

## MOTOR ALIGNMENT PROCEDURE VERSION 09.03.14

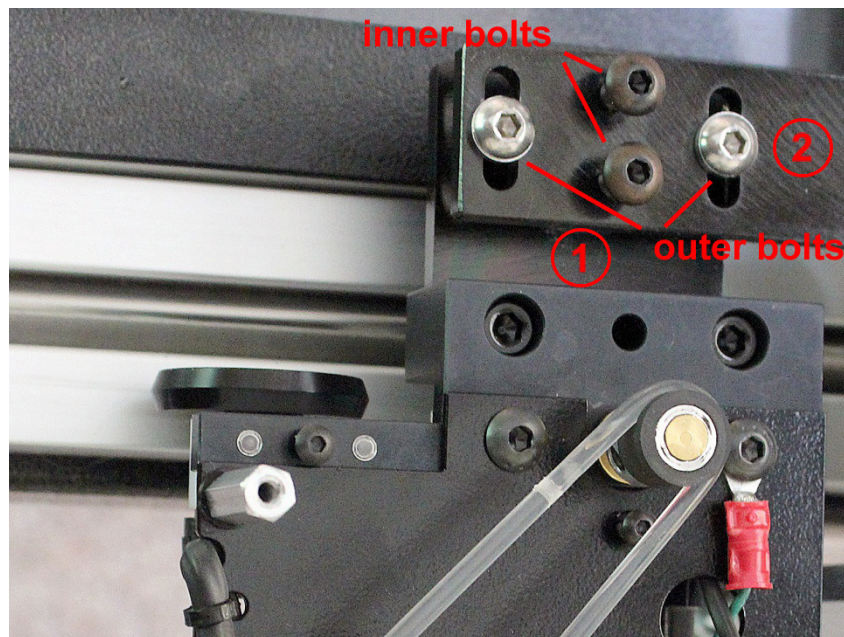
**NOTE THAT THE SYSTEM NEEDS TO BE IN MANUAL MODE, WITH THE DRIVE WHEELS LIFTED, WHEN DOING THE ALIGNMENT.**

Fig. 1 shows the motor, mounted on the motor mounting plate (1), a part of the mounting bracket (2) that is attached to the carriage or the arm of the machine, and the four adjusting screws.

The slots (vertical on the picture) can be found either in the motor mounting plate or the mounting bracket. They are provided to allow moving the motor in and out so the drive wheel is in the center of the flat surface of the table's track.

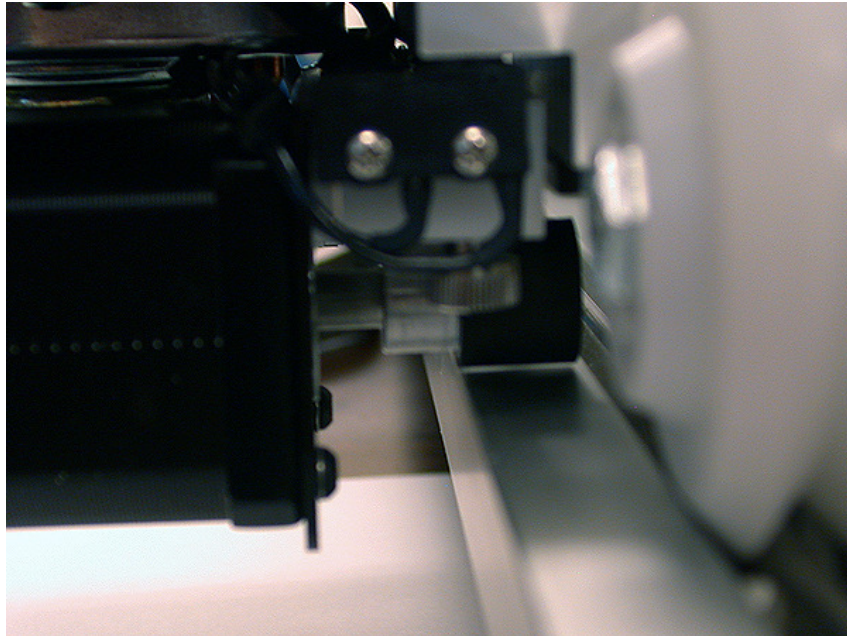
The color of the bolts shows whether tightening them causes the motor to be raised or lowered. The SILVER BOLTS, independently where they are, will raise the motor when tightened; the BLACK SCREWS will lower the motor when tightened.

