

Synchronizing the X and Y Axis Motors SWF Multi-Head Machines

The X and Y axis motors of your SWF embroidery machine are how the machine moves the frame left/right (X-Axis) and up/down (Y-Axis). All multi-head machines (2 heads and up) have two X-Axis motors. Only four head machines and up will have two Y-Axis motors. In some cases, these motors may not be synchronized. That is, they don't start and stop at exactly the same time. This can sometimes cause design shifting during the embroidery process. The steps below will guide you through the process of synchronizing these motors. The tools for making this adjustment can be found in your tool kit that came with the machine. You will need a #2 Phillips-head screwdriver a 3mm and 4mm allen wrench from the kit.

Synchronizing the X-Axis Motors

The first step is to remove the cover from the pantograph beam. This is the long bar on the machine that has the brackets for attaching your flat sash or cap drivers with the thumbscrews. If you currently have the cap driver sash on the machine, it will be necessary to change over to the tubular sash before proceeding. **The tubular sash should be on the machine for this adjustment.** First, move the frame up, or back towards the rear of the machine until you can access the screws on the cover of the pantograph beam from behind the machine (top photo). Using the screwdriver, remove all the screws that run down the middle of the cover. Note that two of these screws will be longer than the rest. These screws **must** be reinserted back into the same holes that they came out of when you replace the cover later. Depending on the machine, there will be from 12 to 20 screws to remove. Next, locate the link arms that connect each of the sash brackets to each other (bottom photo). Using the 3mm allen wrench, loosen, but do not remove, the two allen screws at each end of **all** the link arms. Turn the power to the machine off, wait approximately 15 seconds, and then turn the power back on. Wait until the machine finishes powering up. You may hear a thumping sound during the power up sequence. This is normal. Once the machine is finished powering up, retighten the screws in the link arms. **Caution: Do not over-tighten these screws. They can be stripped if you attempt to tighten them too much.** When you have finished tightening all the screws, replace the cover and screws to the pantograph beam. You are now finished with the synchronization of the X-Axis motors.



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Synchronizing the Y-Axis Motors (4 heads and up)

The Y-Axis motors are located at the rear of the machine, one on each end, just below the table tops. The adjustment can be made on the motor closest to the controller, or #1 head end of the machine (top photo). Just to the right of the motor, there is a coupler with two 4mm allen screws. It may be necessary to move the frame front to back to rotate the screws to a position that you can get to them (bottom photo). Once you can see them, use the 4mm allen wrench to loosen, but not remove, both screws. **Caution: Do not let the coupler slip left or right after loosening the screws.** Turn the power to the machine off, wait approximately 15 seconds, and then turn the power back on. Wait until the machine finishes powering up. You may hear a thumping sound during the power up sequence. This is normal. When the machine is finished powering up, hold the coupler in place and retighten the screws. You are now finished with the synchronization of the Y-Axis motors.

