

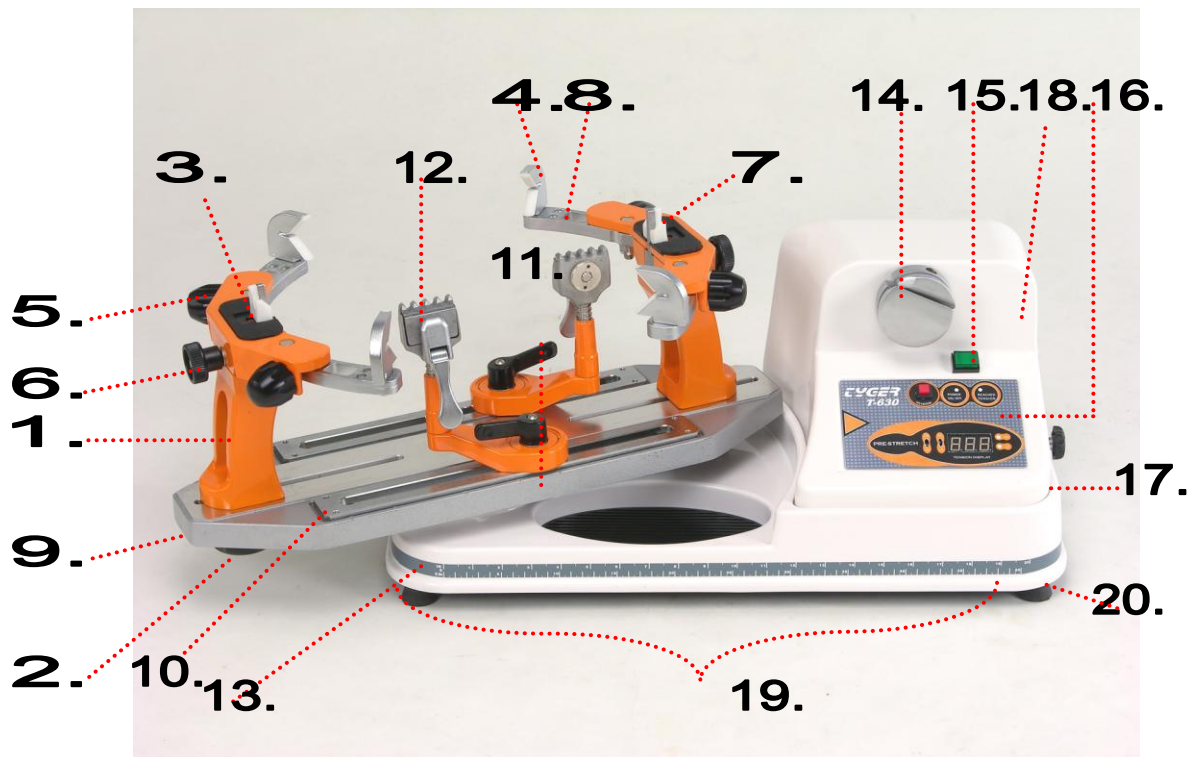
***LYGER***<sup>®</sup>

# **T-410 STRINGING MACHINE**

## **USER'S MANUAL**



# 1. ANATOMY



1. Mounting Stock
2. Mounting Stock Locking Knob
3. Rubber Cover for Mounting Stock
4. Side Support
5. Side Support Arm Adjustment Knob
6. Center Support Adjustment Knob
7. Center Support
8. Side Support Arm
9. Turntable
10. Turntable Track
11. Swivel Clamp Holder
12. Swivel Clamp
13. Scale Sticker
14. String Gripper
15. Green Tensioning Switch
16. Control Panel
17. Side Panel
18. Upper Housing
19. Lower Housing w/ Integrated Tool Trays
20. Rubber Feet

