



# PROGRESSION ES II+

## STRINGING MACHINE



### OWNER'S MANUAL

Issue 1 - March 18, 2001



# **GAMMA PROGRESSION**

## **ES II+**

### **OWNER'S MANUAL**

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#### **LIMITED WARRANTY**

GAMMA Sports (GAMMA) warrants to the original purchaser that the PROGRESSION 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 electrical parts and string clamps), 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 11, Quick Action Clamp Base adjustment, as described on page 11, and the cleaning procedures listed on page 13.

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.

## MACHINE FEATURES



**Electric Constant Pull Tensioner w/ 11lb. to 89lb. Tension Range**

**Digital Tension Setting Display**

**Professional Six Point "Quick Mount" Racquet Mounting System - Accomodates All Racquets Without Adapters**

**Parallel Jaw Rotating Gripper w/ Diamond Dust Coated Gripping Surfaces**

**Professional "Quick Action" , Diamond Dust Coated, Fixed String Clamps**

**Durable Polystyrene Base Cover w/ Convenient Padded Tool Tray**

**Strong, Light Weight, Powder Coated Molded Aluminum Construction**

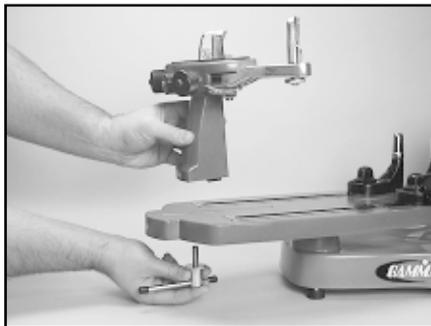
**Convenient Foot Actuated Tensioner Switch**

# ASSEMBLY INSTRUCTIONS



## ***Turntable Installation***

Insert the turntable center post into the bushing of the stringing machine base.



## ***Frame Support Post Installation***

The ESII+ 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 the rounded edge toward the turntable. Repeat procedure on the opposite side of the turntable.

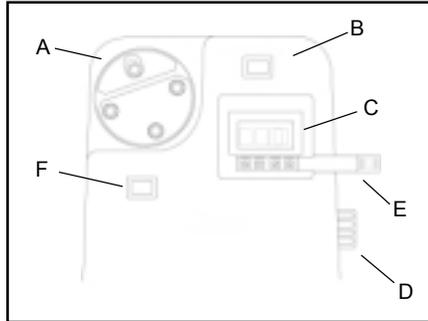
**NOTE:** 2 pcs. of M10 cap screws (#170) are provided with the machine in the event the lever lock bolts become inconvenient. Simply install the M10 screws in place of the lever lock bolts and tighten with the wrench provided.



## ***Clamp Head Installation***

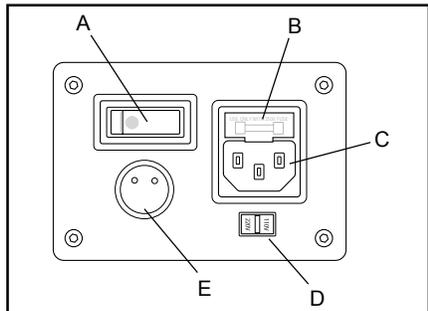
The post of the string clamp head and tube of the string clamp base are treated with grease to provide protection against corrosion during shipping. Remove any excessive grease with a clean cloth prior to use. The post and tube may also be cleaned with isopropyl alcohol. After this type of thorough cleaning,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

# POWER CONNECTION & CONTROLS



## Front Panel Features

- A - String Gripper
- B - Tension Switch
- C - L.E.D. Tension Display
- D - Tension Adjustment Knob
- E - Cover Plate
- F - Gripper Reversing Switch



## Rear Panel Features

- A - Lighted Power Switch  
To turn the power on, press the left side of the switch.
- B - 5 Amp Fuse Holder (w/ spare fuse)
- C - A/C Power Cord Socket
- D - 110V / 220V Select Switch
- E - 2 Pin Foot Pedal Switch Socket

## Instructions for Power Connection and Controls

**CAUTION !** Before connecting to the power supply, check the voltage supply switch (letter D) setting located on the rear panel. To change from 110 to 220 volt service simply slide the switch fully to the left or to the right until "110V" or "220V" appears on the switch plate.

The acceptable range of input voltages for the "110 V" setting is between 110 V and 120 V @ 60 Hz and for the "220 V" setting, between 220 V and 240 V @ 50 to 60 Hz. If you have any question regarding the input voltage supply for your area, please ask your electric utility company. When using extension cords, use grounded heavy duty extension cords rated for 15 AMP service.

To install the power cord, insert the female end of the power cord into the Power Cord Socket located on the rear panel (letter C). To connect the foot pedal switch, insert the 2 pin male connector located at the end of the foot pedal switch cord into the two pin receptacle located on the back panel. Tighten the connector with the sleeve nut located on the foot pedal switch connector.

