

## Frame Members — Rear

### Special Tool(s)

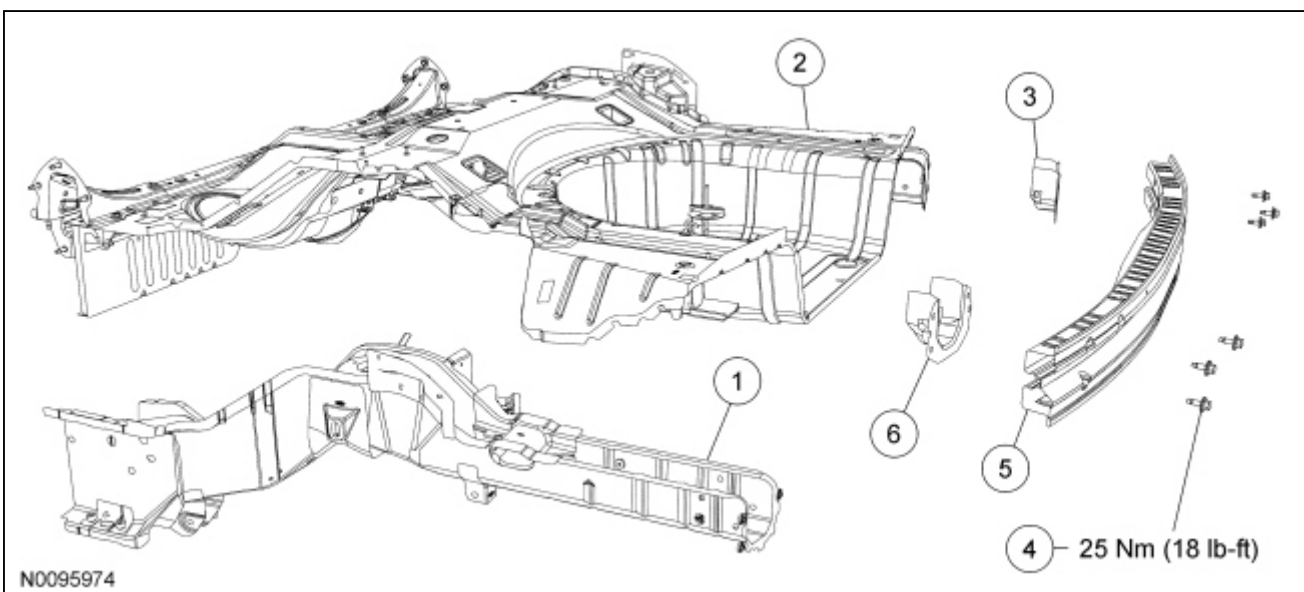
 ST3049-A	Rust Inhibitor Installation Kit 286-00002
 ST3048-A	Undercoating Spray Gun 286-00001

### General Equipment

3 Phase Inverter Spot Welder 254-00002
Compuspot 700F Welder 190-50080
I4 Inverter Spot Welder 254-000014
Inverter Welder with MIG Welder 254-00015

### Material

Item	Specification
Motorcraft® Metal Surface Prep ZC-31-A	—
Motorcraft® Premium Undercoating PM-25-A	—
Motorcraft® Rust Inhibitor Aerosol PM-24-A	—



Item	Part Number	Description
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1	10457 LH/ 10456 RH	Rear floor side member — High-Strength Low Alloy (HSLA) 350 steel
2	—	Underbody assembly mild and High-Strength Steel (HSS) steel
3	17A751	Rear bumper mounting bracket — <a href="#">HSLA</a> 350 steel
4	W711097	Rear bumper bolt (6 required)
5	17906	Rear bumper — boron steel
6	17A750	Rear bumper mounting bracket — <a href="#">HSLA</a> 350 steel



**WARNING:** Never install used or reconditioned parts (as specified below) from pre-owned, salvaged or damaged vehicles. The use of such parts could lead to serious injury.

Never use non-Ford parts or accessories for completing repairs.

Ford Motor Company does not approve or recognize body and structural repair procedures, tools, parts or anything but new genuine Ford equipment. Ford cannot attest to the safety, quality, durability or legality of non-Ford parts or accessories. Use of such parts could lead to serious personal injury as they may contain damage which is not visible.

Ford does not approve use of the following:

- Salvaged or used parts
- Major body clips or assemblies from salvage vehicles
- Aftermarket structural or body components
- Salvaged or reconditioned wheels
- Used supplemental restraint system (SRS) components
  - air bags
  - restraint system modules
  - safety belts, buckles or retractors
  - crash sensors

Returning a vehicle to pre-accident condition can only be assured if repair procedures are carried out by skilled technicians using new genuine Ford parts and Ford-approved methods. Structural component repair procedures approved by Ford, using genuine Ford parts, have been validated by Ford Motor Company engineers.

