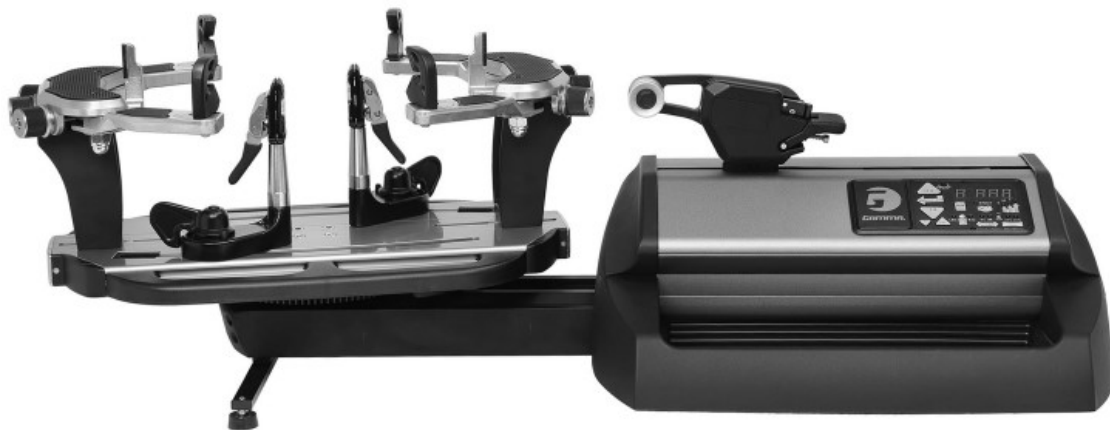


GAMMA®

X-STRINGER

XLT

ELECTRONIC STRINGING MACHINE



OWNER'S MANUAL

Issue 1 - September 2018

GAMMA[®]

X-STRINGER

XLT

OWNER'S MANUAL

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LIMITED WARRANTY

GAMMA Sports (GAMMA) warrants to the original purchaser that the XLT 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 all electrical parts and 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.

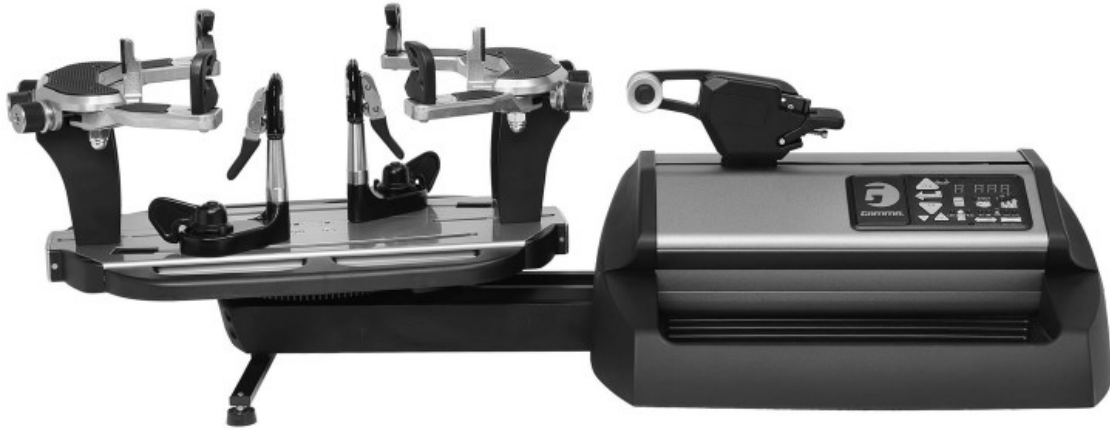
Routine maintenance, adjustment, and cleaning required to ensure proper operation are the responsibility of the purchaser and are not covered under the terms of this warranty. These include, but are not limited to: String Clamp adjustment, as described on page 16, Quick Action Clamp Base adjustment, as described on page 16 and the cleaning procedures listed on page 16.

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. 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. GAMMA will not be responsible for machines which are not sent in the original undamaged packaging.

A GAMMA Care Service Plan is also available through GAMMA customer service, call 800.333.0337 for details.

FEATURES



MACHINE FEATURES

- ❖ Electric Constant Pull Tensioner with 11.0 to 90.0 lbs Tension Range
- ❖ Digital Tension Setting with LED Display
- ❖ Parallel Jaw Linear Gripper with Textured Gripping Surfaces
- ❖ Professional Six Point “*Quick Mount*” Racquet Mounting System- Accommodates All Racquets
- ❖ Professional “*Quick Action*” Dual Action, Rotating String Clamp Bases
- ❖ 5 Tooth, Universal String Clamps with Textured Gripping Surfaces
- ❖ High Strength Extruded Aluminum Base with Durable Anodized Finish
- ❖ Large (Removable) Padded Tool Tray

ASSEMBLY INSTRUCTIONS



Leg Bracket with Foot Pads

There are four rubber foot pads supplied with the machine. Two have exposed threads and two have a spacer sleeve over the threads. Install the two rubber foot pads with the exposed threads into the outer holes on both ends of the leg bracket.