After checking to be certain that the machine is set for the correct input voltage, switch on the machine by pressing the Lighted On-Off Power Switch on the rear panel.

**WARNING! FOR INDOOR USE ONLY. TO BE USED BY ADULTS OR UNDER ADULT SUPERVISION ONLY. NEVER OPEN UNIT WITH POWER CONNECTED**

## POWER CONNECTION & CONTROLS



### ***Setting Tension***

The Progression ES II+ stringing machine utilizes a rotary adjusting knob along with a digital L.E.D. display to indicate the set tension. To set the tension, rotate the adjustment knob clockwise to decrease the displayed tension, counter-clockwise to increase the displayed tension, until the desired tension is displayed on the digital display. Aramid fiber and Metallic strings will generally string up tighter on the Progression ES II+ machine compared to synthetic or natural gut strings. Therefore, when stringing with Aramid (Kevlar, Technora)

hybrid strings or metallic strings, we recommend setting tension 4-5 lbs. lower than you would normally use for synthetic or natural gut strings.

## 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.

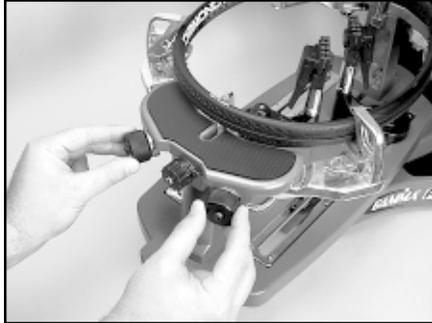


### ***Tightening the Center Supports***

Tighten the Center Supports by turning the adjustment knob clockwise until slight resistance is felt.

**Caution:** Overtightening the Center Supports may cause racquet damage.

## MOUNTING THE FRAME



### ***Frame Shoulder Support Adjustment***

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.



### ***Securing the Frame Shoulder Clamps***

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

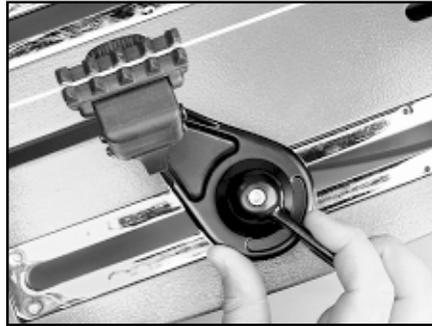


## Clamp Head Operation

“Quick Action” Clamps are of a dual action design where as the clamp head and clamp base operate independently of one another.

To clamp a string, lift the clamp head and place the string between the jaws and 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.



## Clamp Base Operation

Rotate the Base Locking Lever clockwise to secure the clamp base to the turntable.

Reverse the clamping procedure to unlock the string clamp. The Locking Lever is spring loaded to assist the unlocking of the clamp base.

The Locking Lever 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 the rotation permitted by

the slot in the clamp base. If the rotation is not sufficient to allow smooth operation of, adjust the Clamp Base Locking Nut as outlined below.

**Note:** If the string slips in the string clamp while tensioning, adjust the gap between the clamp jaws as per the following instructions.

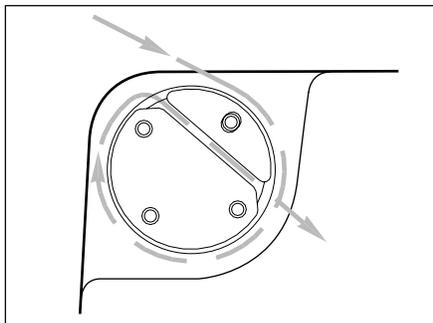
## STRINGING THE FRAME



### ***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***

To pull tension, wrap the free string clockwise around the gripper drum and position the string between the gripper jaws.

The string must pass over the top half of the gripper before being placed between the gripper jaws, as the tension on the string provides the clamping force to the gripper jaws.

Gently pull the string until all slack is removed.

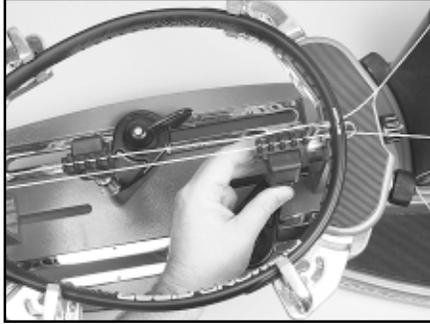
**WARNING: KEEP FINGERS AWAY FROM GRIPPER DRUM WHILE TENSIONING STRING. PUSH GRIPPER REVERSING SWITCH IN CASE OF EMERGENCY.**



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 rotating. As the tensioned string stretches, the gripper may rotate 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 Gripper Reversing Switch once 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 manufacturers 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.



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

## PATHFINDER AWL



The Progression ESII+ includes the Pathfinder stringing awl which creates a pathway between or around strings to make inserting a string through tight 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.

