

Installation Instructions

Chevy C-10 Steering Kit

*Please read these instructions completely
BEFORE starting your installation!*

*****Assemble suspension on vehicle before powder-coating to ensure proper fitment, and to make modifications if necessary*****

Parts List:

- | | |
|--|--|
| 4) $\frac{3}{8}$ Washers | 2) $\frac{3}{8}$ -24 Nylock Nuts |
| 2) $\frac{3}{8}$ -24 x $1\frac{1}{4}$ hex head bolts | 1) Retaining Ring |
| 1) $\frac{3}{4}$ " x $\frac{3}{4}$ " Spherical Bearing | 1) $\frac{3}{4}$ -36 to $\frac{3}{4}$ " DD U-Joint |
| 1) 16" DD Shaft | 1) Bearing Mount |
| 1) Steering Shaft Plate | 1) Double U-Joint |

1. Begin by locating the bearing mount holes on the drivers side frame rail. **See Figure 1.**



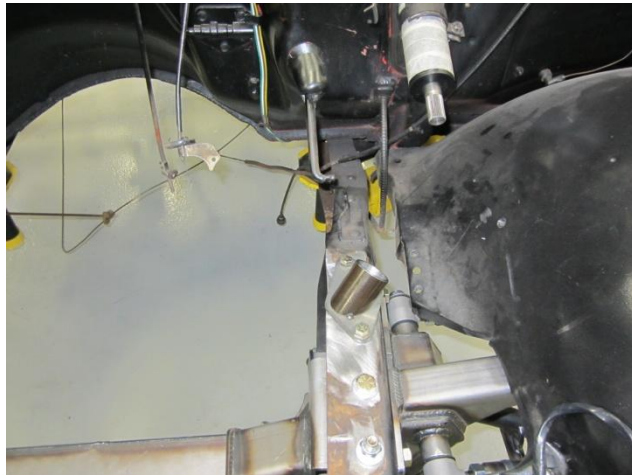
View From Front Of Vehicle, Looking Into Engine Bay

Figure 1

2. Then, drill out the holes to $\frac{3}{8}$ ". Now position the bearing mount on the frame rail as shown in **Figure 2**. Use the $\frac{3}{8}$ -24 x $1\frac{1}{4}$ bolts, and $\frac{3}{8}$ -24 Nylock Nuts provided to bolt down the mount, **but only snug it.**

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View From Top Of Engine Bay, Drivers Side Frame Rail

Bearing Mount Snug To Frame Rail

Figure 2

3. After snugging down the bearing mount, use a scribe and scribe the hole on the inside of the bearing mount. See **Figure 3**. Unbolt bearing mount, and drill out the hole you had just scribed. Use a carbide bit to elongate the hole and get the necessary shape of the hole in the frame rail.



Scribing Hole Inside Bearing Mount

Use Carbide Tip To Enlarge Hole

Figure 3

4. Now the bearing mount must be assembled. Insert the $\frac{3}{4}" \times \frac{3}{4}"$ Spherical Bearing provided into the bearing mount. It should be able to slide in relatively easy. If it needs to be pushed in, use a $1\frac{1}{16}"$ socket and rubber mallet, and gently tap in the bearing until it bottoms out (See **Figure 4a**). Once the bearing is bottomed out, you should be able to see the groove in the bearing mount above the spherical bearing, which is for the retaining ring. Next, install the retaining ring with a pair of snap-ring pliers, and make sure the retaining ring snaps into the groove above the bearing.
 5. Now the bearing mount is ready for final installation. Position it as previously mentioned in **Step 2**. Also place the steering shaft plate on the underside of the frame rail, and line up the holes with the hole pattern in the frame rail. This time when bolting it in, use the
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$\frac{3}{8}$ Washers provided, one next to the bolt head and the other one next to the nut for both bolts. (See Figure 4b). When putting it all together, **tighten it finger tight first** so that you can install the nuts, bolts and washers. You will completely tighten it later when installing the steering shaft. Spray silicon lubricant into the spherical bearing race to lubricate it and protect it from corrosion.

