

# Crown<sup>TM</sup> Jewel II

## Instruction and Reference Guide

Model BLCJ18-2



**FOR THE LOVE OF SEWING**

To register your machine warranty and receive Baby Lock product updates and offers, go to [babylock.com/profile](http://babylock.com/profile). If you have questions with registration, visit your Authorized Baby Lock Retailer.

Baby Lock Consumer Helpline: 800-313-4110

[www.babylock.com](http://www.babylock.com)

# IMPORTANT INFORMATION: REGULATIONS

## Federal Communications Commissions (FCC) Declaration of Conformity (For USA Only)

Responsible Party: Tacony Corporation  
Corporate Centre  
1760 Gilsinn Lane  
Fenton, MO 63026-0730 USA

declares that the product

Product Name: Baby Lock Crown Jewel II

complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the manufacturer or local sales distributor could void the user's authority to operate the equipment.

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## Canadian Department of Communications Compliance Statement (For Canada Only)

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

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## Radio Interference (Other than USA and Canada)

This machine complies with EN55022 (CISPR Publication 22) /Class B and AUS/NZ 55022/Class B.

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## Quick Facts

The Baby Lock Crown Jewel utilizes high-tech electronics and an innovative touch-screen user interface to offer greater functionality and ease of operation to home quilters than ever before conceived in the quilting industry. The Baby Lock Crown Jewel quilting machine is a high quality machine that incorporates very robust design features and is very easy to service.

# IMPORTANT SAFETY INSTRUCTIONS

Read all instructions before using.

When using this machine, basic safety precautions should always be taken, including the following:

Read all instructions before using.

## DANGER - To reduce the risk of electric shock:

- A quilting machine should never be left unattended when plugged in. Always unplug the machine from the electrical outlet immediately after using and before cleaning.

## WARNING - To reduce the risk of burns, fire, electric shock, or injury to persons:

- Do not allow to be used as a toy. Close attention is necessary when this quilting machine is used by or near children.
- Use this quilting machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as contained in this manual.
- Never operate this quilting machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the quilting machine to the nearest authorized retailer for examination, repair, electrical or mechanical adjustment.
- Never operate the machine with any air openings blocked. Keep ventilation openings of the machine free from the accumulation of lint, dust, and loose cloth.
- Never drop or insert any object into any opening.
- Do not use outdoors.
- Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
- To disconnect, turn the machine switch to the symbol "O" position which represents off, then remove plug from outlet.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Keep fingers away from all moving parts. Special care is required around the machine needle.
- Always use the proper needle plate. The wrong plate can cause the needle to break.
- Do not use bent needles.
- Switch the machine to the symbol "O" position to turn it off when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot, and the like.
- Always unplug the machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in the instruction manual.
- This sewing machine is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure that they do not play with this machine.

## SAVE THESE INSTRUCTIONS

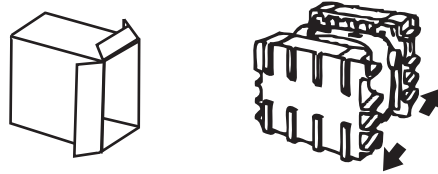
This machine is intended for household use.

### Disclaimer

Baby Lock and its Retailers are in no way legally responsible or liable for damage to the Baby Lock Crown Jewel when used improperly or not in accordance with the guidelines stated in this manual or when used on machine quilting frames not recommended by Baby Lock.

# HOW TO UNPACK/REPACK THE MACHINE

Keep the carton and packing materials. You will need them in the event that you need to return the machine to the retailer or send it for servicing. If you do not pack the machine properly or if you do not use the correct packaging materials, the machine could be damaged. Baby Lock is not liable for damage that occurs during return shipping. Follow the diagram below to unpack and repack the machine.



## IMPORTANT

These packaging materials are designed to prevent the machine from being damaged. Keep them in case you need to bring this machine to the retailer or send it for servicing.

## PLEASE READ THESE INSTRUCTIONS BEFORE USING THE MACHINE

### To use the machine safely

1. Carefully watch the needle when sewing. Do not touch the handwheel, take up lever, needle or other moving parts.
2. Turn the machine off and unplug the cord in the following cases:
  - when you have stopped using the machine;
  - when you replace or remove the needle or any other part;
  - in case of failure when you use the machine;
  - when you check or clean the machine;
  - when you leave the machine unattended.
3. Connect the machine directly to the wall outlet. Do not use extension cords.

### To increase the life of your machine

1. Do not store this machine in areas exposed to direct sunlight or high humidity. Never use or store the machine near a heater, an iron, a halogen lamp or other hot objects.
2. Use only neutral soaps or detergents to clean the machine. Benzene, solvents and scouring powders can damage the case and the machine and therefore should never be used.
3. Do not drop or bump the machine.
4. Always consult the manual to replace or fix the presser foot, needle or any other part of the machine.

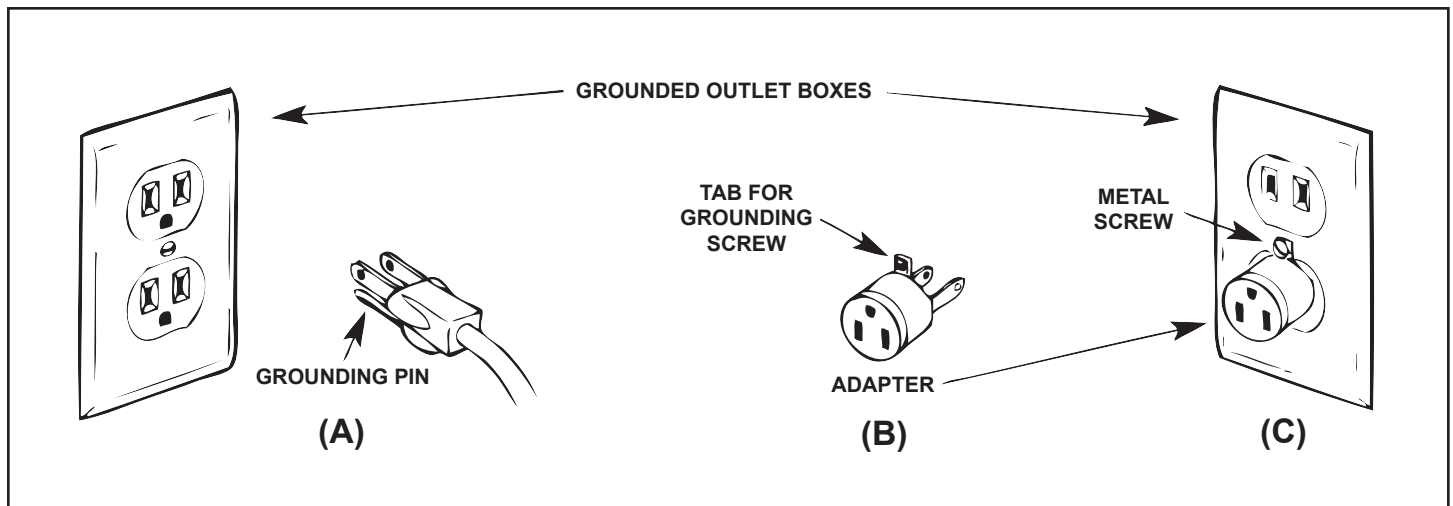
### To repair or adjust the machine

If the machine does not function properly or needs adjustment, first check the troubleshooting chart in the appendix to inspect and adjust the machine yourself.

For more product information and updates, visit our website at [www.babylock.com](http://www.babylock.com).

The contents of this manual and product specifications are subject to change without prior notice.

# GROUNDING



*Figure 1*

This product is for use on a nominal 120 V or nominal 220 V circuit, and has a grounding plug that looks like the plug illustrated in sketch A in Figure 1. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by the metal screw.

**Note:** In Canada, the use of a temporary adapter is not permitted by the Canadian Electric Code.

# INSTRUCTIONS DE SÉCURITÉ IMPORTANTES

Lorsque vous utilisez cette machine, vous devez toujours respecter des précautions de base, notamment les suivantes :

Lisez toutes les instructions avant d'utiliser la machine.

## DANGER - Pour réduire le risque de choc électrique:

- Ne laissez jamais la machine sans surveillance alors qu'elle est branchée. Débranchez toujours la machine de la prise de courant dès que vous avez fini de l'utiliser et avant de la nettoyer.

## WARNING - Pour réduire le risque de brûlure, d'incendie, de choc électrique ou de blessure:

- Cette machine n'est pas un jouet. Vous devez donc être très attentif lorsque des enfants l'utilisent ou se trouvent à proximité.
- N'utilisez cette machine que de la manière prévue, décrite dans ce manuel. N'utilisez que les accessoires recommandés par le fabricant, conformément au manuel.
- N'utilisez jamais cette machine si une fiche ou un câble est endommagé, si elle ne fonctionne pas correctement, si elle a chuté ou a été endommagée ou si elle est tombée dans l'eau. Renvoyez-la au revendeur ou centre de dépannage agréé le plus proche à des fins d'examen, de réparation ou de réglage électrique ou mécanique.
- N'utilisez jamais la machine lorsque les aérations sont bloquées. Ne laissez pas des peluches, poussières et tissus s'accumuler dans les ouvertures de ventilation de la machine.
- N'insérez ni ne laissez tomber aucun objet dans les ouvertures.
- N'utilisez pas la machine à l'extérieur.
- Ne faites pas fonctionner la machine en cas d'utilisation d'aérosols (pulvérisations) ou d'administration d'oxygène.
- Pour débrancher la machine, mettez l'interrupteur de la machine en position "O" (position d'arrêt), puis retirez la fiche de la prise.
- Ne débranchez pas la machine en tirant sur le câble. Tirez plutôt sur la fiche.
- Ne touchez pas les pièces mobiles. Faites particulièrement attention à l'aiguille de la machine.
- Utilisez toujours la plaque d'aiguille appropriée. Si vous utilisez une plaque inadéquate, vous risquez de casser l'aiguille.
- N'utilisez pas d'aiguilles tordues.
- Mettez la machine hors tension (interrupteur principal sur "O") lorsque vous effectuez des réglages liés à l'aiguille, comme l'enfilage et le changement d'aiguille, l'enfilage de la canette ou le changement de pied-de-biche, etc.
- Débranchez toujours la machine de la prise électrique lorsque vous retirez les capots, ajoutez du lubrifiant ou effectuez d'autres opérations d'entretien mentionnées dans le manuel d'instructions.
- Cette machine à coudre n'est pas conçue pour être utilisée par de jeunes enfants ou des handicapés sans surveillance. (Uniquement pour l'Australie et la Nouvelle-Zélande)
- Les jeunes enfants doivent être surveillés pour s'assurer qu'ils ne jouent pas avec cette machine.

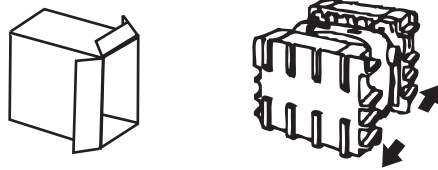
## CONSERVEZ CES INSTRUCTIONS

Cette machine est conçue pour une utilisation domestique.



# COMMENT DÉBALLER/REBALLER LA MACHINE

Conservez le carton et les matériaux d'emballage. Il est possible que vous deviez ramener la machine au revendeur ou l'envoyer pour la faire réparer. Si vous ne l'emballez pas correctement ou si vous n'utilisez pas les matériaux d'emballage corrects, la machine pourrait être endommagée. Suivez le schéma ci-dessous pour déballer et remballer la machine.



## IMPORTANT

Ces matériaux d'emballage sont conçus pour éviter que la machine ne soit endommagée. Conservez-les au cas où vous auriez besoin de ramener cette machine au revendeur ou de l'envoyer pour la faire réparer.

## VEUILLEZ LIRE CES INSTRUCTIONS AVANT D'UTILISER LA MACHINE.

### Pour utiliser la machine en toute sécurité

1. Surveillez attentivement l'aiguille lorsque vous cousez. Ne touchez pas la molette, le levier compensateur du fil, l'aiguille ou d'autres pièces mobiles.
2. Mettez la machine hors tension et débranchez le cordon dans les cas suivants:
  - lorsque vous avez cessé d'utiliser la machine ;
  - lorsque vous remplacez ou retirez l'aiguille ou toute autre pièce ;
  - en cas de panne lorsque vous utilisez la machine ;
  - lorsque vous vérifiez ou nettoyez la machine ;
  - lorsque vous laissez la machine sans surveillance.
3. Branchez la machine directement à la prise murale. N'utilisez pas de rallonge.

### Pour augmenter la durée de vie de votre machine

1. Ne rangez pas cette machine dans des endroits exposés directement à la lumière du soleil ou très humides. N'utilisez pas et ne rangez pas la machine près d'un chauffage, d'un fer à repasser, d'une lampe à halogène ou d'autres objets chauds.
2. N'utilisez que des savons ou détergents neutres pour nettoyer le boîtier. Le benzène, les solvants et les poudres à récurer peuvent endommager le boîtier et la machine et ne doivent donc jamais être utilisés.
3. Ne faites pas tomber et ne cognez jamais la machine.
4. Consultez toujours ce manuel pour remplacer ou fixer correctement les pieds-de-biche, l'aiguille ou toute autre pièce.

### Pour réparer ou régler la machine

Si la machine tombe en panne ou nécessite des réglages, consultez tout d'abord le tableau de dépannage en annexe pour inspecter et régler la machine vous-même. Si le problème persiste, contactez votre revendeur local agréé.

Pour plus d'informations sur le produit et les mises à jour, visitez notre site Web à l'adresse [www.babylock.com](http://www.babylock.com).

Le contenu de ce manuel et des spécifications de ce produit sont sujets à des modifications sans préavis.

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# Baby Lock Crown Jewel II

## Quick Facts

<b>Sewing Speed</b>	Approximately 1,800 spm
<b>Minimum Sewing Speed</b>	90 spm
<b>Needle Bar Stroke</b>	35.3 mm
<b>Sewing Foot Stroke/Lift</b>	5 mm
<b>Needle System</b>	135x7 Standard
<b>Needle Sizes</b>	14/90 – 20/120
<b>Lubrication, main components</b>	Kluber Lube, permanent
<b>Lubrication, hook</b>	Velocite 10, Texaco 22
<b>Dimensions of Sewing Machine Throat</b>	8.25" x 18.00"
<b>Rate Voltage/ Power Consumption</b>	120 volts, 60 Hz 300 watts
<b>Power Consumption of LED Lights</b>	10 watts
<b>Hook System</b>	Custom Manufactured, Rotary, Large Bobbin
<b>Bobbin Type</b>	Class M
<b>Motor Type</b>	Brushless DC, Internal Encoding
<b>Automatic Needle Positioning</b>	Up and down, full-stitch and half-stitch
<b>Cluster Lights</b>	LED lights

# Baby Lock Crown Jewel II

## Disclaimer

*Baby Lock and its authorized retailers are not legally responsible or liable for damage to the Baby Lock Crown Jewel II when used improperly or not in accordance with the guidelines stated in this manual or when used on Home Machine Quilting Frames not recommended by Baby Lock.*

*For additional product information, visit our website at: [www.babylock.com](http://www.babylock.com).*

# Home Machine Quilting Frame Recommendation

- Baby Lock Pearl Frame
- Baby Lock Momentum Frame
- Baby Lock Majestic Frame

# Baby Lock Crown Jewel II Safety Section

**NOTE:** Do not operate your Baby Lock Crown Jewel II quilting machine until you have completely read the information contained in this manual. Please keep all packaging and order information for warranty purposes.

