

# X-STRINGER X-6 STRINGING MACHINE



# **OWNER'S MANUAL**

Issue 4 - November 2012



# **X-6** MGX6-12 OWNER'S MANUAL

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#### LIMITED WARRANTY

GAMMA Sports (GAMMA) warrants to the original purchaser that the X-STRINGER 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 any electrical parts and string clamps), and for a period of one (1) year from the date of purchase for any 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 13, Turntable Bushing Adjustment, as described on page 13 and the Rotational String Gripper.

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**

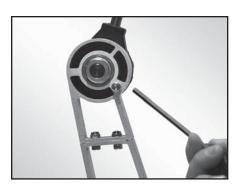
- Drop Weight Tensioner with 8 to 90 lbs Tension Range and Permanently Engraved Weight Scale
- Professional Six Point "Quick Mount" Racquet Mounting System- Accommodates All Racquets
- Parallel Jaw Rotating Ratchet Gripper with Diamond Dust Coated Gripping Surfaces
- Two Composite Floating Clamps with Thumb Screw Adjustment
- High Strength Extruded Aluminum Base with Durable Anodized Finish and Convenient Padded Tool Tray
- Unique Internal Drawer System for Storing Tools and Adaptors

# **ASSEMBLY INSTRUCTIONS**



#### Winder Support Stand Installation

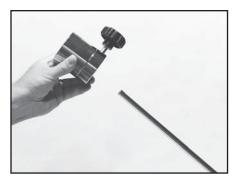
Remove the M5 bolts from the 2 brackets located in the rear slots of the machine base using the 5MM hex key. Slide the brackets to the right end of the base and position the winder stand over the brackets aligning the holes in the base of the winder stand with the holes in the brackets. Attach the winder support stand using the M5 bolts. Install all 4 bolts loosely at first and then tighten all securely.



#### **Engaging the Drop Weight Bar Stop**

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

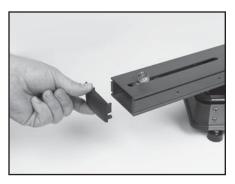
Hold the drop weight bar in the vertical position as shown while turning the 5mm stop screw located on the back side of the winder stand clockwise.



#### Installing the Drop Weight

Remove the end cap from the tension bar and slide the drop weight onto the bar. The weight should be oriented with the knob end closest to the string winder. Replace the end cap.

# **ASSEMBLY INSTRUCTIONS**

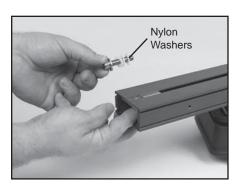


#### **Support Post Installation**

To install the support posts you must first remove the turntable end cap by grasping the sides of the end cap and removing it, to gain access to the inside of the turntable.

Repeat procedure on the opposite side of the turntable.

If end caps are tight, a flat blade screw driver may be used to pry the end caps off.

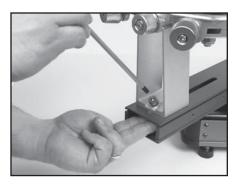


#### **Remove Mounting Bolts**

While holding the mounting plate on the inside of the turntable remove the support post mounting bolts.

**Note:** There are two Nylon washers that are included for shipping purposes only. Remove and discard the nylon washers.

Repeat procedure on the opposite side of the turntable

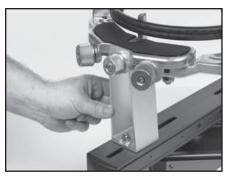


#### **Installing the Frame Support Posts**

Place the support post onto the central slot of the turntable. While holding the mounting plate against the inside top surface of the turntable with your fingers, align the hole in the support post with the hole in the mounting plate. Install the mounting bolt through the support post and into the plate by hand and tighten with the 6 mm hex wrench. Re-install the turntable end caps.

Repeat procedure on the opposite side of the turntable

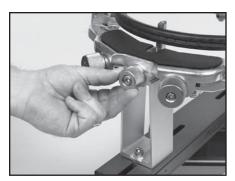
## MOUNTING THE FRAME



#### **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.

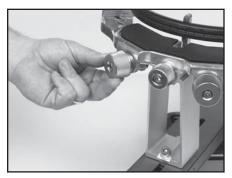
**Caution:** To avoid racquet damage, the center posts should not contact the racquet prior to locking down the support posts.



#### **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 Arm 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.

# MOUNTING THE FRAME



#### Frame Shoulder Support Adjustment

The shoulder supports are designed to rotate and can be adjusted to provide maximum support to the racquet frame. Rotate the support so that the pads contact the frame squarely when the arms are closed against the racquet.



