

# GAMMA

## 5002 STRINGING MACHINE



### OWNER'S MANUAL

Issue 1 / Version 1

June 23, 1998

# **GAMMA**

## 5002

### OWNER'S MANUAL

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#### **LIMITED WARRANTY**

GAMMA SPORTS ("GAMMA") warrants to the original purchaser that the GAMMA stringing machine ("EQUIPMENT") purchased is free from defects in materials and workmanship for a period of five (5) years from the date of original purchase for mechanical parts (excluding string clamps), and for a period of one (1) year from the date of purchase for string clamps. Should any defects develop under normal use within the specified time periods, GAMMA will at its option, repair or replace the defective EQUIPMENT provided it is returned to GAMMA prepaid at the purchaser's expense. This warranty does not apply to any damage or defect caused by negligence, abuse, misuse, unauthorized alteration, shipping, handling, or part wear and tear as a result of normal use.

GAMMA's obligation under this warranty is limited to repair or replacement of defective EQUIPMENT, and no one is authorized to promise any other liability. GAMMA shall in no event be liable for any incidental or consequential damages.

To return defective EQUIPMENT, a return authorization (RA#) must be obtained from a GAMMA customer service representative by calling 1-800-333-0337. The RA# must be marked on the outside of the shipping carton being returned. All returns must be shipped prepaid by the customer to GAMMA. Please retain the original shipping carton and packing materials for any future shipments.

# FEATURES



- ❖ Manual Spring Tensioner
- ❖ Diamond Coated String Gripper
- ❖ Tension Range: 11lbs. - 89lbs.
- ❖ 6 Point Mounting System
- ❖ Diamond Coated Dual Action Swivel Composite String Clamps
- ❖ Full 360 Degree Turntable Rotation
- ❖ Large Convenient 141 sq. in. Tool Tray
- ❖ Height Adjustable From 36" to 48"

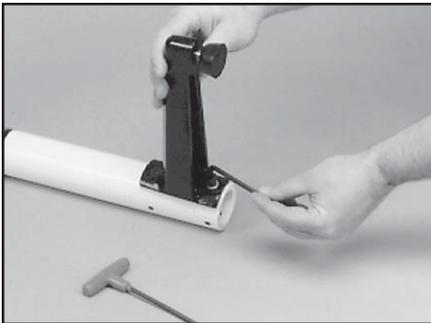
# ASSEMBLY INSTRUCTIONS



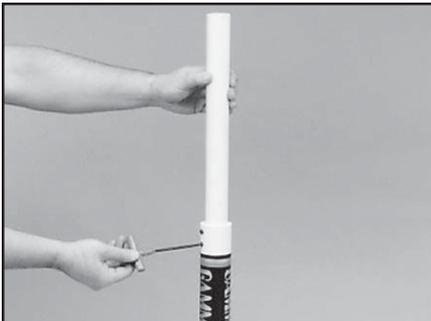
## **Base Leg Assembly**

The GAMMA 5002 stringing machine uses a four leg base design. The legs must be assembled to the support post before use. Remove the lower column support from the carton. This is the larger of the two posts and has the GAMMA label.

Note: For illustration purposes, the support column has been painted white for these instructions.



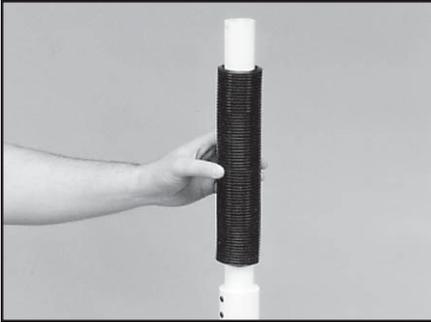
Align the holes in the leg flange with the matching holes in the lower column support post. Secure the leg with one FLAT HEAD cap screw through the upper hole, and one SOCKET HEAD cap screw through the bottom hole. Repeat this procedure for the three remaining legs.



## **Upper Column Support Assembly**

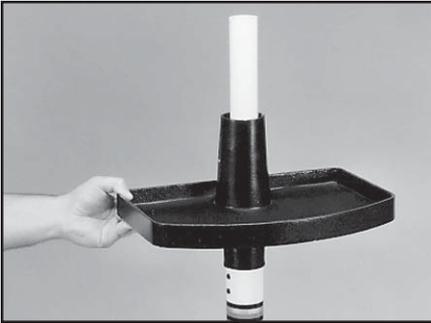
Insert the upper column support into the lower column support / base leg assembly. Leave the upper column extended to maximum height and lock in place with the two set screws located at the top of the lower column support.

