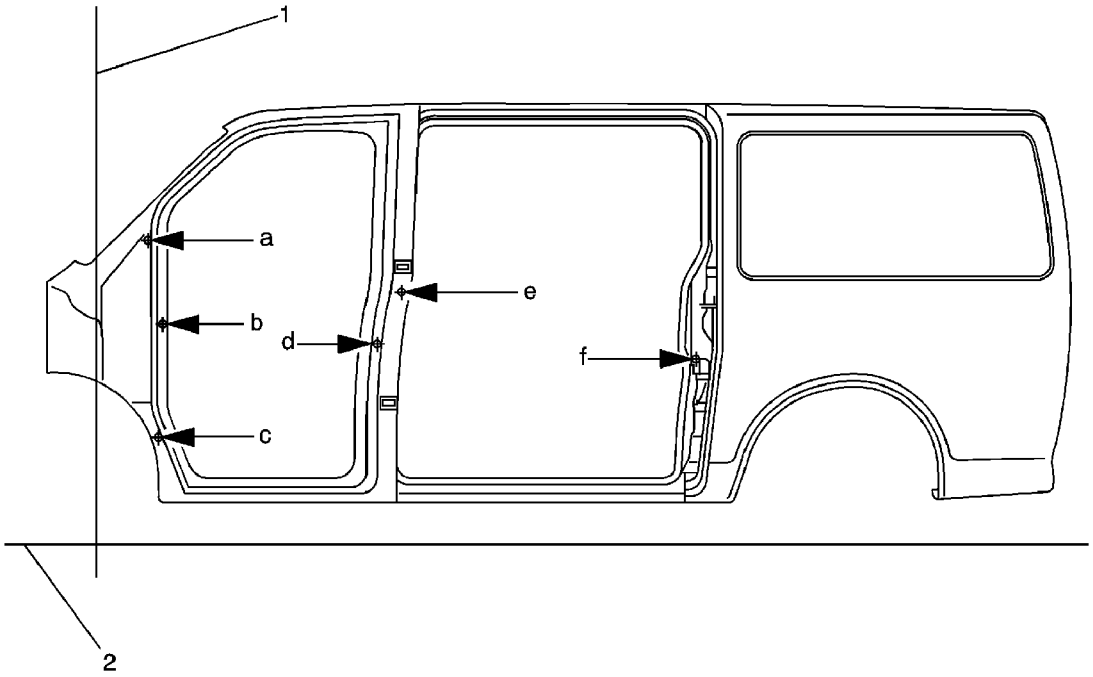
Dimensions - Body

Dimensions - Body Side



Dimensions - Body Side

Location	Description	Length	Width	Height
1	Datum Line	0	0	0
2	Zero Line	0	894	1125

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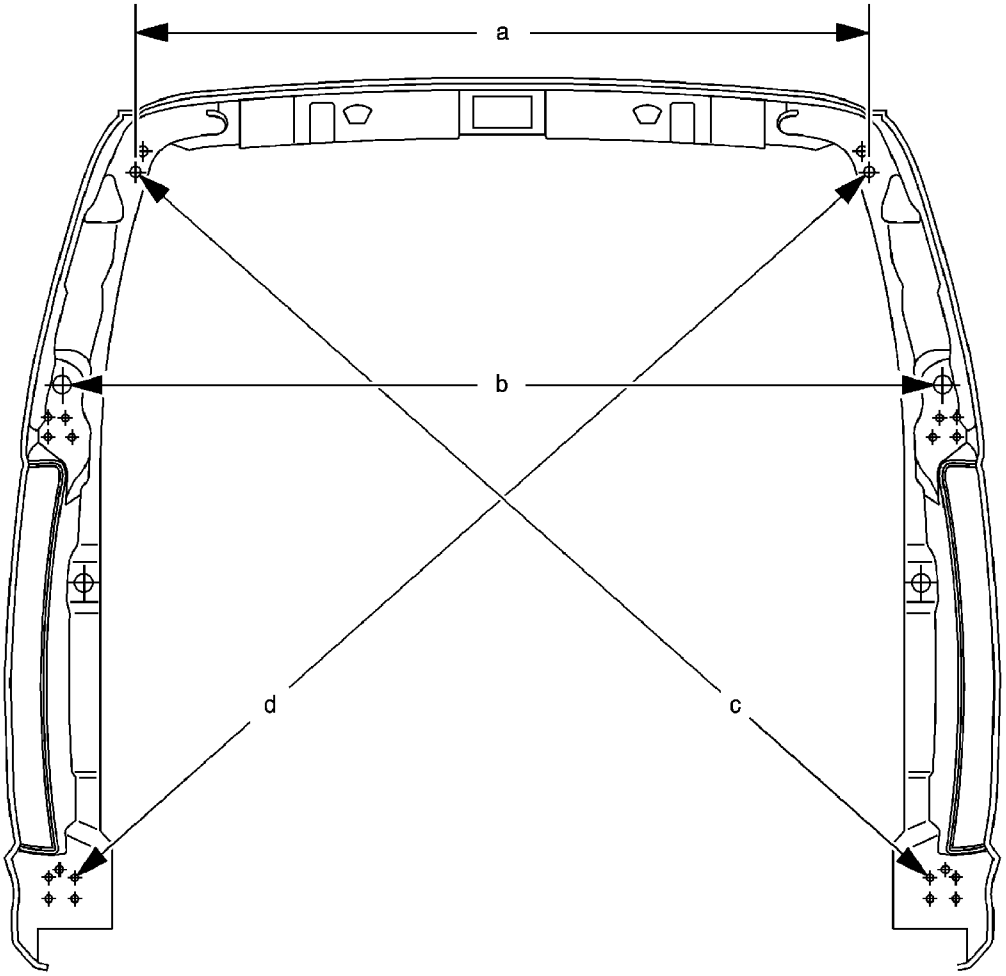
a	Check Strap Upper Hole	63	881	1234
b	20 mm x 12.5 mm Hole	113	934	706
c	5 mm Hole	14	879	1620
d	Upper Door Striker	1040	904	1130
e	Check Strap Upper Hole	1123	914	1147
f	Check Strap Upper Hole	2461	934	1070
All dimensions are measured from a zero line, a center line, and a common datum. All dimensions are symmetrical unless otherwise specified.				

Point to Point - Body Rear End

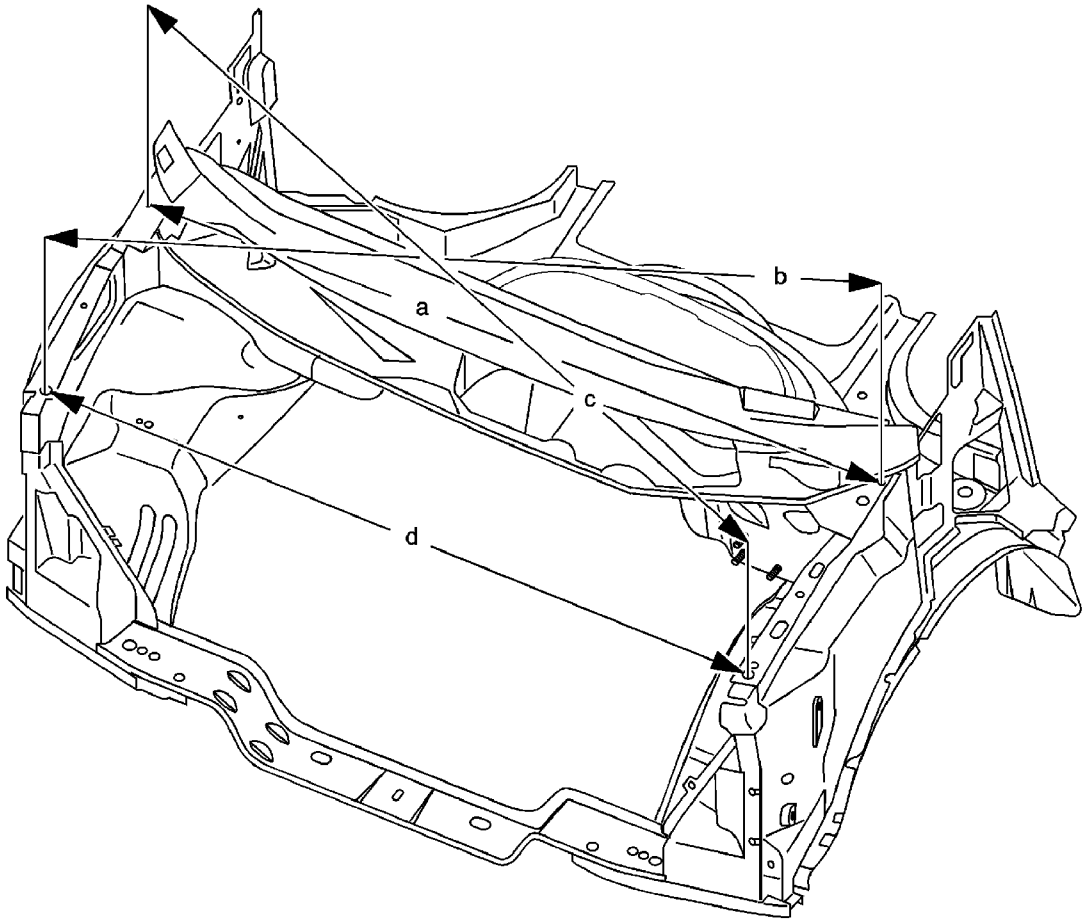


Point to Point - Body Rear End

Location	Length
a	1368
b	1637

c	1966
d	1966
All dimensions are measured from a zero line, a center line, and a common datum. All dimensions are symmetrical unless otherwise specified.	

