



Weaver 303 Sewing Machine

OWNER'S MANUAL

Precision Stitching Made Perfect

Congratulations on your purchase of the Weaver 303 Sewing Machine. You'll find this light-duty machine precisely stitches leather, nylon and textile projects with ease, making it a perfect choice for sewing bags, accessories and much more.

- Sews up to 1/4" thickness
- Speed Reducer allows you to choose stitching speed
- Convenient oil bath makes it easy to ensure the machine is properly oiled



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UNPACK YOUR BOX

Your Weaver 303 Sewing Machine with Stand will arrive in two boxes, one containing the sewing machine head and its accessories and one containing the stand. If you purchased the head only, you will only receive one box.

You'll find the following in the sewing machine box:

- | | |
|---|------------------|
| ① Sewing Machine Head (see on page 5) | ⑳ Screws & Nails |
| ② Oil Pan | ㉑ Stopper |
| ③ Thread Stand Parts (see on page 9) | ㉒ Oil Bottle |
| ④ Oil | ㉓ Presser Feet |
| ⑤ Guard Parts | ㉔ Needle Plate |
| ⑥ Knee Lift | ㉕ Rubber Bumpers |
| ⑦ Knee Lift Rod | ㉖ Tweezers |
| ⑧ Bobbin Winder | |
| ⑨ Rubber Sockets | |
| ⑩ 1 lb. Spool of White Thread (size 92) | |
| ⑪ Thread Nippers | |
| ⑫ Needles | |
| ⑬ Extra Bobbins | |
| ⑭ Sewing Machine Light | |
| ⑮ Owner's Manual | |
| ⑯ Gloves | |
| ⑰ Flat Head Screwdrivers x3 | |
| ⑱ Metal Hinges | |
| ㉀ Belt | |
| ㉁ Magnet | |

You'll find the following in the stand box: (see on page 5)

- ① Stand
- ② Motor
- ③ Speed Reducer



GETTING TO KNOW THE WEAVER 303 SEWING MACHINE

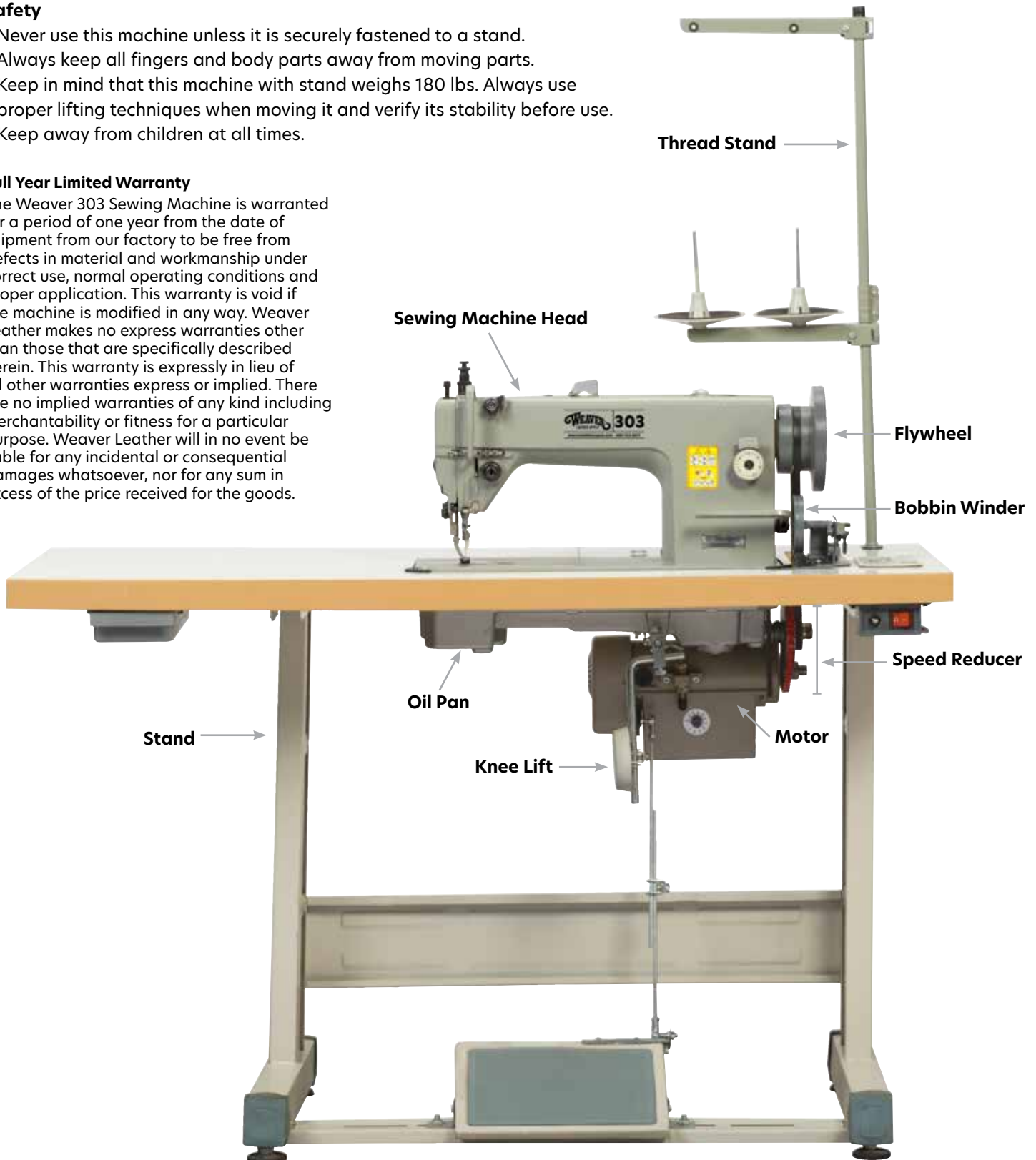
Do not operate this machine until you have read and understand the instructions in this manual. This machine is designed to stitch leather, nylon and textiles up to 1/4" thick. Use for any other purpose is prohibited and voids the warranty.

