

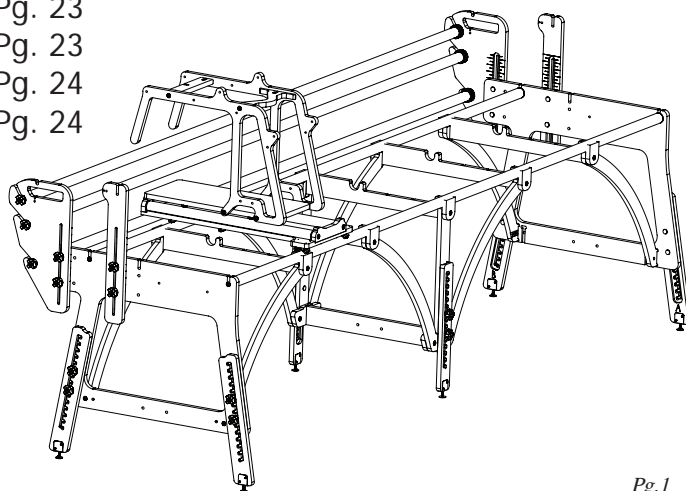
The Quilters D-Lite

Professional Quilters Kit Frame

Assembly Instructions

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Before you Begin:

Before you can put the Quilters D-Lite together **you need to purchase 6 to 7 pieces of 1-1/4" conduit**, which will be used for holding the quilt fabric, as well as for the quilting frame table, and track.

The Quilters D-Lite frame is designed to be used with a broad range of different sewing machines. You should be able to easily use just about any sewing machine on this quilting frame. There are two ways to build the quilting frame. This instruction manual will focus on the recommended setup, but will mention the required steps to assemble the frame in the other configuration. The frame configurations are as follows: **Standard configuration (Recommended)**, and **Heavy Duty configuration**, for sewing machines weighing more than **100 pounds**.

If you are building the **Standard configuration**, you will need to purchase 6 lengths of conduit. Plan on spending around \$15 per piece of conduit, or around \$100 total. If you have a sewing machine that weighs 100 pounds, or if you feel that your quilting frame requires additional support, then you will need to purchase 7 lengths of conduit, which should cost around \$125.

The **Standard Configuration**, uses 2 conduit tracks, and works great with sewing machines weighing up to 100 pounds. If your sewing machine weighs less than 100 pounds, build your frame this way. Building the standard configuration will save you from having to purchase 1 additional piece of conduit. The sewing machine carriage will also move more smoothly on the frame, since the additional piece of conduit used in the heavy duty configuration adds friction, which will affect carriage movement.

You can make your quilting frame any size that you want, but 10 feet is an ideal size because a standard length of conduit is 10 feet long. Whatever length you decide to make your frame, please carefully measure each piece of conduit and make sure that no piece varies in length more than 1/16".

You can find the conduit that you need in just about any hardware store (Lowe's, Home Depot, etc.). Again, you need to get 1-1/4" Steel conduit. Most likely you will find conduit that is specified as EMT. 1-1/4" EMT conduit is great for this project, but there are also other kinds of steel conduit that will work just as well. Just make sure that the conduit outside diameter is 1-1/2" (1-1/4" conduit is 1-1/2" outside diameter), and that the conduit caps that were supplied with your frame kit fit into the conduit.

When you are looking for conduit, find conduit that is as straight and smooth as possible.

You will also need a way to attach your quilt fabric to the (conduit) fabric rails. The Grace Company highly recommends using the **Start Right** leader cloths, available for purchase direct from The Grace Company, or ask if your Grace Company products dealer carries them. The Start Right leader cloths include pre cut, hemmed, and marked fabric. Velcro is also provided for quick attachment, and removal of the leader cloths.

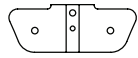
There are also other Commercially available leader cloths.

You may also make your own leader cloths (Instructions on pg. 22). If you make your own leader cloths you will need to purchase fabric, and a way to attach the fabric to the rails. See pg. 22 for recommendations.

Wood Parts 1



A- Middle Leg (2)



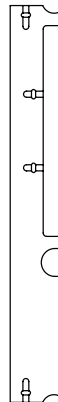
B- "T"
Bracket (2)



C- Middle Leg
Brace (1)



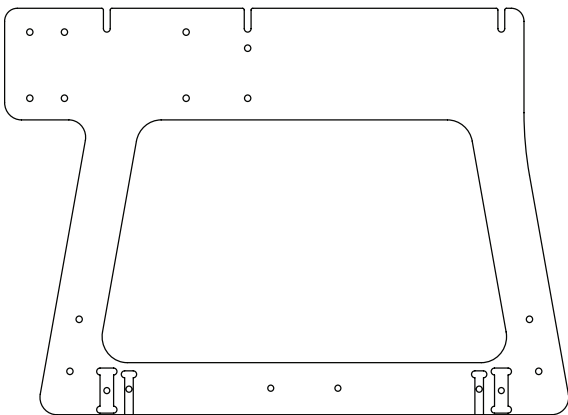
D- Middle Height
Adjustable Leg (2)



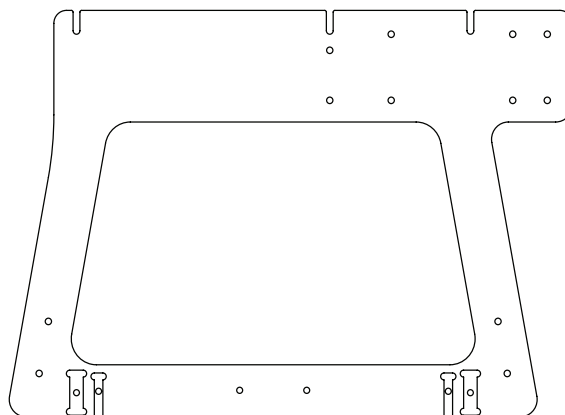
E- Table Brace
(5)



F- Leg Brace (8)



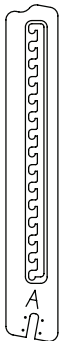
G- Left Frame
End (1)



H- Right Frame
End (1)



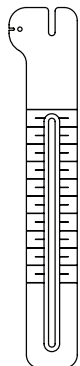
I- Conduit
Clamp (10)



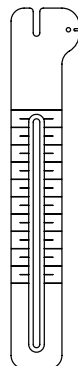
J- Height
Adjustable
Leg "A" (2)



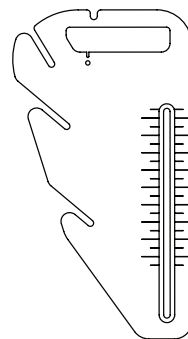
K- Height
Adjustable
Leg "B" (2)



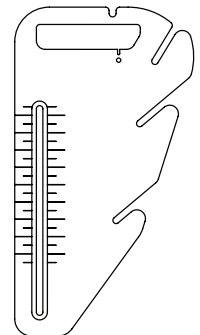
L- Left
Take-Up Rail
Bracket (1)



M- Right
Take-Up Rail
Bracket (1)

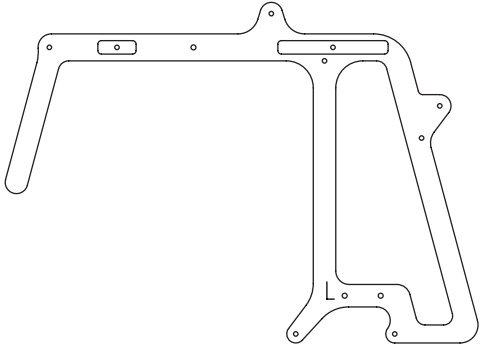


N- Left Fabric
Layers Rail
Bracket (1)

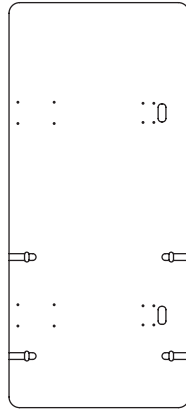


O- Right Fabric
Layers Rail
Bracket (1)

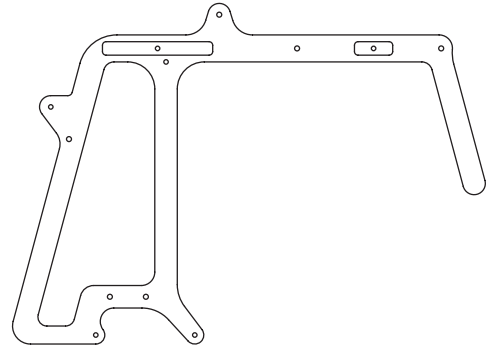
Wood Parts 2



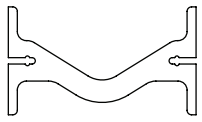
P- Left Handle
(1)



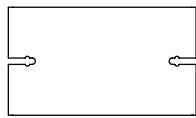
Q- Top Plate (1)



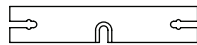
R- Right Handle
(1)



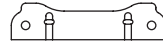
S1- Thin - Cross
Brace (1)



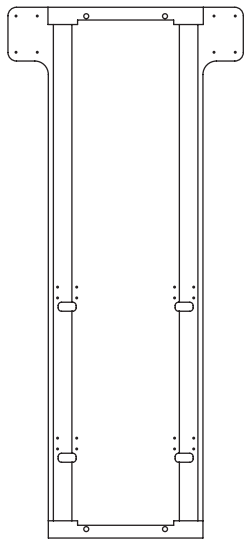
S2- Cross
Brace (1)



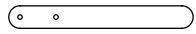
T- Front Top
Plate Brace
(1)



U- Bottom
Plate End (2)



V- Bottom
Plate (1)



W- Front
Lever (1)



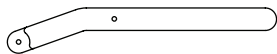
X- Middle
Lever (1)



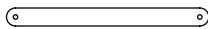
BB- Pedal Clamp
Wheel (1)



EE- Stylus
Base (1)



Y1- Right Back
Lever(1)



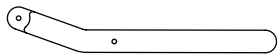
Z- Front Lever
Linkage (1)



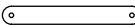
CC- Pedal
Clamp (1)



FF- Stylus
Clamp (1)



Y2- Left Back
Lever (1)



AA- Back Lever
Linkage (1)

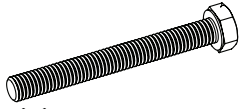


DD- Pedal Clamp
Spacer (3)

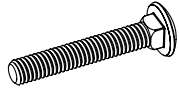


GG- Stylus
Mount (1)

Hardware



(8) M8 X 70mm
Hex Bolt



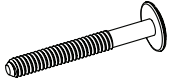
(10) M8 X 50mm
Carriage Bolt



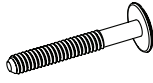
(6) M8 X 30mm
Hex Bolt



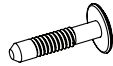
(12) M6 X 60mm
Connector Bolt



(10) M6 X 50mm
Connector Bolt



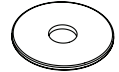
(14) M6 X 45mm
Connector Bolt



(21) M6 X 30mm
Connector Bolt



(31) M8 Washer



(32) Fender
Washer



(15) M6 Washer



(39) M8 Jam
Nut



(8) M6 Nylock
Nut



(20) M6
Square Nut



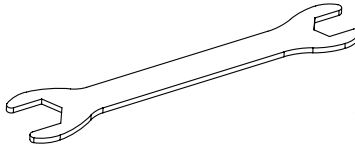
(24) 12mm
Wood Screw



(6) M8
Cap Nut



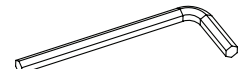
(4) M6
Cap Nut



(1) Open End Wrench
10mm, and 13mm

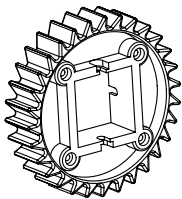


(1) 5mm Allen
Wrench

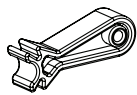


(2) 4mm Allen
Wrench

Wrapped in paper in Box 2 of 2

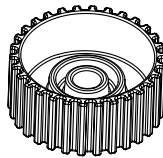


(3) Ratchet
Wheel



(3) Ratchet
Stop

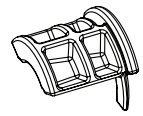
Bagged in Box 2 of 2



(5) Rail
Spacer

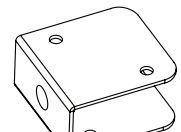
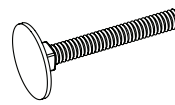
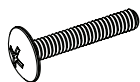
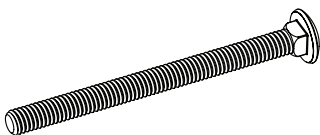


