300 W PONTIAC WAY CLOVIS, CA 93612 local: 559-875-0222 fax: 559-876-2249 toll free: 800-445-3767

INSTALLATION INSTRUCTIONS

6446
5.5" REAR AXLE FLIP-KIT
2015+ FORD F-150 2WD SHORT BED

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 (page 6) 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
- Metric socket set up to 27mm
- Metric combination wrench set up to 27mm
- Impact wrench
- C-clamps
- Power Drill
- Drill bit set
- Abrasive cutter
- Grinder
- Safety Glasses

JACKING, SUPPORTING AND PREPARING THE VEHICLE

a) Block the front wheels of the vehicle with appropriate wheel chocks. Make sure the vehicle's transmission is in "Park" (automatic) or 1st gear (manual). Activate the parking brake.

b) Loosen, but **DO NOT REMOVE**, the rear wheel lug nuts.

c) Lift the rear of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so that the rear tires are approximately 6-8 inches off the ground surface.

d) Support the vehicle using four (4) support stands, rated for the vehicle's weight. The stands should be positioned, two on each of the frame rails, just forward of the front leaf spring hangers and just below the rear leaf spring shackle hangers. Prior to lowering the vehicle onto stands, make sure the supports will securely contact the straight, flat portions of the frame rails. It is very important that the vehicle is properly

supported during this installation to prevent frame damage and personal injury! Make sure that the support stands are properly placed prior to performing the following procedures.

e) Lower the vehicle slowly onto the stands and, before placing the vehicle's weight on them, again check that they properly and securely contact the frame rails as described above. Check for possible interference with any lines, wires, or cables.

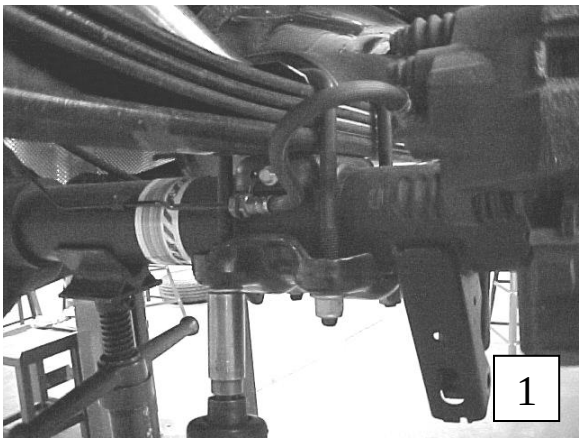
f) Remove the rear wheels from the vehicle.

SAFETY REMINDER: Check for safe vehicle stability before proceeding under the vehicle to begin the following procedures. Never work under a vehicle supported by only a jack. Always use properly rated support stands to support the vehicle.

1. DIS-ASSEMBLY

1a) Remove both rear shocks

Warning: Leaf springs may be under tension. Springs under tension store a great amount of energy. Use caution during the following steps to avoid personal injury and/or damage to vehicle. Be careful not to damage the brake hoses and/or driveline while relocating rear axle assembly.

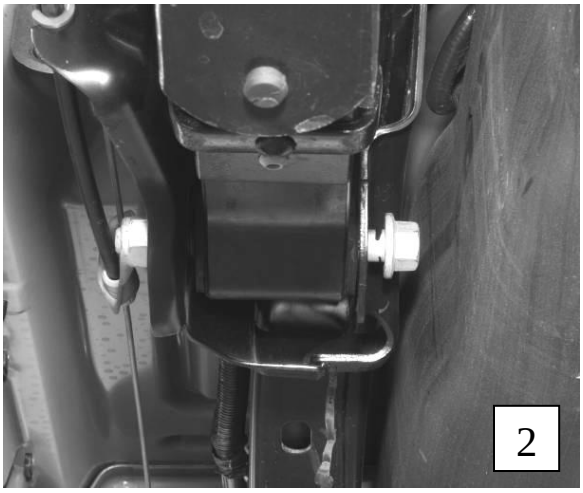


1b) Properly support the axle using a jack or lifting device so that it can be raised and lowered. Also support the rear axle near the rear u-joint to keep the axle from rotating once unbolted.

1c) Remove the U-bolts using a **21mm** socket **(photo 1)**.

