

# Momentum™

## Quilt Frame



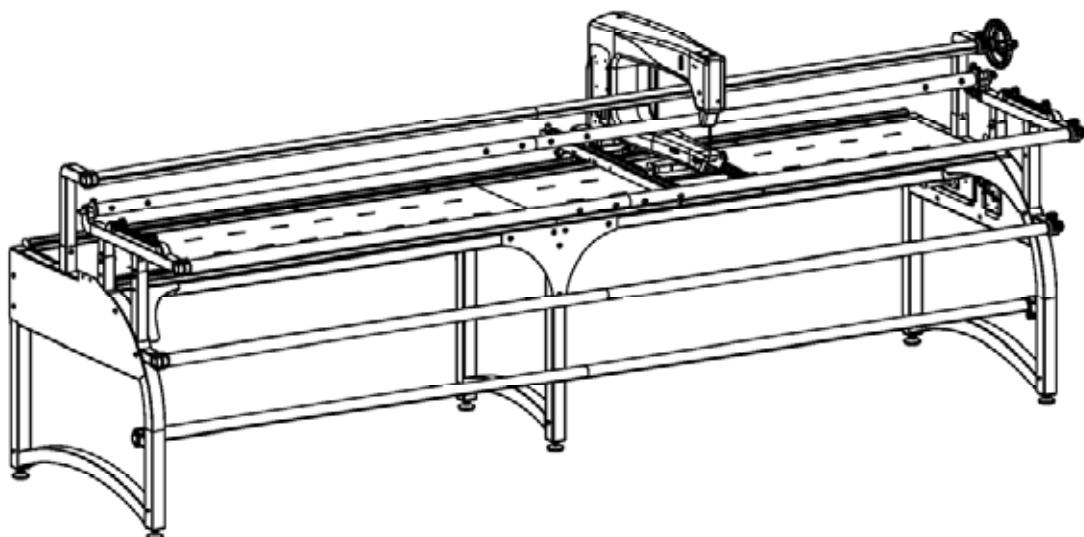
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## **Assembly and Use Instruction Manual**

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## **Safety Instruction**

Read all instructions before using.

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

### **FCC Warning Statement**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a 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.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

### **WARNING -**

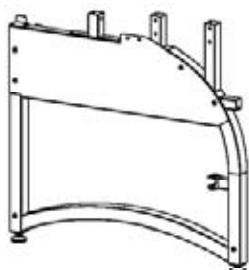
**Warning: Unplug both power cords from the power outlet when attaching the fabric to your frame to protect your system from static discharge.**

- Never operate this system if it has a damaged cord or plug, if it is not working properly, or if it has been dropped or damaged. Return the system to the nearest authorized dealer for repair or adjustment.
- Keep fingers away from all moving parts.
- To disconnect, always turn the power button to the off position before unplugging any cables.
- Keep the machine and frame free from the accumulation of lint, dust, and loose cloth.
- Do not unplug by pulling on the cord. To unplug, grasp the plug, not the cord.

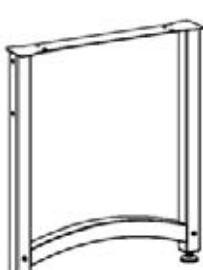
**If you have any questions contact your authorized Baby Lock retailer.**

## Parts List

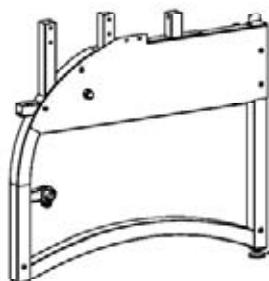
### Box 1 Contents



Left Frame End (1)  
A100091



Middle Leg (1)  
A100092



Right Frame End (1)  
A100093

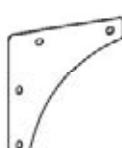
Leveling Foot (6)  
(Pre-installed on  
Frame Ends and  
Middle Leg)



Front Leg Brace  
Left (1)  
04-10711



Front Leg Brace  
Right (1)  
04-10712



Corner Support (2)  
04-10708



Middle Leg  
Brace (2)  
04-10709



Sensor Bracket (1)  
A100094

### Hardware Box (Box 1)



M8 x 55mm  
SBHCS (6)  
03-10726



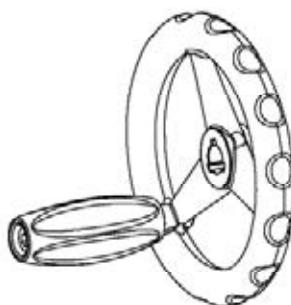
M8 Nylock  
Nut (6)  
03-10730



M10 x 125mm  
SBHCS (1)  
03-10950



M10 Washer (1)  
03-10952



Handwheel Assembly (1)  
A100095



Handwheel  
Coupler (1)  
05-10926



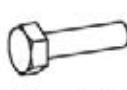
M8 x 16mm  
SBHCS (36)  
03-10951



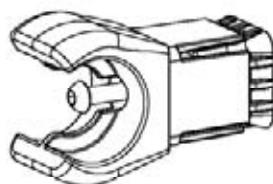
Magnet  
Bracket (1)  
05-10928



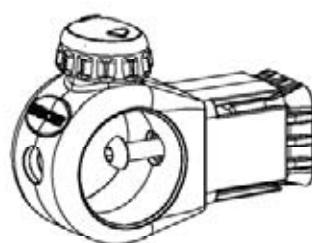
Magnet Bracket  
Spacer(1)  
05-10933



1/4 inch Hex Bolt  
03-10964



Rail Holder  
Assembly (1)  
A100097



Top Rail Ratchet  
Assembly (1)  
A100098



M6 x 15mm  
SBHCS (1)  
03-10003



Rail Clamp Lock  
Pin Assembly (1)  
A100096



M6 x 8mm Set  
Screws (10)  
03-10111



Track Coupler (2)  
04-10443



Power Supply (2)  
02-10940



Master Board  
Box (1)  
A100099

## Hardware Box Continued (Box 1)



Fabri-Fast Tubing (4)  
05-10439



Fabri-Fast Tool (1)  
05-10417



Bungee Clamp (4)  
08-10572



Open Wrench  
13mm and 10mm  
03-10743



Open Wrench 17mm  
and 13mm  
03-10948



3mm Allen  
Wrench (1)  
03-10166



4mm Allen  
Wrench (1)  
03-10167



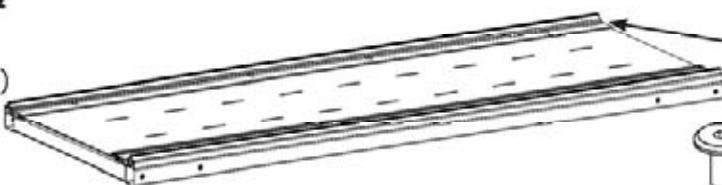
5mm Allen  
Wrench (1)  
03-10741



6mm Allen  
Wrench (1)  
03-10742

## Box 2 Contents

Table Assembly (2)  
A100100



(The following items are pre-installed in Table Assembly)

Rear Track

Front Track

M6 Connector Bolt  
03-10953

M6 Plastic Washer  
05-10949

10 ft Plastic Track (4)  
05-10330



5 ft Plastic Track (4)  
05-10329

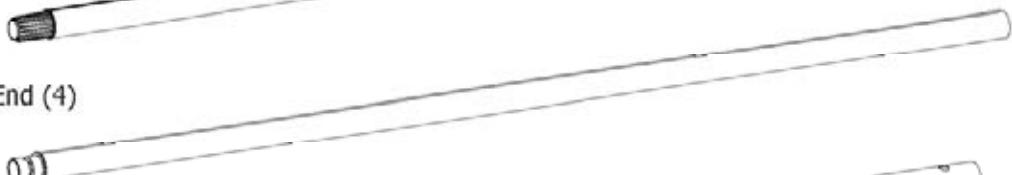


## Box 3 Contents

Rail Ratcheting End (4)  
A100101



Rail Non-Ratcheting End (4)  
A100102



Idler Rail Clamp Locking  
Assembly (1)  
A100103



Idler Rail Clamp Floating  
Assembly (1)  
A100104



Front Rail Bracket Left  
Rail Holder End (1)  
A100105



Front Rail Bracket Right  
Ratchet (1)  
A100106



Take Up Rail  
Left Arm Rail  
Holder End (1)  
A100107



Take Up Rail  
Right Arm  
Ratchet End (1)  
A100108



Rail Coupler (4)  
04-10457



Clamp Rail Coupler (2)  
04-10714

# Frame Assembly

## Step 1: Ratchet and Rail Holder Installation

### Parts Needed

- 1- Right Frame End
- 1- Left Frame End
- 1- Top Rail Ratchet Assembly
- 1- Rail Holder Assembly



Fig. 1-1

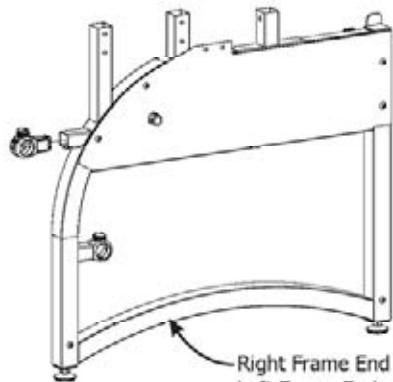


Fig. 1-2

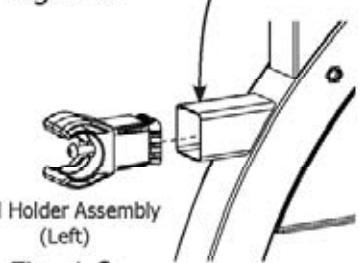


Fig. 1-3

### Tools Required

- 4mm Allen Wrench

**1-1:** Insert the Top Rail Ratchet Assembly into the Right Frame End tube end and tighten the M6 x 25mm SBHCS. (Fig. 1-2)

**1-2:** Insert and fasten the Rail Holder Assembly into Left Frame End tube end. (Fig. 1-3)

## Step 2: Height Adjustable Leg Assembly

### Parts Needed

- 1- Right Frame End
- 1- Left Frame End
- 1- Middle Leg

### Tools Required

- 5mm Allen Wrench
- Open Wrench 13mm and 10mm

### Height of Fabric Surface Chart

(Height is determined by the quilting surface to the floor.)

Top Hole	44"	4th	39"
8th	43"	3rd	38"
7th	42"	2nd	37"
6th	41"	Bottom Hole 36"	
5th	40"		

**2-1:** To adjust the legs, remove the pre-installed M8 x 55mm SBHCS, M8 Flat Washer, and M8 Nylock Nut from the frame ends and middle leg if assembling in King size. (Fig. 2-1)

**2-2:** Adjust the leg height using the Height of Fabric Surface Chart. The bottom of the machine handles typically start at about 8" above the Quilting surface. Determine what setting will be most comfortable for you based on your height.

**2-3:** Fasten the M8 x 55mm SBHCS, M8 Flat Washer, and M8 Hex Nut to the adjusted legs with the tools provided. (Fig. 2-1)

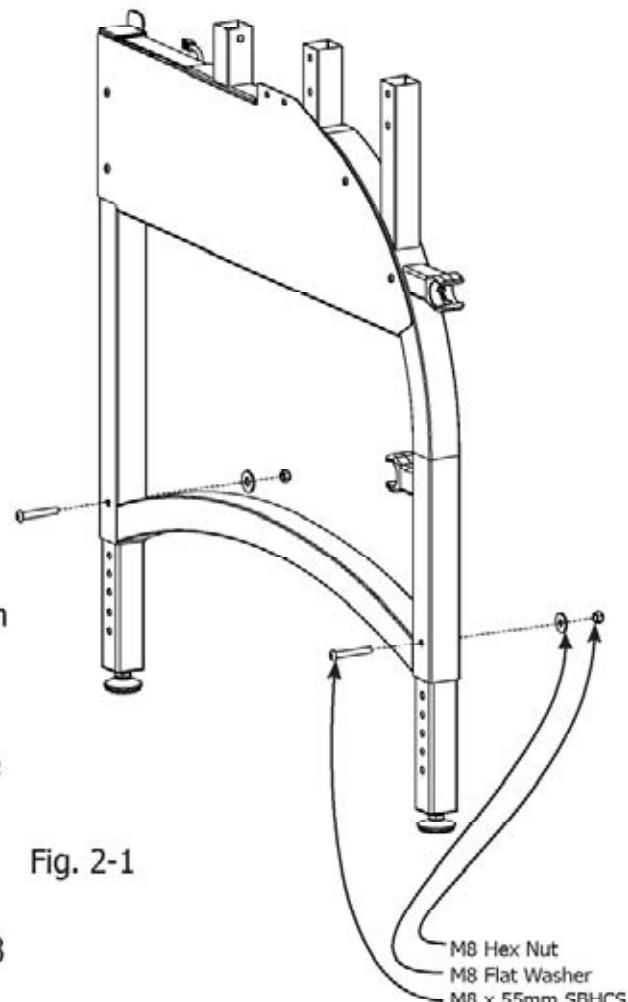


Fig. 2-1

### **Step 3: King Table to Frame Ends**

#### **Parts Needed:**

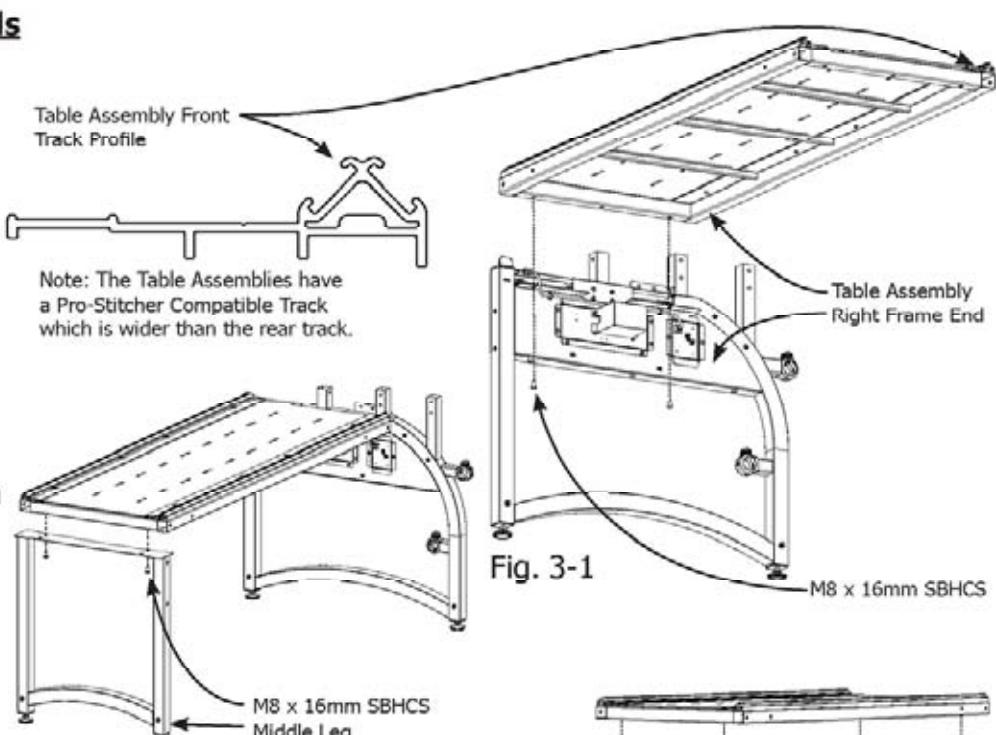
- 1- Right Frame End
- 1- Left Frame End
- 1- Middle Leg
- 2- Table Assembly
- 8- M8 x 16mm SBHCS

#### **Tools Required:**

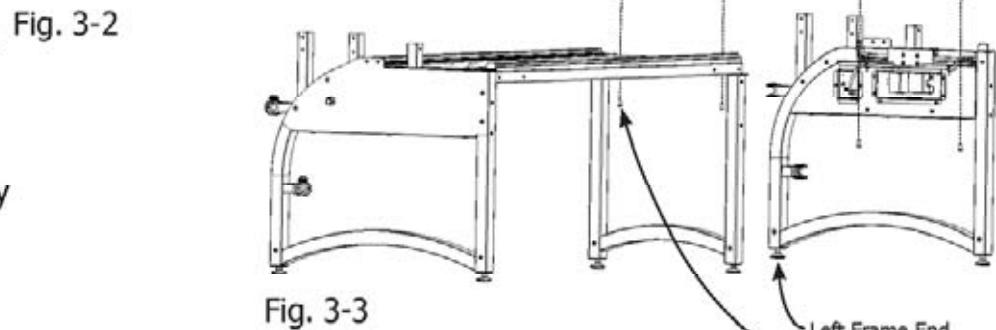
- 5mm Allen Wrench

**Note:** Using two people is recommended for this step. Loosely fasten the M8 x 16mm SBHCS to allow for adjustment in step 4.

