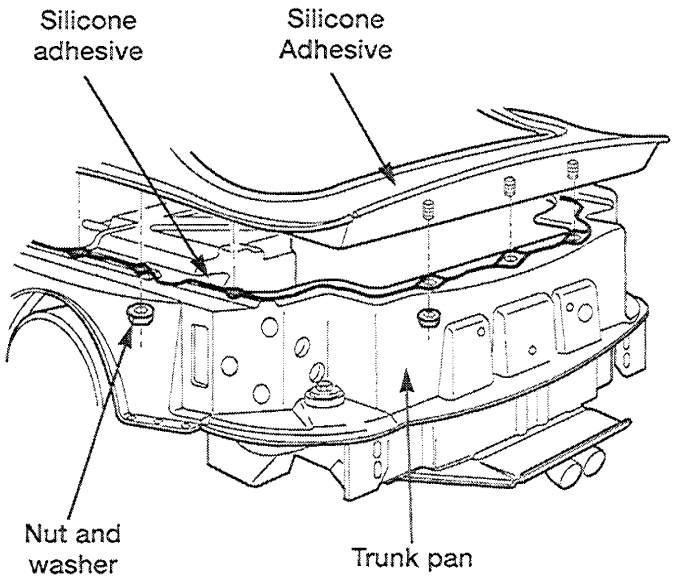
1. Remove roof panel brackets along windshield surround header.
2. Remove bolts holding roof panel brackets to front of sport bar, and note shim location.
3. Remove nuts holding roof panel to trunk pan.
4. Cut the silicone sealing the roof panel to the trunk pan along the side and rear edges of the roof.
5. Carefully cut the urethane adhesive between the roof and the windshield surround.
6. Lift the roof panel from the vehicle.



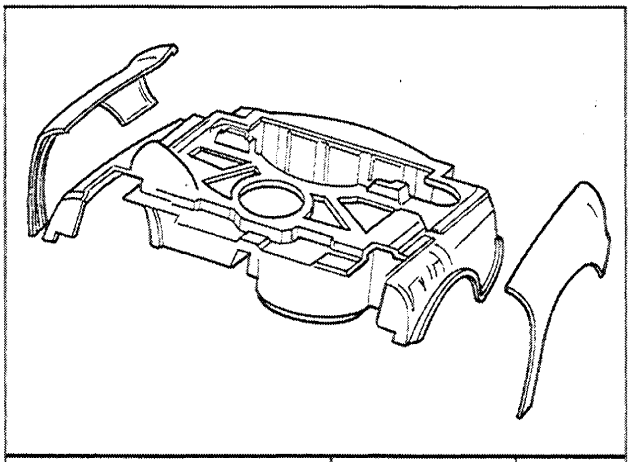
VIEW B

INSTALLATION

1. Clean silicone residue from all mating surfaces.
2. Loosely install the roof panel brackets.
3. Apply a bead of silicone on trunk pan where roof edge mates to the trunk pan.
4. Install roof panel.
5. Align the roof to the windshield surround. For proper body gaps, refer to the Specifications section of this manual.
6. Install all necessary shims, nuts and bolts to attach the roof. Torque to specification.



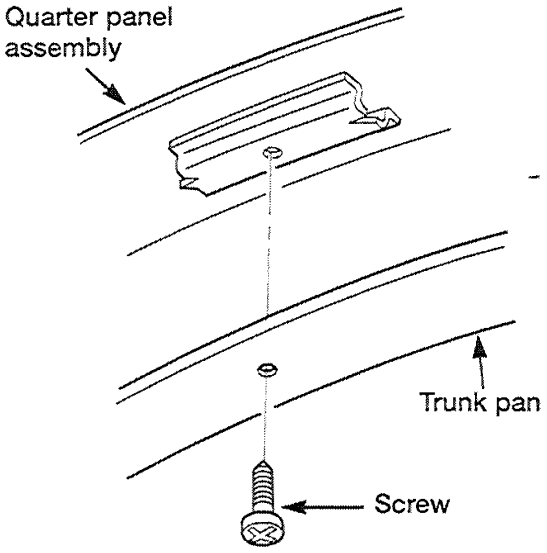
VIEW C



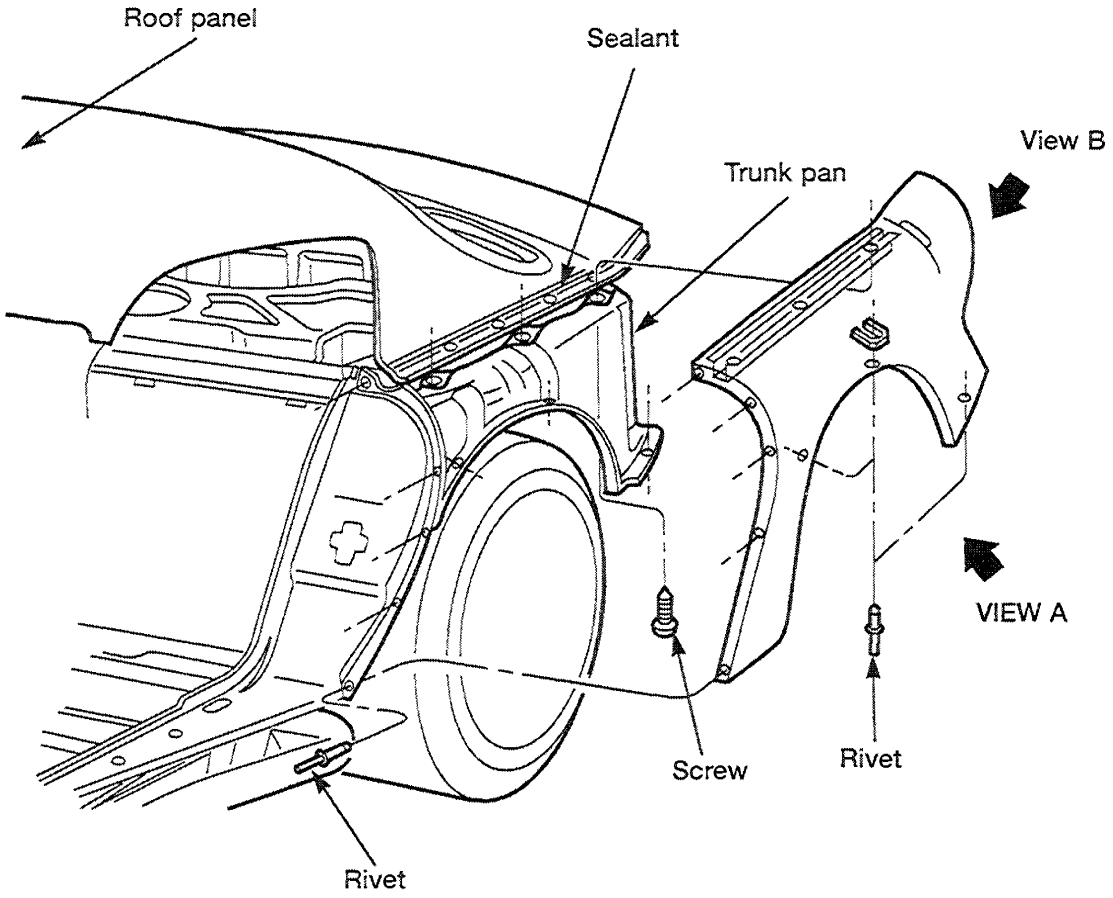
Panel	Fastener Type	No. Req
Quarter Panel to Trunk Pan	Rivet	10/Side
Quarter Panel to Door Surround	Rivet	5/Side
Quarter Panel to Trunk Pan	Bolt	3/Side
Quarter Panel to Trunk Pan	Sealant	—
Quarter Panel to Tail Lamp Closure Panel	U-Nut	2

CAUTIONS:

- Keep track of shims (number and placement) when removing quarter panels.



VIEW A

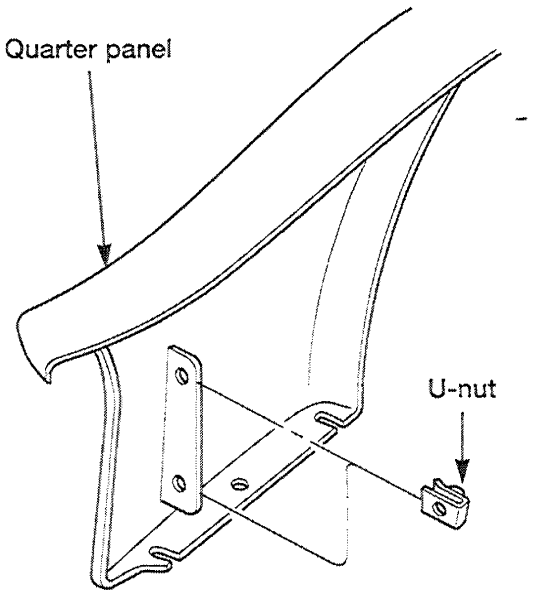


NOTES WITH REGARD TO REPAIR WORK

- Replacement quarter panels have all reinforcements installed.