## 2. ASSEMBLY INSTRUCTION

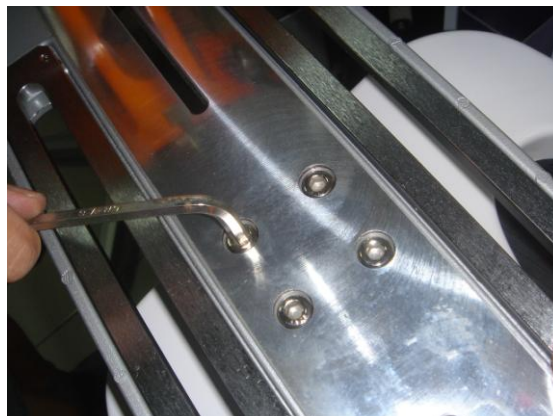
The machine is shipped in two cartons, a carton for the tension head and accessories and a carton for the racquet mount.

1). Open the carton of the tension head. Remove accessories out of the carton.

Carefully lift the tension head assembly out of carton and place it on a firm place.



2). Open the carton of the racquet mount. Remove the racquet mount and accessories out of the carton. Remove 4 bolts from the turntable and then mount the turntable by match its four holes with the 4 holes on the lower cover and then re-position 4 bolts onto the turntable tightening them.



- 3) Insert the 2 swivel clamps into the clamp holders on the turntable and then 4 side supports into the holes of the side support arms.



### 3. TENSION CONTROL

#### **Power Connection & Controls:**

Install the female end of the power cord into the power cord socket which is located on the side panel and plug the male end of the power cord into a grounded power outlet.





## Setting Pre-Stretch:

Factory has pre-set the Pre-Stretch before shipment so while switching on the machine by pressing the Power Switch on the side panel, the LED will display “F12”. If the LED doesn’t display “F12”, to attain the Pre-Stretch function, switch off the machine by pressing the Power Switch on the side panel first. Second, turn on the Pre-Stretch Select Switch. Third, switch on the machine by pressing the Power Switch again and then the L.E.D will display “F12” at start up.



To pull the string without Pre-stretch function, switch off the machine by pressing the Power Switch on the side panel first. Second, turn off the Pre-Stretch Select Switch. Third, switch on the machine by pressing the Power Switch again and then the L.E.D. will display “F02” at start up.



## Setting Tension Display in KG or LB:

To change tension display from KG to LB or LB to KG, turn the KG/LB select Switch up or down.



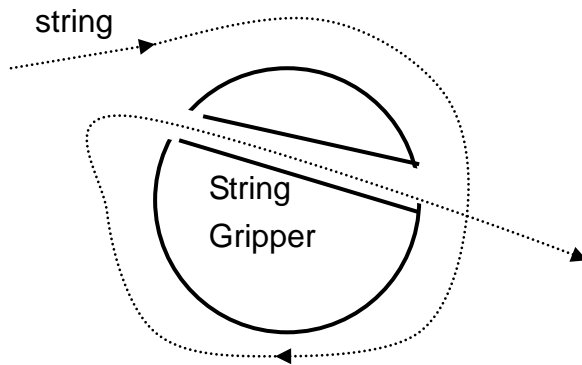
## Setting Tension:

To set the tension, rotate the tension adjustment knob clockwise to decrease the displayed tension, counter-clockwise to increase the displayed tension, until the desired tension is displayed on the LED Tension Display.



## Pulling Tension:

1. To pull insert the string in the string gripper, wrap the free end of the string clockwise around the string gripper and insert the string between the gripper jaws.