Mounting the Leg Bracket

Insert two hex head cap screws to the holes next to the rubber foot pad.



Mounting the Leg Bracket

Attached the leg bracket on the left side of the base by aligning the holes in the leg bracket with the threaded holes in the rails located on the underside of the machine base as shown. Tighten the hex head bolts.

NOTE: If desired, the Leg Bracket may also be installed on the right side of the base. If this position is desirable, the Tool Tray must be installed prior to installing the Leg Bracket.

ASSEMBLY INSTRUCTIONS



Rubber Foot Pad Installation

Insert the two rubber foot pads with the spacer sleeve into the into the threaded holes of the rails located on the underside of the baser on the right side as shown.

NOTE: If desired, the Rubber Foot Pads may also be installed on the left side of the machine base.



Installing the Tool Tray

Hold the tool tray on an angle and align the tabs on the tool tray with the slots in the machine base. Rotate the tool tray down and apply pressure until the tool tray “snaps” into place. Secure the tool tray with three bolts in the bottom of the machine base from underneath.

Reverse the steps above to remove the tool tray for ease of travel.

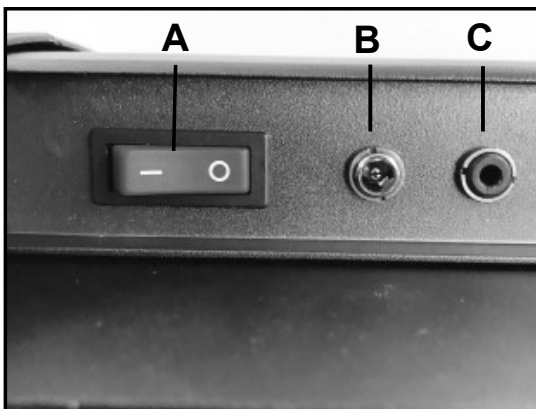
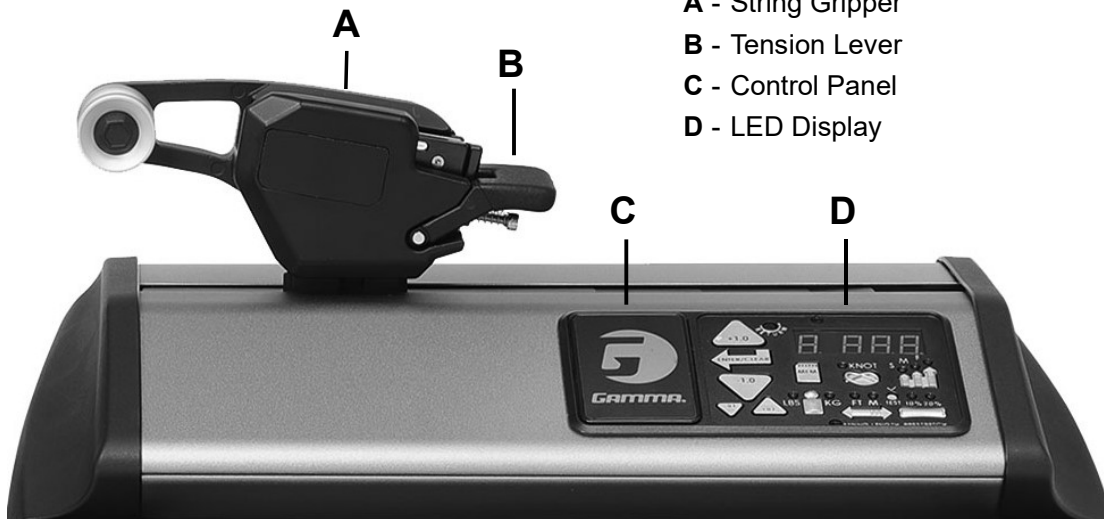
NOTE: If the Leg Bracket is installed on the right side of the base, the Tool Tray must be installed prior to installing the Leg Bracket.



