



## 14-19 FORD F150 2WD LOWERING C NOTCH

**Thank you for being selective enough to choose our high quality 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 and six (6) support stands
- Wheel chocks
- 1/2" drive torque wrench up to 200 ft/lbs range
- Standard and Metric socket wrench set
- Standard and Metric wrench set
- Tape measure
- Pliers
- Steel construction square
- Medium weight ball peen hammer/ center punch
- Marking pen
- Safety Glasses
- Paint pen
- Tape
- Sawzall with a 4.5"+ blade
- Angle Grinder with sanding & cutting discs
- Panel poppers

## 1) KIT PREPERATION

- a) Open the hardware kit and remove all of the contents. Refer to the parts list ( Page #) to verify that all parts are present.
- b) Park the vehicle on a smooth, level concrete or seasoned asphalt surface and activate the parking brake. Block the REAR wheels of the vehicle with appropriate wheel chocks; making sure the vehicle's transmission is in 1st gear ( manual) or " Park" (automatic).

*It is very important that the vehicle is properly supported during this installation to prevent personal injury and chassis damage. Make sure that the support stands are properly placed (Following the procedures outlined in the vehicles manual) prior to performing the following installation. We **DO NOT RECOMMEND** using wheel ramps while performing this installation.*

- c) **IMPORTANT: The Frame absolutely needs to be supported during modification. Additionally to the factory locations, place support stands underneath the frame infront and behind the Leaf spring to support the frame. This will eliminate any deflection or drooping of the frame during cutting and modification of the frame. Belltech is not responsible for any damages resulting from poor reinforcement of the frame during the install.**

## 2) Installation preparation

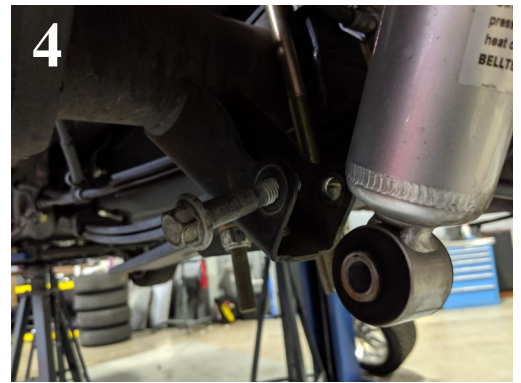
*Note: The steps can be completed doing both sides at once or one side at a time. The only difference will be the passenger side not having any brake lines to relocate, and no additional brake line bracket.*

- a) Remove the wheels using a 13/16" socket. **(PHOTO 1)**
- b) If not already in place, place the support stands infront and behind the leaf spring mounting spots. Refer to the photo for an example of proper support of the frame. This takes the weight off of the frame surrounding the area that will be cut and prevents contorting the frame during the modification process. Place a jack, or adjustable axle stands on the axle to be able to adjust the height, and to prevent the full weight of the axle to droop. **(PHOTO 2)**
- c) Remove the factory bump stop. If there is an aftermarket bump stop in place, use the proper sized tool to remove it. **(PHOTO 3)**



### 3) INSTALLATION PREPARATIONS

a) Remove the Bolt holding the bottom of the strut using a 15mm socket and 17mm Wrench. Allow the shock to hang freely. You will be reusing this hardware. **(PHOTO 4)**



b) Remove the top shock bolt using a 15 mm wrench. The nut is flagged and will bind, allowing you to undo the bolt with no further tools. **(PHOTO 5)**



c) Remove the bolt attaching the front of the leaf spring and allow the spring to droop. This relieves the tension on the frame. **(PHOTO 6)**



d) Remove the bolt holding the Drivers side brake bracket using a 10mm Socket. **(PHOTO 7)**



e) Using panel poppers, undo the wiring loom and brake lines from any surrounding mounting locations to allow for slack in the lines. **(PHOTO 8 & 9)**

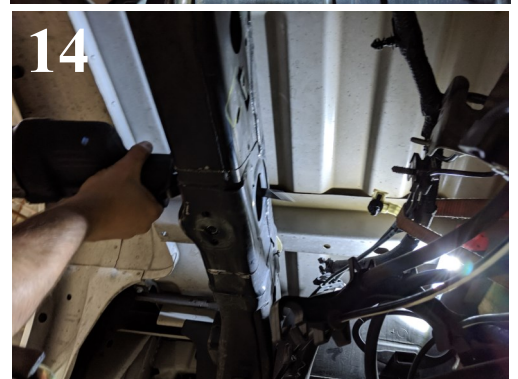
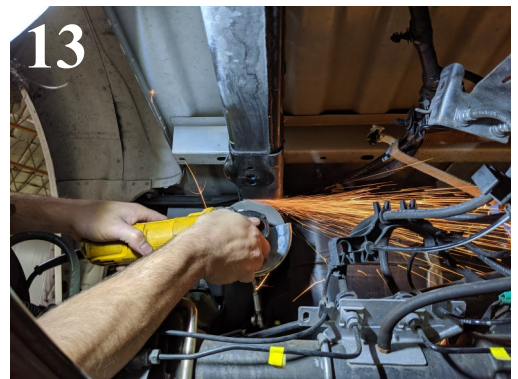
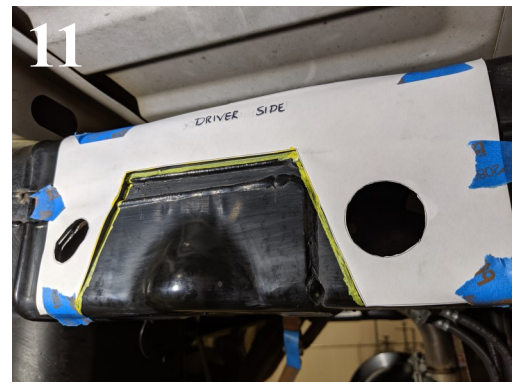