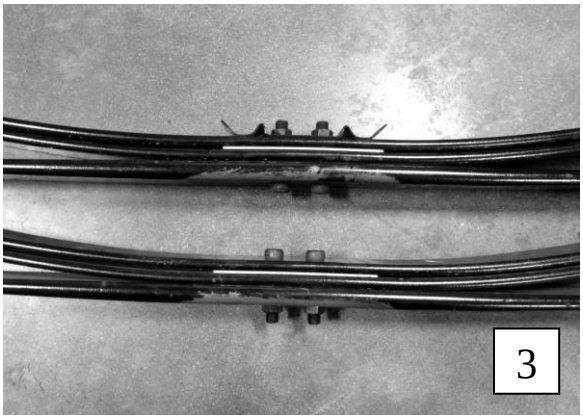
1d) Remove the lower shackle bolt that connects it to the rear hanger and leave the shackle connected to the spring at this time.

1e) Loosen the front spring hanger nuts and bolts. Back the bolt and nut off sufficiently to expose the bolt shank. Due to the fuel tank and exhaust locations, both front spring hanger bolt needs to be cut off. Cut off the head of the bolts, being careful not to damage the fuel tank, exhaust, or frame **(photo 2)**.



1f) Mark the leaf springs "Left" and "Right". Also mark each forward spring end with a forward pointing arrow so that the springs can be properly reinstalled into their original locations.

1g) Remove both leaf springs from under the vehicle. It might be necessary to lower the axle before they can be removed.



2. LEAF SPRING PREPARATION

2a) Remove and reverse both center bolts on the leaf springs. **DO NOT** re-attach the U-bolt locating plate that's bolted to the top of the spring: It is no longer needed. **(photo 3) NOTE**: It might be helpful to use a couple of C-clamps

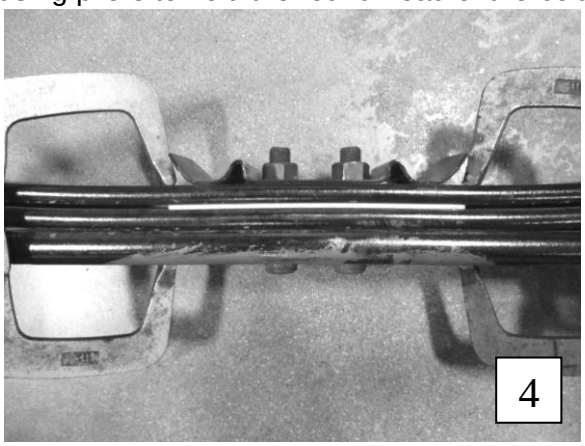
to hold the spring pack together while you reverse the center bolts, or loosen them and reverse one at a time. **(Photo 4)**. Tighten the center bolts using pliers to hold the round head of the bolt.

2b) Remove the stock shackle. Note the direction of the bolt head as the bolt will need to be reinstalled the same direction.

2c) Assemble the bushing and spacer on the supplied Belltech shackle. Install the shackle onto the leaf spring. Do not tighten the shackle in place it will be tightened after the vehicle has been set down **(photo 5)**.

2d) Repeat this process on the other leaf spring.

2e) Remove all bolts securing the brake line to the front and rear of the OEM leaf spring mount on each side of the axle **(photo 6&7)**.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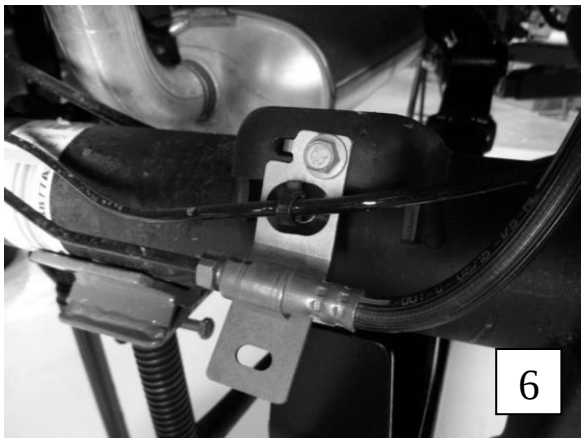
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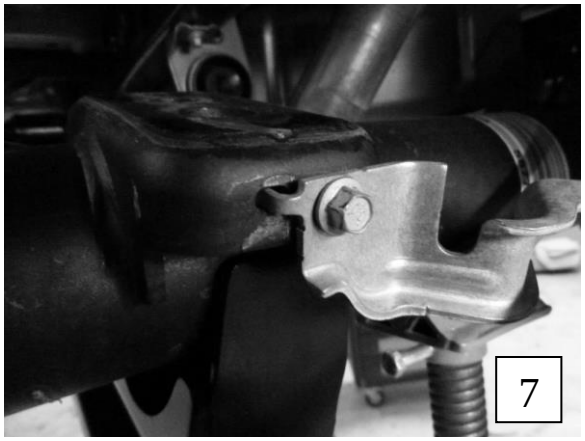
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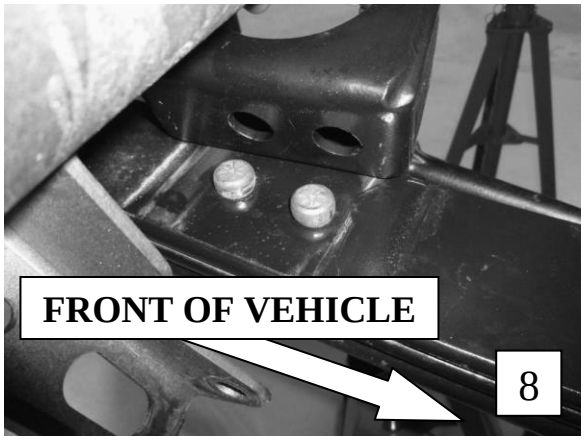
3. LEAF INSTALLATION

