



# INSTALLATION GUIDE

**PART NUMBER: 6647**

**C-NOTCH**

**FORD F-150 2WD / 4WD | 2015-2020**

**300 W. PONTIAC WAY. CLOVIS, CA 93612  
PHONE: 800-445-3767 | EMAIL: INFO@BELLTECH.COM**

# THANK YOU

Thank you for choosing our high quality Belltech product. We have spent a great deal of time developing our line of products so that you will receive maximum performance with minimal difficulty during installation. Soon your vehicle will be on the road looking and feeling much improved.

**Please take a moment to read all instructions and warnings prior to installation of your new Belltech product and before operating your vehicle. If you have any questions or concerns regarding any step in the installation process, please do not hesitate to call or email our customer support specialists who are trained to help you through any portion of this process.**

## Before You Begin:

**It is of the utmost importance that you confirm all of the components listed on the parts list is in the kit. You can find this list located on the last page(s) of your instructions. Do not begin installation if any part is missing. Instead, please call our Belltech customer service specialists.**

### Belltech Customer Support:

Phone: 1-800-445-3767

Email: [info@belltech.com](mailto:info@belltech.com)

## Safety Information:

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

Proper use of safety equipment and eye/face/hand protection is absolutely necessary when performing any of the following instructions.

We strive for an exceptional experience for all our valued customers. If for any reason you need assistance with your Belltech products, please do not return the product to the store you purchased from, but rather call our dedicated customer service experts, from 7am to 5pm PST.

We recommend that a qualified mechanic, at a properly equipped facility, perform this installation.

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

## Before Driving Your Vehicle:

It is important to double check all brake hoses, cables, and other components to be sure there is no interference. You must also check for wheel/tire to chassis/body interference. If any issues are found, review your installation instructions to be sure no steps were missed and any problems are corrected.

Make sure your vehicle is aligned immediately following installation.

Check all hardware and torque at intervals for the first 10, 100, and 1000 miles.

Some of Belltech's products are designed to improve your vehicle's off-road performance. Leveling/lifting your vehicle may result in an altered center of gravity. It is crucial to use extreme care when operating your vehicle to prevent rollover and/or loss of control.

Any changes in your vehicle's suspension may result in transformed handleability. Please test drive your vehicle in a remote location so you can become accustomed to the revised driving characteristics.

Perform headlight check and adjustment.

Failure to drive any modified vehicle in a safe manner may result in harm or death.

Never operate your modified vehicle under the influence of drugs, alcohol, or lack of adequate sleep.

Always wear your seatbelt.



**DIFFICULTY:**



**INSTALLATION TIME:** 3-4 Hours

## RECOMMENDED TOOLS:

- Properly rated floor jack
- Support stands
- Wheel chocks
- Metric and standard socket wrench set
- Metric and standard wrench set
- Pliers
- Medium weight ball peen hammer
- Center punch
- Panel removal tool
- Steel construction square
- Tape measure
- Marking Pen

## SPECIALTY TOOLS:

- Torque wrench up to 300 ft lbs.
- Impact wrench
- Reciprocating saw
- Grinder with abrasive cut-off wheel and sanding discs
- Power drill and drill bits

## JACKING, SUPPORTING, AND PREPARING THE VEHICLE

1. Park your vehicle on a smooth, level, concrete or seasoned asphalt surface.
2. Block the front wheels of the vehicle using wheel chocks. Make sure the vehicle's transmission is in "PARK" (automatic) or 1st gear (manual).
3. Activate the parking brake.
4. Break loose, but do not spin the wheel lug nuts to ease in removal when the wheels are in the air.
5. Lift the rear of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so the front tires are approximately 6-8 inches off the ground.
6. Place support stands rated for the vehicles weight. The stands should be positioned in the factory specified locations (Refer to owners manual). Prior to lowering the vehicle onto stands, make sure the support stands will contact the chassis. It is very important that the vehicle is properly supported to prevent any harm to ones self or to the vehicle.
7. The vehicle chassis **MUST** also be supported during this modification. In addition to the factory locations, place support stands underneath the chassis, at the front and at the rear of the leaf springs. This will eliminate any deflection or drooping of the chassis during the cutting and modification. Belltech is not responsible for any damages resulting from poor reinforcement of the chassis during this modification.
8. Support the axle using a jack or lifting device so that it can be raised and lowered.
9. Lower the vehicle slowly onto the stands.
10. Remove the rear wheels.



