



Stargate Glidercraft Mod Instructions

Installation Manual

For the Stargate Glidercraft assembly replacement kit

What you should have in this kit

Printed parts: one base(shoe), slider, two three-hole links, two two-hole links, and one long drive link
Binding nuts, 1-20mm, 3-10mm, 6-6mm with matching screws.
Spacers: 1-11x7mm, 2-3x7mm, 1-4x7mm
Screws: 2-M3x7mm panhead, 4-M3x5mm panhead
Shim washers: 24- 7x5x.5mm (maybe an extra in there)

Installation Steps

1. remove the glidercraft assembly from the machine. Remove the glidercraft toy from the assembly.
2. remove the e-clips that hold the driver shaft coming from the motor to the main pin. Save them, you'll need one for later. Discard the original drive link.
3. Now take your Dremel tool with a cutting disk (use the reinforced type not those thin ones). Flip the assembly over so the bottom of the assembly faces up. Starting with the fixed pin near the motor, start carefully grinding down the rivet. Once you're about 75% the way through, take a pair of channel locks and try rotating the rivet from the other side to break the mechanical bond. This makes it easier to remove. Once the bond is broken and you've removed most of the rivet from the bottom, you can now try to drive the rivet out with a small punch and hammer. You will do this for all the rivets. You will probably scratch up the metal cross bars a little, just don't overdo it. If they bend a little, hammer them flat.
4. At this point you should have all four of the metal crossbars removed. Discard (or save) the fiber links as these will be replaced. Take your 5mm drill bit and drill out the first pin you removed near the motor. A drill press is recommended, but a hand drill will work too. Now drill out all the holes in the metal crossbars with the same 5mm drill bit. Use basic safety precautions when drilling thin pieces of metal as they can "catch" and spin causing injury. Hold it with a pair of pliers/channel locks etc. Remove the burr created by the drill bit on all holes.
5. Take your 1/8 drill bit and drill out the brass rivets on fiber plate on the assembly. Remove the rivets and discard the plate. Take the same drill bit and drill out the brass rivets on the glidercraft mount. Save the mount as you'll need it. Note the orientation of the glidercraft mount-its longer on one side. You want to install it the same way.
6. Now take the new 3d printed "shoe" and install it onto the motor assembly with the flat portion on the bottom (brass inserts face down). Install with 3mmx5mm panhead screws from the top side. Tighten snug.
7. Take the glidercraft mount (the piece you drilled out the brass rivets) and attach it to the new slide bar using two 3mx7mm screws. Don't over torque it, snug should be good. Brass inserts on the bottom.
8. Now let's assemble it! Start with the 10mm binding nut. Start by pushing the 10mm binding nut through the metal plate from the bottom (in the hole you drilled), followed by the 3mm spacer (on the top side of the plate), now slide the short metal link over the post, now the short 3d printed link, and finally the binding screw. Now before you tighten this all up, you need to install two of the 6mm binding nuts in place for the next step at the other end of the metal cross bar as well as the printed piece as you won't be able to slide the binding post in place once the first post is screwed down. A shim washer is placed on the 6mm binding post before inserting it into the metal link. You'll need to grab the three-hole metal link used in the next step and again start with a shim washer, slide the 6mm binding post into shim washer, then into the three-hole link, then into the 3d printed link. Leave this in place while you screw down the screw in the first post you installed. This first post is sort of loose to allow the arms to move freely. The remaining ones tighten up the shim washers and inner race of the bearings and are tight when done. All binding posts install with the smooth side on the bottom, screw on top.

9. So now at the rear binding post you have one 3mm spacer followed by the short metal link installed with the 3d printed link on top of that followed by the screw. At the other end of the short metal link you should have one binding nut attached to the short metal link and one binding nut connected to the printed link with the three-hole metal link under that correct? The metal link points to the right, the 3d printed one to the left. Now slide another shim washer over top of the binding post of the printed link side followed by the screw. When this is tightened down the 3d arm and metal link should not bind and move freely. If there is any binding, you most likely missed a shim washer. Check your work again if needed.

10. Now take your three-hole 3d printed link with bearings. On the binding post on the right, that you installed with the 6mm binding post add the following in this order: The post should be sitting pointing up with nothing on it at this point. Place a .5mm shim washer on, followed by the 3-hole link (end hole), followed by another shim washer, and now the screw and tighten it up snug. Again, the arms need to move freely once tightened.

11. Now you have two short links and two three-hole links attached, correct? Now let's install the drive shaft and 20mm binding post (the long one). Start with the 20mm binding post, install a shim washer and slide it through the drive link (longest one) bearing hole. The drive shaft has to be oriented the correct way. Look at the other end of the shaft, it should have a round washer molded into it. This washer needs to point up toward the motor. Now slide the 11mm spacer (longest one) over the binding nut. Push the binding post through the three-hole metal link (center hole), and now carefully swing the three hole 3d printed link over and push the 20mm binding nut through the bearing and now the last shim washer followed by the screw. Again, check for free movement and tighten screw. Move the scissor mech and confirm it moving correctly, we'll attach the drive link last as you can test it throughout the assembly.

12. Starting on the left side take a 6mm binding nut, slide a shim washer over it, slide it through the 3-hole metal link from the bottom, followed by a shim washer, and now through the last hole of the 3d printed link, followed by a shim washer and finally the screw. Tighten and test for free movement.

13. Now on the right side, start with the 6mm binding nut from the bottom, slide a shim washer over it, then slide it into the metal arm, followed by a shim washer, followed by the end hole of the 3 hole 3d link, followed by a shim washer and finally the screw. Check movement.

14. Now take the 10mm binding nut, slide a shim washer over it, then insert it through the middle hole of the last metal link you installed. Slide a shim washer over the binding nut. Now swing over the 3d printed arm over the binding nut as you push from the bottom holding everything in place. Install the 4mm spacer over the post on top of the bearing followed 3d printed slide bar. You want to use the single hole end of the mount. The brass inserts should be facing down. Install the screw for the binding nut and confirm movement is smooth.

15. Take your last short metal link and a 6mm binding nut. Place a shim washer over the post and insert from the bottom, followed by a shim washer, followed by the last hole in the 3d printed link you just installed. Place one more shim washer on top of the bearing and install the screw. Check movement.

16. Take the last short 3d printed link and the last 6mm binding nut. After sliding the shim washer over the binding nut, install the binding nut from the bottom through the last hole of the three-hole metal link, add a shim washer on top of the metal link, followed by the short 3d printed link (orientation not important) , add a shim washer on top of the link and then the screw. Check movement.

17. Now let's install the last piece to this. Take your 10mm binding nut and slide a shim washer over it. Install from the bottom through the short metal link (left side correct), followed by a shim washer, followed by the short 3d link (attached to the right side correct), followed by the 4mm spacer, through the slide portion of the slide bar and finally the screw. Check movement using the drive link on the bottom and confirm everything slides smoothly.

18. Now once everything works correctly, re-install the e-clip on the drive link and re-install the Glidercraft and re-install into your machine...This should last a lifetime. At least yours.....

If you have any questions or need assistance reach me at monkfe238@yahoo.com