f) Use tie downs, zip ties, or bungie chords, wrapped around the wiring loom and brake ties, to create clearance for cutting without damaging the lines. Do not excessively tighten this as it will also damage the lines, rather remove more mounts to create slack. **(PHOTO 10)**



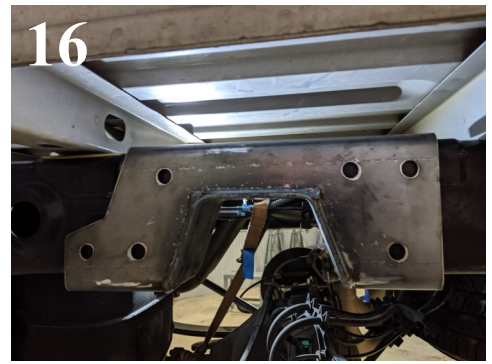
## FRAME MODIFICATIONS

- a) Take the Cutting template and attach it to the fram, aligning the cutouts with the Corresponding holes in the frame. Use a paint pen to clearly mark the area to be cut. **(Photo 11)**
  
- b) Assure that the marks are correct by removing the template and measuring from the top of the frame to the top line marked. The measurement should be approximately 40mm. Removing too much of the frame will result in a compromised frame and allow the beam to flex too much. **(Photo 12)**
  
- d) It is helpful to begin by making pilot cuts with the angle grinder and a cutting disc. This should align the Sawzall and help make the cut more consistent on both sides of the beam. Be cautious to keep the Sawzall level and straight while cutting the sides. **(PHOTO 13)**
  
- e) To make the horizontal cut, create a slit with the angle grinder along the marking. The Sawzall blade can now pass through the slit and through the hole on the other side. Move slowly cutting to avoid the blade from bending along with the contour of the back hole. **(PHOTO 14)**
  
- f) Use the angle grinder to clean up the cuts and remove any sharp edges. The resulting cut should look similar to the photo. **(PHOTO 15)**



#### 4) C Notch Installation

- a) Slide the outer shell over the frame. The shell should fit tightly. Trim the cuts as necessary. **(PHOTO 16)**
  
- b) Insert the backing plate and attach the bolts. Tighten them to about 20 ft-lbs, or enough to hold the backing plate in firmly. The backing plate is there as a guide for the holes to line up concentrically. **(PHOTO 17)**
  
- c) Use a center punch to mark the holes to be drilled from the front of the vehicle. **(PHOTO 18)**
  
- d) Drill pilot holes first with a smaller drill bit (this will also ensure the holes will be concentric from front to back), then either increment drill bits to enlarge the hole, or use a step bit. Do not rush this process as overheating the metal will cause poor finish on the holes and dull drill bits. **(PHOTO 19)**
  
- e) Once the holes are drilled, loosen the top and bottom Bolts currently holding the backing plate into the shell, until the backing plate is allowed to move. Insert the Bolts through the Front of the shell. **(PHOTO 20& 21)**
  
- f) The Inwards facing bolts should be torqued to 80ft-lbs (3/4" Socket and wrench).
  
- g) Torque the remaining top and bottom bolts to 65 ft-lbs (5/8" Socket and wrench), or snug. On the Drivers side, do not tighten the furthest back top bolt yet. Remove it as this is where the brake line relocation bracket will be installed. **(PHOTO 21)**



#### 4) C NOTCH INSTALLATION CONTINUED

- a) **Drivers side only:** Attach the brake line relocation bracket with the bolt passing through the furthest back top hole. Tighten to 65 ft-lbs or until snug. **(PHOTO 23)**
  
- b) Attach the brake line and wiring bracket to the relocation bracket by using the stock bolt, using a 10 mm wrench. **(PHOTO 24)**
  
- c) Insert the supplied bump stop into the small threaded hole in the center of the C section as shown, being careful not to cross thread it. The bump stop will thread in by hand and does not require any tools to be installed. Hand tighten firmly. **(PHOTO 25)**
  
- d) Reinsert the Leaf spring into its OEM location, or your aftermarket solution. Torque to factory specs. **(PHOTO 26)**
  
- e) Reattach the shock in the reverse order as the removal process, using a 15mm wrench and 17mm socket. **(PHOTO 27)**
  
- f) Check ALL hardware and visually inspect that the C notch is firmly clamping on the Frame **(PHOTO 28)**
  
- g) If only one side has been completed Repeat the steps on the opposite side. There is no Brake lines to relocate on the Passenger side.
  
- h) Reattach the wheels and torque to factory specs.
  
- i) The installation is complete. Re-torque at intervals for the first 10, 100, 1000 miles