Safety

- Never use this machine unless it is securely fastened to a stand.
- Always keep all fingers and body parts away from moving parts.
- Keep in mind that this machine with stand weighs 180 lbs. Always use proper lifting techniques when moving it and verify its stability before use.
- Keep away from children at all times.

Full Year Limited Warranty

The Weaver 303 Sewing Machine is warranted for a period of one year from the date of shipment from our factory to be free from defects in material and workmanship under correct use, normal operating conditions and proper application. This warranty is void 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.



SEWING MACHINE SET-UP

ATTACHING TO THE STAND

1. Locate the Oil Pan that is located under the sewing machine head in the box.
2. Position the Rubber Bumpers on the four corners of the Oil Pan (**Figure 1**).
3. Drop the Oil Pan into the opening in the stand (**Figures 2a & 2b**).



Figure 1



Figure 2a



Figure 2b

4. Install Rubber Sockets (**Figure 3**).
5. Install knee lift plunger (**Figure 4**).
6. Attach the metal Hinges to the back of the sewing machine head (**Figure 5**).



Figure 3



Figure 4



Figure 5

7. Pick the sewing machine head up, being careful to use proper lifting techniques, and position it in the opening with the Hinges resting in the Rubber Sockets (**Figures 6a & 6b**).
8. Place the Stopper in the hole located on the stand behind the head (Figure 7). This Stopper holds the head in place when you tilt it back to attach the belt, add oil or access the bobbin case.



Figure 6a



Figure 6b



Figure 7

ADDING OIL

1. With the sewing machine head tilted back, pour the Oil that came with the machine into the Oil Pan, ensuring that it fills the pan between the high and low levels (**Figure 8**). When you're out of the oil that comes with the machine, we recommend our Lily Stitching Oil for future refills.



Figure 8

INSTALLING KNEE LIFT

1. Attach Knee Lift to the Oil Pan with the Bracket, tightening the screw to secure. You can adjust the rubber Knee Pad up or down to accommodate your height (**Figure 9**).



Figure 9

INSTALLING BELT & BOBBIN WINDER

1. With sewing machine head still tilted back, slide belt over flywheel (Figure 10) and onto pulley/speed reducer (**Figure 10a**).
2. Pull machine forward after belt is installed.

