

5. Lower Rail Assembly

Lower Rail Assembly

The lower rail service part comes as a complete unit, including all brackets and reinforcements (figure 5-1). Lower rail replacement instruction sheets are included with the service part. The front extensions can also be purchased as separate service parts.

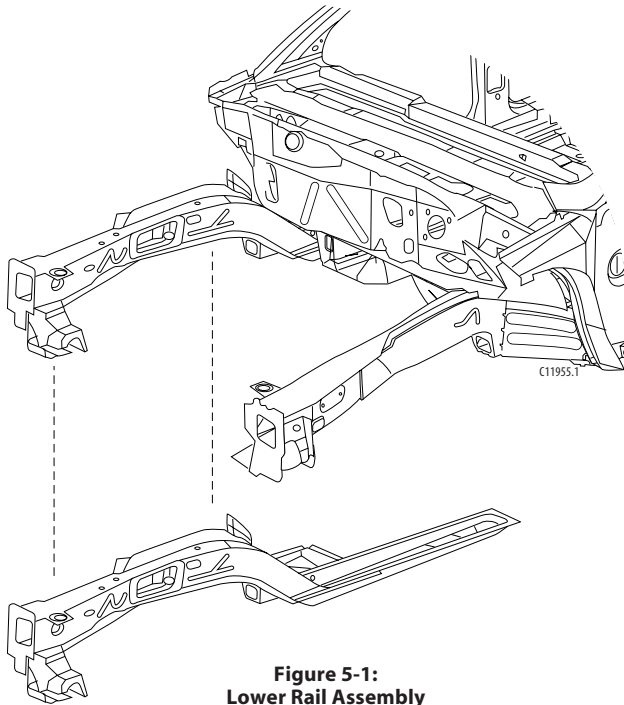


Figure 5-1:
Lower Rail Assembly

Floor Pan Reinforcement Panel

The floor pan reinforcement panel is mounted to the forward section of the floor pan. The mid-section of the lower rails are sandwiched between this panel and the floor pan for added vehicle strength and rigidity (figure 5-2).

— **Notice** —

When servicing the lower rail and floor panel reinforcement, it is advised you use a fire resistant welding blanket to help avoid damage to the interior of the vehicle. Install the blanket between the floor pan and the foam pad underneath the carpet.

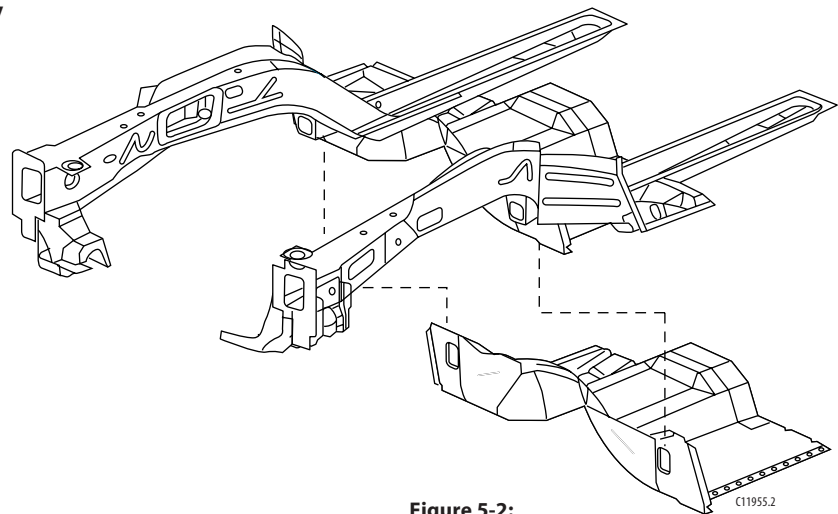
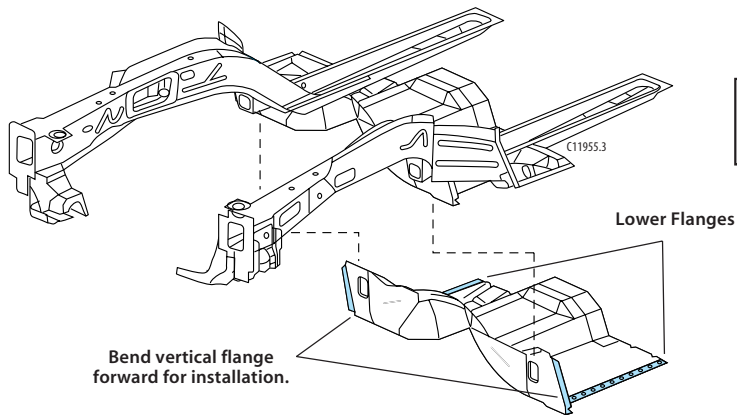