- 1. Always unplug** the Baby Lock Crown Jewel II from the electric outlet when performing any maintenance, changing the needle, removing thread locks, or when left unattended.
- 2. Keep fingers away** from all moving parts. **Use caution** around the needle or sharp external components.
- 3. Change the needle often.** Do not use bent or dull needles.
- 4. Switch the power off** when making any adjustments in the needle or bobbin area, such as threading the needle, installing the bobbin case, oiling or when cleaning.
- 5.** Never drop or insert **foreign objects** into any opening.
- 6.** The Baby Lock Crown Jewel II should only **be used indoors** away from moisture.
- 7.** The Baby Lock Crown Jewel II should not be stored or used in **extreme temperatures**.
- 8. Use the Baby Lock Crown Jewel II** only for its intended use as described in this manual.
- 9.** Use only **attachments recommended** by the manufacturer in this manual.
- 10. To disconnect from the wall outlet**, push the switch to the off position, then remove the plug from outlet pulling from the plug, not the cord. Never operate the Baby Lock Crown Jewel II if the cord is damaged in any way. If a mechanical or electrical problem is encountered, please consult local authorized Baby Lock retailer.

# Package Contents /Included Accessories

## Part Name

## Part Code

### Box 1 of 3

Baby Lock Crown Jewel II Quilting Machine / Stitch Regulator	BLCJ18A2
User Manual	IBBLCJ18-2
Class M Bobbins (5 pieces)	BLJ-BOB (3 pkg.)
Needle size 16 (1 pkg. of 10)	134FG-100
Needle size 18 (1 pkg. of 10)	134FG-110
Bobbin Case	JW000586
Thread Mast	JW010214
Oiler	JW010272
Power Cord	JW020277
Brush	JW010270
Disc-shaped Screwdriver	XC1074051
Screwdriver (bobbin case)	JW010269
2.5mm Allen Wrench	QM10286
3.0mm Allen Wrench	JW010287
5.0mm Allen Wrench	JW010289
8mm Open Wrench	QM40235
Laser Stylus and Clamp	JW020259
Laser Stylus Post	JW010290
Open Toe Hopping Foot	QM10510



### Box 2 of 3

Front Handles	QM29420-2
Rear Handles	QM29425-2

Figure 5 shown on page 10

Figure 6 shown on page 11

### Box 3 of 3 (Carriage Box)

Carriage for Pearl, Momentum, or Majestic Frames	BLCJ18D2W
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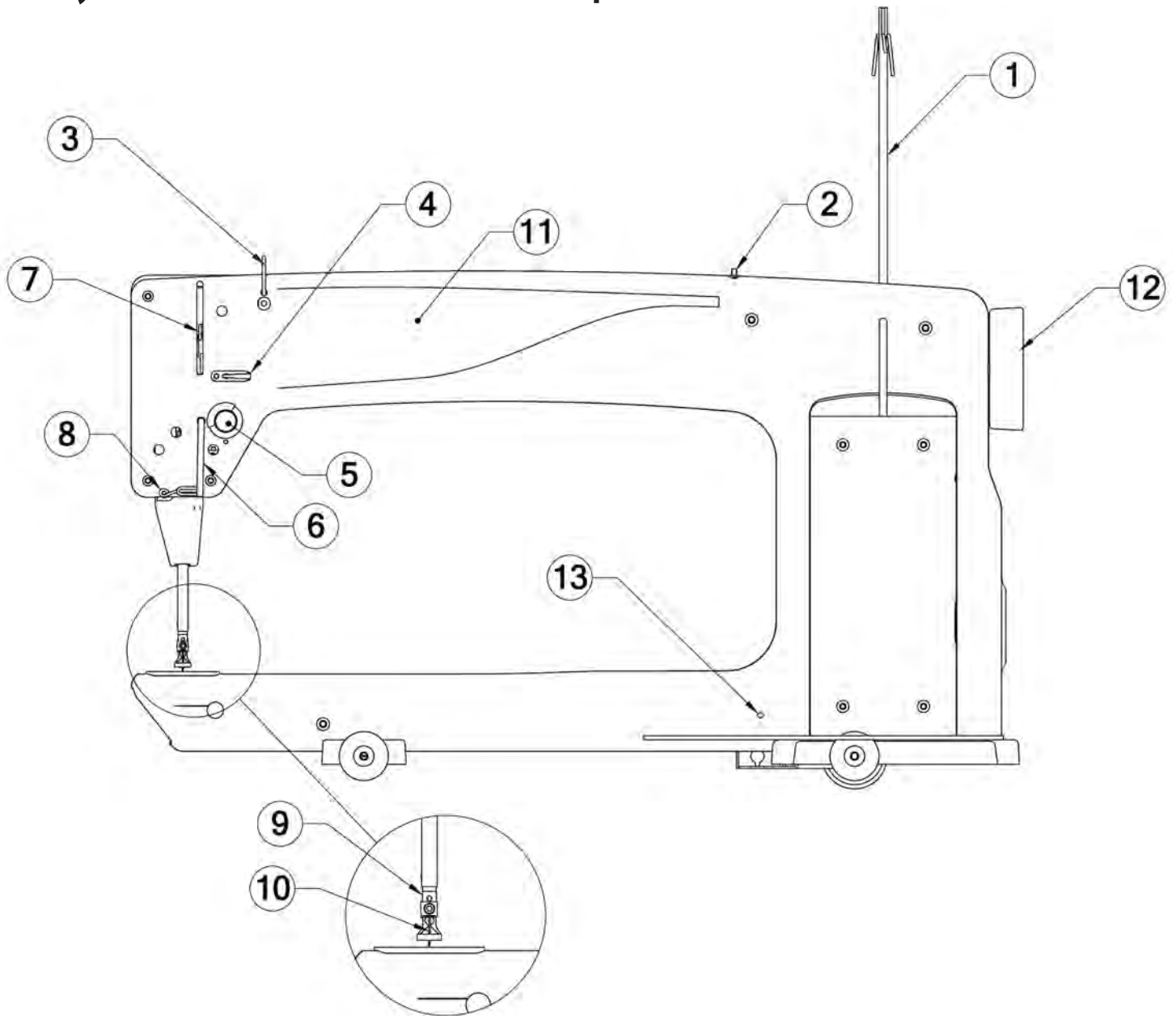
### Bobbin Winder Box

Variable-Speed Bobbin Winder	BLQBW
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# Optional Accessories

<b>Part Name</b>	<b>Part Code</b>	
Adaptor Plate/Stylus Holder	BLJ18-SA	<b>Shown on page 39</b>
Channel Lock	BLJ18-CL	<b>Shown on page 38</b>
Cluster Lights (pkg. 2)	BLJ18-L	<b>Shown on page 11</b>
Horizontal Spool Pin	BLJ18-HS	<b>Shown on page 40</b>
Needle size 12 (1 pkg. of 10)	134FG-80	<b>Not shown</b>
Needle size 14 (1 pkg. of 10)	134FG-90	<b>Not shown</b>
Needle size 20 (1 pkg. of 10)	134FG-125	<b>Not shown</b>
Quilt Pattern Boards	Various	<b>Not shown</b>
Ruler Base	BLJ18-RB	<b>Shown on page 38</b>
Stylus	BLJ18-ST	<b>Shown on page 39</b>
Micro Handles	BLJ18-MH	<b>Shown on page 40</b>
Couching Feet Set	BLQ-CCF	<b>Shown on page 40</b>

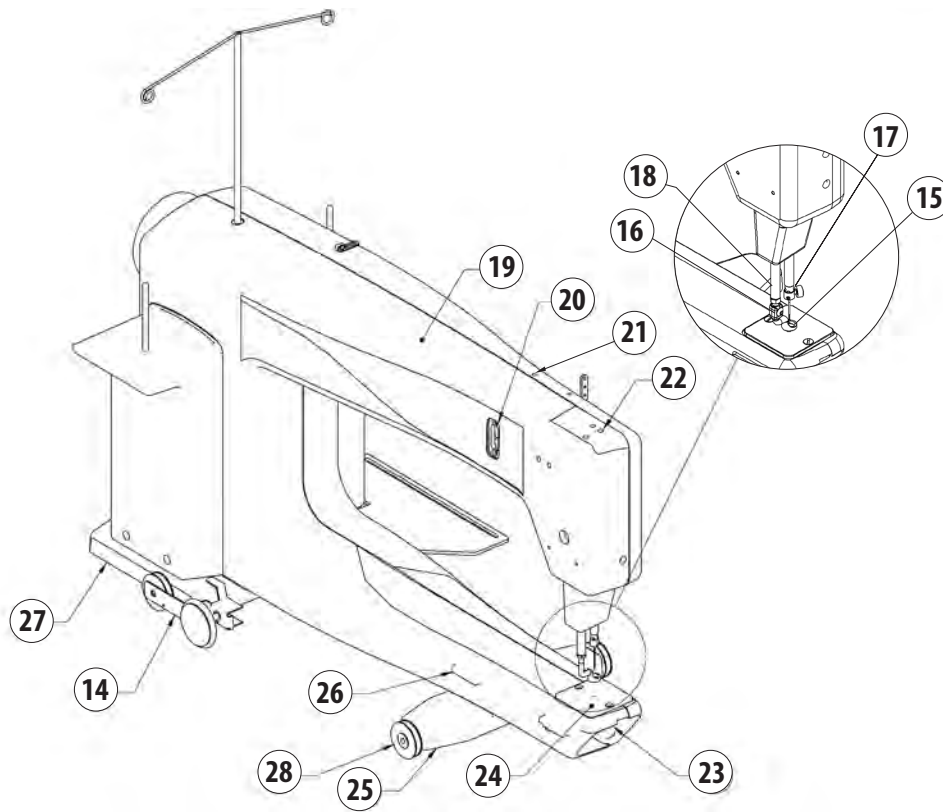
# Baby Lock Crown Jewel II Components



**Front-Side Diagram A**

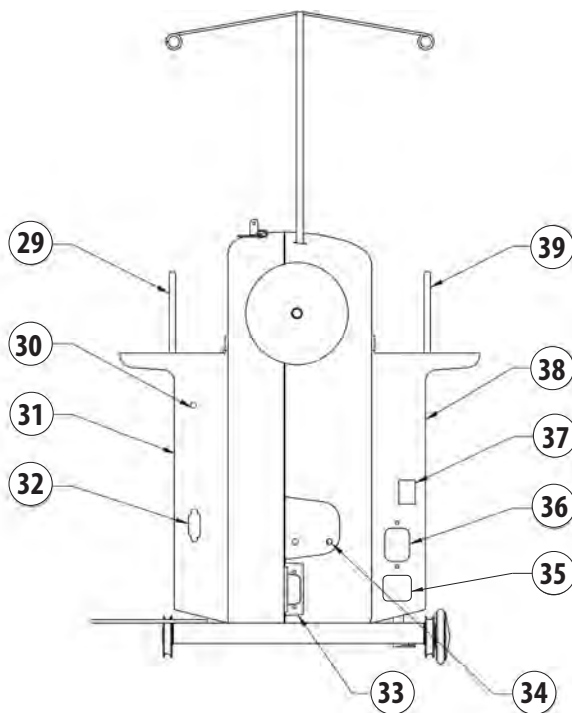
- |                              |                                 |
|------------------------------|---------------------------------|
| 1. Thread Mast               | 8. Thread Guide E               |
| 2. Thread Guide A            | 9. Needle Bar Thread Guide      |
| 3. Three Hole Thread Guide B | 10. Needle                      |
| 4. Thread Guide C            | 11. Front Casing/Frame          |
| 5. Tension Assembly          | 12. Handwheel                   |
| 6. "Stirrup" Thread Guide D  | 13. Side Laser Stylus Post Hole |
| 7. Take Up Lever             |                                 |

# Baby Lock Crown Jewel II Components continued



**Back-Side Diagram B**

- 14. Machine Stitch Regulator (Y-Motion)
- 15. Ruler Foot
- 16. Mount
- 17. Needle Bar
- 18. Presser Bar
- 19. Back Casing/Frame
- 20. Front Handle Serial Port Connector
- 21. Top Laser Stylus Post Hole
- 22. Front Threaded Handle Holes
- 23. Bobbin Assembly
- 24. Needle Plate
- 25. Front Base Plate
- 26. Oval Position Guides
- 27. Rear Base Plate
- 28. Wheels (4)



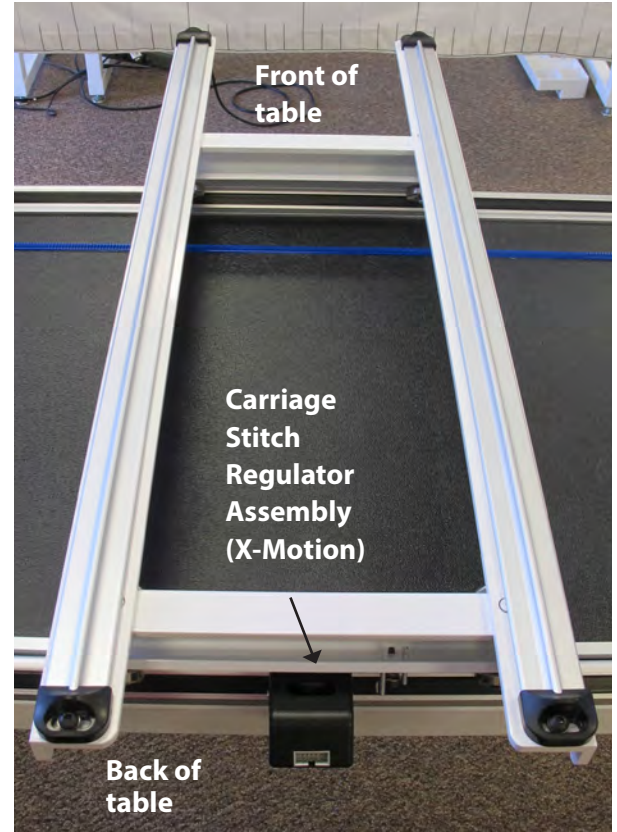
**Rear Diagram C**

- 29. Spool Pin 1
- 30. Laser Stylus Power Connector
- 31. Front Electronic Control Cover
- 32. Serial Port for Stitch Regulator
- 33. Rear Handle Serial Port
- 34. Rear Threaded Handle Holes
- 35. Accessory Power Outlet
- 36. Power Cord Connector
- 37. On/Off Switch
- 38. Back Power Cover
- 39. Spool Pin 2

# Installing Machine on Carriage

1. Place the carriage on the table rails ensuring that the carriage stitch regulator assembly is toward the back of the table (**Figure 1**).
2. The stitch regulator, machine and carriage are connected by a ribbon cable that has 3 connectors (**Figure 2, page 9**). The machine should arrive from the factory with the ribbon cable already attached by Connectors A and B. The remaining end, Connector C, will be connected in Step 4.

