



INSTALLATION INSTRUCTIONS

**5559
REAR ANTI-SWAY BAR
20016+ FORD F-150**

This anti-sway bar is designed for vehicles with a flipped rear suspension!

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:

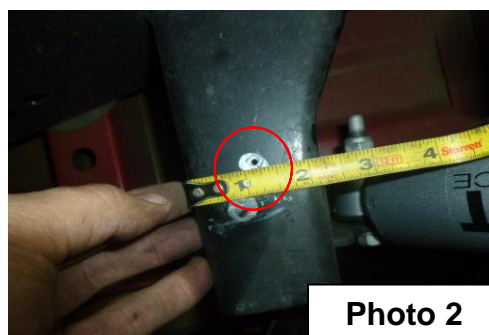
- Properly rated floor jack, support stands, and wheel chocks
- 17/32" drill bit and power drill
- Electric or pneumatic grinder
- Combination wrench:
- Ratcheting socket wrench and sockets:
- Safety Glasses

KIT INSTALLATION

1. Open the hardware kit and remove all of the contents. Refer to the part list (Page 5) to verify that all parts are present.
2. Park the vehicle on a smooth, level concrete or seasoned asphalt surface and activate the parking brake. Block the **FRONT** wheels of the vehicle with appropriate wheel chocks; making sure the vehicle's transmission is in 1st gear (manual) or "Park" (automatic).
3. Using a properly rated floor jack, lift the **REAR** wheels of the vehicle off the ground. Place support stands, rated for the vehicle's weight, and in the factory specified locations. Refer to the vehicle Owner's Manual. Prior to lowering the vehicle onto the stands, make sure the supports will securely contact the chassis.

It is very important that the vehicle is properly supported during this installation to prevent personal injury and chassis damage! Make sure that the supports stands are properly placed prior to performing the following procedures. We **DO NOT RECOMMEND** using wheel ramps while performing this installation.

4. Slowly lower the vehicle onto the stands and, before placing the vehicle's entire weight on them, again check that they properly and securely contact the chassis as described above. Check for possible interference with any lines, wires, cables, or other easily damaged components.
5. Thoroughly lubricate the **inside** of the new polyurethane bushings using the grease provided. Locate the bushings on the ends of the Belltech Anti-Sway Bar (ASB). Once located, rotate the bushings slightly too evenly spread the lubricant.
6. Drill a 17/32" hole into the cross beam sticking out from the passenger side 2-11/16" from the outside of the beam and 1-3/16" from the side of the beam. (**Photo 1 and 2**). Bolt up the Belltech end-link bracket. Run the supplied 7/16" - 20 X 1-1/4" hhcs bolt and 3/8" flat washer up through the bracket and the newly drilled outboard hole on the crossbeam. Enlarge the outboard hole with a 17/32-inch drill bit if necessary. Secure the bolt on the other side with the supplied 7/16"-20 lock nut and 3/8" flat washer. (**Photo 3**)

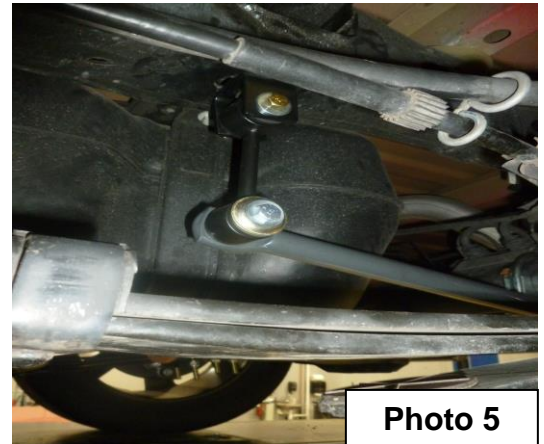


7. Place the supplied end link mounting bracket plate into the driver side crossbeam opening and use 7/16" -20 x 3" hhcs bolt and 3/8" flat washer up through the bracket, mounting plate and the existing outboard hole on the crossbeam. (**Photo 4**)



