6004
STRINGING MACHINE
6 POINT SC MOUNTING

OWNER'S MANUAL

Issue 13 – January 2022

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MMAN-76
(MG63-19)

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OWNER'S MANUAL

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LIMITED WARRANTY

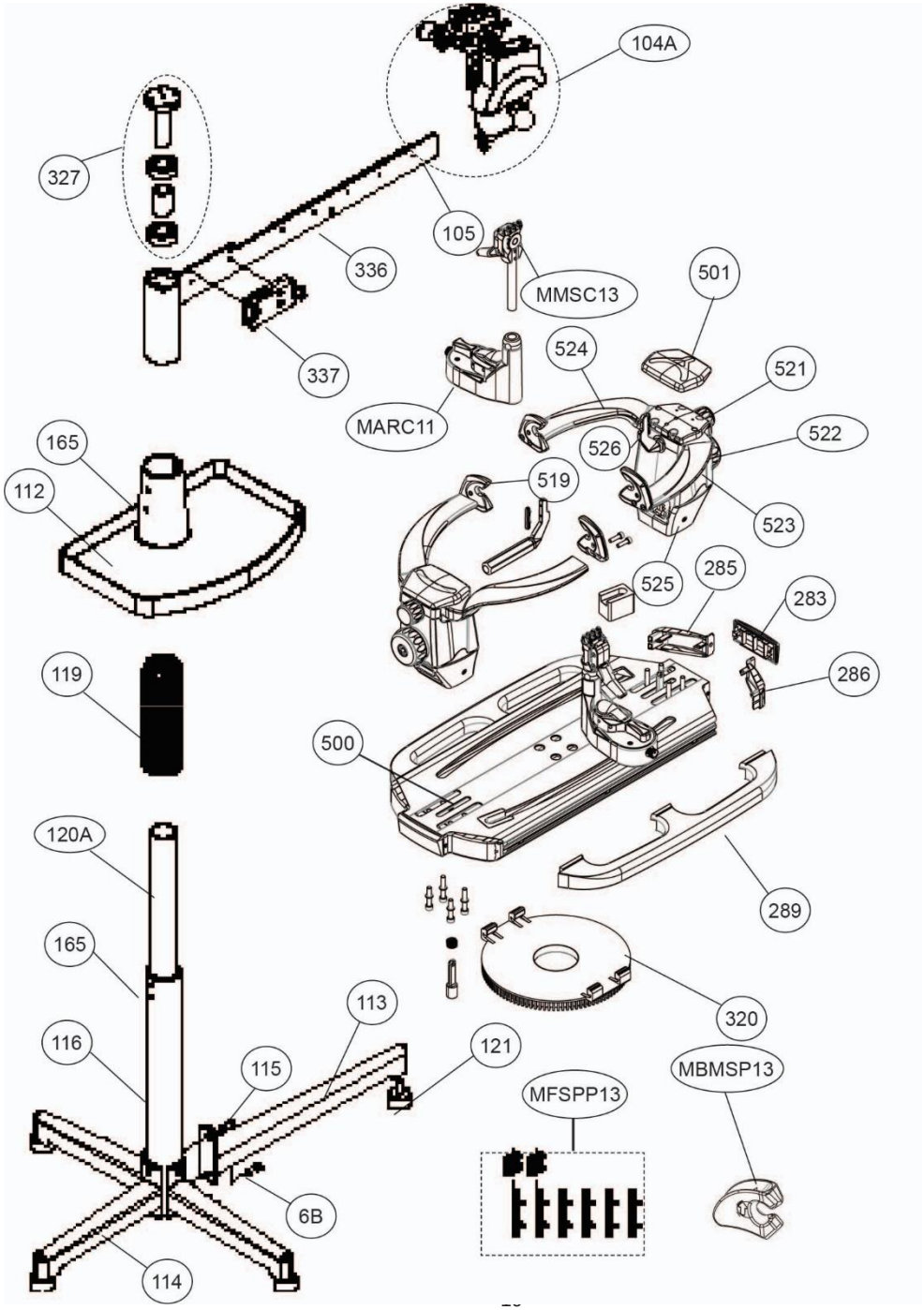
GAMMA SPORTS ("GAMMA") warrants to the original purchaser that the GAMMA 6004 stringing machine ("EQUIPMENT") purchased is free from defects in materials and workmanship for a period of five (5) years from the date of original purchase for mechanical parts and for a period of one (1) year from the date 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.