# ASSEMBLY INSTRUCTIONS



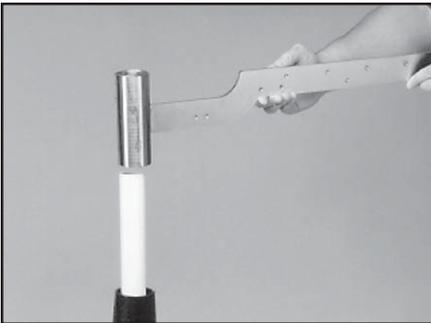
## ***Bellows Installation***

The bellows assembly is supplied in two pieces and should be assembled as follows. Place the bellows section with the flange over the upper support column with the flange on the top. Place the remaining bellows over the upper support column and mate it with the flange on the lower bellows.



## ***Tool Tray Installation***

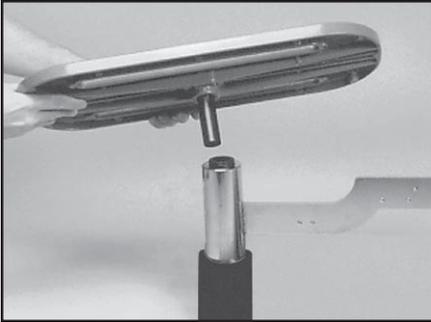
Lower the tool tray over the top of the upper column support and let it rest loosely on the bellows assembly.



## ***Tension Track Installation***

Place the tube of the tension track assembly over the top of the upper column support. Align the tension track with the long leg of the base assembly. Securely tighten the two socket set screws on the tension track assembly tube, locking it to the upper column support. Align the notch in the tool tray with the tension track bar while raising the tool tray. Secure the tray with the set screws in the side of the tray casting.

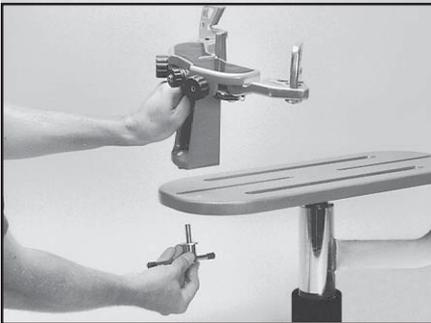
# ASSEMBLY INSTRUCTIONS



## ***Installing the Turntable***

The turntable is located on top of the foam packing in the the shipping carton.

Insert the center post of the turntable into the bushing located in the top of the tensioner bar post.

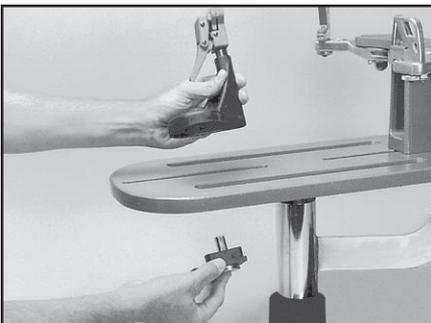


## ***Installing the Frame Support Posts***

The GAMMA 5002 support post assemblies are precision aligned at the factory and are marked for proper installation on the turntable.

Install the support post with the dot on its base to an identical dot on the turntable. Align the threaded hole in the bottom of the frame support post with the slot in the turntable. Screw the lever lock bolt with washer into the bottom of the support post and tighten gently. Position the washer with the rounded edge toward the turntable. Repeat

procedure on the opposite side of the turntable.

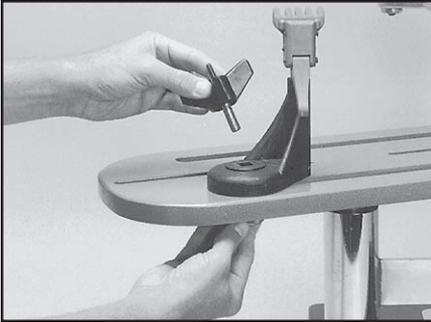


## ***Fixed Clamp Installation***

To install the clamps, remove the winged lock knob to separate the knob from the lower guide bushing. Be careful not to lose the thrust bearing components located in the center recess of the knob.

