

General Motors. The Collision Repair Industry Leader.

This booklet provides you with detailed repair information.

It is important to note that serviceability has been an integral part of the development of these vehicles. General Motors has made every effort to take the technician's concerns into consideration and to make sure we are providing quality information for quality technical repairs.

General Motors recognizes the important role that each of you plays in keeping customers happy and satisfied with our vehicles. That is why we have dedicated all our service resources to giving you the knowledge, information and tools you need to accurately and efficiently service these vehicles. We feel confident that working together with you, we have what it takes to achieve total customer satisfaction.

Service information is also available on the web.

- This website includes service repair information for the total vehicle and is a subscription based site. (www.acdelcotechconnect.com)
- This website includes select collision repair information only and is downloadable and free to the user. (www.techinfo.gmgoodwrench.com)

TABLE OF CONTENTS

General Information	1-1	Rail Replacement - Rear (Z06)	2-43
Actions to Take When Working with		Rail Replacement - Rear Section (Z06)	2-46
Fuel Caution	1-1	Floor Panel Replacement (Z06)	2-53
Approved Equipment for Collision		Compartment Panel Replacement -	
Repair Caution	1-1	Rear (Corvette)	2-56
Battery Disconnect Caution	1-1	Compartment Panel Frame Replacement -	
Collision Sectioning Caution	1-1	Rear (Corvette)	2-59
Foam Sound Deadeners Caution	1-1	Sheet Molded Compound (SMC) Panel	
Glass and Sheet Metal Handling Caution	1-1	Bonding	2-62
Safety Glasses Caution	1-1	2006 Pontiac Solstice/	
SIR Caution	1-1	2007 Saturn SKY	3-1
Sound Deadener Foam in the Lock Striker Pillars		Dimensions - Body (Door Openings)	3-1
Caution	1-1	Dimensions - Body (Motor Compartment)	3-2
Fastener Notice	1-1	Hinge Pillar Body Reinforcement	
2006 Chevrolet Corvette Z06	2-1	Replacement - Front	3-3
Structure Identification	2-1	Hinge Pillar Body Replacement - Front	3-5
Dimensions - Body (Motor Compartment -		Windshield Frame Header Panel	
Corvette)	2-3	Replacement - Front	3-7
Dimensions - Body (Z06)	2-4	Pillar Lock Front Door Replacement -	
Impact Bar Replacement - Front		Outer	3-10
Bumper (Z06)	2-5	Pillar Lock Front Door Replacement -	
Hood Plate Stud Replacement (Z06)	2-7	Inner	3-12
Wheelhouse Replacement - Front (Z06)	2-10	Quarter Panel Replacement - Outer	3-15
Pillar Lock Front Door Replacement -		Impact Bar Replacement - Rear Bumper	3-18
Outer (Z06)	2-11	Rail Replacement - Front Section	3-21
Impact Bar Replacement - Rear		Sleeved Butt Joint Repair	3-25
Bumper (Z06)	2-14	Windshield Panel Replacement - Lower	3-26
Rail Replacement - Front (Z06)	2-20	Door Opening Frame Replacement - Side	3-29
Rail Replacement - Front Section (Z06)	2-22	Rail Replacement - Rear Section	3-31
Rail End Replacement - Front (Z06)	2-30	Floor Panel Replacement	3-35
Rail End Replacement - Rear (Z06)	2-34	Compartment Panel Replacement - Rear	3-38
Sleeved Butt Joint Repair (Z06)	2-36	Panel Replacement - Rear End	3-40
Windshield Frame Replacement	2-38	Sheet Molded Compound (SMC) Panel	
Door Opening Frame Replacement - Side	2-41	Bonding	3-43

General Information

Actions to Take When Working with Fuel Caution

Caution: Fuel Vapors can collect while servicing fuel system parts in enclosed areas such as a trunk. To reduce the risk of fire and increased exposure to vapors:

- Use forced air ventilation such as a fan set outside of the trunk.
- Plug or cap any fuel system openings in order to reduce fuel vapor formation.
- Clean up any spilled fuel immediately.
- Avoid sparks and any source of ignition.
- Use signs to alert others in the work area that fuel system work is in process.

Approved Equipment for Collision Repair Caution

Caution: To avoid personal injury when exposed to welding flashes or to galvanized (Zinc Oxide) metal toxic fumes while grinding/cutting on any type of metal or sheet molded compound, you must work in a properly ventilated area, wearing an approved respirator, eye protection, earplugs, welding gloves, and protective clothing.

Battery Disconnect Caution

Caution: Before servicing any electrical component, the ignition key must be in the OFF or LOCK position and all electrical loads must be OFF, unless instructed otherwise in these procedures. If a tool or equipment could easily come in contact with a live exposed electrical terminal, also disconnect the negative battery cable. Failure to follow these precautions may cause personal injury and/or damage to the vehicle or its components.

Collision Sectioning Caution

Caution: Sectioning should be performed only in the recommended areas. Failure to do so may compromise the structural integrity of the vehicle and cause personal injury if the vehicle is in a collision.

Foam Sound Deadeners Caution

Caution: Foam sound deadeners must be removed from areas within 152.4 mm (6 in) of where flame is to be used for body repairs. When reinstalling foam sound deadeners, avoid inhaling fumes as bodily injury may result.

Glass and Sheet Metal Handling Caution

Caution: When working with any type of glass or sheet metal with exposed or rough edges, wear approved safety glasses and gloves in order to reduce the chance of personal injury.

Safety Glasses Caution

Caution: Wear safety glasses in order to avoid eye damage.

SIR Caution

Caution: When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling Zones. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.

Sound Deadener Foam in the Lock Striker Pillars Caution

Caution: Sound deadener foam in the lock striker pillars can be a fire hazard. Create a weld flange to avoid welding directly to the lock striker pillars as damage to the vehicle and serious bodily injury may result.

Fastener Notice

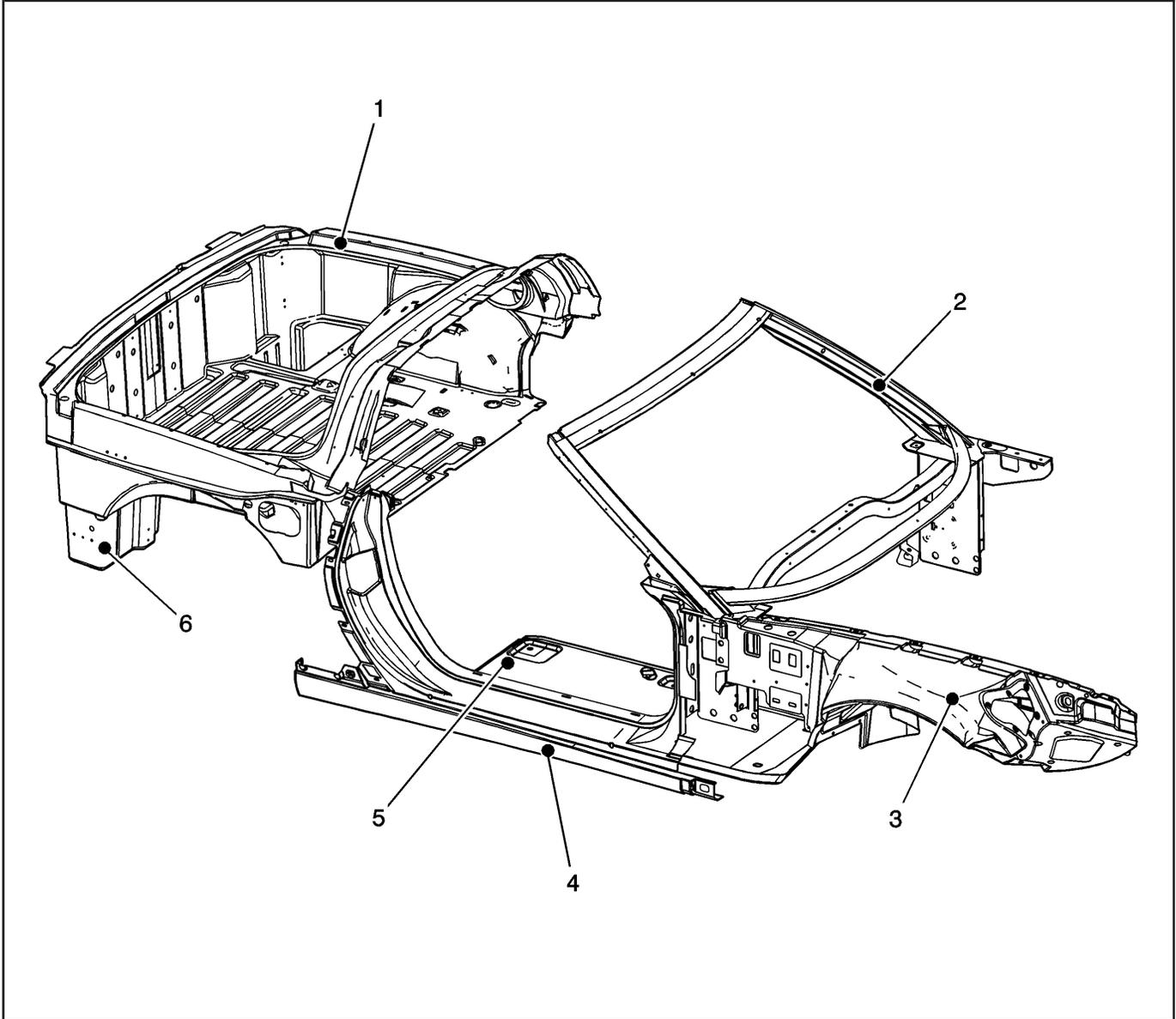
Notice: Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

2006 Chevrolet Corvette Z06

Visual Identification

Structure Identification

Inner Panel Identification



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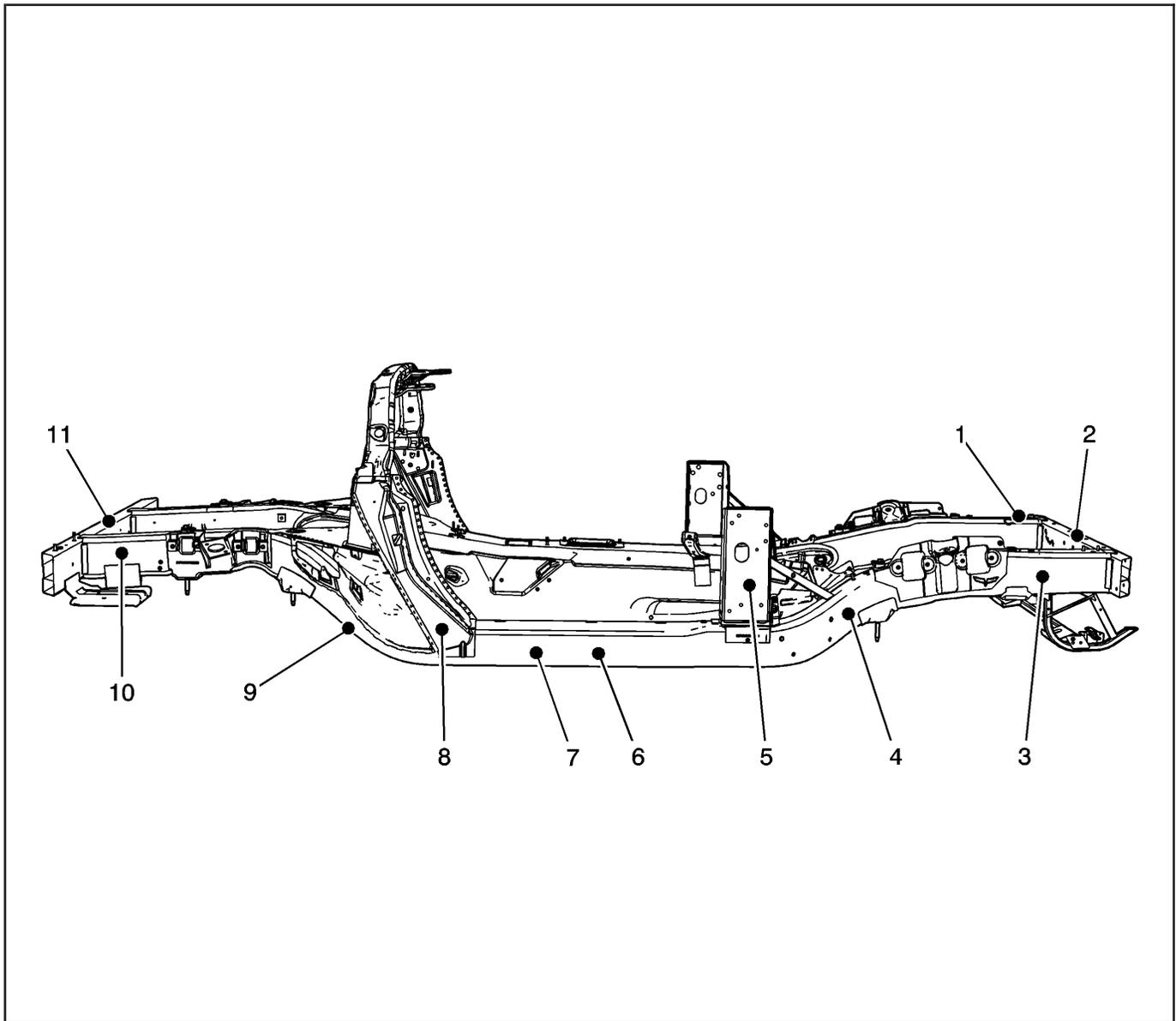
Structure Identification

Number	Description	Procedure
1	Rear Compartment Panel Frame	<i>Compartment Panel Frame Replacement - Rear (Corvette) on page 2-59</i>
2	Windshield Frame	<i>Windshield Frame Replacement on page 2-38</i>
3	Front Wheelhouse	<i>Wheelhouse Replacement - Front (Z06) on page 2-10</i>
4	Side Door Frame Opening	<i>Door Opening Frame Replacement - Side on page 2-41</i>

Structure Identification (cont'd)

Number	Description	Procedure
5	Floor Panel	<i>Floor Panel Replacement (Z06) on page 2-53</i>
6	Rear Compartment Panel	<i>Compartment Panel Replacement - Rear (Corvette) on page 2-56</i>

Frame Identification



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Structure Identification

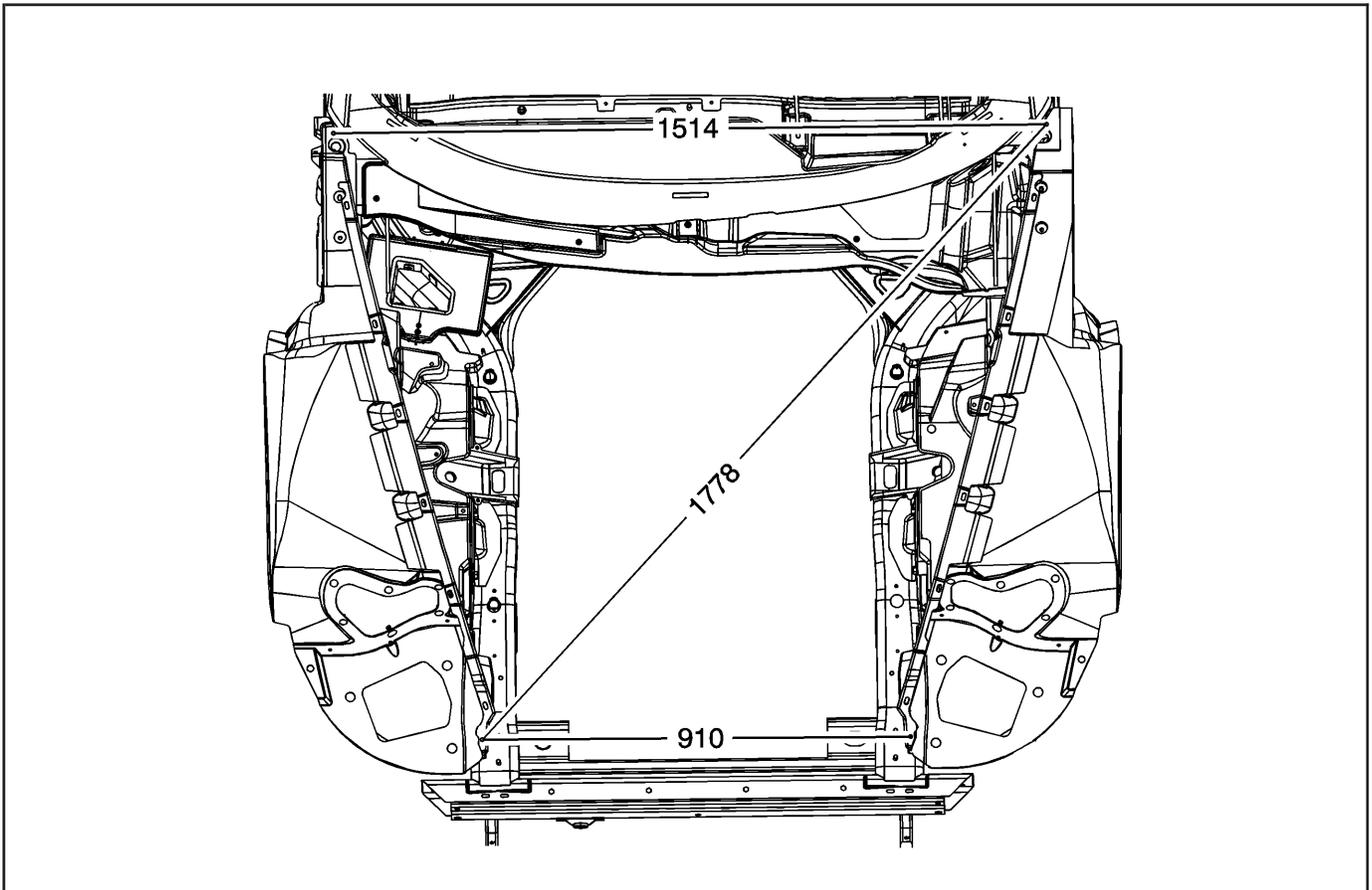
Number	Description	Procedure
1	Hood Plate Stud	<i>Hood Plate Stud Replacement (Z06) on page 2-7</i>
2	Front Bumper Impact Bar	<i>Impact Bar Replacement - Front Bumper (Z06) on page 2-5</i>
3	Front Rail End	<i>Rail End Replacement - Front (Z06) on page 2-30</i>
4	Front Rail Section	<i>Rail Replacement - Front Section (Z06) on page 2-22</i>
5	Front Body Hinge Pillar	<i>Hinge Pillar Body Replacement - Front</i>

Structure Identification (cont'd)

Number	Description	Procedure
6	Front Rail	<i>Rail Replacement - Front (Z06) on page 2-20</i>
7	Rear Rail	<i>Rail Replacement - Rear (Z06) on page 2-43</i>
8	Front Door Lock Pillar	<i>Pillar Lock Front Door Replacement - Outer (Z06) on page 2-11</i>
9	Rear Rail Section	<i>Rail Replacement - Rear Section (Z06) on page 2-46</i>
10	Rear Rail End	<i>Rail End Replacement - Rear (Z06) on page 2-34</i>
11	Rear Bumper Impact Bar	<i>Impact Bar Replacement - Rear Bumper (Z06) on page 2-14</i>

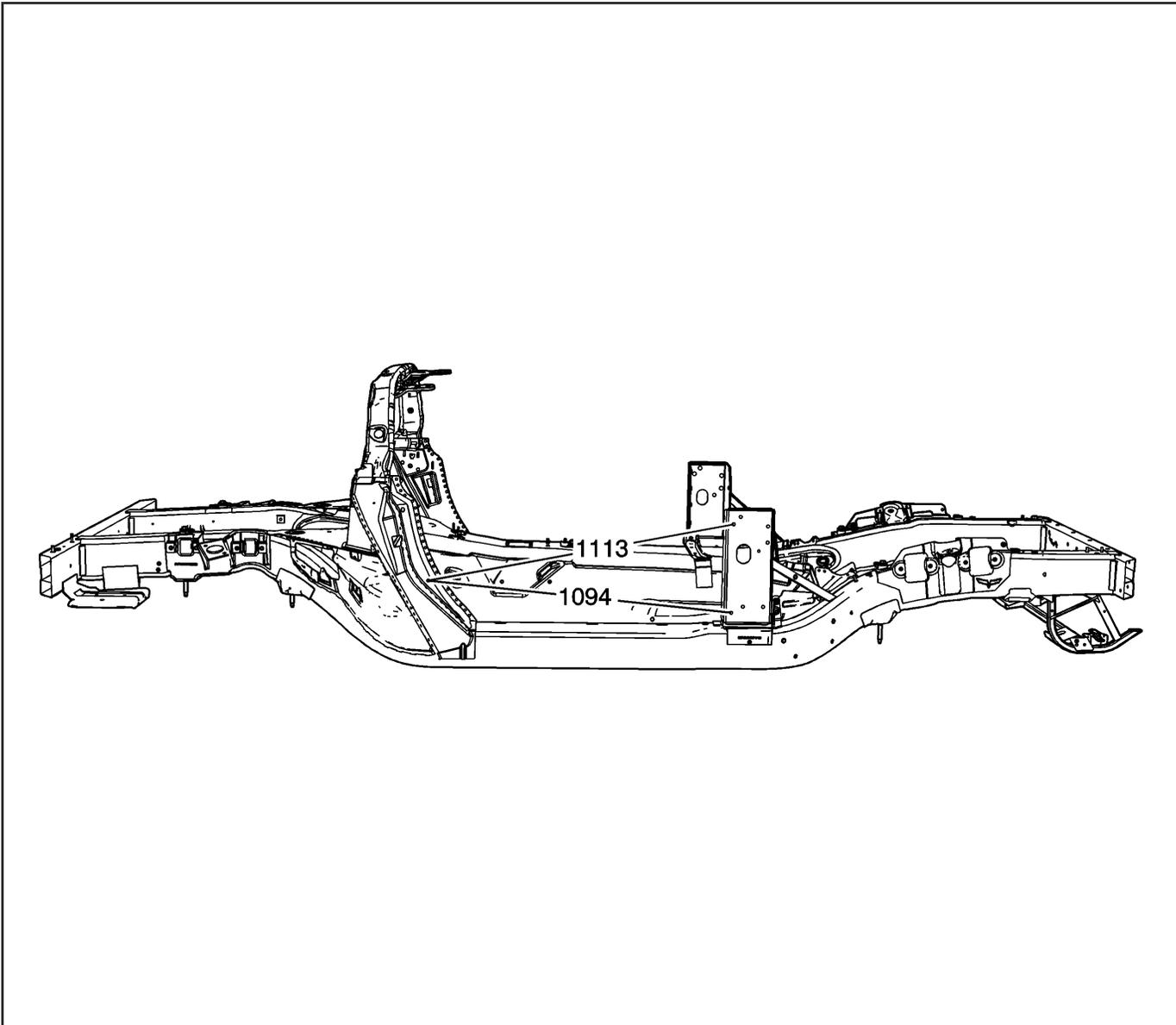
Specifications

Dimensions - Body (Motor Compartment - Corvette)



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Dimensions - Body (Z06)



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Repair Instructions

Impact Bar Replacement - Front Bumper (Z06)

Tools Required

J 42058 Frame Adapter Clamp

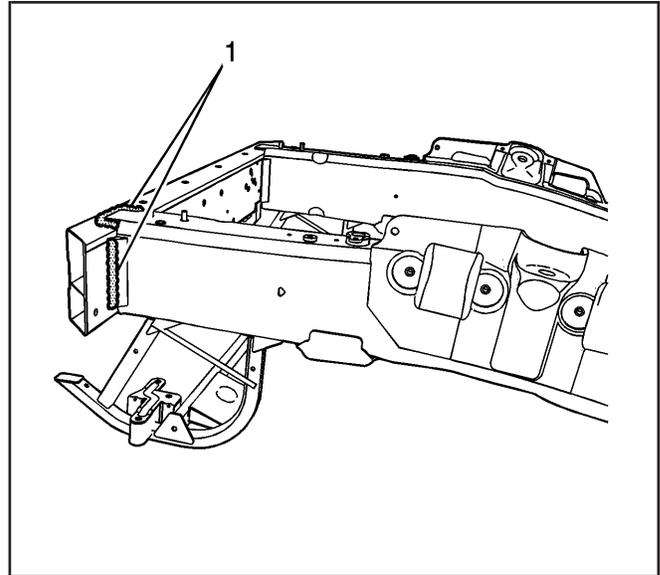
Removal Procedure

Caution: Refer to Approved Equipment for Collision Repair Caution on page 1-1.

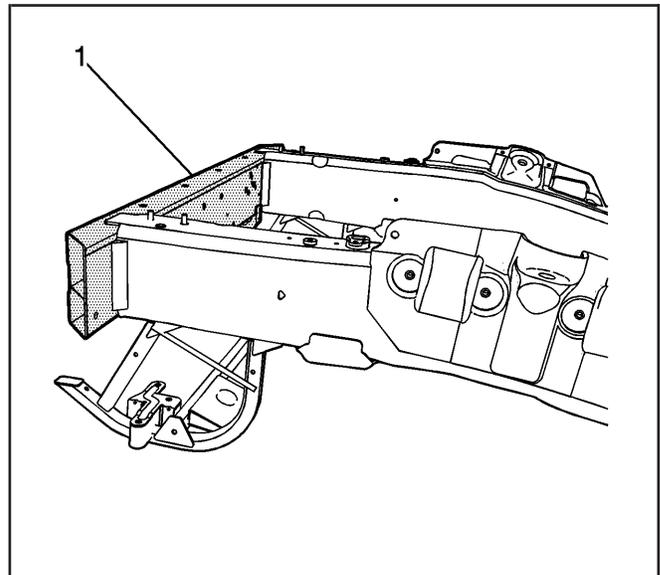
1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Repair as much of the damage as possible to the factory specifications.
5. Use J 42058 to secure the vehicle if pulling and straightening is required.
6. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.

Important:

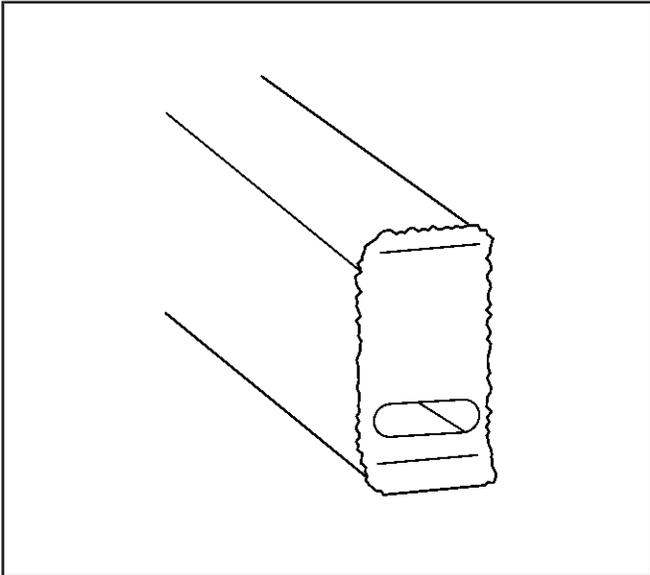
- Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.
 - When removing welds, favor the bumper bar side of the weld joint.
7. Locate and remove all factory welds (1) attaching the front bumper bar to the front frame rails. Note the location of the welds for installation of the new bumper bar.
 8. Remove the damaged bumper bar (1).



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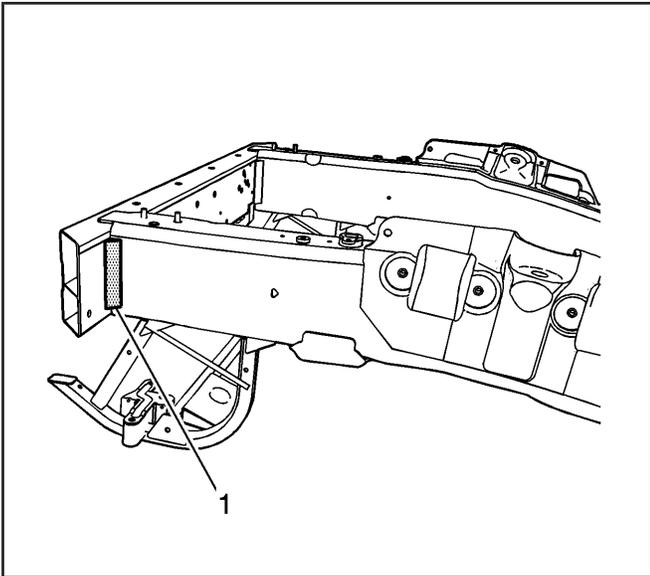


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9. Remove pieces of the bumper bar which are left attached to the rail ends.
10. Straighten and deburr the rail ends. Keep the perimeter and shape of the rail end as original as possible.



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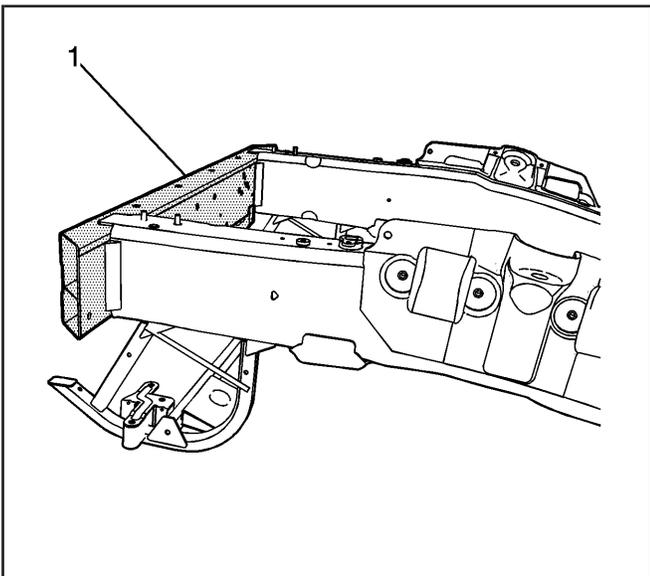
Installation Procedure

Important: Due to welding accessibility, it may be necessary to weld the triangle brackets (1) to the bumper bar prior to installation of the bumper bar.

