



## Redneck Ram Hydro-assist Steering Installation Instructions

Congratulations and thank you for buying one of our Hydro-assist kits. It is our goal to supply you with a quality product at a reasonable price. Please read all of these instructions before beginning your install. If you have any questions or comments, please feel free to call us at 1-877-833-7464.

### Parts included:

Please make sure that your kit includes all of the following parts:

1. Rebuilt and modified steering gear box. (Normally we send back the very same box you sent to us.)
2. Hydro-assist ram. We offer several different sizes to best suit your needs.
3. 2x heim joints
4. 2x grade 5 bolts
5. 2x locking nuts
6. 4x washers
7. 4x weld-on tabs
8. 2x hydraulic hoses

### Tools needed:

This is a list of the tools and parts you will need to install the kit, but it does not include the tools needed to install your gearbox.

1. 1x 15/16" wrench
2. 1x 7/8" wrench
3. 2x 11/16" wrenches
4. 13/16" wrench
5. Welder (we always recommend that all welding be done by a certified welder.)
6. Marker
7. Measuring tape

**Step 1** – Install your steering box back into the original position, but do not hook up the draglink to the pitman arm.

**Step 2** – Jack up the front of your 4X4 and support it with jack stands (not cinder blocks you RedNeck) under the axle tube. Not under the frame or springs.

**Step 3** – Assemble all the parts onto the ram. This includes the heims, washers, tabs, nuts and bolts, hoses and 90's (if used).

The washers can be placed either inside the tabs next to the heims or outside. When placed inside they will help to increase the misalignment angle that the heims are capable of. This is not always needed, but in some custom applications more angle is needed.

Also the threaded ends of the ram are left a little long so that the ram can be made longer or you can cut the threaded section down to make it shorter. You can also cut down the heims to make them even shorter.

**Step 4** – Find the best place to install the ram. We normally recommend that the ram be installed with the base end mounted the top side of the track bar relocation bracket and the rod end onto the tie rod. We don't recommend mounting to the frame and draglink. **Please keep in mind that the ram needs to be 100% parallel to whatever it is being attach to.**

We also recommend that the fitting on the ram not be more than 15 degrees or straight up. This will keep air from getting trapped in the ram to a minimum.

Make sure that you leave room for other moving parts around the ram such as the bottom of the engine or pulleys and belts. Also remember that the tie rod is going to move forward and back during the arc of the steering. We recommend installing the ram with the tie rod push down.

**Step 5** – **Tack** weld the base end of the ram to the axle or other place that you've chosen for it. Then with the ram completely collapsed, turn the steering knuckles all the way in that direction. Now, place the tabs up against the tie rod and mark their position on the tie rod.

Next extend the ram all the way and turn the knuckles all the way in that direction and mark the mounting tabs position on the tie rod again. Normally the two marks are about 1/4" to 3/4" apart.

Next position the mounting tabs halfway between the two marks and **tack** weld them into position.

Now you can cycle the steering knuckle and tie rod back and forth to make sure that nothing is binding or rubbing on anything. If it is, now is the time that you will be glad that you only tack welded the tabs on.

**Step 6** – If everything is clear and operates smoothly, you can weld the tabs into place. We recommend that you remove the ram while welding to prevent the heat from damaging anything.

**Step 7** – After all the welds have cooled, you can install the ram again.

**Step 8** – Now you can install your draglink and make sure that you can cycle the steering wheel back and forth with no binding.

**Step 9** – Route and install the hoses to the steering gear. On 90% of all applications the port on top will go to the passenger side of the ram.

Again, please make sure that all hoses are clear of all surrounding parts. We use the best possible hose material available. They are rated to around 4500 psi and are a 2-wire hose with a protective wrapped covering, but they aren't indestructible. We recommend routing the hoses from gearbox in between the track bar and draglink and attach it to the ram, use zip ties to attach extra hose to the track bar.

**Step 10** – When everything is hooked up, you can start to fill the pump reservoir and bleed the system. We recommend using OEM fluid, but you can use full synthetic fluid.

Start with the fluid level about halfway and have your buddy turn the steering wheel slowly from lock to lock. Just add fluid as the level drops. Keep doing this until you stop seeing bubbles come up through the reservoir. *It may take*

*you a few dozen cycles to complete the bleeding process.*

**Step 11** – Start the vehicle and slowly try to turn the wheel. If you get any binding, don't try to force it. You may have the lines to the ram backwards. Reverse the lines and try again.

**Step 12** – Take the vehicle off the jack stands and give it a try.

You will notice a few things about your new steering. It will be slower than stock, but the amount depends on which ram you have and also whether or not you have modified your pump to put out more flow. I will modify your pump at no charge or you can find out how to do it yourself by checking out the tech section of our website.

You will also notice a huge increase in turning force. Try to remember this when you're up against a rock and in a bind. If you have to force it, you might want to remember that you still have the stock tie rod ends down there.

One of my favorite things to show people is to take their vehicle and put the tire up against a pole and use the steering to push their vehicle over a few inches with the palm of my hand. But remember, if you have to use more than one hand, then you might want to back off a little.

If you have any questions or problems, please feel free to ask. Our phone number is 1-877-833-7464. We are open from 8:30 to 5:30 CST Monday through Friday.

**Be sure to keep the caps that come on the fittings in case you ever damage a hose or ram and need to cap off your gear box so you can drive it until you make repairs.**

Good luck and remember to keep the rubber side down.

**DO NOT OPERATE THE RAM WITH IT DISCONNECTED FROM THE STEERING LINKAGE OR AXLE.**

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