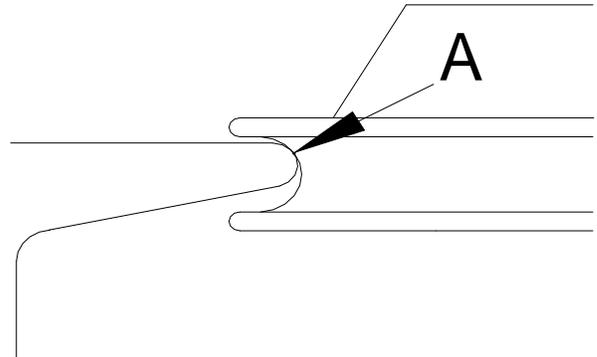


## EdgeRider™ WHEEL INSTALLATION ON APQS MILLENNIUM / ULTIMATE 1 / FREEDOM / LIBERTY AND DISCOVERY MACHINES WITH NEW CHANNEL LOCK.

### PARTS THAT COME WITH THE KIT

- 8 – white wheels with bearings (2 with holes for mounting channel lock sprocket)
- 26 – small washers
- 8 – large washers
- 4 – 1 ½ inch bolts (brass color), 1/4"-28
- 4 – 1 ¾ inch bolts (brass color), 1/4"-28

When installing the wheels make sure that they are aligned with hubs on the top as the drawing shows. The wheels should be pushed against the rails, so they touch the edges at point "A". Note that there is a gap between the top of the rail and the rim of the wheel.



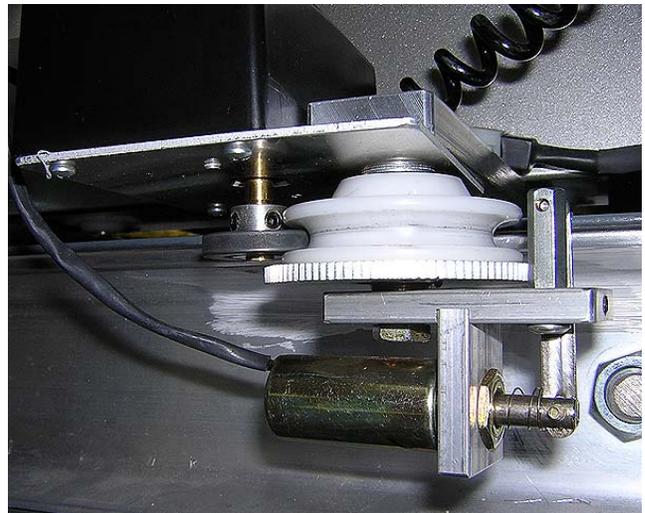
*NOTE that the EdgeRider wheels are about 1/4" higher than the original ones. Most machines will benefit from this added height, however, if you used additional spacers to adjust for attachments (e.g. Hartley fence), you will need to remove 1/4" worth of additional spacers to provide the same alignment.*

### OPTIONAL ATTACHMENT INFORMATION

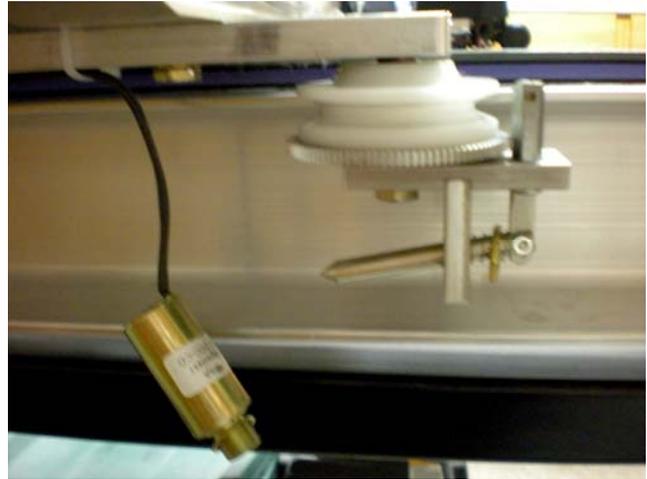
If you have attachments such as the circle lord you will need to keep your existing large spacer in place on top of the wheels but still use our washers as described in the instructions below. You will just need to add the washers and use the longest bolts supplied or your original bolts.