#### Securing the Frame

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

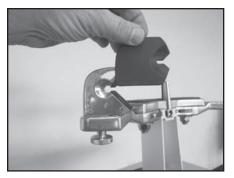
Repeat the adjustment procedure for the remaining support post.

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.



# 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.

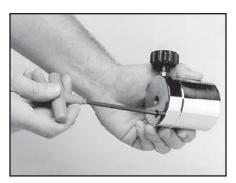
**Note:** An optional badminton frame support for the head of the racquet is available.

## STRINGING THE FRAME



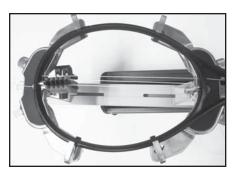
#### **Setting Tension**

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 accommodate tensions from 20 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.

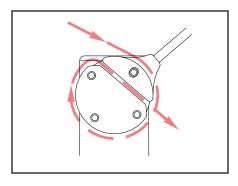
**Note:** Tensions above 77lbs require the removal of the drop weight bar end cap.



#### 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 the 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

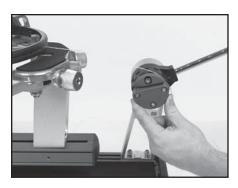


#### **Gripping the String**

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.

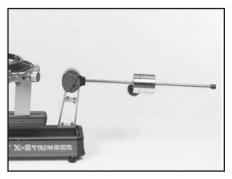
**Note:** For proper operation, the string gripper jaw must be in the position shown. The tension in the string provides the clamping force to the jaws.



#### **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.

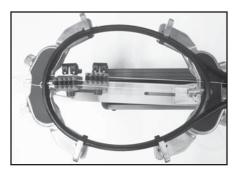
# WARNING: TO AVOID INJURY, KEEP FINGERS AWAY FROM GRIPPER JAWS WHILE TENSIONING STRING.



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.

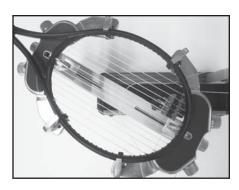
# STRINGING THE FRAME



#### 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.

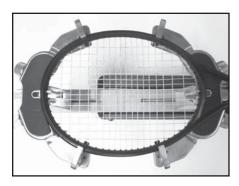
Repeat the procedure for all of the remaining main strings and tie off following the racquet manufacturers recommendations.



#### **Weaving 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.



#### **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**



#### **Storage Drawers**

There is one storage drawer located in the base of the machine. The drawer opens from the right side of the base and lock into the end cap with a spring loaded latch.

To open the drawer depress the latch in the face of the drawer and slide it to the right. To close the drawer simply slide the drawer back inside the base and the latch with automatically lock into place.

# PATHFINDER AWL

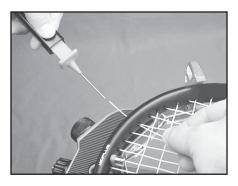


The machine includes the pathfinder stringing awl which creates a pathway between or around strings to make inserting a string through blocked grommets easier and quicker.

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.

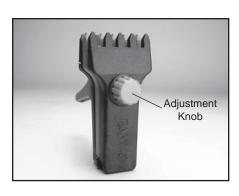
## **MAINTENANCE & ADJUSTMENTS**



#### **Turntable Bushing Adjustment**

The turntable bushing 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.



#### Adjusting the Clamps

The clamps provided with your stringing machine will need minor adjustments according to string type, construction, and gauge. 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 adjustment knob 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 adjustment knob 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 stringing machine can accommodate 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.

### TROUBLESHOOTING TIPS

#### **PROBLEM**

#### SOLUTION

String slips in clamps

- Adjust gap between clamp jaws

- Clean clamp iaws

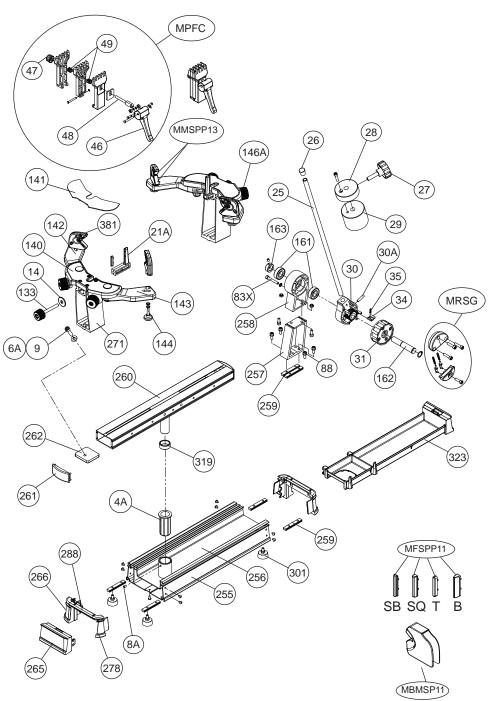
String slips in gripper

- Clean gripper jaws
- Make sure string is wrapped over top gripper prior to inserting between gripper jaws