3a) Raise the axle upward into the vehicle so the springs may pass under the axle and bolt onto the chassis.

3b) Start from the passenger side. Place the leaf spring in the front spring hanger and insert the supplied18x2.5x140mm bolt, washer and nylon lock nut from the outside. Once in, rotate the spring back and insert the lower shackle bolt in the rear hanger. Torque the front spring hanger bolt to **95 ft lb**; leave the rear shackle bolt loose it will be tightened after the vehicle has been set down.

3c) Repeat this process on the driver side leaf spring.

3d) Install the two axle saddles onto the leaf springs. The saddle should be placed on the leaf spring so that the 2 locating holes are toward the front of the vehicle. (**photo 8**)

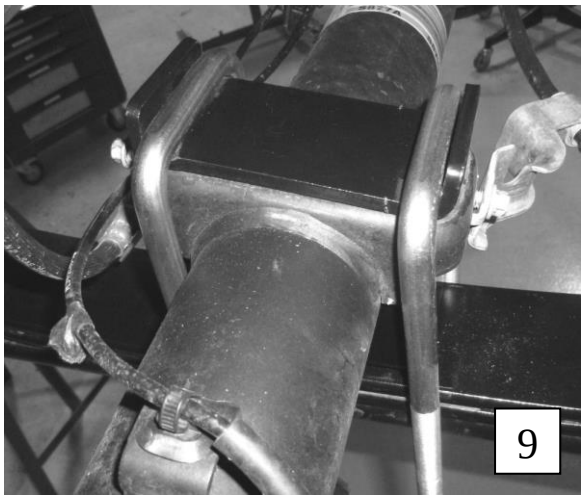


3e) Lower the axle into the saddles ensuring the two tabs are positioned up inside the factory spring mount.

3f) Install the U-bolt Spring Pad Mount on top of the axle, centering it atop the mount surface. (**Photo 9**)

3g) Install the U-bolts and U-bolt plates onto the axle loosely threading the hardware in place. The U-bolt plate will be installed with the notched portion closest to the lower chock mount. (**Photo 10**)

3h) Tighten all the U-bolts to 100 ft/lbs.
NOTE: The U-bolts are longer than necessary for ease of installation. After securely fastening the U-bolts, the excess ends can be trimmed to 1" below the bottom of the tightened nut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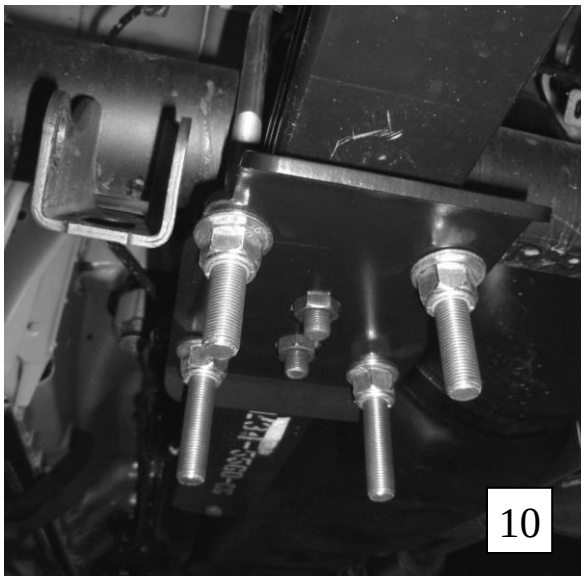
3i) Install shorter length shock absorbers. **THE OEM LENGTH SHOCKS ARE TOO LONG AND WILL NOT ALLOW FOR TRAVEL**. We recommend the Belltech Street Performance (**2712EE**) or Nitro Drop 2 (**8580**) lowering shocks. The shoulder at the end of each lower shock bolt may need to be trimmed to avoid contact with the U-bolt plate.(**Photo 11**)