**IMPORTANT NOTE:** Very carefully remove the plastic wire tie securing the Carriage Stitch Regulator Assembly (X-Motion) **after** the carriage is placed onto the tracks of the quilting frame.

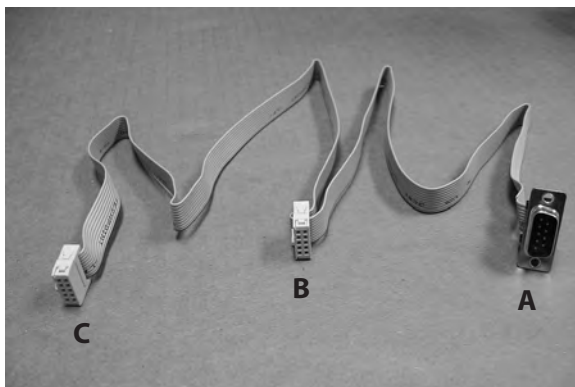


**Figure 1**

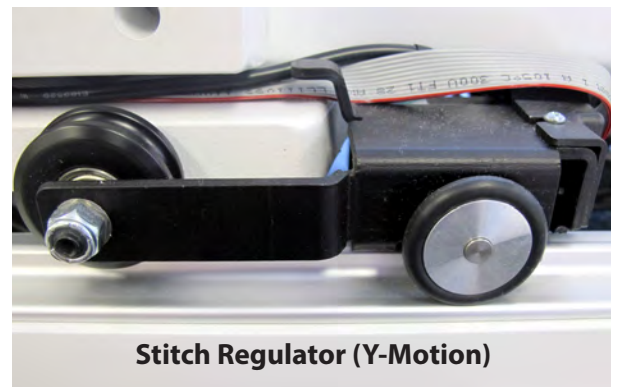


**NOTE:** Connector A is a serial port connector and connects at position 32 as shown in (**Rear Diagram C, #32 page 7**). Connector B connects to the machine stitch regulator assembly (Y-Motion) shown in (**Back-Side Diagram B, #14 page 7**), as well as (**Figure 3**). If these two connections have come loose in shipping, reconnect them before proceeding to step 3.

- 3.** Place the machine on the carriage, with the front of the machine toward the front of the table and all wheels on the carriage rails.
- 4.** Plug final ribbon cable Connector C into the carriage stitch regulator assembly (**Figure 1, page 8**).



**Figure 2**



**Figure 3**

# Installing Front Handles

**CAUTION:** Unplug the Baby Lock Crown Jewel II from the electrical outlet. All power to the machine must be turned off when installing the front handles. Failure to do so can result in damage to the machine.

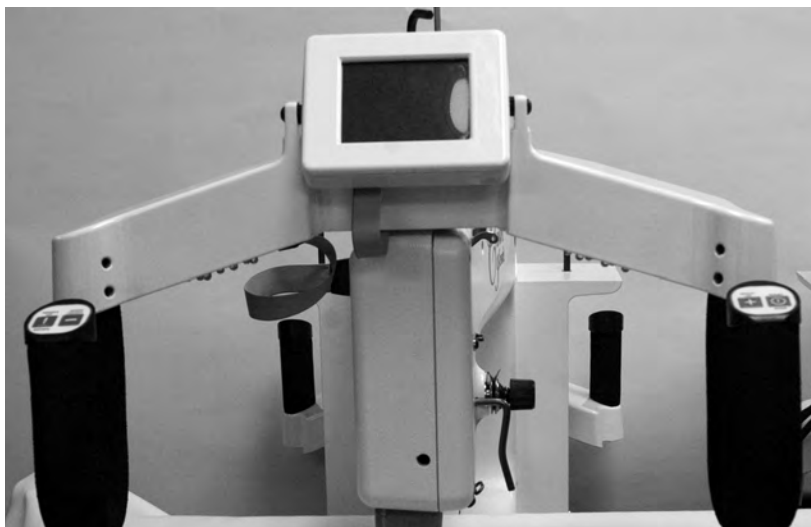
**IMPORTANT NOTE:** Care must be taken to not pinch the ribbon cable under the handle when it is tightened to the machine.

Locate the three longest Allen screws and the 5.0mm Allen wrench. To install the handles, tilt the screen forward. Line up the three holes on top of the handles with the pre-drilled holes on top of the machine. Slide a star washer onto the Allen screw, then slide a bolt into each hole until it stops. Hand tighten, and then use the 5.0mm Allen wrench to securely fasten the handles to the machine (**Figure 4**).

Once the Allen screws are in place, plug the ribbon connector into the serial port on the left-hand side of the machine (**Back-Side Diagram B, #20 on page 7 and Figure 5**). Make sure the pins are lined up so they are not damaged when the plug is pushed in. Push the plug securely in place.



**Figure 4**



**Figure 5**

# Installing Rear Handles

**CAUTION:** Check that the Baby Lock Crown Jewel II is unplugged from the electrical outlet. All power to the machine must be turned off when installing the back handles. Failure to do so can result in damage to the machine.

**IMPORTANT NOTE:** Care must be taken to not pinch the ribbon cable under the handle when it is tightened to the machine.

The rear handles already come mounted by three Allen screws into an “L” bracket. Line up the two holes in the “L” bracket with those on the rear of the machine. Slide the two short Allen screws into holes until they stop. Hand tighten, and then use the 5.0mm Allen wrench to securely fasten the handle to the back of the machine.

Once the two Allen screws are in place, plug the 9-pin ribbon connector into the serial port underneath the rear handle (**Rear Diagram C, #33 page 7**). Ensure the pins are lined up so they are not damaged when the plug is pushed in. Push the plug securely in place.

**NOTE:** After the handles have been completely installed and plugged in, test them by turning the Baby Lock Crown Jewel II on/off switch to “on”. The handles will run a self-test by briefly displaying their version during boot up, and then the LED lights on the front handles will illuminate. After the boot up is completed, both LCD displays (front handle and rear handle) will display the same menu. If nothing is displayed or if the lights don’t illuminate, check that the handle cable on the side of the machine is plugged in securely, that your machine is turned on, and that the power cord is plugged into the machine as well as a power source.



Figure 6

# Cluster LED Pin Light Installation and/or Replacement

The Cluster LED (**Figure 7**) pin lights are located on the underside of the front handles. While LED lights have a very long life expectancy, occasionally you may need to replace one

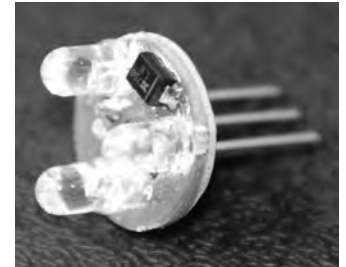


Figure 7

or you may choose to add more Cluster LED pin lights for additional lighting (available from your Baby Lock retailer). You may add up to 10 additional LED Clusters on the front handles if desired.

## Removal:

1. Shut off the power to the machine.
2. Grasp the Cluster LED pin light by the base of the cluster with your fingertips.

**NOTE:** Do not grasp the LEDs themselves, as they may break.

3. Pull straight downward without twisting (slight rocking back and forth may be required).
4. If you are unable to remove the lights with your fingers, you may use an extraction tool or a pair of needle-nose pliers to carefully grasp the base of the light cluster and pull downward.

## Installation:

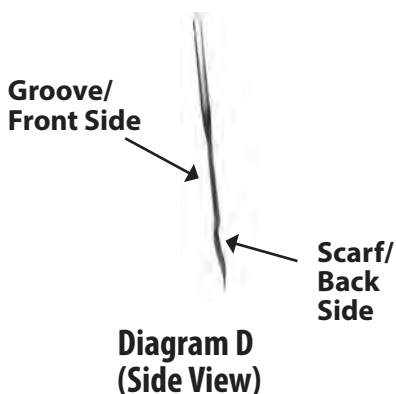
1. Shut off the power to the machine.
2. Insert the new Cluster LED pin light, matching the three pins with the three holes in the receptacle (orientation is not critical).
3. Press firmly until the LED pin light is fully inserted (the base will be against the metal closing plate of the handle).

# Inserting (or Changing) the Needle

1. Move the needle bar to the highest position by turning the handwheel counter-clockwise or pressing the needle up/down control on the handles.
2. Turn all power to machine off.
3. Loosen the needle bar clamp screw with the appropriate screwdriver (**Figure 8**).
4. Referring to Diagram D, with the scarf (small recess area on the back side of the needle, just above the needle eye) facing toward the rear of the machine (handwheel location) and the long groove down the front of the needle facing the front of the machine (bobbin case location), push the needle all the way up into the needle bar until it stops. Check the sight opening to verify that the top of the needle can go no farther.



**Figure 8**



**Diagram D  
(Side View)**

**IMPORTANT NOTE:** Check the needle to confirm it is fully inserted. The needle bar has a sight opening above the needle bar clamp screw—make sure the needle is touching the top of the sight opening. If it is not, the machine timing will be off and it may be possible for the needle to collide with internal parts causing damage not covered by warranty.

5. *Carefully* tighten the needle bar clamp screw. Over tightening the needle clamp screw will result in damaging the screw by stripping the threads. Stripped threads are not covered under warranty. A side effect of damaged threads from over tightening the needle clamp screw is that it may become difficult to insert the needle properly into the needle bar. To avoid over tightening the screw, while using the screwdriver, is once the screw no longer turns freely is to then gently turn the screwdriver until the screw is tightened snugly.

**NOTE:** Changing the needle is recommended for each new quilt loaded on the machine or any time the needle becomes bent, dull or burred.

## Needle Guide

Needle size	Thread size
12 & 14	monofilament, 100 wt. silk, 60 wt. poly, mylar
16	monofilament, hologram 100 wt. silk, 60 wt. poly, 50 wt. poly, 50 wt. cotton, some 40 wt. threads
18	40 wt. cottons and poly, 30 wt. cottons and poly
20	Any thread 30 wt. and heavier such as 12 wt., 19 wt., 30 wt.

**CAUTION:** Never leave machine unattended when plugged in. Always unplug this machine from the electrical outlet immediately after using and before maintenance.

## Installing the Power Cord

**NOTE:** Please make sure that the machine is in the “O” or off position before plugging into power source.

Insert the cord into the top power connector on the rear of the machine (**Figure 9**). Plug the three-prong end into power source.

The lower power connector is for powering other attachments. (For future development)

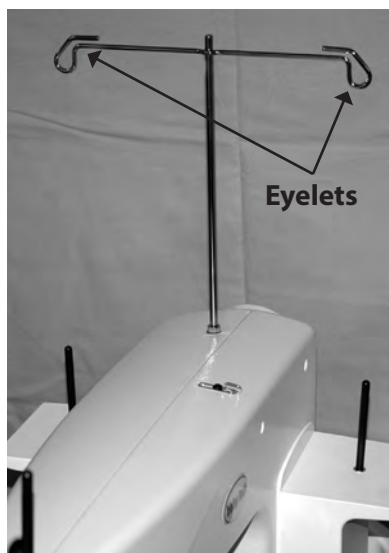


**Figure 9**

## Installing the Thread Mast

Locate the threaded hole on top of the machine near the rear by the handwheel. The thread mast comes with the washer and nut on it. Remove the nut and washer, replace the nut onto the mast and then place the washer under the nut and onto the machine painted surface. The washer protects the painted surface when the nut is tightened. Tighten the mast clockwise until it is securely in place. Use the nut to secure the mast to the machine.

**NOTE:** The eyelets of the thread mast *must* be centered over the spool pins—so the cone will not pull, turn or tilt, causing thread tension problems (**Figure 10**).



**Figure 10**

# Laser Stylus Safety and Use Guidelines

## Theory of Operation

The laser stylus projects a straight laser beam visible as a dot on surfaces it hits. The laser dot is used as a guide or stylus allowing you to stitch the same pattern onto a quilt that is being traced with the laser dot.

## Laser Operation and Use

There is not a separate on/off switch for the laser. Power is supplied to the laser when it is plugged into the Baby Lock Crown Jewel II. Be sure the laser is attached to the Baby Lock Crown Jewel II and pointed downward toward the table before connecting it to the port. Never point it in a direction that would project the beam into someone's eyes. If the laser should cease to operate, check to ensure the plug is firmly seated into the Baby Lock Crown Jewel II laser port.

## Laser Focus/Laser Image Size

This high quality laser is focusable. The laser is focused by simply grasping the threaded housing surrounding the lens and turning clockwise or counter clockwise (**Figure 11**). (If you cannot see this threaded housing, it may be threaded too far into the lens area. Take an appropriate size screwdriver and turn counter clockwise so the housing is visible, you can then turn with your fingertips.) The laser image can be adjusted bigger or smaller. The direction of rotation needed is determined by the distance of the laser from the intended focal plane. Experiment by turning the threaded end to achieve your desired focal size.



**Figure 11**

## Clamp Adjustment

The laser attaches to a mounting post. The post may be vertical (installed on the top side, at the front of the machine, in the post hole (**Back-Side Diagram B, #21 page 7**) or horizontal (installed toward the right back of the machine in the hole marked as (**Front-Side Diagram A, #13 page 6**)). The Laser Stylus is designed to articulate any direction by rotating the clamp on the post and pivoting the laser up or down. To make an adjustment, simply loosen the black thumbscrews, position, and retighten.

## Location of Laser Labels

The label is attached to the case of the laser and contains an arrow which indicates the direction the laser light will shine when energized. The label must remain in place on the laser.

**IMPORTANT NOTE:** Removal of the label will void the laser's warranty.



# Installing the Laser Stylus

## CAUTION LASER SAFETY:

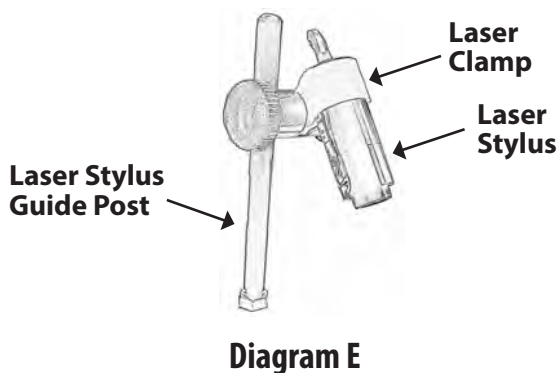
When using the Laser Stylus, basic safety precautions should be taken.

- Never shine directly into the eyes.
- The Laser Stylus should never be left on and unattended.
- Laser Stylus is not to be used as a toy.
- Close attention is necessary when the laser stylus is being used by or near children.
- Use Laser Stylus only for its intended use as described in this manual.

post and then place the washer under the nut and onto the machine against the painted surface. The washer protects the painted surface when the nut is tightened. Tighten the post clockwise until it is securely in place. Use the nut to secure the post to the machine.

2. Be sure the laser stylus is inserted securely into the laser clamp.
3. Slide the laser clamp over the post to the desired height and secure by tightening the black thumbscrew.
4. Plug the laser into the top port on the side of the front electronic control cover (**Rear Diagram C, #30, page 7**).

Begin by locating the laser stylus guide post, the laser clamp and the laser stylus (**Diagram E**).



