

## 3. Upper Rail Assembly

The left and right upper rail assemblies consist of three components each (figure 3-1): an upper rail inner panel, an upper rail outer panel, and a front fender mounting bracket. The top panels of the radiator support assembly overlap the front portion of the outer rails, and will need to be removed to service the rails. Note that there is an additional small fender bracket attached to the cowl panel.

### Upper Rail Inner Panel

With the outer rail panel removed, the upper rail inner panel can be replaced at the factory seams, or sectioned just in front of the cowl panel extension.

### Upper Rail Outer Panel

The upper rail outer panel should not be sectioned. All of the welds for the outer panel are completely accessible with the fender and fender mounting bracket removed.

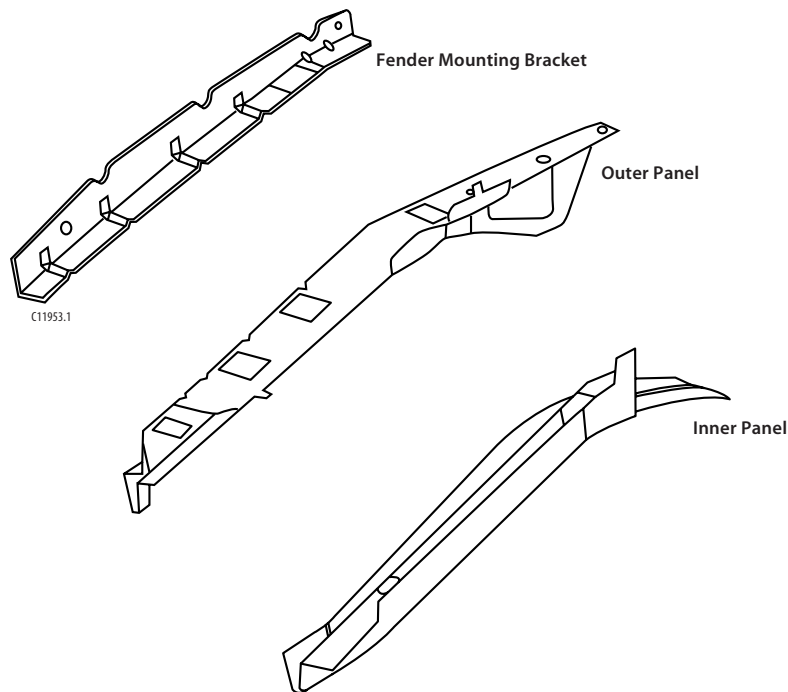


Figure 3-1:  
Upper Rail Assembly

## Front Fender Mounting Bracket

The fender brackets are “formed and pierced” during vehicle assembly. The service parts are pre-drilled and will need to be located and shimmed accordingly, using three dimensional measuring equipment.

### Remove or Disconnect

1. Remove all related panels and components.
2. Visually inspect and restore as much of the damage as possible to the factory specifications.
3. Remove all sealers and anti-corrosion materials as necessary.
4. Locate, mark, and drill out all factory welds attaching the upper rail outer panel. Note the number of welds for installation of the service panel.
5. Remove the damaged panels as necessary.

### — Notice —

#### Complete upper rail inner panel replacement:

There are a number of welds attaching the rear of the upper inner rail to the cowl panel extension and the strut tower cap. These welds can be accessed with the outer panels removed. Due to limited access for welding, care must be taken when deciding the side of the panel from which to drill.

**Sectioning the upper inner rail:** Create a 50mm (2 inch) overlap just in front of the strut tower (figure 3-2). Measure 50mm (2 inches) forward from the cowl panel extension and mark a line. Cut the damaged rail square to the vehicle.

Drill 8mm ( $\frac{5}{16}$  inch) holes for plug welding (figure 3-2). Cut the service rail long enough to overlap the remaining portion of the original rail 50mm (2 inches). Position the service rail under the remaining portion of the original rail to create a 50mm (2 inch) overlap. Check for proper fit and plug weld accordingly.