**3-1:** Attach the Table Assembly to the frame ends using M8 x 16mm SBHCS. (Fig. 3-1)



**3-2:** Fasten the Middle Leg to Table Structure using M8 x 16mm SBHCS. (Fig. 3-2)



**3-3:** Bolt the second Table Assembly to the Middle Leg and Right Frame End. (Fig. 3-3)

### **Step 3-C: Crib Table to Frame Ends**

#### **Parts Needed:**

- 1- Right Frame End
- 1- Left Frame End
- 1- Table Assembly
- 4- M8 x 16mm SBHCS

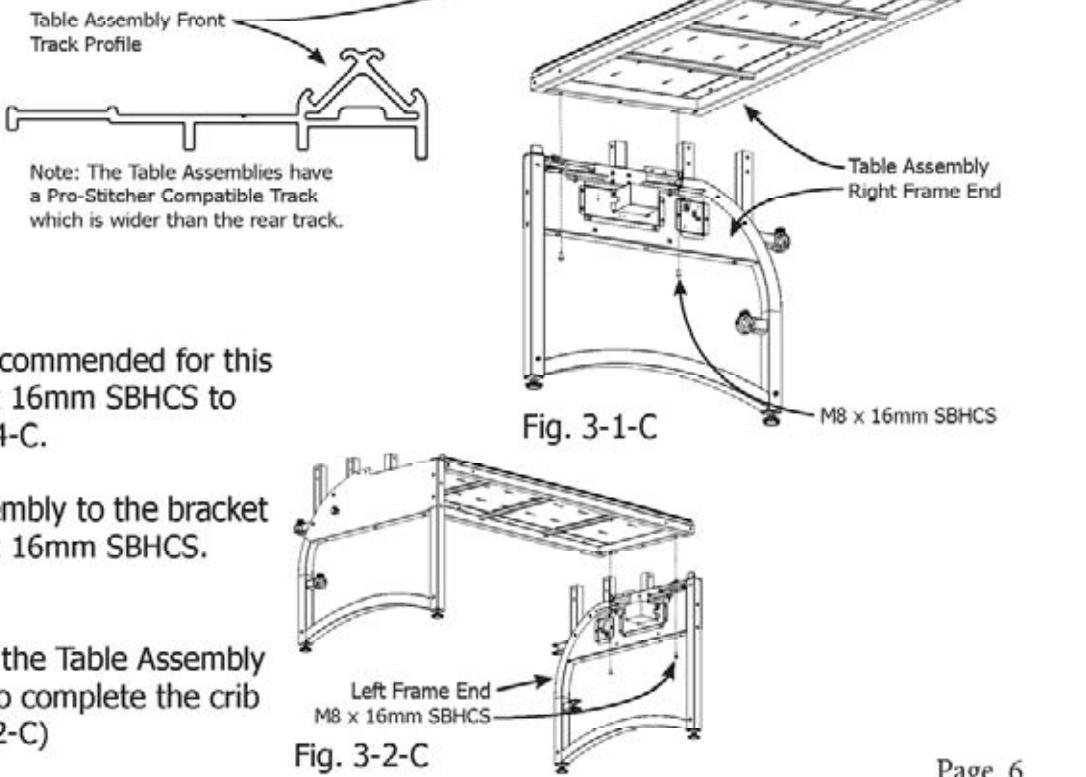
#### **Tools Required:**

- 5mm Allen Wrench

**Note:** Using two people is recommended for this step. Loosely fasten the M8 x 16mm SBHCS to allow for adjustment in step 4-C.

**3-1-C:** Attach the Table Assembly to the bracket of the frame ends using M8 x 16mm SBHCS. (Fig. 3-1-C)

**3-2-C:** Bolt the other end of the Table Assembly to the remaining frame end to complete the crib size frame assembly. (Fig. 3-2-C)



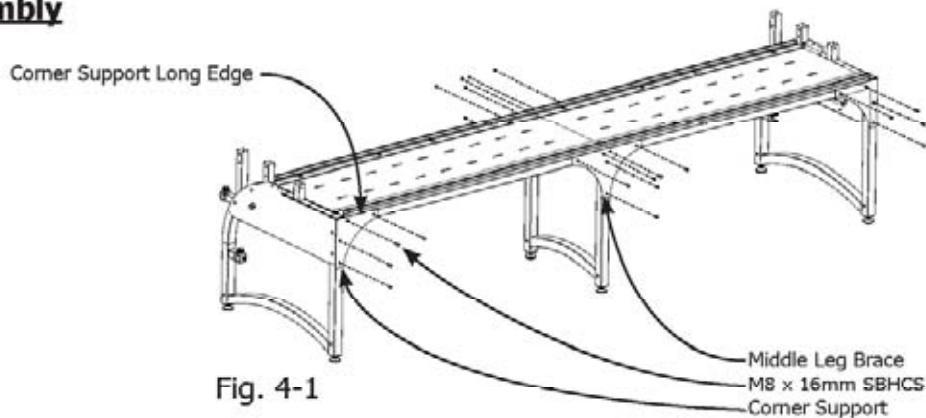
## **Step 4: Corner Brace for King Assembly**

### **Parts Needed:**

- 1- Front Leg Brace Left
- 1- Front Leg Brace Right
- 2- Corner Support
- 2- Middle Leg Brace
- 26- M8 x 16mm SBHCS

### **Tools Required:**

- 5mm Allen Wrench



**4-1:** Align the Corner Supports so that the long edge follows the table surface and fasten with M8 x 16mm SBHCS. The Corner Supports should lay flush with the Table Assembly and Frame End surfaces. (Fig. 4-1)

**4-2:** Fasten the Middle Leg Braces to the Table Assemblies and Middle Leg. The Middle Leg Braces should lay flush with the surface of the Table Assemblies and Middle Leg. (Fig. 4-1)

**4-3:** Attach the Front Leg Braces to the Table Assemblies and Frame Ends. (Fig. 4-2)

**4-4:** Securely fasten all the M8 x 16mm SBHCS in this Step and from Step 3.

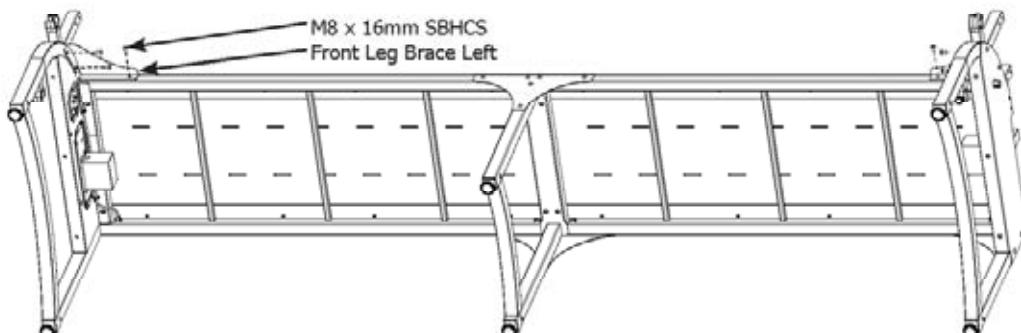


Fig. 4-2

## **Step 4-C: Corner Brace for Crib Assembly**

### **Parts Needed:**

- 1- Front Leg Brace Left
- 1- Front Leg Brace Right
- 2- Corner Support
- 2- Middle Leg Brace
- 14- M8 x 16mm SBHCS

### **Tools Required:**

- 5mm Allen Wrench

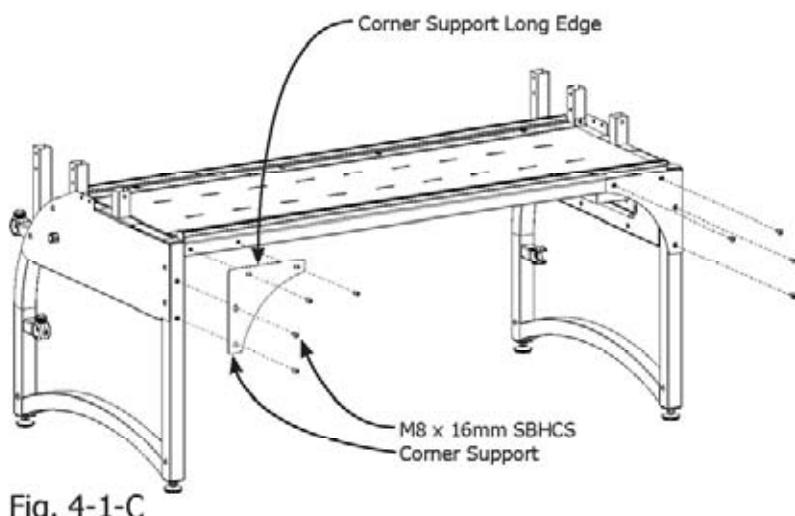


Fig. 4-1-C

**4-1-C:** Align the Corner Supports so that the long edge follows the table surface and fasten with M8 x 16mm SBHCS. The Corner Supports should lay flush with the Table Assembly and Frame End surfaces. (Fig. 4-1-C)

**4-2-C:** Attach the Front Leg Braces to the Table Assemblies and Frame Ends. (Fig. 4-2-C)

**4-3-C:** Securely fasten all the M8 x 16mm SBHCS in this Step and from Step 3-C.

### **Step 5: Track Assembly for King Size Frame**

#### **Parts Needed:**

- 2- Track Coupler
- 4- 10 ft Plastic Track
- 8- M6 x 8mm Set Screw

#### **Tools Required:**

- 3mm Allen Wrench
- 4mm Allen Wrench

**5-1:** Detach the pre-installed Track Support from the Table Assembly by unfastening the M6 Connector Bolts with a 4mm Allen Wrench. (Fig. 5-1)

**5-2:** Insert the Track Coupler into the Track Support end leaving approximately half of the coupler exposed. (Fig. 5-2) Insert and fasten M6 x 8mm Set Screws into the Track Support end using a 3mm Allen Wrench. (Fig. 5-3)

**5-3:** Slide a Track Support end onto the coupled back track assembly and fasten M6 x 8mm Set Screws with a 3mm Allen Wrench to complete one 10 ft Track Support. (Fig. 5-3)

**5-4:** Slide the 10 ft Plastic Track down the track grooves of the Back Track Support Assembly. (Fig. 5-4)

**5-5:** Repeat step 5-2 to 5-4 to assemble the 10 ft Front Track Support Assembly.

**5-6:** Loosely fasten the Front Track Assembly and securely fasten the Rear Track Assembly onto the Table Assembly with Connector Bolts and M6 Plastic Washers. The Rear Track Assembly side should be flush with the back edge of the table. (Fig. 5-1)