POWER CONNECTION & CONTROLS

Front Panel Features

- A - String Gripper
- B - Tension Lever
- C - Control Panel
- D - LED Display



Back Panel Features

- A - Power On/Off Switch
- B - A/C Power Cord Socket
- C - Foot Pedal Switch Receptacle

Instructions for Power Connection and Controls

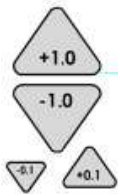
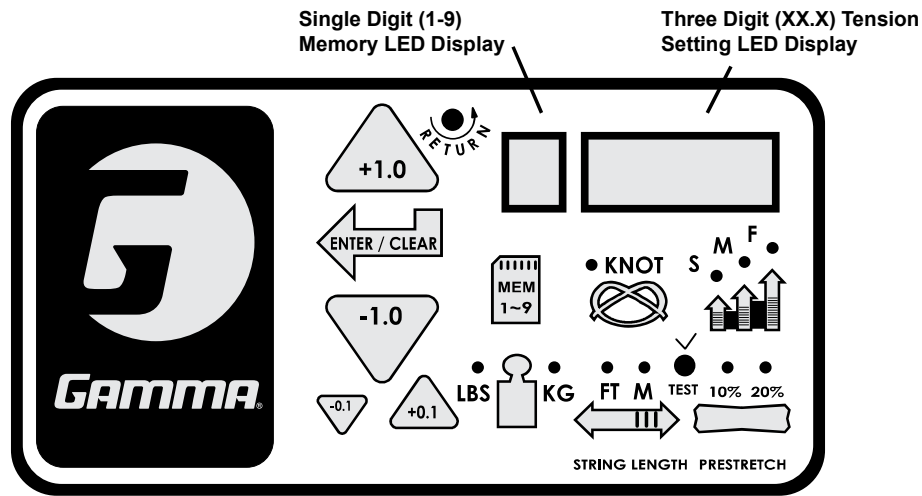
CAUTION ! Before connecting to the power supply, check the voltage source that the machine is being connected to. The acceptable range of input voltages for this machine is between 100 V and 240 V @ 50 to 60 Hz. If you have any questions regarding the input voltage supply for your area, please ask your electric utility company.

To install the power cord, insert the female end of the power cord into the AC Adapter and then insert the female end of the cord from the AC Adapter into the A/C Power Cord Socket "B" located on the back panel of the tensioner. Plug the male end of the power cord into a grounded power outlet. When using extension cords, use grounded heavy duty extension cords rated for 15 AMP service.

To connect the foot pedal switch, insert the male pin at the end of the foot pedal switch cord into the Foot Pedal Switch Receptacle "C" located on the back panel of the tensioner.

Switch on the machine by pressing the Lighted On-Off Power Switch on the back panel. At start-up, the LED will display a countdown from "9.0" to "0.0" while the machine performs a self diagnostics check at start-up.

CONTROL PANEL FUNCTIONS AND FEATURES



Tension Index Buttons - Changes tension setting in +/- 1.0 or +/- 0.1 Lb or Kg increments. Holding the button down will scroll the tension setting values up or down. Tension settings entered with the tension index buttons are placed into temporary memory setting "0".



Memory Button - Indexes from 9 preset tension settings that can be stored in memory. Settings are retained even if machine is turned off. Each press of the button indexes to the next memory setting. Memory settings 1-9 must be entered using the keypad followed by pressing the "ENT" button.



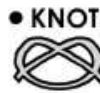
Clear Button - Clears display to enter a new tension or to reset String Length Meter measurement.



Enter Button - Saves displayed tension for Memory setting - when tension is entered using the keypad display flashes until this button is pressed to save the setting. Also Clears display for String Length Meter measurements.



Test Button & Racquet Strung - Press once for approximate number of racquets strung. Press again to return. Press and hold for 5 seconds and the machine does an internal diagnostic check, such as the one performed at start-up.



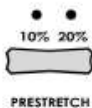
Knot Function - Increases pulling tension by 10% over the setting value (max 90 lbs / 40.8 kgs) for one pull. During the pull the LED stays lit to indicate the Knot function is enabled.



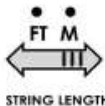
Lbs/Kgs Button - Changes tension display from Lbs to Kgs. Each press of the button toggles back and forth between Lbs and Kgs.



Speed Button - Changes pulling speed of winder from Fast (default) to Medium to Slow. Slow speed is recommended for low stretch strings, such as Kevlar. Each press of the button toggles between Fast, Medium and Slow speeds.



Pre-Stretch Function - Pulls string 10% or 20% over the tension setting (up to 90 lbs / 40.8 kgs), releases the string, and repulls to the tension setting. Each press of the button toggles between 10%, 20% or no pre-stretch.



String Length Meter Button - feature is currently not available.

