

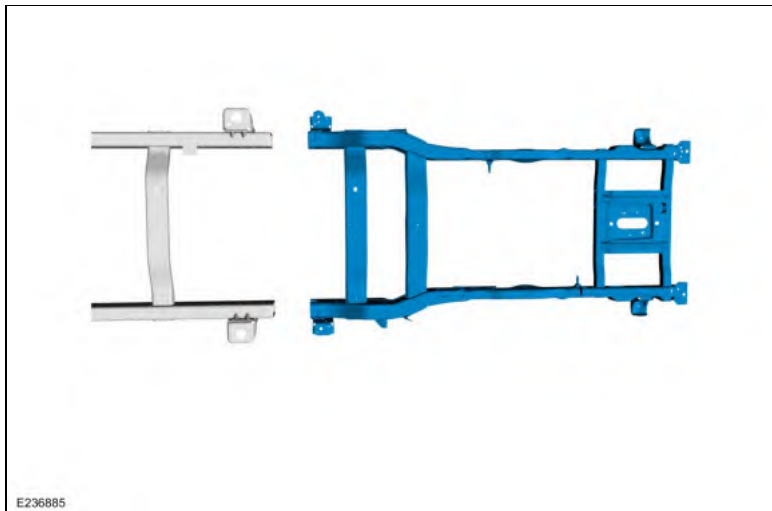
Frame Members-Rear Frame Section

Special Tool(s) / General Equipment

Grinder
MIG/MAG Welding Equipment
Locking Pliers

Removal

1. Rear frame section overview.



2. **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 its correct overall dimensions prior to beginning this procedure.

Restore the vehicle to manufacturer's dimensions.

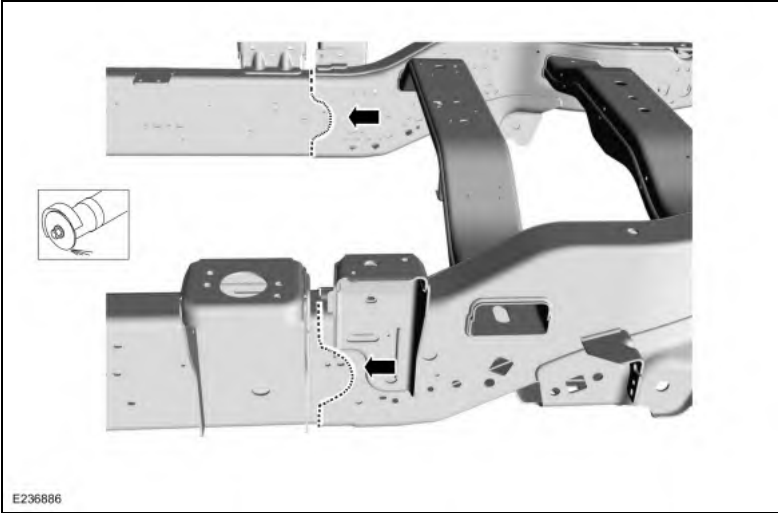
Refer to: Body and Frame (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, Description and Operation).

3. Remove the following items:
 1. If required, remove the pickup bed.
Refer to: Pickup Bed (501-04 Pickup Bed and Platform Body, Description and Operation).
 2. Lower and remove the spare tire, and remove the spare tire carrier winch assembly.
 3. Drain and remove the fuel tank assembly.
Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01A Fuel Tank and Lines - 6.2L V8, Removal and Installation).
Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01A Fuel Tank and Lines - 6.2L V8, Removal and Installation).
Refer to: Fuel Tank - Vehicles With: Midship Fuel Tank (310-01B Fuel Tank and Lines - 6.7L Power Stroke Diesel, Removal and Installation).
Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01B Fuel Tank and Lines - 6.7L Power Stroke Diesel, Removal and Installation).
 4. Remove the rear portion of the exhaust system
Refer to: Rear Muffler (309-00A Exhaust System - 6.2L V8, Removal and Installation).
Refer to: Tailpipe - Chassis Cab (309-00B Exhaust System - 6.7L Power Stroke Diesel, Removal and Installation).
4. Position the vehicle on a frame rack and anchor following the equipment manufacturer's instructions.
5. Perform detailed measurement of the frame, and perform any required pulling operations. This is necessary to ensure proper installation of the replacement frame section.
Refer to: Body and Frame (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, Description and Operation).
6. Using the frame rack towers, run a support chain under the rear cab mount area of the center section of the frame, and apply light tension to hold the cab and center section in place.
7. Remove the rear shock absorbers.
Refer to: Rear Shock Absorber (204-02 Rear Suspension, Removal and Installation).
8. **WARNING:** Adjust the rear axle height to relieve spring tension before removing any shackle bolts, nuts or spring pins. Springs under tension may release with great force. Failure to follow this instruction may result in serious personal injury.