Routine maintenance, adjustment and cleaning required to ensure proper operation are the responsibility of the purchaser and are not covered under the terms of this warranty. These include, but are not limited to: Linear Gripper Plate adjustment, as described on page 10, String Clamp adjustment, as described on page 16, tension calibration, as described on page 14, and Tensioner Brake adjustment, as described on page 15.

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.

PARTS DRAWING



PARTS LIST

PART #	DESCRIPTION
6B	CAP SCREW- M8x30
104A	TENSIONER ASSEMBLY
105	RETAINER SCREW
112	TOOL TRAY
113	LONG LEG
114	SHORT LEG
115	FLAT HEAD SCREW- M8x25
116	LOWER COLUMN SUPPORT
119	BELLOWS
120A	UPPER COLUMN SUPPORT
121	LEVELING FOOT
521	MTNG STAND TOP PLATE
522	MTNG ARM ADJUST KNOB
165	SET SCREW- M8x10
203	TT SCREWS*
283	TT END CAP
285	TT END CAP- RIGHT
286	TT END CAP- LEFT
289	TT HANDLES
320	BRAKE RING
327	TT PIN
336	WINDER BAR
337	BRAKE BOX
501	SM TOP CAP
526	HEX FRAME SUPPORT
500	TURNTABLE TT16
519	A600 SHOULDER V-MOUNT BLK
523	A600SUSP SUPP ARM LEFT
524	A600 SUSP SUPP ARM RIGHT
525	A600 SUSP MNTNG STAND (BLK)
MMSC13	4T UNIVERSAL STRING CLAMP
MARC11	AUTO RELEASECLAMP BASE

TOOLS & ACCESSORIES

98	10MM WRENCH*
109	NEEDLE NOSE PLIERS*
110	BENT NOSE PLIERS*
171	DIAGONAL CUTTERS*
251	HEX WRENCH SET*
MA	STRINGER'S AWL*
MBMSP13	BADM SHLDER SUPP COVER
MFSPP13	FRAME SUPP PAD SET
	6 FRAME PADS
	2 BAD SLIDE ON "H" PADS
MPG	STARTING CLAMP*
MPS	CLEANING STONE*
MPSA	PATHFINDER AWL*
MGSMC	MACHINE COVER*
	* (NOT SHOWN)

OPTIONAL TOOLS & ACCESS

MBFS-13	BADM HEAD FRAME SUPP
MFSC	FLOOR STAND CASTERS
MTC	CALIBRATOR
SGSM	STRINGER'S MAT
MBMSS-10	BADM MNTNG SYS UPGRADE

MACHINE FEATURES

MACHINE FEATURES

- Manual Spring Tension Winder with 11 to 89 lbs Tension Range
- Patented Roller Guide for Maximum Accuracy and Consistency
- Parallel Jaw Gripper with Diamond Dust Coated Gripping Surfaces
- Professional Six Point Self Centering Suspension Mounting System - Accommodates All Racquets
- Auto-Release Cam-Lock Swivel Base Clamps
- 4 Tooth Universal String Clamps
- Full 360 Degree Turntable Rotation
- Large Convenient 141 sq. in. Tool Tray
- Height Adjustable from 36" to 48"

GAMMA

6004
Unpacking Instructions & Contents

Instructions for Unpacking and Preparing for Assembly

The stringing machine is shipped in two cartons, a Master carton has the stringing machine floor stand, base legs, tensioner and accessories. The Mounting System Carton has the turntable, clamps and mounting system. **Please save the cartons and packing materials for possible shipments in the future.** Gamma Sports cannot be responsible for machines that are not returned, shipped in their original, undamaged packaging. The tools you will need to assemble the machine are provided with the machine.

Once the cartons are opened, remove all parts and check to be sure that all parts are present and accounted for.

