INSTRUCTION SHEET

1. Remove the shifter, foot peg and side cover.

2. Remove the chain guard that is mounted to the shift shaft, remove the wire from behind it.

3. Remove the original charging system. Begin by first removing the two Phillips head factory screws from the stator assembly. This works best using an impact driver. You will not be reusing them so do what is necessary to remove them as they can be hard to remove. Remove the stator assembly. **[Figure 1.1]**

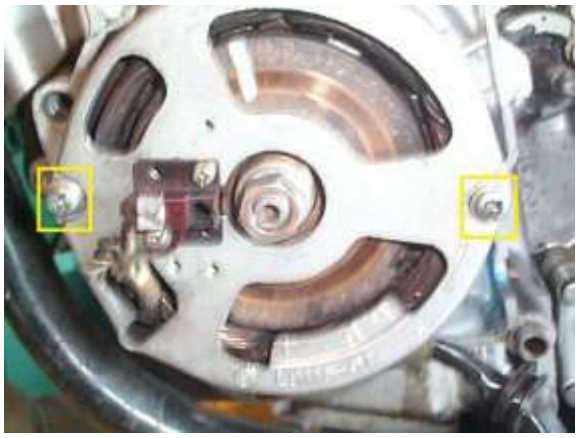

Figure 1.1

4. Remove the rotor assembly. First remove the retaining nut and lock washer. The easiest way to remove the rotor from the crankshaft is with a factory threaded puller which can be purchased very inexpensively off the internet. This puller is not necessary however. You can use a two or three jawed puller. Be very careful with these type pullers to not damage the threads on the end of the crankshaft. The crankshaft is tapered and you should be able to put some pressure on the puller and using a hammer tap the lead screw on the puller and remove the rotor. **[Figure 1.2]**

Figure 1.2

5. Remove the small locating pin at the bottom of the crankcase. **[Figure 1.3]**

Figure 1.3

6. Take the new adapter bracket and stator assembly and check it for fit. It should fit fairly snug inside the alignment tabs on the engine case. **[Figure 1.4]** The clearance on these alignment tabs and the height of the mounting bosses can vary some from the factory so do not force the adapter bracket into place. You can mark it and use a file if necessary to get it to seat against the engine block and mounting screw bosses.

Figure 1.4

CAUTION: Make sure that the plate fits completely against the threaded mounting bosses where the mounting screws go. Check both sides and if there is a gap behind the adapter on either side between the adapter and the mounting boss use the extra, small washers, supplied in the kit as a spacer. Only use them if a spacer is needed. See figure 1.5

Figure 1.5

When the fit is correct install the woodruff key back in the crankshaft if you have removed it. Using the two socket head screws, flat washers and lock washers that are supplied in the kit mount the adapter. These screws should be applied using Blue Loctite. Do not over tighten these screws as you can strip out the engine case. **[Figure 1.6]**

(The first picture is only to show the screw location, your bracket will have the stator already mounted)

Figure 1.6

7. Carefully line up the key slot in the rotor with the woodruff key already located in the crankshaft and slide the rotor on being careful to not dislodge the key. Install the crankshaft nut and lock washer snuggly but **DO NOT** tighten completely.

Rotate the engine slowly making sure that there is no rubbing or scrapping of the stator and rotor. If this occurs you will need to remove the rotor, loosen the adapter bracket mounting screws and realign the bracket and retighten the screws. When this is complete check again making sure of proper alignment and then torque the crankshaft nut to 29 ft-lbs.