# **PARTS LIST**

4A         TURNTABLE BUSHING         265         LEFT DRAWER END CAP           6A         CAP SCREW         266         BASE CORNER CAP           8A         SET SCREW- M5x6         271         SUPPORT POST           9         WASHER         278         BASE CORNER CAP           14         WASHER         288         BASE END CAP           21A         FRAME SUPPORT SLIDE         301         RUBBER FOOT           25         TENSION BAR         319         TT RISER RING           26         TENSION BAR CAP         323         SMALL DRAWER           27         DROP WEIGHT KNOB         381         SHOULDER V-MOUNT           28         FRONT WEIGHT- BADM         MPFC         FLOATING CLAMP           29         BACK WEIGHT- TENNIS         MRSG         ROTATIONAL GRIPPER           30         TENSION BAR DRUM         MRSG         ROTATIONAL GRIPPER           31         STRING GRIPPER DRUM         69         3MM HEX WRENCH*           34         RATCHET TEETH         71         6MM T-HANDLE HEX WRENCH*           34         RATCHET TEETH SPRING         98         10MM WRENCH*           35         RATCHET TEETH SPRING         98         10MM WRENCH*           46	PART#	DESCRIPTION	PART#	DESCRIPTION	
8A         SET SCREW- M5x6         271         SUPPORT POST           9         WASHER         278         BASE CORNER CAP           14         WASHER         288         BASE END CAP           21A         FRAME SUPPORT SLIDE         301         RUBBER FOOT           25         TENSION BAR         319         TT RISER RING           26         TENSION BAR CAP         323         SMALL DRAWER           27         DROP WEIGHT KNOB         381         SHOULDER V-MOUNT           28         FRONT WEIGHT- BADM         MPFC         FLOATING CLAMP           29         BACK WEIGHT- TENNIS         MRSG         ROTATIONAL GRIPPER           30         TENSION BAR DRUM         MSG         ROTATIONAL GRIPPER           30         TENSION BAR DRUM         MSG         ROTATIONAL GRIPPER           31         STRING GRIPPER DRUM         MSG         ROTATIONAL GRIPPER           34         RATCHET TEETH         71         6MM T-HANDLE HEX WRENCH*           35         RATCHET TEETH SPRING         98         10MM WRENCH*           46         FLOATING CLAMP HANDLE         108         UTILITY KNIFE*           47         FLOATING CLAMP KNOB         109         NEEDLE NOSE PLIERS*	4A	TURNTABLE BUSHING	265	LEFT DRAWER END CAP	
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14	8A	SET SCREW- M5x6	271	SUPPORT POST	
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TENSION BAR CAP  TENSION BAR DAMM  MPFC  FLOATING CLAMP  ROTATIONAL GRIPPER  TOOLS & ACCESSORIES  TENSION BAR DRUM  TOOLS & ACCESSORIES  TENSION THE AND THE AN	14	WASHER	288	BASE END CAP	
TENSION BAR CAP DROP WEIGHT KNOB REFORM WEIGHT- BADM BACK WEIGHT- TENNIS TENSION BAR DRUM TENSION BAR DRUM TENSION BAR DRUM TENSION BAR BORUM TENSION BAR STOP SCREW TOOLS & ACCESSORIES TENSION BAR STOP SCREW TENSION BAR STOP STOP STOP STOP STOP STOP STOP STOP	21A	FRAME SUPPORT SLIDE	301	RUBBER FOOT	