Figure 5-2:
Lower Rail Assemblies
and Floor Pan Reinforcement Panel

Lower Rail Replacement Procedure

Remove or Disconnect

1. Remove all related panels and components.
2. Visually inspect and restore as much of the damage as possible to factory specifications.
3. Remove sealers, sound deadeners, and anti-corrosion materials as necessary.
4. Note the number and location of welds for installation of the new rail.
5. Separate the floor pan reinforcement vertical flange from inside the lower rail (figure 5-3). Care must be taken not to damage the flange.
6. Drill out factory welds along the lower flange on the floor pan reinforcement. Note that the flanges overlap the rails (figure 5-3).
7. Turn the lower flange down on an angle away from the rail.
8. Drill out the remaining factory welds on the rail. The lower portion of the wheelhouse at the rail must also be drilled out and removed (figure 5-4).
9. With a flat chisel, loosen the adhesive between the floor pan and lower rail by prying the rail away from the floor (figure 5-4). Care must be taken to avoid damaging the floor.
10. Remove the damaged rail.



IT IS NOT NECESSARY TO REMOVE THE FLOOR PAN REINFORCEMENT PANEL IN ORDER TO SERVICE THE LOWER RAILS.

Figure 5-3:
Floor Pan Reinforcement Panel

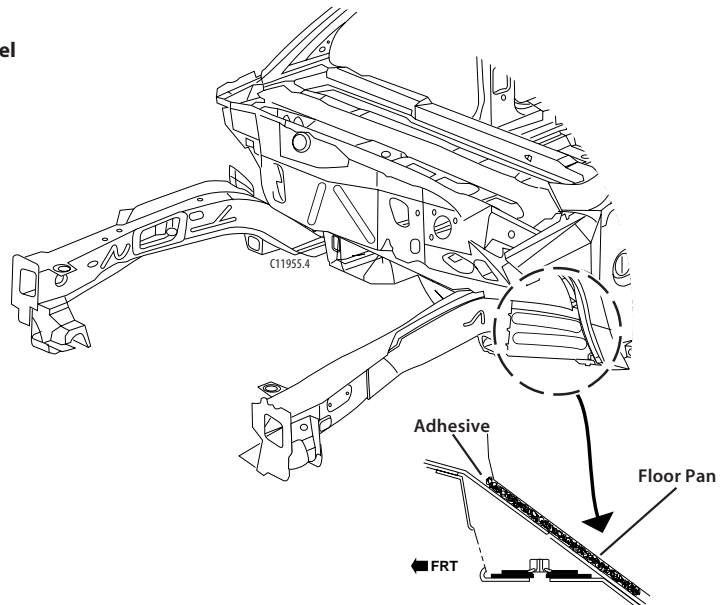


Figure 5-4:
Loosen Adhesive Between Floor Pan and Lower Rail

LOWER RAIL ASSEMBLY

Install or Connect

1. Prepare mating surfaces for proper fit of the new rail.
2. Turn the vertical flange forward to be welded to the new rail (see figure 5-3).
3. On the new rail, drill the same number of 8mm ($\frac{5}{16}$ inch) holes in remaining locations as noted from original rail.
4. Position the new rail in place and check for proper alignment. Remove rail to clean and prepare all surfaces. Prime surfaces in the same locations as the original adhesive using PPG DP40 or an equivalent primer.
5. Apply GM Goodwrench structural bonding epoxy (part #12345726) to the rail in the same location as the original adhesive. Position the new rail in place and secure.
6. With the new rail in place, reposition the down-turned flange to the original location (figure 5-3). Plug weld in random formation until all welding is completed.
7. Clean and prepare welded surfaces. Apply sealers and anti-corrosion materials as necessary.
8. Apply sound deadening materials to restore sound deadening quality as manufactured. Use Dominion Sure Seal Paintable Sound Deadening Pads (part #110900, order by phoning 1(800)265-0790), or equivalent.
9. Prime with two-part catalyzed primer. Do not combine paint systems. Refer to paint manufacturer's recommendations.
10. Install all related panels and components.

Lower Rail Sectioning Procedure

Sectioning procedures have been developed to help simplify repair of the lower rails, provided the majority of damage can be returned to factory specifications. This allows technicians to repair the damaged front section without having to make a complete rail replacement. Sectioning of the lower rail does not require the removal of the powertrain, though the front cradle must be lowered.

Remove or Disconnect

1. Remove all related components and panels.
2. Visually inspect and restore as much of the damage as possible to factory specifications. Also, for right side repair it may be necessary to remove the alternator and air conditioning compressor.

— Notice —

Inner and outer sectioning templates are available for both the left and right rails. It is important to use the correct template when marking lines for cutting.

3. Align the appropriate inner and outer templates on the damaged lower rail and mark lines as indicated.
4. Cut the rail along the marked lines and remove the damaged portion of the rail (figure 5-5).
5. Cut and remove approximately 5mm ($\frac{1}{4}$ inch) of the outboard and downward turned flanges of the lower rail. Cut a 5mm ($\frac{1}{4}$ inch) gap approximately 5mm ($\frac{1}{4}$ inch) along the corners of the lower rail to create tabs (figure 5-6).
6. Step the tabs inward to allow the replacement lower rail section to fit over the original rail (figure 5-7). Weld all four edges together.

