GAMMA
PROGRESSION
600 / 600FC

OWNER'S MANUAL

Issue 2 / Version E - Dec. 10, 1997

GAMMA PROGRESSION 600 / 600FC

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LIMITED WARRANTY

GAMMA SPORTS ("GAMMA") warrants to the original purchaser that the GAMMA 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.

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

FEATURES

Drop Weight Tensioner w/ 8lb. to 90lb. range and Permanently Engraved Weight Scale

Professional Six Point Mounting System w/ L-Shaped Frame Shoulder Clamps - Accomodates All Racquets Without Adapters

Patented Parallel Jaw Rotating Ratchet Gripper w/ Diamond Dust Coated Gripping Surfaces - U.S. Patent #4,491,322

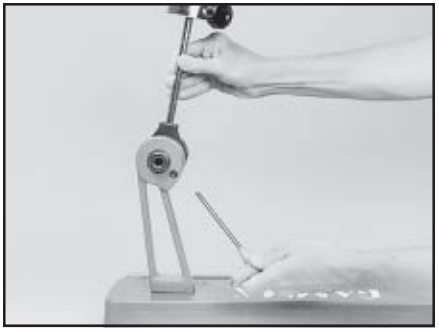
Two Composite Floating Clamps w/ Thumb Screw Adjustment

Durable Polystyrene Base Cover w/ Convenient Padded Tool Tray

Strong, Light Weight, Powder Coated Molded Aluminum Construction

Upgradeable to Progression 600FC w/ Professional Dual Action Fixed String Clamps

ASSEMBLYINSTRUCTIONS



Engaging the Drop Weight Bar Stop

The stringing machine is shipped with the drop weight bar in the horizontal position. To prevent racquet damage during stringing, the bar stop must be engaged.

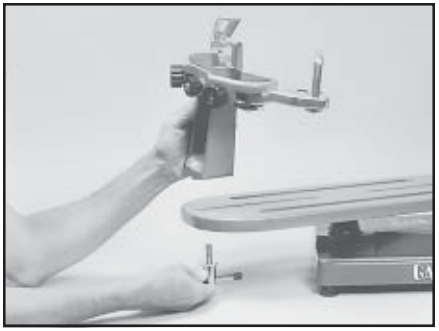
Remove the machine base from the shipping carton being careful to avoid lifting by the plastic cover.

Hold the drop weight bar in the vertical position as shown while turning the stop screw clockwise with the supplied 5mm hex wrench.

Installing the Turntable

The turntable is located under the foam packing in the bottom of the shipping carton.

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



Installing the Frame Support Posts

The GAMMA 600 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 side toward the turntable.

Repeat procedure on the opposite side of the turntable

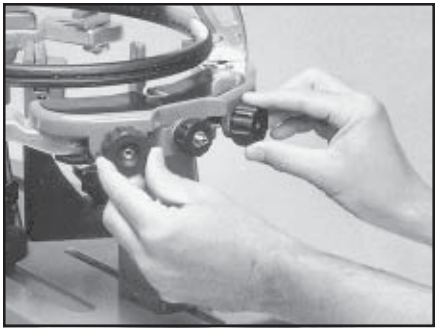
MOUNTING THE FRAME

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.

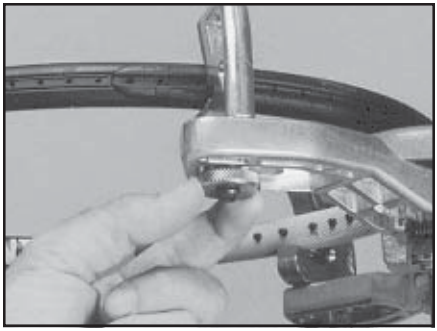
Caution: To avoid racquet damage, the center posts should not contact the racquet prior to fixing the support posts.



Adjusting the Frame Shoulder Supports

Being sure the shoulder supports are free to swivel in thier 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.