3j) Install the brake line bracket and securing bolt and tighten to **17 ft lb**. It may be necessary to trim down the tip of the bolts for proper seating.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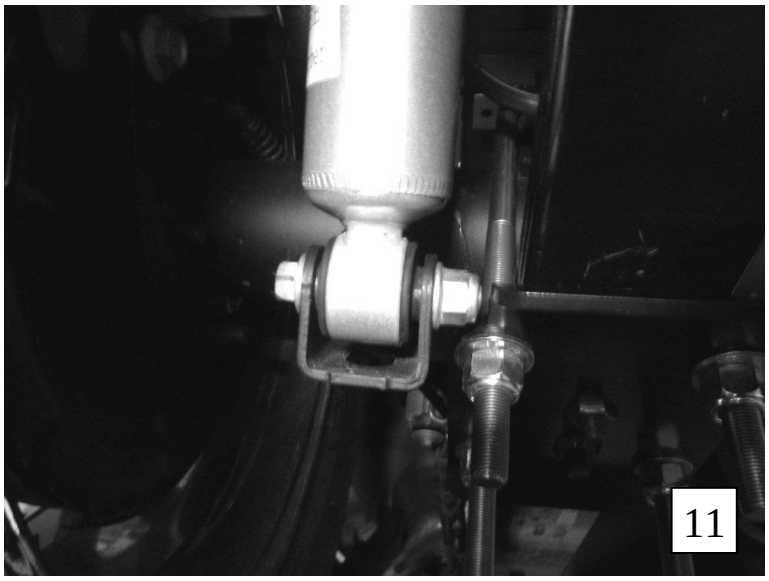
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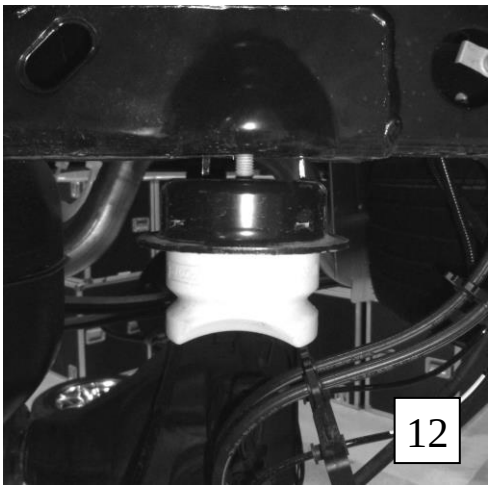
4. BUMP STOP

4a) Remove the OEM bump stop by removing the bolt in the center of the bump stop. (**photo 12**)

4b) Install the shorter supplied BELLTECH bump stop along with the supplied socket head bolt

4c) Repeat process for both frame rails.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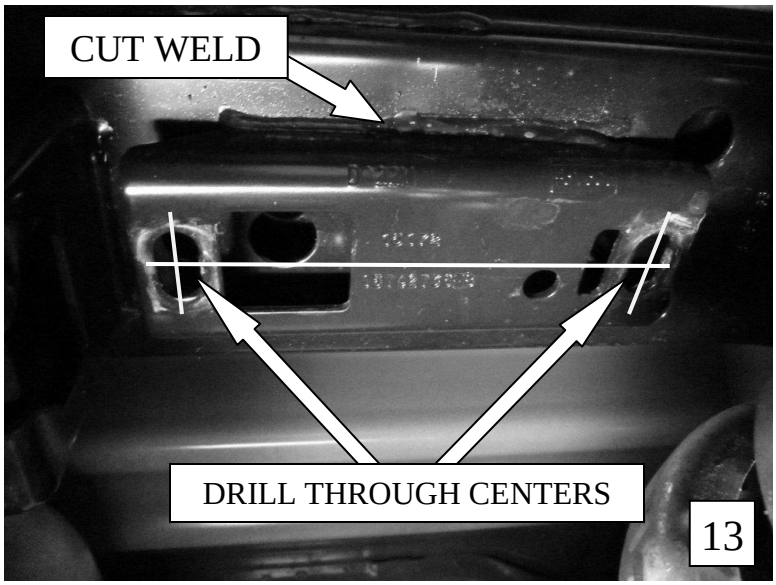
5. DRIVELINE ADJUSTMENTS

For models with a two piece driveshaft you will need to re-locate the center carrier bearing mount (CCB).