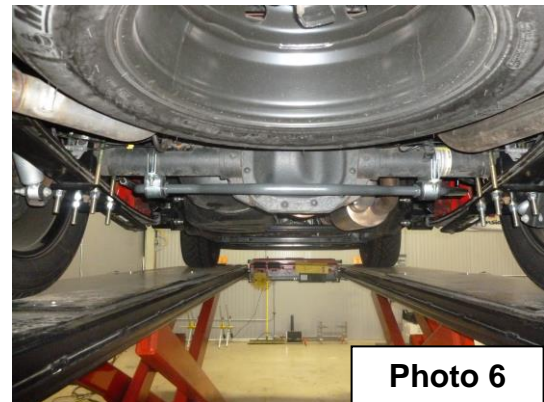
8. Tighten the bracket to the cross beam up to 80 ft•lb of torque.
9. Tighten top shock mount bolt using the OEM nuts and bolts at this time as well.
10. Attach the end-link dogbone to the mounting bracket and secure hand tight with the supplied 3/8"-16 X 3" HHCS bolt, 3/8" – 16 Nyloc nut and 3/8" USS flat washer on each side of the bracket. **(Photo 5)**

11. Insert the bar from under the vehicle positioning it under the axle with the bar ends pointed forward and above the leaf springs. Once in position, start from one side and place one U-bolt, saddle, and bushing support plate around the axle. **IMPORTANT:** U-bolt is to be placed under the existing brake line and the ASB is not tangled up in the parking brake cables. While holding the U-bolt with one hand, attach the Anti-Sway Bar bushing clamp with the other, and loosely thread the hardware into place using the supplied 3/8" – 16 Nyloc Nut and 3/8" USS flat washer. Do the same to the other side. Do not tighten the U-bolts, as they will be securely fastened after all the other components have been put on. (See Photo 8 for bolt assembly reference.)



WD-40™ is recommended to help remove excess lubricant. Re-greasing the pivot bushings should be performed at regular intervals. Climate and driving conditions will govern the time between services. Remember to check all hardware while performing bushing maintenance.

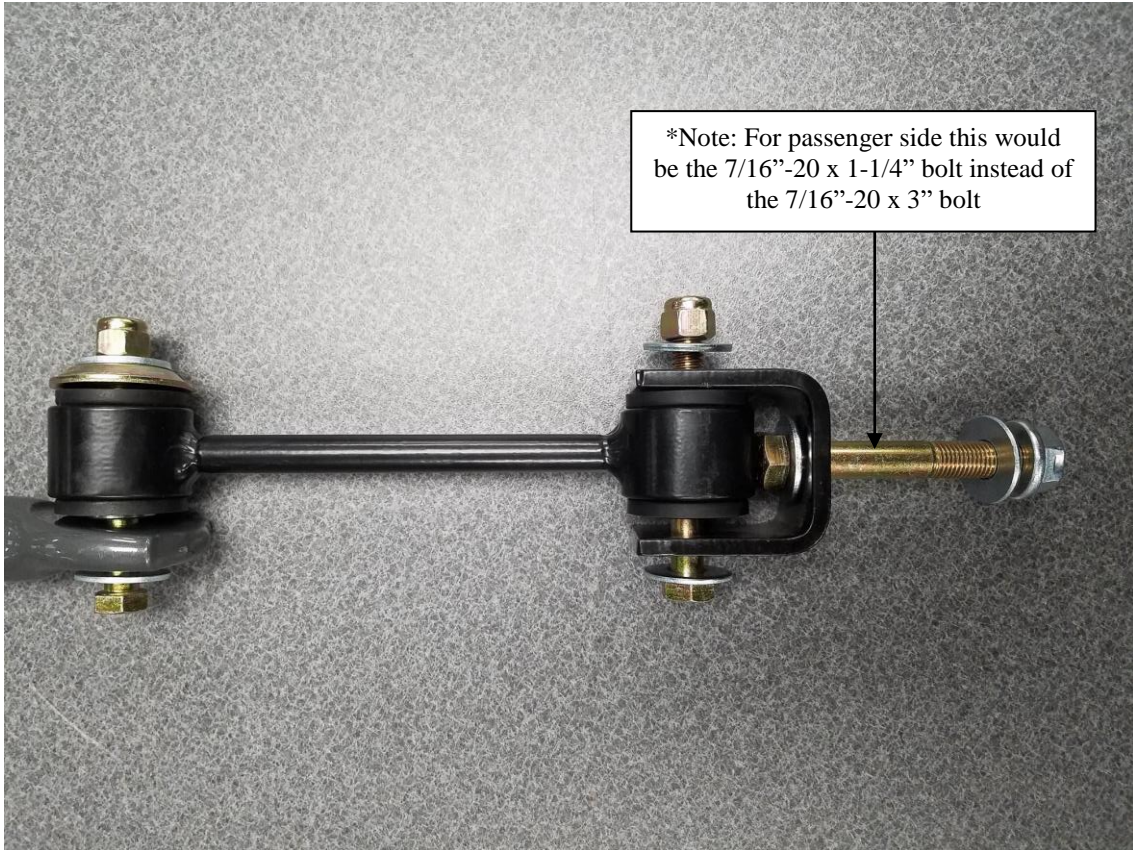
12. Attach the bottom of each dogbone end-link onto the Belltech anti-sway bar using the 3/8"-16 X 3" HHCS bolt, 3/8" – 16 Nyloc nut, and 3/8" USS flat washers. The end-links should be outboard of the ASB. **(Photo 5)** Sandwich the large dogbone bushing washer between the 3/8 washer and the exposed bushing side of the dogbone end-link. (See Photo 8 for bolt assembly reference.)