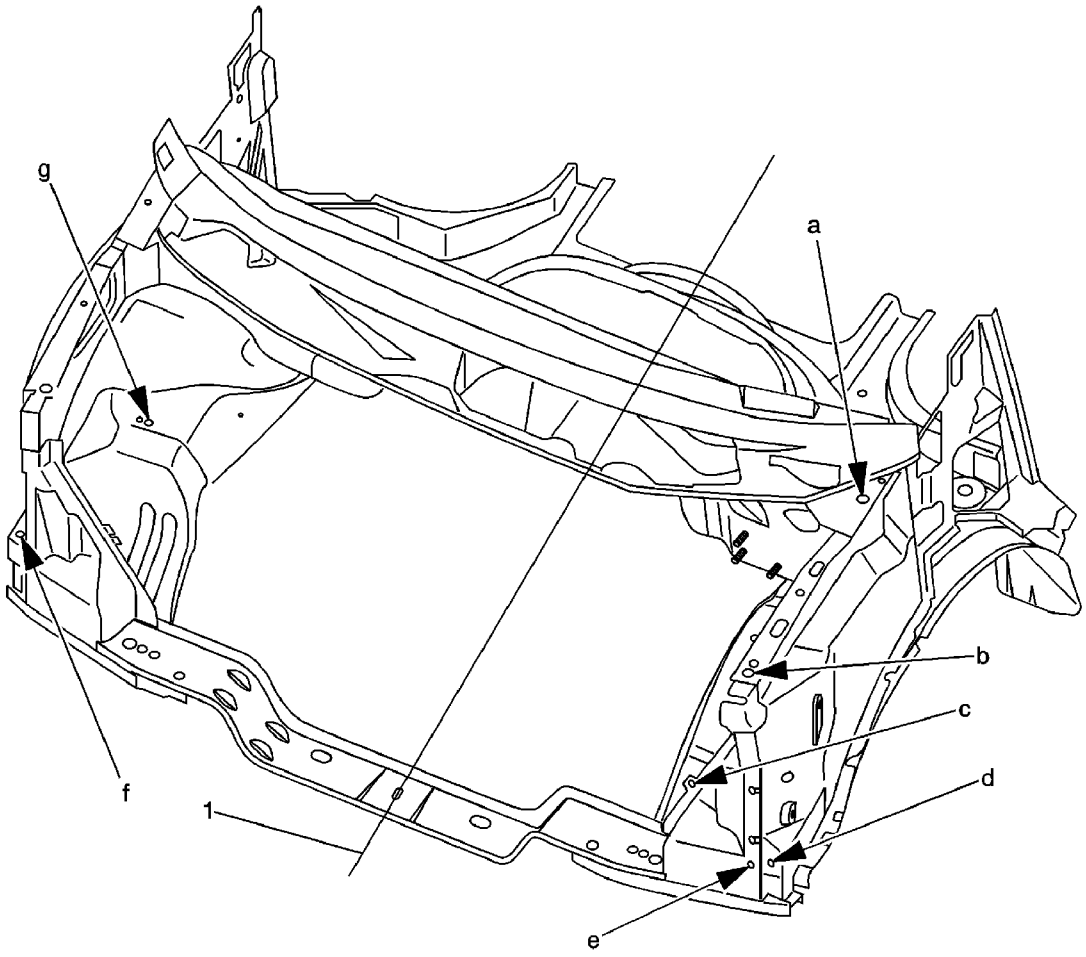
Point to Point - Engine Compartment



Point to Point - Engine Compartment

Location	Length
a	1646
b	1696
c	1696
d	1607
All dimensions are measured from a zero line, a center line, and a common datum. All dimensions are symmetrical unless otherwise specified.	

Dimensions - Engine Compartment

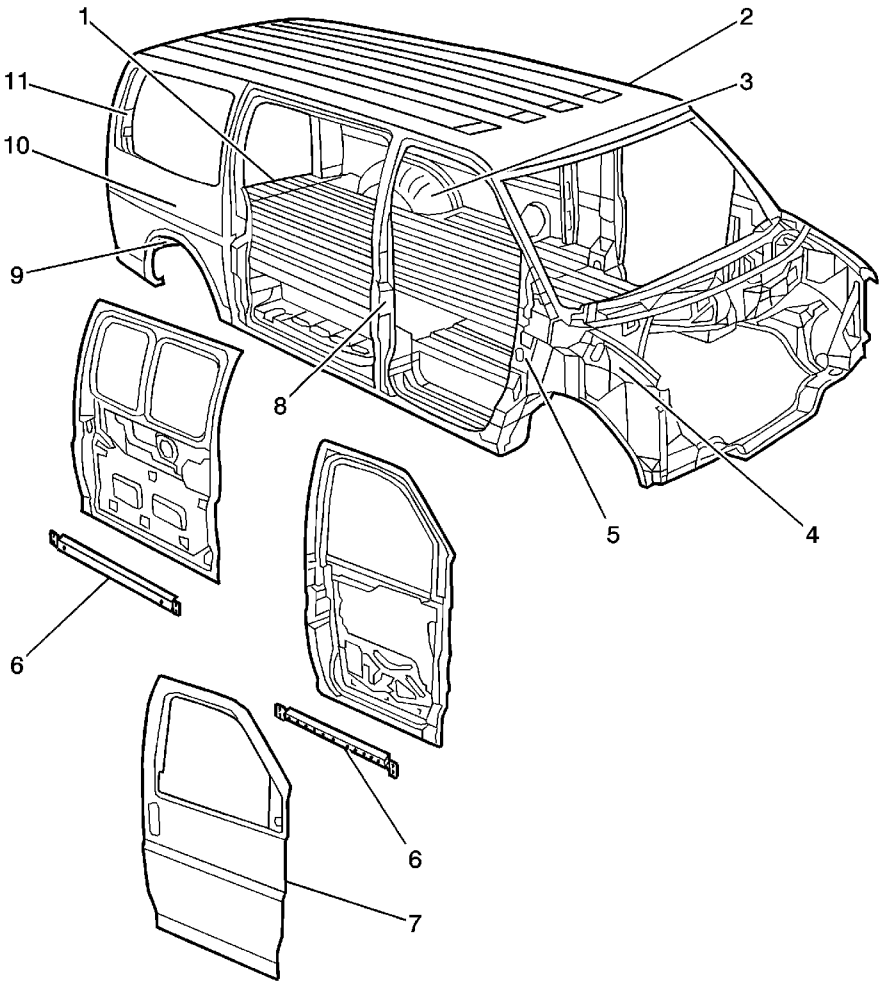


Dimensions - Engine Compartment

Location	Description	Length	Width	Height
1	Center Line	0	0	0
a	19 mm hole	912	828	1358
b	11 mm hole	434	791	1222
c	10 mm hole	487	652	874
d	11 mm hole	428	860	816
e	15 mm hole	415	826	778
f	11 mm hole	428	860	816
g	19 mm hole	737	729	970

All dimensions are measured from a zero line, a center line, and a common datum. All dimensions are symmetrical unless otherwise specified.

Structure Identification



Number	Description	Material	Procedure
1	Rear Floor	Mild Steel	Rear Floor Replacement
2	Roof Outer Panel	Mild Steel	Roof Outer Replacement
3	Rear Inner Wheelhouse	Mild Steel	Rear Inner Wheelhouse Replacement
4	Front Inner Fender Sectioning	Mild Steel	Front Inner Fender Sectioning
5	Front Hinge Pillar	Mild Steel	Front Hinge Pillar Sectioning
6	Inner Door Beam	Mild Steel	Not Serviced
7	Door Outer Panel	Mild Steel	Door Outer Panel Replacement
8	Outer Door Frame	Mild Steel	Outer Door Frame Sectioning
9	Rear Outer Wheelhouse	Mild Steel	Rear Outer Wheelhouse Replacement
10	Quarter Panel	Mild Steel	Quarter Panel Replacement

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11	Rear Pillar	Mild Steel	Rear Pillar Sectioning

Rear Inner Wheelhouse Replacement

Removal Procedure

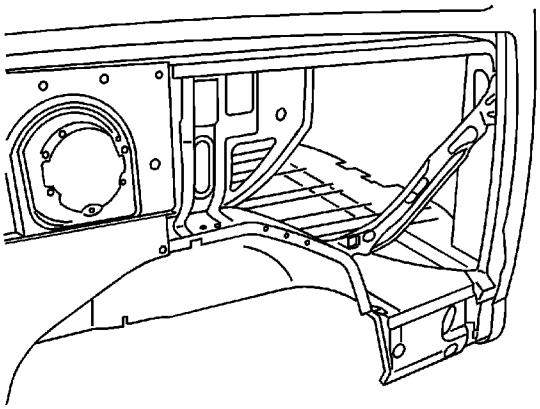
Note: Rear outer wheelhouse sectioning procedures have been developed to simplify repair when damage is limited to the outer wheelhouse. In the event the inner wheelhouse is to be replaced, install outer wheelhouse service panel at factory seams.

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components, including the quarter panel.

   Warning: Refer to Collision Sectioning Warning in the Preface section.

4. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Basecoat/Clearcoat Paint Systems.
5. Visually inspect and repair as much of the damage as possible.



Note: Do not damage any inner panels or reinforcements.

6. Locate, mark, and drill out all factory spot welds attaching the inner wheelhouse to the vehicle.
7. Remove the damaged inner wheelhouse.

Installation Procedure

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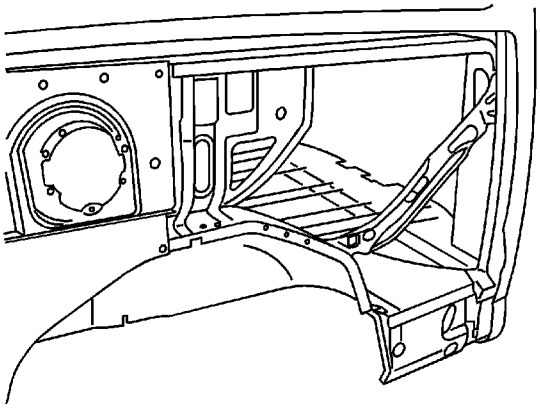
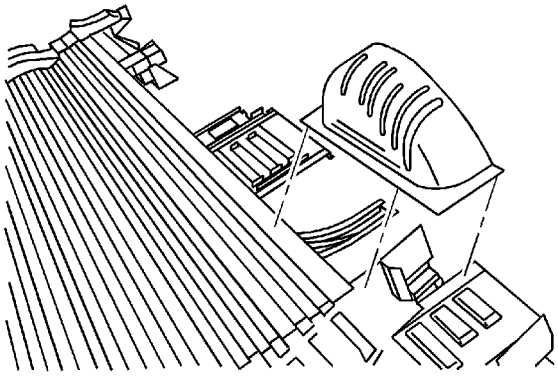
Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.