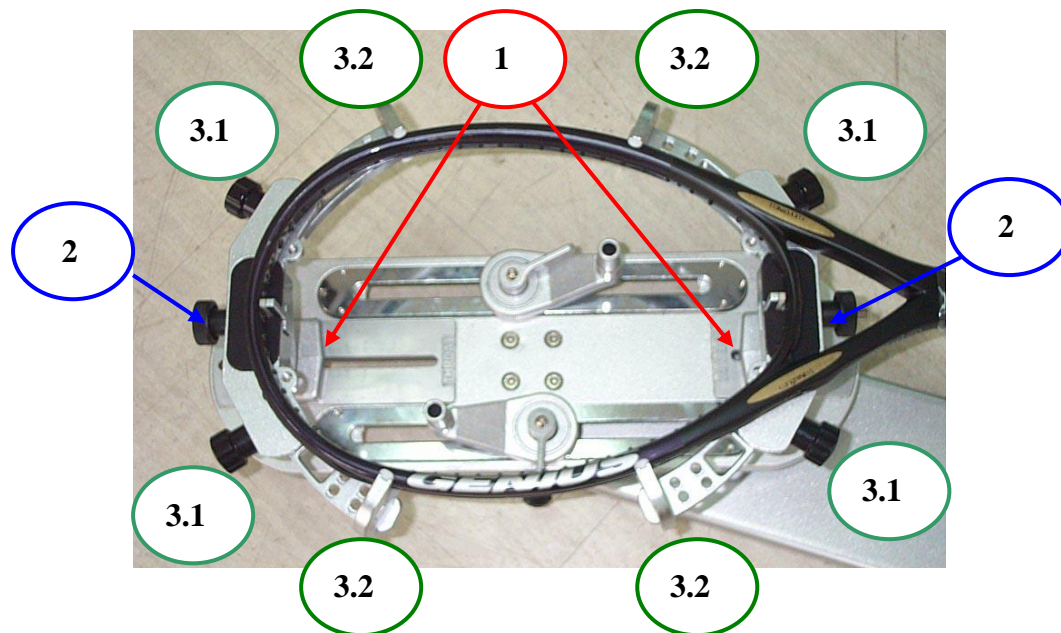
2. Push the Green Tensioning Switch. The string gripper will rotate and slowly apply tension to the string. When the desired tension has been attained, the gripper will stop rotation and green single will light.



3. To release the string after clamping, push the Green Tensioning Switch. If the string gripper does not release the string, depress the Red Reversing Switch once to release the string.



## 4. MOUNTING THE RACQUET FRAME



1. Loosen both mounting stocks by turning the mounting stock locking knobs counterclockwise. Place the racquet properly on both mounting stocks. Adjust the distance between the mounting stocks to accommodate the size of the racquet frame. Turn both mounting stock locking knobs clockwise to lock both mounting stocks in place. Do not apply excessive force or over tighten the mounting stock knobs; this will damage the parts. Insert two swivel clamps and check that the two swivel clamps can reach all the stringing area of the racquet frame.
2. Lightly tighten center supports by turning the knobs on the outside of the center support clockwise.
- 3.1. The side supports are adjustable to provide support to the racquet frame. Open side support arms by turning four side support arm adjustment knobs counterclockwise.
- 3.2. Rotate the side support arm adjustment knobs clockwise until the firm contact is made between the side supports and the racquet frame. If the side supports can't contact the frame squarely when the arms are closed against the racquet, please re-insert the side supports onto the other holes of the side support arms.

Apply a final adjustment to all racquet support points until the racquet is firmly secured in the mounting system.



## 5. CLAMPING SYSTEM ADJUSTMENT

### ADJUST STRING CLAMP TO THE CORRECT HOLDING PRESSURE

\*If gripper of the string clamp is over tension, turn the thumb wheel adjustment of the string clamp counterclockwise to the correct tension by needle nose pliers or fingers adjusting directly.

\*If gripper of the string clamp doesn't hold string well, turn the thumb wheel adjustment of the string clamp clockwise to the correct tension by needle nose pliers or fingers adjusting directly.