**WARNING! FOR INDOOR USE ONLY.
NEVER OPEN UNIT WITH POWER CONNECTED.
CHILDREN SHOULD NEVER BE PERMITTED TO OPERATE THIS
MACHINE WITHOUT ADULT SUPERVISION.**

STRING CLAMP INSTALLATION



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.

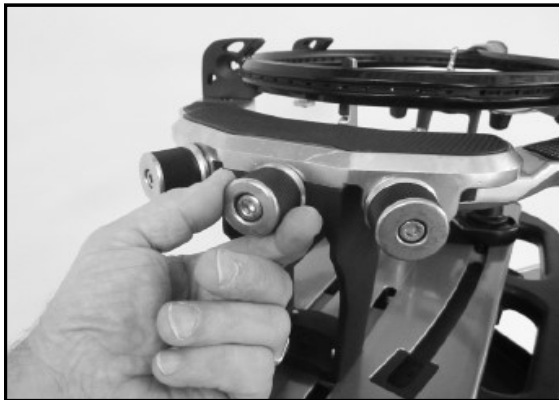
MOUNTING THE FRAME



Adjusting the Frame Support Posts

Loosen the lock bolts of the frame support posts and space them apart with the frame support slides separated by the approximate length of the racquet head. Although it is not required, it is good practice to center the support posts on the turntable. Lock one of the posts in position by tightening the lock bolt and position the other post until the frame support slide is positioned near the inside surface of the racquet frame. Securely tighten the lock bolt of the second support post.

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



Tightening the Frame Supports

Tighten the Frame Support Slides by turning the adjustment knob clockwise until snug against the racquet frame and slight resistance is felt.

Caution: Overtightening the Center Supports will stretch the head of the racquet and could cause racquet damage.



Frame Shoulder Support Adjustment

Simultaneously rotate the shoulder support adjustment knobs clockwise until both shoulder supports gently and squarely contact the frame. Rotate the shoulder supports as needed so the pads make flush contact with the racquet frame.

Repeat this procedure for the remaining support posts.

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.

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

STRINGING THE FRAME



Clamp Base Operation

To lock the string clamp base to the turntable, rotate the clamp base locking lever clockwise. To release the string clamp base from the turntable, rotate the clamp base locking lever counter-clockwise.

The Locking Lever should be tightened enough to prevent clamp base slippage on the turntable, when the desired tension is placed on the string.



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 to 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 gripping surfaces on the teeth of the string clamps 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.



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.

STRINGING THE FRAME

Applying Tension

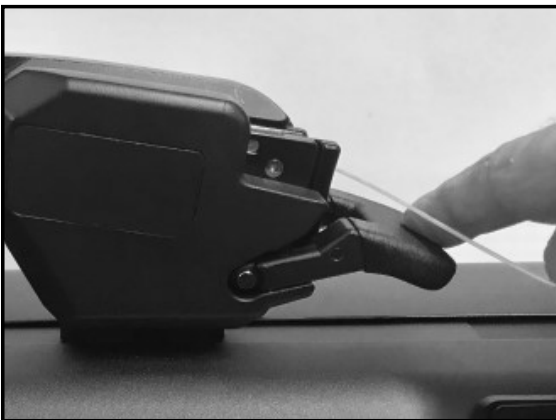
Before applying tension, gently pull the string until all slack is removed.

To apply tension, wrap the string clockwise around the String Guide and position the string between the two gripper jaws.



CAUTION: NEVER TENSION A STRING WITH YOUR FINGERS BETWEEN THE STRING AND THE STRING GUIDE AS SERIOUS INJURY COULD RESULT IF YOUR FINGER IS CAUGHT BETWEEN THE STRING AND STRING GUIDE WHEN TENSION IS APPLIED TO THE STRING.

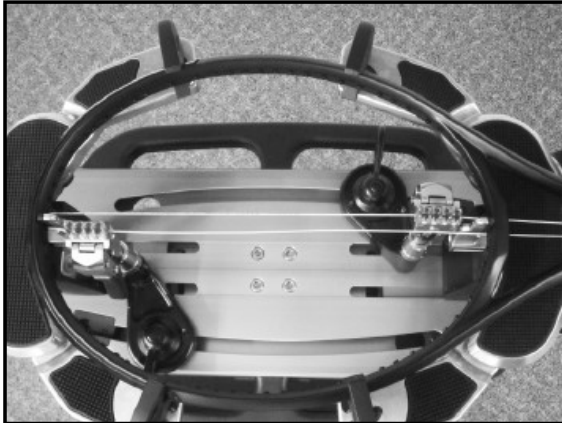
IN CASE OF EMERGENCY, PRESSING ANY BUTTON ON THE CONTROL PANEL WILL RELEASE THE TENSION ON THE STRING.