## To attach the laser stylus to the side of the machine:

1. Place the nut on the laser stylus guide post with the washer under it and thread the laser guide post into the threaded hole on the front of the machine (**Front-Side Diagram A, #13, page 6 and Figure 12**). Turn until securely in place. Lock in place with lock nut—the washer will be under the nut to protect the machine paint. (An unused spool pin can also be used to mount the laser instead of using the Laser Stylus Guide Post). Continue by following steps 2-4 above.



**Figure 12**

## To attach the laser stylus to the top of the machine:

1. Locate the threaded hole on top of the machine near the front (**Back-Side Diagram B, #21, page 7**). The laser stylus guide post comes with the washer and nut already attached. Remove the nut and washer, replace the nut onto the



# Threading the Machine

1. Slide thread (cone or spool) onto spool pin, insert the thread through the thread-mast eyelet from back to front, continuing to **thread guide A**.
2. After inserting thread through thread guide A continue to the three-hole **thread guide B**. Wrap all three holes from back to front, hand-wheel side to needle side (**Detail 1**) being careful not to cross threads. This is recommended for most threads. However, some very delicate threads or metallic threads may require less tension. If you are having thread breakage problems, try threading only one or two holes.

**NOTE:** The purpose of this guide is to prevent loops of thread coming off of the thread cone and going into the top tension as a knot, causing thread breakage and bad tension. For most threads on a cone, it is important to thread all three holes for consistent results—should top thread tension need to be adjusted it should be done at the top tension assembly.

3. Thread continues through **thread guide C**, and then down to the **tension assembly** (**Detail 2**).

**NOTE:** It is important that the thread is “flossed” up between the two tension discs. If the thread is not firmly in place between the two tension discs, the thread will lay on top of the tension discs (no tension) and looping can occur.

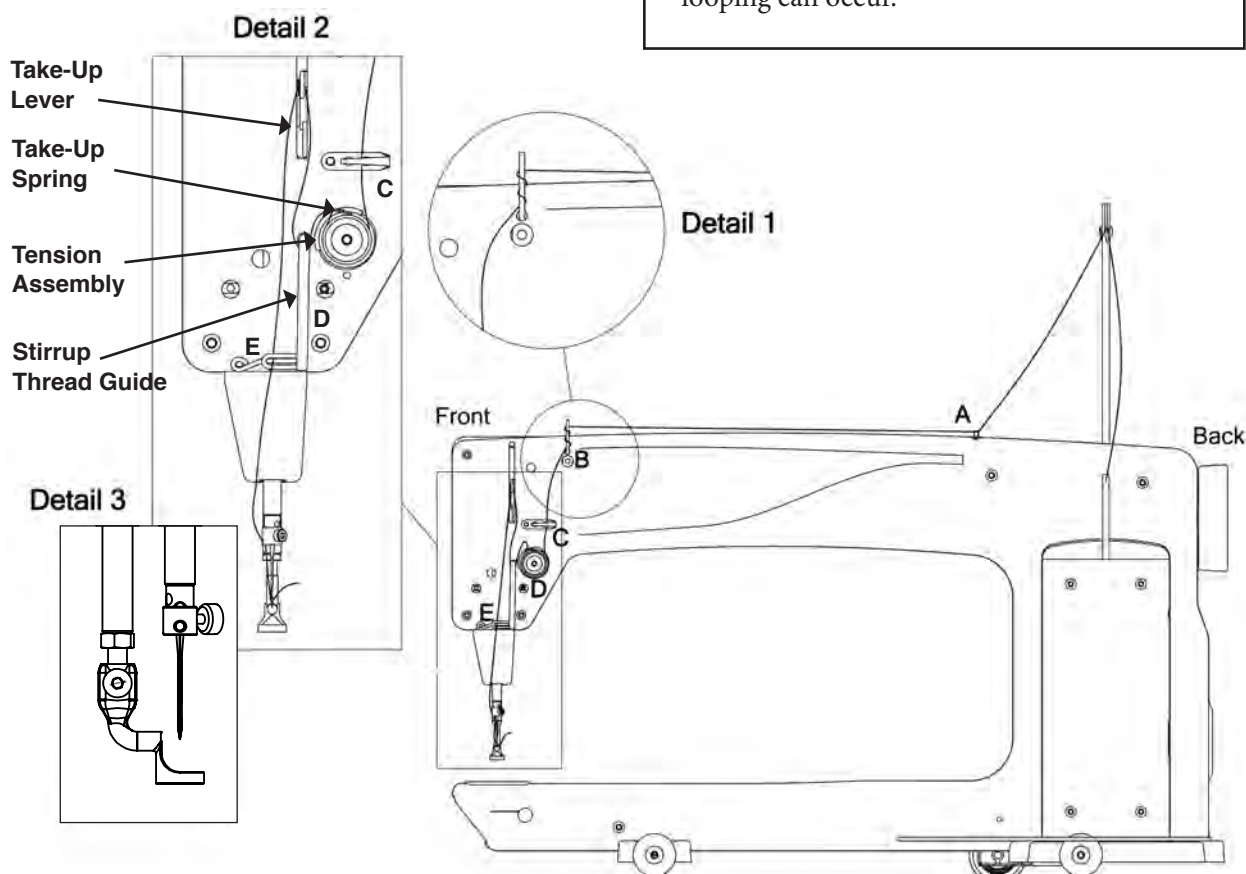


Diagram F

4. Once the thread is in place, be sure that the thread catches on the **take up spring** and then pull it down under the stirrup **thread guide D**.
5. Bring the thread up and through the take-up lever from back to front, and then down through **thread guide E**.
6. Pull the thread down to the **needle thread guide** and thread through the hole (**Detail 3 in Diagram F**).
7. Make sure the thread is following the groove down the front of the needle and insert thread through the eye of the needle from front to back. While pulling thread through the eye of the needle be careful that the thread does not twist around the needle.

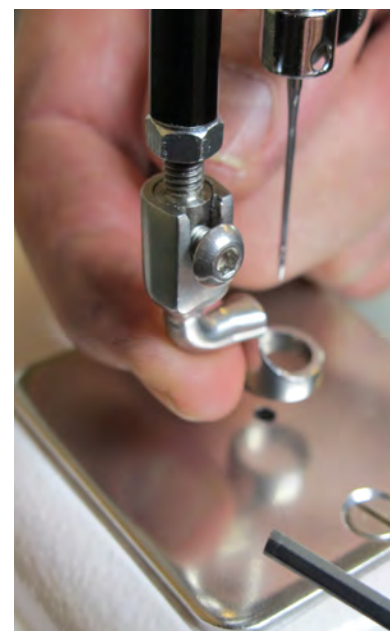
**NOTE:** Before threading the needle test that the machine is threaded properly and the tension is correct by carefully pulling the top thread. It should pull smoothly with light to medium tension. If thread pulls freely with no tension - rethread the machine.

**IMPORTANT NOTES:** The Baby Lock Crown Jewel II quilting machine does not have a presser foot lever or top tension release like a home sewing machine. On a home sewing machine the top tension is released when the presser foot is raised allowing the thread to come freely out of the machine. When a home machine is threaded the tension discs are released and open to allow the thread to easily fall between the tension discs. This is not the case with the Baby Lock Crown Jewel II quilting machine. Consequently the top tension is always tight and the tensions discs are never open. Therefore the thread must be pulled up or “flossed” between the tension discs or it will stay outside the discs and float without tension, causing serious tension problems and/or thread nests. It is also possible to bend the needle while it is threaded if care is not taken while moving the machine around the quilt because the top tension is never released.

## Changing the Hopping Feet

Your machine comes with two hopping feet: a ruler foot and an open-toe foot. Use the ruler foot for ruler work and everyday quilting, and the open-toe foot when you need greater stitch visibility (such as micro quilting).

1. Remove the foot that is on the mount by using the 2.5mm Allen wrench to loosen the mounting screw far enough that you can slide the foot off of the mount.
2. Slide the desired foot onto the mount (figure 13). Note that the opening on the side of the foot is lined up with the screw hole. Push the foot up as far as it will go.



**Figure 13**

3. Ensure the foot is centered with the needle when the foot is fully tightened with the 2.5mm Allen wrench. If it isn't properly centered, loosen the lock nut; center the foot with the needle; hold the foot in position; and firmly tighten the lock nut (Figure 14).



**Figure 14**

# Bobbin and Thread Tension Adjustments

**NOTE:** See Bobbin Winding Instructions contained in the bobbin winder carton.

## Insert Bobbin into Bobbin Case

**CAUTION:** To prevent personal injury always turn off the power switch while inserting and/or removing bobbin case or anytime your hands are near the needle area.

1. Place the bobbin in the bobbin case so that the thread pulls off clockwise when viewing the open side.
2. Slide the thread through the slot and under the tension spring, leaving 5-6 inches of thread hanging loose.

## Bobbin Tension

The bobbin tension is the foundation tension for the entire machine. Always set the bobbin tension **first**.

To test that bobbin tension is correct, hold the bobbin case in the palm of your hand with the open end facing up – wrap the thread around the index finger of the opposite hand and while pulling up on the thread move the finger side to side (not up and down which is not consistent), the bobbin case should lift up on its side, but *not* lift out of your hand. If it will not lift up onto its side, it is too loose and if it lifts out of your hand it is too tight.

The small screw in the center of the tension spring is where the adjustment is made (**Figure 15**). Turn clockwise to tighten and counterclockwise to loosen the bobbin case tension.

**NOTE:** Check the bobbin tension each time a new bobbin is inserted.



**Figure 15**

## Insert Bobbin Case into Machine

1. Turn off the power switch.
2. **Do not lift the lever** on bobbin case. Fit the bobbin case onto the hook spindle in the machine. Rotate the casing until the open throat keys into the middle notch in the hook. Push the bobbin case inward until it clicks into place (Figure 16).



**Figure 16**

## Drawing up the Bobbin Thread to the Top of the Quilt

1. After the machine is threaded, locate needle up/needle down button on the left handle. Move the machine over the quilt to your starting location.
2. While firmly holding the tail of the needle thread, press the needle up/down button with free hand, causing the needle to go down through the fabric and then back to the up position.
3. Move the machine 2-3 inches while holding the needle thread in place.
4. Bobbin thread will pull up through to the top allowing you to grasp the loop and pull it to the desired length.

**Note:** It is not suggested that the lever on the bobbin case be used for this installation. The latch lever should be used only for removal of the bobbin case.

# Maintenance

## Top Tension

Puckering, gathers and thread breakage occur when the top tension is too tight. Loops and thread nests occur when the top thread tension is too loose. Tension may need to be adjusted depending on the fabric, thread or batting you are using on each project.

**Important:** Top tension should be adjusted after the bobbin case foundation tension adjustment is made.

To adjust the top tension tighter, turn the tension knob clockwise. To loosen the tension, turn the tension knob counterclockwise. If the bobbin case tension is adjusted a degree on the screw the top tension may need to be adjusted a  $\frac{1}{4}$  to  $\frac{1}{2}$  turn to compensate or balance the tension.

**Important Note:** Before adjusting your top tension remember to floss or pull the top thread up into the tension discs or it will float outside the discs providing little or no top tension. This could cause significant tension or nesting problems on the bottom side of the quilt.

One of the joys of quilting with the Baby Lock Crown Jewel II is its ability to handle many different types of threads. You can quilt with almost anything, as long as you first adjust your bobbin tension, and then adjust the top tension to suit the thread you've chosen.

Dark threads will be heavier (because of dye) than light threads of the same weight. The type or brand of thread may also affect tension settings. Each time you change threads, you will need to check your tension.

## Cleaning and Lubricating the Machine

Only use a good quality light sewing machine oil in the Baby Lock Crown Jewel II. Internal oiling is not necessary on the Baby Lock Crown Jewel II except when the machine is taken to a service technician for routine maintenance and cleaning. *The bobbin basket assembly, however, needs regular lubricating.* Failure to keep the bobbin assembly lubricated can cause severe damage to the machine. To lubricate, turn off the machine. Clean around the bobbin assembly with a soft brush to remove lint.

Remove bobbin and case before oiling. Put a very small drop of oil on the hook in the bobbin assembly (**Figure 17**). The frequency depends upon the usage of the machine.

Lubricating is recommended before running the machine if it has not been used regularly, or every other bobbin change if used frequently. Always sew a scrap piece as oil may cling to thread. Over oiling can cause excess dripping from the bobbin assembly. Lack of lubricant may be noticed by a change in the sound of the machine and will affect stitch quality.



**Figure 17**

# Using the Touch Screen Displays on the Handlebars

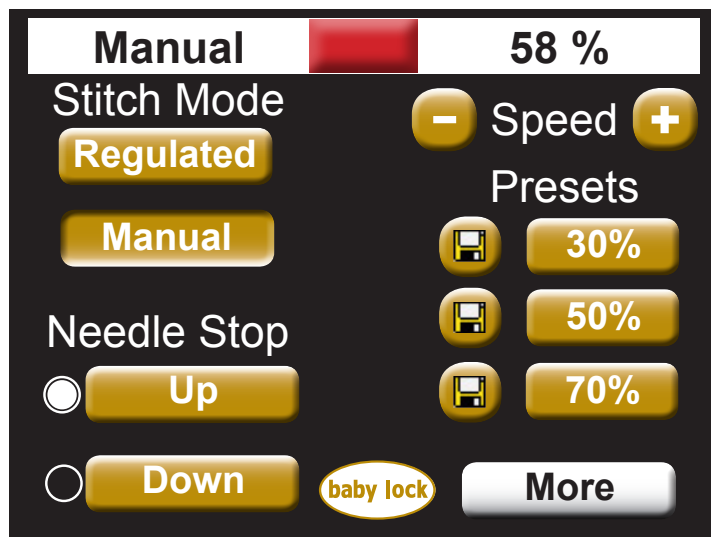


Figure 18

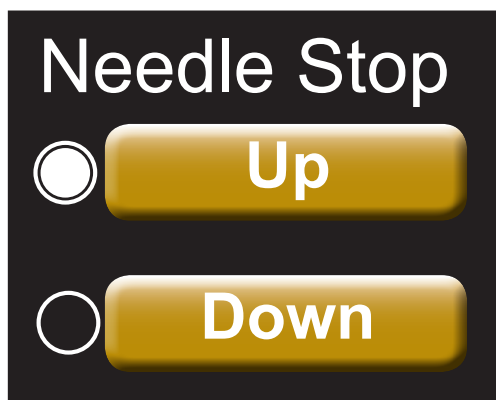


Figure 19

The Baby Lock Crown Jewel II has touch-screen displays on the front and rear handlebars. Settings may be changed at either of these locations.

## Main Screen

Manual Mode Screen

Button Functions:

Pressing the “Regulated” button while in the Manual Mode Screen will toggle to the Regulated Mode Screen. The current Stitch Mode is displayed at the top left corner of the screen. Different options are available depending upon which mode the system is in. (Figure 18)

## Needle Stop

When in “Needle Up” mode (the radio button is white when activated), the needle ends in the “Up” position upon pressing the “Stop” button on the handles. This button does not move the needle, but simply determines the final needle position after the machine has been stopped. (Figure 19)

When in “Needle Down” mode (the radio button is white when activated), the needle ends in the “Down” position upon pressing the “Stop” button on the handles. Again, this button does not move the needle, but sets the final resting position of the needle after “Stop” is pressed.