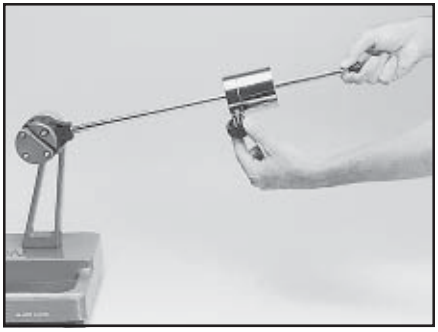
Repeat the adjustment procedure for the remaining support post.

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.

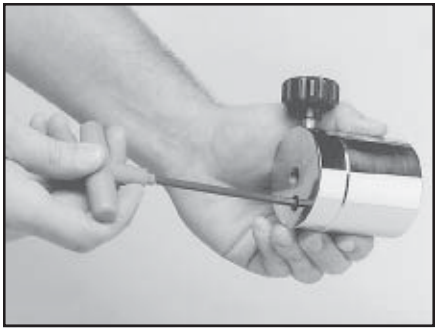
The supports should be tightened to the point where the racquet frame will not move in the mounting system when the handle is grasped and attempts are made to move it. Should any supports lose contact with the frame while stringing, they should be re-tightened.

STRINGING THE FRAME



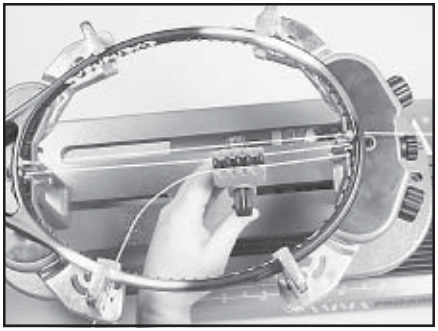
Setting Tension

To set the stringing tension, loosen the locking knob on the side of the drop weight. Slide the weight in the appropriate direction until the face ***closest*** to the string gripper is indexed with the desired tension mark on the tension bar.



The drop weight is of a two piece design. When assembled, it will accomodate tensions from 20 lbs. to 90 lbs. For tensions from 8 to 20 lbs., remove the 5mm bolt on the face of the drop weight, and use the smaller portion of the weight as described above.

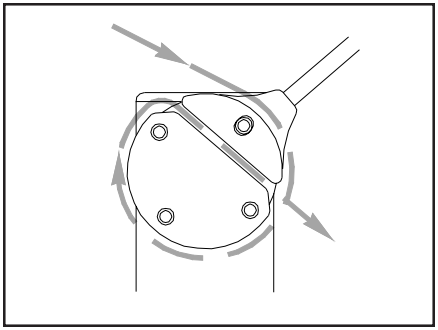
Note: Tensions above 77lbs. require removal of the drop weight bar endcap.



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. Using a floating clamp, secure the center and the adjacent string to each other on the inside of the frame.

STRINGING THE FRAME

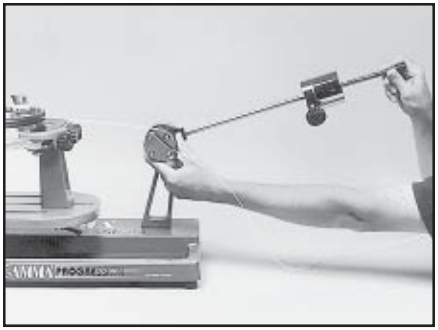


Gripping the String

While holding the tension bar slightly above horizontal, wrap the free string clockwise around the gripper drum once and position between the gripper jaw.

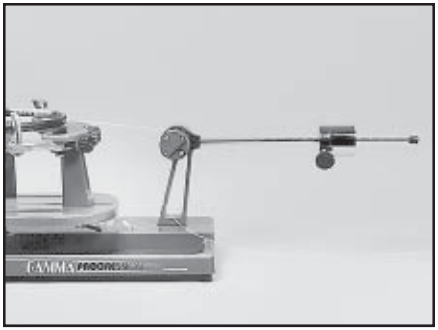
Gently turn the gripper clockwise while squeezing the jaws together until all slack in the string is removed.

Note: For proper operation, the string gripper jaw must be in the position shown. The tension in the string provides the clamping force to the jaws.



