F1611, F1612 Installation Instructions
3/1/1999-2004 Ford Super Duty F-250/350 4wd
6" Suspension Lift

Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

» Product Safety Warning

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

» Technical Support

Live Chat provides instant communication with Zone tech support. Anyone can access live chat through a link on www.zoneoffroad.com .

www.zoneoffroad.com may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to ***tech@zoneoffroad.com*** detailing your issue for a quick response.

888.998.ZONE Call to speak directly with Zone tech support.

» Pre-Installation Notes

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

Difficulty Level

easy 1 (2) 3 4 5 difficult

Estimated installation: 6-8 hours

Special Tools Required

30mm (1-3/16") sockets

Pitman Arm Puller

Drill and 5/16" drill bit

Tire/Wheel Fitment

Wheel: 17x9, 4.5" Backspace

Tire: 37x12.50

Minor Trimming Required

Kit Contents

F1611 (2000-04), F1612 (1999) Box Kit

Qty	Part
1	Dropped Pitman Arm
1	6in Track Bar Bracket
2	Bump Stop Bracket
1	Bolt Pack - Bump Stop
1	Cotter Pin
2	Sway Bar Link (F1612 only)
4	Sway Bar Link Sleeve (F1612 only)
4	Sway Bar Link Bushing (F1612 only)
4	9/16 x 3-1/8 x 11 Radius U-bolt (F1611 only)
4	9/16 x 3-1/8 x 10-1/2 Square Ubolt (F1612 only)
8	9/16" SAE Washer
8	9/16" Fine High Nut

F1414 Box Kit

2	5" Block with Bump Stop
4	5/8"-3-5/8" x 15" Round U-bolt
8	5/8" Fine Hight Nut
8	5/8 SAE Washer

F6217 Box Kit

2	Add-a-Leaf
2	7/16" x 6" center pin

Important—measure before starting!

Measure from the center of the wheel up to the bottom edge of the wheel opening

LF_____ RF_____

LR_____ RR_____

Step 2 Note

The track bar bolts require a 30mm or 1-3/16" socket/wrench to remove and install.

INSTALLATION INSTRUCTIONS

» Pre-Installation Notes

1. Will only fit models made after 3/1/99. 1999 models will require front sway bar links and square u-bolts included in the F1612 box kit. See page 4 for details.
2. The front driveshaft may need to be lengthened or clearance ground depending on the factory driveshaft, see pages 8-9 for details.
3. If equipped with a 2-piece rear driveshaft, F5401 driveshaft alignment kit will be required.
4. Rear kits designed for single rear wheel trucks. Dually models will required 3-7/8" wide u-bolts.
5. These vehicles, especially diesel models, are very heavy. Be sure that proper jacks/stands are used that are rated to handle the weight of the vehicle. Ensure that the vehicle is well supported before beginning the installation.
6. Ford uses extremely strong Loctite to secure their leaf spring bolts from the factory. In some cases it may be necessary to heat the leaf spring nuts to free the Loctite in order to remove the hardware.
7. The factory front track bar bolts require 405 ft-lbs of torque to be installed properly. Be sure you have the means of removing and installing this hardware properly. It is possible to install the hardware and torque to a more modest range (200 ft-lbs or so) and take the vehicle to a shop with the means to torque the hardware properly immediately after the installation is complete.

» Front Installation

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Locate and remove the front track bar bolt at the driver's side frame mount. Save hardware. Figure 1

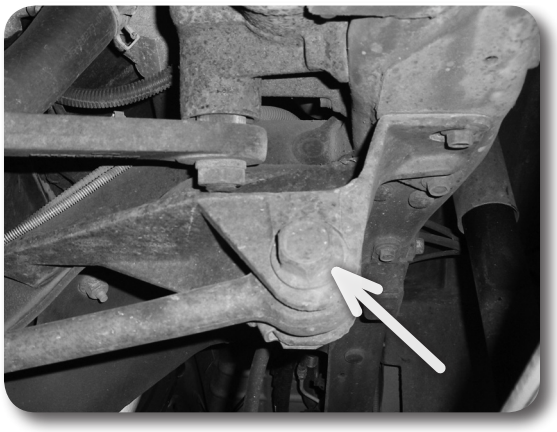

Figure 1

3. Raise the front of the vehicle and support the frame with jack stands just behind the front leaf spring. Be sure the stands are adequate for the weight of the vehicle.
4. Remove the front wheels.
5. Remove the front bumper. Removing the bumper greatly improves access to the front spring bolts and speeds installation time. Front bumper mounting varies slightly from year to year. Be sure to disconnect any auxiliary lights and shrouds before attempting to remove the bumper. The main four mounting bolts are accessed in the front near the tow hooks. Depending on the year, there will be a side support on each side that must be disconnected.
6. Remove the cotter pin and castellated nut from the steering drag link at the pitman arm. Thread the nut back on a couple turns and hit the pitman arm near the drag link to release the tapered seat. Remove the nut and drag link from the pitman arm. Save nut.
7. Locate the brake line mount bracket on the frame. Using pliers, bend the bracket down about 60 degrees away from the frame. After the bracket is reformed, remove the mounting bolt and remove the bracket from the frame. Save hardware.