REMOVAL

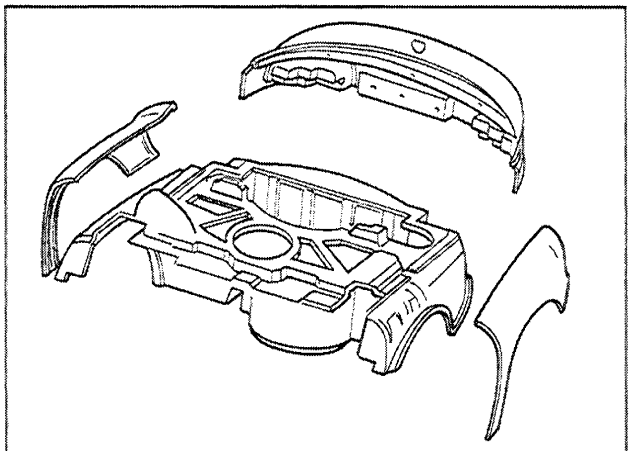
1. Remove rear bumper/fascia assembly and other components as outlined in the service manual.
2. Using a drill motor with a 5mm (0.187 in.) bit, carefully drill out all pop rivets attaching quarter panel to door surround and trunk pan.
3. Remove bolts holding quarter panel to trunk pan from the trunk underside.
4. Remove quarter panel.



VIEW B

INSTALLATION

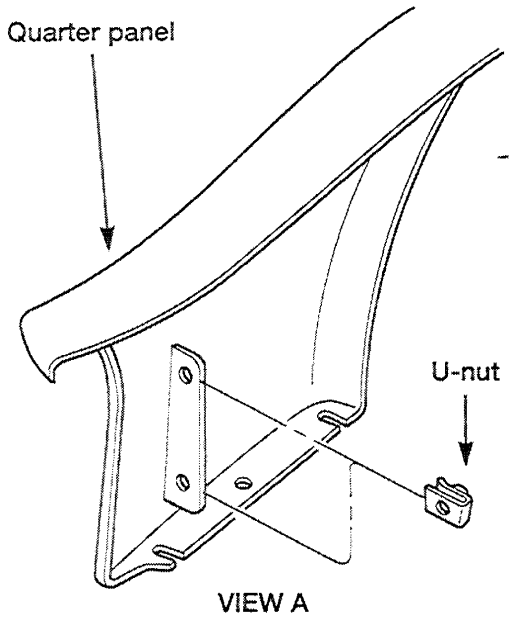
1. Place new quarter panel on trunk pan and align it. Adjust with shims, as necessary, to obtain proper fit and clearance.
2. Using an appropriate tool, install pop rivets to secure quarter panel to trunk pan and door surround panels.
3. Install bolts holding quarter panel to trunk pan from the trunk underside.

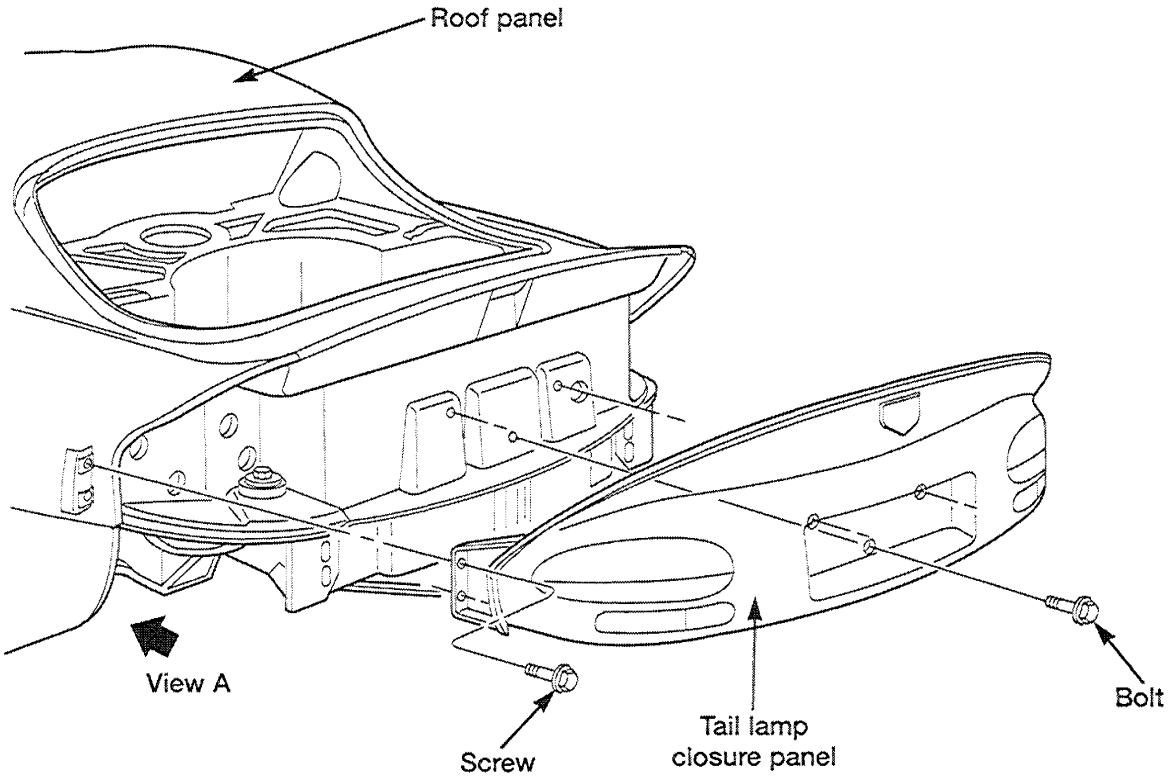


Panel	Fastener Type	No. Req
Closure Panel to Trunk Pan	Bolt	3
Closure Panel to Quarter Panel	Screw	2/Side

CAUTIONS:

- Disconnect necessary wiring harnesses before removing tail lamp closure panel.





NOTES WITH REGARD TO REPAIR WORK

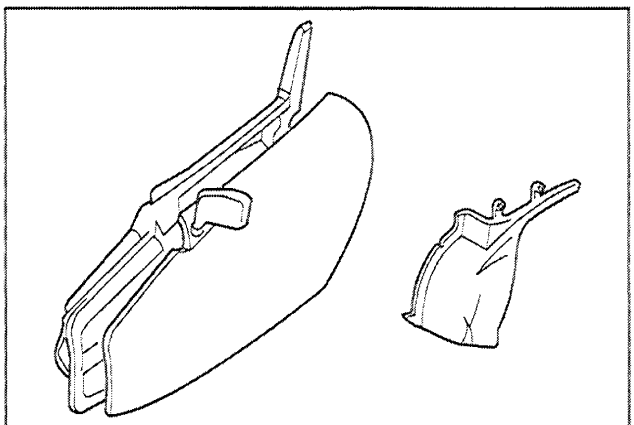
- Replacement quarter panels have all reinforcements and braces installed.

REMOVAL

1. Remove screws holding tail lamp closure panel to the quarter panel.
2. Remove bolts holding closure panel to the trunk pan in license plate area.
3. Remove closure panel.

INSTALLATION

1. Position closure panel on vehicle.
2. Install bolts holding closure panel to the trunk pan in license plate area.
3. Install screws holding tail lamp closure panel to the quarter panel.

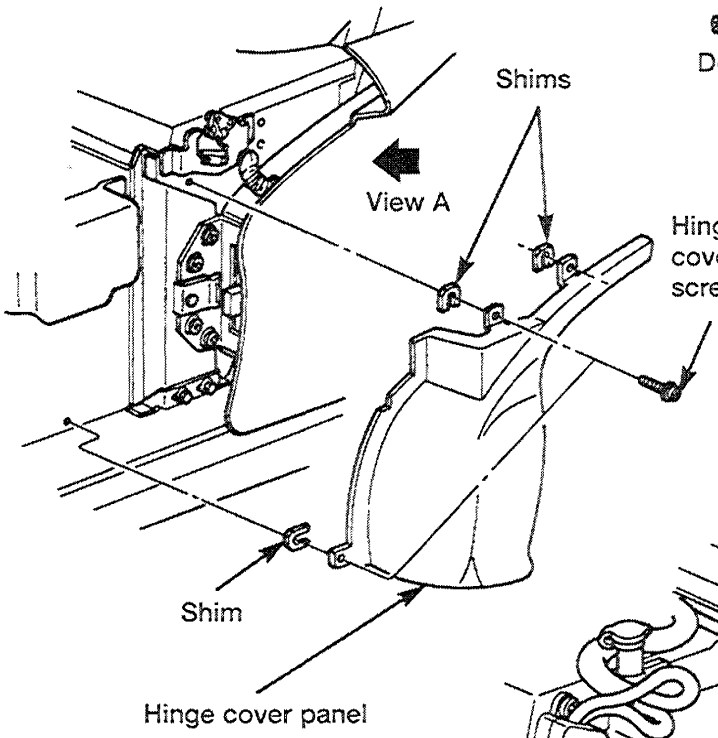


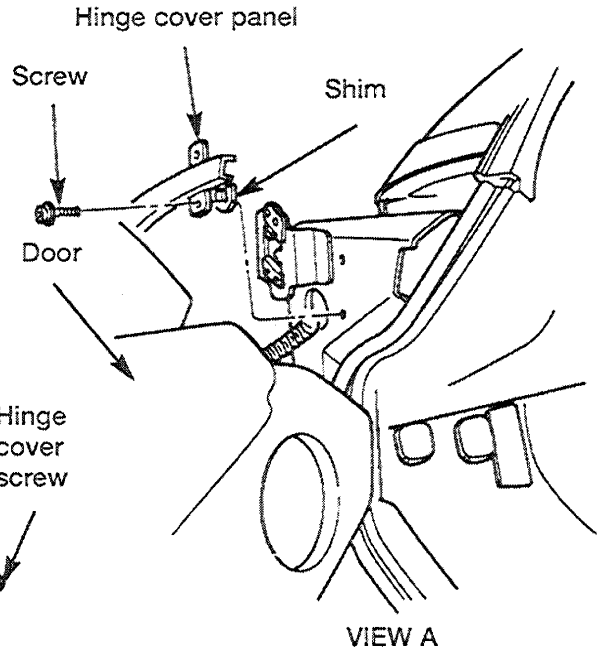
Panel	Fastener Type	No. Req
Door Hinge to Body	Screw & Washer	4 each door
Door Hinge Cover to Body	Screw	4 each cover
Door Hinge to Door	Bolts & Washer	4 each side

