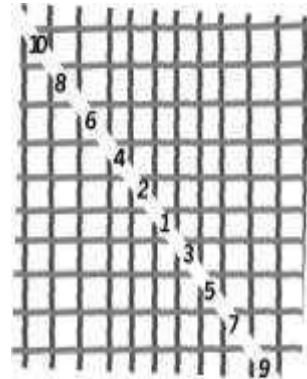


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## Getting Ready for Stringing

Unless one is starting with a brand new frame, a few steps are necessary before installing the racquet on the stringing machine. If, as is usually the case, a string has broken in the frame, it is necessary to cut all strings to allow their removal in segments. Because the breakage of a string causes substantial imbalance in the distribution of tension in the frame, it is advisable for the owner of the racquet to cut through the entire string bed as soon as possible after a string breaks. To avoid creating further stress as one cuts into the string bed, it is best to begin at the center of the racquet by snipping a main and a cross string together where they intersect. One should then proceed outward in a diagonal toward the rim by snipping intersecting strings above and below the center point in alternation. If, after reaching the rim, a few strings still hold tension, they can be cut singly. Remove the strings by pulling them out of the frame from the outside. Lay the pieces in a neat bundle to facilitate clean-up.



This is the time to inspect the frame for damage. Examine the frame for hairline cracks and for warpage. A frame that suffers from such structural weaknesses may not be worth stringing. Next look for repairable damage. A common wear point is at the head of the racquet where the protective grommet strip may be damaged from contact with the court. Grommets can also wear on the inside of the frame where strings are tied. Although it is normal for grommets to flare from the compression caused by knots at tie off points, grommets that allow the string to touch the racquet frame should be replaced. If replacement is indicated, you may want to consult with a professional for advice on how to proceed and for obtaining the exact replacement part for your racquet. If you obtain the replacement grommet and want to install it yourself, be mindful of the following points: (1) the replacement grommet strip must be made specifically for your racquet, (2) Start at one end by inserting the first grommet into the appropriate hole in the racquet and then proceed to adjacent grommets in succession. You will soon find it necessary to help each grommet pass through the inner hole in the racquet frame by guiding it with the point of an awl. (3) Used grommet strips cannot be reinstalled.

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## Mounting the Racquet on the e.Stringer

SPREAD MAIN SUPPORTS TO CENTER OF HEAD & THROAT  
 THEN TIGHTEN SNUGLY WITH MICRO ADJUSTERS.  
 FINISH BY TIGHTENING VERTICAL CLAMPS.



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## Patterns and How to Interpret them

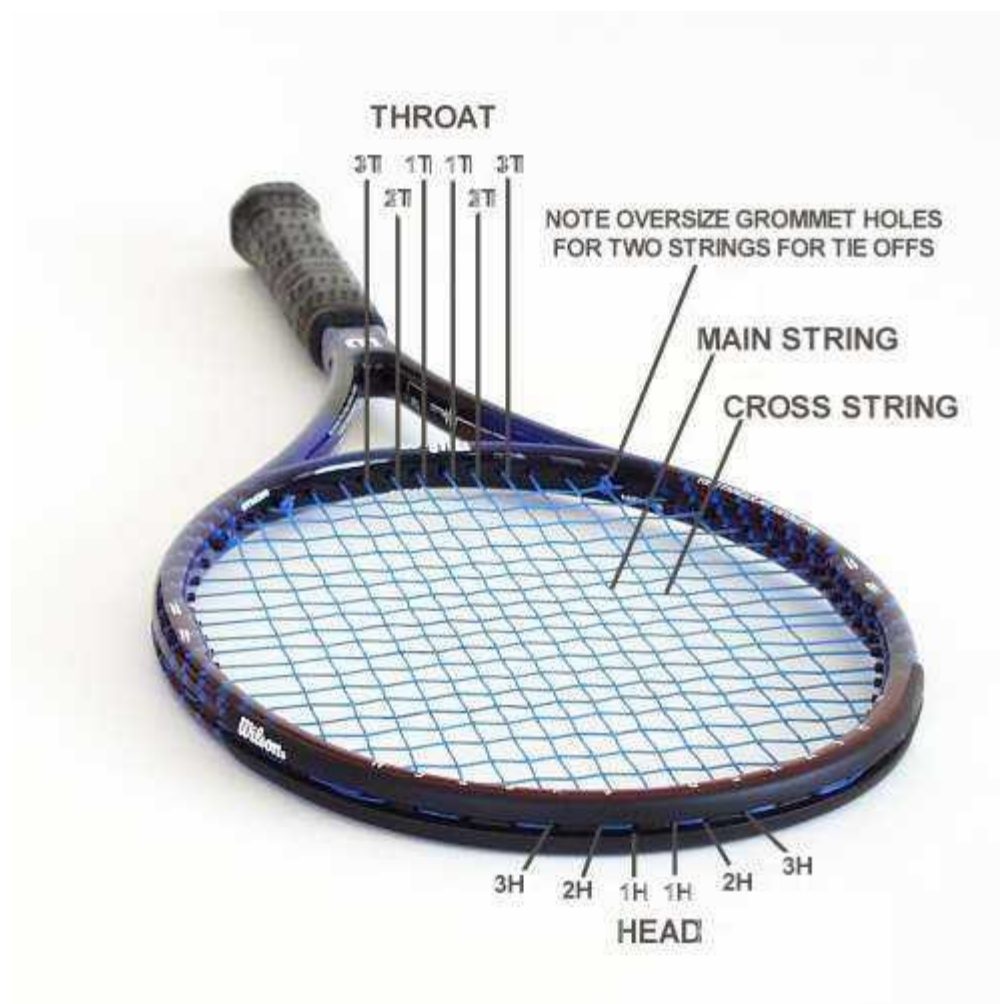
Each racquet has a stringing pattern that is specified by the racquet manufacturer. The table below shows the pattern for a Wilson Hammer 5.8 95 (mid size). Do not be intimidated, these specifications are easily decoded and give all the information a stringer will need to string this racquet. If you are concerned about where to find the pattern for your racquet, do not worry, information is provided with the e.Stringer.

