

# The Sailrite SR200 & Long Arm Guidebook

James Lowell Grant, Ph.D., M.S.A.

*Editing & Illustrations by Matthew Meredith Grant*



*Self-Reliance Under Sail*

SAILRITE

4506 S. State Rd. 9-57 • Churubusco, IN 46723

ph 260-693-2242 • toll free 800-348-2769 • fax 260-693-2246

E-Mail: [sailrite@sailrite.com](mailto:sailrite@sailrite.com)

**SHOPPING CART ONLINE ORDERING  
at [www.sailrite.com](http://www.sailrite.com)**

## Table of Contents

<b>A Word from Jim Grant</b> .....	2
<b>Components</b>	
The Packaging .....	2
The Head .....	2
The Case .....	2
Power Stand Parts .....	2
The Parts Bag .....	2-5
The "MONSTER" Balance Wheel / Handcrank .....	5, 6
The Power System .....	7, 8
Bobbin Winders .....	8, 9
<b>Preparing to Sew</b>	
Thread and Needle Selection .....	10
Winding Bobbins .....	10-12
Threading & Changing the Needle .....	13, 14
<b>Sewing</b>	
Selecting the Desired Stitch .....	15-17
Adjusting Devices for Proper Stitching .....	18-21
Bobbin tension .....	18
Upper thread tension .....	18-20
Take up spring tension .....	20
Presser foot tension .....	21
Presser foot height .....	21
Feed dog height .....	21
Feed dog movement horizontally .....	21
Beginning to Sew	
Basting .....	22
Starting .....	22
Reversing .....	22
Changing Directions .....	23
Removing the fabric .....	23
<b>Maintenance</b>	
Cleaning of the Feed Dog and Shuttle Hook Assembly .....	23
Oiling .....	23
<b>Machine Adjustments</b>	
Timing .....	24-25
<b>TROUBLE SHOOTING GUIDE</b> .....	26-27
<b>SCHEMATICS</b> .....	28-35

**SHOPPING CART ONLINE ORDERING**  
at [www.sailrite.com](http://www.sailrite.com)

# THE SAILRITE SR200 & LONG ARM MACHINES

*Please note: Sewing machine part numbers found in parenthesis through out the text refer to the part numbers found in the schematics for the SR200. Since the assemblies for both machines are almost identical they can be used to locate parts on the Long Arm.*

## A Word from Jim Grant

The SR200 and the Long Arm machines are two of the finest sewing machines available anywhere. They come directly from the company responsible for their distribution. In the place of the face-to-face instruction that a dealer can provide, Sailrite offers this very complete instruction booklet—

It is important—be sure to read it carefully.

It is our goal to make owners as independent as possible. We want owners to be able to keep their machines working properly. Although Sailrite is here to help, there will be times when our help is not readily available. Studying this booklet and using the machine should prepare you to solve most problems.

We recognize, however, that printed material can never be so complete as to anticipate every matter. If questions arise, call (219) 244-6715 for technical assistance. Sailrite is open from 8:00 AM to 5:00 PM EST Monday through Friday.

## Components

### The Packaging

The SR200 and the Long Arm machines come in two large boxes that provide very secure support for the machine and its case. It is important that the original boxes and foam packing be saved. They must be used to return a machine for service. Machines which are returned inadequately packaged are often damaged and, even if they are insured, the damage claim will not be honored by the carrier.

### The Head

The portion of the machine called "The Head" is the cast iron bed and the arm of the machine. It is double boxed to guarantee safe delivery. Take care when unpacking this box. The head is very heavy.

## The Case

The case was custom designed out of maple plywood. It is finished with a marine varnish for protection.

Packed inside the case is the Sailrite "MONSTER" Balance Wheel / Handcrank—a balance wheel with a bolt-on handcrank, the light, a 1 oz. spool of sailmaker's thread, an industrial bobbin winder for the SR200 (the Long Arm's is built-in), a thread stand, the motor, its foot control, screwdrivers, power stand parts, the guidebook, the parts bag and a piece of cloth. After the machine was set up, it was thoroughly tested and the cloth sample enclosed was sewn. (If a Universal SR200 was ordered, the control box will also be inside the case.)

## Power Stand Parts

These are assorted bars and cast iron parts for mounting a knee lever in a power stand (a large industrial table which holds the machine and a 1/3 horsepower motor). Power stands are optional pieces of equipment. They are excellent for high speed production work and can be purchased from Sailrite (call for details).

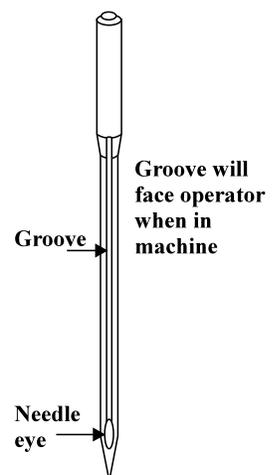
Keep these powerstand parts for possible use in the future. Note: these parts are not used for portable operation.

## The Parts Bag

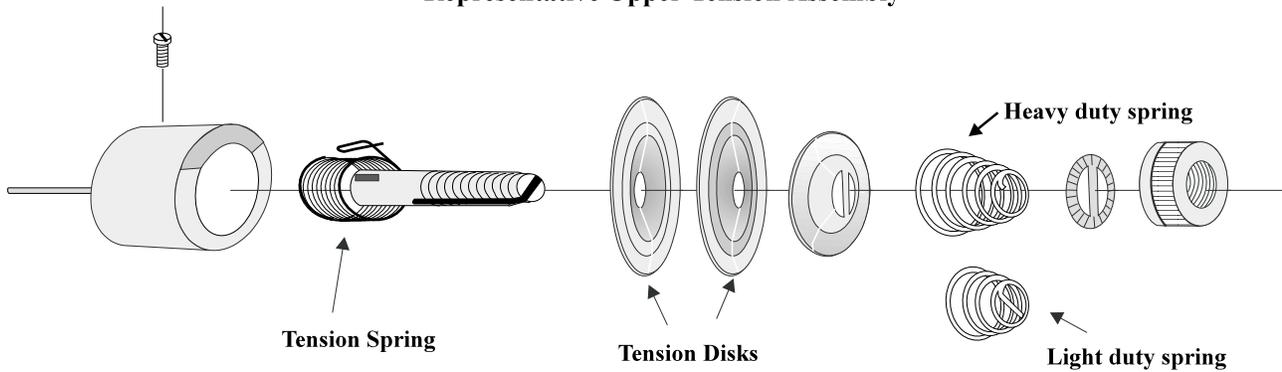
In the parts bag are:

### 1) 60 needles of assorted sizes —

Note that these needles are type DPx5 (also distinguished as 135x5). The standard domestic sewing machine uses System 130 needles. If there is trouble finding DPx5 needles locally, call Sailrite. We have a complete stock.

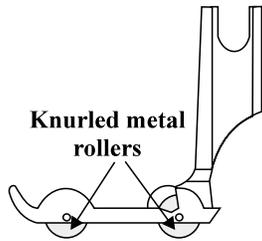


## Representative Upper Tension Assembly



### 2) A roller presser foot —

This foot is excellent for use with any materials which tend to stick to polished metal surfaces. Leather and vinyl-coated materials, for example, are hard to feed through the machine evenly without the roller foot. The roller foot, however, does not press down on the material as close to the needle as the other feet and it may tend to bury itself in soft, thick fabrics; so use it only after testing its effectiveness.



### 3) A light presser foot spring —

The presser foot spring pushes down on the foot that holds the material against the feed dog. If the pressure is not sufficient, the foot will lift slightly causing a smaller than normal loop of thread at the eye of the needle and skipped stitches may result. The downward pressure also makes the feed dog that pulls fabric through the machine work — more pressure generally improves feeding with heavy or slippery fabrics.

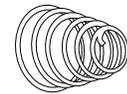


A heavy duty presser foot spring has been installed in the machine. It is just right for most cover and sail jobs. When working with light weight or easily marked materials, it is necessary to ease the pressure the foot exerts downward on the cloth by partially unscrewing the black knob

which holds the spring in place. This knob and the spring are found on top of the machine above the presser foot assembly. If this does not ease the pressure enough, unscrew the knob all the way, remove the heavy spring and replace it with this lighter duty spring.

### 4) Upper tension springs —

Two beehive upper tension springs are included. They are used to put tension on the upper thread so that the loop of thread encircling the bobbin can be pulled snugly up against the bottom of the fabric. Note that the upper tension should be tightened when the thread on the underside is loose. Too much tension will result in puckered seams with lighter fabrics.



Heavy duty spring



Light duty spring

The "heavy duty" beehive spring comes installed in the machine. There are sixteen turns of adjustment possible on the upper tension knob. This provides a very broad range of tension. Even so, with very light spinnaker cloth or dressmaking materials, it will be necessary to unscrew the upper tension knob all the way and replace the heavy "beehive" spring with the lighter one. Note: it is not necessary to disassemble the entire upper tension assembly as shown above to change springs. Simply unscrew the chromed knob, pull out the spring and replace it. Put the spring on and then the washer and then the knob.

### 5) Machine oil —

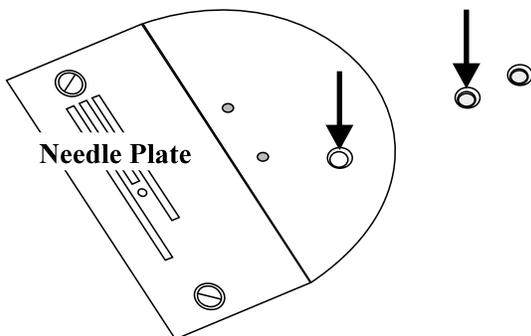
Oil the machine upon arrival to become familiar with the oiling locations. It is best to lightly oil everything that moves with a good light weight machine oil every 6 to 8 hours of sewing. In moist climates, or if the machine has set idle for a while, it should be oiled before use. **Use only light machine oil**, products like WD-40 will not protect the machine from rust due to the use of kerosene and other penetrants which are much too thin to provide long term protection. See oiling page 22.

### 6) Thumb screw —

The thumb screw included is used for installing special attachments like binders or hemmers. It will not be used unless a special duty attachment is purchased.



When it is needed, use this screw with its short threaded shaft in the first hole found to the right side of the needle plate. Any attachment purchased should include two thumb screws. Use only one of the screws that comes with the attachment and place that screw in the second hole to the right side of the needle plate (see diagram).



### 7) Seam ripper —

A very nice, heavy duty seam ripper that won't roll around is included with the machine.



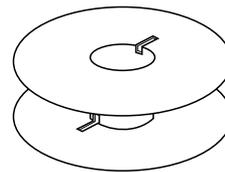
### 8) Double sided brush —

It is normal for thread shavings to accumulate on the bobbin shuttle. This can eventually lead to poor stitch quality. So use the brush frequently to keep the shuttle clean.

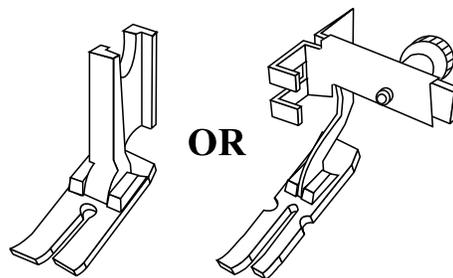


**The following items are also found in the parts bag.** Their uses will be discussed farther on in the guidebook.

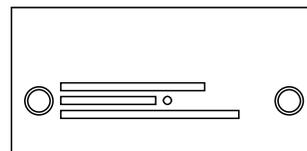
### 9) Bobbins —



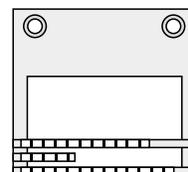
### 10) Straight stitch feet —



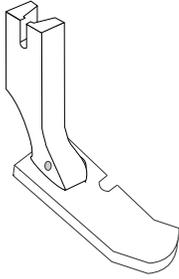
### 11) Straight stitch plate —



### 12) Straight stitch feed dog —

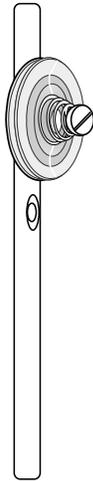


### 13) Right roping zipper foot —



### 14) Thread guide w/tensioner —

Push this post into a hole on the top of the machine (see Threading Diagram page 12). Sailrite does not recommend the use of this tensioner. It can create too much upper tension causing thread & needle breakage. When the machine was tested this assembly was not used.



### 15) Plastic hand crank handle —



### 16) Shoulder bolt for the handle—

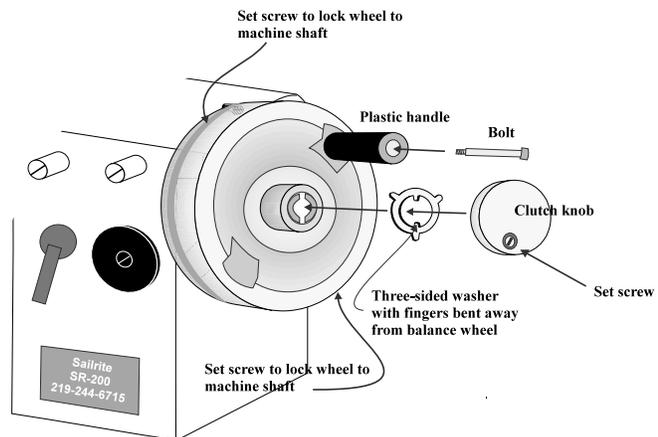


## The "MONSTER II" Balance Wheel / Handcrank

For protection in shipping the large diameter balance wheel "The MONSTER II" and the motor have been removed from the machine. The machine comes with a light balance wheel mounted. This light wheel should be saved. It would be used if the machine were placed in a powerstand. For portable operation the weight of the Monster II Balance Wheel is desirable. And, of course, the hole in the wheel's rim provides a means by which the hand crank is attached for hand operation (see diagram).

### Installing the Monster II Balance Wheel

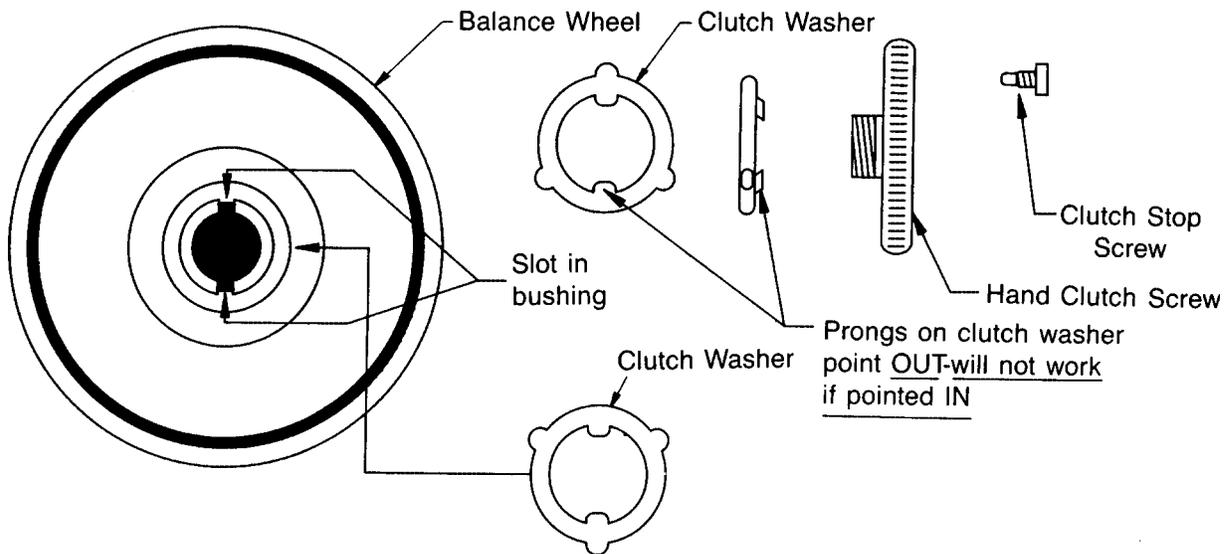
First remove the small set screw along the edge of the clutch knob. (Refer to Illustration "Removing and Installing the Clutch Knob".) Then the knob will unscrew all the way off the main shaft. Pull the light weight balance wheel off the shaft. Notice the three-pronged washer. It has two fingers in its center that are bent away from the wheel. Slide the MONSTER II wheel onto the shaft and replace the three-sided washer with its two inner fingers **bent away from the wheel** just as it was originally. Then screw on



the clutch knob. Tighten it well and secure it with the small set screw near its circumference. Now loosen the clutch knob. It should unscrew far enough to permit the balance wheel to turn freely. If not, loosen the set screw (it need not be removed), remove the clutch knob, and turn the three-sided washer 180 degrees. Assemble the clutch again, and it should perform properly. Note that the set screw limits movement of the clutch knob to 1/3 turn. This allows it to be loosened to wind bobbins without letting it come completely off. Make sure that the 1/3 turn of adjustment allows it to lock the balance wheel on its shaft.