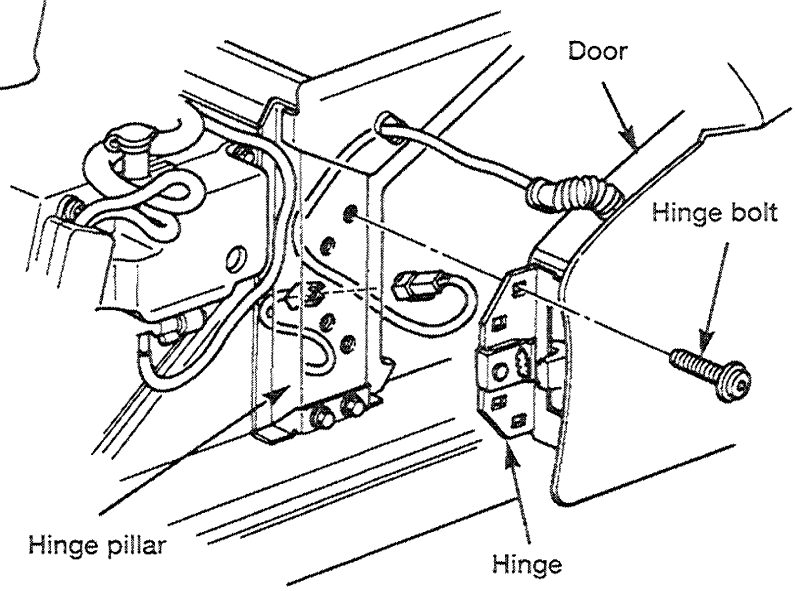
Fastener Type	Torque	Min.	Max.
Door to Body Screw & Washer	300 in lbs	250	350
Hinge Cover to Body Screws	300 in lbs	25	45

NOTES:

- Refer to the **Specifications and Dimensions** for door gaps.
- When removing hinge cover panel, mark shims for reinstallation.



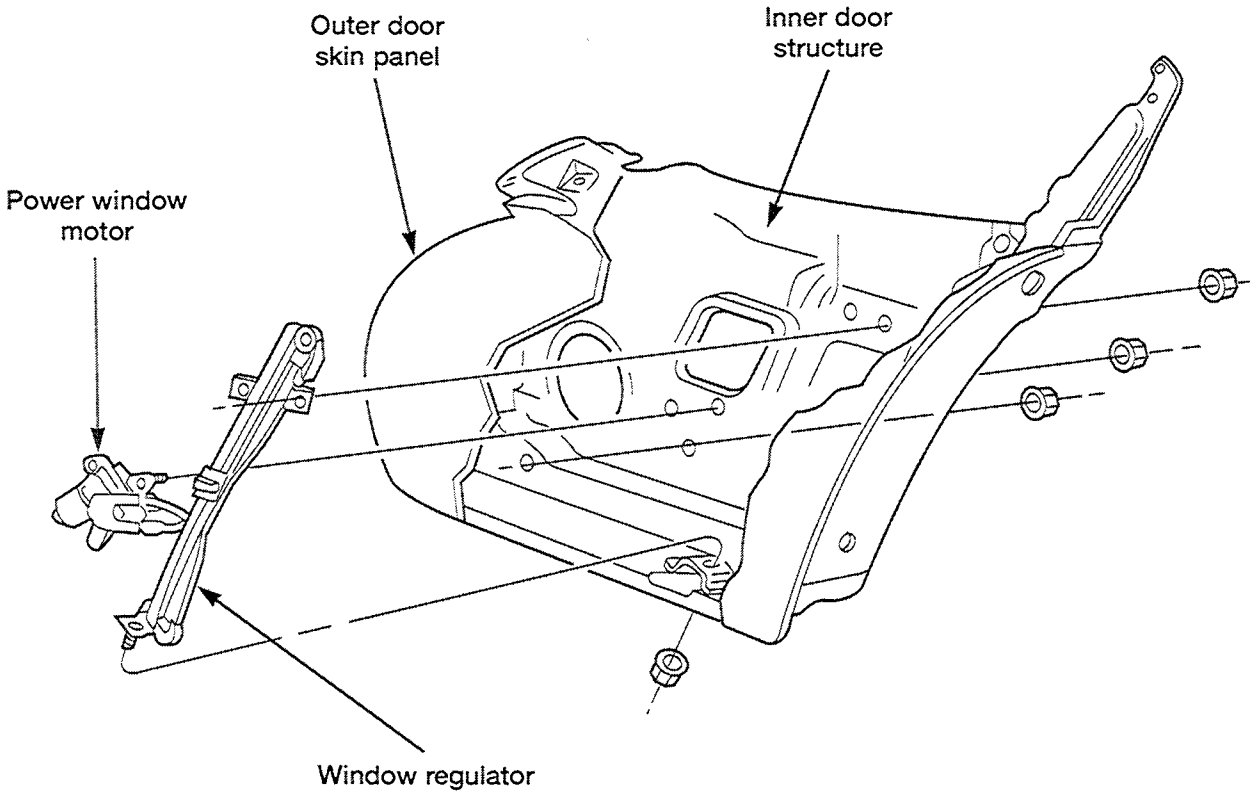




The inner door structure is made up of a steel structure consisting of the hinge support, door shut face, and the guard beam. A plastic inner panel is bonded with adhesive and riveted to the steel inner structure. The plastic outer skin panel is bonded with structural adhesive to the inner plastic panel and the steel structure.

The door is serviced as an assembly only.

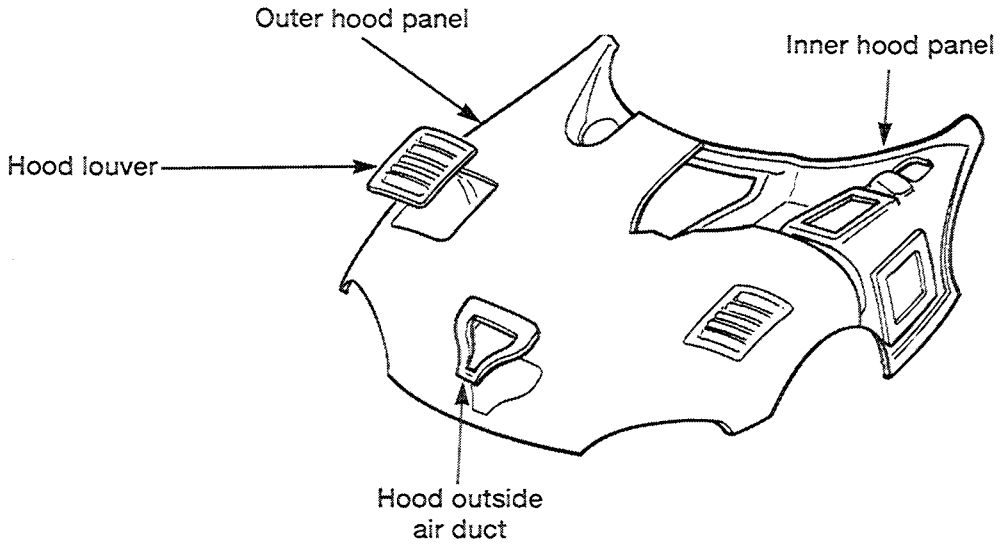
NOTE: The door guard beam is made of high strength steel and should not be heated or straightened. The door should be replaced.

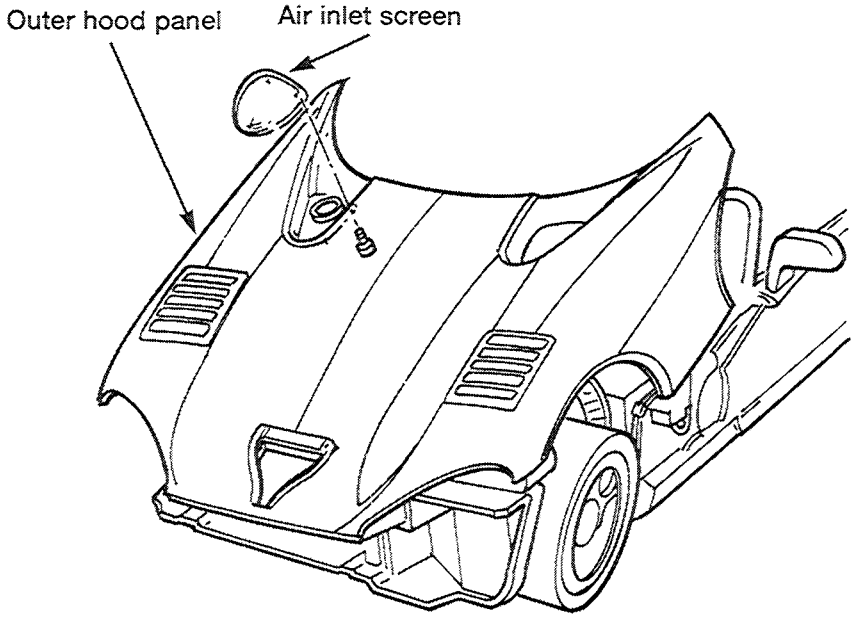


HOOD ASSEMBLY

- The hood is serviced as a complete assembly only. The inner and outer panels are not serviced separately. The outer panel is bonded to the inner structure panel with structural adhesive.