1. Dry fit the bumper bar for proper fit and alignment before welding.

Important: Use a stainless steel brush to remove the oxide layer prior to welding.

2. Clean and prepare all of the welded mating surfaces.



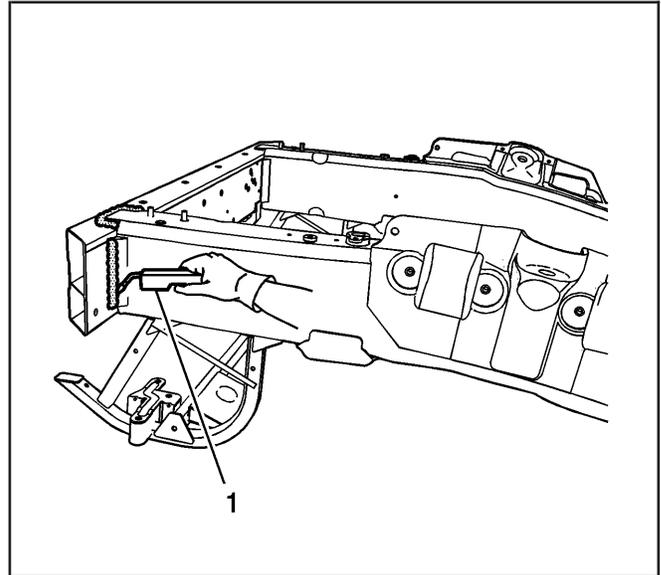
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3. Install the front bumper bar (1).
4. Position the bumper bar to the vehicle using 3-dimensional measuring equipment.

Important: Recommend wire alloy is 5356 and wire size is.035. The shielding gas is 100 percent Argon.

A two minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.

5. Using a PULSED-MIG (P-MIG) welder, weld (1) the bumper bar to the frame rail ends duplicating the factory welds.
6. Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
7. Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
8. Install all related panels and components.
9. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
10. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



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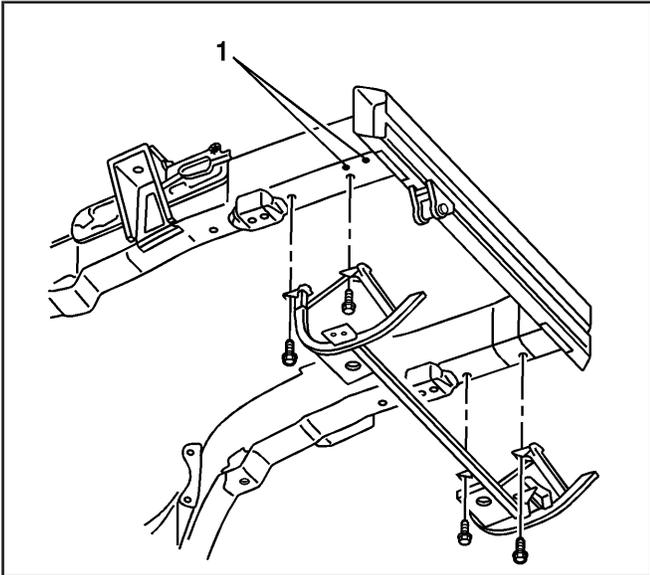
Hood Plate Stud Replacement (Z06)

Removal Procedure

The hood anchor plate assembly is riveted to the inside of the front frame rail. Access to the hood plate assembly would require the removal of the welded front bumper bar. A procedure was developed for the replacement of a broken hood stud without removing the front bar.

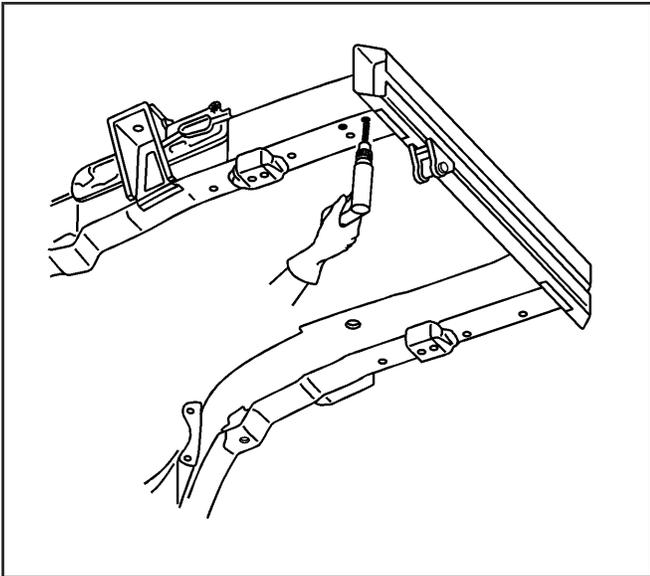
Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
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 the hood hinge. Refer to *Hood, Hinge, Rod, Stud Replacement - Hood*.



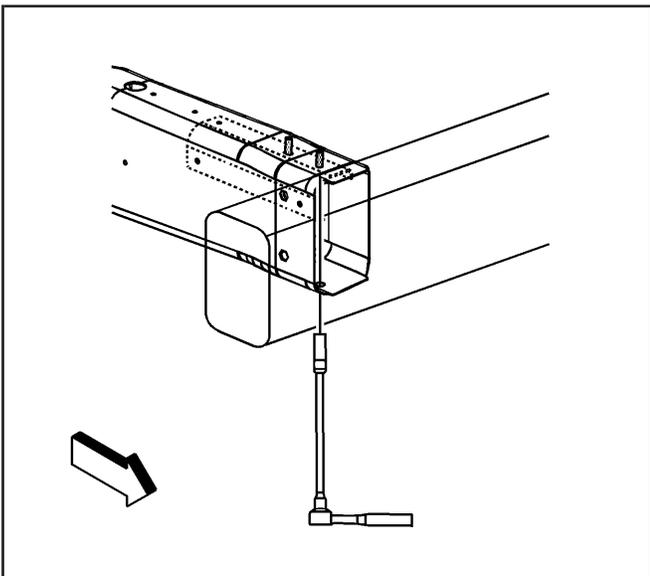
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6. Locate the 2 pilot holes (1) directly below the front and rear hood studs.



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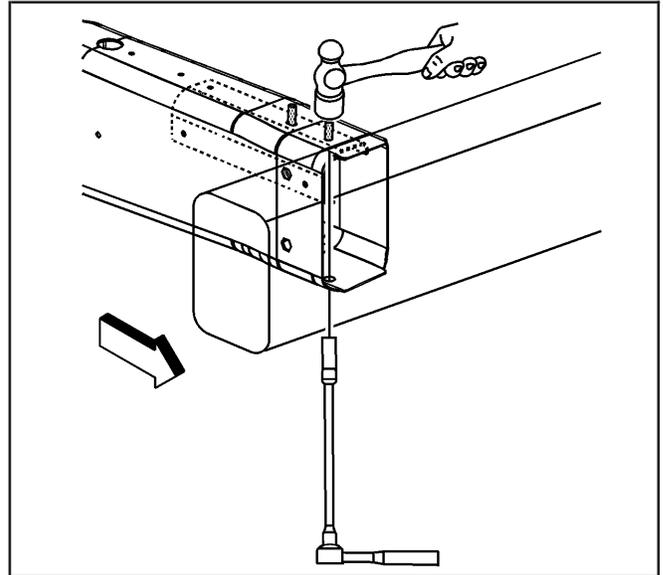
7. Drill a 25 mm (1 in) hole directly below the broken hood stud.



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8. Install a socket and extension through the bottom of the frame rail directly under the broken hood stud.

9. Using a hammer, tap the broken hood stud into the socket.
10. Remove the broken hood stud.

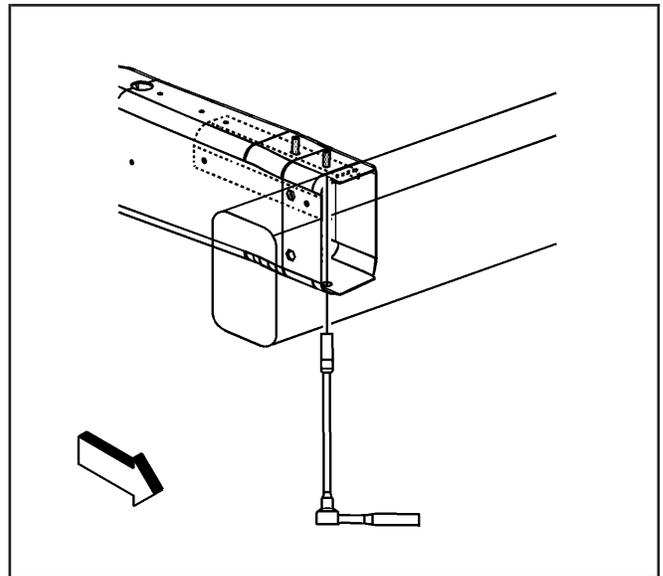


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Installation Procedure

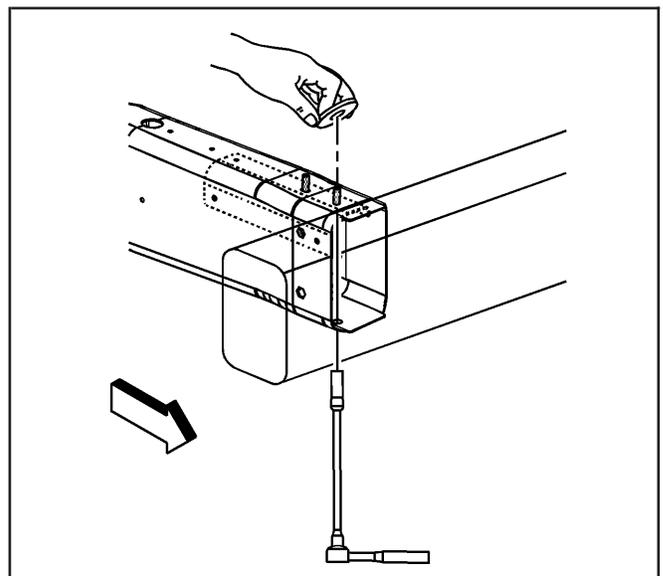
Important: Replacement fasteners used with the Z06 aluminum frame requires a tin-zinc coating to prevent galvanic corrosion.

1. Install a replacement bolt through the bottom of the frame rail.



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2. Install a retaining clip to the new bolt.
3. Install the hood hinge. Refer to *Hood, Hinge, Rod, Stud Replacement - Hood*.
4. Paint the repaired area. Refer to *Basecoat/Clearcoat Paint Systems*.
5. Apply the sealers and the anti-corrosion materials to the repaired area, as necessary. Refer to *Anti-Corrosion Treatment and Repair*.
6. Install all related panels and components.
7. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
8. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



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Wheelhouse Replacement - Front (Z06)

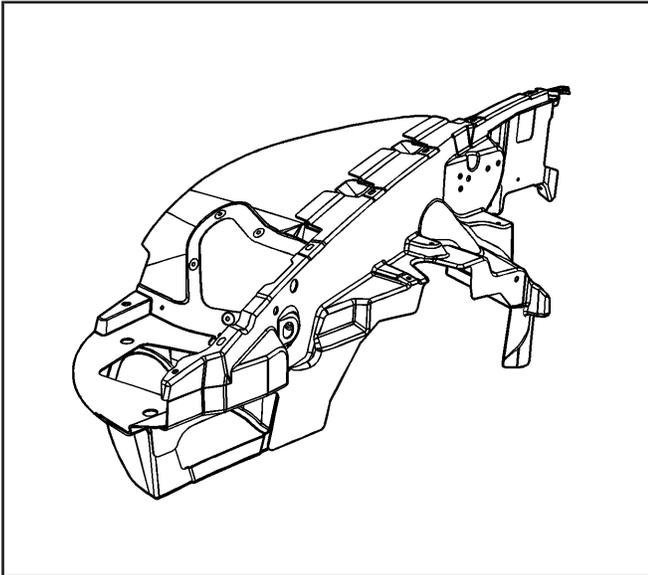
Tools Required

J 42058 Frame Adapter Clamp

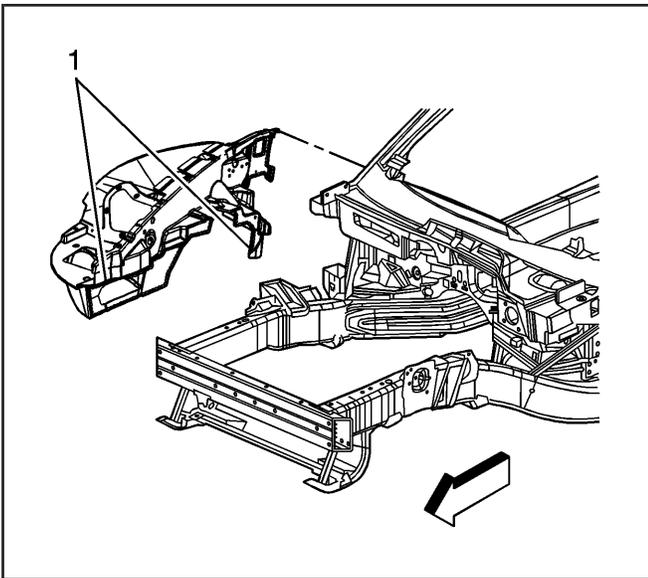
Removal Procedure

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

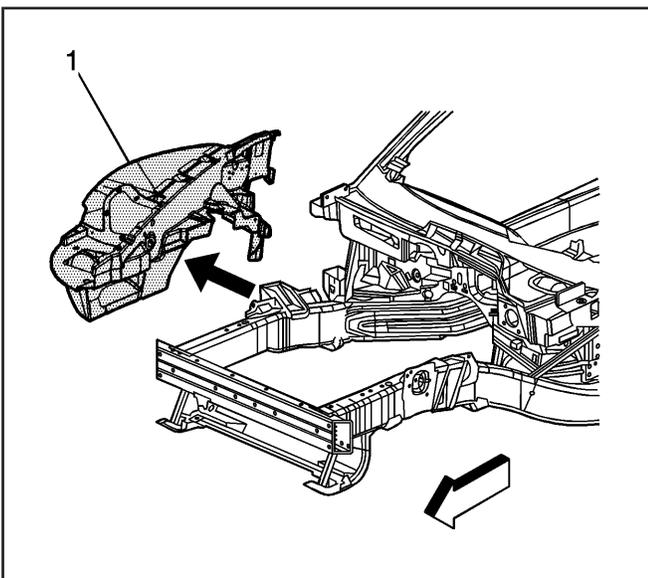
The front wheelhouse is comprised of 2 types of materials. These include sheet molded compound (SMC) for the inner panel and carbon fiber for the outer panel. The wheelhouse is bonded to the front structure and frame rail with structural adhesive.



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1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the wheelhouse by applying heat and pry to detach adhesive along the bonding surface (1).
5. Remove the wheelhouse (1) from the vehicle.
6. Save any and all brackets, mounting studs, and accessories for transfer to the new front wheelhouse.
7. Note the location of the adhesive and remove all remaining loose adhesive.
8. Inspect the front structure and frame rails for damage.
9. Repair as much of the damage as possible to the factory specifications.
10. Use J 42058 to secure the vehicle if pulling and straightening is required.

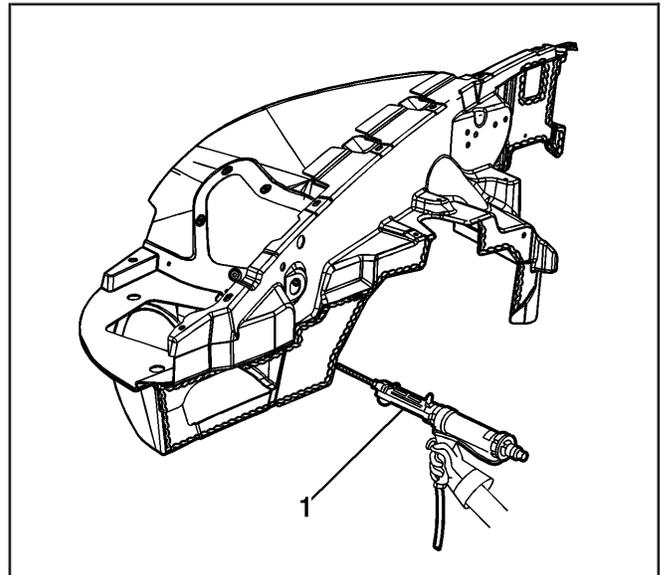
Installation Procedure

Important: Shims may be necessary to achieve proper panel alignment.

1. Before applying adhesive dry fit the wheelhouse for proper fit and alignment.

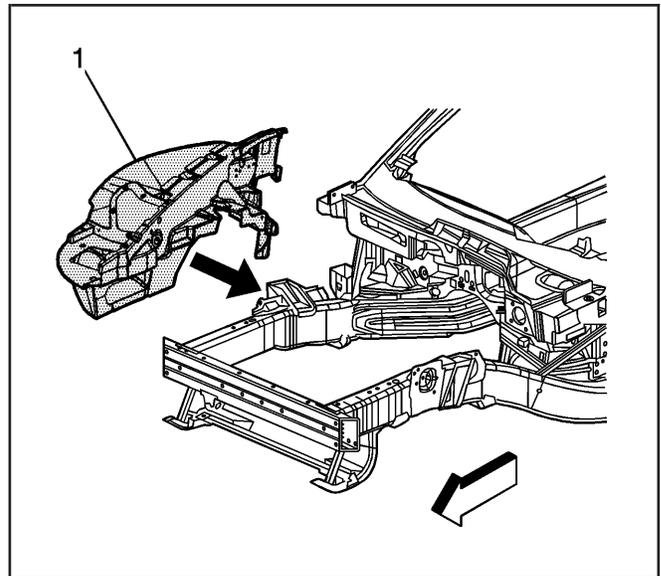
Important: DO NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

2. Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.
3. Apply a consistent bead of structural adhesive (1) 10 mm (3/8 in) in diameter to the wheelhouse to mate with the front structure and frame rail. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.



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4. Install the wheelhouse (1) to the vehicle.
5. Apply pressure to the wheelhouse to set the adhesive.
6. Clamp or mechanically fasten the wheelhouse into place as necessary.
7. Remove any excess adhesive.
8. Install all related panels and components.
9. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
10. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



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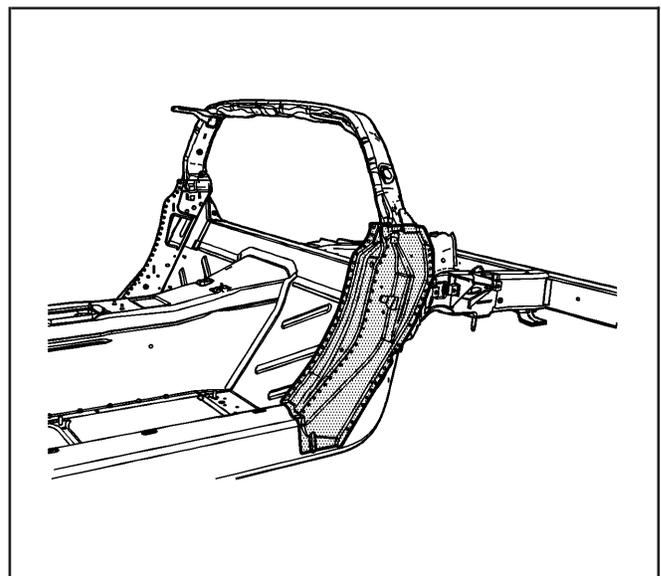
Pillar Lock Front Door Replacement - Outer (Z06)

Removal Procedure

The replacement outer lock pillar panel can be serviced as an assembly or as the outer panel only. Remove and replace the side door opening panel in order to replace the outer lock pillar panel.

Caution: Refer to *Approved Equipment for Collision Repair Caution* on page 1-1.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.

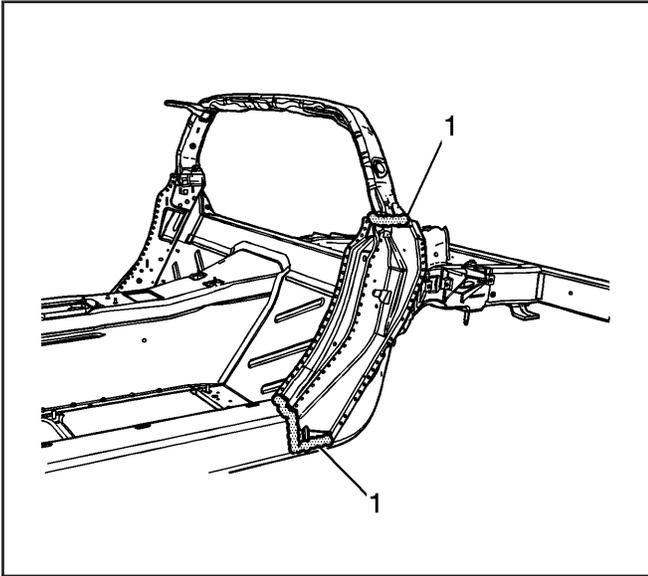


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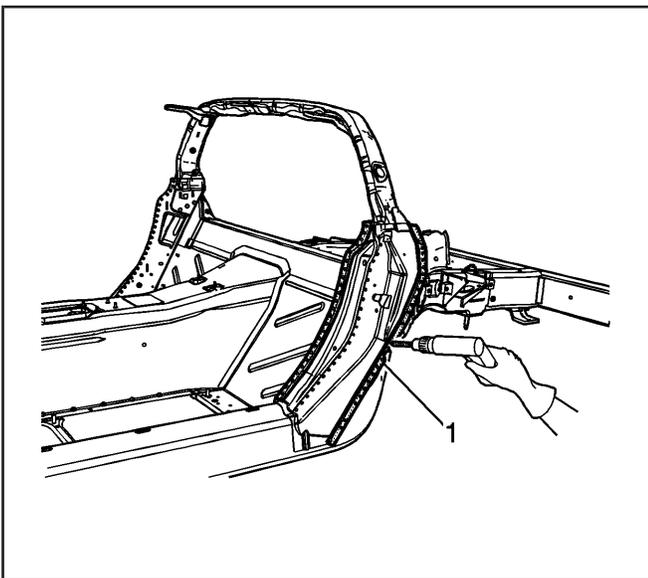
3. Remove all related panels and components.
4. Repair as much of the damage as possible to factory specifications. Refer to *Dimensions - Body (Door Openings - Corvette)* or *Dimensions - Body (Motor Compartment - Corvette)* on page 2-3 or *Dimensions - Body (Z06)* on page 2-4.

Caution: Refer to Sound Deadener Foam in the Lock Striker Pillars Caution on page 1-1.

5. Note the location of the sealers and anti-corrosion materials and remove these components from the repair area as necessary. Refer to *Anti-Corrosion Treatment and Repair*.
6. Locate and remove all factory welds (1). Note the number and the location of the welds for installation of the replacement part.



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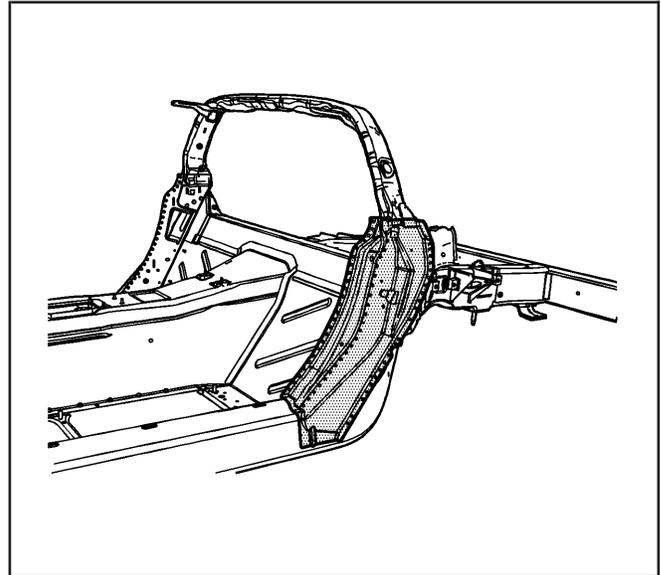


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7. Using a drill (1) with a 6 mm (1/4 in) bit, locate and remove all self-piercing rivets (SPR). Note the number and location of the SPRs for installation of the replacement part.
8. Remove the damaged outer lock pillar.

Installation Procedure

1. Position the outer lock pillar.

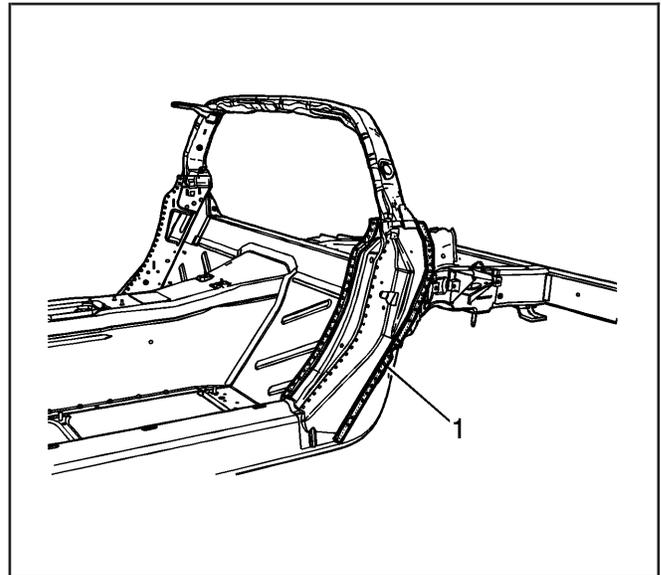


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Important: Replace the SPRs with a structural monobolt rivet, GM Part Number 19120691.

The structural monobolt rivet requires a special nose tip, BO48073.

2. Drill 6 mm (1/4 in) holes in the service part as necessary in the locations noted on the original panel.
3. Using a rivet gun, attach the lock pillar with structural monobolt rivets to the structure duplicating the number of factory SPRs.

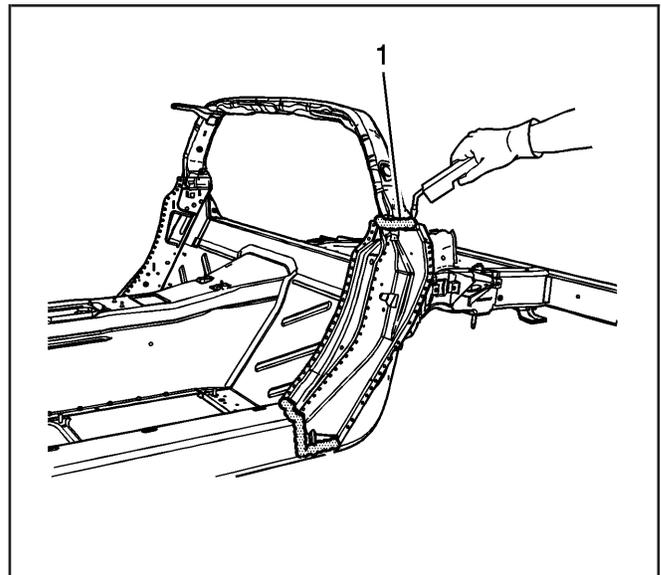


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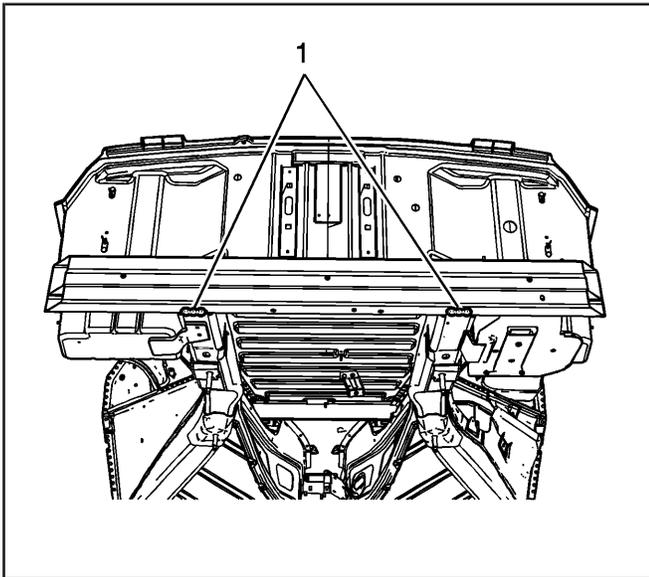
Important: Recommend wire alloy is 5356 and wire size is .035. The shielding gas is 100% Argon.

A two minute cooling down period is recommend for every 2 minutes or 100–mm (4–in) of welding.

4. Using a PULSED-MIG (P-MIG) welder, weld the lock pillar to the structure duplicating the factory welds.
5. Apply the sealers and the anti-corrosion materials to the repair area, as necessary. Refer to *Anti-Corrosion Treatment and Repair*.
6. Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
7. Install all related panels and components.
8. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
9. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



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Impact Bar Replacement - Rear Bumper (Z06)

Tools Required

J 42058 Frame Adapter Clamp

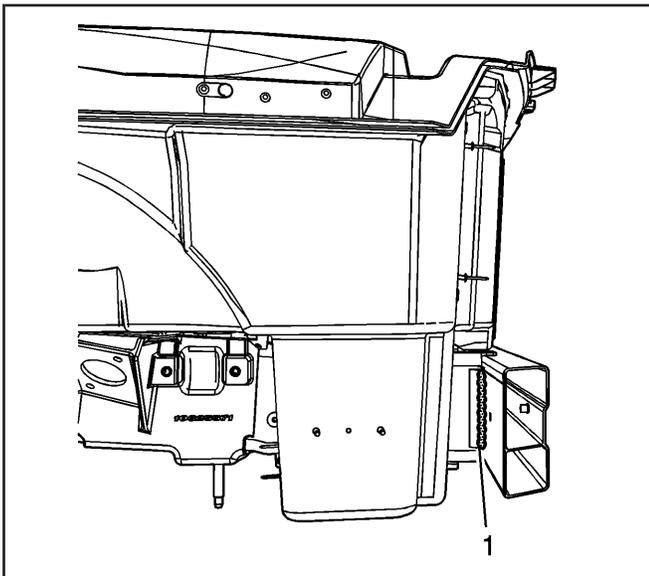
Removal Procedure

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Repair as much of the damage as possible to the factory specifications.
5. Use J 42058 to secure the vehicle if pulling and straightening is required.
6. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.

