



King Quilter Limited

King Quilter
limited edition

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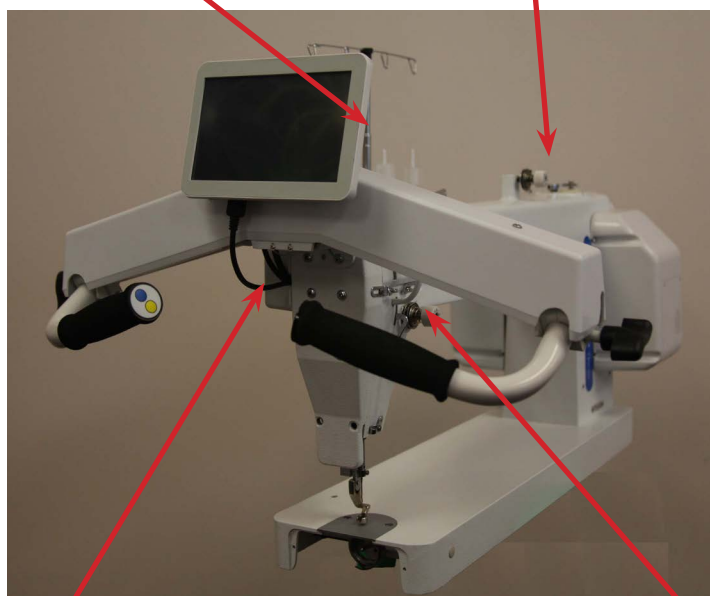
Diagram showing sides of the machine



This is the left side of the machine.
See page 9 for attaching the thread stand
See page 13 for connecting the wires



This is the back of the machine
See page 18 for winding bobbins



This is the front of the machine
See page 11 for attaching the handle bars
See page 12 for attaching the display screen



This is the right side of the machine. **See page 16** for threading the machine

Section 1

Setting up Your

King Quilter limited

1-1 Attaching the Thread Stand

Your King Quilter Limited machine comes with a 4 spool thread stand. This thread stand is connected to the side of your machine and can hold bobbin thread you are using to wind onto your bobbins and the top thread you are using to quilt. You can also have a second spool of thread on the stand if you are using two different threads on your quilt. This 4 spool thread stand has a telescoping thread holder which needs to be all the way up when you are quilting to help the thread come off the spool evenly and smoothly. *See figure 1-1*

Step 1: If the telescoping thread tree is not on the thread stand then you will need to attach it.

Step 2: Slide the telescoping thread tree into the hole provided between the thread holders.

Step 3: Use the supplied screw with washer from the bottom side to secure the telescoping thread tree in place.

Step 4: On the left side of your machine (the left side of the machine is the side without a logo) you will see two screws not holding anything on yet. *See figure 1-2*

Step 5: Loosen these two screws. You don't need to take them out but they do need to be loose so that you can slide the thread stand over them.

Step 6: On the thread stand you will see two holes on the underside which can be placed over the two screws and then drop into place.

Step 7: Once you have the thread stand in place over the two screws tighten the screws to hold the thread stand in place. *See figure 1-3*

Figure 1-4 shows the 4 spool thread stand in place.

Remember to pull the telescoping thread tree to the full up position to use.



Figure 1-1



Figure 1-2



Figure 1-3



Figure 1-4

1-2 Attaching the Handle Bars

You will need to attach your handle bars to the machine. The Handle Bars are adjustable with soft touch buttons on the end which can be configured to suit your needs. You can loosen the black knob at the side of the handles to adjust up or down and in or out.

Step 1: Locate your handles. *See figure 1-5*

Step 2: On the front of your machine you will find two screws that your handles are going to attach too. *See figure 1-6*

Step 3: Remove the cap nuts from the screws on the front of the machine.

Step 4: Using the bottom set of holes on the handle bars attach the handle bar to the machine.

Step 5: Use the cap nuts removed in step 3 to hold the handle bars in place. *See figure 1-7*



Figure 1-5



Figure 1-6



Figure 1-7

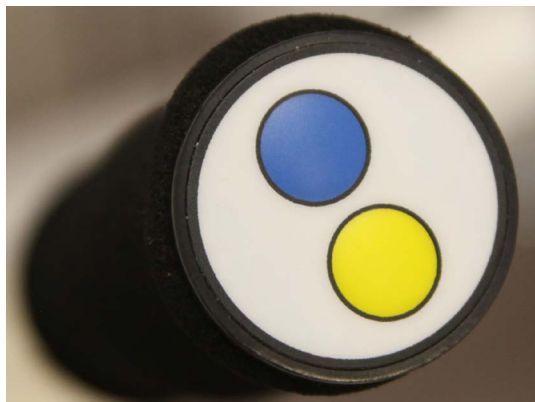


Figure 1-8

Left Handle

Soft touch buttons on the handle bars

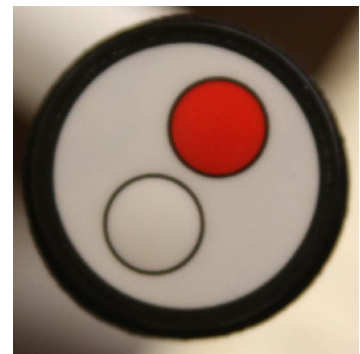


Figure 1-9 Right Handle

1-3 Attaching the Display Screen

The Display Screen is your access to running and controlling the functions of your King Quilter Limited. The display connects to the bracket on top of the handle bar.

Step 1: Locate your Display Screen. *See figure 1-10*

Step 2: Looking at the top center of your handle bar you will see two up right pieces of metal with screws in them. *See figure 1-11*

Step 3: Remove these two screws so that you can attach the display screen to the handle bars

Step 4: Position the two up rights on the back of the display screen with the two up rights on the top center of the handle bar.

Step 5: Reinstall your two screws removed in step 3. to secure your display screen to your machine.

Step 6: Adjust Display Screen as needed and secure with the two screws.



figure 1-10



Figure 1-11



1-4 Connecting the wires for the handle bars and the Display screen

There are two wires coming from the handle bar into one connector. There is one cable that connects to the Display screen and runs into a connector. On the left side of the machine you will find the connectors where these two connectors are inserted

Step 1: These connectors are found on the same side of the machine as the thread stand. Find these connectors.

See figure 1-12

Step 2: Route your cables under the handle bar and towards this side of the machine.

Step 3: Route the cables over the top of the plastic cover behind the handle bar

Step 4: Gently connect by lining up your connector with the clip on top. *See figure 1-13*

Step 5: Insert the tip into the connector and rock back and forth as you press the connectors together.

NOTE: if you feel resistance as you press them together stop. You may need to realign and start once again. If you have to force them together chances are you might be pushing the pin out of connector rather than connecting them.

Step 6: Once you have them connected you will want to use the zip tie and the strain relief block to secure the cables to the top of the plastic cover that you routed the cables over. This will help to keep the cables neat.

Figure 1-14 shows the cables connected.

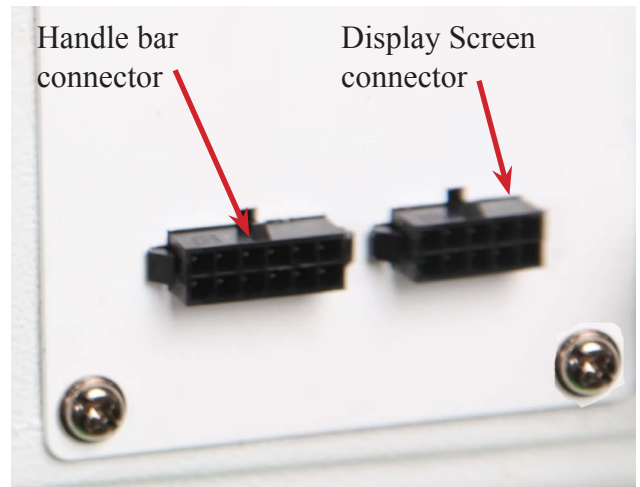


Figure 1-12



Figure 1-13

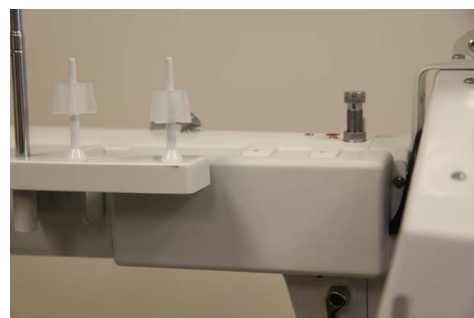


Figure 1-14

1-5 Placing your King Quilter Limited on the carriage

When we place the machine on the carriage we need to move the carriage to one side or the other. It is much easier to load the machine from the side rather than from the middle of the frame.

Step 1: If the take up rail is on your frame you will want to remove it so that you can put the machine on.

Step 2: With your carriage moved to the side you are going to load the machine, Place the machine centered on the carriage.

Step 3: Make sure that your machine sits nice and flat so that it will not be rocking while moving.

Step 4: Attach the take up rail through the arm of the machine.

Step 5: Ensure that you can move the machine to the full front and back to get full coverage of the quilting area.

Step 6: If you need to adjust the machine go ahead and make the needed adjustments so that you have full range of motion.



Figure 1-15

Machine on a Phoenix Frame

1-6 Connecting the encoder cables

If your encoders are already attached to your frame then the next thing we need to do is to attach our encoders to the machine.

If your encoders are not attached find the instructions included with the encoders for attaching the encoders and attach the encoders.

Attaching encoder cables to the machine

Step 1: Route the two encoder cables to the back of the machine

Step 2: Connect the encoder cables into the correct position.

Top encoder is for the upper part of your carriage
Bottom encoder is for the lower part of your carriage



Figure 1-17

1-7 Turning on your King Quilter Limited

Once you have everything connected and set up you are ready to turn on the power. Plug the Power cord into the machine. For the best safety and protection you will want to plug the other end of the power cord into the Uninterrupted power supply talked about on page 6. Check to ensure you are plugging into a socket marked for battery back up and not just the surge protection. Make sure your power supply is on and turn on the power button on the back of the machine.



On the back of the machine you will find the Power button (o off / - on)

Power cord

Figure 1-18

When you turn on the power button on the back of the machine your Display screen will power up. After a few seconds your screen will be on and you will be ready to start.



Figure 1-19

Once your screen boots up it will look like this.

Your Tablet Layout & Color May be different from what is referenced in this manual. For the most up to date instructions regarding your tablet and software functionality please reference the Perfect stitch manual located at: <http://www.sewingmachinesplus.com/media/products/king-se/perfect-stitch-manual.pdf>

1-8 Threading overview with names

This is a diagram of the front side of your King Quilter Limited

This is the side that faces the fabric. The back of your machine has the electrical outlet and stitch regulator connectors.

The numbers have been assigned in threading order.

See figure 1-20

1. Upper Thread Guide
2. Three Hole Thread Guide
3. Tension assembly disc
4. Check Spring
5. Silver Angle Bracket
6. Thread Guide
7. Take Up Lever

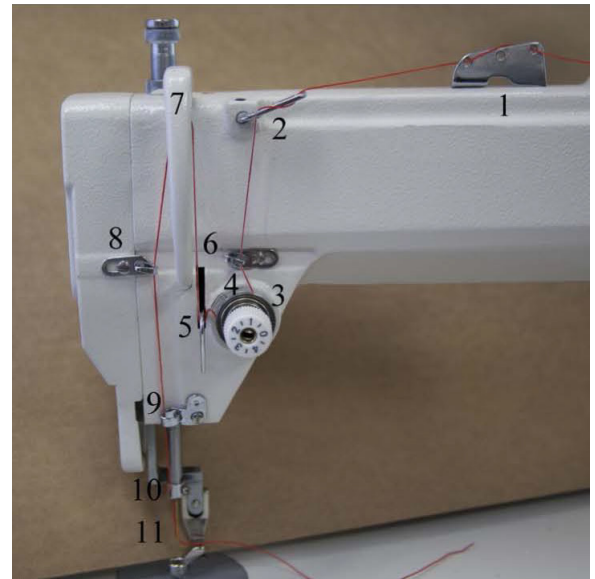


Figure 1-20

8. Thread Guide
9. Thread Guide
10. Thread Eyelet above the needle
11. Needle

1-9 Threading Your King Quilter Limited

Your King Quilter Limited is capable of sewing with many types of threads. One thing to keep in mind is this machine is an industrial machine so very light threads will be harder to use than the more traditional machine quilting threads. Use of the other threads is alright as long as you adjust the tension and slow down. These machines are test sewn with Superior King Tut thread which has a long staple and is a machine quilting thread. When we are at quilt shows we use the King Tut thread on top with a So Fine thread on the bottom. The reason for this is two threads of equal size will ride on top of each other and fight to interlock. When using a smaller thread in the bobbin you can get more thread on the bobbin and the threads will interlock faster and with less fighting as the smaller thread will nestle right down into the twist of the larger thread creating a better locking of the stitches.

