

American Iron

Balljoint Delete System #1100/1103:

Jeep (1990-2017) Installation Instructions

***THIS IS NOT A BALLJOINT. INSTALLING THIS SYSTEM LIKE A BALLJOINT AND TORQUING LIKE A BALLJOINT WILL NOT WORK AND YOU'LL BE REDOING WORK. PLEASE FOLLOW THE INSTRUCTIONS BELOW AND YOU'LL HAVE A FANTASTIC DRIVING JEEP.

1. Place entire kit in the freezer for at least an hour. If you take it apart, take pics and note the order in which it is assembled. Getting the cup assemblies cold will help them press in easier with less effort on your part.
2. Begin by pressing lower assembly in from the bottom of the C. DO NOT remove the bearing from the cup, press it in as an assembly. The shoulder will stop the cup from being pressed in further. Once on the shoulder, stop. Press ONLY on the cup itself and NOT the spherical bearing, this will prevent damage. (NOTE: the lower cup has a taller shoulder & a plunge cut ID on the opposite end.) Keep the seal & Delrin shim on the top side of the assembly to prevent debris from entering.
3. Press the top joint in from the top of the C as shown in **(Figure 1)**. The shoulder will stop the progression of the cup.
4. Press the bottom joint in from the bottom of the C as shown in **(Figure 2)**.
5. There are 2 double-ended studs: the stud with the ledge is the lower, the smooth stud is the upper. Begin by sliding the lower stud into the taper of the outer knuckle and torquing to **40 ft/lbs**, do the same to the upper stud as well. DO NOT exceed this torque spec as you will only put tension on the threaded portion of the studs. Use the hex pocket on the top of each stud to keep it from spinning while seating the studs.
6. Once both studs are in place apply the .048" thick metal shim over the lower stud only. (This helps seal the lower.)
7. **Take the opportunity to apply grease to the upper and lower bearings. Apply grease to the C-clip side of each assembly essentially covering the space between the ball to the inside edge of the cup. This is only to prevent water intrusion, not to lubricate the bearings.**
8. Both studs will be lined up into the upper and lower bearings of the assemblies and slide the knuckle upward until it stops. (The lower stud with the shoulder sets the height of the assembly. It's spec'd to stop at the proper location to center the outer knuckle where it's supposed to be.) A jack can be used to support the knuckle if you're short-handed.
9. Place o-ring over the top stud and then place .048" thick metal shim on top, followed by the 3/4" low profile nyloc. Just hand tighten this nut for now to simply hold it in place. See **(Figure 4)** progression 3-5 for correct order.

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10. Moving down to the lower: **IF** the o-ring was taken out, place o-ring over the lower stud, pushing it down into the space between the spherical and the race as it came assembled. Slide metal spacer over the stud (#7 of Figure 5). **NOTE:** (The High Clearance 1103 kits does not use this feature and will not have #7 in Figure 5), then slide Delrin shim over the stud, followed by the other ¾" low profile nylock nut torqued to **30 ft/lbs**. See (**Figure 5**) progression 6-9 for the correct order.
11. IMPORTANT STEP AHEAD: by having a double-ended stud you now can set the resistance of the steering quite easily by the torque values. **Start at 20 ft/lbs** and going in **5 ft/lb** increments tighten the **top nut of the upper assembly** until you begin to feel firmness in rotating the knuckle with 2 hands. Overtightening will cause reduced return-to-center characteristics but can certainly be adjusted later if desired. **MOST USERS HIT THE 25FT/LB TO 30 FT/LB INCREMENT AND PREFER THAT SETTING.**
12. Using a paint pen, mark the ends of each bolt (top & bottom) to detect any loose hardware in the future at a quick glance. Marking the nut & knuckle will give a false indication of loosening.

Tech Tips and FAQ:

-Each spherical bearing is checked and lubricated prior to installation: if the top is not as tight as the lower this is normal as the lower sees more load and more resistance in the upper will only create unneeded parasitic drag on the steering system.

-You may use grease on the top and bottom of each joint prior to installation if desired. This will not affect the lubrication of the joint, only deter moisture.

-Gaps between the knuckles are normal as there is a grease boot on a balljoint that's not there any longer. To double check the accuracy of this, rotate your knuckle until the steering stops hit...it will be centered as it was previously.

INSTRUCTIONS ARE LOCATED ON A CARD USING A QR CODE LINKED DIRECTLY TO THE WEBSITE FOR THE MOST UP-TO-DATE INFORMATION. Video links on site are for reference and tips/tricks only as there are variances in torque values, etc. You can also access the install instructions at www.americanironoffroad.com.

