

## 2004 - 2008 F-150 REAR FRAME REPLACEMENT SECTION INSTALLATION INSTRUCTIONS

LIGHT DUTY REAR FRAME STUB REPLACEMENT KIT - 8L34-5F040-AA				
Part Number			Description	Quantity
8L34	5B109	AA	Rear Frame Stub - Light Duty	1
SK8L34	5B109	AA	Rear Frame Stub Instruction Sheet	1

Services all F-150 Frames from 2004-2008 except Trucks with GVW ratings exceeding 7200 lbs.

**NOTE: Not included in this kit, sold separately.**

Other Frame Service Parts Required For Rear Frame Stub Replacement	
Model Year of Frame Being Repaired	Description
2004-2008	Rear Leaf Spring Front Attachment Brackets Left Hand
	Rear Leaf Spring Front Attachment Brackets Right Hand
2004-2008 5.5' bed only	5.5' Box Attachment Bracket Left Hand <i>Early 2004 production models with frame part numbers 4L34-5005- ***A through H will require TSB 06-3-4</i>
	5.5' Box Attachment Bracket Right Hand <i>Early 2004 production models with frame part numbers 4L34-5005- ***A through H will require TSB 06-3-4</i>
2004-2005	Latest level rear parking brake cables and frame-attachment hardware.
2004-2005	Latest level rear bumper, trailer tow package, and frame-attachment hardware.



CPR © 2007 FORD MOTOR COMPANY  
DEARBORN, MICHIGAN 48121  
5-07

SK 8L34-5B109-AA

SHEET 1 OF 7

**2004 - 2008 F-150 REAR FRAME  
REPLACEMENT SECTION  
INSTALLATION INSTRUCTIONS**

## **SERVICE PROCEDURE:**

### **Preliminary Steps:**

1. Remove the rear bumper assembly as outlined in Workshop Manual, Section 501-19.
2. Remove the rear tailgate and complete pickup box assembly. Refer to Workshop Manual, Section 501-04 for information.
3. Lower and remove the spare tire, and remove the spare tire carrier assembly from the frame section.
4. Drain and remove the fuel tank assembly following Workshop Manual, Section 310-00. Plug the open lines. Disconnect and remove the evaporative emissions unit from the frame section.
5. Loosen and remove all exhaust hangers from frame, loosen extension pipe connection, then remove the exhaust system. Refer to Workshop Manual, Section 309-00.
6. Pull vehicle up on frame rack and anchor in place following frame rack company guidelines and precautions.
7. Perform detailed measurement of the frame, and perform any required pulling operations. This is critical to ensure proper installation of the replacement frame section.
8. Position and tighten fixtures to hold the front eye bolts of the leaf spring attachments. This will hold the rear axle and spring assembly in place as the frame section is removed and replaced.
9. Using the frame rack towers, run a support chain under the rear cab mount area of the center section of the frame, and apply gentle tension to hold the cab and center section in place.
10. Remove the rear shock absorbers.
11. Remove the rear spring eye bolts. Have an assistant help by holding the spring down with a large pry bar, then slowly releasing tension after removal of the bolt.



## REAR FRAME SECTION REMOVAL AND REPLACEMENT STEPS:

The rear frame section on this vehicle is retained by a welded joint near the forward leaf spring eye brackets.

1. Using proper eye, face, and ear protection, grind the welds holding the forward spring eye brackets to the frame rail and remove the brackets completely.
2. Using proper eye, face, and ear protection, grind the welds holding the forward and rear frame sections together.
3. Remove the complete rear section with an assistant's help.
4. With the assistant's help, insert the new rear frame section into the original center section of the vehicle.
5. Loosely clamp the replacement section in a preliminary position.
6. Perform measurements to ensure proper placement of the new unit, then clamp firmly into position.
7. With all measurements verified and the new section in proper position, tack weld the new section in place to the original center section.
8. Perform a final measurement, then solid weld the new section to the original on all overlap joints, following the weld procedure on page 4, (refer to Figures 4, 5, 6 and 7).
9. Install the front axle brackets, verifying placement using the measuring system. Tack weld in place, perform a final measurement, then solid weld as originally.
10. Apply Motorcraft Rust Inhibitor - PM-24-A or B to the inside of the repair area, and then apply Motorcraft PM-25-A or B Premium undercoating to the area.
11. Reinstall the rear springs, shocks, and other removed components.
12. Remove the vehicle from the frame rack, and perform other required reassembly procedures following the appropriate Workshop Manual Sections.