Figure 2

8. Disconnect the front sway bar links from the frame and axle. Save links and hardware.

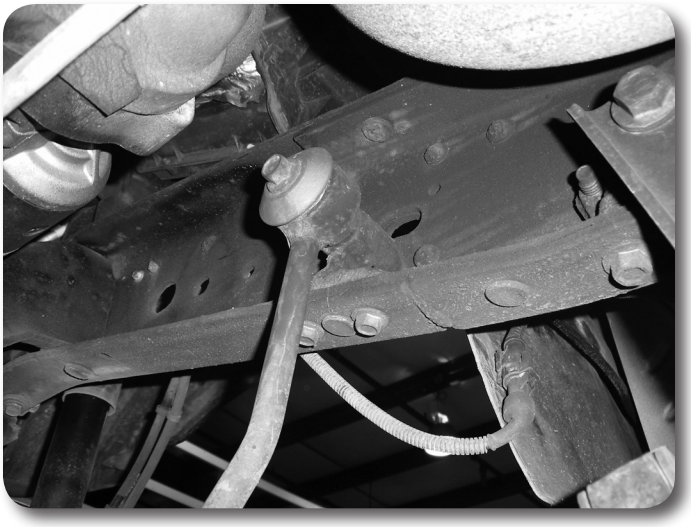

Figure 3a 2000-2004 model shown

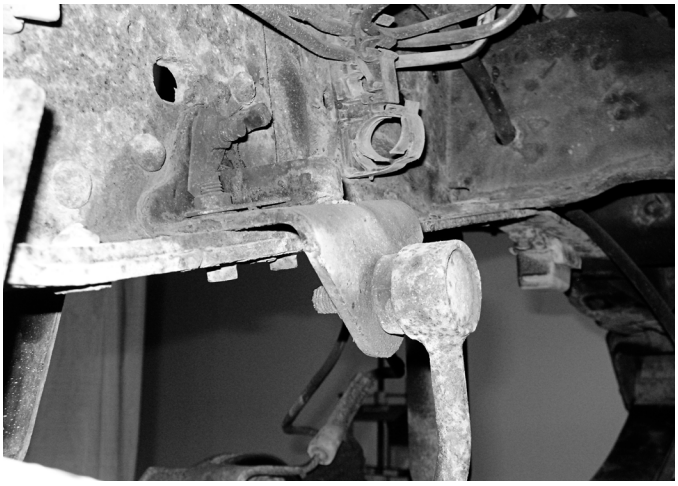

Figure 3b 1999 model shown

Figure 3c

9. Disconnect the front driveshaft from the front axle. Save u-joint straps and bolts.
10. Disconnect the front shocks from the axle and frame mounts. Save hardware.

11. The A/C condenser brackets will need to be removed to gain access to the bolt. Figure 4 Remove the brackets from the core support and save along with the mounting bolts.