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Figure 1: Top joint

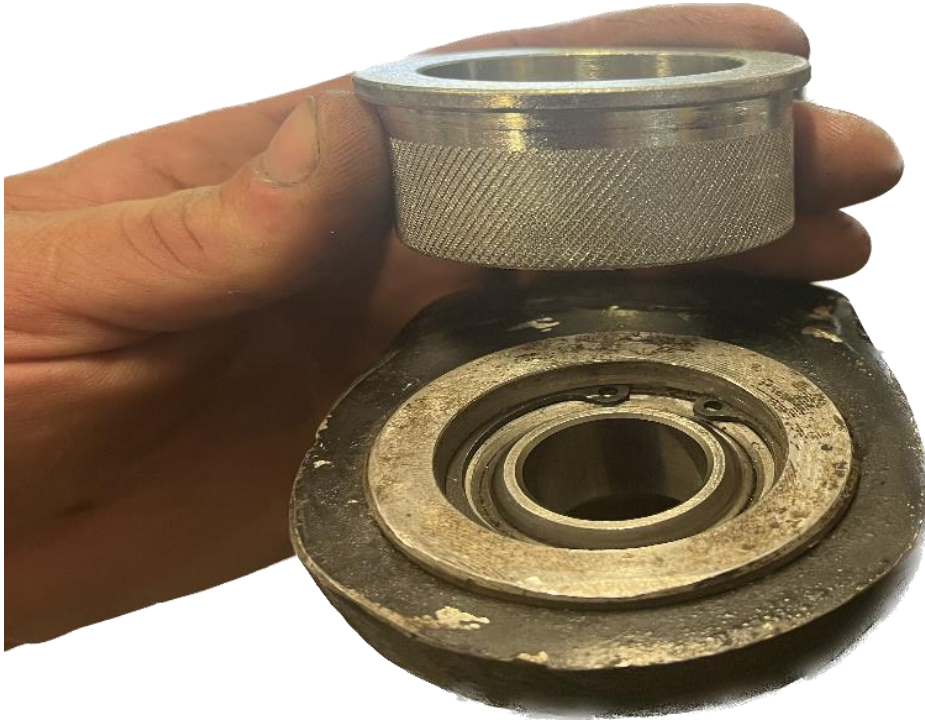


Figure 2: Bottom joint



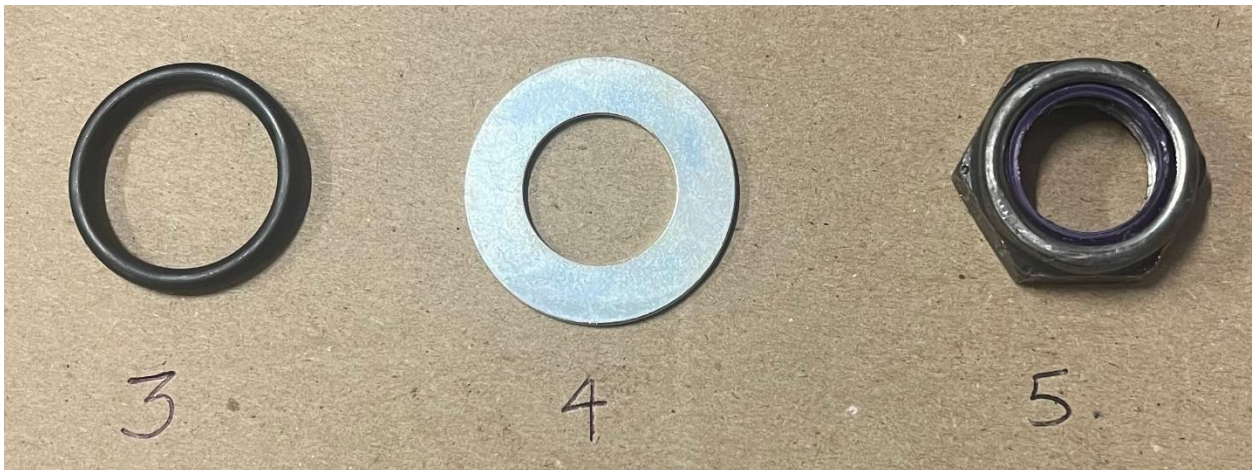
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Figure 3: Seated studs



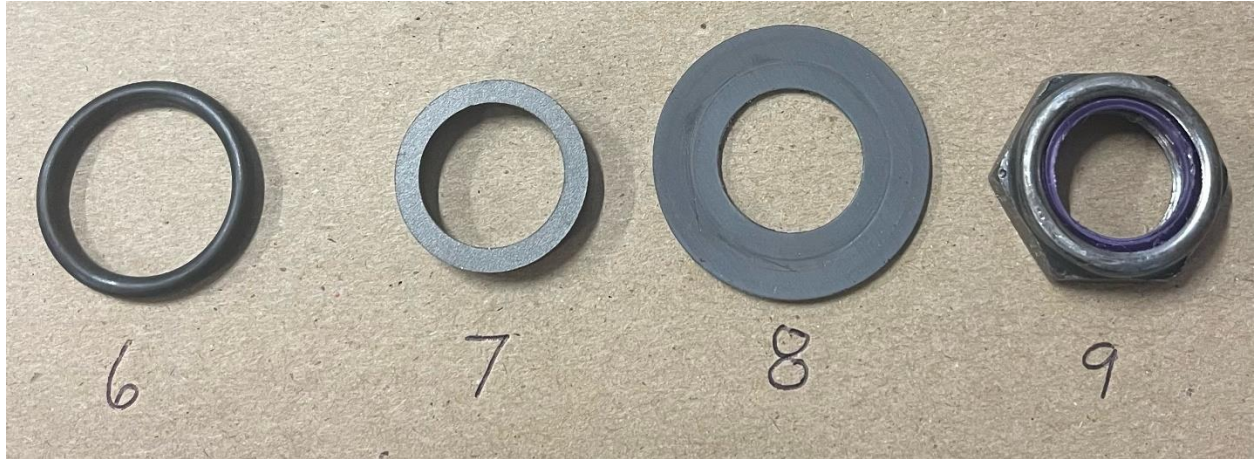
Figure 4: Top stud



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Figure 5: Bottom stud



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