Ford Motor Company does not endorse, cannot attest to, and makes no representations regarding structural repairs (frames, rails, aprons and body panels) carried out using non-genuine Ford Motor Company parts or non-Ford-approved methods. In particular, Ford makes no representations that the vehicle will meet any crash safety or anti-corrosion performance requirement. Such parts and methods have not been tested by Ford, and may not meet Ford's requirements for safety, performance, strength, quality, durability and corrosion protection.

Ford Motor Company bears no responsibility or liability of any kind if repairs are performed using alternative structural component repair procedures and/or parts.



**WARNING:** Invisible ultraviolet and infrared rays emitted in welding can injure unprotected eyes and skin. Always use protection such as a welder's helmet with dark-colored filter lenses of the correct density. Electric welding will produce intense radiation, therefore, filter plate lenses of the deepest shade providing adequate visibility are recommended. It is strongly recommended that persons working in the weld area wear flash safety goggles. Also wear protective clothing. Failure to follow these instructions may result in serious personal injury.



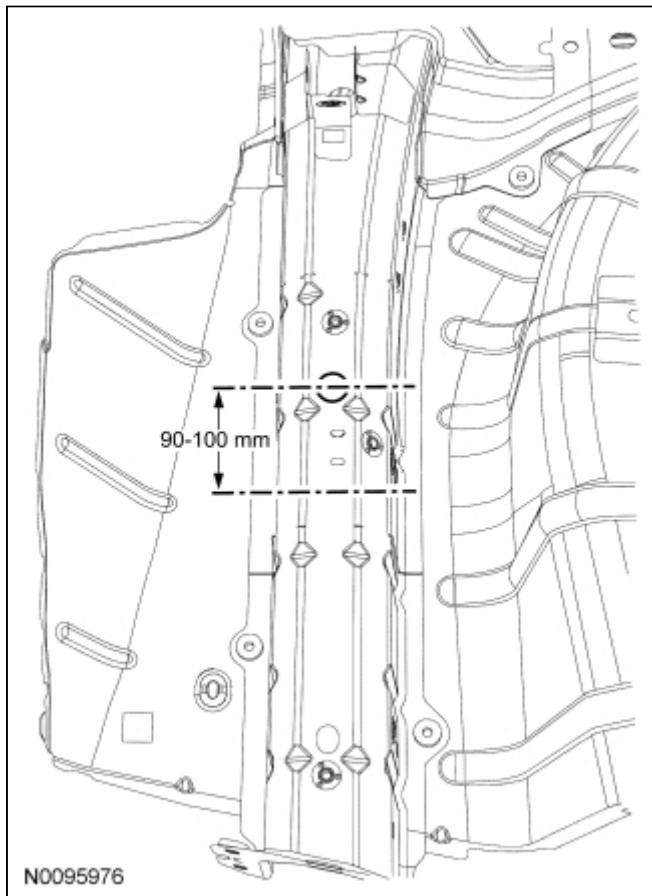
**WARNING:** Always wear protective equipment including eye protection with side shields, and a dust mask when sanding or grinding. Failure to follow these instructions may result in serious personal injury.

**NOTE:** Refer to welding equipment manufacturer's instructions for correct machine set up.

1. **NOTE:** All body alignment measurements are carried out with the vehicle detrimmed. Measurements are made metal to metal, on center, unless otherwise specified.

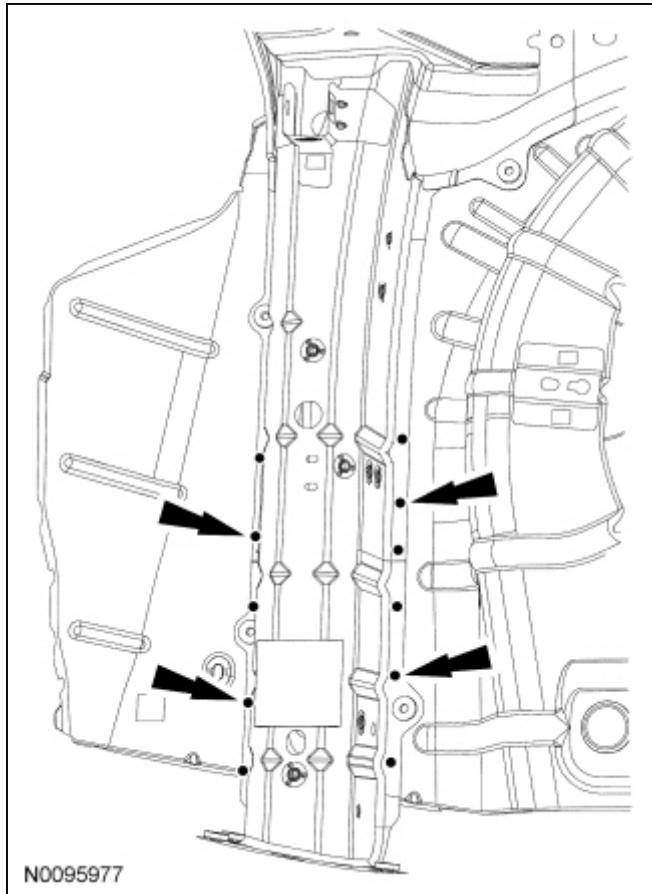
Measure the vehicle to determine if the body requires straightening and alignment. The vehicle must be restored to its correct overall dimensions prior to beginning this procedure. For body dimensional information, refer to [Body](#) in this section.