To tension a string, push the tension switch or the foot pedal. The string gripper will rotate and slowly apply tension to the string. When the set tension has been attained, the gripper will stop and the display will flash. As the tensioned string stretches, the gripper may apply tension intermittently, maintaining the set tension.

To release the string after clamping, push the tension switch or foot pedal. If the string gripper does not release the string, depress and hold the return button to release the string.

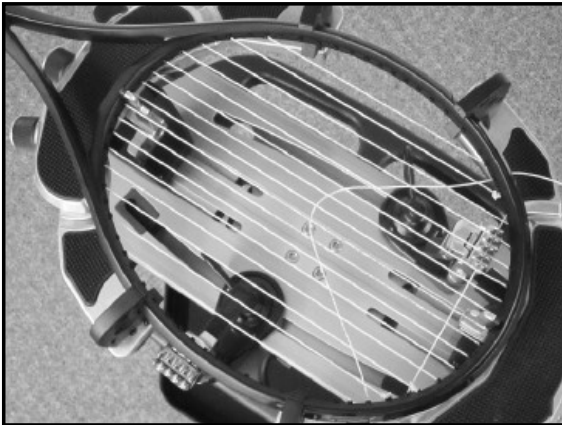
STRINGING THE FRAME



Clamping the First Main String

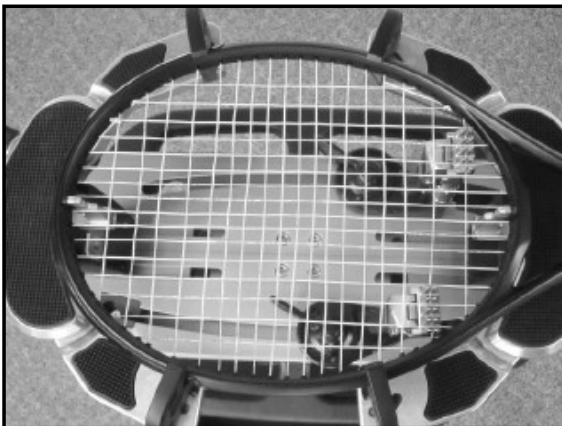
Secure the tensioned main string using the remaining fixed clamp. Repeat the procedure for all of the remaining main strings and tie off following the racquet manufacturer's recommendations.

Follow the manufacturer's recommended stringing pattern for one or two piece stringing. This will determine the starting point for the cross strings. If applicable, tie the first cross string using an appropriate starting knot.



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.



Completing the String Job

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.

ADDITIONAL FEATURES



Turntable Brake

The turntable may be locked in any position.

To engage the turntable brake, rotate the brake lever clockwise.

To release the brake, rotate the brake lever counter clockwise.

Turntable Brake Lever - Released Position



Turntable Brake Lever - Engaged Position



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.

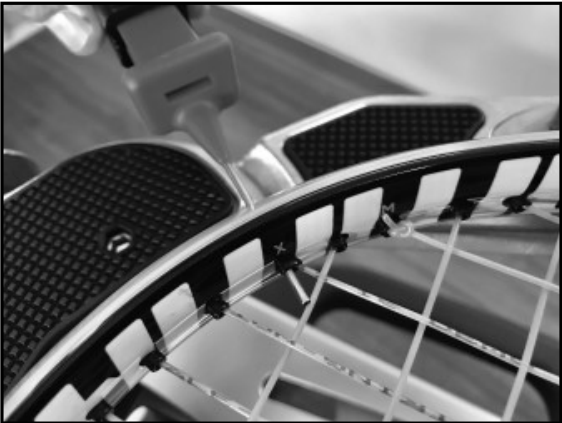
Note: An optional badminton frame support for the head of the racquet is available.

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.