**Note:** The Front Track Assembly will be adjusted and tightened in step 9.

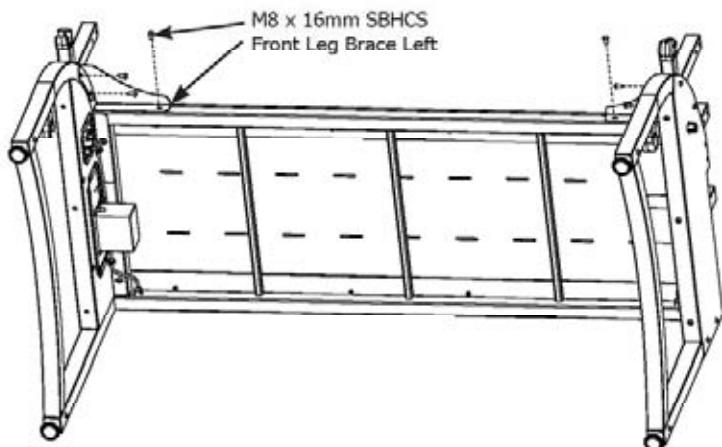


Fig. 4-2-C

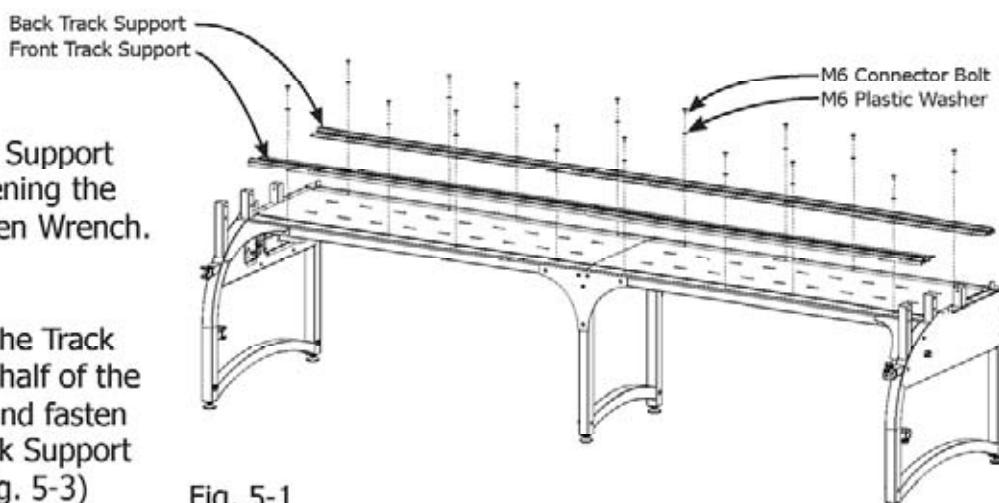


Fig. 5-1

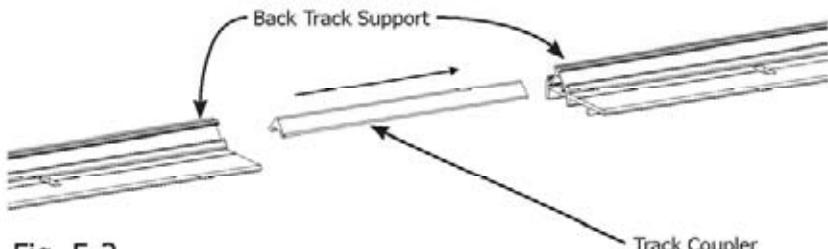


Fig. 5-2

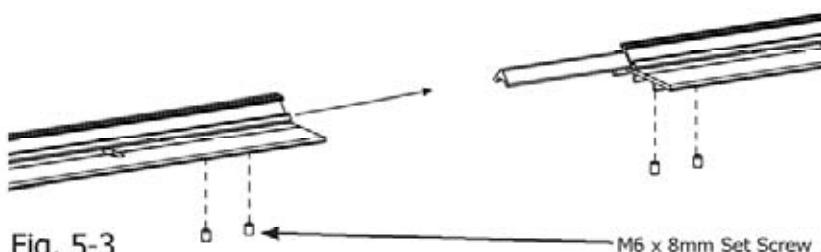


Fig. 5-3

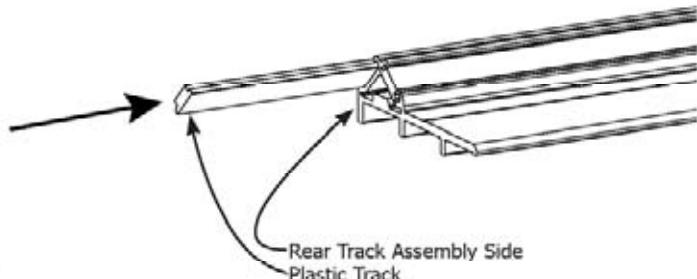


Fig. 5-4

## **Step 5-C: Track Assembly for Crib Size Frame**

### **Parts Needed:**

4- 5 ft Plastic Track

### **Tools Required:**

4mm Allen Wrench

**5-1-C:** Detach the pre-installed Track Support from the Table Assembly by unfastening the M6 Connector Bolts with a 4mm Allen Wrench. (Fig. 5-1-C)

**5-2-C:** Slide the 5 ft Plastic Track down the track grooves of the Track Support Assembly. (Fig. 5-2-C)

**5-3-C:** Repeat step 5-2 to assemble the 5 ft Front Track Support Assembly.

**5-4-C:** Loosely fasten the Front Track Assembly and securely fasten the Back Track Assembly onto the Table Assembly with Connector Bolts and M6 Plastic Washer. The Rear Track Assembly side should be flush with the back edge of the table. (Fig. 5-1)

**Note:** The Front Track Assembly will be adjusted and tightened in step 9.

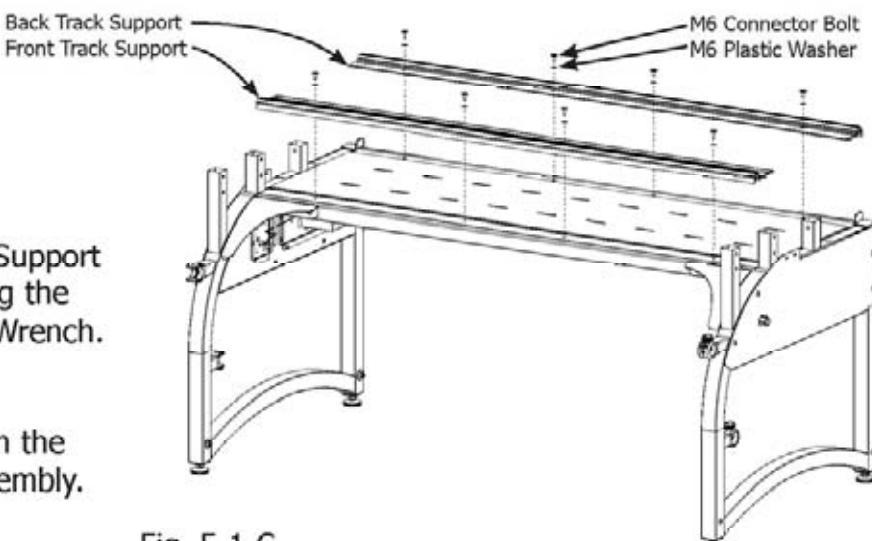


Fig. 5-1-C

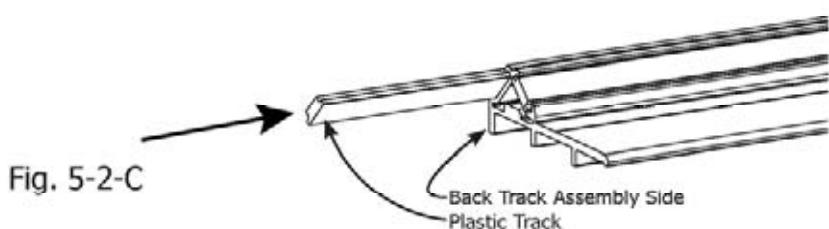


Fig. 5-2-C

## **Step 6: Front Rail Bracket Assembly**

### **Parts Needed:**

1- Front Rail Bracket Right Ratchet End  
1- Front Rail Bracket Left Rail Holder End  
4- M8 x 50mm SBHCS  
4- M8 Nylock Nut

### **Tools Required:**

5mm Allen Wrench  
Open Wrench 13mm and 10mm

**Note:** The bolt height may need to be adjusted after the sewing machine has been set on the frame so that fabric lays flat in the throat of the machine. This assembly step is universal for both Crib and King size frames.

**6-1:** Insert the Rail Brackets into the corresponding tube ends. (Fig. 6-2)

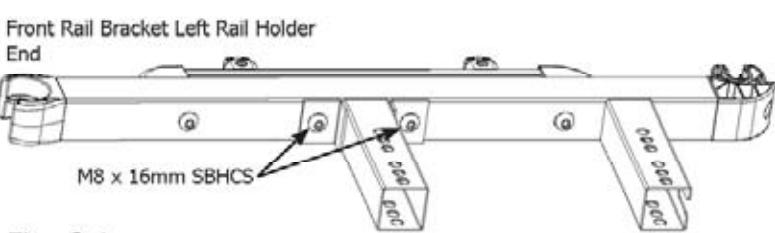


Fig. 6-1

**Note:** Loosen the M8 x 16mm SBHCS on the Rail Brackets if the brackets are a tight fit into frame ends.

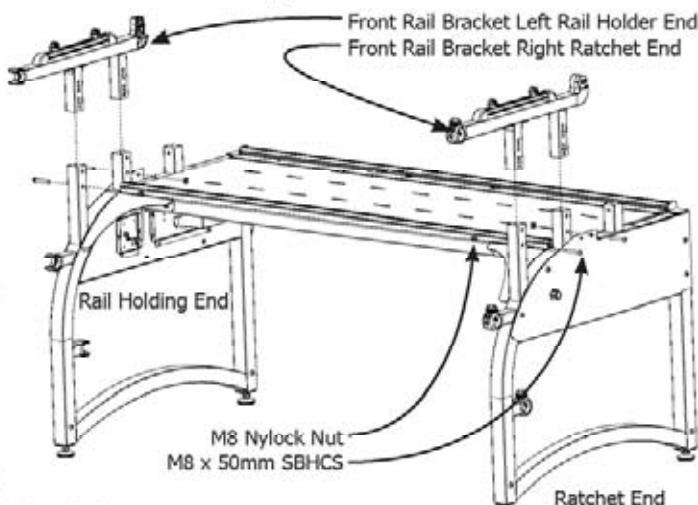
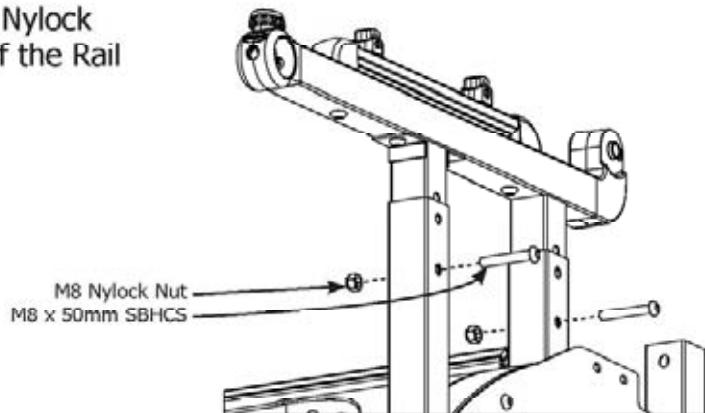


Fig. 6-2

**6-2:** Fasten a set of M8 x 50mm SBHCS and M8 Nylock Nuts through the second hole from the bottom of the Rail Brackets as a default. (Fig. 6-2 and Fig. 6-3)



### **Step 7: Take Up Rail Bracket Assembly**

#### **Parts Needed:**

- 1- Take Up Rail Right Arm Ratchet End
- 1- Take Up Rail Left Arm Rail Holder End
- 2- M8 x 50mm SBHCS
- 2- M8 Nylock Nut

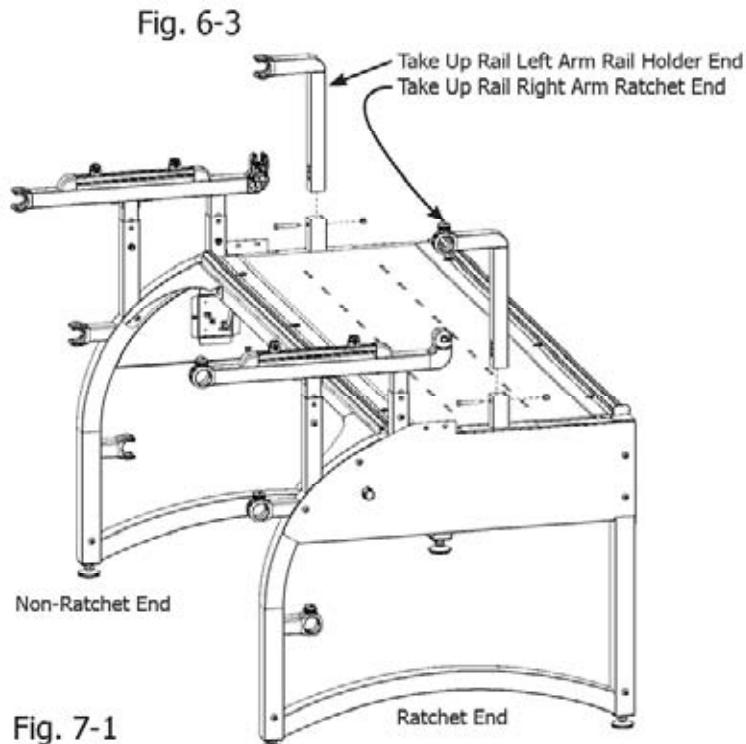
#### **Tools Required:**

- 5mm Allen Wrench
- Open Wrench 13mm and 10mm

**Note:** The height may need to be adjusted after the sewing machine has been set on the frame. This assembly step is universal for both Crib and King size frames.

**7-1:** Insert the Rail Brackets into the corresponding tube ends. (Fig. 7-1)

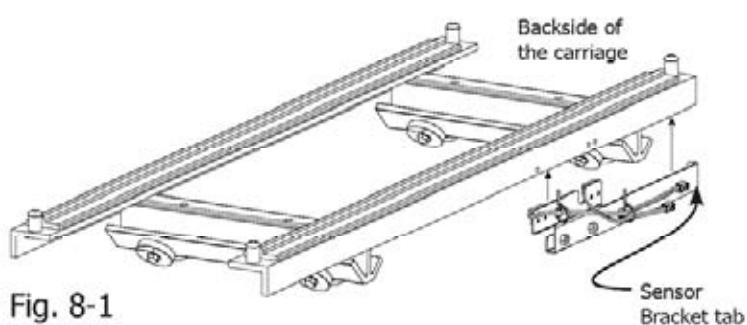
**7-2:** Fasten a set of M8 x 50mm SBHCS and M8 Nylock Nuts through the middle hole of the Rail Arm Brackets. (Fig. 7-1)



### **Step 8: Bottom Carriage Assembly**

#### **Parts Needed:**

- 2- M6 Set Screw
- 1- Sensor Bracket
- 1- Carriage Assembly (included with sewing machine)
- 1- Master Board Box
- 1- Power Supply

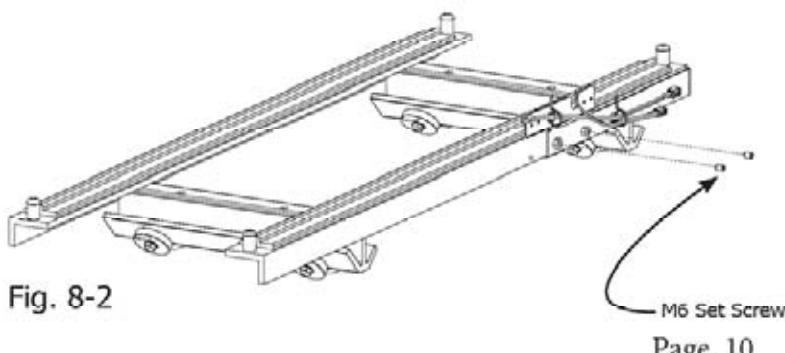


#### **Tools Required:**

- 3mm Allen Wrench

**8-1:** Attach and align the Sensor Bracket to the backside of the carriage. The Sensor Bracket tab should be flush against the rear of the carriage. (Fig. 8-1)

**8-2:** Insert and fasten a set of M6 Set Screws into the Sensor Bracket. (Fig. 8-2)



**8-3:** Position the Master Board Box so that the two ports are facing the front of the carriage. Peel the tape from the back of the Master Board Box and attach the box to the side of the Carriage Assembly. (Fig. 8-3)