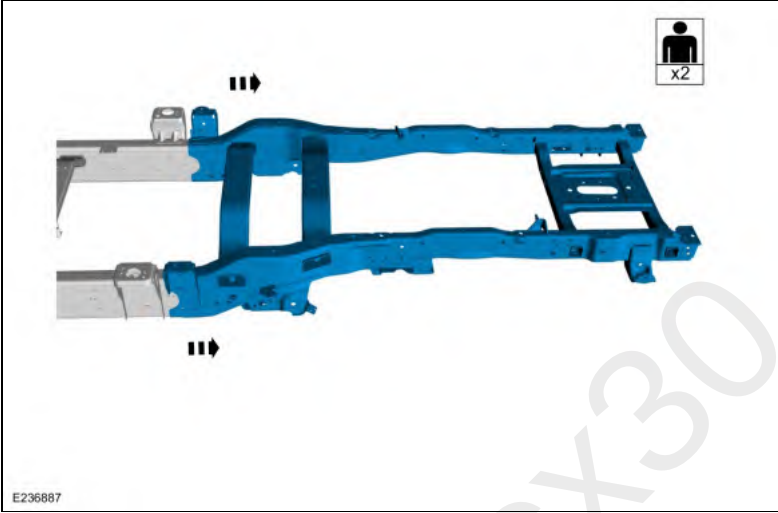
Remove the rear spring eye and shackle bolts.
Refer to: Spring - F-450/F-550 (204-02 Rear Suspension, Removal and Installation).
Refer to: Spring - F-450/F-550 (204-02 Rear Suspension, Removal and Installation).
9. **NOTE:** The rear frame section on this vehicle is retained by a welded joint, (marriage joint), and upper and lower frame rail reinforcements approximately midway between leaf spring frame brackets.

NOTE: Use caution not cut into the mid rear side rail as it will be reused.

Grind the welds that retain the mid rear and rear frame sections.
Use the General Equipment: Grinder



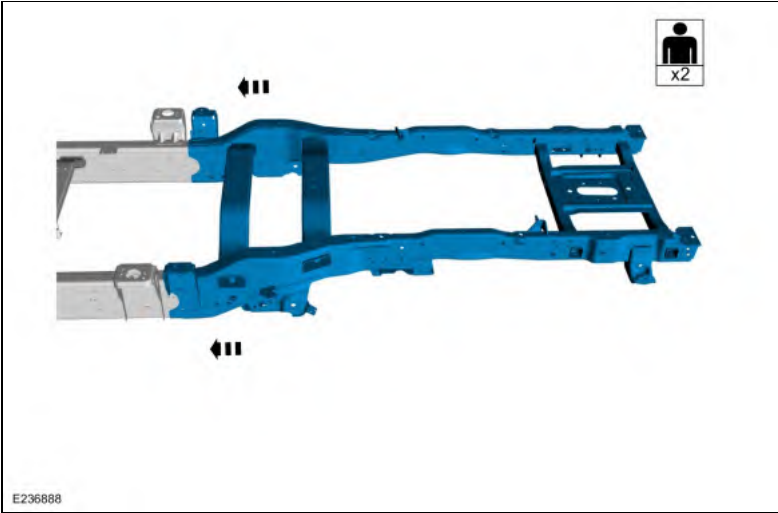
10. Separate the ground area of the joints using an air chisel with a sharp 25.4 mm (1 inch) wide wedge chisel, or similar tool and remove the complete rear frame section with the help of an assistant.



11. Using a wire brush or sandpaper, remove the e-coat paint from the existing frame near the edges to be welded on the inner and outer surfaces within approximately 15 mm (0.5 in.) of the repair joint.

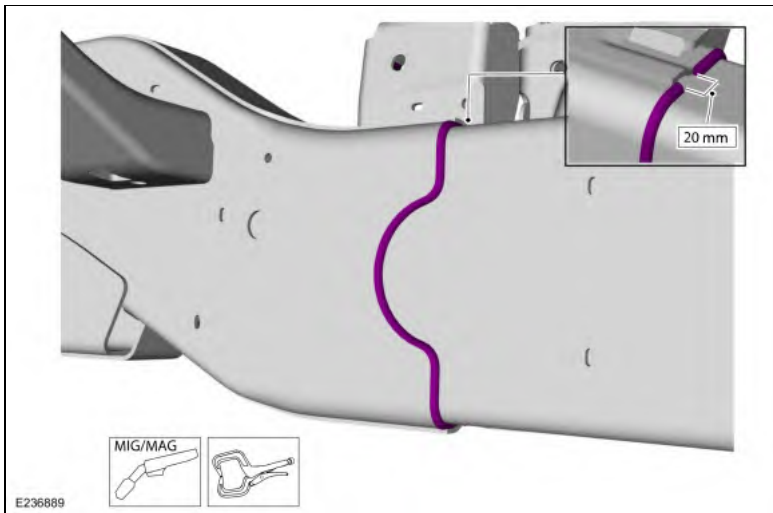
Installation

1. Verify dimensional accuracy **before** performing any welding operations.
Refer to: Body and Frame (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, Description and Operation).
2. With the help of an assistant, install the new rear frame section into the mid rear section of the frame.