								ON E PIE CE				TW O PIE CE		
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RACQUET	TENSION LBS	PATTERN M x X	START (LOOP)	MAINSKIP	TIE OF MAINS	LENGTH FT-IN	SHORT SIDE FT-IN	START CROSSES	LAST CROSSES	TIE OFF	LENGTH M x X	START CROSSES	LAST CROSSES	TIE OFF
Wilson Hammer 5.8 95	50-60	16x19	T	7T, 9T, 7H, 9H	6T	34'	8' 6"	7T	7H	5H	18' x 15'	7H	7T	5H, 11T

To interpret stringing patterns correctly it is important to know what various parts of the racquet are called.

- The tip of the racquet is known as the HEAD and is referred to as "H" in stringing patterns.
- The bottom of the racquet head is known as the THROAT and is referred to as "T" in stringing patterns.
- The strings that run in the same direction as the shaft of the racquet are known as the MAINS and are referred to as "M" in stringing patterns.
- The strings that run perpendicular to the shaft of the racquet are known as the CROSSES and are referred to as "X" in stringing patterns..
- The holes in the racquet head are referred to by number, counting in either direction from the center at the head (e.g. 7H) or at the throat (e.g. 7T).



### Deciding whether to use one-piece or two-piece stringing

Notice that the stringing pattern for the Hammer 5.8 contains information for one-piece stringing and for two-piece stringing. One-piece stringing is the most common, but it is not always the best. A description of the two methods of stringing follow along with a few of their advantages and disadvantages. When all is said and done, both methods yield excellent results. To avoid unwanted stresses, some racquet manufacturers occasionally specify only one method for stringing some of their frames.

One piece stringing is done with a single piece of string that is tied in two places only. The string is divided in what is known as a "short side" and a "long side". The short side is used to string the mains on one side of the racquet head, ending in one tie off, while the long side is used to string the mains on the other side as well as all of the crosses ending with the other tie off.

- + Two knots take less time than four (but don't worry, tying knots is really easy).
- + String usually comes in one coil and can be used with less cutting this way.

- - The same type of string needs to be used for the mains and the crosses.
- - The long side of the string is a bit cumbersome when lacing the mains.

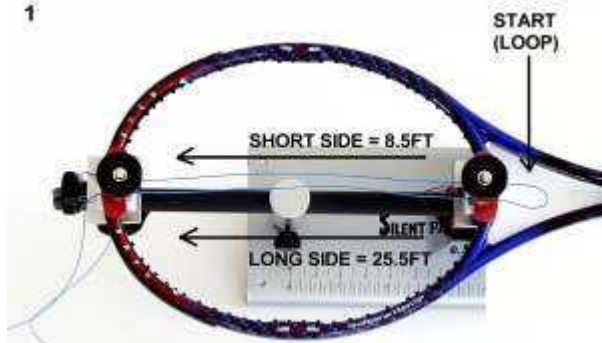
Two-piece stringing utilizes one piece of string for the mains and another for the crosses. The piece used for the mains is divided into two equal parts around the center point of the racquet and is laced symmetrically on both sides of the center point, ending in a tie off at each end. The crosses are started at one end with a "starting knot", and are weaved to the other end where they are tied off.