Align the clamp base with the clamp slot of the turntable base. Insert the lower guide bushing into the clamp from the bottom of the turntable making sure to engage the guide with the clamp slot.

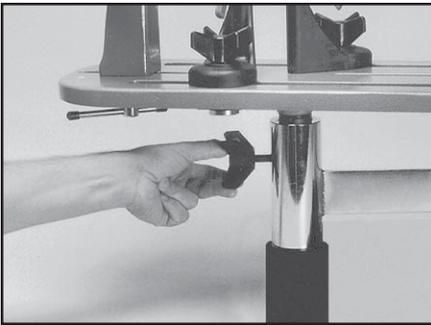
# ASSEMBLY INSTRUCTIONS



Place the load bushing into the top of the clamp base mating it to the lower guide bushing. After checking that the thrust bearing is positioned correctly in the base of the winged lock knob, screw the knob into the base bushing until fully seated.

The post of the string clamp head and tube of the string clamp base are treated with grease to provide protection against corrosion during shipping. Remove any excessive grease with a clean cloth prior to use. The post and tube may also be cleaned with isopropyl alcohol. After this type of thorough

cleaning, the post and tube should be treated with a light coating of machine oil to protect the surfaces against corrosion and to ensure smooth operation.

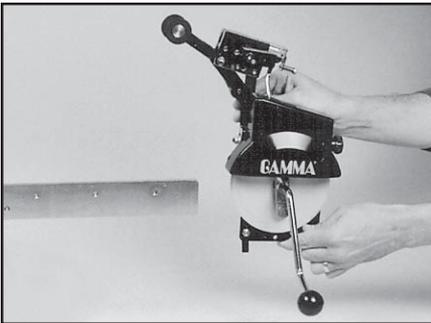


## ***Locking the Turntable***

The turntable may be locked in any position.

The turntable winged lock knob is packed separately in the accessory polybag. Install the lock knob into the threaded hole located on the side of the tensioner bar post.

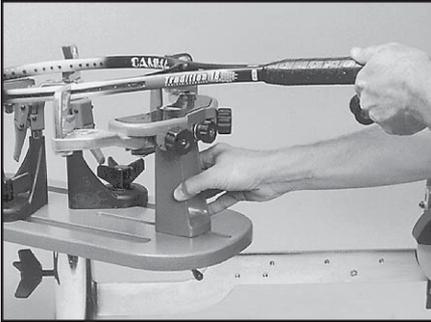
Rotate the knob clockwise to lock the turntable, and counter-clockwise to release the turntable.



## **Installing the Tensioner**

Remove the button head screw and washer located at the end of the tensioner bar with the 3 mm hex wrench provided. Slide the tensioner onto the bar, being careful to align the bar with all of the bearings and the drive gear with the gear track. Replace the button head screw and washer in the end of the tensioner bar.

# MOUNTING THE FRAME

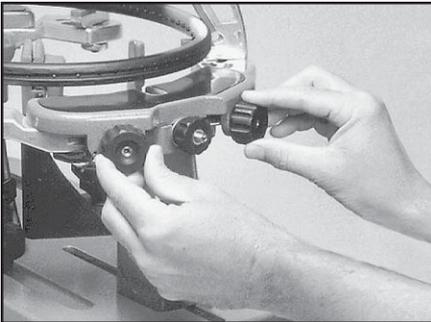


## ***Adjusting the Frame Support Posts***

Place the racquet frame over the center posts and onto the frame support. Loosen the lever lock bolt on one support post. Slide the post outward until the center support of the racquet support slide is positioned near the inside surface of the racquet frame. Securely tighten the lever lock bolt.

Adjust the opposite post using the same procedure.

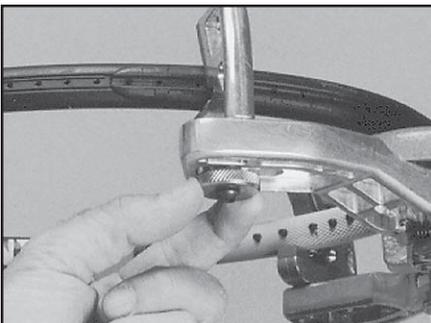
Caution: To avoid racquet damage, the center posts should not contact the racquet prior to fixing the support posts.