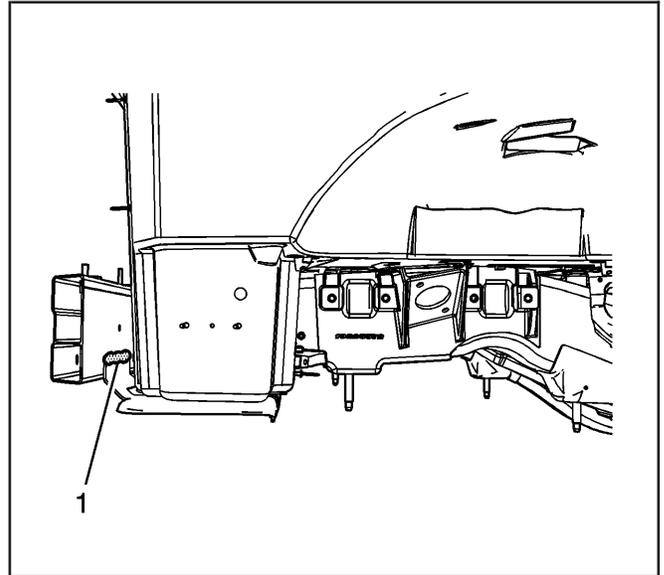
Important:

- Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.
 - When removing welds, favor the bumper bar side of the weld joint.
7. Locate and remove all factory welds (1) attaching the rear bumper bar to the bottom of the rear frame rails. Note the location of the welds for installation of the new bumper bar.
 8. Locate and remove all factory welds (1) attaching the rear bumper bar to the outer and inner of the rear frame rails. Note the location of the welds for installation of the new bumper bar.



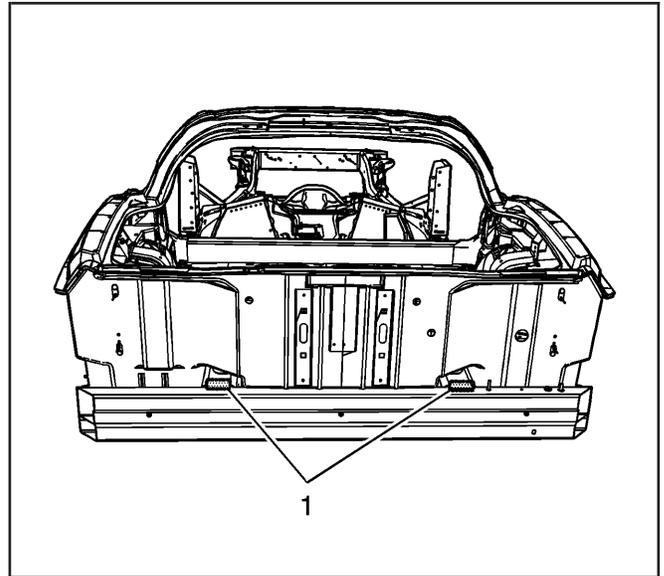
1657733

9. Locate and remove all factory welds (1) attaching the rear bumper bar to the battery tray. Note the location of the welds for installation of the new bumper bar.



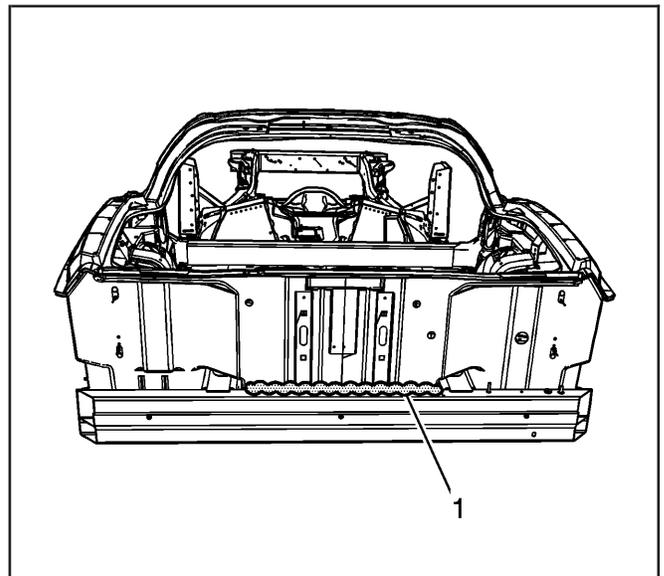
1657666

10. Locate and remove all factory welds (1) attaching the rear bumper bar to the top of the rear frame rails. Note the location of the welds for installation of the new bumper bar.

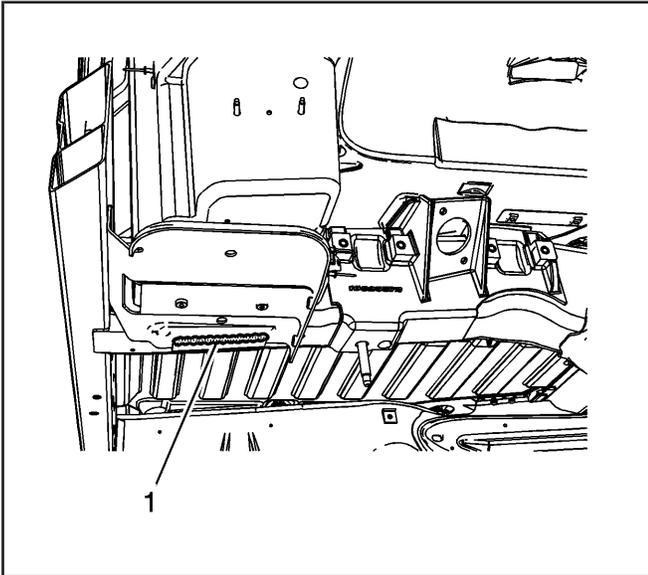


1657670

11. Using a heat gun, detach the adhesive from the rear bar (1) to the rear compartment panel.
12. Remove the damaged bumper bar.

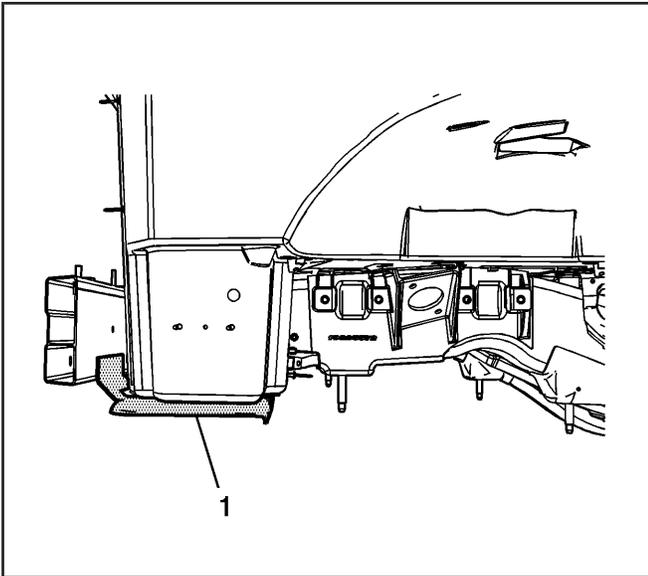


1657700



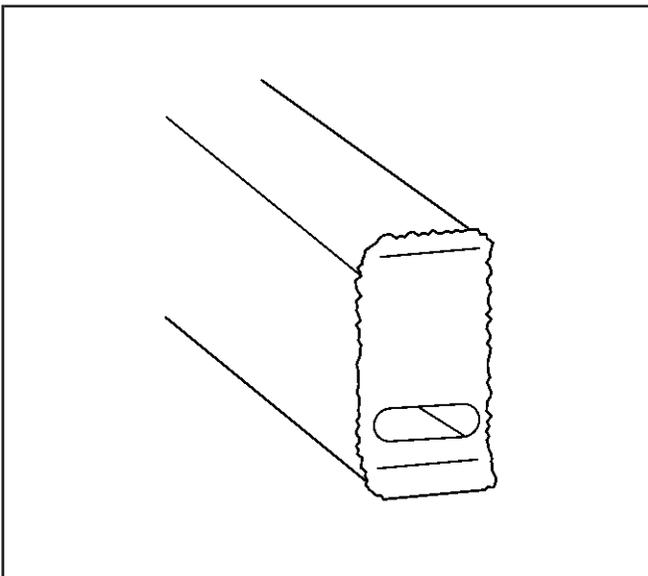
1657664

13. Locate and remove all factory welds (1) attaching the battery tray to the battery tray bracket. Note the location of the welds for installation of the battery tray.



1657811

14. Using a heat gun, detach the adhesive from the battery tray to the rear compartment panel.
15. Remove the battery tray (1).



181153

16. Remove pieces of the bumper bar which are left attached to the rail ends.
17. Straighten and deburr the rail ends. Keep the perimeter and shape of the rail end as original as possible.

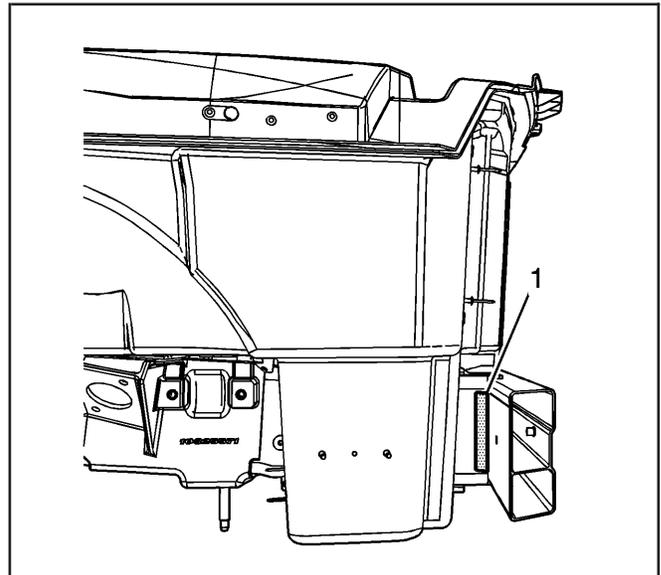
Installation Procedure

Important: Due to welding accessibility, it may be necessary to weld the triangle brackets (1) to the bumper bar prior to installation of the bumper bar.

1. Dry fit the bumper bar for proper fit and alignment before welding.

Important: Use a stainless steel brush to remove the oxide layer prior to welding.

2. Clean and prepare all of the welded mating surfaces.
3. Install the rear bumper bar.
4. Position the bumper bar to the vehicle using 3-dimensional measuring equipment.

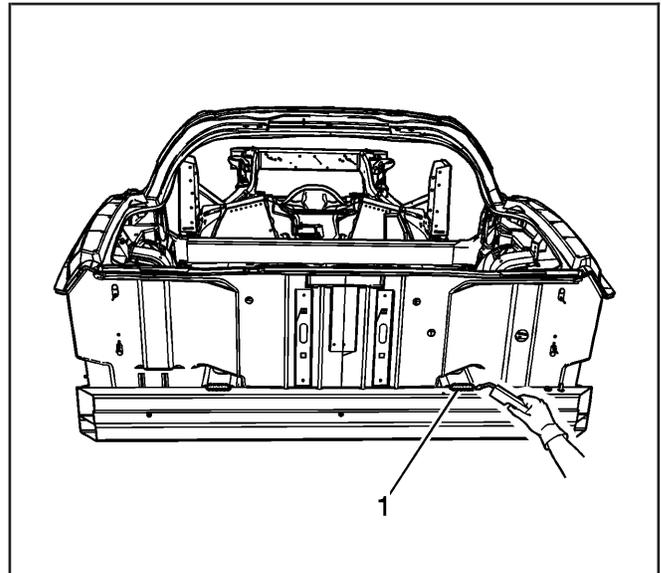


1657668

Important: Recommend wire alloy is 5356 and wire size is .035. The shielding gas is 100% Argon.

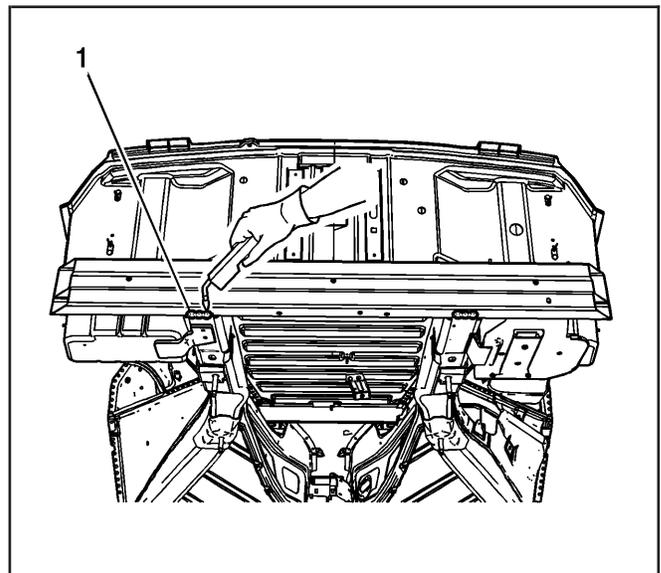
A two minute cooling down period is recommend for every 2 minutes or 100–mm (4–in) of welding.

5. Using a P-MIG welder, weld (1) the bumper bar to the top of the rear frame rails duplicating the factory welds.

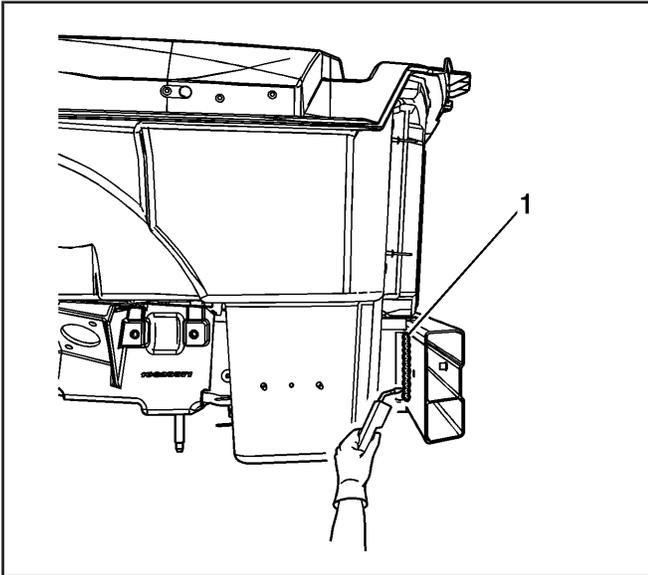


1657677

6. Using a P-MIG welder, weld (1) the bumper bar to the bottom of the rear frame rails duplicating the factory welds.

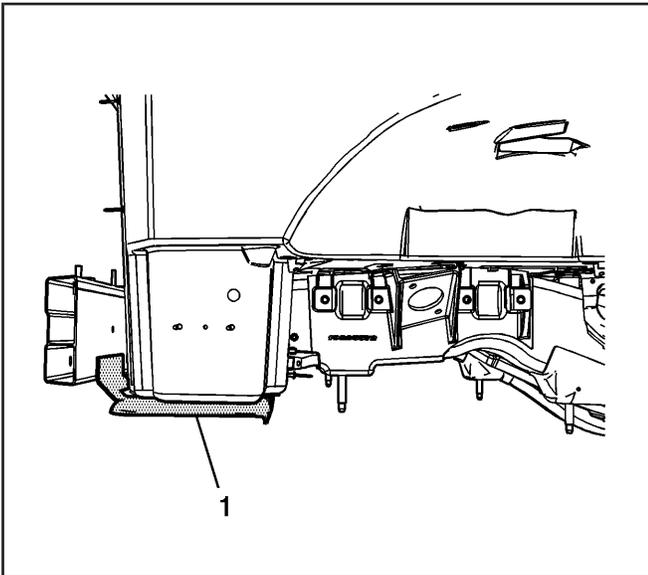


1657803



1657734

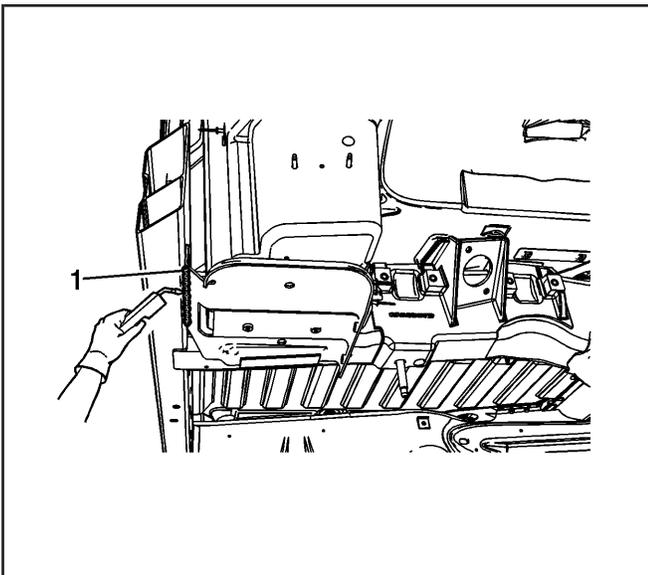
7. Using a P-MIG welder, weld (1) the bumper bar to the outer and inner of the rear frame rails duplicating the factory welds.



1657811

Important: DO NOT top coat the bonding surface of the battery tray. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

8. Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.
9. Apply a consistent bead of structural adhesive to the battery tray to bond to the rear compartment panel. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
10. install the battery tray (1).
11. Clamp or mechanically fasten the battery tray into place as necessary.

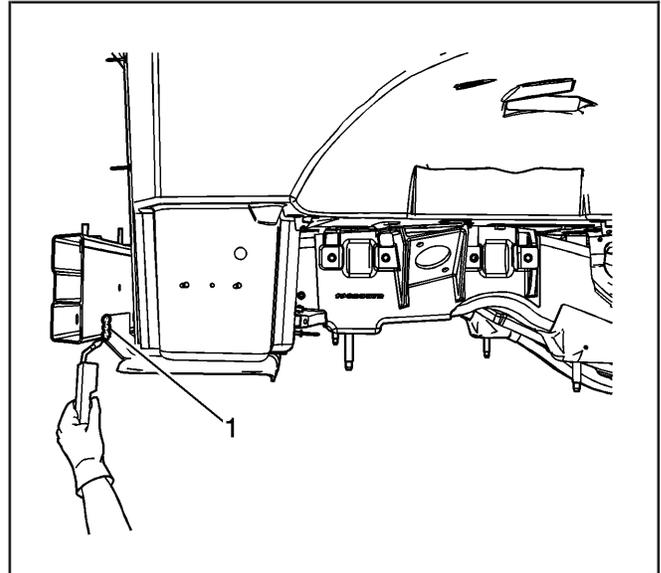


1657888

Important: Due to welding accessibility, it may be necessary to change the weld location of the battery tray to the rear bumper bar.

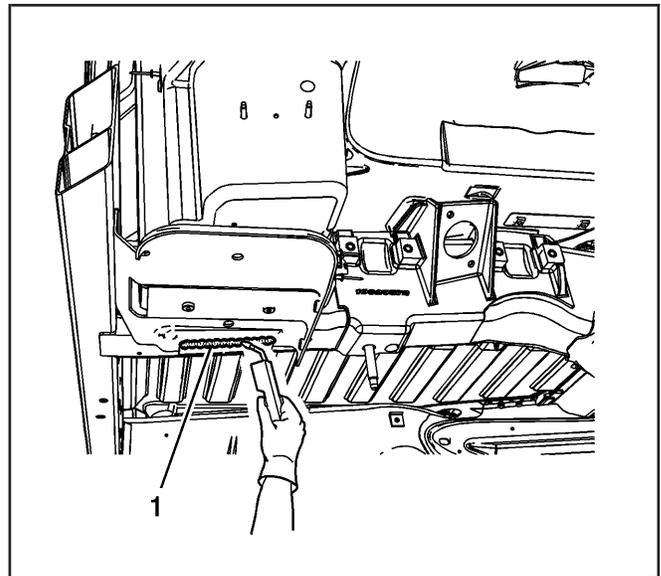
12. Using a P-MIG welder, weld (1) the battery tray to the bottom of the bumper bar.

- Using a P-MIG welder, weld (1) the outer edge of the battery tray to the bumper bar.



1657812

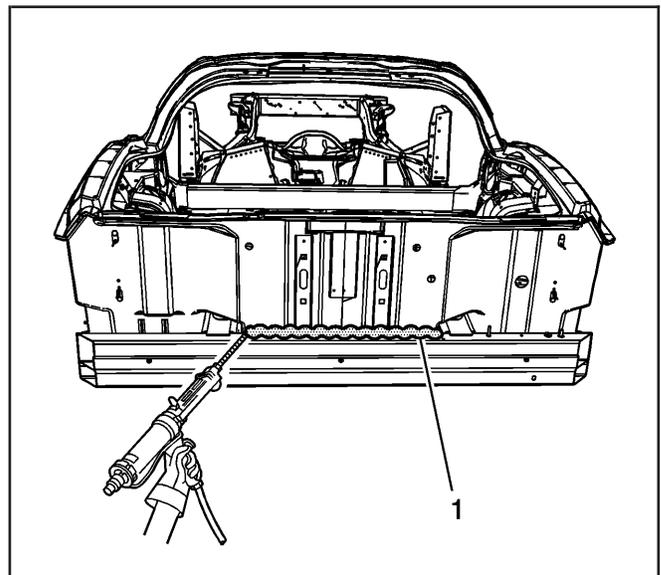
- Using a P-MIG welder, weld (1) the battery tray to the battery tray bracket.



1657880

Important: DO NOT top coat the bonding surface of the rear bar. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

- Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.
- Apply a consistent bead of structural adhesive to the top impact bar to bond to the rear compartment panel. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
- Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
- Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
- Install all related panels and components.



1657681

20. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
21. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.

Rail Replacement - Front (Z06)

Tools Required

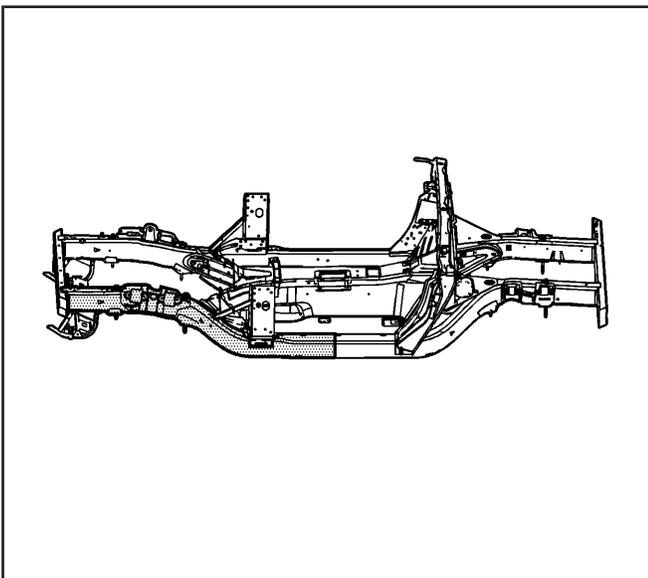
J 42058 Frame Adapter Clamp

Removal Procedure

The service rails are complete rail assemblies for the left and the right sides, 6063-T7, hydro-formed aluminum parts.

Caution: Refer to Approved Equipment for Collision Repair Caution on page 1-1.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
5. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
6. Repair as much of the damage as possible to the factory specifications.
7. Use J 42058 to secure the vehicle if pulling and straightening is required.
8. Inspect the front of the dash panel, floor panels, and all other sheet molded compound (SMC) and carbon fiber for cracks or areas that may need to be repaired or resealed.
9. Remove the damaged section of frame rail.

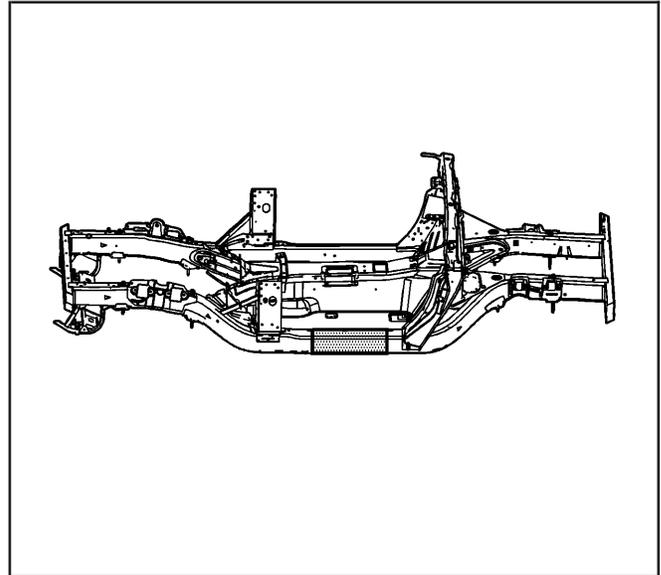


1655993

Installation Procedure

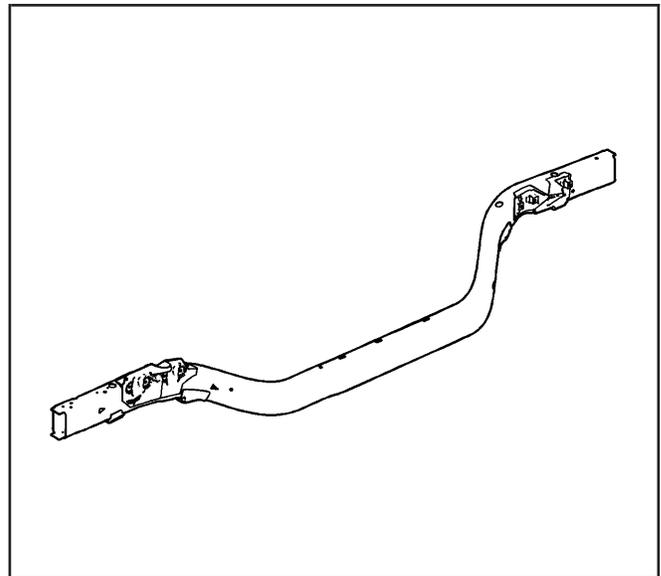
Caution: Refer to *Collision Sectioning Caution* on page 1-1.

1. Determine the sectioning joint location within the recommended area.



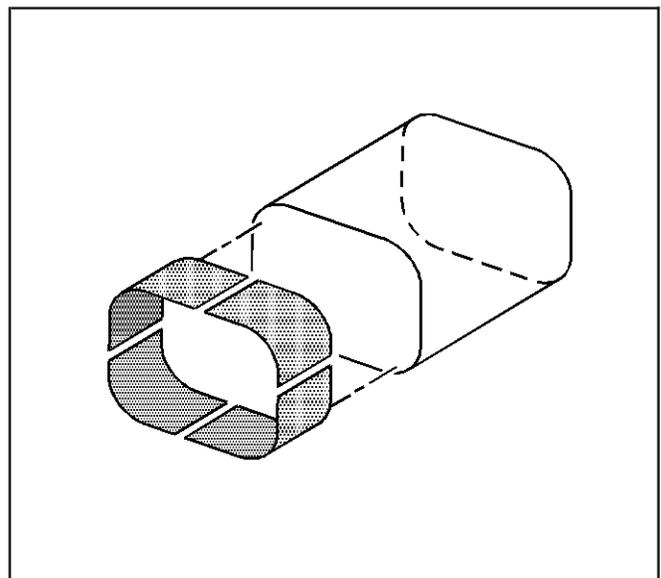
1655985

2. Cut the new frame section from the new frame rail assembly.

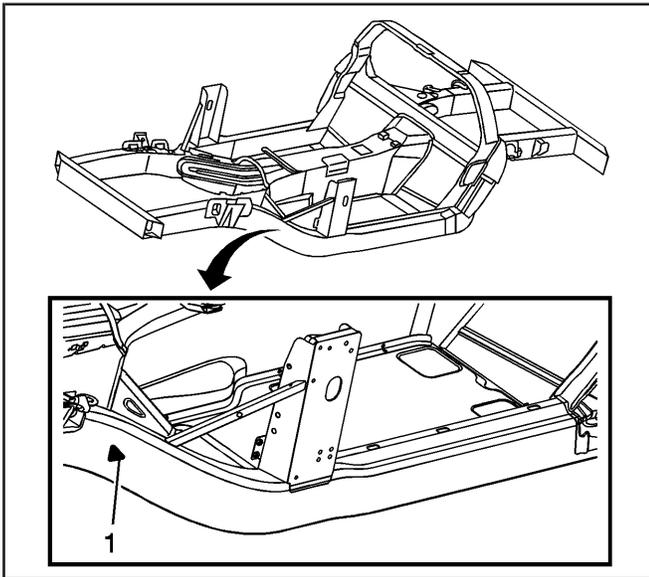


1654842

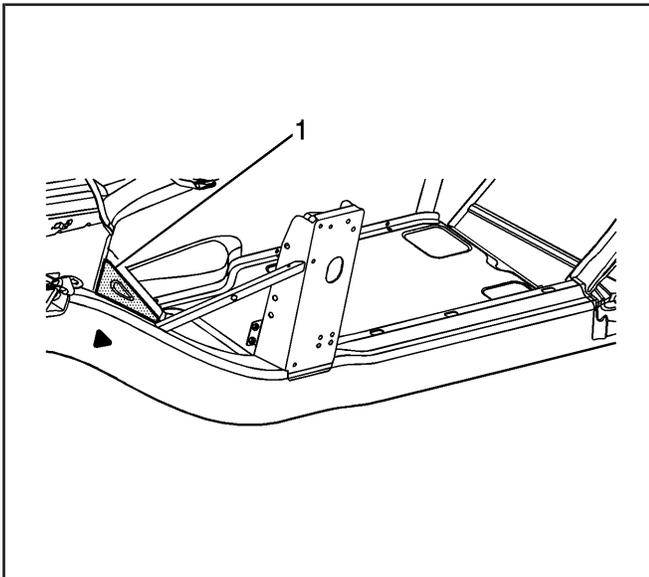
3. Perform the sleeved butt-joint sectioning. Refer to *Sleeved Butt Joint Repair (Corvette)* or *Sleeved Butt Joint Repair (Z06)* on page 2-36.
4. Install the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
5. Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
6. Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
7. Install all related panels and components.
8. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
9. Enable SIR system. Refer to *SIR Disabling and Enabling Zones*.



