

HQ²⁴ Fusion Frame

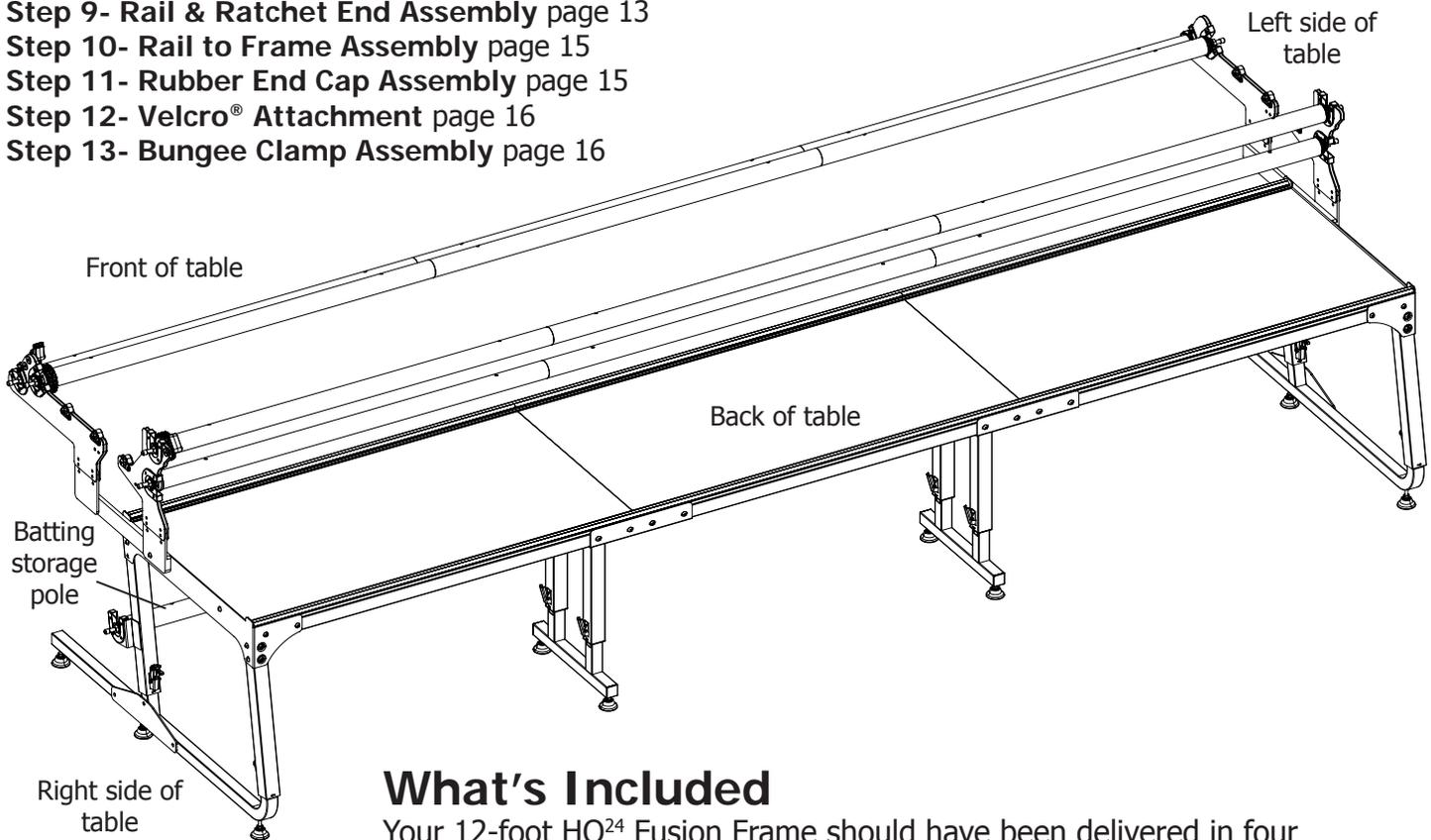
Assembly Instructions

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Updated 08/05/10



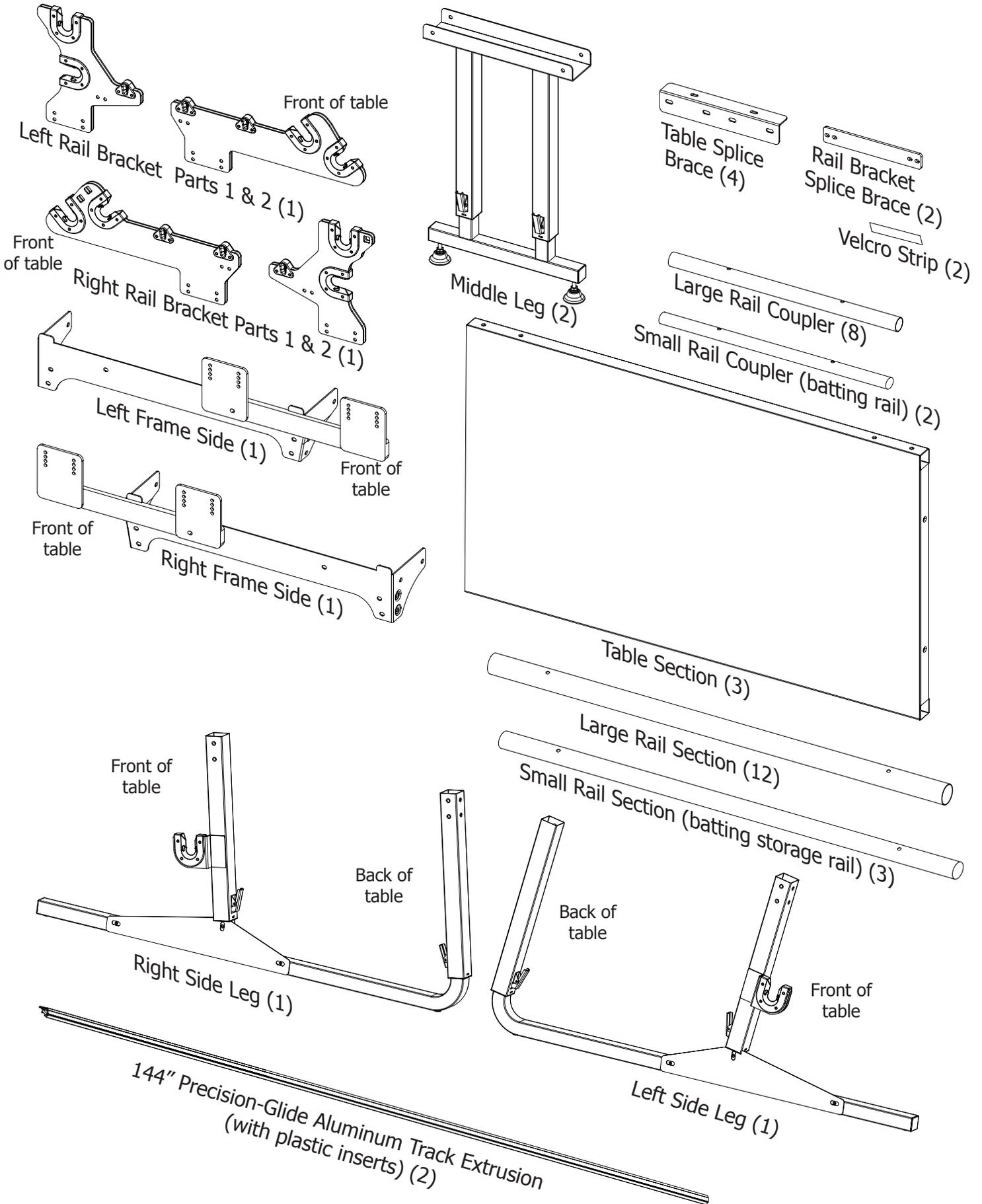
What's Included

Your 12-foot HQ²⁴ Fusion Frame should have been delivered in four separate boxes. Upon opening, please check immediately to see if you have received the items listed in the Parts and Hardware lists found on pages 2 and 3. In addition, the following items will be found in Box 1:

1. HQ²⁴ Fusion Frame Assembly Instructions Manual
2. HQ Marked Leaders Set (three 11 foot lengths)
3. Velcro[™]-style strips to attach leaders to poles (three 11 1/2 foot lengths)

If there are parts missing, please contact Handi Quilter immediately at 1-877-697-8458 or 1-801-292-7988 or by emailing techsupport@handiquilter.com.