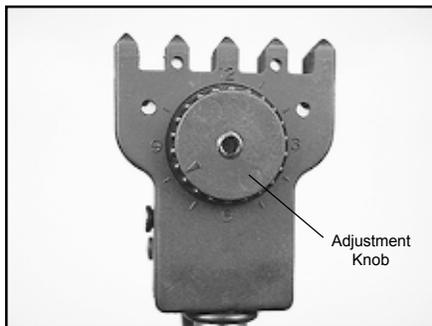


Once the awl is inserted, pull the handle of the awl outward while holding the tip section in place, leaving the outer sheath in the grommet hole. Insert the end of the string into the center of the sheath.



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

## MAINTENANCE and ADJUSTMENTS



### Adjusting the Clamp Jaws

The "Quick Action" 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 compressing the clamp jaws together by hand while turning the Adjustment Knob, in the clockwise direction. If the clamp leaves impres-

sions or damages the string, it may be excessively tight and should be adjusted by turning the hex screw counter clockwise to open the gap between the jaws. The clamp jaws should be cleaned periodically to be free from dirt, oil, and any string coating for them to grip properly.

**Note:** The string clamps supplied with your stringing machine can accommodate tight string patterns such as badminton. Depending on the string pattern, the clamp may spread the strings slightly which will not compromise the quality of the string job.



### 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 wrench. Tighten or loosen the locking nut in very small increments to provide more clamping pressure or running clearance as needed.

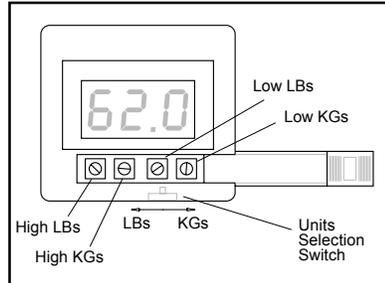


### Turntable Bushing Adjustment

The Progression ESII+ is adjusted at the factory for optimum performance. After time and use, the turntable bushings may need minor adjustment. An adjustment is indicated when noticeable turntable looseness or wobble occurs while stringing.

To adjust the fit between the turntable pin and the bushings, tighten the set screw at the top of the bushing using a 3mm hex wrench. Tighten until the turntable rotates smoothly without excessive free play.

# MAINTENANCE and ADJUSTMENTS



## Tension Calibration Procedure

If you suspect that your Progression ESII+ is not pulling the correct tension, you should check the tension with a Tension Calibrator which provides a measurement of the actual pulling tension being applied by the machine.

With the machine set for the fast pulling speed, and the tension set at 20 lbs., place one end of a calibrator equipped with synthetic string into a string clamp. Place the opposite end into the string gripper and apply tension. If the measured tension is inaccurate, remove the rectangular

cover from the L.E.D. display cover plate cover. Rotate screw ("Low LBs") in small increments until the displayed tension matches the tension indicated on the calibrator. Set the machine tension to 60 lbs. and apply tension to the calibrator. If the measured tension is inaccurate, rotate screw ("High LBs") in small increments until the displayed tension matches the tension indicated on the calibrator. Since adjustment of the "Low LBs" screw at 20 lbs can influence the tension at 60 lbs and visa versa, repeat these steps until the set tension matches the tension reading of the calibrator at both 20 and 60 lbs. Replace the rectangular cover in the L.E.D. display cover plate.

Please note that there will be a range of tension from the maximum tension at which the tensioner stops pulling (high end of the range), to the minimum tension at which the tensioner starts pulling again (low end of the range). This difference between the high and low end of the range can vary from 2-4 lbs depending on the string used to calibrate the machine and the speed of the tensioner. For consistency, we recommend that the tension setting of the machine be calibrated as close as possible to the high end of the range, using the fast pulling speed and a synthetic string, which is the method used at the factory. Using this method will be the most consistent and will also insure that the racquet will not be over tensioned.

## TROUBLESHOOTING TIPS

| <b><u>PROBLEM</u></b>                  | <b><u>SOLUTION</u></b>   |
|--|--|
| 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>- Make sure string is wrapped over top jaw of gripper prior to inserting between gripper jaws.</li></ul>   |
| String clamp base slips on turntable.  | <ul style="list-style-type: none"><li>- Adjust Clamp Base Locking Nut.</li></ul>   |
| Electrical system does not function.   | <ul style="list-style-type: none"><li>- Check power source.</li><li>- Check power cord connection.</li><li>- Check stringing machine fuse.</li><li>- Check for proper voltage setting (110/220) of machine.</li><li>- Call customer service.</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>   |

## FUSE REPLACEMENT

To change the fuse, remove the power cord and pull the fuse holder straight out. Remove the old fuse from the holder and replace it with the supplied spare. Replace the fuse holder into the machine and check for proper operation.

## 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**

Follow the same procedure for cleaning the string clamps.



# EXPLODED PARTS VIEW

