6. Door Frame Opening

The outer door frame can be replaced as a complete assembly or various segments can be sectioned (figure 6-1). Sectioning the outer and inner door frame reinforcement is usually much faster and more cost effective. Since the outer door frame opening panel is manufactured as a single component, service parts for sectioning must be cut from the service panel and modified as necessary.

— Notice —

The specific areas to be sectioned are determined by the extent of the damage to the vehicle. Sectioning should take place only in the recommended areas. Failure to do so may compromise the structural integrity of the vehicle.

— Notice —

When replacing panels that involve servicing stationary glass, refer to GM Service Bulletin no. 43-10-48 before performing any priming or refinishing work.

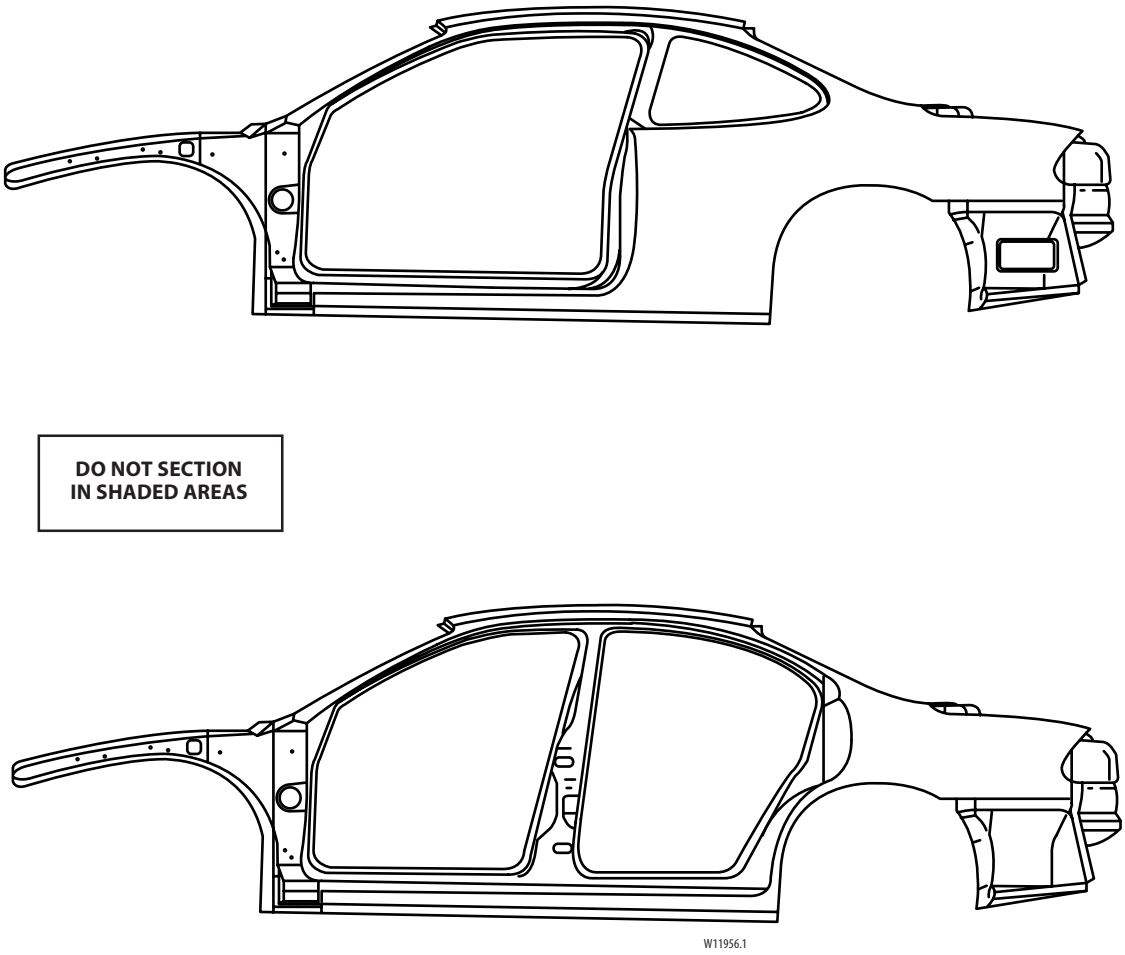

Figure 6-1:
Door Frame Opening

Outer Door Frame General Sectioning Procedure

— Notice —

When sectioning the outer door frame at the lower front hinge pillar, the inner reinforcement panel can be used as backing plate.