### Removing and Installing the Clutch Knob

1. Remove clutch stop screw.
2. Remove hand clutch screw.
3. Notice position of prongs on clutch washer in slot of balance wheel bushing.
4. Remove clutch washer and rotate 1/2 turn and replace.
5. Screw in hand clutch screw very tightly.
6. Screw in stop screw.
7. Back off on hand clutch screw.
8. Run motor and check to see if balance wheel turns freely without running the machine.
9. Tighten hand clutch screw and machine should run properly.
10. If clutch is not engaging/disengaging properly, repeat Step 4 above.



**Power is increased greatly if the balance wheel is locked securely** and, so, Sailrite has made it possible to lock the MONSTER II balance wheel onto the shaft. Notice the two threaded holes in the cogged portion of the wheel. By tightening down the set screws provided in the balance wheel, we can eliminate all slippage on the shaft. We recommend that this be done to increase power. The machine includes an allen wrench to tighten these screws.

To use the hand crank portion of the balance wheel the handle must be installed. Place the large bolt through the center of the plastic hand grip and tighten it in place with an Allen wrench. **To operate the handcrank pull it forward toward you through the top of its stroke.** (Counter clockwise as you face the machine from the right). If it is turned backwards, thread may jam in the shuttle hook assembly.

**We recommend removing the timing belt when the handcrank is used.** If it is left in place, handcranking will not be as easy since extra effort will be required to spin the motor. To remove the belt push it to the side on the MONSTER II balance wheel and rotate the wheel to twist it off. To put the belt on, place it inside the large wheel and over the small pulley first and then turn the balance while guiding it into place round the large wheel from the inside (*just like with a bicycle chain*). If these operations are too difficult, the screws holding the motor can be loosened to slide the motor up and ease tension on the belt.

**Remember that under electrical power the hand crank handle should be removed. It could cause injury. And, it does throw the wheel out of balance slightly.**

## The Power System

The Sailrite machines come with one of the two power systems described below. To install the power system selected first place the head in its wooden case after removing everything which was packed inside the case.

Hold the hinges at a 45 degree angle and insert them into the ports in the back of the machine. (a helper to helper may be needed to guide the head onto the hinges.) Carefully let the machine drop into the bed of the case. Now read and follow the appropriate instructions for installing the power system.

### Installing the 110 Volt Motor

Now install the 110 volt motor. A motor bracket and two 10-32 machine screws are used to connect the motor to the machine. These are already attached to the motor or inserted in machine head. Locate the two holes which are tapped on the back of the machine and mount the motor. Simply make the screws snug. There is no need to overtighten them.

Next install the timing belt. The belt is led directly from the balance wheel to the motor pulley. The belt should be perpendicular with the center line of the machine when the motor pulley is aligned properly. If adjustments are necessary, loosen the Allen head screw that locks the motor pulley on the motor shaft and slide the pulley left or right.

If either the motor or the light is not already plugged into the outlet in the case, do so at this time. Notice that the outlet is marked "light" and "motor". Be sure to use the appropriate outlet.

When the machine has been set up completely, test the power system after removing the thread from the needle. If the belt slips, the motor may need to be lowered. If the motor is lowered too far, the motor will emit a low pitched growling sound and/or run rough (because of "bearing slap"). No harm will be done, but power will be reduced. The belt is correctly tensioned when it deflects about 1/4" when pressed down by a finger using a little pressure.

## Installing the Universal Power System

The Universal Sailmaker allows for 12 volt DC or 110 volt 60 HZ operation. Each mode requires its own power cord. This system comes with a 12 volt motor, an electronic foot control, and a 12v / 110v solid state conversion box with 12 volt and 110 volt power cords permanently attached.

A motor bracket and two 10-32 machine screws are used to connect the motor to the machine. These are already attached to the motor or inserted in the machine head. Locate the two holes which are tapped on the back of the machine and mount the motor. Simply make the screws snug. There is no need to overtighten them.

After attaching the motor to the machine, connect the motor cord to the control box cord, which is orange & black. The cords from each are keyed so they can only be connected properly. Simply push them together when aligned.

The light is also connected to the control box. It has a special two prong connector which attaches directly to the back side of the box.

Then connect the foot control to the control box. Look for the notch on the collar of the foot wire terminal and align it with the hole in the back of the control box. Push it in.

There is a toggle switch on the back of the conversion box to choose voltage. If the wrong voltage is selected, no harm is done, the machine will just not run.

Next install the timing belt. The clear plastic belt is led directly from the balance wheel to the motor pulley. The belt should be vertical when the motor pulley is aligned properly. If adjustments are necessary, loosen the Allen head screw that locks the motor pulley on the motor shaft and slide the pulley left or right.

To install the belt simply put it on the small pulley and work it around the balance wheel from the inside. To take it off for hand cranking, work it off the balance wheel to the inside.

There is a switch in the front of the control box that must be in the "ON" position before it will run. Test the power system after removing the thread from the needle. If there is some

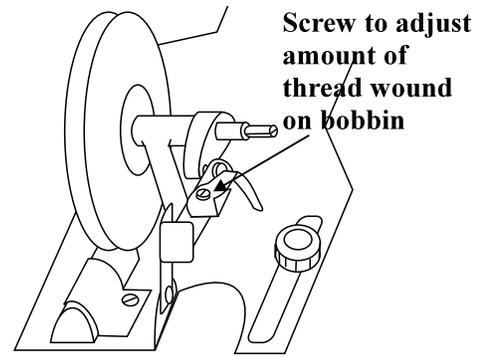
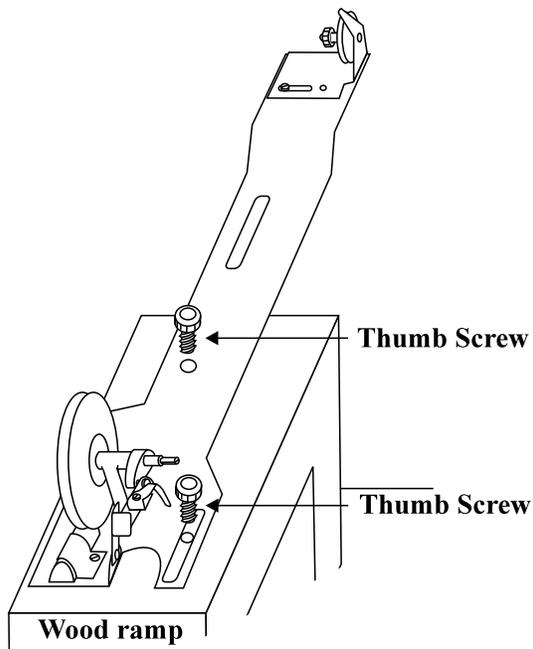
slipping of the belt on the cog teeth of the balance wheel, lower the motor. If the motor is lowered too far, it will emit a low pitched growling sound and/or run rough. No harm will be done, but power will be reduced. An electronic whine from the control box is normal and expected when operating the motor at slow speeds. The belt is correctly tensioned when it deflects about 1/4" when pressed down by a finger using a little pressure. If there are questions, please feel free to contact Sailrite.

### Installing the Light

The fully adjustable light fixture is mounted on the bracket which is screwed to the back of the machine head. To install the light fixture simply slide it down onto the bracket.

### The SR200 Industrial Bobbin Winder

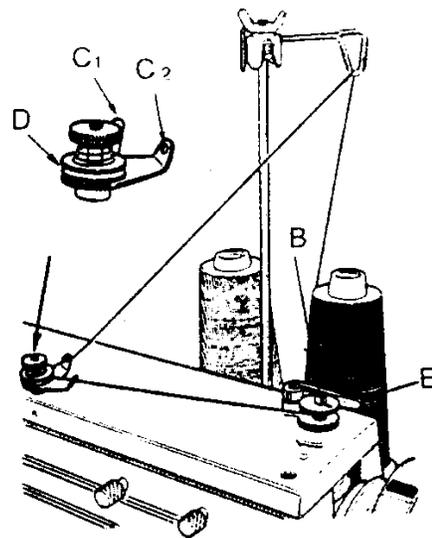
The SR200 makes use of an industrial bobbin winder to fill bobbins. It should be mounted on the slanted platform in the wooden case. The two screws used to mount it are already inserted on the platform, remove them and install the bobbin winder in the appropriate position then tighten the screws (see illustration below). The bobbin winder is preset by Sailrite so that it stops winding just before it fills. This can

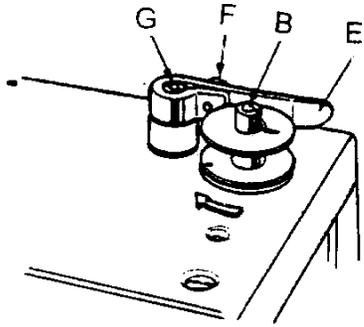


however be easily adjusted with the screw shown in the illustration above. To fill with more thread tighten the screw, to fill with less thread loosen the screw. **Note:** the bobbin winder must be removed to place the lid on the case bottom. Also notice that the bobbin winder can be used as a support for the head when tilting it back to replace bobbins in the shuttle hook assembly under the machine. But, please be careful the machine is heavy.

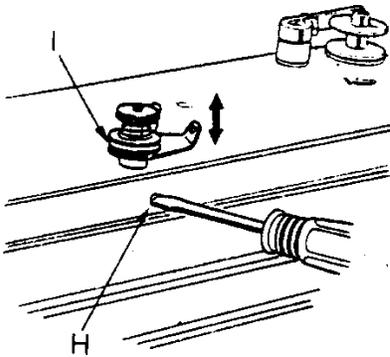
### Top Mounted Bobbin Winder

The Sailrite Long Arm has a bobbin winder built into the machine. Use it in combination with the thread stand sent with the machine (see illustration below).





The bobbin winder is preset by Sailrite so that it stops winding just before it fills. This can, however, be easily adjusted with screw "F". Loosen "F" while holding screw "G" to keep it from turning. Push lever "E" away from the operator to increase the fill of the bobbin. Pull the lever forward to decrease the bobbin fill. Finally tighten screw "F" to complete the procedure.



The final adjustment for correct bobbin winding is the vertical fill of the bobbin. When a bobbin is wound, it should be evenly filled from top to bottom. If not, adjust the height of assembly "I". This should correct uneven bobbin filling.

## Preparing to Sew

### Thread and Needle Selection

Thread size and needle size should be appropriate. If too small a needle is used for the thread size, the thread will fray at the needle. If too large a needle is used for the thread size, thread tension will be affected. Use the Selection Guide below to match thread and needle sizes to fabric weights.

Dacron (polyester) sailmaker's thread should be used for sail and canvas work. Cotton thread will work if necessary, but it is not nearly as strong as Dacron and it will deteriorate within one or two years unless treated with special care. Nylon thread, too, can be used, but it will break down under exposure to sunlight.

SELECTION GUIDE		
Fabric Weight	Needle Size	Thread Size
to 1 1/2 or 2 oz..	#12 (80) or #14 (90)	V-30 polyester
to 3 or 4 oz..	#14 (90) or #16 (100)	V-46 polyester
to 6 or 7 oz.. & 9.5 acrylics	#16 (100) or #18 (110)	V-69 polyester
to 10 oz.. & 9.5 acrylics	#18 (110) or #20 (120)	V-92 polyester

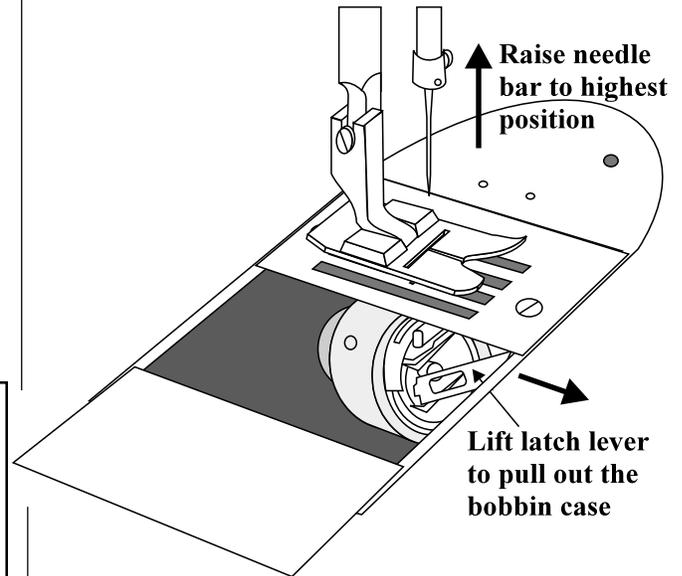
Always use the smallest needle that works. Smaller needles are easier to drive through the material, provide a neater looking stitch and make a smaller hole in the fabric. As the layers of material sewn increases, the size of the needle should increase. The Sailrite SR200 and the Long Arm accept needles as large as the Number 21. Sailrite maintains a complete stock of needles in all available sizes.

Notice that there is no flat side on the shank of the industrial needles included with the machine. This is to permit rotating the needle slightly to adjust tension from side to side. As a result, however, some care must be exercised in replacing needles. (See "Changing Needles" page 13).

## Winding Bobbins

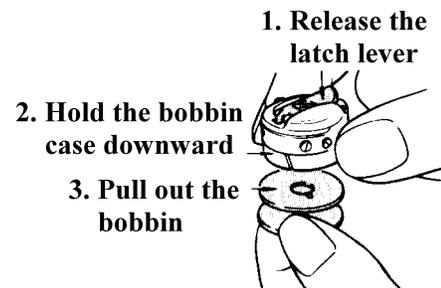
Follow the illustrations below for removing the bobbin case and bobbin and winding thread on to the bobbin.

### (1) Removing the Bobbin Case



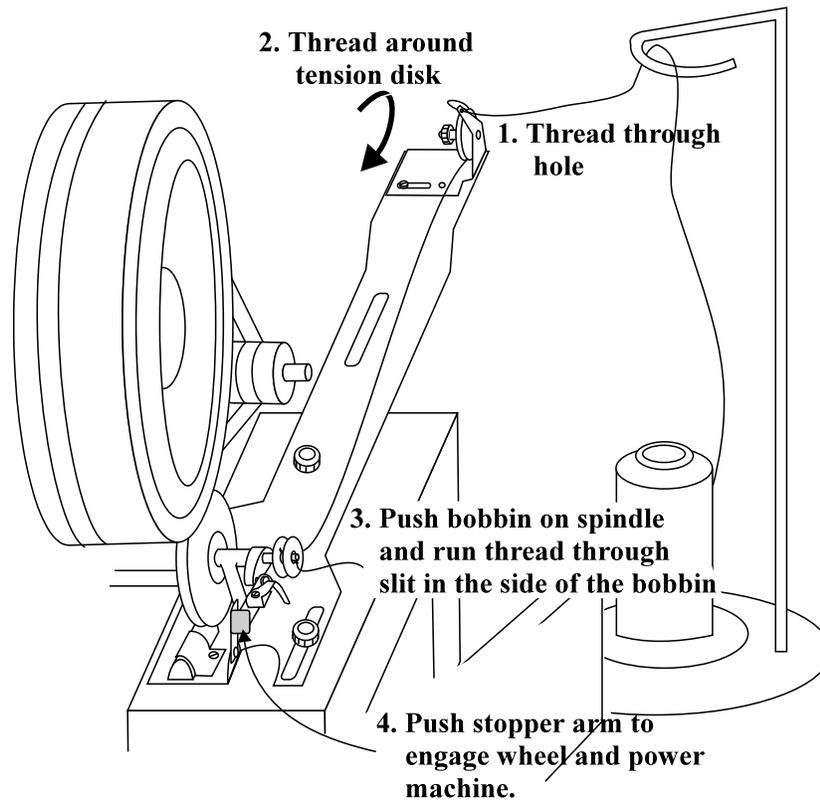
1. Turn the balance wheel toward you until the needle is at its highest point.
2. Tilt the machine head back out of its case and rest it on a support (the bobbin winder for the SR200 or a spool of thread works well) so that it will not fall back completely.
3. Lift the latch lever of the bobbin case and pull the case out.

### (2) Dropping the Bobbin out of the Bobbin Case.



Turn the bobbin case upside down and release the latch lever.

### (3) Winding Thread on the Bobbin



The balance wheel should be locked to the machine shaft for optimum performance. With the balance wheel locked on the shaft the clutch knob cannot be loosened, as is traditionally done, to wind bobbins. *We suggest one of the following:*

Simply remove the thread and fabric from under the needle and let the needle move up and down while winding bobbins.