Contents of Master Carton (MMU2-13)
- (1) Lower Column Support Post
- (1) Upper Column Support Post
- (3) Short Legs w/ Adjustment Feet
- (1) Long Leg w/ Adjustment Foot
- (1) Bellows Set
- (1) Tool Tray w/ Pad
- (1) Tensioner Assembly
- (1) Tensioner Track
- (4) M8 x 25 Flat Head Screws
- (4) M8 x 30 Cap Screws
- (1) Tool Kit (contains side cutter, bent nose pliers & needle nose pliers)
- (1) Straight Stringers Awl & (1) Pathfinder Specialty Awl
- (1) Tools for assembly and maintenance

Contents of Mounting System Carton (MMU3-25)
- (1) Turntable Assembly w/ String Clamp Base and Mounting Stands w/ Frame Support Slide, Side Supports, and Adapters
- (2) String Clamps
- (1) Package of spare plastic adapters for frame and mounting system supports
- (1) 17mm Socket

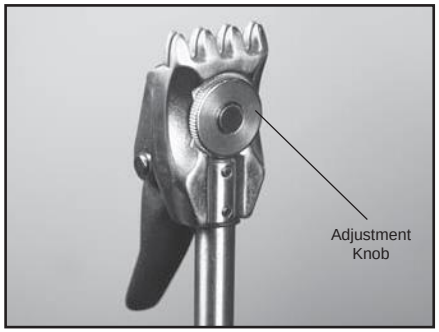
TROUBLESHOOTING TIPS

PROBLEM	SOLUTION
String slips in clamps	- Adjust gap between clamp jaws - Clean clamp jaws
String slips in gripper	- Adjust gripper jaw stop screw - Clean gripper jaws
String clamp base slips on turntable	- Clean bottom of clamp & top of turntable with alcohol
-	Adjust clamp base locking nut
String tension too tight or too loose	- Check tension using a tension calibrator, adjust machine calibration if necessary

CARE & 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 String Clamps, String Clamp Base and String Gripper is recommended. Knife sharpening stones work well for cleaning the diamond coated string clamping surfaces. Cleaning with a solvent such as isopropyl alcohol and a mild abrasive tool such as a toothbrush also works well to remove oily or greasy build up.

MAINTENANCE & ADJUSTMENTS

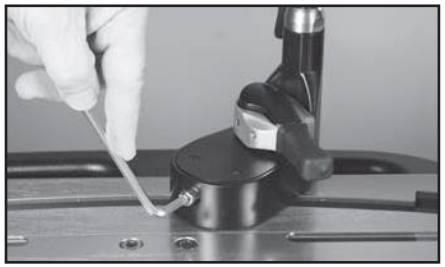


Adjusting String Clamp Jaw Spacing

The String Clamps will need minor adjustments according to what string type, construction, and gauge you are using. To adjust the gap (clamping pressure) between the clamp jaws, insert the string through the racquet as if you were beginning the main strings. Clamp the strings and pull tension. If the string slips through the jaws of the clamp, tighten the clamp by turning the Adjustment Knob, in the clockwise direction. If the clamp leaves impressions in the string, it may be excessively tight and should be adjusted by turning the Adjustment Knob counter clockwise to increase the gap between the jaws.

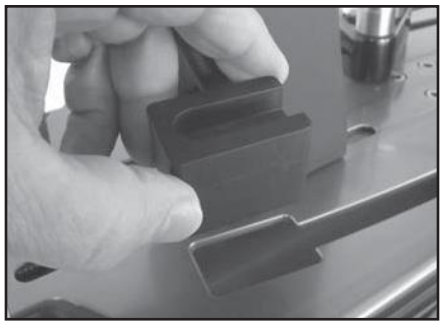
NOTE: Due to the bearings used in the clamp lever the action of the clamp lever is very light making it easy to apply excessive clamping pressure. Clamps that are set too tight can damage the string as well as the string clamp jaws.

The clamp jaws should be cleaned periodically to be free from dirt, oil, and any residual string coating for them to grip properly. The cleaning stone supplied with the machine is excellent for removing build-up on the diamond coated surfaces. Rub the gripping surfaces with the cleaning stone and remove any residual dust with a brush or cloth and isopropyl alcohol.



Auto Release Clamp Base Adjustment

If the Switch Action clamp bases slip on the turntable, the base locking levers may need adjusted. Turn the hex screw clockwise to tighten the clamp and counterclockwise to loosen. If frequent adjustment is needed, remove the adjustment screw and tighten the two screws underneath of the clamp. Re-install the adjustment screw.



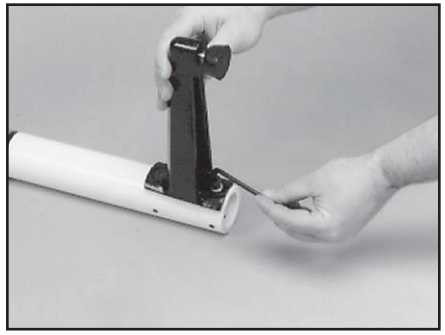
Switch Action Clamp Base Removal

If the Switch Action clamp base needs to be removed, undo the 2 screws holding the FRP stop, underneath of the turntable. Remove the FRP stop and clamp for cleaning, adjustment or replacement.

