

**WEAVER**<sup>TM</sup>  
LEATHER SUPPLY



# MASTER TOOL CUB SEWING MACHINE

## OWNER'S MANUAL

U.S. Patent #9,657,418

# Hand-Crank Design Simulates a Flywheel for Natural Movement and Precision Stitching

**MASTER TOOL**

LIMITED LIFETIME GUARANTEE

HANDCRAFTED IN THE USA

Congratulations on your purchase of the Master Tool Cub Sewing Machine. This heavy-duty cylinder arm sewing machine stitches up to 3/4" leather, nylon and canvas with ease and precision with a non-motorized, portable design that's perfect for crafters, hobbyists and repair shops.

- Patented, hand-crank design simulates a flywheel, encouraging natural movement for smooth operation that makes it easy to maintain a continuous line of stitching.
- Sews up to 4 stitches per inch with a consistent stitch length no matter the speed.
- Portable design is great for taking to shows.
- Backed by our Limited Lifetime Guarantee.

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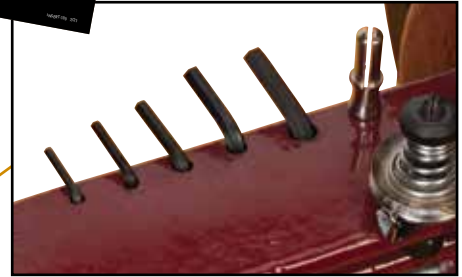
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## UNPACK YOUR BOX

The Master Tool Cub arrives completely assembled.

You'll find the following in your box:

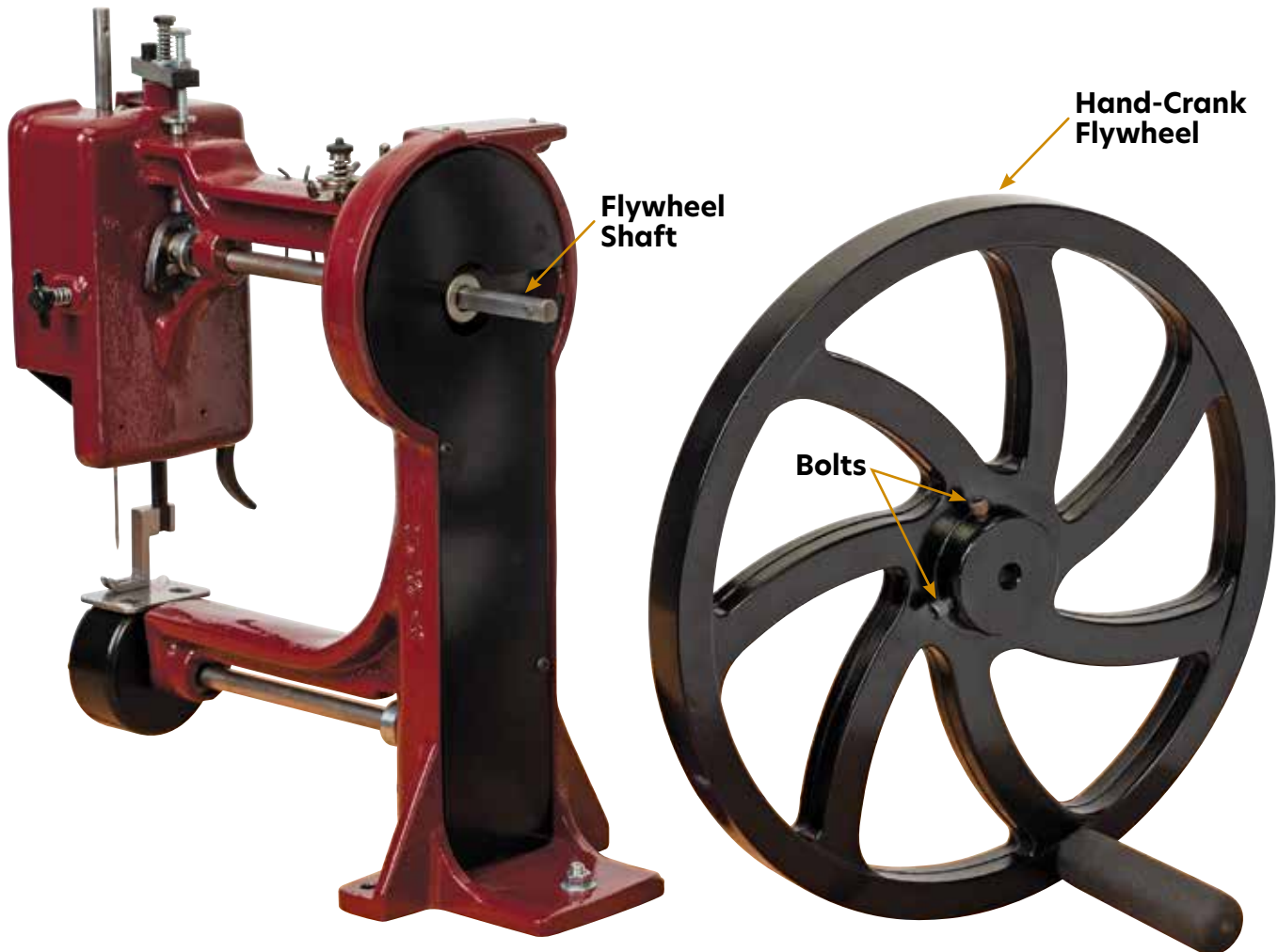
- ❶ Master Tool Cub Sewing Machine
- ❷ Thread Holder
- ❸ Two 4 oz. Spools White Thread
- ❹ Thread Nipper
- ❺ Bobbin Winder
- ❻ Two Bobbins
- ❼ One Pack of 794S-200 Needles
- ❽ Allen Wrenches
- ❾ Roller Guide
- ❿ Mounting Hardware
- ⓫ Owner's Manual



Machine holds Allen Wrenches and Bobbin Winder for easy access



## ATTACHING THE HAND-CRANK FLYWHEEL



You may find it easier to transport the Master Tool Cub without the Flywheel attached. The Flywheel can be easily removed after loosening the Bolts with a 3/16" Allen Wrench. Below are instructions on attaching the Flywheel.

