

HELL BENT STEEL - INSTALLATION INSTRUCTIONS

PN: 193-1994-001 FOR 1994-1999 DODGE RAM: FRONT UPPER CONTROL ARM

Pre-Installation Warnings:

Before installing this product on your vehicle, thoroughly read and understand these instructions and the associated warnings.

Failure to properly follow all instructions and heed all warnings may result in major property damage and/or serious bodily injury or death.

Test drive the vehicle to verify that it does not exhibit any uncommon sounds or vibrations.

Inspect this product and all of its associated parts. Compare the parts to those listed in these instructions. If any parts are missing or damaged, promptly call and notify us at 877.731.7911. Do not substitute any part or fastener from any other source. If you desire to return the vehicle to stock, make sure to save all the original components.

Installation Warnings:

WARNING: ONLY A CERTIFIED MECHANIC SHOULD INSTALL THIS PRODUCT.

The OEM manual should be used at all times as a reference guide. The person installing this product should wear safety glasses and any other personal protection items needed at all times. Failure to properly install this product may result in serious bodily injury or death.

Maintenance Warnings:

It is your responsibility to re-torque and/or inspect the integrity of the thread lock (where applicable) of all mounting fasteners after the first 100 miles, and every 3000 miles thereafter or after heavy use.

Failure to follow these steps could allow fasteners to come loose and cause serious damage, bodily injury, or death.

Have your vehicle's alignment checked every 6 months.

Use Warnings:

DRIVE SAFELY! Avoid abrupt maneuvers such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

You are solely responsible for any and all misuse, abuse, improper installation, and/or improper maintenance of this product and your vehicle.

After installing this product, drive with extreme caution, particularly until you become familiar with how the vehicle handles. Slower speeds may be required to maintain control.

Do not engage in any conduct that would void your vehicle's factory warranty, such as jumping the vehicle, driving the vehicle in excess of payload towing restrictions, off-road racing, rock crawling, etc. Always wear a seat belt.

Required tools:

18mm-22mm wrench / socket 1-1/2" wrench
Torque wrench 1-7/8" wrench

Torque Settings:

12mm mounting nut/bolt: 79 ft-lb
14mm OEM lower arm cam nut/bolt: 126 ft-lb

Assembly Instructions:

1. Unpack parts to ensure you have all components.

The kit includes the following:



[FIGURE 1]

NOTE: Depending on the year and model of your truck the items may not appear the exact same as is pictured.

2. Assemble the center links and joints:

Install the nut on the joint. Thread the nut up the stem of the joint until it reaches the bushing shoulder. Then, thread the joints all the way into the arm, ensuring the nut stays snug at the bushing shoulder.

NOTE: The witness line(s)* on the center links indicate the end of the bar with left-handed threads. *Depending on the year and model of your truck, there will be 1, 2, 3, or 4 grooves. [FIGURE 2]



[FIGURE 2]

Install the joints with the left hand threads (silver nuts) on the witness line end of the bars. Then install the joints with the right hand threads (gold nuts) on the non-witness line end of the bars. Repeat for all 4 joints. This process will make the arms as short as possible. At this point the joints are probably not aligned properly. Rotate one or both joints until they are aligned, making the arm look like [FIGURE 3]. This will make the Hell Bent Steel arms approximately the length of the OEM stock arms.



[FIGURE 3]

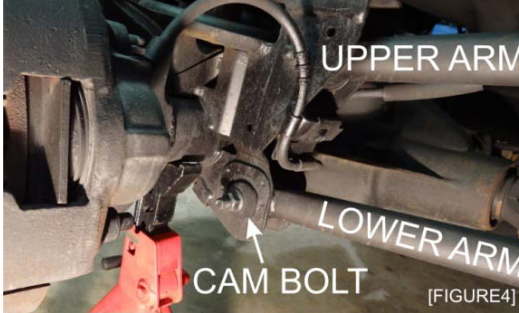
Control Arm Installation:

1. Park your vehicle on level ground. Block the rear tires of the vehicle so the vehicle is stable and cannot roll. Safely lift the front of the vehicle and support the axle with jack stands. Place jack stands securely on both the driver and the passenger sides of the axle. Remove the wheels from both sides.