DROP WEIGHT KNOB  FRONT WEIGHT- BADM  FRONT WEIGHT- BADM  FRONT WEIGHT- BADM  BACK WEIGHT- TENNIS  TENSION BAR DRUM  30A SET SCREW  TOOLS & ACCESSORIES  31 STRING GRIPPER DRUM  34 RATCHET TEETH  35 RATCHET TEETH SPRING  46 FLOATING CLAMP HANDLE  47 FLOATING CLAMP KNOB  48 SWING BOLT  49 RETURN SPRING  88 CAP SCREW  MESUPP SLIDE SCREW  MA  33 FRAME SUPP SLIDE SCREW  MA  MTNG STAND TOP PLATE  141 MTNG STAND TOP PAD  142 SUPPORT ARM- LEFT  143 SUPPORT ARM- LEFT  144 SHLDER SUPP LOCK KNOB  165 BASE  MBFS11  MBSS11  BADM FLOATING CLAMP  MBCSTAND  MBCLEANING STONE  MBCCLEANING STONE  MBCLEANING STONE  MBCCLEANING STONE  MBCLEANING STONE  MBCCLEANING  MBCCLEANIN	25	TENSION BAR	319	TT RISER RING	
FRONT WEIGHT- BADM MPFC FLOATING CLAMP BACK WEIGHT- TENNIS MRSG ROTATIONAL GRIPPER  TENSION BAR DRUM  SET SCREW TOOLS & ACCESSORIES  TENSION GRIPPER DRUM FLOATING CLAMP HANDLE HEX WRENCH*  ARTCHET TEETH THANDLE HEX WRENCH*  FLOATING CLAMP HANDLE HEX WRENCH*  FLOATING CLAMP HEX WRENCH*  TENSION BAR TOP SCREW MBMSP11  FRAME SUPP COVER HANDLE HEX WRENCH*  FLOATING CLAMP HEX WRENCH*  FLOATING CLAMP HEX WRENCH*  TENSION BAR TOP SCREW MESS TOP SCREW HEX WRENCH*  TENSION BAR TOP SCREW MESS TOP SCREW HEX WRENCH*  TENSION BAR TOP SCREW MESS TOP SCREW HEX WRENCH*  TOP SMAP HEX WRENCH*  TO SMAM HEX WR	26	TENSION BAR CAP	323	SMALL DRAWER	
BACK WEIGHT- TENNIS TENSION BAR DRUM  TENSION BAR DRUM  SET SCREW  STRING GRIPPER DRUM  ARTCHET TEETH  THANDLE HEX WRENCH*  THANDLE REY SAWL*  THANDLE SUPP SCREW  THANDLE SUPP COVER  THANDLE SUPP PADS  THANDLE SUPP  T	27	DROP WEIGHT KNOB	381	SHOULDER V-MOUNT	
TENSION BAR DRUM SET SCREW STRING GRIPPER DRUM RATCHET TEETH TH T	28	FRONT WEIGHT- BADM	MPFC	FLOATING CLAMP	
SET SCREW   TOOLS & ACCESSORIES	29	BACK WEIGHT- TENNIS	MRSG	ROTATIONAL GRIPPER	
STRING GRIPPER DRUM  RATCHET TEETH  RATCHET TEETH  RATCHET TEETH SPRING  RATCHET TEETH  71  6MM T-HANDLE HEX WRENCH*  10MM THANDLE HEX WRENCH*  10MM T-HANDLE HEX WRENCH*  10MM PAULIS  10MM HEX WRENCH*  10MM PAULIS  10	30	TENSION BAR DRUM			
RATCHET TEETH 71 6MM T-HANDLE HEX WRENCH* 35 RATCHET TEETH SPRING 98 10MM WRENCH* 46 FLOATING CLAMP HANDLE 108 UTILITY KNIFE* 47 FLOATING CLAMP KNOB 109 NEEDLE NOSE PLIERS* 48 SWING BOLT 229 5MM HEX WRENCH* 49 RETURN SPRING MA STRINGER'S AWL* 83X TENSION BAR STOP SCREW MBMSP11 BADM SHOULDER SUPP COVER 88 CAP SCREW MFSPP11 FRAME SUPPORT PADS 133 FRAME SUPP SLIDE SCREW SHORT BADMINTON (SB) 140 MTNG STAND TOP PLATE SUPPORT ARM- LEFT SUPPORT ARM- RIGHT MSPA1 141 SHLDER SUPP LOCK KNOB MPSA 144 SHLDER SUPP LOCK KNOB MPSA 161 WINDER BEARING 162 GRIPPER PIVOT PIN OPTIONAL TOOLS & ACCESS 163 PIVOT PIN RETAINER COLLAR MBFC BADM FRAME SUPP 255 BASE MBFS11 BADM FRAME SUPP 256 TRAY PAD MBMSS11 BADM MOUNTING SYS UPG 257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP 258 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE MPG STARTING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	30A	SET SCREW	TOOLS & ACCESSORIES		