Needle Nose Pliers Adjustment



Fingers Adjustment



## **ADJUST THE BASE OF THE SWIVEL CLAMP TO THE CORRECT HOLDING PRESSURE**

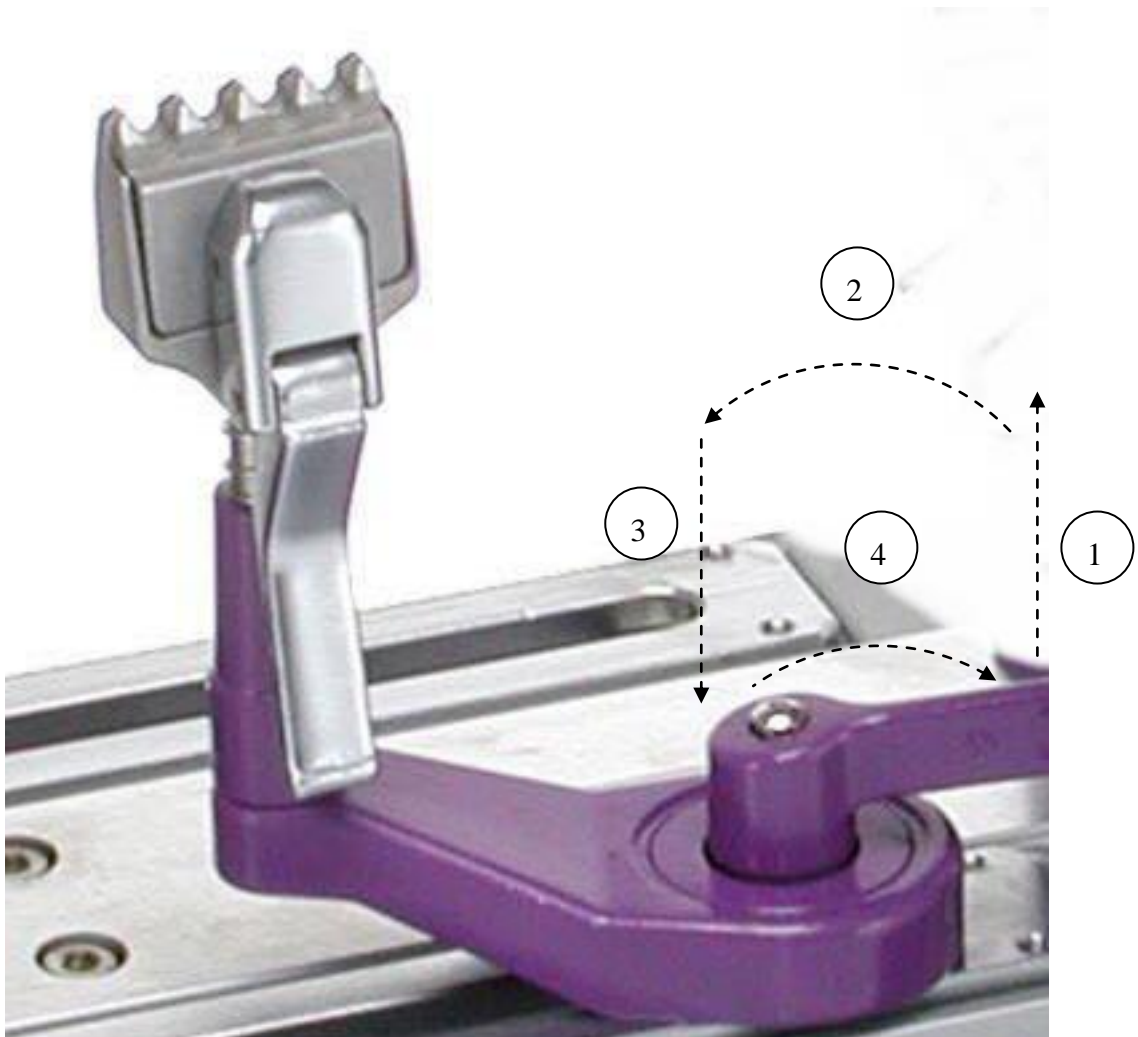
\* Lift up the base handle and turn it counterclockwise.

Lower the handle and turn it clockwise.

Repeat the process until the base is locked in place.

\* The handle position could be at any desired position.