*****NOTE: The steering shaft plate is trim to fit. If the steering shaft hits the steering shaft plate upon installation, trim the necessary amount of material to make it fit.*****

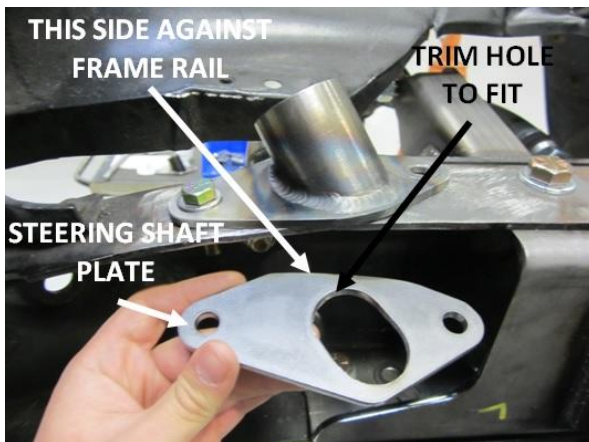


Driving In Spherical Bearing with 1 $\frac{1}{16}$ " Socket

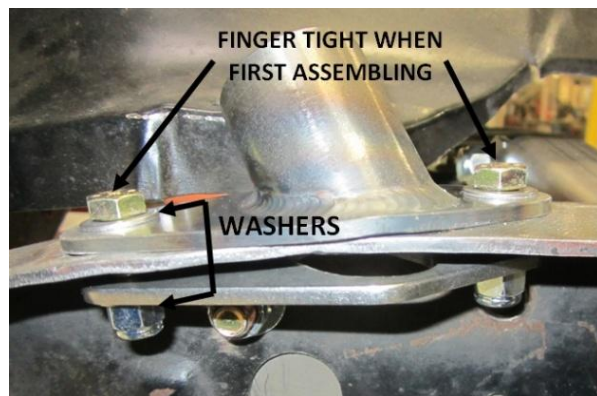


Inserting Retaining Ring

Figure 4a



Installing Steering Shaft Plate



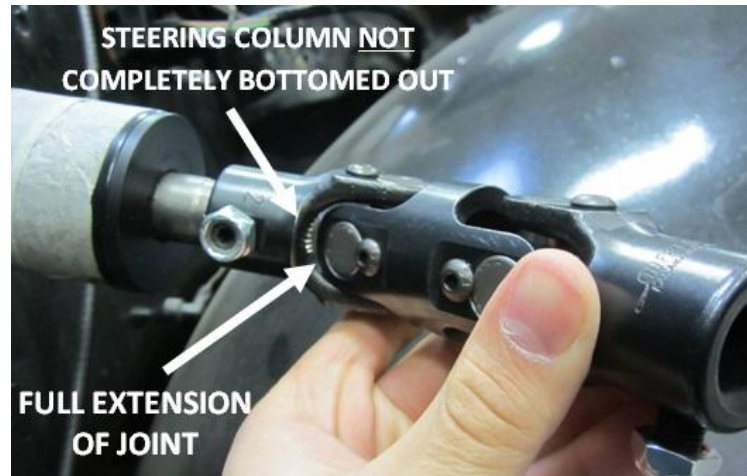
Installing Bearing Mount & Steering Shaft Plate

