



## INSTALLATION INSTRUCTIONS

6415

### REAR LOWERING KIT FORD F150 PICKUP

**Congratulations! You were selective enough to choose a BELLTECH PRODUCT. We have spent many hours developing our line of products so that you will receive maximum performance with minimum difficulty during installation.**

**Note:** Confirm that all of the hardware listed in the parts list is in the kit. **Do not** begin installation if any part is missing. Read the instructions thoroughly before beginning this installation.

**Warning:** **DO NOT** work under a vehicle supported by only a jack. Place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

**Warning:** **DO NOT** drive vehicle until all work has been completed and checked. Torque all hardware to values specified.

**Reminder:** Proper use of safety equipment and eye/face/hand protection is absolutely necessary when using these tools to perform procedures!

**Note:** It is very helpful to have an assistant available during installation.

#### **RECOMMENDED TOOLS:**

- Properly rated floor jack, support stands, and wheel chocks
- Combination wrench set
- Torque wrench: *0-75 lb ft. range*
- Ratcheting socket wrench and socket sets
- Air Chisel / Die grinder W/ cut off wheel
- Safety Glasses

#### **KIT INSTALLATION**

1. Open the hardware kit and remove all of the contents. Refer to the part list (Page 3) to verify that all parts are present.
2. Place the vehicle on a level, solid surface. We recommend asphalt or concrete. For better access to the suspension and to simplify the procedure we recommend removing the bed from the vehicle. This is accomplished by disconnecting the gas filler neck, ground strap(s), unplugging the tail light harness, and removing the bed to chassis securing bolts. While removing the bed simplifies the installation of the kit, it is not mandatory and the installation can be accomplished without removing the bed from the vehicle. If bed removal is not accomplished, removal of the rear fender to bed support rail brace will be necessary to allow for leaf spring shackle installation clearance. (PHOTO 1)
3. Block the front wheels of the vehicle. Raise the rear of the vehicle using a floor jack positioned under the center of the rear axle housing. (PHOTO 2) Place jack stands under the chassis side rails just forward of the front leaf spring hangers. (PHOTO 3) Remove the rear wheels and tires from the vehicle.
4. Disconnect the Sway Bar end links (PHOTO 4 & 5) and rear shocks from both sides of the vehicle. (PHOTO 6)