1. Drill 8 mm (5/16 in) holes for plug welding every 40 mm (1½ in) along the cut edge.



2. Prepare mating surfaces as necessary.
3. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.



4. Position the service part and inspect for proper fit.
5. Plug weld accordingly.
6. Clean and prepare all welded surfaces.
7. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
8. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
9. Install all related panels and components.

10. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
11. Enable the SIR system. Refer to SIR Disabling and Enabling.

Rear Outer Wheelhouse Replacement

Removal Procedure

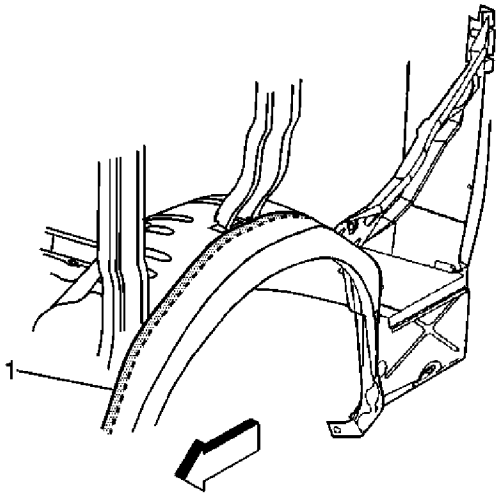
Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

Note: Rear outer wheelhouse sectioning procedures have been developed to simplify repair when damage is limited to the outer wheelhouse. In the event the inner wheelhouse is to be replaced, install outer wheelhouse service panel at factory seams.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components, including the quarter panel.

   Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

4. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
5. Visually inspect and repair as much of the damage as possible.



6. Apply a strip of 25 mm (1 in) masking tape along the flange of the outer wheelhouse (1).

   Note: Do not damage any inner panels or reinforcements.

7. Locate, mark, and drill out all factory spot welds attaching the front and rear lower section of the outer wheelhouse to the vehicle.

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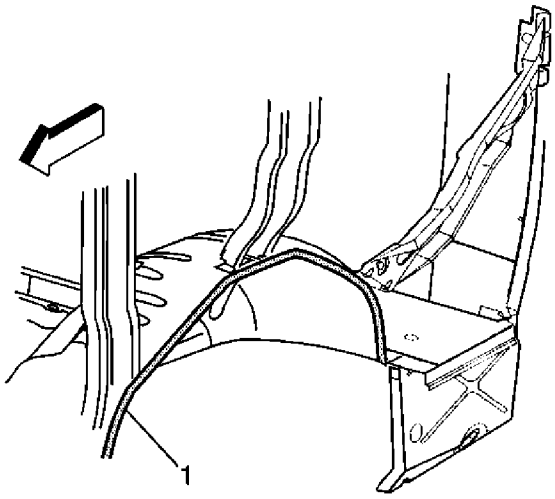
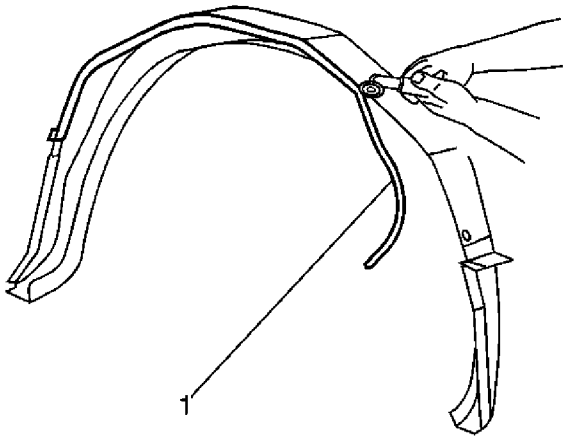


8. Cut along the outboard side of the masking tape to leave a 25 mm (1 in) tab (1) attached to the inner wheelhouse.
9. Remove the damaged outer wheelhouse.

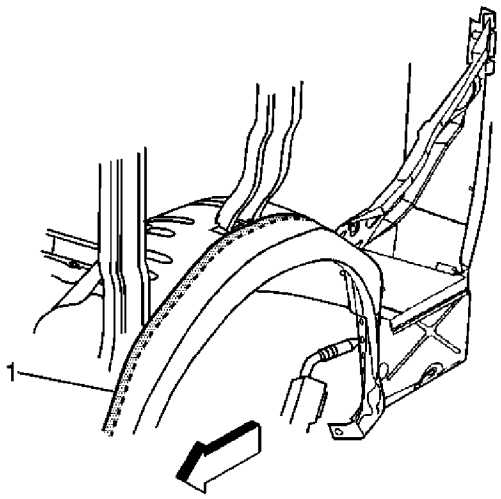
Installation Procedure



1. Cut the wheelhouse service part along the corner of the bend to remove the down-turned weld flange (1).

   Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.

2. Drill 8 mm (5/16 in) holes for plug welding every 40 mm (1½ in) along the cut edge.

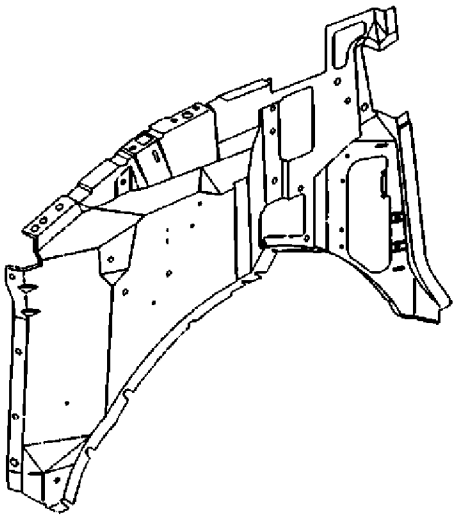


3. Prepare mating surfaces as necessary.
4. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
5. Position the service and inspect for proper fit.
6. Plug weld accordingly (1).
7. Clean and prepare all welded surfaces.
8. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
9. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
10. Install all related panels and components.
11. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
12. Enable the SIR system. Refer to SIR Disabling and Enabling.

Front Inner Fender Sectioning

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.



Note: The front inner fender may be serviced as a complete component. However, replacement at the factory seams requires the removal of the outer door frame panel. If the damage is limited to the front portion of the inner fender, sectioning is recommended.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components.
4. Visually inspect and repair as much of the damage as possible to factory specification.

Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.

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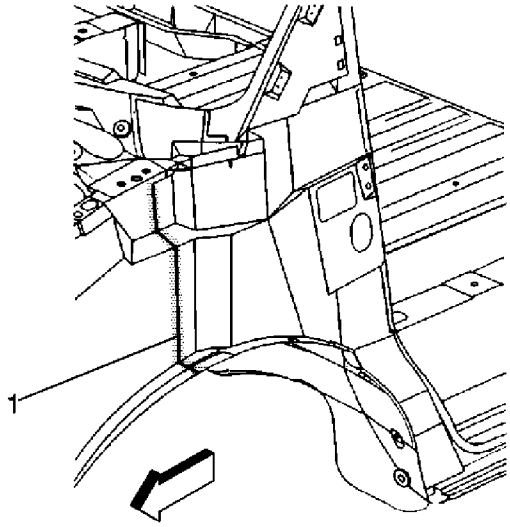
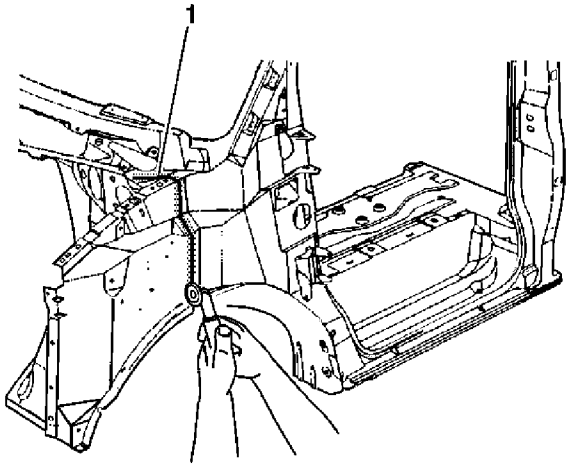


6. The sectioning procedure is to be performed at the door frame opening forward attachment seam (1).



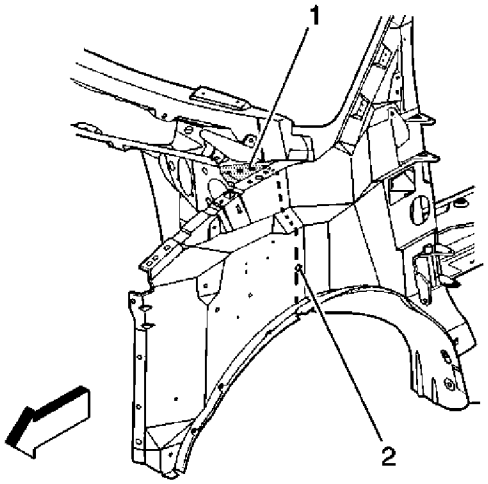
7. Cut the original inner fender at the front edge of the seam (1).

   Note: Do not damage any inner panels or reinforcements.

8. Locate, mark and drill out factory spot welds attaching the inner fender to the wheelhouse and radiator support brace. Note the number and location of the welds for installation of the service panel.
9. Remove the damaged section of the front inner fender.

Installation Procedure

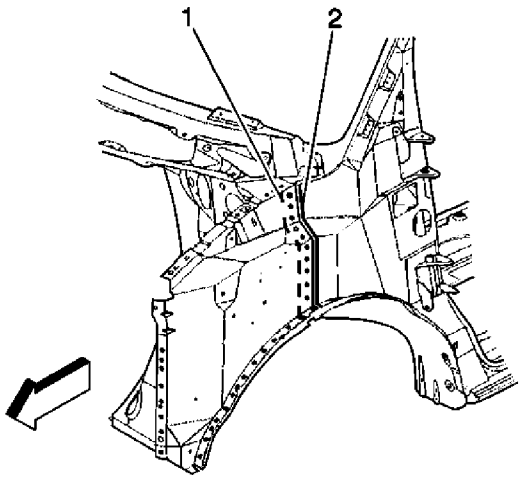
1. The service inner fender must be cut to overlap the door frame opening 25 mm (1 in).



2. Temporarily position the service part over the door frame weld flange (2).
3. At the hood hinge mounting area (1), the service part must be installed under the upper cowl panel and over the door frame opening weld flange (2).