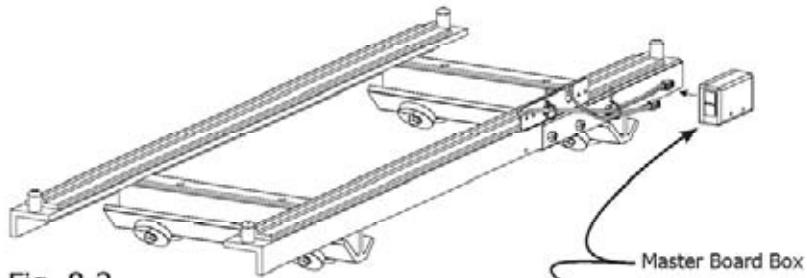


Fig. 8-3

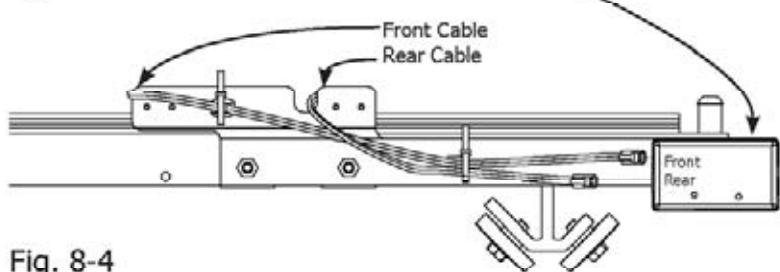


Fig. 8-4

## **Step 9: Track Adjustment**

### **Parts Needed:**

- 1- Bottom Carriage Assembly
- 1- Frame Assembly

### **Tools Required:**

- 4mm Allen Wrench

**Note:** This assembly step is universal for both Crib and King size frames.

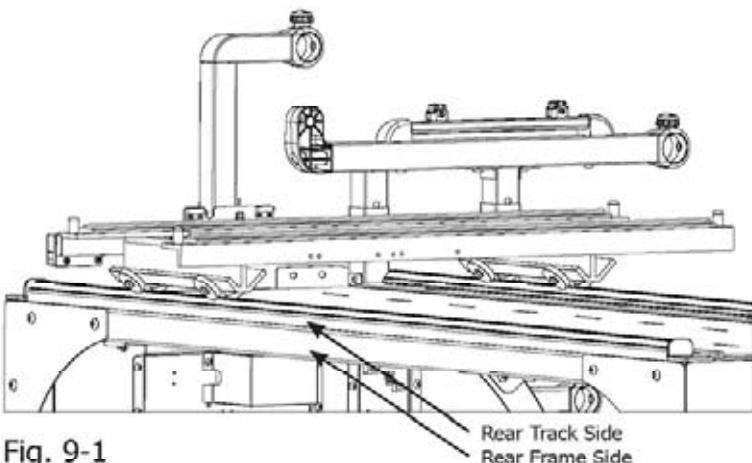


Fig. 9-1

**9-1:** Place and align the Bottom Carriage Assembly on the track assemblies. The Front Track Assembly should be loosely fastened from a previous step. (Fig. 9-1)

**9-2:** The Rear Track Support should be aligned flush with the Table Frame Side from a previous step. If not, align and securely fasten. (Fig. 9-1)

**9-3:** Press down on the Bottom Carriage Assembly and move the carriage from left to right, fastening the Front Track M6 Connector Bolts firmly. Continue this step for the remainder of the Connector Bolts along the frame. (Fig. 9-2)

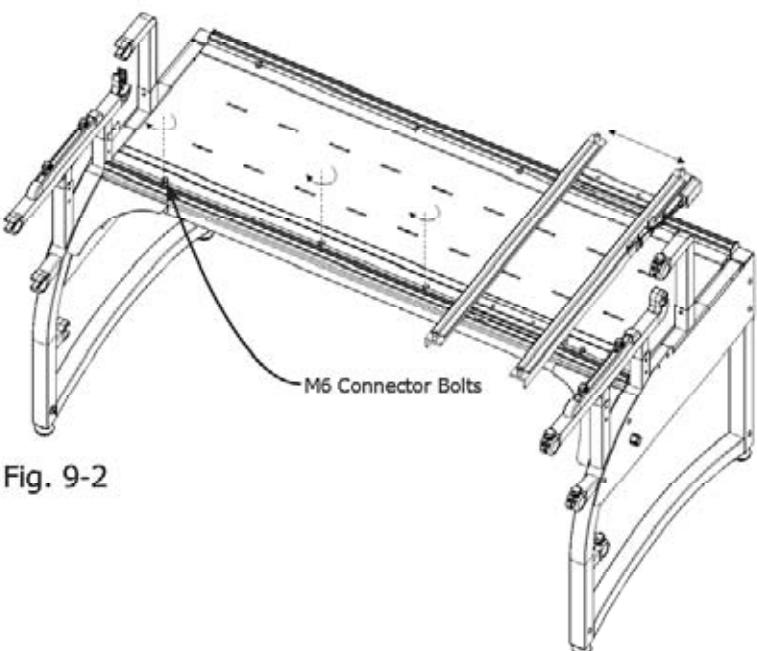


Fig. 9-2

## **Step 10: Rail Assembly for King**

### **Parts Needed:**

- 4- Rail Ratcheting End
- 4- Rail Non-Ratcheting End
- 4- Rail Coupler
- 2- Clamp Rail Coupler
- 1- Idler Rail Clamp Locking Assembly
- 1- Idler Clamp Floating Assembly
- 24 - M6 x 10mm Set Screws (Pre-installed in the Rail Couplers)

### **Tools Required:**

- 3mm Allen Wrench

**Note:** Loosen M6 x 10mm Set Screws if the Rail Couplers do not easily slide into the rail ends. (Fig. 10-1)

**10-1:** Insert a Rail Coupler into a Rail Ratcheting End. Align the holes on the Rail Coupler with the holes in the rail ends. (Fig. 10-2 and Fig. 10-3.)

**10-2:** Tighten the pre-installed M6 x 10mm Set Screws in the ratcheting and Non-Ratcheting rail ends with an 3mm Allen Wrench. (Fig. 10-4)

**10-3:** Repeat step 10-1 and 10-2 for the three remaining Rail Assemblies.

**10-5:** Insert the Clamp Rail Couplers into an Idler Clamp Floating Assembly End. Align the holes on the Clamp Rail Couplers with the holes in the rail ends. (Fig. 10-5 and Fig. 10-6.) Align the Clamp Rails so that the hinges are on the same side. (Fig. 10-7)

**10-6:** Tighten the pre-installed M6 x 10mm Set Screws into the Idler Rail Clamp Locking Assembly and Idler Clamp Floating Assembly with an 3mm Allen Wrench. (Fig. 10-7)

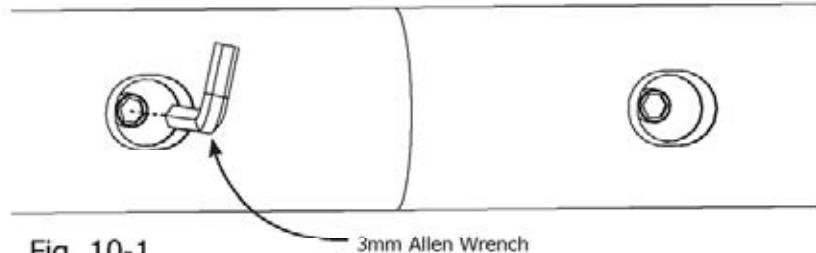


Fig. 10-1

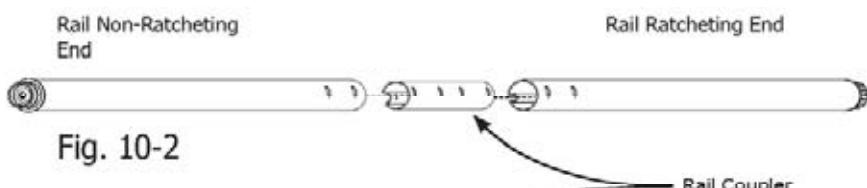


Fig. 10-2



Fig. 10-3



Fig. 10-4

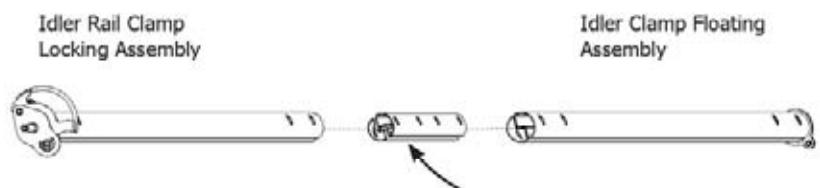


Fig. 10-5



Fig. 10-6

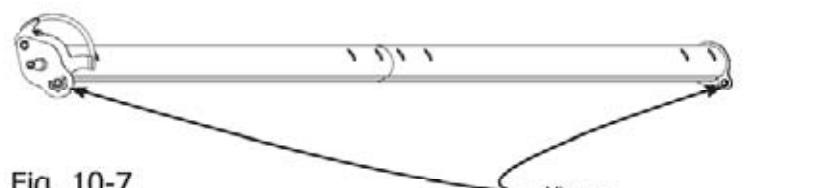
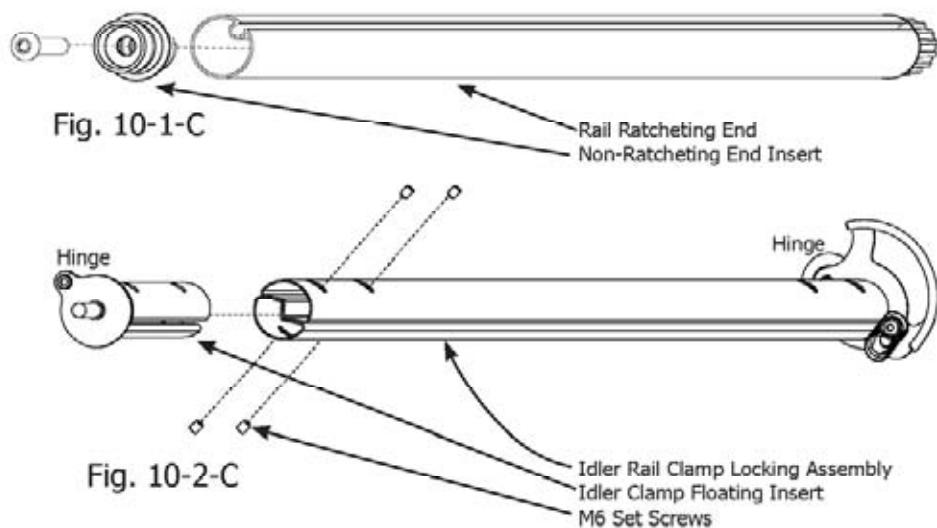


Fig. 10-7

## **Step: 10-C: Rail Assembly for Crib**

### **Parts Needed:**

- 4- Rail Ratcheting End
- 4- Rail Non-Ratcheting End
- 1- Idler Rail Clamp Locking Assembly
- 1- Idler Clamp Floating Assembly
- 8 - M6 x 10mm Set Screws (Pre-installed in the Rail Couplers)



### **Tools Required:**

- 3mm Allen Wrench
- 4mm Allen Wrench
- 6mm Allen Wrench

**10-1-C:** Unfasten the Non-Ratcheting End Insert from a Rail Non-Ratcheting End with a 6mm Allen Wrench. Insert and fasten the Non-Ratcheting End Insert into the Rail Ratcheting End. (Fig. 10-1-C)

**Note:** If the rail end is difficult to remove, loosen the bolt half way out. Push in the bolt to release the compression cone, which will allow the rail end to be easily removed.

**10-2-C:** Repeat step 10-1-C for the remaining 3 rail ends.

**10-3-C:** Unfasten the Idler Clamp Floating Insert from the Idler Clamp Floating Assembly by removing four M6 Set Screws with an M3 Allen Wrench. Insert and Fasten the Idler Clamp Floating Insert into the Idler Rail Clamp Locking Assembly. Align the Clamp Rails so that the hinges are on the same side. (Fig. 10-2-C)

## **Step 11: Machine Magnetic Bracket**

### **Parts Needed:**

- 1- Magnet Bracket
- 1- Magnet Bracket Spacer
- 1- 1/4 inch Hex Bolt

### **Tools Required:**

- 1- 7/16 inch Wrench (Not provided with frame contents.)

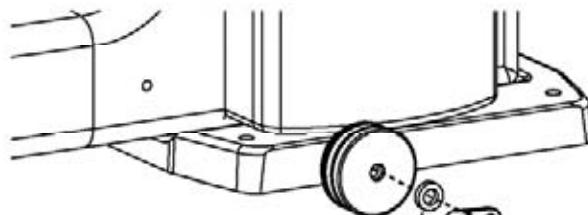


Fig. 11-1

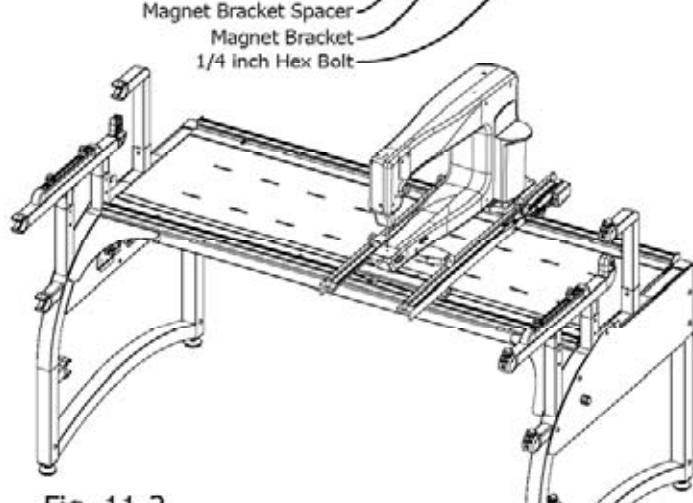


Fig. 11-2

**11-1:** Remove the 1/4 inch hex bolt from the rear right machine wheel. Align and fasten the Magnet Bracket Spacer, Magnet Bracket, and 1/4 inch Hex Bolt. (Fig. 11-1)

**11-2:** Place the Machine on the Bottom Carriage. (Fig. 9-3)

**Note:** Magnet Bracket Spacer is not used when using a Pro-Stitcher system. This assembly step is universal for both Crib and King size frames.