**OR**

Wind extra bobbins while sewing. This is done by using an extra cone of thread and running it to the bobbin winder.

Place the thread on or beside the thread stand and run it through the loop of the thread stand then **for the SR200:**

1. Pass the thread through the hole at the end of the bobbin winder.
2. Pass it once around the tension disks opposite the previous hole.

3. Pass the thread through one of the holes in the side of the bobbin. Place the bobbin on the bobbin winder spindle so that the thread comes out on the right side. Hold on to the tail of thread coming out of the bobbin with light tension. Push on the stopper arm to engage the wheel and, then, step on the machine's foot pedal to wind the bobbin.
4. After the winder disengages, remove the threaded bobbin from the spindle and clip the thread.
5. Trim the thread tail close to the side of the bobbin.

**For the Long Arm** (see illust. page 8) place the thread on or beside the thread stand and run it through the loop of the thread stand and then:

1. Pass the thread through the hole "C1".
2. Pass it between the tension disks "D".
3. Pass the thread through the hole "C2". Place the bobbin on the bobbin winder spindle and run the thread through the slit in the side of the bobbin. The thread tail should be up as the bobbin is slipped onto the spindle. Hold the tail

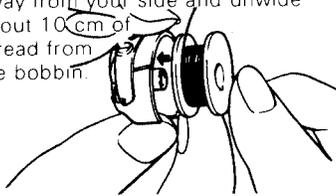
of thread and push the lever toward the bobbin to engage. Run the machine manually to wind the bobbin.

4. After the winder disengages, remove the threaded bobbin from the spindle and clip the thread.
5. Trim the thread tail close to the side of the bobbin.

**NOTE:** When the bobbin is full the bobbin winder finger automatically pulls away and stops the revolution of the bobbin.

#### (4) Threading the Bobbin Case

- 1 Hold the bobbin in such a way that the thread's winding direction points away from your side and unwind about 10 cm of thread from the bobbin.



Hold the bobbin so that the thread's winding direction is away from you and unwind about 3 inches of thread from the bobbin. Note that the bobbin will not fall out of the bobbin case when the latch lever is held open.

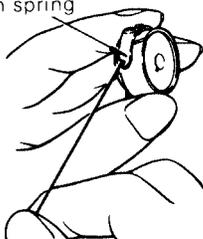


Slip the thread into the slit of the bobbin case and under the tension spring.

**NOTE:** The bobbin case is threaded differently for straight stitch sewing versus zigzag stitch sewing. See the drawings below.

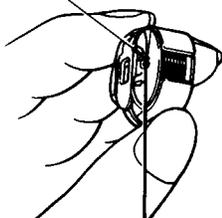
#### Straight Stitch Sewing

Tension spring

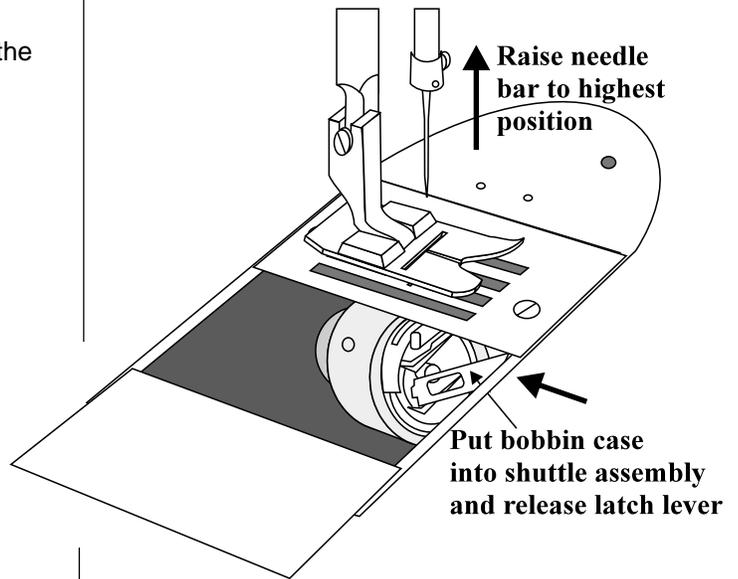


#### Zigzag Stitch Sewing

Pass the thread into the eye.

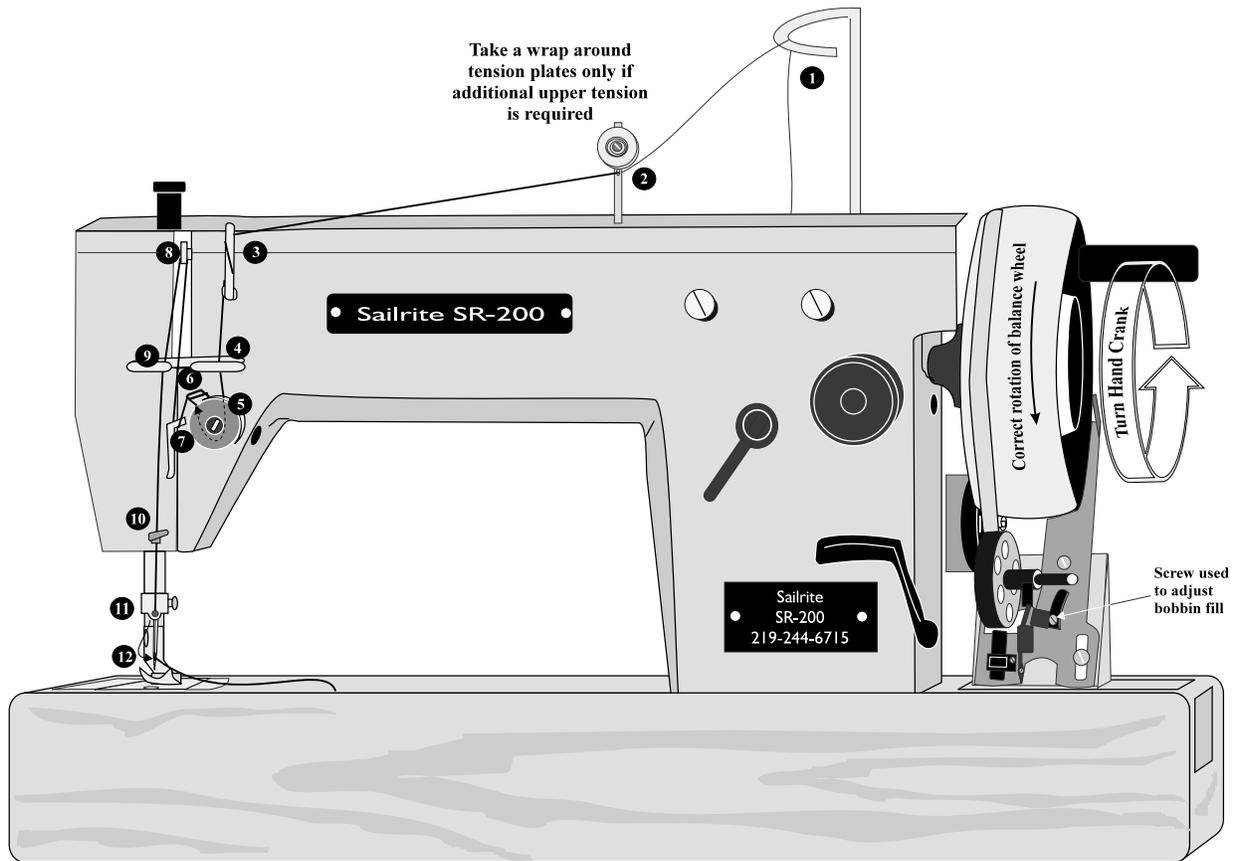


#### (5) Installing the Bobbin Case



Keeping the bobbin case latch lever open widely, fit the bobbin case back into the shuttle assembly over the shaft that is located at the center of the assembly. Release the latch lever to secure the bobbin.

## Threading the Needle

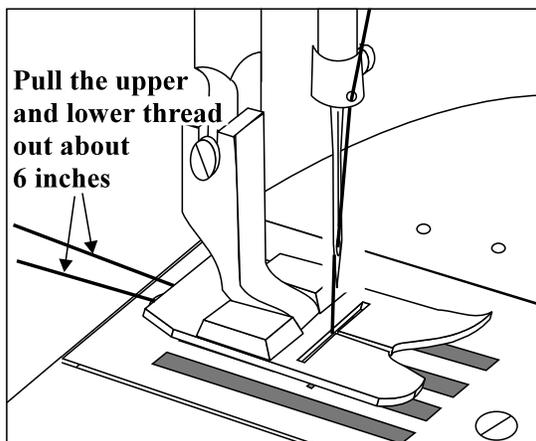
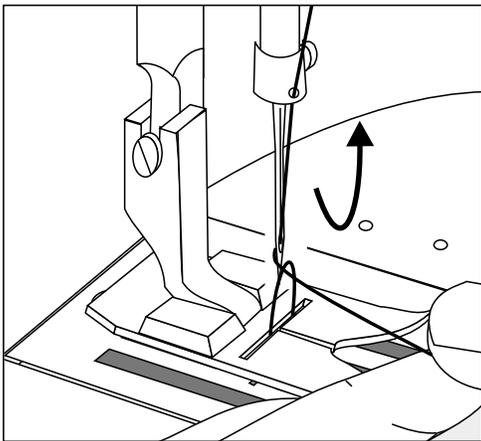


### (1) Passing the Thread Through the Guides

Place the thread on the thread stand and...

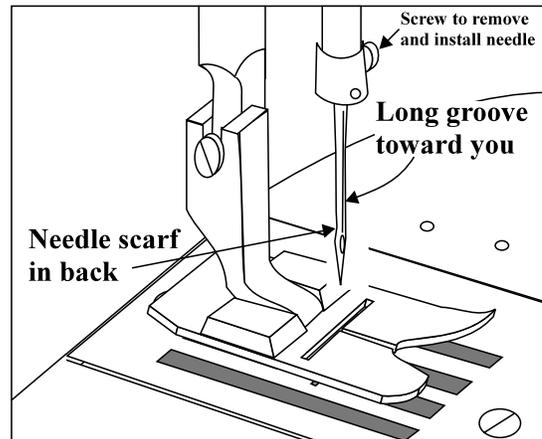
1. pass it through the loop at top of thread stand.
2. pass it through the hole in the cover thread guide—not through the tension plates. In fact, we don't recommend using this post at all.
3. pass it through the two outer holes of the thread retainer.
4. pass it through the arm thread guide.
5. pass it between the two discs of the upper tension assembly (do this twice if the thread is popping out of the disks or if more tension is needed. Use a heavier spring to resolve the second problem if possible).
6. pass it over the takeup spring.
7. go under the hook below the takeup arm.
8. pass it through the eye of the takeup arm.
9. pass it through the arm thread guide.
10. pass it through the lower thread guide.
11. pull it through the needle bar thread guide from front.
12. thread the needle from the front to the back and pull out an approximate 6 inch tail.

## (2) Picking up the Bobbin Thread



1. With your left hand hold the upper thread and with your right hand turn the balance wheel toward you. As the needle goes down and rises back up, stop the balance wheel and pull the upper thread toward you as the needle reaches its upper most height.
2. The upper thread should have caught the lower thread. The lower thread will come up as a loop through the hole in the needle plate. Pull it out about 6 inches and place it and the upper thread to the back of the needle plate.

## (3) Changing Needles



1. Raise the needle bar to its highest level.
2. Use a screwdriver to loosen the needle clamp screw.
3. Pull downward to pull out the current needle.
4. Hold a new needle with its long groove facing you.
5. Slide the needle clear to the top of the needle bar's needle hole.
6. Use a screwdriver to securely tighten the needle clamp screw.
7. Turn the balance wheel by hand to be sure that the needle falls right into the center of the needle hole.

**NOTE:** Straight, sharp needles are very important. Slight burrs cause sewing difficulties. If the needle hits metal, it is best to discard it. Indeed, anytime there are sewing difficulties, begin troubleshooting by changing the needle.

# Sewing

## Selecting the Desired Stitch

**Straight Stitching** — For work on covers or anywhere else where edges of the seamed cloth can be folded over to prevent raveling, the straight stitch is generally employed. The stitch length is seldom critical. With some fabrics, however, notably modern acrylic cover cloth (Sunbrella), the mere penetration of a needle can cause puckering. This problem can be reduced to a minimum by using the smallest possible needle and by increasing the stitch length to the maximum. In the case of acrylic covers, I prefer a straight stitch length of five millimeters. Many home and industrial machines will sew a maximum stitch length of only four millimeters, but the SR200 and Long Arm will go 20% longer and that can mean a greatly improved seam in acrylic materials.

**Zigzag Stitching** — A zigzag stitch should be employed in all sail work since it looks nice and distributes stress well inside the unfolded edges of the material. The zigs should be about 45 degrees and roughly 3/16-inch long. Try to place the outer part of the zig very near the seam edge in order to ensure that the edge of the seam does not lift. The SR-200 and Long Arm come with the presser feet, needle plates and feed dogs illustrated. The 12mm feed dog and throat plate assembly is very good for pulling heavy fabric evenly through the machine.

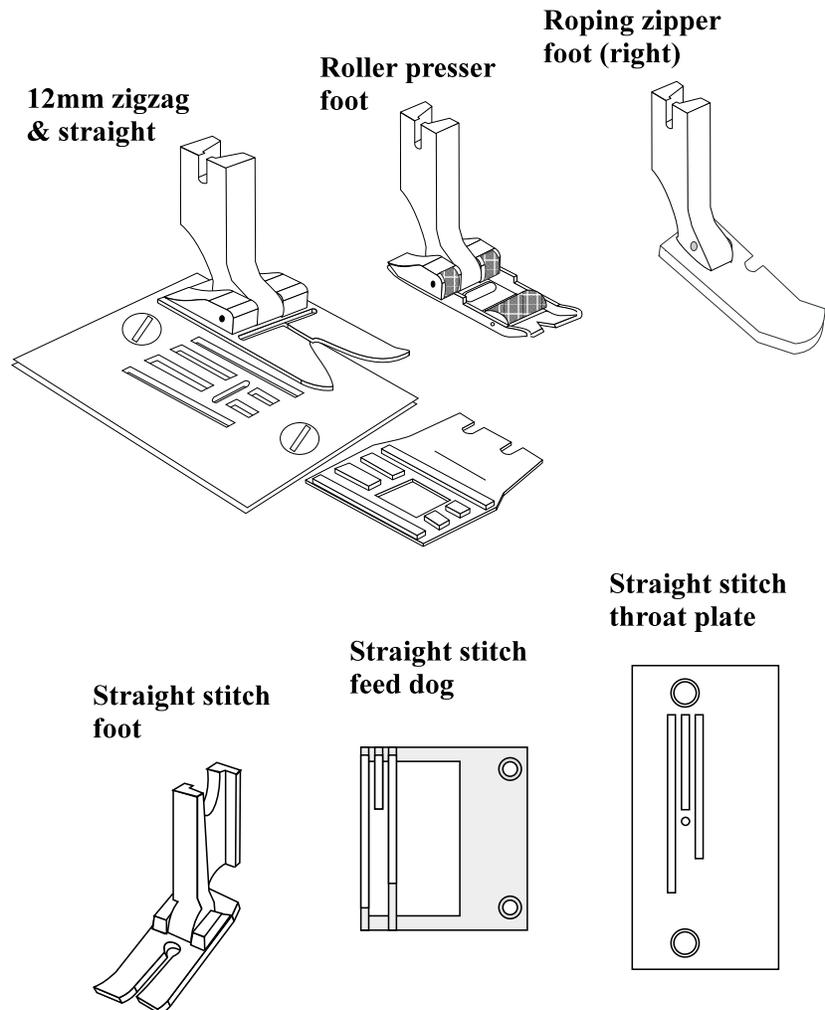
The roller presser foot is especially useful when "sticky" materials like vinyl or leather are sewn. It will often provide more even stitch length without need of a puller. Use the 12mm feed dog and plate when using the roller presser foot.

The right handed roping zipper foot is also standard equip-

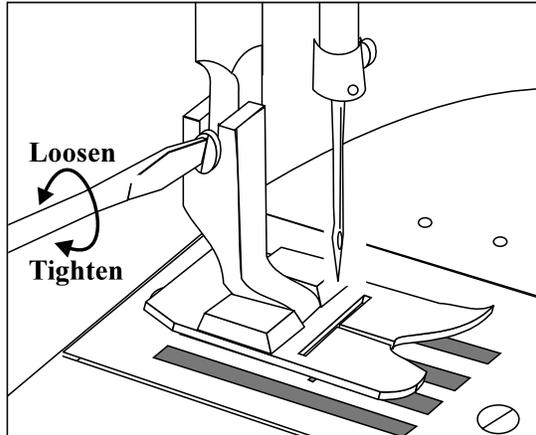
ment on the SR200 and Long Arm. It should be used with the straight stitch throat plate and feed dog.