### Technician reminder:

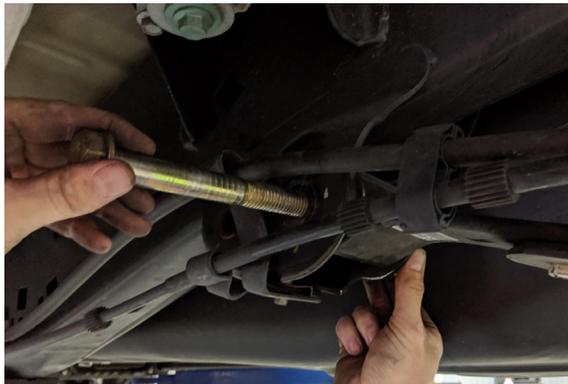
Never work under a vehicle supported only by a jack. It is necessary to place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

## REAR SUSPENSION REMOVAL

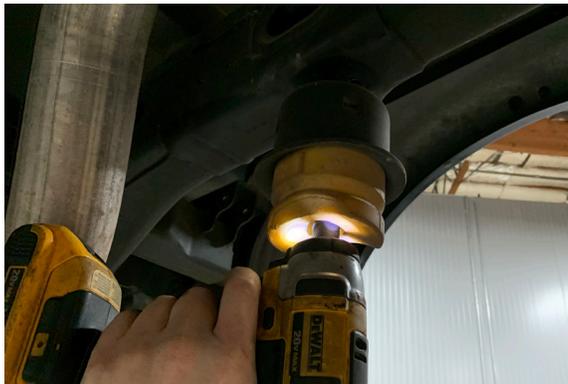
11. Remove the upper and lower 15mm shock bolts to detach the shock from the vehicle.



12. Remove the 21mm front leaf spring hanger bolts. Allow the springs to droop. This relieves the tension on the chassis.



13. Detach the original bump stop from the vehicle by removing the 13mm bolt in the center.



## REAR SUSPENSION REMOVAL CONTINUED

14. Remove the 10 mm bolt from the drivers side brake line bracket at the chassis. The clip nut behind the bracket must also be detached from the chassis as it will be reused later.



15. Use a panel/trim removal tool to detach the wiring loom and brake lines from the surrounding mounting locations to allow slack in the lines.

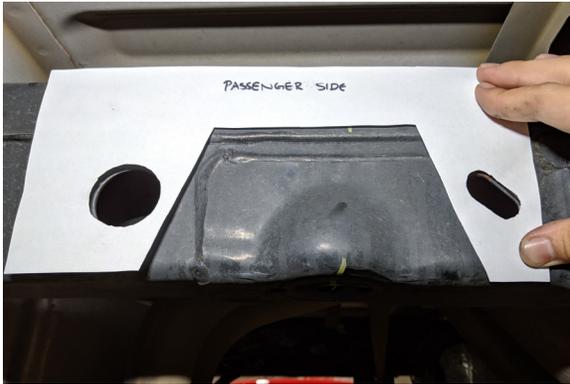


16. Use tie downs, zip-ties, or bungie cords to wrap around the wiring looms and brake lines to pull away and create clearance for the cutting areas. Do not damage the lines with excessive pulling or stretching, rather, remove more mounts to create slack.



