

# Handling Cross-Groove Design C.V. Joints (German Design)

Care must be exercised when handling this design C.V. Joint. Axles are shipped **WITHOUT Grease in the C.V. Joint**; therefore it must be greased prior to installation. (**Note: Newer production Axles already have Grease applied to these Joints so all of the instructions listed below may or may not apply**). Once the Plastic Tie (Placed on at the factory to secure C.V. Joint in transit) has been cut, carefully move the C.V. Boot back to expose the Front side the CV Joint (See Figure #1). Care must be taken so that the outer housing does not roll at an angle, try and keep the housing at the 90° angle to the center shaft. Carefully squeeze grease (1/2 the contents of the Grease Pack) between the cage and race, and between the Balls and Tracks (see Figure #2). Once this is completed, move the CV Boot back into position being careful to line up the holes in the Boot Flange with the corresponding holes in the C.V. Joint Housing. Squeeze the remaining grease from the packet between the Cage, Race and Balls on the Rear side of the CV Joint (See Figure #3)

If during the above procedure or during installation in the car a Ball drops out or the entire C.V. Joint becomes disassembled (All the Balls fall out, see figure #4) do not become alarmed, with a little patience the Joint can be reassembled.

The 1<sup>st</sup> step to reassembly will be sure to make the orientation of the Outer Housing to the Inner Race is correct. When viewing Joint from the end make sure that the Narrow Shoulder between the Ball Tracks on the Housing aligns with the Wide Shoulder between the Ball Tracks on the Inner Race. (See Figure #5)

The easiest way to reassemble is to first remove the Snap Ring securing the Inner Race to the Center Bar (See Figure #6). Then Tap the Inner Race free from the Center Bar (See Figure #7). Next tip the outer housing to such a angle that it will expose Cage Window and Ball Tracks on Both Sides of the CV Joint at 180° (See Figure #8). Insert 1<sup>st</sup> ball on the front side, then the second ball on the back side (180° from the first Ball). Once the 2 balls are inserted, rotate the housing back parallel to the Inner Race. Carefully plunge the outer housing back and forth (Being careful to maintain the Outer Housing and Race parallel. See Figure #9). Repeat the process for the next 2 balls (Rotate housing to expose Window & Tracks, Top & Bottom) insert 1<sup>st</sup> Ball from the top, next ball from the bottom at 180° (see Figure #10). Repeat this step one last time to insert 5<sup>th</sup> and 6<sup>th</sup> balls. With a little practice you will find that this is really easier than it looks. Once Joint is reassembled slide the Race on the Bar & Reinstall the Snap Ring.

**During installation in the Vehicle do not let the axle “Hang’ once the Inboard Joint has been secured to the companion flange.** Use Wire or Rope to secure the shaft while working with the installation of the Outer End into the Spindle Hub on Front applications or Companion flange on Rear applications.



Figure 1



Figure 2



Figure 3



Figure 4

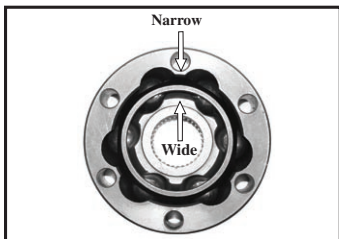


Figure 5



Figure 6



Figure 7

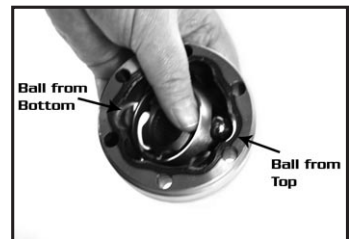


Figure 8

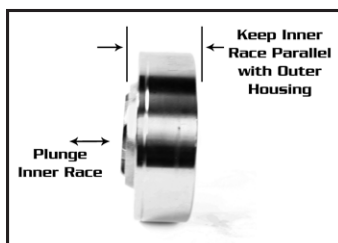


Figure 9

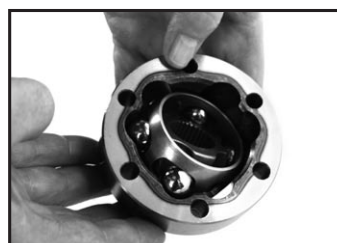


Figure 10