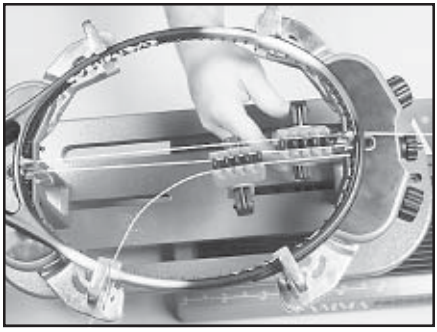
Pulling Tension

While securely holding the string gripper drum with your hand, lift the tension bar above horizontal and gently lower the bar under its own weight. If the tension bar drops below horizontal, repeat the above action until the bar comes to rest parallel to the racquet.



When the correct tension is attained, the drop weight bar will rest horizontally as shown. For accurate tensioning, it must be lowered and come to rest at horizontal without assistance. Manually forcing the tension bar to the horizontal position will greatly increase the string tension and may result in racquet damage.
If the tension bar comes to rest above horizontal, release the string by lifting the bar and re-pull the string.

STRINGING THE FRAME



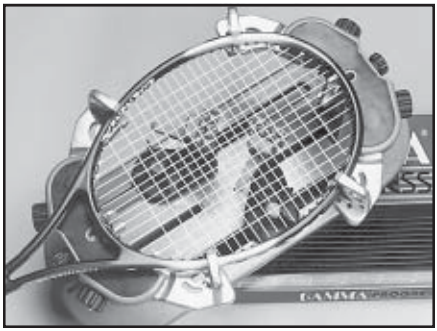
Clamping the String

Clamp the tensioned string to the next adjacent string using the second string clamp. Release the string from the gripper by raising the tension arm.

Repeat the procedure for all of the remaining main strings and tie off following the racquet manufacturers recommendations.

Starting the Cross Strings

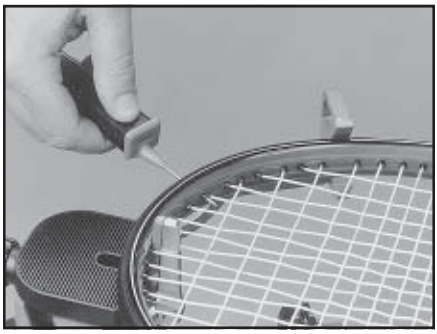
Follow the manufacturer's recommended stringing pattern for one or two piece stringing. This will determine the starting point for the cross strings. If applicable, tie the first cross string using an appropriate starting knot.



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

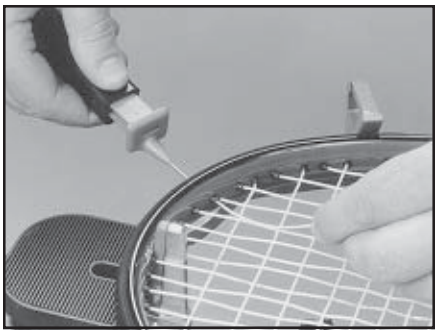
Once the final cross string is tensioned and clamped, tie off at the appropriate hole specified by the racquet manufacturer.

PATHFINDERAWL



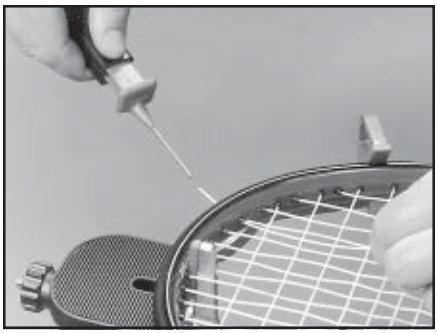
The Gamma 600 includes the new Pathfinder stringing awl which creates a pathway between or around strings to make inserting a string through tight gromets easier and quicker.

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.