13. Center the ASB in the bushings once the end-link hardware is secured **(Photo 6)**. Position the ASB so that both endlinks are as nearly vertical as possible when looking from the back of the vehicle. Both ASB bushings and bracket assemblies should now be pushed as far outboard as possible so that the bushing is next to the bend in the bar. Anti-Sway Bar bushing clamp and hardware should be rotated slightly forward on the bottomside of the axle so that the end links are in a vertical position when looking from the side of the vehicle.

14. Tighten and torque the u-bolt bracket hardware to 19 ft•lbs.
15. All hardware being fastened to the vehicle's original fastening points should be the hardware torqued to the proper specifications. To prevent chassis damage, never over-torque.
16. Check that all components and fasteners have been properly installed, tightened and torqued.
17. Check brake hoses, and other components for any possible interference.
18. Lift vehicle and remove support stands. Carefully lower vehicle to ground.

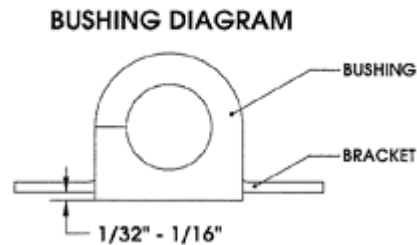
19. Immediately test-drive the vehicle in a remote location so that you can become accustomed to the revised driving characteristics and handling. Be aware that the vehicle will handle substantially different now that it has been modified.
20. Installation is complete. Check all of the hardware and re-torque at intervals for the first 10, 100, 1000 miles.



! BELLTECH INSTALLATION TIPS

LUBRICATION

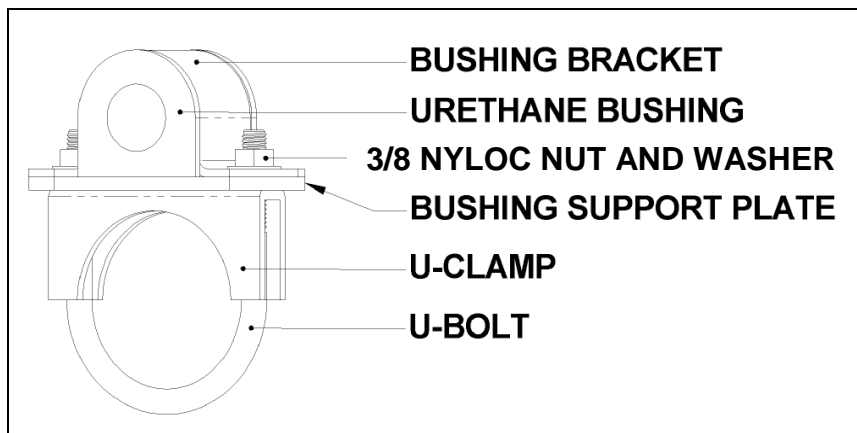
Pre-lubricating the inside of the bushing before it's installed is important because the lubrication will greatly reduce noise and it will increase bushing life. Belltech recommends you use Molybdenum disulfide. This will help protect the inside surface of the bushing and will last longer than most types of grease. Thoroughly lubricate the inside of the bushing with this grease.



BUSHING INSTALLATION

Make sure an amount of $1/32''$ to $1/16''$ of the bushing is showing when you install it onto the bracket. See the diagram above. If the bushing is showing more than $1/16''$ then use a sander or a sheet of coarse grit sand paper to shave it down to the proper height. In most applications when installing the new bushings on your Belltech Anti-Sway Bar you may refer to your original equipment Anti-Sway Bar to locate the proper location.