ASSEMBLY INSTRUCTIONS

Base Leg Assembly

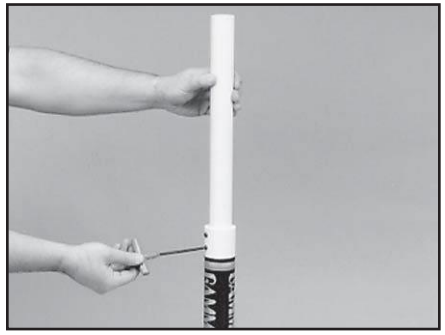
The stringing machine uses a four leg base design. The legs must be assembled to the lower column support before use. This is the larger of the two posts with the GAMMA label.



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.

Base Foot Height Adjustment

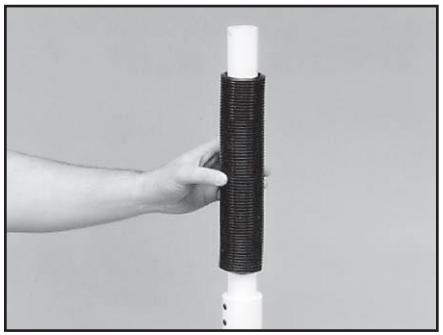
Each foot of the Base Stand can be adjusted to compensate for uneven surfaces.



Upper Column Support Assembly

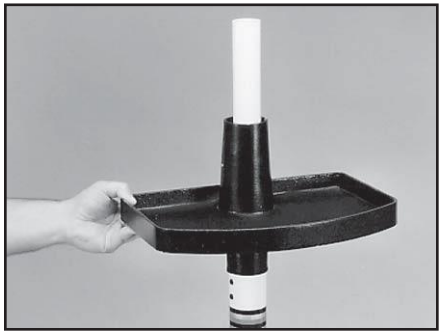
The upper column support is shipped inside of the lower column support. Unloosen the two set screws at the top of the lower column support / base leg assembly. Extend the upper column to the maximum height and lock in place with the two set screws located at the top of the lower column support.

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.



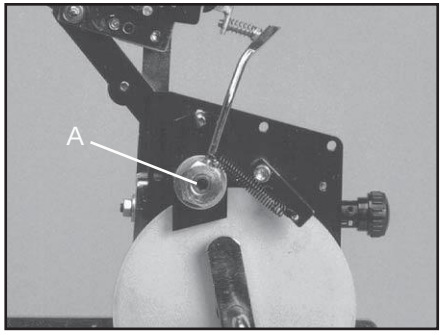
Tool Tray Installation

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 and align the tension track with the long leg of the base. 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.

MAINTENANCE & ADJUSTMENTS

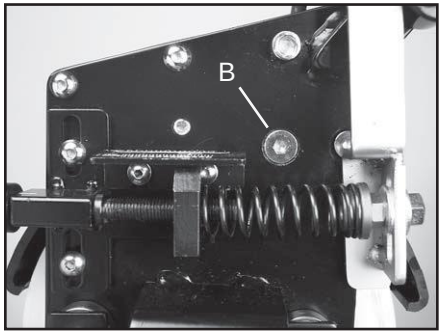


Adjusting the Tensioner Brake

After stringing many racquets, the brake of the tensioner may need to be adjusted.

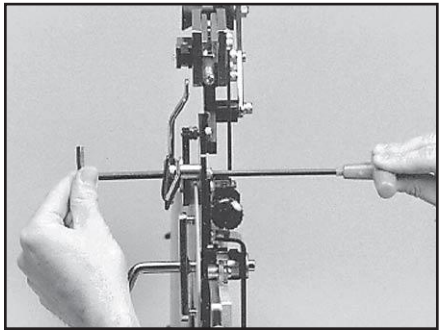
With the brake lever engaged in the latch, insert the 5mm allen wrench into the bolt (A) located at the base of the brake lever. It can be accessed through the hole on the face of the tensioner cover (above the 'GAMMA' logo).

Note: The tensioner cover does not need to be removed for the adjustment. The cover has been removed in the pictures for illustration purposes.