5. With the jack stands supporting the vehicle, place the hydraulic jack under the center of the rear axle housing and raise the jack until the pad just contacts the axle housing. Raise the jack another 1/8" to 1/4" to remove as much tension as possible from the leaf spring pack. Remove the forward leaf spring eyebolt. (PHOTO 7) Support the end of the spring and allow it to drop free of the forward hanger. (PHOTO 8) **CAUTION: Leaf spring may still be under some tension, use caution when removing eyebolt.** Floor jack vertical position may have to be altered to allow removal of the leaf spring eyebolt.
6. Using the same procedure as the leaf spring front eyebolt, remove the lower rear shackle eyebolt (PHOTO 9), and after loosening the upper shackle eyebolt, lift the leaf spring shackle assembly out of the rear hanger. **NOTE:** Retain all OEM leaf spring pivot eye hardware for re-use.
7. Lower the floor jacks so that the leaf spring assembly drops clear of the forward leaf spring hanger. **CAUTION:** Do not lower the rear axle so as to over extend or damage brake lines or related components.
8. Hanger rivet removal can be expedited by either of the following methods. Using a cutting wheel, grind a slot completely through the center of the rivet heads on the front spring hanger. **CAUTION:** Do not cut through hanger into the vehicle chassis. If a cutting wheel is unavailable, drill a 3/8" hole through the center of each rivet. First drilling a small pilot hole through each rivet and then increasing the drill sizes until the final 3/8" drill size is reached may ease this procedure.
9. After the rivet heads have been drilled or slotted, use a chisel to remove the head of each rivet. (PHOTO 10) Drive the remaining rivet shaft out of the hanger and chassis using a pneumatic hammer or a punch and hammer. (PHOTO 11) Remove the hanger from the chassis, (PHOTO 12)
10. Install the kit hanger using the supplied hardware. (PHOTO 13 & 14) Torque the nuts to 123-128 Ft-Lbs.
11. Supporting the leaf spring pack, remove the U-bolt nuts and spring support plate. (PHOTO 15) Retain the OEM hardware for re-use. Lift the leaf spring pack from the axle pad. Clamp the leaf spring pack together using C-clamps or a suitable clamping device.
12. Remove the leaf spring center bolt and nut. (PHOTO 16 & 17)
13. Install the supplied leaf spring pack center bolt and spacer(s) into the leaf spring center hole, making sure that the bolt head and spacer(s) are on the bottom side of the assembly. (PHOTO 18) The leaf spring center bolt can be measured for the proper length at this time by setting the center bolt nut nest to the bolt on the spring leaf and marking the bolt above the nut with chalk or suitable marker. (PHOTO 19) After trimming the bolt to the proper length, install the nut and torque to 55-60 Ft-Lbs.
14. Re-install the leaf spring pack after installing the kit supplied 4 degree shim on top of the rear axle tube spring pad, making sure that the shim's thickest part is facing forward. (PHOTO 20) Make sure the spring center bolt seats into the hole in the axle pad. Install the retained OEM U-bolts, nuts, and spring support plate. (PHOTO 21) Torque the U-bolt nuts to 85-95 Ft-Lbs.
15. Install the kit-supplied shackle to the rear leaf spring pack using the retained stock hardware. (PHOTO 22) **DO NOT** fully tighten the leaf spring eyebolt at this time.
16. Lift the rear spring pack with the floor jack so that it can be reinstalled into the hangers. Align the leaf spring pack eye with the hanger and install the retained OEM bolt and nut. (PHOTO 23) In the same manner, align the lower shackle eye with the hanger and install the retained OEM bolt and nut. (PHOTO 24) **NOTE:** Make sure the OEM hardware in the spring end and shackle eyes is secure at this point but **do not** tighten to final torque.

17. Repeat steps 4 through 15 for the opposite side of the vehicle.
18. Re-install the OEM shock hardware and torque to factory specs.
19. Install the kit supplied sway bar end links in the holes on the bottom of the frame just forward of the OEM sway bar end link location. The end link will assemble and situate as shown. (PHOTOS 25, 26 & 27)
20. Re-install the wheels and tires, and the bed if it was removed at an earlier point. After raising the vehicle and removing the jack stands, lower the vehicle back onto the ground.
21. Torque the forward leaf spring eyebolt, and the upper and lower shackle bolts to ford factory specifications.
22. **NOTE:** It is important to re-check the U-bolt torque periodically after the removal and re-installation. Check them after an initial trip around the block and then after approx. 100 miles. **CAUTION:** Never exceed the manufacturer's maximum gross weight rating for the vehicle.
24. Due to installation variables and factory manufacturing variances beyond our control, we highly recommend that the driveline angles present after modification be checked and compared to the driveline angles present before modification and, if necessary, be brought back within factory specifications. Installation of pinion shims and/or drive shaft carrier bearing spacers may be required for this procedure and can be obtained from Belltech as kits. For more information, contact Belltech at (559) 875-0222.

**PART LIST FOR 6415  
FORD F-100/ F-150 REAR 4" LOWERING KIT**

PART No.	DESCRIPTION	QTY.
6414-020	HANGER	2
6700-100	Shackle	2
4903-001	Bump Stop w/ Nylon Ln	2
4977-001	Pinion Shim	2
110408	½"-20 x 1-1/4 NF grade 8 CS	8
110255	3/8"-16 Nylon Lock Nut ZP	2
110660	½ A325 FW ZP	16
110402	½-20 NF GRC LN ZP	8
112138	End link Rod	2
113000	7/16 Stem Cushion	8
112502	7/16 Coin Washer	8
110314	Spring Center Bolt	2
110321	Coupling Nut	2
6415-010	SPACER TUBE	2
112422	SPACER	2