The location of the screws determines the direction of tilting they affect: the INNER BOLTS (black ones on the picture) are used to tilt the motor up/down; the OUTER BOLTS (silver ones on the picture) tilt the motor sideways. Both sets of bolts are used to level the motor unit.



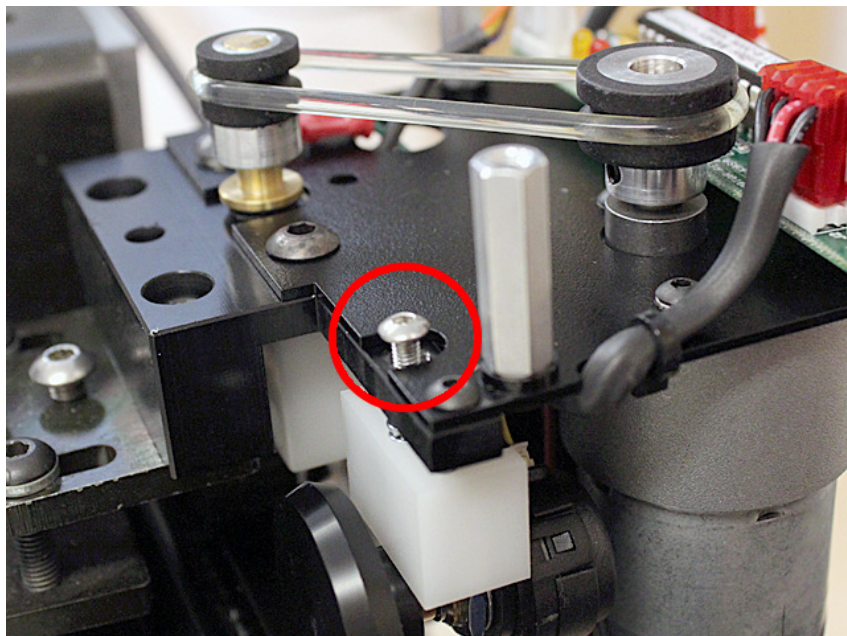
**Fig. 1**

The INNER BOLTS are used to set the angle of the drive wheel so it is parallel with the track. The goal of the adjustment is to set the drive wheel just above the surface of the table track – so you can see daylight between the wheel and the track, as shown on Fig. 2.



**Fig. 2**

NOTE: On the SuperMotor-V2 and V3 models make sure that the motor bracket is leveled. The top of the head of the sensor bracket limiting screw should be at least 1/8" (3 mm) to 2/10" (5 mm) elevated above the aluminum block to provide proper movement range for the sensor.



**Fig. 3**

## ADJUSTMENT PROCEDURE

1. Loosen the **SILVER BOLTS** about *one quarter* turn.
2. Gradually tighten the **BLACK BOLTS**, a little at a time, to lower the drive wheel towards the track – it may help to lift the motor slightly to take the weight off the bolts.
3. When it is in about the right position (that is, the drive wheel is about 1 mm, or one credit card thickness off the table track), look and see if the metal plate is level at each end – adjust as required, using the **OUTER BOLTS**.
4. Check whether the sensor wheel and the drive wheel are in the center of the table track and they are in line down the middle of the track (or as close as possible).
5. Set the drive wheel parallel with the track by loosening/tightening the **INNER BOLTS** while looking at the drive wheel from under the motor. To tilt the motor, slightly loosen the corresponding bolt and tighten the opposite one.

**NOTE that the gap between the drive wheel and the track may change during this procedure. Use the SILVER and BLACK bolts as described in Steps 1 and 2 to reset the gap.**

6. Tighten the **OUTER BOLTS** to stabilize the bracket.

**NOTE that due to the gap between the motor mounting plate and the mounting bracket you will not feel a definite resistance increase, as it would appear when you tighten a bolt that holds together two plates. Stop tightening when you feel a gradual increase in resistance. DO NOT OVERTIGHTEN the bolts, for it can cause the bracket to bend.**