(14) Bolt
Cone




(42) Rail
End Cap

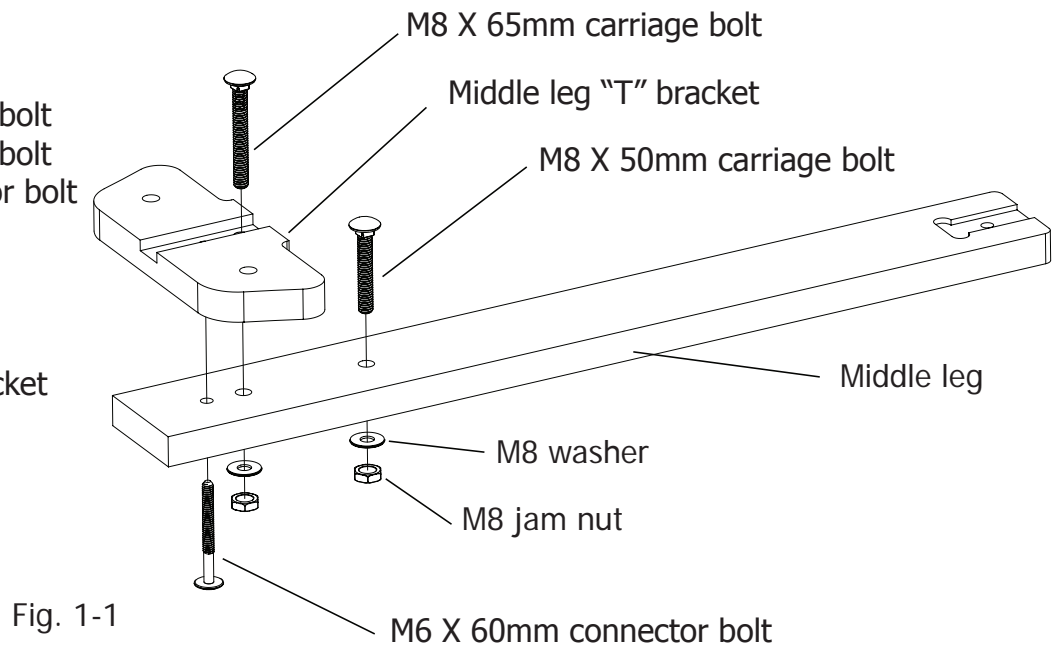
Additional Hardware Pack



Step 1: Middle leg - Assembly

Parts needed: 

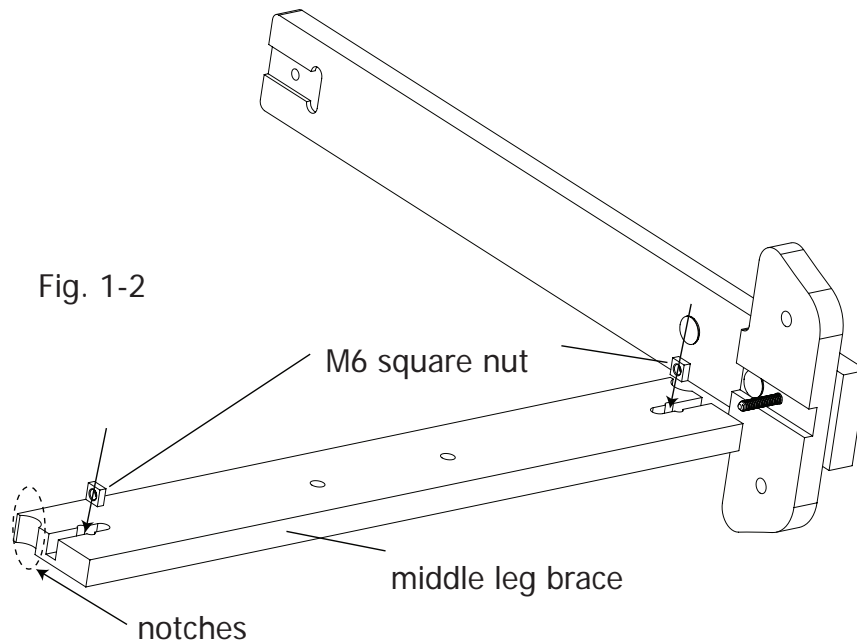
- 2) M8 X 50mm carriage bolt
- 2) M8 X 65mm carriage bolt
- 2) M6 X 60mm connector bolt
- 4) M8 washer
- 4) M8 jam nut
- 2) M6 square nut
- 2) A- Middle leg
- 2) B- Middle leg "T" bracket
- 1) C- Middle leg brace



Step 1-1: Assemble the middle legs as shown in Fig. 1-1. (Build 2)

Note: The M6 X 60mm connector bolt is not secured in place (in this step), but should be in place to assist in lining up the middle leg "T" bracket correctly.

Step 1-2: Line up the "T" bracket as squarely as possible. The connector bolts will be fastened in step 1-2.




Step 1-3: Insert a square nut into each of the "T" slots in the ends of the middle leg brace, as shown in Fig. 1-2.

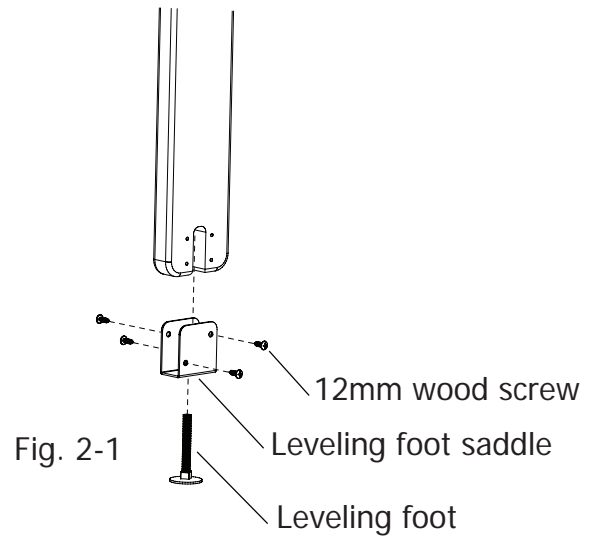
Step 1-4: Secure both middle legs to the middle leg brace. Tighten the M6 X 60mm connector bolts in the middle legs securely into the M6 square nuts.

Note: Be sure that you have the notches in each end of the middle leg brace facing the same way as they are in the illustration. The notches allow the middle leg brace to clear the heads of the M8 X 65mm carriage bolts that are located in the middle leg "T" bracket.

Step 2 - Height adjustable legs

Parts needed: 

- 6) Leveling foot
- 6) Leveling foot saddle
- 24) 12mm wood screw
- 2) D- Middle height adjustable legs
- 2) J- "A" Height adjustable legs
- 2) K- "B" Height adjustable legs



Step 2-1: Attach a leveling foot saddle to the end of each height adjustable leg using (4) four 12mm wood screws, as shown in Fig. 2-1.

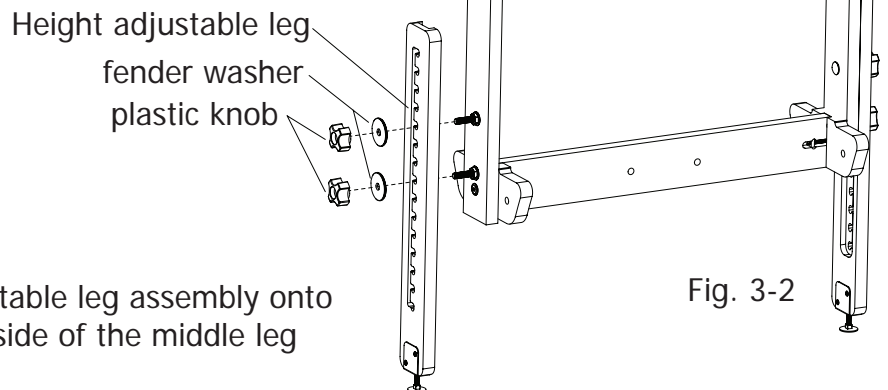
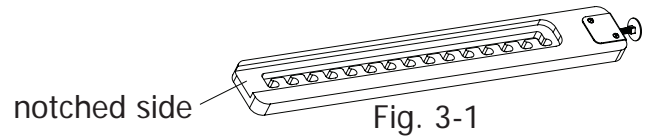
Step 2-2: Screw a leveling foot into each leveling foot saddle. The middle height adjustable legs will be used in step 3, and the "A", and "B" height adjustable legs will be used in step 8.

Step 3 - Adjustable legs to middle section

Parts needed: 

- 4) plastic knob
- 4) fender washer
- 1) Middle leg - Assembly
- 2) Middle height adjustable leg - Assembly

Note: place the notched side of the middle height adjustable leg against the middle leg assembly.



Step 3-1: Place a middle height adjustable leg assembly onto the exposed ends of the bolts on each side of the middle leg assembly, as shown in Fig. 3-2.

Step 3-2: Secure the height adjustable legs to the middle leg assembly by first placing a fender washer onto the exposed end of each bolt, and then tightly fasten a plastic knob onto each bolt.

Note: Attach both middle legs so that they are the same height.

Step 4 - Middle legs - table brace

Parts needed:

Hardware:



- 2) M6 X 60mm connector bolt
- 2) M6 square nut
- 1) E- Table brace
- 2) I- Conduit clamp
- 1) Middle leg - Assembly

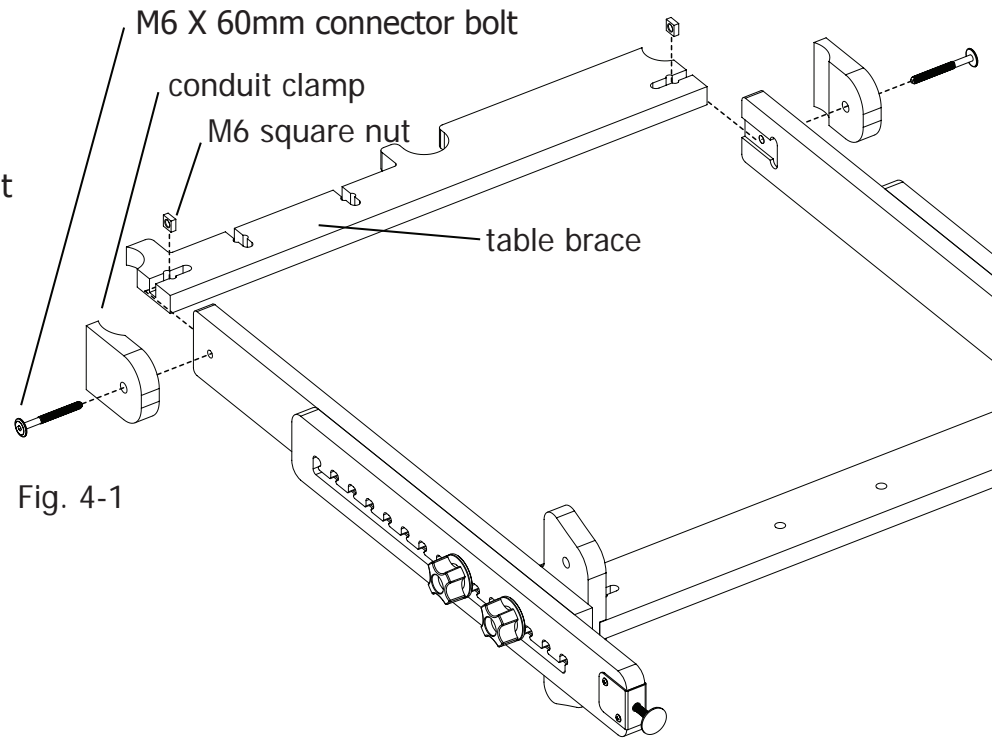


Fig. 4-1



Step 4-1: Insert a M6 square nut into the "T" slots in each end of the table brace.

⚙️ **Step 4-2:** Place the table brace into the notches at the ends of each of the middle legs, as shown in Fig. 4-1.

⚙️ **Step 4-3:** Now, insert a M6 X 60mm connector bolt through the hole in each conduit clamp.

⚙️ **Step 4-4:** Finally, insert one of the M6 X 60mm connector bolts through each of the holes in the end of each middle leg, and finger tighten into the square nut.

Step 5 - Middle legs - conduit braces

Parts needed:



- 4) M6 X 30mm connector bolt
- 4) M6 cap nut
- 4) F- Conduit brace
- 1) Middle leg - Assembly



Step 5-1: Attach the conduit braces to the middle leg assembly by inserting a M6 X 30mm connector bolt through one of the holes in either end of each conduit brace.

⚙️ **Step 5-2:** Insert a M6 cap nut through each of the outer holes in the middle leg "T" bracket.

⚙️ **Step 5-3:** Fasten the M6 X 30mm bolt into the cap nut using the included 4mm allen wrenches.