- Repair to the hood assembly can be performed using plastic panel repair methods outlined in the Body Panel Repair section.

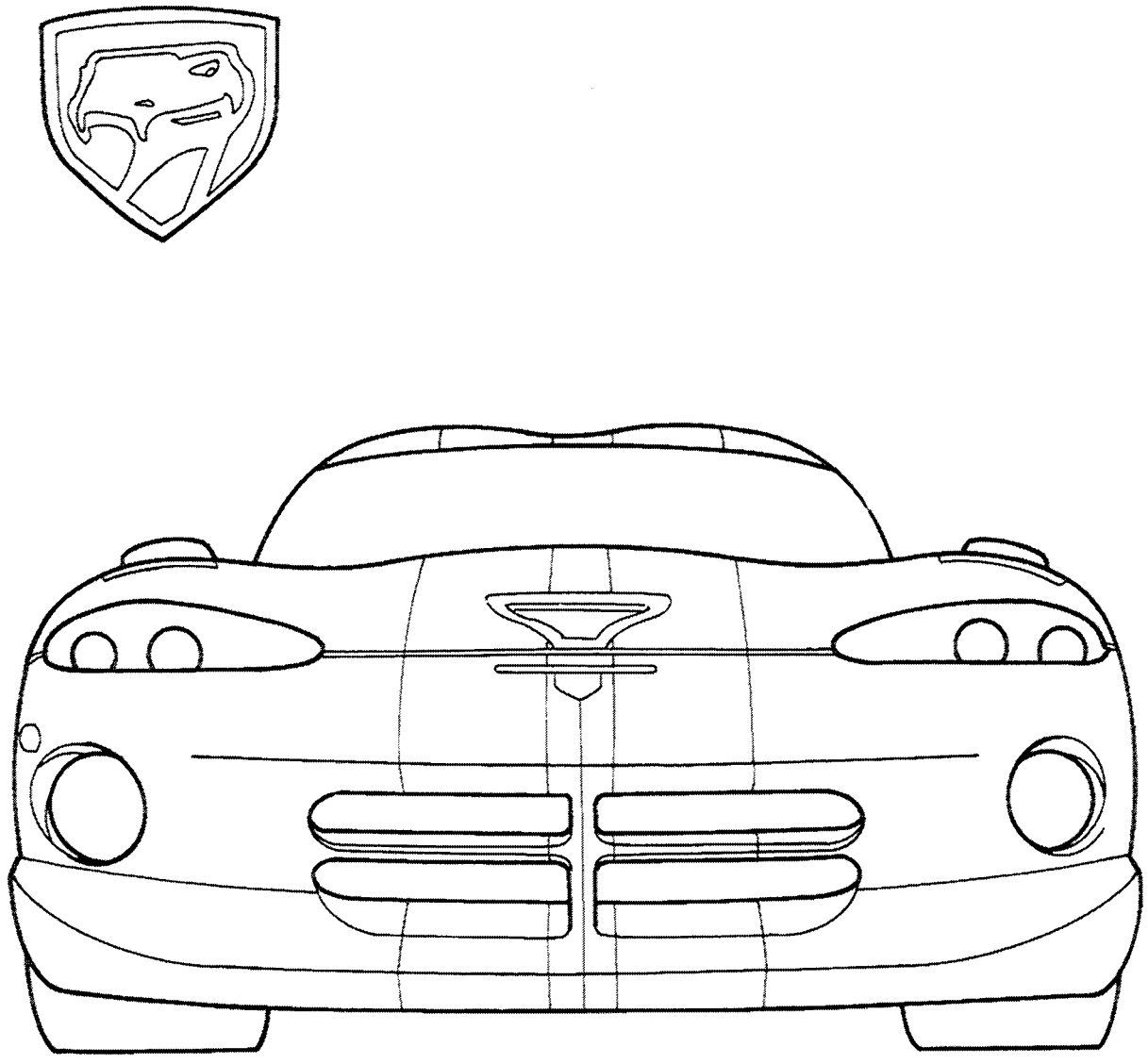




VIPER

GTS Coupe

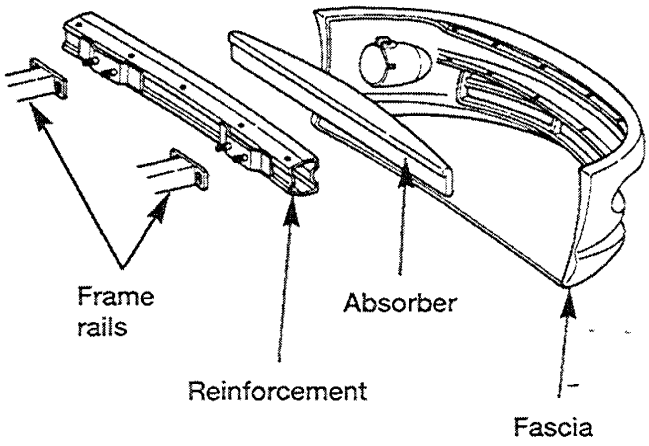
Bumper & Fascia



FRONT BUMPER AND FASCIA

The front bumper and fascia assembly must be removed as a complete unit. Once removed from the vehicle, the fascia, reinforcement bar and energy absorber damage can be accessed. Refer to service manual for removal and installation procedures.

The bumper reinforcement is made of high strength steel. This high strength steel should never be heated or straightened. Replacement is necessary to maintain the proper protection in the event of a collision.

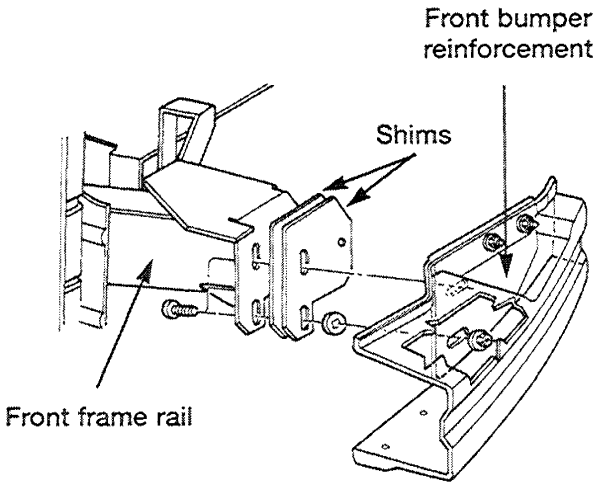


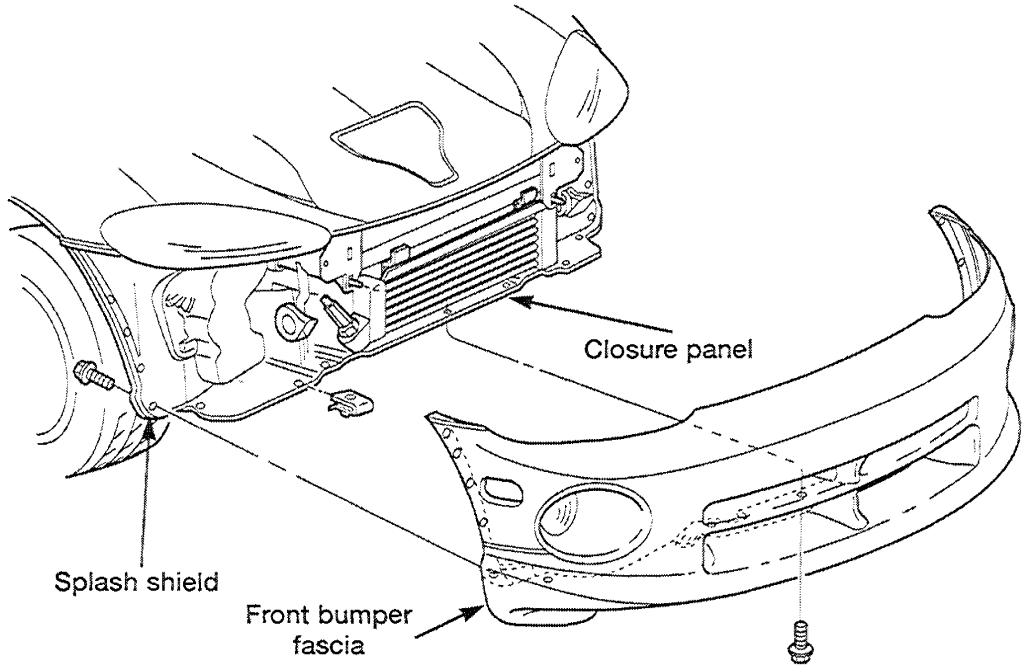
FASTENER NOTE:

All replacement fasteners must be of the same strength, quality, size, corrosion resistance, and appearance as the fastener being replaced.

FASCIA REPAIR

The fascia is made of RIM plastic. Repair and refinishing of these panels should be performed according to ICAR standards and procedures.