## **Step 12: Idler Rail Clamp Attachment to Frame**

### **Parts Needed:**

- 1- Idler Rail Assembly
- 1- Rail Clamp Lock Pin Assembly
- 1- M6 x 15mm SBHCS

### **Tools Required:**

- 4mm Allen Wrench

**Note:** This assembly step is universal for both Crib and King size frames.

**12-1:** Insert the Idler Rail Assembly through the throat of the machine and clamp locking end into the Front Rail Bracket Ratchet End rear hole. (Fig. 12-1)

**12-2:** Rotate the Idler Rail Assembly so that the Clamp Lock Rail End square Key is facing forward. (Fig. 12-2)

**12-3:** Clip the Non-Ratcheting Floating End into Front Rail Bracket Non-Ratchet rear coupler. (Fig. 12-3)

**12-4:** Align the keyed ends of the Idler Rail Assembly clamp locking end with the Rail Clamp Lock Pin end. Attach the Rail Clamp Lock Pin Assembly to the Idler Rail Clamp Locking Assembly by fastening the M6 x 15mm SBHCS with a 4mm Allen Wrench. (Fig. 12-4)

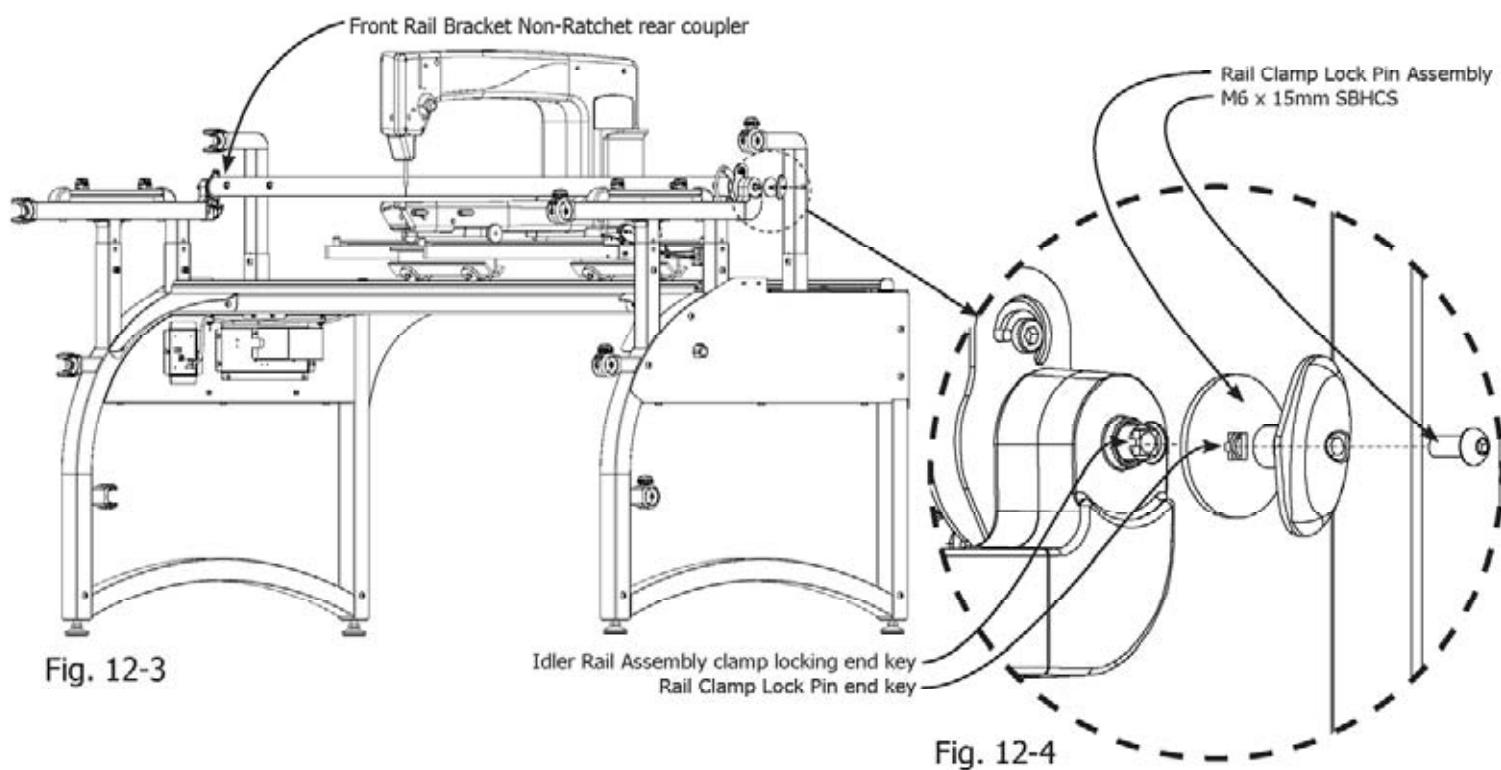
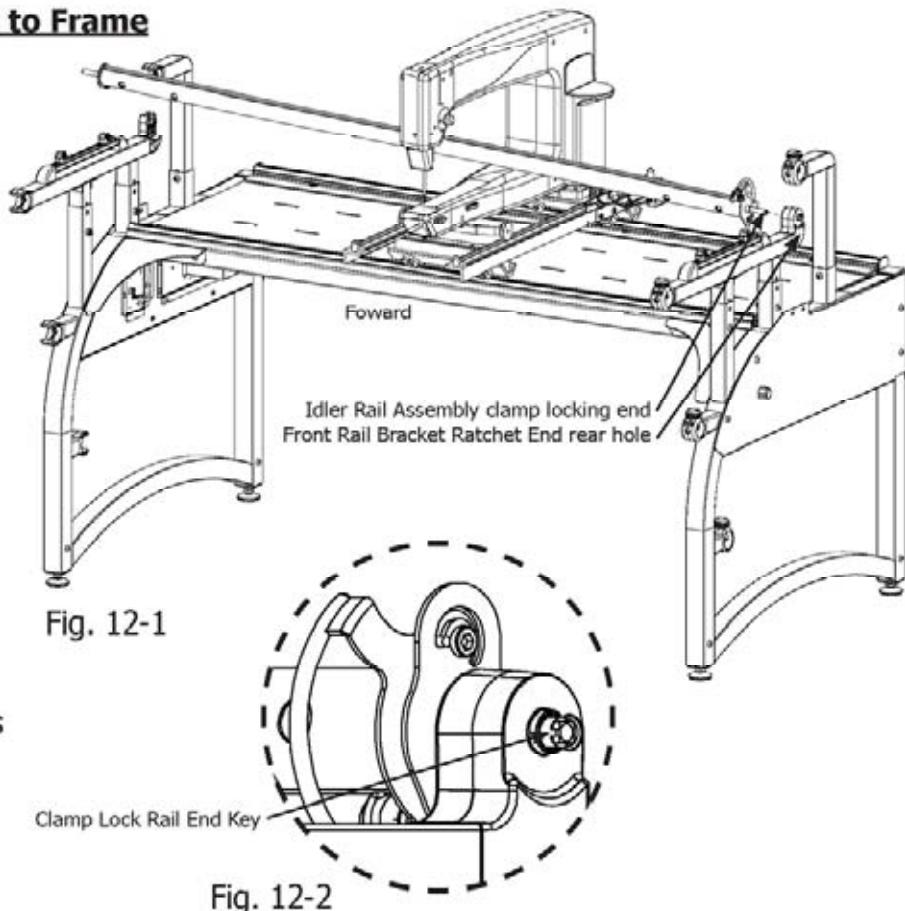


Fig. 12-3

Fig. 12-4

## **Step 13: Rail Attachment to Frame**

### **Parts Needed:**

- 4- Rail Assembly

**Note:** This assembly step is universal for both Crib and King size frames.

**13-1:** Insert the Rail Assembly through the throat of the machine and Ratcheting End into the Rail Ratchet End of the take up rail ratchet assembly. (Fig. 13-1)

**13-2:** Clip the Non-Ratcheting End of the rail into the Rail Holder of the take up rail non-ratchet assembly. (Fig. 13-1)

**13-3:** Similar to Steps 13-1 and 13-2 install the remaining rails into their corresponding frame ends. (Fig. 13-1)

## **Step 14: Handwheel Attachment to Rail End**

### **Parts Needed:**

- 1- Handwheel Assembly
- 1- Handwheel Coupler
- 1- M10 Washer
- 1- M10 x 125mm SBHCS

### **Tools Required:**

- 6mm Allen Wrench

**Note:** This assembly step is universal for both Crib and King size frames.

**14-1:** Remove the M10 x 80mm SBHCS from the existing Take Up Rail Assembly with a 6mm Allen Wrench. (Fig. 14-1)

**14-2:** Fasten Handwheel Coupler, Handwheel Assembly, M10 Washer, and M10 x 125mm SBHCS with a 6mm Allen Wrench to the end of the Rail Assembly from Step: 14-1. (Fig. 14-2)

## **Step 15: Leveling Feet Adjustment**

### **Tools Required:**

- 1- Open Wrench 17mm

**Step 15-1:** Adjust leveling feet with the 17mm Open Wrench so that the machine remains stationary without interaction from the user. To raise the leg of the machine simply turn the foot clock-wise shown in Fig. 15-1 and reverse action to lower the foot.

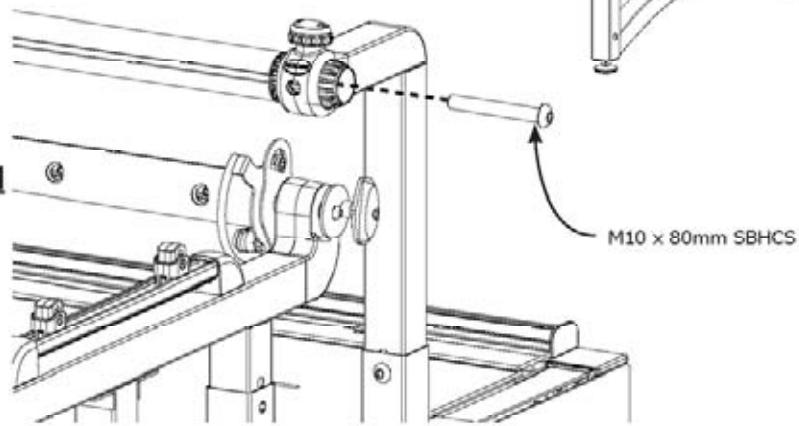
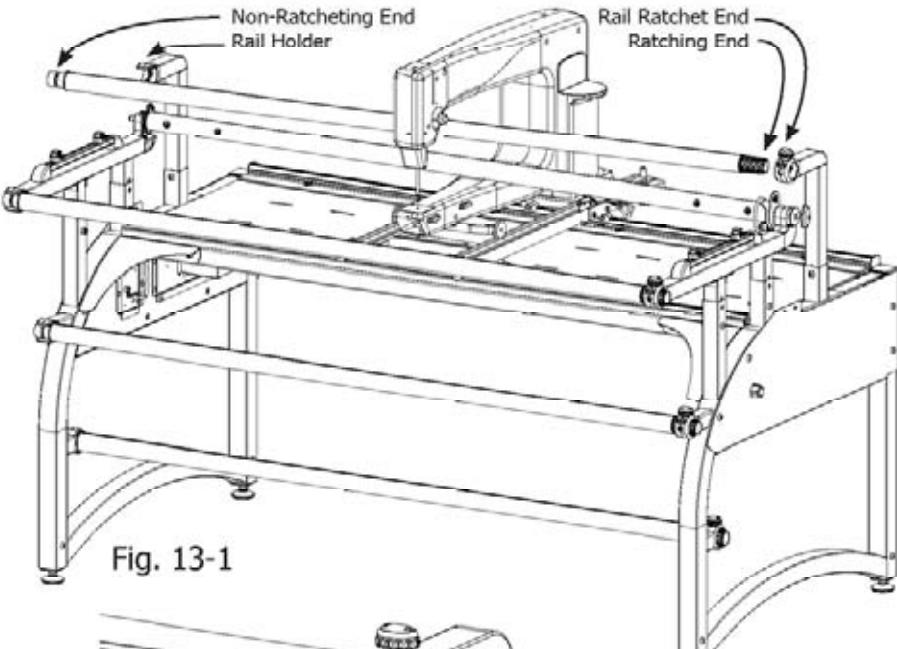


Fig. 14-1

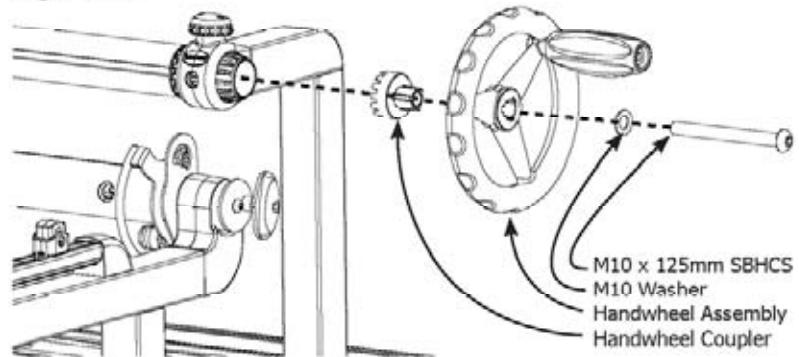


Fig. 14-2

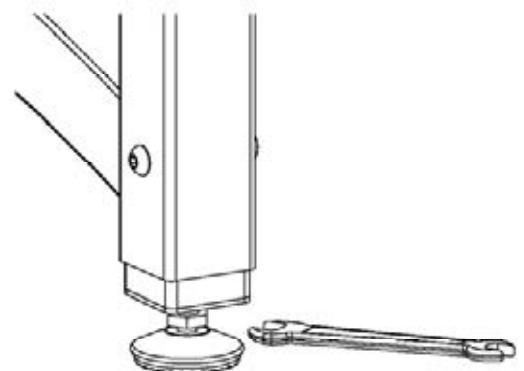


Fig. 15-1

## **Step 16: Wire Connection**

### **Parts Needed:**

- 1- Ethernet Cable Short
- 2- Ethernet Cable Long (Pre-installed on frame ends)
- 1- Power Supply
- 2- Motor Cable (Pre-installed on frame ends)

**16-1:** Plug the Ethernet Cable Short into the Ethernet ports on the underside of the Table Assemblies between the Middle Leg. (Fig. 16-1)

**Note:** Step 16-1 is only required for King size frame assembly.

**16-2:** Plug the Ethernet Cable Long, Power Supply Cable, and Motor Cable into the corresponding ports in the Right Frame End. The Motor Cable Tab must be oriented upward. (Fig. 16-2 and Fig. 16-3)

**16-3:** Plug the Ethernet Cable Long and Motor Cable into the corresponding ports on the Left Frame End.

**Note:** The Left Frame End does not require a power supply.

**16-4:** Plug the Ethernet Cables that are near the rear of the Frame Ends into the Table Assembly Ethernet Port. (Fig. 16-4 and Fig. 16-5)

