

Xtreme Products Inc.

**Yamaha Rhino All 450, 660 & 700
Will work with “piggy-back” shocks
Kit No. XTYRrhino2**

Read these instructions carefully. Care should be taken to follow all standard safety procedures. If you are not sure of the correct safety measures please consult a professional mechanic.

A thorough inspection of the suspension should be made prior to performing the installation. Any worn, bent or broken parts should be replaced. After installation another inspection should be made, checking for loose components, missing hardware, binding or contact between moving parts of any kind. Inspect, again after eight hours of operation.

To begin, check to make sure all components and necessary tools are on hand.

Components:

The kit consists of brackets for the front and brackets for the rear. There are 9 brackets. All the odd numbers are for the left hand side as you sit in the bike. The even numbers are for the right side. 4 hardware bags are included; bags containing square u-bolts are for the front, bags containing round u-bolts are for the rear.

Disassembly / Installation Procedure

FRONT

1. Begin by loosening the lug nuts on both front tires. Raise the unit, using a suitable lifting device or procedure, until the front tires are off the ground. If using a floor jack with stands, chock the rear wheels to prevent the unit from rolling. If using jack stands, make sure the stands are placed under the frame and not the body. Make sure the unit is **stable and secure**.

2. Remove the tires / wheels.

NOTE: *Now is a good time to check the threads on the lug studs. Check for rust, pulled threads or other deterioration that could cause a stud/thread failure.*

3. With the suspension hanging, remove the top shock bolt. Loosen the bottom bolt and rotate the shock out of the way.

4. Assemble the brackets as shown in picture #1. Notice the rear bracket #3 or 4 goes on the inside of the frame crossmember. The #1 or 2 go on the outside.

5. Take one of the 55mm bolts and insert it through the front bracket and while holding the ¾ inch diameter spacer in the factory shock mount insert the bolt, do not go completely through.



6. With the bolt inserted into the spacer place the other bracket between the spacer and the factory mount, finish inserting the bolt. Install the 10mm nut and tighten finger tight.

NOTE: If you are in doubt as to how the brackets are placed check picture #1.

7. Take one of the square u-bolts and place it around the frame tube and into the bracket. Take two of the ¼ flange nuts and tighten finger tight. Install the other u-bolt in the other bracket and tighten the nuts finger tight.

8. Install the top of the shock in the new mounting position and insert the 55mm bolt and nut. Now tighten the shock first and then all the other bolts. Torque the 10mm bolts to 45 ft lbs. and the ¼” nuts to 12 ft. lbs.

9. Proceed to the other side and duplicate the steps 3-8.

REAR

1. Begin by loosening the lug nuts on both rear tires. Raise the unit, using a suitable lifting device or procedure, until the rear tires are off the ground. If using a floor jack with stands, chock the front wheels to prevent the unit from rolling. If using jack stands, make sure the stands are placed under the frame and not the body. Make sure the unit is **stable and secure**.

2. Remove the tires / wheels.

NOTE: Now is a good time to check the threads on the lug studs. Check for rust, pulled threads or other deterioration that could cause a stud/thread failure.

3. With the suspension hanging, remove the shock bolts. Remove the shock and place it out of the way. Next disconnect the sway bar link from the control arm.

4. Remove the 10mm bolt holding the knuckle to the lower control arm out. Carefully raise the upper control arm and axle assembly up. Make sure the inner axle joint does not disengage, if it does carefully reengage the joint. Tie the axle / control arm up out of your way. (I take a piece of tubing and wedge it under the sway bar across the frame and under the control arm.) Disconnect the sway bar link arm at the control arm.

5. Remove the two lower control arm pivot bolts and remove the control arm. Using a hack saw, jigsaw or cutoff wheel cut the shock mount down the middle. Next cut the rear half of the shock mount off the control arm. Be sure and remove the rear half not the front. Using a grinder remove the weld from the control arm. This area should be smooth if it is not it will cause your #5 or #6 bracket not to fit. (You may want to soften and radius some of the sharp edges on the front half of the shock mount.) Go to picture #2 to see how much to remove.