Lets get started threading the machine:

Step 1: Place a cone of thread on the thread holder.

Step 2: Place the thread in the thread guide directly above the spool of thread. *See figure 1-21*

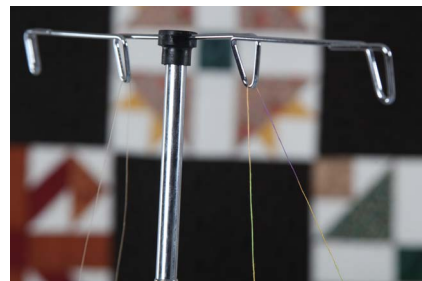


Figure 1-21

Step 3: Thread upper thread guide as show in *figure 1-22* (if you use all three holes it will add drag/tension to the thread)



Figure 1-22

Step 4: Weave thread as shown on the three hole thread guide. (if you use all three holes it will add drag/tension to the thread)

See figure 1-23



Figure 1-23

Step 5: Take thread between the two tension discs from back to front all the way around. *See figure 1-24* (release the tension on the tension disc using the tension release lever. This will help to ensure your thread gets between the disc easier.)



Figure 1-24

Step 6: While holding the thread up over the top of the tension hook the check spring. The tension spring should come down as you pull thread.



Figure 1-25

Step 7: Thread now need to run under the silver angle bracket *See figure 1-25* for details.

Step 8: Now bring the thread up to thread guide #6 above the tension assembly. You will be able to slide the thread into this thread guide. *See figure 1-26*

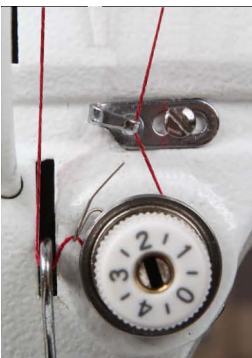


Figure 1-26

Step 9: The thread will now be threaded through the take up lever from the back towards the front. *See figure 1-27*



Figure 1-27

Step 10: Now bring the thread down the front of the machine snapping the thread into thread guide 8 and thread guide 9 on the way down to the needle. *See figure 1-28* and *figure 1-29*

Step 11: The thread will now go into the Thread eyelet above the needle. *See figure 1-30* This is a hole and you will need to thread this spot.

(TIP: Use a dental floss threader to thread the guide above the needle. The threader will also help thread the needle.)



Figure 1-28

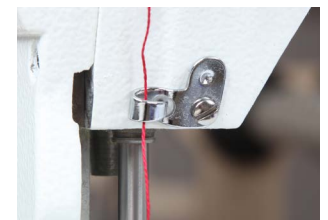


Figure 1-29

Step 12: Thread the needle from the front to the back of the needle. *See figure 1-31*



Figure 1-30



Figure 1-31

1-10 Bobbin Winder and Bobbins

A bobbin winder is included with your machine. The thread on a properly wound bobbin should be snug and have even layers of thread. A sloppy or mushy wound bobbin will result in poor stitch quality.

How do I wind a Bobbin?

Step 1: Insert an empty bobbin on the bobbin winder spindle.

See figure 1-32

Step 2: Place a cone of thread on the holder.

Step 3: Bring the thread up through the guide over the cone of thread. *See figure 1-33*

Step 4: Insert the thread through the top guide hole then around the tension disk and through the bottom thread guide. *See figure 1-34*

Step 5: Wrap the thread around the bobbin clockwise three or four times

Step 6: Push trip mechanism forward until it snaps into position *See figure 1-35*

Use step 7 if you plan to quilt while your bobbin is winding. or use step 8 if you are winding bobbins without quilting.

Step 7: Bobbin winder will start winding the bobbin once you press the start/stop key. You can quilt while your bobbin is winding once it is full it will stop.

Step 8: If you wind your bobbin only (When not quilting) ensure that you do not have thread in the needle to prevent jams. Also remove the bobbin and bobbin case to prevent damage. Select Constant stitch mode, then press and release the start/stop button. Once the bobbin is full press and release the start/stop button again to stop the machine. **Note: The Needle will continue to move up and down while you are filling the bobbin.**

The bobbin will fill until the trip mechanism is pushed out by the thread. It will then disengage the wheel. The bobbin should fill to just below the rim. Having the bobbin too full will cause tension problems.

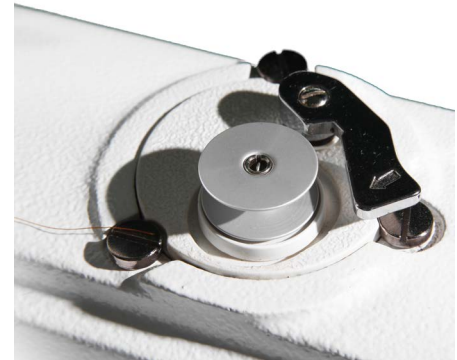


Figure 1-32



Figure 1-33

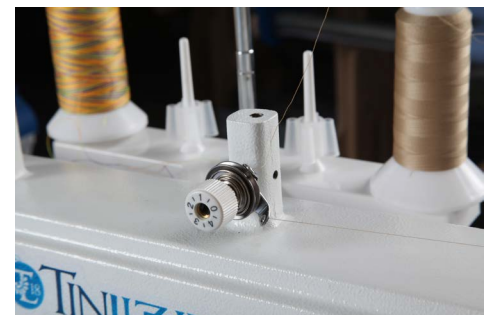


Figure 1-34



Figure 1-35

Check the tension of the bobbin by holding the loaded bobbin case in one hand. With one hand under the bobbin case, hold the tail of thread and watch as the thread flows out of the bobbin case. A slight bounce should cause the bobbin case to slide down the thread. If the thread slides out of the case as you pick it up, it needs more tension. If it barely moves down the thread or doesn't move at all, it needs less tension.

See figure 1-36

To adjust the tension: *See figure 1-37*

Use a small screwdriver to turn the largest set screw on the bobbin case to adjust tension.

Make very small adjustments.

Be very careful not to remove the screw as it is very small and difficult to find if lost.

Remember, righty (clockwise) tighty, lefty (counter clockwise) loosey.

To place the bobbin into the machine:

Step 1: Insert the bobbin into the bobbin case. It does not matter which way you put the bobbin in but once you have it one way just keep doing it that way.

Step 2: Holding the bobbin case pull the thread through the slot.

Step 3: Draw the thread down and under the spring, making sure the thread is in the highest position of the bobbin case.

Step 4: Place the bobbin case in the machine. Always listen for the pop as it engages in the machine. *See figure 1-38*

We suggest using a soft bristle brush to wipe out the bobbin case and the bobbin area. Canned air only blows the lint around. By using the soft bristle brush you collect the dust on the brush.

Use a business or index card to clean under the tension spring on the bobbin case *see figure 1-39*

Each day before you start quilting, unthread your machine past the take up lever and remove the bobbin case, place a small drop of oil in the bobbin hook area before you begin quilting. This will clean out the fuzz and lint. Place a drop of oil in the bobbin hook area. Turn your machine on to run at the slowest setting.

TIP: Lint has a tendency to build up in the bobbin case especially with cotton threads. A tiny amount of lint can cause a huge headache! Check the bobbin case each time you change a bobbin to keep it clean.



Figure 1-36



Figure 1-37



Figure 1-38



Figure 1-39

Section 2

Operating

King Quilter limited

2-1 Setting up your soft touch buttons

Your soft touch buttons on the handle bars can be configured to best suit your needs. In this section we will show you all the function's available to set up your soft touch buttons and how to configure and save them to your liking.



Figure 2-1 Left handle

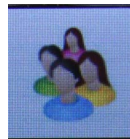
Soft touch buttons on the handle bars



Figure 2-2 Right Handle

Your King Quilter Limited has four soft touch buttons. Two are on the left handle bar (blue and yellow) and two are on the right handle bar (white and red).

Step 1 Tap the icon with the people on it.



This is the profile settings icon found across the top of the screen.

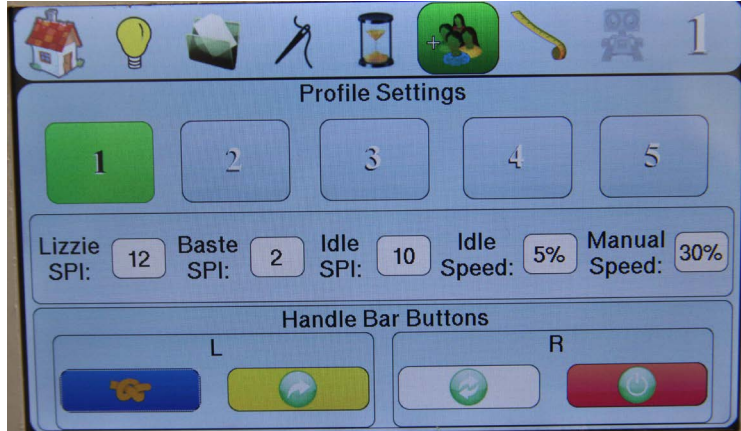


Figure 2-3

Tapping the people (profile settings) icon will open this window where we can make changes to 5 different profiles which can be saved on your system.

Step 2 We are going to use the handle bar buttons found at the bottom of the window to modify the soft touch buttons for profile number 1

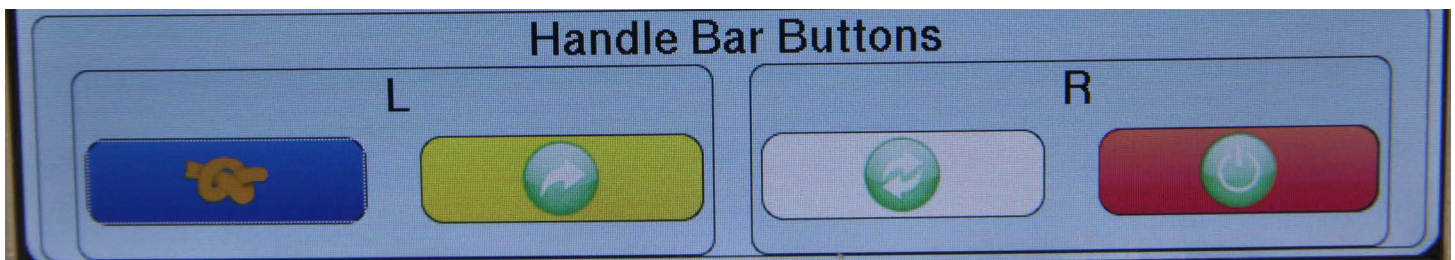


Figure 2-4

Step 3 We will start with the right red button. This way we can see what all the functions are and what they do. Tap the Red icon to bring up the function's available for the button's.