857910



1545632



1545712

Rail Replacement - Front Section (Z06)

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

The service rails are complete rail assemblies for the left and the right sides, 6063-T7, hydro-formed aluminum parts, which correlate directly with the die mark (1) located on the front frame rails

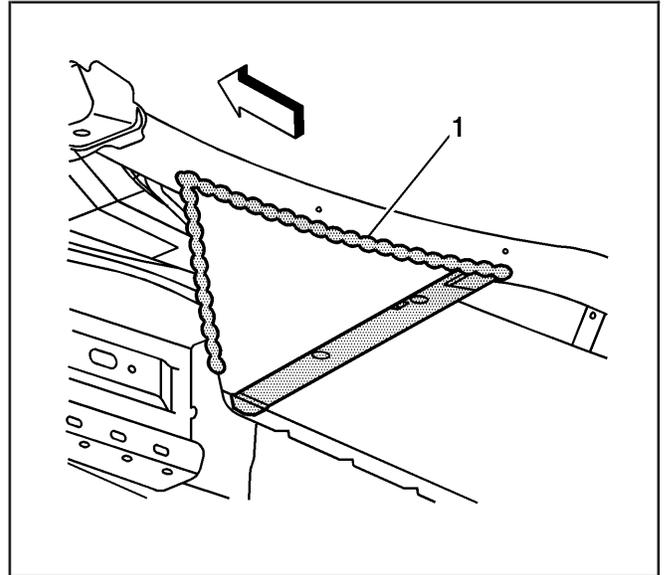
Caution: Refer to Approved Equipment for Collision Repair Caution on page 1-1.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
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. Repair as much of the damage as possible to the factory specifications.
7. Use *J 42058* to secure the vehicle if pulling and straightening is required.
8. Inspect the front of the dash panel, floor panels, and all other sheet molded compound (SMC) and carbon fiber for cracks or areas that may need to be repaired or resealed.

Important: Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.

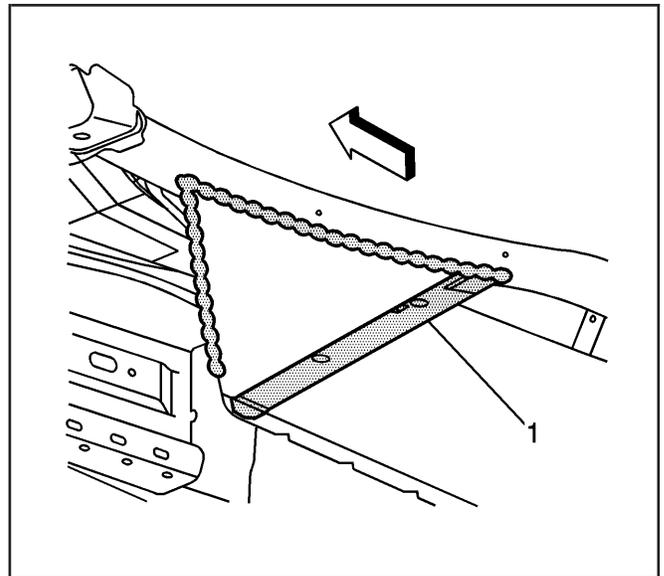
9. Locate and remove all factory welds attaching the upper extension panel (1) to the structure. Note the location of the welds for installation of the upper extension panel.
10. Locate and remove all factory self-piercing rivets (SPR) attaching the upper extension panel to the structure. Note the location and number of SPRs for re-installation of the upper extension panel.
11. Remove the upper extension panel (1).
Remove the front floor panel.

12. Locate and remove all factory welds (1) attaching the lower extension panel to the structure. Note the location of the welds for installation of the lower extension panel.



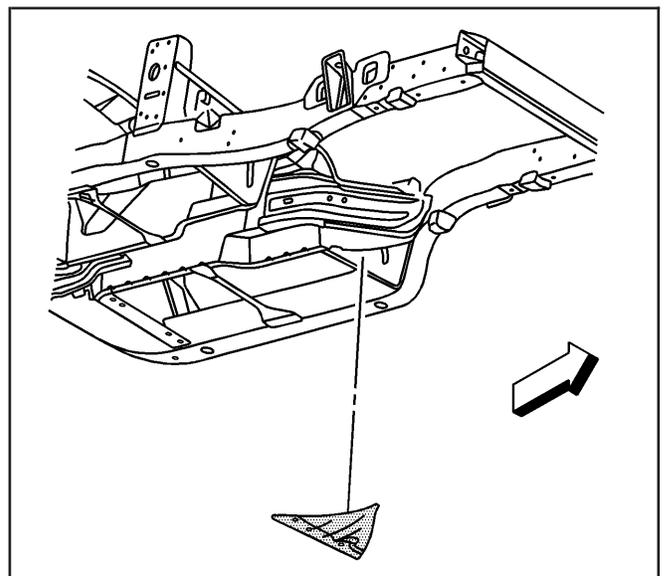
1549188

13. Locate and remove all factory SPRs (1) attaching the lower extension panel to the structure. Note the location and number of SPRs for re-installation of the lower extension panel.

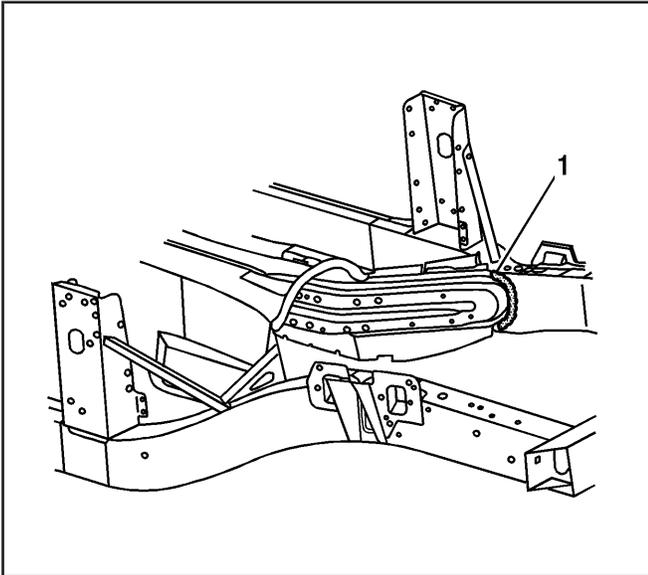


1549177

14. Remove the lower extension panel.

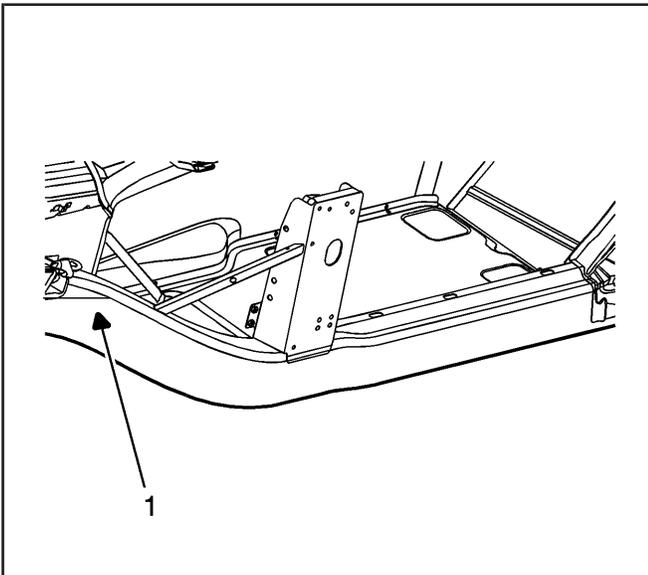


1549637



1546697

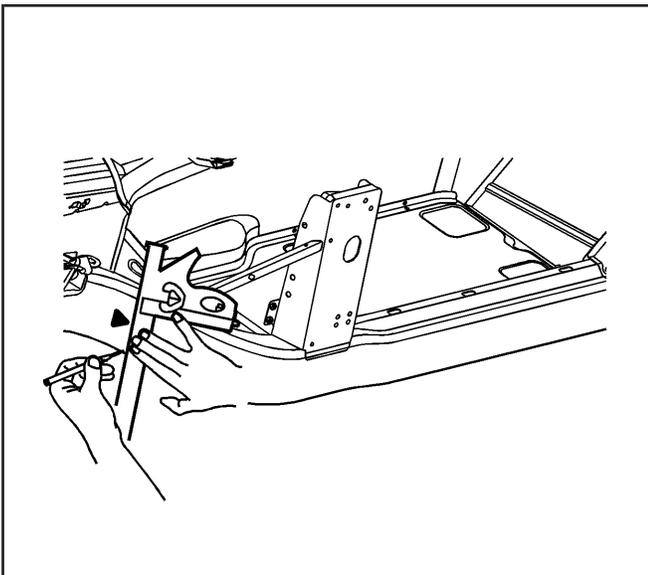
15. Locate and remove all factory welds (1) attaching the 2 tunnel braces to the frame rail. Note the location of the welds for installation of the tunnel braces. Make cuts favoring the frame rail side of the welds.



1549858

Caution: Refer to Collision Sectioning Caution on page 1-1.

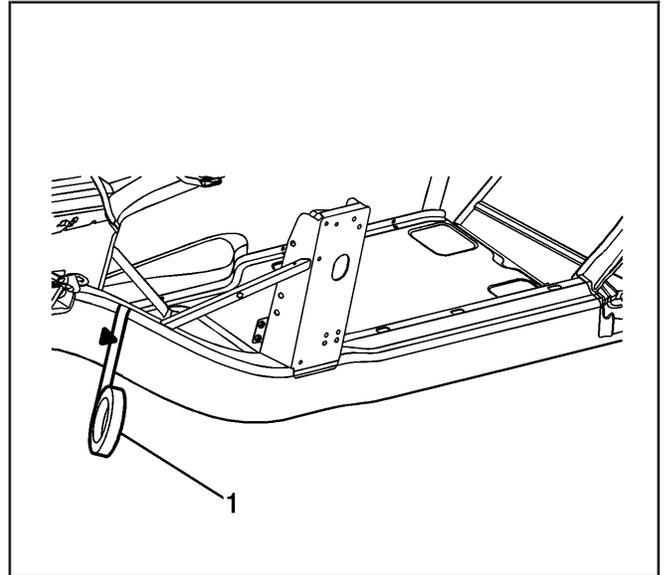
16. Locate the die-mark (1) on the damaged frame rail.



1549753

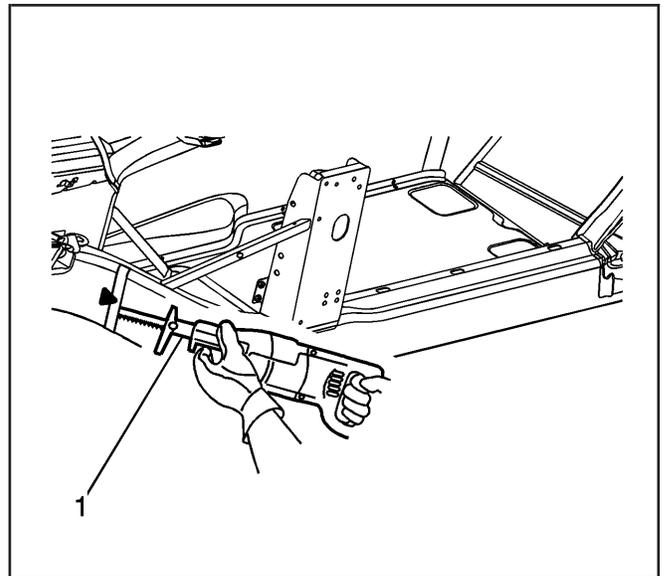
17. At the die mark align a sliding square or similar tool square to surface to the vertical walls of the frame rail.
18. Scribe a line to both sides of the frame rail.

19. Apply masking tape (1) to the scribe line completely around the frame rail.



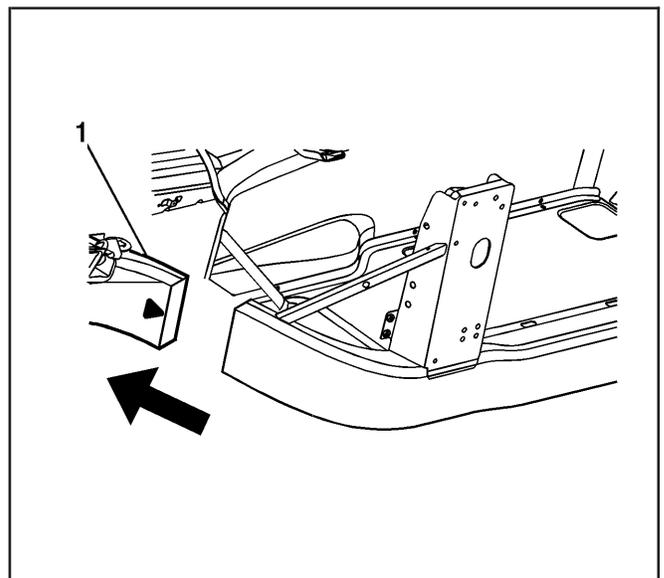
1549642

20. Cut the frame rail at the rear edge of the tape line using a reciprocating saw (1) or equivalent tool.

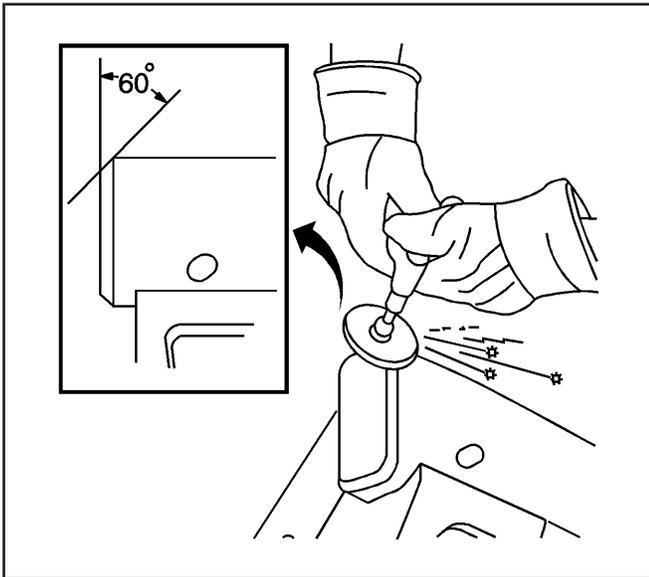


1549847

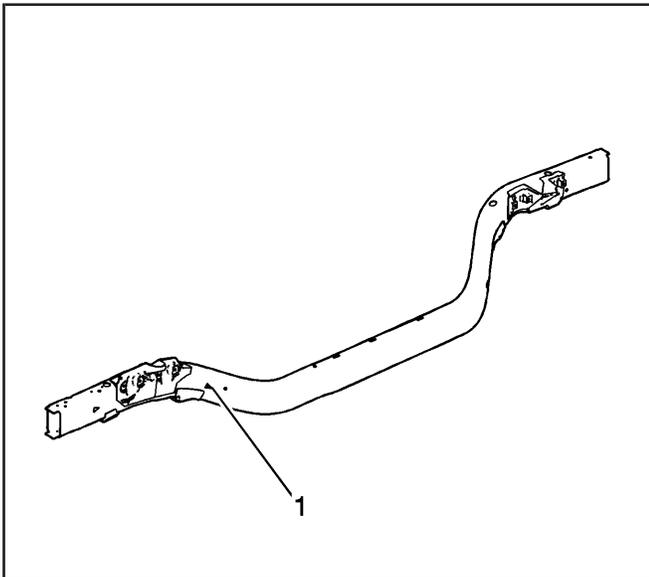
21. Remove the damaged frame rail section (1).



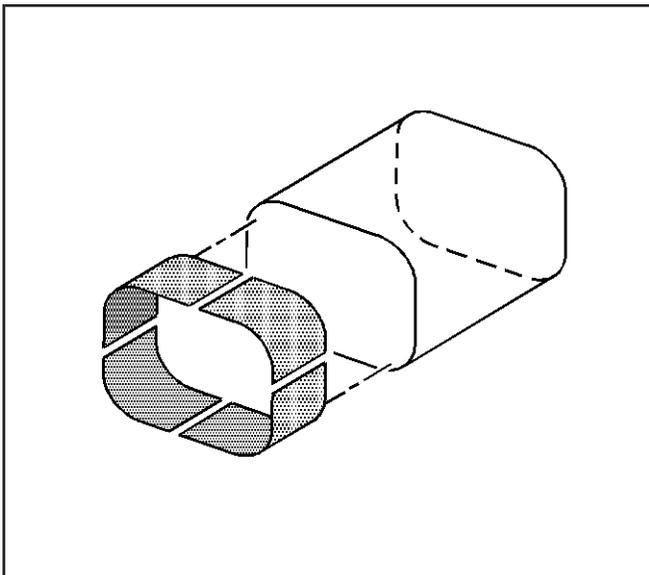
1549927



1545467



1576956



857910

Installation Procedure

1. Grind the existing frame rail sectioning location to a 60 degree angle.

Caution: Refer to *Collision Sectioning Caution on page 1-1.*

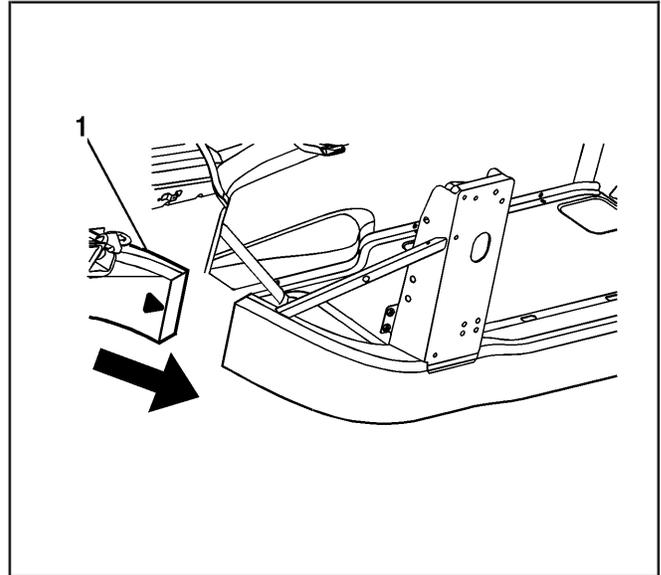
2. Locate the die-mark on the service frame rail.
3. Cut the new frame section from the service frame rail assembly.

4. Perform the sleeved butt-joint sectioning. Refer to *Sleeved Butt Joint Repair (Corvette) or Sleeved Butt Joint Repair (Z06) on page 2-36.*

Important: Use a stainless steel brush to remove the oxide layer prior to welding.

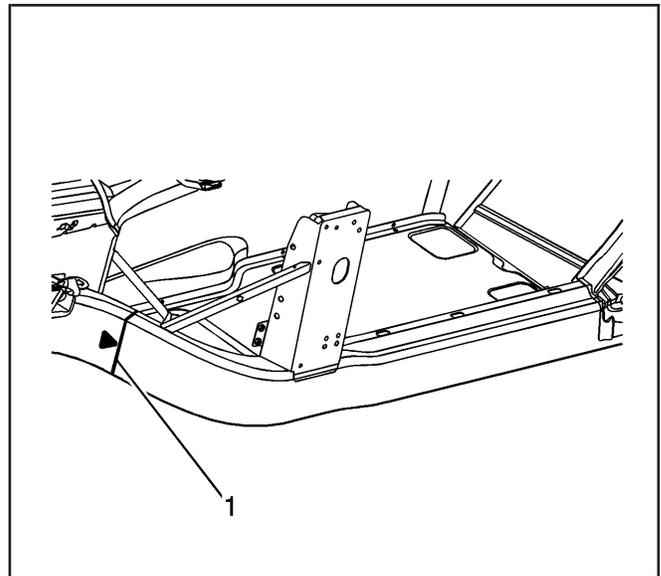
5. Clean and prepare all of the welded mating surfaces.

- Position the service frame section (1) to the existing frame.



1575870

- Maintain a gap of one frame rail metal thickness at the sectioning joint (1) and clamp in place.
- Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.

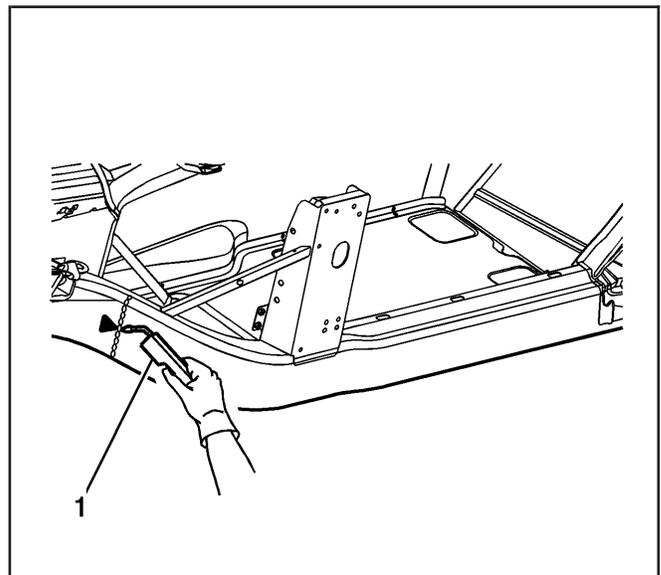


1576359

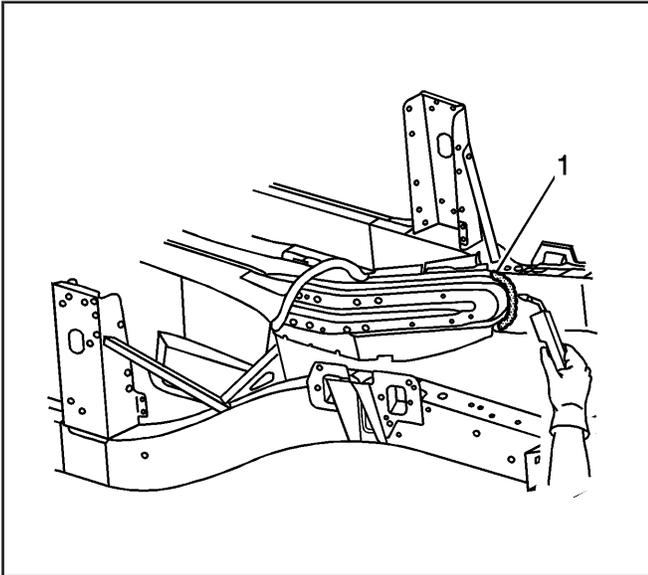
Important: Recommend 2 weld passes (root and cap). Recommend wire alloy is 5356 and wire size is 0.035. The shielding gas is 100 percent Argon.

A 2 minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.

- Using a PULSED-MIG (P-MIG) welder, weld 50-mm (2-in) stitch welds to the top and bottom of the sleeve joint.
- Using a P-MIG welder, weld (1) 50-mm (2-in) welds to the inner and outer vertical walls of the sleeve joint.
- Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.
- Using a P-MIG welder, complete the welding of the sleeve joint using the 2 minute cooling down period for every 2 minutes or 100 mm (4 in) of welding.



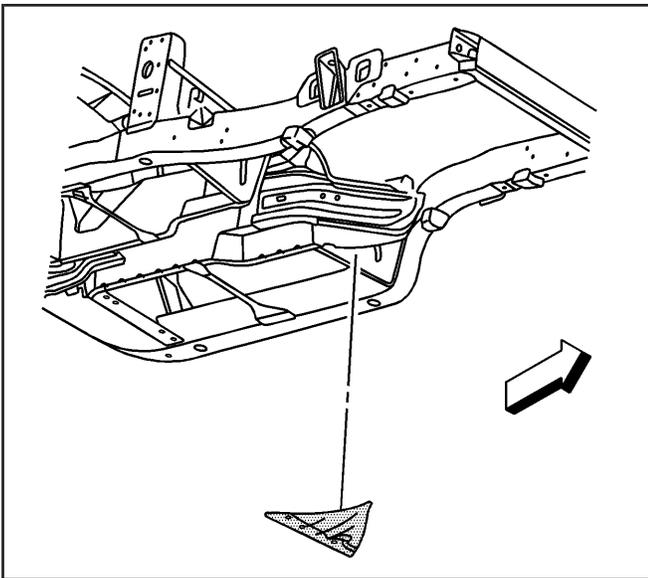
1549963



1576355

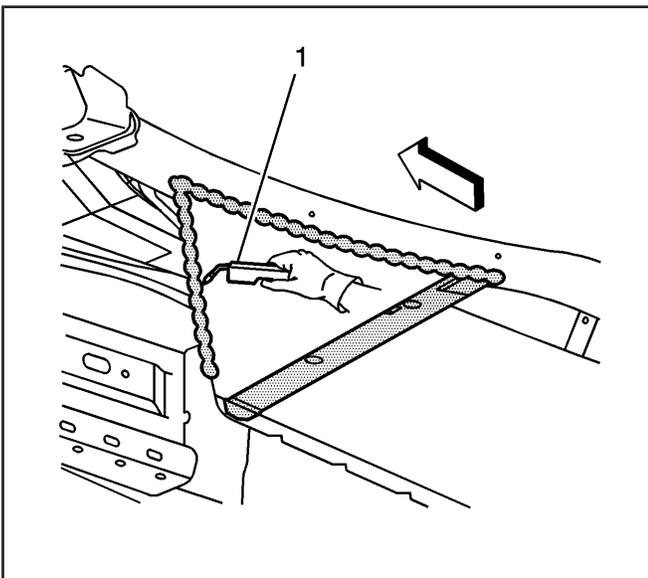
Important: A 2 minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.

13. Using a P-MIG welder, stitch weld (1) the tunnel braces to the structure duplicating the factory welds.



1549637

14. Install the lower extension panel.



1550023

Important: A 2 minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.

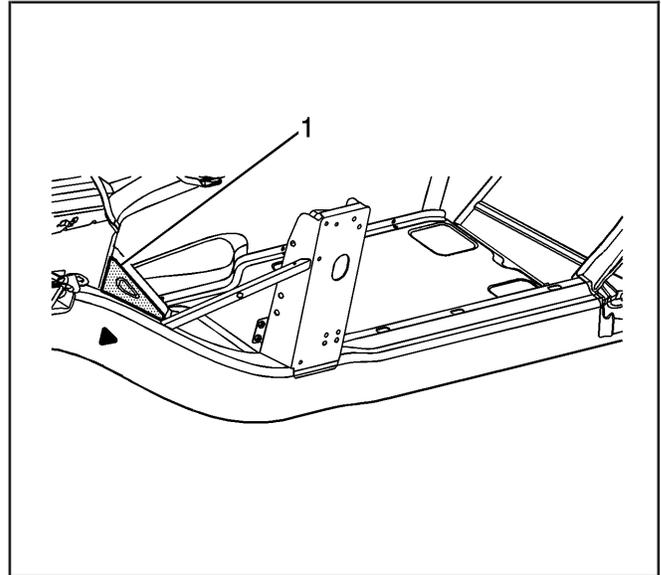
15. Using a P-MIG welder, stitch weld (1) the lower floor extension panel to the structure duplicating the factory welds.

Important: Replace the SPRs with a structural monobolt rivet, GM Part Number 19120691.

The structural monobolt rivet requires a special nose tip, BO48073.

16. Using a rivet gun, attach the lower floor extension panel to the structure duplicating the number of factory SPRs.

17. Install the upper extension panel (1).



1545712

18. Using a P-MIG welder, weld the upper extension panel to the structure duplicating the factory welds.

Important: Replace the SPRs with a structural monobolt rivet, GM Part Number 19120691.

The structural monobolt rivet requires a special nose tip, BO48073.

19. Using a rivet gun, attach the upper floor extension panel to the structure duplicating the number of factory SPRs.

20. Install the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.

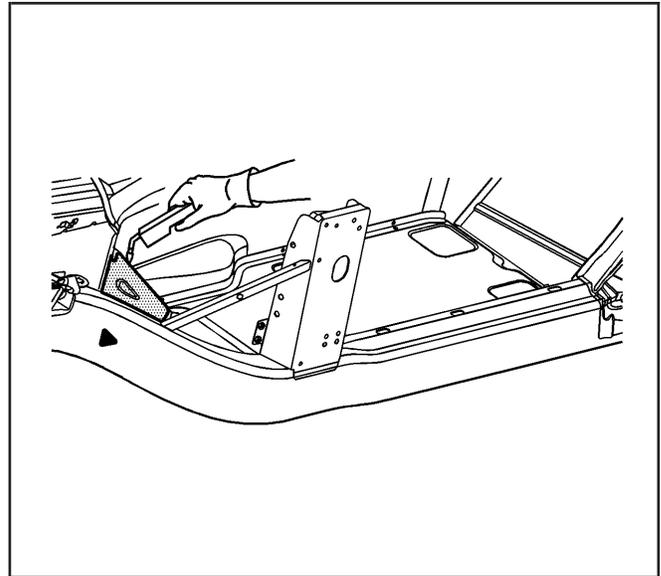
21. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to *Anti-Corrosion Treatment and Repair*.

22. Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.

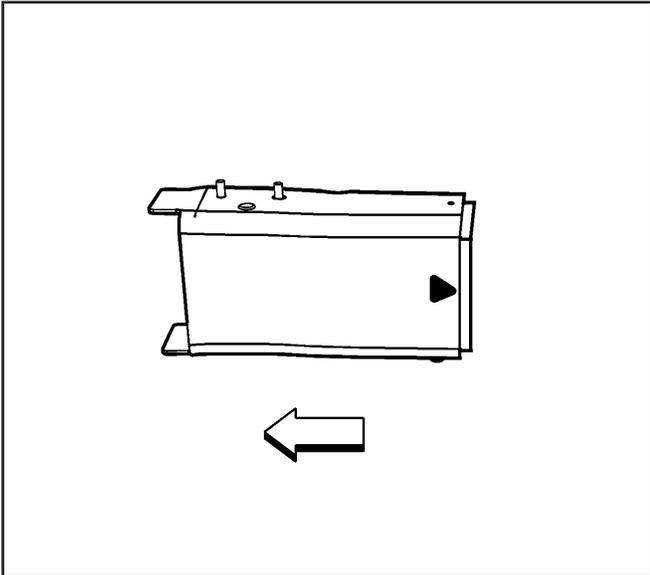
23. Install all related panels and components.

24. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.

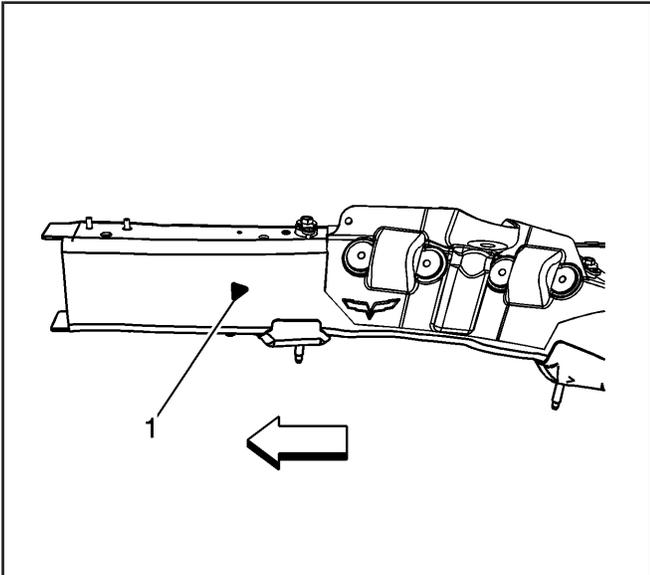
25. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1550046



1545452



1631306

Rail End Replacement - Front (Z06)

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

The service assemblies for the left and the right front end frame rails are pre-sleeved, 6063-T7 aluminum, hydro-formed parts, which correlate directly with the die mark located on the front frame rails.

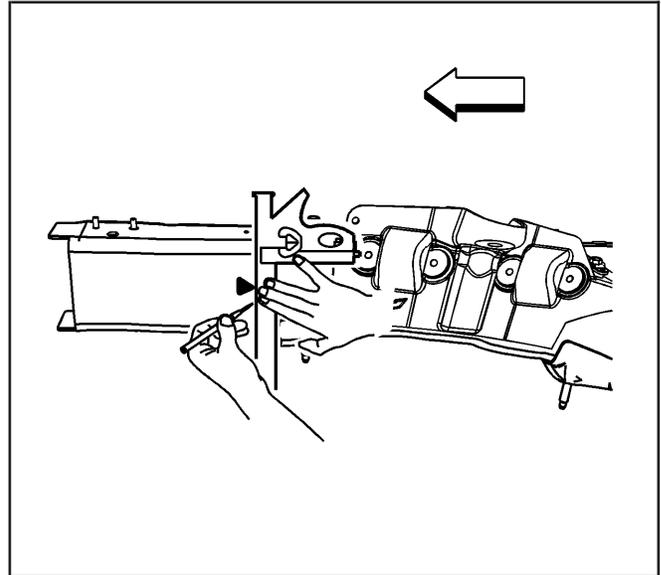
Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1.*

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
5. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
6. Repair as much of the damage as possible to the factory specifications.
7. Use *J 42058* to secure the vehicle if pulling and straightening is required.

Caution: Refer to *Collision Sectioning Caution on page 1-1.*

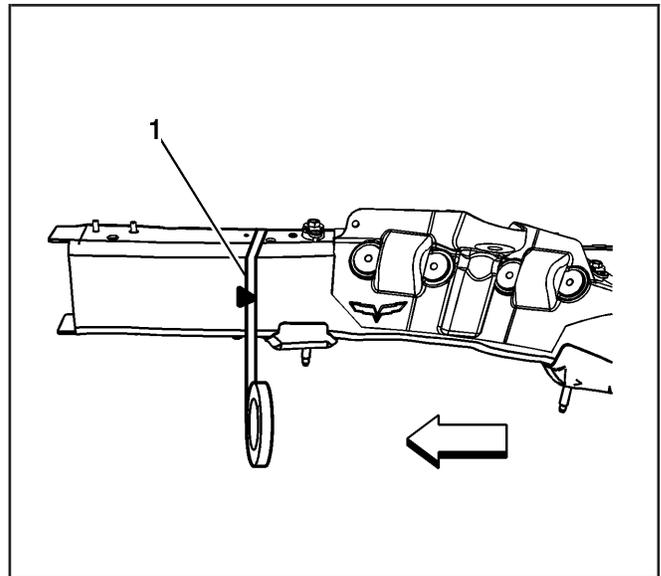
8. Locate the die-mark (1) on the damaged frame rail.

9. At the die mark align a sliding square or similar tool square to surface to the vertical walls of the frame rail.
10. Scribe a line to both sides of the frame rail.



1631305

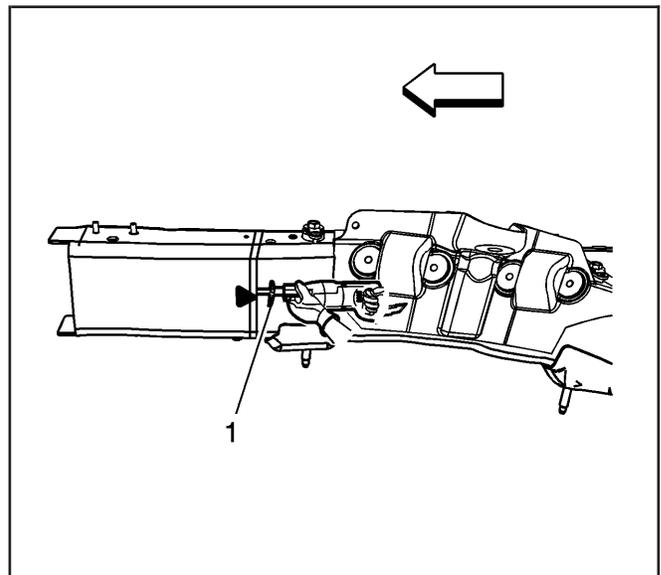
11. Apply masking tape (1) to the scribe line completely around the frame rail.



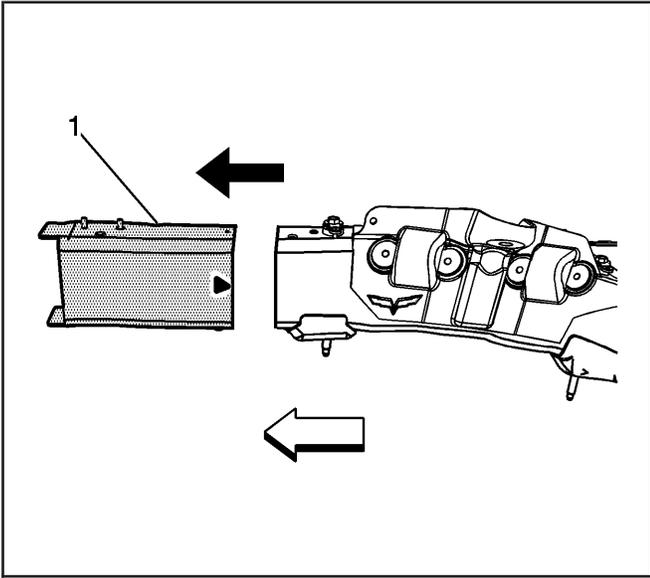
1631303

Important: Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.

12. Cut the frame rail at the rear edge of the tape line using a reciprocating saw or equivalent tool (1).

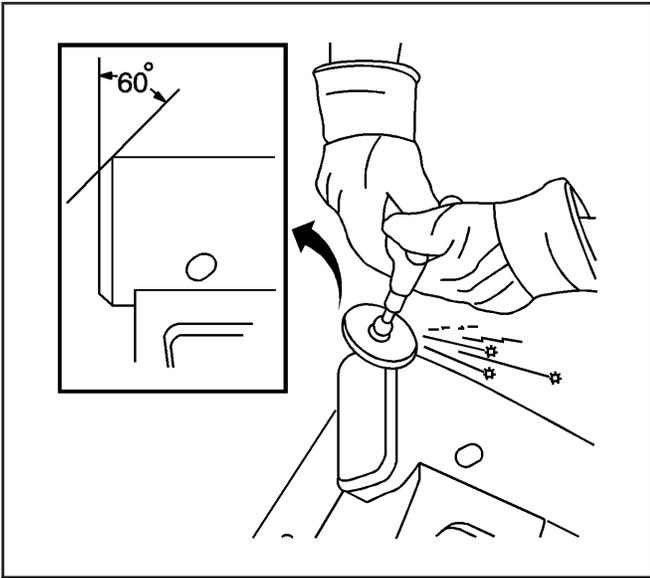


1631300



1545461

13. Remove the damaged frame rail end section (1).



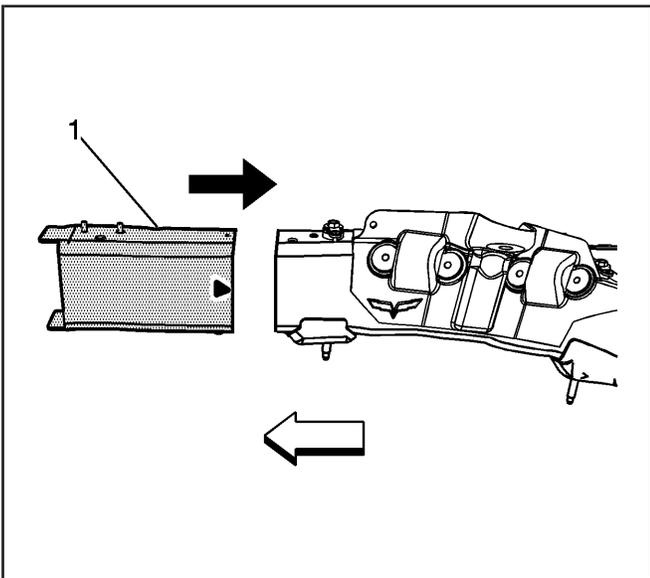
1545467

Installation Procedure

1. Grind the existing frame rail sectioning location to a 60 degree angle.

Important: Use a stainless steel brush to remove the oxide layer prior to welding.

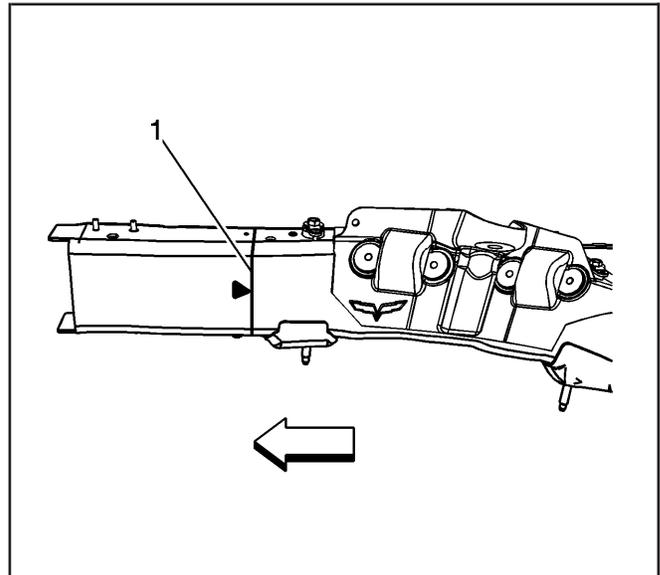
2. Clean and prepare all of the welded mating surfaces.



1545469

3. Position the service frame section (1) to the existing frame.

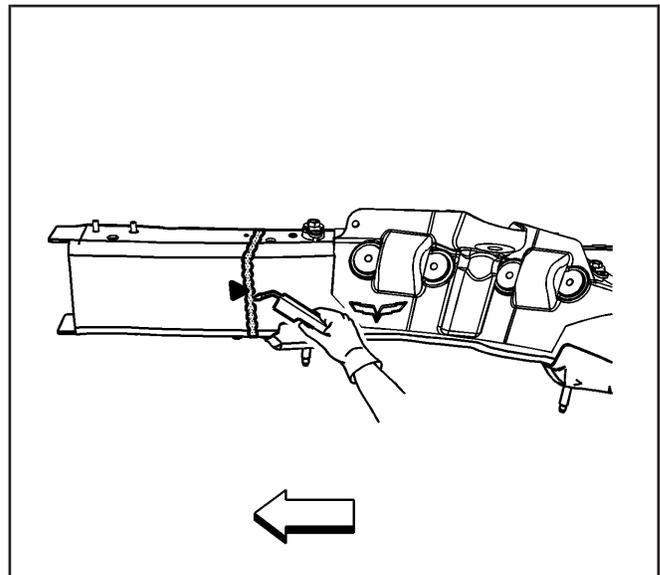
4. Maintain a gap of one frame rail metal thickness at the sectioning joint (1) and clamp in place.
5. Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.



1631286

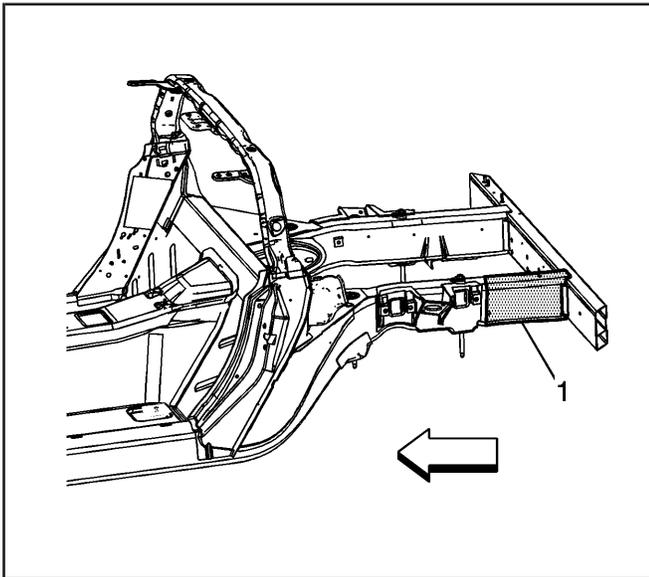
Important:

- Recommend 2 weld passes (root and cap).
 - Recommend wire alloy is 5356 and wire size is 0.035. The shielding gas is 100 percent Argon.
 - A 2 minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.
6. Using a PULSED-MIG welder, weld 50 mm (2 in) stitch welds to the top and bottom of the sleeve joint.
 7. Using a PULSED-MIG welder, weld 50 mm (2 in) stitch welds to the inner and outer vertical walls of the sleeve joint.
 8. Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.
 9. Using a PULSED-MIG welder, complete the welding of the sleeve joint using the 2 minute cooling down period for every 2 minutes or 100 mm (4 in) of welding.
 10. Install the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
 11. Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.



1631296

- Important:** DO NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.
12. Paint the repair 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 Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
 15. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1654759

Rail End Replacement - Rear (Z06)

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

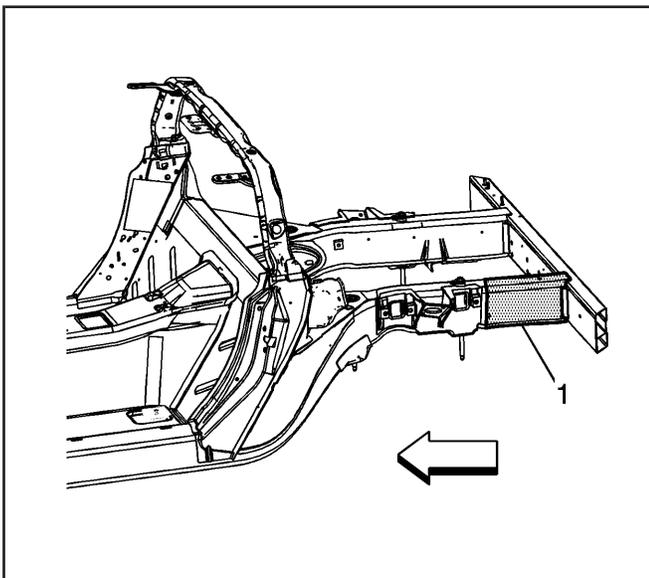
Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the rear impact bar. Refer to *Impact Bar Replacement - Rear Bumper (Corvette)* or *Impact Bar Replacement - Rear Bumper (Z06)* on page 2-14.
5. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
6. Repair as much of the damage as possible to the factory specifications.
7. Use J 42058 to secure the vehicle if pulling and straightening is required.
8. Remove the damaged section of frame rail within the shaded area (1).

Installation Procedure

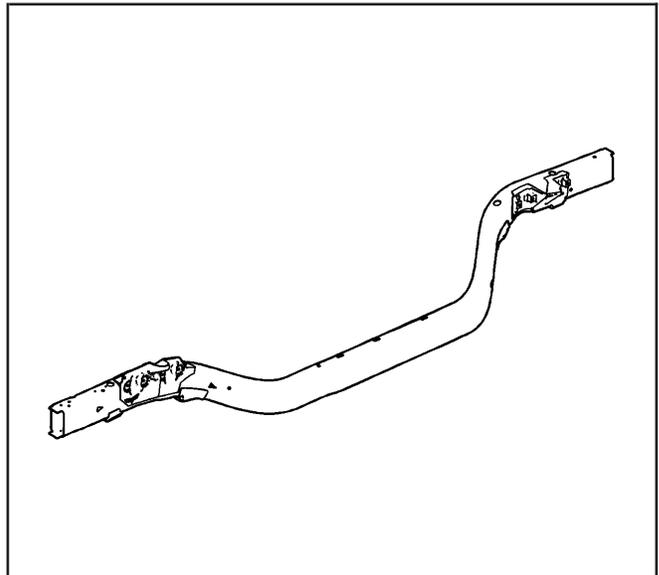
Caution: Refer to *Collision Sectioning Caution on page 1-1*.

1. Determine the sectioning joint location within the recommended area (1).



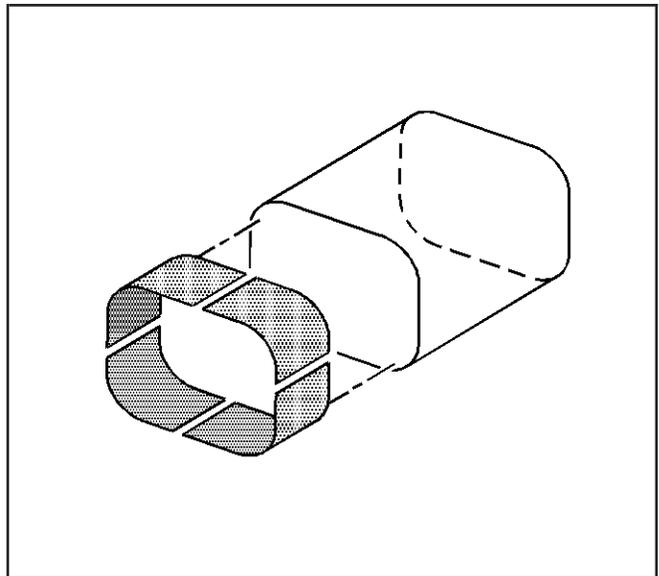
1654759

- Cut the new frame rail end from the service frame rail assembly.

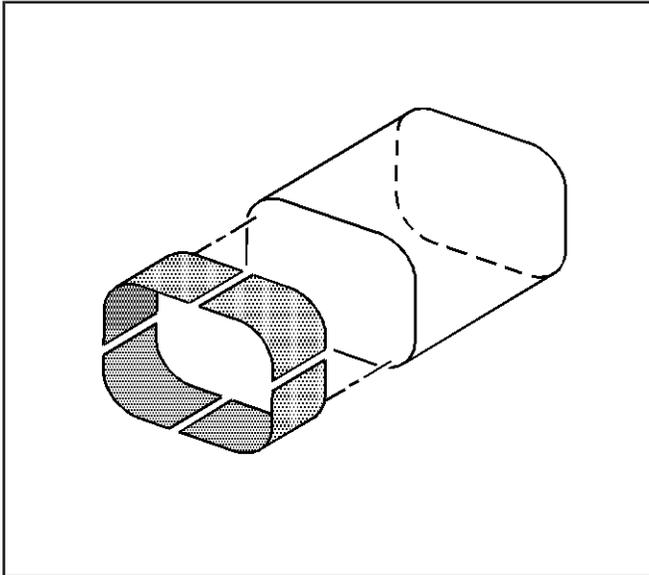


1654842

- Perform the sleeved butt-joint sectioning. Refer to *Sleeved Butt Joint Repair (Corvette)* or *Sleeved Butt Joint Repair (Z06)* on page 2-36.
- Install the rear impact bar. Refer to *Impact Bar Replacement - Rear Bumper (Corvette)* or *Impact Bar Replacement - Rear Bumper (Z06)* on page 2-14.
- Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
- Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
- Install all related panels and components.
- Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
- Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



857910



857910

Sleeved Butt Joint Repair (Z06)

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1.*

Caution: Refer to *Collision Sectioning Caution on page 1-1.*

Important: When determining the area to perform the sectioning near a riv-nut within the recommended areas, choose a location that centers the sleeve through the hole. This will ensure that riv-nut fasteners remain straight during installation.

Important: Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.

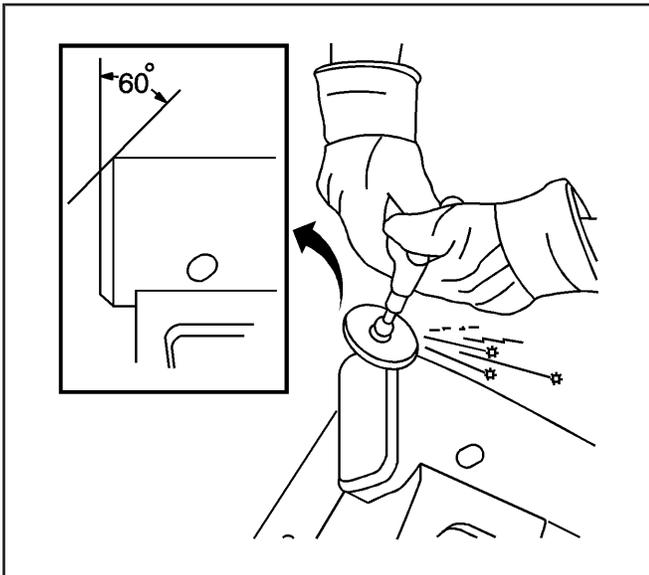
1. From the new section of frame rail, measure, mark, and cut 50 mm (2 in) of frame rail to be used as a sleeve (backing plate) for the sectioning joint.
2. Cut through each side of the sleeve to create 4 individual L-shaped pieces that can be installed in the existing frame rail.
3. Install the 4 pieces, one at a time.
4. Trim the pieces as necessary, to provide a flush fit along the inner surface of the existing frame rail.

Important: Use a stainless steel brush to remove the oxide layer prior to welding.

5. Clean and prepare all of the welded surfaces.

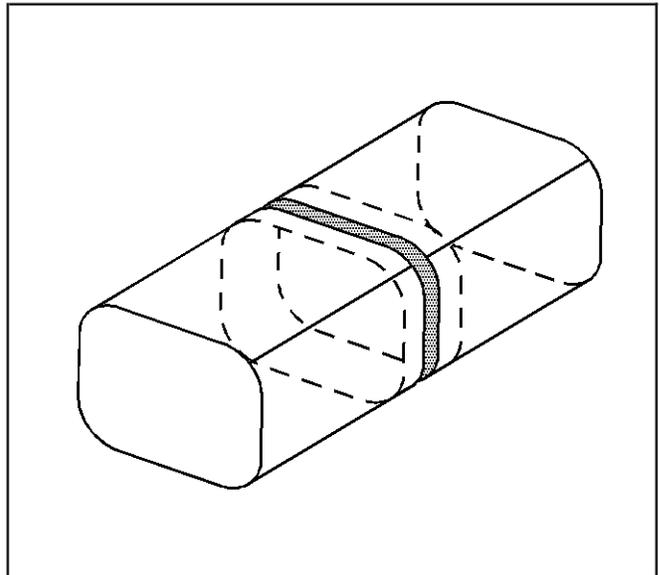
Important: Recommend wire alloy is 5356 and wire size is 0.035. The shielding gas is 100 percent Argon.

6. Using a PULSED-MIG welder, tack weld the 4 pieces to the inner surface of the existing frame rail.
7. Grind the existing frame rail sectioning location and the new frame rail section to a 60-degree angle.



1545467

8. Install the new frame rail section to the existing frame rail to create the butt joint while maintaining a gap of one rail metal thickness at the sleeve butt-joint.
9. Inspect the new frame rail section using three-dimensional measurements.



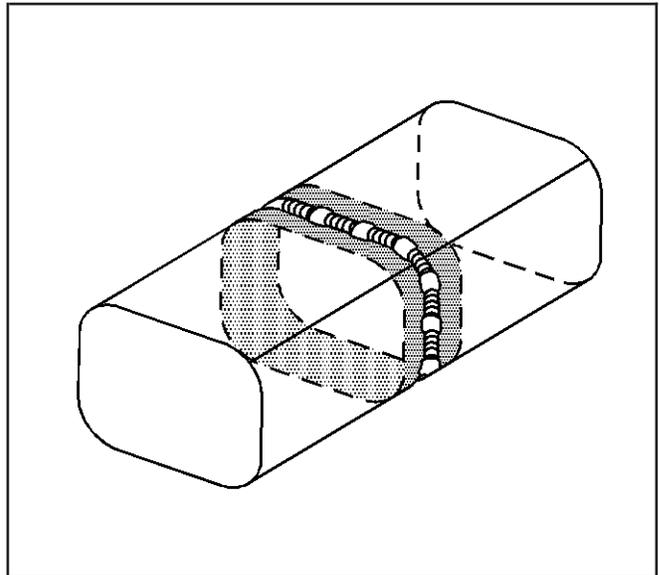
858110

Important: Recommend 2 weld passes (root and cap).

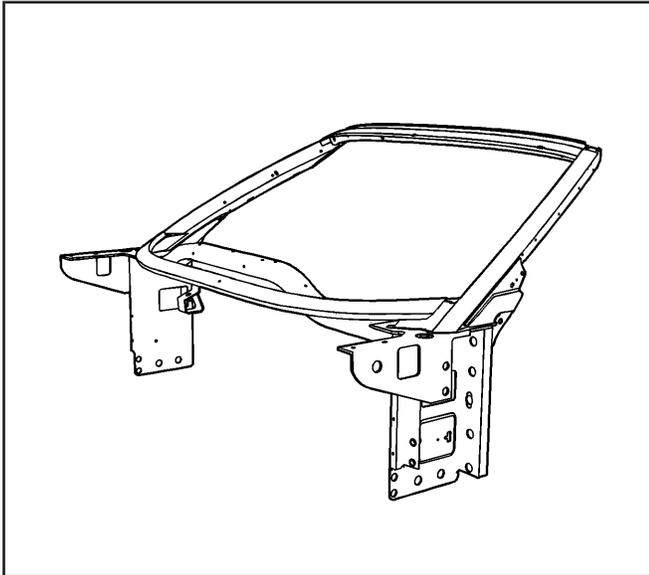
Recommend wire alloy is 5356 and wire size is 0.035. The shielding gas is 100 percent Argon.

A 2 minute cooling down period is recommend for every 2 minutes or 100 mm (4 in) of welding.

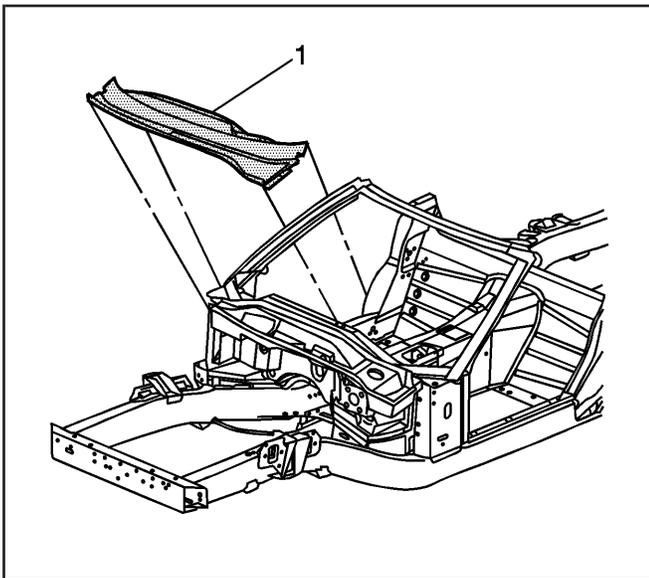
10. Using a PULSED-MIG welder, complete the welding of the sleeve joint using the 2 minute cooling down period for every 2 minutes or 100 mm (4 in) of welding.



858113



1497180



986373

Windshield Frame Replacement

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

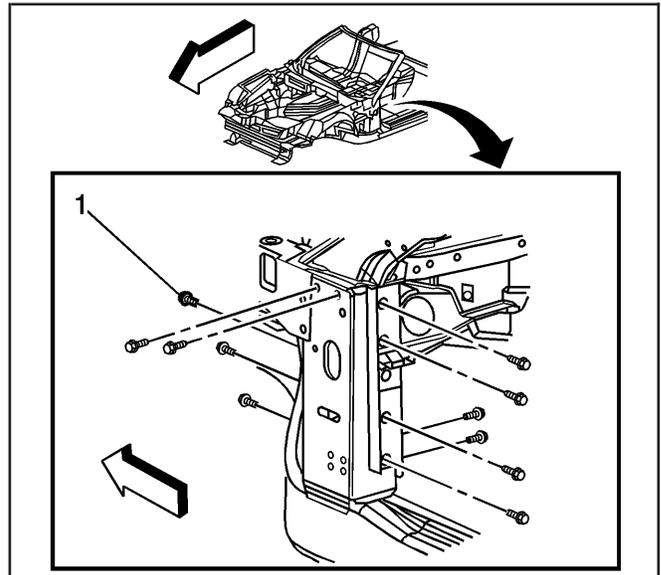
The windshield frame is made of cast aluminum components. The windshield frame is bonded and bolted to the front hinge pillars with structural adhesive. It is also braced to the tunnel assembly by a bolted and bonded cross car beam.

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

Important: An attempt to repair the windshield frame may compromise the structural integrity of the vehicle. Complete replacement is recommended.