## FRAME PREPARATION

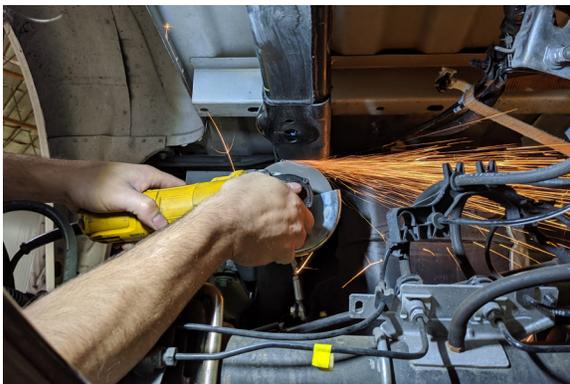
17. Attach the cutting template to the chassis. Align the cutouts with the corresponding holes in the frame. Use a paint pen to clearly mark the area to be cut.



18. Assure the marks are correct by removing the template and measuring from the top of the chassis to the top marked line. The measurement should be approximately 40mm or 1-9/16". Removing too much of the frame will result in a compromised frame and allow it to flex too much.



19. Use an angle grinder and a cutting disc to make straight pilot cuts. This will align the saw and help keep the cut consistent on both sides of the frame. Be cautious to keep the saw level and straight while cutting the sides of the chassis.



## FRAME PREPARATION CONTINUED

20. To make the horizontal cut, create a slit with the angle grinder along the marking. The saw blade can now pass through the slit and through the pre-existing hole on the other side. Move slowly while cutting to avoid the blade from bending along with the contour of the back hole.



21. The resulting cut should look similar to the image below. Use the angle grinder to clean up and deburr the cuts to remove the sharp edges. Spray paint or coat the bare edges to prevent corrosion.



## BELLTECH C-NOTCH INSTALLATION

22. Place the outer C-notch shell over the frame. The shell must fit tightly. Trim the cuts as necessary.



23. The C-notch inner support plate is temporarily used as a guide for the holes to line up concentrically. Place the support plate on the inside of the outer shell. Fasten with the supplied 7/16"-20 x 1-1/4" bolts, 7/16"-20 Nyloc nuts, and washers. Tighten to about 20 ft lbs. or just enough to hold the support plate firmly against the chassis.



24. Use a center punch to mark the holes to be drilled from the outer shell side.



## BELLTECH C-NOTCH INSTALLATION CONTINUED

25. Drill pilot holes first with a smaller drill bit (this will ensure the holes will be concentric from front to back), then increment the drill bits to enlarge the hole to 9/16". Alternatively, you can use a step drill bit. Do not rush this process as overheating the metal will cause a poor finish in the holes and dull your drill bits.



26. After the holes on the chassis are drilled through, loosen the top and bottom bolts holding the support plate onto the outer C-notch shell until the support plate is allowed to move.
27. Place the supplied 1/2"-20 x 4-1/2" bolts through the outer C-notch shell and fasten with the 1/2"-20 Nyloc nuts and washers. Torque to 80 ft lbs.

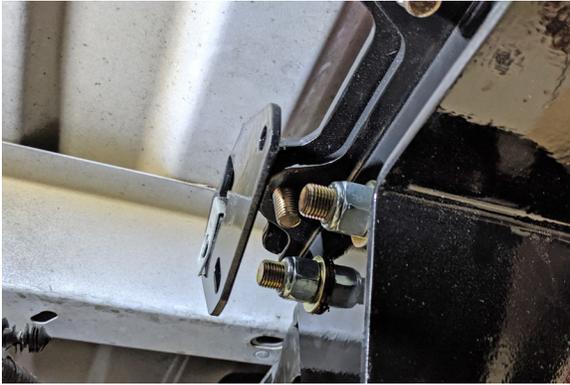


28. Torque the top and bottom 7/16"-20 x 1-1/4" bolts to 65 ft lbs. On the drivers side, do not tighten the far rear top bolt. Remove the bolt as this is where the brake line relocation bracket will be installed.



