

## ATV Front Suspension Installation Instructions

Thank you for the purchase of your new ATV front suspension system. We believe you find the installation to be a simple and enjoyable process. However, if at anytime you feel unsure as to what you are doing, or have any questions or comments, please don't hesitate to contact an HDUSA certified technician for help at 1-866-GO-iShock. For your own safety, please remember to always wear your safety glasses and keep your work environment clean. If you are not 100% confident in your ability to install this product, please, utilize the services of a trained technician. Your kit also includes an instructional DVD for your convenience. We highly recommend you view the video.

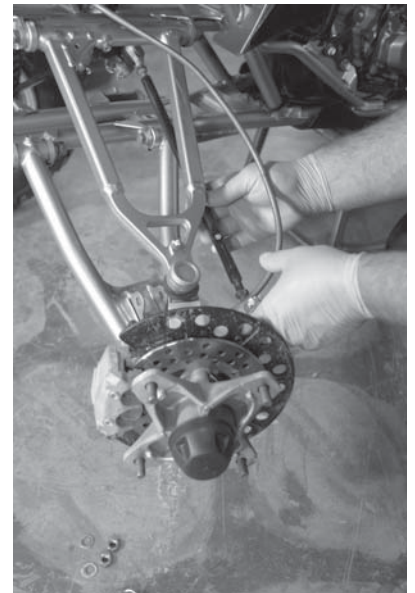
### REMOVAL OF STOCK COMPONENTS:

#### STEP 1

Remove the front wheels, stock shocks, and tie rods. Please note when removing the tie rods there is no need to remove the tie rod ends from the spindle or the flag at the steering stem.

#### STEP 2

Remove ball joints using the HDUSA Ball Joint Press Tool (Not included in i2500 kit). Please note that there is three different length bolts for use with various application. For example, the longest bolt will be used with the YFZ450. It will be obvious to you which one fits best. Place some type of support under the lower a-arm to prevent it from slamming into the ground when the ball joint releases. Snug the tool in place using 17 and 19mm open end wrenches. Press one ball joint and then repeat the process for the other. You may notice on Yamaha's the tool is not perfectly aligned rather on a slight angle to the ball joint, this is OK, the tool will still function properly.



#### STEP 3

Remove a-arms and set hardware aside for use in the installation process.

### INSTALLATION PROCEDURE:

#### STEP 1

Install your new Phantom A-Arms. The decals on the lower arms face forward. Please note that the arms come preassembled with the pivot bushings, pivot sleeves, and zerk fittings already in place. Clean stock mounting hardware and apply a thin coat of grease to help prevent corrosion. Use all stock washers and nuts.

#### STEP 2

Mount spindle to ball joints using the provided castle nuts, washers, and cotter pins. Use at least one washer on the ball joint shaft when used with aluminum spindles. In some cases, more than one washer may be required to build the elevation of the castle nut to properly align the key way in the nut with the hole in the shaft for the cotter pin.



### STEP 3

Install the shocks using the stock hardware. Clean and apply a thin coat of grease to the bolts before installation.

### STEP 4

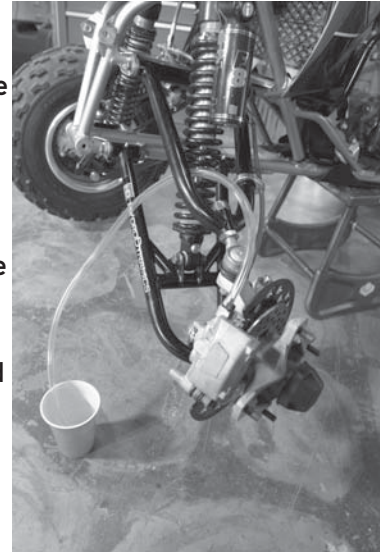
Mount the caliper being careful to route the brake lines behind the shock and above the upper arm.

### STEP 5

Install the brake lines using the stock routing. Mount the line at the calipers first and then the swivel end at the "T".

### STEP 6

Bleeding the brake lines can be made simple with lots of very cool, and expensive, tools. However, not all of us are professional mechanics or can justify the tool investment. Here is an inexpensive technique to get the job done: Find 2 - 3' pieces of clear vinyl hose (possibly fuel line) and an overflow container that is not petroleum soluble, like a small water glass or coffee can to reclaim fluid. Push one end of the hose over each bleed valve at the caliper, secure with zip tie if needed. Route both of the pieces of clear tubing in a loop or up over the upper arm and then to the ground and into the container. The line must first go upward from the caliper to act as a reservoir for fluid during the bleeding process. Fill the reservoir at the master cylinder. Begin pumping the lever. Once the lever shows a slight sign of "firmness" hold the lever against the bar and crack the bleed valve on one side of the bike. This will relieve the pressure and purge the air. When air and fluid stop coming out of the bleed, tighten, and then release the lever. Repeat the process on the other side. You must alternate between the two sides until air no longer comes out of the bleed and the lever feels firm. Periodically check to make sure the reservoir at the master cylinder remains full during the process and then fill to the "full line" when finished.



### STEP 7

Install the tie rods by first making sure that the "flat spot" on the rod is towards the outside, or tire side. Next, slightly thread the tie rod onto the inside rod end first and then the outside, getting an even start on both ends. Do not tighten yet, you will need to adjust this to set the alignment.

### STEP 8

Camber adjustment varies with riding conditions. Using the adjustment in the upper ball joint on both sides, you can achieve virtually any amount of camber you desire. Most people prefer an adjustment of -2 degrees. Some extreme motocross conditions may go as far as a -3.5 degree setting! The angle can be measured by using a digital level or basic angle finder.

### STEP 9

Set the alignment by first placing the bars in a "straight forward" position. Then, using a straight edge, align one front wheel with the rear. Once straight, use a tape measure to measure from "center front" of one front wheel to "center front" of the other front wheel and "center back" to "center back" to align the second front wheel with the first. Typically to achieve a dynamically stable condition you will want to put in 1/8" to 1/4" of "toe in" into the front wheels. Simply make the distance in between the front of the tires smaller than the distance in the back of the tires by the desired amount. Once aligned, tighten jam nuts on both tie rods.



### STEP 10

Be sure to tighten all nuts and bolts and lube zerk fittings where applicable before riding.