The straight stitch foot, feed dog and needle plate should be used for highest quality straight stitching since it supports the cloth closely around the needle's penetration. This is especially important with light weight materials. And since the straight stitch feed dog has a smaller toothed surface the chance for marring delicate fabrics is reduced. The straight stitch assembly also works better with some of the other feet like the roping foot and the cording foot.

It is, however, not absolutely necessary to change to the straight stitch assembly to straight stitch. The standard 12 mm assembly can be used for both zigzag stitching and straight stitch sewing. Please don't hesitate to experiment with different combinations.



### **(1) Removing and Installing the Presser Foot for Straight or Zigzag Sewing**



1. Raise the needle to its highest level.
2. Loosen the presser foot screw.
3. Install the new presser foot and tighten the presser foot screw.

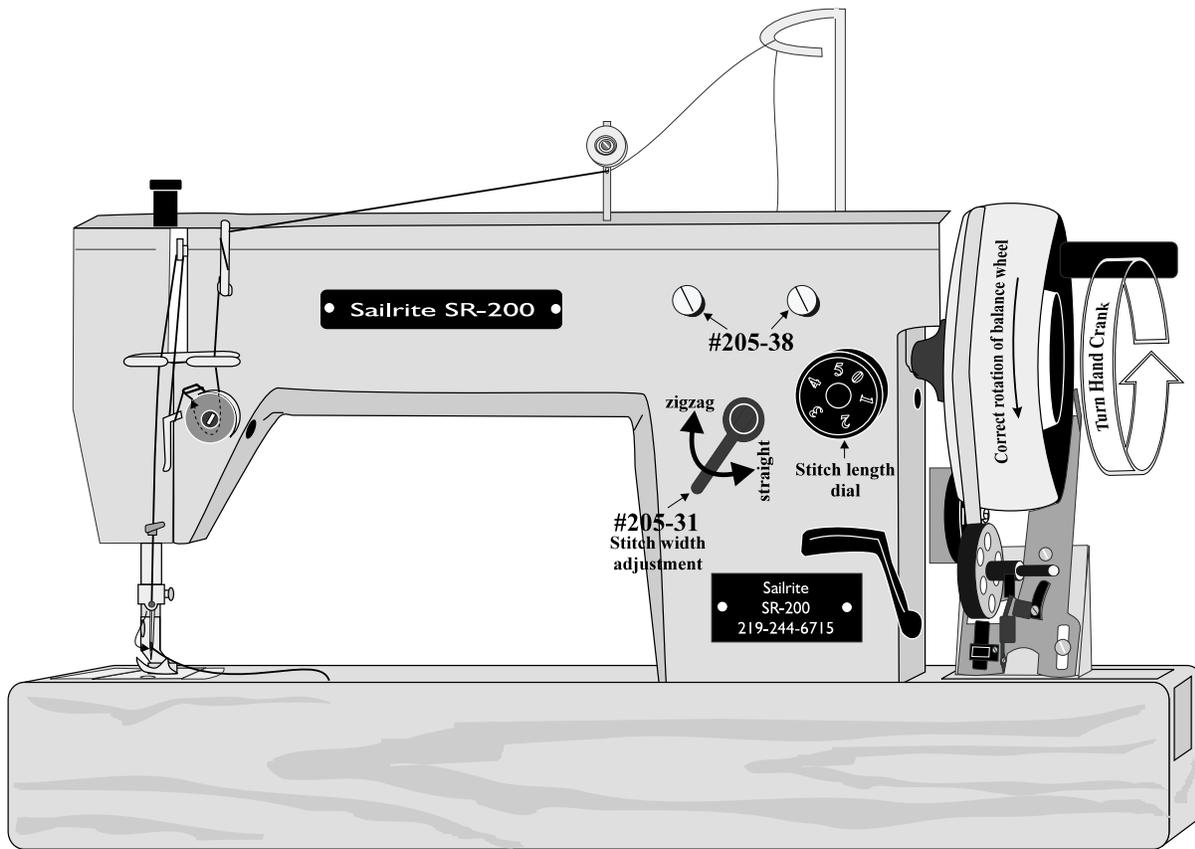
### **(2) Removing and Installing the Feed Dog for Straight or Zigzag Sewing**

1. Turn the balance wheel until the needle barely reaches its highest position.
2. Remove the presser foot and the needle plate.
3. Pry out the crescent shaped plate to the right of the throat plate. Remove the two screws which hold the feed dog in place. Note: It is important to use a high quality screw driver to remove these screws.
4. Install the new feed dog in the converse way of removing.

### **(3) Removing and Installing the Needle Plate for Straight or Zigzag Sewing**

1. Raise the needle to its highest level
2. Raise the presser foot lifter
3. Use a screwdriver to remove the (2) screws that secure the needle plate.
4. Remove the needle plate.
5. Insert the new needle plate and tighten the (2) screws.

#### (4) Setting the Stitch Length and Width



The straight stitch length is controlled by the round dial numbered 0 to 5. The numbers represent the stitch length in millimeters with 5 being the longest stitch available.

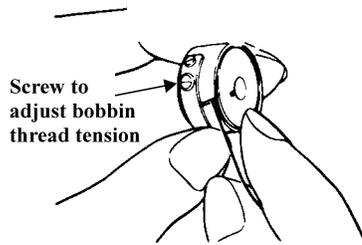
The zig zag width is controlled by the two thumb screws located to the left of the balance wheel on the front of the machine. With them minimum and maximum widths can be set. The thumb screw (**205-38\***) to the left is used to set the minimum stitch width. Tighten it to limit the clockwise movement of the width adjustment handle (**205-31\***) — straight to 12mm or anything in between.

The thumb screw to the right is used to limit the maximum width of the stitch. To sew a 6mm zig zag and then go to straight stitch and then back to the original 6mm width do the following:

1. Adjust the width handle (**205-31**) to the desired width, 6mm.
2. Lock the left thumb screw (**205-38**)
3. Lock the right thumb screw down as a memory.
4. To move from 6mm zigs to straight stitch loosen the left thumb screw until handle moves counter clockwise to its stop.
5. To move from straight stitch to the original 6mm move handle clockwise to stop and tighten the left thumb screw.

## Adjusting Devices for Proper Stitching

### Bobbin tension —



There are two tension adjustments on any sewing machine: one for the upper thread and one for the lower or bobbin thread. The screw on the bobbin cage that adjusts the bottom thread tension has a very limited range, but bobbin tension is not very sensitive — minor adjustment there is usually quite satisfactory. Indeed, **adjustment of bobbin tension is seldom necessary**. Sometimes, however, when sewing light weight fabrics, bobbin tension may need to be increased.

### Upper tension —

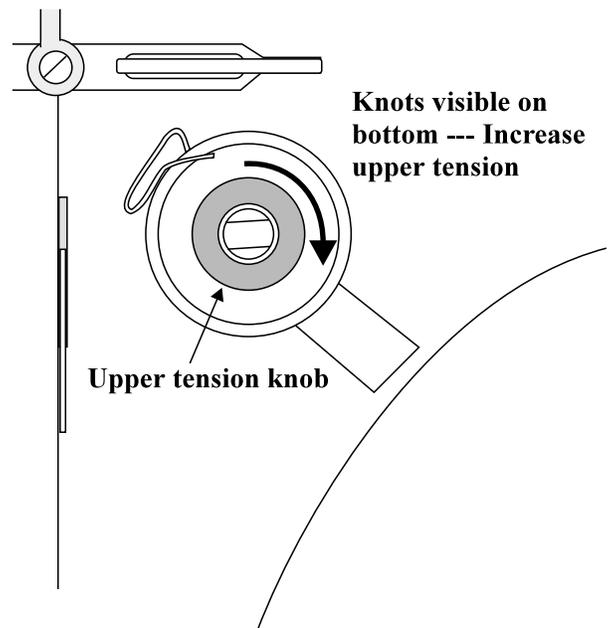
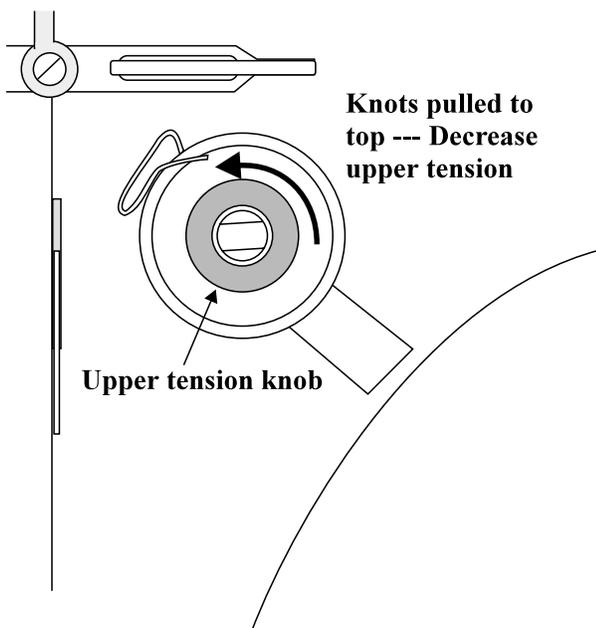
The upper thread tension is adjusted frequently. For lightweight fabrics it should be slack. Many professionals do not ease the thread tension sufficiently when sewing spinnakers and

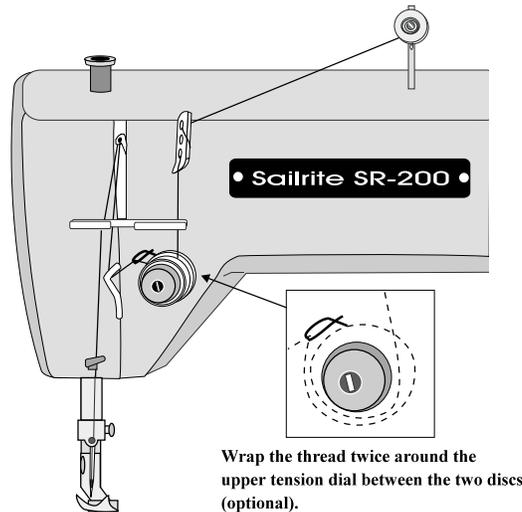
drifters. The result is a sail with puckered seams. The SR200 and Long Arm machines have an upper tension with enormous range so do not hesitate to really open it up when little tension is required.

Thread tension should be moderate on the top when sewing fabrics of moderate to heavy weight if they have a "soft" finish. Note that the finish of the cloth is of as much importance as its weight. A relatively soft finish makes it possible for the machine to pull the stitch tight with the knot actually embedded in the fabric without much tension.

**Fabrics with a firm finishes (and that includes most sailcloth), require a good deal of top tension** if the thread knot is to be pulled up snug against the bottom of the seam (seldom can the knot actually be pulled into Dacron).

**In straight stitch mode, more upper tension is required than in zigzag mode** if the stitch underside is to be pulled neatly straight. This is because the hook that catches the thread loop from the needle turns round and round from right to left. That motion tends to throw the under stitch to the side. There are two solutions to this problem. One is to not place the bobbin thread in the wire "pigtail" on the bobbin cage since that will tend to create a slight offset in the





underside stitch. The second solution is to use more tension on the upper thread than would otherwise be normal. With V-92 or heavier thread, a great deal of tension is required. If there are difficulties getting enough upper tension to straighten the lower stitch even with the heavy duty beehive spring, try wrapping the thread around the upper tension device twice (see illustration above). Indeed, no matter what stitch is used, **if the underside is loose, that is an indication that more upper tension is required.**

Note that when the presser foot is lifted the upper tension disks are pushed apart. This is to release the top thread tension so that fabric can be removed from under the machine foot without fighting thread tension. If upper tension is tightened all the way down and the presser foot is raised, the lever inside the machine that separates the disks may be bent. This will prevent the disks from opening correctly. Avoid lifting the presser foot when the upper tension knob is more than approximately 1 1/2 turns from maximum. When more upper tension is needed, replace the beehive spring with a heavier one.

**As a general rule use the following as a guide for upper tension adjustment:**

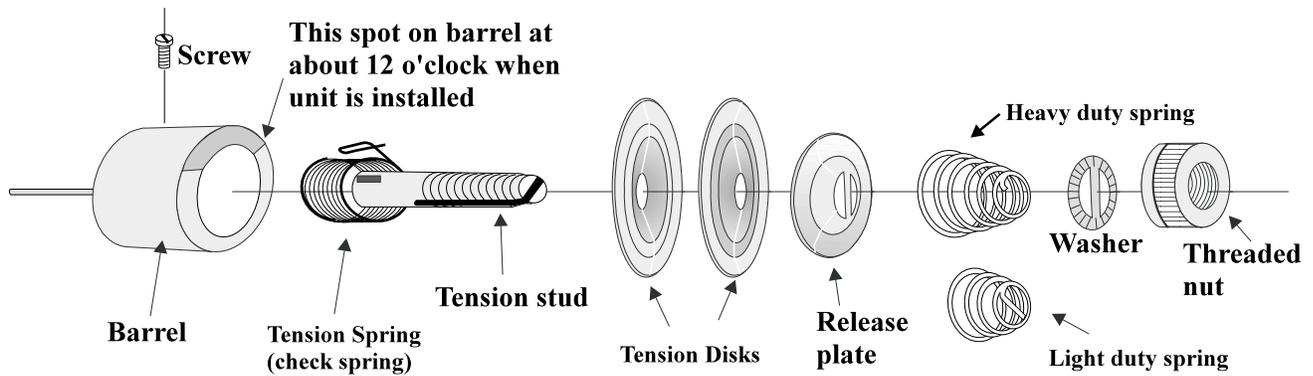
1. Heavy sewing (six or more thicknesses of sailcloth or cover cloth) — lower the presser foot and tighten the upper tension knob until it is snug. Then unscrew it three turns (360 degrees is one full turn) with the "heavy duty" beehive spring in place.

2. Medium sewing (two thickness of sailcloth or cover cloth) — unscrew the upper tension four to five turns from the "snug" position described above with the "heavy duty" spring in place.

3. Light Sewing (light weight fabrics) — unscrew the upper tension from six or more turns from "snug" when the light duty spring is being used. Note that a one turn adjustment is not at all extreme.

**The important thing is to experiment with thread tension.** And don't be reluctant to go to extremes. Most home sewing machines provide only limited tension adjustment. For some reason manufacturers have concluded that housewives are likely to get into trouble if given too much room for experimentation, but the best lessons are learned from over-adjusting, testing the result, and then moving back to a more moderate position. The Sailrite SR200 and Long Arm machines make that possible!

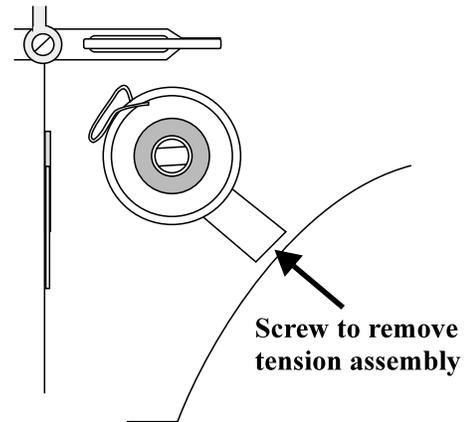
## Upper Thread Tension Assembly



### Take Up Spring tension (check spring) —

The take up spring is used to control slack in the upper thread. But it can also be used to make minor adjustments in thread tension. Generally speaking, increase its tension for heavier fabrics and reduce it for lighter materials. The tension is adjusted by turning the thread tension assembly.

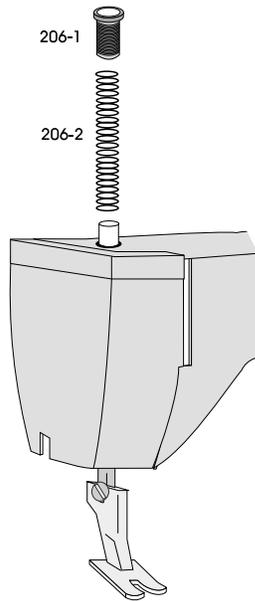
To turn the tension assembly, lower the presser foot (this removes pressure on the tension disk pin that pushes outward on the whole assembly). Then loosen the screw which is on the inside of the machine's arm to the right of the tension disk. This allows the entire upper tension assembly to be removed by pulling it towards you. With the assembly removed look for a screw near the rear end of the barrel (**see drawing above**). This set screw locks the entire tension stud in place. When it is loose, the stud can be turned by hand clockwise and counterclockwise. Maximum tension on the spring should be no more than 1/2 turns clockwise. Minimum can be as little as no tension at all with the spring against its stop. Turn the assembly clockwise to increase the spring's effective range and counterclockwise to decrease it. Once you are happy with the spring's tension tighten the screw and replace the unit into the head with the spring at top position.