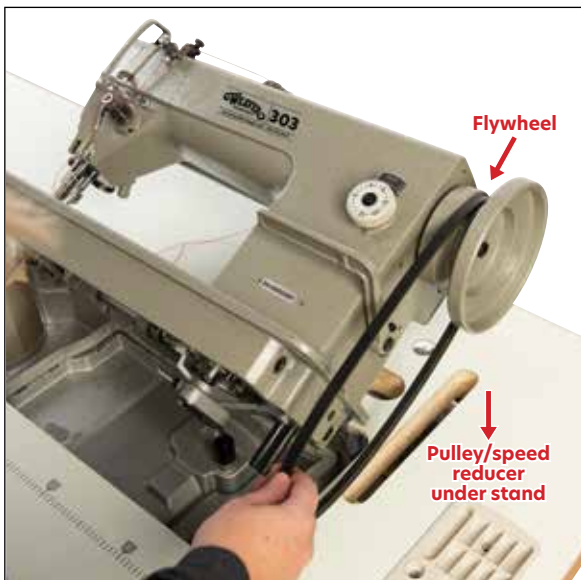


Figure 10



Figure 10a

3. Install the bobbin winder. The Bobbin Winder Wheel and the belt should be in line with each other. Make sure you have a 1/8" to 1/4" gap between the Bobbin Winder Wheel and belt. Screw the Bobbin Winder to the table with two screws (**Figures 11a, 11b, 11c**).

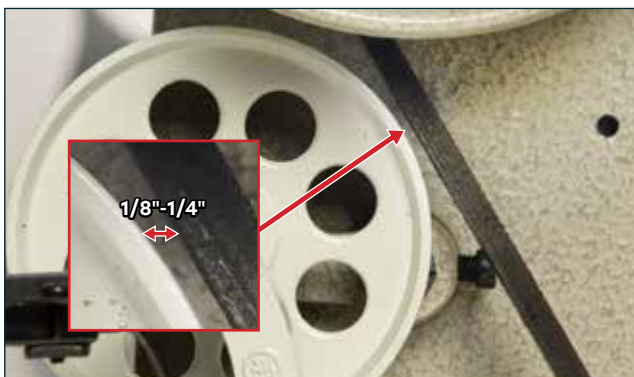


Figure 11a

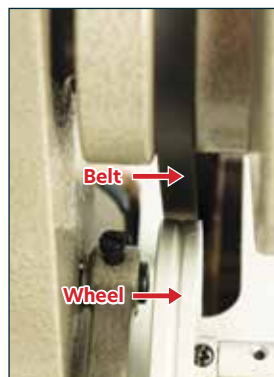


Figure 11b

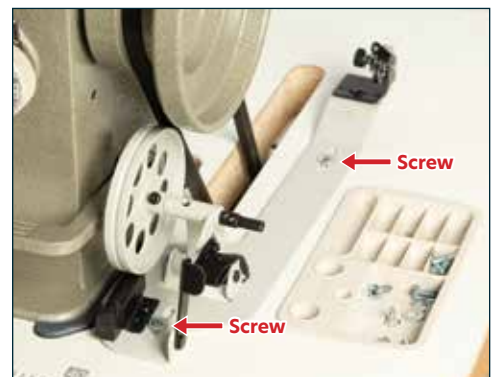


Figure 11c

INSTALLING BELT GUARD

1. The Belt Guard includes three pieces. Before installing Piece 1, insert nuts (**Figure 12a**) using super glue to hold in place. When installing Piece 1, rotate flywheel so hole in flywheel aligns with the hole in Piece 1 to screw onto the machine (**Figure 12b**).



Figure 12a



Figure 12b

2. Tilt sewing machine head back. Add Piece 2 to the front of the machine (**Figures 13a, 13b, 13c, 13d**) and screw into place. Tip: Our machinery team finds that applying a tiny bit of glue to the screws helps secure them in place.