HQ²⁴ Fusion Frame Parts List



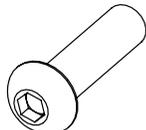
HQ²⁴ Fusion Frame Hardware List



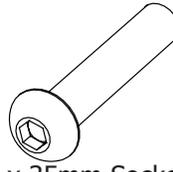
M8 x 16mm
Socket Button
Head Cap
Screw (SBHCS)
(48 total)
(24 in Box 2)
(12 ea in Box 3 & 4)



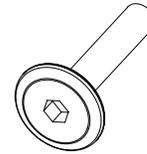
M8 x 20mm
Socket Button
Head Cap
Screw (SBHCS)
(2)



M8 x 25mm
Socket Button
Head Cap
Screw (SBHCS)
(16)



M8 x 35mm Socket
Button Head Cap
Screw
(SBHCS) (2)



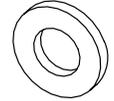
M6 X 12mm
Connector Bolt (12)



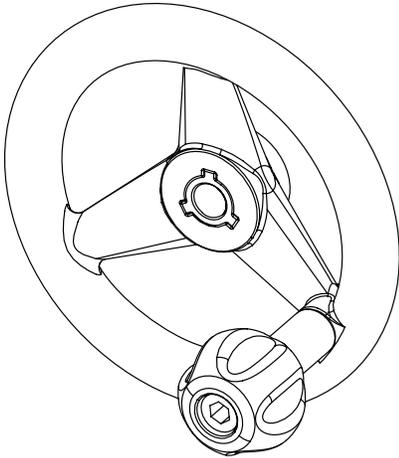
M8 Hex Nut
(16)



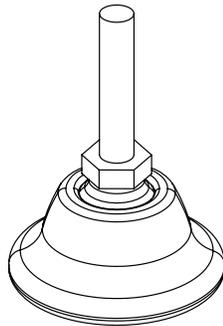
Rubber End Cap
(10)



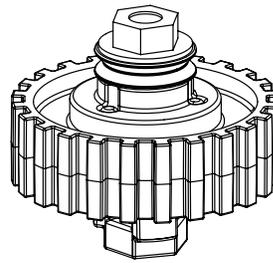
M8 Washer
(16)



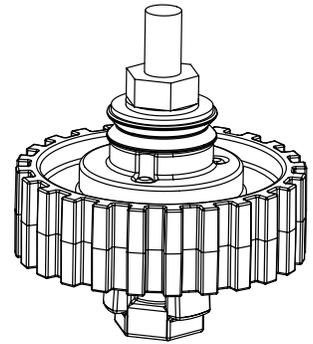
Hand Wheel
(1)



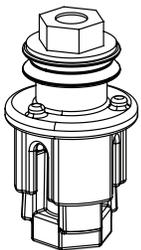
Leveling Foot
(10)
(Some are Pre-Installed)



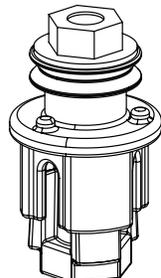
Short Bolt Ratchet
Wheel
(2)



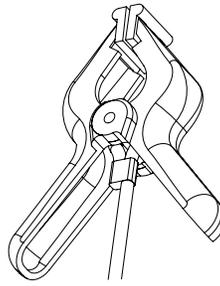
Long Bolt Ratchet
Wheel
(1)



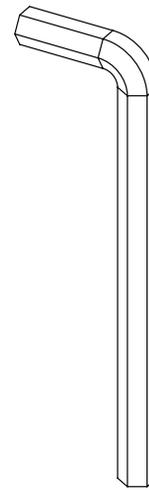
Small Rail End
for batting rail
(2)



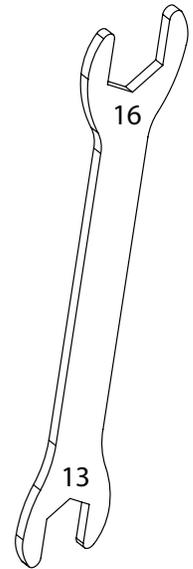
Large Rail End
(5)



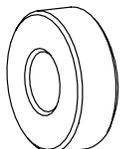
Bungee Clamp
(4)



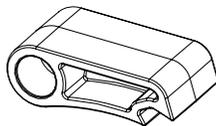
Allen Wrench
(2, one 4 mm, one
5mm)



13/16 mm
Wrench
(1)



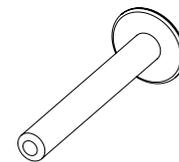
Spacer
(2)



Ratchet Stop
(3)



Ratchet Stop Bushing
(3)



M6 x 45mm
Connector Bolt (3)

Step 1 Frame Side Assembly



Note:

Assembly is easiest if you first finger-tighten all connections while assembling the frame. Once the entire frame is assembled, go back to tighten with the wrench.

Why is this important? If you tighten as you go, you may have trouble getting all the parts to align properly.

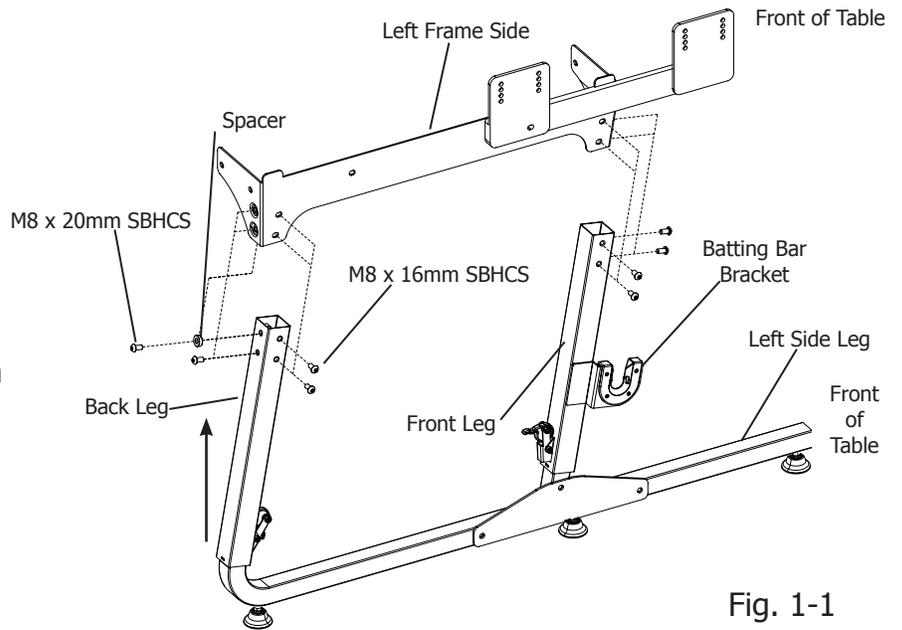


Fig. 1-1



Step 1: Frame Side Assembly

Note: Make sure both height-adjustable legs are at their **lowest** setting before proceeding.

Remember that the batting bar bracket needs to be on the outside of the leg.

Parts needed

- 1- Right and Left Side Leg
- 1- Right and Left Frame Side
- 2- Spacers
- 6- Leveling Feet
- 14- M8 x 16mm SBHCS
- 2- M8 x 20mm SBHCS

Tools Required

5mm Allen Wrench (Provided)

1-1: Screw three (3) leveling feet into the bottom of the left side leg, as shown in Fig. 1-1.

1-2: Slide one (1) M8 x20mm SBHCS through the top back hole of the left frame side. Then slide a spacer onto the end of the screw.

1-3: Attach the frame side onto the side leg, finger tighten the screw (M8 x 20mm SBHCS) into the top hole of the back leg. Install a M8 x 16 mm SBHSC into the bottom hole and finger tighten. You will tighten all the bolts with the allen wrench later.

1-4: Thread two (2) more screws into the side of the back leg followed by

two (2) more screws into the side of the front leg.