### Presser foot tension —

The second point of adjustment that should be mastered is the presser foot spring pressure. This is an adjustment often overlooked but, nevertheless, extremely important. **Too little pressure will cause skipped stitches and broken thread in heavy fabrics—** the foot will begin to bounce as the needle is pulled out of the cloth, and this makes the formation of a thread loop at the point of the needle unpredictable. The SR200 and Long Arm have a screw cap over the presser foot spring which can be used to adjust spring pressure, but even the full two inches of adjustment may be insufficient. That is why there is a second heavier spring included with the machine: use it whenever heavier foot pressure is desired. (Note: the machine comes with the heavier spring installed.)

Presser Foot Spring Adjustment



### Presser foot height —

The space under the lifted presser foot can be adjusted. It is a good idea to raise it as high as possible since this makes it possible to get even 5/16" boltrope under the arm of the machine without threading it in from one end or the other. The limitation to the height of the foot is the downward travel of the needle bar — lifted too high, the thread guide at the top of the needle will hit the presser foot when the foot is lifted. Actually no harm is done by raising the foot even higher so long as the machine is not turned over with the presser foot up. And, if bobbins are wound while sewing, this should not be necessary. Note, however, that raising the foot too

high may prevent it from gripping very thin fabric properly. The machine has been sent with the foot adjusted as high as we recommend. Anytime presser feet are interchanged, the clearance between the needle bar and the new foot should be checked with the presser foot up. If the needle bar hits the foot, then care must be exercised when using the foot or the presser foot bar should be raised.

To lift the presser foot, loosen screw (206-08 see schematic) and let the presser bar bracket (206-10) slide down the presser bar (206-03). A standard screw driver is required. Sometimes this assembly is stiff and grabbing and twisting the shaft is necessary to get it to move.

### Feed dog height —

The feed dog should rise 1/32" above the throat plate in normal use. It may, however, be desirable to reduce this height with delicate materials or increase it with coarse, heavy fabrics. The adjustment is made by loosening screw (203-18) on the vertical feed lifting arm (203-17). This adjustment is found under the machine. As the machine is tilted backward away from you, you will notice it in the upper right corner.

Gently force the jaws of the lifting arm clamp apart with a screw driver blade after loosening the locking screw and rotate it slightly one way or the other in order to change the height that the feed dog rises above the throat plate.

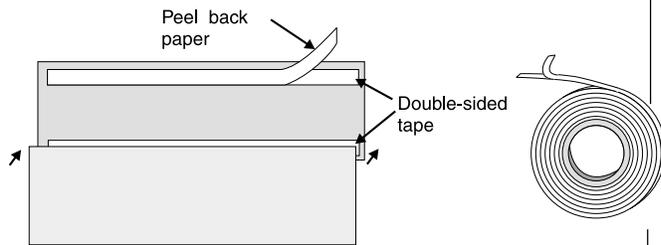
### Feed dog movement horizontally

#### (fore & aft)\* —

If the feed dog is not centered in relation to the throat plate (201-08), it can be centered by loosening screw (203-10) which holds the horizontal feed shaft (203-15). Now move the horizontal feed shaft with your fingers either fore or aft depending on which is needed. Then lock the screw again and test the new position by rotating the balance wheel. If more adjustment is needed follow this procedure again.

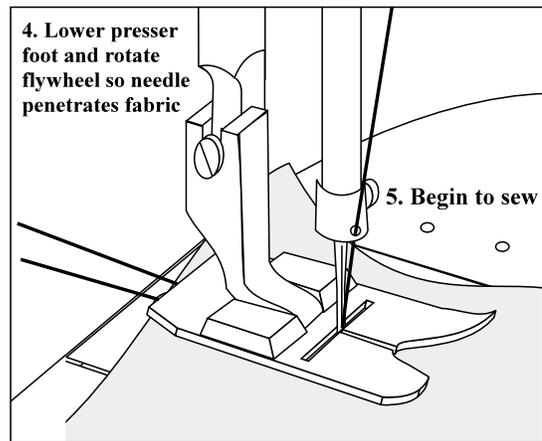
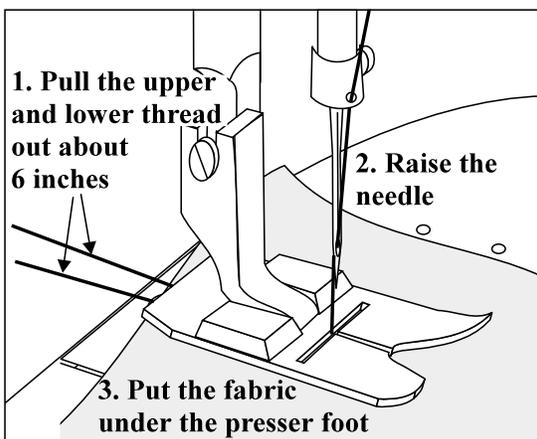
## Beginning to Sew

### Basting



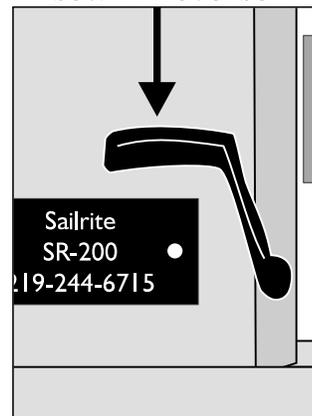
Until you are completely familiar with the machine (and perhaps even then), it is best to baste all panels together prior to sewing. This can be accomplished with a clear silicone adhesive (the stuff they sell in hardware stores as clear bathtub caulk) or with a transfer basting tape (available from Sailrite). The basting tape is fast, neat and strong, but the silicone works fine if that is all that is available. The reason for basting is that sailcloth is slippery and, unless special care is exercised, one panel of cloth in a seam (usually the bottom one) will move through the machine faster than the other. The result will be a sail with numerous creases and hard spots along each seam. Even though canvas is not so slippery a better job will result if it is carefully basted. A special acrylic basting tape is found in the Sailrite Catalog (part #129) for the coarser canvas surface.

### Starting



### Reversing

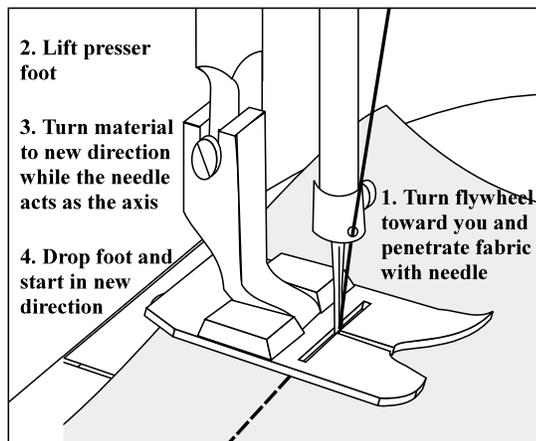
**Press and hold lever down to sew in reverse**



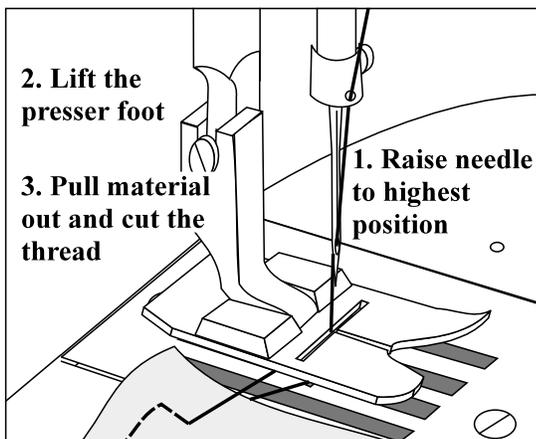
It is a good idea to reverse the machine at both the beginning and the end of a pass of stitches to lock the threads, keeping them from unraveling.

The reversing lever on the SR200 and the Long Arm is spring loaded. The machine will only sew in reverse with the lever held down. Once the lever is released the machine will automatically go back to forward stitching. Note: It is normal for stitch length to be somewhat shorter in reverse. This is because the feed dog does not grip the material as well in reverse.

## Changing Directions



## Removing the fabric



It often helps to rock the balance wheel which controls the takeup arm. This helps to pull the thread from the tension assembly and makes it easier to remove the fabric.

## Maintenance

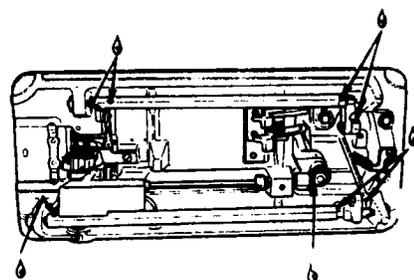
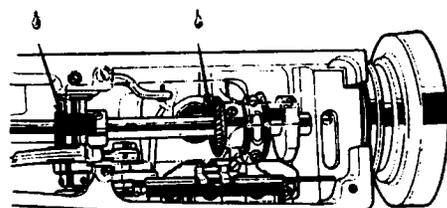
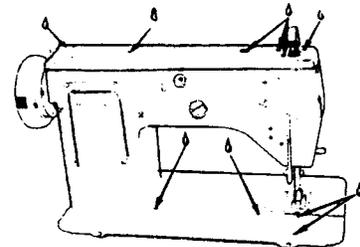
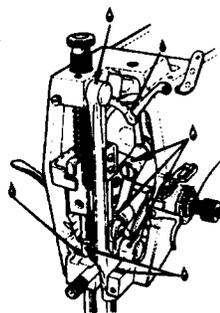
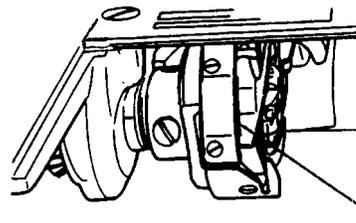
### Cleaning of the Feed Dog and Shuttle Hook Assembly

1. Remove the needle, presser foot and needle plate.
2. Clean the feed dog and shuttle hook assembly with the brush included with the machine.
3. Place a few drops of oil on the shuttle hook assembly.

### Oiling

Lubricate the machine every 5 to 8 hours of usage. Loosen screws and remove face plate and top cover. Clean and oil the places indicated. Also apply a drop of oil to all other oiling points shown. Keep the oil pad under arm top cover saturated with oil by dripping oil through the holes on the top of the machine.

Only use sewing machine oil (no WD-40). Oil after sewing and, then, run the machine without thread and with the presser foot up. Wipe excess oil off.



## Machine Adjustments

### Timing

If the machine needs adjustment, always start problem solving by replacing the needle and testing the results. The needle could be bent or dull and changing it may easily solve the problem. Make sure the needle is in correctly with the long slotted groove forward. If changing the needle does not solve the problem, then move on to these instructions on timing the machine.

To understand timing better we must first understand how the machine works. The Sailrite SR200 and Long Arm machines have full rotary mechanisms. This means that the bobbin thread hook swings round and round in a complete circle rather than oscillating back and forth. The rotary mechanism is smoother, faster, and more precise than an oscillating mechanism. Normally it is also more sensitive to minor maladjustment, but the swinging needle bar and variable speed shuttle hook design of the SR200 or Long Arm makes it extremely tolerant of deviations from proper adjustment. Nevertheless, it is a good idea to understand how to keep the machine properly timed.

There are two systems that must be kept properly related to one another in any sewing machine. First, there is the needle system. Secondly, there is the bobbin system. Working together these two systems are responsible for the proper formation of the stitch. If the machine begins to skip stitches or break thread check the relationship of these two systems.

It will be helpful if a little attention is devoted to the theory of sewing machine operation. The needle penetrates the fabric and reaches the bottom of its stroke about 1/2 inch under the fabric. It then starts up again. There is a groove on the front of the needle which allows the thread to be pulled upward with the needle there. But there is no similar groove on the back of the needle. As a result, the thread on the back side of the needle is held in place by the fabric and a loop is formed as the needle is withdrawn. The "gib" hook swings past the back of the needle roughly 1/4 inch under the fabric and catches this loop of thread. That loop is then pulled all the way round the bobbin cage by the rotation of the hook. This is what forms the locking stitch. The take up arm completes the stitch by pulling the upper thread tight. And the process repeats itself.

### Steps to Proper Timing:

#### Step 1. Determining the Proper Rotation of the Gib Hook\*

On the front of the machine set the stitch width to the straight stitch position. Turn the balance wheel toward you until the needle bar (\*202-07) is at its lowest point of travel. Near the top of the needle bar two marks have been scratched. Locate the needle bar timing mark plate (202-04), unscrew it and lower or raise it to the top most mark on the needle bar and tighten it down. This plate only serves as a reference point for timing. (If the timing mark plate does not have enough movement then lower or raise the needle bar (202-07) instead. See set screw (202-15).) Turn the machine over manually again till the 2nd mark on the needle bar is at the finger at the bottom of the needle bar timing mark plate—at this point the needle has been raised 2.2 mm from its lowest position.

At this 2.2 mm needle height set the gib hook on the rotary hook assembly (204-05) at the central line of the needle **Illustration A** and also as close to the needle as possible without touching **Illustration B**. To do this loosen the three set screws on the shaft of the rotary hook assembly. The entire assembly can now be moved left or right and also fore and aft. Position the gib hook so the space between the back of the needle and the rotating hook is about .05 - .1 mm (very, very close) and the point of the hook is at the center of the needle, then tighten the three set screws.

*These adjustments can be seen more easily if the presser foot (206-5) and throat plate (201-8) are removed.*

#### Step 2. Setting the Needle Bar Height\*

Now set the stitch width to maximum zigzag and turn the balance wheel forward manually until the needle is on the far left as you face the machine **Illustration C**. The shuttle hook point should cross exactly past the top of the eye of the needle as the needle is coming up from the bottom of its stroke on the extreme left (if the needle bar is too high or low, release its set screw (202-15) and raise or lower the needle bar. Retighten the set screw.