- 1) Locate the flat sides on the Flywheel Shaft. **(Figure 1)**
- 2) Slide the Hand-Crank Flywheel on the Flywheel Shaft, making sure to line up the Bolts with the flat sides on the Flywheel Shaft. **(Figure 2)**
- 3) Tighten the Bolts using the included 3/16" Allen Wrench. **(Figure 3)**



Figure 1



Figure 2



Figure 3

## GETTING TO KNOW THE MASTER TOOL CUB SEWING MACHINE

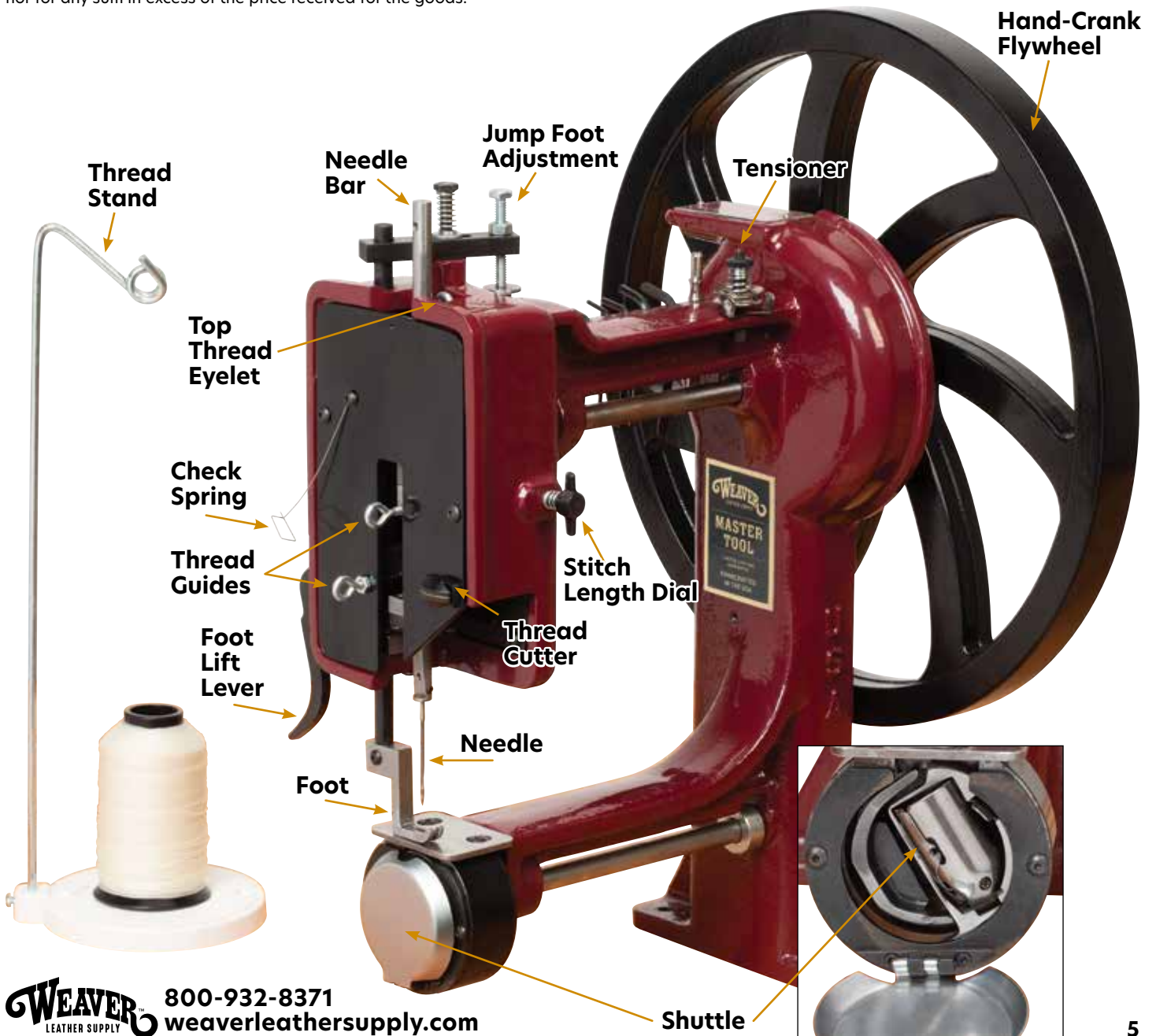
Do not operate this machine until you have read and understand the instructions in this manual. This machine is designed for stitching up to 3/4" leather, nylon and canvas. Use for any other purpose is prohibited and voids the warranty.