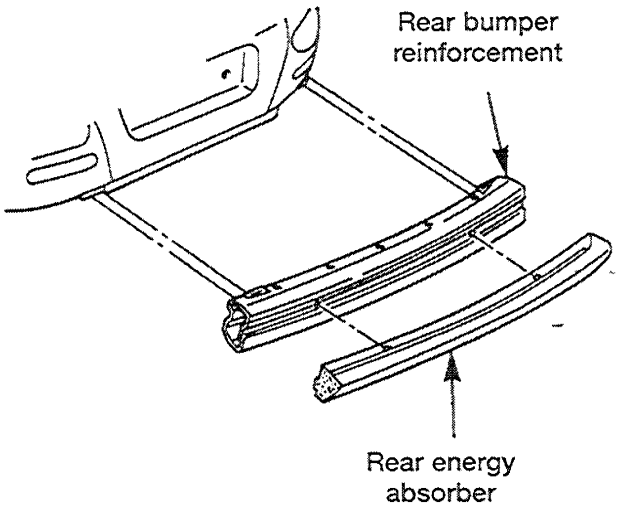




REAR BUMPER AND FASCIA

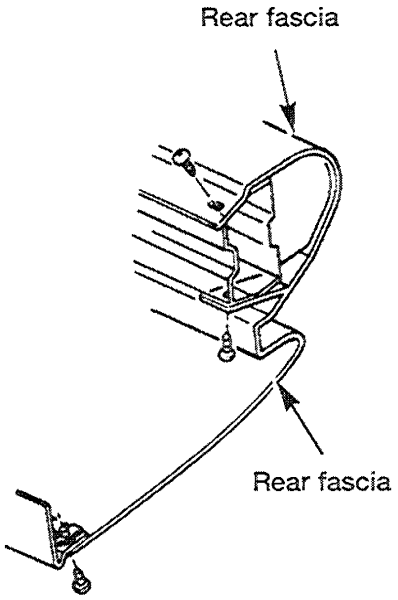
The rear bumper and fascia assembly must be removed as a complete unit. Once removed from the vehicle, the fascia reinforcement bar and energy absorber damage can be accessed. Refer to service manual for removal and installation procedures.

The bumper reinforcement is made of high strength steel. High strength steel should not be heated to straighten damage areas. Replacement is necessary to maintain the proper protection in the event of a collision.



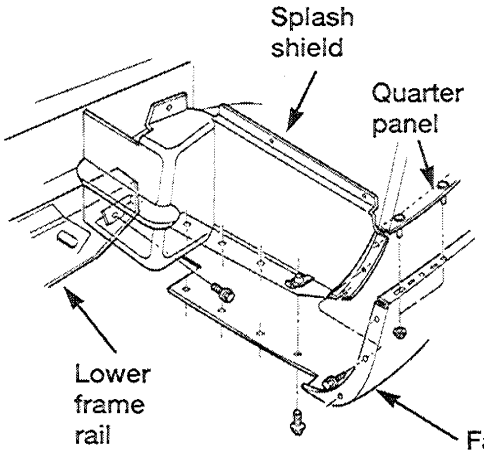
FASTENER NOTE:

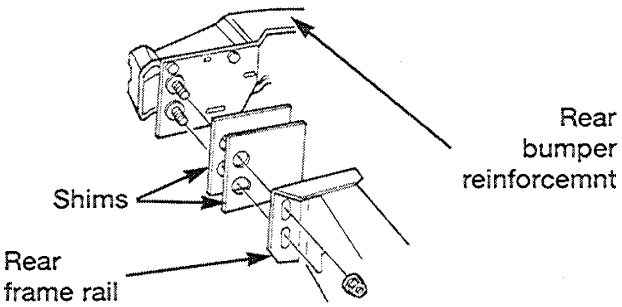
All replacement fasteners must be of the same strength, quality, size, corrosion resistance and appearance as the fastener being replaced.

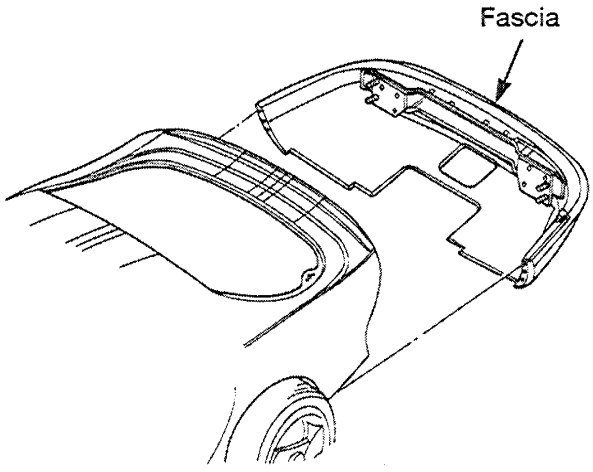


FASCIA REPAIR

The fascia is made of RIM plastic. Repair and refinishing of these panels is outlined in the Body Panel Repair Section.