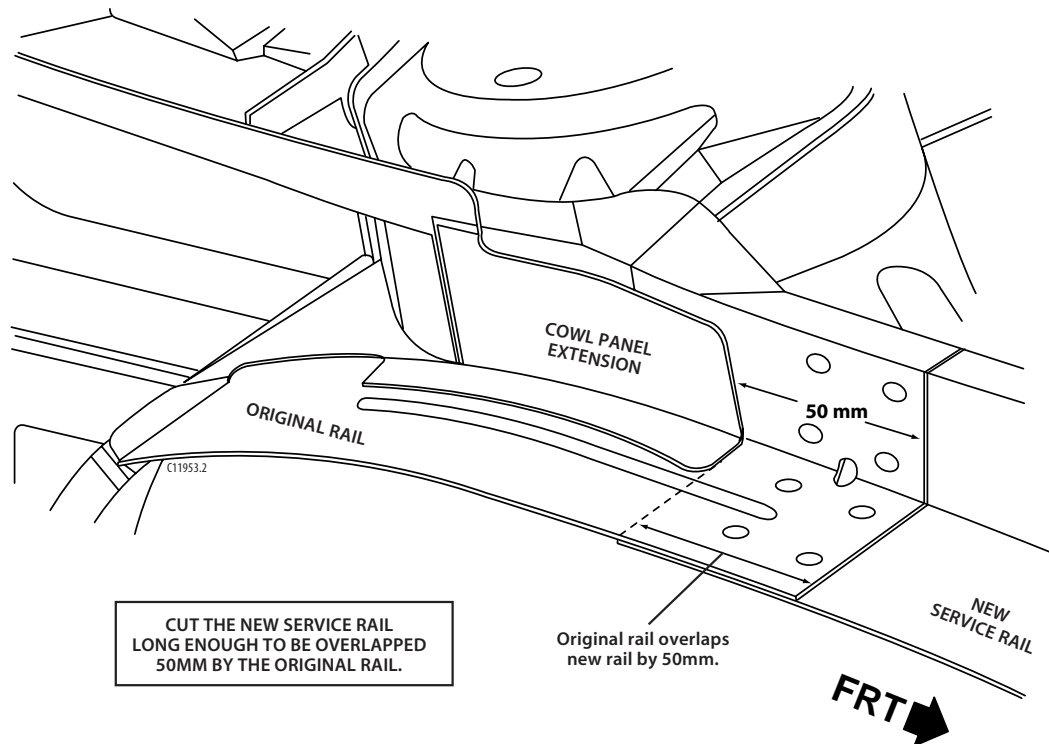


Figure 3-2:  
Inner Rail Sectioning

## UPPER RAIL ASSEMBLY

### Install or Connect

1. Prepare mating surfaces and check for proper fit of the upper rail service panels.
2. Drill 8mm ( $\frac{5}{16}$  inch) holes in the service panels for plug welding at the locations noted from the original panels.
3. Check the position of the front fender mounting bracket location using three-dimensional measuring equipment and plug weld accordingly.
4. Install the upper tie-bar top panels to the upper rail assembly and the radiator support assembly, then plug weld accordingly (figure 3-3).
5. 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.
6. Install all related panels and components.

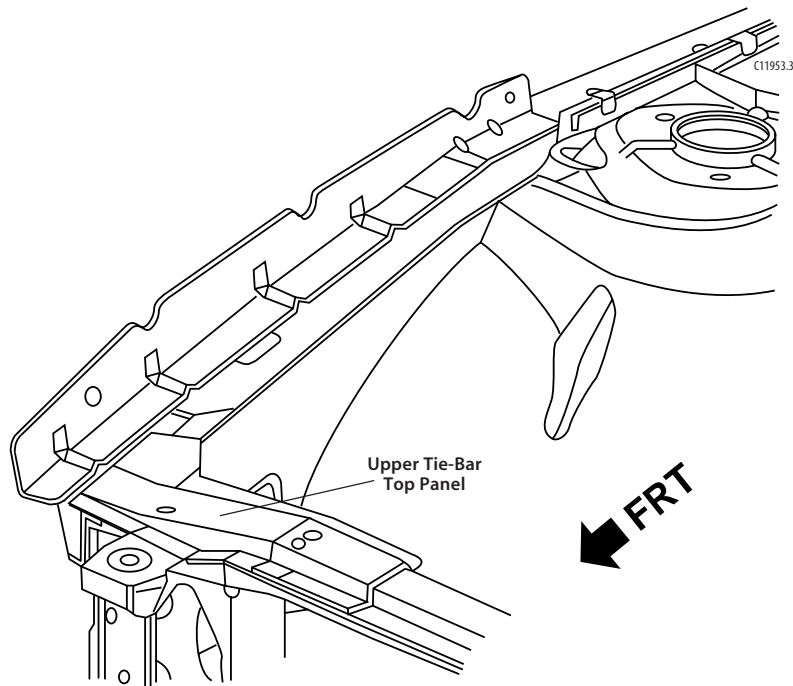


Figure 3-3:  
Upper Rail Assembly