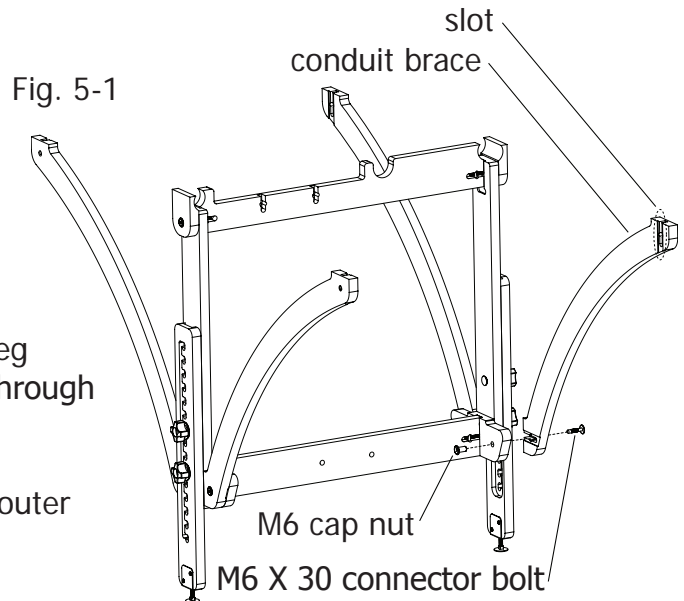



Fig. 5-1

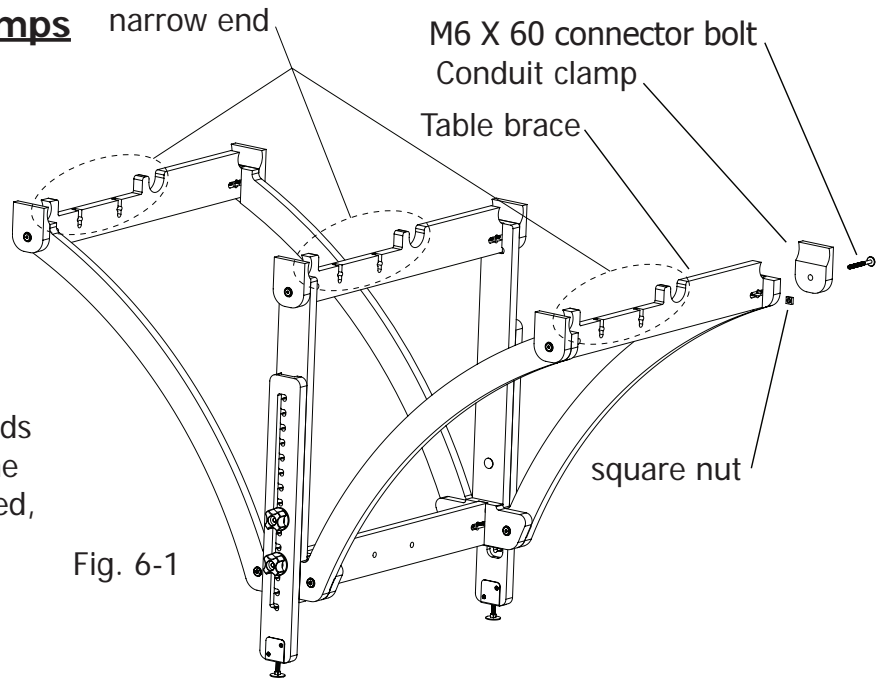
⚠️ **Note:** When placing the conduit brace onto the assembly make sure that the slots on each end of the brace, face toward the inside of the middle leg Assembly.

Step 6 - Middle legs - conduit clamps

Parts needed: 

- 4) M6 X 60mm connector bolt
- 4) square nut
- 4) I- Conduit clamp
- 2) E- Table brace
- 1) Middle leg - Assembly

Note: Make sure that the narrower ends of all of the table braces are towards the same end of the assembly when installed, as shown in Fig. 6-1.




Step 6-1: Insert a square nut into the "T" slots in each end of the table braces.

Step 6-2: Place a table brace into the notches at the ends of each of the conduit braces.

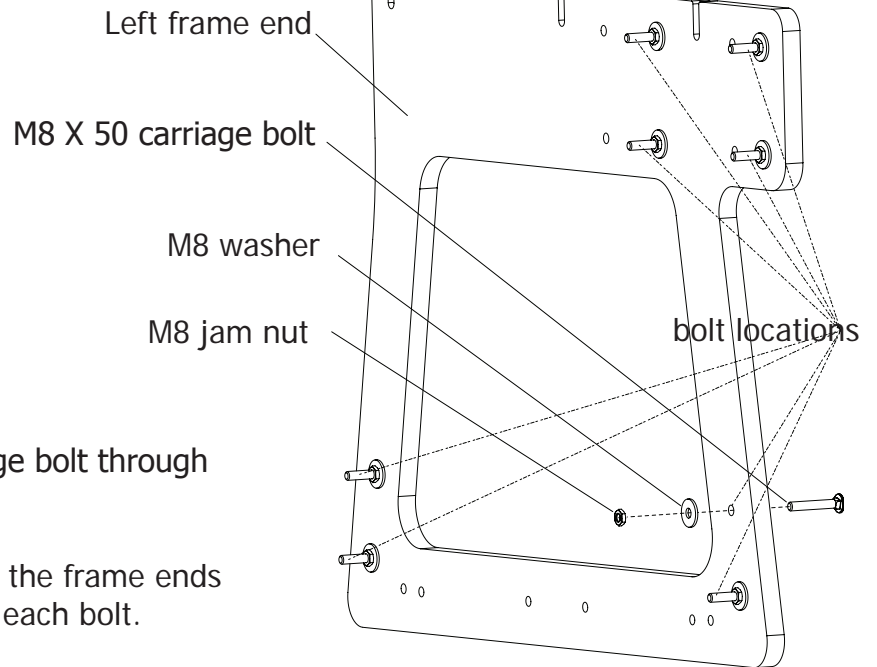
Step 6-3: Now, insert a M6 X 60mm connector bolt through the hole in each conduit clamp.

Step 6-4: Finally, insert each M6 X 60mm connector bolt through the hole in the end of each conduit brace, and finger tighten into the square nut.

Step 7 - Frame ends - carriage bolts

Parts needed: 

- 16) M8 X 50mm carriage bolt
- 16) M8 Hex bolt
- 16) M8 washer
- 1) G- Left frame end
- 1) H- Right frame end



Note: Build the left and right frame ends.



Step 7-1: Insert a M8 X 50mm carriage bolt through each location shown in Fig. 7-1.

Step 7-2: Fasten the carriage bolts to the frame ends using a M8 washer, and M8 jam nut on each bolt.

Note: Tighten the M8 jam nuts completely, so that the head of each carriage bolt sits flat against the surface of the wood.

Note: The head of the bolt should be on the side of the frame end that has notches cut in it. (See Fig. 10-1)

Step 8 - Frame end - height adjustable legs

Parts needed: 

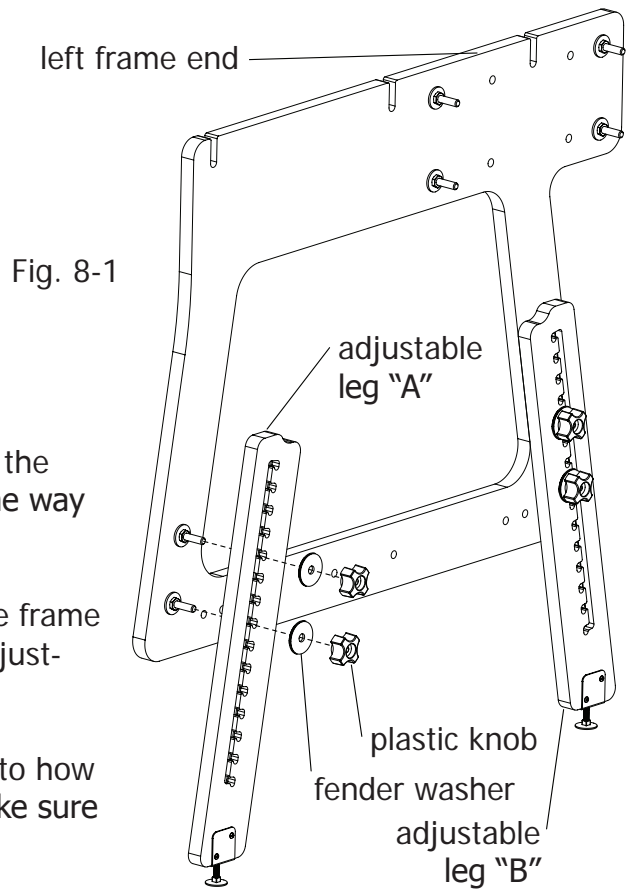
- 8) plastic knob
- 8) fender washer
- 2) Frame end - Left and right Assemblies
- 2) "A" Height adjustable legs - Assembly
- 2) "B" Height adjustable legs - Assembly




Step 8-1: Attach a height adjustable leg to each side of the frame ends as shown in Fig. 9-1. (Do this exactly the same way as you did in step 3.)

Note: When you place the height adjustable leg onto the frame end, make sure that the notch at the top of the height adjustable leg is toward the middle of the frame end.

Note: The height adjustable legs will be placed opposite to how they are shown, on the right frame end (not shown). Make sure that all legs are adjusted to the same height.



Step 9 - Frame end - Rail brackets

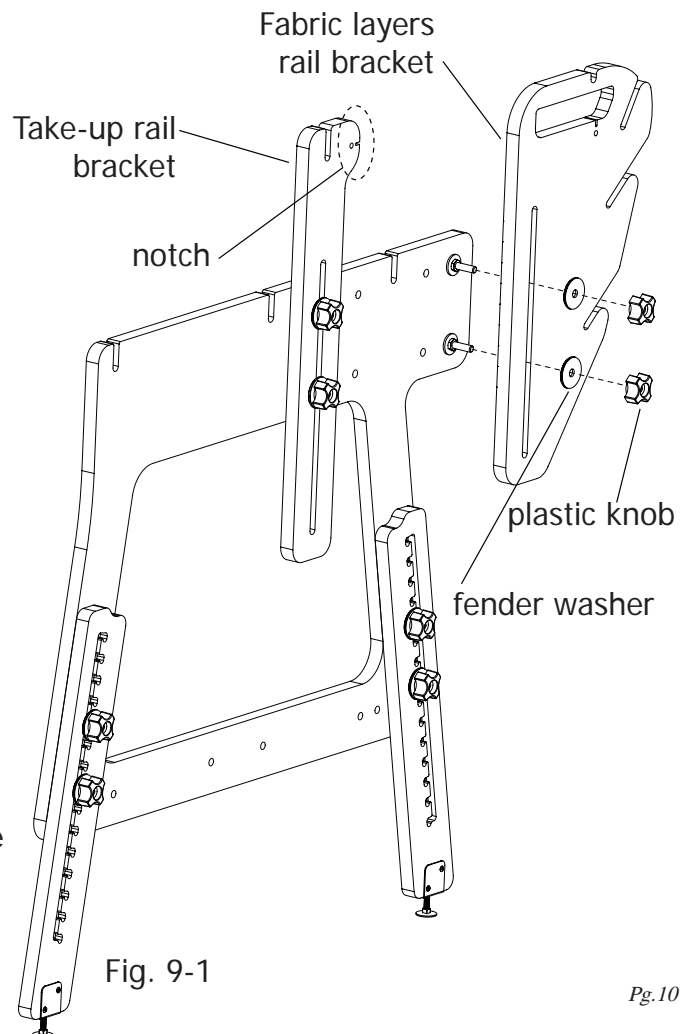
Parts needed: 

- 4) plastic knob
- 4) fender washer
- 1) L- Left take-up rail bracket
- 1) M- Right take-up rail bracket
- 1) N- Left fabric layers rail bracket
- 1) O- Right fabric layers rail bracket
- 2) Frame end - Assembly




Step 9-1: Attach the rail brackets to each of the frame ends as shown in Fig. 9-1.

Note: When you place a rail bracket onto the frame end, make sure that the side of the brackets with the lines cut into it goes against the frame end. There is a left and right version of each rail bracket, and each bracket will only work in one location. (Notice the location of the indicated notches at the top of the take-up rail brackets.)



Step 10 - Frame end - Conduit braces

Parts needed: 

- 4) M6 X 45 connector bolt
- 4) square nut
- 4) F- Conduit brace
- 2) Frame end - Assembly

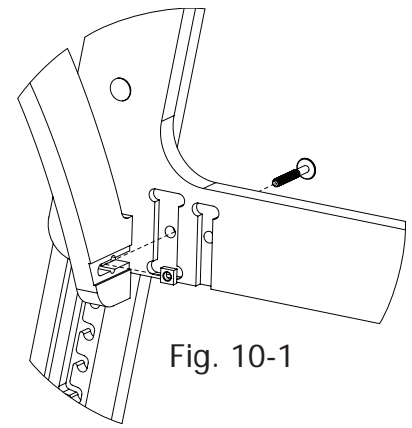







Fig. 10-1

 **Step 10-1:** Insert a square nut into the "T" slot in one end of each of the conduit braces. Fig. 10-1.

 **Step 10-2:** Attach the conduit braces to the frame ends by inserting a M6 X 45mm connector bolt through the hole on the outer side of the frame ends for each conduit brace.

 **Step 10-3:** Thread the connector bolts into the square nuts located in the conduit braces, as shown in Fig. 10-2.

 **Note:** The conduit braces go into the outer notches in the frame ends.

 **Note:** Make sure that you attach the conduit braces with their notches facing toward the middle of the frame, as shown in Fig. 10-2.

