

Front Bumper Impact Bar

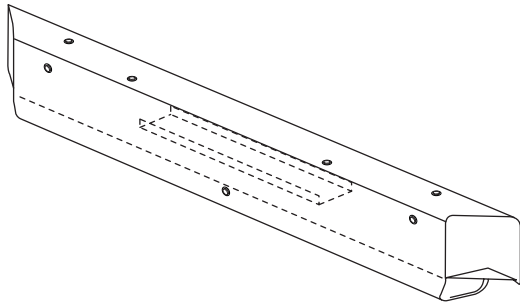


Fig. 3.1 — Ultra High Strength Steel Beam

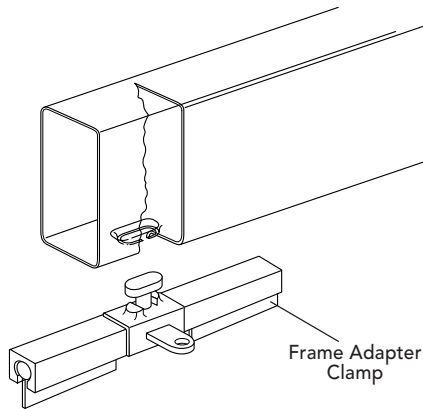


Fig. 3.2 — Adapter Clamp for Conventional Anchoring System

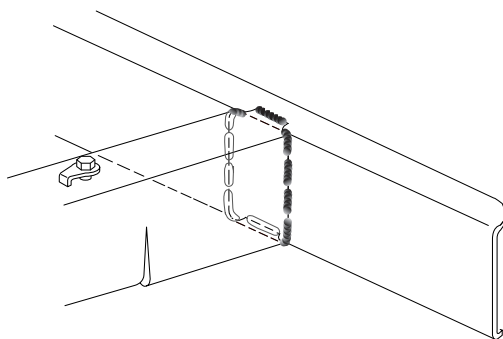


Fig. 3.3 — Note Location of Welds for Reinstallation

The front impact bar (bumper beam) is made of Ultra-High Strength steel. The impact bar is MIG welded to the mild steel frame rails. The impact bar can be repaired if damage excludes kinks, or damage which would require the use of heat to straighten.

Replacing the bumper bar requires special procedures to access the welds attaching the bumper bar to the frame rails. This procedure was developed to facilitate this repair while maintaining the integrity of the bumper system. The front bumper impact bar as supplied for service includes riv-nuts pre-installed (Fig. 3.1) for component mounting: (SIR sensors, fog-lamps, energy absorber, etc.) Replacement riv-nuts are available from Kent Moore Tools (Riv-Nut Kit: P/N J42151-8MS), if needed.

— REMOVE OR DISCONNECT —

- 1 Remove all panels and components to gain access to the impact bar. This includes the bumper cover, impact absorbers, and fog lamps.

Notice: To increase accessibility to the front impact bar, rotate the front brake ducts and manually raise the headlamps.

- 2 Visually inspect and restore as much of the damage as possible to specifications using three-dimensional measuring procedures.

Notice: Use Kent Moore Tools Frame Adapter Clamp (P/N J42058) to secure the vehicle if pulling and straightening is required (Fig. 3.2).

Notice: Be sure to protect vehicle components before cutting or grinding on the bumper impact bar or frame rails.

- 3 Remove or reposition wiring as necessary to avoid damage.
- 4 Cut the welds around the perimeter of the frame rail (fishmouth) ends (Fig. 3.3). Cut welds favoring the impact bar side of the joint. DO NOT cut into the frame rails.
- 5 Remove the damaged impact bar.
- 6 Extract pieces of the impact bar left attached to the rail ends (Fig. 3.4). Keep the perimeter and shape of the rail end (fishmouth) as original as possible.

— INSTALL OR CONNECT —

- 1 Straighten and deburr the rail ends as necessary to allow the service impact bar to fit properly.
- 2 Temporarily position the impact bar and scribe lines into the primer indicating where the welds will be made. Remove the primer from the areas to be MIG welded by sanding with 80-grit paper on a 'Dual-Action' sander (DA). Do Not use a grinder to remove the primer.
- 3 Prepare all bare metal surfaces and apply weld-through primer as necessary. Be sure to apply primer to the inside of the 'fishmouth' area also.

Notice: When installing the replacement bumper bar, weld the sides first in order to ensure uniform contact with the frame rails.

- 4 Position the bumper impact bar using three-dimensional measuring equipment and install per the original weld locations. Stitch weld around the 'fishmouth' joint. If no trace of the original welds are present, use Fig. 3.5 as a guide for welding the side rails to the impact bar. This weld pattern will create a solid weld joint with minimal heat distortion.
- 5 Clean and prepare all welded surfaces, use 3M's Scotch-Brite Clean-N-Strip Discs (disc PN 07460, mandrel P/N 07491) or equivalent. IMPORTANT: Prior to refinishing, refer to GM P/N 4901 M-D Refinish Manual for recommended products.
- 6 Apply approved anti-corrosion primer. Do not combine paint systems. Refer to paint manufacturer's recommendations.
- 7 Install all related panels and components.

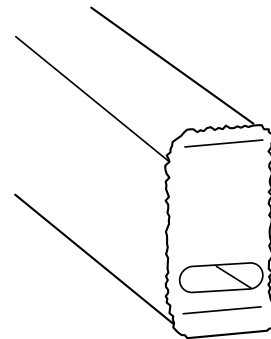


Fig. 3.4 — Remove Remaining Portion of Impact Bar in Frame Rail

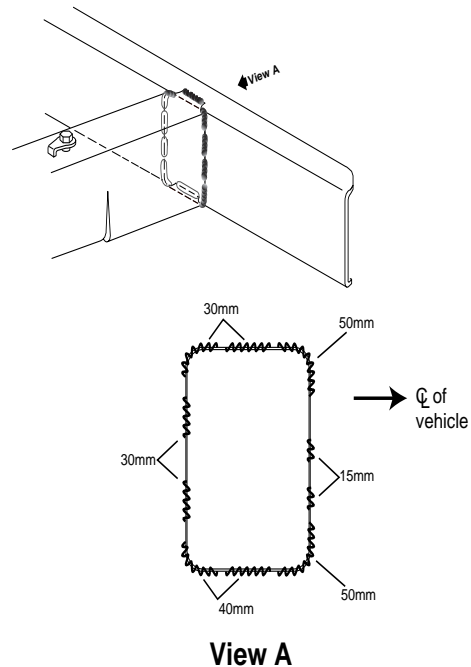


Fig. 3.5 — Weld Perimeter of Joint, as Indicated