AXLE CLAMP DIAGRAM



**PART LIST FOR 5559
ANTI-SWAY BAR KIT**

PART#	DESCRIPTION	QTY
5559-300	REAR ANTI-SWAY BAR	1
113075	PIVOT BUSHING	2
115002	BUSHING BRACKET	2
115003	UNDER SUPPORT PLATE	2
112260	3 ¼" U-CLAMP	2
110255	3/8" – 16 NYLOC NUT	4
112112	3/8" -16 X 3" HHCS	4
112518	3/8" USS FLAT WASHER	12
55000-10	GREASE PACK	1
7000-896	DOG BONE BUSHING LARGE WASHER	2
5551-004	END LINK BRACKET	2
112195	7/16" -20 x 3" HHCS BOLT	1
110650	7/16" -20 x 1 ¼" HHCS BOLT	1
110303	7/16" -20 FLANGED LOCK NUT	2
114050	4.7" DOG BONE END LINK	1
114053	6.5" DOG BONE END LINK	1
6447-050	SWAY BAR MOUNTING PLATE	1



INSTALLATION INSTRUCTIONS

6447
4" REAR AXLE FLIP-KIT
2015+ FORD F-150 2WD/4WD CREW CAB SHORT BED

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- 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.

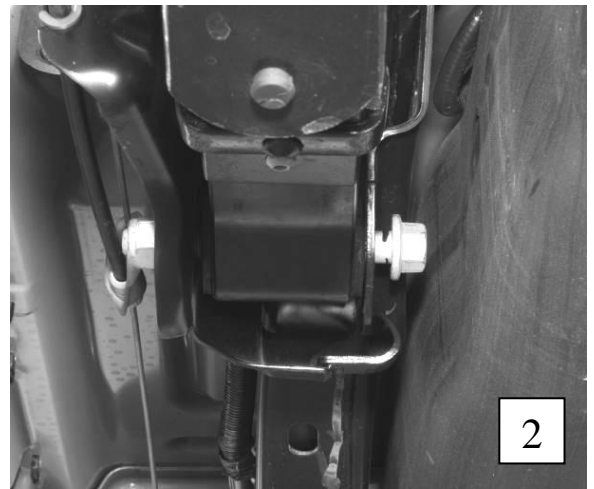
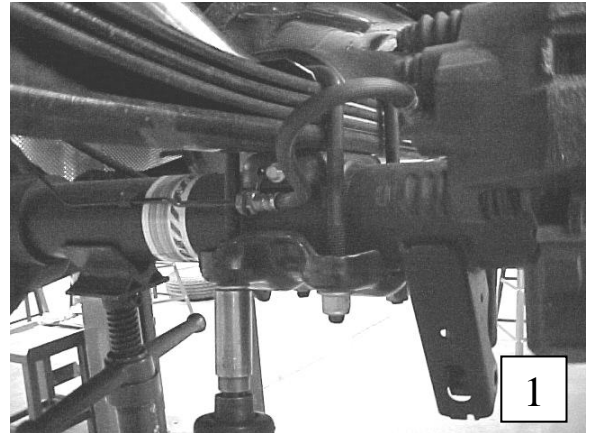
SAFETY REMINDER: Check for safe vehicle stability before proceeding under the vehicle to begin the following procedures. Never work under a vehicle supported by only a jack. Always use properly rated support stands to support the vehicle.