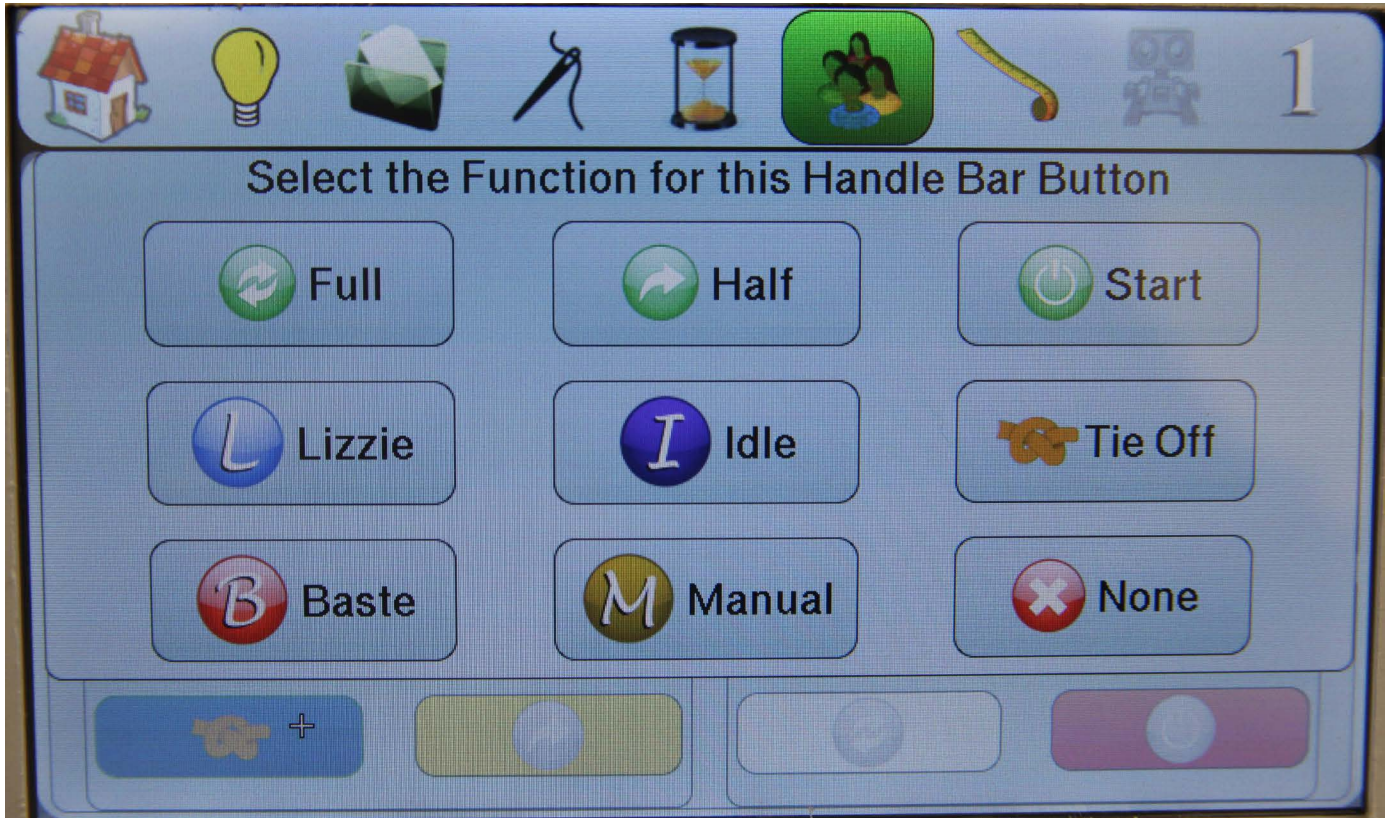


Figure 2-5

These are the 9 function's that can be assigned to the different soft touch buttons on your handle bar.

In order to test each function you will need to assign it to a button so that you can return back to the home window and press the button to see what it does. We will describe each function below to help you place a function on each button where you would like them.

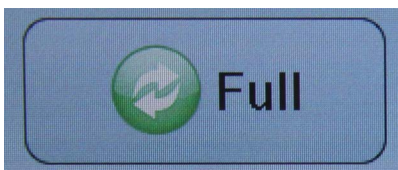


Figure 2-6

The Full function when assigned to a button and the button is touched will complete one full rotation of the needle.

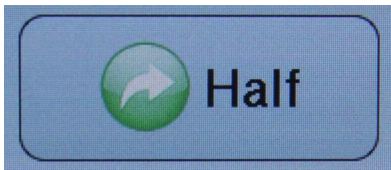


Figure 2-7

The Half function when assigned to a button and the button is touched will complete one half rotation of the needle.

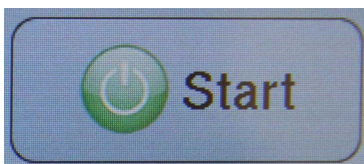


Figure 2-8

The Start function when assigned to a button and the button is touched will perform two functions, if the machine is not sewing it will put the machine in a stitching state. Depending on the stitch mode (discussed later) it will start sewing or wait for you to move the machine. If the machine is sewing pushing the button will put the machine in a stop stitching state.



Figure 2-9

The Lizzie function when assigned to a button and the button is touched will change the stitch mode to Lizzie stitch. (your main stitch regulation mode) *See page 24 for more details.*

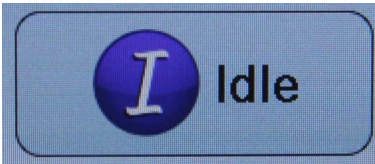


Figure 2-10

The Idle function when assigned to a button and the button is touched will change the stitch mode to Idle stitch. (another stitch regulation mode) *See page 26 for more details.*



Figure 2-11

The Tie Off function when assigned to a button and the button is touched will perform the tie off stitch. A tie off stitch is three or more stitches so that you can then cut the thread to move the machine. *See page xx for more details about setting the Tie Off function.*



Figure 2-12

The Baste function when assigned to a button and the button is touched will change the stitch mode to Baste stitch. *See page 25 for more details.*

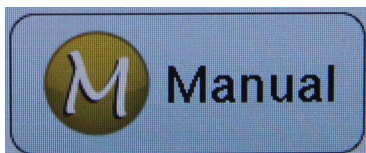


Figure 2-13

The Manual function when assigned to a button and the button is touched will change the stitch mode to Manual stitch. *See page 27 for more details.*

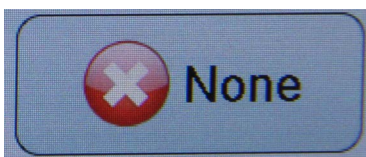


Figure 2-14

The None function when assigned to a button is just that none. So if you assign none to a button then when you press that soft touch button nothing will happen.

Step 4 Assign to each of the soft touch buttons the functions you desire to happen when you press each soft touch button.

- a. Press the red button, select the function you want for the red button.
- b. Press the white button, select the function you want for the white button.
- c. Press the yellow button, select the function you want for the yellow button
- d. Press the blue button, select the function you want for the blue button.

Step 5 Once you have the soft touch buttons configured the way you want you can save these settings by pressing the file folder icon and pressing the save settings button.

2-2 Stitching with your King Quilter Limited

There are several stitch modes for your King Quilter Limited. Which ever mode you choose to stitch in remember to relax and enjoy the quilting rather than fight and race to just be done with your quilt. Let s go over the different stitch modes available to you.

Selecting stitch modes is accomplished by using the button in the middle of the sewing screen.

When you touch this button
It will advance to the next stitch mode.

Stitch modes are Auto (default) , Baste, Idle, and Manual. We will go over each of these modes.

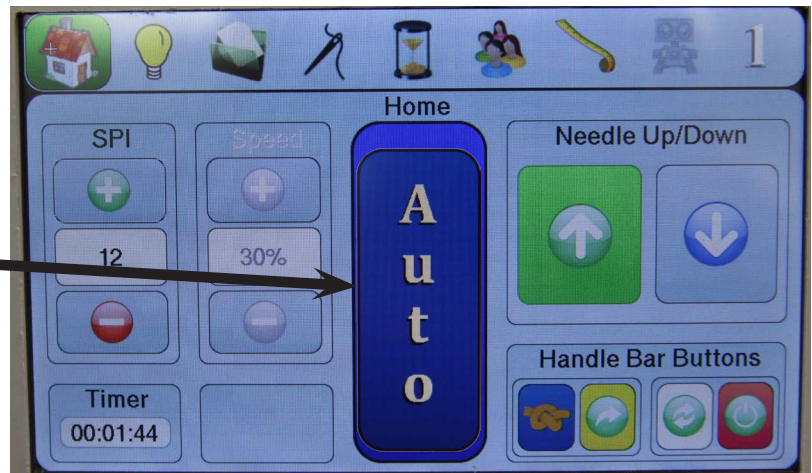


Figure 2-15



Figure 2-16

The first stitch mode we will cover is the Auto Stitch. The Auto Stitch is the stitch regulator. In this mode as you move the machine the encoders detect the movement and send a signal to the motor to move the needle up and down. When you move faster the motor runs faster and as you slow down the motor slows down. When you come to a stop the motor comes to a stop and will wait for you to start to move once again. If you wait past a set amount of time or you walk away from the machine for the set amount of time then the machine will turn the stitch mode off. You will need to press and release the start/stop on the handles or tap the start/stop icon to begin sewing again.

To use this mode

- Step 1:** Check the SPI (stitches per inch) if you want to change it press the plus key or the minus key to adjust.
- Step 2:** Move the machine to where you want to start.
- Step 3:** Press the soft touch button you have set up for a full needle rotation or press the needle up arrow on the screen. This will bring the bobbin thread up so that you know you have both threads together.
- Step 4:** If you have a soft key setup for the tie off (knot icon) press that soft key and create a start knot.
- Step 5:** Press the soft key you have setup for the Start/Stop. The Auto in the middle of the screen will change and show ready to move.
- Step 6:** Move the machine and your stitching. You can move your machine left or right towards you or away.

When you are done stitching and ready to come to a stop.

- Step 1:** Press the soft key you have setup for Start/Stop to stop the machine from stitching.
- Step 2:** If you have a soft key setup for tie off (knot icon) press that soft key to create a finish knot
- Step 3:** Move the machine off to one side to get some thread you can hold onto.
- Step 4:** Bring the machine back to the end of the stitch
- Step 5:** Press your soft key for the full rotation or press the needle up key
- Step 6:** With both the bobbin and top threads trim the ends. This keep little threads that need trimming off the back



Figure 2-17

The next stitch mode we will cover is the Baste Stitch. The Baste Stitch is a stitch that you can use to baste the quilt top. Many of quilters will baste the top and sides as they start a new quilt. This helps to hold the three layers together. This removes the need for pins or safety pins to hold the layers together as they complete their quilts. The basting stitch is easily removed when the quilt is completed.

The basting stitch also uses the SPI but the range is only 1 to 3.

To use this mode

- Step 1:** Check the SPI (stitches per inch) if you want to change it press the plus key or the minus key to adjust.
- Step 2:** Move the machine to where you want to start.
- Step 3:** Press the soft touch button you have set up for a full needle rotation or press the needle up arrow on the screen. This will bring the bobbin thread up so that you know you have both threads together.
- Step 4:** If you have a soft key setup for the tie off (knot icon) press that soft key and create a start knot.
- Step 5:** Press the soft key you have setup for the Start/Stop. The Baste in the middle of the screen will change and show ready to move.
- Step 6:** Move the machine and your stitching. You can move your machine left or right towards you or away.

When you are done stitching and ready to come to a stop.

- Step 1:** Press the soft key you have setup for Start/Stop to stop the machine from stitching.
- Step 2:** If you have a soft key setup for tie off (knot icon) press that soft key to create a finish knot
- Step 3:** Move the machine off to one side to get some thread you can hold onto.
- Step 4:** Bring the machine back to the end of the stitch
- Step 5:** Press your soft key for the full rotation or press the needle up key
- Step 6:** With both the bobbin and top threads trim the ends. This keep little threads that need trimming off the back



Figure 2-18

The next stitch mode is the Idle Stitch. The Idle Stitch is another stitch regulated mode that will adjust speed of stitching with the movement of the machine. One difference between the Idle stitch and the Auto Stitch is that when you stop moving the machine motor will not stop moving the needle up and down. You will continue to stitch in the place you stopped moving until you press the start/stop button on the handles or tap the start/stop icon on the screen.

To use this mode

- Step 1:** Check the SPI (stitches per inch) if you want to change it press the plus key or the minus key to adjust.
- Step 2:** Check the Speed (range is 5% to 30%) set the speed. If you are not sure at first set the speed at 20%.
- Step 3:** Move the machine to where you want to start.
- Step 4:** Press the soft touch button you have set up for a full needle rotation or press the needle up arrow on the screen. This will bring the bobbin thread up so that you know you have both threads together.
- Step 5:** If you have a soft key setup for the tie off (knot icon) press that soft key and create a start knot.
- Step 6:** Press the soft key you have setup for the Start/Stop. The Idle in the middle of the screen will change and show ready to move. **Be aware once you press start your machine will start stitching.**
- Step 7:** Move the machine and your stitching. You can move your machine left or right towards you or away.

When you are done stitching and ready to stop stitch to your stop point and perform step 1 to stop the machine from stitching.

- Step 1:** Press the soft key you have setup for Start/Stop to stop the machine from stitching.
- Step 2:** If you have a soft key setup for tie off (knot icon) press that soft key to create a finish knot
- Step 3:** Move the machine off to one side to get some thread you can hold onto.
- Step 4:** Bring the machine back to the end of the stitch
- Step 5:** Press your soft key for the full rotation or press the needle up key
- Step 6:** With both the bobbin and top threads trim the ends. This keep little threads that need trimming off the back



Figure 2-19

In Manual mode our Motto is get ready, set, go. When you turn on the Quilter in manual mode the needle will begin to fire immediately you become the stitch regulator, by adjusting the speed faster or slower you can choose the speed that feels most comfortable to your quilting technique whether it be stippling or free-handing your personalized design.

To use this mode

Step 1: Check the speed (range is 5% - 100%) if you want to change it press the plus key or the minus key to adjust. If this is your first time you may want to start with 50% and get a feel of how it works

Step 2: Move the machine to where you want to start.