While holding the 5mm brake lever adjustment bolt (A), loosen the hex bolt (B) located on the back side of the tensioner frame with the 4 mm allen wrench.

Note: The hex bolt should only be loosened and must not be completely removed.

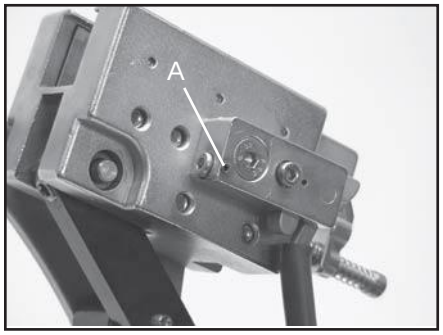


To tighten the braking mechanism, turn the set screw (A) counter clockwise by about 1/8 turn. Re-tighten the allen screw (B) on the back side of the tensioner frame and check for brake tightness. The tensioner should move freely along the track with the brake lever engaged and should hold tension with the brake lever released. If more adjustment is needed, repeat steps above until properly adjusted.

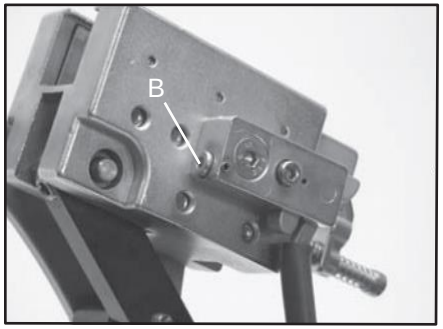
MAINTENANCE & ADJUSTMENTS

Tension Calibration Procedure

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 or after 60 lbs., the tension head should be calibrated as follows.



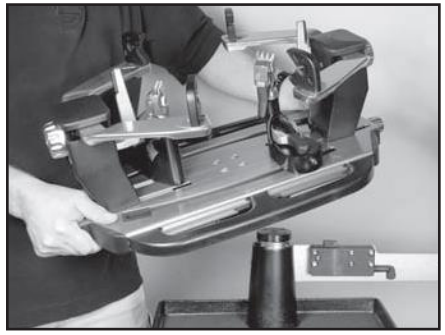
Loosen the 1.5 mm locking set screw (A) located on the side of the latching block as shown. The set screw is used to hold the adjustment screw in place.



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.

ASSEMBLY INSTRUCTIONS

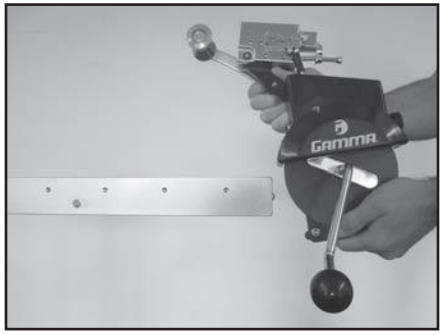


Turntable and Mounting System Installation

To install the turntable position the turntable over the turntable pin and align the bolts, located in the poly bag, with the holes in the flange. Secure them with the included hex wrench.

String Clamp Installation

The post of the string clamp 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.



Tensioner Installation

Remove the button head screw and washer located at the end of the tensioner bar with the 3mm 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.

ASSEMBLY INSTRUCTIONS

Height Adjustment

The turntable height can be adjusted to suit the stringer. To adjust, loosen the two set screws on the lower column support post below the bellows assembly. Adjust the amount of engagement between the upper and lower column supports until the desired height is attained. Make sure that the tension track is still aligned with the long leg of the base and tighten the two set screws to lock the upper support column into place.

MOUNTING THE FRAME

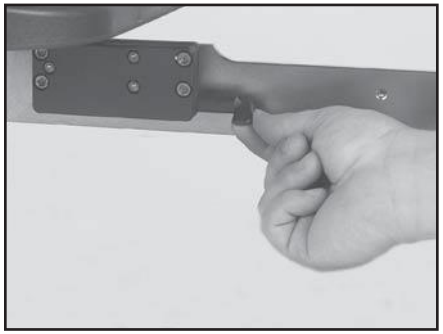
Mounting Stand Adjustment

To adjust the position of the frame support posts, use the latch located at the bottom of each post. Push the latch release and hold to adjust. A spring inside the mechanism will pull the post towards the middle of the turntable. When the post is in the desired position release the latch and the post will lock in place securely. Each post has three possible mounting positions intended for various racquet sizes. Find the position best for your frames and make fine adjustments using the frame supports.