To adjust it, lift up the base handle, turn it to the desired position, then lower the handle.



## 6. TENSION CALIBRATION

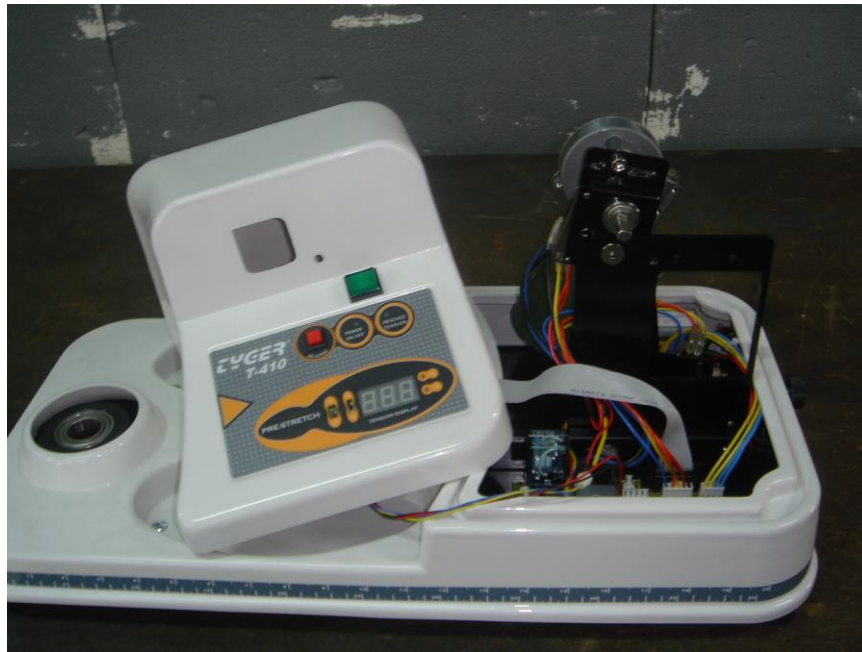
If your electronic tensioner is pulling tension inaccurately - sometimes over tension setting or sometimes lower than the set tension, it may need to be adjusted by the Calibrator Screws - HI and LO on the PCB.

**Step 1:** Loosen the screw of the rotary string gripper by a 5 mm wrench counterclockwise and remove the rotary string gripper away from the machine.



**Step 2:** Loosen the screw of the upper housing by a 3 mm wrench counterclockwise. Open the upper housing by tilting it forward and up. Then place it next to the machine.