**16-5:** Plug the Power Supply into the Master Board Box. (Fig. 16-6)

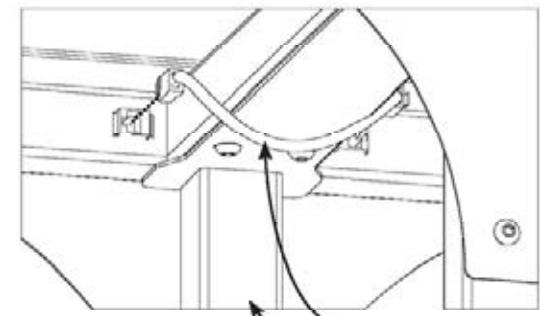


Fig. 16-1

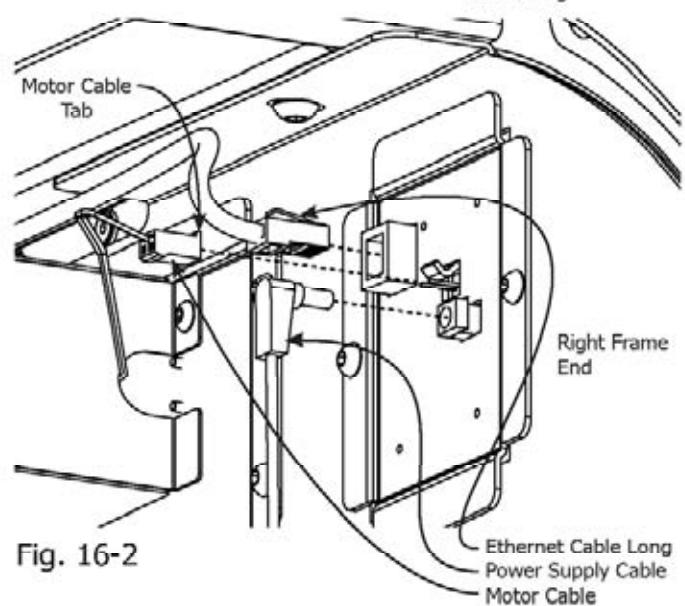


Fig. 16-2

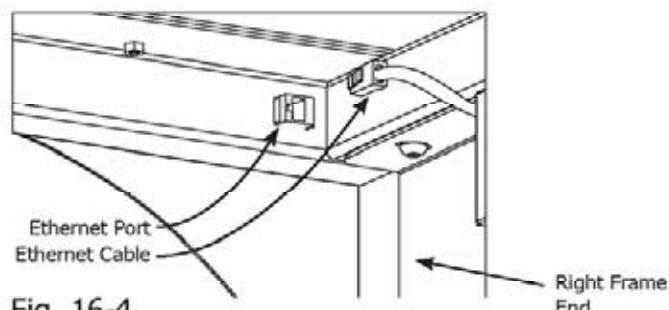


Fig. 16-4

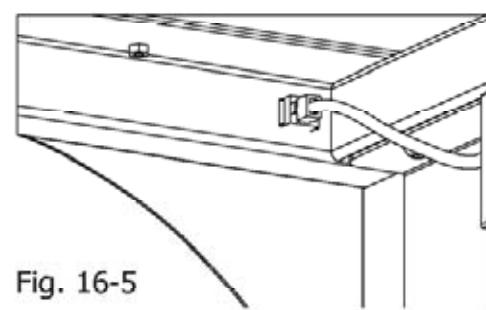


Fig. 16-5

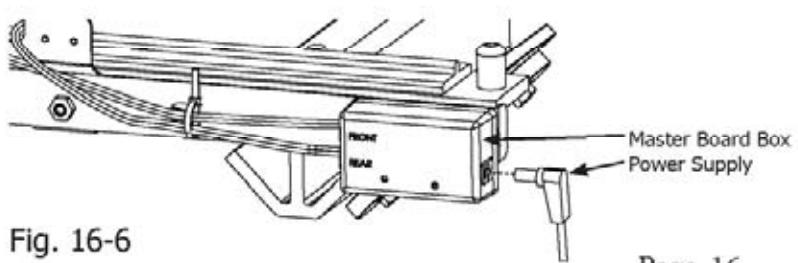


Fig. 16-6

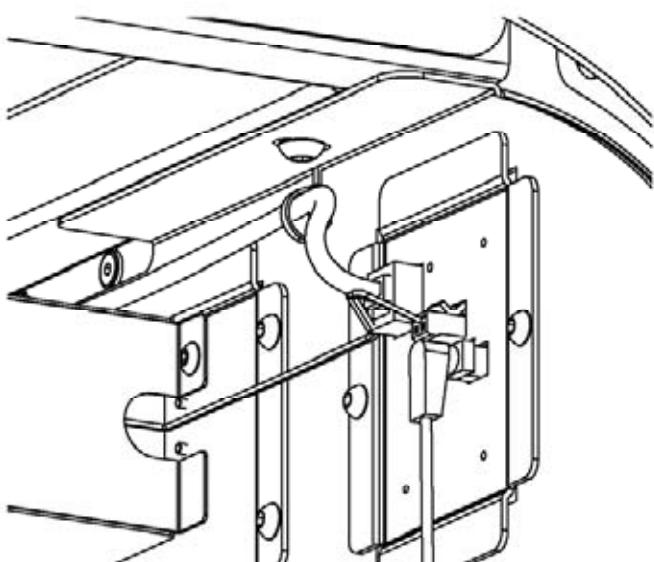


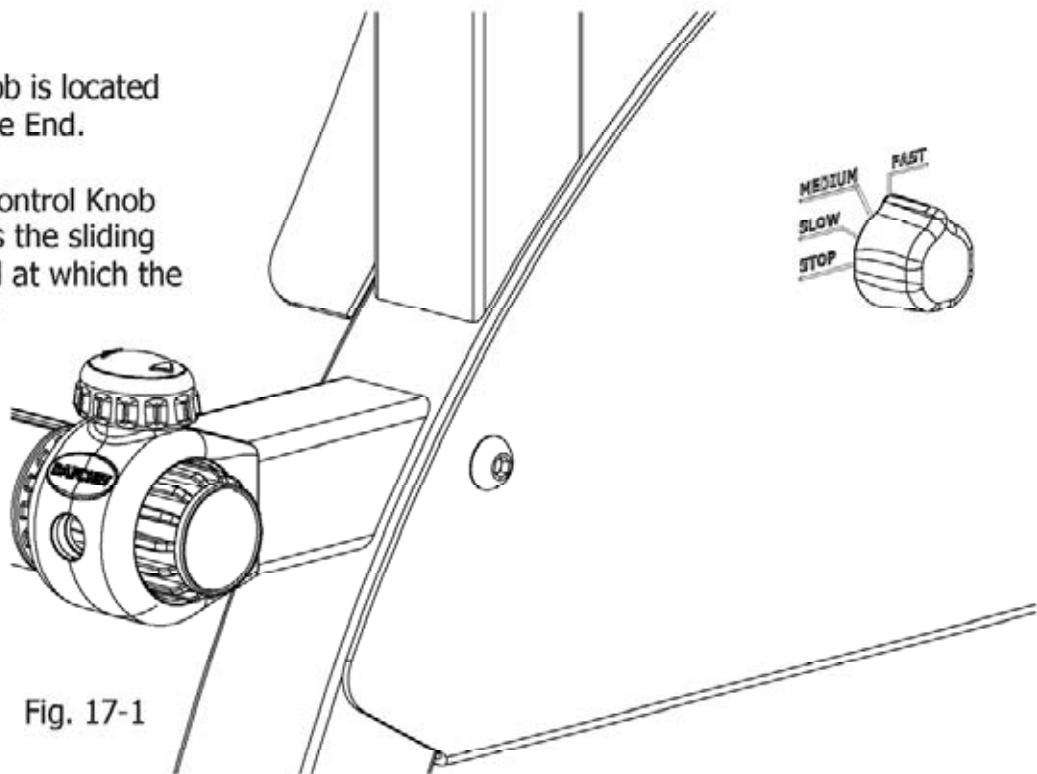
Fig. 16-3

**16-6:** Plug a 12V power supply into the sewing machine board on the carriage and into 110 – 220 VAC power.

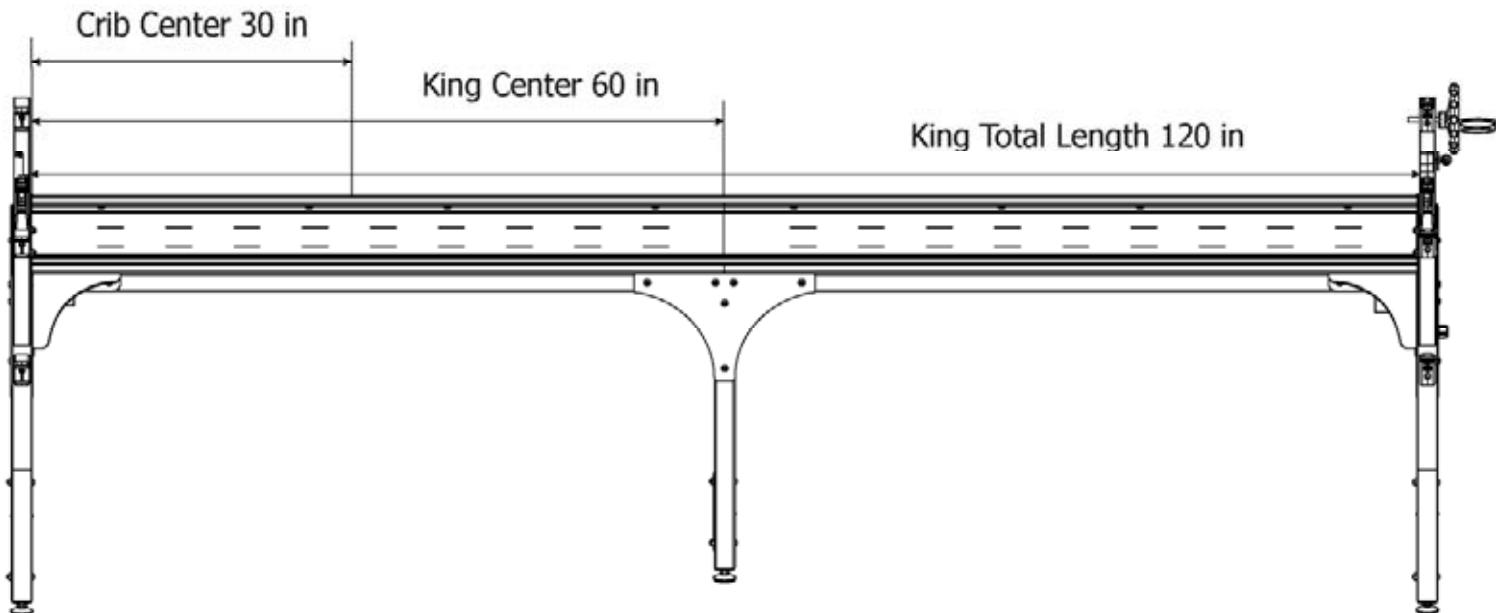
### **Step 17: Speed Control**

**Note:** The Speed Control knob is located on the side of the Right Frame End.

**17-1:** Switching the Speed Control Knob setting away from STOP turns the sliding rail on and controls the speed at which the sliding rails move. (Fig. 16-1)

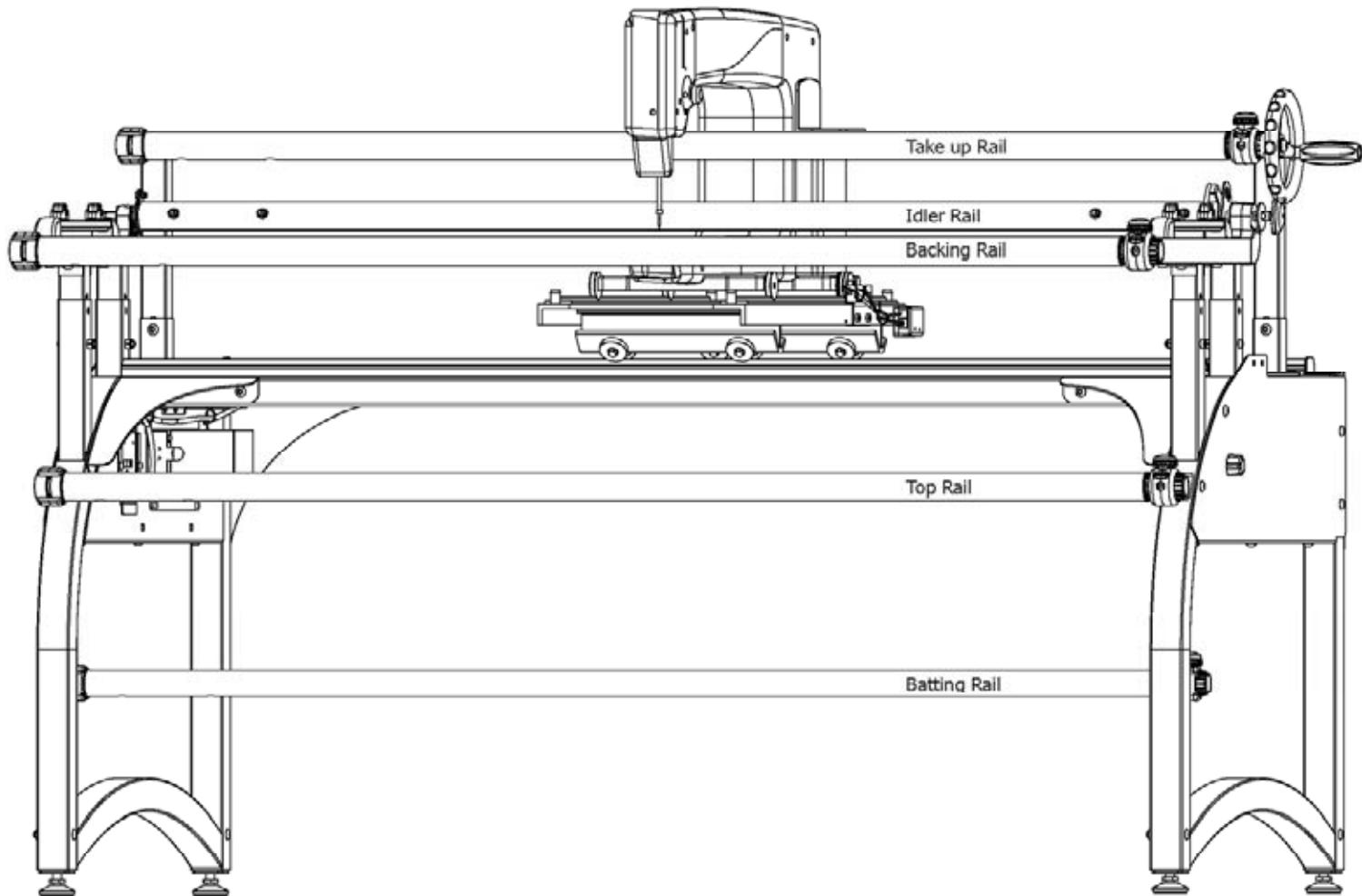


### **Frame Center Diagram**



# Quilting Setup

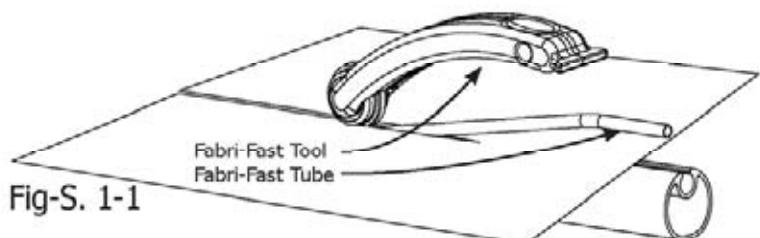
## Frame Rail Diagram



## Section 1: Fabri-Fast System

### **Tools Required:**

- 1- Fabri-Fast Tool
- 4- Fabri-Fast Tube



**Note:** This assembly step is universal for both Crib and King size frames.

**Section 1-1:** Lay the fabric over the Fabri-Fast Slot of a rail assembly and secure the fabric by pressing in the Fabri-Fast Tubing with a Fabri-Fast Tool. (Fig. 1-1-S)

Note: Some fabrics maybe difficult to insert into the Fabri-Fast Slot, another option is to tape the fabric to the rail.