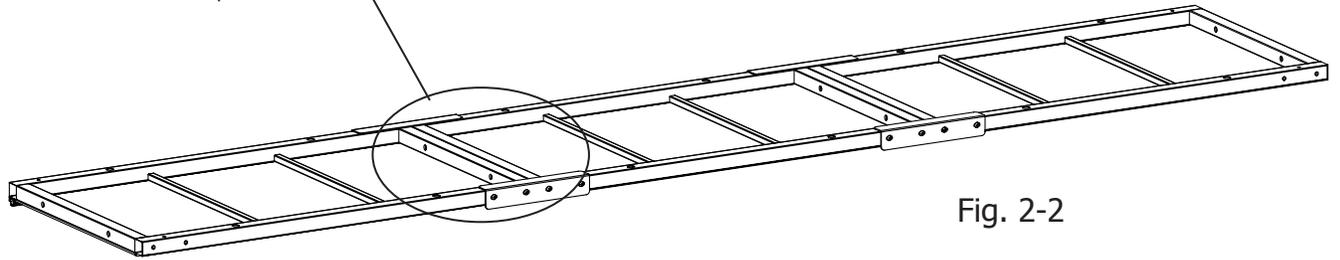
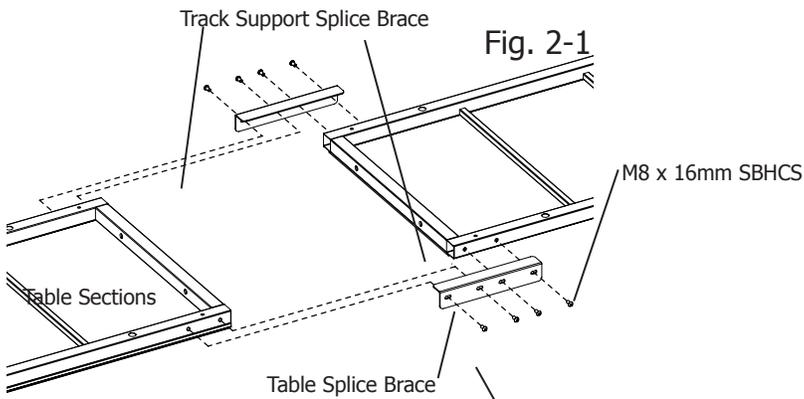
1-5: Thread two (2) screws through the left frame side and into the front of the left side leg. Now tighten all eight (8) screws with the provided allen wrench.

1-6: Follow **Steps 1-1 through 1-5** to complete the right side leg.



Note: Skip **Step 2 and 3** if you are only setting the frame up at four feet (4').

Step 2 Table Assembly



Step 2: Table Assembly

Parts needed

- 3- Table Sections
- 4- Table Splice Brace
- 16- M8 x 16mm SBHCS

the third section by repeating **Steps 2-1 and 2-2** by using the last table section.



NOTE:

For this step, a carpeted surface is recommended for the protection of your floor and frame.

Tools Required

- 5mm Allen Wrench (Provided)

2-1: First, lay two table sections upside-down on the floor, next to each other. Join the sections together by placing a table splice brace onto the sections, as shown in Fig. 2-1, lining up the holes in the brace with those in the sections. Make sure the flange portion of the brace is on top (as shown).

2-2: Place four (4) M8 x 16mm SBHCS through each table splice brace and finger tighten them into the table sections.



NOTE: If you are setting your frame up at twelve feet (12'), assemble

Step 3 Middle Leg Assembly

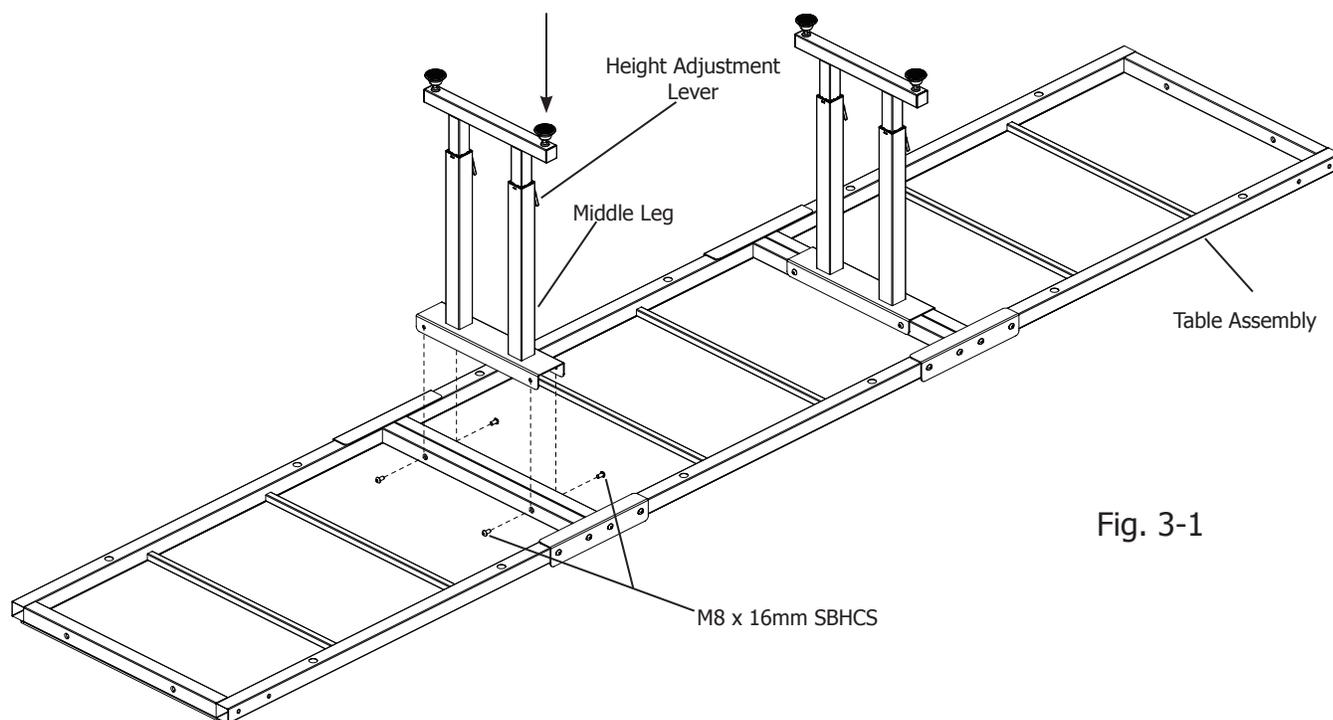


Fig. 3-1

Step 3: Middle Leg Assembly

 **Note:** You may find it helpful to use a rubber mallet to coax the middle leg assemblies into place.
(Not provided)

Parts needed

- 1- Table Assembly
- 2- Middle Legs
- 4- Leveling Feet
- 8- M8 x 16mm SBHCS

Tools Required

5mm Allen Wrench (Provided)

3-1: Place the middle leg over the joined table sections, as shown in Fig. 3-1.

3-2: Attach the middle leg using four (4) M8 x 16mm SBHCS and finger-tighten only.

3-3: Screw two (2) leveling feet into the bottom of your middle leg. (One leg will already have the leveling feet attached.)

 **Note:** If you are setting your frame up at twelve feet (12') you will repeat **Steps 3-1 and 3-3** to attach the other middle leg, keeping height-adjustment levers in the same orientation.

When assembling the second middle leg, be sure the height adjustment levers are facing the same direction.