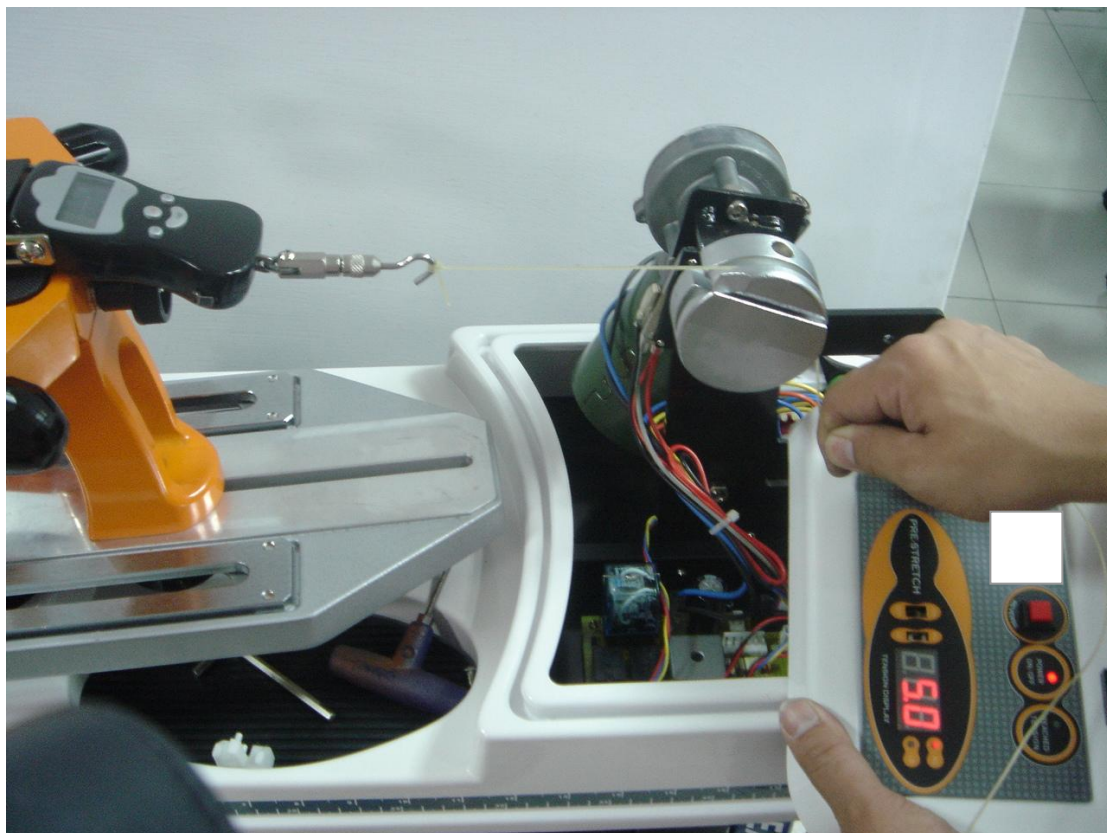




**Step 3:**

Secure the rotary string gripper back to the machine by a 5 mm wrench.

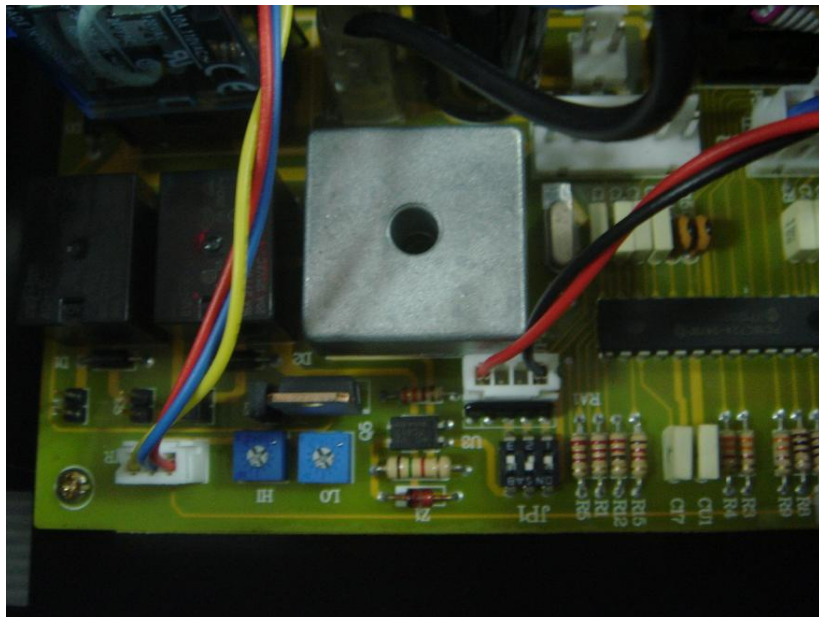
Turn the machine on. Use a calibrator, apply tension as if stringing a racquet.





