



# Dodge Off Road, LLC

Specializing in Dodge Ram Solid-Axle 4x4  
Suspension and Steering for Off Road Applications  
855.9009.DOR [sales@dodgeoffroad.com](mailto:sales@dodgeoffroad.com)  
[dodgeoffroad.com](http://dodgeoffroad.com)

## DODGE OFF ROAD REPLACEMENT TAPERED BOLT

Our tapered bolts are made from solid 4140 cold rolled chromoly, however if your steering binds up these bolts can break. If the bolt does not break, the pitman arm or steering box will. It takes an incredible amount of force to shear a solid piece of chromoly, and this can only happen if the steering is binding up.

In order to make sure that your steering is not binding up, you need to check the steering lock to lock at ride height, with the suspension fully compressed, and with the suspension fully extended. If you do not do this, there is a chance that the heim will bind up again and break either the bolt, the pitman arm, or the steering box. Proper installation of the steering kit is crucial to ensuring you don't have any issues now or in the future. If you do not know how to check the steering for binding, you'll need to seek the help of a qualified mechanic or someone with a better understanding of the steering system.

One of the leading causes of the pitman arm heim binding up is from the tie rod (knuckle to knuckle bar) not being flat, as it is detailed in the instructions for the steering kit. Here is a picture of a properly installed steering linkage. Notice how the tie rod is flat, and the heims on the tie rod are flat and centered. Also notice how the drag link heims are flat on their plane, and how the bends of the drag link are oriented so as to prevent binding lock to lock during the full suspension cycle.



The other reason for heims binding up is if the misalignment hardware is not installed correctly. We pre-assemble all of the hardware during packaging, however sometimes a spacer will get flipped around during install. It is imperative that the hardware goes on exactly as we packaged it. The flat washers on the tie rod heims go below the heim joint and are secured with the 3/4" locknut. The misalignment spacers on both ends of the drag link must have the smaller end of the taper pointing towards the heim, with the larger safety washer going on the same side of the heim as the 3/4" locknut. This allows for the drag link heims to utilize their full misalignment before binding up. However, even if the misalignment hardware is correct, if the heim itself is not centered up at ride height, binding can occur during steering travel.

The only other reason that a tapered bolt will break is if the torque specs below are exceeded. You cannot use an air impact on the tapered bolts, they must be hand torqued as described in the steering kit install guide! If the bolts are over-torqued, when the material expands it can cause a stress riser and eventually a failure of the material.

As with any product, proper installation is required for the product to work as advertised. We warranty any products that fail due to defects in the materials or workmanship, however improper installation or use of our products is not covered under warranty. Heim steering is much stronger than factory steering, but because of the nature of this setup, greater attention to detail is required for proper installation.

## ***Torque Numbers***

Tapered bolt 9/16" end – 60 ft.lbs

Tapered bolt 3/4" end – 75 ft.lbs

Drag Link and Tie Rod Heim jam nuts – 65 ft.lbs

Steering stabilizer clamp Allen head bolts – 30 ft.lbs

### **IMPORTANT NOTE ON TORQUE SPECS!**

**If you or your installer use an impact wrench on these bolts to torque them, your warranty is void. These need to be hand-torqued to spec. Over-torquing the bolts can stretch the threads and cause issues later on down the road. It takes a few more minutes to hand-tighten them, but it is the correct way to fasten the tapered bolts.**

Please recheck all hardware after 100 miles, as the bolts can stretch. Recheck as needed afterwards. Trucks used in harsh conditions such as gravel roads, poorly maintained roads, or in off road environments, should recheck hardware more frequently. It is up to the owner of the truck to ensure all hardware is securely tightened and remains tight as part of your truck maintenance.

If you have any questions, please do not hesitate to email us! We can troubleshoot your install quickly if you provide a couple of pictures of the issue you are having. Email pictures to: [sales@dodgeoffroad.com](mailto:sales@dodgeoffroad.com)



Made in the U.S.A.