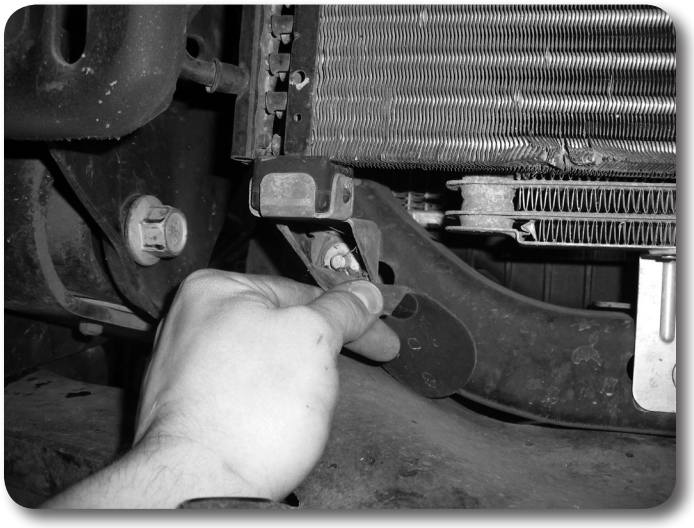

Figure 4

12. Loosen but do not remove all four leaf spring mounting bolts.
13. Support the passenger's side of the front axle with a jack. Remove the passenger's side spring u-bolts. Lower the axle away from the spring. Remove the spring bolts and remove the spring from the vehicle. Save the leaf spring bolts and discard the u-bolts.
14. Locate one of the new leaf springs. The larger spring eye will mount to the front of the vehicle. Install the new spring in the vehicle and loosely attach to the front frame mount and rear shackle with the factory hardware.
15. Raise the axle to the new spring with the jack. Align the spring pin into the pin hole in the axle mount and fasten with the new 9/16" u-bolts/nuts/washers and the factory spring plates. The axle will have to be pulled forward to align the pin. It may be necessary to loosen the driver's side u-bolts to allow the axle to move forward. Snug the u-bolts just enough to keep the spring pin in place.
16. Repeat the leaf spring installation steps on the driver's side of the vehicle. Leave all hardware loose. The u-bolts and spring bolts will be torqued with the weight of the vehicle on the suspension at the end of the installation.
17. Remove the 3 bolts mounting the track bar bracket to the frame. The two bolts at the frame thread into a nut tab inside the frame Remove the bracket from the vehicle. Save hardware.
18. Mark the relationship between the steering sector shaft and the pitman arm for reference. Remove the pitman arm nut/washer. Remove the pitman arm from the steering box sector shaft with an appropriate pitman arm puller. Save hardware.
19. Install the new provided pitman arm on the steering sector shaft. Use the marks made on the factory arm as a guide. Fasten the pitman arm with the original sector shaft nut/washer. Torque nut to 185-200 ft-lbs.
20. Install the new track bar bracket to the original bracket mount points. Fasten with the factory hardware. Torque bolts to 65 ft-lbs.

Step 12 Note

The factory uses very strong Loctite on the leaf spring bolts. In most cases heat will be needed to loosen the nuts.

Step 13 Note

It is helpful to loosen the frame shackle bolt to allow the shackle to easily pivot to aid in removal and installation.

Figure 5

21. Locate and remove the factory front bump stops from the frame rails. Figure 6 Locate the provided rectangle bump stop spacers and place between the factory bump stops and the frame rail. Align the holes in the bump stop and spacer with the original frame mounting holes and fasten with the provided 10mm x 110mm bolts and washers into the captive nuts in the frame. Figure 7 Torque bolts to 30 ft-lbs.

Step 21 Note

Bump Stop Extension hardware is located in bolt pack 441.

Figure 6

Figure 7

22. Locate the new provided front shocks (shorter set compared to the rear). Locate the bushings and sleeve provided with the shocks. There are two different bushing widths, set them side by side and determine which one is taller. Install the taller bushing into the BODY end of the shock along with the provided steel sleeve. Install the short bushing into the ROD end of the shock (this end does not require a sleeve).

23. Install the new shock to the factory axle/frame mounts with the original hardware. The body end of the shock mounts to the axle. Torque the upper and lower shock mount hardware to 70 ft-lbs

24. 1999 Models Only: Locate the new provided front sway bar links, bushings and sleeves. Lightly grease and install the bushings and sleeves into the new link ends. Attach the new links to the frame and sway bar with the original hardware. The links are offset and will mount in the same position as the originals. Torque link hardware to 60 ft-lbs.

25. 2000-2004 Models Only: Locate the factory sway bar mounts inside the frame rails. Remove the two bolts and the mounts from the inside of the frame rails and reinstall on the bottom of the frame with the original bolts. **Figure 8** Install the mounts so the small ID of the link mounting hole is toward the inside of the vehicle. Torque the link mount bolts to 35 ft-lbs.

Figure 8

26. 2000-2004 Models Only: Reattach the factory front sway bar links to the relocated frame mount and the sway bar with the original hardware. Torque the link bolts to 75 ft-lbs.

27. Locate the original brake line bracket mounting hole on the frame. Measure down 3" and forward 2" from the original mounting hole and drill a new 5/16" mounting hole. Check the inside of the frame for wires/hoses before drilling. Carefully reform the brake lines to reposition the mount bracket. Bend the alignment tab on the bracket flat and reattach the bracket to the frame with the original bolt. Torque bolt to 15 ft-lbs.