Figure 13a



Figure 13b



Figure 13c



Figure 13d

3. Add Piece 3 to the back of the machine (**Figures 14a, 14b**) and screw onto the tabletop.



Figure 14a



Figure 14b



Figure 15a



Figure 15b

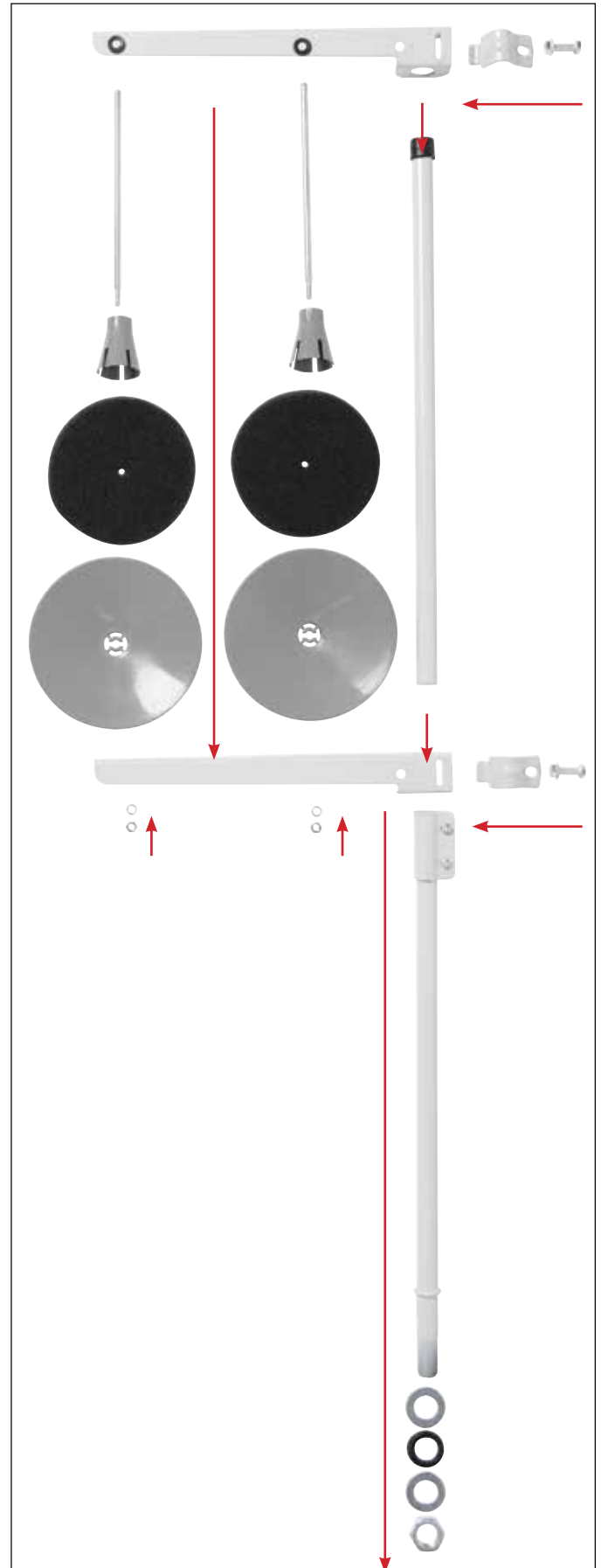
SETTING UP THE THREAD STAND

1. Assemble Thread Stand by attaching parts as shown (Figure 16).
2. Screw Thread Stand to Sewing Machine Stand using the pre-drilled hole (Figure 17).

Figure 17



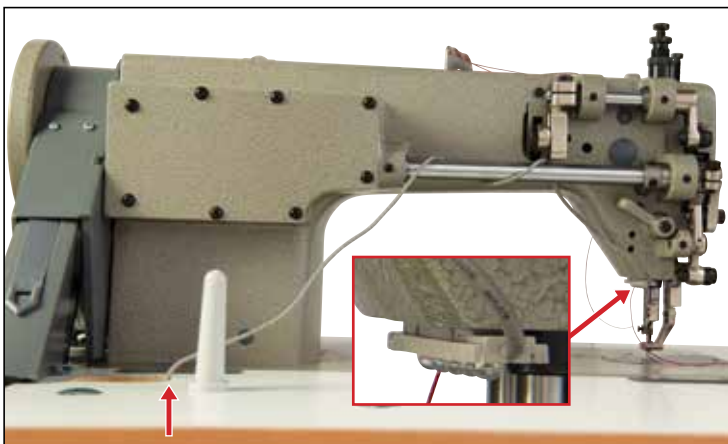
Figure 16



INSTALLING LIGHT

1. Pull light through hole behind sewing machine head; wrap (Figure 18).
2. Attach magnetic light to machine and plug into servo motor.