*These adjustments can be seen more easily if the presser foot (206-5) and throat plate (201-8) are removed.*

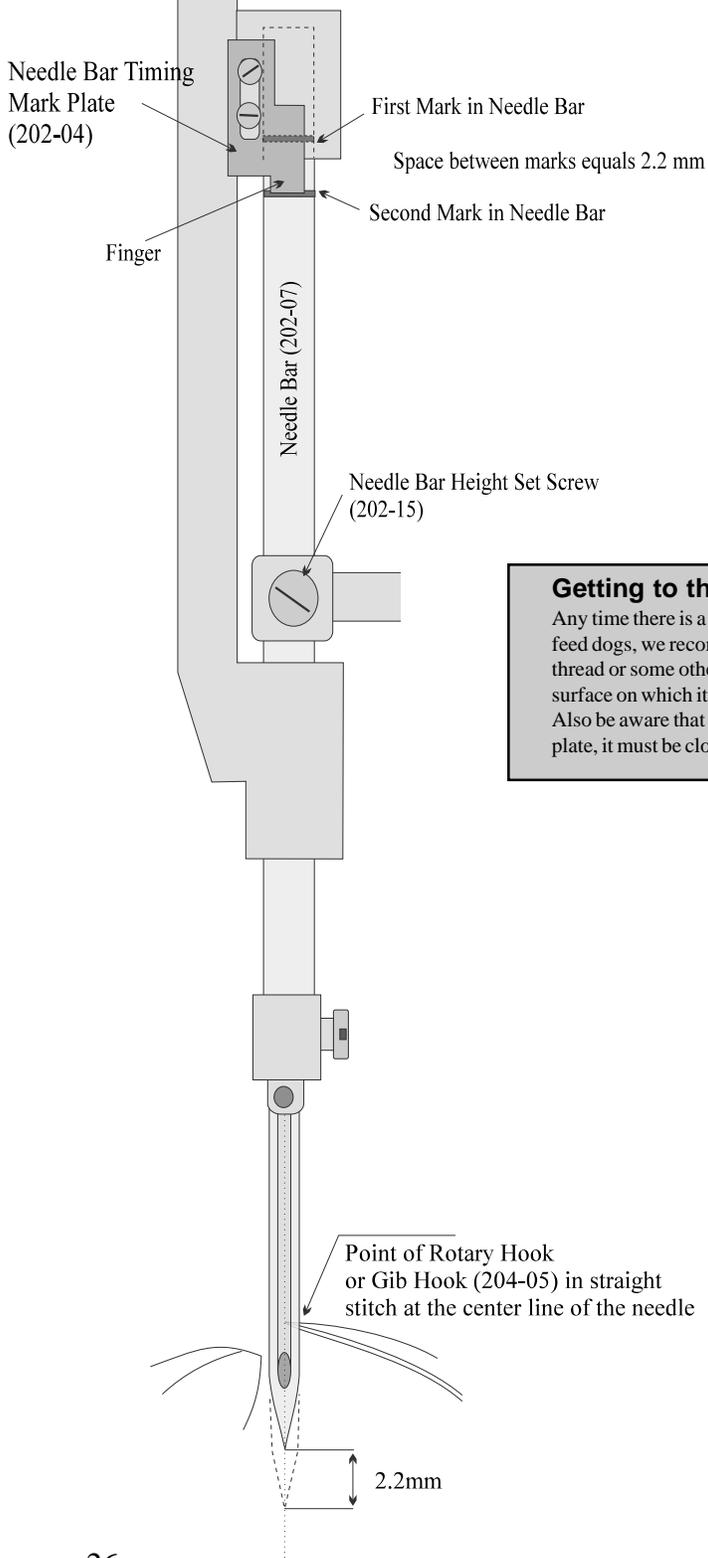
Upon reassembly, test the machine at maximum zigzag width. **If it skips stitches on the left, the hook should be rotated counterclockwise. If skips are on the right, rotate the hook slightly clockwise. If the skips are randomly right and left, the needle bar is either too high or the shuttle point is too far from the back of the needle.**

# Timing of The Sailrite SR 200 & Long Arm

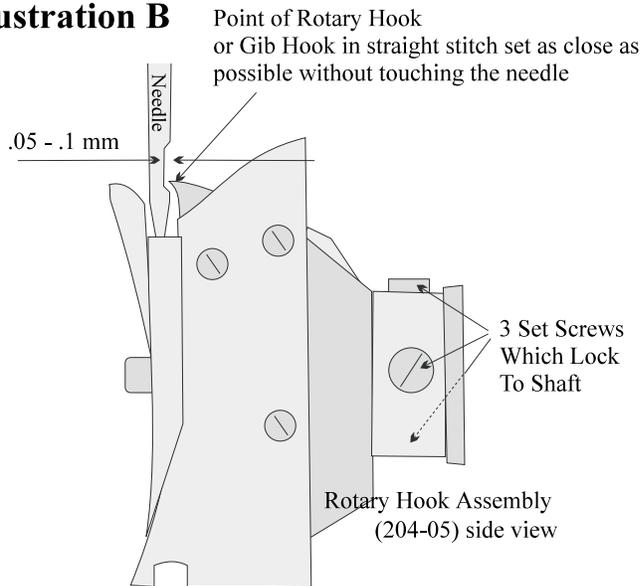
## Step 1.

### Determining the proper rotation of the Gib Hook

**Illustration A**



**Illustration B**



**Getting to the Underside of the Machine**  
 Any time there is a need to work on the shuttle assembly, replace bobbins or change feed dogs, we recommend that the machine be tilted back and rested it on a spool of thread or some other sturdy support. Tilting the machine back so far that it rest on the surface on which it is sitting may damage the electrical cords. Also be aware that since there is no cutout in the wooden case for the needle slide plate, it must be closed when the machine is lowered into the case.

**Step 2.**  
**Setting the Needle Bar Height**

**Illustration C**

# TROUBLE SHOOTING GUIDE

The Sailrite SR200 and Long Arm machines are remarkably trouble-free, but problems occur with any machine. This section should provide the help needed to deal with them. Do feel free, however, to contact Sailrite for additional help.

**1. The motor makes a clicking sound.** This will often go away in a few minutes. If it doesn't, check to be sure that the pulley slot on the motor is in direct line with the slot on the pulley that it is driving. Belt tension may also be eased just a bit. In any case, there is no damage done while the clicking is heard — it is nothing more than the ball bearings in the motor slapping as they turn.

**2. The machine is locked up and won't turn over.** This problem is often the result of a thread caught in the shuttle race under the machine. It is usually caused by turning the handcrank backwards, an easy thing to do until one gets used to the hand crank. It is often possible to find the thread sticking out of the race. Pulling on it while gently trying to turn the machine will often free it. If this does not work, remove the needle and the black position bracket (204-01). The machine will now turn freely because the whole shuttle assembly (204-05) is free to rotate.

Rotate the machine until the three small screws that secure the "horseshoe plate" on one side of the hook assembly can be seen (see illustration). It takes a very good, small screwdriver to loosen these screws. Be careful not to damage the screws. When the horseshoe plate is removed, it should be possible to move the shuttle in its race enough to free the thread. To move the shuttle in its race simply jerk the balance wheel back and forth after replacing the black position bracket (204-01)—see illustration. The position bracket must be installed so that the key fits into the notch of the shuttle. **The key should only go in half of the depth of the notch.**

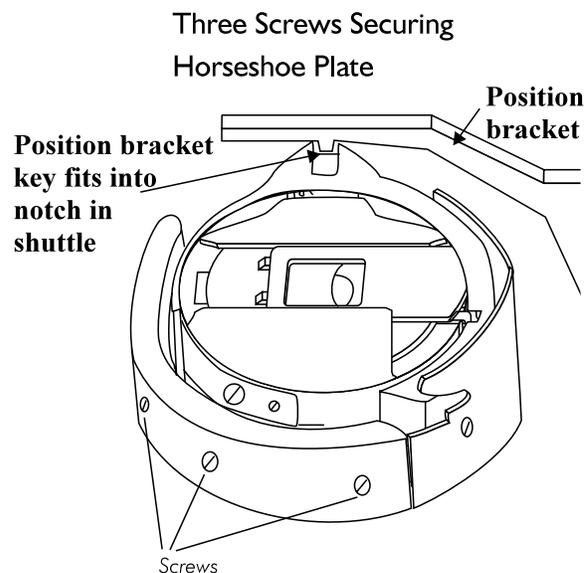
If this is not the case, then loosen the three screws that hold the entire shuttle assembly on its shaft. Pull the entire assembly off so the parts can

more easily be gripped. Freeing the thread should now be easy. Note that the inner race will come out of the outer one at only one point in its revolution. The inner race can be forced to turn but do not try to pry it out. It is not a good idea to use tools to grip the shuttle parts since they are easily broken.

If the shuttle assembly had to be removed, it will be necessary to time the machine after putting it back together (see "**Timing**"), otherwise the machine can be simply reassembled and promptly put to use.

**3. The straight stitch is not "straight" on the bottom of the fabric.** This problem is related to the design of the machine. Rotary bobbin zigzag machines like the Sailrite SR200 and Long Arm tend to throw the bottom thread to one side in the straight stitch mode. Normally this problem can be solved by removing the bobbin thread from the "pigtail" on the bobbin cage. But it also helps to increase the top tension to the point where the machine forces the stitch straight. Generally speaking more upper thread tension is necessary when straight stitching than when zigzag stitching. Increased bobbin tension may also be necessary.

**4. Tension increases when sewing in reverse.** This problem is perfectly normal. Generally this shows up only with lightweight fabrics since the fabric does not offer much



resistance to the knot being pulled through it. The presser foot does not cover and pinch the thread when reverse is used (especially in straight stitch mode). The symptoms can be reduced in severity by using a smaller needle and lower tension can be increased. Even so, one should endeavor to sew in reverse only to begin and end stitches. There is no machine that will perform as well in reverse as it does in forward.

**5. The needle is difficult or impossible to insert all the way into its hole.** If the set screw that holds the needle in place (202-10) is tightened when the needle is not in place, a metal burr can be forced out into the way of the needle. The proper solution is to run a #7 drill bit into the hole to clean out the burr. Note that the shuttle assembly must be removed in order to slide the needle bar (202-07) out of its collar downward. The machine will require timing and reassembly. Try oiling the needle prior to insertion before going to the extreme of removing the needle bar.

**6. There are loops on the underside of the fabric.** If there is a tangle on the bottom side of the fabric, there is not enough upper tension. More than likely the thread has not been pulled snugly between the tension disks on the upper tension assembly. Release the tension assembly six turns or so and re-thread the machine. Now increase the tension to its former position. Turning the tension dial up makes it easier to wrap the thread between the disks. Or double wrap the thread on the upper tension assembly.

**7. When sewing zippers, bias binding tape or other spongy materials, the stitch on the underside of the fabric is loose.** This is most likely a problem because of too much presser foot pressure (the foot could be pinching the stitch knot and preventing free movement of the upper thread) or not enough upper tension. Try decreasing foot pressure by unscrewing the spring adjustment knob on the top of the machine. To increase tension try double wrapping the thread or use a heavier upper tension spring.

## **8. The top thread snags and balls up in front of the needle eye.**

This is not a problem with the eye of the needle, rather it is usually caused by the hook snagging the thread as it rotates behind the needle. The upper thread is then pulled back through the eye of the needle when the stitch is tensioned. It balls up in front of the needle when it is drawn back down for the next stitch. The problem can be corrected by following these steps:

- Change the needle. The needle may be slightly bent. This could increase the gap between itself and the hook and lead to the snags.
- Loosen tension. Too much tension can separate the thread but it usually does not cause any balls at the needle eye. In any case try to loosen tension as a test.
- Is the needle facing forward? The long groove should be facing forward with the eye directly in front.
- Check needle height. This will determine how large the loop of thread under the machine will be as the needle is on its way up. If the needle bar slips up in its yoke, the loop will become smaller and, eventually, this will cause the hook to "spear" the thread instead of catching the loop. Refer to Timing Step 2 page 24.

## **A Final Note...**

The Sailrite SR200 and Long Arm are excellent heavy-duty machines built to be used day after day under the most extreme conditions. Even so, they are only machines. Operator experience has a good deal to do with how well the machine performs. If there is a problem, look for a solution in this guidebook. Don't be reluctant to try new techniques or approaches to the work. Don't hesitate to make adjustments. The machine won't be hurt — it is meant to take abuse. And, if all else fails, feel free to call Sailrite for assistance: (800) 348-2769.



*Self-Reliance Under Sail*

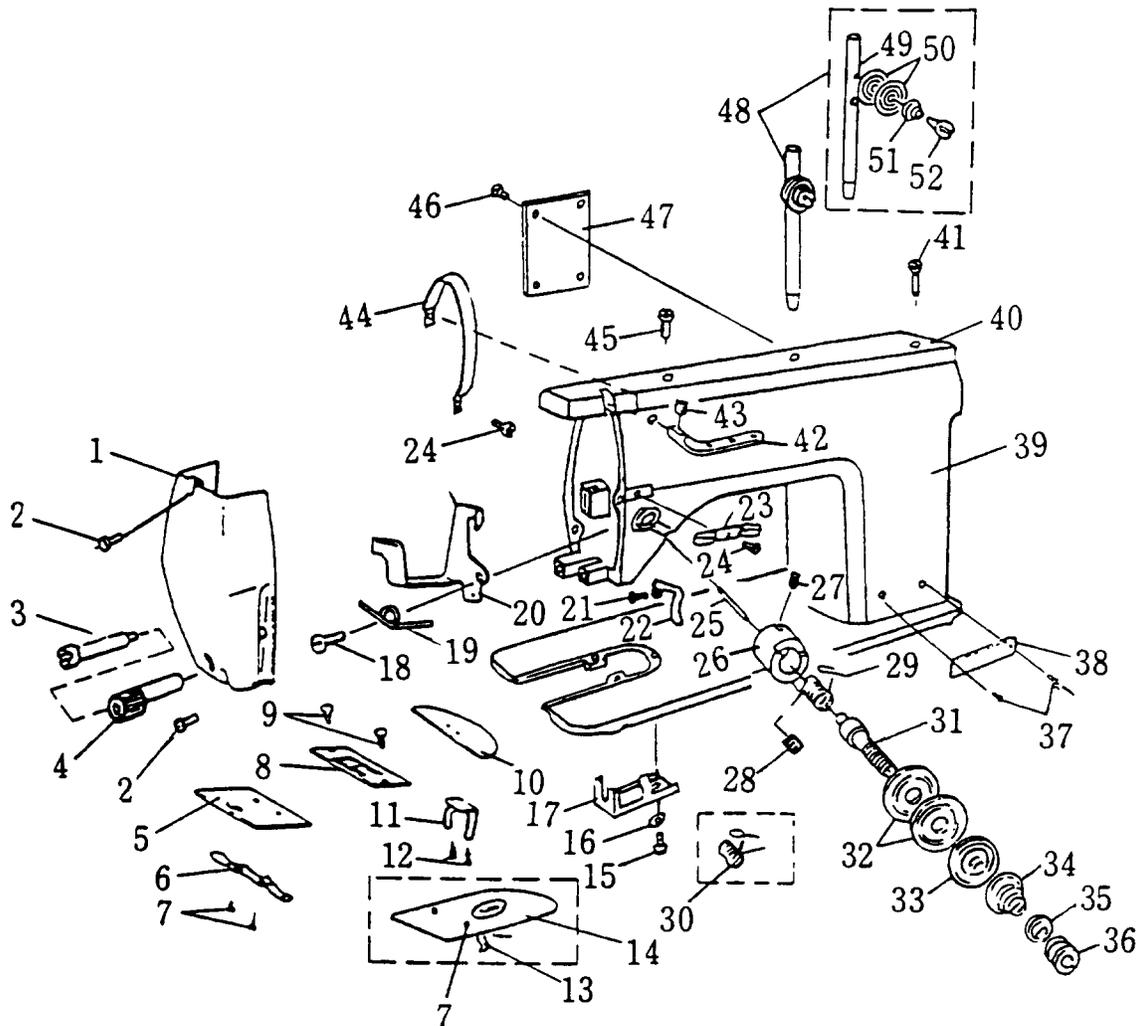
© 1997  
Sailrite  
4506 S. State Rd. 9-57  
Churubusco IN 46723  
FAX 260-693-2242  
PH 260-693-2246  
All rights reserved

Y:\Instruction Folder\Instructions\Sr200 Long Arm.pmd

# The Sailrite SR-200 Parts List

## 1. CASTING COMPONENTS

PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
201-01	FACE PLATE COVER	201-26	THREAD TENSION BARREL
201-02	FACE PLATE COVER SCREW	201-27	TH. TENSION BARL. SET SCREW
201-03	NEEDLE BAR LOCK ECCENTRIC SCREW	201-28	SET SCREW
201-04	NDL. BAR LOCK ECCENTRIC	201-29	TENSION CHECK SPRING
201-05	SLIDE PLATE	201-30	LIGHT CK. SPRING (OPTIONAL)
201-06	SLIDE PLATE SPRING	201-31	THREAD TENSION STUD
201-07	SLIDE PLATE SPRING SCREW	201-32	THREAD TENSION DISCS
201-08	NEEDLE PLATE 12mm	201-33	THREAD TENSION RELEASING PLATI
201-09	NEEDLE PLATE SCREW	201-34	THREAD TENSION SPRING
201-10	INNER NDL. PLATE	201-35	THREAD TENSION WASHER
201-11	INNER NDL. PLATE SPRING	201-36	THREAD TENSION NUT
201-12	IN. NDL. PLATE SPRING SCREW	201-37	RIVETS
201-13	SPRING	201-38	MODEL NAME PLATE
201-14	EMBROIDERY NDL. PLATE COMPLETE (OPTIONAL)	201-39	CASTING
201-15	HOOK COVER SCREW	201-40	TOP COVER
201-16	WASHER	201-41	TOP COVER LEFT SCREW
201-17	HOOK COVER SHIELD	201-42	UPPER THREAD GUIDE
201-18	THREAD RELEASING LEVER SCREW	201-43	SET SCREW
201-19	TH. RELEASING SPRING	201-44	TAKE-UP LEVER GUARD SHIELD
201-20	TH. RELEASING LEVER	201-45	TOP COVER SCREW
201-21	TH. PULL OFF SCREW	201-46	BACK COVER SCREW
201-22	TH. PULL OFF	201-47	BACK COVER PLATE
201-23	MIDDLE THREAD GUIDE	201-48	TOP CVR. THREAD GUIDE COMPLETE
201-24	MDL. TH. GUIDE SCREW	201-49	THREAD GUIDE PIN
201-25	TENSION RELEASING PIN	201-50	TH. GUIDE TENSION DISCS
		201-51	TH. GUIDE TENSION SPRING
		201-52	TH. GUIDE TENSION SCREW