### Safety

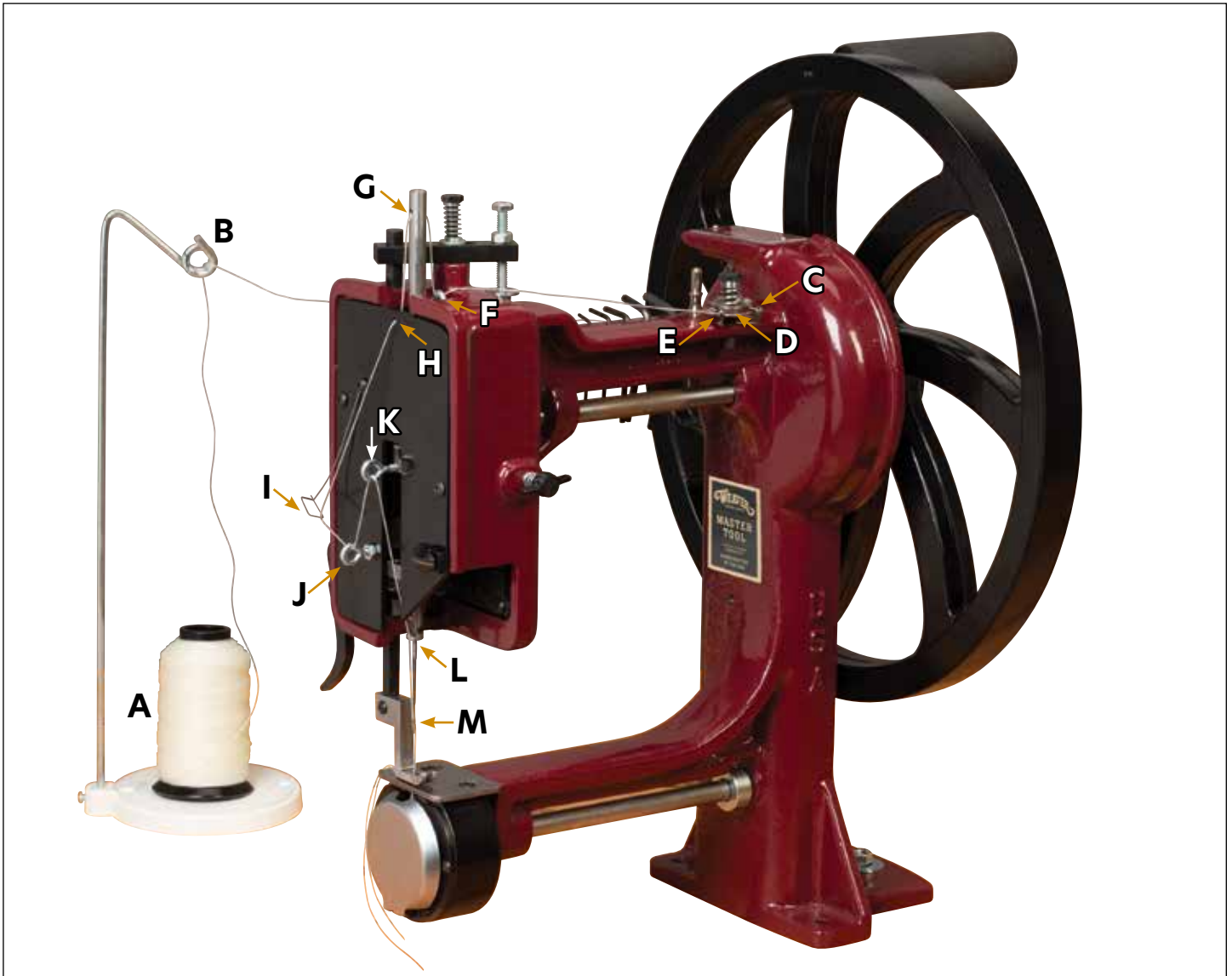
- Never use this machine unless it is securely fastened to a workbench. Simply secure machine to your workbench with included mounting hardware.
- Always keep all fingers and body parts away from moving parts.
- Keep in mind that this machine weighs 60 lbs. Always use proper lifting techniques when moving it and verify its stability before use.
- Keep away from children at all times.

### Limited Lifetime Guarantee

Every Master Tool is built to last using the finest materials and skilled American workmanship. We are proud to stand behind our products with an unmatched Limited Lifetime Guarantee. This quality standard warrants each product for its lifetime against defects in materials and workmanship under correct use, normal operating conditions and proper application. This guarantee does not extend to any component parts not manufactured by Weaver Leather, or if the machine is modified in any way. Weaver Leather makes no express warranties other than those that are specifically described herein. This warranty is expressly in lieu of all other warranties express or implied. There are no implied warranties of any kind including merchantability or fitness for a particular purpose. Weaver Leather will in no event be liable for any incidental or consequential damages whatsoever, nor for any sum in excess of the price received for the goods.



## THREADING



- 1) Run thread from spool (A) on thread stand (B) (Figure 4) to the Tensioner Eyelet 1 (C). (Figure 5)
- 2) Run thread between the Tensioner Discs (D), making sure the thread is pulled tightly, and out through Tensioner Eyelet 2 (E). (Figure 6)

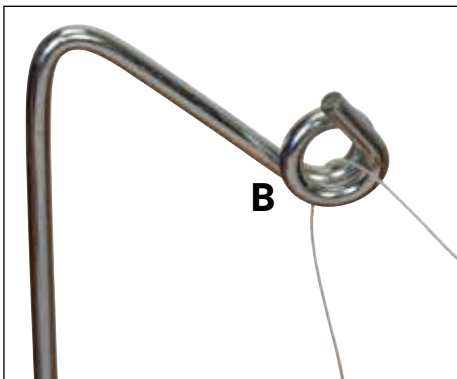


Figure 4



Figure 5

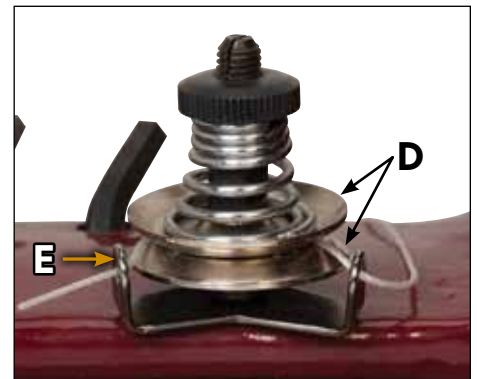


Figure 6

- 3) Run through Top Thread Eyelet **(F)**. **(Figure 7)**
- 4) Run thread through top of Needle Bar **(G)** and through Top Hole in Side Plate **(H)**. **(Figure 8)**
- 5) Run thread through Check Spring **(I)**, the Bottom Thread Guide **(J)** and the Top Thread Guide **(K)** located on the side plate. **(Figure 9)**
- 6) Run thread through the bottom of your Needle Bar **(L)** and your Needle **(M)**. **(Figure 10)**