## BELLTECH C-NOTCH INSTALLATION CONTINUED

29. **Drivers side only:** Attach the brake line relocation bracket with the 7/16"-20 x 1-1/4" bolt passing through the far rear top hole. Fasten with the 7/16"-20 Nyloc nut, and washers. Torque to 65 ft lbs. and insert the clip nut as shown in the images below.



30. Attach the original brake line and wiring bracket to the relocation bracket with the original bolt. Attach the wiring loom and brake lines to their original mounting locations.



31. Attach the supplied bump stops into the threaded hole in the center of the outer C-notch shells as shown. Do not cross-thread the bolt. The bump stop will thread in by hand and does not require any tools to be installed. Hand tighten firmly.



32. Confirm ALL hardware and visually inspect the C-notches are firmly clamping the chassis.



# BELLTECH FLIP KIT INSTALLATION

33. Raise the axle up to place the leaf springs under the axle and in the hangers.



34. Attach the leaf springs to the front leaf spring hangers with the original hardware. Place the bolt in from the outside. Do not torque the front spring hanger bolts at this time. After the vehicle has been placed on the ground, the torque setting will be 258 ft lbs.



## Technician reminder:

Do not torque the leaf spring mounting bolt until the vehicle is on level ground. Failure to do so may result in improper final lift or lowering height measurements.



35. Attach the shock absorber to the upper and lower mounts with the original bolts. Torque the upper and lower bolts to 66 ft lbs.

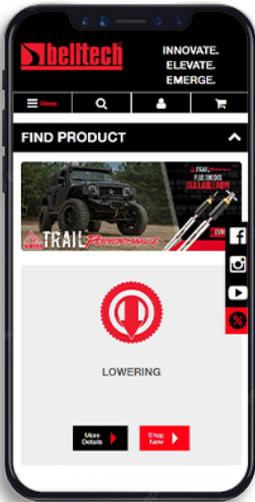


# FINALIZING THE INSTALLATION

36. Mount the wheels and tighten the lug nuts.
37. Lift the vehicle and remove the support stands.
38. Carefully lower the vehicle onto the flat ground.
39. Torque the lug nuts to 150 ft lbs.
40. Check that all components and fasteners have been properly installed and torqued.
41. Read and perform all tasks in the “Before Driving Your Vehicle” section of page 1 of your instructions.

## THANK YOU FOR CHOOSING BELLTECH.

You are now a part of the Belltech family and we are eager to catch a glimpse of your newly modified vehicle. Give us a shout out and let us know how much you love our product. Don't forget, we offer other Belltech related merchandise for you and your vehicle on our website [www.belltech.com](http://www.belltech.com)



belltechsuspension



Belltech Suspension



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If you have any questions, concerns, or warranty related issues regarding your Belltech product, please call or email our experienced customer service specialists.

### Belltech Customer Support:

Phone: 1-800-445-3767

Email: [info@belltech.com](mailto:info@belltech.com)

# KIT CONTENTS



6647		
Part number	Description	Qty
6647-007-99	OUTER C-NOTCH LH	1
6647-009-99	OUTER C-NOTCH RH	1
6647-008-99	C-NOTCH SUPPORT LH	1
6647-010-99	C-NOTCH SUPPORT RH	1
6647-059-99	BRAKE LINE BRACKET	1
6647-887	TEMPLATE	1
6647-777	HARDWARE KIT	1

6647-777		
Part number	Description	Qty
110403	1/2"-20 NYLOC NUT	12
110305	7/16"-20 NYLOC NUT	10
110203	5/16"-18 NYLOC NUT	1
110427	1/2"-20 X 4-1/2" MM BOLT	12
110650	7/16"-20 X 1-1/4" MM BOLT	10
110201	5/16"-18 X 1" MM BOLT	1
4923-001-BN	BUMP STOP	2
110660	1/2" WASHER	24
110645	7/16" WASHER	20
110204	5/16" WASHER	2



**KW automotive North America, Inc.**

300 W. Pontiac Way

Clovis, CA 93612

Phone: +1-559-875-0222

Toll Free: 1-800-445-3767

[belltech.com](http://belltech.com)