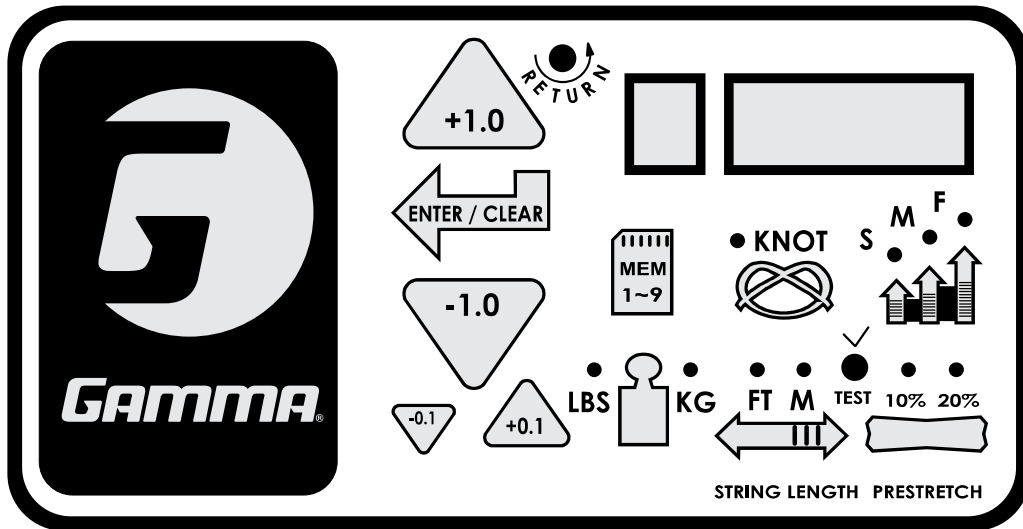


Once the awl is inserted, pull the handle of the awl outward while holding the tip section in place. This leaves the outer sheath in the grommet hole. Insert the end of the string into the outer sheath.



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

MAINTENANCE & ADJUSTMENTS



Tension Calibration Procedure

Each stringing machine has been checked and calibrated at the factory using accurate load sensing devices to ensure that the machine pulls at the correct tension. However, if you suspect that your machine may not be pulling at the correct tension you can check the pulling tension with a calibrator and make adjustments if needed.

Most tension calibrators (such as a Gamma Tension Calibrator) function by clamping off the string attached to one the end of the calibrator and applying tension to the string located on the opposite end of the calibrator. The tension measured by the calibrator will then display the tension being applied to the calibrator by the machine. If the calibrator and tensioner do not match then you can adjust the tensioner as follows:

(1) Turn the machine off and restart the machine while holding down the Test button until the count down is complete. 22 lbs should appear on the display. (2) Apply tension to the calibrator. (3) If the tension reading on the calibrator does not match the tension displayed on the machine, use the tension indexing buttons to match the display to the calibrator reading and press the Enter/Clear button (4) Release the tension applied to the calibrator and 44 lbs should appear on the display. (5) Repeat steps #2-#4 for 44, 66 & 88lbs. (6) After completing the adjustment at 88lbs the display will show 00 lbs. (7) Restart the machine without holding any buttons and the calibration adjustment will be complete.

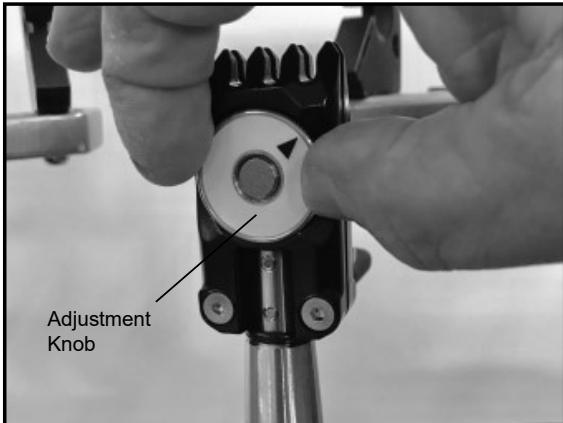
Switching the Buzzer Off and On

The stringing machine is equipped with a buzzer that sounds when any key or button is pressed or when there is a problem with some function of the machine. The buzzer can be disabled if desired for normal keypad entries.

To disable the buzzer, turn the machine on and while the display is counting down from 9 to 0, press and hold the Enter/Clear button for at least 5 seconds. The buzzer will be disabled and will remain disabled. It can be enabled again by following the same steps listed above.

Note: Even when disabled, the buzzer will sound if the tensioner has a problem and the machine requires attention. This is meant to alert the user of a problem, and can not be disabled.

MAINTENANCE & ADJUSTMENTS



Adjusting the String Clamp Jaw Spacing

The string clamps will need minor adjustments according to what string type, construction, and gauge you are using.

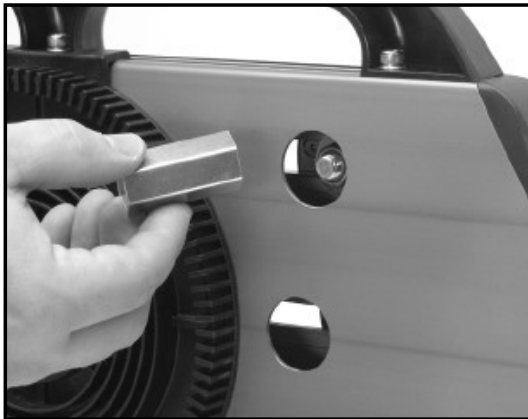
To adjust the gap (clamping pressure) between the clamp jaws, insert the string through the racquet as if you were beginning the main strings. Clamp the strings and pull tension. If the string slips through the jaws of the clamp, tighten the clamp by squeezing the clamp jaws together by hand while turning the Adjustment Knob, in the clockwise direction.