RATCHET TEETH SPRING  6 FLOATING CLAMP HANDLE  47 FLOATING CLAMP KNOB  48 SWING BOLT  49 RETURN SPRING  83X TENSION BAR STOP SCREW  85 CAP SCREW  86 CAP SCREW  87 FRAME SUPP SLIDE SCREW  88 MANDIAN  89 MANDIAN  89 MANDIAN  80 MANDIAN  81 MANDIAN  81 MANDIAN  82 STRINGER'S AWL*  82 BADM SHOULDER SUPP COVER  84 FRAME SUPP COVER  85 FRAME SUPP SLIDE SCREW  86 MANDIAN  87 MANDIAN  88 MANDIAN  89 MANDIAN  80 STRINGER'S AWL*  80 SAUNDER SUPP COVER  80 FRAME SUPPORT PADS  80 SQUASH (SQ)  80 TENNIS (T)  81 TENNIS (T)  81 TAPERED BADMINTON (B)  81 TENNIS SHLDER SUPP PADS  82 PATHFINDER AWL*  83 MANDIAN  84 NOT SHOWN  85 MANDIAN  86 CAP SCREW  86 MANDIAN  86 CAP SCREW  86 SQUASH (SQ)  87 TENNIS (T)  88 TAPERED BADMINTON (B)  89 MANDIAN  89 MANDIAN  80 MACCESS  80 MBFS11  80 MANDIAN  80 MACHINE COVER  80 MACHINE COVER  81 MACHI	31	STRING GRIPPER DRUM	69	3MM HEX WRENCH*	
FLOATING CLAMP HANDLE  FLOATING CLAMP KNOB  FLOATING CLAMP KNOB  TO SWING BOLT  RETURN SPRING  RETURN SUPP SCREW  MESSP11  MESSPP SUPP COVER  REAME SUPP COVER  REAME SUPPORT PADS  SHORT BADMINTON (SB)  SQUASH (SQ)  TENNIS (T)  TAPERED BADMINTON (B)  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)	34	RATCHET TEETH	71	6MM T-HANDLE HEX WRENCH*	
47 FLOATING CLAMP KNOB 48 SWING BOLT 49 RETURN SPRING 49 STRING STAND TOP SCREW 49 RETURN SPRING 40 MMSSPI1 40 MESSEL 41 MENG STAND TOP SAD 41 MENDER SUPP SLIDE SCREW 41 MESSEL 41 MENG STAND TOP PAD 41 MENG STAND TOP PAD 41 MENDER SUPP SADMINTON (B) 41 SUPPORT ARM- RIGHT 41 SHLDER SUPP LOCK KNOB 41 MESSEL 41 MESSEL 41 MESSEL 41 MESSEL 42 MESSEL 43 MESSEL 44 MESSEL 45 MESSEL 46 MESSEL 47 MESSEL 48 MESSEL 49 MESSEL 49 MESSEL 40 MESSEL 41	35	RATCHET TEETH SPRING	98	10MM WRENCH*	
48 SWING BOLT 49 RETURN SPRING KETURN SPRING 83X TENSION BAR STOP SCREW 88 CAP SCREW 89 CAP SCREW 89 CAP SCREW 80 MTNG STAND TOP PLATE 80 MTNG STAND TOP PLATE 80 MTNG STAND TOP PAD 81 SUPPORT ARM- RIGHT 81 SUPPORT ARM- RIGHT 81 SUPP ARM ADJUST KNOB 81 MINDER BEARING 82 MESTAND TOP PAD 84 MESTAND TOP PAD 85 MESTAND TOP PAD 86 MESTAND TOP PAD 86 MESTAND TOP PAD 87 MESTAND TOP PAD 88 CAP SCREW 89 MESPP11 80 MESPP13 81 FRAME SUPPORT PADS 80 SQUASH (SQ) 80 TENNIS (T) 81 TAPERED BADMINTON (B) 81 TENNIS SHLDER SUPP PADS 81 PATHFINDER AWL* 81 (NOT SHOWN) 81 MESTAND MESTAND 82 MESTAND 83 MESTAND MESTAND 84 MESTAND 85 MESTAND 86 MESTAND 86 MESTAND 86 MESTAND 87 MESTAND 86 MESTAND 86 MESTAND 87 MESTAND 88 STARTING CLAMP 86 MESTAND 86 MESTAND 86 MESTAND 87 MESTAND 88 STARTING CLAMP 87 MESTAND 88 STARTING CLAMP 87 MESTAND 88 STARTING CLAMP 88 STARTING CLAMP 88 STARTING CLAMP 86 MESTAND 87 MESTAND 87 MESTAND 88 STARTING CLAMP 87 MESTAND 88 STARTING CLAMP 88 STARTING CLAMP 88 CAP SCHEW* 88 CAP SCHEW* 88 CAP SCHEW* 88 STARTING CLAMP 86 STARTING CLAMP 86 STARTING CLAMP 86 STARTING CLAMP 87 CLEANING STONE 86 MESTAND 86 MES	46	FLOATING CLAMP HANDLE	108	UTILITY KNIFE*	
