

## Preparing the ATV

Support the ATV so the front tires are at least 2 to 3 inches from the ground with a strong, solid support. Do not simply support it with a jack that might tip or fall. You may want to loosen the lug nuts before lifting the ATV off the ground.

## Remove front tires, front bumper, shocks, steering tie rods & a-arms:

- Removing the tires and bumper will make handling the suspension components easier. We have found that it works best to lay each of the tires down under the hub on each side. When you disconnect the a-arms, you can lay them on top of the tires so they don't hang by the brake lines.
- Remove bolts on the top and bottom of each shock and remove shocks.
- Remove tie rods by loosening the jam nuts on each end at the ball joints. Keep in mind that one end is left handed. Rotate the tie rods until they separate from the tie rod ends.
- Remove the bolts that attach each a-arm to the frame and remove a-arms (with spindles and hubs still intact).
- Try to keep pressure off the brake lines. We suggest you do not remove the brake lines so you don't have to bleed them. However, if you feel that you need more length added to your brake lines, you can consider detaching them at the hubs and rerouting them. They can sometimes be rerouted around the frame to go more directly toward the hubs. You may need to disconnect one of the intermediate support clamps to accomplish this. We sell extended length brake lines if you feel you need them. If you remove the brake lines, you will need to follow the manufacturer's instructions for how to "bleed" air out of the brake lines.

## Kit Installation

We advise assembling the entire kit onto the ATV and only loosely tightening the nuts. After all parts are reassembled, you should make sure everything is centered left to right and go back and tighten all nuts starting from the outside and working inward.

## Attaching a-arm extension brackets:

It is easiest to feed the brackets in from the side. The a-arm extensions brackets should all be on the front side of the frame mounting tabs. This allows for the proper spacing of the brackets at the a-arms and allows the reuse of the stock hardware. One bracket is special to avoid the steering.

- All bolt heads should point towards the rear of the ATV. This is important so the bolts clear the steering stem.
- The brackets mount directly against the frame tabs. Washers are used under each bolt head and nut to spread loading and protect the paint while tightening (see various diagrams).
- Attach the shock brackets on the outside of the frame tabs. A 1 1/4" spacer is provided to fill the space where the upper shock previously mounted. A washer is placed in the gap on each side between shocks and brackets.
- The torque is not critical with Nylok nuts, just tighten them securely. 30-35 ft\_lbs is typical for this hardware.

Measure the length of one of your tie rods. Install a tie rod extension to one end of each tie rod to extend the tie-rod by exactly 3 inches. The extension will only work on one end of the tie rod (the end with right hand threads). Tighten the jam nut on your tie rod against the extension so it secures the tie rod extension in place. Repeat for the other tie rod. Reattach the tie rods with the extensions back into the tie rod ends. Set the alignment of the front tires so they are "toed-in" about 1/4" closer across the front of the tires versus the rear of the tires. Do this with a rider sitting on the ATV.



## Tighten all of the nuts, and test ride.

That's all there is to it. Make sure you get all of the hardware (nuts and bolts) tight on the brackets and on both ends of the shocks. Also, retighten the bolts after the first ride in case things shift after initial cycling of the system.

If you have any questions send us an email at [diamondjcustoms@yahoo.com](mailto:diamondjcustoms@yahoo.com).

Electronic version of these instructions and additional pictures available on our website: [www.diamondjcustoms.com](http://www.diamondjcustoms.com)

# Diamond J Customs Yamaha Raptor 660R FRONT Widening Kit

## Kit Includes:

2 - upper shock brackets	12 - 1 1/4" bolts
2 - upper a-arm brackets	4 - 3" bolts
4 - lower a-arm brackets	2 - 1 1/4" spacers
2 - tie rod extensions w/nuts	16 - nylok nuts*
	40 - washers*

\*Nuts and washers counted by weight, you may have extras.



Washers are shown in green  
1 ¼" Spacers are orange  
Pictures shown before  
hardware is fully tightened.