Step 4 End Leg Assembly

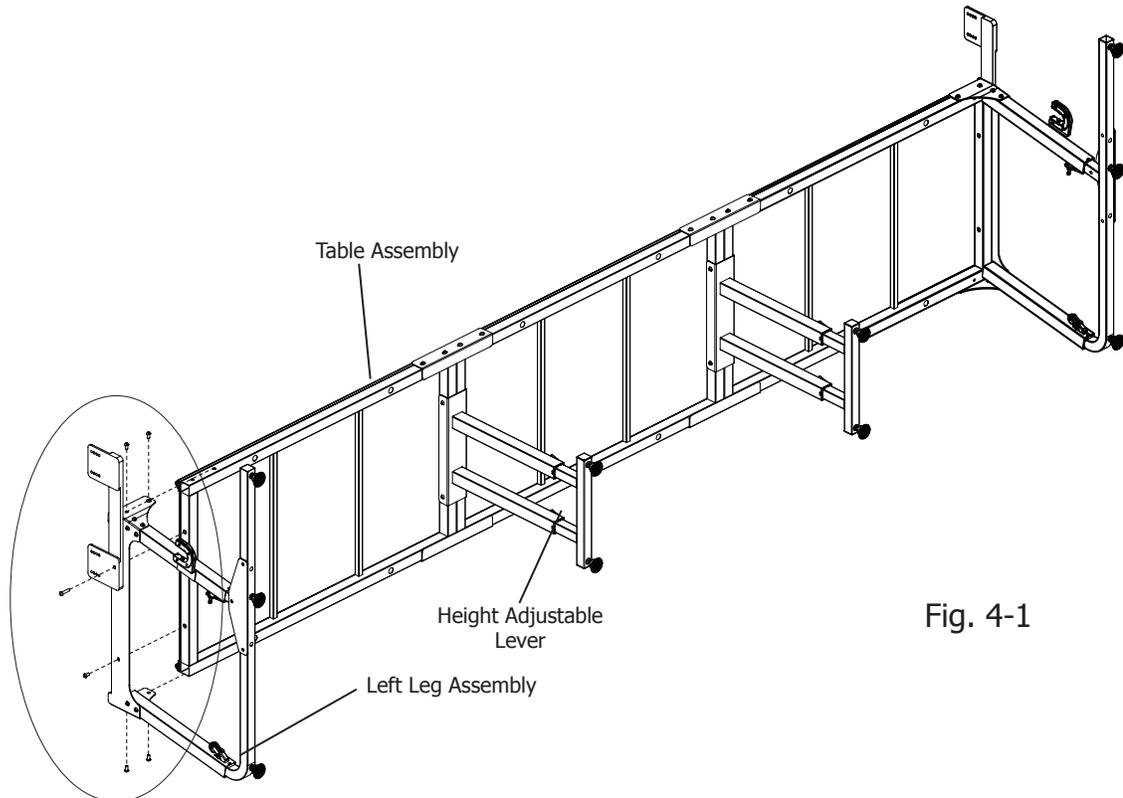


Fig. 4-1

Step 4: End Leg Assembly

Parts needed

- 1- Table Assembly
- 1- Right Leg Assembly
- 1- Left Leg Assembly
- 2- M8 x 35mm SBHCS
- 10- M8 x 16mm SBHCS

Tools Required

5mm Allen Wrench (Provided)

4-1: In preparation for attaching your left and right leg assemblies to your frame, turn the frame on its side as shown in Fig 4-1.

4-2: Slide the left leg assembly under the table assembly, as shown in Fig. 4-2.

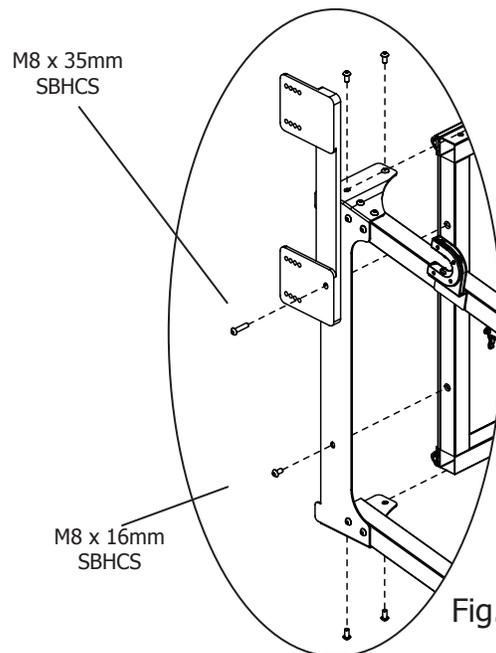


Fig. 4-2

Note: With the assistance of a second person, slightly tilting the frame more than 90 degrees will make it easier to attach the leg assembly to the table.

Step 4 End Leg Assembly (continued)



Note: Make sure both height adjustable legs are at their lowest setting before proceeding with **Step 4-6**.

4-3: Screw one (1) M8 x 35mm SBHCS through the top hole on the side of the left frame side, and one (1) M8 x 16mm SBHCS through the bottom hole, as shown in Fig 4-2, finger-tighten only.

4-4: Thread two (2) M8 x 16mm SBHCS through the top side of the left frame side.

4-5: Complete **Step 4-2 through 4-4** for the right side.

4-6: With the help of a second person, rotate your frame so it is standing in the upright position.

4-7: Attach two (2) M8 x 16mm SBHCS through the back side of your left and right leg assemblies, and **finger-tighten** only.

4-8: Next, ensure that the table surfaces are level by applying the appropriate pressure or support to the table sections, while a second person tightens the four screws of each splice, using the M5 allen wrench, as shown in Fig. 4-3. Tighten both splices on the same joint first, and then proceed in the same manner to the second and third joints (if applicable).

4-9: Now tighten all eight (8) screws attaching the middle legs to the frame.

4-10: Finally, tighten all of the screws that attach the frame ends/leg assemblies to the table sections.

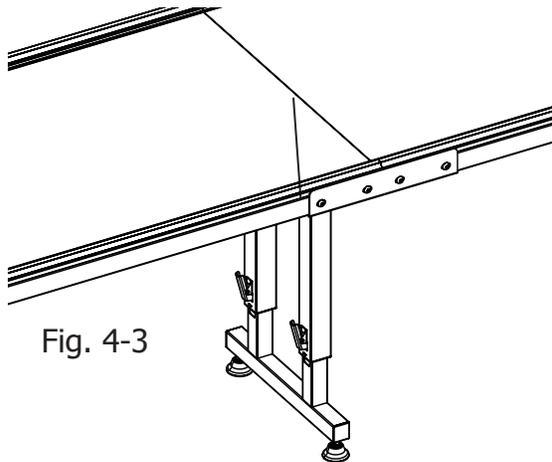


Fig. 4-3

Step 5 Precision-Glide Track Assembly

Parts needed

2- Precision Glide Track Extrusions
12- M6 x 12mm Connector Bolts

Tools needed

Precision-Glide Track Placement Gauging Template
4mm Allen Wrench (provided)