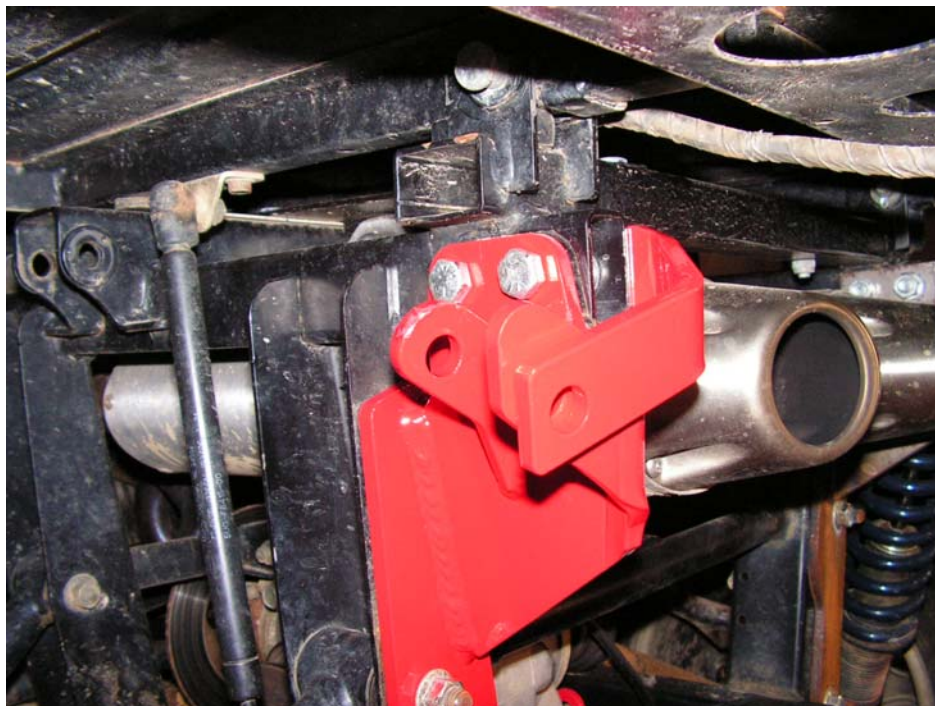


Picture #2

6. Spray paint the exposed raw areas. Insert the control arm back into the frame brackets and install the pivot bolts. Allow the arm to hang and dry. Go to the other side and repeat step 5 on the other side. Be sure to install the rear pivot bolt front to rear so the exposed threads are to the rear.