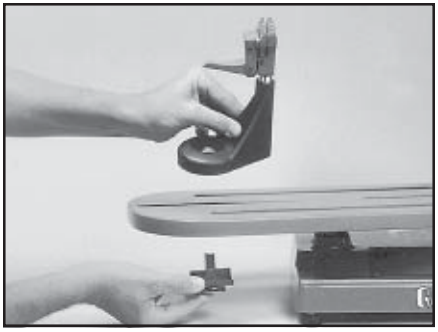
Once the awl is inserted, pull the handle of the awl outward while holding the tip section in place, leaving the outer sheath in the grommet hole.

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.

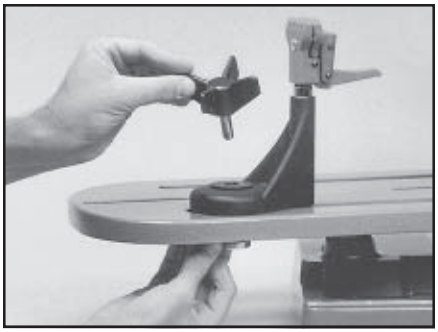
FIXEDCLAMPUPGRADE



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 radial 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 clamp guide bushing into the clamp from the bottom of the turntable making sure to engage the guide with the clamp slot.

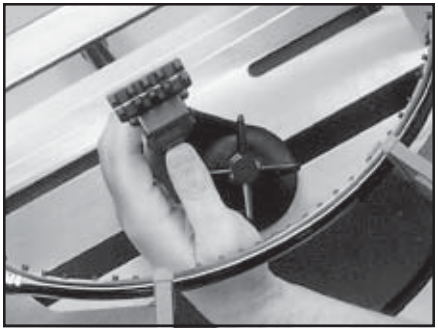


Fixed Clamp Installation - (cont.)

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.

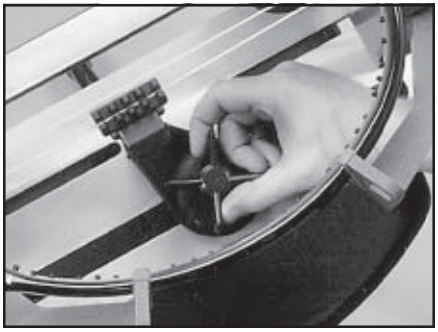
FIXEDCLAMPOPERATION



Fixed Clamp Operation

The fixed clamps for the GAMMA 600 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.



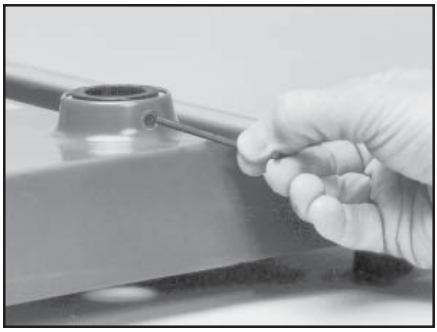
Rotate the winged lock knob clockwise to secure the clamp base to the turntable.

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.**

MAINTENANCE

Your GAMMA 600 stringing machine is adjusted for optimum performance at the factory and needs no further adjustments before use. After extensive use however, the machine may need minor adjusments as follows :

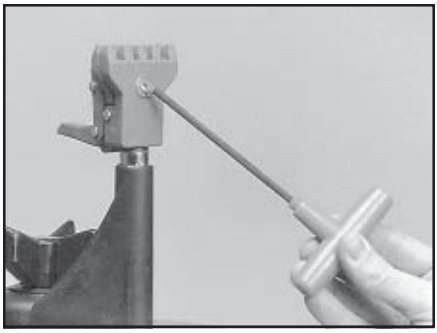


Adjusting the Turntable Bushings

There are two adjustment points on the machine base. One is located beneath the polystyrene base cover while the other is accessed from below the machine.

Using the supplied 3mm hex wrench, tighten both set screws slightly until the turntable rotates smoothly without excessive free play.

Repeat procedure until final adjustment is reached.



Adjusting the Clamps

The clamps provided with your stringing machine will need minor adjustments according to what string type, construction, and gauge you are using.