If the clamp leaves impressions or damages

the string, it may be excessively tight and should be adjusted by turning the Adjustment Knob counter clockwise to open 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 string coating residue to grip properly. Knife sharpening stones are excellent for removing build-up on the diamond coated surfaces and are available.



Clamp Base Locking Nut Adjustment

In the event the Locking Lever rotation is insufficient to ensure smooth operation of the clamp base, very minor adjustments to the Clamp Base Locking Nut can be made with the supplied 17mm socket. Tighten or loosen the locking nut in very small increments to provide more clamping pressure or running clearance as needed.



Quick Action Clamp Base Removal

Quick Action clamp bases can be removed from the turntable for maintenance or cleaning by removing clamp stop located at the end of the slot in the turntable. To remove the clamp stop, remove the two screws holding the clamp stop in place from the underside of the turntable. Lift the clamp stop out of the slot, slide the clamp base to the end of the slot and lift it out. Replace the clamp base and clamp stop in reverse order.

TROUBLESHOOTING TIPS

<u>PROBLEM</u>	<u>SOLUTION</u>
String slips in clamps	<ul style="list-style-type: none">- Adjust gap between clamp jaws- Clean clamp jaws
String slips in gripper	<ul style="list-style-type: none">- Clean gripper jaws- Make sure string is wrapped over top gripper prior to inserting between gripper jaws
String clamp base slips on turntable	<ul style="list-style-type: none">- Clean bottom of clamp & top of turntable with alcohol- Adjust clamp base locking nut
Electrical system does not function	<ul style="list-style-type: none">- Check power source- Check power cord connections
String tension too tight or too loose	<ul style="list-style-type: none">- 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.

PARTS LIST

PART #	DESCRIPTION	PART #	DESCRIPTION
6A	CAP SCREW- M8x30	E76	KEY PAD / ELECTRONICS
9	WASHER- M8	MFASC10	TENNIS STRING CLAMP
194	TT CLUTCH PAD	MQAC12	QA CLAMP BASE TALL TT7/TT8
203	TT BOLTS*		
270	SUPP POST MOUNT PLATE		
283	TT END CAP - CENTER		
285	TT END CAP- RIGHT		
286	TT END CAP- LEFT		
289	TT HANDLES		
301	RUBBER FOOT		
320	BRAKE RING		
327	TT PIN		
360	TURNTABLE TT7		
363	A220 MNTG STAND		
364	A220 MNTG ARM (R)		
365	A220 MNTG ARM (L)		
366	A220 TOP PLATE		
367	A220 TOP PLATE/ARM PADS	MFSP13	FRAME SUPP PAD SET BLK 6 FRAME PADS 2 BAD SLIDE ON "H" PADS
368	A220 ADJ KNOB & SCREW		
369	A220 FRAME SLIDE KNOB	MMSPP13	V-MNT SHLDR SUPP PADS
370	ADJ KNOB RUBBER GRIP	MBMSP11	BADM V-MNT COVER
371	A220 SHLDR V-MNT (BLK)	MPSA	PATHFINDER AWL*
372	A220 FRAME SUPPORT		
375	DC LINEAR GRIPPER BLK		
406	TT CLUTCH BOLT		
407	TT CLUTCH SPRING		
430	XLT BASE		
431	XLT RUBBER FOOT SLEEVE	MMP11-16	FOOT PEDAL SWITCH*
432	XLT BASE LEG	MBFC	BADM FLOATING CLAMP*
433	XLT TOOL TRAY	MBFS-14	BADM HEAD FRAME SUPP*
434	XLT TOOL TRAY PAD	MGSMC	MACHINE COVER*
435	XLT TENSIONER	MPG	STARTING CLAMP*
436	XLT TENSIONER UPPER CAP (R)	MXLFS	FLOOR STAND*
437	XLT TENSIONER UPPER CAP (L)	MTC	TENSION CALIBRATOR*
438	XLT TENSIONER LOWER CAP (R)	SGSM	STRINGER'S MAT*
439	XLT TENSIONER LOWER CAP (L)	MBMSS11	BADM MNTG SYS UPGRADE*
440	XLT TT BRAKE BOX		