Adjusting the Frame Support Slide

Use the smaller of the 2 knobs on the mounting stand to adjust the frame support. The slide is triple threaded for fast adjustments. When fastening the racquet in the supports, position the frame so it is centered over the supports. Tighten the frame support slide until it holds the racquet snug before tightening the frame shoulder supports.

ADDITIONAL FEATURES

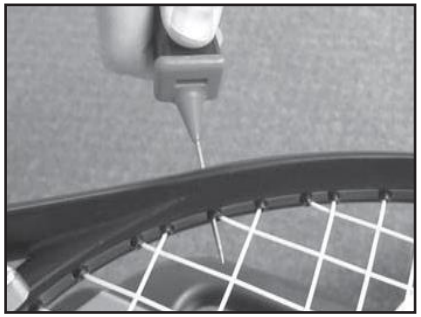


Locking the Turntable

The turntable may be locked in any position.

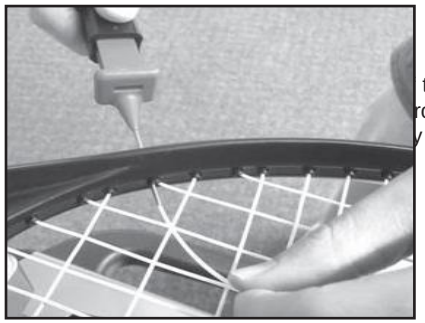
Rotate the lever down to lock the turntable and up to release the turntable.

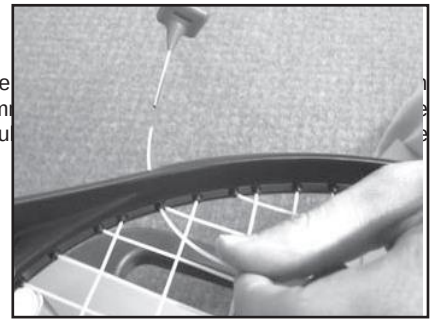
PATHFINDER AWL



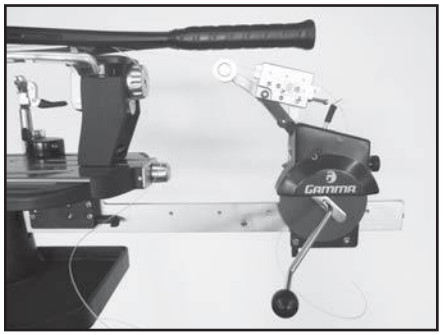
The machine includes the pathfinder stringing awl which creates a pathway between or around strings to make inserting a string through blocked grommets easier and quicker.

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





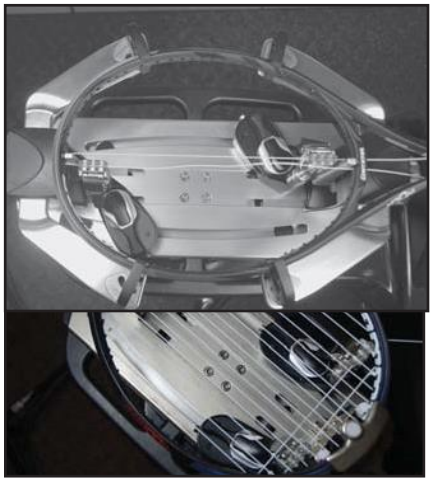
STRINGING THE FRAME



Pulling Tension

Wrap the loose section of string once around the roller 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.

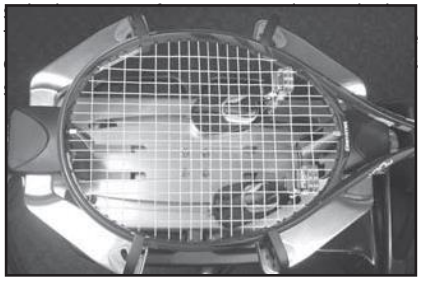
Repeat the above steps until all main strings are installed. Tie off ends of main strings as per racquet manufacturers recommendations.



Clamping the First Main String

Secure the tensioned main string using the remaining fixed clamp. Repeat the procedure for all of the remaining main strings and tie off following the racquet manufacturers recommendations.

Follow the manufacturers recommended



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. Remove the frame from the mounting system by loosening the shoulder supports and frame supports.