**Repair and Welding Procedure Overview:**

Welding of the frame replacement section may be done by Arc or MIG welding. It is imperative that the following welding specifications be determined and followed exactly. **For safety, this repair must be performed by a certified welder.**

**WELD PROCEDURE SPECIFICATION:**

Joint Design Used:

Single: (x) Double: ( )

Backing: Yes ( ) No (x)

**Material Specification:**

Material: Carbon Steel (ESA M1A33-C P&O)

Thickness: Side rail: 3.2 mm nom/3.0 mm minimum

Bracket: 3.1 mm nom/2.9 mm minimum

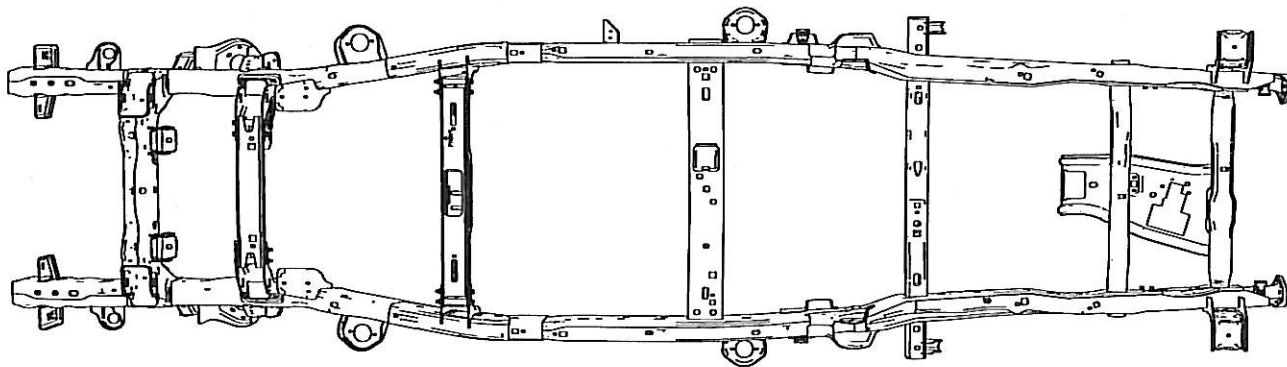
**Option 1: GMAW – MIG Welding**

Stringer or Weave Bead: Stringer  
Multi or Single Pass (per side): Single  
Electrode Angle: Leading w/45 (horizontal), Trailing w/45 (v-down)  
Vertical progression: vertical down  
Working Amperage: 145 amps  
Wire Feed Speed: 140-150  
Volts: 18-19  
Gas: 85Ar-15CO2, flow rate: 14 CFI  
Amperage (GMAW): 140-150 amp