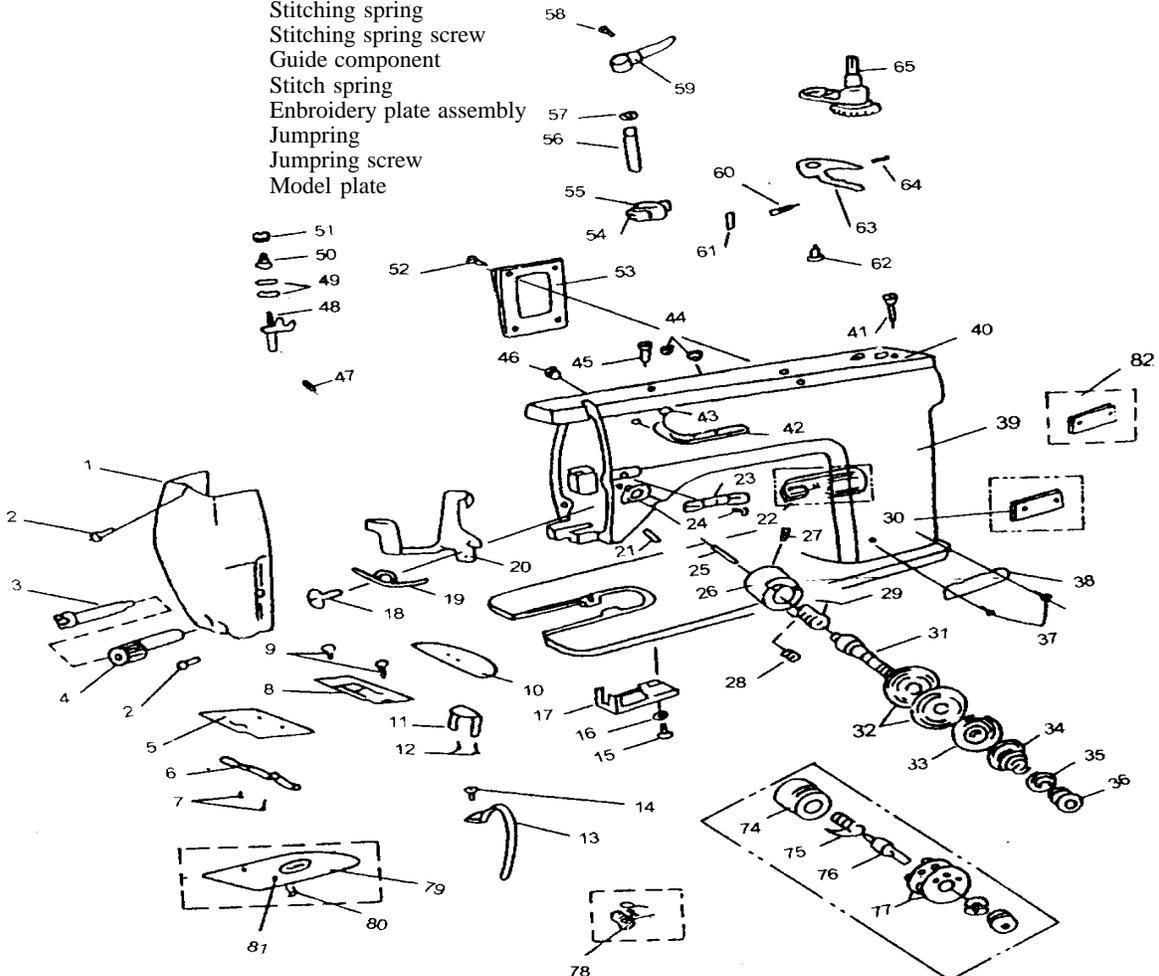


# The Sailrite Long Arm Parts List

## 1. CASTING COMPONENTS

Part numbers and descriptions are the same as those found on page 28 for the SR200 machine except for the following:

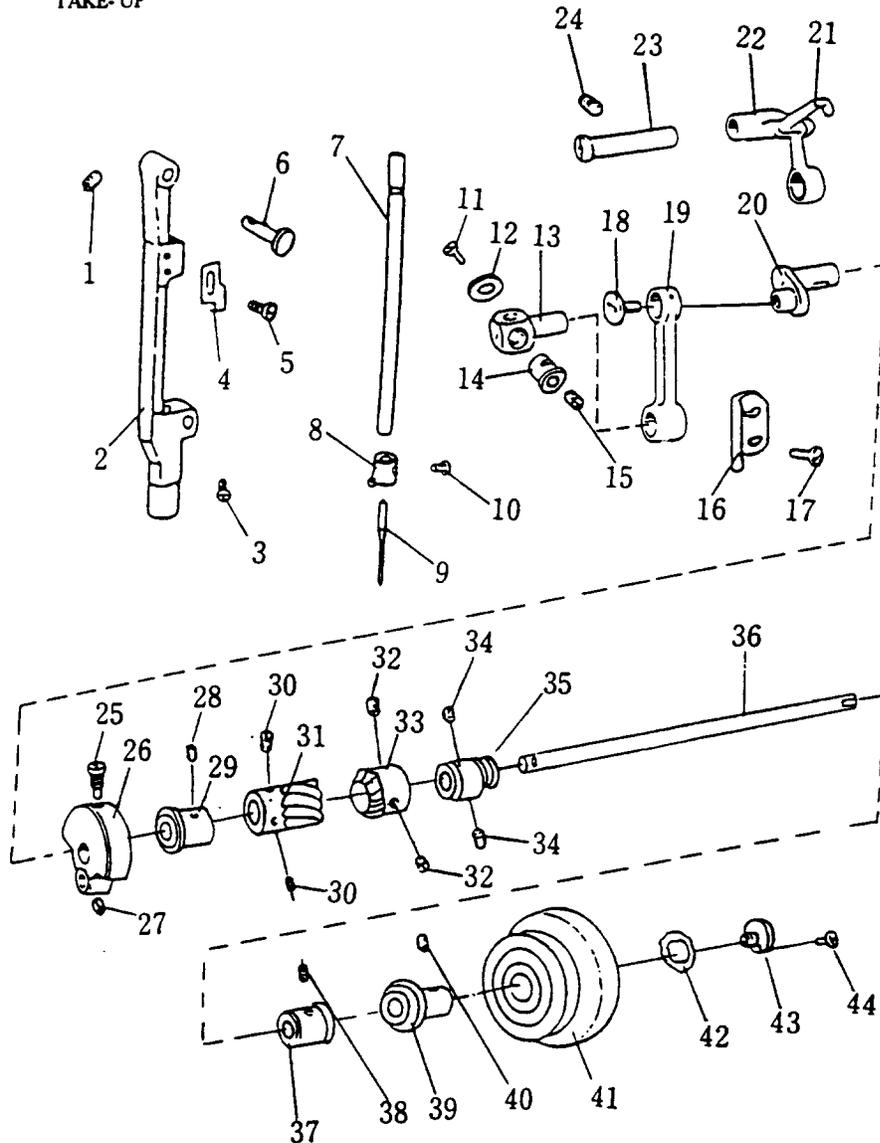
PART NUMBERS	DESCRIPTIONS
13	Stitch-staff shield
14	Stitch-staff shield screw
21	Lower thread-running pin
22	Double thread-running rack
30	Model plate
44 & 46	Rubber stopper
47	Fastening screw
48	Upper thread-running plate component
49	Upper thread holding plate
50	Spring
51	Nut
52	Back cover screw
53	Back cover
54	Locating block set screw
55	Locating block
56	Volume-adjusting spindle
57	Washer
58	Pressing plate screw
59	Volume-adjusting plate
60	Extension spring
61	Extension spring pin
62	Crank screw
63	Thread-winding swaying handle
64	Swaying handle presser spring
65	Axis component
74	Stitch-spring adjusting base
75	Stitching spring
76	Stitching spring screw
77	Guide component
78	Stitch spring
79	Embroidery plate assembly
80	Jumpring
81	Jumpring screw
82	Model plate



# The Sailrite SR-200 & Long Arm Parts List

## 2. NEEDLE BAR , TAKE-UP, AND TOP SHAFT

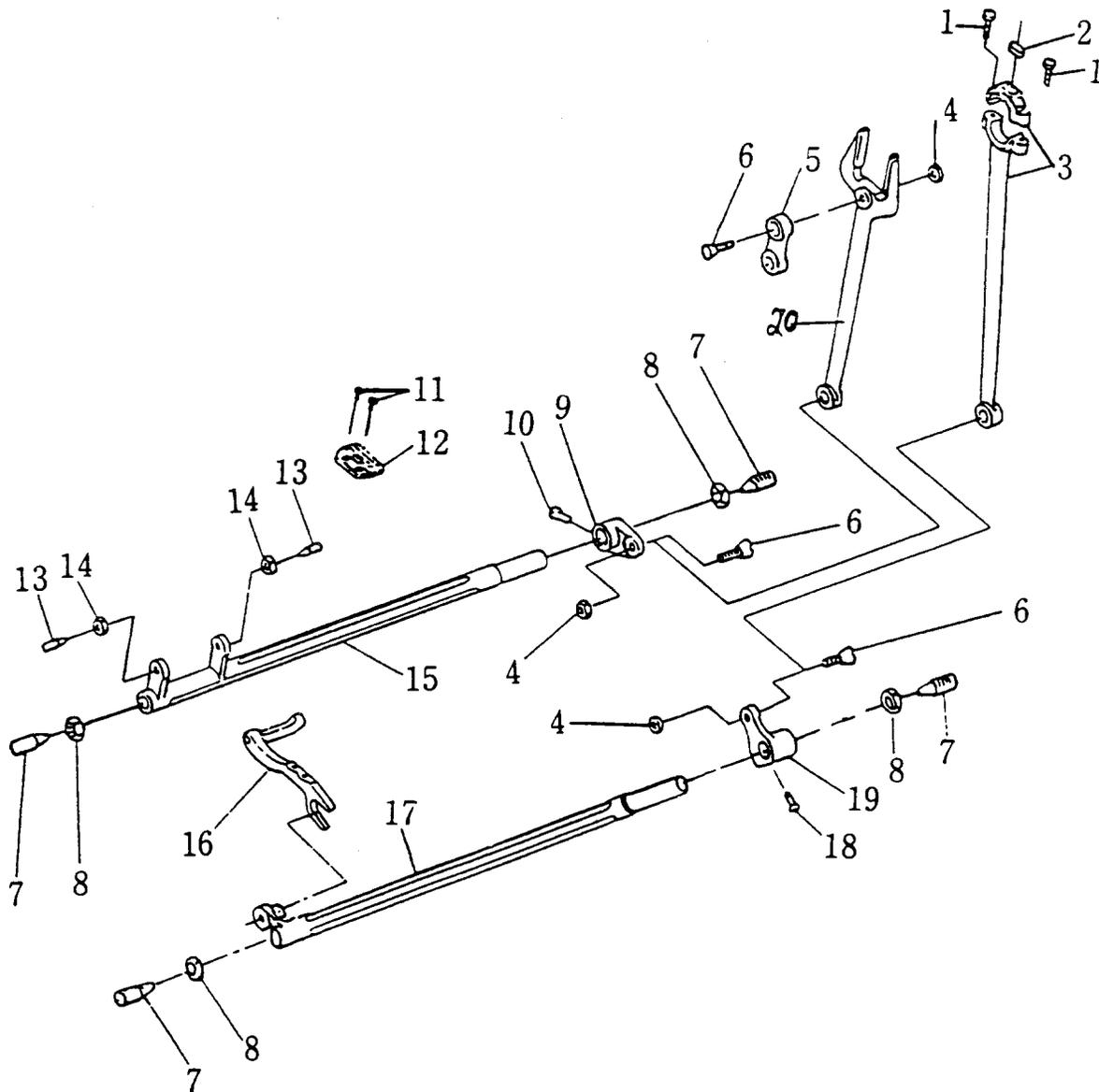
PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
202-01	NEEDLE BAR FRAME HINGE	202-23	TAKE-UP LEVER PIN
	PIN SET SCREW	202-24	TAKE-UP LEVER PIN SET SCREW
202-02	NEEDLE BAR FRAME	202-25	CRANK SET SCREW
202-03	N. BAR ECCENTRIC PIN SCREW	202-26	CRANK
202-04	N. BAR TIMING MARK PLATE	202-27	SMALL CRANK LOCK SCREW
202-05	TIMING MARK PLATE SCREWS	202-28	FRONT BUSHING SET SCREW
202-06	N. BAR FRAME HINGE PIN	202-29	FRONT MAIN SHAFT BUSHING
202-07	NEEDLE BAR	202-30	SPIRAL GEAR SET SCREWS
202-08	N. BAR THREAD GUIDE	202-31	MAIN SHAFT SPIRAL GEAR
202-09	135x7 NEEDLE	202-32	MAIN SHAFT TIMING GEAR SET SCREW
202-10	NEEDLE SET SCREW	202-33	MAIN SHAFT TIMING GEAR
202-11	N. BAR CONNECTOR PIN SCREW	202-34	MAIN SHAFT FEED CAM SET SCREWS
202-12	N. BAR CONNECTOR PIN WASHER	202-35	MAIN SHAFT FEED CAM
202-13	NEEDLE BAR CONNECTOR	202-36	MAIN SHAFT
202-14	N. BAR CONNECTOR BARREL	202-37	REAR MAIN SHAFT BUSHING
202-15	N. BAR HEIGHT SET SCREW	202-38	REAR MAIN SHAFT BUSHING SET SCREW
202-16	GUIDE	202-39	HANDWHEEL BUSHING
202-17	GUIDE SCREW	202-40	HANDWHEEL BUSHING SET SCREW
202-18	N. BAR CRANK CONNECTOR LOCATING REVERSE SCREW	202-41	HANDWHEEL
202-19	N. BAR CONNECTOR LINK	202-42	HANDWHEEL CLUTCH WASHER
202-20	NEEDLE BAR CRANK	202-43	HANDWHEEL CLUTCH SHAFT SCREW
202-21	THREAD TAKE-UP LEVER COMPLETE	202-44	HANDWHEEL CLUTCH SHAFT SCREW, SMALL LOCK SCREW
202-22	TAKE-UP		



# The Sailrite SR-200 & Long Arm Parts List

## 3. FEEDING COMPONENTS

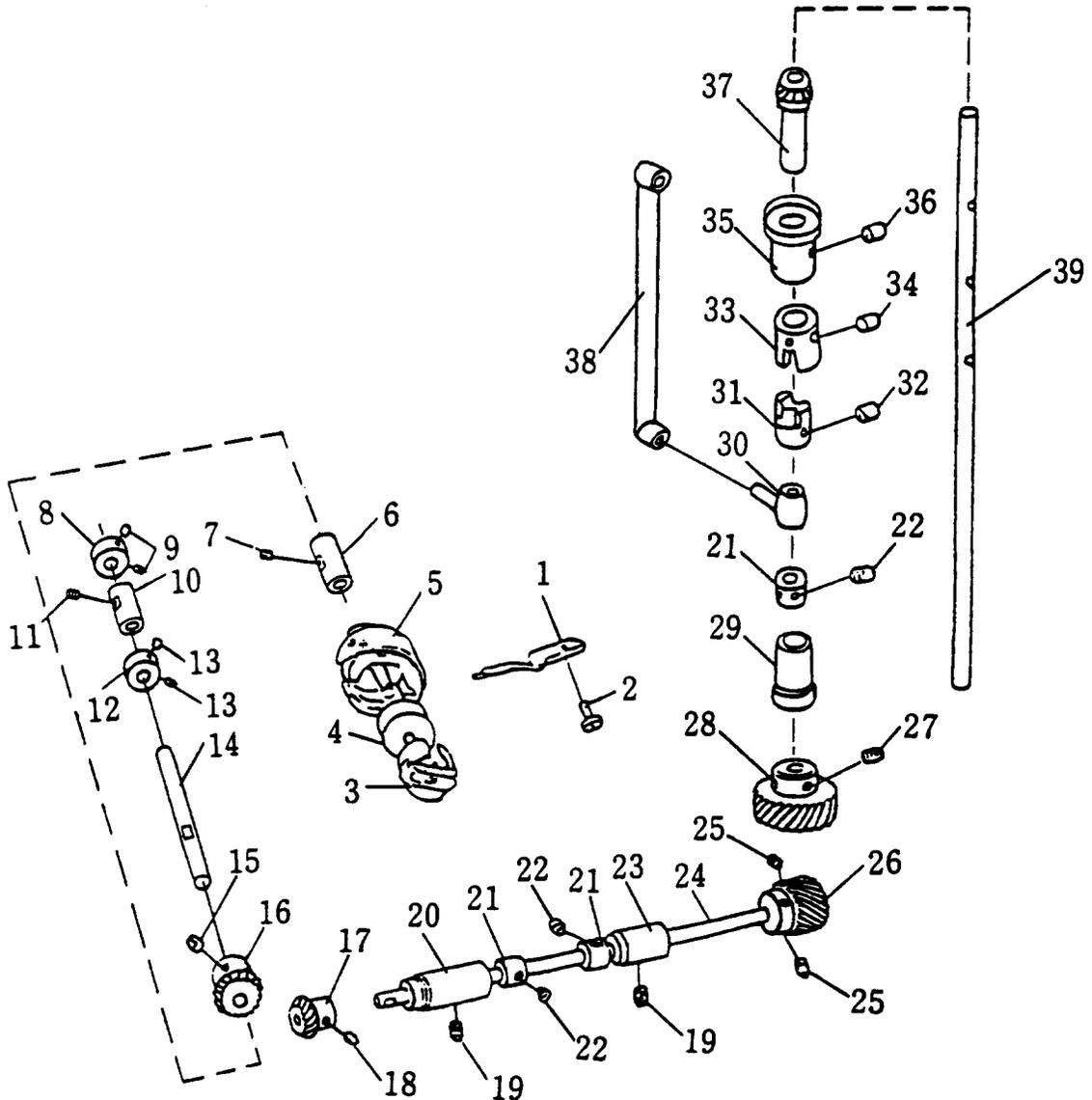
PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
203-01	FEED BAR CONNECTION ROD	203-11	FEED DOG SCREWS
	CAP SCREWS	203-12	FEED DOG
203-02	OIL FELT PAD	203-13	FEED BAR FORK LOCATING SCREW
203-03	FEED BAR CONNECTION ROD	203-14	NUT
203-04	FEED BAR CONN. ROD FORK	203-15	HORIZONTAL FEED ROCK SHAFT
	PIN SCREW NUT	203-16	FEED BAR FORK
203-05	REVERSE FEED, FEED CONN ROD FORK, CONNECTOR	203-17	VERTICAL FEED ROCK SHAFT
	FLAT HEAD ADJUSTING SCREWS	203-18	VERTICAL FEED ROCK SHAFT CRANK SCREW
203-06	FEED SHAFTS LOCATING SCREWS	203-19	VERTICAL FEED ROCK SHAFT CRANK
203-07	NUTS	203-20	HORIZONTAL FEED CONNECTION ROD FORK
203-08	HORIZONTAL FEED CRANK		
203-09	HORIZ. FEED CRANK SCREW		