Step 3: Press the soft touch button you have set up for a full needle rotation or press the needle up arrow on the screen. This will bring the bobbin thread up so that you know you have both threads together.

Step 4: If you have a soft key setup for the tie off (knot icon) press that soft key and create a start knot.

Step 5: Press the soft key you have setup for the Start/Stop. The Manual in the middle of the screen will change and show ready to move.

Step 6: Move the machine and your stitching. You can move your machine left or right towards you or away.

When you are done stitching and ready to come to a stop.

Step 1: Press the soft key you have setup for Start/Stop to stop the machine from stitching.

Step 2: If you have a soft key setup for tie off (knot icon) press that soft key to create a finish knot

Step 3: Move the machine off to one side to get some thread you can hold onto.

Step 4: Bring the machine back to the end of the stitch

Step 5: Press your soft key for the full rotation or press the needle up key

Step 6: With both the bobbin and top threads trim the ends. This keep little threads that need trimming off the back

2-3 What is the Tension Release Lever?

The tension release lever raises the hopping foot and releases the tension on the thread. *See figure 2-20*
You can watch the tension disc plates open as you lift the lever.

NEVER start sewing with the lever up.
There will be no tension on the thread which will result in stitches on the bottom being bad with huge loops and other bad looking stitches.

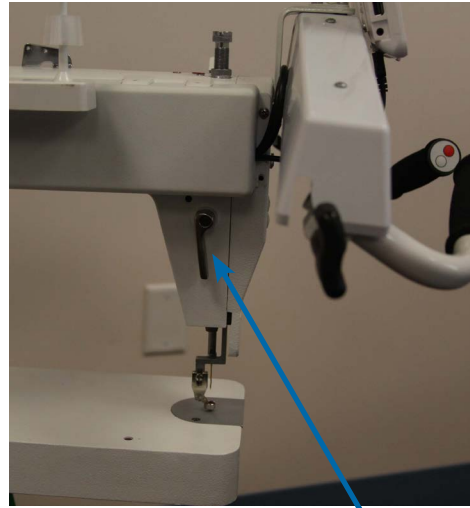


Figure 2-20

Tension Release Lever

2-4 Adjusting the Height of the Hopping Foot

There are many reasons to adjust the height of the hopping foot. You could be using a thicker batting, quilting a quilt with thicker seams, or just need a little more clearance. You don't want the foot to be too high as that can cause strain on the thread, create flagging of the fabric while stitching, or just be too high if you put a ruler next to it.

To adjust the height of the hopping foot use these steps.

Step 1: Lower the needle into the fabric to get the hopping foot to its lowest position. (close to a seam is a good place then you can tell how high you need to be to clear the seam.)

Step 2: Loosen screw (A) on the side of the hopping foot (B). *See figure 2-21*

Step 3: Move the foot up or down to adjust for your project.

Step 4: While holding the hopping foot where you want it tighten the screw back down.

Factory setting for this is with needle down a dime should be able to pass below the foot and touch the foot as it passes under. *See figure 2-22*

2-5 Adjusting the Stroke of the hopping foot

Factory setting is in the down position. The reason for less stroke is for better ability working with rulers. Adjustment of stroke is for going over thicker seams.

Step 1: Remove the four (4) screws (A) holding the cover (B) in place front left side of machine. *See figure 2-23*

Step 2: Using a wrench loosen the bolt (C) on the link adjusting crank (D) slide up to increase the stroke down to decrease the stroke. *See figure 2-24*

Step 3: Use your wrench to tighten the bolt (C)

Step 4: For your safety replace the cover (B) prior to use. Using the four (4) screws (A)

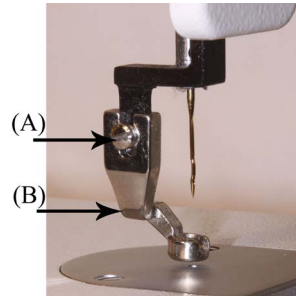


Figure 2-21



Figure 2-22

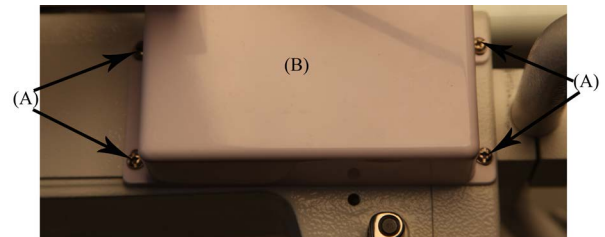


Figure 2-23

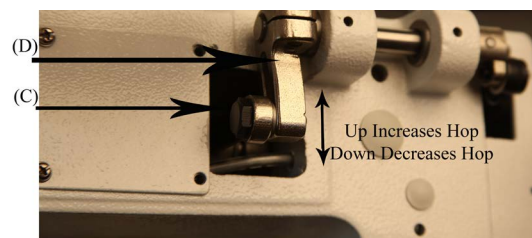


Figure 2-24

Section 3

Support

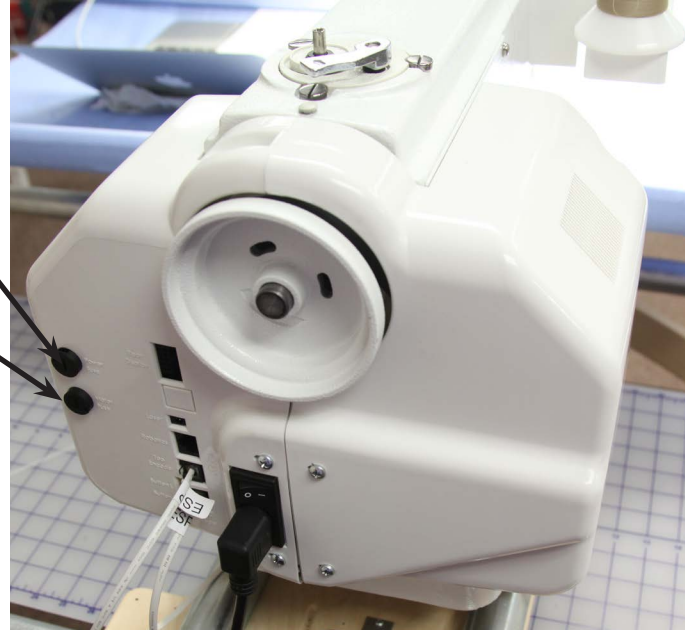
King Quilter limited

3-1 Fuses for your Machine.

Should you need to replace either of your two fuses you can find them on the backside where the power cord plugs in. On the left side you will see two round black fuse caps.

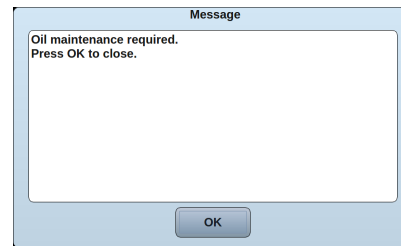
The upper one is marked for power it is a 5 amp fuse
Replacement can be from Radio Shack # 270-1056
Catalog number 270-1056

The lower one is marked for motor it is a 10 amp fuse
Replacement can be from Radio Shack # 74-5FG10A-B
Catalog number 55048552



3-2 Maintenance of your Machine

Pop up window to remind you to service your machine.



When you are working with your machine a window will pop up reminding you to perform maintenance on your machine. This should pop up 7 hours 35 minutes of operations. *Note: If you are working with the Quilt Magician you will need to go to “set start point” and continue on where they left off.*

When this window pops up you should perform the following steps to help ensure that your machine will continue to operate at peak performance.

Step 1: Oil your machine. *See recommended oiling on page 32.*

Step 2: Check your needle. Make sure that it is sharp and not bent. We recommend changing the needle about every 3 to 4 quilts.

Step 3: Clean up the lint around the bobbin area and around the hopping foot.

If you are having problems getting all the lint pulled from the small places use a Q-tip with oil to help pull the lint out.

Step 4: Wipe down the machine and table including the rails and the bearings on the bottom of the carriage

Step 5: If equipped with Quilt Magician check belt pulleys for thread wrapped around them.

If you perform these steps before the pop up window appears visit the “advanced” and reset the maintenance timer. This will ensure you have a full 7 hours and 35 minutes to work on your quilt before the pop up window returns. The advanced window is found under the file menu

3-3 Routine Cleaning and Oiling

Routine cleaning and oiling is very important to the longevity of your quilting machine. Brush out the fuzz from around the hook and foot. Change your needle regularly to avoid thread breakage, tension problems and needle breakage. A worn needle can mean skipped stitches, shredded thread and a weakening of the needle itself. These things can lead to stitch quality issues.

Lint has a tendency to build up in the bobbin case. A tiny amount of lint can cause poor stitches. Check the bobbin case each time you change the bobbin to keep it clean. We suggest using a soft bristle brush to wipe out the bobbin case and the bobbin area. Canned air only blows the lint around. By using a soft bristle brush you collect the dust on the brush. Occasionally, place a drop of machine oil on a cotton swab to wipe out the bobbin case.

Keep your table clean of dust and oil. Clean the bars and carriage deck regularly for smooth movement.

Oiling is extremely important to the longevity of your quilting machine. Failure to oil your machine regularly can void your warranty.

The one oiling spot marked with red arrow is marked with red paint on your machine. An oil bottle is included with your machine. The one oiling spot marked with a blue arrow contains a dip stick. Remove the dip stick by lifting it up with a finger nail or screw driver. Place drops of oil in this same hole if you find no oil on the dip stick.

Recommended oiling:

After every finished quilt place 3 to 4 drops of oil at the location with a red spot towards the front (needle side) of the machine. This is located on the top of the machine. see figure 3-1 oil spot on to

The other location is the oil dip stick found just behind the needle. At this time make sure oil is present on dip stick. If not add 3-4 drops of oil where you pulled the dip stick out. Run machine to lubricate use a clear high grade sewing machine oil. (Note: the machine pictured here is before complete assembly from factory; your machine has more components attached.)



Figure 3-1 Oil Spot on top



Figure 3-3 Oil dip stick lifted

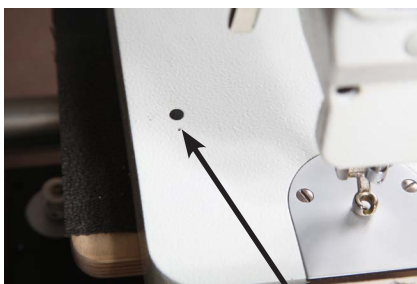


Figure 3-2 Oil Reservoir location

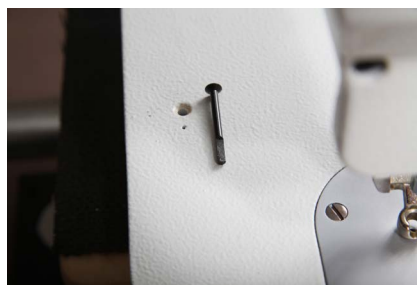


Figure 3-4 Oil Dip stick out

3-4 How do I change the Needle?

A 134RSAN needle (size 18) will be installed on your King Quilter Limit from the factory. When it is time to replace the needle you can easily install one. Be sure the power switch is off on the machine. Remove the bobbin case.

To remove the needle use the smaller screwdriver included with your machine.

Step 1: Loosen the screw just above the thread guide on the needle bar; the needle should fall out as you loosen the screw.

Look closely at the needle. Your home sewing machine needle shank (top of the needle) has a flat side. The top of the long arm machine needle is round. On the point end of the needle there is a scarf, or notch, in one side.

The scarf must face the back of your machine.

The long groove at the eye of the needle faces you as you insert the needle.

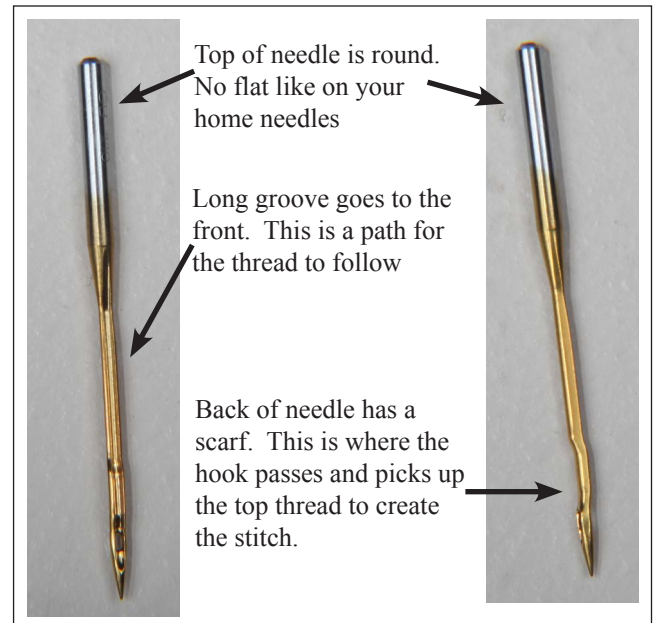


Figure 3-5

Why does the scarf go to the back of the machine?