Note: The sectioned service part must be modified slightly to fit flush at the sectioning seam, and at the upper cowl panel and door frame opening weld flange.

4. Inspect for proper fit and alignment. Make sure there is a flush fit at the door frame weld flange.



Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.

5. Remove the service part and drill 8 mm (5/16 in) holes for plug welding as noted from the original panel and along the sectioning (1) joint 13 mm (½ in) from the cut edge.
6. Install and position the modified service part according to body dimensions using three-dimensional measuring equipment.
7. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
8. Plug weld accordingly.
9. Use frequent measurements to ensure accurate fit and alignment to adjacent panels.
10. Clean and prepare all welded surfaces.
11. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
12. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
13. Install all related panels and components.
14. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
15. Enable the SIR system. Refer to SIR Disabling and Enabling.

Front Hinge Pillar Sectioning

Removal Procedure

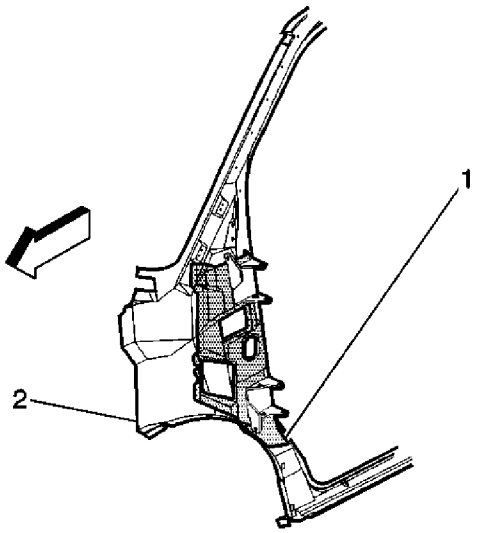
Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

Note: The hinge pillar inner reinforcement (1) can be used as backing plate when sectioning the outer door frame (2) at the front hinge pillar.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components, including the quarter panel.

Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

4. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.



5. Remove all related panels and components.
6. Visually inspect and repair as much of the damage as possible to factory specifications.
7. Remove sealers and anti-corrosion materials as necessary.
8. Align template provided with the service part.
9. Mark and cut the hinge pillar for sectioning.

Note: Do not damage any inner panels or reinforcements.

10. Perform all other sectioning procedures as necessary.
11. Locate, mark, and drill out all factory welds attaching the lower front door hinge pillar. Note the number and location of welds for installation of the service part.

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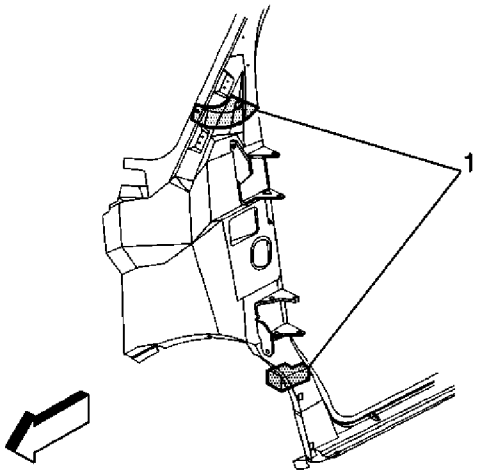
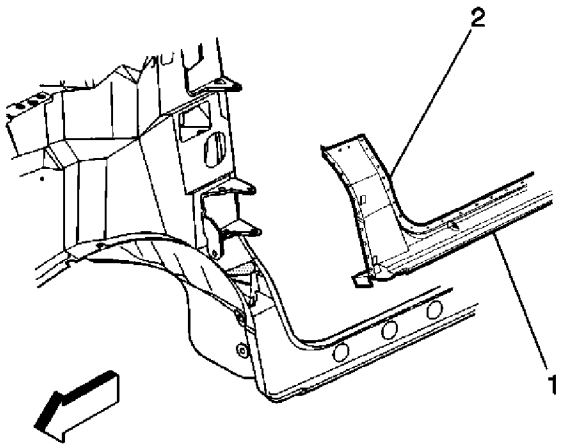


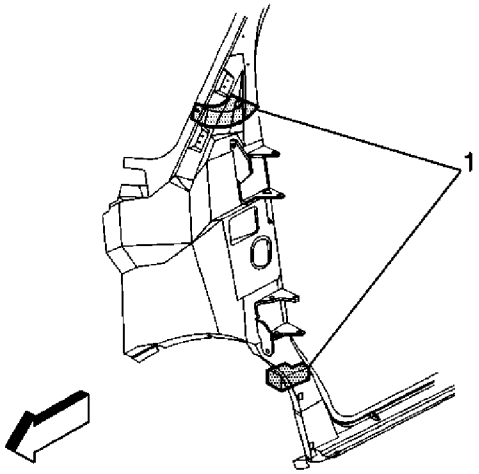
12. Remove damaged front lower hinge pillar.
13. Remove foam (1) from the lower portion of the hinge pillar.

Installation Procedures



1. Rough cut the service part to match the damaged section of the door frame opening and discard the unused portion of the service part.
2. The modified service panel (1) should be trimmed to allow a gap of one and one-half times the metal thickness at the joint between the service part and the factory part.
3. Drill 8 mm (5/16 in) holes for plug welding in the service part 13 mm (½ in) from the sectioning joint edge.
4. Drill 8 mm (5/16 in) holes for plug (2) welding in the service panel (1) as necessary in the

locations noted from the original panel.
5. Prepare mating surfaces as necessary.
6. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
7. Align the service part to the vehicle.
8. Use three-dimensional measuring equipment to inspect the fit. Refer to Dimensions - Body.
9. Plug weld accordingly.
10. Complete the sectioning by welding the joint gap closed with 25 mm (1 in) welds along the seam with 25 mm (1 in) gaps alternately.
11. Go back and complete the stitch weld. This will create a solid joint with minimal heat distortion.

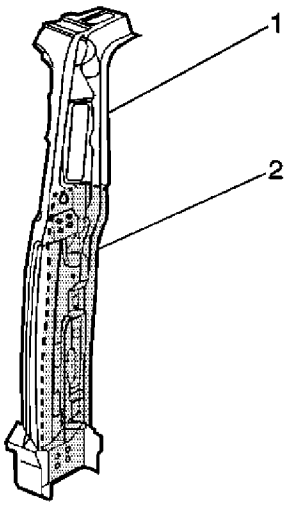


12. Install closed cell two-part expandable foam in the service door frame opening hinge pillar as necessary to replace the original foam air baffle (1).
13. Clean and prepare welded surfaces.
14. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
15. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
16. Install all related panels and components.
17. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
18. Enable the SIR system. Refer to SIR Disabling and Enabling.

Rear Pillar Sectioning

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.



Note: The rear door hinge pillar service part is serviced as an assembly, which consists of the door hinge pillar outer panel (1) and the inner anchor plate reinforcement (2). The reinforcement includes weld nuts for attaching the rear door bolt-on hinges.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components.
4. Visually inspect and repair as much of the damage as possible to factory specification.

Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.

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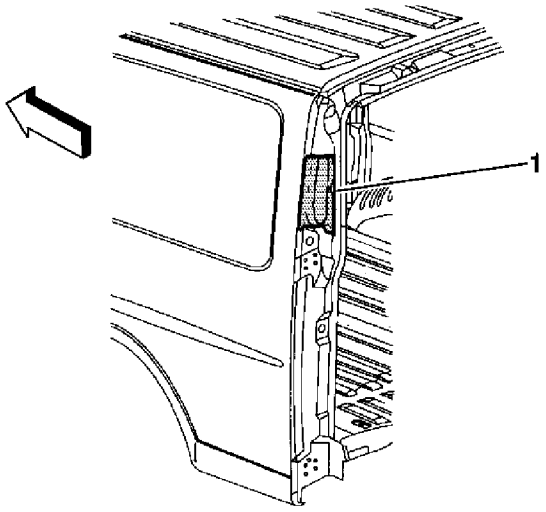
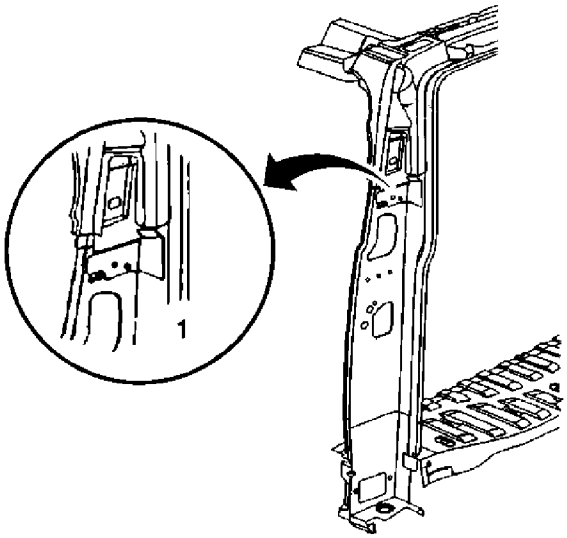


6. Section the rear door hinge pillar in the area of the pressure relief valve opening (1).
7. Measure within the shaded area (1) on the rear pillar.

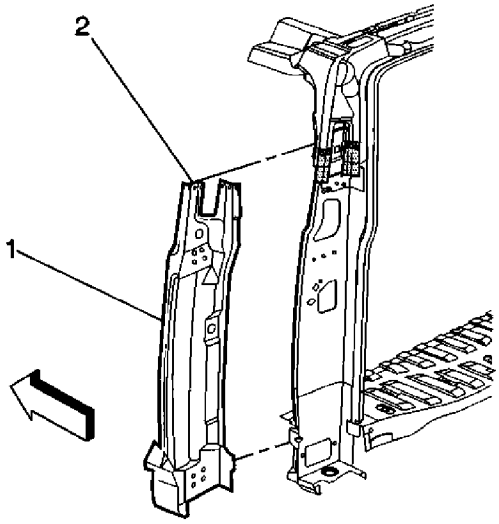


8. Mark and cut the original panel (1). Use care not to damage inner panels.

   Note: Do not damage any inner panels or reinforcements.

9. Locate, mark, and drill out all factory spot welds around the perimeter of the rear door hinge pillar below the sectioning joint.
10. Remove the damaged rear hinge pillar.