## **Section 2: Leader Cloth**

**Section 2-1:** High thread count fabric such as Muslin is recommended for Leader Cloth material. Thick fabric may be difficult to install in the rail Fabri-Fast Slot.

**Section 2-2:** Cut your Leader Cloth fabric to the match that of the Leader Cloth Diagram with room for 1 inch for a fabric casing and the width 6 inches shorter than your rail length. Surge or hem all edges.

**Leader Cloth Diagram**

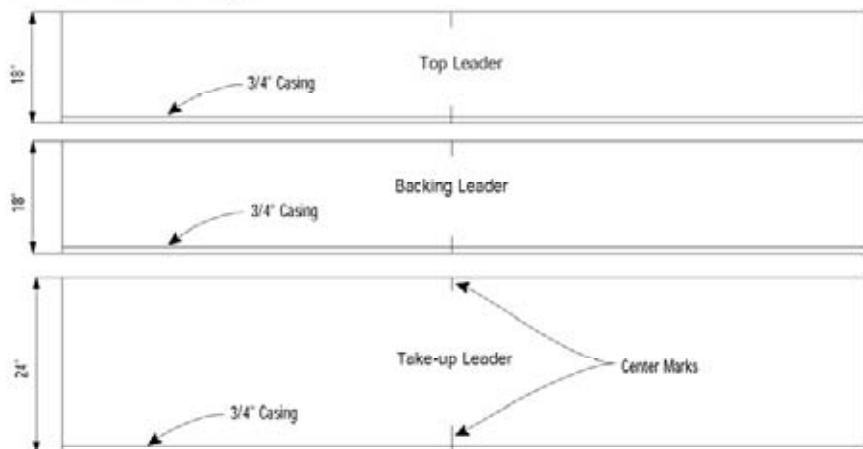


Fig-S. 2-1

**Section 2-3:** Fold over 1 inch for the fabric casing and sew a 3/4 inch casing with a conventional sewing machine leaving both ends open.

**Section 2-4:** Slide the Fabri-Fast Tubing down the casing to ease the use of the Fabri-Fast system. (Section 1)

**Section 2-5:** Pin the Leader Cloths to the appropriate sections of the quilt. (Fig-S. 2-2)

**Leader Cloth Example**

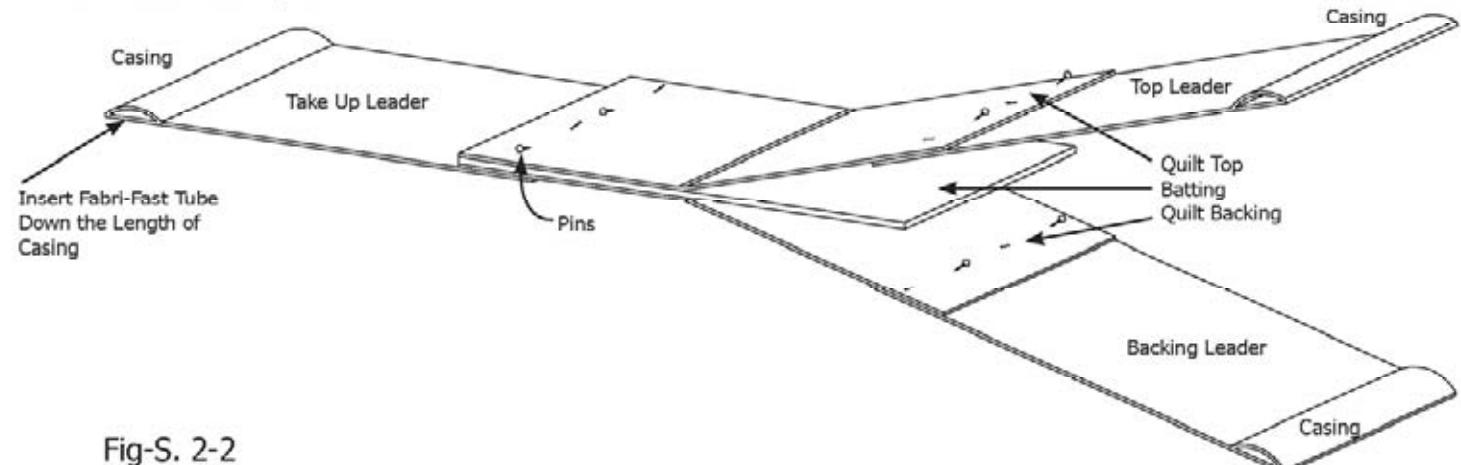


Fig-S. 2-2

### **Section 3: Attaching Fabric on the Frame Rails**

#### **Tools Required:**

- 1- Fabri-Fast Tool
- 4- Fabri-Fast Tube (Crib or King)

**Note:** This assembly step is universal for both Crib and King size frames.

**Section 3-1:** Move the sewing machine back so that the Take Up Rail moves to the rear position. (Fig-S. 3-1) Unplug the power cords so the Take Up Rail stays in the rear position.

**Section 3-2:** Pull the Rail Clamp Clip out and twist the Idler Rail Clamp open. (Fig-S. 3-2)

**Section 3-3:** Attach the Take Up Leader into the Take Up Rail using the Fabri-Fast System. (Fig-S. 3-3)

**Section 3-4:** Feed the Take Up Leader through the Idler Rail hinged slot. (Fig-S. 3-3)

**Section 3-5:** Pin the fabric and the batting to the Take Up Leader. (Section 2: Leader Cloth and Fig-S. 3-3)

**Section 3-6:** Clamp the fabric by latching the Rail Clamp Clip. (Fig-S. 3-3 and Fig-S. 3-4)

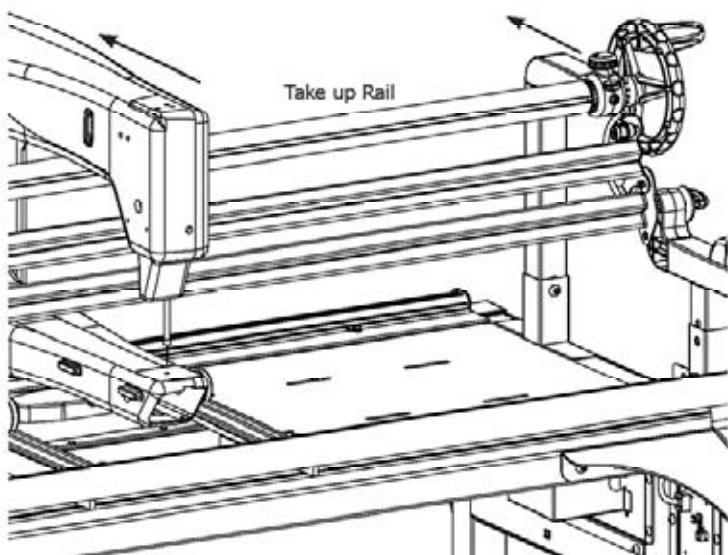


Fig-S. 3-1

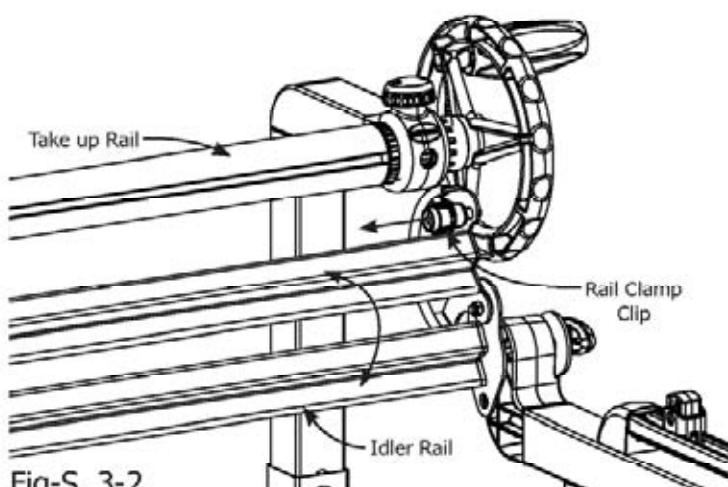


Fig-S. 3-2

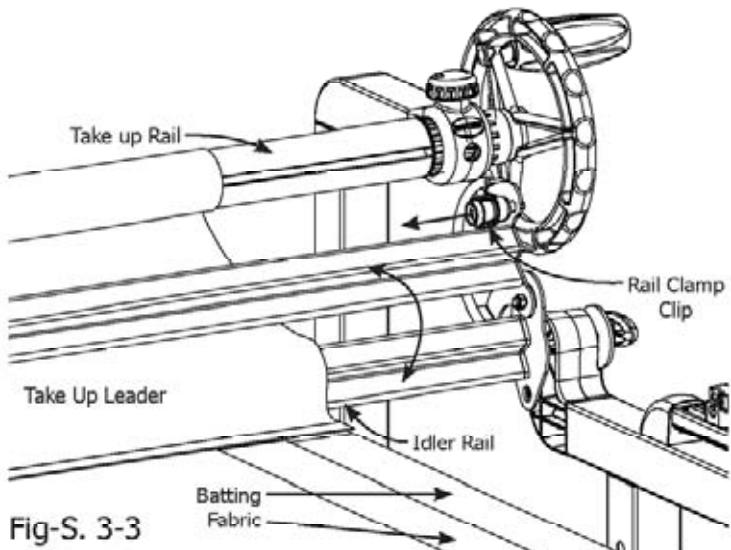


Fig-S. 3-3

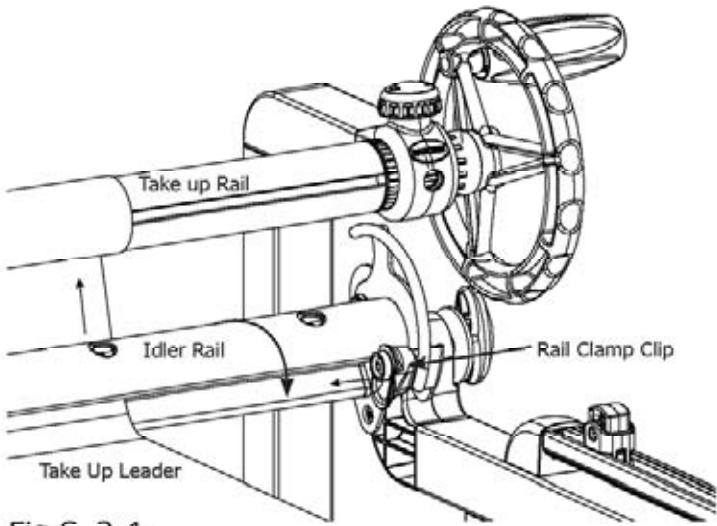


Fig-S. 3-4

**Section 3-7:** Disengage the Clamp Rail Lock Pin and tighten the Idler Rail Assembly by turning the rail Counterclockwise a full rotation. Re-engage the Clamp Rail Lock Pin ensuring the fabric is wrapped on the Idler Rail. (Fig-S. 3-5)

**Note:** Section 3-7 will make the Quilting Surface flat and taut during quilting while the sliding rail operates. Sections: 3-2, 3-6, and 3-7 will have to be repeated as the quilt is rolled up on the Take Up Rail.

**Section 3-6:** Attach the Backing Leader to the Backing Rail using the Fabri-Fast System and ratchet the remaining fabric onto the rail. (Section 1: Fabri-Fast System and Fig-S. 3-7)

**Section 3-7:** Similarly, attach the Top Leader to the Top Rail using the Fabri-Fast System and ratchet the remaining fabric onto the rail. (Section 1: Fabri-Fast System and Fig-S. 3-8)

**Section 3-8:** The batting can be Fabri-Fasted onto the Batting Rail if the batting is thin, otherwise tape and roll it onto the rail to ease batting management. (Fig-S. 3-8)

**Note:** The Take Up Rail and Batting Rail have no particular direction of rotation and can rotate both ways without effecting the frames performance.

Plug the power cords back in after the fabric installation has been completed.