**Option 2: SMAW – Stick Welding**

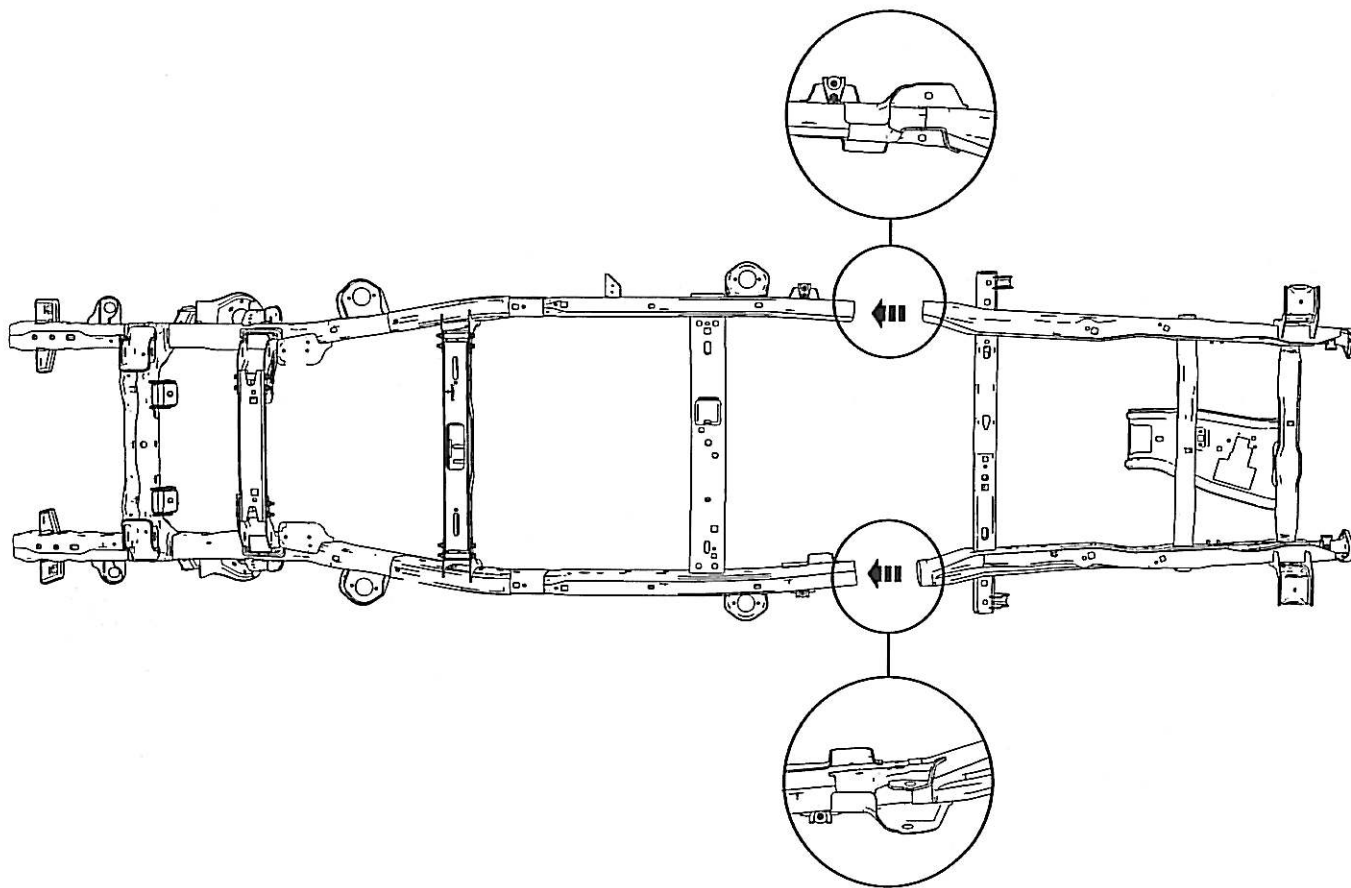
Stringer or Weave Bead: Stringer  
Multi or Single Pass (per side): Single  
Number of Electrodes: As Needed  
Electrode Angle: Trailing w/45  
Working Amperage: 90 amps  
Vertical progression: vertical up  
Filler Metal AWS Specification: E-6011  
AWS Classification: A5.1-91  
Amperage (SMAW): 70-110 amps