Installation Procedure



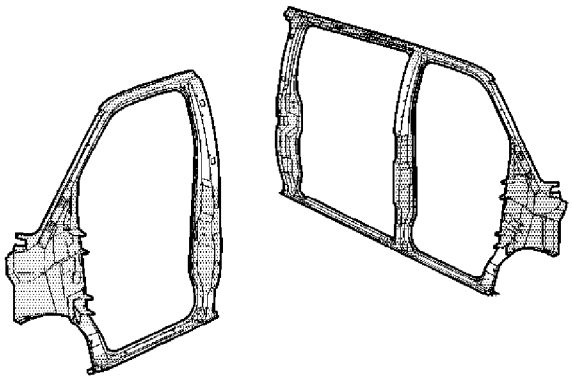
1. Cut a 100 mm (4 in) backing plate from the unused portion of the service part (1).
2. Trim the backing plate as necessary to fit behind the sectioning joint (1).
3. Drill 8 mm (5/16 in) plug weld holes in the original part 25 mm (1 in) from the cut edge (2).
4. Fit the backing plate halfway into the sectioning joint (1).
5. Apply GM approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
6. Clamp and plug weld to the vehicle.
7. Fit and align service hinge pillar (3) with adjacent body panels. The sectioning joint should be trimmed to allow a gap of one and one-half times the metal thickness at the joint between the service part and the original part. Take care to ensure proper alignment of service panels.

   Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.

8. Remove the service part and drill 8 mm (5/16 in) holes for plug welding as noted from the original panel and along the sectioning (1) joint 13 mm (½ in) from the cut edge.
9. Install and position the modified service part according to body dimensions using three-dimensional measuring equipment.
10. Plug weld accordingly.
11. Use frequent measurements to ensure accurate fit and alignment to adjacent panels.
12. Clean and prepare all welded surfaces.
13. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
14. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
15. Install all related panels and components.
16. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
17. Enable the SIR system. Refer to SIR Disabling and Enabling.

Outer Door Frame Sectioning

General Sectioning Procedure



Note: Sectioning should take place only in recommended areas. Failure to do so may compromise the structural integrity of the vehicle.

Note: This procedure does not apply to the front hinge pillar. See front hinge pillar sectioning procedures.

- When sectioning the door frame opening in areas where there is no inner reinforcement, a 100 mm (4 in) backing plate must be used behind the joint to ensure a solid and secure weld
- Backing plates can be cut from the unused portion of the door frame opening service part.
- The specific areas to be sectioned are determined by the extent of damage to the vehicle.

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.

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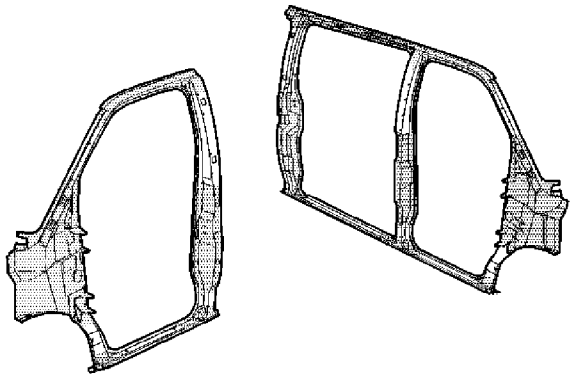


3. Remove all related panels and components.
4. Visually inspect and repair as much of the damage as possible to factory specification.

Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

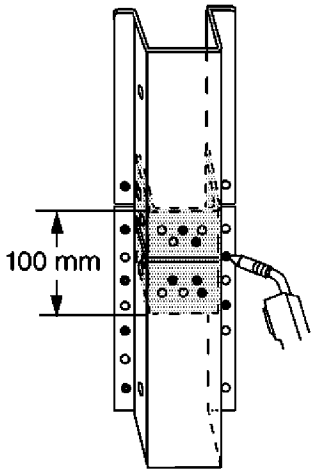
5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
6. Measure and compare the service part with the damaged part to choose the areas where sectioning can best be performed.
7. Cut the door frame opening where sectioning is to be performed. Do not damage the inner panels or reinforcements.

Note: Do not damage any inner panels or reinforcements.

8. Locate, mark, and drill out all factory welds. Note the number and location of welds for installation of the service part.
9. Remove the damaged area of the door frame opening.

Installation Procedures

1. On the service part, mark a horizontal line to leave a gap of one and one-half times the thickness of the metal at the sectioning joint.
2. Cut the outer door frame opening service part along this line.
3. Cut a 100 mm (4 in) piece from the unused portion of the service part for a backing plate.
4. Remove the flange on each side of the backing plate so that it will fit behind the sectioning joint.
5. Drill 8 mm (5/16 in) holes for plug welding in the service part in locations noted from the original panel.
6. Drill holes for plug welding along the sectioning cuts on both the service part and the original panel.
7. Locate these holes approximately 25 m (1 in) from the edge of the sectioning cuts.



8. Prepare mating surfaces and position the backing plates with 50 mm (2 in) of the backing plate exposed, and plug weld.
9. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
10. Position the service part to overlap the exposed 50 mm (2 in) of the backing plate.
11. Use three-dimensional measuring equipment to inspect the fit. Refer to Dimensions - Body.
12. Plug weld accordingly.
13. Stitch weld along the sectioning joint.
14. Make 25 mm (1 in) welds along the seam with 25 mm (1 in) gaps between.
15. Go back and complete the stitch weld. This will create a solid joint with minimal heat distortion.
16. Use frequent measurements to ensure accurate fit and alignment to adjacent panels.
17. Clean and prepare welded surfaces.
18. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
19. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
20. Install all related panels and components.
21. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
22. Enable the SIR system. Refer to SIR Disabling and Enabling.

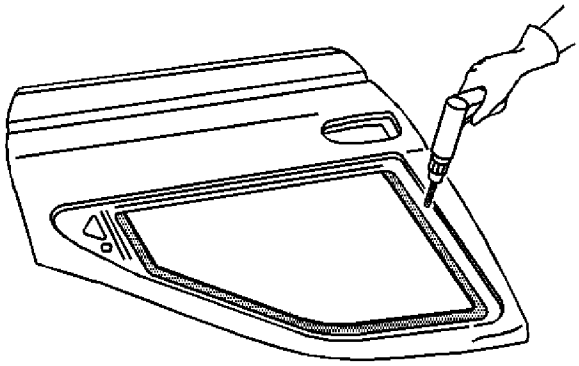
Door Outer Panel Replacement

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

Note: Before beginning the repair, refer to Metal Panel Bonding for proper adhesive applicator preparations and general information.

1. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Disable the SIR system. Refer to SIR Disabling and Enabling.
3. Remove the door from the vehicle. Refer Front Side Door Replacement.
4. Remove the outer door handle. Refer to Door Outside Handle Replacement.
5. Remove the outside rear view mirror. Refer to Power Mirror Replacement.



6. Locate and drill out all factory welds. Note the number and location of welds at the upper window frame and mirror locations.

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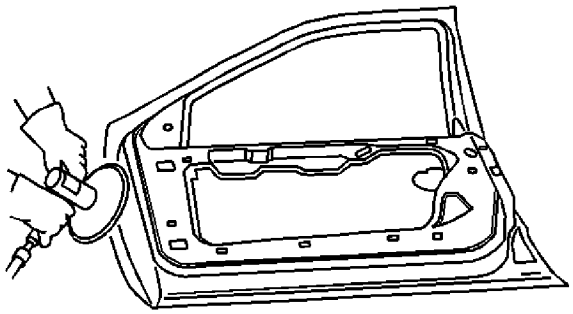
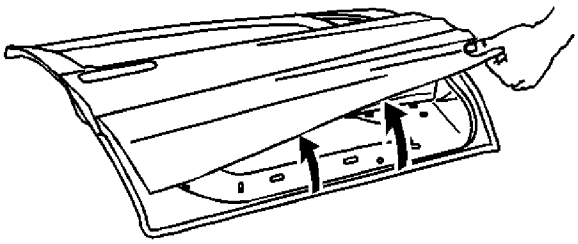
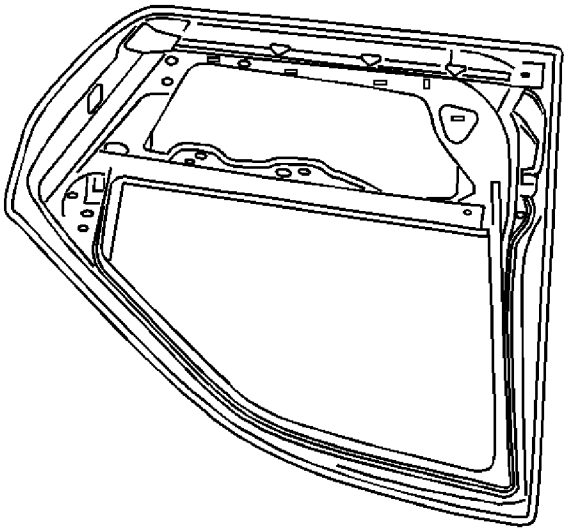