## ***Adjusting the Frame Shoulder Supports***

Being sure the shoulder supports are free to swivel in their mountings, simultaneously rotate the shoulder support adjustment knobs clockwise until both shoulder supports gently and squarely contact the frame.

Tighten the Frame Support Slides at the head and throat of the racquet until they gently contact the frame between the two center main string grommets.



## ***Securing the Frame***

Lock the shoulder supports in position by turning the knob at the base clockwise.

Repeat the adjustment procedure for the remaining support post.

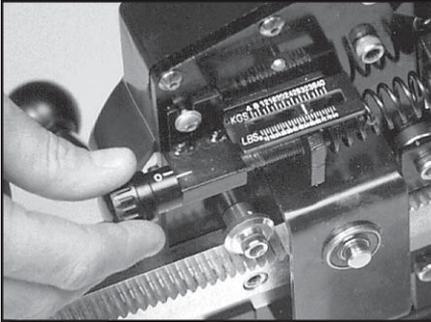
Re-tighten all of the frame supports in the same order as before.

*Do not overtighten any of the supports as racquet damage may occur.*

The supports should be tightened to the point where the racquet frame will not move

in the mounting system when the handle is grasped and attempts are made to move it. Should any supports lose contact with the frame while stringing, they should be re-tightened.

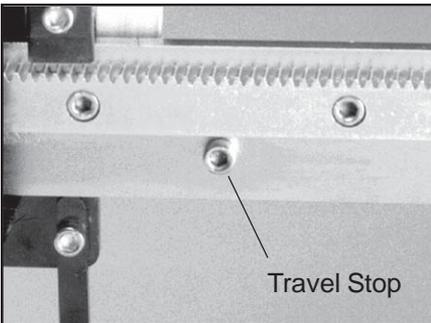
# STRINGING THE FRAME



## Setting Tension

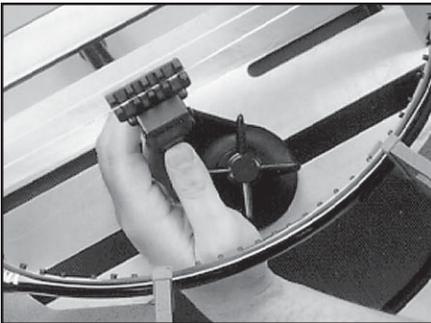
The GAMMA 5002 utilizes a rotary adjusting knob along with a linear tension scale to indicate the tension setting. The scale is divided into 3 lb increments and each 1/3 turn of the tension knob changes tension by 1 lb. To set the desired tension, rotate the tension knob and align the mark on the spring guide with the desired tension setting on the scale. When the "0" mark on the knob aligns with the line on the knob support the tension will be that indicated on the scale. To increase tension by 1 or 2 lbs turn the knob counterclockwise until the "1" or "2" mark on the knob

aligns with the line on the knob support. To decrease tension by 1 or 2 lbs, turn the knob clockwise until the "2" or "1" mark on the knob aligns with the line on the knob support.



## Tensioner Travel Stop

To prevent contact between the tension head and the racquet and/or turntable, a stop screw is located about midpoint along the tensioner bar below the gear track. In the event the tension head must be moved closer to the racquet, turn the stop screw counterclockwise with the 5 mm hex wrench until the end of the stop screw no longer protrudes beyond the surface of the tensioner bar. To re-engage the stop, simply turn the stop screw clockwise until the screw is seated against the tensioner bar.



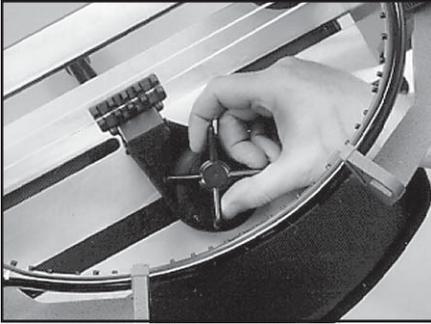
## Fixed Clamp Operation - Step 1

The fixed clamps for the GAMMA 5002 are of a dual action design. The string clamp and the clamp base operate independently of one another.

To clamp a string, lift the clamp head and place the string between the jaws. Depress the clamp head lever to secure the string. The clamping pressure applied to the string should be adjusted to provide sufficient pressure to secure the string when subjected to the desired pulling tension. The diamond coated gripper plates provide for increased

friction between the clamps and the string to allow for reduced clamping pressure while securing and holding the string under tension.