Figure 18



THREADING THE MACHINE

TOP SPOOL

Important Tip: The machine arrives with thread in it. To easily thread your machine for the first time, simply run your thread from the thread stand to the Thread Retainer at the top of the machine, tying your thread to the thread that's already in the machine. Then, simply pull the previously-installed thread at the needle bar until your thread reaches the needle bar.

Figure 19a

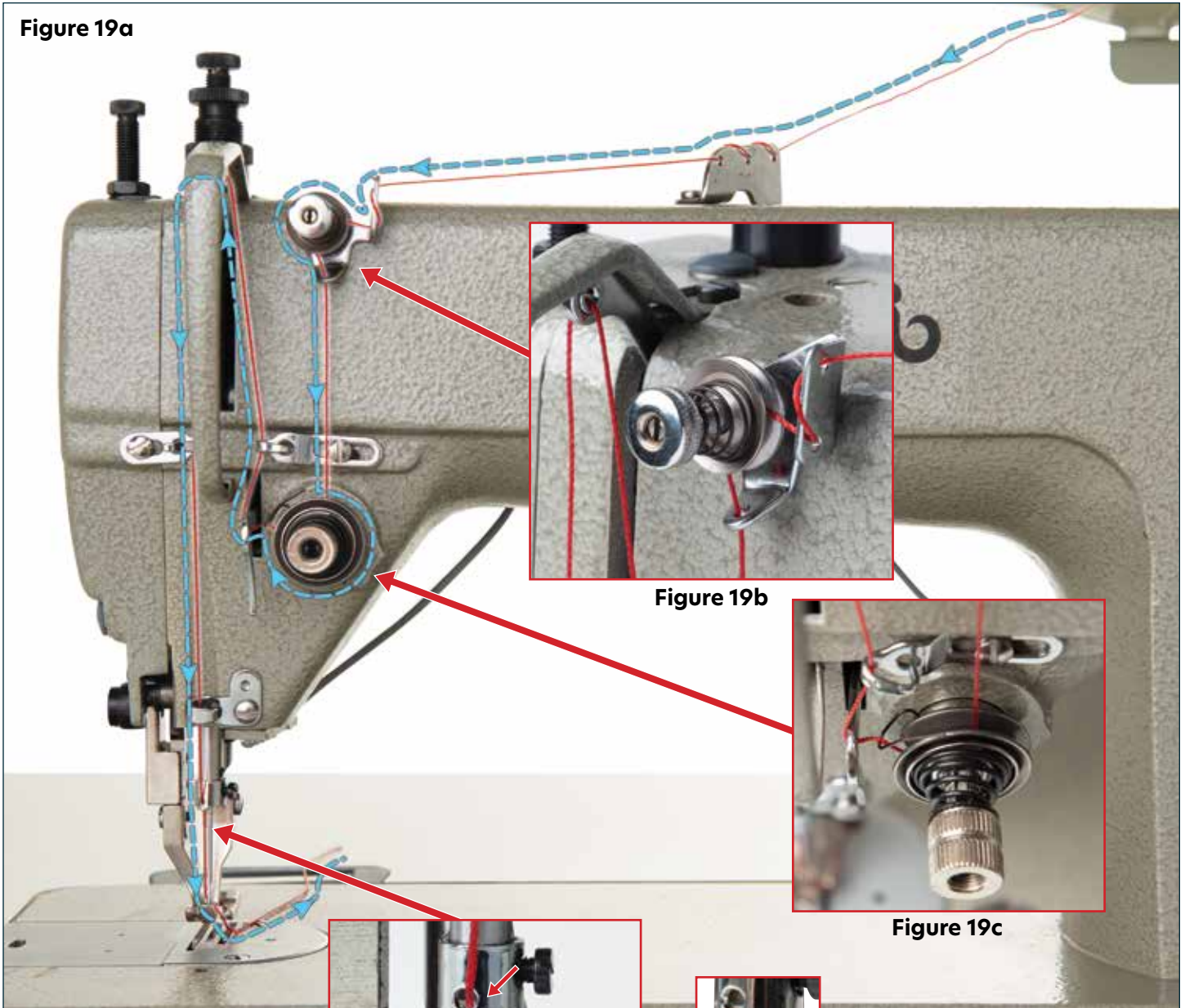


Figure 19b



Figure 19c



Figure 19d



Figure 19e



Insert the needle with the the scarf (curved area) to your right.