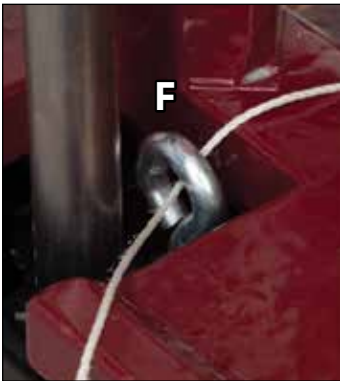


Figure 7

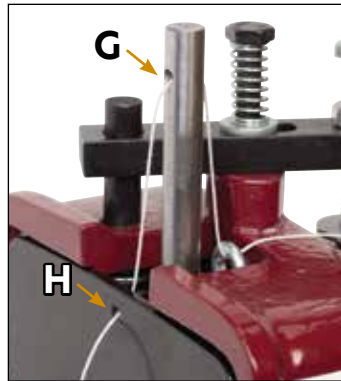


Figure 8

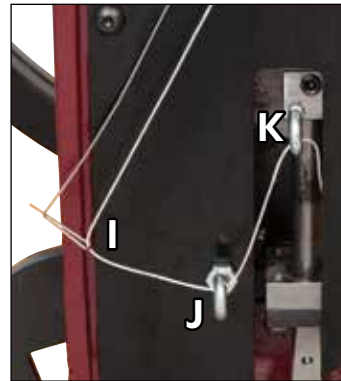


Figure 9

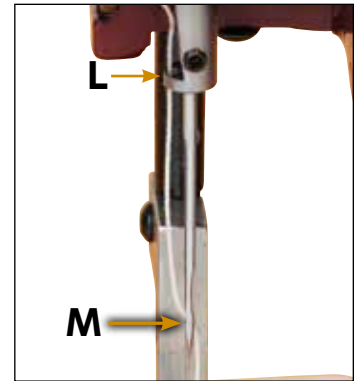


Figure 10

## FILLING BOBBINS

A bobbin winder is included that may be attached to an electric drill to assist you in winding bobbins if desired. **We accept no liability for any injury or damage incurred through the use of this method.**

## TO USE THE BOBBIN WINDER

- 1) Bring the thread from the spool through the split end of the bobbin winder, then place the bobbin on the bobbin winder. **(Figure 11)**
- 2) With a light tension on the thread, turn the drill over slowly and allow the bobbin to wind evenly. **(Figure 12)**

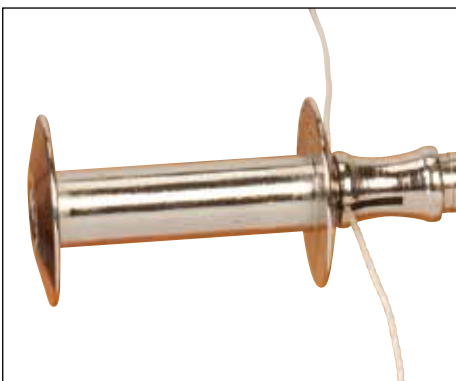


Figure 11

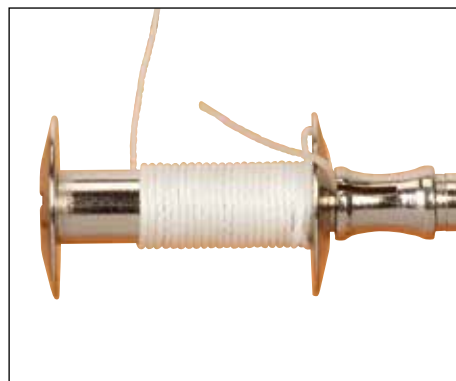


Figure 12

## REMOVING & INSERTING BOBBIN

### REMOVING BOBBIN

- 1) Turn machine over until bobbin case sets in position shown. **(Figure 13)**
- 2) Pull back tab **(A)** to release bobbin case.
- 3) Lift base of bobbin case out to remove bobbin. **(Figure 14)**

When closing bobbin case, be sure it snaps into the tab.

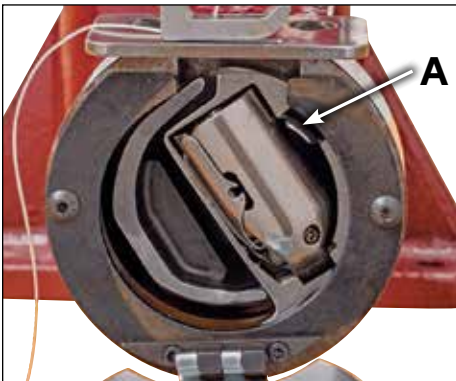


Figure 13

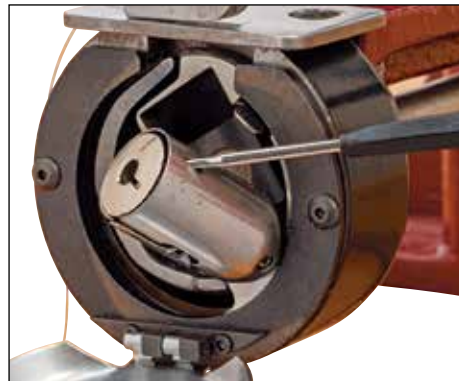


Figure 14

### INSERTING BOBBIN

- 1) Slip the thread from the bobbin into the slot **(B)** at the base of the bobbin case. **(Figure 15)**
- 2) Continue pulling thread under the tension spring until it rests in the fork **(C)** of the spring. **(Figure 16)**