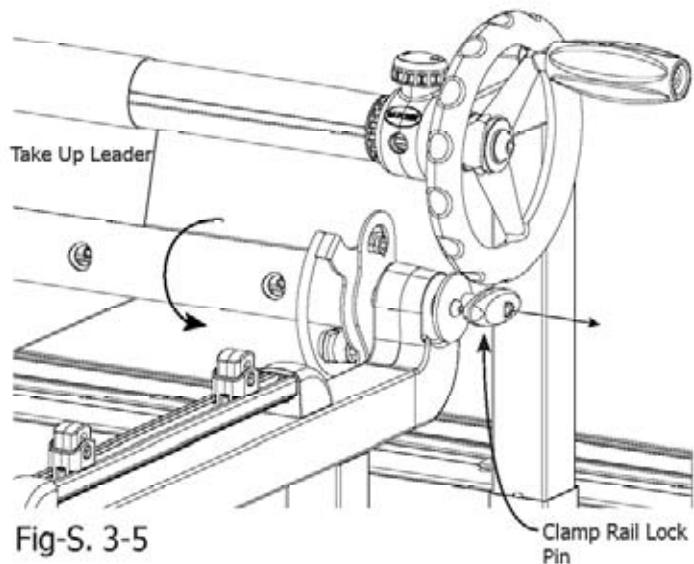


Fig-S. 3-5

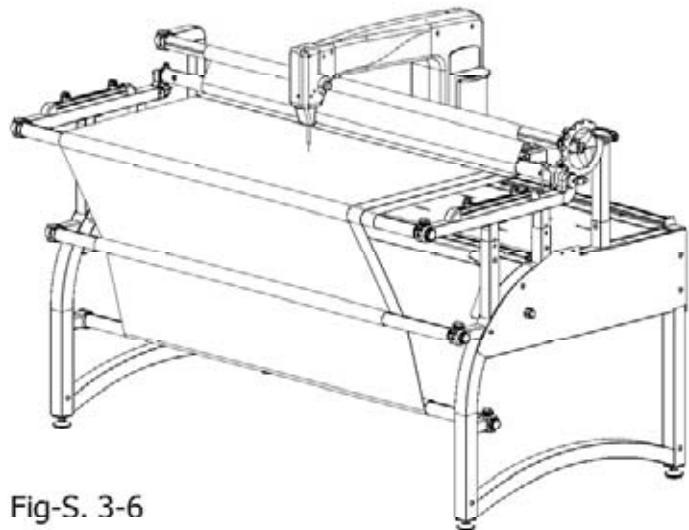


Fig-S. 3-6

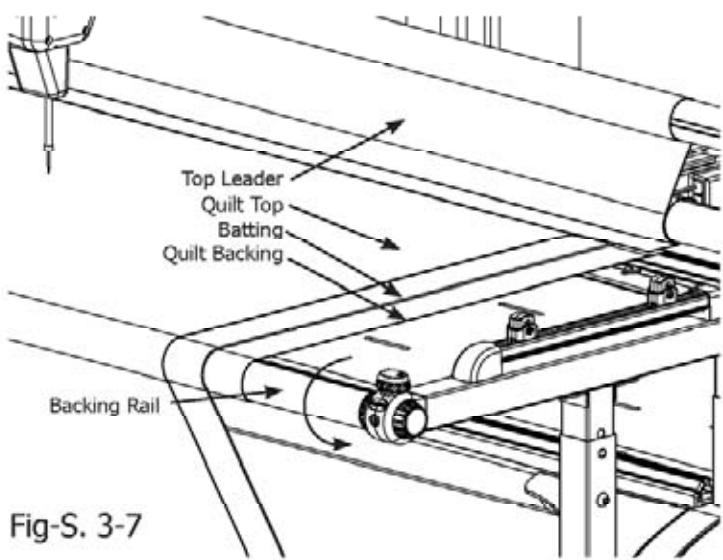


Fig-S. 3-7

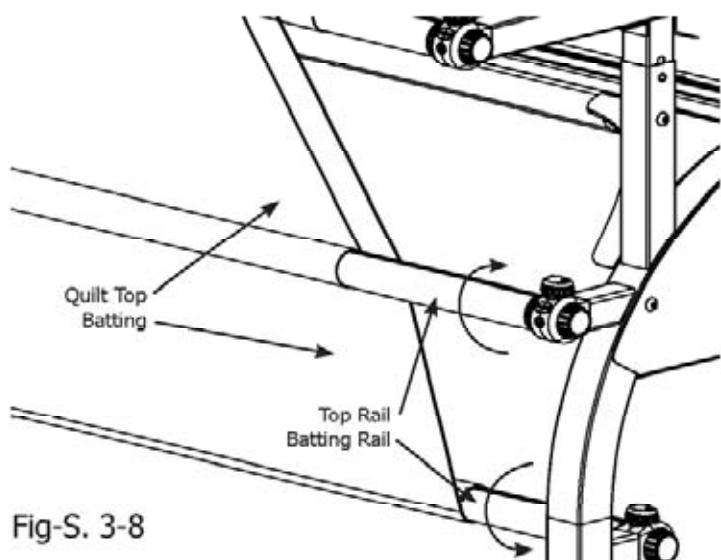


Fig-S. 3-8

## **Section 4: Bungee Clamps**

### **Tools Required:**

- 4- Bungee Clamp

**Note:** This assembly step is universal for both Crib and King size frames.

**Section 4-1:** Depress the bungee stop that is built into the Bungee Track System and pass the end of the bungee cord through the bungee stop hole. (Fig-S. 4-1)

**Section 4-2:** Clamp the Bungee to the edge of the fabric. Depress the bungee stop while pulling on the cord end for tension and release when taut to lock. (Fig-S. 4-1)

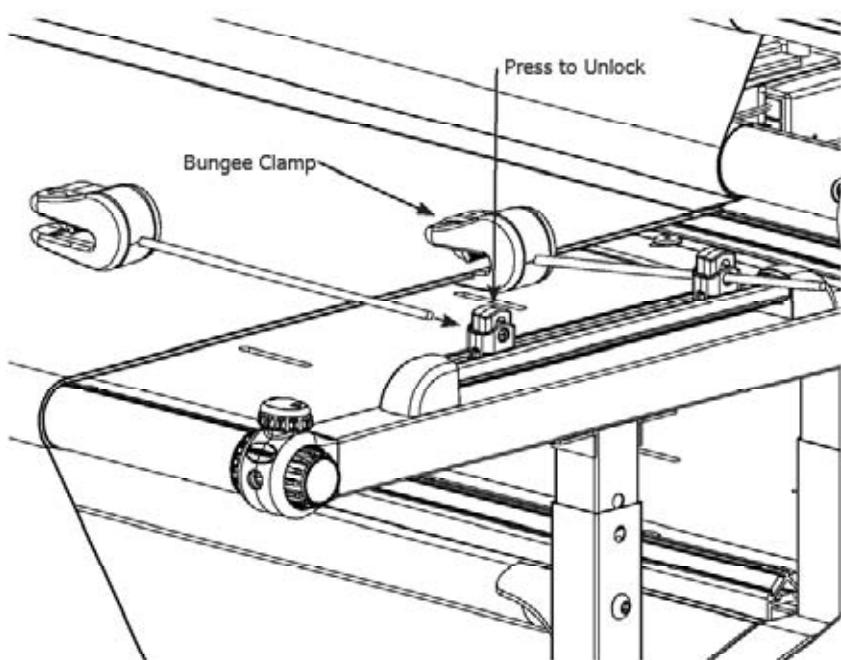


Fig-S. 4-1

## **Getting Started**

The Momentum Frame is a unique patented system that allows the user to quilt the same size patterns all the way through the quilt unlike traditional quilting frames. As a quilt is rolled onto the Take Up Rail through the quilting process, the Momentum Frame automatically moves the completed portion of the quilt that is rolled onto the Take Up Rail forward and back to permit the user take advantage of the entire length of the throat of the machine. For the first time ever, the maximum pattern size possible for the sewing machine can be quilted from the beginning to end of a quilt without having to plan or compensate for the increasing size of the fabric roll on the take up rail.

Upon completing the assembly of the frame, plug in the power supply from the Master Control Box and the from the Right Frame End. The system is designed for use with 110-220 AVC power. Using a power strip or surge protector will protect your system from power surges. The red LED light on the Master Control Board and Right Frame Side indicates the system has power. The blue LED light indicates communication between the circuit boards.

To use the system, set the control knob on the right side of the frame to Fast. Move the sewing machine forward and back on the carriage five or six times to calibrate the system. The Take Up Rail Assembly will move away from the needle as you move the machine back and away from the back of the throat of the machine as you move the machine forward. During calibration the initial first few movements of each side of the frame may not be immediately even until calibration is complete. The system will gradually calibrate with each movement causing the two sides to increasingly move more and more evenly. Each time the frame is powered on or the speed setting is changed, it will begin the calibration process. After the initial five or six movements, the system will be calibrated and is ready for quilting.

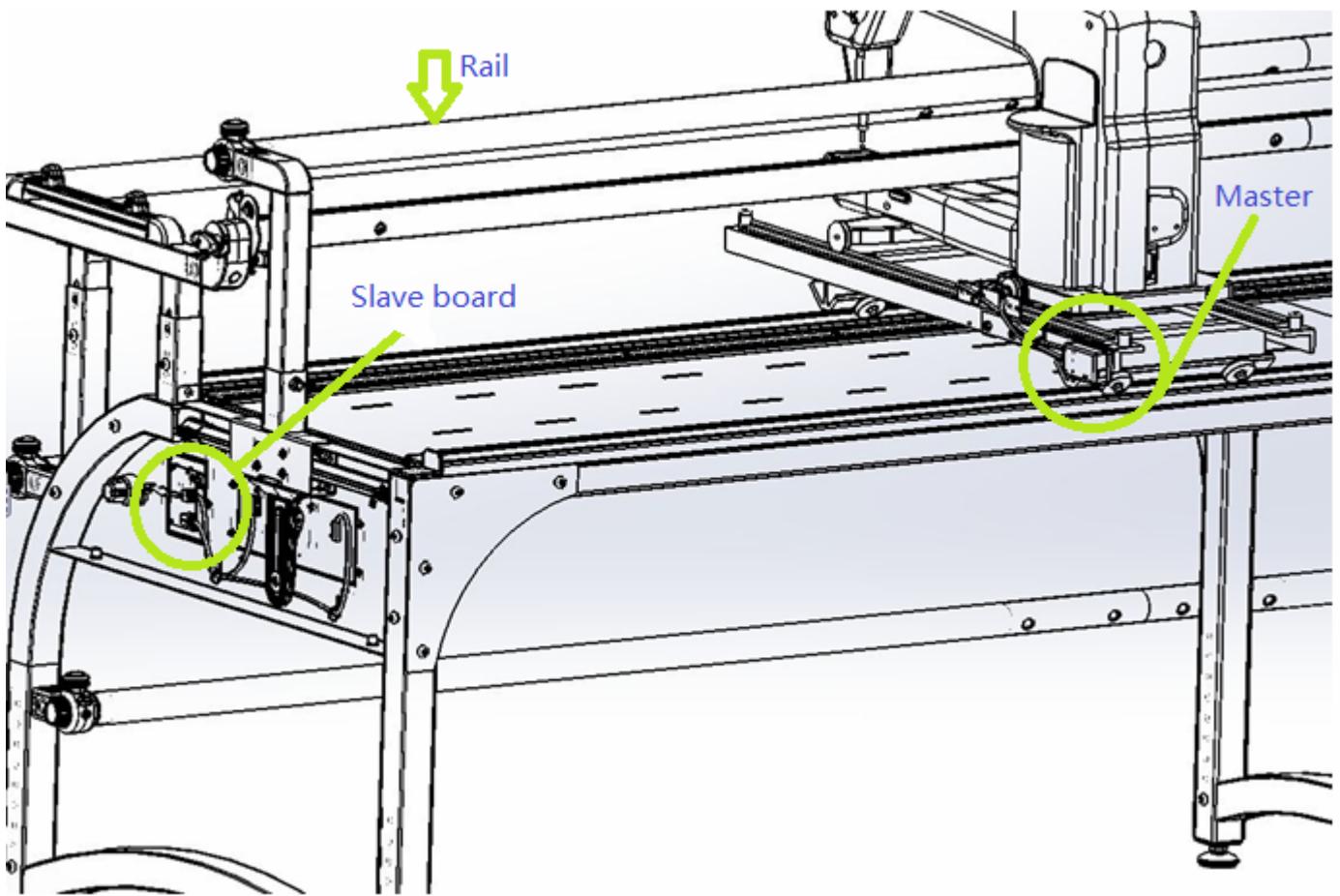
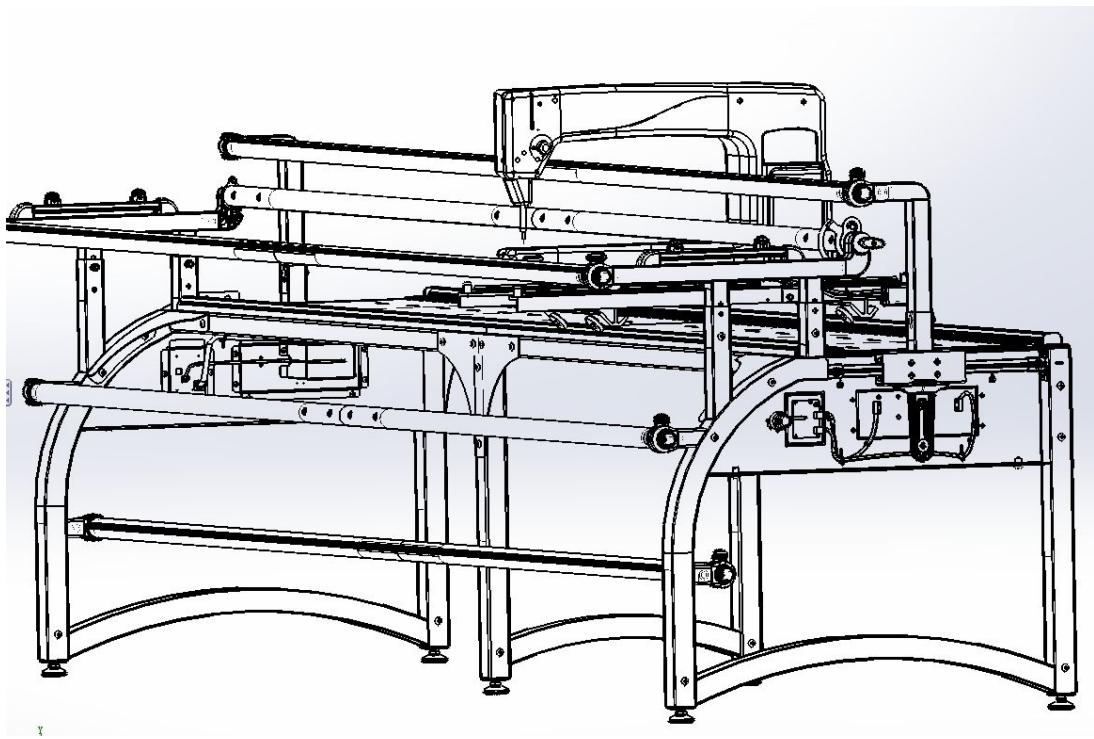
## **Trouble Shooting Guide**

**Sliding Rail not moving:** Check if the Speed Control Knob is switched away from stop. The cables to the Master Board Box, Frame Ends, and Table Structure must be attached correctly in their respective ports. (Step 8: Bottom Carriage Assembly, Step 15: Wire Connection, and Step 16: Speed Control) There is also a built-in sleep mode when the machine is not in operation. This may need to be reset, which would require the user to unplug and plug the AC Power Supply.

**Bungee Clamps:** If it is necessary to use the bungee clamps over the batting on your quilt, turn the bungee clamps upside down so the rubber grip in the clamp is gripping against the bottom fabric instead of the batting. Having the rubber grip clamp against the batting is less effective than having it clamp against the fabric.

**Fabric Issues:** Do not over-tighten the fabric on the quilting frame. Stretching the fabric will result in a quilt that does not lay flat when it is finished.

**Frame Cleaning:** Regularly clean the wheels and track of your carriage and frame. Lint from the batting will build up quickly, causing the carriage not to roll as smoothly if neglected.



The master board GC3001 always moves with the sewing machine. When the sewing machine is closing to the rail, the master board will send a sign for the slave board GC3002 to start the motors and the rail move away.

### Product

The Momentum Frame is designed for machine quilting with a sewing machine. The electronics and motors move a take up rail out of the way of the sewing machine. As the sewing machine moves forward, the rail moves forward. As the sewing machine moves backwards, the rail also moves backwards.

### Electronics

The Electronics consist of three circuit boards, two motors, two 12VDC Power Supplies, six magnetic reed sensors, and a rotary speed switch.

**Sewing Machine board, GC3001:** This board communicates wirelessly with the Side Rail Board, GC3002. The wireless commands are forward, reverse, and ping. The board consists of an MSP430 processor and a CC2500 2.4GHz radio with a pcb trace antenna. Max range is 100 feet. The radios can communicate on 4 channels. If communication is lost, it cycles through all 4 channels until communication is restored.

**Side Rail Board, GC3002:** This board communicates wirelessly with the Sewing Machine Board, GC3001. The wireless commands are Ping Ack, and Cmd Ack. The board consists of an MSP430 processor and a CC2500 2.4GHz radio with a pcb trace antenna, and two motor driver IC's.

**Interface Board, GC3003:** A connector board for connecting a motor and sensors on the other side of the frame to the Side Rail Board, GC3002.

**Rotary Switch:** The rotary switch selects speeds fast, medium, and slow.

**Power Supply:** Off the shelf FCC approved switching Power Supply. Input: 110 VAC to 220VAC. Output: 12VDC 2A.

### Specs

1. Texas Instruments MSP430F2274 microcontroller
2. Texas Instruments CC2500 RF transceiver 2.4 GHz
3. 26MHz oscillator
4. MSK encoding, 250 kbaud
5. 4 channels, auto channel changing