# STRINGING THE FRAME

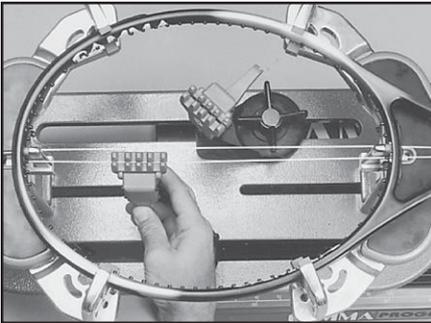


## **Fixed Clamp Operation - Step 2**

Rotate the winged lock knob clockwise to secure the clamp base to the turntable.

Reverse the clamping procedure to unlock the string clamp.

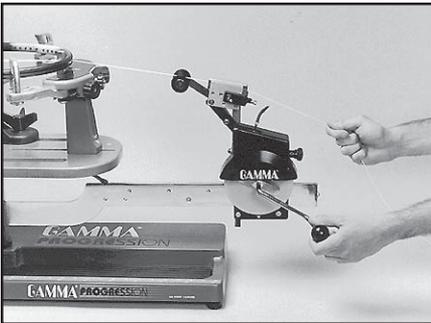
The winged lock knob should be tightened enough to prevent clamp base slippage on the turntable, when the desired tension is placed on the string. To go from the loose position to the clamped position and back, generally requires about 1/2 to 3/4 quarters of a turn. Although when stringing at extremely high tensions, additional tightness may be required. **Note: If the string slips in the string clamp while tensioning, adjust the gap between the clamp jaws as per the instructions on page 11.**



## **Clamping the First Main String**

To begin stringing the main strings, thread the two ends of the string through the two center holes at the appropriate end of the frame and continue through the opposite center holes. Thread one end of the string through the adjacent grommet hole and pull excess by hand.

Secure one of the strings using a string clamp.

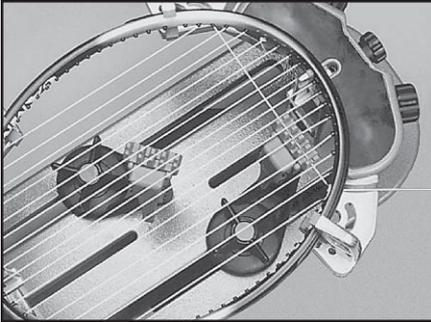


## **Pulling Tension**

Wrap the loose section of string once around the roller guide and insert the string between the diamond dust coated string gripper plates. Pull the string perpendicular to the gripper plates while slowly rotating the tensioner crank clockwise until the brake lever pops out of the latching block. The string is now tensioned and can be clamped in place with the remaining fixed clamp.

Repeat the above steps until all main strings are installed. Tie off ends of main strings as per racquet manufacturers recommendations.

# STRINGING THE FRAME

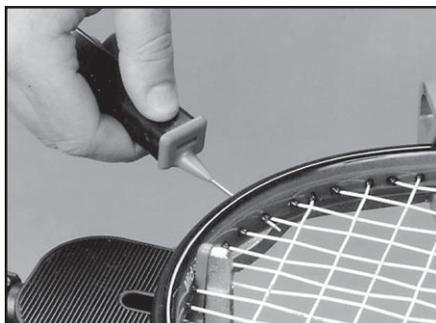


## ***Weaving the Cross Strings***

Weave the cross strings over and under the main strings being careful to alternate the weave direction of each consecutive cross string so as to be opposite of the previously installed cross string.

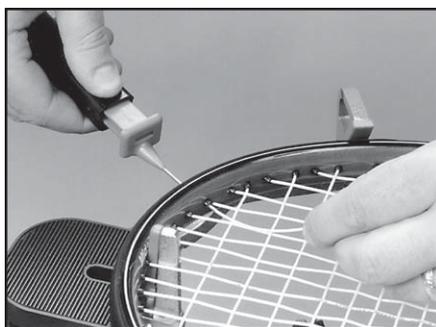
Once the final cross string is tensioned and clamped, tie off at the appropriate hole specified by the racquet manufacturer.