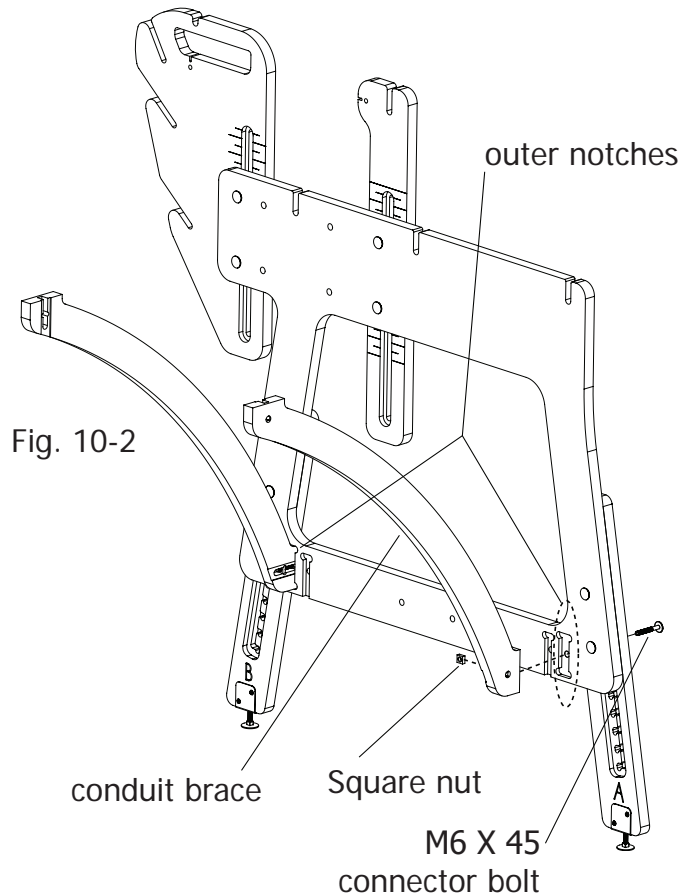





Fig. 10-2

Step 11 - Frame end - Conduit clamps

Parts needed: 

- 4) M6 X 60 connector bolt
- 4) square nut
- 4) I- Conduit clamp
- 2) E- Table brace
- 2) Frame end - Assembly

 **Step 11-1:** Insert a square nut into the "T" slots in each end of the table brace.

 **Step 11-2:** Place a connector bolt through the hole in each conduit clamp, then through the hole in the end of one of the conduit braces.

 **Step 11-3:** Place the table brace between the conduit braces.

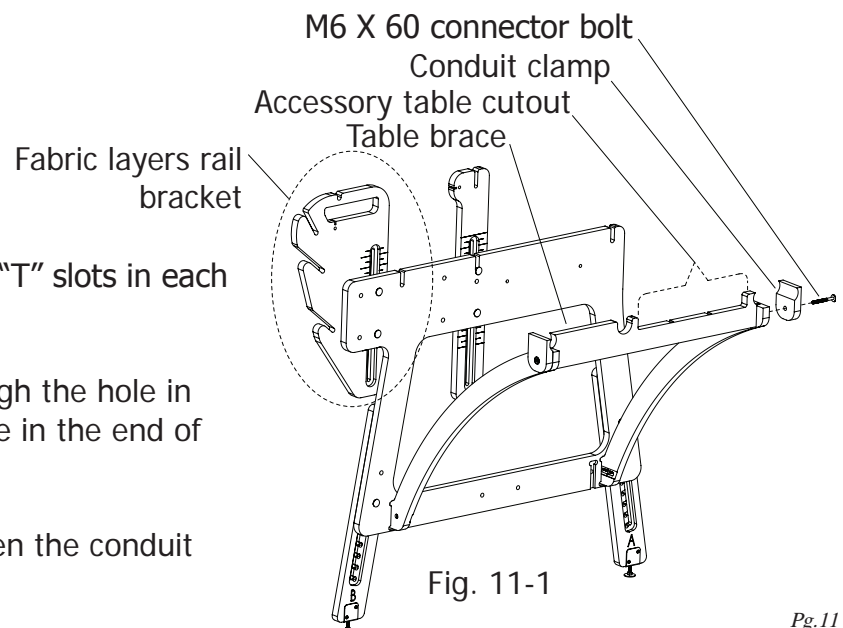



Fig. 11-1

Note: It is very important that the table brace is placed onto the frame as shown. The accessory table cutout should be away from the fabric layers rail bracket.

Step 11-4: Hand tighten the connector bolts into each of the square nuts that have been inserted into the "T" slots in the table brace.

Note: The left frame end is shown in Fig. 11-1. The table brace, and conduit clamps are attached to the right frame end in exactly the same way as they are attached to the left.

Step 12 - Table track

Parts needed: 

- 4) plastic knob
- 4) fender washer
- 4) M8 X 30 Hex bolt
- 12) conduit Wedge
- 4) conduit Cone
- 2) 1-1/4" X 10' Steel conduit (You provide)

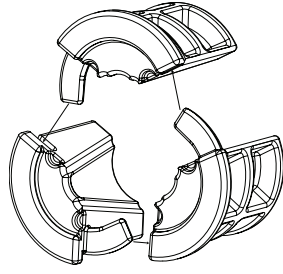


Fig. 12-1

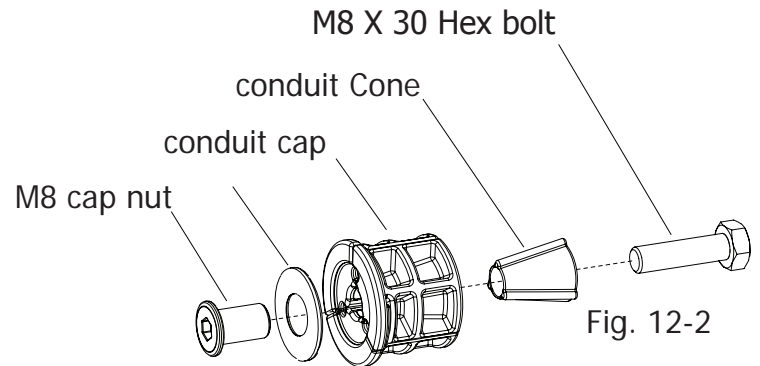


Fig. 12-2

Note: Build 2 table tracks, unless you are building the heavy duty configuration, in which case build 3.



Step 12-1: Build the track conduit caps by first inserting a M8 X 30 Hex bolt into the conduit cone.

Step 12-2: Fit 3 conduit caps together as shown in Fig. 12-1. (The conduit caps may be held together with a small rubber band.)

Step 12-3: Insert the bolt and conduit cone into the 3 conduit caps, as shown in Fig. 12-2.

Step 12-4: Thread a cap nut onto the exposed end of the bolt (1 or 2 turns, just enough to keep the cap nut on the bolt, without falling off).

Note: Repeat the previous steps to build 4 (total) track conduit caps. Build 6 (total) if you are building the three track design.

Step 12-5: To complete the track conduit assembly, insert a track conduit cap into each end of 2 of the pieces of 1-1/4" conduit. **Do not tighten the cap nut yet.**

Note: If you used rubber bands, you can leave the rubber bands on the conduit caps if you like.

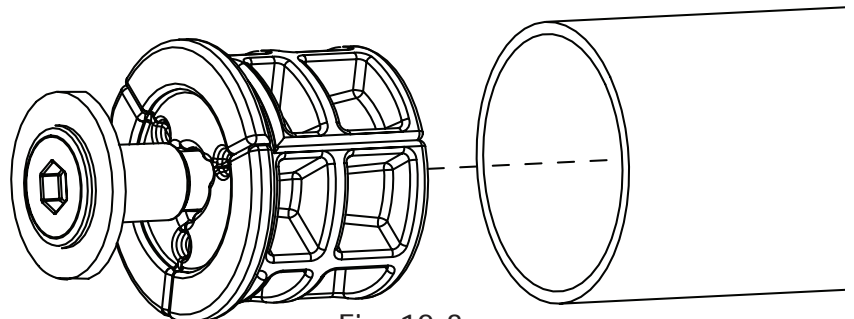


Fig. 12-3

⚙️ **Step 12-6:** Place the end of each table/track conduit into a slot in the top edge of the frame ends, as shown in Fig. 12-4.

⚠️ **Note:** Make sure that the head of the cap nuts are on the outer edge of the frame ends.

⚙️ **Step 12-7:** Tighten the cap nuts completely using the provided allen wrench.

⚙️ **Step 12-8:** Rotate each of the conduit clamps up, so that they engage the conduit.

⚠️ **Note:** You may need to slightly loosen the bolts in the conduit caps before the conduit cap can be turned up.

⚙️ **Step 12-9:** Tighten the bolts in the conduit clamps, so that the conduit is secured in place.

⚙️ **Step 12-10:** Place the middle legs under the table/track conduit.

Note: Make sure that the legs are located in the center of the frame.

⚙️ **Step 12-11:** Rotate each of the conduit clamps up so that they engage the conduit.

⚠️ **Note:** You may need to slightly loosen the bolts in the conduit caps before the conduit cap can be turned up.

⚙️ **Step 12-12:** Tighten the bolts in the conduit clamps, so that the conduit is secured in place.

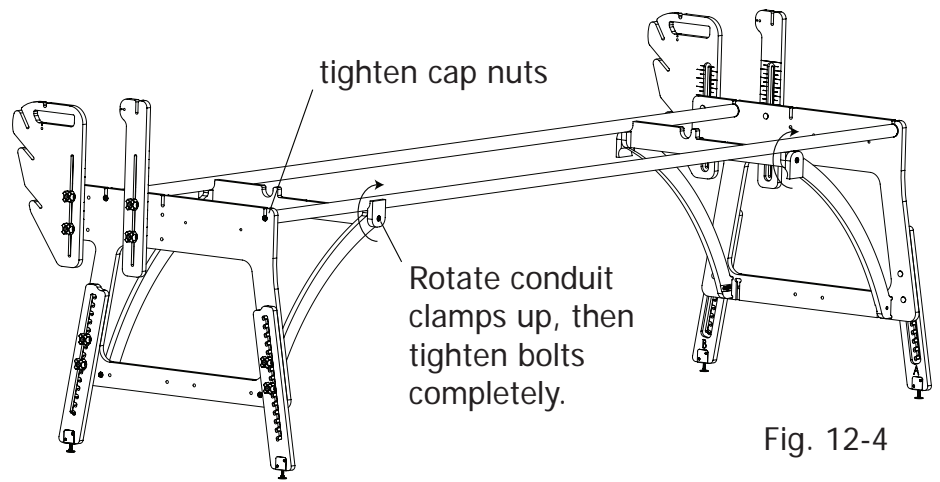


Fig. 12-4

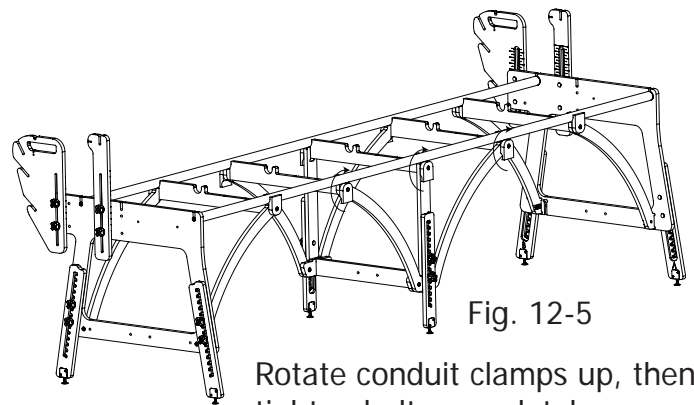


Fig. 12-5

Step 13 - Fabric rail

Parts needed:

- 4) conduit Spacer
- 4) fender washer
- 4) M8 X 70 Hex bolt
- 12) conduit cap
- 4) conduit cone
- 4) 1-1/4" Steel conduit (You provide)

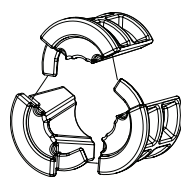


Fig. 13-1

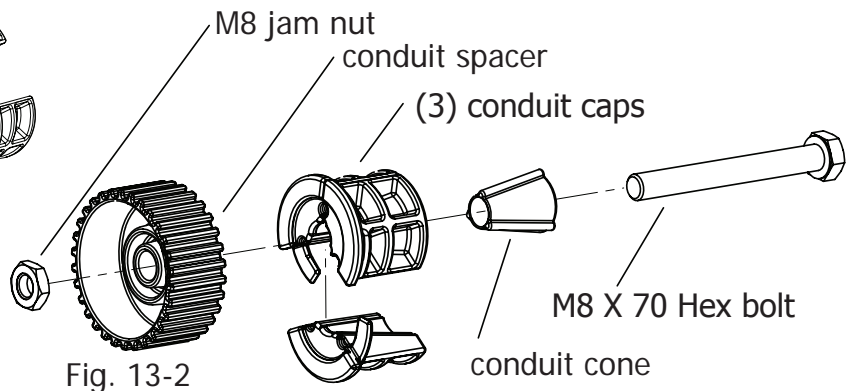


Fig. 13-2

⚠️ **Note:** Build 4 (total) fabric rail assemblies. You will need 8 (total) fabric rail conduit caps.