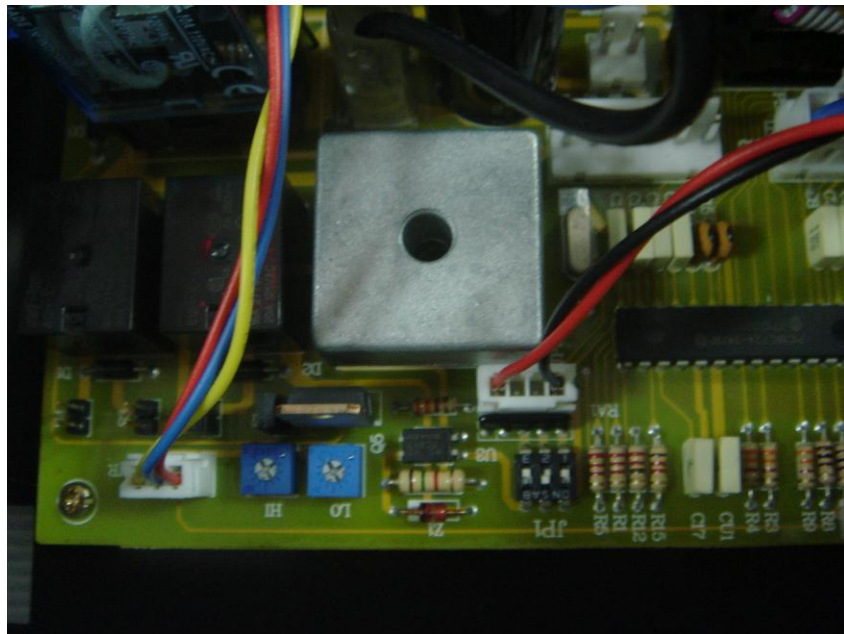
**Step 4:**

- a). Set the tension at 5 KG,
- b). Press the green tensioning switch and check the calibrator's reading.
- c). If the calibrator's reading is lower than 5 KG, press the green tensioning switch to release the pulling and rotate the tension adjustment knob counterclockwise to increase the calibrator's tension. (1 turn is around 0.5 KG).  
Press the green tensioning switch again and check the calibrator's reading is over 5 KG or not. If not, repeat this procedure c). again.
- e). If the calibrator's reading is over 5 KG and different from the machine's displayed tension, press the green tensioning switch again to release the string and then adjust the LO screw on the PCB. (Note: counterclockwise turn of the LO screw is to increase the tension and clockwise turn of the LO screw is to decrease the tension).
- f). Press the green tensioning switch again to pull the string and then check if the machine's displayed tension is identical to the calibrator's reading or not. Repeat this procedure until the correct tension is attained.



### Step 5:

- a). Set the tension at 30 KG,
- b). Press the green tensioning switch and check the calibrator's reading.
- c). If the calibrator's reading is lower than 30 KG, press the green tensioning switch again to release the pulling and rotate the tension adjustment knob counterclockwise to increase the calibrator's tension. (1 turn is around 0.5 KG). Press the green tensioning switch again and check the calibrator's reading is over 30 KG or not. If not, repeat this procedure c). again.
- e). If the calibrator's reading is over 30 KG and different from the machine's displayed tension, press the green tensioning switch again to release the string and then adjust the HI screw on the PCB. (Note: counterclockwise turn of the HI screw is to increase the tension and clockwise turn of the HI screw is to decrease the tension).
- f). Press the green button again to pull the string and then check if the machine's displayed tension is identical to the calibrator's reading or not. Repeat this procedure until the correct tension is attained.