NOTE: If you are ONLY replacing the upper control arms, you may not need to remove the lower arms. If that's the case, you can skip step 2.

2. Remove lower arm control arm bolt.

NOTE: Please refer to installation instructions for the HBS adjustable Lower Control Arms or reference your OEM manual as a guide. If you intend to retain



and re-use the cam bolt, place a line on the washer and frame with chalk or marker to indicate the position of the cam bolt for reinstallation later. Remove the front cam bolt. Remove rear mounting bolt. This will release the lower arm completely.

3. Remove upper control arm. Remove both forward and rear **12mm** mounting bolts. This will release the upper control arm so it can be removed.

4. Insert new upper control arm in existing mounts. Ensure the left-hand threaded joint (silver nut) is toward the rear of the vehicle and the right-hand threaded joint (gold nut) is toward the front. Install the rear joint first using the new HBS-provided **12mm** hardware with the washer on the bolt head and the nut toward the outside of the vehicle. Do not torque, finger tighten only. Repeat for forward mounting bolt.

5. Refer to the instructions for installing the new lower control arms if applicable. Follow the installation steps provided with the HBS Adjustable Lower Control Arms.

6. Torque fasteners. Torque each fastener to specification.

7. Repeat steps 1 through 6 on the opposite side of the vehicle.

Control Arm Adjustment:

1. To adjust the arms: Park your vehicle on level ground. On your new arms, rotate the center link so the arms are at their shortest possible length. Begin rotating each arm (driver's side and passenger's side) **THE SAME NUMBER OF TURNS** until the bottom of the shocks are just forward of the top of the shock. There is no standard number of turns that will accomplish this. Each truck may require a different number of rotations to reach the proper position.

IMPORTANT: The number of rotations of the control arms should be the same for both the driver's and passenger's side of the vehicle. This is especially important if you are re-using your OEM cam bolts. If you are replacing your cam bolts with the HBS CBE kit, your alignment shop may adjust the rotation of each arm to achieve perfect alignment. However, for your safety and the safety of your vehicle, have your truck aligned immediately.

The HBS Adjustable Control Arms have up to **2"** of adjustment designed into them. It is important to avoid extending the length beyond the designed amount of adjustment.



UNDER NO CIRCUMSTANCES should the arms be adjusted beyond the point where more than 1" of joint threads are exposed! Extending the arms further can lead to critical failure that could result in vehicle damage, personal injury, and even death. Any adjustment beyond 1" of exposed threads will void all warranties.

2. Have the vehicle aligned. It is necessary to apply thread-lock to the jam nuts of each end joint of the new control arms to ensure the nuts maintain position over time. However, once the thread lock cures, you should never adjust the arms without cleaning off the old thread lock and applying a new solution. It is required that the vehicle be aligned before applying the thread lock for this reason.

3. Apply thread-lock. Once the adjustment has been reached and the vehicle has been properly aligned, apply thread-lock. When applying the thread lock you will want to ensure the solution gets onto the threads that fit inside the center link as well as the jam nut. Make a mark across the jam nuts onto the center link. You will use this mark to ensure you return the parts to the same location. Loosen the jam nuts. Record the number of turns you loosen the nuts below. Then adjust the center link out, exposing more threads, Record the number of turns below.

<u>Driver's side:</u>	<u>Passenger's side:</u>
Front nut: _____	Front nut: _____
Rear nut: _____	Rear nut: _____
Center link: _____	Center link: _____

Generously apply the thread lock onto the exposed threads. Return the center link and jam nuts to their previous location. The handling cure time for the thread lock is 10-12 minutes. You will need to tighten the jam nuts within that time frame. Full cure time is 24 hours.

9. Tighten the jam nuts. Put 1-1/2" wrench over the flat sections on the center link to keep it from twisting, then place 1-7/8" wrench onto the nut. You will want to ensure that the joints are parallel within the mounts, not twisted or binding while you are tightening the nuts. If you are using wrenches purchased from Hell Bent Steel, do not use more than 16-inch cheater bar on either wrench.