7. Grind the edges of the door outer panel to separate the outer door panel from the door shell.

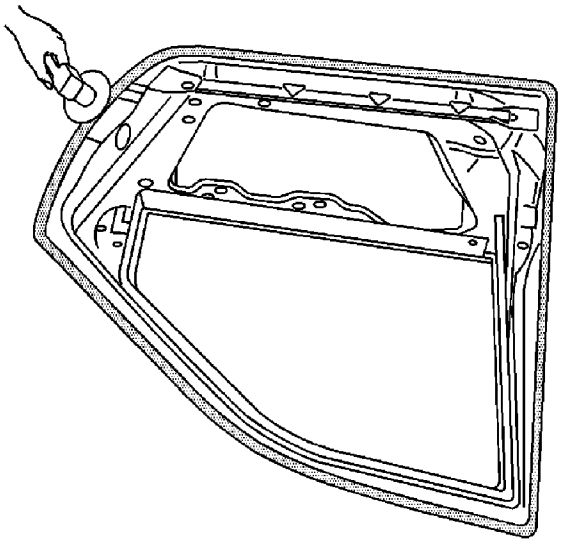


8. Remove the outer door panel.
9. Remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.

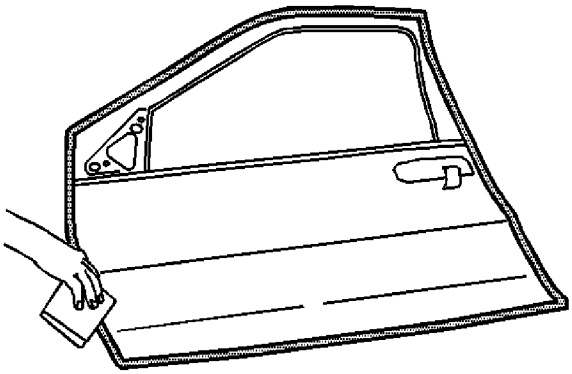


10. Straighten the edges of the door shell.

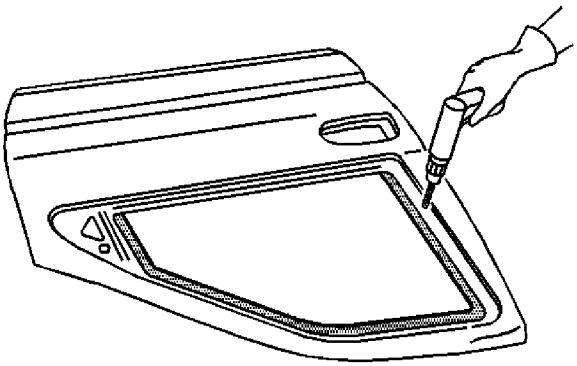
Installation Procedure



1. Using a grinding disk grind the surface of the door shell mating flanges to bare steel.



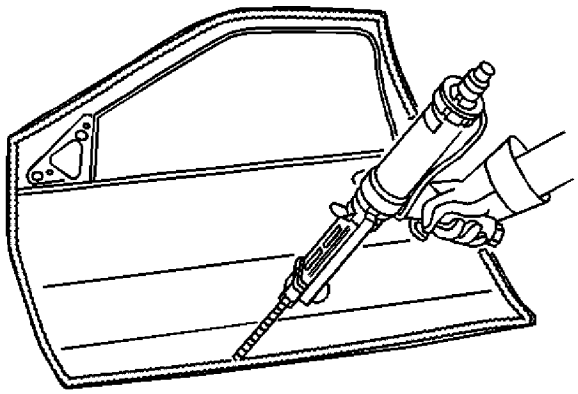
2. Scuff the opposing mating surfaces of the door outer panel to remove the gloss of the E-Coat.



3. Drill 8 mm (5/16 in) plug weld holes as necessary in locations noted from the original panel.

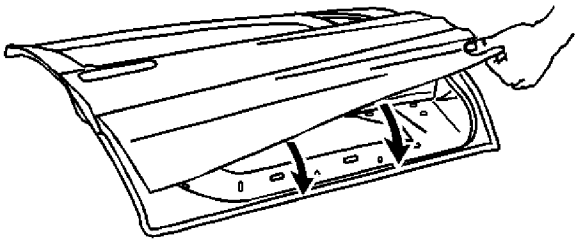
   Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.

4. Clean the mating surfaces.



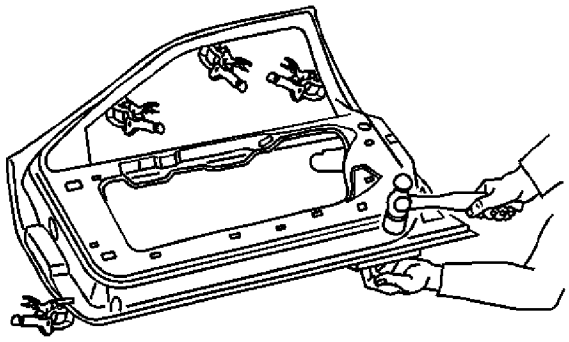
Note: The adhesive has a 40 to 50 minute working time. Do not allow the door to totally cure off the vehicle, as proper alignment of the door outer panel to the door shell will be difficult.

5. Apply a 3-6 mm (1/8 to 1/4 in) bead of metal panel bonding adhesive GM P/N 12378566/7 (Canadian P/N 88901674/5) or equivalent, to both of the mating surfaces.
6. Using a small acid brush, spread a coat of adhesive to cover all the mating surfaces to ensure corrosion protection.



Note: DO NOT pull the panels apart after joined together. Slide the panels against each other to realign the panels.

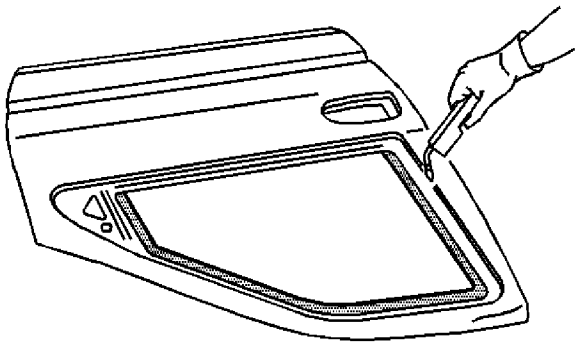
7. Install the door outer panel to the door shell.
8. Clamp the door outer panel into position as required.



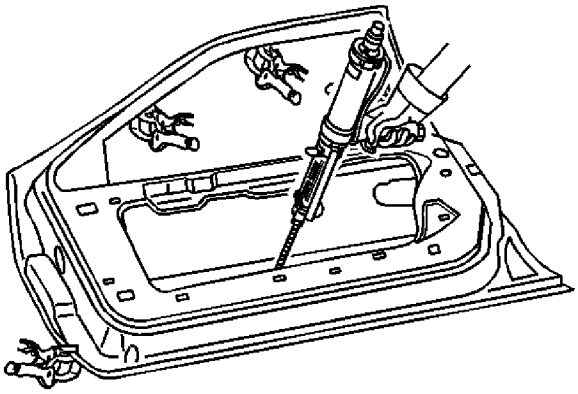
9. Using a hammer re-hem the hem flanges around the door shell.

   Continue to hammer in stages along the hem flanges.

10. Using lacquer thinner remove the excess adhesive from the door panel area.
11. Install the door to the vehicle. Inspect the door outer panel for proper alignment, adjust the alignment as required. Refer Front Side Door Replacement.



12. Metal-Inert Gas (MIG) weld the door outer panel to the door frame in the locations noted at the upper door frame.
13. Clean and prepare all welded surfaces.



14. Apply Fusor super flexible anti-flutter foam fast set, Fusor P/N 121/124, or equivalent in 4 to 5 evenly spaced locations between the door outer panel and the inner safety beam.
15. Apply sealers and anti-corrosion materials to the repair area as necessary. Refer to Anti-Corrosion Treatment and Repair.
16. Paint the repaired area. Refer to Basecoat/Clearcoat Paint Systems.
17. Install the outer door handle. Refer to Door Outside Handle Replacement.
18. Install the outside rear view mirror. Refer to Power Mirror Replacement.
19. Enable the SIR system. Refer to SIR Disabling and Enabling.
20. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.

Roof Panel Replacement

Description

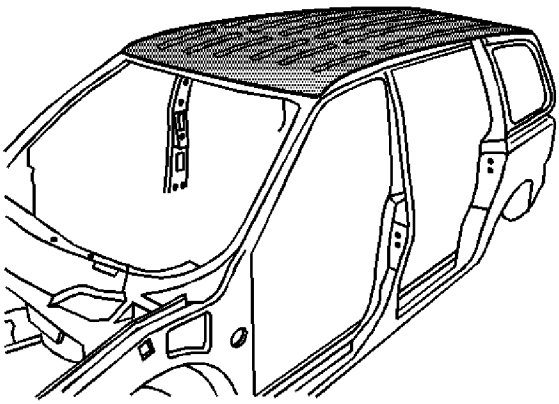
This repair procedure gives you the option of using an installation procedure for either metal-inert gas (MIG) welding or adhesive bonding. The choice of installation depends on the type of application requirements. The adhesive bonding procedure may also require MIG welding in some areas of the repair.

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

Note: Before beginning the repair, refer to Metal Panel Bonding for proper adhesive preparations and general information.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.



3. Remove all related panels and components.
4. Repair as much of the damage as possible to factory specifications. Refer to Dimensions - Body.

   Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
6. Remove the windshield. Refer to Windshield Replacement.

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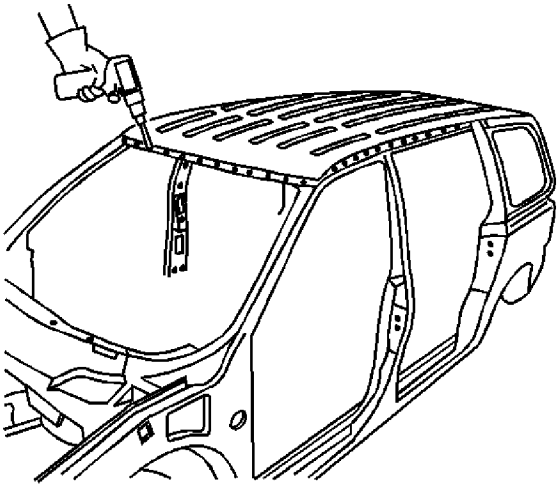
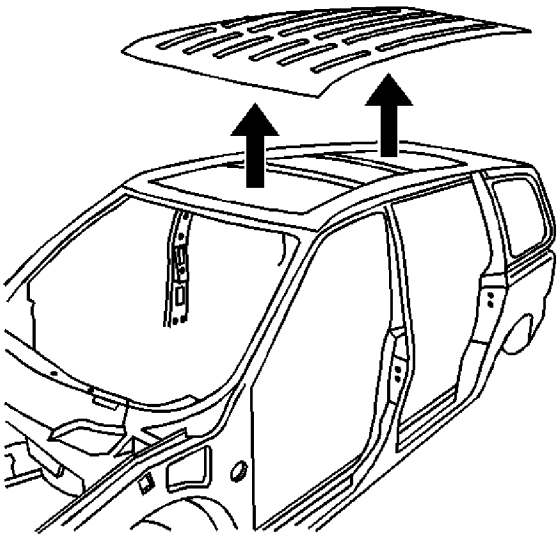
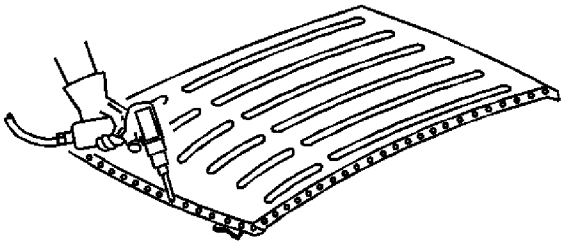