RETURN SPRING  RETURN SPRING  TENSION BAR STOP SCREW  MBMSP11  REAME SUPP SLIDE SCREW  MFSPP11  MFSPP11  MFSPP11  FRAME SUPPORT PADS  SHORT BADMINTON (SB)  SQUASH (SQ)  TENNIS (T)  TAPERED BADMINTON (B)  TENNIS SHLDER SUPP PADS  SUPPORT ARM- LEFT  SUPPORT ARM- RIGHT  MMSPP13  MFSPP14  MFSPP15  MFSPP16  MFSPP17  TAPERED BADMINTON (B)  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MFSPP18  MFSPP19  MFSPP19  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MFSPP19  MFSPP19  MFSPP19  MFSPP19  MFSPP19  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MFSPP19  MFSPP19  MFSPP19  MFSPP19  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MFSPP19  MFSPP19  MFSPP19  MFSPP19  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MFSPP19  BADM FLOATING CLAMP  MFSPP19  BADM FAME SUPP  BADM FRAME SUPP  MFSP11  BADM MOUNTING SYS UPG  MFSP11  BADM FRAME SUPP  MACHINE COVER  STARTING CLAMP  CLEANING STONE  FLOOR STAND	47	FLOATING CLAMP KNOB	109	NEEDLE NOSE PLIERS*	
TENSION BAR STOP SCREW  88 CAP SCREW  133 FRAME SUPP SLIDE SCREW 140 MTNG STAND TOP PLATE 141 MTNG STAND TOP PAD 142 SUPPORT ARM- LEFT 143 SUPPORT ARM- RIGHT 144 SHLDER SUPP LOCK KNOB 161 WINDER BEARING 162 GRIPPER PIVOT PIN 163 PIVOT PIN RETAINER COLLAR 255 BASE 163 PIVOT PIN RETAINER COLLAR 256 TRAY PAD 257 LOWER WINDER STAND 259 SLIDE BRACKET 260 TURNTABLE 261 TURNTABLE 261 TURNTABLE MPS  138 MBSP11 BADM SHOULDER SUPP COVER 164 MFSPP11 FRAME SUPPORT PADS 158 SHLDER SUPP PADS 159 SLIDE BRACKET 150 MBSP11 BADM FLOATING CLAMP 150 MPSA 150 MBSP11 BADM FRAME SUPP 151 BADM FRAME SUPP 152 BADM FRAME SUPP 153 BADM MOUNTING SYS UPG 154 SUPP POST MT PLATE 155 MPS 156 STARTING CLAMP 157 CLEANING STONE 158 CLEANING STONE 158 CAP SUPP POST MT PLATE 158 CAP SUPPORT PADS 159 SLIDE BRACKET 150 MMSSP11 BADM SHOULDER SUPP 150 MBMSS11 BADM MOUNTING SYS UPG 150 STARTING CLAMP 150 CLEANING STONE 150 CLEANING ST	48	SWING BOLT	229	5MM HEX WRENCH*	
FRAME SUPP SLIDE SCREW  133 FRAME SUPP SLIDE SCREW  140 MTNG STAND TOP PLATE  141 MTNG STAND TOP PAD  142 SUPPORT ARM- LEFT  143 SUPPORT ARM- RIGHT  144 SHLDER SUPP LOCK KNOB  161 WINDER BEARING  162 GRIPPER PIVOT PIN  163 PIVOT PIN RETAINER COLLAR  163 PIVOT PIN RETAINER COLLAR  164 DESCRIPPER PIVOT PIN  255 BASE  165 TRAY PAD  256 TRAY PAD  257 LOWER WINDER STAND  259 SLIDE BRACKET  260 TURNTABLE  261 TURNTABLE  261 TURNTABLE END CAP  262 SUPP POST MT PLATE  MRSPP11 FRAME SUPPORT PADS  SHORT BADMINTON (SB)  SQUASH (SQ)  TENNIS (T)  TAPERED BADMINTON (B)  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  OPTIONAL TOOLS & ACCESS  BADM FLOATING CLAMP  BADM FRAME SUPP  BADM MOUNTING SYS UPG  BADM FIXED CLAMP  MACHINE COVER  STARTING CLAMP  MPS  CLEANING STONE  FLOOR STAND	49	RETURN SPRING	MA	STRINGER'S AWL*	