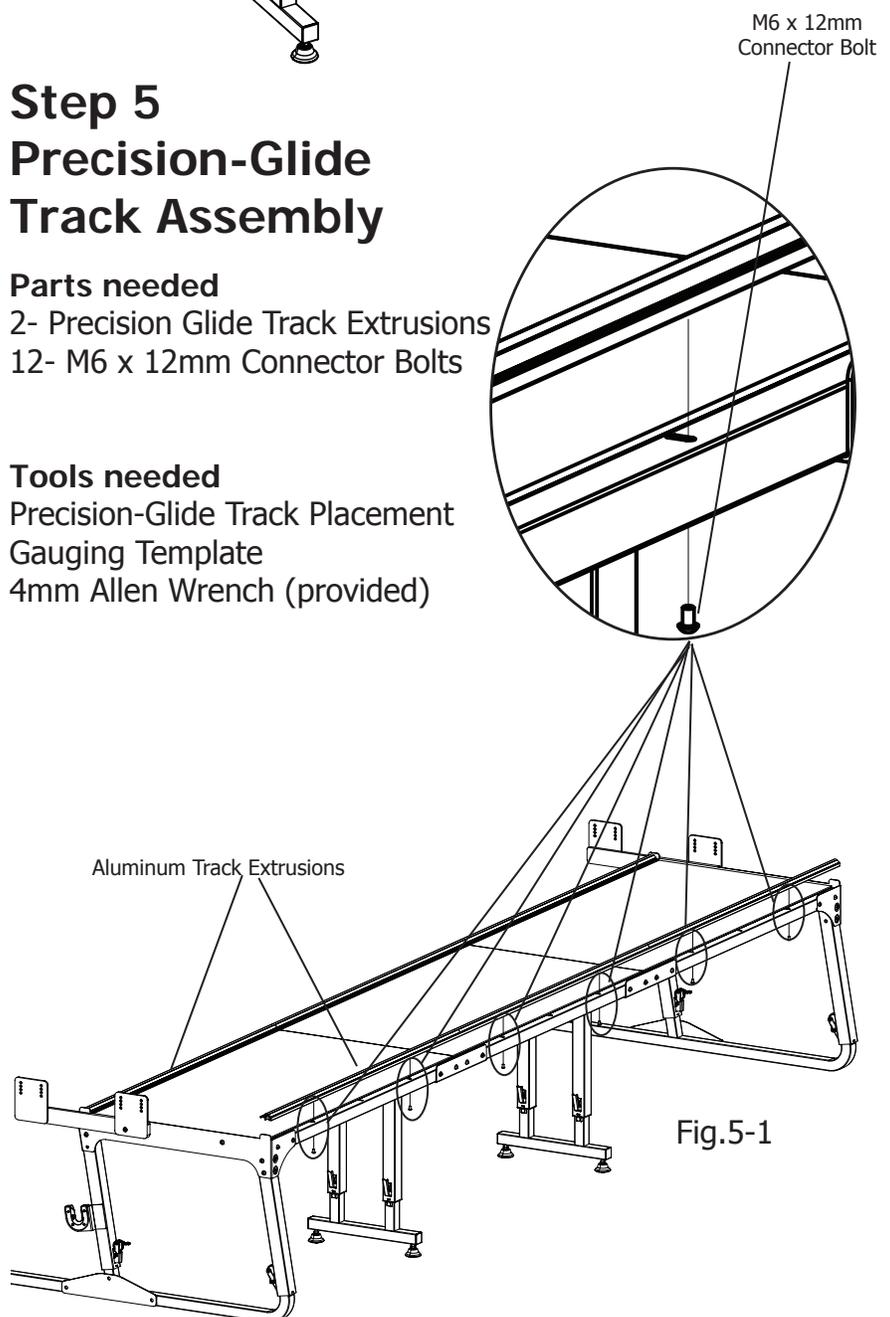


Fig.5-1

Step 5 (continued) Precision-Glide Track Assembly

 **NOTE:** The alignment of the track extrusions is critical. Please read through all of Step 5 before installing the Precision-Glide tracks.

 **NOTE:** The extrusions have a wider shoulder on one edge of the track. This shoulder is to be placed toward the inside of the table. (Fig. 5.2)

Step 5: Precision-Glide Track Assembly

5-1: Prepare the Precision-Glide track for placement on the table. If there is any glue or sticky residue where the track is being placed, it must be removed and the table surface cleaned.

5-2: To properly install the first Precision-Glide track extrusion, position the track parallel to the **back** edge of the table, with the track's wider shoulder toward the inside of the table. (Fig. 5-2)

5-3: Next, attach the aluminum track extrusion to your table using the M6 x 12mm Connector Bolts, **from the underside of the table**, as shown in **Figs 5-1 and 5-3**. Be very careful not to lose any screws from the end of the Allen wrench, as they might end up inside the table's tube frame. **Do not tighten the screws at this time.** They must be left loose in order to accommodate the adjustments that take place in Step 5-4.

In same manner, place the front track (with wider shoulder to the inside) on the table and attach, using the M6 x 12 mm Connector Bolts. Do not tighten.

5-4: Starting on one end, place the carriage on the front and rear tracks. Run the carriage from one end of the table to the other, aligning the tracks. Once aligned, move the tracks in tandem as far as possible to the back of the table. Tighten the back track in place.

5-5: Next, place the machine on the carriage and run the carriage back and



Fig. 5-2



Fig. 5-3

forth along the tracks, working the tracks into the wheels of the carriage, taking care to check that the wheels are engaging the track on both the front and back of the carriage.

5-6: Once the tracks are engaged and aligned, tighten the front track in place.

Step 6 Rail Bracket Assembly

Step 6: Rail Bracket Assembly

Parts needed

- 1- Table Assembly
- 1- Right Bracket (parts 1 & 2)
- 1- Left Rail Bracket (parts 1 & 2)
- 16- M8 x 25mm SBHCS
- 16- M8 Washer
- 16- M8 Hex Nut

Tools Required

- 17mm Wrench (Provided)

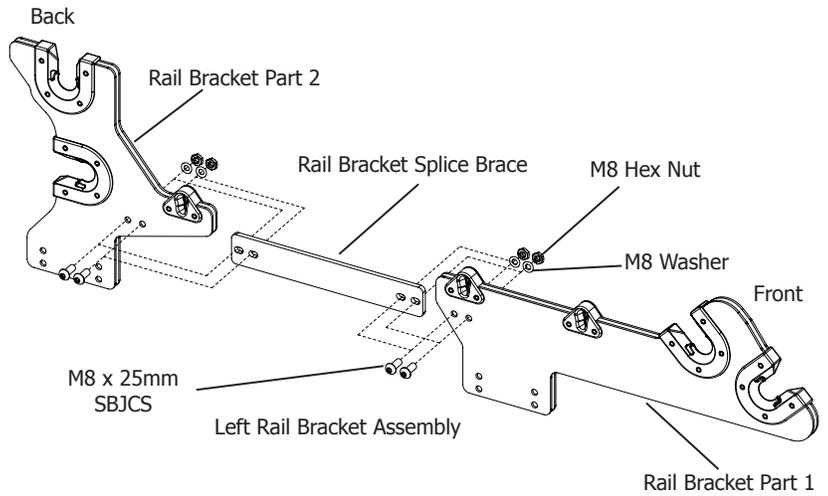


Fig. 6-1

6-1: Assemble the left rail bracket by connecting rail bracket parts one and two together by attaching them both to a rail bracket splice brace with four M8 x 25mm SHBCS and four M8 nuts, as shown in Fig. 6-1.

6-2: Repeat **step 6-1** to attach the right rail end, making sure the ratchets are on the inside of the frame. (Fig. 6-2)

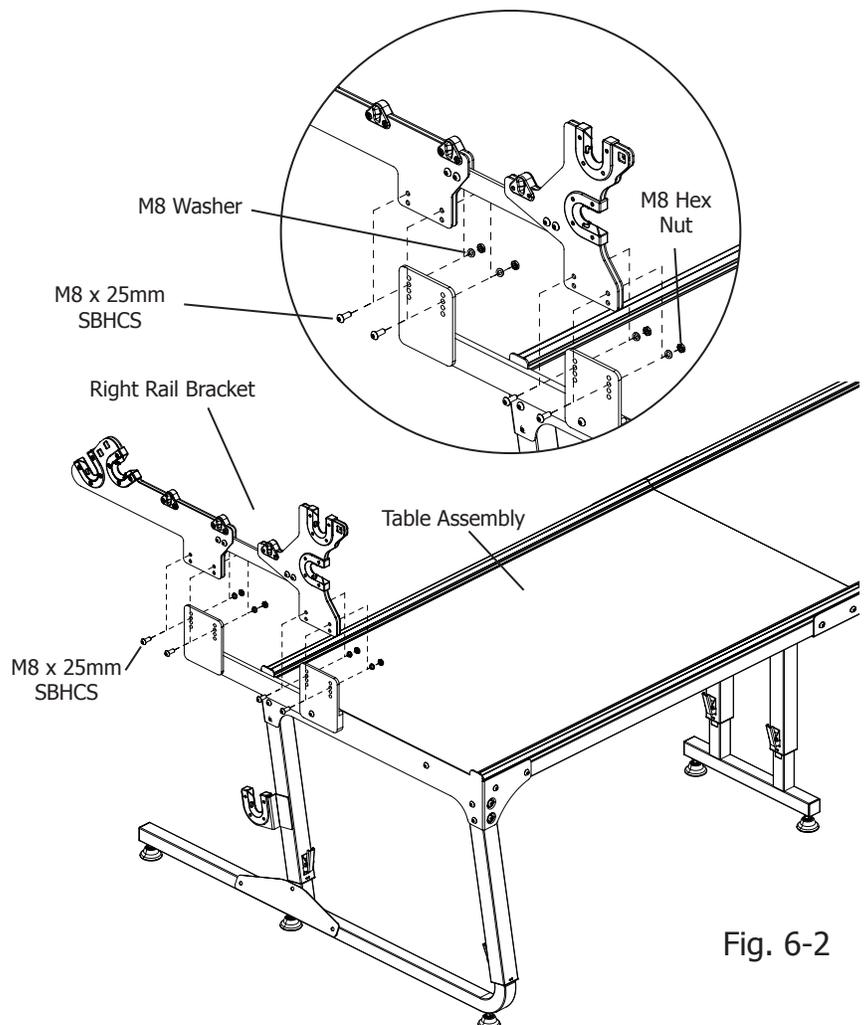


Fig. 6-2

Step 7 Ratchet Stop Assembly

Step 7: Ratchet Stop Assembly

Parts needed

- 1- Table Assembly
- 1- Right Rail Bracket
- 3- M6 x 45mm Connector Bolt
- 3- Ratchet Stop
- 3- Ratchet Stop Bushing

Tools Required

- 4mm Allen Wrench (Provided)

7-1: Cut the zip tie fastening your ratchet stop mount to the right rail bracket (you may need to hold the mount until you complete the remaining steps).