**BOTTOM VIEW**

**FIGURE 1**



**BOTTOM VIEW ASSEMBLY/DISASSEMBLY**

**FIGURE 2**

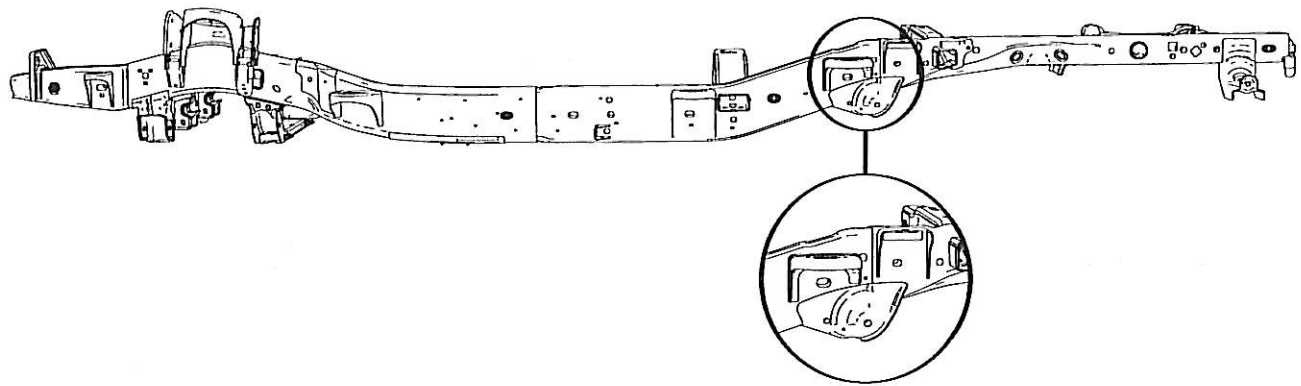


CPR © 2007 FORD MOTOR COMPANY  
DEARBORN, MICHIGAN 48121  
5-07

SK 8L34-5B109-AA

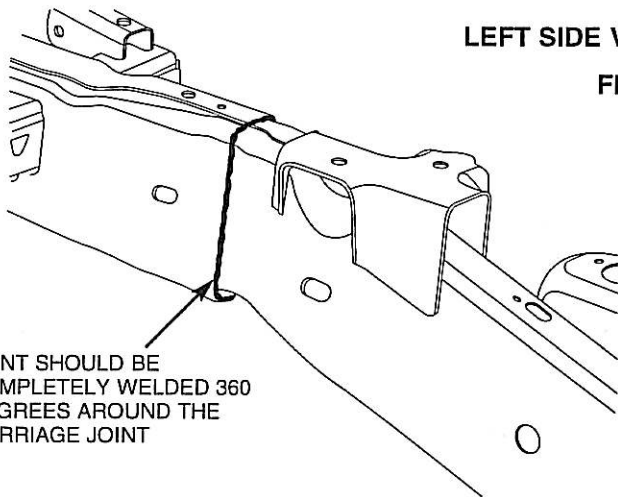
SHEET 5 OF 7

**2004 - 2008 F-150 REAR FRAME  
REPLACEMENT SECTION  
INSTALLATION INSTRUCTIONS**



**LEFT SIDE VIEW ASSEMBLED**

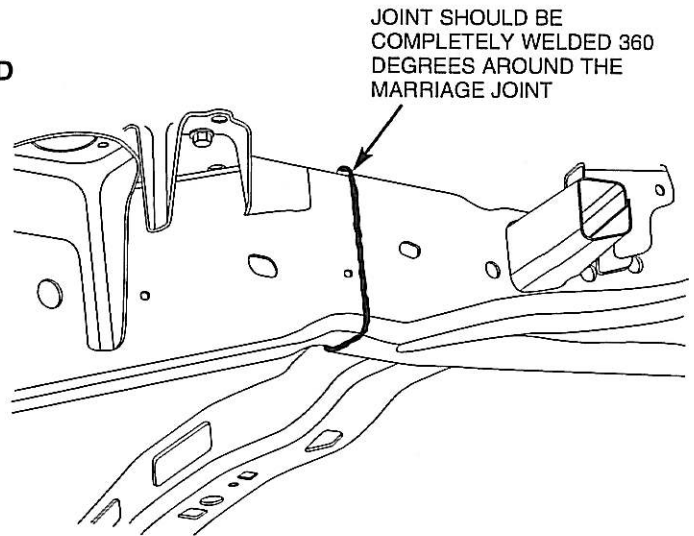
**FIGURE 3**



JOINT SHOULD BE COMPLETELY WELDED 360 DEGREES AROUND THE MARRIAGE JOINT

**FRAME MIDDLE RAIL TO REAR RAIL WELD INBOARD  
VIEW LEFT HAND SIDE OF FRAME SHOWN/RIGHT  
HAND SIDE SYMMETRICALLY OPPOSITE**