To adjust, route 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 thumb knob (floating clamp) or hex screw (fixed clamp) opposite of the handle, in the clockwise direction. If the clamp leaves impressions or damages the string, it is too tight and must be adjusted by turning the thumb knob or hex screw counterclockwise.

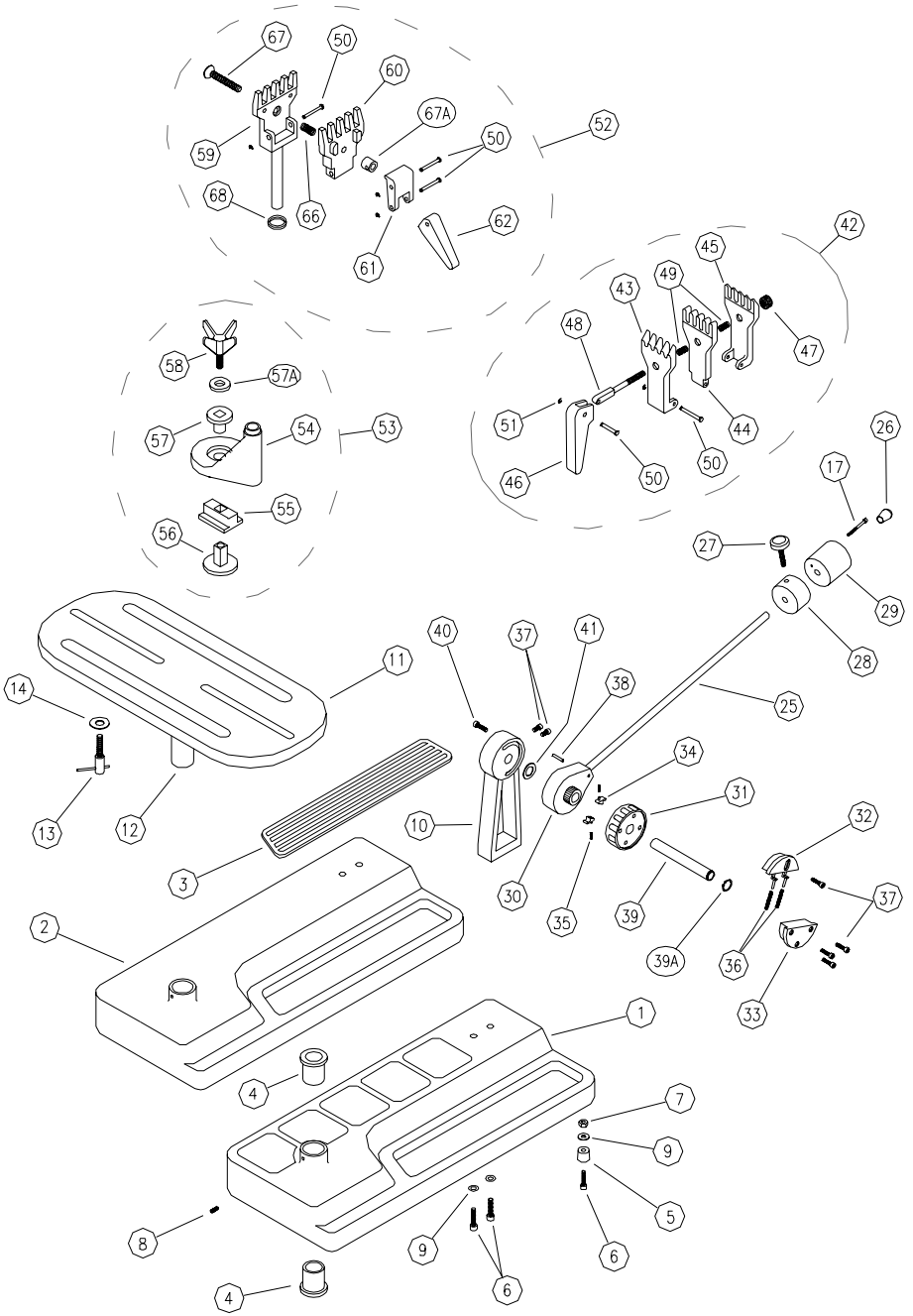
The clamp jaws must be clean and free from dirt, oil, and any string coating for them to grip properly. Clean the clamp jaws with alcohol.