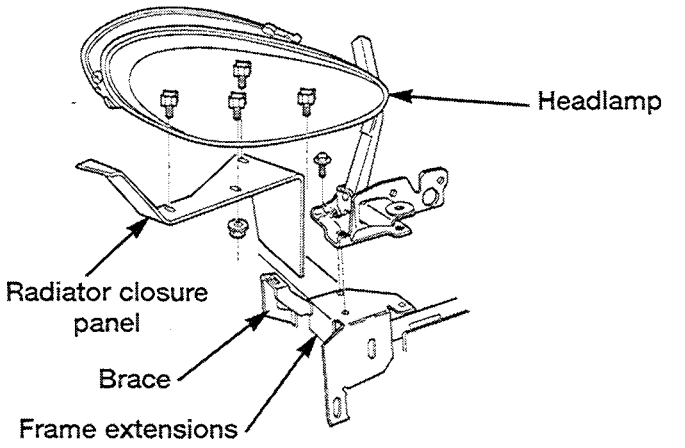


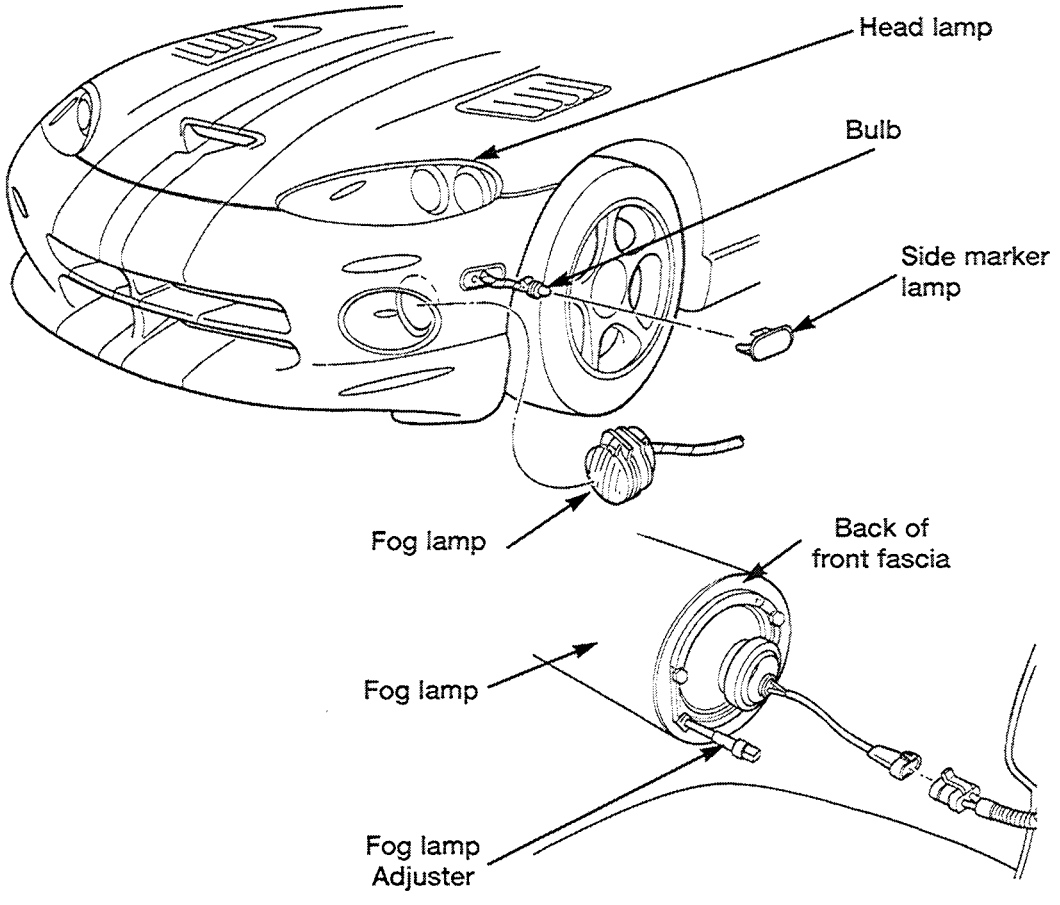


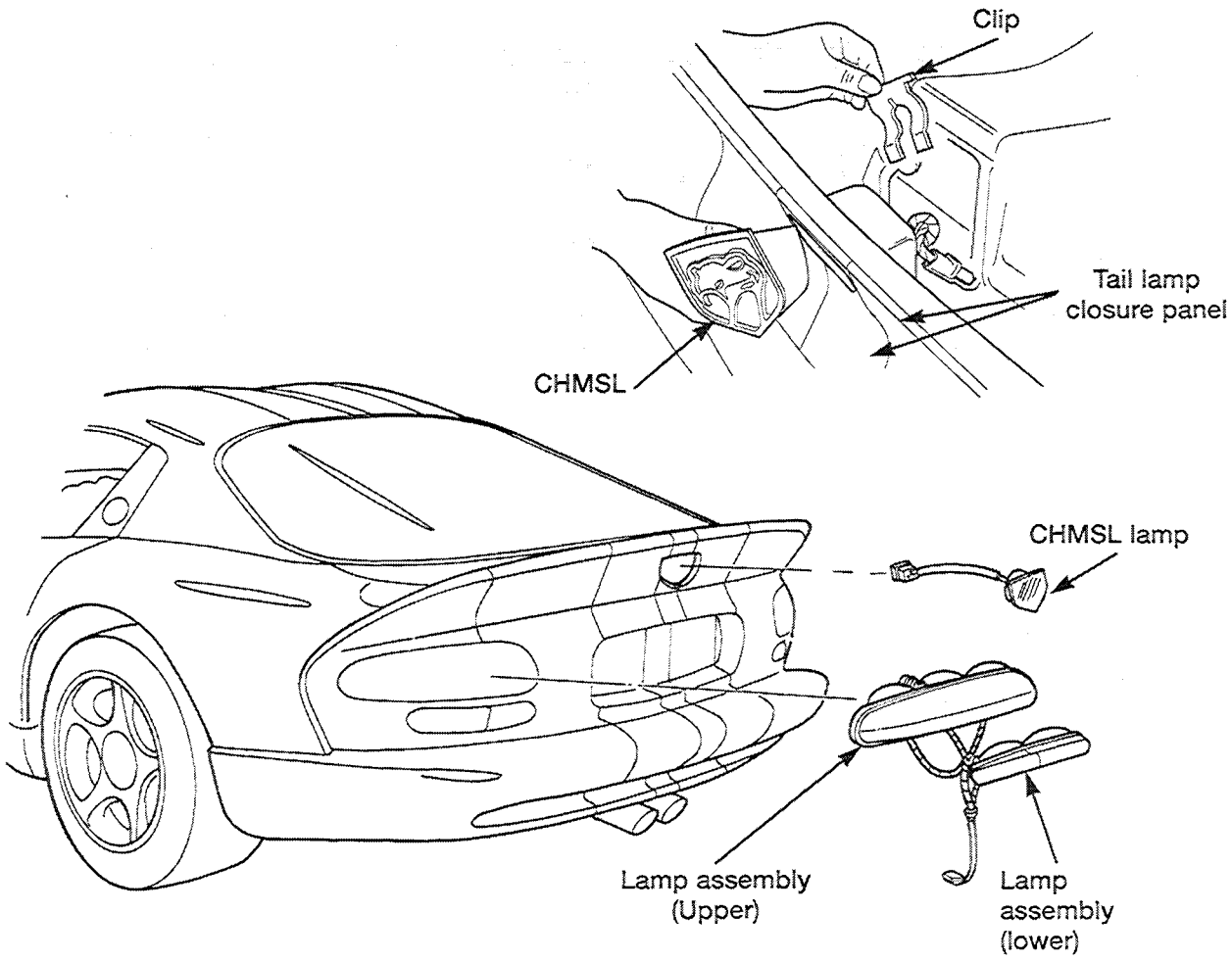


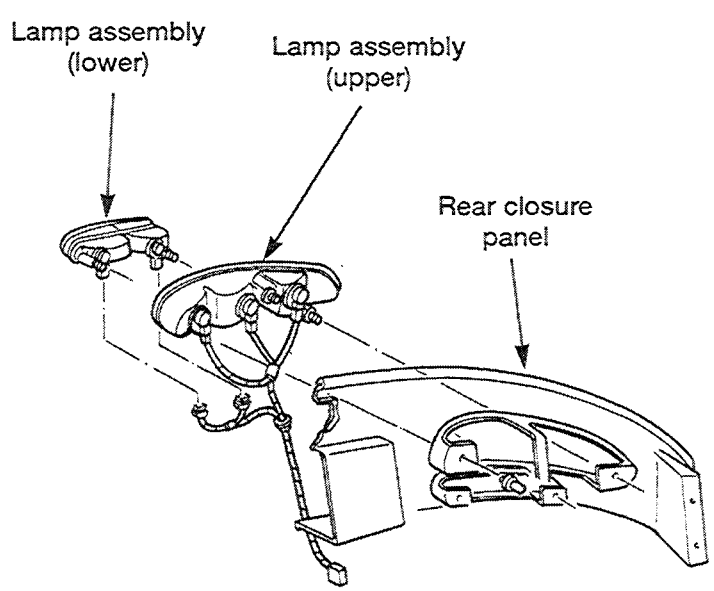
VIPER

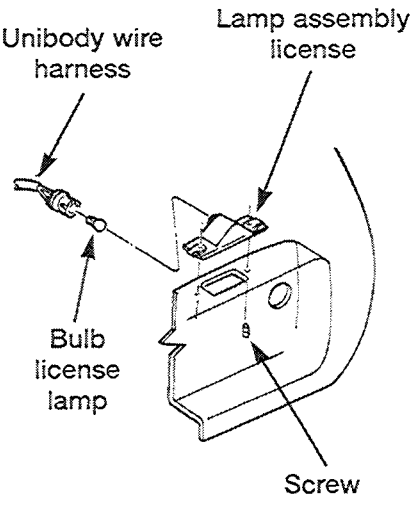
GTS Coupe
Exterior Lighting





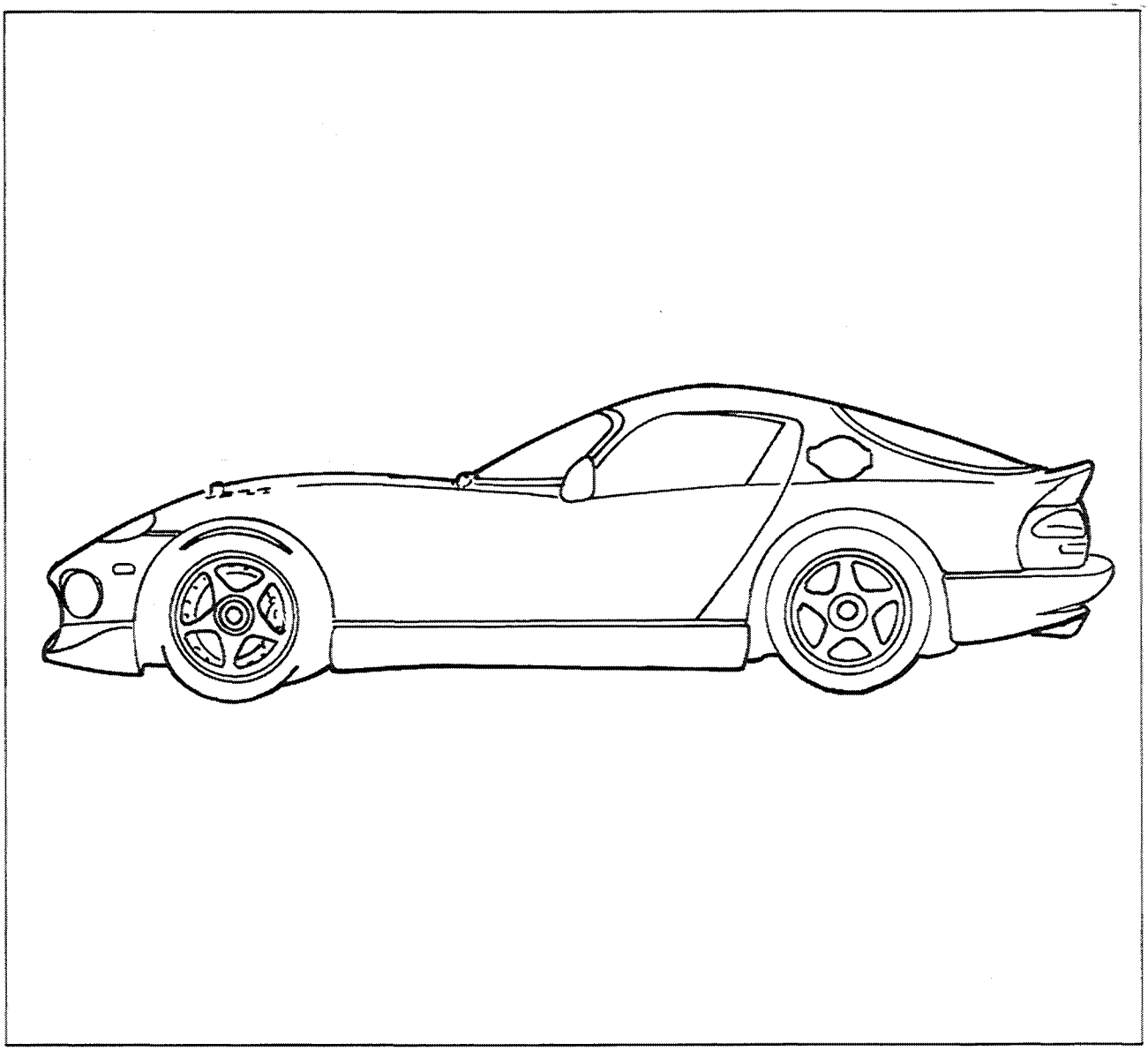

Clip
Tail lamp closure panel
CHMSL
CHMSL lamp
Lamp assembly (Upper)
Lamp assembly (lower)


Lamp assembly (lower)
Lamp assembly (upper)
Rear closure panel


Unibody wire harness
Lamp assembly license
Bulb license lamp
Screw

VIPER

GTS Coupe
Greenhouse



WINDSHIELD REPLACEMENT SAFETY PRECAUTIONS AND WARNINGS

WARNING: DO NOT USE URETHANE ADHESIVE OR PRIMER IN CLOSED WORK AREA. PERSONAL INJURY CAN RESULT.