1. DIS-ASSEMBLY

- 1a) Remove both rear shocks

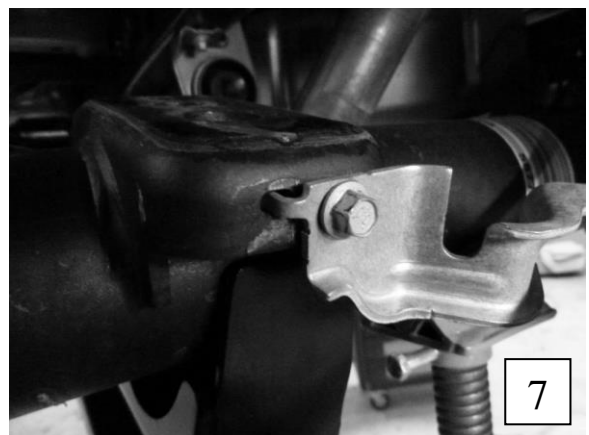
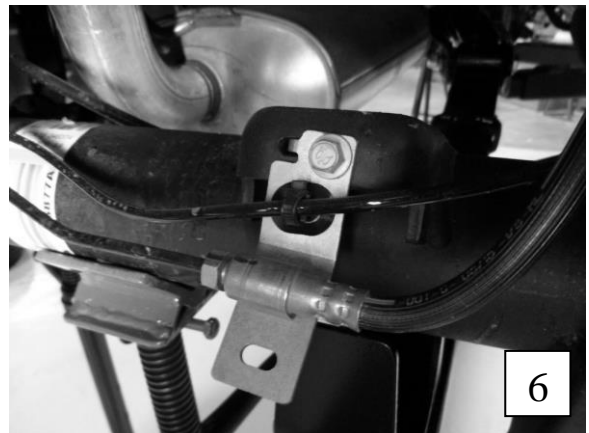
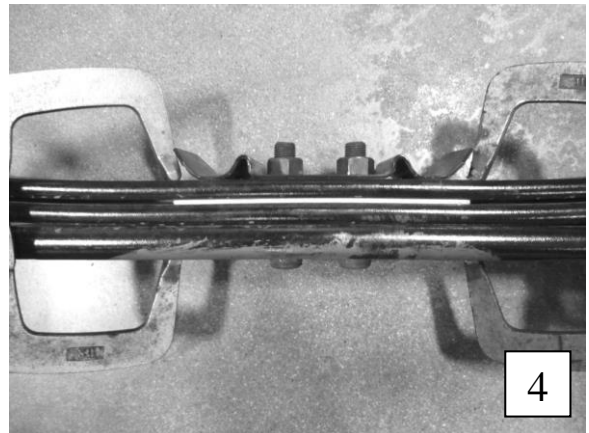
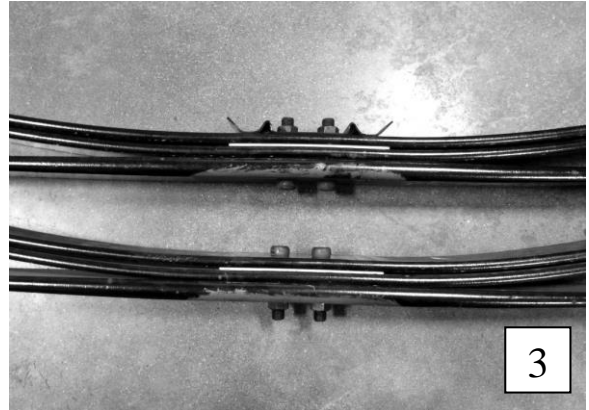
Warning: Leaf springs may be under tension. Springs under tension store a great amount of energy. Use caution during the following steps to avoid personal injury and/or damage to vehicle. Be careful not to damage the brake hoses and/or driveline while relocating rear axle assembly.

- 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

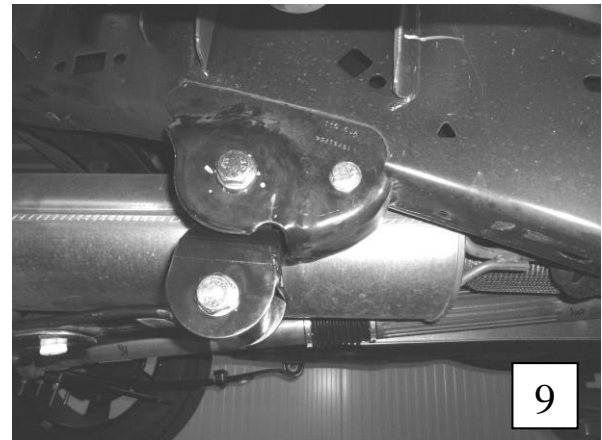
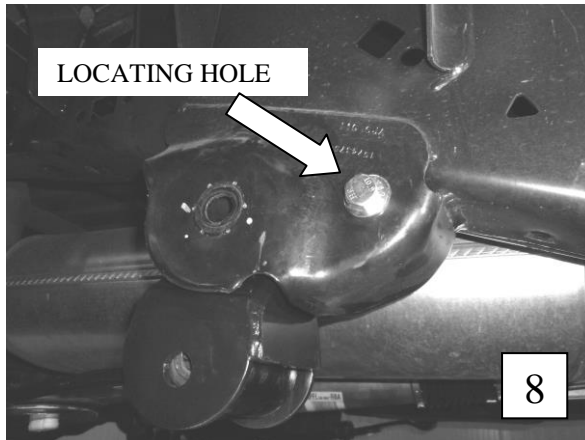
- 2a) Remove and reverse both center bolts on the leaf springs. **DO NOT** re-attach the U-bolt locating plate that's bolted to the top of the spring: It is no longer needed. **(photo 3)** **NOTE:** It might be helpful to use a couple of C-clamps to hold the spring pack together while you reverse the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