⚙️ **Step 13-1 (fabric rail conduit cap):** Build the fabric rail conduit caps by first inserting a M8 X 70 Hex bolt into the conduit Cone.

⚙️ **Step 13-2:** Next, Fit 3 conduit caps together as shown in Fig. 13-1. (The conduit caps may be held together with a small rubber band.)

⚙️ **Step 13-3:** Insert the bolt, and conduit cone into the 3 conduit caps, as shown in Fig. 13-2.

⚙️ **Step 13-4:** Place a conduit spacer onto the exposed end of the bolt, and then thread a jam nut onto the end of the bolt (thread the nut on about 1 inch).

⚙️ **Step 13-5:** To complete the fabric rail conduit assembly, insert a fabric conduit cap into each end of the remaining 4 pieces of 1-1/4" conduit. Completely tighten the jam nut using the provided 8mm wrench.

⚠️ **Note:** If you used rubber bands, you can leave the rubber bands on the caps if you like.

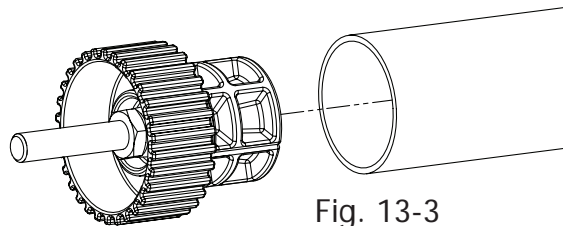


Fig. 13-3

⚙️ **Step 13-6:** Place the fabric rails onto your frame as shown in Fig. 13-4.

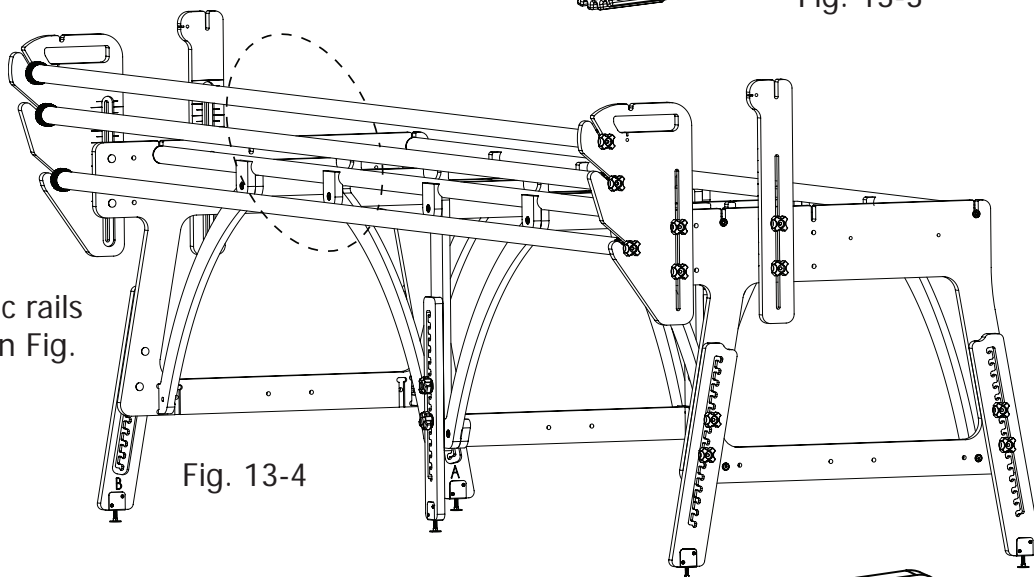


Fig. 13-4

⚙️ **Step 13-7:** Place a fender washer onto the exposed end of each bolt.

⚙️ **Step 13-8:** Finally, securely fasten a plastic knob onto the exposed end of the bolts in each end of all of the fabric rails, as shown in Fig. 13-5.

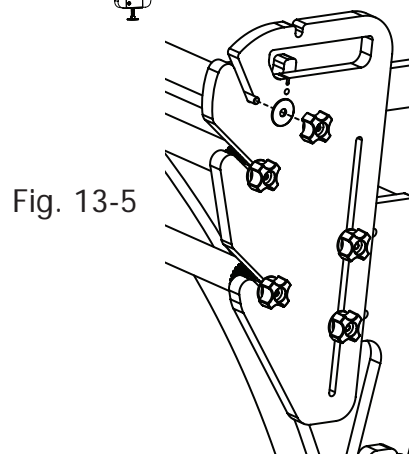


Fig. 13-5

Step 14 - Bottom plate wheels

Parts needed:

- 2) Double wheel bearing
- 4) Single wheel bearing
- 24) wood screw
- 1) V- Bottom plate

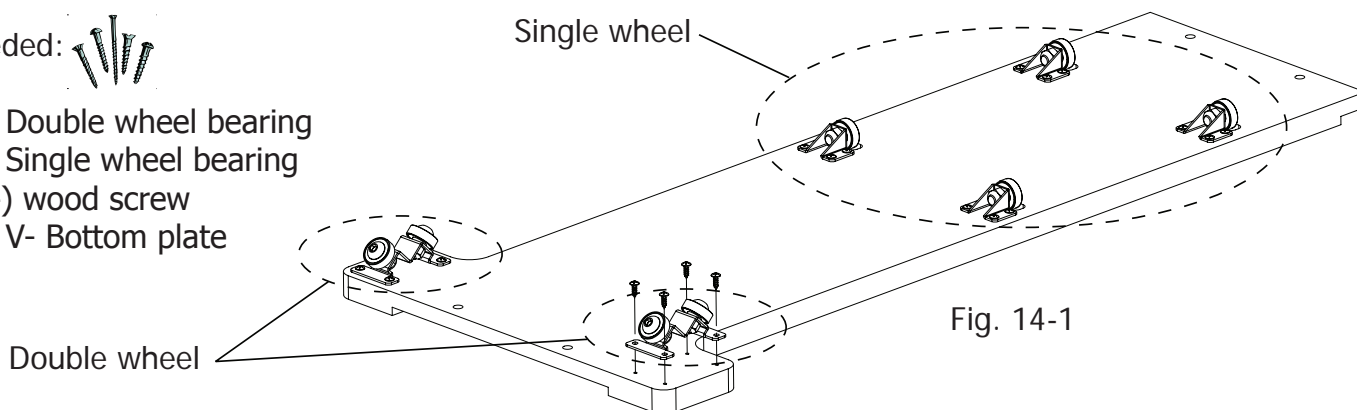



Fig. 14-1



Step 14-1: Attach each of the wheels to the bottom plate using the provided wood screws, as shown in Fig. 18-1.

Step 15 - Bottom plate tracks

Parts needed: 

- 2) U- Bottom plate end
- 12) conduit cap
- 4) conduit cone
- 4) M8 X 30 Hex bolt
- 2) Bottom carriage track

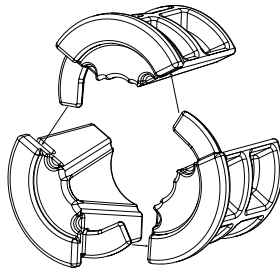


Fig. 15-1

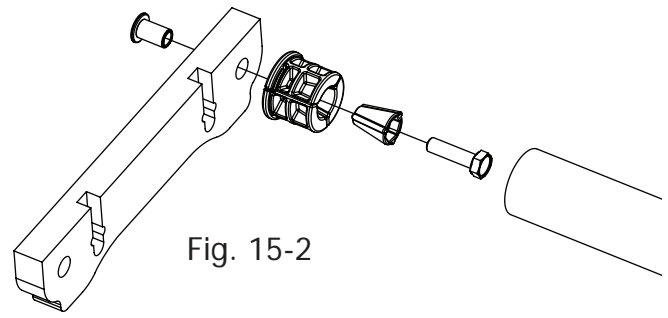


Fig. 15-2



Step 15-1: Build the track conduit caps by first inserting a M8 X 30 Hex bolt into the conduit cone.

- ✦ **Step 15-2:** Fit 3 conduit caps together as shown in Fig. 15-1. (The conduit caps may be held together with a small rubber band.)
- ✦ **Step 15-3:** Insert the bolt, and conduit cone into the 3 conduit caps, as shown in Fig. 15-2.
- ✦ **Step 15-4:** Insert the exposed end of the bolt through one of the holes in the bottom plate end.
- ✦ **Step 15-5:** Partially thread a cap nut onto the bolt that has just been inserted into the plate end.
- ✦ **Step 15-6:** Insert the conduit cap (attached to the bottom plate end) into one end of one of the bottom carriage tracks.
- ✦ **Step 15-7:** Tighten the cap nut that is in the conduit cap completely using the included allen wrench.
- ✦ **Step 15-8:** Repeat steps 15-1 through 15-4, this time insert the bolt in the conduit cap through the remaining available hole in the bottom plate end, as shown in Fig. 15-3.
- ✦ **Step 15-9:** Attach 2 complete conduit caps to the remaining bottom plate end, as shown in Fig. 15-4.
- ✦ **Step 15-10:** Insert the end caps into the open ends of the bottom plate tracks, then tighten the cap nuts completely.

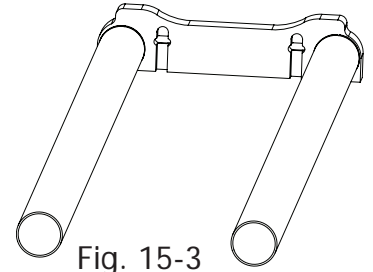


Fig. 15-3

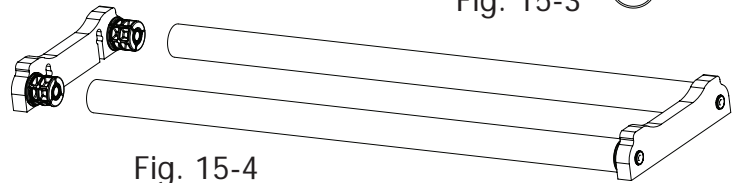


Fig. 15-4

Step 16 - Bottom plate tracks

Parts needed: 

- 1) Bottom plate - Assembly
- 1) bottom plate track - Assembly
- 4) M6 X 45mm connector bolt
- 4) M6 square nut

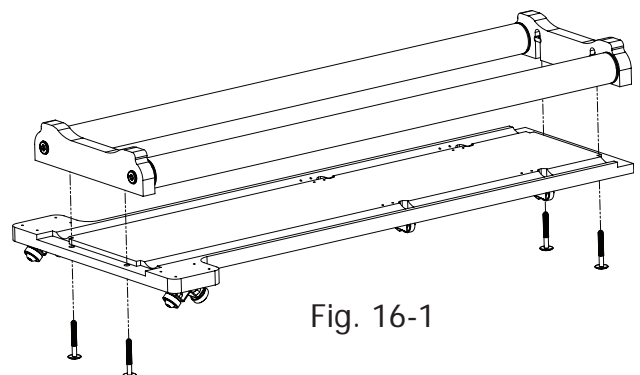



Fig. 16-1



Step 16-1: Insert a square nut into each of the "T" slots in the bottom plate ends.

- ✦ **Step 16-2:** Secure the bottom plate track assembly to the bottom plate by inserting a M6 X 45mm connector bolt through each of the holes in the bottom plate, and then tighten securely into the square nuts (located in the bottom plate track ends).

Step 17 - Top plate wheels

Parts needed: 

- 1) Q- Top plate
- 2) Double wheel bearing
- 2) Single wheel bearing
- 18) 12mm wood screw

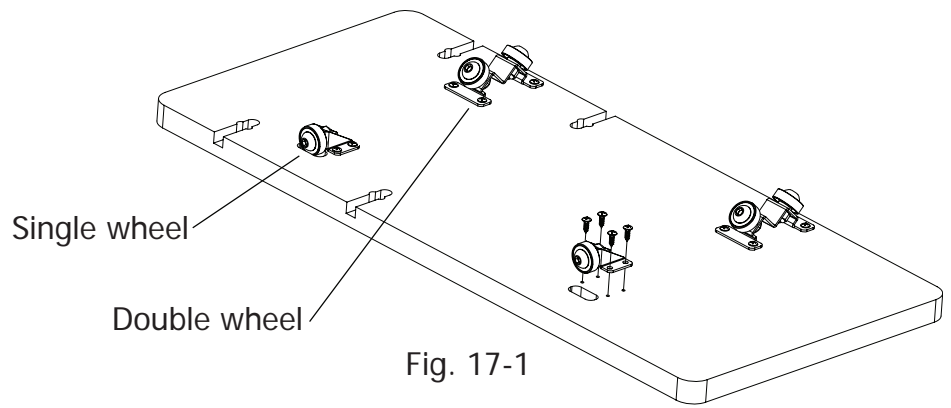



Fig. 17-1



Step 17-1: Attach each of the wheels to the bottom side of the top plate using the provided 12mm wood screws, as shown in Fig. 17-1.