BOBBIN

1. Tilt sewing machine head back to expose Bobbin Case (**Figure 20a**).
Remove Bobbin Case by lifting tab (**Figure 20b**).
2. Slide Bobbin in Bobbin Case so thread unwinds clockwise (**Figure 21**).
3. Slide thread into the slot located on the Bobbin Case and pull 8" to 10" of thread out of the case.
Snap Bobbin Case back into place.
4. Lift presser foot by lifting the lever at the back of the machine or by using the Knee Lift.
5. While holding your top thread, turn flywheel one complete turn toward you and the needle will pick up the bottom thread. Hold both the top and bottom thread to start stitching.



Figure 20a



Figure 20b



Figure 21

MACHINE, NEEDLE & THREAD COMBINATIONS

Machines	Needle System*	Needle	Thread Top/Bottom	Use For
Weaver 303	135X16D (leather) or 135X17R (nylon)	100 120 125 (16D Only) 140	69/69 92/69 92/69	Leather (purses, belts, etc.) or lightweight nylon, shoe repair

*A needle system is a group of needles made to fit specific sewing machines. All needles in a system are of the same length and shank size but are of various diameters. **Lower numbers (e.g. 100) are narrower or thinner needles used for lighter materials. Higher numbers (e.g. 200) indicate needles of thicker diameter, used for heavier materials.** Match your needle system to your machine and your needle size to your product. D points are for leather, R points for nylon. Using bobbin thread a size smaller than the top thread results in tighter stitching.

WINDING BOBBINS

1. Slide bobbin onto rod on Bobbin Winder.
2. Run thread from the Thread Stand to the bobbin, running thread over the top and around the bobbin a few times with excess thread running through hole on left side (**Figures 22a, 22b**).
3. To get started winding the bobbin, push the black bar in front of the bobbin winder to engage (**Figure 23**).
4. Apply pressure to pedal to wind bobbin.

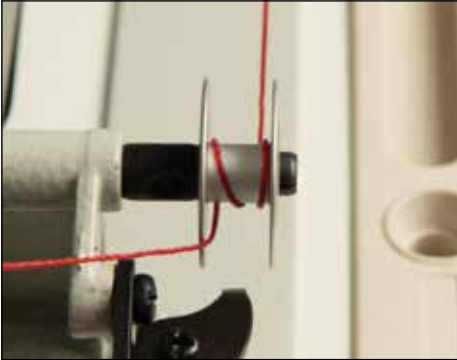


Figure 22a

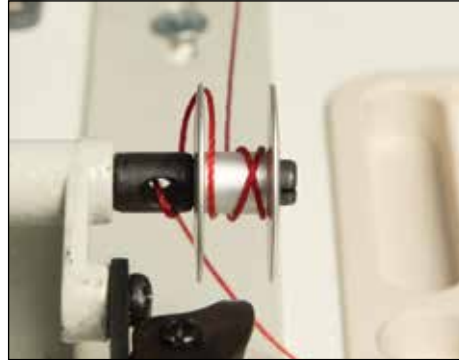


Figure 22b



Figure 23

SETTING STITCH LENGTH

1. Stitch length can be adjusted by pushing in metal tab above Stitch Length Dial, rotating knob to desired length, and releasing the metal tab to lock in selection (**Figure 24**).



Figure 24

REVERSE STITCHING

1. To reverse stitch, push down Reverse Stitch Lever located below the Stitch Length Dial. Forward sewing will be automatically restored when Reverse Stitch Lever is released to its original position (**Figure 25**).



Figure 25

ADJUSTING OUTSIDE FOOT PRESSURE

1. Rotate Outside Foot Presser Thumb Screw clockwise for more pressure or counterclockwise for less pressure (**Figure 26**).