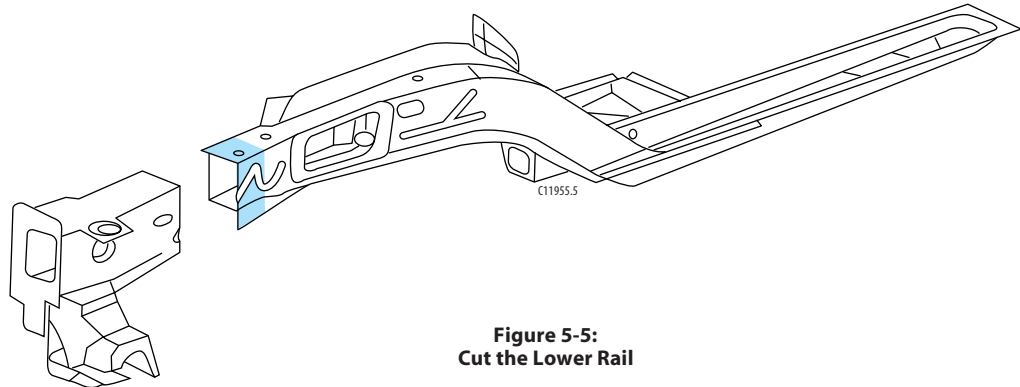


Figure 5-5:
Cut the Lower Rail

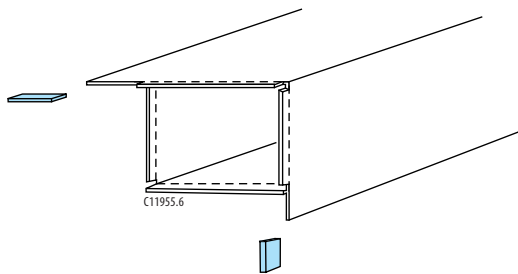


Figure 5-6:
Create Tabs in Lower Rail

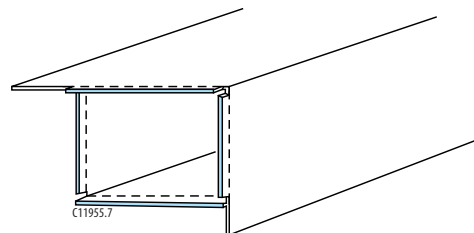


Figure 5-7:
Step the Tabs Inward and Weld Edges Together

LOWER RAIL ASSEMBLY

Install or Connect

1. Align the inner and outer templates on the service part and mark lines as indicated (figure 5-8).
2. Cut the service part along the marked lines and discard the unused section.
3. Position the modified service part over the stepped tabs of the original rail, allowing 5mm (¼ inch) of overlap. Stitch weld