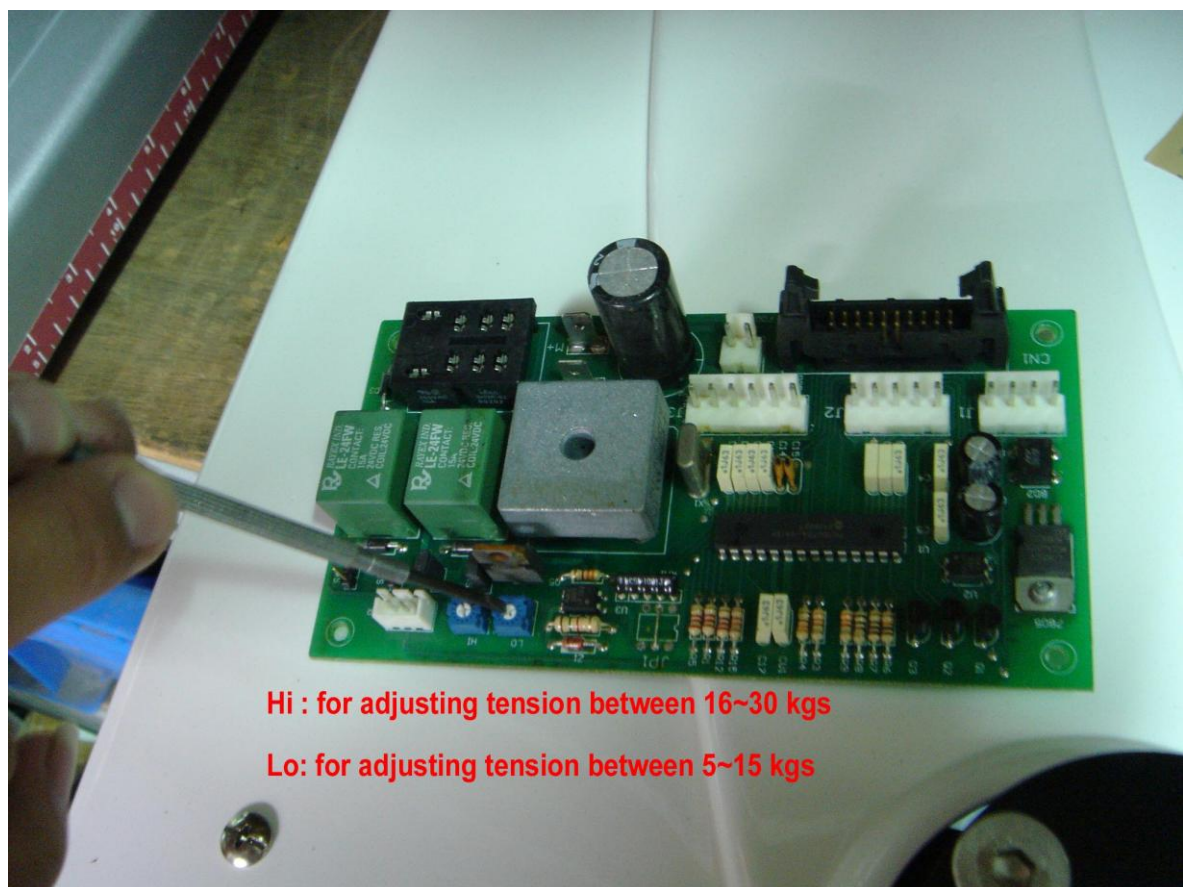
**Step 6:**

**Set the tension at 5 KG again and check if the calibrator's reading is still identical to the machine's displayed tension. If not, repeat step 4 again.**

**Then set the tension at 30 KG again and check if the calibrator's reading is still identical to the machine's displayed tension. If not, repeat step 5 again**

After making sure both tensions at 5 KG and 30 KG are correct, test the rested tensions by setting the tension at 10 KG, 15 KG, 20 KG, 25KG gradually and test the machine's tension is identical to the calibrator's tension or not.

If the tension is too high or low, release the string by pressing the green button and then adjust the LO screw (for the tension lower than 15 KG) or HI screw (for the tension higher than 15 KG). Press the green button again and then check if the machine's tension is identical to the calibrator's tension or not. Repeat this procedure until the correct tension is attained.





**Step 7:** Turn the machine off. Remove the rotary string gripper away from the machine again and then put the upper housing back to the machine.



**Step 8:** Tighten the screw of the upper housing clockwise by a 3 mm wrench.





**Step 9:** Mount the rotary string gripper on the flat side of the bolt on the machine clockwise by a 5 mm wrench. **NOTE:** Keep about 1~2 mm distance between the string gripper and the upper housing to prevent the rotary string gripper scratch the housing during rotating.