Step 18 - Top plate wheels

Parts needed: 

- 1) Top plate - Assembly
- 1) P- Left handle
- 1) R- Right handle
- 4) M6 X 50mm connector Bolt
- 4: M6 Square nut

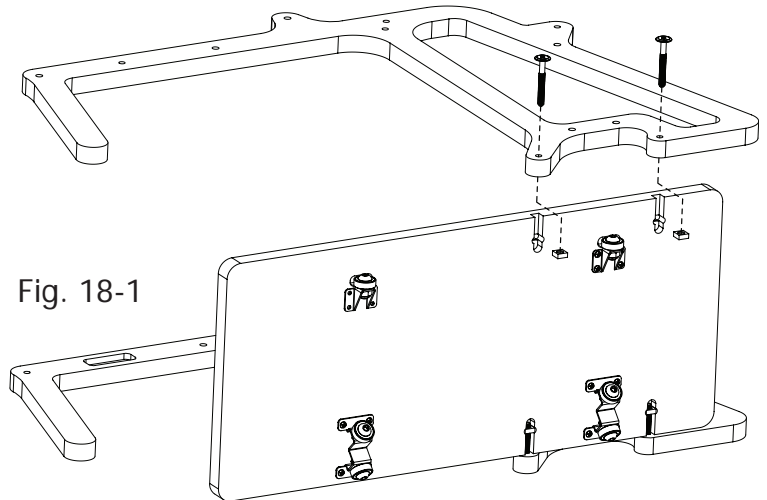


Fig. 18-1




Step 18-1: Insert a M6 square nut into each of the slots on the bottom side of the top plate.

Step 18-2: Insert a M6 X 50mm connector bolt through each of the bottom holes on each of the handles.

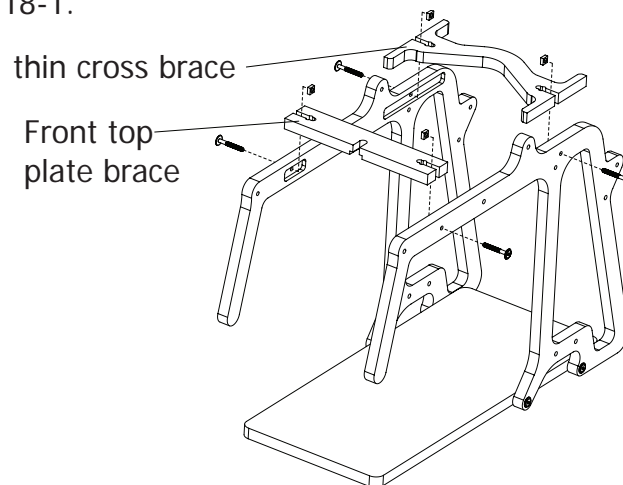
Note: Make sure that the pockets in the upper part of the handles face inside the top plate when attaching the handles to the top plate.

Step 18-3: Thread the M6 X 50mm connector bolts in the handles into the M6 square nuts located in the slots in the top plate as shown in Fig 18-1.


Step 19 - Top plate wheels


Parts needed: 


- 1) Top plate - Assembly
- 1) S1- Thin cross brace
- 1) S2- Cross brace
- 1) T- Front top plate brace
- 4) M6 X 45mm connector bolt
- 4) M6 square nut





Note: Use the thin cross brace if you will be using a speed control device (such as the Grace Speed Control, or the Sure Stitch) to control your sewing machine. Fig. 19-1 shows the thin cross brace being installed. However, if you are going to use the foot pedal that was included with your sewing machine, install the cross brace (not shown) instead of the thin cross brace.

 **Step 19-1:** Insert a M6 square nut into each of the "T" slots in the T- lamp holder brace. Also insert a M6 square nut into the "T" slots in which ever cross brace you have decided to use.


 **Step 19-2:** Place each of the braces into the pockets in the top of the handles, as shown in Fig. 19-1.

 **Note:** You may need to pull the handles apart slightly to get the braces between them.

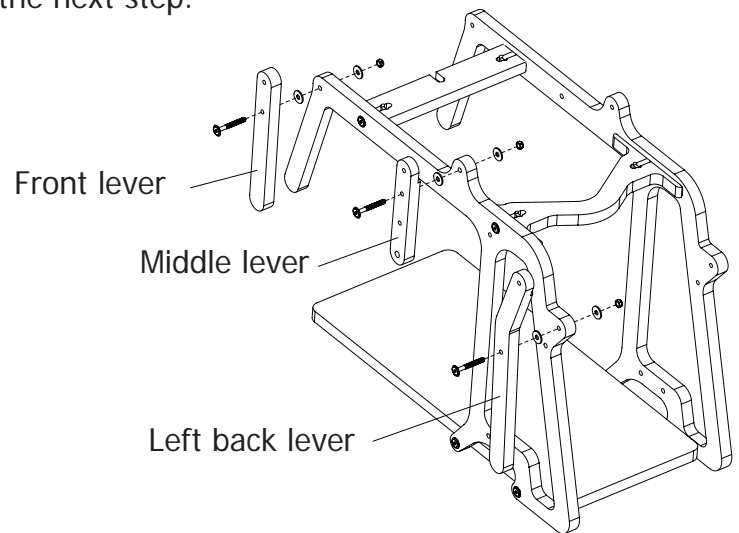
 **Step 19-3:** Secure the braces to the handles buy inserting a M6 X 45mm connector bolt through each of the indicated holes in the handles, and then tighten it securely into the M6 square nut with the included allen wrench.


 **Note:** If you used the thin cross brace, please skip to step 23 to complete the quilt frame assembly. If you used the cross brace, please continue with the next step.


Step 20 - Lever to top plate


Parts needed: 

- 1) Top plate - Assembly
- 1) W- Front lever
- 1) X- Middle lever
- 1) Y1- Right back lever (not shown)
- 1) Y2- Left back lever
- 3) M6 X 50mm Connector Bolt
- 3) M6 nylock nut
- 6) M6 washer




 **Note:** You may assemble the levers to the left, or right side of the top plate. The assembly will be a mirror of what is shown in Fig. 20-1, also use the right back lever for the right side assembly.


 **Step 20-1:** Attach the levers to the top plate by first inserting a M6 X 50mm connector bolt through the indicated holes in each lever.

 **Step 20-2:** Next place a M6 washer onto the exposed end of the bolt that you just inserted into the lever(s).


 **Step 20-3:** Now place the bolt(s) through the indicated holes in the handle.

 **Step 20-4:** Place a M6 washer onto the end of each bolt.

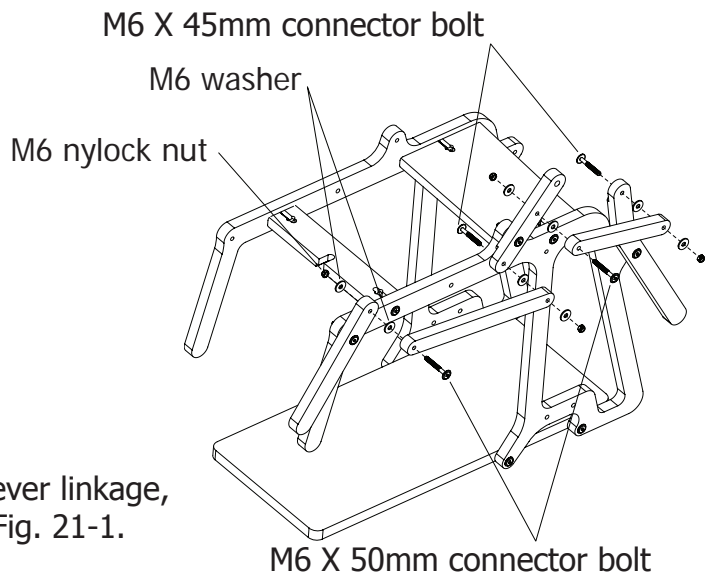
 **Step 20-5:** Secure the levers to the handle by threading a M6 nylock nut onto the bolts.


 **Note:** Do not completely tighten the nylock nuts. You should be able to easily turn the M6 washer behind the nylock nut.


Step 21 - Lever linkage

Parts needed: 

- 2) M6 X 45mm connector bolt
- 2) M6 X 50mm connector bolt
- 8) M6 washer
- 4) M6 nylock nut
- 1) top plate (Assembly)
- 1) Z- front lever linkage
- 1) AA- back lever linkage




 **Step 21-1:** Attach the lever linkage parts (front lever linkage, and back lever linkage) to the levers, as shown in Fig. 21-1.

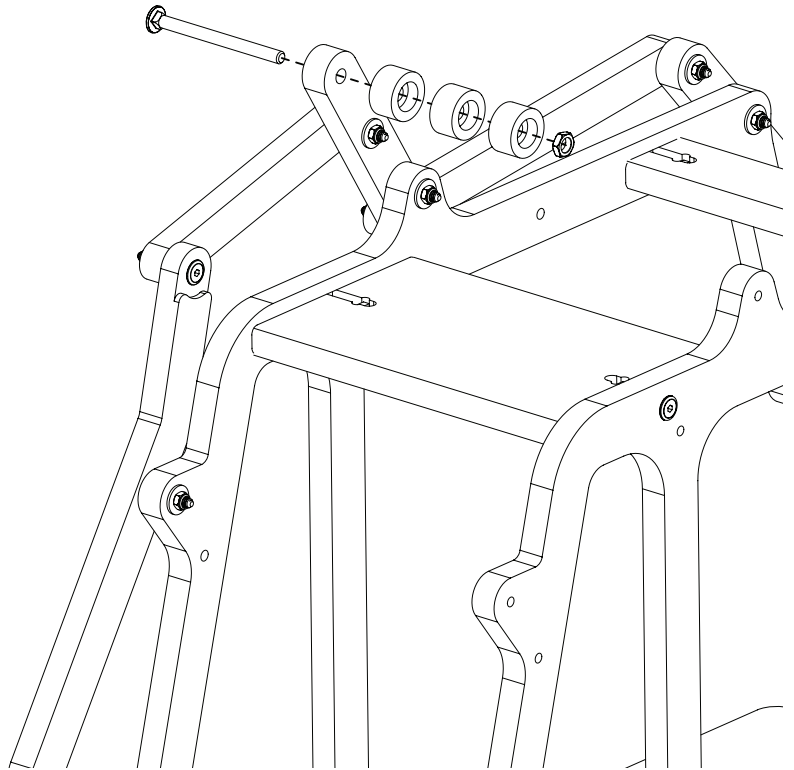
 **Note:** Use the M6 X 50mm, and M6 X 45mm bolts in the locations specified.

Step 22 - Pedal clamp

Parts needed: 

- 1) M8 X 75 carriage bolt
- 1) M8 jam nut
- 1) fender washer
- 1) plastic knob
- 1) M6 X 50mm connector bolt
- 1) M6 washer
- 1) N6 nylock nut
- 1) BB- pedal clamp wheel
- 1) CC- pedal clamp
- 3) DD- pedal clamp spacer

 **Step 22-1:** Insert the M8 X 75mm carriage bolt through the hole in the top end of the middle lever.





 **Step 22-2:** Place 3 of the pedal clamp spacers onto the end of the carriage bolt.

 **Note:** Make sure that the last pedal clamp spacer has it's cupped side facing the end of the bolt.

 **Step 22-3:** Secure the pedal clamp spacers in place with the M8 jam nut.

 **Step 22-4:** Place the pedal clamp onto the end of the carriage bolt.

 **Step 22-5:** Now place a fender washer onto the bolt.

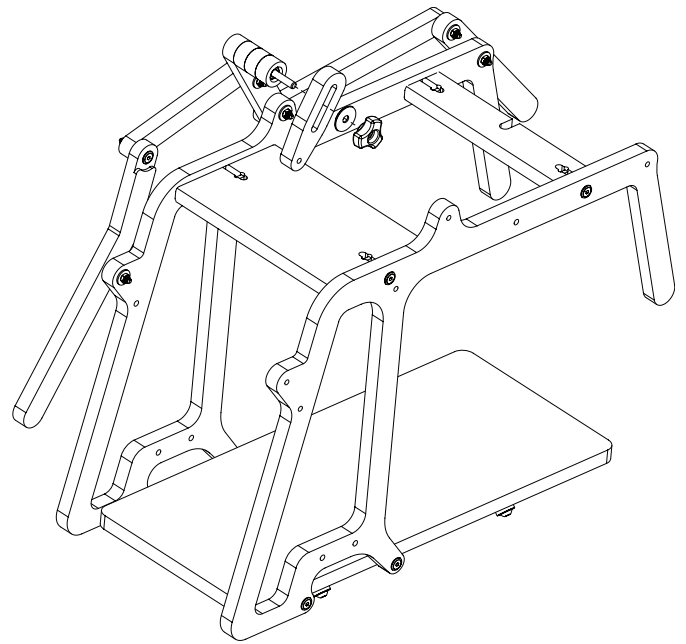
 **Step 22-6:** Thread on a plastic knob to secure the pedal clamp to the lever.