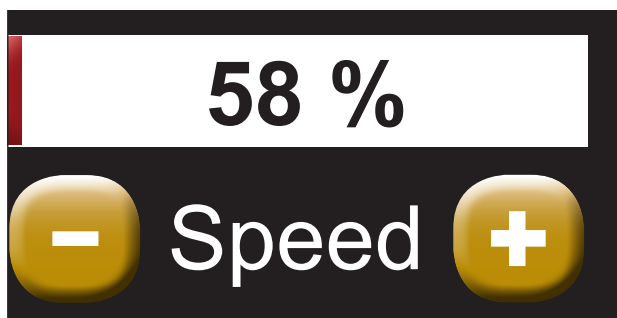


Figure 20

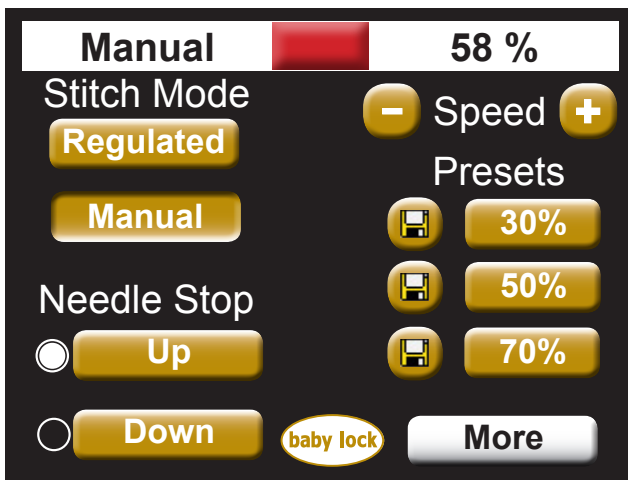


Figure 21



Figure 22

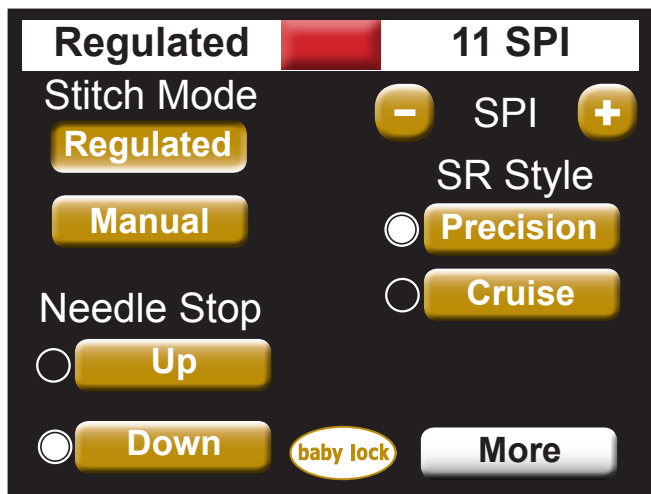


Figure 23

## Speed

When Manual is selected within the Stitch Mode the motor speed can be increased or decreased by pressing the Speed “+” or “-” buttons. To increase the Manual Mode motor speed press the Speed “+” button. To decrease speed press the Speed “-” button. This has the same effect as pressing the “+” or “-” buttons on the machine’s handles. The speed range is between 3% and 100%, or between 100 and 1800 stitches per minute (SPM). The percent speed is displayed in the white box located at the top right side of screen. Stitches per minute (SPM) is not displayed within the machine’s software. (Figure 20)

## Manual Presets

Save up to three manual-mode preset speeds to quickly switch between speed preferences. For example, you may prefer a slower speed when using rulers and a faster speed when doing all-over meandering quilting. Use the “+” and “-” buttons to adjust the speed percentage and then press one of the record buttons next to the preset value to store that speed as a preset. When you want to use one of the preset speeds, simply press the speed. (Figure 21)

## On/Off Indicator

The box in the center of the top bar turns green when you press the “Start” button on the handles to indicate the needle is in motion. When you press “Stop,” the box will turn red. (Figure 22)

## Regulated Mode Screen Button Functions

### Stitches Per Inch (SPI)

Pressing the “+” or “-” buttons near the top right portion of the screen will increase or decrease the stitches per inch (SPI) setting. The setting is reflected in the white indicator box at the top right portion of the screen. This value can be adjusted between 4 and 18 stitches per inch. (Figure 23)



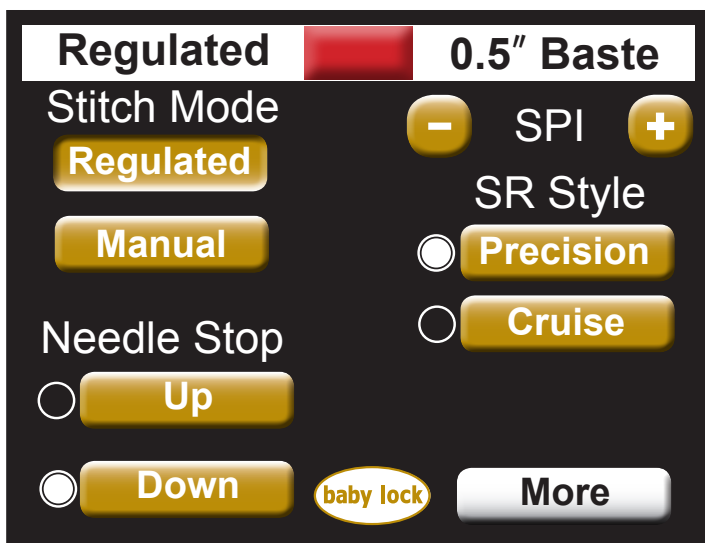


Figure 24

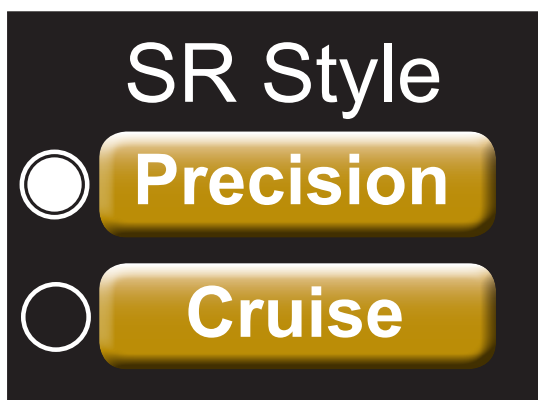


Figure 25

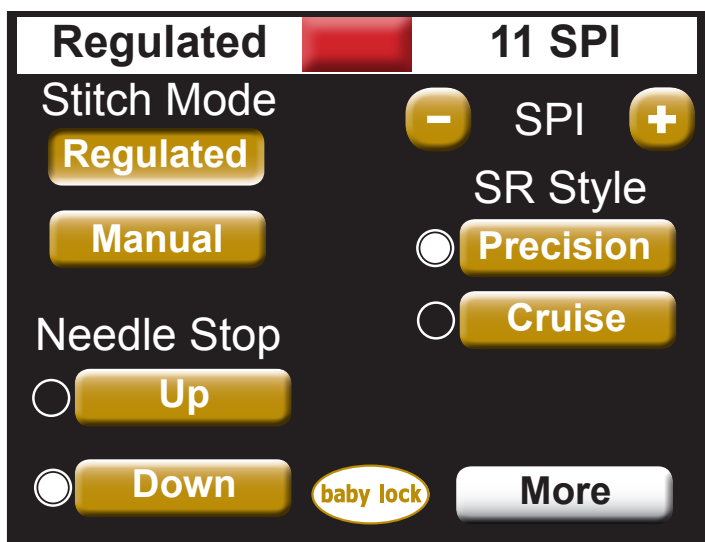


Figure 26

## Basting Stitches

There are four basting stitch settings controlled by the stitches per inch function. After the SPI reaches its lowest stitch setting of 4 stitches per inch, pressing the “-” button will activate the basting settings:

- 0.5-inch baste (one stitch every half-inch movement of the machine)
- 1-inch baste (one stitch every one inch movement of the machine)
- 2-inch baste (one stitch every two inches of movement of the machine)
- 4-inch baste (one stitch every four inches of movement of the machine)

After selecting the basting stitch setting, begin quilting by pressing the Start button. As you move the machine across the quilt, it will perform a stitch (needle down and then needle up) every half inch, one inch, two inches, or four inches according to your choice. The basting stitch options are available in stitch regulation mode: Cruise and Precision. (Figure 24)

## Stitch Regulated Style (SR)

The “SR Style” box locate in the middle right-hand side of the screen indicates whether the machine is in “Precision” regulated mode or in “Cruise” regulated mode. (Figure 25)

## Precision

If “Precision” mode is selected, the Baby Lock Crown Jewel II will begin stitching only after the Start button is pressed and you begin to move the machine. (Figure 26)

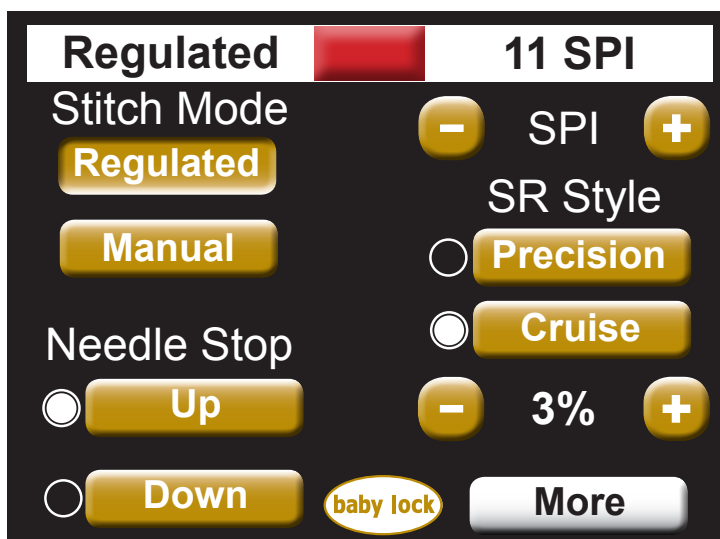


Figure 27



Figure 28

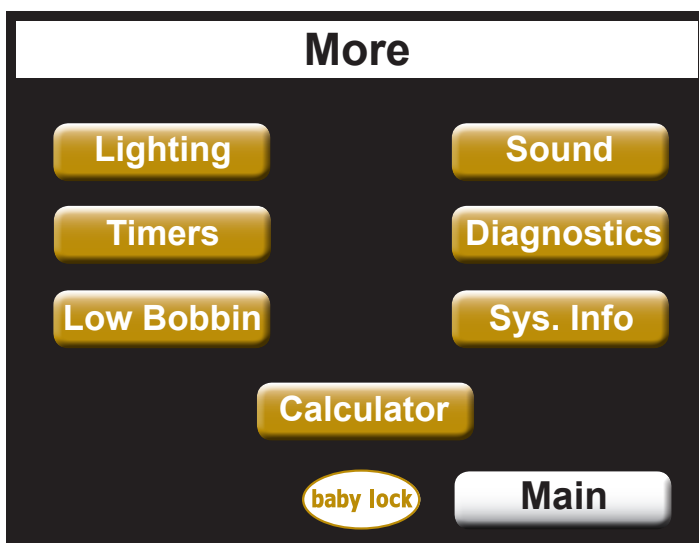


Figure 29

## Cruise

When “Cruise” mode is selected, when you press “Start” on the handles the machine will immediately begin stitching at the percent speed indicated below the “Cruise” button. The “Cruise” speed is the minimum speed the machine will stitch, regardless of how slow you are pushing the machine. This means that when you slow down to a stop, the needle will continue stitching at the set cruise speed until you begin moving the machine faster than what the cruise speed is set to or you press the “Stop” button on the handles. The “Cruise” speed can be adjusted using the “+” and “-” buttons that appear below the “Cruise” button when “Cruise” mode is selected. “Cruise” speed can be adjusted between 3% and 50%.

(Figure 27)

The start indicator box, which is the box at the top center of the screen, will change from red to green as soon as you press the “Start” button on the handles. If you are in “Precision” mode, the needle will not start moving until you start moving the machine, so this green indicator shows that the “Start” command was accepted and the machine is ready to begin stitching. In “Cruise” mode, the red box will turn to green and the needle will begin stitching immediately at the set “Cruise” speed.

## On/Off Indicator

If the machine does not sense that it has been moved in any direction after the Start button has been pressed while in Regulated Mode with SR Style “Precision” selected the Start Indicator box will turn red. This will occur when machine has been idle for approximately two minutes. A system message will appear on the screen to warn user that the machine has stopped. After pressing the “OK” button the warning box will be cleared from the screen. To resume quilting press the Start button. For information on other buttons on this screen, please refer back to the Manual Mode screen. (Figure 28)

## More Menu

The More screen provides access to other functions available on the Crown Jewel II (Figure 29).

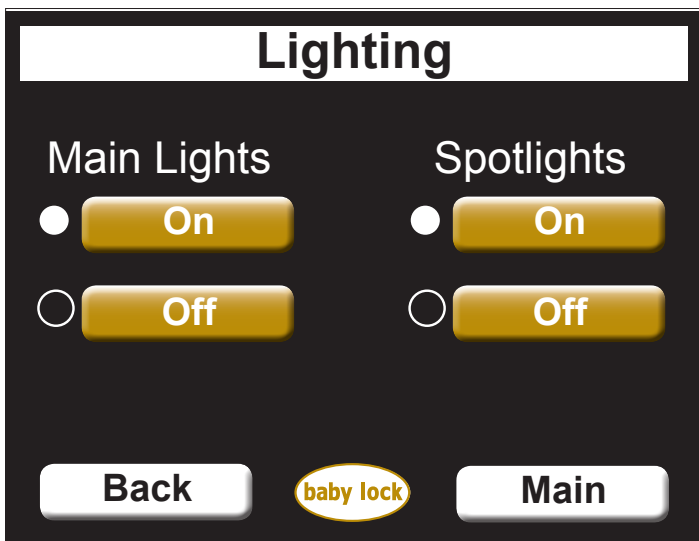


Figure 30

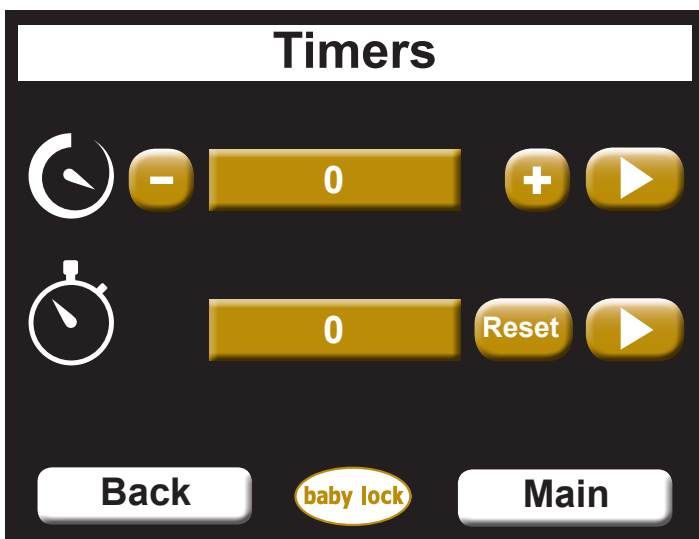


Figure 31

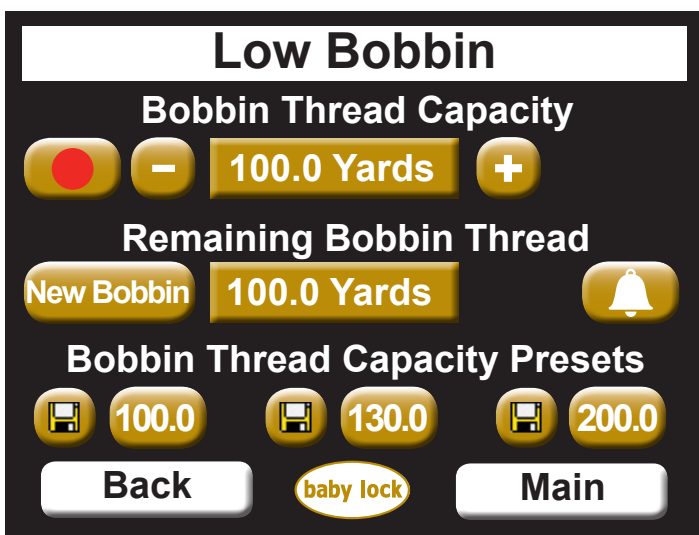


Figure 32

## Lighting

The LED modules in the handlebar are grouped in two sets. One set consists of the three LED modules on each side of the machine, closest to the machine body. These six (total) LED modules are the “Spotlights”. The remaining modules are the “Main Lights”. There are two boxes on the “More” screen with buttons to turn the “Main Lights” and “Spotlights” on and off as individual groups. The white dot next to the buttons indicate whether the lights are on or off.