Remove or Disconnect

1. Remove all related panels and components.
2. Visually inspect and restore as much of the damage as possible.
3. Remove sealers and anti-corrosion materials as necessary.
4. Cut the panel in the areas where the sectioning is to take place (figure 6-2). Sectioning should be performed only in the recommended areas.

— Notice —

Use care not to cut the inner reinforcements when cutting the outer door frame.

5. Locate, mark, and drill out all factory welds. Note the number and location of welds for installation of the service assembly.
6. Remove the damaged outer door frame opening.

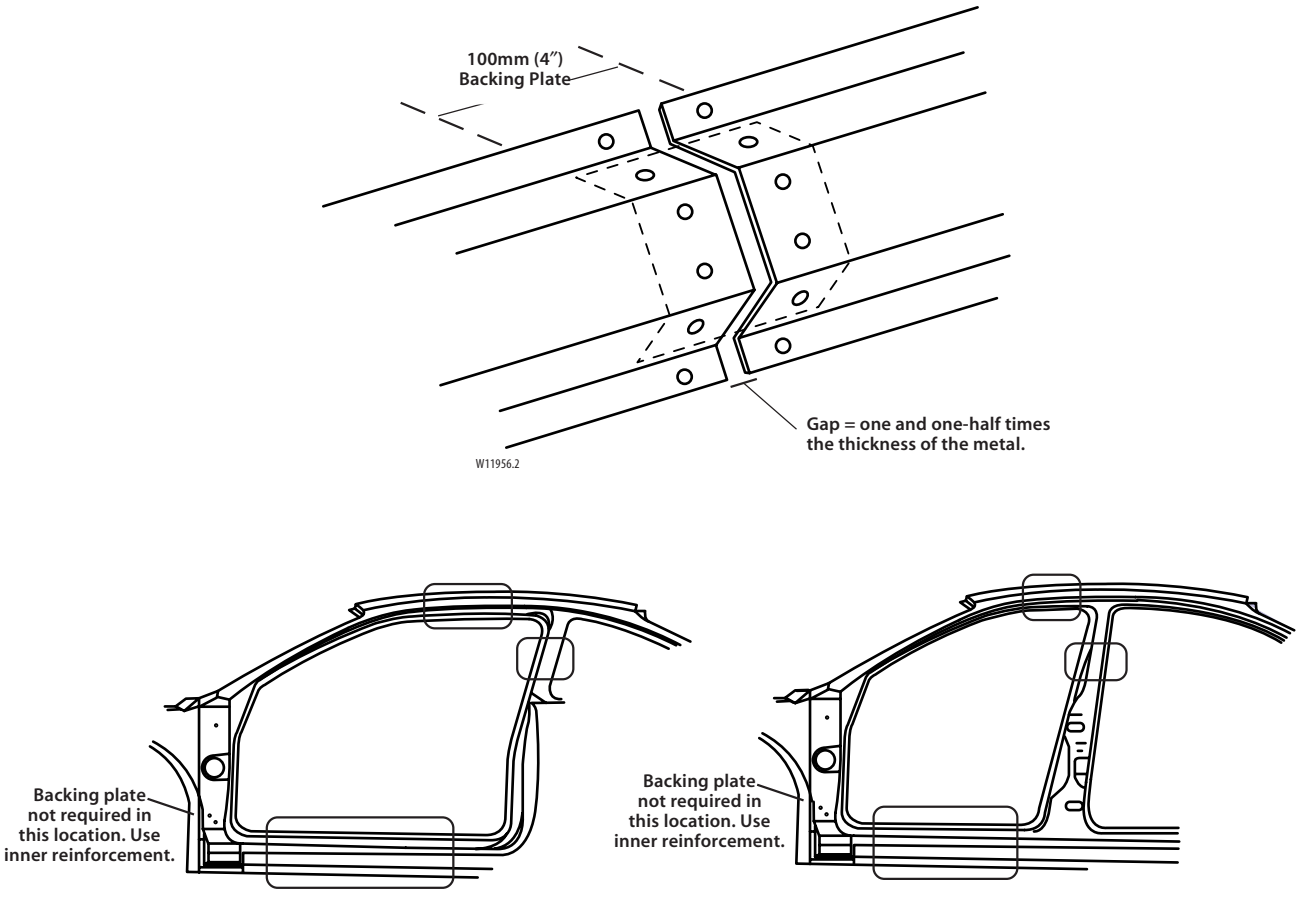

Figure 6-2:
General Sectioning Procedures Can Be Used in Areas Shown

Outer Door Frame General Sectioning Procedure

Install or Connect

1. On the service part, mark a horizontal line to leave a gap of one and one-half times the thickness of the metal at the sectioning joint. Cut the outer door frame opening service part along this line (figure 6-2).
2. Cut a 100mm (4 inch) piece from the unused portion of the service part for a backing plate. Remove the flange on each side of the backing plate so that it will fit behind the sectioning joint (figure 6-2).
3. Drill 8mm (5⁄16 inch) holes for plug welding in the service part in the locations noted from the original panel. Also, drill holes for plug welding along the sectioning cuts on both the service part and the original panel (figure 6-2). Locate these holes approximately 25mm (1 inch) from the edge of the sectioning cuts.
4. Prepare the mating surfaces and position the backing plates with 50mm (2 inches) of the backing plate exposed, and plug weld. Position the service part to overlap the exposed 50mm (2 inches) of the backing plate, check fit using three-dimensional measuring equipment, and plug weld accordingly (figure 6-2).