# PATHFINDER AWL



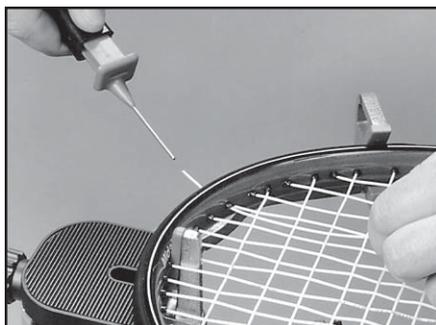
The GAMMA 6002 includes the new Pathfinder stringing awl which creates a pathway between or around strings and through tight grommets.

Insert the awl through the grommet hole in the same manner as for traditional awls. The Pathfinder awl must be closed before insertion.



Once the awl is inserted, pull the handle of the awl outward while holding the tip section in place, leaving the outer sheath in the grommet hole.

Insert the end of the string into the center of the sheath.



While holding pressure on the string, slowly pull the sheath out of the grommet hole to leave the end of the string exposed.

# TROUBLESHOOTING TIPS

<u>PROBLEM</u>	<u>SOLUTION</u>
String slips in clamps	<ul style="list-style-type: none"><li>- Adjust gap between jaws</li><li>- Clean clamp jaws</li></ul>
String slips in gripper	<ul style="list-style-type: none"><li>- Clean gripper jaws</li><li>- Adjust Gripper Jaw Stop Screw</li></ul>
String clamp slips on base	<ul style="list-style-type: none"><li>- Clean base of clamp and top of turntable</li></ul>
String clamp winged lock knob is difficult to turn	<ul style="list-style-type: none"><li>- Check for proper position of thrust bearing in the base of the winged lock knob</li></ul>
String tension too tight or too loose	<ul style="list-style-type: none"><li>- Check tension using a tension calibrator and adjust machine calibration if necessary</li></ul>

For additional assistance, contact Gamma Sports Customer Service at 1-800-333-0337

## CARE and CLEANING

With time and use, the clamping surfaces of your machine may become oily or dirty and result in string or clamp slippage while stringing. Periodic cleaning of the following parts is recommended.

### **String Clamps**

Clean the inside gripping surfaces of the string clamp jaws by inserting a cloth or pipe cleaner soaked with isopropyl alcohol between the jaws and rub back and forth. If the build-up is excessive, dismantle the string clamp jaws to expose the gripping surfaces by removing the adjustment screw. Using a small nylon brush, (such as a toothbrush), scrub the inside surfaces until all debris is removed. Clean the jaws with isopropyl alcohol and re-assemble.

### **String Clamp Base**

Clean the base of the clamps and the top of the turntable with isopropyl alcohol.

### **String Gripper**

Clean inner gripping surfaces with isopropyl alcohol soaked cloth or pipe cleaner.

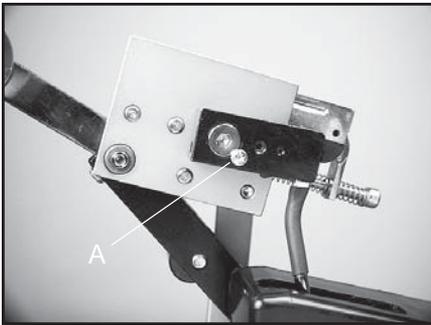
# MAINTENANCE



## Tension Calibration Procedure

### Step 1

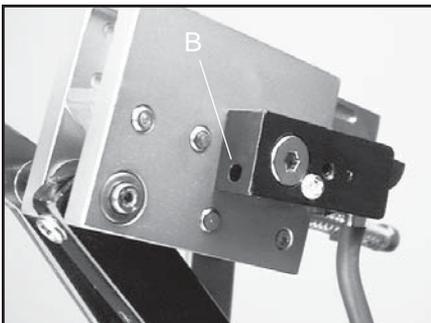
Set the tension to 60 lbs. as indicated by the linear scale and rotary knob. Place the string on one end of a tension calibrator into a string clamp and secure. Place string located on the other end of the calibrator into the string tensioner and apply tension. If the brake lever releases before 60 lbs. or after 60 lbs., the tension head should be calibrated as follows.



## Tension Calibration Procedure

### Step 2

Loosen the plastic locking screw (A) located on the side of the latching block as shown. The plastic screw is used to hold the adjustment screw in place.