(Figure 30)

## Timers

There are two useful timers. The first (top) timer is a reminder timer. It enables you to set an alarm to go off after a specific period of time, similar to a kitchen timer. Use the “+” and “-” buttons to set the time duration. Then press the “play” button to activate the timer. When the time duration has elapsed, an alarm will sound and a message appears on the display (Figure 31).

The second (bottom) timer enables you to track how much time you spend on a quilt project. When you begin a new project, press the Reset button. Then press the “play” button to begin recording your quilting time. The timer records when the machine is quilting. The time is saved even when the machine is turned off. When you begin another quilting session, quilting time is added to the timer. Only press Reset when you want to zero-out the timer and begin a new timing session.

## Low Bobbin

The Crown Jewel II includes a low bobbin capability so you can estimate how soon your bobbin thread will run out. This Low Bobbin Capacity is based on an estimate of how much of a particular thread can fit on a bobbin, in combination with other quilting factors such as tension, stitches per inch, and how much bobbin thread you pull up when beginning and ending your quilting (Figure 32 at left and 33 on next page).

To estimate how many yards of thread is on a bobbin, place a full bobbin in the machine and under the heading Bobbin Thread Capacity, press the Record button (Figure 32) Quilt as usual.

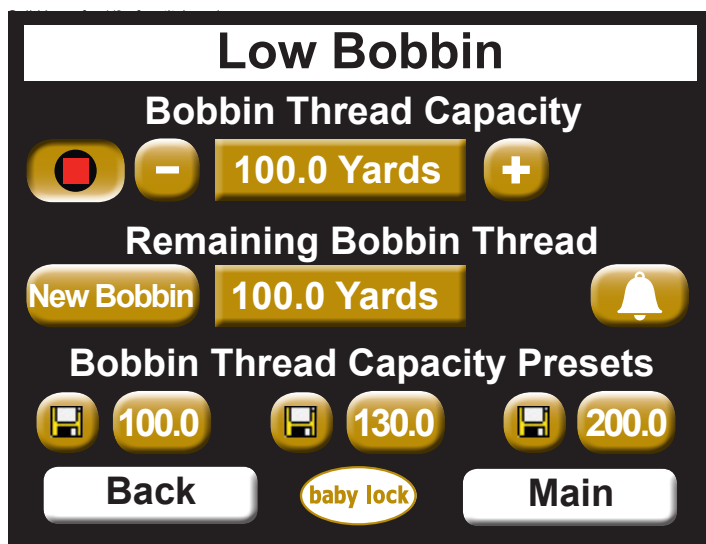


Figure 33

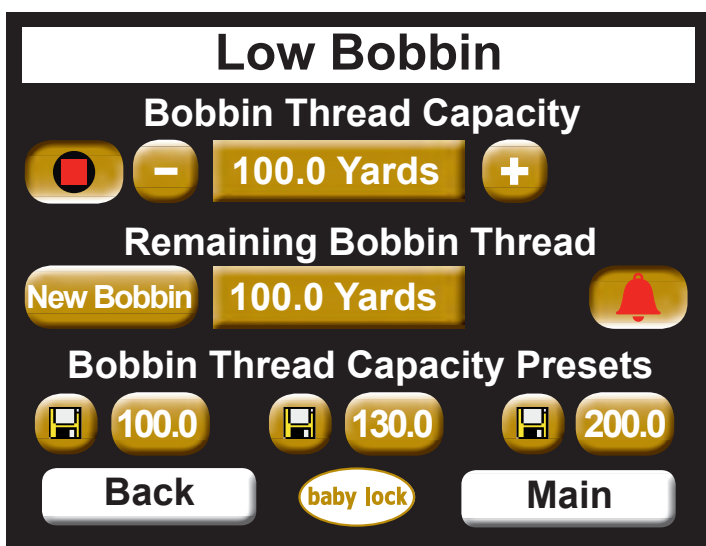


Figure 34

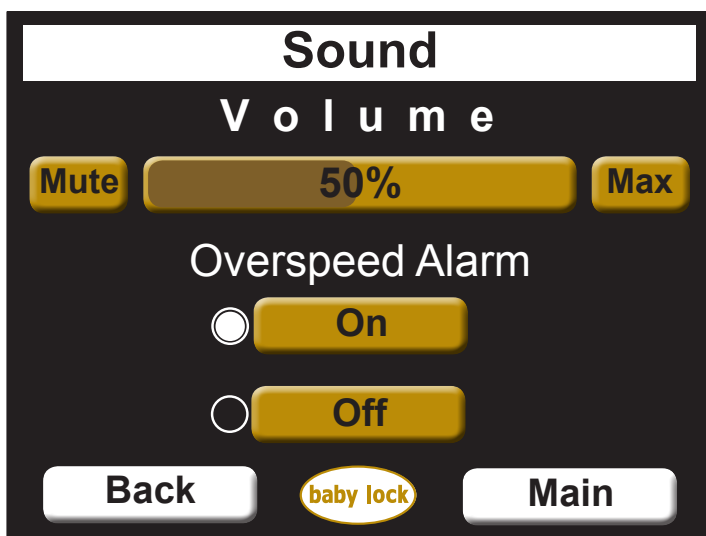


Figure 35

When the bobbin runs out, press the square Stop Recording button and note how many yards is indicated under the Bobbin Thread Capacity (Figure 33), perhaps 210 yards. Since you want a warning as to when the bobbin is getting low, use the “-” button to specify a lower number, such as 195 yards. Save that as one of the Bobbin Thread Capacity Presets. You might want to make a note as to which type of thread the preset represents. Put a new bobbin with the same thread into the machine and press the New Bobbin button. Then press the Alarm button. As you quilt, the remaining bobbin thread value will estimate how much thread remains on the current bobbin, and when you reach the capacity value, an alarm will sound warning you that your bobbin is nearly out of thread (Figure 34).

When operating in Manual mode, the low bobbin function assumes you will stitch at approximately the last SPI setting you had on the regulated screen. If the SPI setting was below 8 stitches per inch, the function will assume you will quilt at 10 stitches per inch. It is advisable therefore to set the stitches per inch that you will be quilting on the regulated screen before you change to manual mode.

You can store three Bobbin Thread Capacity preset values – one for each of three different types of thread. Simply go through the record process with a full bobbin of that type of thread and then store the capacity as a preset. When you switch to using that type of thread, press appropriate preset button. Insert a full bobbin with that type of thread, press New Bobbin, and all of the settings will be based on that type of thread.

### Sound Screen

The “Volume” portion of this screen has two buttons and a sliding control. Pressing on the “Mute” button turns the alarm volume off. Pressing the “Max” button turns the volume to its loudest level. Pressing the sliding control in any position sets the volume to the level indicated in that control. Pressing and moving back and forth across the sliding control will change the volume up as it is moved left to right and down as it is moved from right . The Over-Speed Alarm box allows the user to turn the alarm on and off. (Figure 35)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

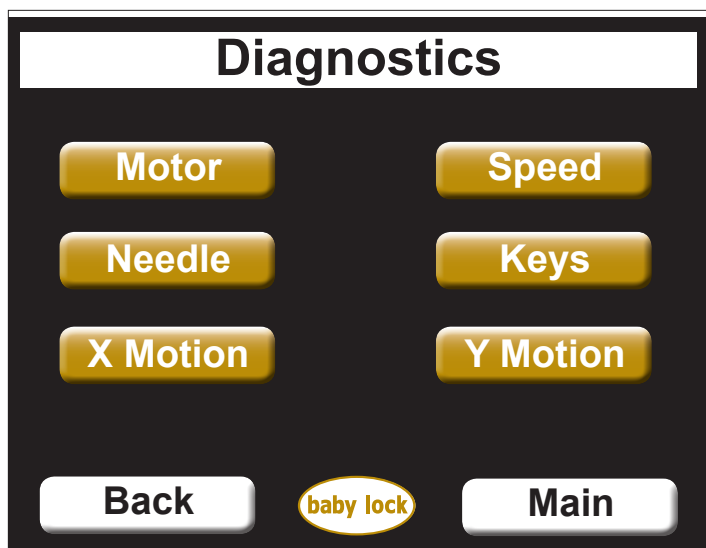


Figure 36

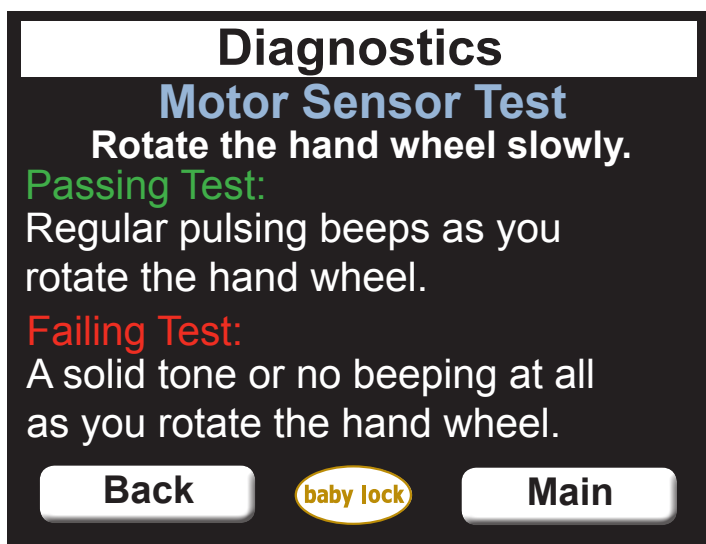


Figure 37

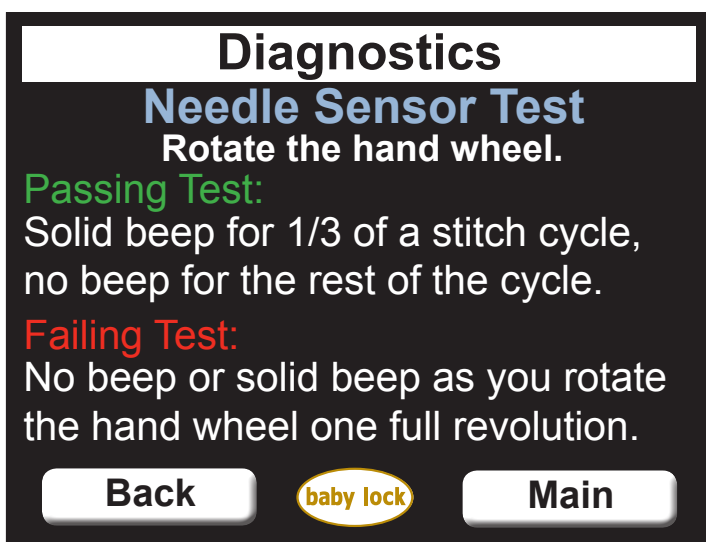


Figure 38

## Diagnostics Screen

Six different diagnostics tests can be performed on the machine. These functions test the motion encoders, the motor control functions, the key switches and the internal position sensors. (Figure 36)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

## Diagnostics Tests

### Motor Sensor Test

The “Motor” Sensor test can help you determine whether there may be a problem with the Baby Lock Crown Jewel II motor. Slowly rotating the handwheel should result in a pulsing audible “beep.” If you get a constant solid “beep” or no “beep” at all, this indicates a failed test and the machine should be inspected by an authorized Baby Lock retailer. (Figure 37)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

### Needle Sensor Test

The Needle Sensor test will indicate whether the needle position sensor is functioning properly. Rotating the handwheel should result in a “beep” for half of a stitch cycle followed by no “beep” for the other half. (Figure 38)

If you hear a constant beep or no beep at all for a full 360° rotation of the handwheel, this indicates a failed test and the machine should be inspected by an authorized Baby Lock retailer.

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.