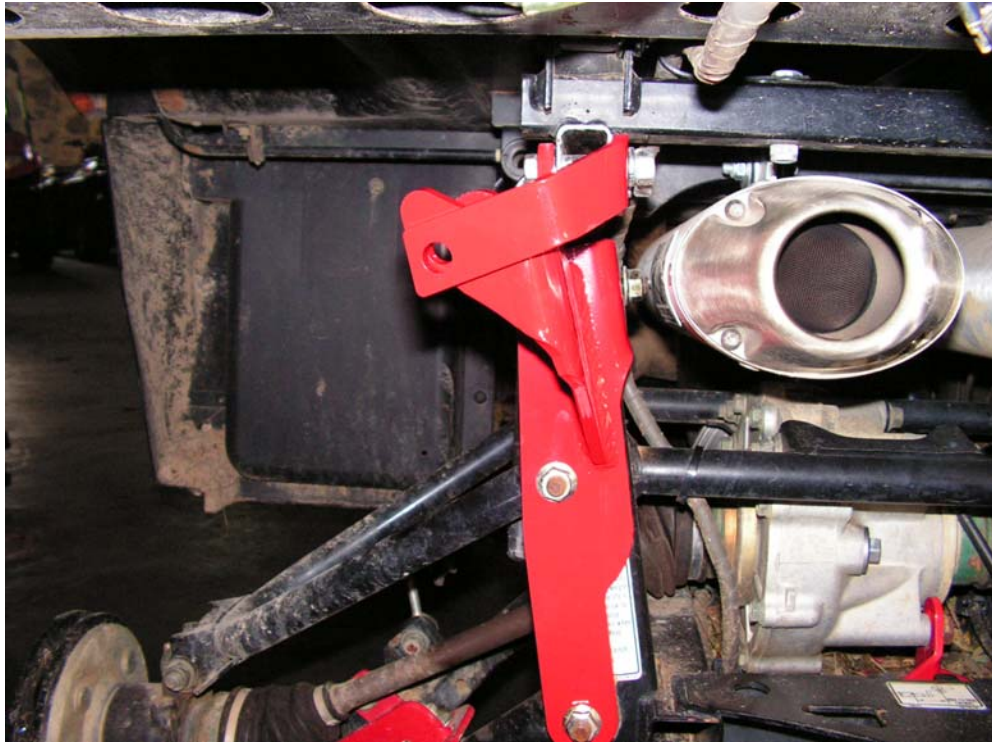
7. Now is the time to install the #7 & 8 bracket. First remove the rear upper control arm rear pivot bolt nut, replace both of these bolts with the supplied 10x80 bolts, from front to rear. Slide the bracket on the exposed section of the rear pivot bolts. Start the supplied nuts. (DO NOT TIGHTEN) Next install the 10x25mm flange bolt thru the frame upright section and the bracket using a 10mm flange nut. (It will be smallest one in the bag) Tighten it finger tight. On the Right hand side you may have to remove the bolt supporting the muffler before you can move the muffler over far enough to insert the bolt. This bolt must be installed from the inside out or it will rub on the muffler and make noise. Using the holes in the bracket as a guide drill thru the frame. (Make sure you keep these holes straight.) Install the supplied 3/8 bolts thru these holes with the supplied spacer on the inside of the frame. (Using a pair of needle nosed pliers to hold the spacer while installing the bolt is the easiest way) Install the appropriate shock brace on these bolts, -09 for DR side and -10 for PA side. Install the 3/8 flange nuts, but do not tighten at this time.

8. Repeat steps 7 for the opposite side.



This is a view of Pa side Control arm with new bracket attached





9. Next install the #5 & 6 brackets. Attach as shown in pictures.

10. Install the #5 bracket on the left arm. Using the 12x30mm flange bolt attach the arm on the #5 bracket to the remaining half of the shock mount. Finger tighten the 12mm flange nut, install the two 5/16 u-bolts as shown. Using the 5/16 flange nuts, finger tighten. Now drop the knuckle and reinstall the attaching bolt for the knuckle and lower control arm.

11. With both sides installed reattach the sway bar links and these plus the #5 & 6 attaching bolts.

12. Take the shock and start on either side by inserting the supplied bolt through the shock brace. Insert the top of the shock into the #7 or 8, depending on which side you started, and slide the bolt through the bracket. Start the nut finger tight. Start the nut on the bolt. Now attach the lower shock eyes to the #5 & 6 brackets.

13. Starting with the control arm pivot bolt nuts tighten these to 40 ft lbs. Next tighten the 10x25mm bolt. Next tighten the shock attaching bolts. Torque to 55 ft lbs. Next tighten the 10mm knuckle / control arm attaching bolts.

14. The factory sway bar is attached with two saddle clamps to the frame. These clamps and bushings prevent the sway bar from working correctly. Most are impossible to move by hand and you should be able to pivot it by hand. Remove one saddle clamp at a time, find the split in the bushing, peel it away from the sway bar and apply water repellent grease to the bushing and sway bar. (We recommend using "food grade" silicone grease. Soap and water will not remove this grease.) You will find 3/8 flat washers in the hardware bag place these between the saddle clamp and the frame when you re-attach the clamps. After doing both sides you should be able to pivot the sway bar by hand. It should have some resistance but should not require a "cheater pipe or bar" to move pivot the bar. Following these steps will allow the bar to function without putting excessive stress on the links.

Some time should be spent in getting used to the new feel of the bike. Until you get used to the handling SLOW is the keyword.

WARRANTY: This kit will be warranted against defects in workmanship and materials ONLY. Problems from misuse, improper installation or abuse are not covered in the warranty. This warranty is good for one year (12 months) from date of purchase. All warranty claims MUST be accompanied by the original receipt or suitable proof of purchase date.