3. LEAF SPRING HANGER INSTALLATION

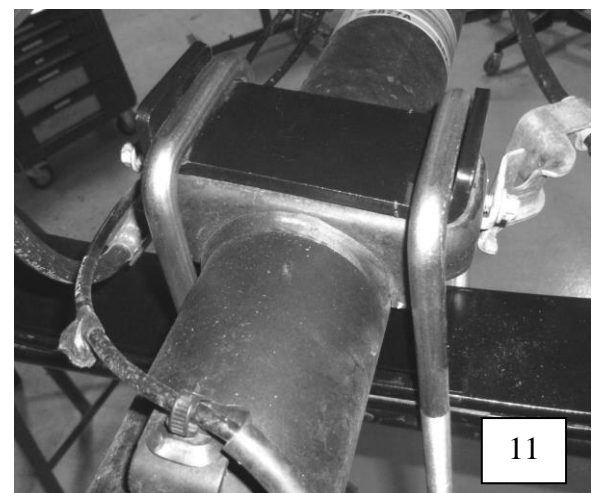
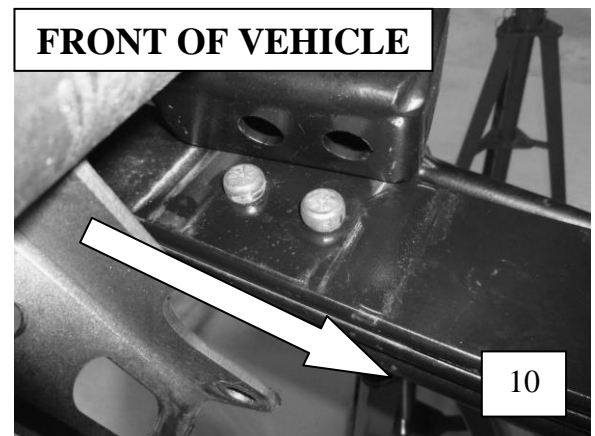
- 3a) Install the hanger into the front leaf spring mount using the locating hole on the frame. Insert the supplied bolt and washer as the hanger is threaded. **(Photo 8)**
- 3b) Install the supplied HH M18-2.5x140mm, washer, and M18 lock nut into the old leaf spring location with hanger, top hole, and torque down to **70 ft. lbs.**
- 3c) Install leaf spring to hanger with the HH M18-2.5x 140mm, washer and M18 lock nut. **(Photo 9)**

NOTE:DO NOT TIGHTEN LEAF SPRING BOLT, AS THE VEHICLE HAS TO BE ON LEVEL GROUND TO BE PROPERLY TORQUED.