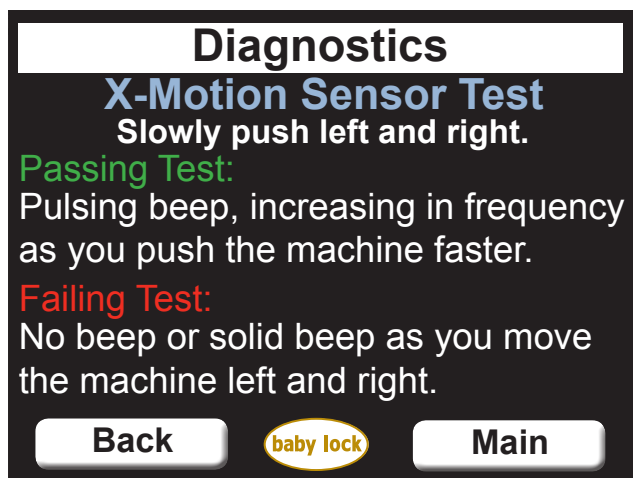


Figure 39

### X Motion Sensor Test

Use the X Motion Sensor test to verify functionality of the “X” stitch regulator encoder (the encoder mounted at the rear of the carriage). As you slowly move the carriage left and right you should hear a pulsing “beep” that pulses faster as you move faster. A solid beep, no beep, or periods of irregular beeping (with constant motion) indicate a problem with the Carriage Stitch Regulator Assembly (X-Motion). The most likely cause of a problem is a stitch regulator wheel that is not making consistent contact with the track. Check the spring tension on the sensor assembly on the carriage to assure that it will easily return to the fully extended position after being compressed. Also assure that the track is straight with no dips or indentations and that it is clean and free of contamination. Other causes are an unplugged or damaged cable or possibly an issue with the main control board. (Figure 39)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

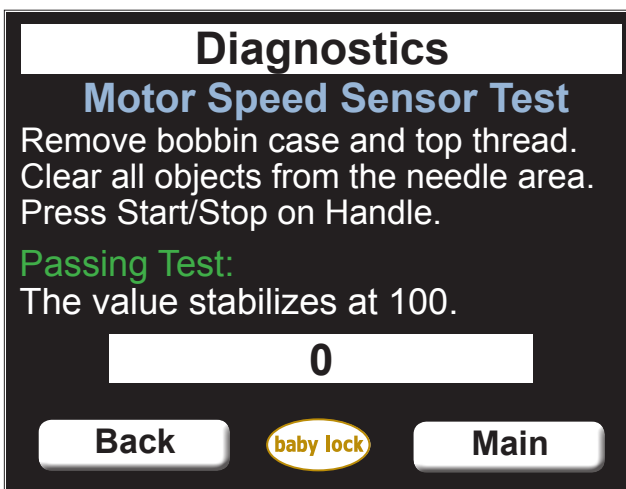


Figure 40

### Motor Speed Sensor Test

The “Speed” Sensor test can help you determine whether or not there is a problem with the Baby Lock Crown Jewel II speed sensor. Before performing this test, remove the bobbin case and the top thread. Press the “Start” button and the handwheel and needle bar will begin moving slowly rotating. The white box will show a number that should stabilize at 100 if the sensor is functioning properly. Pressing “Start” again will stop the machine. (Figure 40)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

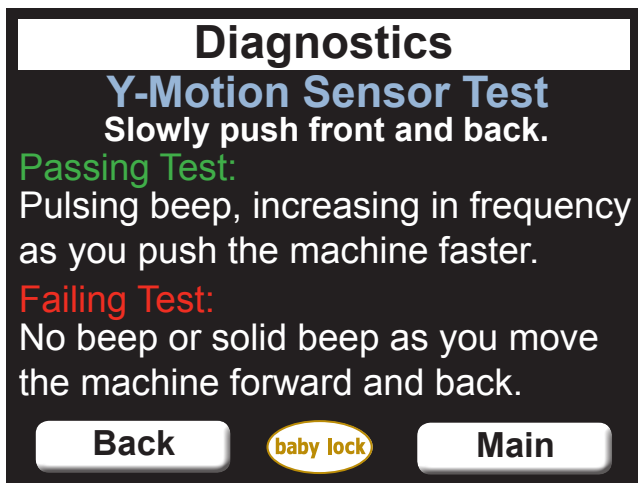


Figure 41

### Y Motion Sensor Test

Use the Y Motion Sensor test to verify functionality of the Machine Stitch Regulator (Y-Motion). To view location on machine see #14 on page 7 under Back-side Diagram B. As you slowly move the carriage toward and away from you, you should hear a pulsing “beep” that pulses faster as you move faster. A solid beep, no beep, or periods of irregular beeping (with constant motion) indicate a problem with the Machine Stitch Regulator (Y-Motion).

The most likely cause of a problem is a stitch regulator wheel that is not making consistent contact with the track. Check the spring tension on the sensor assembly on the machine to assure that it will easily return to the fully extended (down) position after being compressed. Also assure that the track is straight with no dips or indentations and that it is clean and free of contamination. Other causes are an unplugged or damaged cable or possibly an issue with the main control board. **(Figure 41)**

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

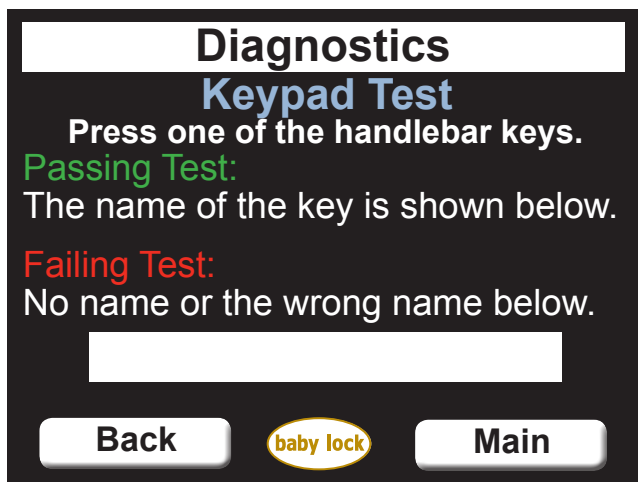


Figure 42

### Keypad Test

The Keypad test allows the user to press any of the four keys on the front or back handles to verify that the Baby Lock Crown Jewel II is reading the buttons as they are pressed. When a key is pressed the name of the key that is pressed will appear in the white box. When it is released, the name will disappear. Perform this test on the rear display for the rear keys, and the front display for the front keys. **(Figure 42)**

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.





Figure 43

### System Information

The serial number of the machine is displayed at the top of the System Information screen. This number matches the one found on the label at the back of the machine under the rear handlebar.

Information contained in the white boxes below the serial number identifies the electronics board version numbers as well as the version numbers of the Baby Lock Crown Jewel II and its handlebars. The Lifetime and Trip (or project) stitch counters count the number of stitches the machine has performed. The Lifetime count is the total number of stitches made since the machine was built. The Trip Counter can be reset to keep track of the number of stitches made during a given project. To reset this counter, press the blue “Reset” button just to the left of the white “Trip” box. The Lifetime counter cannot be reset and should be used as an indicator to determine when general machine maintenance should be performed by an authorized Baby Lock Retailer. (Figure 43)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

### Calculator

A basic calculator is provided. (Figure 44)

Press the “Main” button to return to the “Regulated” or “Manual” menu screen or the “Back” button to return to the “More” menu screen.

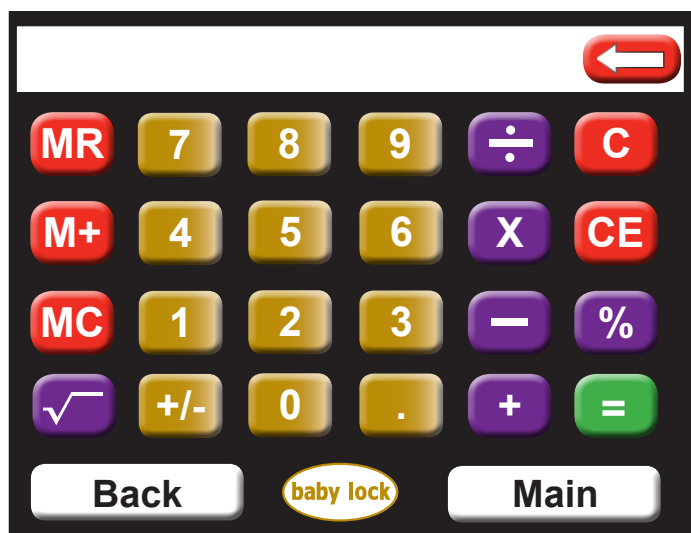


Figure 44

# Baby Lock Crown Jewel II Stitch Regulator Setup

In Regulated Mode the status box at the top left of the screen should say “Regulated”. If it says “Manual”, simply press the “Regulated” button on the touch screen to switch from “Manual” mode to “Regulated” mode.

## IMPORTANT NOTES ABOUT TURNING STITCH-Regulated ON OR OFF

You can stop the machine at any time by pushing either the “Start/Stop” or the “Needle Up/Down” key on the handles. In **Cruise Regulated** mode, if you don’t move the machine after 3 or 4 seconds, the machine will stop and position the needle. In **Precision Regulated** mode, the needle pauses when you stop moving the machine and will begin stitching again when you start moving the machine. Press the “Start/Stop” (or “Needle Up/Down”) key in Precision Regulated mode to stop the needle completely and cause the needle to position itself in the Needle Up or Down position.

### Cruise Regulated Mode

When in Cruise Regulated mode, the start indicator box in the top center of the “Regulated” screen is red. When you press the “Start/Stop” key to start the machine, the indicator will turn green AND the needle will begin moving up and down.

The minimum speed of the needle is dependent upon the setting you choose (from 3% to 50%). Babylock recommends beginning with a setting of 3%.

### When to Use Cruise Regulated Mode

The constant minimum stitching speed featured in the Cruise Regulated mode is used for precise placement of stitching when back-tracking (such as along the tops of feathers) or when creating sharp points (such as the point of a star or the bottom of a heart).

### Precision Regulated Mode

When in Precision Regulated mode, the start indicator box in the top center of the “Regulated” screen is red. When you press the “Start/Stop” key to start the machine, the indicator will turn green. As you start moving the machine, it will begin stitching. When you stop moving the machine, the needle pauses (sometimes in mid-stroke.)

When you press the “Start/Stop” (or “Needle Up/Down”) key to stop the machine, the indicator will turn red, showing that the needle will not move when you move the machine.

**Always make sure the indicator is RED when you are in Precision Regulated mode prior to placing your hands near the needle to avoid unwanted stitching in your quilt or personal injury!**

If you leave the Baby Lock Crown Jewel II in Precision Regulated mode with the start indicator box green and do not move the machine for two minutes, the system will “time-out” and a message box will appear. This indicates that the system has stopped and you will need to press the “Start” button again to resume quilting.

### When to Use Precision Regulated Mode

Precision Regulated mode is especially useful for ruler work. Stitch along the length of the ruler for the span of your hand and stop. When you stop moving the machine, the needle pauses. Do not turn off the machine. Move the ruler and commence quilting. The Precision Regulated helps you avoid “bobbles” and uneven stitches.

### Quilting Speed While in Stitch-Regulated Mode

It is important not to move the machine too fast, since this will result in an **OVERSPEED CONDITION**, during which, the machine cannot maintain stitch regulated until you slow your motions to an appropriate speed. The Overspeed Alarm will alert you to this condition, giving you the signal to slow down. Stitch regulation does not mean the machine can be moved as fast as you can. Its purpose is to maintain even stitches while quilting at an appropriate speed.

You can return to Manual Mode by pushing the “Manual” button below the “Regulated” button on the touch screen display.

# To Begin Quilting

## Thread Requirements

Threads have a tendency to dry rot over a period of time. Be sure to choose high quality threads for your valuable heirloom quilts. Most machine quilting threads on the market today are acceptable.

## Needle Requirements

For general quilting, a size 16/100 needle will accommodate most threads and fabrics.

Heavier threads, such as top stitch and some decorative threads, require a larger needle such as 18/110 or 20/120. Lofty battings and heavier fabrics such as denim, canvas or densely woven fabric may also require a larger needle.

## To Prepare for Quilting

With any quilting machine, it is important to understand the basics of free motion quilting. The Baby Lock Crown Jewel II Quilting Machine does not have feed dogs like domestic machines; therefore, the fabric does not automatically feed under the hopping foot. The operator should synchronize the speed as well as the movement of the machine to get an even, consistent stitch.

In order to become comfortable with the free motion of the Baby Lock Crown Jewel II, users can begin with a few “beginner” techniques. In Manual Mode: Set the machine at a medium speed and begin moving it until you become accustomed to the resistance. By moving the machine faster, the stitches begin to elongate. The stitch speed can either be increased or the machine can be moved slower to get the stitches back to the desired length. By moving the machine slower, the stitches get shorter and can build up on top of each other, breaking the thread or making it extremely difficult to unpick. The stitch speed can be decreased, while maintaining a constant motion with the

machine to bring the stitches back to the desired length.

In Regulated Mode: Set the machine to desired stitch length. Begin moving the machine to become accustomed to the resistance. The machine motor will slow down or speed up to maintain a consistent stitch length according to how quickly or slowly you move the machine. Moving the machine too fast or in radical or jerky movements will defeat the stitch regulator function.

In MANUAL or CRUISE REGULATED mode, when pressing the “Start/Stop” key on the front or rear handle bars to begin quilting make certain to begin moving the machine immediately. If the needle stitches in one place too long, the stitches build up on top of each other causing a build-up of thread or thread breakage. When bringing the machine to a complete stop press the “Start/Stop” key at the same moment the machine stops moving. If the machine is still moving when the “Start/Stop” key is pressed, it can cause deflection in the needle, possibly causing it to bend or break.

In PRECISION REGULATED mode, the needle will not begin moving when you press the “Start/Stop” key until you begin moving the machine.

When quilting, relax your hands and maintain a light touch on the handlebars. Gripping the handlebars too tightly may cause body tension resulting in poor quilting quality. The Baby Lock Crown Jewel II, combined with the Baby Lock quilting frame system will give you a smooth even glide.

# Troubleshooting

Problem	Cause	Correction
STITCHES ARE SKIPPING	The needle is damaged, dull, bent, or installed improperly	<ul style="list-style-type: none"><li>• Replace the needle often, normally once or twice per day for continuous quilting or at least once per quilt. Use only needles authorized by Baby Lock.</li><li>• Always change the needle if the needle has struck any hard object such as a straight pin, etc. The tip of the needle can become damaged or burred, resulting in fabric damaged as well as skipped stitches and thread breakage.</li><li>• Always change the needle if it has been hit, bumped or pulled off center while maneuvering the machine about the quilt. A slightly bent needle can be a major cause of skipped stitches.</li></ul>
	Incorrect needle size	<ul style="list-style-type: none"><li>• Check for the proper size of needle for the work and thread being applied to the quilting operation. Some battings and fabrics used in quilting may constrict or impede the thread passing through the front groove of the needle. This diminishes the loop lift required for stitch formation. Typically, a larger needle will solve the problem; however, it has been found that certain smaller sizes of needles as well as the use of ball pointed needles solve some specific problems.</li></ul>
	The needle has not been positioned properly	<ul style="list-style-type: none"><li>• Position the needle properly to the needle bar. Inspect the position of the needle to make sure that the needle is at the 6 o'clock position. If you stand directly in front of the needle (facing the bobbin case side of the machine), you will see the entire needle eye directly facing you. This is 6 o'clock position. For most needle and thread combinations this is the correct position. However, if you find your thread is shredding, you might try positioning the needle to 5 o'clock. If it is skipping stitches, try rotating the needle eye to 7 o'clock.</li><li>• 7 o'clock is the maximum tolerance for rotation. Make sure the needle is installed all the way into the needle bar to the needle stop hole in the needle bar and the long groove is toward the front (bobbin case side) and the scarf/scooped out part is toward the hand-wheel.</li></ul>
	Fabric is too tight on the frame	<ul style="list-style-type: none"><li>• Loosen fabric on the frame. Fabric that is rolled too tight causes the fibers to separate. This reduces the needle friction on the thread resulting in a smaller thread loop and may cause skipped stitches.</li></ul>
	Upper tension too tight	<ul style="list-style-type: none"><li>• Loosen upper tension.</li></ul>
	Improper threading	<ul style="list-style-type: none"><li>• Inspect that the thread take-up lever, thread stirrup or tension spring are all threaded correctly and that the thread is "flossed" into the tension discs.</li></ul>