28. With the axle hanging at full suspension droop, check the front driveshaft length and joint clearance. The driveshaft may need to be clearance ground and/or lengthened depending on how the vehicle is equipped. **Figure 9 and 10**

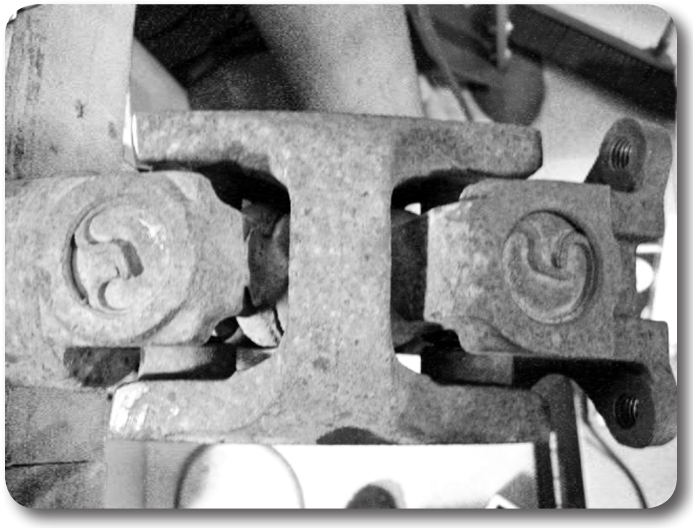

Figure 9- Before Grinding

Figure 10 - After Grinding

29. Re-install the front driveshaft with the factory bolts.

30. Install the wheels and lower the vehicle to the ground. Torque the lug nuts to 165 ft-lbs.

31. Bounce the front of the vehicle to help settle the suspension.

32. Install the driver's side end of the new track bar into the new frame bracket with the original hardware. Torque the frame and axle track bar hardware to 405 ft-lbs.

33. Torque the front leaf spring u-bolts to 100 ft-lbs. Torque the front leaf spring hanger bolts to 200 ft-lbs and the shackle bolts to 180 ft-lbs.

34. After the front spring hardware is properly tightened, reinstall the A/C condenser support brackets with the original hardware. Tighten bolt to approximately 5 ft-lbs.

35. Reinstall the front bumper with the original hardware. Be sure to replace any shrouds/wire that were removed. Adjust bumper to the desired location and tighten all mounting hardware securely.

36. Check all hardware for proper torque.

Step 33 Note

Have someone turn the steering wheel to shift the vehicle to help align the track bar in the bracket.

» Rear Installation

1. Block the front wheels for safety. Raise the rear of the vehicle and support the frame with jack stands just ahead of the leaf spring mounts.

2. Remove the wheels.

3. Support the axle with an appropriate jack. Remove the factory shocks from the axle and frame. Save hardware.

4. Use a large set of pliers to bend the OE brake line bracket out flat where it attaches to the frame. Use care not to kink the brake line.

5. Complete the following steps one side at a time. If doing this procedure by yourself it is recommended to remove the leaf spring from the vehicle before disassembling the springs.

6. Place a jack under the axle and remove the factory U-bolts and block.

7. Using two c-clamps on each side of the center pin to hold the spring pack together. Use vice grips or pliers to hold the center pin head and remove the center pin nut. Punch the factory center pin out of the leaf spring pack.

8. Loosen the C-clamps until the leaf pack can come apart. You may have to cut the factory leaf alignment tabs to fully disassemble the springs depending on the factory leaf pack.

9. Install the new add-a-leaf where it fits into the rest of the pack so the leafs are installed from longest to shortest. Using the c-lamps tighten the spring back together while using a punch to keep the center pin holes in line.

10. Once the leaf is fully compressed with the c-clamps, install the provided center pin and nut and tighten. Do not use the center pin to draw the leafs together. Cut off excess center pin.

11. Place the provided block between the axle pad and leaf spring. Align the spring center pin with the hole in the block and the block pin the with the hole in the axle. Fasten the assembly with the new provided u-bolts, nuts and washers. Snug u-bolts but do not torque. Figure 11

Post-Installation Warnings

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.

2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.

3. Perform head light check and adjustment.

4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

Figure 11

12. Repeat block installation on the opposite side.
13. Locate the new provided shocks (longer set compared to the front). Locate the bushings and sleeves provided with the shocks. Install the bushings into the ends of the shock. Install a steel sleeve in the bushing at the body end of the shock (the rod end does not require a sleeve).
14. Install the new shocks to the factory axle/frame mounts with the original hardware. The body end of the shock mounts to the axle. Torque the upper and lower shock mount hardware to 70 ft-lbs.
15. Install the wheels and lower the vehicle to the ground. Torque the lug nuts to 165 ft-lbs.
16. Bounce the rear of the vehicle to help settle the suspension. Torque the u-bolts to 150 ft-lbs.
17. Check all hardware for proper torque.

» Post-Installation

1. Check all hardware for proper torque. Recheck fasteners after 500 miles.
2. The steering wheel will need to be re-centered after the installation is complete. This is accomplished by loosening the adjusting collar clamps up near the pitman arm on the steering drag link. Rotate the adjusting collar in the proper direction (have a helper watch the steering wheel) so that the wheel is centered when the front wheels are straight ahead. Torque adjusting collar clamps to 40 ft-lbs.
3. Adjust headlights.