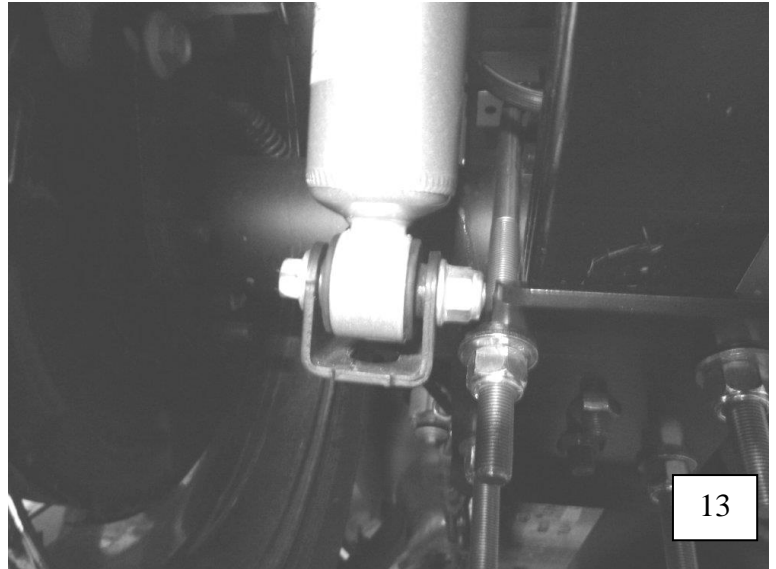
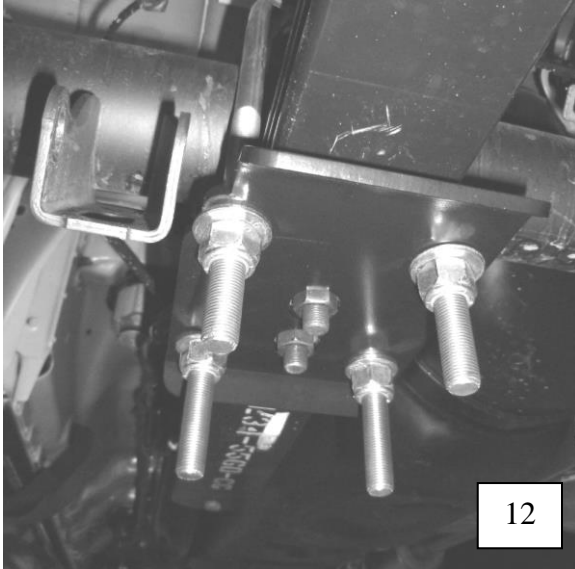


4. LEAF INSTALLATION

- 4a) Raise the axle upward into the vehicle so the springs may pass under the axle and bolt onto the chassis.
- 4b) Start from the passenger side. Place the leaf spring in the front spring hanger and insert the supplied 18x2.5x140mm 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.
- 4c) Repeat this process on the driver side leaf spring.
- 4d) 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 10)**
- 4e) Install the supplied **3° Pinion** shim between the leaf spring and the Belltech saddle, with the tall side facing towards the front of the vehicle. **NOTE: Make sure the saddle and pinion shims are seated correctly between the two leaf spring pins and axle.**
- 4f) Lower the axle into the saddles ensuring the two tabs are positioned up inside the factory spring mount.
- 4g) Install the U-bolt Spring Pad Mount on top of the axle, centering it atop the mount surface. **(Photo 11)**

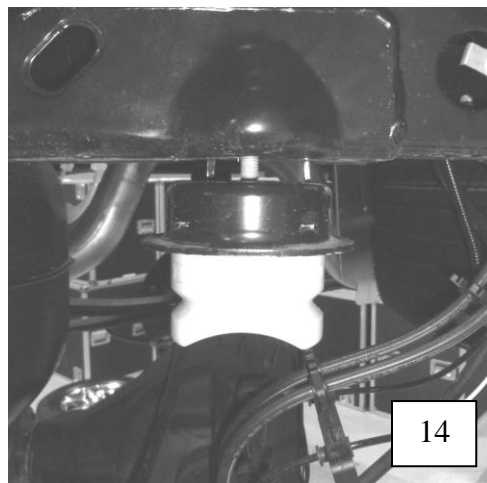


- 4h) Install the U-bolts and U-bolt plates onto the axle loosely threading the hardware in place. The U-bolt plate will be installed with the notched portion closest to the lower chock mount. **(Photo 12)**
- 4i) Tighten all the U-bolts to 100 ft/lbs.
NOTE: The U-bolts are longer than necessary for ease of installation. After securely fastening the U-bolts, the excess ends can be trimmed to 1" below the bottom of the tightened nut
- 4j) 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) 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 13)**
- 4k) 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.



5. BUMP STOP

- 5a) Remove the OEM bump stop by removing the bolt in the center of the bump stop. **(Photo 14)**
- 5b) Install the shorter supplied BELLTECH bump stop along with the supplied socket head bolt
- 5c) Repeat process for both frame rails.



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 75 **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 your 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: 6447

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)	4
110265	M1802.5 Nylon Lock Nut	4
110502	M18 Washer	8
4922-001	Bump Stop	2
112024	M10-1.5 x 30mm SHCS (For Bump Stop)	1
6447-030	Lifting Hanger (LH)	1
6447-040	Lifting Hanger (RH)	1
4976-001	3° Pinion Shim	2
110660	Flat Washer (Hanger)	2
111092	HH CAP Screw 12MM-1.25x50MM (Hanger)	2