Figure 4b

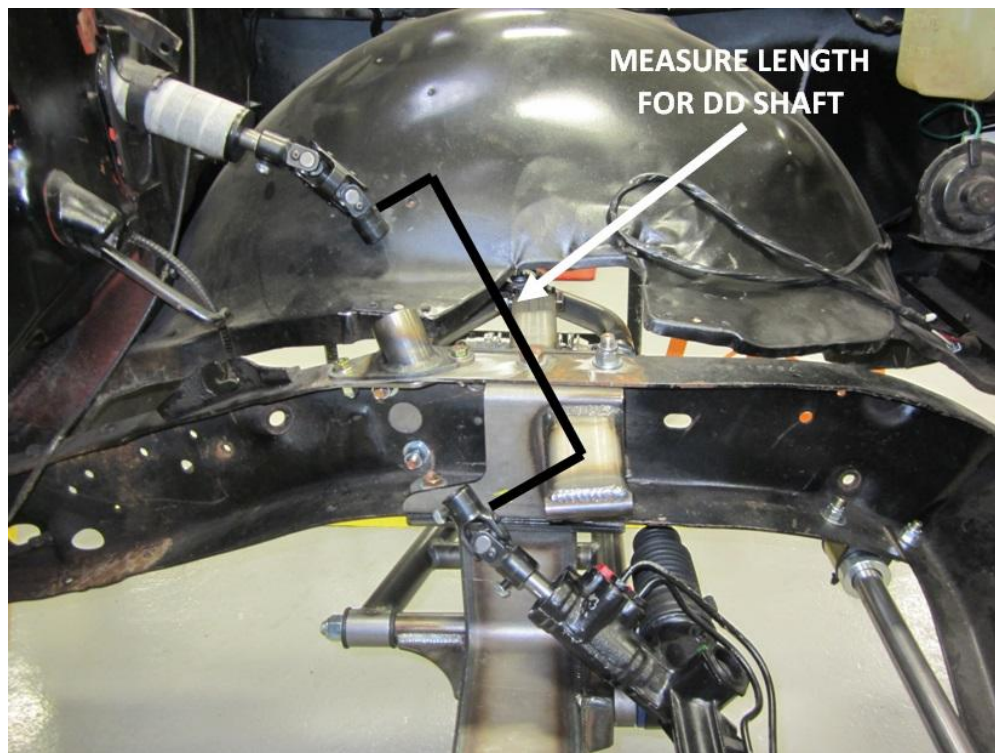
- At this point you are ready to start preparing the steering linkage for installing. The DD steering shaft provided is trim to fit, therefore you must mock up the linkage first before assembly. Slide the double U-joint, (splined end) onto the steering shaft. Ensure that you are able to get full extension of the U-joint, because if you bottom out the steering column into the U-joint, you will not be able to extend the U-joint as much (See **Figure**

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5). Slide the $\frac{3}{4}$ -36 to $\frac{3}{4}$ " DD U-Joint (splined end) onto the steering rack. Same as before, make sure that it is not completely bottomed out on the splines, otherwise you will not be able to get full extension of the joint. To measure how long you need your DD shaft to be, (See **Figure 6a**) measure the distance from the top of the DD slots in both U-joints. See **Figure 6b**.



Setting The Depth Of U-joint On Steering Column
Figure 5



Measure The Distance, And Cut DD Shaft Accordingly
Figure 6a

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Starting Point For Measuring Shaft
Figure 6b