⚙ **Step 22-7:** Insert the M6 X 50mm connector bolt through the hole in the pedal clamp wheel.

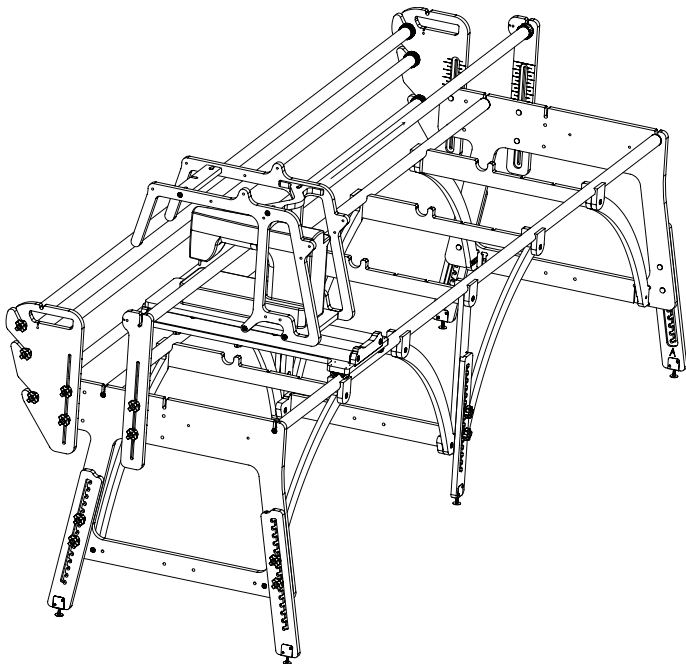
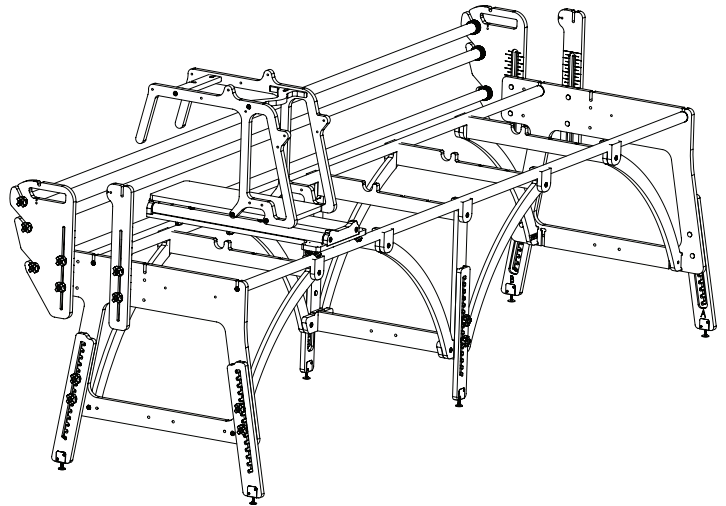
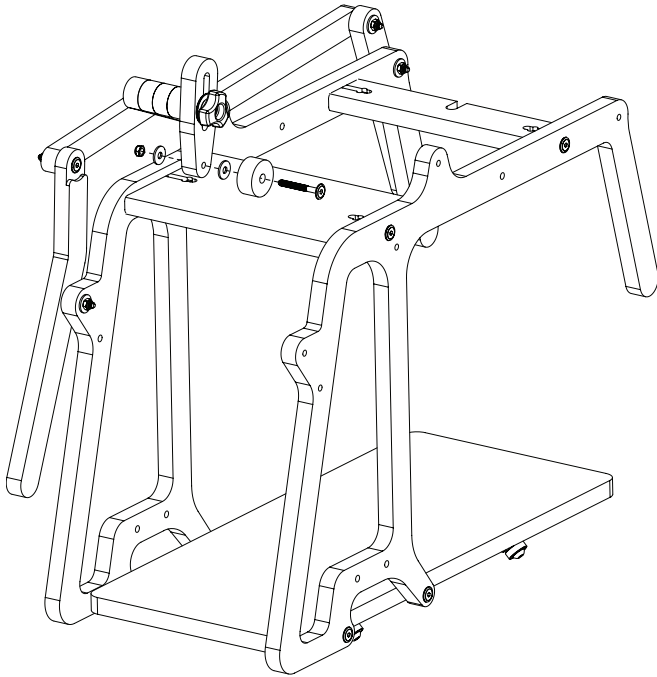
⚙ **Step 22-8:** Place a M6 washer onto the exposed end of the bolt.

⚙ **Step 22-9:** Place the end of the bolt through the hole in the bottom of the pedal clamp.

⚙ **Step 22-10:** Put a M6 washer onto the end of the bolt.

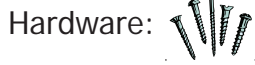


⚙ **Step 22-11:** Finally, secure the pedal clamp wheel to the pedal clamp using a M6 nylock nut.



Step 23 - Stylus clamp

Parts needed:



Use the stylus to trace pantographs

- 2) M8 X 75mm carriage bolt
- 2) M8 jam nut
- 3) fender washer
- 3) plastic knob
- 1) M8 X 50mm eye bolt
- 2) M8 washer
- 1) EE- stylus base (Smaller holes)
- 1) FF- stylus clamp
- 1) GG- stylus mount
- 1) HH- stylus

Step 23-1: Insert M8 X 75mm carriage bolt through each of the holes in the stylus base.

Step 23-2: Secure the carriage bolts to the stylus base using M8 washers, and M8 jam nuts.

Step 23-3: Place the stylus mount onto the bolt closest to the curved end of the stylus base.

Step 23-4: Place the stylus clamp onto the exposed ends of both bolts as shown in Fig. 23-2.

Step 23-5: Secure the stylus clamp to the rest of the assembly by first placing a fender washer onto the exposed ends of the bolts, and then threading a plastic knob onto each bolt. (The knobs do not need to be tightened completely at this point.)

Step 23-6: Insert the eye bolt through the cupped side of the stylus mount.

Step 23-7: Secure the eye bolt to the assembly by first placing a fender washer onto the exposed end of the bolt, and then threading a plastic knob partially onto the bolt.

Step 23-8: Finally, insert the stylus through the open end of the eye bolt.

Step 23-9: Adjust the knob on the eye bolt to allow the stylus to be inserted through the open end of the eye bolt, and then secure the stylus in place.

Note: The stylus accessory can be attached to the carriage in many locations, but is not required for use of the quilt frame.

M8 X 75mm carriage bolt

stylus base

Fig. 23-1

M8 washer

M8 jam nut

stylus clamp

Fig. 23-2

stylus mount

fender washer

plastic knob

plastic knob

fender washer

eye bolt

stylus

Fig. 23-3

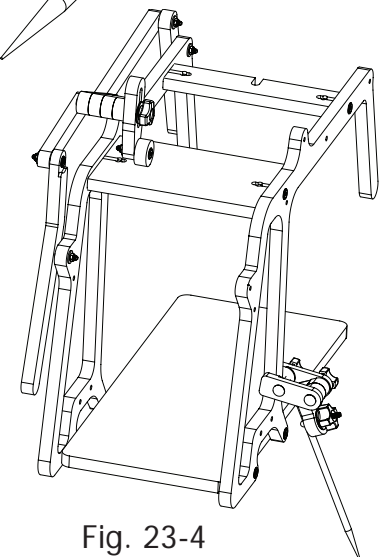


Fig. 23-4

Congratulations! You have completed the assembly of your Quilters D-Lite Quilting Frame.

All that remains is to install your fabric and begin quilting!

We recommend you begin with practice material allowing you to experiment with machine settings and stitching techniques.

NOTE: As you cut your fabric layers, we recommend making the quilt backing about 6-8" longer and 2-4" wider than your top. This will allow for a little give in the backing, especially if using thicker batting.

Fabric Installation:

The recommended method for installing fabric onto the rails is to use the "Start Right" leader cloth set, available from "The Grace Company", but they are not required. The Start Right leaders are pre cut and hemmed to the ideal sizes for your quilting frame. The Start Right leader cloths also have grids printed on them to help you attach your quilt fabric to the frame perfectly every time.

Using leader cloths enable you to finish your quilt completely, to the end, without having to take your quilt off the rails.

- Instructions to make your own leader cloths are provided below.
- Leader cloth installation instructions are on [page 22](#).

Fabric installation overview

- Step 1:** Install quilt backing to 2nd rail and roll up.
- Step 2:** Install quilt top to the 3rd rail and roll up.
- Step 3:** Install batting to the 4th rail and roll up.
- Step 4:** Attach quilt backing to take up rail.
- Step 5:** Attach batting to take up rail.
- Step 6:** Attach quilt top to take up rail.

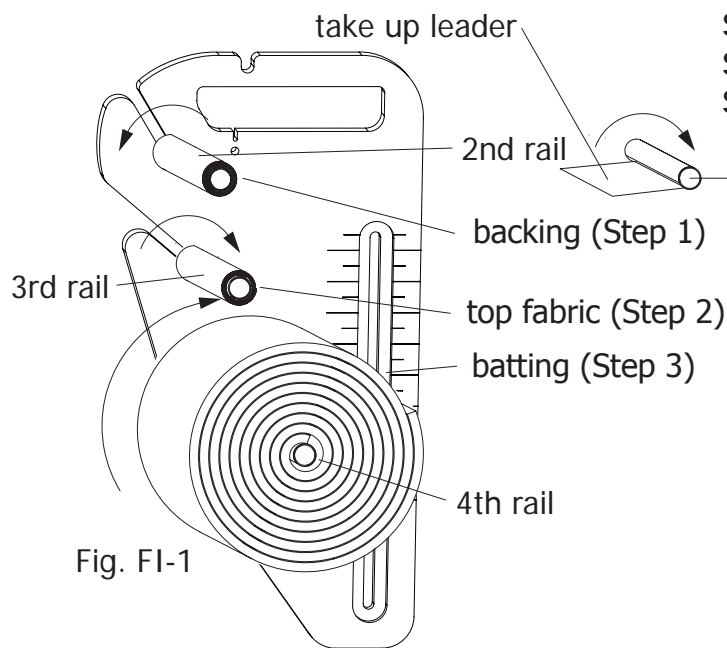


Fig. FI-1

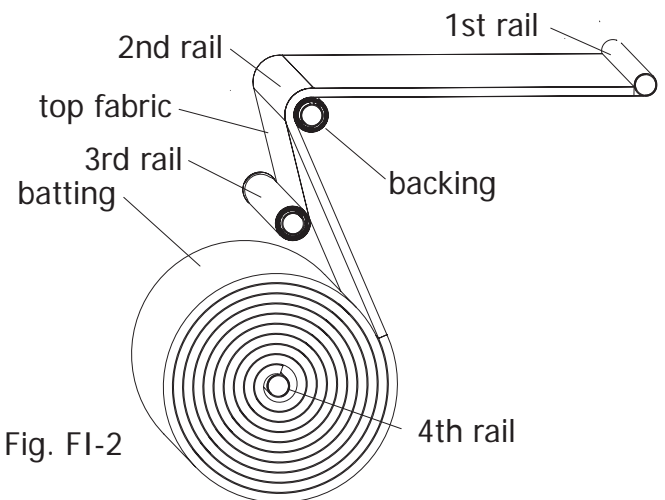


Fig. FI-2

Making leader cloths.

Step C1: First, select your cloth leader material. We recommend using good quality muslin, or similar fabric that has a good thread count. Be aware, however, that if the fabric is too thick, it may prove more difficult to pin your quilt fabric to the leader cloth. If you buy fabric that is on a bat wider than 50" you will have enough material to make all three leader cloths.

Step C2: Make your cloth leaders 6" shorter than the total length of your quilting frame. See Fig. FI-3

Step C3: Surge or hem your cloth leaders on all sides.

Step C4: Sew the loop side (fuzzy side) of Velcro along the entire length of one edge of each fabric leader.