Problem	Cause	Correction
<b>THE NEEDLE BREAKS</b>	<b>The needle is bent or not installed properly</b>	<ul style="list-style-type: none"> <li>• Replace or correctly change the needle. Make sure that the needle is pushed up into the needle bar clamp until it can go no farther (visually check that it is up to the top of the stop/sight opening above the needle bar clamp screw). Failure to do so can cause damage in the bobbin area and throat plate.</li> </ul>
	<b>The needle hits the throat plate</b>	<ul style="list-style-type: none"> <li>• Correctly position the needle, throat plate or hopping foot.</li> </ul>
<b>STITCHES ARE PUCKERED</b>	<b>The tension is not balanced</b>	<ul style="list-style-type: none"> <li>• Balance the tension of the needle thread after ensuring the bobbin tension is adjusted correctly (refer to pages 18 &amp; 20).</li> </ul>
	<b>Needle too large for material</b>	<ul style="list-style-type: none"> <li>• Replace the needle with a size better suited for the fabric.</li> </ul>
<b>STITCH QUALITY IS POOR</b>	<b>The tension is not balanced</b>	<ul style="list-style-type: none"> <li>• Adjust the tension of the needle thread if it is not balanced with that of the bobbin thread.</li> </ul>
	<b>Bobbin case is damaged, corroded, dirty, etc.</b>	<ul style="list-style-type: none"> <li>• Since thread slides over the surface of the bobbin case at a high speed, make sure the case is free of any material that could impede thread passage through the machine.</li> </ul>
	<b>Moving the machine too fast for needle speed selected</b>	<ul style="list-style-type: none"> <li>• Synchronize machine movement and needle speed to get roughly 8-10 stitches per inch. Elongated stitches are an indication of moving the machine too fast for the current speed.</li> </ul>
	<b>Machine Stitch Regulator wheels do not consistently touch the track</b>	<ul style="list-style-type: none"> <li>• Clean the track and the rubber wheel on each stitch regulator. Even a tiny speck on the wheel can cause problems with regulation. Check the spring tension on each stitch regulator assemblies. If the retaining nut is even slightly too tight it can prevent the wheel from properly pressing against the track.</li> </ul>

Problem	Cause	Correction
<b>TENSION IS POOR</b>	<b>"Fuzz" caught under the tension spring in the bobbin</b>	<ul style="list-style-type: none"> <li>• If using short staple threads, inexpensive or industrial threads or coated threads, lint and other material will build up under the tension leaf spring and begin to lift the spring, reducing the spring's ability to compress against the thread. By inserting a needle under the spring and clearing out the lint, the bobbin tension will return fairly close to its preset tension.</li> </ul>
	<b>Poorly wound bobbin</b>	<ul style="list-style-type: none"> <li>• If the bobbin is wound too tight or too loose, this can lead to poor and inconsistent tension. Make sure when the bobbin is wound that the thread tension is not so tight that the wound bobbin thread feels hard and causes the bobbin to bulge when it is wound. It should also not be so loose that the thread is spongy, causing the thread to tangle as it is wound.</li> </ul>
<b>HANDWHEEL WON'T ROTATE</b>	<b>Thread is entangled and caught in the hook</b>	<ul style="list-style-type: none"> <li>• <b>Turn off and unplug the machine</b> from the electrical outlet. Remove the needle plate to improve visibility. Remove any visible loose threads. Lubricate the hook, forcibly turn the handwheel clockwise and if necessary counterclockwise several times, and then remove the thread caught in the hook.</li> </ul>
<b>HARD TO GUIDE MACHINE</b>	<b>Carriage wheels not centered on track</b>	<ul style="list-style-type: none"> <li>• Center the carriage wheels on top of the continuous track. Check that the machine carriage has not "jumped" the track.</li> </ul>
	<b>Thread caught in wheels</b>	<ul style="list-style-type: none"> <li>• Remove all thread or debris in wheels. Check that the tracks are free of all lint, threads and dust from chalks (if applicable).</li> </ul>
	<b>Table not level</b>	<ul style="list-style-type: none"> <li>• Level table.</li> </ul>



Problem	Cause	Correction
THREAD NESTS UNDER QUILT	Not enough tension on top thread	<ul style="list-style-type: none"> <li>• Check that the machine is threaded correctly. Make certain that thread is “flossed” snugly in place between the two tension discs. If machine is threaded correctly, tighten top tension by rotating the tension knob clockwise.</li> </ul>
	Improper threading	<ul style="list-style-type: none"> <li>• Refer to threading diagram and threading instructions (<a href="#">page 16</a>).</li> </ul>
MOTOR FAILS TO RUN	On/Off switch turned off	<ul style="list-style-type: none"> <li>• Turn the machine on by using the switch on the back electrical control cover.</li> </ul>
	Machine not receiving power	<ul style="list-style-type: none"> <li>• Check that the power connector is plugged into the back of the machine and the three-prong end is plugged into power source</li> </ul>
UNEVEN QUILT DESIGN	Take-up rollers may be bowed or bent	<ul style="list-style-type: none"> <li>• Make certain that the fabric is not rolled too tight, causing the fabric to stretch. Check that poles overlap and snap together with the snap button so bowing won't occur.</li> </ul>
	Leaders are stretched/worn	<ul style="list-style-type: none"> <li>• If fabric is beginning to stretch or fray, contact your authorized Baby Lock retailer for replacement leaders.</li> </ul>
IRREGULAR STITCHES	Long and short stitches in Regulated Stitch Mode	<ul style="list-style-type: none"> <li>• Check that all cables are connected tightly.</li> </ul>
MOTOR STALL	Motor Stall	<ul style="list-style-type: none"> <li>• The alarm indicates that the motor is not responding properly to the speed controls. This may be caused by a thread lock, mechanical obstruction or an electrical problem.</li> </ul>
		<ul style="list-style-type: none"> <li>• Clear any thread from the bobbin area <i>only</i> after turning off the power to the machine.</li> </ul>
		<ul style="list-style-type: none"> <li>• Turn the handwheel and check for tightness.</li> </ul>
		<ul style="list-style-type: none"> <li>• The motor stall may re-occur if it is caused by an electrical problem. Turn the machine off and then back on again to reset the computer.</li> </ul>

Problem	Cause	Correction
<b>NEEDLE THREAD BREAKS</b>	<b>Thread cones/spools may have abraded thread casing, severe twisting or thread rot</b>	<ul style="list-style-type: none"> <li>• Look for severe twisting of threads when approximately 12 to 15 inches has been pulled off, with the ends pinched together. Cotton threads are particularly susceptible to dry rot or wet rot which makes thread brittle.</li> </ul>
	<b>Top and bobbin tensions not balanced</b>	<ul style="list-style-type: none"> <li>• Test and set bobbin tension following instructions on (page 18). Next, set top tension following instructions on (page 20).</li> </ul>
	<b>The machine head has been threaded incorrectly or thread spools are not positioned correctly</b>	<ul style="list-style-type: none"> <li>• Check that the machine is threaded correctly.</li> <li>• Inspect for accidental double wrapping of thread on thread guides.</li> <li>• Inspect the thread mast, making sure that the eyelets of the mast are directly over the spools.</li> <li>• Inspect the vertical positioning of the thread cones. Tipped cones can dramatically affect thread tension and can cause breakage.</li> </ul>
	<b>Particles in tension discs</b>	<ul style="list-style-type: none"> <li>• Inspect for particles and remove any fuzz or debris.</li> </ul>
	<b>Bobbin rotation is not smooth</b>	<ul style="list-style-type: none"> <li>• Make sure the bobbin is wound smoothly. If it appears to be okay, then change the bobbin. The slightest hesitation of the bobbin rotation can be the cause of dramatic tension change and thread breakage.</li> </ul>
	<b>Needle is burred, bent or dull, or installed incorrectly</b>	<ul style="list-style-type: none"> <li>• If needle shows damage, replace needle immediately. Make sure the needle is installed to the top of the stop/sight opening in the needle bar. Change the needle at least once per quilt.</li> </ul>
	<b>Needle not suited for thread</b>	<ul style="list-style-type: none"> <li>• Replace the needle to one better suited for the thread. Use the proper size needle.</li> </ul>

# Optional Accessories

## Channel Lock

Place the channel lock on either of the front wheels of the machine as shown in **(Figure 1)** (not on the carriage wheels). This will lock the wheels so that the machine carriage will move from right to left but not forward and backward. The purpose for the horizontal channel lock is to stitch horizontal straight lines across your quilt.



**Figure 1**

## Ruler Base

Using rulers with a quilting machine requires a wider base than the machine has. The ruler base provides a stable base for ruler work.

### Installing the Ruler Base

Bring the ruler base to the front of the machine, straddling the needle bar. Line up the four notches in the ruler base with the four protrusions on the machine. Using both hands, grasp the ruler base on both sides and flex upwards to spread the base apart far enough to place on machine **(Figure 2)**. Snap into place.

### Removing the Ruler Base

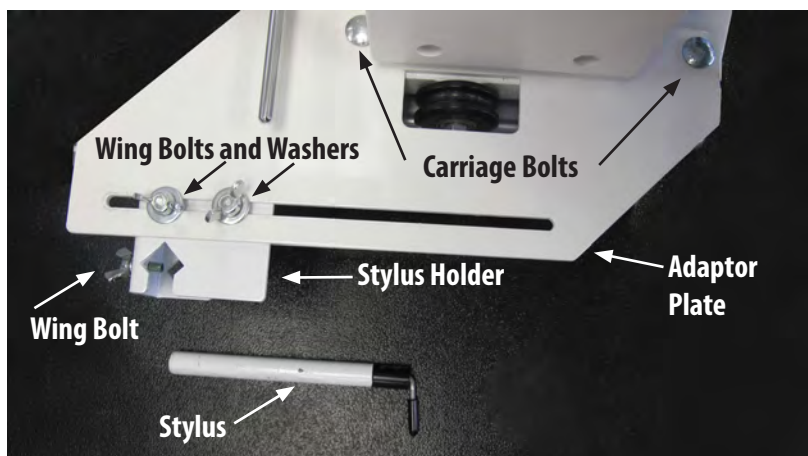
Leaving the ruler base in place would cause undesirable drag on the quilt for free-motion quilting. Remove the ruler base by gently flexing the base upwards, until the notches are free **(Figure 3)**. Lift away from the machine.



**Figure 2**



**Figure 3**



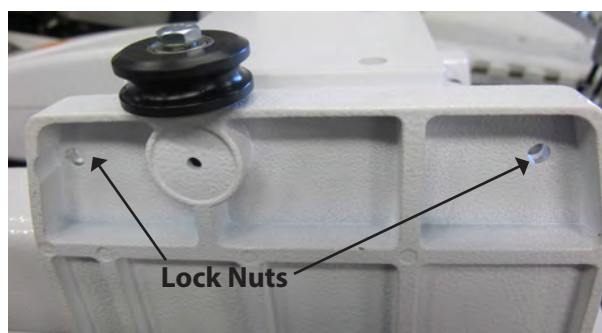
**Figure 4**

### Stylus and Adaptor Plate

A stylus is used to follow the grooves of pattern boards. It is attached by an adaptor plate to the machine's rear base plate on the right side of the machine (when you are facing the front of the machine). The machine's rear base plate has two holes pre-drilled on the right side to accommodate the stylus holder (**Figure 4**).

### Installing the Adaptor Plate

To attach the adaptor plate, lay the machine on its left side and place the adaptor plate over the two square holes, with the rectangular hole over the wheel. Place the two carriage bolts down through the adaptor (the square holes are for locating and holding the carriage bolt head during tightening). Attach with the two lock nuts on the bottom of the machine's base plate (**Figure 5**) and tighten until the bracket is firm and does not move. Lift the machine upright and place back on the carriage for the next step.



**Figure 5**

### Installing the Stylus Holder

The stylus holder has two threaded holes. Place the stylus holder under the adaptor plate and align the two holes with the long slot in the adaptor plate. Place the two wing bolts with washers first through the slot and then thread into the stylus holder as shown (**Figure 6**). Note that the stylus holder is mounted under the adaptor plate and that the stylus opening and remaining wing bolt goes towards the front of the machine as shown.

### Installing the Stylus

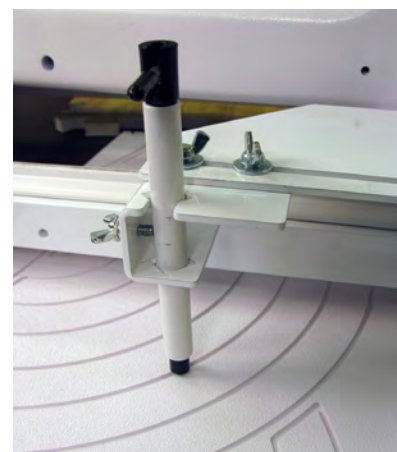
The stylus is mounted into the stylus holder and secured with the thumb screw which faces the front of the machine (**Figure 4**). The height of the stylus is set once the pattern board is set onto the table.

With the thumb screw loosened slightly, lower the stylus so that the stylus tip will go into and stay in the groove as the machine is moved (**Figure 7**). Tighten the thumb screw.

If the stylus is set too high, it can inadvertently come out of the groove while quilting. If set too low, it will cause unwanted resistance during quilting and will wear the stylus tip prematurely. Please note that the stylus is a consumable part. The tip will eventually wear down and the stylus will need to be replaced.



**Figure 6**



**Figure 7**

# Optional Accessories continued

## Horizontal Spool Pin

1. An optional horizontal spool pin is available for metallic and specialty threads wound on a spool (not a cone).
2. The horizontal spool pin mounts in the laser stylus guide post on the top of the machine (see **Figure 8**).
3. When using delicate threads such as mylar, certain metallics or very thin silk, on the horizontal spool pin, skip thread guide A. Thread the top hole only, of the three-hole thread guide B, back to front.
4. Continue threading the machine as explained in steps 3 through 7 on pages 16 and 17.

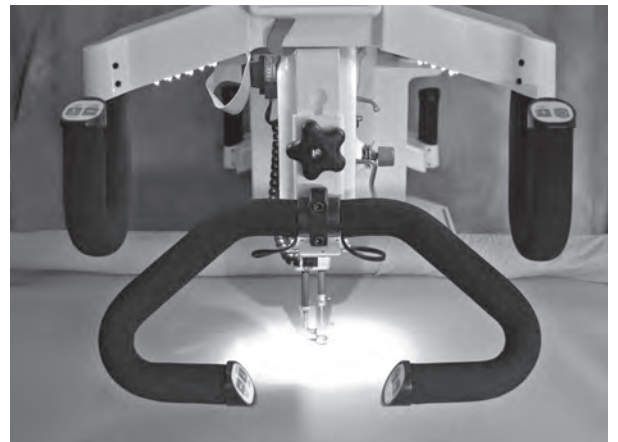


**Figure 8**

## Crown Jewel II Micro Handles

Enjoy complete precision while long arm quilting. These centralized, adjustable handles fit perfectly in between the existing handles on the Crown Jewel II for the ultimate control during micro-stippling or close-up work.

The Micro Handles include fully integrated built-in buttons, keeping all stitch controls at a quilter's fingertips. The Micro Handles also include an additional LED light, providing extra illumination to even the smallest areas.



## Couching Feet Set

The Couching Feet Set includes three sizes of interchangeable couching feet: 1.5mm, 2mm, and 3mm. You'll have just the right size foot for adding couched embellishments using a variety of specialty threads, fibers and yarns to your quilt.