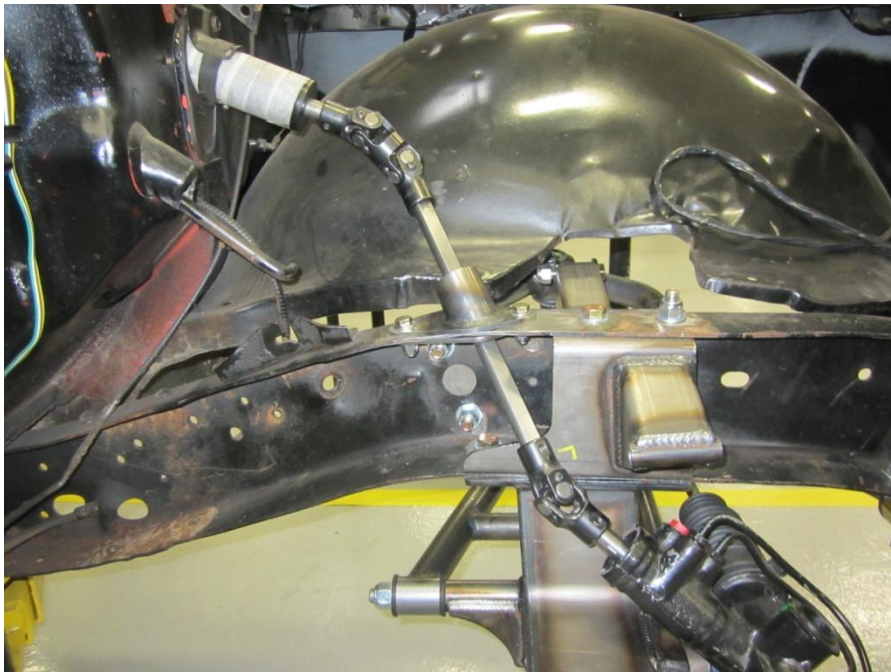
7. The C-10 truck we used to prototype parts off of, required the shaft to be cut down to approximately $11 \frac{7.5}{16}$ ". This length is for a rough estimate, it is **NOT** the same for all trucks; no two trucks are the same, and that is why **IT IS TRIM TO FIT**. Be very careful when trimming the shaft, it is better to have more length to trim rather than accidentally trimming too much. Also, to ease the sliding of the DD end into the U-joint, you may grind the ends of the shaft with a very **MILD** abrasive.
8. Now you are ready to trial fit the steering linkage. Loosen the two bolts securing the steering rack to the crossmember until the steering rack has some room to wiggle, while still being bolted in. Also, remove the nuts and bolts securing the bearing mount and steering shaft plates. It is necessary for everything to be loose to that you can wiggle the steering linkage in. See **Figure 7**.



Bearing Mount, & Steering Shaft Plate Loose, Installing Linkage
Figure 7

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9. Slide the DD shaft through the bearing mount on the drivers side frame rail, and install the DD shaft into the U-joint on the steering rack. Next, slide the DD shaft into the U-joint on the steering column. Once the shaft is seated properly into the U-joints, tighten the steering rack bolts, securing it to the crossmember all the way down again. Double check that the DD shaft is properly seated in the U-joints.
10. Re-install the nuts and bolts for the bearing mount, and tighten down all the way. At this point your steering rack should look like the following (See **Figure 8**). Turn the steering linkage from right to left, and if you experience any drag, then you must remove everything and trim the steering shaft plate, or enlarge the hole in the frame rail. Repeat this process until the steering linkage turns freely. Once you are able to mount the linkage to turn freely, **remove it again**, as you must now center the rack, and steering wheel.



Steering Linkage Installed
Figure 8

11. Now you must find the center of the steering rack, and adjust it so that your vehicle will have zero toe. Disconnect the tie rod ends from the steering arms on the spindles. Now turn the input shaft all the way until the rack reaches its full stop. Then turn the shaft back the other way until it again reaches the other stop, meanwhile counting the number of turns it took from stop to stop. Now turn the shaft back in the first direction $\frac{1}{2}$ the number of turns and you will have found the center of the rack.
12. Now that you have found the center of the rack, turn the spindles until they are perfectly straight (simulating the vehicle's wheels being straight and not turned). Adjust the tie rod ends until they can reach the steering arm, and can be inserted straight up

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into them while keeping the spindle straight. Install the castle nuts and cotter pins. Now your rack is centered, and your vehicle has zero toe. The toe setting can be fine tuned later, however it is critical that your steering rack is centered.

13. Next, the steering wheel needs to be centered. Remove the U-joint from the steering column, center the steering wheel, and slide the Double U-joint back on the steering column, and phase it properly, having the same orientation as the U-joint on the steering rack so that you will be able to connect both U-joints with the shaft.
14. Repeat the procedure from **Steps 8-10** for final assembly. **NOTE: If your steering rack has a flat section on the input shaft be sure to position the U-joint such that the set screw will hit this flat section.**
15. Double check that all of the U-joints and shaft are seated properly. Make sure that you can turn the shaft freely right to left without experiencing any drag. Tighten all of the set screws on the U-joints.
16. Enjoy your newly installed steering linkage!

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