TOOLS & ACCESSORIES

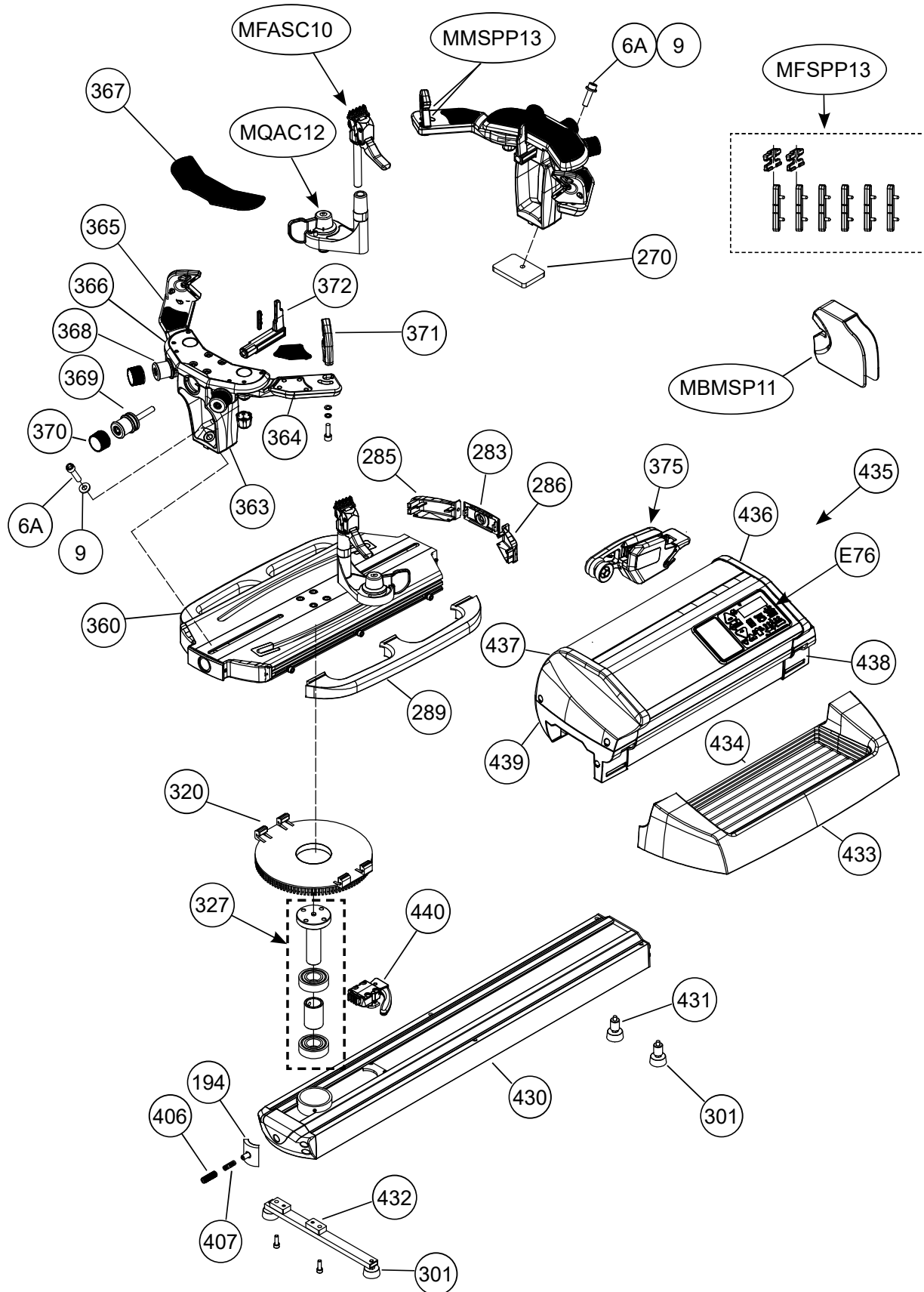
71	6MM T-HANDLE HEX WRENCH*
109	NEEDLE NOSE PLIERS*
110	BENT NOSE PLIERS*
167	HEX WRENCH SET*
171	DIAGONAL CUTTERS*
196	17MM SOCKET*
E16	A/C POWER CORD*
E23	AC ADAPTER*
MA	STRINGER'S AWL*

OPTIONAL TOOLS & ACCESS

MMP11-16	FOOT PEDAL SWITCH*
MBFC	BADM FLOATING CLAMP*
MBFS-14	BADM HEAD FRAME SUPP*
MGSMC	MACHINE COVER*
MPG	STARTING CLAMP*
MXLFS	FLOOR STAND*
MTC	TENSION CALIBRATOR*
SGSM	STRINGER'S MAT*
MBMSS11	BADM MNTG SYS UPGRADE*

* INDICATES ITEMS THAT ARE NOT SHOWN

PARTS DRAWING





MMAN69
(MGXLT-10)

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