When the needle goes down through the fabric into the bobbin case, the hook comes around behind the needle to pick up the thread. The scarf has to be there to provide a way for the hook to get between the needle and the thread in order to pick up the thread.

Step 2: Place the new needle up in the slot, **making sure the needle is up in the needle bar as far up as it will go.** Make sure the scarf is facing the back of your machine. Tighten the screw on the needle bar while holding the needle up.



Make sure before using your machine that you can see the needle through the hole on the side of the needle bar and the needle is pushed as far up as it can go.

TIP: Use the old needle to hold the new needle in place while you tighten the screw. By placing the point of the old needle into the eye of the new needle you can see how straight you are placing the scarf of the needle.

Before you turn your machine on go to the back of the machine and turn the hand wheel a complete turn making sure the needle goes down in the center of the throat plate and the hook in the bobbin area rotates with the needle smoothly. Put the needle down as far as possible. In the bobbin area, you should be able to see you the eye of the needle. When the hook rotates it picks up the thread at the back of the needle then the top thread pulls the bobbin thread up to create a stitch. The scarf must face the back of your machine.

3-5 How do I make adjustments to make the perfect stitch?

Understanding how your long arm machine makes a stitch will help you make the proper adjustments to make the perfect stitch. The technique all long arm machines use to make a stitch is basically opposite of the home sewing machine. The home sewing machine is designed to press together two layers of fabric and sew while the fabric is held in place by the presser foot. Long arm machines are designed to press and sew multiple layers together while the machine head is moving. The difference is that there is practically no needle deflection on a standard sewing machine and a large amount of needle deflection on the long arm. The higher the tension, the more the needle will deflect. Another cause for the needle to deflect on a standard machine is the type of fabric being sewn. A tightly woven fabric tends to force the needle in different directions as it penetrates the fabric. This type of deflection depends greatly on the type of needle and type of point you use, such as a ball point or sharp point.

Needle deflection, what is needle deflection? What causes needle deflection? How is needle deflection related to the stitches on my quilt?

On a long arm quilting machine a stitch is mechanically created the same as a home sewing machine except the quilter is the feeddog moving the machine head over the fabric. The hopping foot presses the fabric together tighter and quicker than a home sewing machine presser foot because the fabric must be able to slide between the foot and the needle plate as the machine is sewing. This means that the machine is moving while the needle is in the fabric. The worst thing for a needle is to be in the fabric while the machine is moving which bends the needle, creating needle deflection

Good stitches will interlock in the batting between the quilt top and backing. In real life, this goal is rarely achieved. For this reason, you need to be aware that you will have “pokies” if you use different colors of thread on top and in the bobbin. Pokies are where you can see tiny dots of the contrasting thread where the bobbin catches the top thread. If there is slightly more tension on the top than on the bottom, then you will see the pokies on the top side of the quilt. If the greater tension is on the bobbin, then you will see the pokies on the back of the quilt. If the pokies are objectionable to you, use the same color thread on both top and bottom.

TIP: *A general rule of thumb is that if the stitch looks bad on the top it is the bottom tension. If the stitch looks bad on the bottom it is the upper tension. The upper and lower threads play tug of war with each other.*

3-6 Tension, Tension, Tension

This probably causes more problems than anything else. You need correct tension on the top and bottom threads but you also must have correct tension on the quilt held between the bars. You should be able to gently rock the belly bar where the backing fabric is attached. This allows enough movement of your quilt layers for the needle to penetrate and make good stitches.

Before you start making adjustments to your machine ask yourself, “What changed?” If your machine was stitching great and all of a sudden it has loopies on the back or puckers, “What changed?” Did you just change the bobbin? Did you just lift the take up bar? Did you lower the take up bar after finishing your last quilt? Did you recently change the needle? Did you just roll the quilt?

If the take up bar with the quilted portion of your quilt is too high, it will result in poor stitch quality. You need a finger tip space between the quilt and the machine bed. Higher will result in poor stitch quality. Lower and the quilt will create a drag on your machine’s movement.

Look at your bobbin, a sloppy wound bobbin will not create a good stitch. Make sure that the threads on the bobbin are snug and evenly wound. Check to see if there is a piece of lint in the bobbin case.

Tension Trouble shooting checklist

- Is the side tension lever down?
- Have I oiled my machine regularly?
- Is the quilt too tight on the frame?
- Is the thread coming off the cone freely?
- Has your thread jumped out of the tension discs?
- Check your threading. Has anything been missed or has the thread flipped itself around something increasing your tension?
- Is the hopping foot too high or too low?
- Is your take up bar too high? Did you lower the take up bar after your last quilt?
- Do you need to change your needle?
- Is your needle in properly?

Top Thread Breaking

- Check to see that your thread is coming off the spool freely. The thread guide is centered over the spool and has not developed any burrs or catches.
- Check to see if the thread has looped itself around the spool pin.
- Check to see if the needle is in correctly, with the scarf facing the back of the machine.
- Have you recently changed the needle? Is it as high as it will go in the needle bar?

The Stitch Regulator does not keep up with me? Just like driving your car you need to make controlled starts and stops, practice being consistent in your movements.

Eyelashes

Eyelashes on the back of the quilt can be caused by too little top tension. Turn the thread tension disk clockwise ¼ turn. Make small adjustments. Repeat until stitch quality is good. Remember the upper and lower thread play tug of war with each other.

Loose Top Stitch

Is the tension lever handle down? It lowers the hopping foot and applies the tension disk.

Is the bobbin thread inserted in the slot of the bobbin case?

Adjust the tension disk small turns clock wise. Repeat until stitch quality if good.

Quilt Top Puckers

Is your backing fabric stretched too tight? While the backing fabric needs to lie flat and without wrinkles, stretching it too tight can make the quilt top pucker. After stitching and releasing the backing fabric the top will pucker.

The top tension is too tight. Adjust the tension disc small turns counter clockwise. Repeat until stitch quality is good.

Stitches are Skipped

Skipped stitches leave needle holes without thread while large and small stitches in regulated mode means the encoders are not picking-up the signal of your movements because of lint or thread stopping or slowing the reading.

First, check to see that your machine is threaded correctly. Look at the check spring, does the thread lay in the check spring? When properly threaded the check spring will move up and down as the machine is stitching and the thread is flowing freely .

Check the needle. Be sure it is all the way up into the shaft and the scarf is toward the back. If it has been used for some time, replace the needle. A blunt needle will make a popping sound as it penetrates the quilt sandwich.

Machine Drags Making it Difficult to Move

Check to make sure the quilt on the take up bar is not dragging on the bed of the machine. A finger tip distance between the take up bar and the bed of the machine is all that is necessary. Elevating the take up bar too high can cause loopies on the back. Look for lint or thread that might be snagging as you move the machine.

Difficult to Control the Movement of the Machine

Check for lint or other debris on the track and bars. Sometimes the smallest pieces of thread create the biggest headaches.

3-7 Get to know your control screen



Figure 3-6

1. Home: this brings you to the screen with the controls for operation of the machine. *More info on page 38*
2. Light bulb: this icon will turn your lights on and off. *More info on page 42*
3. File menu: with access to calculator, Advanced, Save settings, and Diagnostics. *More info on page 42*
4. Sewing Parameters: change number of tie-off stitches. *More info on page 46*
5. Counters: Check run time, and Number of stitches. *More info on page 47*
6. Profile Settings: this allows for up to 5 different settings. *More info on page 48*
7. Measure determine space between blocks. *More info on page 49*
8. Robot: mode *More info on page 49* or Quilt Magician manual
9. Shows what profile you are currently using
10. SPI (Stitches Per Inch), use this to adjust the number of stitches per inch
11. Timer shows how long the machine has been running. You can reset this by pressing the counters (5) icon.
12. Use this to set the speed of the machine for Idle and Manual stitching.
13. Stitch select *more info on page 38-39*
14. Handle bars settings. This shows the configuration you have set for the buttons on the handle bar. You can change these settings under the Profile Settings (6) icon. These are active buttons in that you can press them to activate the function assigned to them.
15. Needle Up/Down position this shows where the needle will stop when the stop button is pushed. You can also use these to position the needle as needed.

We will review many of the icons found on the Display screen

Your controller contains many windows.. Each window is open all the time, and they are layered on your screen. When you tap a button on the top row of options it brings that window to the top so that you can see the options on that window and make changes.



Figure 3-7

The first Icon: Home

When you tap the Home icon on the far left of the upper row of icons on your screen you will see your home window on top. Your Home is the start window for your quilting machine functions.



Figure 3-8



Figure 3-9



Figure 3-10

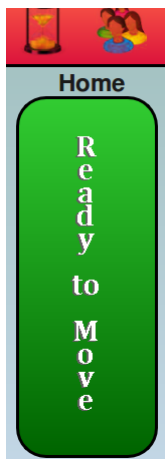


Figure 3-11

The center button is your stitch button and the largest button found on this window. This button shows which mode you are in for stitching. When you tap the start/stop icon or press and release the start/stop button on your handles this is the stitch mode your machine will stitch in. You can change your stitch mode by tapping this icon.

The first stitch mode we will cover is the Auro Stitch. The Auto Stitch is the stitch regulator. In this mode as you move the machine the encoders detect the movement and send a signal to the motor to move the needle up and down. When you move faster the motor runs faster and as you slow down the motor slows down. When you come to a stop the motor comes to a stop and will wait for you to start to move once again. If you wait past a set amount of time or you walk away from the machine for the set amount of time then the machine will turn the stitch mode off. You will need to press and release the start/stop on the handles or tap the start/stop icon to begin sewing again.

While using the Auto stitch mode the SPI or Stitches per Inch is active. You can use this set of icons to adjust the number of stitches per inch. The range is 4 to 22 and can be placed any where between using the + or - icon under the SPI

When you press the start/stop button either on the ends of the handle bars or on the screen, the center button will change to green and say “Ready to Move”. The icon bar on the top of the screen will change to red.



Figure 3-12

The next stitch mode we will cover is the Baste Stitch. The Baste Stitch is a stitch that you can use to baste the quilt top. Many of quilters will baste the top and sides as they start a new quilt. This helps to hold the three layers together. This removes the need for pins or safety pins to hold the layers together as they complete their quilts. The basting stitch is easily removed when the quilt is completed.

The basting stitch also uses the SPI but the range is only 1 to 3.



Figure 3-13

The next stitch mode is the Idle Stitch. The Idle Stitch is another stitch regulated mode that will adjust speed of stitching with the movement of the machine. One difference between the Idle stitch and the Auto Stitch is that when you stop moving the machine motor will not stop moving the needle up and down. You will continue to stitch in the place you stopped moving until you press the start/stop button on the handles or tap the start/stop icon on the screen.

Your SPI can be set between 1 and 22 when using the idle stitch mode. It adjusts by 1 each time you tap the + or - icons



Figure 3-14

Your Speed can be adjusted between 5% and 30% when using the idle stitch mode. It adjusts by 5% each time you tap the + or - icons.

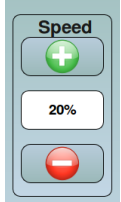


Figure 3-15



Figure 3-16

In Manual mode our Moto is get ready set go. When you turn on the Quilter in manual mode the needle will begin to fire immediately you become the stitch regulator, by adjusting the speed faster or slower you can choose the speed that feels most comfortable to your quilting technique weather it be stippling or free-handing your personalized design .

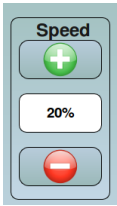


Figure 3-17

Your Speed can be adjusted between 5% and 100% when using the Manual stitch mode. It adjusts by 5% each time you tap the + or - icons.

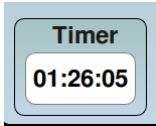


Figure 3-18

The Timer you see in the lower left of the screen shows the running time of the machine. You can reset the timer at the beginning of each project or at the beginning of each period you quilt. If you have no need for the timer you can just let it run. To reset the timer you would tap the hour glass in the top row of icons. *See page 47 for more info on resetting the timer.*

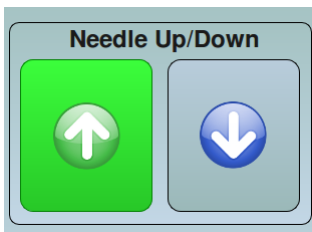


Figure 3-19

The Needle Up/Down icons show you how the needle will position when the start/stop button is pressed and released to stop the machine. This also works to position the needle.