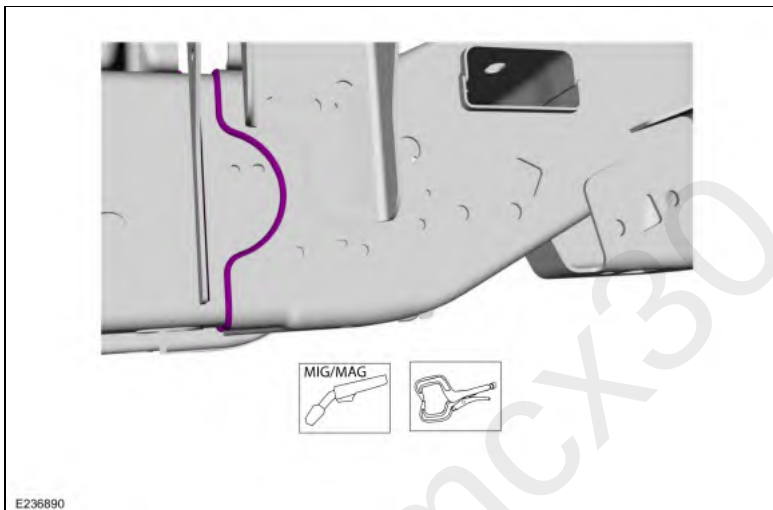


3. Support the new section, and loosely clamp the replacement section in a preliminary position.

- Verify correct dimensions, then solid weld the new section to the original inboard overlap joints.
Refer to: Body and Frame (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, Description and Operation).
Refer to: Joining Techniques (501-25 Body Repairs - General Information, General Procedures).
Use the General Equipment: MIG/MAG Welding Equipment
Use the General Equipment: Locking Pliers



4. Weld the new rear section to the mid rear section outboard overlap joints.
Use the General Equipment: Locking Pliers
Use the General Equipment: MIG/MAG Welding Equipment



5. Use a dye penetrant to determine if any cracks or large voids exist in the weld joint. If cracks or other defects exist, grind out the defect and repair until the weld is free of defects.
6. Metal finish the joint area typical metal finishing techniques.
7. Refinish using a Ford approved paint system.
8. Restore corrosion protection.
Refer to: Corrosion Prevention (501-25 Body Repairs - General Information, General Procedures).
9. **WARNING: Adjust the rear axle height to relieve spring tension before removing any shackle bolts, nuts or spring pins. Springs under tension may release with great force. Failure to follow this instruction may result in serious personal injury.**

Install the rear spring eye and shackle bolts.
Refer to: Spring - F-450/F-550 (204-02 Rear Suspension, Removal and Installation).
Refer to: Spring - F-450/F-550 (204-02 Rear Suspension, Removal and Installation).
10. Install the following items:
 1. If required, install the pickup bed.
Refer to: Pickup Bed (501-04 Pickup Bed and Platform Body, Description and Operation).
 2. **NOTICE: To avoid damage to the spare tire winch when installing the spare tire, DO NOT exceed 200 RPM if using power tool equipment. Override the winch (listen for an audible click) at least three times to ensure a tight secure fit of the wheel and tire.**

Install the spare tire, and the spare tire carrier winch assembly.

3. Install the fuel tank assembly.

Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01A Fuel Tank and Lines - 6.2L V8, Removal and Installation).

Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01A Fuel Tank and Lines - 6.2L V8, Removal and Installation).

Refer to: Fuel Tank - Vehicles With: Midship Fuel Tank (310-01B Fuel Tank and Lines - 6.7L Power Stroke Diesel, Removal and Installation).

Refer to: Fuel Tank - Vehicles With: Aft of Axle Fuel Tank (310-01B Fuel Tank and Lines - 6.7L Power Stroke Diesel, Removal and Installation).

4. Install the rear portion of the exhaust system.

Refer to: Rear Muffler (309-00A Exhaust System - 6.2L V8, Removal and Installation).

Refer to: Tailpipe - Chassis Cab (309-00B Exhaust System - 6.7L Power Stroke Diesel, Removal and Installation).

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