# The Sailrite SR-200 & Long Arm Parts List

## 4. ROTATING HOOK COMPONENTS

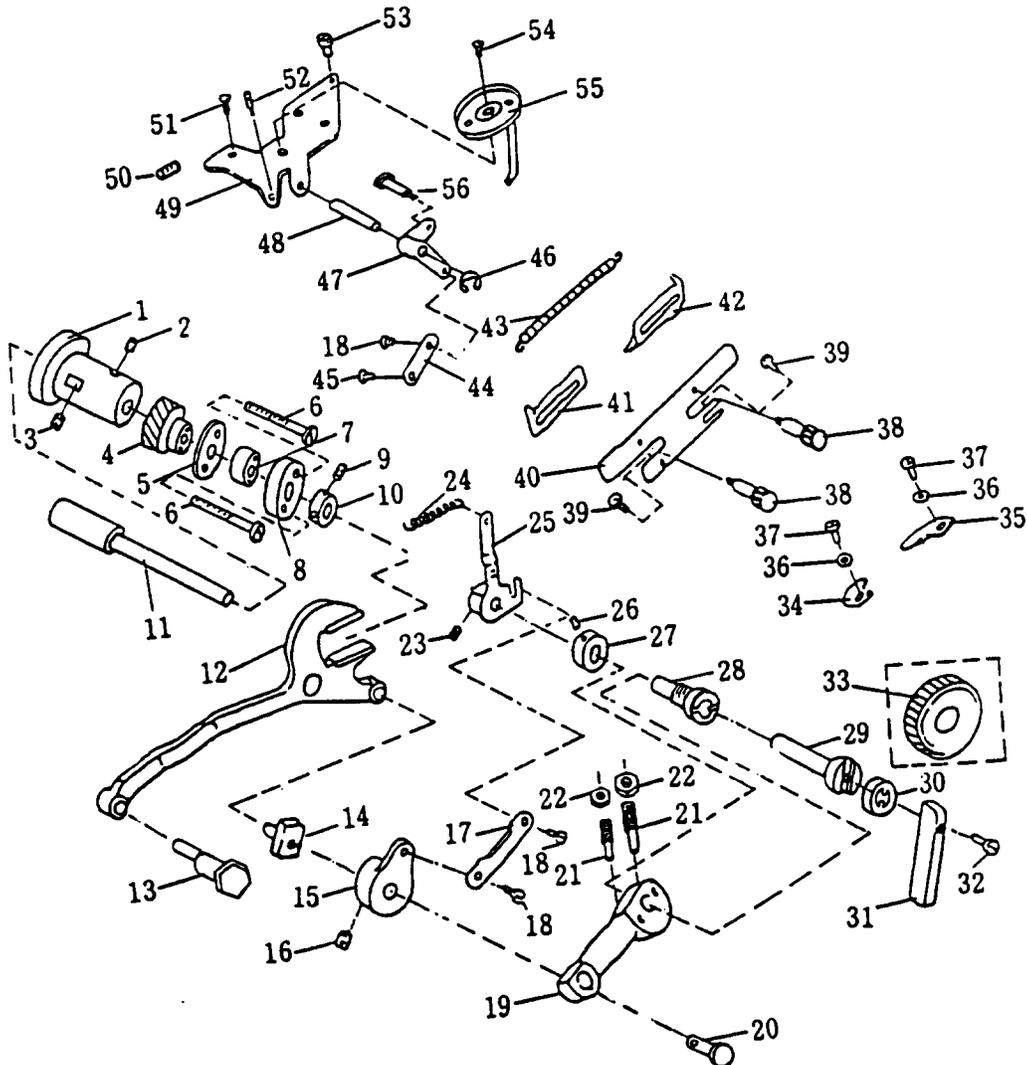
PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
204-01	HOOK POSITION FINGER	204-22	SHAFT COLLAR SET SCREWS
204-02	POSITION FINGER SCREW	204-23	LOWER SHAFT REAR BUSHING
204-03	BOBBIN CASE	204-24	LOWER SHAFT
204-04	BOBBIN	204-25	LOWER SHAFT DIFFERENTIAL GEAR SET SCREWS
204-05	ROTATING HOOK	204-26	LOWER SHAFT DIFFERENTIAL GEAR
204-06	HOOK SHAFT FRONT BUSHING	204-27	VERTICAL SHAFT DIFFERENTIAL GEAR SET SCREWS
204-07	FRONT BUSHING SET SCREW	204-28	VERT. SHAFT DIFFERENTIAL GEAR
204-08	HOOK SHAFT REAR COLLAR	204-29	VERT. SHAFT LOWER BUSHING
204-09	COLLAR SET SCREWS	204-30	DIFF. SHAFT SLIDING COVER
204-10	HOOK SHAFT REAR BUSHING	204-31	VERTICAL SHAFT LOWER CLUTCH SLEEVE
204-11	BUSHING SET SCREW	204-32	CLUTCH SLEEVE SET SCREW
204-12	SAME AS 204-08	204-33	VERTICAL SHAFT UPPER CLUTCH SLEEVE
204-13	SAME AS 204-09	204-34	CLUTCH SLEEVE SET SCREW
204-14	HOOK SHAFT	204-35	VERT. SHAFT UPPER BUSHING
204-15	HOOK SHAFT BEVEL GEAR SCREW	204-36	VERT. SHAFT UP. BUSH. SET SCREW
204-16	HOOK SHAFT BEVEL GEAR	204-37	VERTICAL SHAFT UPPER GEAR
204-17	LOWER SHAFT BEVEL GEAR	204-38	DIFFERENTIAL CONNECTING BAR
204-18	LOWER SHAFT BEVEL GEAR SCREW	204-39	VERTICAL SHAFT
204-19	LOWER SHAFT BUSHINGS SET SCREWS		
204-20	LOWER SHAFT FRONT BUSHING		
204-21	SHAFT COLLARS		



# The Sailrite SR-200 & Long Arm Parts List

## 5. ZIG ZAG COMPONENTS

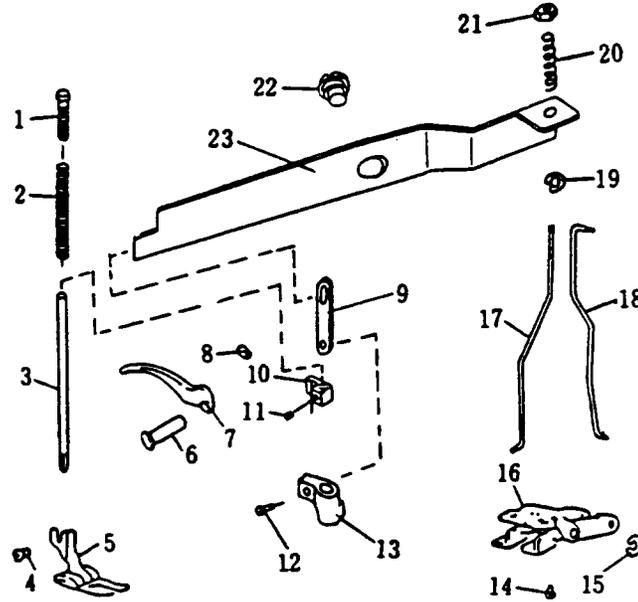
PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
205-01	ZIG ZAG SLEEVE BUSHING	205-29	ZIG ZAG WIDTH ADJUSTMENT SHAFT
205-02	BUSHING SET SCREW	205-30	ZIG ZAG WIDTH ADJUSTMENT INDICATOR
205-03	BUSHING SET SCREW	205-31	ZIG ZAG WIDTH ADJUSTMENT HANDLE
205-04	ZIG ZAG GEAR	205-32	ZIG ZAG WIDTH ADJUST. HANDLE SCREW
205-05	ECCENTRIC RETAINER	205-34	NEEDLE WIDTH STOP BLOCK, LEFT
205-06	ECCENTRIC CAM CONNECTING SCREW	205-35	NEEDLE WIDTH STOP BLOCK, RIGHT
205-07	ECCENTRIC CAM	205-36	STOP BLOCK WASHERS
205-08	ECCENTRIC CAM BACK RETAINER	205-37	STOP BLOCK SCREW
205-09	RETAINER COLLAR SET SCREW	205-38	ZIG ZAG WIDTH ADJUSTMENT SCREW
205-10	RETAINER COLLAR	205-39	WIDTH RACK FRAME SCREWS
205-11	ZIG ZAG NEEDLE SHAFT	205-40	WIDTH RACK FRAME
205-12	ZIG ZAG HORIZONTAL FORK LEVER	205-41	ADJUSTING RACK "A"
205-13	NEEDLE BAR FRAME FORK ECCENTRIC PIN	205-42	ADJUSTING RACK "B"
205-14	FORK LEVER SLIDING BLOCK	205-43	LOCATING RACK EXTENSION SPRING
205-15	ZIG ZAG CAM GUIDE BASE	205-44	DIFFERENTIAL CONNECTING BAR
205-16	CAM GUIDE BASE SET SCREW	205-45	SLIDING BLOCK CONNECTING SCREW
205-17	ADJUSTABLE CONNECTING BAR	205-46	DIFFERENTIAL CONN. SHAFT RETAINER
205-18	CONNECTING BAR / CRANK SCREWS	205-47	DIFFERENTIAL CRANK
205-19	ZIG ZAG LOCATING LEVER	205-48	DIFFERENTIAL CONNECTING SHAFT
205-20	LEVER CONNECTING PIN	205-49	LOCATING RACK
205-21	LOCATING LEVER ADJUSTING SCREWS	205-50	LOCATING RACK SLEEVE SET SCREW
205-22	LOCATING LVR. ADJ. SCREW NUT	205-51	LOCATING RACK SCREW
205-23	ZIG ZAG CRANK SET SCREW	205-52	EXTENSION SPRING SCREW
205-24	ZIG ZAG CRANK RETURN SPRING	205-53	LOCATING RACK ATTACHMENT SCREW
205-25	ZIG ZAG CRANK	205-54	OIL TRAY LOCATING SCREW
205-26	COLLAR SET SCREW	205-55	OIL TRAY
205-27	COLLAR		
205-28	ZIG ZAG WIDTH ADJUST. SHAFT BUSHING		



# The Sailrite SR-200 & Long Arm Parts List

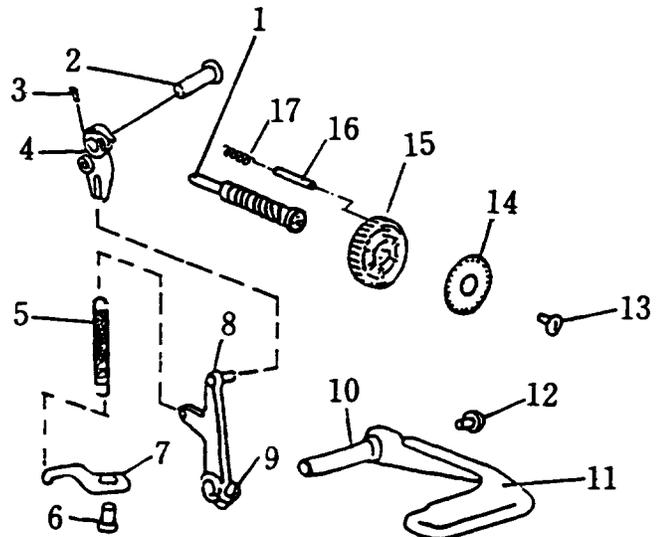
## 6. PRESSER FOOT PARTS

PART NUMBERS	DESCRIPTIONS	PART NUMBERS	DESCRIPTIONS
206-01	PRESSER FOOT PRESSURE ADJ. SCREW	206-13	PRESSER BAR HEIGHT LOCATING BRACKET
206-02	PRESSER FOOT PRESSURE SPRING	206-14	KNEE LIFTER BELL CRANK ATTACH SCREWS
206-03	PRESSER FOOT BAR	206-15	KNEE LIFTER BELL CRANK RETURN SPRING
206-04	PRESSER FOOT SCREW	206-16	KNEE LIFTER BELL CRANK
206-05	PRESSER FOOT	206-17	PRESSER FOOT PULL ROD
206-06	PRESS. FOOT RAISING LEVER PIN	206-18	ZIG ZAG WIDTH PULL ROD
206-07	PRESS. FOOT RAISING LEVER	206-19	RETAINER "E" RING
206-08	P. FOOT RAISING LVR. PIN SET SCREW	206-20	PRESSER FOOT ROD RETURN SPRING
206-09	P. FOOT LEVER CONNECTING BRACKET	206-21	PULL ROD NUT
206-10	PRESSER BAR BRACKET	206-22	PRESSER FOOT LEVER HINGE SCREW
206-11	PRESSER BAR BRACKET SCREW	206-23	PRESSER FOOT LEVER
206-12	PRESSER FOOT BAR SET SCREW		



## 7. REVERSE MECHANISM

PART NUMBERS	DESCRIPTIONS
207-01	STITCH LENGTH ADJUSTING SCREW
207-02	REVERSE CAM PIVOT PIN
207-03	REVERSE CAM / CRANK PIN SET SCREW
207-04	REVERSE CAM
207-05	REVERSE CAM RETURN SPRING
207-06	RETURN SPRING HOOK SCREW
207-07	RETURN SPRING HOOK
207-08	REVERSE CRANK LEVER
207-09	REVERSE CRANK LEVER SCREW
207-10	REVERSE LEVER HANDLE SHAFT
207-11	REVERSE LEVER HANDLE
207-12	REVERSE LEVER HANDLE SHAFT END SCREW
207-13	STITCH LENGTH DIAL SCREW
207-14	STITCH LENGTH DIAL NUMBER PLATE
207-15	STITCH LENGTH DIAL
207-16	STITCH LENGTH DIAL PRESSURE PIN
207-17	STITCH LENGTH DIAL PRESSURE PIN SPRING



# The Sailrite Long Arm Parts List

## 6. PRESSER FOOT PARTS

PART NUMBERS	DESCRIPTIONS
1	Screw for pressure adjusting
2	Pressing bar spring
3	Presser bar
4	Screw of presser foot
5	Presser foot component
6	Spanner pin
7	Spanner
8	Spanner pin screw
9	Presser bar bracket
10	Screw of bracket
11	Locating base
12	Screw of lever base
13	Component of locating base
14	Open-pin
15	Presser foot rod
16	Rod of horizontal needle
17	Presser foot lever
18	Lever screw