5. Stitch weld along the sectioning joint. Make 25mm (1 inch) welds along the seam with 25mm (1 inch) gaps between. Then go back and complete the stitch weld. This will create a solid joint with minimal heat distortion.
6. Complete all other welds and sectioning procedures as necessary.
7. Clean and prepare welded surfaces. Prime with two-part catalyzed primer. Apply sealers and anti-corrosion protection materials, as necessary. Do not combine paint systems. Refer to paint manufacturer's recommendations.
8. Install all related panels and components.

Lower Front Hinge Pillar Inner Reinforcement Sectioning Procedure

— Notice —

If the damage exceeds the area to be sectioned, the reinforcement panel must be replaced completely.

— Notice —

Sectioning of the inner reinforcement panel can only take place with the outer door frame replacement or sectioning procedures. Sectioning of the outer door frame at the front hinge pillar requires at least a 100mm (4 inch) offset from the inner reinforcement sectioning joint (figure 6-3). The inner reinforcement can serve as a backing plate for the outer panel sectioning.

Remove or Disconnect

1. Remove all related panels and components including the front door and position all wiring out of the way to prevent damage.
2. Visually inspect and restore as much of the damage as possible to factory specifications.
3. Remove sealers and anti-corrosion materials as necessary.
4. On the original reinforcement panel, measure 140mm (5½ inches) down from the large wiring harness hole in the hinge pillar and mark a horizontal line. Cut the hinge pillar along this line (figure 6-4).
5. Perform additional procedures as necessary to remove the remaining portion of the reinforcement.
6. Locate, mark and drill out all necessary factory welds. Note the number and location of welds for installation of the service section.
7. Remove the damaged section of the reinforcement.