**Important Note:** The bobbin should always be inserted so thread unwinds counterclockwise to ensure consistent tension. **(Figure 17)**

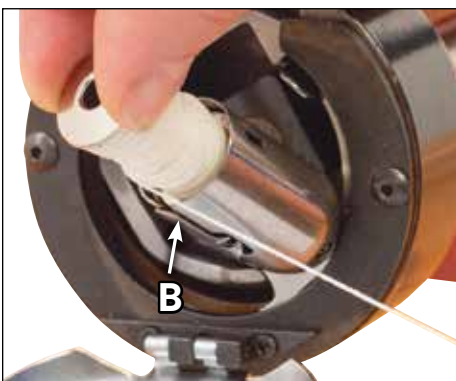


Figure 15

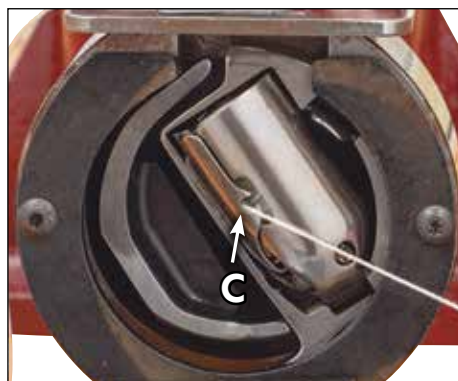


Figure 16



Figure 17



## STITCHING

**Please Note: This machine does not have reverse. DO NOT attempt to turn the crank in reverse or “backstitch.” You may choose to turn your work and take a “forward stitch” for a “backstitch,” or tie the thread off manually. (Figure 18)**

- 1) Begin by lifting the presser foot by raising the Foot Lift Lever located directly behind it. **(Figure 19)**
- 2) Hold the upper thread and bobbin thread under the presser foot and to the rear. Insert your work under the foot, positioning it so the needle is directly above the desired point of entry for your first stitch. **(Figure 20)**
- 3) While still holding the thread to the rear, lower the foot and turn the crank to complete your first couple stitches. After the stitches are made, you can release the thread. **(Figure 21)**



Figure 18



Figure 19

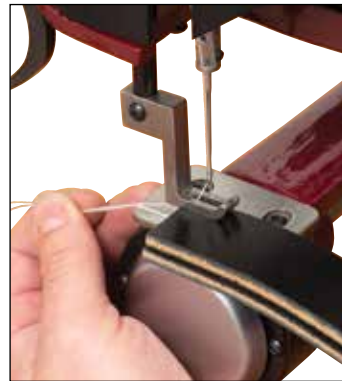


Figure 20



Figure 21

## ADJUSTING STITCH LENGTH



Figure 22

Locate the Stitch Length Dial on the front of the machine. For a longer stitch length, turn the dial counterclockwise. For a shorter stitch length, turn the dial clockwise. **(Figure 22)**

## TURNING YOUR WORK AT CORNERS



Figure 23

**Please note: Your work should be turned before your needle exits the material.** At this point, raise the presser foot slightly, pivot your work to the new position, and resume stitching. **(Figure 23)**

## ADJUSTING THREAD TENSION

Thread tension on the Master Tools Cub is controlled primarily from the Upper Thread Tension. As needed, turn the Tension Assembly Nut (A) clockwise to tighten the tension or counterclockwise to loosen the tension.

(Figure 24)

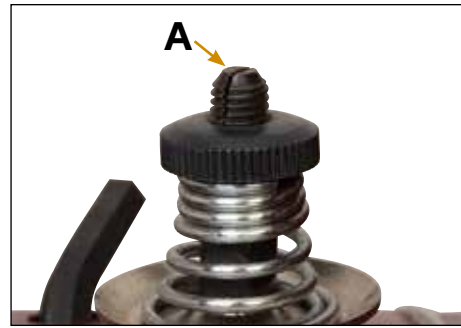
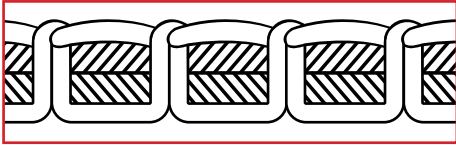
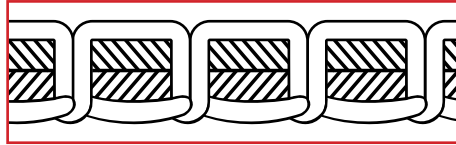


Figure 24



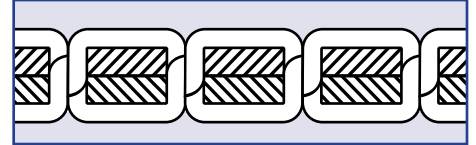
### Wrong

When the knot is on top of the material, the top tension is likely too tight. Turn Tension Assembly Nut (A) counterclockwise to loosen tension.



### Wrong

When knot is on the bottom of material, the top tension is likely too loose. Turn Tension Assembly Nut (A) clockwise to tighten tension.



### Correct

Needle and bobbin threads are equally drawn into material resulting in a perfect stitch.

## ADJUSTING BOBBIN TENSION

**Important Note:** The bobbin tension rarely needs adjusted, even when using varying sizes of thread. The rule of thumb is that the bobbin thread tension is always less than the upper thread tension.

### TO ADJUST TENSION (Figure 25)

- 1) Loosen Lock Screw (B). Failure to loosen lock screw may result in a broken screw or damage to the bobbin case.
- 2) Turn Adjusting Screw (C) clockwise to tighten tension or counterclockwise to loosen tension.
- 3) Tighten Lock Screw (B) when proper tension has been established.