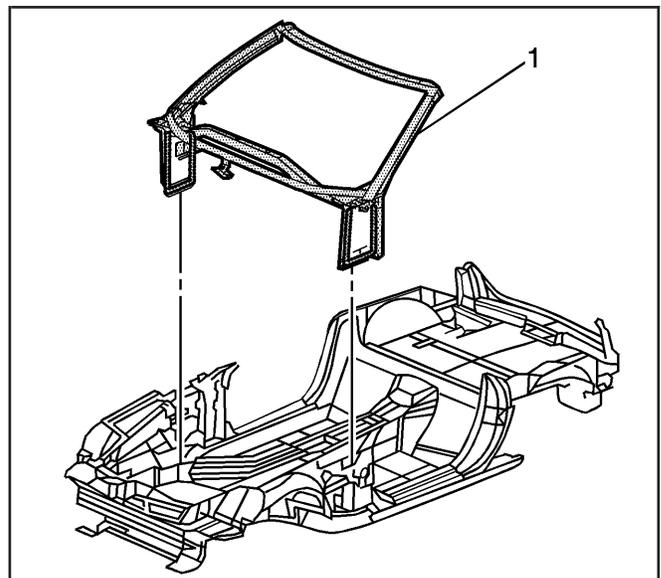
1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Drill out the close-end rivets securing the upper plenum to the windshield frame.
5. Remove the upper plenum (1) by applying heat and pry to detach the adhesive along the bonding surface.
6. Separate the lower plenum from the windshield frame by applying heat and pry to detach the adhesive along the bonding surface.
7. Remove the bolts attaching the cross-car brace.
8. Remove the cross car brace by applying heat and pry to detach the adhesive along the bonding surface.

- Remove the bolts (1) attaching the windshield frame to the front hinge pillars.



986434

- Remove the windshield frame (1) by applying heat and pry to detach the adhesive along the bonding surface.
- Save any and all brackets, mounting studs, and accessories for transfer to the windshield frame.
- Note the location of the adhesive and remove all remaining loose adhesive.
- Inspect the structure and frame rails for damage.
- Repair as much of the damage as possible to the factory specifications.
- Use *J 42058* to secure the vehicle if pulling and straightening is required.



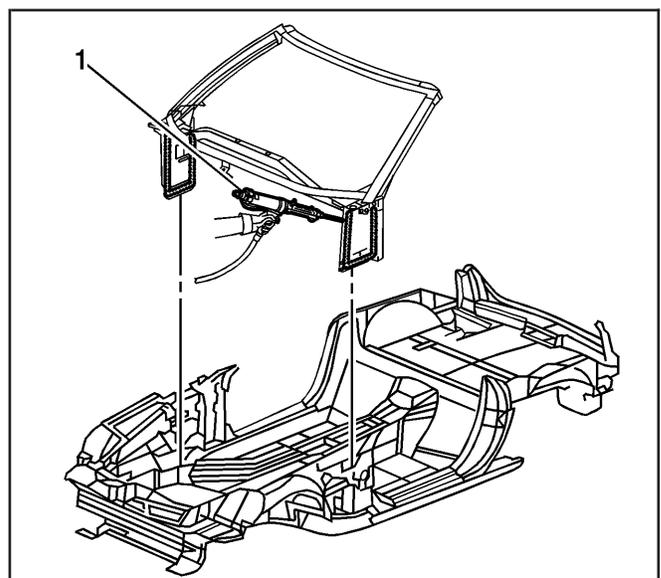
1200409

Installation Procedure

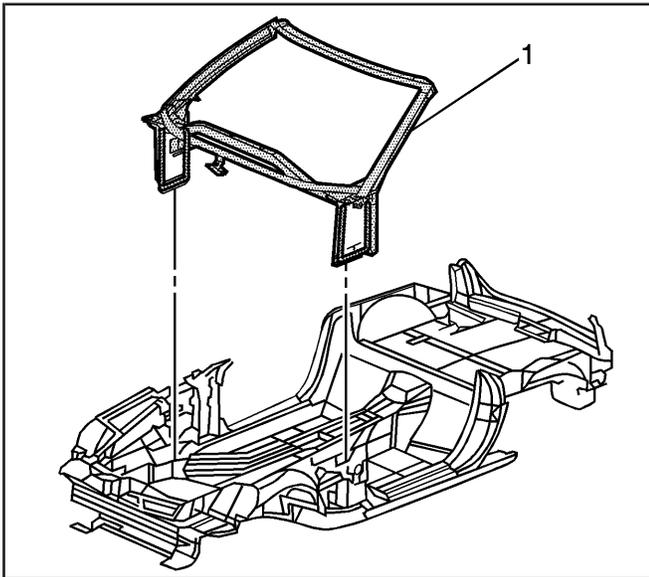
- Before applying adhesive, dry fit the windshield frame for proper fit and alignment.

Important: DO NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

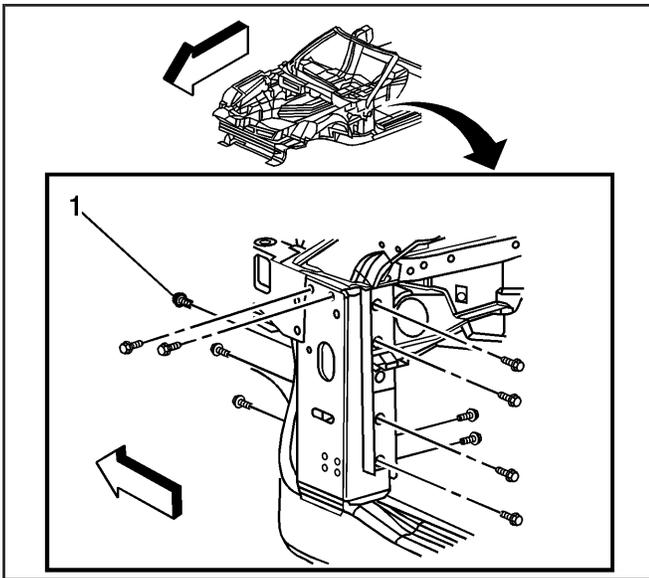
- Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.
- Apply a consistent bead of structural adhesive (1) 10 mm (3/8 in) in diameter to the windshield frame to mate with the bonding surfaces. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.



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4. Install the windshield frame (1) to the vehicle.

Notice: Refer to *Fastener Notice on page 1-1*.

5. Install the bolts (1) that attach the windshield frame to the front hinge pillar.

Tighten

Tighten the bolts to 25 N·m (18 lb ft).

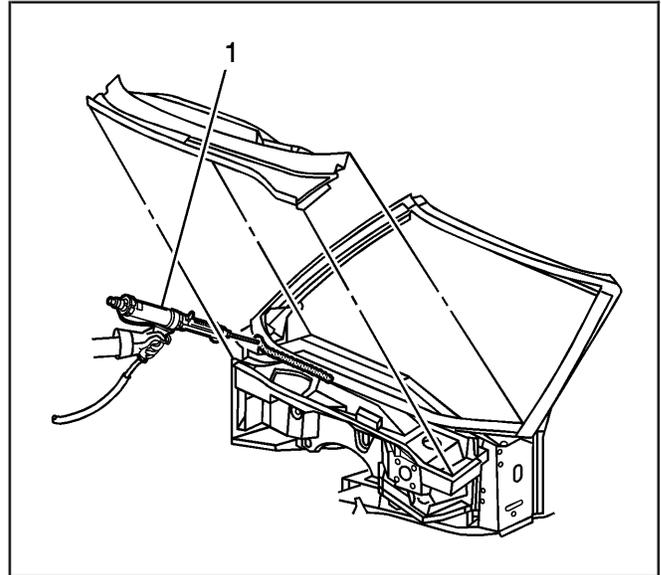
6. Clamp or mechanically fasten the windshield frame into place.
7. Apply structural adhesive to bond the lower plenum to the windshield frame. Refer to *Sheet Molded Compound (SMC) Panel Bonding on page 2-62*.
8. Drill holes and use close-end rivets GM P/N 9418420 to secure the lower plenum to the windshield frame while adhesive cures.
9. Apply the structural adhesive to the area where the cross-car brace bonds to the center tunnel assembly. Refer to *Sheet Molded Compound (SMC) Panel Bonding on page 2-62*.
10. Install the cross-car brace to the vehicle.
11. Install the cross-car brace bolts.

Tighten

Tighten the bolts to 25 N·m (18 lb ft).

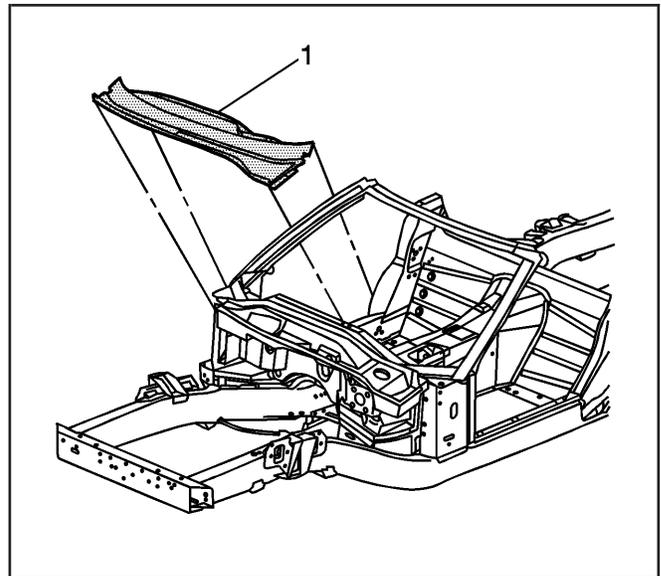
12. Install all hardware attaching the instrument panel (I/P) supports to the windshield frame.

- Apply a consistent bead of structural adhesive (1) to the bonding surfaces to mate with the upper plenum. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.



986420

- Install the upper plenum (1) to the windshield frame.
- Install the close-end rivets GM P/N 9418420, in the factory locations, securing the upper plenum to the windshield frame.
- Remove any excess adhesive.
- Install all related panels and components.
- Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
- Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



986373

Door Opening Frame Replacement - Side

Tools Required

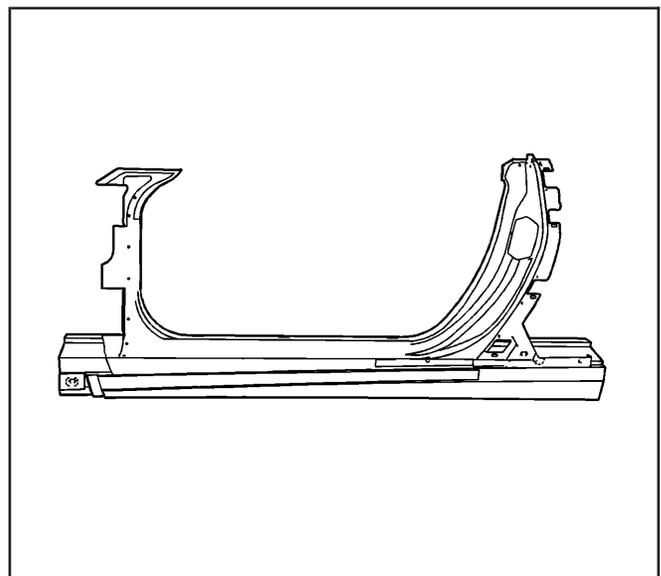
J 42058 Frame Adapter Clamp

Removal Procedure

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

The side door opening frame is made of sheet molded compound (SMC), and is bonded to the side structure and frame rail with structural adhesive.

- Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
- Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.



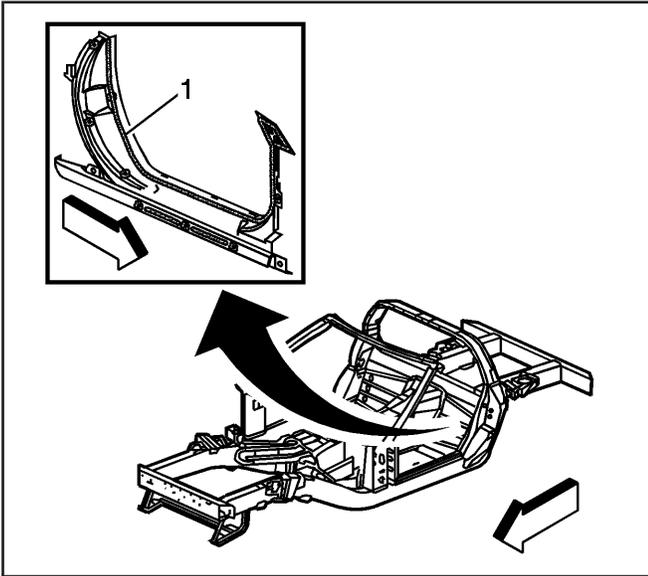
1497181

3. Remove all related panels and components.

Caution: Refer to Actions to Take When Working with Fuel Caution on page 1-1.

4. Verify that the fuel inlet is sealed before proceeding with repair procedure.

5. Remove the door frame by applying heat and pry to detach the adhesive (1) along the bonding surface.



1470772

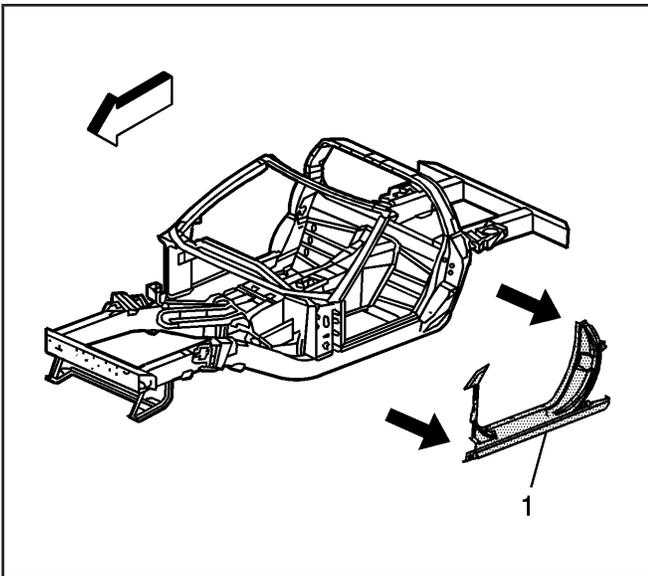
6. Remove the door frame (1) from the vehicle.

7. Note the location of the adhesive and remove all remaining loose adhesive.

8. Inspect the side structure and frame rails for damage.

9. Repair as much of the damage as possible to the factory specifications.

10. Use J 42058 to secure the vehicle if pulling and straightening is required.



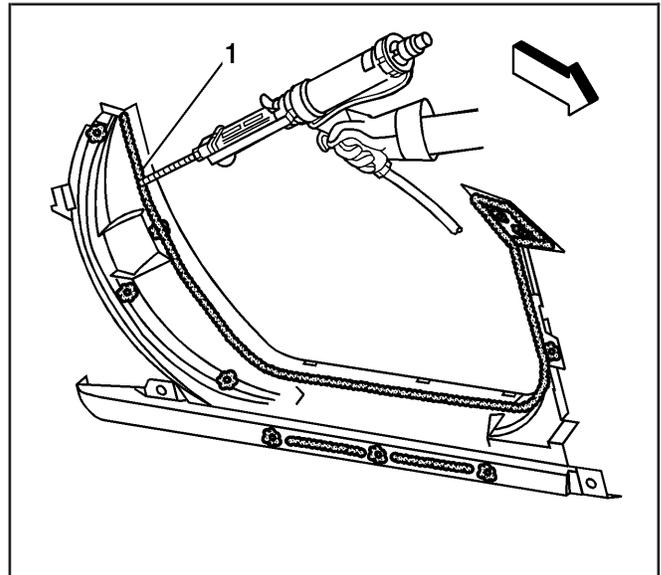
1470775

Installation Procedure

1. Before applying adhesive dry fit the door frame for proper fit and alignment.

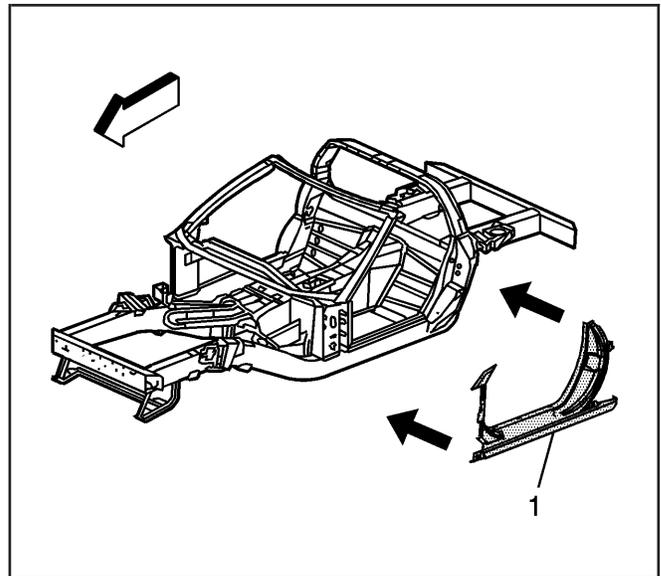
Important: DO NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

2. Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.
3. Apply a consistent bead of structural adhesive 10 mm (3/8 in) in diameter to the inner surface of the door frame to mate with the side structure and frame rail and to all areas originally bonded. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.



1485945

4. Position the door frame (1) to the vehicle.
5. Apply pressure to the door frame to set the adhesive.
6. Clamp or tape the door frame in place as necessary.
7. Remove any excess adhesive.
8. Install all related panels and components.
9. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
10. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1470777

Rail Replacement - Rear (Z06)

Tools Required

J 42058 Frame Adapter Clamp

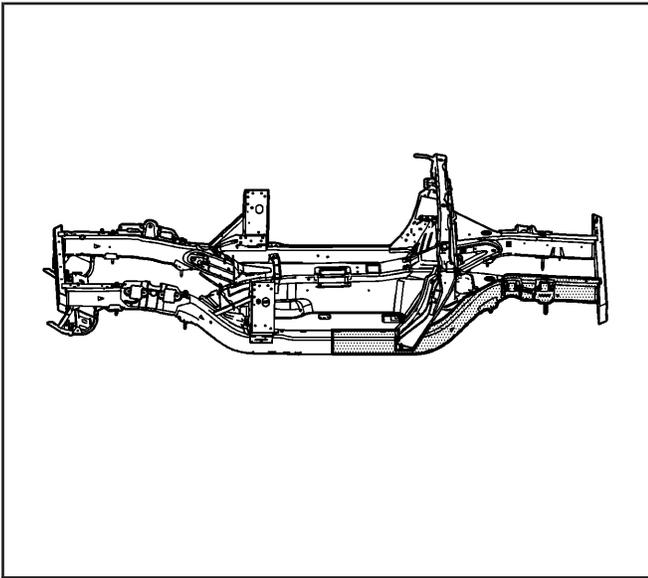
Removal Procedure

The service rails are complete rail assemblies for the left and the right sides, 6063-T7, hydro-formed aluminum parts.

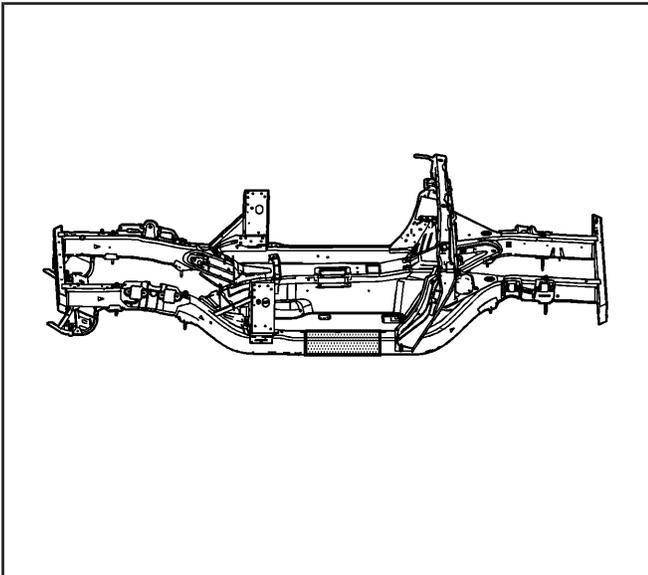
Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.

3. Remove all related panels and components.
4. Remove the rear impact bar. Refer to *Impact Bar Replacement - Rear Bumper (Corvette)* or *Impact Bar Replacement - Rear Bumper (Z06)* on page 2-14.
5. Note the location and remove the sealers and anti-corrosion materials from the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
6. Repair as much of the damage as possible to the factory specifications.
7. Use *J 42058* to secure the vehicle if pulling and straightening is required.
8. Inspect the front of the dash panel, floor panels, and all other sheet molded compound (SMC) for cracks or areas that may need to be repaired or resealed.
9. Remove the damaged section of frame rail.



1655991



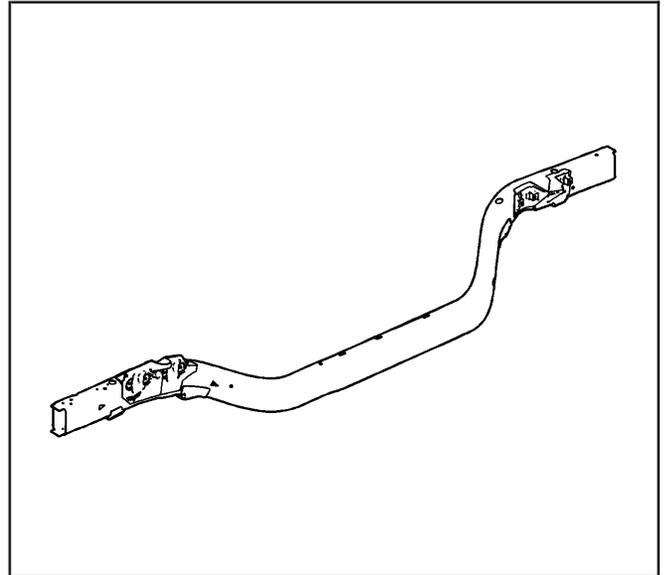
1655985

Installation Procedure

Caution: Refer to *Collision Sectioning Caution* on page 1-1.

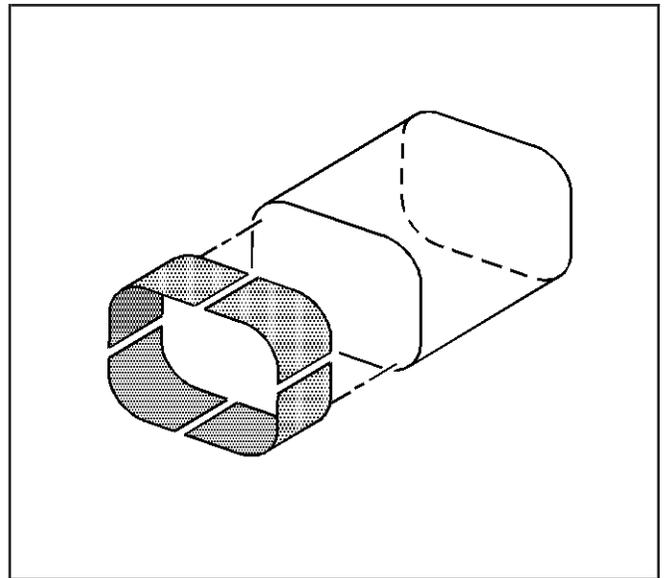
1. Determine the sectioning joint location within the recommended area.

- Cut the new frame section from the service frame rail assembly.

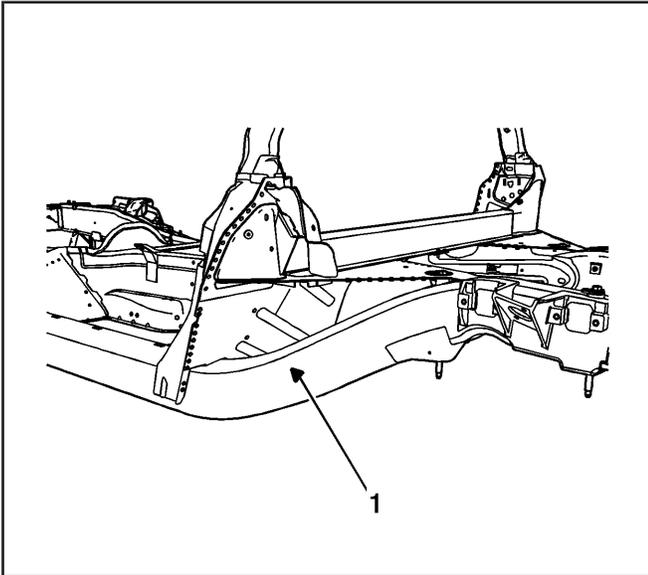


1654842

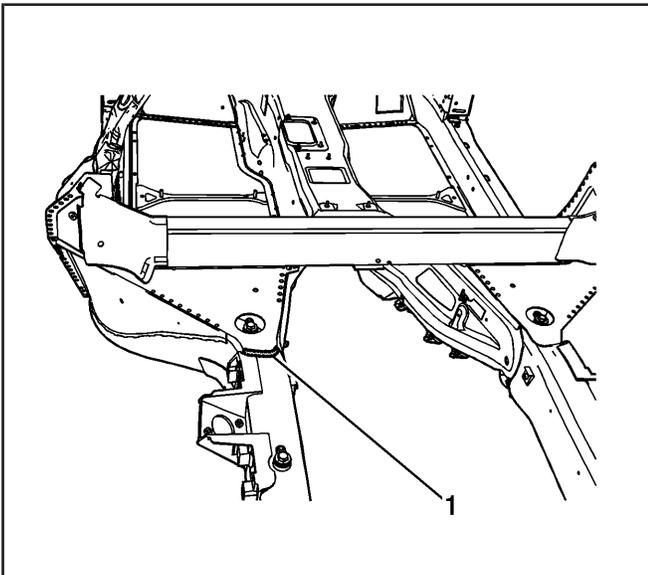
- Perform the sleeved butt-joint sectioning. Refer to *Sleeved Butt Joint Repair (Corvette)* or *Sleeved Butt Joint Repair (Z06)* on page 2-36.
- Install the rear impact bar. Refer to *Impact Bar Replacement - Rear Bumper (Corvette)* or *Impact Bar Replacement - Rear Bumper (Z06)* on page 2-14.
- Apply the sealers and anti-corrosion materials to the repair area. Refer to *Anti-Corrosion Treatment and Repair*.
- Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
- Install the related panels and components.
- Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
- Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



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1662707



1662267

Rail Replacement - Rear Section (Z06)

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

The service rails are complete rail assemblies for the left and the right sides, 6063-T7, hydro-formed aluminum parts, which correlate directly with the die mark (1) located on the rear frame rails

Caution: Refer to *Approved Equipment for Collision Repair Caution* on page 1-1.

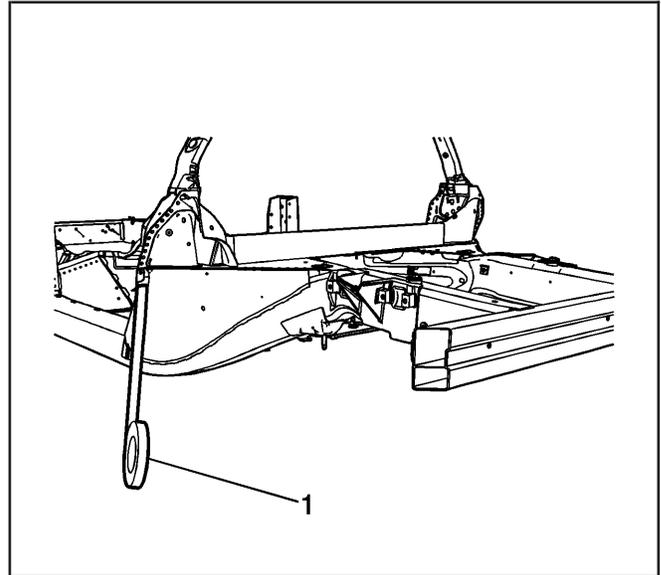
1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
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. Repair as much of the damage as possible to the factory specifications.
7. Use *J 42058* to secure the vehicle if pulling and straightening is required.
8. Inspect the front of the dash panel, floor panels, and all other sheet molded compound (SMC) and carbon fiber for cracks or areas that may need to be repaired or resealed.

Important: Hand tools, saw blades and abrasives used for aluminum repairs should be dedicated for aluminum only to prevent contamination.

9. Locate and remove all factory welds attaching the upper extension panel (1) to the structure. Note the location of the welds for installation of the upper extension panel.

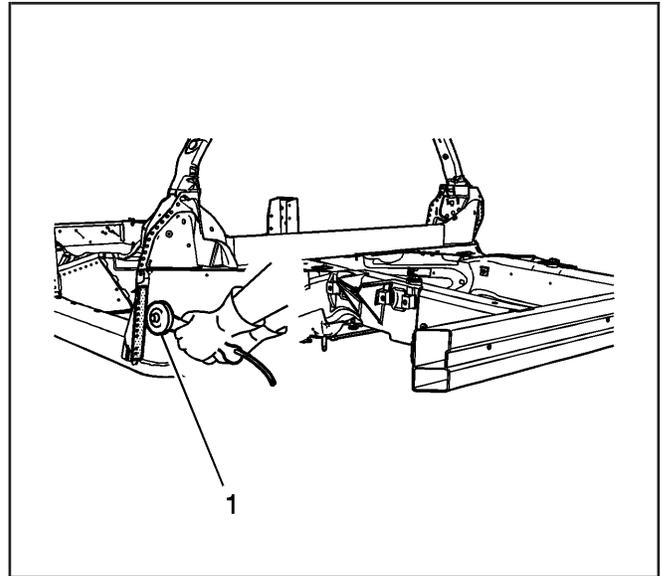
Caution: Refer to Sound Deadener Foam in the Lock Striker Pillars Caution on page 1-1.