7-2: Place the ratchet stop bushing into the right rail bracket on the side opposite the ratchet stop mount.

7-3: Place a ratchet stop onto the ratchet stop bushing, noting the proper direction of the stop.

7-4: With the ratchet stop catch inserted into the ratchet stop, place an M6 x 45mm into the stop and thread in, using the 4mm allen wrench (provided).

7-5: In the same manner, assemble the remaining two (2) ratchet stops.

Note: Tighten the bolt just enough to hold the stop against the stop catch, but leave it loose enough for the stop to freely fall when not held by the catch.

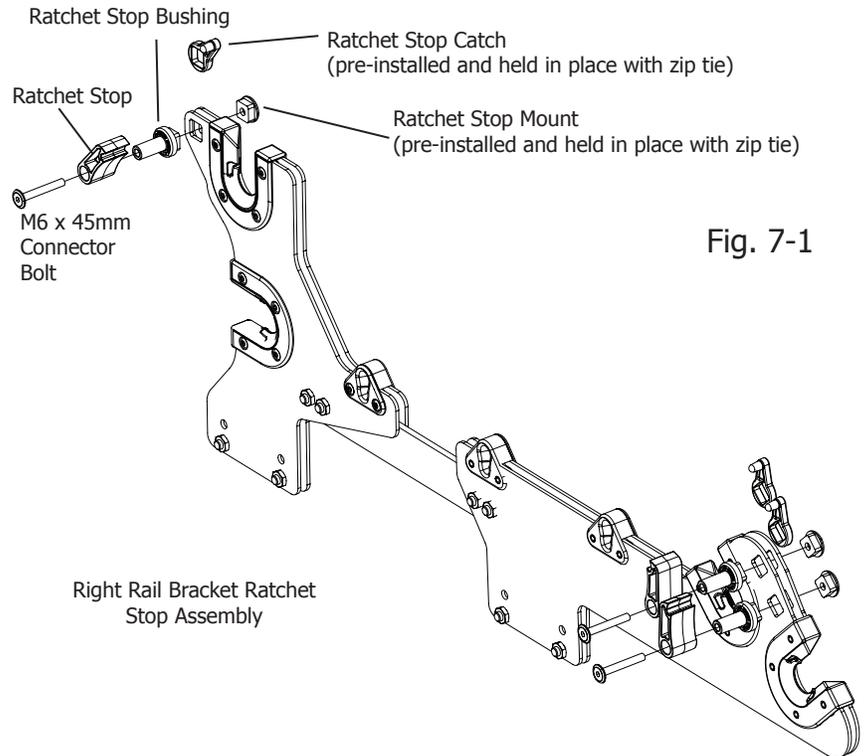


Fig. 7-1

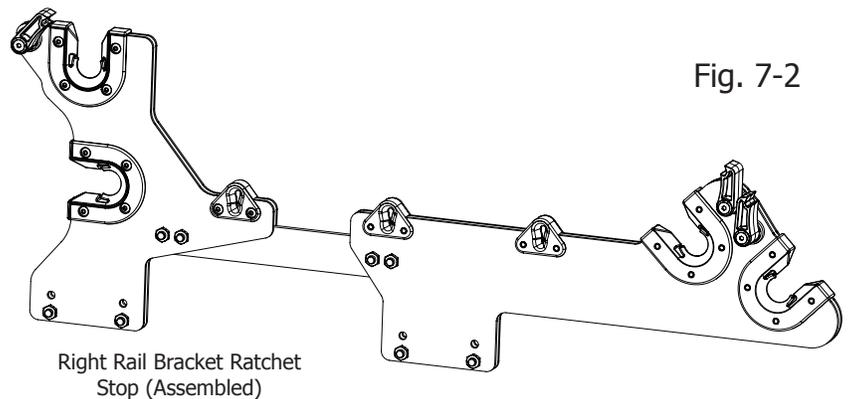


Fig. 7-2

Step 8

Rail Coupler Assembly

Step 8: Rail Coupler Assembly



NOTE: As **Step 8** deals with Rail Couplers, if you are assembling a four foot (4') frame, you may skip this step and proceed to **Step 9**.

Parts needed

- 8- Large Rail Couplers
- 2- Small Rail Couplers
- 12- Large Rail Sections
- 3- Small Rail Sections

8-1: To join large rail sections together, slide a large rail coupler into the large rail section, depressing the spring button as it slides in. Continue sliding until the spring button pops out of the hole in the rail. Fig. 8-1.

8-2: Attach a second large rail section to the open end of the coupler.

8-3: Add a third large rail section, using another large rail coupler to complete one large rail.

8-4: Repeat these steps for four sets of large rail assemblies.

8-5: Using small rail couplers and small rail sections, repeat Steps 8-1 through 8-4 to create one small rail assembly for batting storage rail (to be placed in rail brackets on table legs).

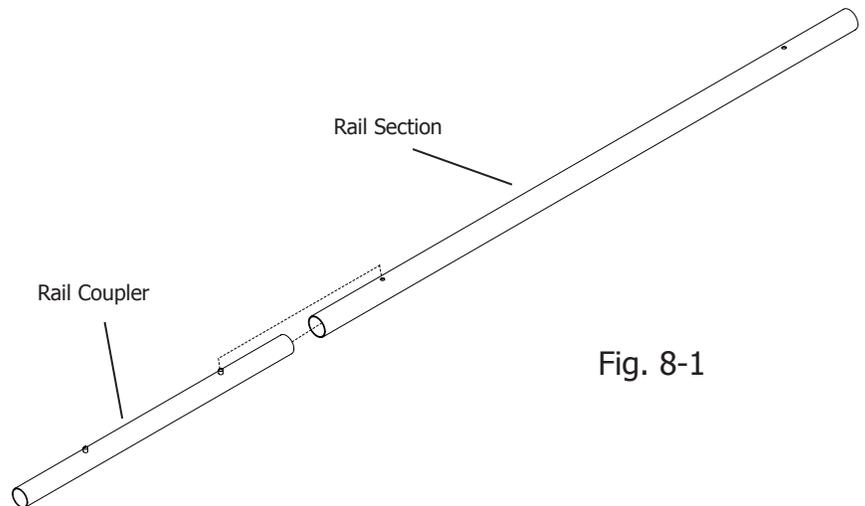


Fig. 8-1

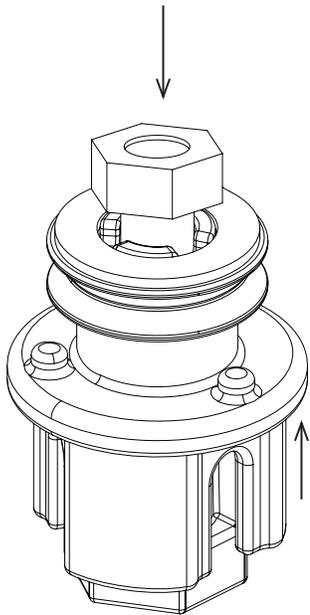


NOTE: The 12 foot HQ²⁴ Fusion Frame comes with 12 large rail sections and 3 small rail sections, which enable you to create 4 completed large rail assemblies and 1 completed small rail assembly for a batting storage rail.