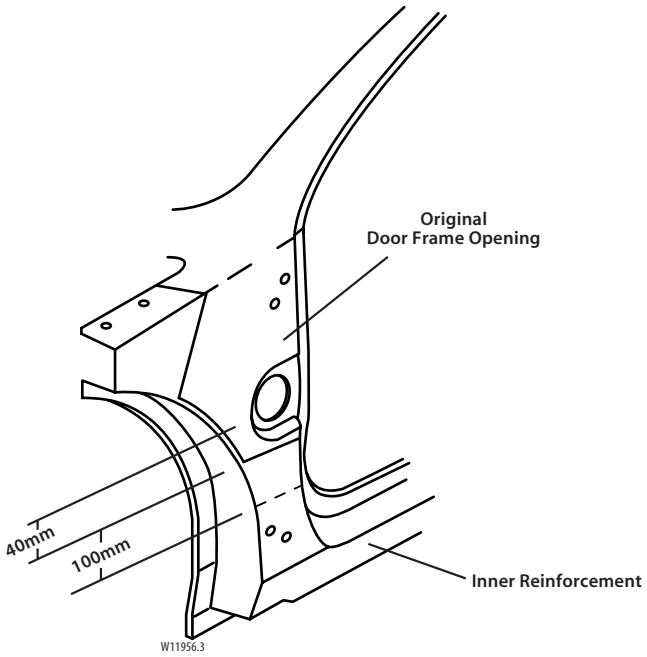

Figure 6-3:
Sectioning of the Outer Door Frame at the Front Hinge Pillar

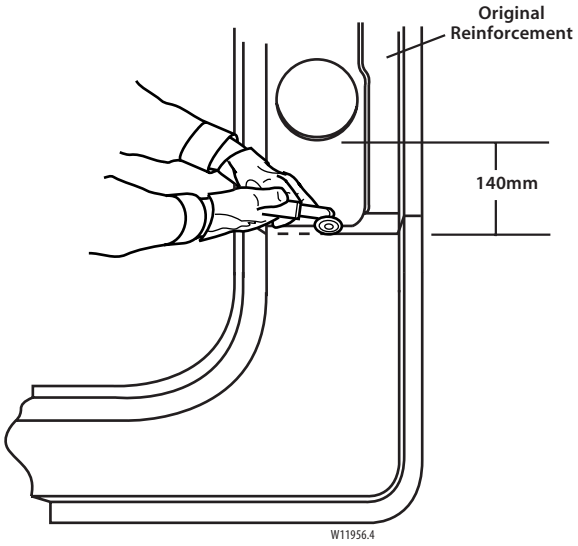

Figure 6-4:
Cutting the Hinge Pillar

CARE MUST BE TAKEN WHEN CUTTING THE DOOR FRAME NOT TO CUT OR DAMAGE THE INNER REINFORCEMENT.

Lower Front Hinge Pillar Inner Reinforcement Sectioning Procedure (con't)

— Notice —

Use due care not to cut adjacent panels when cutting the inner reinforcements.

8. Cut and remove 30mm (1 3/16 inches) from the flanges on either side of the remaining section of the original hinge pillar to create 30mm (1 3/16 inch) tabs. Cut 5mm (3/15 inch) wide gaps in the bottom corners (figure 6-5).
9. Step the tabs inward to allow the reinforcement service section to fit over the original hinge pillar. Weld the tabs together along the edges (figure 6-6).