10. Apply 25 mm (1 in) tape to the extension panel of the outer lock pillar.



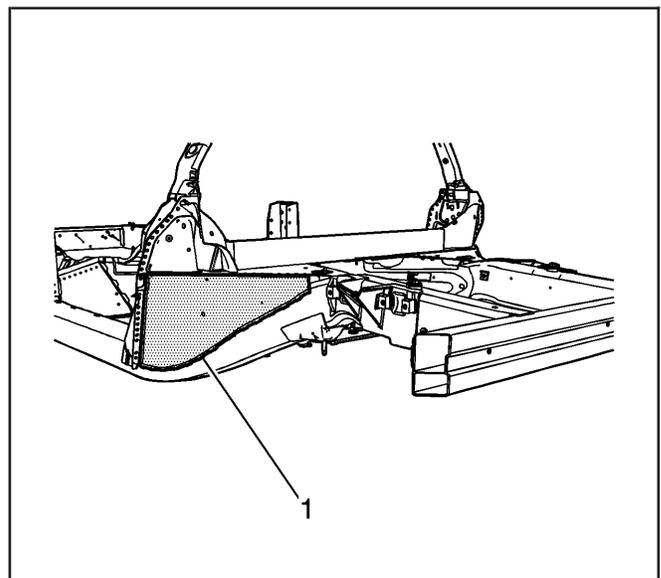
1662022

11. Using a die grinder (1), cut along the edge of the tape line to create a weld flange, which will be used for installing the new extension panel for the outer lock pillar.



1662140

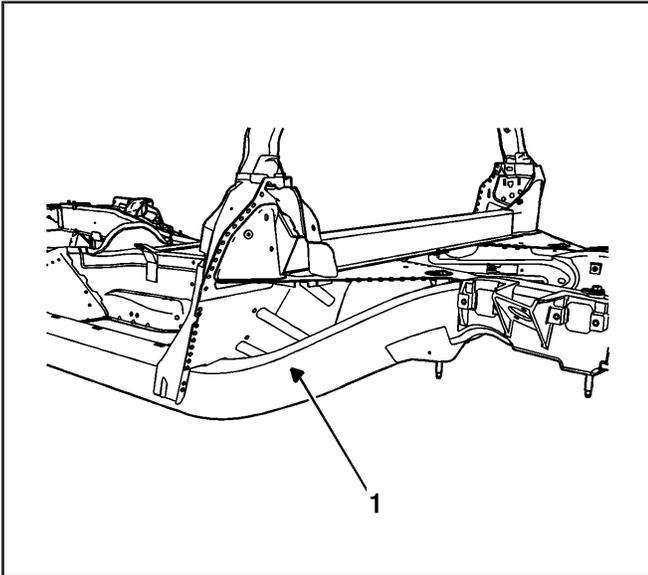
12. Locate and remove all factory welds (1) attaching the extension panel to the structure. Note the location of the welds for installation of the new extension panel.
13. Using a drill with a 6 mm (1/4 in) bit, locate and remove all self-piercing rivets (SPR). Note the number and location of the SPRs for installation of the extension panel.
14. Remove the extension panel.



1662156

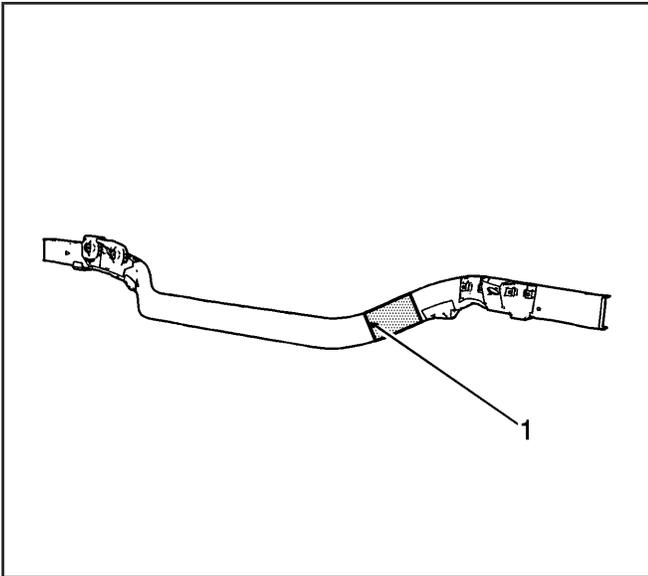
Caution: Refer to Collision Sectioning Caution on page 1-1.

15. Locate the die-mark (1) on the damaged frame rail.



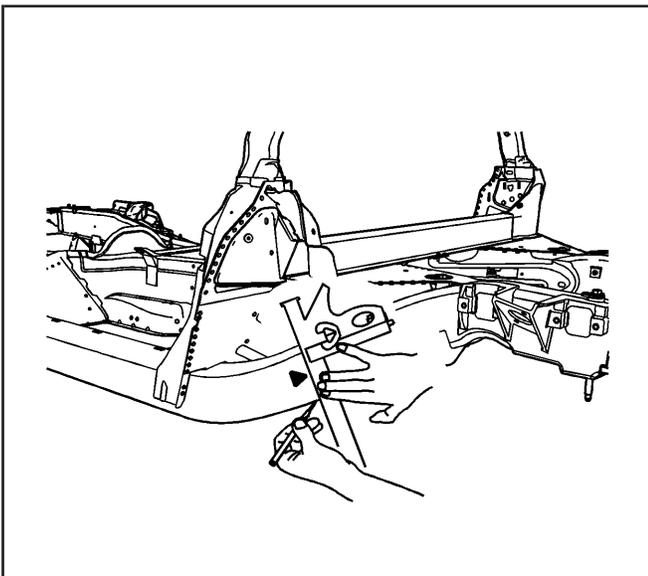
1662707

16. Determine the sectioning joint location within the recommended area.



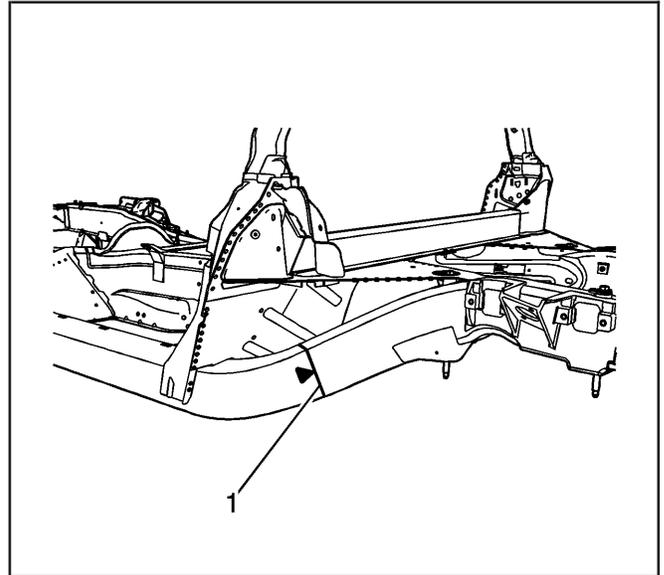
1576968

17. At the determined sectioning joint align a sliding square or similar tool square to surface to the vertical walls of the frame rail.



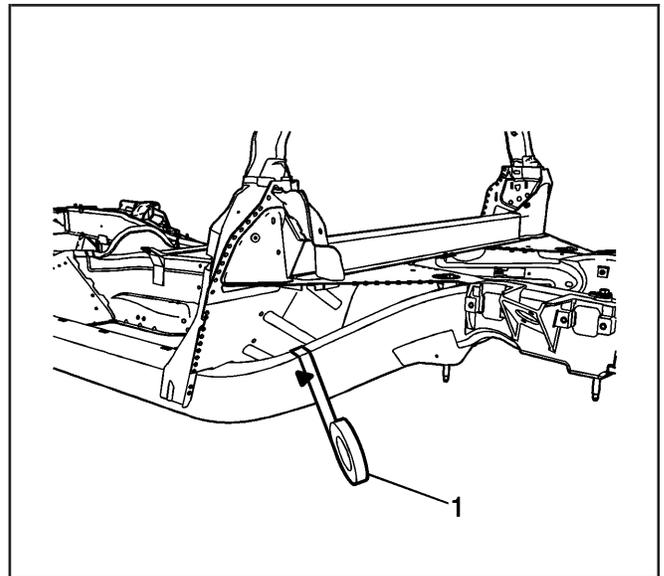
1662728

18. Scribe a line (1) to both sides of the frame rail.



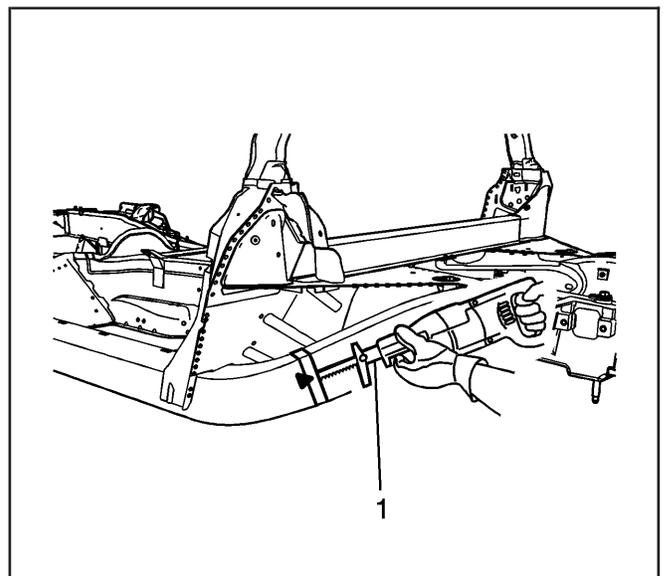
1664011

19. Apply masking tape (1) to the scribe line completely around the frame rail.

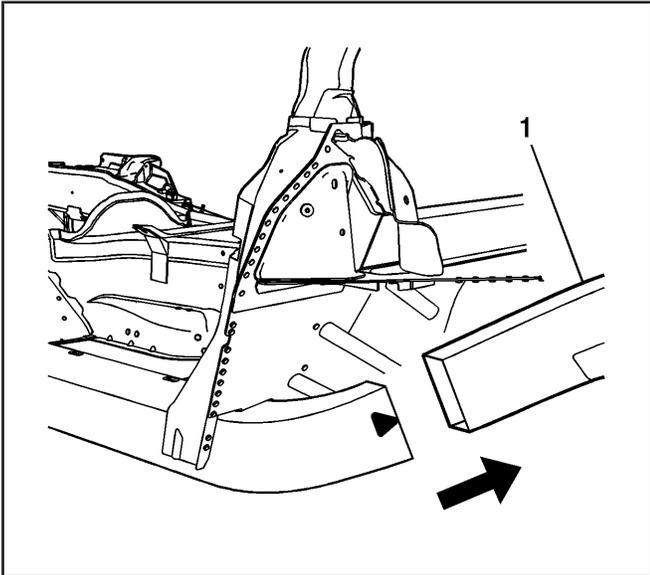


1662844

20. Cut the frame rail at the rear edge of the tape line using a reciprocating saw (1) or equivalent tool.

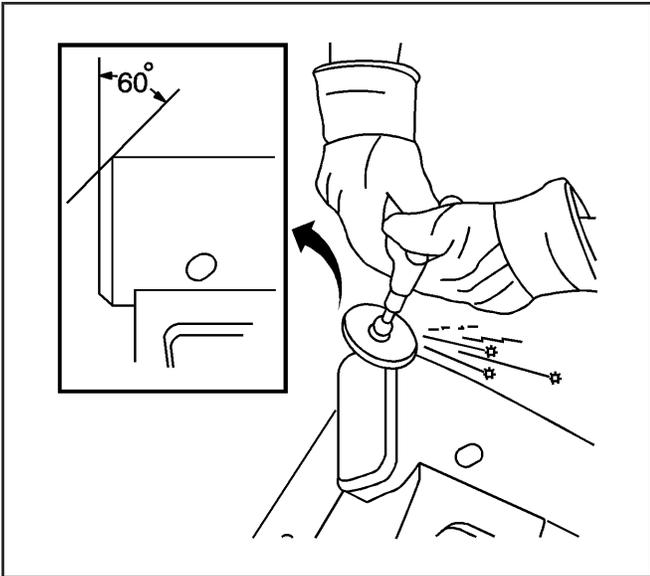


1663138



1663988

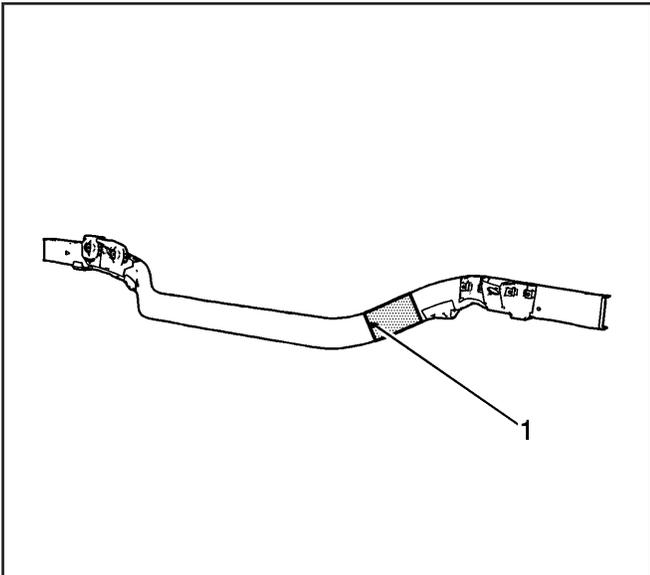
21. Remove the damaged frame rail section (1).



1545467

Installation Procedure

1. Grind the existing frame rail sectioning location to a 60 degree angle.



1576968

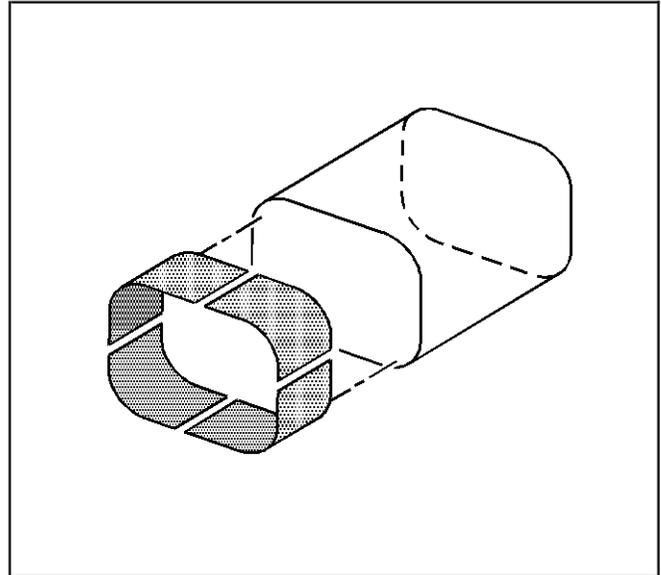
Caution: Refer to Collision Sectioning Caution on page 1-1.

2. Locate the die-mark (1) on the service frame rail.
3. Determine the sectioning joint location within the recommended area.
4. Cut the new frame section from the service frame rail assembly.

5. Perform the sleeved butt-joint sectioning. Refer to *Sleeved Butt Joint Repair (Corvette)* or *Sleeved Butt Joint Repair (Z06)* on page 2-36.

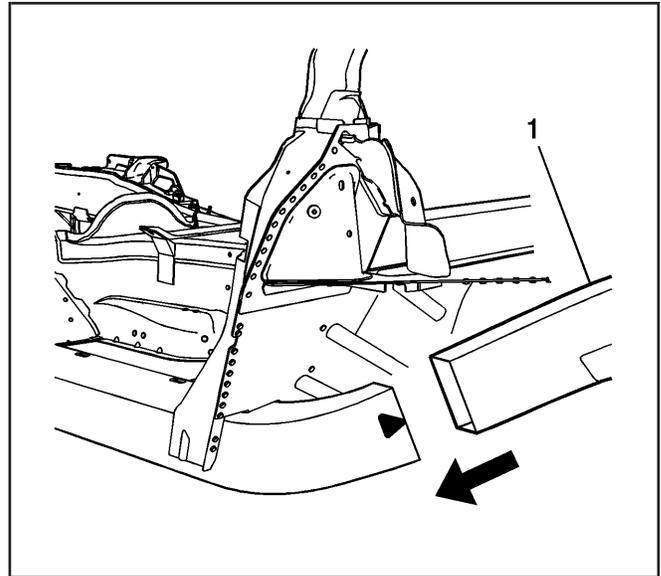
Important: Use a stainless steel brush to remove the oxide layer prior to welding.

6. Clean and prepare all of the welded mating surfaces.



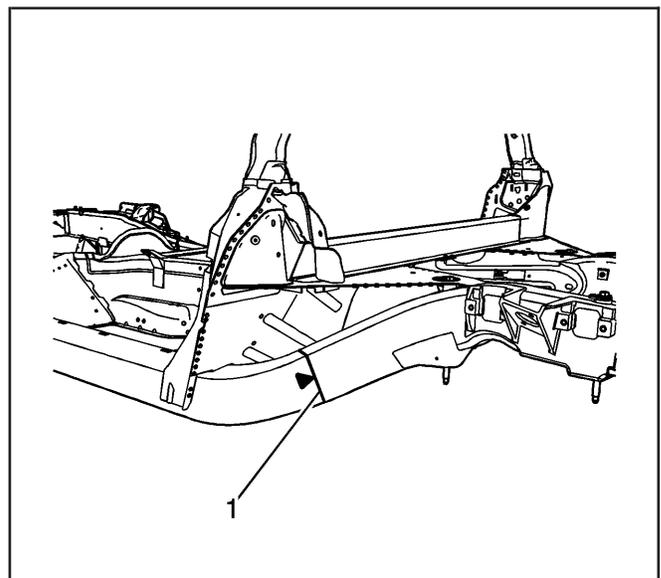
857910

7. Position the service frame section (1) to the existing frame.

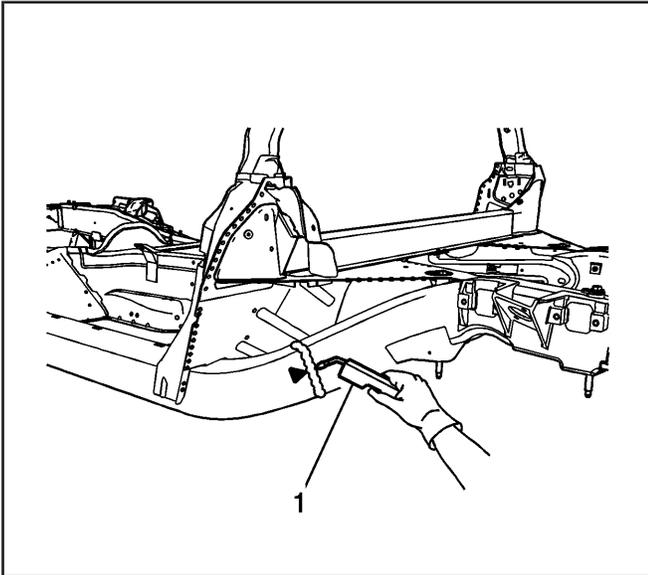


1663989

8. Maintain a gap of one frame rail metal thickness at the sectioning joint (1) and clamp in place.
9. Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.



1664011



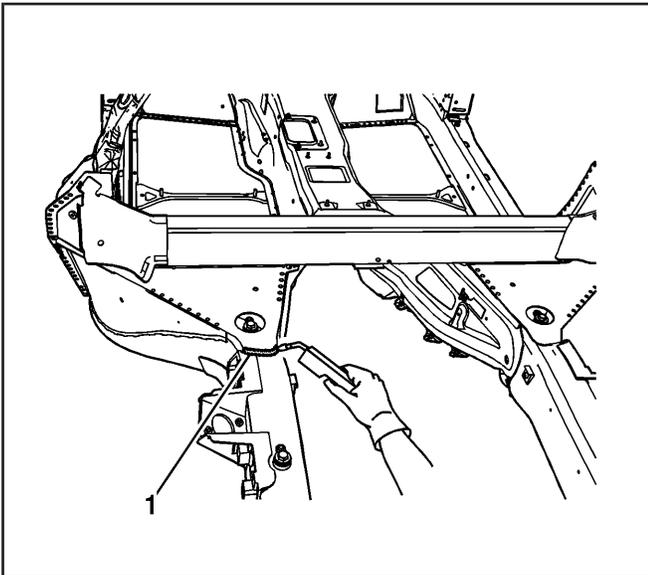
1664082

Important: Recommend two weld passes (root and cap).

Recommend wire alloy is 5356 and wire size is 0.035. The shielding gas is 100% Argon.

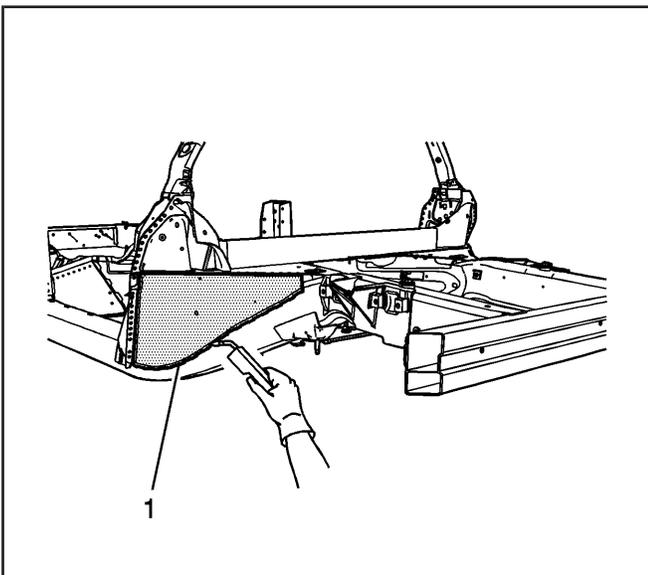
A two minute cooling down period is recommend for every 2 minutes or 100–mm (4–in) of welding.

10. Using a PULSED-MIG (P-MIG) welder, weld 50–mm (2–in) stitch welds to the top and bottom of the sleeve joint.
11. Using a P-MIG welder, weld (1) 50–mm (2–in) welds to the inner and outer vertical walls of the sleeve joint.
12. Inspect the frame measurements three-dimensional to ensure proper position of the service frame section.
13. Using a P-MIG welder, complete the welding of the sleeve joint using the two minute cooling down period for every 2 minutes or 100–mm (4–in) of welding.



1662269

14. Using a P-MIG welder, stitch weld (1) the upper extension panel (1) to the structure duplicating the factory welds.



1662158

15. Install the new the extension panel. Trim to fit the extension panel overlapping the 25 mm (1 in) flange created from the original extension.

Important: A two minute cooling down period is recommend for every 2 minutes or 100–mm (4–in) of welding.

16. Using a P-MIG welder, stitch weld (1) the extension panel to the srtructure duplicating the factory welds.
17. Using a P-MIG welder, stitch weld the extension panel to the flange created form the original extension.

Important: Replace the SPRs with a structural monobolt rivet, GM Part Number 19120691.

The structural monobolt rivet requires a special nose tip, BO48073.

18. Drill 6 mm (1/4 in) holes in the service part as necessary in the locations noted on the original panel.

19. Using a rivet gun, attach the extension panel with structural monobolt rivets to the structure duplicating the number of factory SPRs.
20. Install the front impact bar. Refer to *Impact Bar Replacement - Front Bumper (Corvette)* or *Impact Bar Replacement - Front Bumper (Z06)* on page 2-5.
21. Apply the sealers and anti-corrosion materials to the repair area, as necessary. Refer to *Anti-Corrosion Treatment and Repair*.
22. Paint the repair area. Refer to *Basecoat/Clearcoat Paint Systems*.
23. Install all related panels and components.
24. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
25. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.

Floor Panel Replacement (Z06)

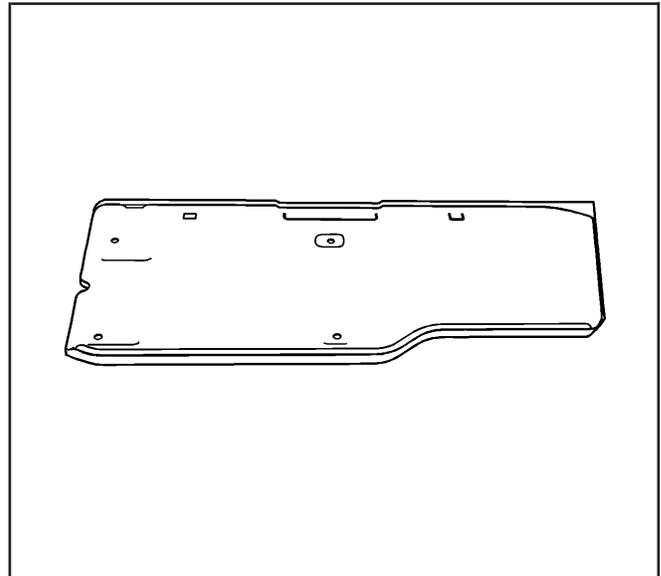
Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

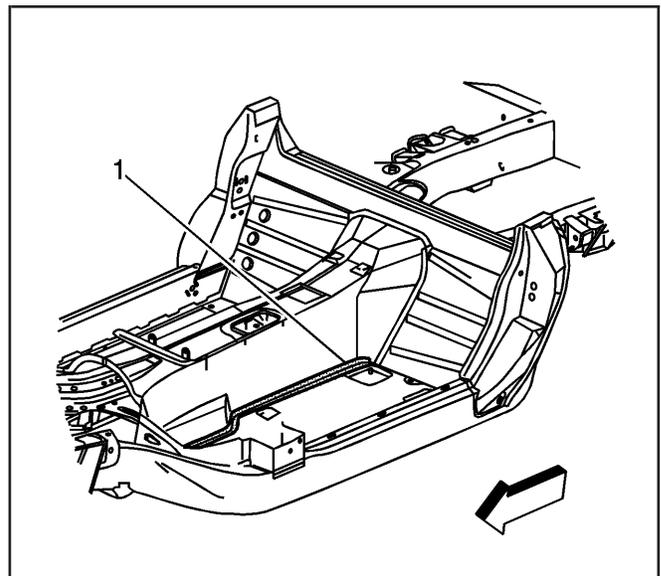
Caution: Refer to *Approved Equipment for Collision Repair Caution* on page 1-1.

The floor panel is made of carbon fiber, and is bonded to the structure with structural adhesive.

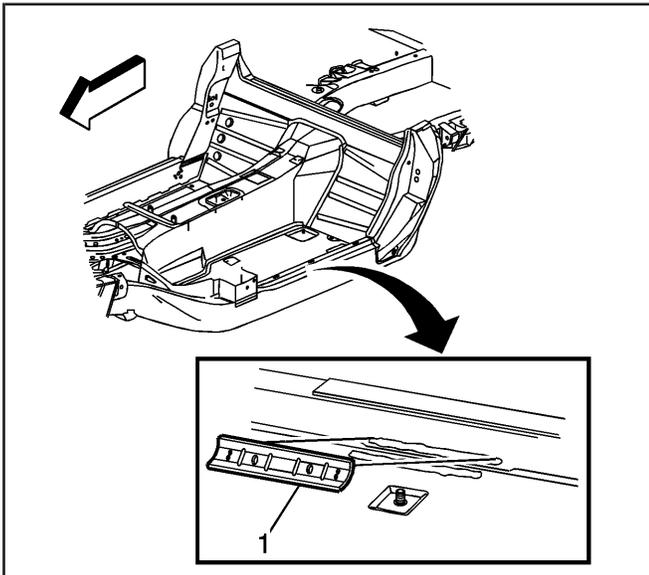


1497179

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove or reposition electrical components and wiring harness as necessary to avoid damage.
5. Remove wiring harness clips for transfer to new floor panel.
6. Remove the inner reinforcement (1) bonded to the floor panel and the tunnel area.

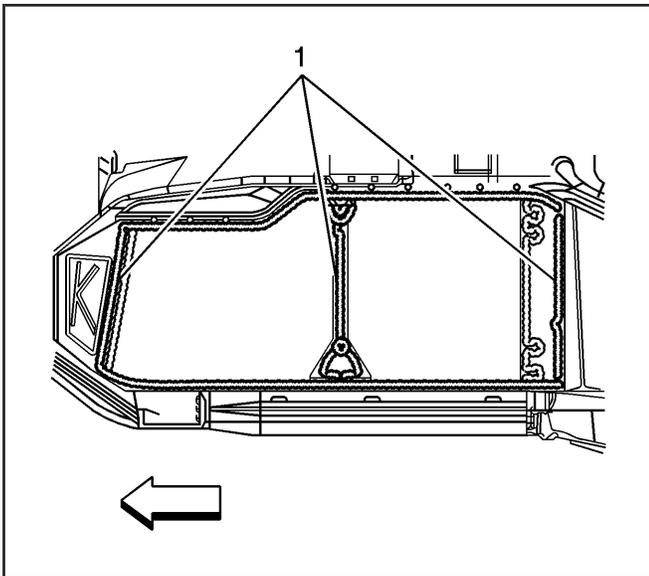


966577



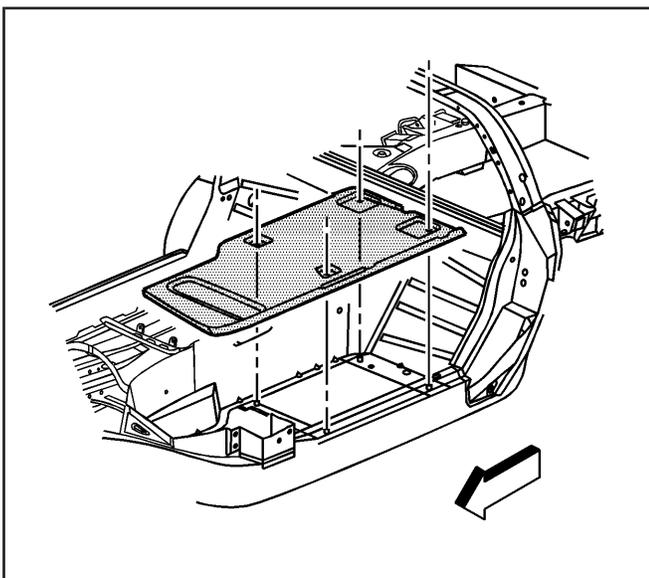
966581

7. Remove the outer reinforcement (1) bonded to the floor panel and the frame rail.



966585

8. Using a reciprocating saw or equivalent tool cut a large section of the floor out to gain access to the bond joint.
9. Remove the remaining floor by applying heat and prying to detach adhesive along the bonding surface (1).