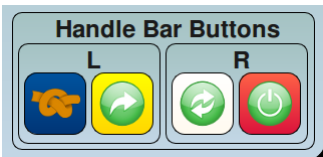


Figure 3-20

In the lower right you find the set up for the handle bar buttons. On your handle bar you have two buttons on the left, (blue and yellow) and two buttons on the right (white and red). These buttons can be configured to your own setup. These are active icons and if you tap them the action will take place. Below we will cover the icon and the action. You can set the handle bar buttons under the people icon in the top row of icons. We will cover setting these icons on *page 41*



This icon is used to start and stop your machine

Figure 3-21



This icon is used to move the needle half rotation

Figure 3-22



This icon is used to move the needle one full rotation

Figure 3-23



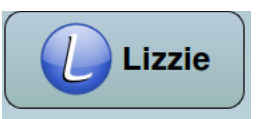
This icon is used to Tie off your stitches. You can set the number of tie off stitches. *see page 46*

Figure 3-24



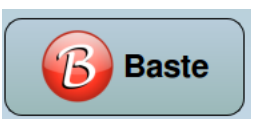
This icon is used to place the machine into Idle stitch mode

Figure 3-25



This icon is used to place the machine into Auto Stitch mode

Figure 3-27



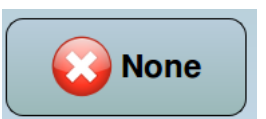
This icon is used to place the machine into Baste stitch mode

Figure 3-28



This icon is used to place the machine into Manual stitch mode

Figure 3-29



This icon is used to give the button no function

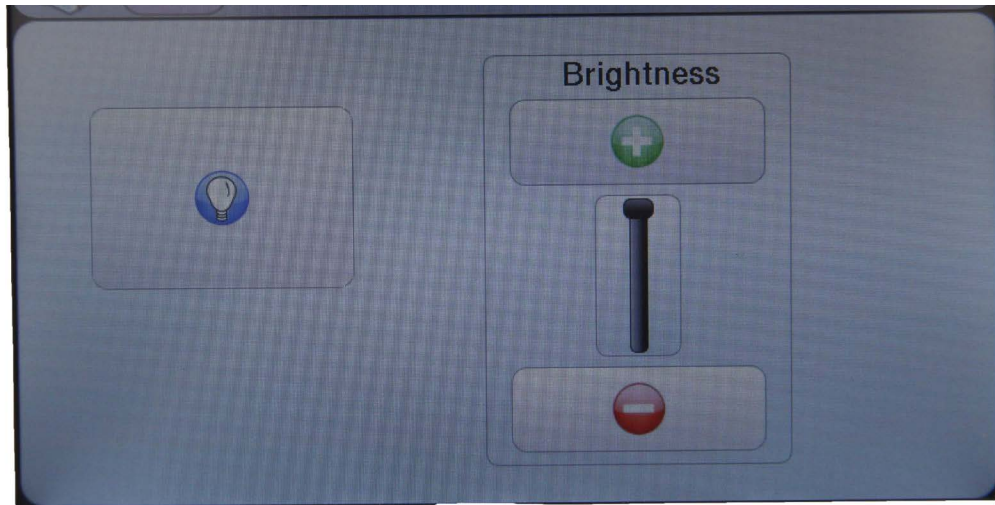
Figure 3-30



The second Icon: Light

When you tap this icon the light menu will pop-up. Here you can turn the lights on and adjust the brightness

Figure 3-31



The Third Icon: File Menu

Figure 3-32

You will find the following options in the file menu window.

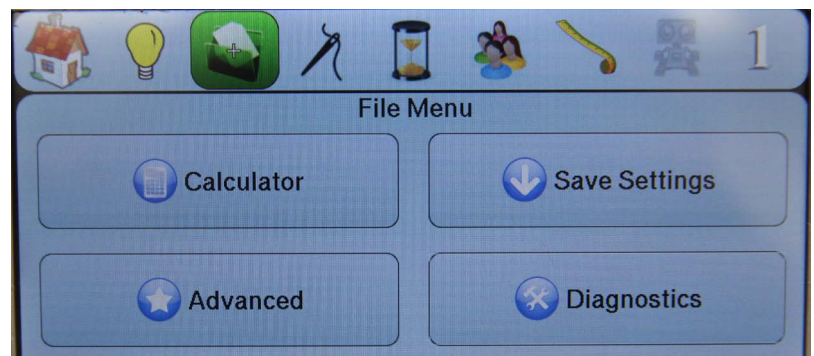


Figure 3-33

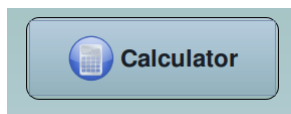


Figure 3-34

There is a handy Calculator. Works like a regular calculator.

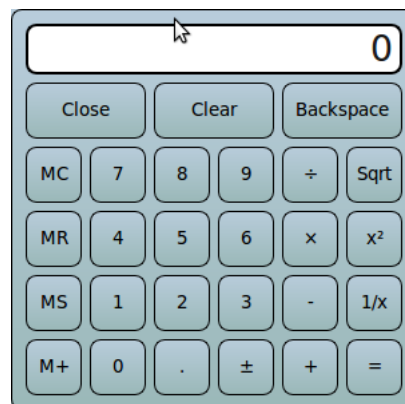


Figure 3-35

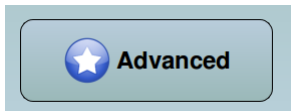


Figure 3-36

As you can see there is lots of info on the advanced window we will cover these next.

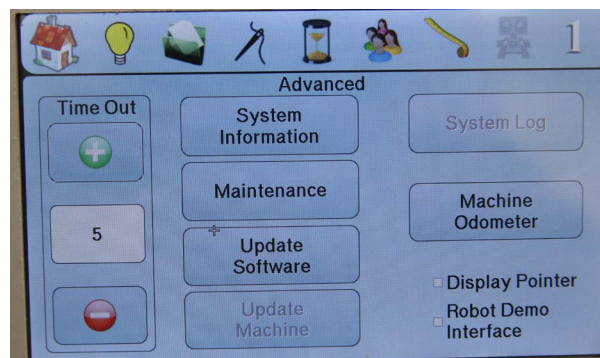


Figure 3-37

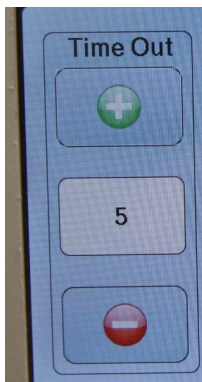


Figure 3-38

Time out: This will adjust how long the machine will wait for you to move before it turns itself off.

The range is 5 to 120 seconds and adjust when you tap the + or - icons.

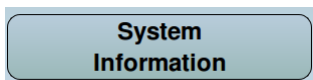


Figure 3-39

From the System Information screen you can see what software version you are using

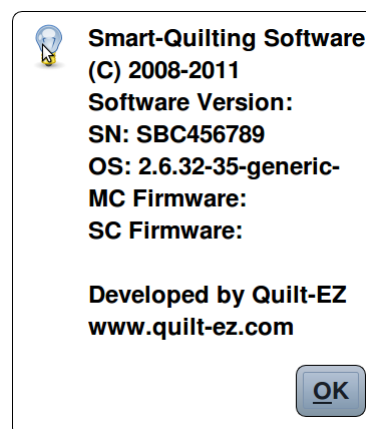


Figure 3-40

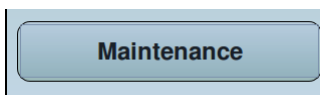


Figure 3-41

Maintenance button will open the maintenance window.

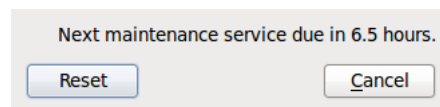


Figure 3-42

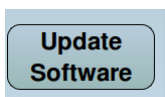


Figure 3-43

You also have an Update software button. Once you have new software on your USB stick you can use this button to prompt the screen to update.

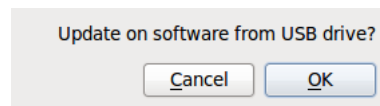


Figure 3-44

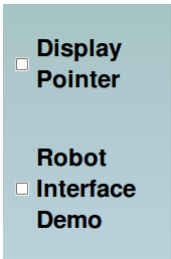


Figure 3-45

Display Pointer will cause a plus mark to always be visible on the screen. This is an on or off check box only

Robot Interface Demo

This is a on or off check box only. If you click this and the robot icon is clicked you will see the Quilt Magician Screen. You will not be able to use the Quilt Magician or see patterns until you purchase the Quilt Magician. **See your local dealer for details or visit www.tinlizzie18.com**

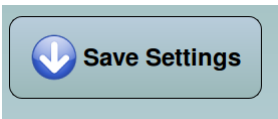


Figure 3-46

System will auto save every 5 minutes after the machine is turned on. If you want your setting to be saved (stitches , run time etc) be sure to go into file folder “save settings” before powering off.

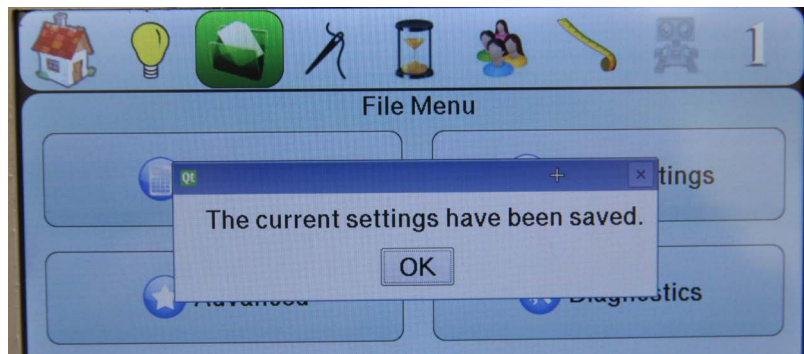


Figure 3-47

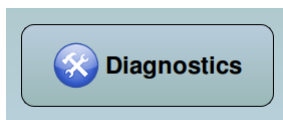


Figure 3-48

In the file menu you also have a Diagnostics button. This will bring up your Diagnostics screen so that you can check some of your electronics and buttons to ensure they are working. Let’s take a look at what is in the Diagnostics. **Note you will need a service tech to help you with some of these checks and to understand them.**



Figure 3-49

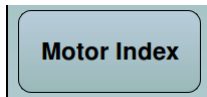


Figure 3-50



Figure 3-51

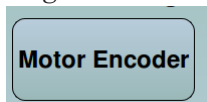


Figure 3-52

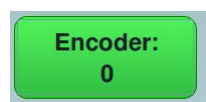


Figure 3-53

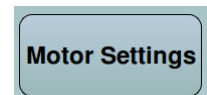


Figure 3-54

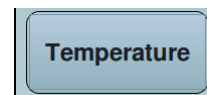


Figure 3-55

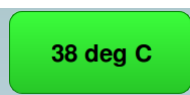


Figure 3-56

Motor index button. When you tap this button it turns green and gives you a number as you turn the hand wheel on the back of the machine this number will change and let you know that it is working

Motor Encoder button. When you tap this button it turns green and gives you a number as you turn the hand wheel on the back of the machine this number will change and let you know that it is working

Motor Settings button. When you tap this button it brings up a key pad so that a password can be entered to make changes to the Motor settings. This will be under the direction of a Technician

Temperature button. There is an important chip inside the PCB. This chip will get warm, like a processor. This check the temperature of the chip to ensure it's not getting too warm. If it does get too warm the system will automatically shut down to prevent any damage.

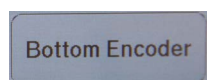


Figure 3-57

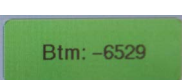


Figure 3-58

Bottom Encoders button. When you tap this button and it changes to green it shows you where the encoder is positioned. If you move your machine left and right the number should change. The changing number lets you know that the machine is getting the signal from the encoder.

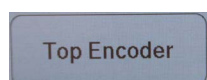


Figure 3-59

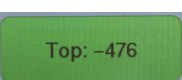


Figure 3-60

Top Encoders button. When you tap this button and it changes to green it shows you where the encoder is positioned. If you move your machine forward and backward the number should change. The changing number lets you know that the machine is getting the signal from the encoder.

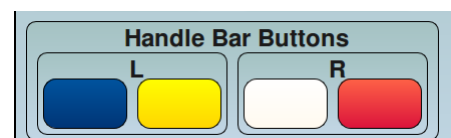


Figure 3-61

Handle Bar buttons. This section will let you know if the buttons on the handle bars are working. Pressing the button on the handle bar will change the background to green around the button you are pushing.