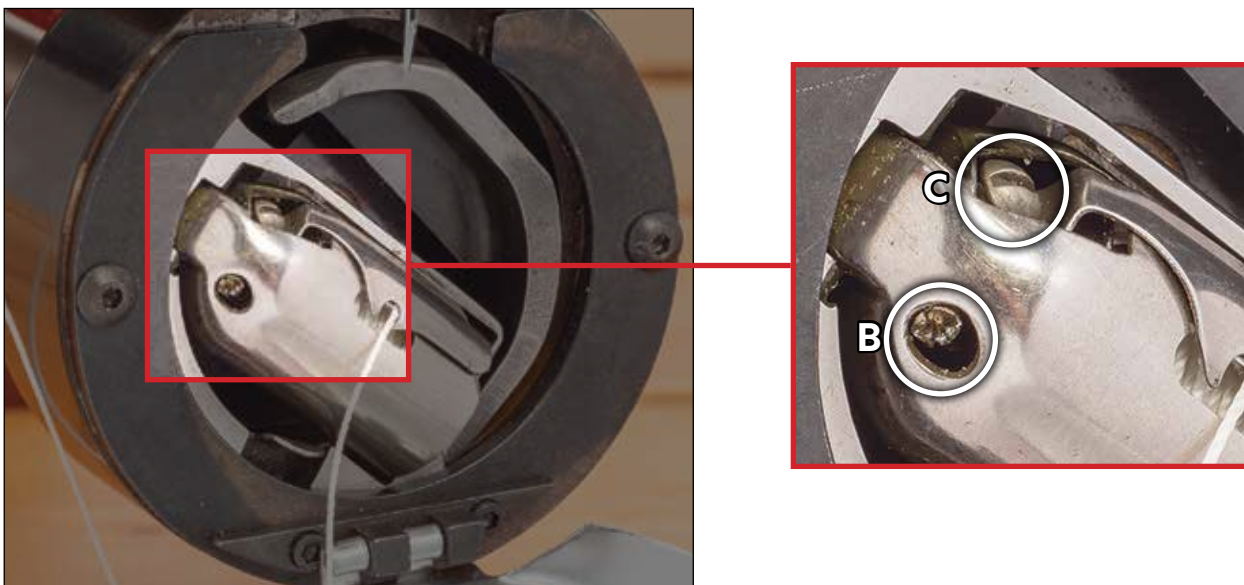


Figure 25

## CHANGING THE NEEDLE

Refer to the Thread & Needle Chart below to ensure you are using the correct needle for the thread you are using.

- 1) Loosen the Needle Screw (**D**) with the Allen wrench provided and remove the old needle. (**Figure 26**)
- 2) Be sure the new needle is positioned correctly with the Scarf (**E**) facing to the right.  
**Please note:** You should be able to see the needle in the round opening of the needle bar.

**Troubleshooting Tip:** If you experience sewing difficulties, including skipped stitches, failure to pick up the bobbin thread, and frayed thread, try changing your needle. Bent or dull needles may be responsible.

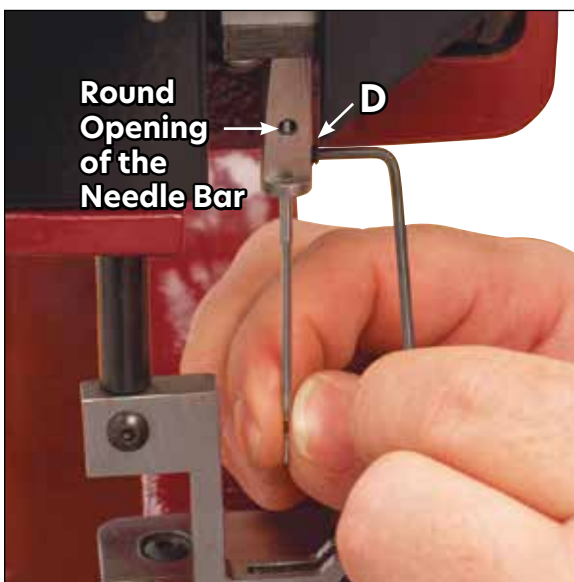


Figure 26



Correct  
Needle  
Position



Wrong  
Needle  
Position

## NEEDLE & THREAD CHART

The Master Tool Cub uses 794S (Chisel Point), 794LR (Twisted Chisel Point) and 7X3R (Round Point) System Needles:

- Chisel Point & Twisted Chisel Point Needles - Recommended for leather or non-wovens
- Round Point Needles - Recommended for woven materials

### Helpful Tips

- When ordering needles indicate 794S or 794LR for leather or 7X3R for nylon.
- We recommend using Schmetz® brand needles for superior performance.
- Be sure to use the correct needle for the thread being used.

NEEDLE SIZE	THREAD TOP/BOTTOM
230	346/277
200	277/207
180	207/138
160	138/92

## TROUBLESHOOTING

### THREAD JAMMING

The Master Tool Cub, as all sewing machines, must be threaded properly and used with the correct needle and thread combination. Because of its unique design, the Master Tool Cub reacts a little differently to improper threading.

The thread may catch on the hook and the machine will jam. **Do not attempt to free the thread by cranking over the machine.** The spring-loaded shuttle hook must be freed first:

- 1) Cut and clean out the misplaced thread. The hook **(A)** should then snap back into place.
- 2) If the above fails, loosen the two race cover screws **(B)** until the hook **(A)** has snapped back. Do not remove the race cover **(C)**. After the hook **(A)** is back in place, retighten the race cover **(C)**. **(Figure 27)**

**Important Note:** Never operate the machine with the presser foot raised.

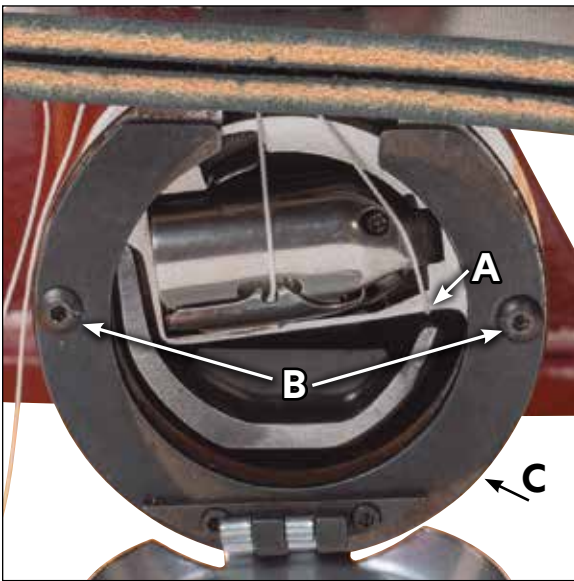


Figure 27

### ADJUSTING TIMING

If you think your machine's timing is off, call Weaver Leather at 1-800-932-8371, ext. 223 for assistance.