- + Allows the use of different strings for the mains and crosses.
- + Neither piece of string is very long, making it easier to lace the mains.
- - Unless the string is packaged as a hybrid, a bit more measuring is necessary.
- - Four knots are more intimidating for beginners than two (despite our reassurances).

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Lacing and Tensioning Main Strings														
								ONE PIECE				TWO PIECE		
RACQUET	TENSION LBS	PATTERN M x X	START (LOOP)	MAINS SKIP	TIE OF MAINS	LENGTH FT-IN	SHORT SIDE FT-IN	START CROSS	LAST CROSS	TIE OFF	LENGTH M x X	START CROSS	LAST CROSS	TIE OFF
Wilson Hammer 5.8 95	50- 60	16x1 9	T	7T, 9T 7H, 9H	6T	34'	8' 6"	7T	7H	5 H	18' x 15'	7H	7T	5 H, 11 T

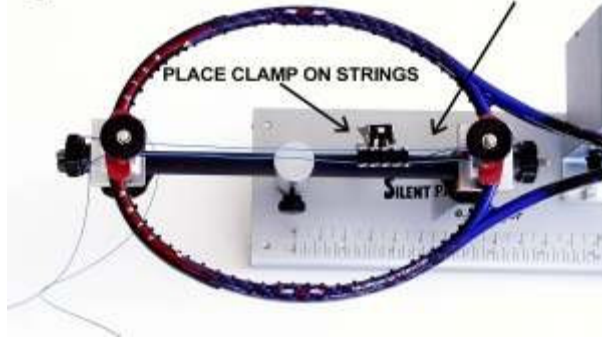
1



FOR TWO PIECE STRINGING BOTH SIDES = 9 FEET

2

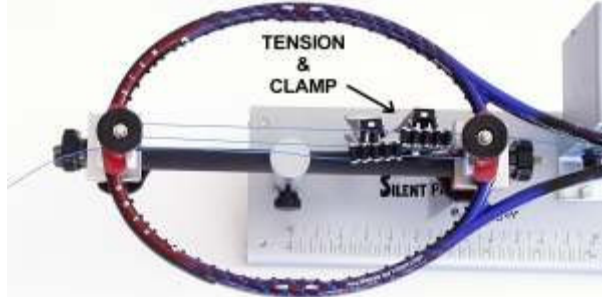
LEAVE SPACE FOR OTHER CLAMP



3

LACE

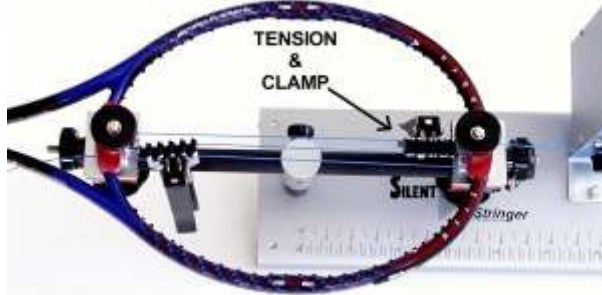
TENSION  
&  
CLAMP



4

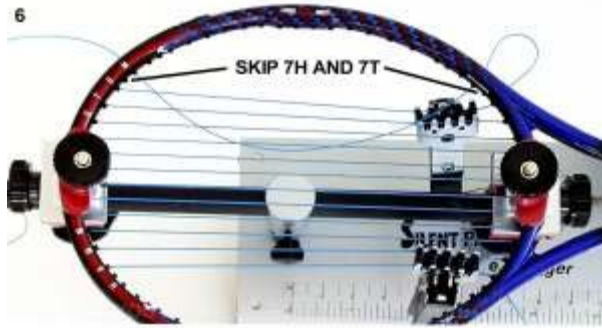
ROTATE RACQUET

TENSION  
&  
CLAMP



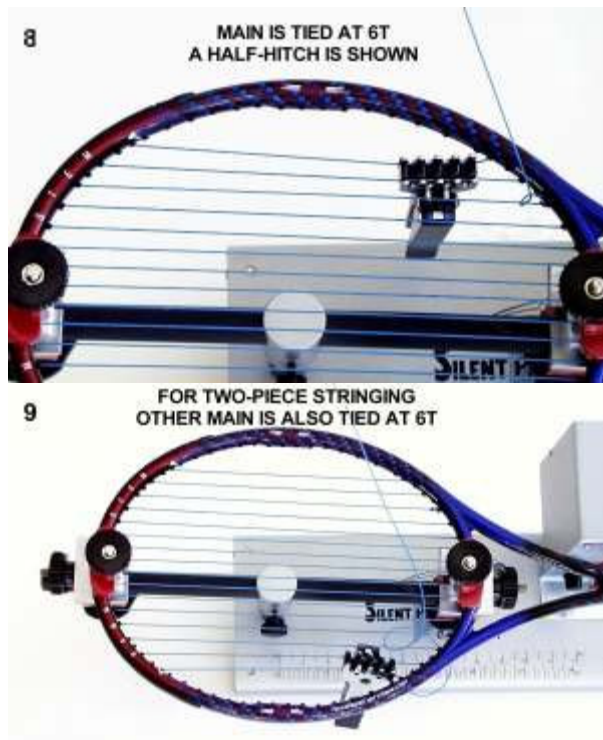


5 KEEP LACING, TENSIONING AND CLAMPING ON ALTERNATE SIDES FROM THE CENTER



YOU WILL ALSO SKIP 7H AND 7T ON THIS SIDE AND 9H AND 9T ON BOTH SIDES LATER ON MAINS HAVE BEEN INSTALLED AND TENSIONED





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## Weaving and Tensioning Cross Strings

								ONE PIECE				TWO PIECE		
RACQUET	TENSION LBS	PATTERN M x X	START (LOOP)	MAINSKIP	TIE OF MAINS	LENGTH FT-IN	SHORT SIDE FT-IN	START CROSS	LAST CROSS	TIE OFF	LENGTH M x X	START CROSS	LAST CROSS	TIE OFF
Wilson Hammer 5.8 95	50-60	16x19	T	7T, 9T, 7H, 9H	6T	34'	8' 6"	7T	7H	5H	18' x 15'	7H	7T	5H, 11T