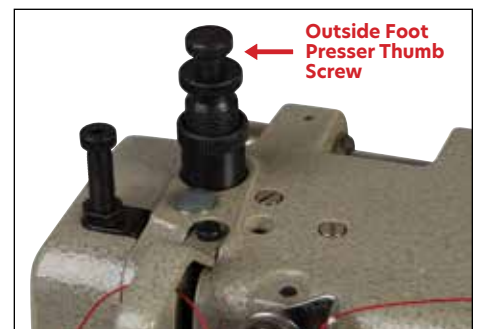


Figure 26

ADJUSTING MOTOR SPEED

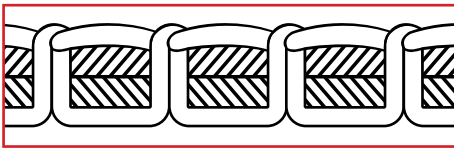
You may want to change the top speed of the machine depending on your project. For more intricate projects, a slower speed is generally better. A faster speed may be more desirable on larger projects.

1. Locate the Speed Dial on the servo motor and set to the desired speed (**Figure 27**).



Figure 27

ADJUSTING THREAD TENSION



Wrong

When the knot is on the top of the material, decrease upper tension by turning the Top Thread Tensioner counterclockwise (**Figure 28**). If decreasing the upper tension alone does not solve the issue, increase Bobbin Case Tension by tightening the screw clockwise (**Figure 29**).

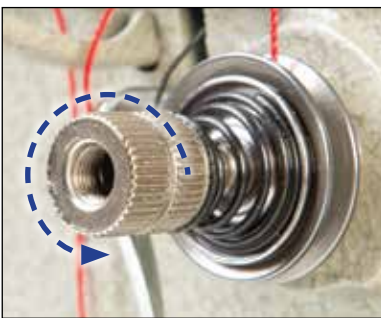
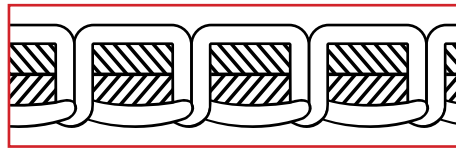


Figure 28



Wrong

When knot is on the bottom of material, increase upper tension by turning the Top Thread Tensioner clockwise (**Figure 30**). If increasing the upper tension alone does not solve the issue, decrease Bobbin Case Tension by loosening the screw counterclockwise (**Figure 31**).

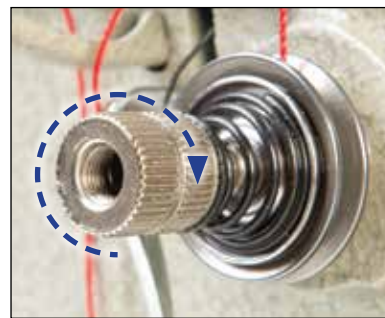
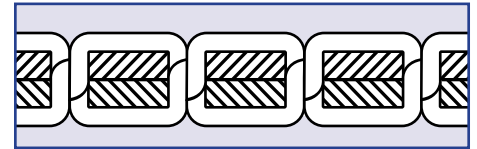


Figure 30



Correct

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



Figure 29



Figure 31

STARTING TO SEW

1. Plug in the Weaver 303 and turn on the servo motor.
2. Using either the Lift Lever at the back of the machine or the Knee Lift, raise the presser foot. Insert material and lower presser foot onto material.
3. As you start to sew, you should hold the thread from both the bobbin and the needle behind the foot.
4. To begin sewing, press the foot treadle, releasing the thread you are holding after you've completed a few stitches. **Important Tip:** If you do not hold the thread behind the foot for the first couple of stitches, you may experience a tangle of thread at the beginning.
5. Rest your foot fully on the treadle to sew. Apply heel pressure to activate the motor brake and stop.

Caution: Do not operate the threaded machine without material under the presser foot and the foot lowered. This will likely lock up the machine, making the machine inoperable until the thread jam is cleared.

WEAVER 303 REPLACEMENT PARTS

1. **63501-200** Presser Foot
2. **63501-201** Feed Dog
3. **63501-202** Bobbin
4. **63501-203** Rotating Shuttle
5. **63501-204** Needle Plate
6. **63501-205** Hook
7. **63501-206** Bobbin Case
8. **63501-207** Roller Guide