7. Locate and drill out all factory welds. Note the number and location of welds for installation of the roof panel.



8. With an assistant remove the roof panel.

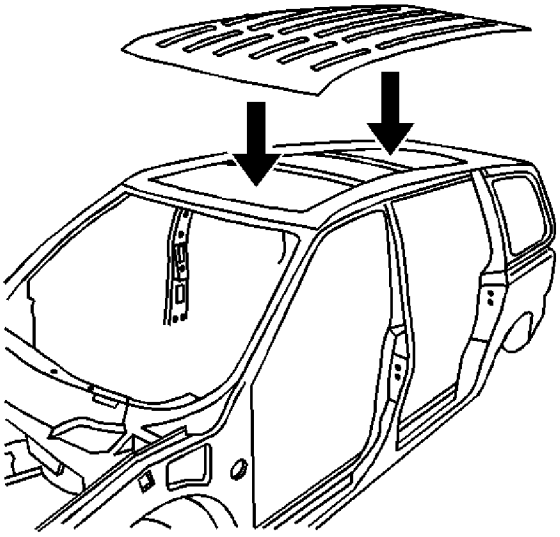
Installation Procedure (Metal-Inert Gas (MIG) Welding)



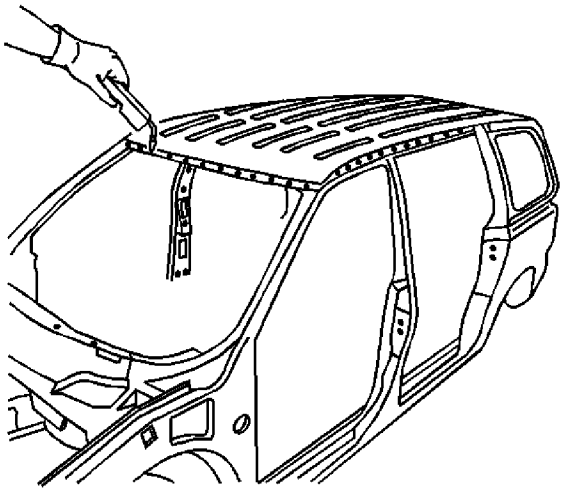
1. If you are Metal-Inert Gas (MIG) welding the roof panel, perform the following steps:
2. Drill 8 mm (5/16 in) plug weld holes as necessary in locations noted from the original panel.

Note: If the location of the original plug weld holes can not be determined, or if structural weld-thru adhesive is present, space the plug weld holes every 40 mm (1 ½ in) apart.

3. Prepare all mating surfaces as necessary.
4. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.

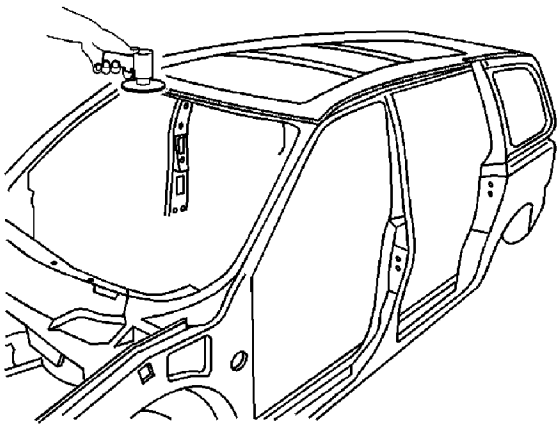


5. Position the roof panel to the body with an assistant.

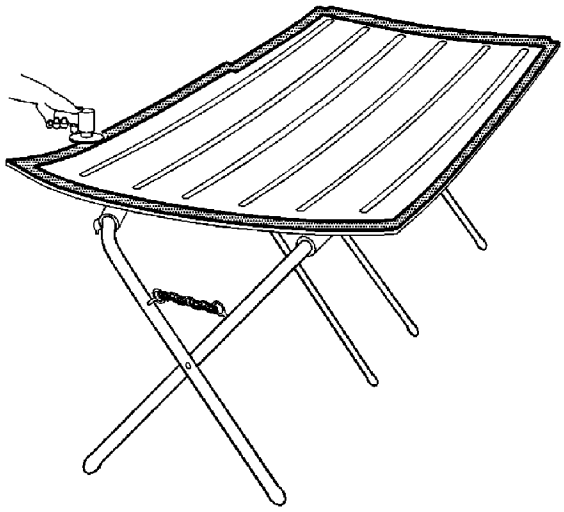


6. Plug weld accordingly.
7. Clean and prepare all welded surfaces.
8. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
9. Paint the repair area. Refer to Basecoat/Clearcoat Paint Systems.
10. Install the windshield. Refer to Windshield Replacement.
11. Install all related panels and components.
12. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
13. Enable the SIR system. Refer to SIR Disabling and Enabling.

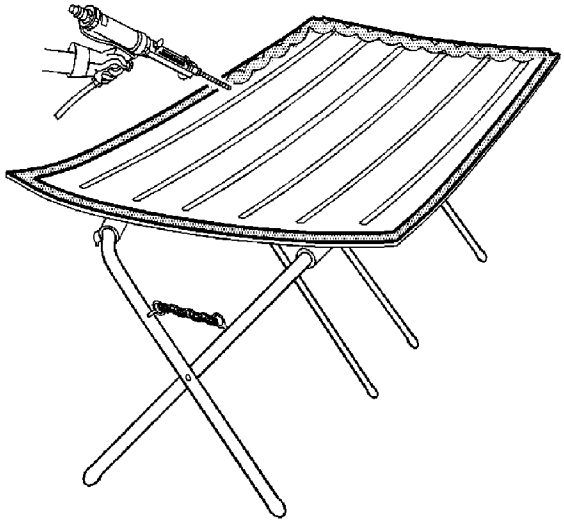
Installation Procedure (Adhesive Bonding)



1. Grind the surface of the body mating flanges to bare steel.



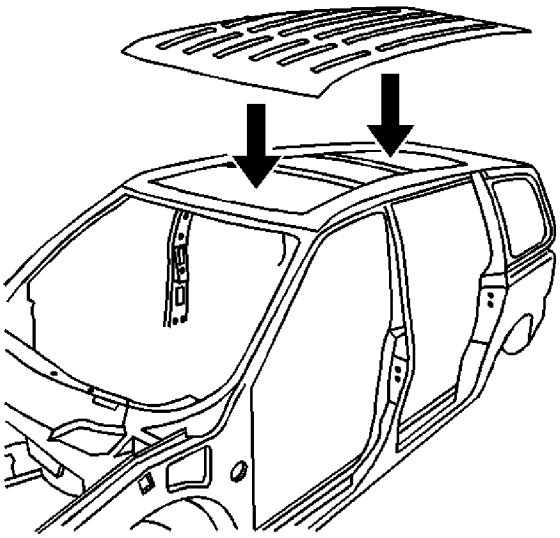
2. Grind the roof panel mating flanges to remove the E-coating. Take care not to damage the corners or thin the metal during the grinding operation.
3. Clean the mating surfaces.



Note: The adhesive has a 40 to 50 minute working time. Do not allow the adhesive to totally cure off the vehicle, as proper alignment of the roof panel to the body will be difficult.

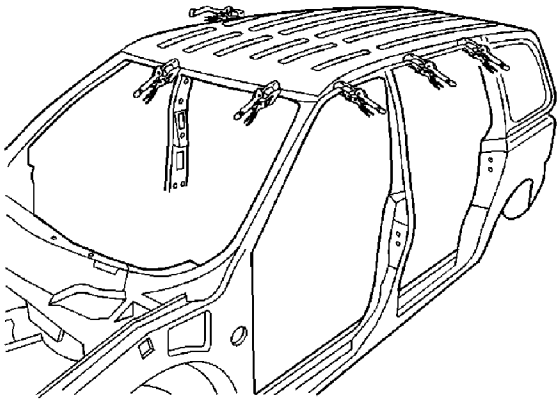
4. Apply a 3-6 mm (1/8 to 1/4 in) bead of metal panel bonding adhesive GM P/N 12378566/7 (Canadian P/N 88901674/5) or equivalent, to both of the mating surfaces.

5. Using a small acid brush, spread a coat of adhesive to cover all the bare metal surfaces to ensure corrosion protection.



Note: DO NOT pull the panels apart after joined together. Slide the panels against each other to realign the panels.

6. Install the roof panel to the body with two or more assistants.



7. Clamp the roof panel into position as required.
8. Using lacquer thinner remove the excess adhesive from the roof panel area.
9. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
10. Paint the repair area. Refer to Basecoat/Clearcoat Paint Systems.
11. Install the windshield. Refer to Windshield Replacement.
12. Install all related panels and components.
13. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
14. Enable the SIR system. Refer to SIR Disabling and Enabling.

Quarter Panel Replacement

Removal Procedure

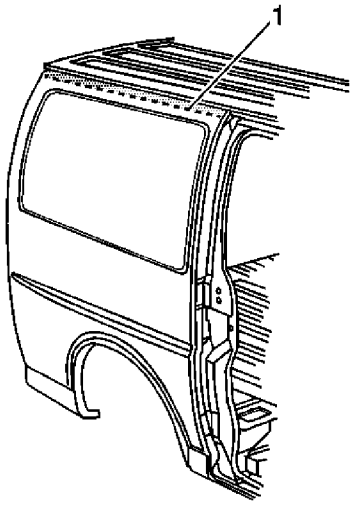
The quarter panel service part is supplied as a complete panel and should be replaced as a complete panel only in the event the roof panel and upper side rail are to be replace. Sectioning procedures have been developed to allow the replacement of the quarter panel without the removal of the roof panel.

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove all related panels and components.
4. Visually inspect and repair as much of the damage as possible to factory specification. Refer to Dimensions - Body.

Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.