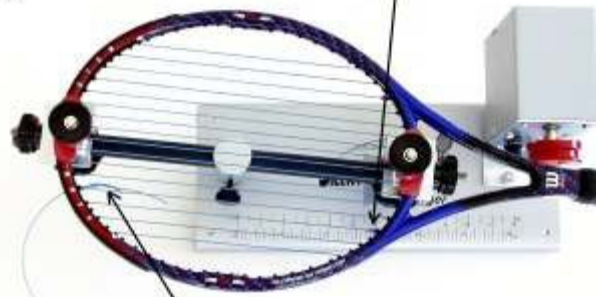


1 IN ONE-PIECE STRINGING CROSSES START AT 7T



ALWAYS FAN CROSS AS YOU PULL TO AVOID FRICTION BURNS FOR TWO-PIECE STRINGING OTHER MAIN IS TIED AT 6T

2



A STARTING KNOT IS TIED FOR SECOND STRING AT 5H TO CONTINUE WITH TWO-PIECE STRINGING FIRST CROSS STARTS AT 7H

3



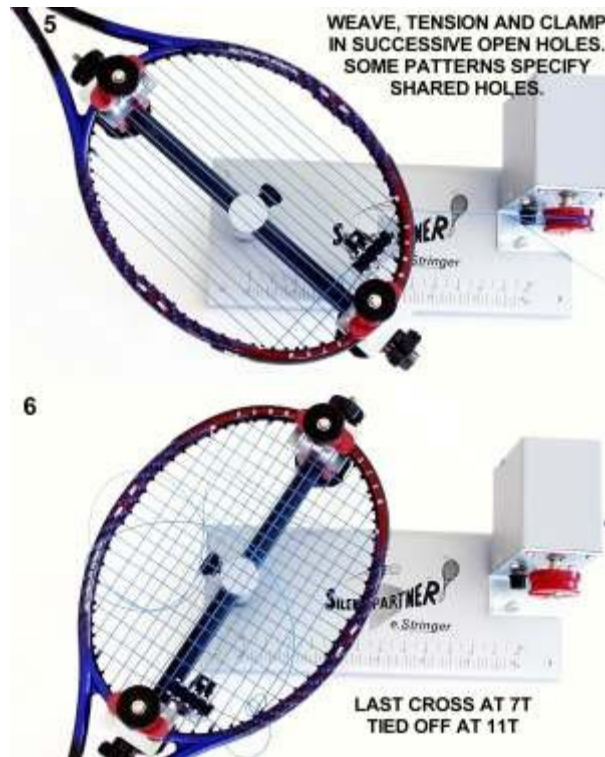
WEAVE CROSS OVER AND UNDER MAINS

DO NOT FORGET TO FAN STRING AS YOU PULL

4

TENSION AND CLAMP





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## Tensioning Strings

The string gripper of the e.Stringer is similar to that of many sophisticated stringing machines. The gripper consists of a split drum. The string is wrapped around the drum and placed between its open jaws. When the electric motor is activated, the drum rotates and the pull of the string being tensioned snaps the jaws shut to grip the string securely without damaging it. The higher the tension, the tighter the grip on the string. This self locking arrangement is highly effective and desirable. To release the string the operator simply flips the switch into reverse. The two-way motor of the e.Stringer releases the string effortlessly.



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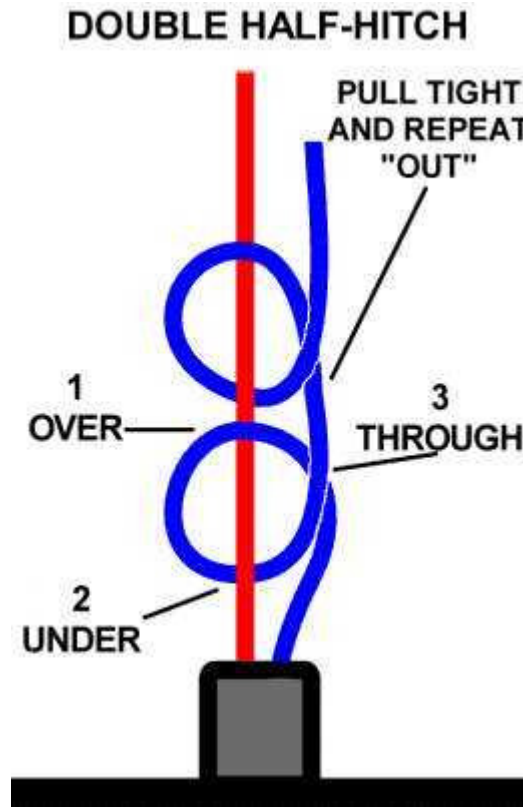
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## Tying Knots