along the entire joint (figure 5-9). When stitch welding, make 25mm (1 inch) welds along the seam with 25mm (1 inch) gaps between. Then go back and complete the stitch weld along the seam.
4. Clean and prepare welded surfaces. Apply sealers and anti-corrosion materials as necessary. Prime with two-part catalyzed primer. Do not combine paint systems. Refer to paint manufacturer's recommendations.
5. Install all related panels and components.

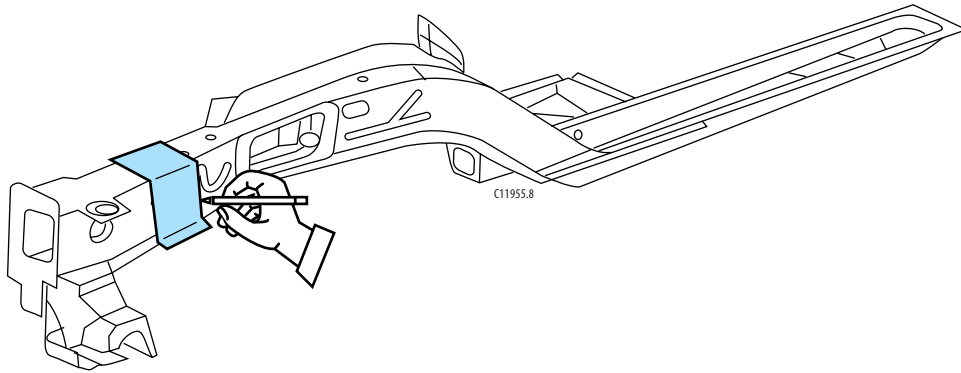


Figure 5-8:
Mark the New Rail

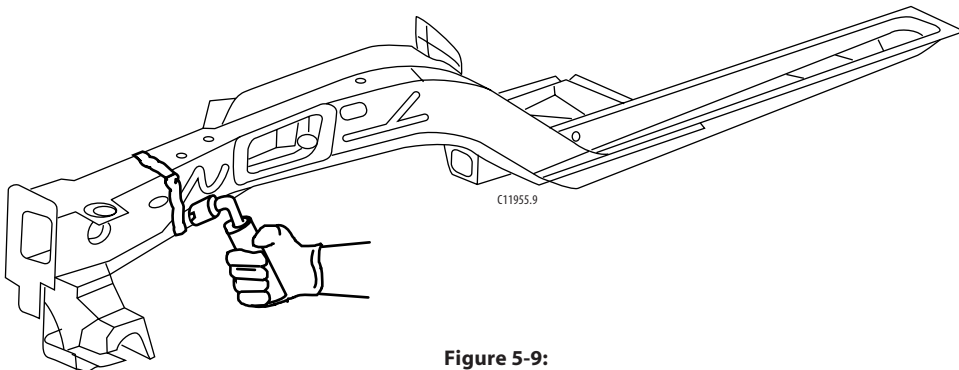


Figure 5-9:
Stitch Weld the Sectioning Joint