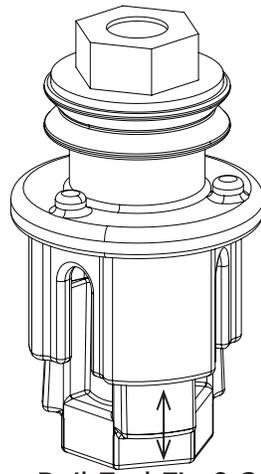
Use two rail sections and one couple per rail if setting up frame at 8 feet.

Step 9

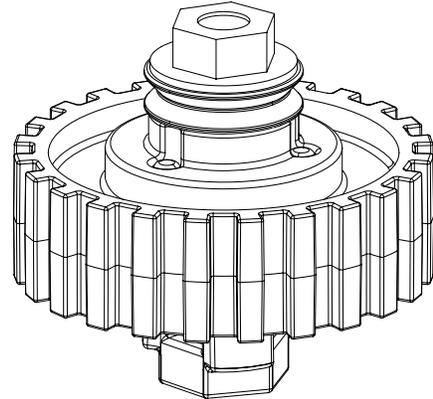
Rail (and Ratchet) End Assembly



Rail End Fig.9-1



Rail End Fig.9-2



Ratchet End Fig. 9-3

Step 9: Rail End Assembly

Parts needed

- 4- Large Rail Assemblies
- 1- Small Rail Assembly
- 5- Large Rail Ends
- 2- Small Rail Ends
- 2- Short Bolt Ratchet Wheel Assemblies
- 1- Long Bolt Ratchet Wheel Assemblies

Tools Required

16mm Wrench (Provided)

9-1: Assemble one LARGE RAIL END to one end of each of the four large rail assemblies.

9-2: First take the nut completely off one (1) of the large rail ends and then take the small washer completely off the bolt and discard it. Tighten the nut back on to the bolt only until it is about halfway threaded on the bolt, as shown in Fig. 9-1

9-3: Follow **Step 9-1** for the remaining four (4) large rail ends and the two (2) short bolt ratchet wheel assemblies.

9-4: Holding onto the ratchet wheel, (or in the case of the rail end, the outer plastic piece) push the end of the bolt toward the bolt head (Fig 9-1), until the plastic pieces expand out (the inside piece will slide out, as shown in Fig. 9-2).

9-5: Repeat **Step 9-4** for all large rail ends and ratchet wheel assemblies (Fig. 9-3)

9-6: Fit one of the large rail ends into the end of a large rail section, as shown in Fig. 9-4, with the nut and bolt end facing away from the rail.

9-7: Completely tighten the nut using the 16mm wrench.

9-8: Follow **Steps 9-6 and 9-7** for the remaining 4 large rail ends and large rail assemblies.

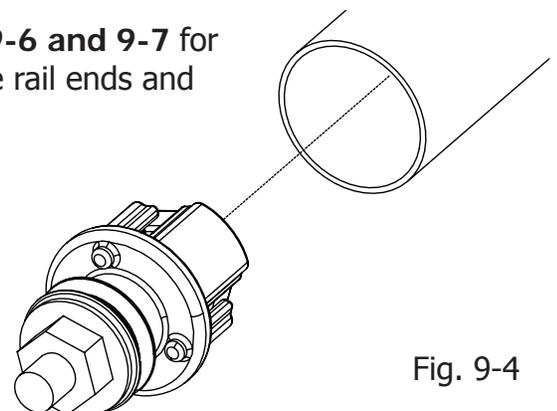


Fig. 9-4

Step 9 (continued) Rail (and Ratchet) End Assembly

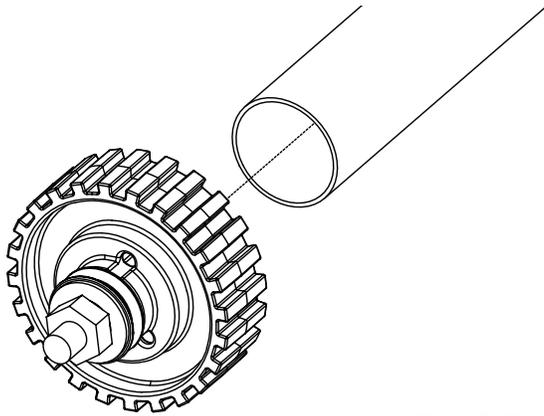


Fig. 9-5

9-9: Next attach rail ends and short bolt ratchet wheel assemblies to the opposite ends of the four rail assemblies. To attach the ratchet assemblies, follow **Steps 9-6** and **9-7** and see Figs. 9-4 and 9-5. Proceed until the completed rails look like Fig. 9-6 above.

9-10: Next assemble the long bolt ratchet wheel assembly by removing the nut and small and large washers off the end of the long bolt ratchet assembly bolt, but discard the small washer.

9-11: Slide the handwheel onto the bolt followed by the washer and slightly tighten the nut.

9-12: Holding onto the ratchet wheel, push the end of the bolt with the nut toward the bolt head, until the plastic pieces expand out (as you did in **Step 9-4**).

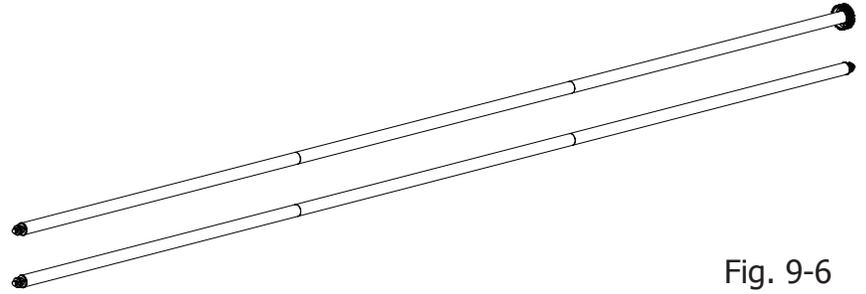


Fig. 9-6

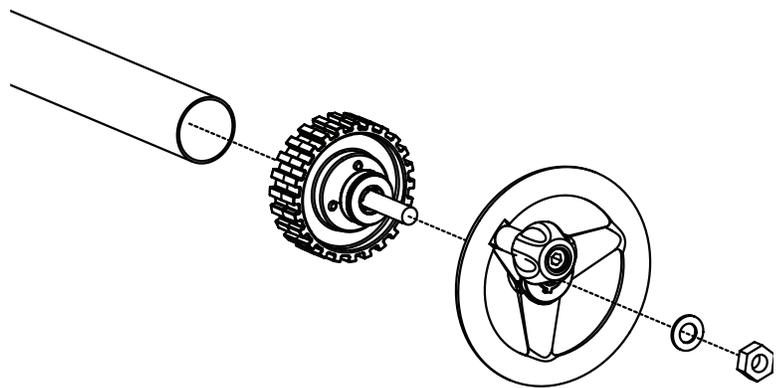


Fig. 9-7

9-13: Slide the long bolt ratchet wheel assembly into the remaining rail assembly, as shown in Fig. 9-7. Rail will look like Fig. 9-8 below.

9-14: Tighten the nut on the end of the long bolt ratchet wheel using the 17mm wrench.

9-15: Using small rail assembly and small rail ends, in same manner, assemble small rail to create batting storage rail.