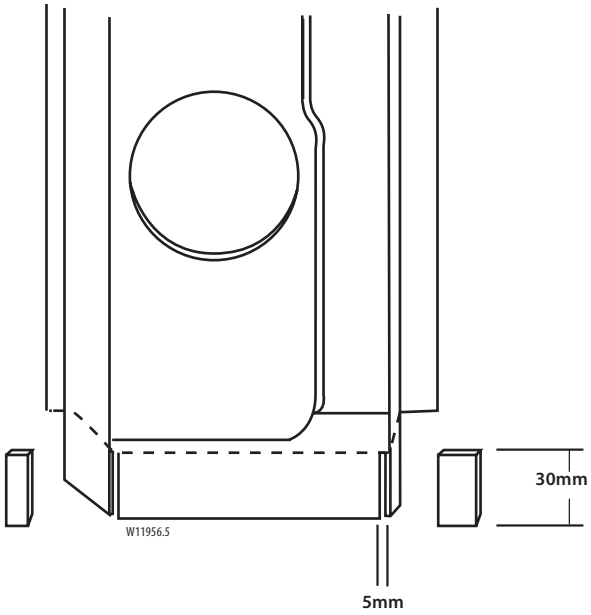

Figure 6-5:
Cuts Made to Original Hinge Pillar

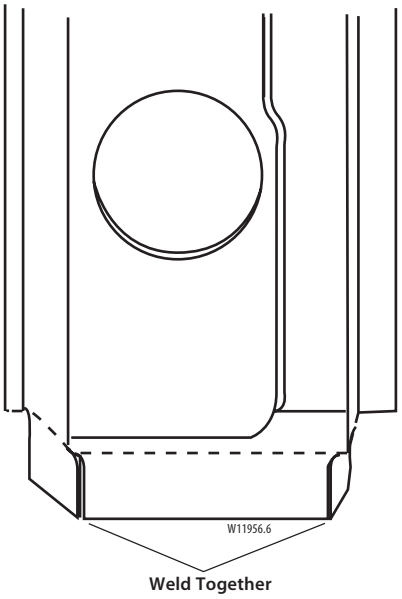

Figure 6-6:
Reinforcement Panel Fitted to Original Panel

Lower Front Hinge Pillar Inner Reinforcement Sectioning Procedure (con't)

Install or Connect

1. On the service part, measure 110mm (4⅜ inches) down from the large wiring harness hole in the hinge pillar and mark a horizontal line to leave a 30mm (1³⁄₁₆ inch) overlap with the original panel. Cut the hinge pillar along this line (figure 6-7).
2. Drill 8mm (⁵⁄₁₆ inches) plug weld holes as necessary in the locations noted from the original panel. Also drill plug weld holes along the hinge pillar sectioning cut of the service part. These should be located approximately 15mm (⁹⁄₁₆ inch) from the edge of the cut (figure 6-8).
3. Prepare mating surfaces and position the service section over the stepped tab on the original hinge pillar, allowing 30mm (1³⁄₁₆ inches) of overlap (figure 6-9). Check fit using three-dimensional measuring equipment, check and make sure the door hinge bolt holes are properly located, and plug weld accordingly with frequent measurements to ensure proper fit.
4. Stitch weld along the entire joint. Make 25mm (1 inch) welds along the seam with 25mm (1 inch) gaps between. Then go back and complete the stitch weld. This will create a solid joint with minimal heat distortion (figure 6-9).
5. Complete all other welds and sectioning procedures as necessary.
6. Clean and prepare welded surfaces. Prime with two-part catalyzed primer. Apply sealers and anti-corrosion protection materials, as necessary. Do not combine paint systems. Refer to paint manufacturer's recommendations.
7. Install all related panels and components.