## CHECK SPRING ADJUSTMENT

1) If thread balloons excessively at point **(D)**, loosen screw **(E)** and move check spring **(F)** in direction **(G)** as shown. **(Figure 28)**

**Important Note:** Adjust check spring ONLY enough to eliminate most of the ballooning as TOO MUCH check spring travel may cause early spring fatigue and failure.

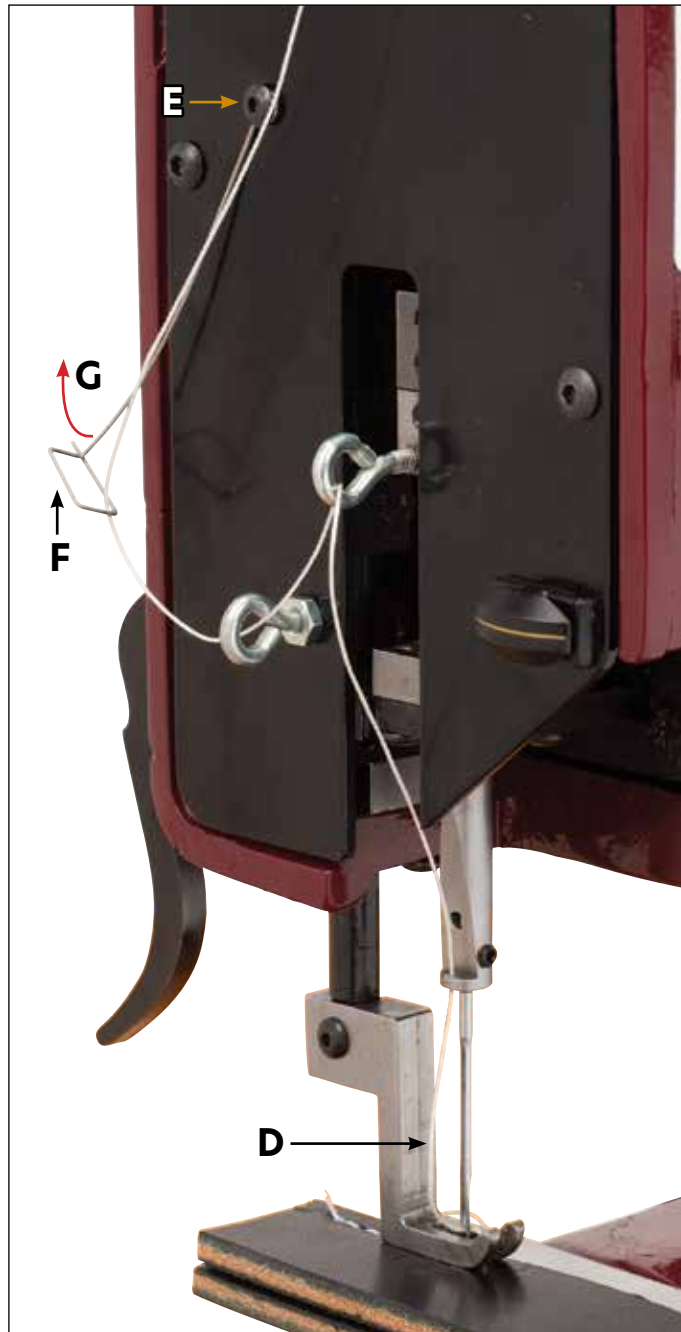


Figure 28

## MAINTENANCE

We recommend greasing the Master Tool Cub monthly with high pressure bearing grease and oiling it after every eight hours of use with Lily Stitching Oil. Oiling and greasing points are indicated on **Figures 29, 30 and 31**.