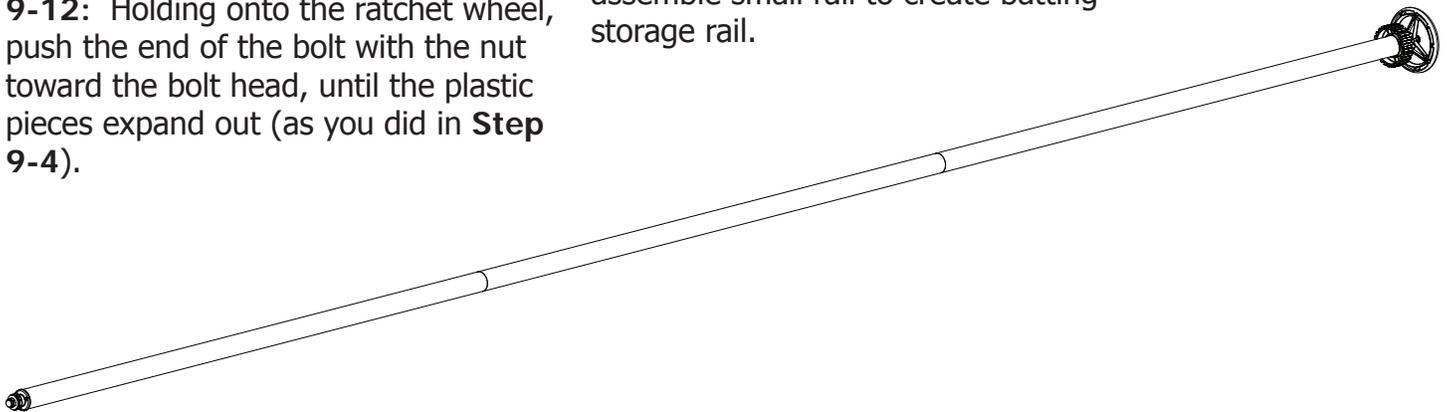


Fig. 9-8

Steps 10 & 11

Rail to Frame Assembly

Rubber End Cap Assembly

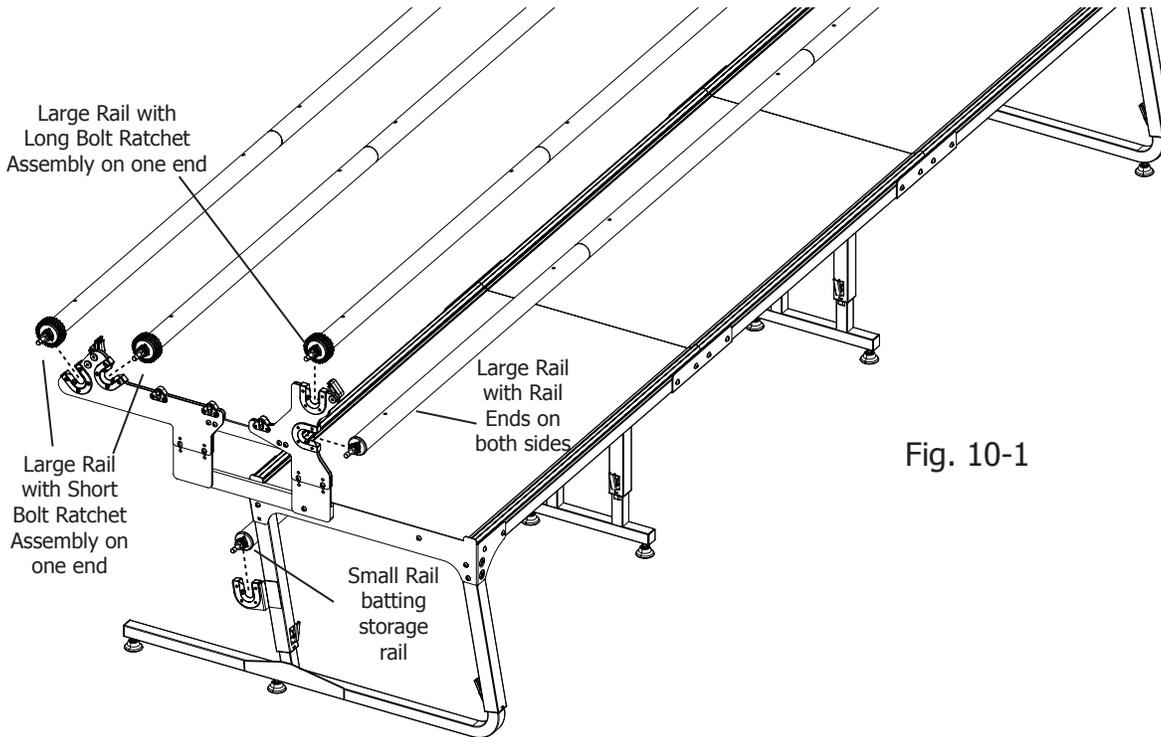


Fig. 10-1

Step 10: Rail to Frame Assembly

Parts needed

- 1- Frame Assembly
- 5- Rail Assemblies

10-1: Place the rails on the frame, as shown in Fig. 10-1.

Note: The rails will snap past the plastic fingers, as shown in Fig. 10-2.

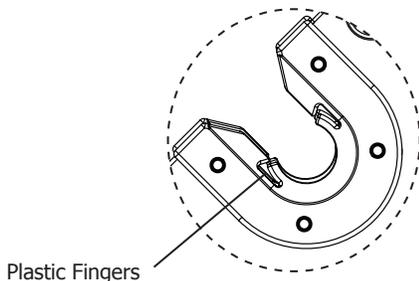


Fig. 10-2

Step 11: Rubber End Cap Assembly

Parts needed

- 1- Frame Assembly
- 10- Rubber End Caps

11-1: Slide one (1) rubber end cap onto the end of each bolt, as shown in Fig 11-1, sticking out of rail ends, short bolt ratchet assemblies and the long bolt ratchet assembly.

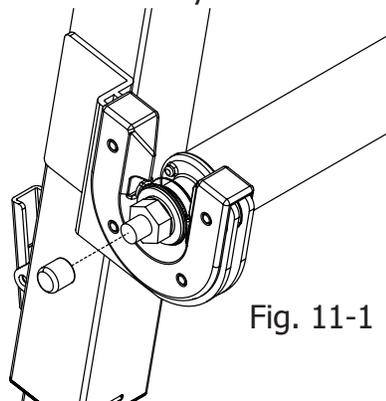


Fig. 11-1

Steps 12 & 13

Velcro® Attachment Bungee Clamp Assembly

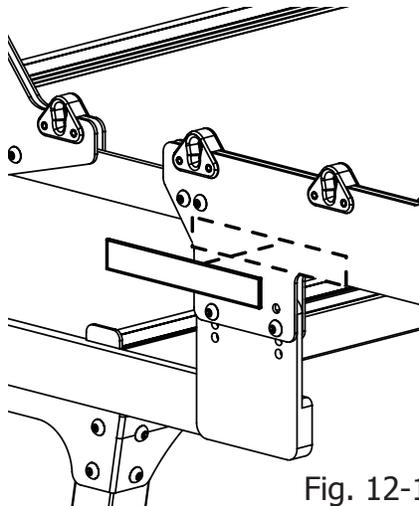


Fig. 12-1

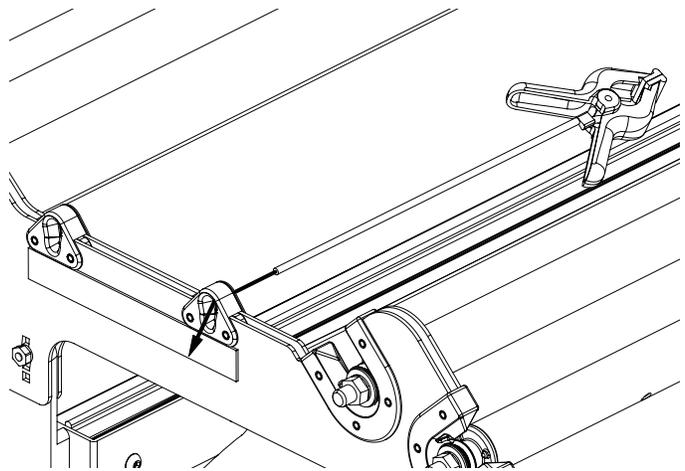


Fig. 13-1

Step 12: Velcro® Attachment Assembly

Parts needed

- 1- Frame Assembly
- 2- Velcro® Strip

12-1: Start from one side of the Velcro™ strip and remove about 1/2 of the protective paper and then place the sticky side right below the bungee clamps and press the Velcro™ firmly to the frame. Remove the remainder of the protective paper and press the velcro down.

12-2: Follow **Step 12-1** for the other velcro strip.

 **Note:** Handi Quilter has provided the Velcro® strips for use with clamps that have Velcro™-style straps such as those provided with the HQ Pro-Frame. Only Bungee-style clamps have been provided with the HQ²⁴ Fusion Frame, but the Velcro™ strips have been provided for your convenience.

Step 13: Bungee Clamp Assembly

Parts needed

- 1- Frame Assembly
- 4- Bungee Clamps

13-1: Thread the bungee cord through the bungee slot and then pull the cord in a downward movement to lock the bungee clamp in place.

13-2: Follow **Step 13-1** for the other three bungee clamps.

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