6. Apply 50 mm (2 in) wide tape along the upper edge of the quarter panel (1) at the roof line.

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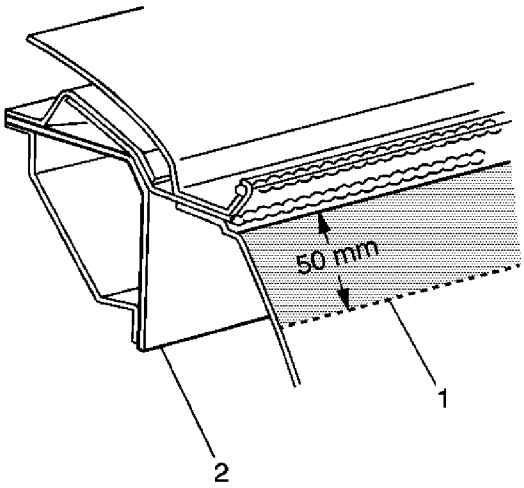
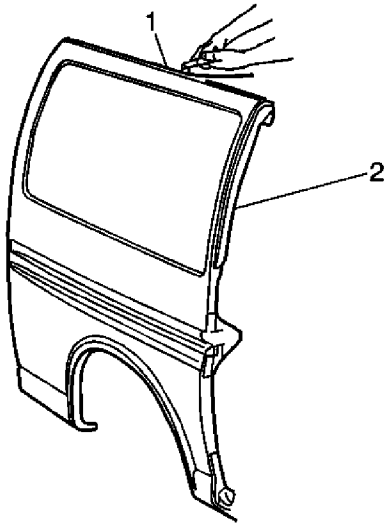


7. Cut the quarter panel at the lower edge of the tape (1) to leave a 50 mm (2 in) wide flange of the original quarter panel attached to the side reinforcement rail (2).

   Note: Do not damage any inner panels or reinforcements.

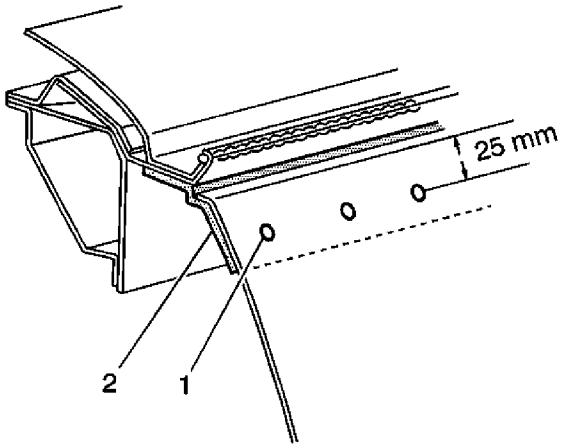
8. Locate, mark, and drill out all factory welds around the perimeter of the quarter panel as necessary to remove damaged panel. Note the number and location of welds for installation of the service panel.
9. Remove damaged quarter panel.

Installation Procedure



1. Trim and discard the upper mounting flange (1) on the service panel (2) so that it can fit over the 50 mm (2 in) tab left from the original panel.

Note: If the location of the original plug weld holes can not be determined, space the plug weld holes 40 mm (1½ in) apart.



2. Remove the service part and drill 8 mm (5/16 in) holes for plug welding as noted from the original panel and along the sectioning (1) joint 13 mm (½ in) from the cut edge.
3. Install and position the modified service part according to body dimensions using three-dimensional measuring equipment.
4. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
5. Plug weld accordingly.
6. Use frequent measurements to ensure accurate fit and alignment to adjacent panels.
7. Apply 3M Ultra Pro Seam Sealer P/N 08361 or equivalent, to the sectioning joint.
8. Seal quarter panel at the floor seam.

Note: The quarter panel must be sealed at the floor to prevent exhaust gas intrusion into the vehicle.

9. Clean and prepare all welded surfaces.
10. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
11. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
12. Install all related panels and components.
13. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
14. Enable the SIR system. Refer to SIR Disabling and Enabling.

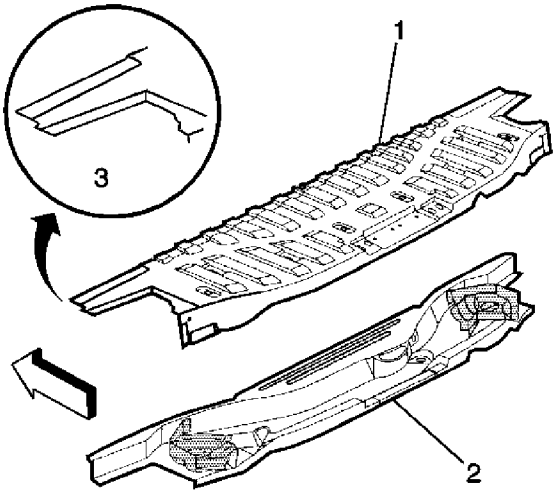
Rear Floor Replacement

Removal Procedure

Warning: Refer to Approved Equipment for Collision Repair Warning in the Preface section.

Note: The floor rear extension panel is serviced as a single component (1). The reinforcement structure for the floor panel is a separate part (2) and can only be serviced separately. In most, cases, this reinforcement will need to be replaced in the event the floor panel extension is to be replaced.

1. Disable the SIR system. Refer to SIR Disabling and Enabling.
2. Disconnect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.



3. Remove all related panels and components, including jack stowaway mount in right rear corner of vehicle.
4. Visually inspect and repair as much of the damage as possible to factory specifications. Refer to Dimensions - Body.

   Warning: Refer to Foam Sound Deadeners Warning in the Preface section.

5. Note the location and remove the sealers and anti-corrosion materials from the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.

   Note: The rear corners of the original panel (3) must be cut to remove the panel from the vehicle.

6. Locate, mark, and drill out factory welds necessary to remove the extension panel.

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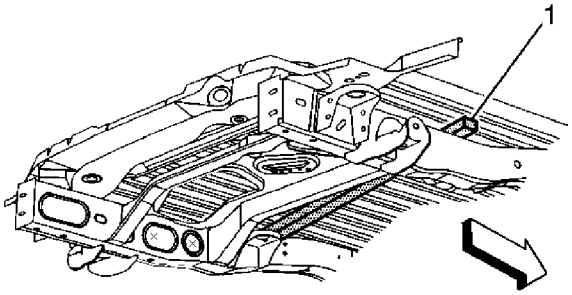
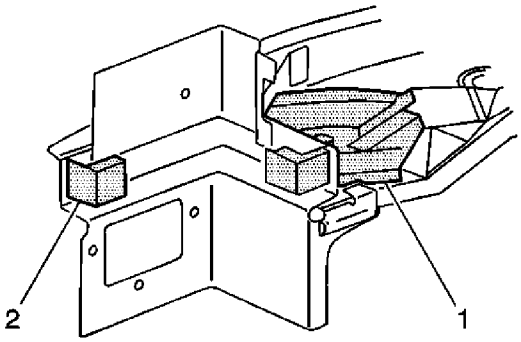


Note: If a rear door hinge pillar inner reinforcement is to be replaced it is not necessary to perform step 6 of the Installation Procedure.

7. Loosen all body to frame mount bolts, remove all but 2 in the radiator core support and the 2 front body bolts.
8. Lift body off the frame, place 4x4 wood blocks (1) to support the body.

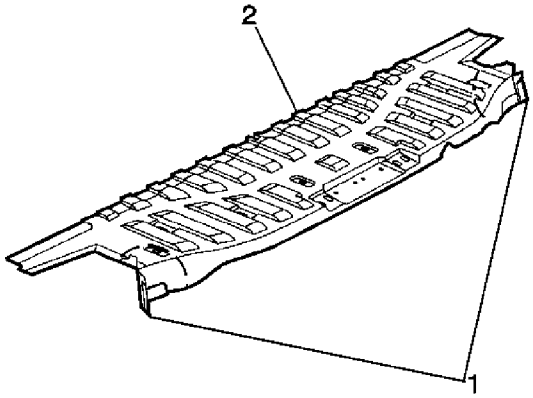


Note: Do not damage any inner panels or reinforcements.

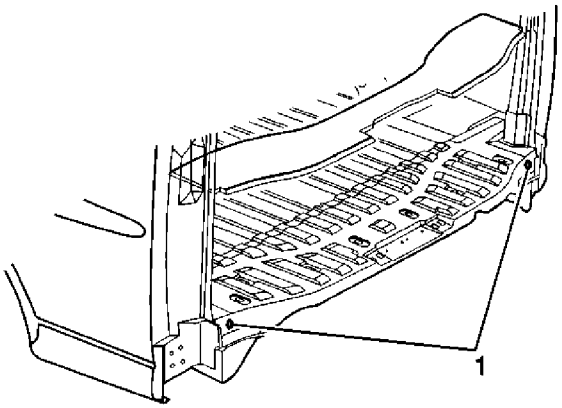
9. Locate, mark, and drill out welds to remove the body mount anchor plates (1) and the floor panel reinforcement.
10. Remove the foam air baffles (2) from the right and left floor extensions, these need to be

reinstalled during assembly.

Installation Procedure



1. Drill holes for plug welding as necessary to install the service panels.
2. Clean and prepare all mating surfaces as necessary.
3. Apply GM-approved weld-thru coating or equivalent to all mating surfaces. Refer to Anti-Corrosion Treatment and Repair.
4. Locate reinforcement and body anchor panels. Use 3-dimensional measuring equipment.
5. Plug weld as necessary.
6. Cut and bend each side of the floor panel extension (1).
7. Place the front edge of the extension (2) panel in position.
8. Bring the rear of the service part into place and straighten the bent tabs.
9. Inspect for proper fit and alignment.
10. Weld accordingly, including cuts made for installation.
11. Lower body to frame and reattach body to frame mounts, torque bolts to 85 N·m (63 lb ft).
12. Clean and prepare welded surfaces.
13. Prime with 2-part catalyzed primer. Refer to Basecoat/Clearcoat Paint Systems.



14. Drill appropriate size holes to install 2-part expanding foam in the floor extension (1).
15. Seal holes with a suitable plug (1).
16. Clean and prepare all welded surfaces.
17. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to Anti-Corrosion Treatment and Repair.
18. Paint and repair the area. Refer to Basecoat/Clearcoat Paint Systems.
19. Install all related panels and components.
20. Connect the negative battery cable. Refer to Battery Negative Cable Disconnection and Connection.
21. Enable the SIR system. Refer to SIR Disabling and Enabling.