8. Now route the wires through the cutout in the engine block and press the rubber grommet into place. **[Figure 1.7]** You may need to carefully trim back the black outer wire cover to get a correct fit. You can now route your new wires behind the chain guard on the shift shaft and reinstall. This is what the assembled unit should look like. **[Figure 1.7a]**

Figure 1.7

Figure 1.7a

9. Reinstall the side cover with the inspection cover off. Now you will need to mark TOP DEAD CENTER for timing purposes. Since the original timing marks were on the discarded factory stator. You can mark the TDC mark on the lower flange of the side case behind where the inspection cover goes. There is a notch in the case below the flange. Make your TDC mark line up with the right side of the notch. **[See drawing Figure 1.8]**

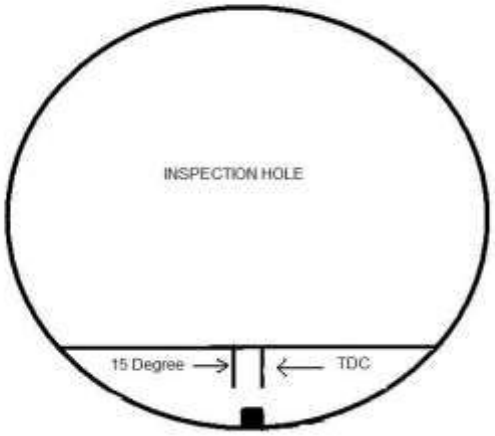

Figure 1.8

Remove the spark plugs. Slowly rotate the engine so that the piston reaches its highest point of the stroke. You can see this through the plug hole using a light or you can locate this by placing a soft object like a drinking straw into the plug hole and watch it reach its highest point on the stroke.

When you have located TDC hold the crankshaft perfectly still and you will need to mark a line on the rotor in line with the TDC mark you previously placed on the flange. Mark it accurately with a marker and then you can scribe the line with an etching tool. Make another line on the flange at .500 inches to the left of the TDC mark that you made and that gives you the 15 degree mark.

10. Mount the regulator using the mounting bracket that we have provided. It bolts to the rear upper motor mount. **See figure 1.9**

Figure 1.9

11. We have also included a harness with a quick connector with the Red and Green leads to aid in hooking up your kit. MAKE SURE TO CHECK THAT THE PINS LOCK TOGETHER. Connect the green wire from the regulator pigtail to a chassis ground. Connect the red to the positive terminal on the battery. **[See drawing Figure 1.10].**

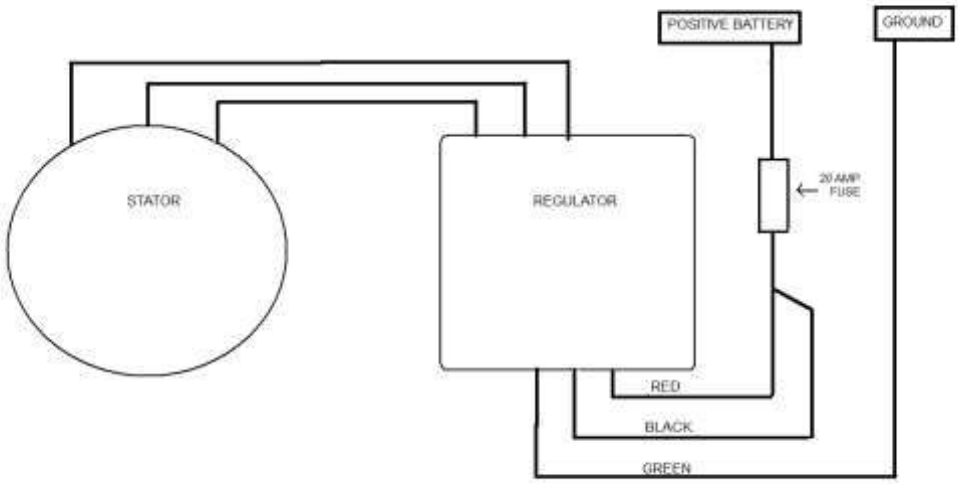

Figure 1.10

If you have any questions you can reach us at 407-509-9169 or at the website at www.xscharge.com

DISCLAIMER: Ascension Cycle Works / XS-CHARGE takes no responsibility for any damages incurred while installing or using this product.