- Anchor the vehicle to a frame rack following the equipment manufacturer's instructions.
2. Remove the rear bumper assembly. For additional information, refer to [Section 501-19](#).
  3. Remove the Evaporative Emission (EVAP) canister located on the underbody. For additional information, refer to [Section 303-13](#).
  4. Position aside, plug and cover any open vapor lines.
  5. Remove the muffler(s) from the affected side. For additional information, refer to [Section 309-00](#).
  6. Locate the drain hole at the 4th convolute on the frame rail, measure and mark 90 mm (3.543 in) to 100 mm (3.937 in) rearward from the center of the drain hole and scribe a cut line.



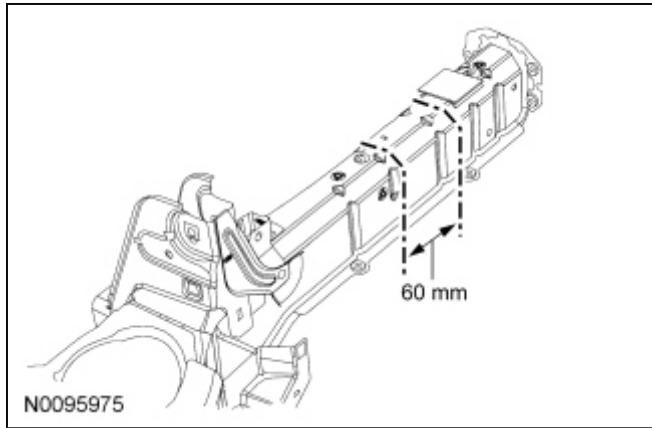
7. Using a die-grinder, carefully cut the frame rail only, at the scribe mark.
8. **NOTE:** DO NOT drill pilot holes in an attempt to aid in spot weld removal.

Drill out the spot welds attaching the frame rail to the underbody using a spot weld cutter or equivalent tool, and remove the damaged section.



## Installation

1. Using the original frame section as a guide, measure and cut the replacement section to the correct length.
2. Locate welded nuts on the original frame rail, position the replacement nut inserts at the same locations on the replacement frame rail and tack weld into position.
3. Prepare all surfaces for Metal Inert Gas (MIG) welding.
  - Grind smooth all spot weld nuggets on the floor pan.
  - Drill or punch plug weld holes in the replacement frame rail.
  - Chamfer the mating surfaces of the original frame rail and the replacement section.
  - Remove the E-coat from the immediate weld area on the vehicle frame rail and the replacement rail section. Clean the surfaces with metal surface prep or equivalent.
  - Apply a commercially available weld-through primer to the immediate weld area only, on all mating surfaces.
4. Create a backer sleeve from a suitable portion of frame rail material approximately 60 mm (2.362 in) long, to be inserted between the weld joint of the replacement frame section and the original frame rail.
  - Drill or punch plug weld holes in the backer sleeve and replacement rail section and **MIG** plug weld the sleeve to the replacement rail.



5. Install and clamp the replacement frame rail section to the vehicle. Verify correct alignment and dimensions. For additional information, refer to [Body](#) in this section.
  6. **MIG** plug weld the replacement rail section to the original frame rail and seam weld around the entire joint using ER70S-3 wire 0.9 mm (0.035 in) to 1.1 mm (0.043 in) diameter.
  7. Use a dye penetrant to determine if any cracks or voids exist in the weld joint. If cracks or other defects exist, grind out the defect and repair until the weld is defect free.
  8. Position and install the new bumper bracket(s).
  9. Apply rust inhibitor to the inner surface of the repair area. For additional information, refer to [Restoring Corrosion Protection Following Repair](#) in this section.
  10. Apply undercoating to the exterior surface of the frame rail and underbody area.
  11. Reinstall the muffler components. For additional information, refer to [Section 309-00](#) .
  12. Reinstall the bumper assembly. For additional information, refer to [Section 501-19](#) .
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