MOUNTING THE FRAME

Securing the Shoulder Supports

To secure the racquet frame with the shoulder supports, rotate the large adjustment knobs on the outside of the mounting stands clockwise to bring the mounting arms together. Adjust until firm contact is made between the shoulder supports and the frame. Re-adjust the stand position as needed to ensure that the frame supports are in firm contact with the racquet at 6 and 12 o'clock. Do not over tighten any of the supports as racquet deformation 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.

BADMINTON MOUNTING

Badminton Shoulder Support Protection Pad Installation

Slide the badminton shoulder support cover over the shoulder supports. There is no need to remove the tennis shoulder supports.

Note: An optional badminton frame support for the head of the racquet is available.

Clamp Base Operation

To lock the Clamp Base to the Turntable, rotate the Clamp Base locking lever clockwise until it locks into place. Note that to lock the clamp base lever, the string clamp must be lifted up to disengage the auto-release mechanism located at the base of the tube.

To release the Clamp Base from the Turntable, lower the string clamp into the tube to engage the release mechanism, or press the rocker lever on the top of the clamp base lever.

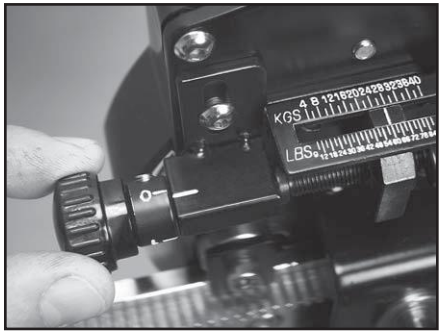
To adjust the Clamp Base refer to page 16.

String Clamp Operation

The String Clamps are a dual action design where the String Clamp and Clamp Base operate independently of one another.

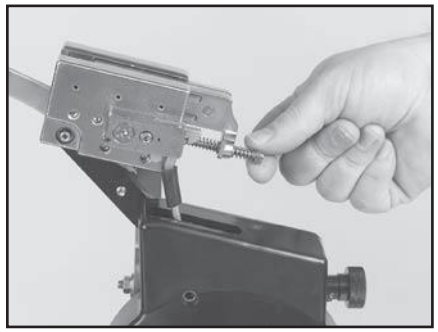
To clamp a string, lift the String Clamp and place the string between the jaws and depress the String Clamp Lever to secure the string. The clamping pressure applied to the string should be adjusted to provide sufficient pressure to secure the string when subjected to the desired pulling tension. The textured surface of the teeth provide for increased friction between the clamps and the string to allow for reduced clamping pressure while securing and holding the string under tension.

Note that excessive pressure can damage both the strings and String Clamp.



Setting Tension

The spring tensioner 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.



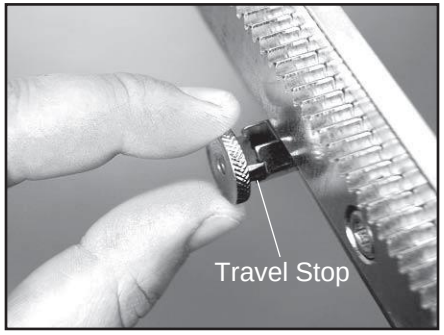
Setting the Gripper Jaw Spacing

The gripper jaws of the tensioner are adjustable to accommodate varying string gauges.

If the string slips through the gripper jaws while pulling tension, rotate the gripper jaw adjustment screw counter-clockwise.

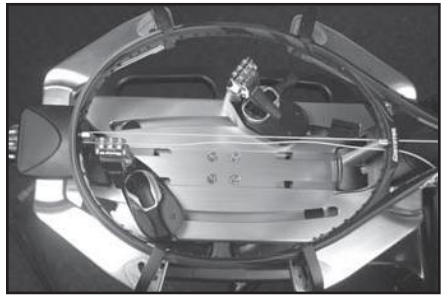
If the string is damaged while pulling tension, rotate the gripper jaw adjustment screw clockwise.

The jaws will be properly adjusted when there is enough pressure to securely grip the string without causing damage to the string.



Tensioner Travel Stop

To prevent contact between the tension head and the racquet and/or turntable, a travel stop 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, pull and turn the travel stop 90 degrees. To re-engage the travel stop, simply pull and turn the travel stop 90 degrees.



Getting Started

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.

Handy Tip: The tear drop shaped holes towards the back of the shoulder supports are handy for holding the loose end of the string while tensioning the string. Simply insert the loose end into the tear drop shaped holes and slide the string toward the point of the hole.