PROTECT SKIN FROM COMING IN CONTACT WITH URETHANE. PERSONAL INJURY CAN RESULT.

WEAR EYE AND HAND PROTECTION WHEN WORKING WITH GLASS. PERSONAL INJURY CAN RESULT.

CAUTION:

Protect all painted or trimmed surfaces from coming in contact with urethane or primers. Damage will result.

Do not damage painted surfaces when removing moldings or cutting urethane around windshield.

It is difficult to salvage a windshield during the removal operation. The windshield is part of the unibody structure. The urethane bonding used to secure the windshield to the fence is difficult to cut or clean form any surface. If the moldings are set in urethane, it would also be unlikely they could be salvaged. Before removing the windshield, check the availability of the windshield and moldings from the parts supplier.

WINDSHIELD REMOVAL

1. Remove inside rear view mirror.
2. Remove cowl cover. Refer to Cowl Cover Removal paragraph in this group.
3. Remove windshield molding (Fig. 1). Pull outward on molding at the bottom of A-pillars using pliers.
4. Cut urethane bonding from around windshield using a suitable sharp cold knife. A pneumatic cutting device can be used if available (Fig. 2).
5. Separate windshield form vehicle.

WINDSHIELD INSTALLATION

CAUTION:

Follow urethane manufacturer's recommended curing time before returning the vehicle to use.

The windshield fence should be cleaned of old urethane bonding material. Support spacers should be cleaned and properly installed at bottom of windshield opening.

1. Place replacement windshield into windshield opening, and position glass in the center of the opening against the support spacers. Mark the glass at the support spacers with a grease pencil or pieces of masking tape and ink pen to use as a reference for installation. Remove replacement windshield from windshield opening (Fig. 3).

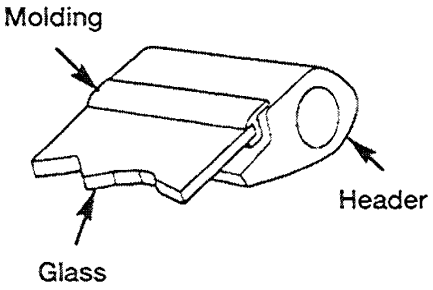


Fig. 1 Windshield Molding

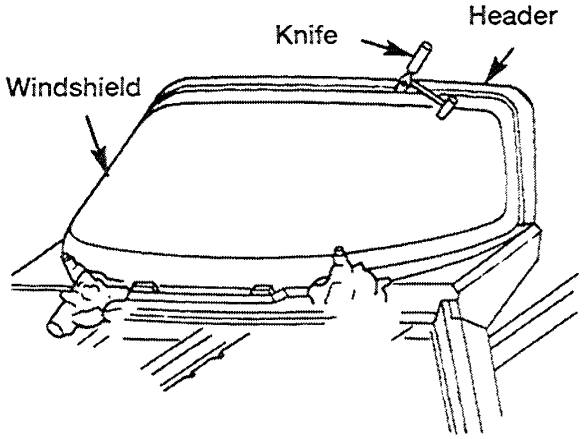


Fig. 2 Cut Urethane Around Windshield

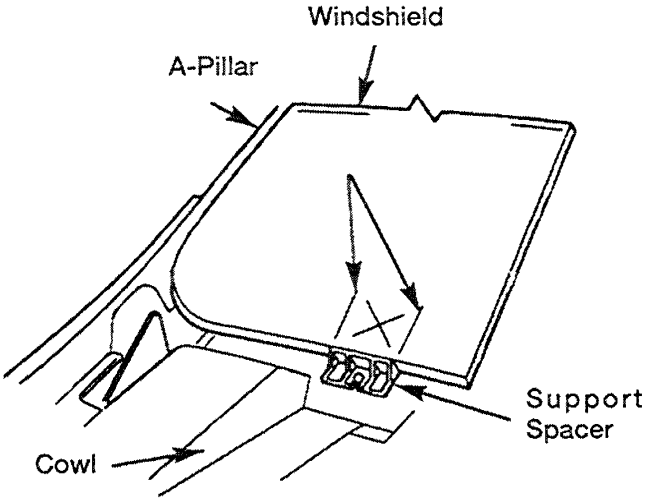


Fig. 3 Center Windshield and Mark at Support Spacers

2. Position the windshield inside up on a suitable work surface with two padded, wood 10 cm by 10cm by 50 cm (4 in. by 4 in. by 20 in.) blocks, placed parallel 75 cm (2.5 ft.) apart (Fig. 4).

3. Clean inside of windshield with Mopar® Glass Cleaner and lint-free cloth.

4. Apply clear glass primer 25mm (1 in.) wide around perimeter of windshield and wipe with clean/dry lint-free cloth.

5. Apply black-out primer 15mm (.75 in.) wide on top side and sides of windshield and 25 mm (1 in.) on bottom of windshield. Allow at least three minutes drying time.

6. Position spacers on windshield opening fence as indicated (Fig. 5).

7. Install windshield molding (Fig. 1).

8. Apply a 10mm (0.4 in.) bead of urethane around perimeter of windshield.

9. With the aid of a helper, position the windshield over the windshield opening. Align the reference marks at the bottom of the windshield to the support spacers.

10. Slowly lower windshield glass to windshield opening fence. Guide the tip molding into proper position if necessary. Push windshield inward to fence spacers at bottom and until top molding is flush to roof line (Fig. 6).

11. Clean excess urethane from exterior with Mopar® Super Clean or equivalent.

12. Apply 150mm (6 in.) lengths of 50mm (2 in.) masking tape spaces 250mm (10 in.) apart to hold molding in place until urethane cures (Fig. 7).

13. Install cowl cover and wipers.

14. Install inside rear view mirror.

15. After urethane has cured, remove tape strips and water test windshield to verify repair.

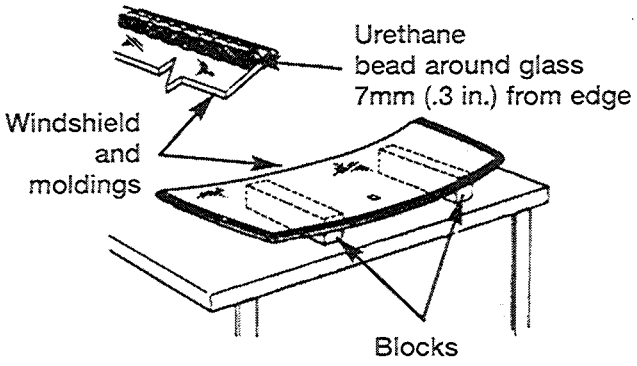


Fig. 4 Work Surface Set Up

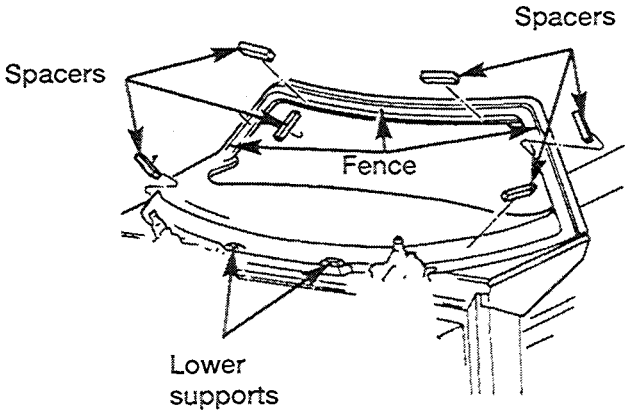


Fig. 5 Position Urethane Compression Spacers

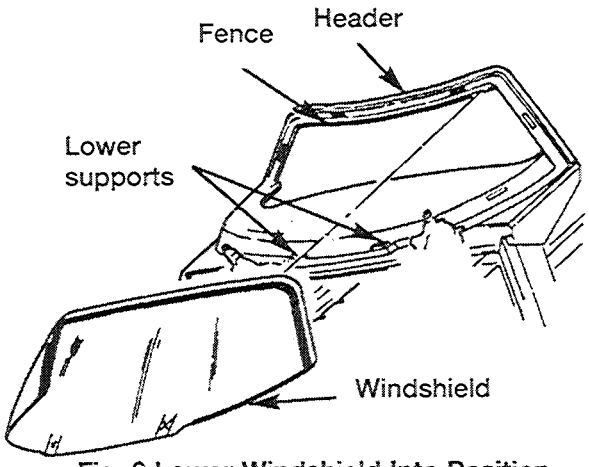


Fig. 6 Lower Windshield Into Position

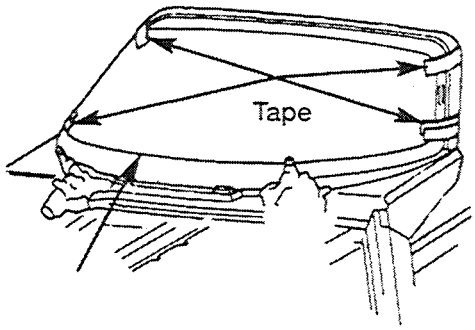
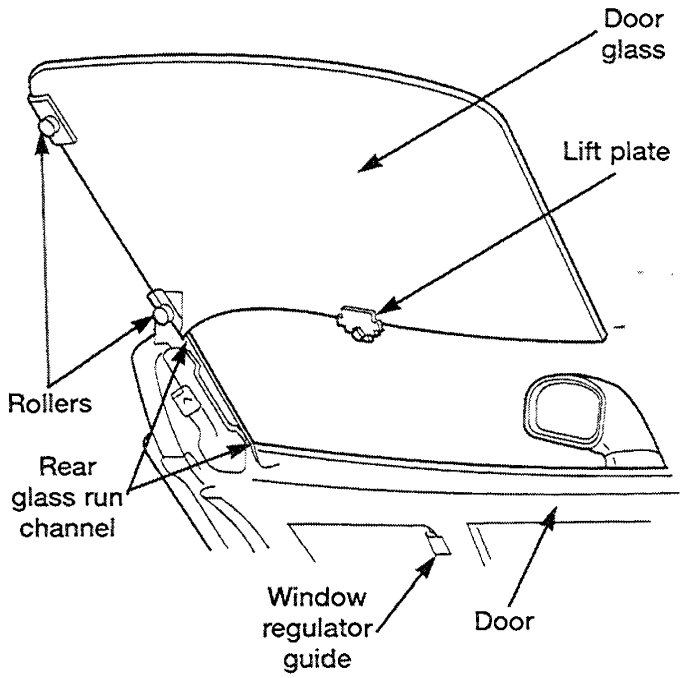