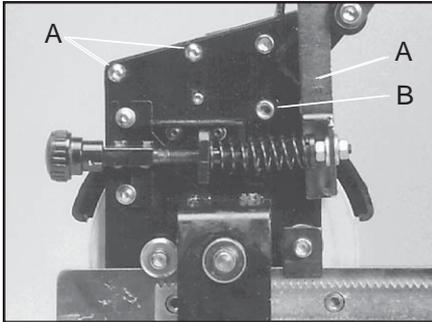
## Tension Calibration Procedure

### Step 3

If the lever releases before 60 lbs., using the supplied L-shaped hex wrench, turn the adjustment screw (B) located on the left side of the latch block counter-clockwise to increase the engagement of the brake release latch with the brake lever. Repeat step 1 and adjust until the correct tension is indicated on the calibrator.

If the tension indicated in step 1 is greater than 60 lbs., turn the adjustment screw clockwise to reduce the engagement of the brake release latch with the brake lever. Repeat step 1 and adjust until the correct tension is indicated on the calibrator.

# MAINTENANCE



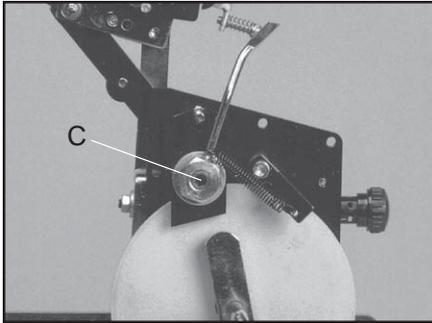
A - Cover Screws

B - Lock Bolt

## Adjusting the Tensioner Brake

### Step 1

After stringing many racquets, the brake of the tensioner may need to be adjusted. To tighten the braking mechanism, the cover of the tensioner must be removed. To remove the cover, remove the 2 button head screws located on the back side of the tensioner frame near the top of the frame, and the flat head screw located behind the tensioner lever on the back side of the tensioner frame using the 3 mm hex wrench. With the brake lever released remove the cover.

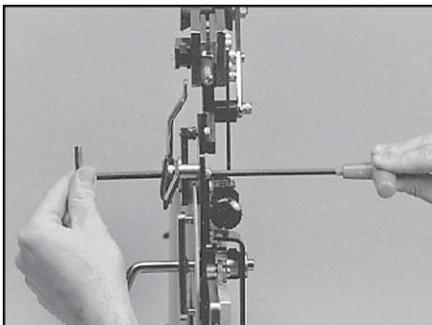


C - Brake Adjustment Bolt

## Adjusting the Tensioner Brake

### Step 2

With the cover removed, and the brake lever engaged, loosen the lower hex bolt located on the back side of the tensioner frame with the 10 mm box wrench. Note: The hex bolt should only be loosened until loose enough to be turned by hand and must not be removed completely.



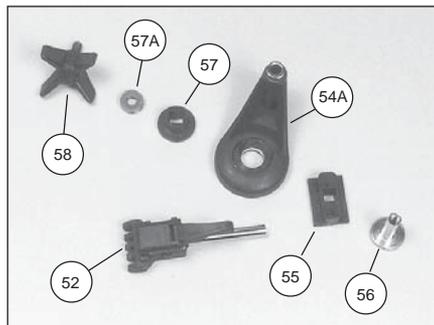
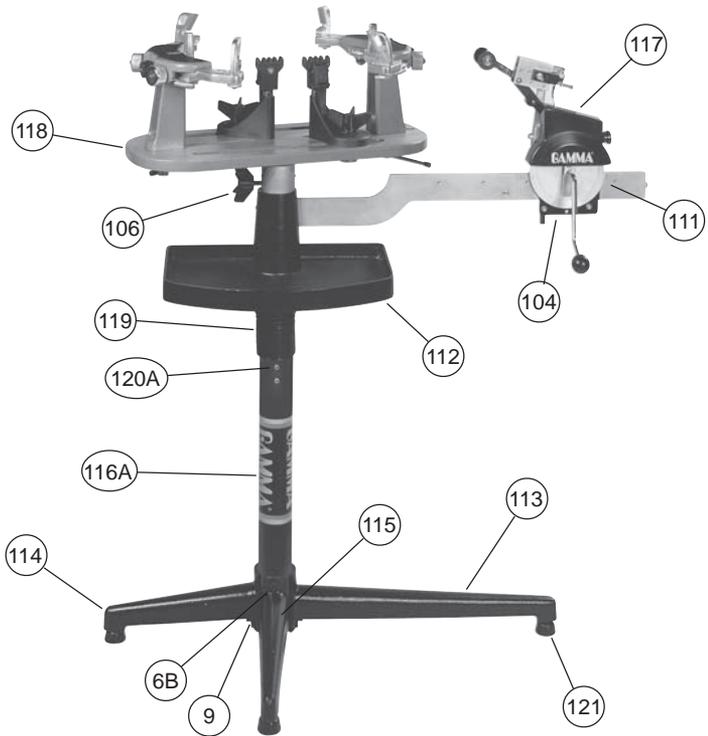
## Adjusting the Tensioner Brake