### ON THE MACHINE

1. Start the installation with the wheel on the arm that has both the speed sensor and the brake. Support the arm with spacers at the current height by adding a **wood shim, wrench, flat screwdriver or piece of plastic** between the arm and the top of the carriage. This will take the weight off the wheel while you work.



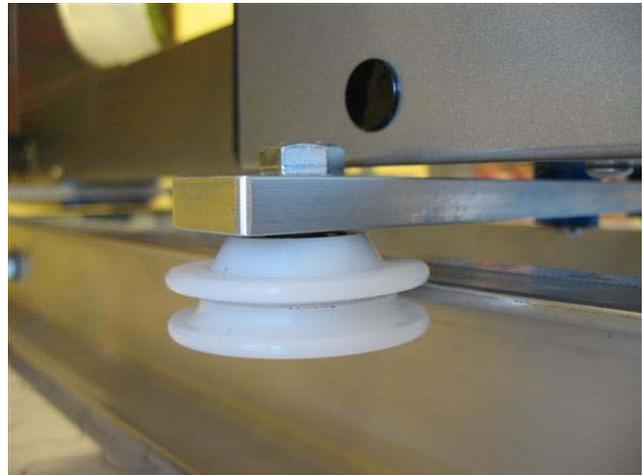
2. Remove the wheel assembly using a **flat, open-end wrench** to remove the original bolt. Once removed you will also need to remove the brass color nut holding the cylindrical solenoid in place to be able to swap out the bolts. Pull the solenoid off the bracket and the pin as the picture shows. Use the 1 3/4 inch bolts here.



3. Remove the channel lock sprocket from the wheel using a small screwdriver and mount it on one of the predrilled EdgeRider Wheels. Reassemble the wheel, **PUTTING FIVE WASHERS UNDER THE WHEEL.**
4. Install the assembly **MAKING SURE THAT YOU PUT ONE WASHER ON THE TOP OF THE WHEEL** then the encoder box. There may be additional washers needed to adjust the height for any attachments.
5. Reassemble the cylindrical solenoid and reattach the assembly using the new bolt.
6. If the sensor roller does not contact the wheel properly you will have to use a small **Allen wrench** to adjust it up or down on the shaft so it centers in the wheel.
7. Remove the shim used to keep the machine in place while making the wheel upgrade.

8. Install the other arm wheels one at a time by using a shim to take the weight off the wheels as described above. Use 3 of the 1 1/2 inch bolts.

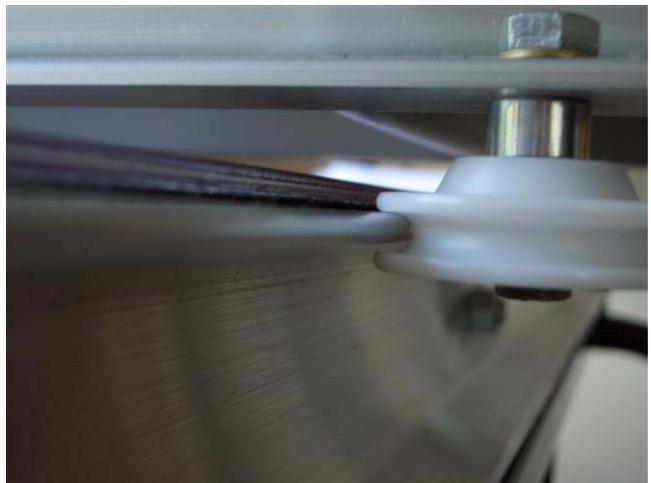
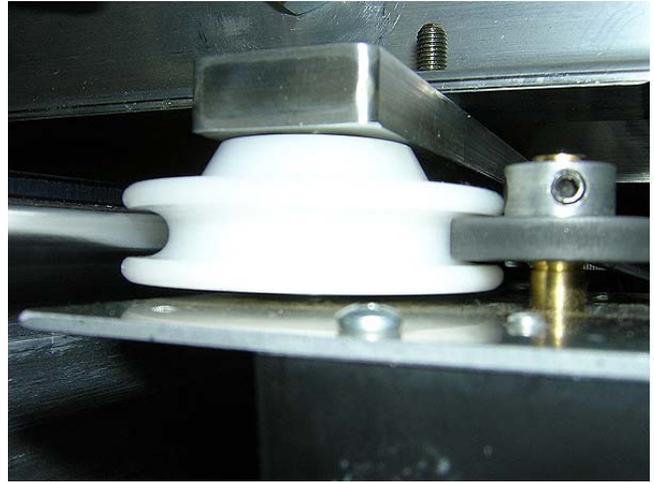
9. **PUT ONE SMALL AND ONE LARGE WASHER ON THE TOP OF THE WHEEL.** The large washer needs to be on top. There are no washers needed under the wheels.