FRAME SUPP SLIDE SCREW MTNG STAND TOP PLATE SUPPORT ARM- LEFT SUPPORT ARM- RIGHT MINDER SUPP LOCK KNOB MINDER BEARING GRIPPER PIVOT PIN COPTIONAL TOOLS & ACCESS MBFS11 BADM FRAME SUPP SUPPORT ARM- RIGHT MMSPP13 TENNIS SHLDER SUPP PADS PATHFINDER AWL* * (NOT SHOWN)  * (NOT SHO	83X	TENSION BAR STOP SCREW	MBMSP11	BADM SHOULDER SUPP COVER	
140 MTNG STAND TOP PLATE  141 MTNG STAND TOP PAD  142 SUPPORT ARM- LEFT  143 SUPPORT ARM- RIGHT  144 SHLDER SUPP LOCK KNOB  145 SUPP ARM ADJUST KNOB  160 GRIPPER PIVOT PIN  161 PIVOT PIN RETAINER COLLAR  162 BASE  163 PIVOT PIN RETAINER COLLAR  165 BASE  166 TRAY PAD  167 LOWER WINDER STAND  168 SUPP ARM STAND  169 BADM FRAME SUPP  160 TURNTABLE  160 TURNTABLE  161 TURNTABLE  162 SUPP POST MT PLATE  163 PIVOT MRETAINER COLLAR  164 MBFC  165 BADM FRAME SUPP  166 BADM FRAME SUPP  167 BADM FRAME SUPP  168 BADM FRAME SUPP  169 STARTING CLAMP  160 CLEANING STONE  160 CLEANING STONE  161 FLOOR STAND  162 BADM FLOATING CLAMP  163 BADM FIXED CLAMP  164 BADM FIXED CLAMP  165 BADM FIXED CLAMP  166 BADM FIXED CLAMP  166 BADM FIXED CLAMP  167 BADM FIXED CLAMP  168 BADM FIXED CLAMP  169 BADM FIXED CLAMP  160 CLEANING STONE  160 CLEANING STONE  160 FLOOR STAND	88	CAP SCREW	MFSPP11	FRAME SUPPORT PADS	
141 MTNG STAND TOP PAD 142 SUPPORT ARM- LEFT 143 SUPPORT ARM- RIGHT 144 SHLDER SUPP LOCK KNOB 145 SUPP ARM ADJUST KNOB 166 WINDER BEARING 167 GRIPPER PIVOT PIN 168 PIVOT PIN RETAINER COLLAR 169 BASE 160 TRAY PAD 160 MBMSS11 161 MBFC 162 BADM FLOATING CLAMP 163 PIVOT PIN RETAINER COLLAR 164 BADM FRAME SUPP 165 BASE 166 TRAY PAD 167 MBMSS11 168 BADM FRAME SUPP 169 SLIDE BRACKET 160 TURNTABLE 161 TURNTABLE 162 SUPP POST MT PLATE 163 PIVOT PIN MBMSS11 164 BADM MOUNTING SYS UPG 165 BADM FIXED CLAMP 166 STARTING CLAMP 167 MPMC 168 MPG 178 STARTING CLAMP 178 MPS 178 CLEANING STONE 178 FLOOR STAND 189 CLEANING STONE 180 FLOOR STAND 180 FL	133	FRAME SUPP SLIDE SCREW		SHORT BADMINTON (SB)	
142 SUPPORT ARM- LEFT 143 SUPPORT ARM- RIGHT 144 SHLDER SUPP LOCK KNOB 146 SUPP ARM ADJUST KNOB 161 WINDER BEARING 162 GRIPPER PIVOT PIN 163 PIVOT PIN RETAINER COLLAR 164 DESCRIPTION OPTIONAL TOOLS & ACCESS 165 BASE 166 TRAY PAD 175 BADM FRAME SUPP 186 TRAY PAD 187 BADM FRAME SUPP 188 BADM FRAME SUPP 189 BADM FRAME SUPP 189 BADM FRAME SUPP 180 BADM FIXED CLAMP 180 BADM F	140	MTNG STAND TOP PLATE		SQUASH (SQ)	
SUPPORT ARM- RIGHT  SHLDER SUPP LOCK KNOB  MPSA  MMSPP13  TENNIS SHLDER SUPP PADS  PATHFINDER AWL*  * (NOT SHOWN)  MBFC  GRIPPER PIVOT PIN  255  BASE  MBFC  TRAY PAD  LOWER WINDER STAND  MBMSS11  BADM FRAME SUPP  MBMSS11  BADM FRAME SUPP  BADM FIXED CLAMP  MBMSS11  MBFC  BADM FRAME SUPP  BADM FIXED CLAMP  MBMSS11  MBFC  BADM FIXED CLAMP  MACHINE COVER  MPMC  MACHINE COVER  STARTING CLAMP  CLEANING STONE  TURNTABLE END CAP  MPS  CLEANING STONE  FLOOR STAND	141	MTNG STAND TOP PAD		TENNIS (T)	
144 SHLDER SUPP LOCK KNOB 146A SUPP ARM ADJUST KNOB 161 WINDER BEARING 162 GRIPPER PIVOT PIN 255 BASE 256 TRAY PAD 257 LOWER WINDER STAND 259 SLIDE BRACKET 260 TURNTABLE 261 TURNTABLE MPS 262 SUPP POST MT PLATE  MPS MPSA PATHFINDER AWL* * (NOT SHOWN)  * (NOT SH	142	SUPPORT ARM- LEFT		TAPERED BADMINTON (B)	