### Step 3

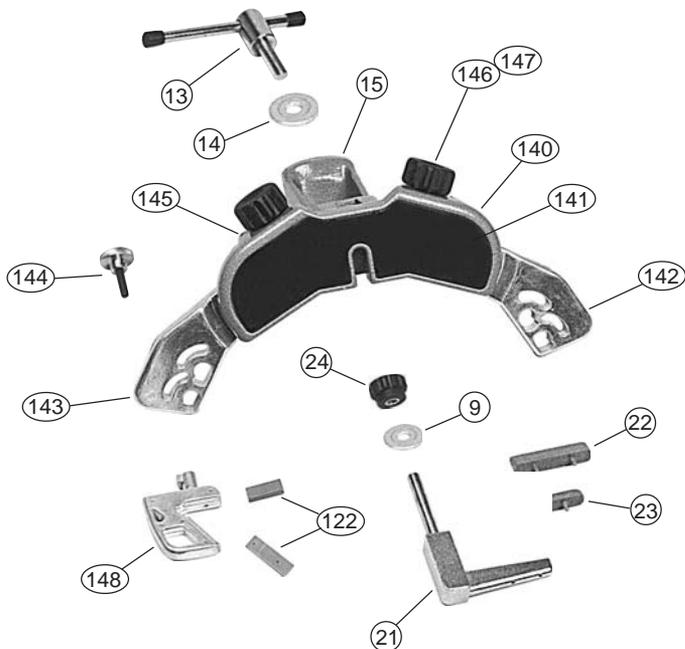
With the hex bolt loosened and the brake lever engaged in the latch, insert the 6 mm hex wrench into the set screw locted inside the nut located at the base of the brake lever. To tighten the braking mechanism, turn the set screw counter clockwise by about 1/8 turn. Retighten the hex bolt on the back side of the tensioner frame and check for brake tightness. The tensioner should move freely along the track with the brake lever engaged and should hold tension with the brake lever

released. If more adjustment is needed, repeat steps above until properly adjusted. After adjustment is complete, replace the tensioner cover by aligning the holes of the cover with the holes in the tensioner frame and secure with the 2 button head screws and flat head screw.

# COMPONENTS



# MOUNTING STAND PARTS



PART #	DESCRIPTION	PART #	DESCRIPTION
9	WASHER - M8	141	MTNG. STAND PAD
13	POST LOCKING LEVER	142	SUPPORT ARM - LEFT
14	WASHER - M10	143	SUPPORT ARM - RIGHT
15	SUPPORT POST	144	SHOULDER SUPP. LOCK KNOB
21	FRAME SUPPORT SLIDE	145	SUPP. ARM RETURN SPRING
22	BADMINTON ADAPTER	146	ARM ADJUSTMENT KNOB
23	TENNIS ADAPTER	147	ARM ADJUSTMENT SCREW
24	SUPPORT SLIDE KNOB	148	SHOULDER V-CLAMP
140	MTNG. STAND TOP PLATE		

# **GAMMA**

## 5002

### Parts Listing

<b>Part #</b>	<b>Description</b>
6B	Cap Screw - M8 x 30
9	Washer - M8
52	Clamp Head Assembly
54A	Clamp Base
55	Guide Bushing
56	Guide Bushing Nut
57	Load Bushing
57A	Radial Thrust Bearing
58	Winged Knob
104	Tensioner Assembly
106	Wing Locking Knob Screw
111	Tensioner Track
112	Tool Tray
113	Long Leg
114	Short Leg
115	Flat Head Cap Screw -M8 x 25
116A	Lower Column Support
117	Tensioner Cover
118	Turntable
119	Bellows
120A	Upper Column Support
121	Leveling Foot