10. If you have the eccentric bolts, turn them to the widest position.
11. Set the wheels on the rail first, insert the bolts. Tighten the bolts, but do not over-tighten them they are made of a harder material than the APQS frame.
12. After installing all four wheels, adjust the wheel positions using the eccentric bolts or slots used for wheel adjustments. The dual ball bearing design makes it possible to push the wheel all the way against the rails, without compromising easy rolling. After the alignment check if all four wheels are positioned as the drawing above shows.

## ON THE CARRIAGE

1. Start with the bar on the back that contains the speed sensor wheel on one end and the channel lock on the other end.
2. Place a shim between the bottom of the carriage and the top of the rail both sides on this side of the machine to take the weight off the wheels.
3. Remove the whole bar using a **socket wrench or flat open end wrench**, by removing the two bolts that hold the bar on the bottom of the carriage.
4. Remove the bolt on the side with the sensor pictured to the right.
5. PUT TWO WASHERS UNDER AND ONE WASHER ON THE TOP OF THE WHEEL.
6. Replace the wheel using the 1 3/4 inch bolts.
7. Adjust the height of the sensor roller as described above if necessary.
8. For the brake side, remove the wheel assembly using a **flat, open-end wrench** to remove the original bolt. Once removed you will also need to remove the brass color nut holding the cylindrical solenoid in place to be able to swap out the bolts. Pull the solenoid off the bracket and the pin. Use the 1 3/4 inch bolts here.
9. Remove the channel lock sprocket from the wheel using a small screwdriver and mount it on one of the predrilled EdgeRider Wheels. Reassemble the wheel, **PUTTING FIVE WASHERS UNDER THE WHEEL**.
10. Install the assembly **MAKING SURE THAT YOU PUT ONE WASHER ON THE TOP OF THE WHEEL**. There may be additional washers needed to adjust the height for any attachments.
11. Reassemble the cylindrical solenoid and reattach the assembly using the new 1 3/4 inch bolt.
12. If the sensor roller does not contact the wheel properly you will have to use a small **Allen wrench** to adjust it up or down on the shaft so it centers in the wheel.
13. Put the axle back on the carriage.
14. Install the front carriage wheels one at a time by using a shim to take the weight off



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the wheels as described above. Use the 1 3/4 inch bolts.

15. PUT ONE WASHER ON TOP OF THE WHEEL AND THE ORIGINAL SPACER. The large SPACER needs to be on top. There are no washers needed under the wheels.
16. If you have the eccentric bolts, turn them to the widest position.
17. Set the wheels on the rail first, insert the bolts. Tighten the bolts, but do not over-tighten them they are made of a harder material than the APQS frame.
18. After installing all four wheels, adjust the wheel positions using the eccentric bolts or slots used for wheel adjustments. The dual ball bearing design makes it possible to push the wheel all the way against the rails, without compromising easy rolling. After the alignment check if all four wheels are positioned as the drawing above shows.

NOTE: You can use spacers between the bar and the carriage to maintain proper height for any optional attachments. Spacers do not have to be placed on the wheel bolts.