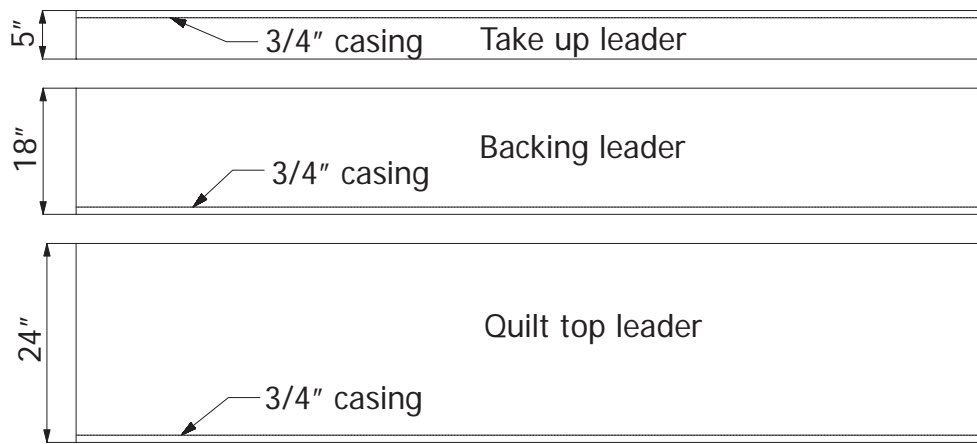


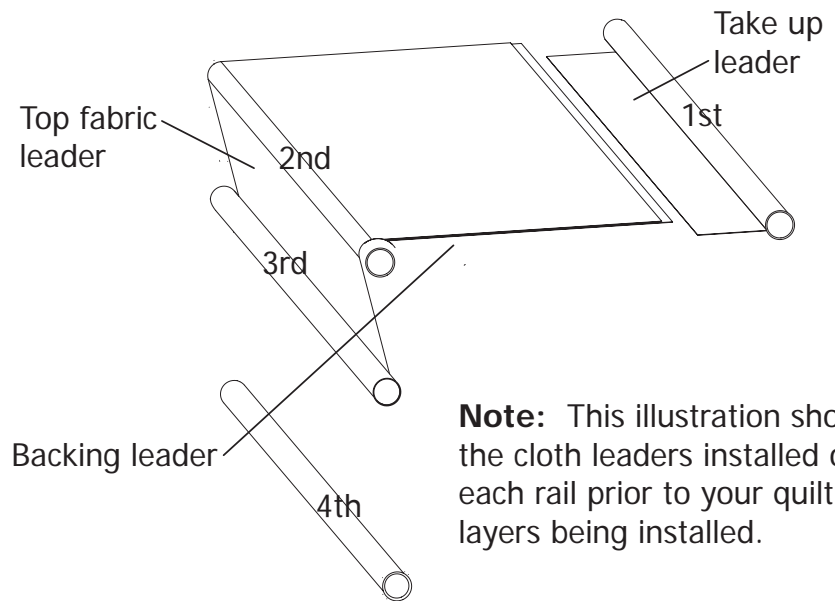
Fig. FI-3

Leader Cloth installation instructions.

Step L1: Draw a straight line all the way across each of your (conduit) fabric rails with a black magic marker.

Step L2: Mark the center of each cloth leader on both edges (Length-wise). Also place a mark at the center of each of the (conduit) fabric rails. Always measure to the center of the rails from the same end of the quilting frame. Draw the lines at the center of each rail so that they cross the lines previously drawn across the rails.

Step L3: Now you need to attach your leaders to their respective rails. The fabric can easily be attached to the rails by applying a piece of adhesive backed hook Velcro along the lines that you have drawn down each fabric rail.



Note: This illustration shows the cloth leaders installed on each rail prior to your quilt layers being installed.

Fig. FI-4

Installing fabric layers onto (conduit) rails

STEP 1: Quilt backing to 2nd rail

Step 1-1: To begin, determine which will be the front and back edges of your quilt **backing** (make sure the backing is not wider than your quilting frame).

Note: If your backing is made up of more than one piece of fabric, cut your selvages off and flatten them out to allow the backing the proper give it needs.

Step 1-2: Line up the center of your fabric layer with the center of the cloth leader on the 2nd rail. Pin the back edge of your backing to the leader cloth. This is to be done with the finished side of the fabric facing down.

Note: Do not stretch or pull the fabric during this process, let it lay as naturally as possible.

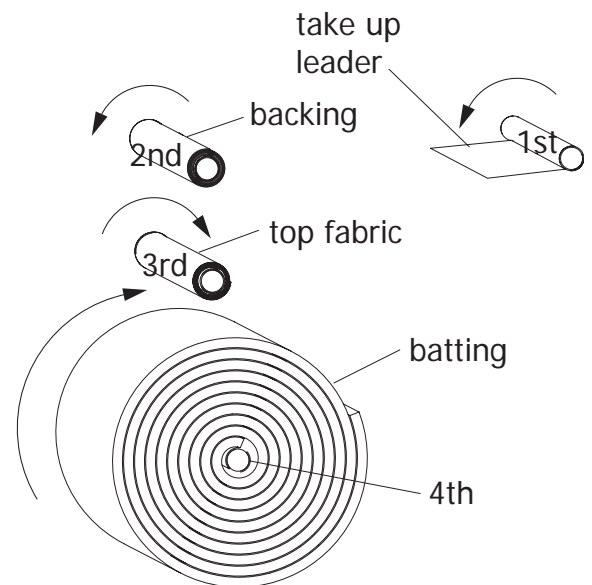


Fig. FI-5

Step 1-3: Roll your leader and backing onto the 2nd rail completely. Watch to make sure the fabric stays lined up. Smooth out any wrinkles as you roll by brushing the fabric from the center out. However, be very careful not to stretch or pull the fabric excessively.

Note: It is important that you roll the rail the proper direction so the fabric rolls over and onto the 2nd rail (Fig. FI-5).

STEP 2: QUILT TOP TO 3rd RAIL

Step 2-1: Determine which will be the front and back edges of your quilt.

Step 2-2: Line up the center of your fabric layer with the center of the cloth leader on the 3rd Rail. Pin the back edge of your top to the leader cloth. This is to be done with the finished side of the fabric facing up.

Step 2-3: Do not stretch or pull the fabric during this process. Let it lay as naturally as possible.

Step 2-4: Roll your leader and top onto the 3rd rail completely. Again, be sure the fabrics stay lined up. Smooth out any wrinkles as you roll by brushing the fabric from the center out, being very careful not to stretch or pull the fabric excessively.

NOTE! It is important that you roll the rail the proper direction so the fabric rolls onto the 3rd rail the right way (when fabric rolls off the rail toward the take-up rail, it should roll under and off the rail. See Fig. FI-5).

STEP 3: BATTING

Step 3-1: A light, bonded batting is recommended.

Step 3-2: Center the batting on the 4th rail. Roll the batting onto the 4th rail, being sure to roll the proper direction so that it, like the quilt top, comes off the rail from the bottom when unrolling.

STEP 4: ATTACHING YOUR QUILT LAYERS TO THE TAKE-UP RAIL

Step 4-1: Take the edge of the quilt backing and pin it along the straight line of the take up rail leader in a smooth manner, without stretching your fabric.

Step 4-2: Next, bring your batting up in between the 3rd rail and 2nd rail and drape over the backing. Lay it along the pin line of your backing on the take up rail cloth leader.

Step 4-3: Finally, bring the quilt top up over the backing and batting and lay it over the batting along the pin line on the take up rail cloth leader. Pin your top and batting along the same line as your backing so that it is smooth.

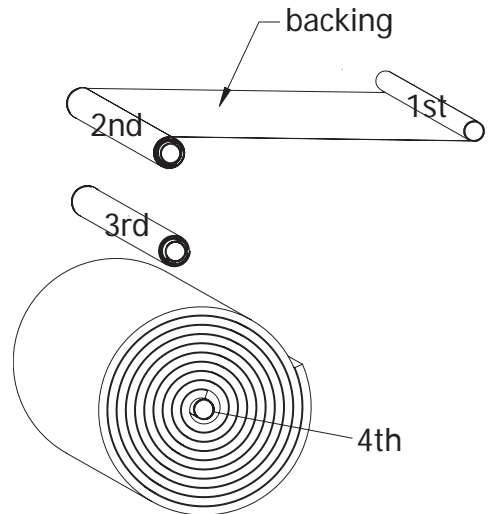


Fig. FI-6

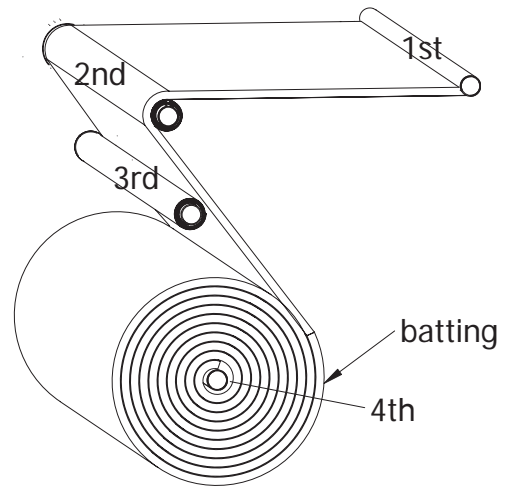


Fig. FI-7

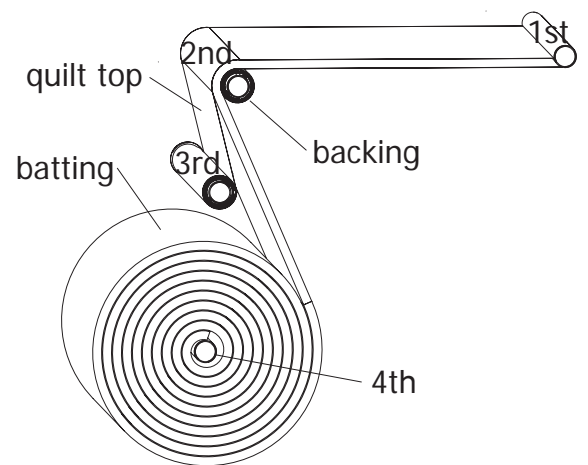


Fig. FI-8

STEP: 5 Placing sewing machine/ carriage onto frame

Parts Needed:

- 1- Frame (assembled)
- 1- Sewing Machine

Step 5-1: Remove the take up rail with fabric and rest it on the table braces.

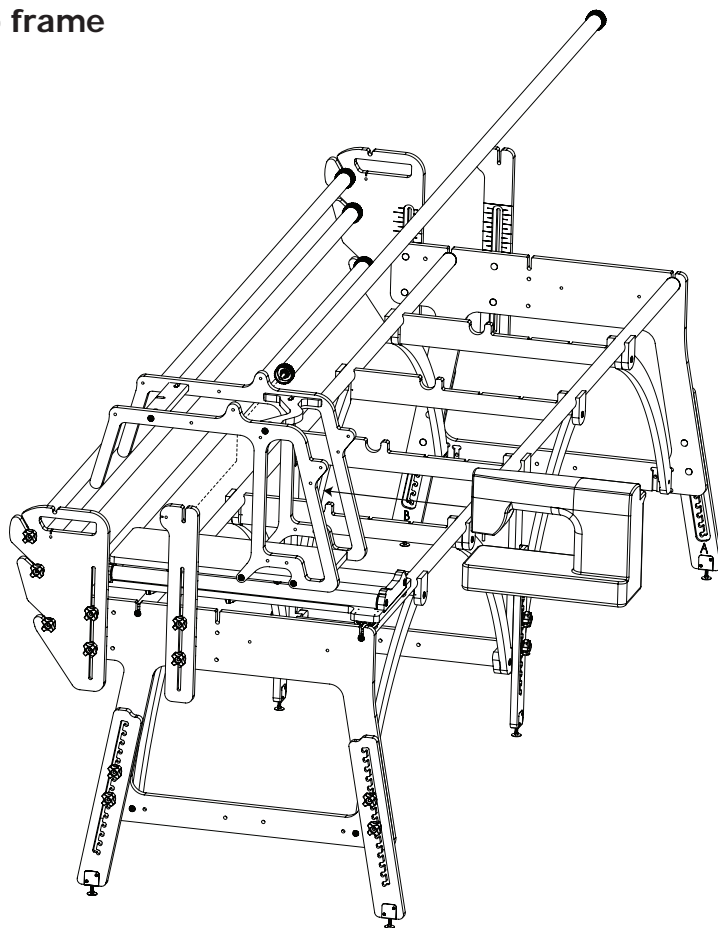
Step 5-2: Slide your machine into the carriage from the back. It might be easier if your carriage is all the way to the front, so it does not slide with you.

Note: Once you have your machine in place on the carriage, the next step is to put the take up rail back into place.

Step 5-3: Slide the carriage all the way to the left side of the frame.

Step 5-4: Put the left end of the take up rail with fabric through the throat of the machine (feeding the fabric layers under your sewing machine's raised presser foot).

Step 5-5: Put the take up rail back in the slots in the rail mounts.



Rolling your fabric

When you have completed your work area and are ready to move to the next, simply loosen the knobs on the 2nd and 3rd rails, allowing them to roll freely. Then, roll the 1st rail forward, rolling the completed work area onto that rail.

TIP! As you roll forward, the quilt will accumulate on the 1st rail. Be sure to raise the take up rail brackets slightly as needed, so that the bottom of the rolled up fabric stays about **1/8" above the throat plate of your sewing machine base**. Failing to do so will cause your carriage assembly to roll less smoothly.

The Four-Inch Principle

If you are using a sewing machine with a smaller size throat, you will want to follow the four-inch principle: Limit any quilting pattern to 4 inches or less from front to back.

The Quilters D-Lite Machine Quilter gives you close to 16 inches of reach, but because of a limited throat size of your machine, and because the fabric will eventually roll up on the take up rail, further decreasing space, you will want to keep patterns to around a 4" limit to start with. As you become more familiar with how quilts progress as they are made on this quilting you should be able to safely adjust to a pattern size larger than 4".