Knots normally involve an anchor string (a string that is already installed and tensioned) and a tying string (a loose string end that is threaded through the same hole as the anchor string and wrapped around the anchor string in a self-locking pattern).

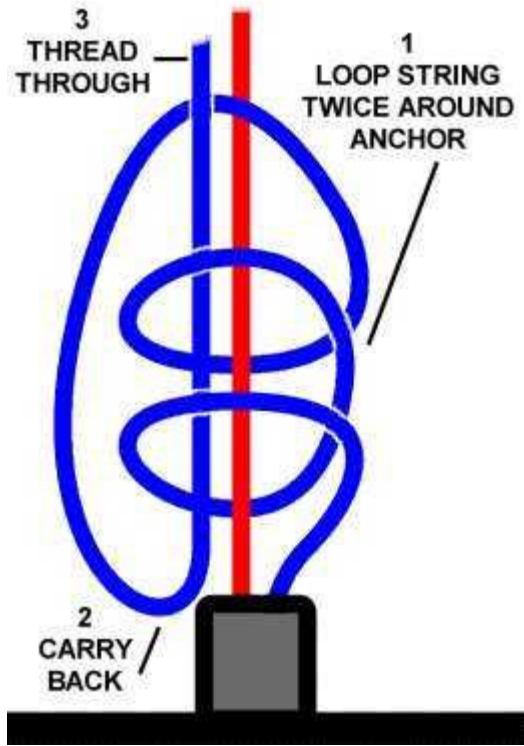
The most common knot in racquet stringing is known as the **DOUBLE HALF-HITCH**. To tie a half-hitch knot remember the **OUT** rule: take the tying string **O**ver the anchor

string, guide it **Under** and around the anchor string, and finally pull it **Through** the loop that the tying string has formed. To lock this knot in place you need only pull on the end of the tying string. A single half-hitch would normally be secure enough but it is standard practice to double up on the half-hitch for added security. The second half-hitch is tied exactly the same way using the **OUT** rule.



Two-piece stringing requires what is known as a **STARTING KNOT** to provide an initial anchor for the crosses. One important property of the starting knot is its bulk, which is useful when using thin strings. Note that while the starting knot is initially loose, the pull of the first cross as it is being tensioned tightens the knot very securely.

# STARTING KNOT



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