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

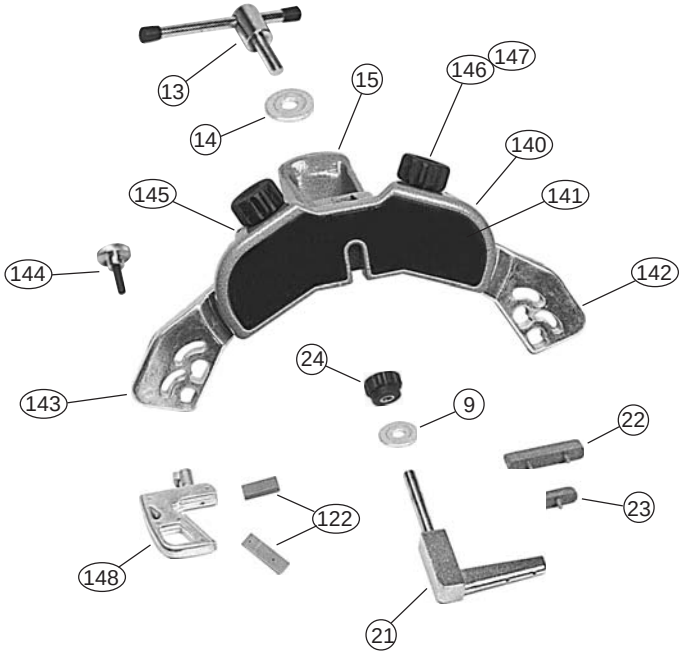
PARTSLIST

PART #	DESCRIPTION	PART #	DESCRIPTION
1	ALUMINUM BASE	40	CAP SCREW
2	BASE COVER	41	NYLON WASHER
3	TRAY PAD	42	FLOATING CLAMP ASSEMBLY
4	TURNTABLE BUSHING	43	LEVER JAW
5	RUBBER FEET	44	INNER JAW
6	CAP SCREW	45	KNOB JAW
7	FOOT NUT	46	LEVER
8	BUSHING SET SCREW	47	KNOB
9	WASHER	48	SWING BOLT
10	WINDER STAND	49	RETURN SPRING
11	TURNTABLE	50	PIVOT PIN
12	TURNTABLE PIN	51	RETAINING RING
13	POST LOCK LEVER	52	CLAMP HEAD ASSEMBLY
14	WASHER	53	CLAMP BASE ASSEMBLY
15	SUPPORT POST	54	CLAMP BASE
17	CAP SCREW	55	GUIDE BUSHING
21	FRAME SUPPORT SLIDE	56	GUIDE BUSHING NUT
22	BADMINTON ADAPTER	57	LOAD BUSHING
23	TENNIS ADAPTER	57A	RADIAL BEARING
24	KNOB	58	WINGED KNOB
25	TENSION BAR	59	FIXED JAW
26	TENSION BAR CAP	60	LOOSE JAW
27	DROP WEIGHT KNOB	61	PIVOT BLOCK
28	FRONT WEIGHT	62	LEVER
29	REAR WEIGHT	66	RETURN SPRING
30	TENSION BAR DRUM	67	HEX SCREW - FLAT HEAD
31	STRING GRIPPER DRUM	67A	PIVOT BLOCK NUT
32	UPPER GRIPPER JAW	68	O-RING
33	LOWER GRIPPER JAW		
34	RATCHET TEETH	69	HEX WRENCH / 3MM
35	RATCHET TEETH SPRING	70	HEX WRENCH / 4MM
36	GRIPPER JAW SPRING	71	HEX WRENCH / 5MM
37	CAP SCREW	72	HEX WRENCH / 6MM
38	TENSION BAR ROLL PIN	73	PATHFINDER AWL
39	GRIPPER PIVOT PIN	74	STRINGERS AWL
39A	SNAP RING		

EXPLODEDPARTSVIEW



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		