**FIGURE 4**

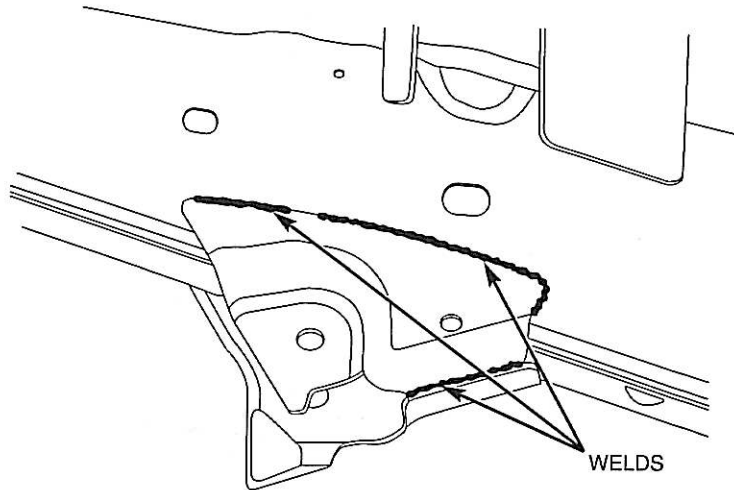


JOINT SHOULD BE COMPLETELY WELDED 360 DEGREES AROUND THE MARRIAGE JOINT

**FRAME MIDDLE RAIL TO REAR RAIL WELD OUTBOARD  
VIEW LEFT HAND SIDE OF FRAME SHOWN/RIGHT HAND  
SIDE SYMMETRICALLY OPPOSITE**

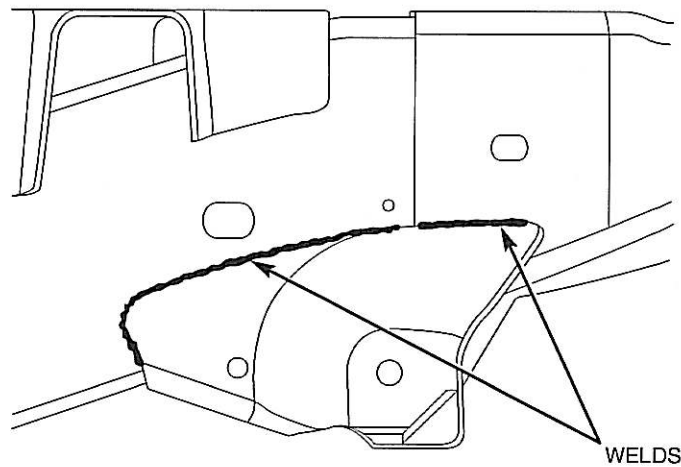
**FIGURE 5**





**REAR LEAF SPRING FRONT ATTACHMENT BRACKET  
INBOARD AND BOTTOM WELDS LEFT HAND SIDE OF FRAME  
SHOWN/RIGHT HAND SIDE SYMMETRICALLY OPPOSITE**

**FIGURE 6**



**REAR LEAF SPRING FRONT ATTACHMENT BRACKET  
OUTBOARD AND LEFT HAND SIDE OF FRAME  
SHOWN/RIGHT HAND SIDE SYMMETRICALLY OPPOSITE**

**FIGURE 7**