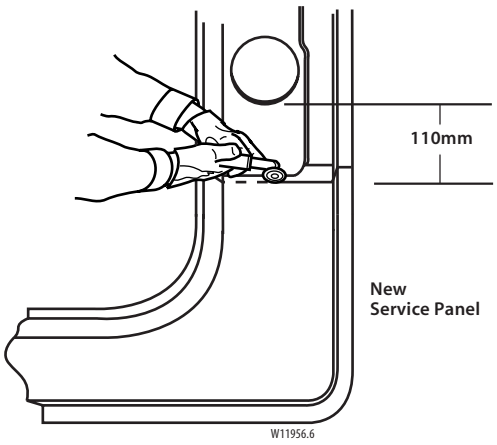

Figure 6-7:
Cutting New Service Panel

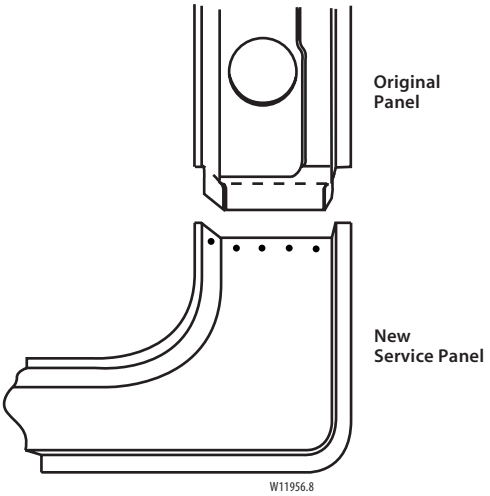

Figure 6-8:
Plug Weld Holes in Service Part

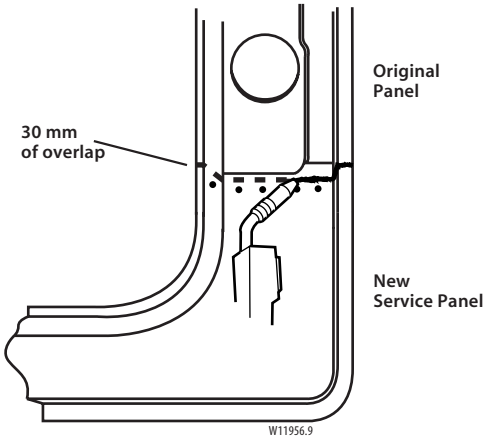

Figure 6-9:
Stitch Weld Along Seam

Inner Center and Lock Pillar Reinforcement Sectioning Procedure

— Important —

The rocker panel reinforcement can be removed by simply drilling out all the factory welds. The reinforcement panel is then installed and plug welded at the original factory welds. Sectioning of the inner rocker panel reinforcements is not recommended. For outer rocker panel service information see the outer door frame opening service procedures.

— Important —

The striker plate is mounted in a cage that allows some degree of adjustment independent of the outer panel's position. Use body dimensions to ensure that the striker mounting location falls within the plate's range of adjustment.

Remove or Disconnect

1. Remove all related panels and components.
2. Visually inspect and restore as much of the damage as possible.
3. Remove sealers and anti-corrosion materials as necessary.
4. Cut the reinforcement panel in the area where the sectioning is to take place (figure 6-10). Sectioning should be performed only in the recommended areas. NOTE: When sectioning both the inner and the outer panels, see the illustration for recommended offsets of the sectioning cuts.
5. Locate, mark, and drill out all factory welds. Note the number and location of welds for installation of the service assembly.
6. Remove the damaged center pillar reinforcement.