966590

10. Remove the floor panel from the vehicle.
11. Save any and all brackets, mounting studs, and accessories for transfer to the new floor.
12. Note the location and remove all remaining loose adhesive.
13. Inspect the structure and frame rails for damage.
14. Repair as much of the damage as possible to the factory specifications.
15. Use *J 42058* to secure the vehicle if pulling and straightening is required.

Installation Procedure

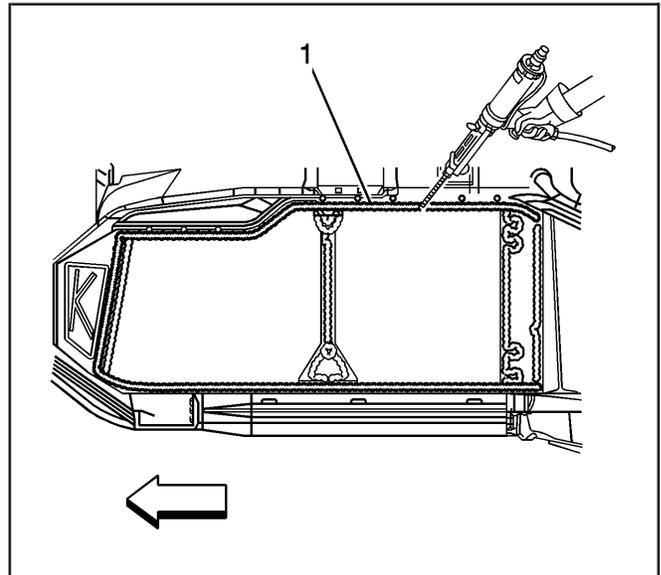
1. Before applying adhesive dry fit the floor panel for proper fit and alignment.

Important: DO NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

2. Clean and prepare all bonding mating surfaces according to adhesive manufacturer's recommendations.

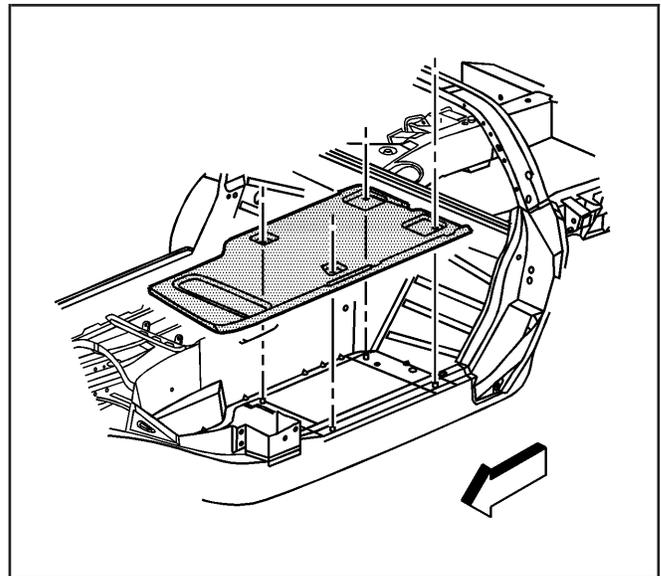
Important: Keep adhesive away from seat studs to minimize squeeze out.

3. Apply a consistent bead of structural adhesive (1) 10 mm (3/8 in) in diameter to the floor structure and frame rail to mate with the bonding surface of the floor. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.



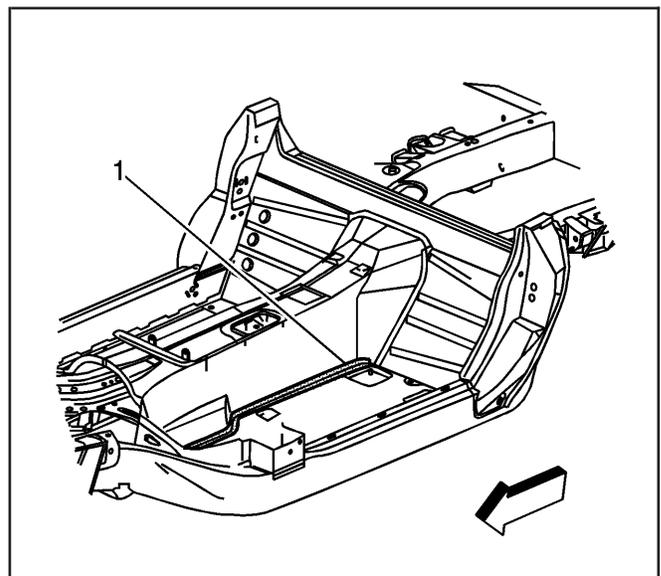
966595

4. Install the floor panel to the vehicle.
5. Apply pressure to the floor panel to set the adhesive.
6. Install the seat mounting nuts to set the adhesive at the cross brace.

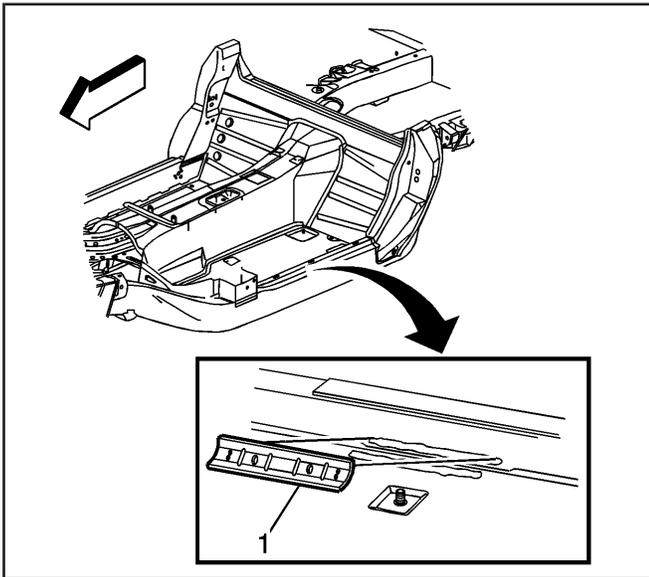


966590

7. Apply structural adhesive (1) to the inner floor panel reinforcement. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
8. Install the inner floor panel reinforcement to the tunnel.
9. Apply pressure to the reinforcement to set the adhesive.

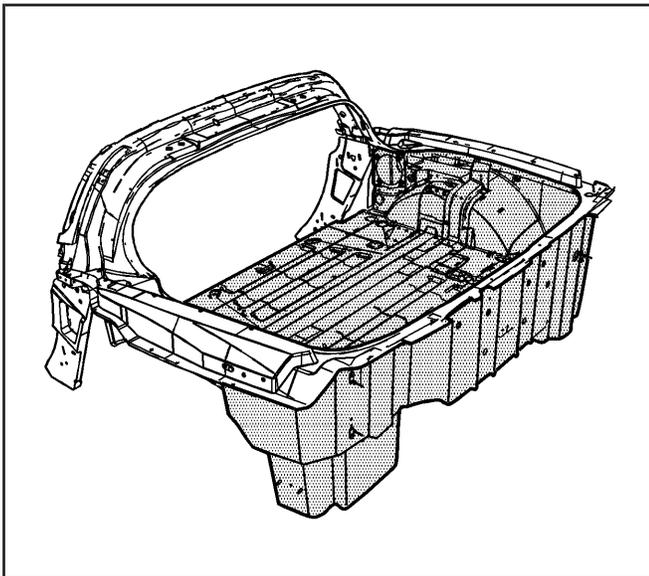


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966581

10. Apply structural adhesive (1) to the outer floor panel reinforcement. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
11. Install the outer floor panel reinforcement to the frame rail.
12. Apply pressure to the reinforcement to set the adhesive.
13. Apply structural adhesive to wiring harness clips, and install at the etched indicators on the floor panel by pressing firmly into place. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
14. Smooth adhesive around perimeter of floor panel from underside of vehicle to form a consistent, leak-proof seal.
15. Clamp or mechanically fasten the front end panel into place as necessary.
16. Remove any excess adhesive.
17. Install all related panels and components.
18. Remove the seat mounting nuts.
19. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
20. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1459993

Compartment Panel Replacement - Rear (Corvette)

Tools Required

J 42058 Frame Adapter Clamp

Removal Procedure

The rear compartment panel is made of sheet molded compound (SMC), and is bonded to the rear structure and frame rails with structural adhesive.

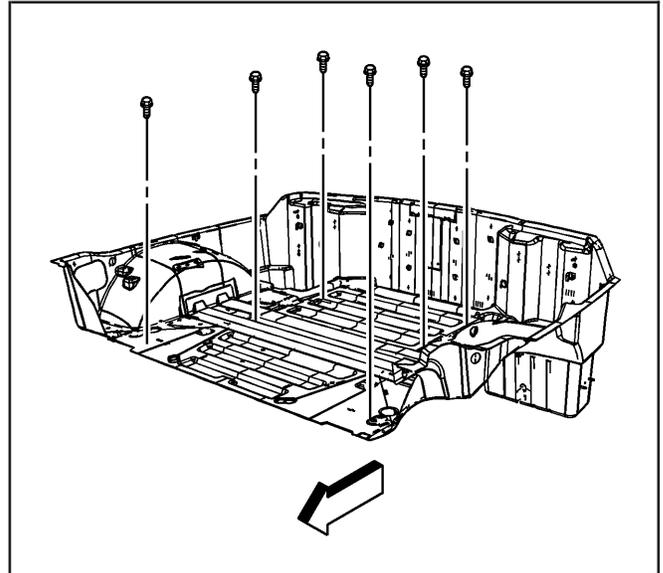
Caution: Refer to *Approved Equipment for Collision Repair Caution* on page 1-1.

1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.

Caution: Refer to *Actions to Take When Working with Fuel Caution* on page 1-1.

4. Verify that the fuel inlet is sealed before proceeding with the repair procedure.
5. Remove the rear compartment frame panel. Refer to *Compartment Panel Frame Replacement - Rear (Corvette)* on page 2-59.

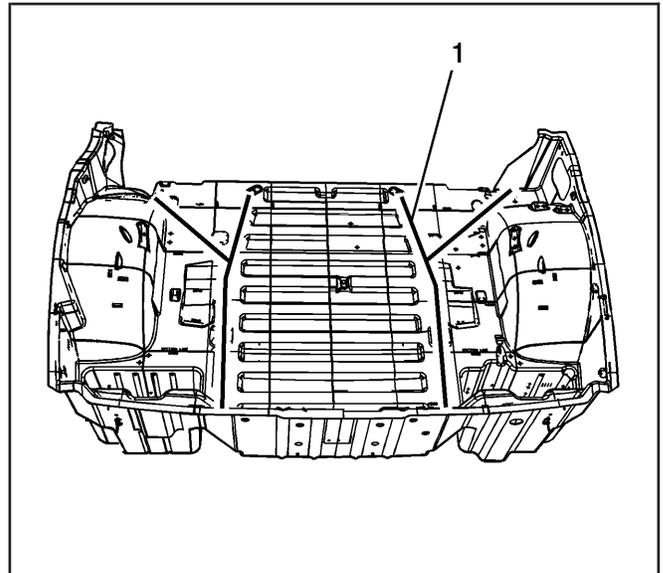
- Remove the screws attaching the rear compartment panel to the frame rails.



1459995

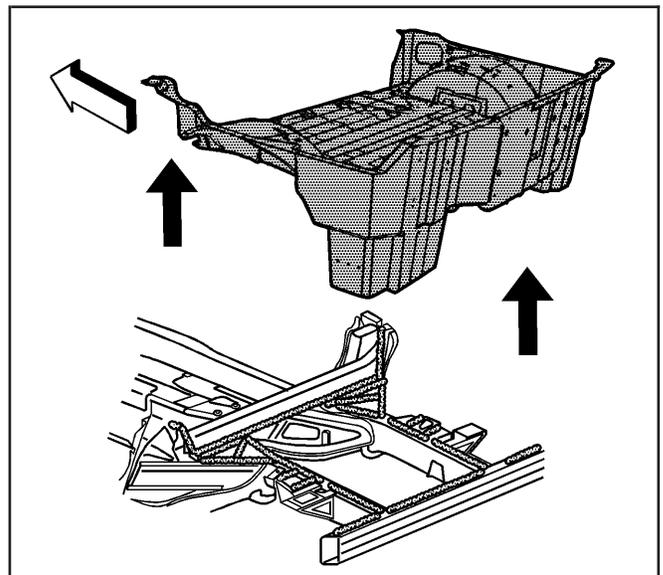
Important: The front edge of the rear compartment panel is also bonded across the seatback area and along the top of the rear impact bar.

- Remove the rear compartment panel by applying heat to the inside of the rear compartment along the bond lines (1) indicated on the floor.
- Pry to detach the adhesive along the bonding surface.
- The front edge of the rear compartment panel is also bonded across the seatback area and along the top of the rear impact bar. Apply heat and pry to detach the adhesive along the bonding surface.

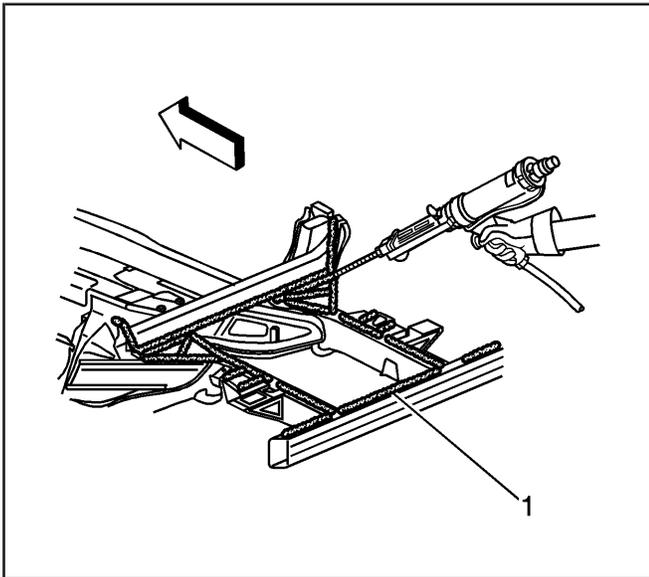


1459998

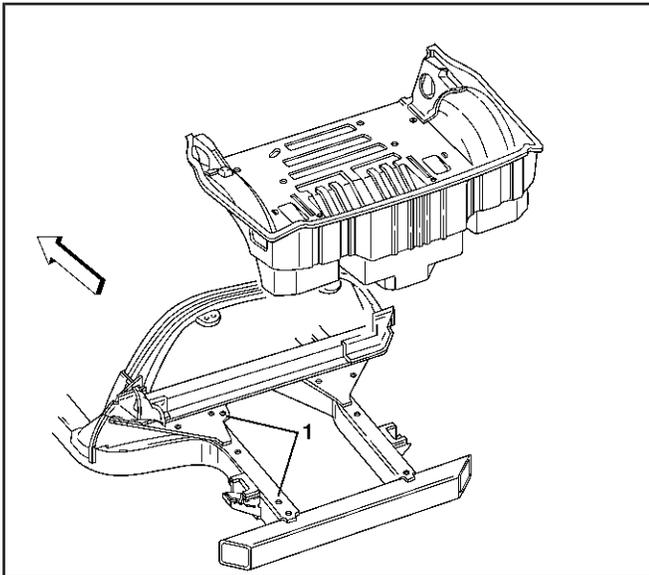
- Remove the rear compartment panel.
- Save all brackets, mounting studs, and accessories for transfer to the new rear compartment panel.
- Note the location of the adhesive and remove all remaining loose adhesive.
- Inspect the rear structure and the frame rails for damage.
- Repair as much of the damage as possible to the factory specifications.
- Use *J 42058* to secure the vehicle if pulling and straightening is required.



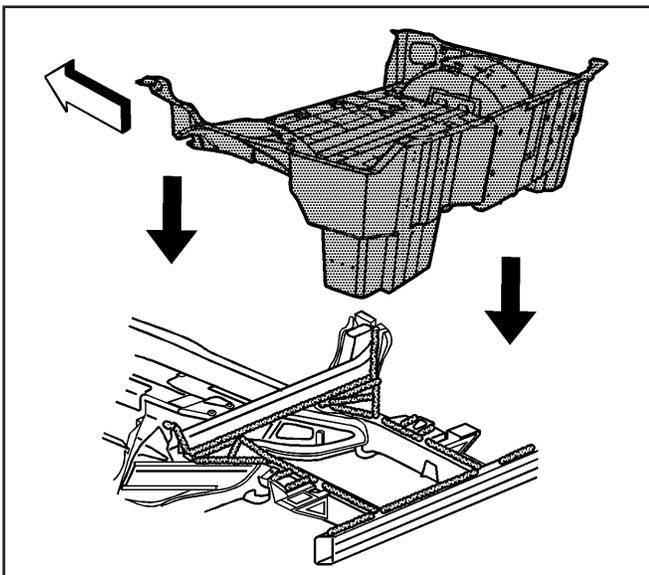
1459999



948030



181202



1460000

Installation Procedure

1. Before applying the adhesive, dry fit the rear compartment panel for proper fit and alignment.

Important: Do NOT top coat any bonding surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations.

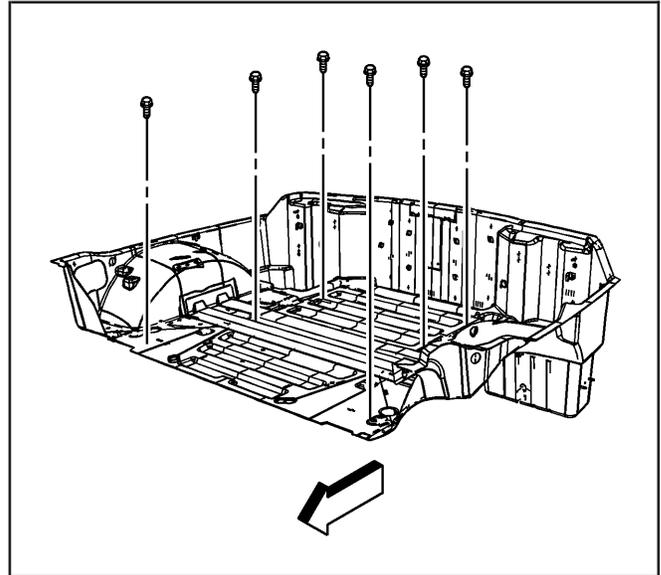
2. Clean and prepare all bonding mating surfaces according to the adhesive manufacturer's recommendations.
3. Apply a consistent bead of structural adhesive (1) 12 mm (1/2 in) in diameter to the following locations. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.
 - The top of the frame rails
 - The backside of the lock pillars
 - Over the fuel filler neck
 - To all original bonding surfaces

Important: The rear compartment panel is positioned to the drive side frame rail using 2 dimples formed in the bottom surface of the rear compartment panel.

4. Position the rear compartment panel to the 2 holes (1) in the frame rail.

5. Install the rear compartment panel to the vehicle.
6. Apply pressure to the rear compartment panel to set the adhesive.

7. Install the screws attaching the rear compartment panel to the frame rails.
8. Clamp or mechanically fasten the rear compartment panel in place as necessary.
9. Remove any excess adhesive.
10. Install the rear compartment frame panels. Refer to *Compartment Panel Frame Replacement - Rear (Corvette)* on page 2-59.
11. Install all related panels and components.
12. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
13. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1459995

Compartment Panel Frame Replacement - Rear (Corvette)

Tools Required

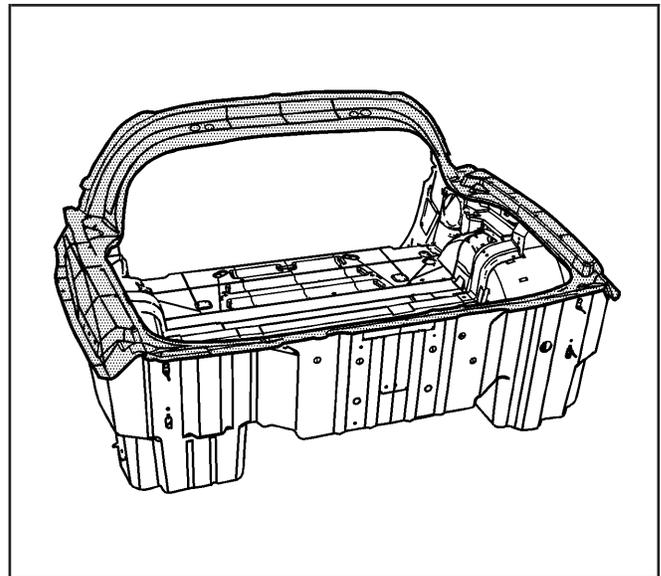
J 42058 Frame Adapter Clamp

Removal Procedure

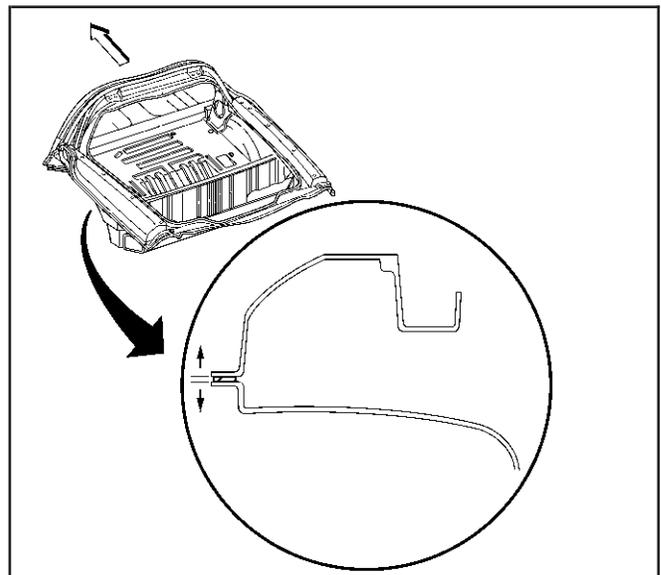
The rear compartment frame is made of sheet molded compound (SMC), and is bonded to the rear structure with structural adhesive.

Caution: Refer to *Approved Equipment for Collision Repair Caution on page 1-1*.

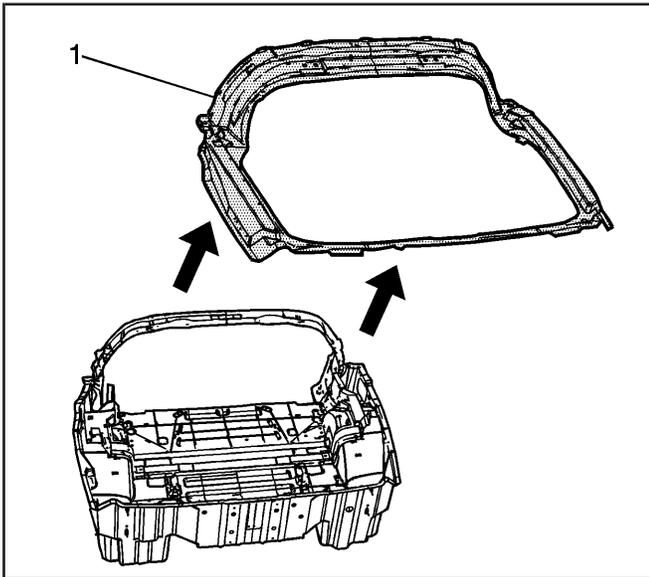
1. Disable the SIR system. Refer to *SIR Disabling and Enabling Zones*.
2. Disconnect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
3. Remove all related panels and components.
4. Remove the rear compartment frame by applying heat, and pry to detach the adhesive along the bonding surface.



1459658

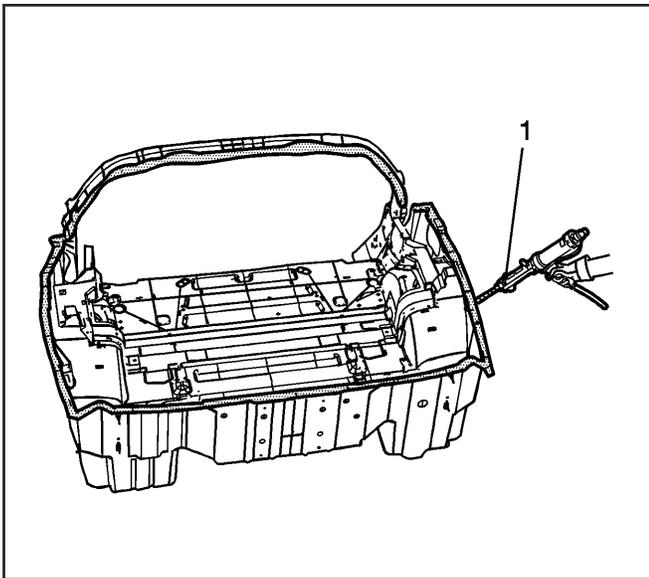


181214



1459669

5. Remove the rear compartment frame (1).
6. Note the location of the adhesive and remove all remaining loose adhesive.
7. Inspect the rear structure and frame rails for damage.
8. Repair as much of the damage as possible to the factory specifications.
9. Use *J 42058* to secure the vehicle if pulling and straightening is required.



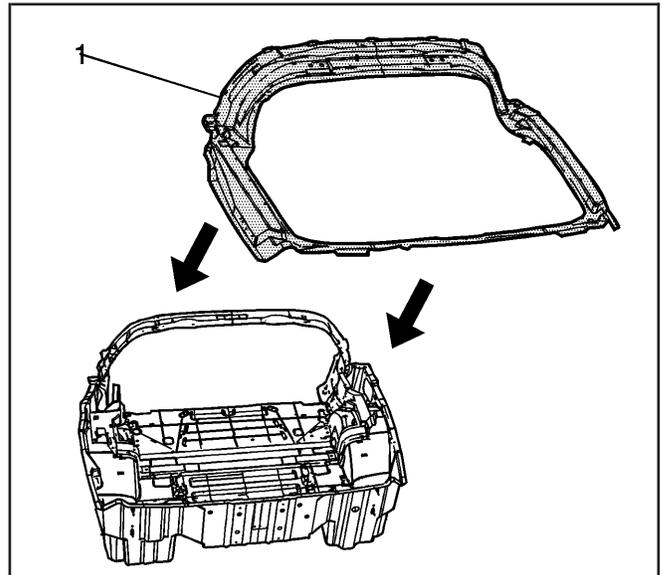
1459929

Installation Procedure

Important: Shims may be necessary to achieve proper panel alignment.

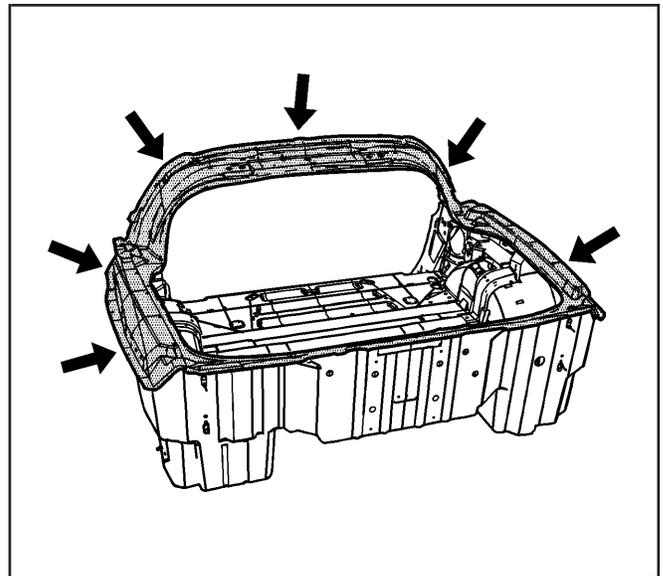
1. Before applying the adhesive, dry fit the rear compartment frame for proper fit and alignment.
2. Clean and prepare all bonding mating surfaces according to the adhesive manufacturer's recommendations.
3. Apply a consistent bead of structural adhesive (1) 10 mm (3/8 in) in diameter to the rear structure in order to mate with the rear compartment frame. Refer to *Sheet Molded Compound (SMC) Panel Bonding* on page 2-62.

4. Install the rear compartment frame (1).



1459670

5. Apply pressure to the rear compartment frame to set the adhesive.
6. Clamp or mechanically fasten the rear compartment frame into place.
7. Remove any excess adhesive.
8. Install all related panels and components.
9. Connect the negative battery cable. Refer to *Battery Negative Cable Disconnect/Connect Procedure (7.0L)* or *Battery Negative Cable Disconnect/Connect Procedure (6.0L)*.
10. Enable the SIR system. Refer to *SIR Disabling and Enabling Zones*.



1459665

Description and Operation

Sheet Molded Compound (SMC) Panel Bonding

This is intended to provide general guidelines for sheet molded compound (SMC) and carbon fiber adhesive bonding of full panel replacement in regards to collision repair procedures.

Sectioning, partial panel of full panels, is not supported by General Motors unless specifically documented in a Service Bulletin or Manual.

Important:

- Prepare the surfaces to be bonded according to adhesive manufacturer's recommendations. Many adhesive manufacturers have different preparation methods. Do not intermix adhesive manufacturers systems. Mixing materials from different manufacturers can produce unsatisfactory results.
- DO NOT top coat any adhesive bonding mating surface. Use primer only on bonding surfaces. Refer to adhesive manufacturer's recommendations for priming applications.

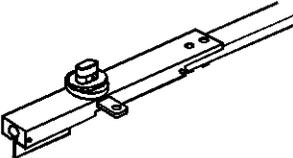
Adhesives currently meeting the performance requirements include General Motors materials and products manufactured by Ashland and Lord Fusor. At this time, ONLY the adhesive products listed below meet this guideline:

Sheet Molded Compound (SMC) Panel Bonding

GM Goodwrench®	GMSP0 of Canada	Ashland Pliogrip Structure Adhesive	Lord Fusor Structural Adhesive	Product Type
89020330	8902332	7770B	127 EZ	Medium Set
N/A	N/A	7779B	N/A	Fast Set

Canadian applications may use U.S. part numbers. Refer to your GM Dealer Parts Department for the correct part number applications.

Special Tools and Equipment

Illustration	Tool Number/ Description
 <p>803311</p>	J 42058 Frame Adapter Clamp