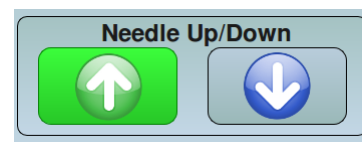


Figure 3-62

Needle Up/Down. These icon let you test the needle up and the needle down. When you tap the up arrow the needle will rotate up. If tap the down arrow the needle will rotate to the down position.

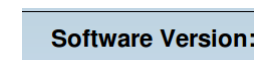


Figure 3-63

Looking at the bottom of the screen you can see which version of software you are currently using.



The Fourth Icon: Sewing Parameters

Figure 3-64

Your fourth Icon of the top icons is the Sewing Parameters. You can make changes here to how the machine reacts when you press the start/stop button or icons to stop.



Figure 3-65

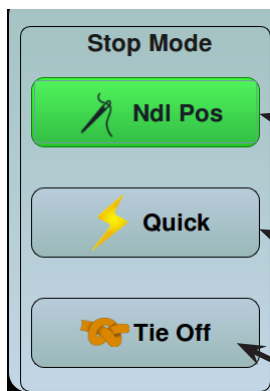


Figure 3-66

Stop Mode has three buttons which affect the stopping of the machine when quilting. See below for an explanation of each of these Stopping options.

Ndl Pos button. If this button is selected, the machine will position the needle up or down depending on which icon you have selected on the home window

Quick button. If you select this button when you stop the machine, the machine will just stop and the needle will stay where it was located when you stop.

Tie Off button. If you select this button, when you stop the machine, It will do your tie off stitches then position the needle up or down depending on you icon selected on the home window

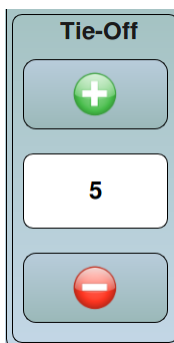


Figure 3-67

Tie-Off. You can adjust how many Tie-Off stitches your machine is going to stitch. The range of tie off stitches is 1 - 10
The tie-off stitches are stitched when you tap the Tie-Off button or if you have a button set up to stitch the tie-off. Also you can get the auto tie-off if you have set the stop mode to the Tie-Off button.



Figure 3-68

The Fifth Icon: Counters

The counters icon will bring up your different counters available on the machine. These counters include run time, stitch counter, and bobbin counter.



Figure 3-69

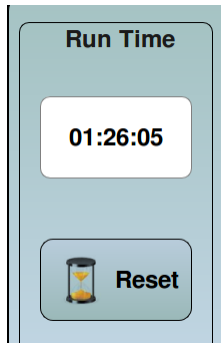


Figure 3-70

Run Time. This counter shows you the amount of time your machine has been stitching. You can reset this at anytime.

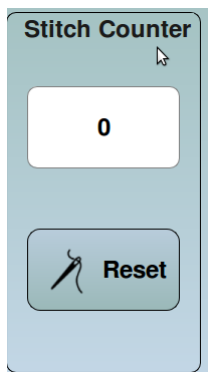


Figure 3-71

Stitch Counter. This counter will show how many stitches are in your project. You can reset it at anytime.



The Sixth Icon: Profile Settings

Figure 3-72

The Profile Settings icon. This window will let you set presets for your machine. If you have more than one person using the machine they can set up some pre-sets so that the machine will be ready for them.



Figure 3-73

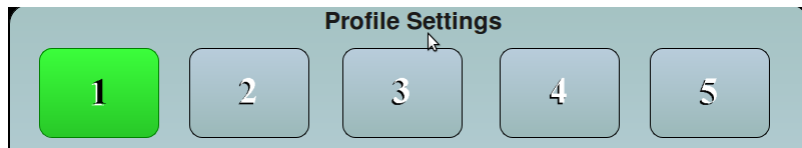


Figure 3-74

Profile Settings. You can set up five (5) profiles on your machine. The profile in use is the profile number that has a green background

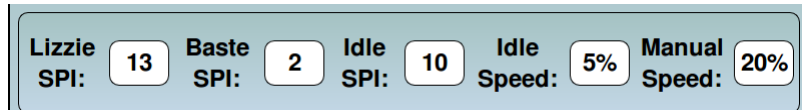


Figure 3-75

These numbers are set on the home page under each stitch. When you use the save icon in the file menu these are saved to the profile that has the green background.

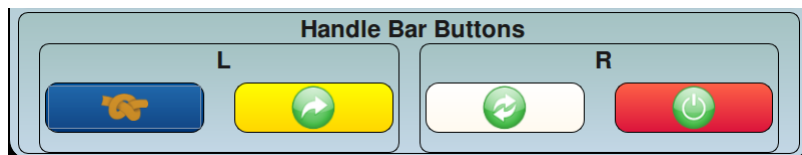


Figure 3-76

This is where you come to set the buttons on the handle bars to suit your needs. Tapping one of these colored icons will open a window showing you all the options available.

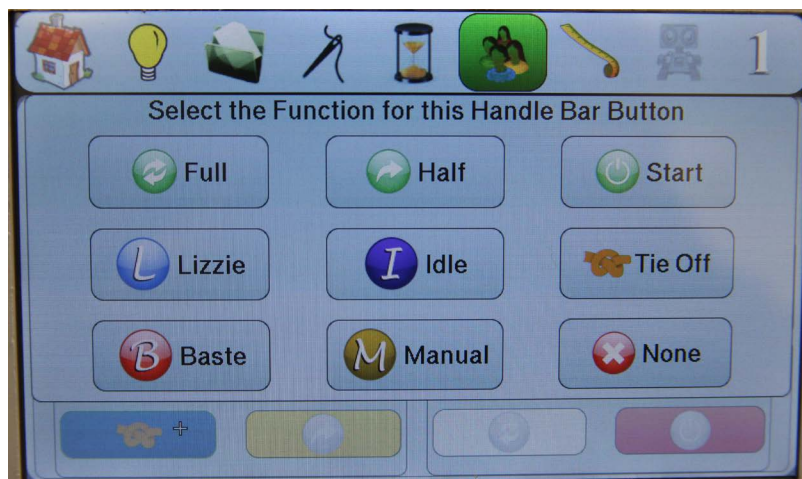


Figure 3-77

When you tap a button icon from the profile setup window this window will open so that you can select which function you want that button to perform when you press that button. *For an explanation of the functions see page 41*



The Seventh Icon: Measure

Figure 3-78

Use this when you want to get a digital read out of the size of your block or an area you want to quilt in.



Figure 3-79



The Eight Icon: Robot mode

Figure 3-80

If equipped with the Quilt Magician tapping this icon will change to the Quilt magician screen and all the icons across the top will be the Quilt Magician icons.

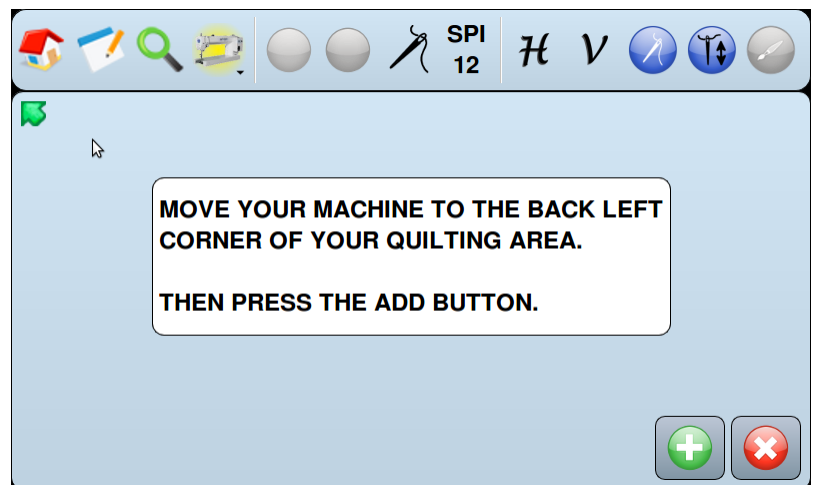


Figure 3-81



Figure 3-82

This icon you see on the robot screen will bring you back to the sewing machine windows so that you have control of the machine in the free motion. This icon is found in the top row of icon fourth one over.

3-8 Updating your King Quilter Limited

When an update is available for the King Quilter Limited machines there are a few ways to perform the updated depending on what is being updated. What is being updated will be passed along to you with the update. It will let you know if the update needs to run on the sewing side or the robotics side of the machine.

How to get updates

Updates will be posted on the web site or emailed to you with instructions how to update. You will need an USB stick for these updates.

Update for the Sewing side

Step 1: Transfer the required files to your USB stic

Step 2: Place the USB stick into the USB port on your 7" Display screen

Step 3: Follow the instructions on the screen



figure 3-83

3-9 Check spring replacement/Tension Knob

From time to time you may need to replace the check spring. We will use a series of photos to help you.

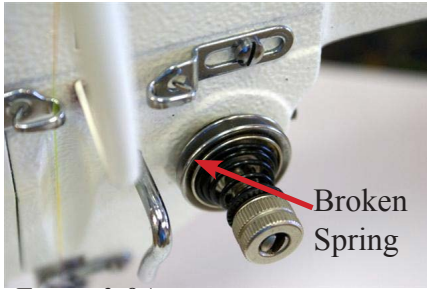


Figure 3-84
Tension Assembly with Broken Spring.
(old tension knob)



Figure 3-85
Tension Assembly with good
spring (new Tension knob)



Figure 3-86
Screw on inside of machine loosen
only. **DO NOT REMOVE**



Figure 3-87
Remove assembly from machine
Be careful of release pin



Figure 3-88
Machine with tension assembly re-
moved

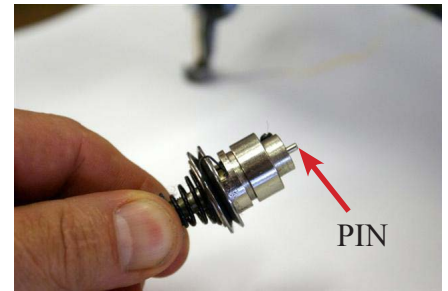


Figure 3-89
Tension assembly out of machine
DO NOT LOOSE PIN

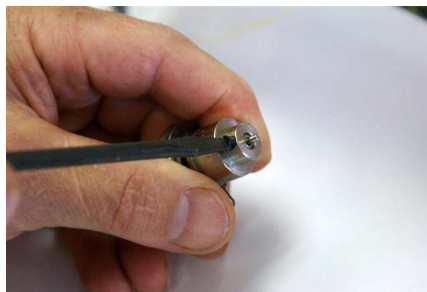


Figure 3-90
Loosen screw only
DO NOT REMOVE



Figure 3-91
Remove tension assembly from barrel

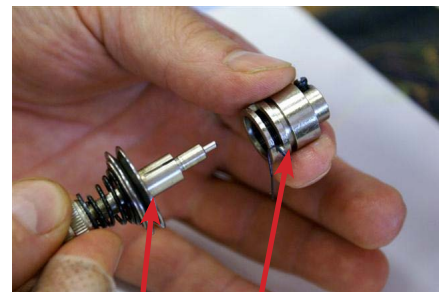


Figure 3-92
Tension assembly, Barrel



Figure 3-93
Remove spring



Figure 3-94
Spring Removal



Figure 3-95
Spring Removed

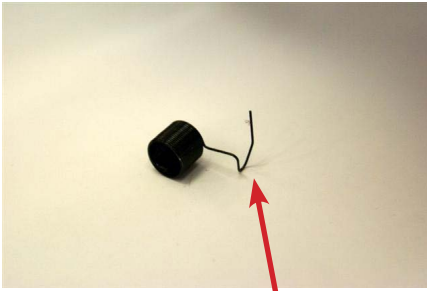


Figure 3-96
New Spring, This tail is what was broken



Figure 3-97
Insert the new spring



Figure 3-98
Twist while inserting the new spring

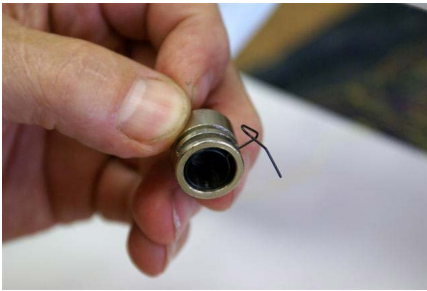


Figure 3-99
New spring in place



Figure 3-100
Insert the tension assembly back into the barrel. REMEMBER DO NOT LOOSE THE PIN



Figure 3-101
Insure that you are all the way in



Figure 3-102
Give the tension assembly a twist until you feel resistance on the check spring

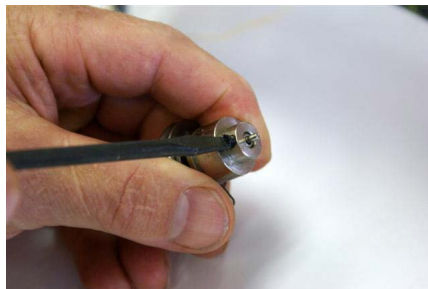


Figure 3-103
Tighten screw. Make sure the pin is still there.