5a) Remove the two center carrier bearing bolts. Push the center carrier bearing towards the passenger side of the car and support it in place with a jack or stand. **NOTE:** Be very careful not to drop, dent or damage the driveline or it may have to be replaced.

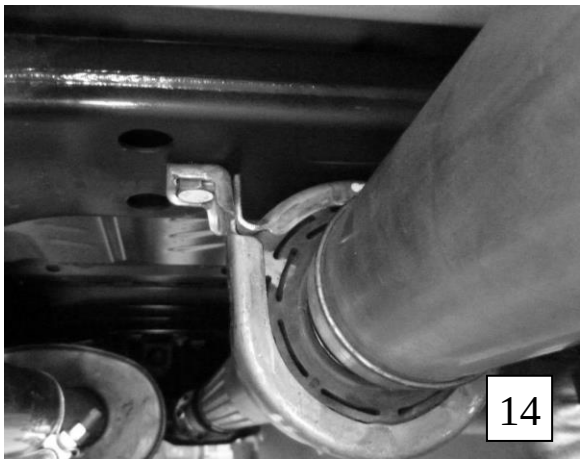
5b) Remove the OEM nut inserts that held the CCB to the crossmember.

5c) Use a center punch to mark the crossmember above the existing CCB carrier. (**photo 13**) Drill a ½" hole through both layers of the crossmember . Be sure not to drill in to the floor of the cab which is just above the crossmember.



5d) Use an abrasive cutting to cut the welds on the front and rear of the OEM CCB bracket and remove. Be careful not to cut in to or damage the crossmember. Use a grinder to clean up any excess material that was not cut off when removing the mount. You should have two smooth surfaces where the two welds were (**photo 13**).

5e) Connect the center-carrier bearing assembly onto the cross member using the supplied bolts, nuts, and washers (**Photo 14**). Tighten the bolts to 50 ft lb.



6. FINALIZING THE INSTALLATION

6a) Re-install wheels and torque to the Manufacturer's specifications.
6b) Check that all components and fasteners have been properly installed, tightened and torqued.
6c) Lift vehicle and remove support stands. Carefully lower vehicle to ground.
6d) Check brake hoses, cables and other components for any possible interference.
6e) Check for wheel/tire to chassis/body interference.
6f) Once vehicle has been lowered to the ground securely fasten the shackle bolts in place to **100 ft-lb**.
6g) Test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been lowered.
6h) Take the vehicle to a qualified shop for 4-wheel alignment.
6i) Check all of the hardware and re-torque at intervals for the first 10, 100, and 1000 miles.

The front of the vehicle **MUST BE** lowered accordingly for proper handling and performance and also to maintain warranty. See the current *Belltech Application Guide* or contact you nearest *Belltech Dealer* for the appropriate part numbers for your application.

The axle adapter saddles have been design to properly position the rear axle pinion shaft relative to the driveline, so that vibrations can be eliminated. If driveline vibrations are experienced, take the vehicle to a driveline service shop immediately for driveline angle inspection and necessary adjustments. *DO NOT* drive vehicles exhibiting extreme driveline vibrations, as U-joint wear could occur prematurely. Be sure to lubricate the U-joints if deemed necessary.

Parts List: 6446

Part #	Description	Quantity
6446-001	Axle Saddle	2
6440-002	U-bolt Spring Pad	2
6446-005	U-bolt Plate	2
6703-010	Shackle Body	2
6590-005	Shackle Bushing	4
6590-007	Bushing Sleeve	2
6592-007	U-bolt	4
110455	9/16”-18 Nylon Lock Nut	8
110670	9/16” Washer	8
110264	M18-2.5 x 140MM HHCS (For Leaf Spring)	2
110265	M1802.5 Nylon Lock Nut	2
110502	M18 Washer	2
112046	M12-1.5 x 60mm HHCS (For CCB)	2
112292	M12-1.5 Nylon Lock Nut	2
110645	M12 Washer	2
4922-001	Bump Stop	2
112024	M10-1.5 x 30mm SHCS (For Bump Stop)	1