Fig. 7 Apply Tape to Retain Windshield Molding

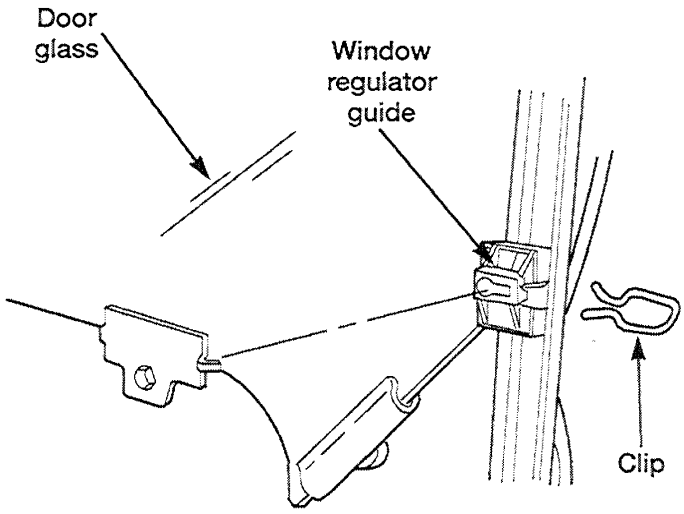
REMOVAL

1. Remove door trim panel.
2. Remove door stanchion outer cover.
3. Raise door glass to midway position.
4. Remove clip holding door glass to window regulator guide.
5. Separate door glass from window regulator guide.
6. Remove door glass upstop.
7. Remove door inner belt weatherstrip.
8. Lift glass upward and out of opening in top of door.
9. Separate door glass from vehicle.



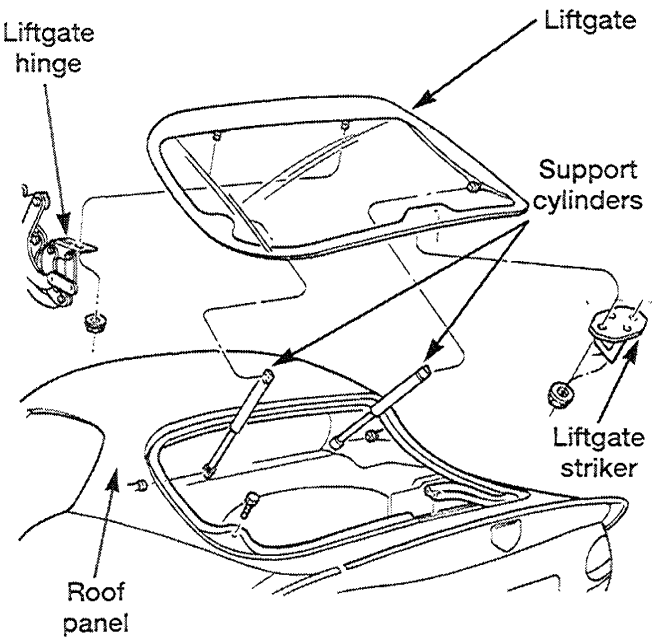
INSTALLATION

1. Position door glass to vehicle.
2. Align rollers on rear edge of door glass to rear run channel.
3. Lower glass downward into opening in top of door.
4. Install door inner belt weatherstrip.
5. Loosely install door glass upstop.
6. Install door glass to window regulator guide.
7. Install clip to hold door glass to window regulator guide.
8. Adjust glass as necessary.
9. Tighten glass upstop.
10. Install door stanchion outer cover.
11. Install door trim panel.



REMOVAL

1. Release trunk latch and raise liftgate.
2. Support liftgate on prop rod.
3. Using a suitable marking device, mark position of liftgate studs on liftgate hinge.
4. Separate support cylinders from liftgate.
5. With aid of a helper to support the liftgate, remove nuts holding hinge to liftgate.
6. Separate liftgate from vehicle.



INSTALLATION

1. With aid of a helper, position liftgate to the vehicle.
2. Loosely install the nuts to hold liftgate to the liftgate hinges.
3. Align liftgate hinge studs to marks made on hinges.
4. Tighten nuts to hold liftgate to liftgate hinges.
5. Verify that the liftgate is properly aligned to the roof panel. Refer to the body gaps listed in the **Specifications** section.

NOTE: Due to the rearward pressure exerted by the support cylinders on the liftgate, the body gap between the liftgate and the roof panel, without the support cylinders installed, should be adjusted 3 mm less than the gap specified in the **Specifications** section. This will provide the correct body gap once the support cylinders are installed.

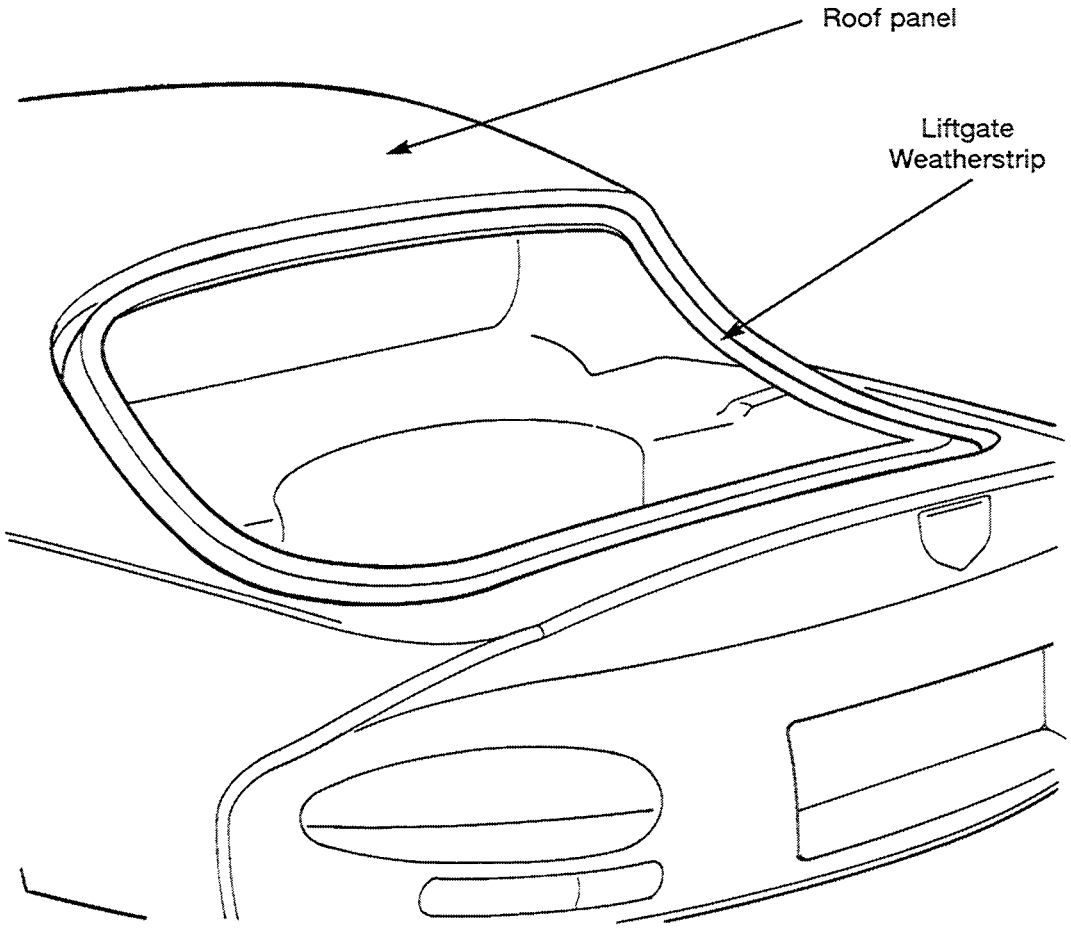
6. Install support cylinders to the ball studs on liftgate.
7. Verify liftgate operation. Adjust as necessary.

VIPER GTS Coupe Weatherstrips

DECK LID OPENING

The VIPER liftgate utilizes a 1 piece weatherstrip which fits over a lip on the roof panel. The ends are connected by a special connector and glued.

The weatherstrip creates a trough around the deck lid opening to channel the water away from the opening.



DOOR OPENINGS

The door opening weatherstrip fits over a formed lip on the door surround panel. The lip is similar to a pinch weld lip on a vehicle using metal panels.

The weatherstrip installs from the base of the windshield, along the top of door opening and around the door sill, and up to the base.