Figure 3-104
Place the assembly back into your machine



Figure 3-105
Once in ensure that your check spring is at 11:00



Figure 3-106
Press in and notice the tension disk opens



Figure 3-107
Release and the disk will close; this is the proper place for your tension assembly



Figure 3-108
Tighten screw on your machine



Figure 3-109
Tension assembly back in place with new check spring at 11:00



Figure 3-110
For fine adjustment of check spring insert screwdriver turn clockwise for more tension

3-10 Machine will not sew. I can not turn the hand wheel

No matter how hard you try to keep the bobbin area free of loose threads and lint we sometimes with get a jam. Most jams start with the needle down as the jam is because something gets into the bobbin race. The bobbin race is a part of the bobbin hook which keep the hook rotating smoothly and no wandering as it rotates.

Don't panic this can be cleared it just sometimes take some work.

Step 1: Turn the power off

Normal sew rotation if you are standing at the back of the machine looking at the hand wheel is counter clockwise. If you turn the machine counter clockwise you will force what ever is jamming the machine deeper into the bobbin race.

Step 2: Rotate the hand wheel clockwise to back the jam out of the bobbin race. (This may take some work to get it worked free.) *See figure 3-111*

Step 3: Normally when you get it backed up it will fall out and you will be able to make a full rotation with the hand wheel.

Once it feels free take the needle plate off the machine and give it a good cleaning in the bobbin area. Prior to putting the needle plate back on rotate the hand wheel counter clockwise (normal machine rotation)

While rotating the hand wheel by hand ensure that you have free movement of the machine. If everything is working well you can put the needle plate back on and put the belt guard back on, You will be ready to start quilting again.

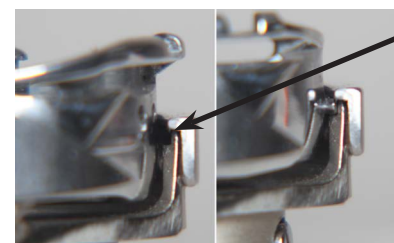
Figure 3-112 shows thread caught
Figure 3-113 show the race



Figure 3-111



Figure 3-112



The Race is this small space here on the hook assembly

Figure 3-113

3-12 Timing between needle and rotating hook

If you need to adjust the timing of the machine follow these steps to help get the proper timing on your machines.

Step 1: Remove the two needle plate screws from your machine and set the needle plate to the side

Step 2: Remove the two screws on the protection cover at attach it to the face plate of the machine.

See figure 3-114

Step 3: Remove the three screws holding the face plate to the machine. Remove the face plate and set this part aside.



Figure 3-114

Step 4: Check the protection flange of the position bracket (A). This should be engaged in the notch (B) of the bobbin case holder. (D) in the drawing shows the set screw to adjust hook timing. *See figure 3-115*

Step 5: Turn the hand wheel to locate the needle to it's lowest position. Note: correct needle position is when you can see a small portion of the eye of the needle. *See figure 3-116*

Step 6: If the needle is not stopping in the correct position you will need to proceed to the next step. If it is in the correct position move to step 9

Step 7: Loosen Needle bar connecting screw (A) This will allow you to raise and lower the needle bar for correct location. NOTE: CHECK ALL PHOTOS BEFORE MAKING ANY ADJUSTMENTS *See figure 3-117*

Step 8: Once you have the needle in the correct location tighten Needle bar connecting screw (A) to prevent the needle bar from moving out of position.

Adjusting rotating hook point timing with needle

Step 9: Turn the hand wheel counter clockwise to locate needle to its lowest position.

Step 10: At lowest position turn the hand wheel to raise the needle 2.5 mm (1/8") *See figure 3-118*

Step 11: Hook point should be just above eye of the needle. *See figure 3-119*

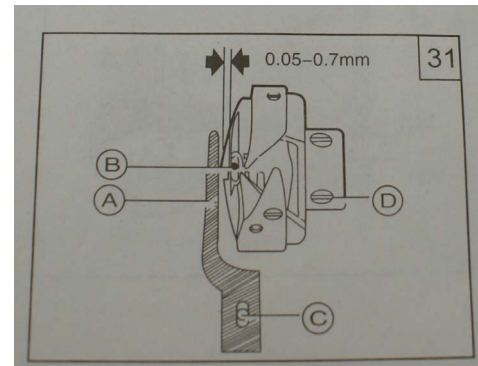


Figure 3-115

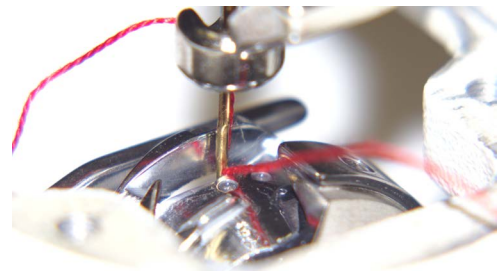


Figure 3-116

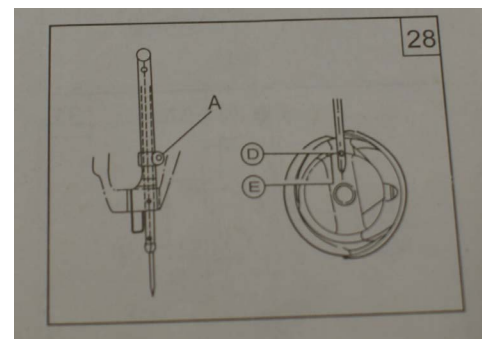


Figure 3-117

Step 12: If the hook point is in the correct position then move to step 18. If the hook point is past this point or not yet reached this position then you will need to follow the next few steps to adjust the hook so that when the hook point reaches this position it is just above the eye of the needle. Proceed to the next step.

Step 13: Refer to drawing 31 *see figure 3-115* for position of the three screws (D). Loosen the three screws holding the hook assembly to the shaft. (Note you will have to rotate the hand wheel to get to all three screws.)

Step 14: With the hook loose reposition the needle to the lowest position. Rotate the hand wheel counter clockwise to bring the needle up 2.5mm (1/8") *see figure 3-116*

Step 15: Now rotate the hook so that the point of the hook is just at the edge of the needle. *See figure 3-119*

Step 16: Lock one screw holding the hook into this position.

Step 17: Rock the hand wheel back and forth to ensure that you have the hook in the right position to pass the back of the needle just above the eye of the needle.

Step 18: When adjusting the rotating hook point timing also note that clearance between notch bottom of needle D and hook point C must be maintained. HOOK CAN NOT RUB AGAINST NEEDLE.

Step 19: Once you feel like everything is in the right place tighten all screws you loosened.

Step 20: Return all covers and screws back into place on your machine.

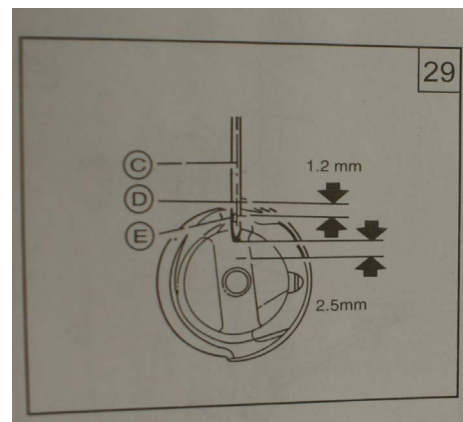


Figure 3-118

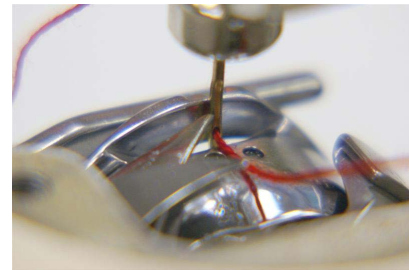


Figure 3-119

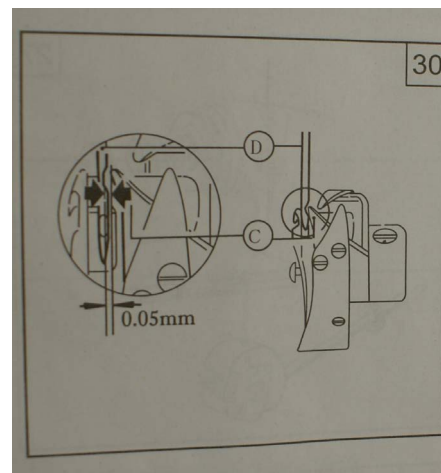


Figure 3-120

3-13 Adjusting the bobbin winder lever (amount of fill on the bobbin)

Step 1: Using your allen wrench loosen the set screw (A) holding the Bobbin winder Lever (B) in place. *See figure 3-122*

Note you do not need to pull the bobbin winder out to adjust this setting.

Step 2: Move the Bobbin winder lever in for less fill and out for more fil

Step 3: Tighten set screw (A) to prevent Bobbin winder lever (B) from moving



Figure 3-121

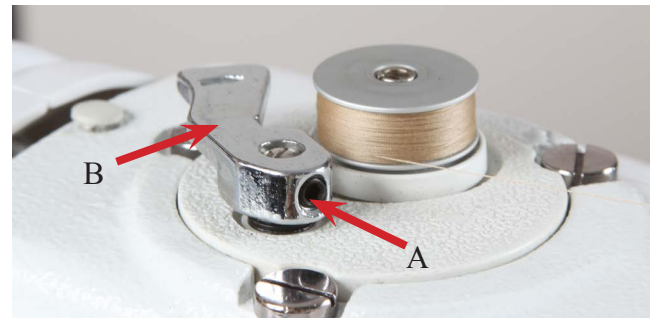


Figure 3-122

3-14 Adjusting the Bobbin tension assembly thread guides for proper fill.

Step 1: Loosen the set screw (D) so that you can adjust the tension assembly thread guides (E). Adjust tension assembly thread guides (E) up and down until bobbin fills evenly top to bottom
See figure 3-124

Step 2: Tighten the set screw.

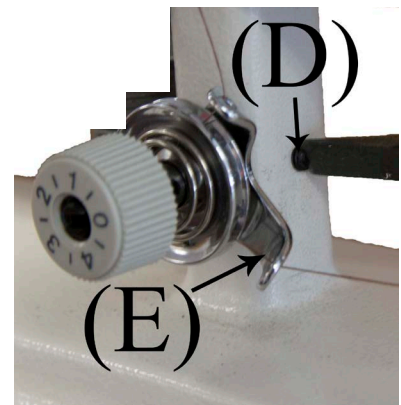


Figure 3-124

3-15 Adjusting bobbin winder and contact with the shaft

Step 1: Loosen the three (3) screws (A) holding the bobbin winder in place but do not remove them. *See figure 3-125*

Step 2: Twist the bobbin winder (B) to the right for more contact with the inner shaft or mover left for less contact.

Note: When twisting the bobbin winder (B) you need to stand on the side of the machine with the access panel

Step 3: The bobbin winder disk with the friction ring needs to contact the disk on the upper shaft when engaged. *See figure 3-126*

Step 4: Once done moving the bobbin winder retighten the screws to hold the bobbin winder in place.



Figure 3-125

Turning the bobbin winder to the right will move the friction wheel closer

Turning the bobbin winder to the left will move the friction wheel away

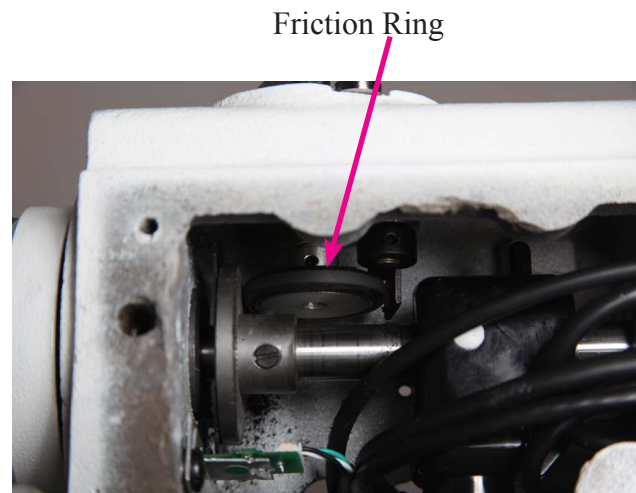


Figure 3-126