146A SUPP ARM ADJUST KNOB * (NOT SHOWN)  161 WINDER BEARING  162 GRIPPER PIVOT PIN OPTIONAL TOOLS & ACCESS  163 PIVOT PIN RETAINER COLLAR MBFC BADM FLOATING CLAMP  255 BASE MBFS11 BADM FRAME SUPP  256 TRAY PAD MBMSS11 BADM MOUNTING SYS UPG  257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP  259 SLIDE BRACKET MPMC MACHINE COVER  260 TURNTABLE MPG STARTING CLAMP  261 TURNTABLE END CAP MPS CLEANING STONE  262 SUPP POST MT PLATE MPXFS FLOOR STAND	143	SUPPORT ARM- RIGHT	MMSPP13	TENNIS SHLDER SUPP PADS	
161 WINDER BEARING 162 GRIPPER PIVOT PIN OPTIONAL TOOLS & ACCESS 163 PIVOT PIN RETAINER COLLAR MBFC BADM FLOATING CLAMP 255 BASE MBFS11 BADM FRAME SUPP 256 TRAY PAD MBMSS11 BADM MOUNTING SYS UPG 257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP 259 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	144	SHLDER SUPP LOCK KNOB	MPSA	PATHFINDER AWL*	
GRIPPER PIVOT PIN  OPTIONAL TOOLS & ACCESS  PIVOT PIN RETAINER COLLAR  BASE  MBFS11  BADM FRAME SUPP  TRAY PAD  LOWER WINDER STAND  MDCSC  BADM FIXED CLAMP  MPMC  MACHINE COVER  TURNTABLE  MPG  SUPP POST MT PLATE  MPXFS  PLOOR STAND  OPTIONAL TOOLS & ACCESS  BADM FLOATING CLAMP  BADM FRAME SUPP  BADM FIXED CLAMP  MACHINE COVER  STARTING CLAMP  CLEANING STONE  FLOOR STAND	146A	SUPP ARM ADJUST KNOB		* (NOT SHOWN)	
PIVOT PIN RETAINER COLLAR  BADM FLOATING CLAMP  BADM FRAME SUPP  BADM FRAME SUPP  BADM MOUNTING SYS UPG  BADM FIXED CLAMP  MACHINE COVER  TURNTABLE  MPG  TURNTABLE  TURNTABLE  MPS  CLEANING STONE  SUPP POST MT PLATE  MPXFS  FLOOR STAND	161	WINDER BEARING			
255 BASE MBFS11 BADM FRAME SUPP 256 TRAY PAD MBMSS11 BADM MOUNTING SYS UPG 257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP 259 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	162	GRIPPER PIVOT PIN	OPTIO	OPTIONAL TOOLS & ACCESS	
256 TRAY PAD MBMSS11 BADM MOUNTING SYS UPG 257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP 259 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	163	PIVOT PIN RETAINER COLLAR	MBFC	BADM FLOATING CLAMP	
257 LOWER WINDER STAND MDCSC BADM FIXED CLAMP 259 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	255	BASE	MBFS11	BADM FRAME SUPP	
259 SLIDE BRACKET MPMC MACHINE COVER 260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	256	TRAY PAD	MBMSS11	BADM MOUNTING SYS UPG	
260 TURNTABLE MPG STARTING CLAMP 261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	257	LOWER WINDER STAND	MDCSC	BADM FIXED CLAMP	
261 TURNTABLE END CAP MPS CLEANING STONE 262 SUPP POST MT PLATE MPXFS FLOOR STAND	259	SLIDE BRACKET	MPMC	MACHINE COVER	
262 SUPP POST MT PLATE MPXFS FLOOR STAND	260	TURNTABLE	MPG	STARTING CLAMP	
	261	TURNTABLE END CAP	MPS	CLEANING STONE	
SGSM STRINGER'S MAT	262	SUPP POST MT PLATE	MPXFS	FLOOR STAND	
			SGSM	STRINGER'S MAT	

# **PARTS DRAWING**





MMAN-37 (MGX6-12)

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