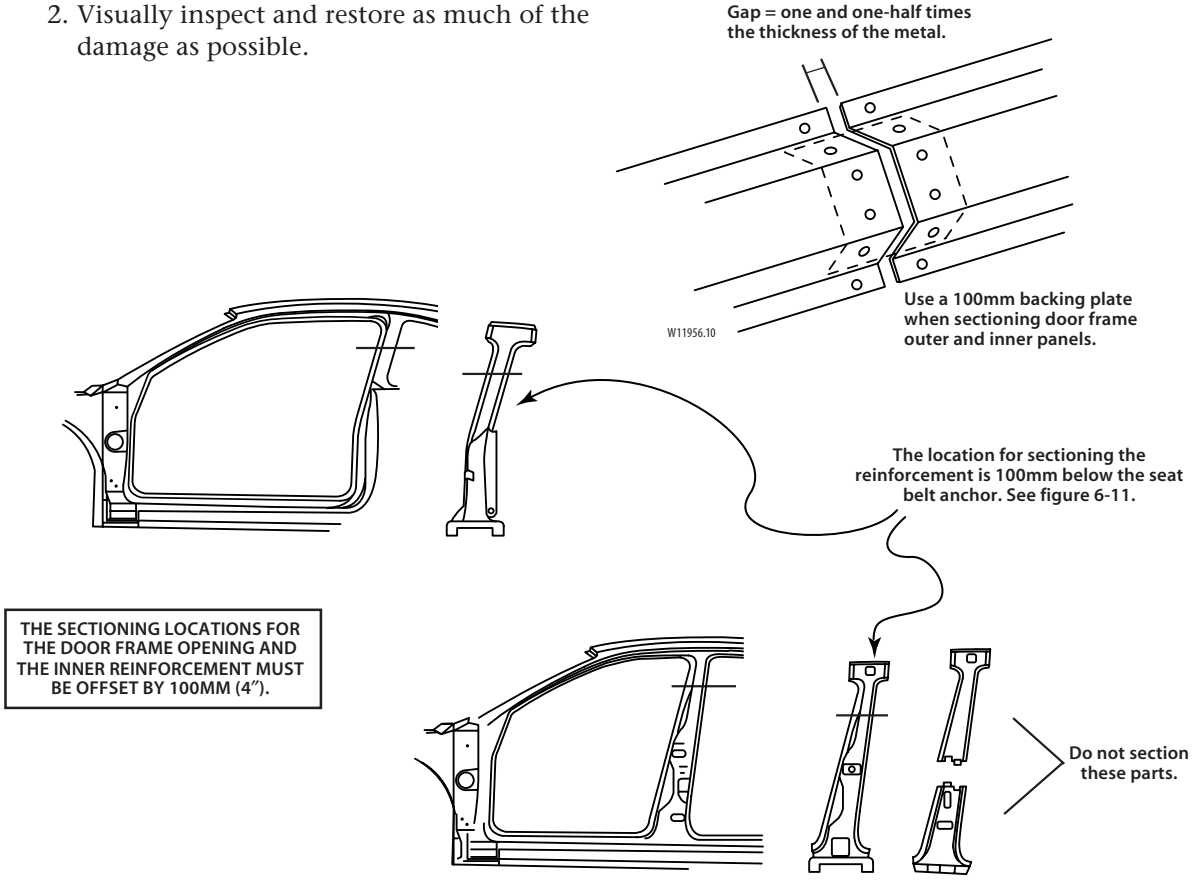

Figure 6-10:
Center Pillar Sectioning Location

Inner Center and Lock Pillar Reinforcement Sectioning Procedure

Install or Connect

1. On the service part, mark a horizontal line to leave a gap of one and one-half times the thickness of the metal at the sectioning joint. Cut the service reinforcement panel along this line (figure 6-10).
2. Cut a 100mm (4 inch) piece from the unused portion of the service part for a backing plate. Remove the flange on each side of the backing plate so that it will fit behind the sectioning joint.
3. Drill 8mm ($1\frac{5}{16}$ inch) holes for plug welding in the service part in the locations noted from the original panel. Also, drill holes for plug welding along the sectioning cuts on both the service part and the original panel (figure 6-11). Locate these holes approximately 25mm (1 inch) from the edge of the sectioning cuts.
4. Prepare the mating surfaces and position the backing plates with 50mm (2 inches) of the backing plate exposed, then plug weld. Position the service part to overlap the exposed 50mm (2 inches) of the backing plate, check fit using three-dimensional measuring equipment, and plug weld accordingly with frequent measurements to ensure proper fit and alignment (figure 6-10).
5. Stitch weld along the sectioning joint. Make 25mm (1 inch) welds along the seam with 25mm (1 inch) gaps between. Then go back and complete the stitch weld. This will create a solid joint with minimal heat distortion.
6. Complete all other welds and sectioning procedures as necessary.
7. Clean and prepare welded surfaces. Prime with two-part catalyzed primer. Apply sealers and anti-corrosion protection materials, as necessary. Do not combine paint systems. Refer to paint manufacturer's recommendations.
8. Install all related panels and components.

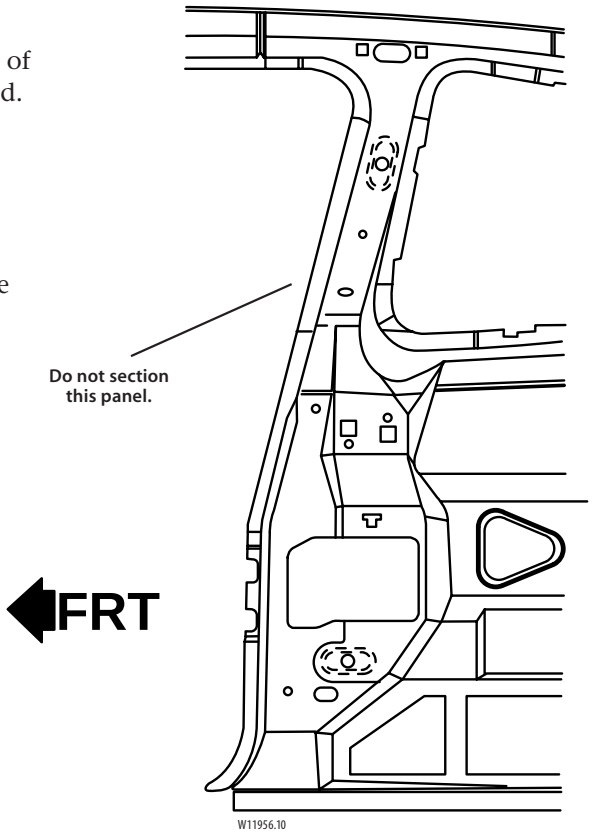

Figure 6-11:
Upper Seat Anchor Location