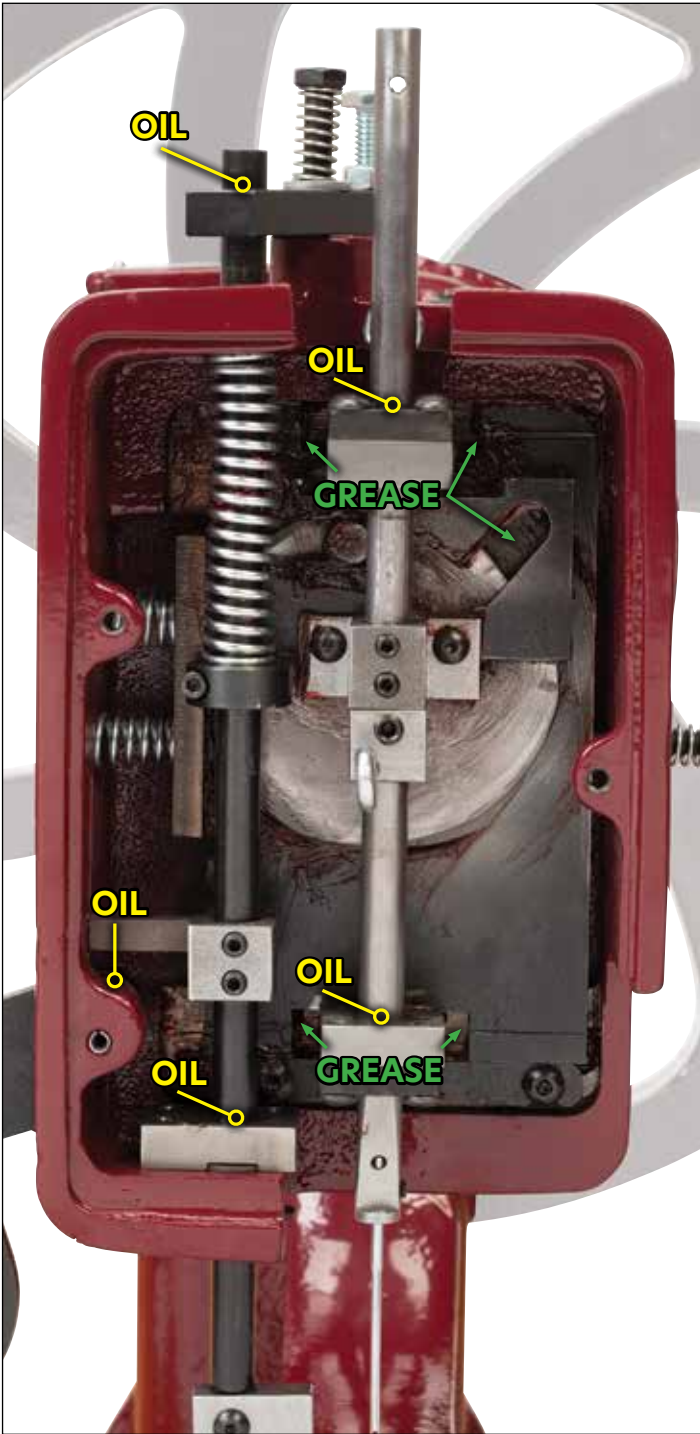


Figure 29

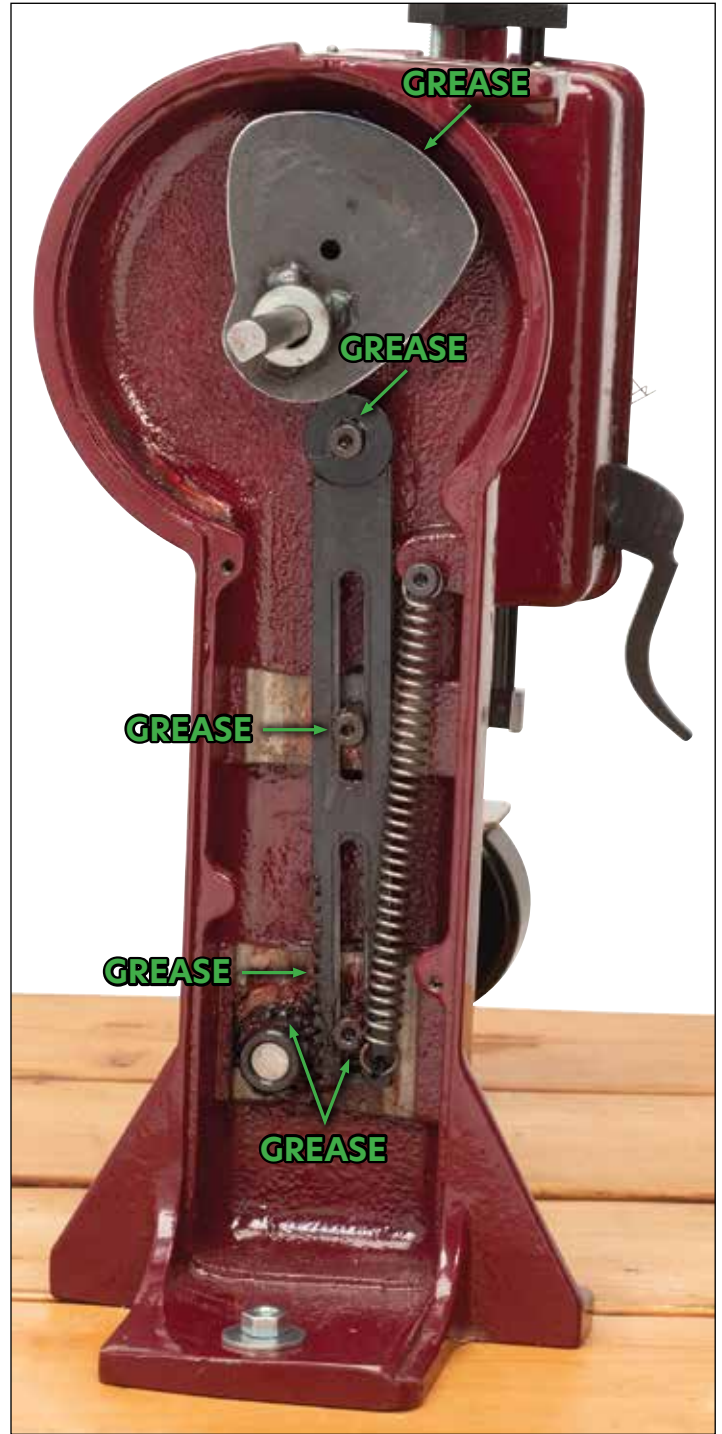


Figure 30



Figure 31

## REPLACEMENT PARTS

❶ 63500-129 Check Spring



❷ 63500-125 Thread Stand



❸ 88008-01 Set Screw, 8-32 x 3/16"



❹ 88009-01 Thread Guide Loop



❺ 63500-127 Shuttle



❻ 63500-130 Stitch Length Tension Spring



❼ 63500-124 Bobbin Winder



❼ 63500-102 Presser Foot



❽ 63500-126 Bobbin

