# King Quilter Frame #QF00007-12 and QF00007-10

Assembly Instructions NOVEMBER 2018

# **Table of Contents**







King Quilter Frame Assembly 3



Lower Gusset Bracket (1 per side=2 total) QF00007-406 BOX 3



Upper Gusset Bracket (1 per side=2 total) QF00007-407 BOX 3

C



er Side Bracket Right (2 pe

Outer Side Bracket Left (2 per side= 4 total) QF00007-405 BOX 3

Outer Side Bracket Right (2 per side=4 total) QF00007-404 BOX 3







Pole Cradle (3) QF11038 BOX 3 Screw, M4x18SKC ZN (9) QF10870 BOX 3 Washer, M4x10 Flat ZN (9) QF00007-417 BOX 3





6 King Quilter Frame Assembly

# **Preparation: Batting Bar Brackets**



#### **Parts Needed**

2 - upright beams

- 2 batting bar brackets
- 2 screws, M8 x 16mm SBHCS

#### **Tools Required**

5mm Allen wrench (provided)

**Prep-1:** Insert an M8 x 16mm SBCHS into the batting bar bracket on the left side of the frame.

**Prep-2:** Slide the bracket towards the center of the frame until it touches the leg and there is no gap. Fully tighten the screw with the M5 Allen tool provided.

**Prep-3:** Repeat the process for the batting bar bracket on the right side of the frame.

### **Do this Preparation first!**

# Step 1: End Leg Assembly

**NOTE:** Assembly is easiest if all connections are finger-tightened first, as instructed, while assembling the frame. Tighten with the wrench only when instructed.

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



NOTE: Protect your frame

**and work surface.** To avoid any damage to your frame parts and work surface, place a protective material on the floor or work surface to prevent scratches and other damage

#### **Parts Needed**

- 1 left rear leg upper
- 1 right rear leg upper
- 2 rear leg lower
- 2 lower leg beam
- 1 upper beam left hand side leg
- 1 upper beam right hand side leg
- 2 upright leg beam
- 4 outer side bracket right
- 4 outer side bracket left
- 2 lower gusset bracket
- 2 upper gusset bracket
- 4 leveling feet
- 58 screw M8 x 16mm SBHCS
- 8 screw M6x12 SH flange

### **Tools Required**

5mm Allen wrench (provided) 4mm Allen wrench (provided) 17/13/16 wrench (provided)

# NOTE: Height Adjustment

Be aware that there are two rivnuts inside the leg to facilitate continuous graduated table top height adjustment from approximately 28" to 34"; set both center legs using the same height rivnut to avoid leveling problems later on.



**1-1:** Determine how high you want your table top. One way to estimate the desired height is to measure the distance from your elbow to the floor with your arms bent at the elbow at 90 degrees and hands in front of you. Next subtract 16 to 18 inches. This will give you the approximate table top height for comfortable quilting, depending if you like your table a little higher or a little lower. The machine's needle plate is about six inches higher than the table top. The handlebars will be approximately six to nine inches higher than the needle plate. Most are comfortable with their arms bent at 90 degrees and forearms horizontal, parallel to the floor when free-motion quilting.

Note: To determine the approximate table top height: Add five inches to the height of the leg assembly to compensate for the bottom tube height, the leveling foot height and the table top tube height. The frame will be leveled later on, which may alter the height slightly.

**1-2:** Slide the left rear leg upper down over the rear leg lower to the desired height and insert the M8x16 screw into one of the two holes that best corresponds to your desired height. Fully tighten this height screw now to maintain the desired height.

**1-3:** Identify the top beam for the left and right side legs, which have different inside rivnut hole locations. The side with the most rivnuts goes to the inside of the frame.

**NOTE:** When a screw goes into a slotted/elongated hole the normal rule is for the slotted hole to be centered on the screw if possible.



Outside view of left hand leg assembly

**1-4:** Place the left upper beam above the vertical rear leg assembly and the lower leg beam below and insert the four M8x16 SBHCS screws. Align the back edge of the bracket with the end of the upper beam and lower beams. Finger tighten the screws only for now.

**1-5:** Thread the levelers into the bottom of the lower beam about half way. This will facilitate leveling the frame later. Use the 17/13/16 wrench if needed to adjust the levelers.



**1-6:** Identify the outer side bracket right and outer side bracket left. Two of each bracket are used on the outside of the leg assembly. On the left leg assembly the left bracket is used on the top right and bottom left and the right bracket is used on the top left and bottom right.



Outer side bracket left

Outer side bracket right

**1-7:** Place the brackets into place and align three M8 x16 SBHCS screws into each of the top brackets and two screws into each of the bottom brackets.

**1-8:** A left and right bracket are used on the top with three screws in each. Finger tighten the screws only for now.



**1-9:** A left and right bracket are used on the bottom with two screws in each. Finger tighten the screws only for now.



**1-12:** Turn the leg assembly to access the outside of the leg assembly. Place an M6 x12 large washer head screw thru each bracket into the gusset. There are four screws going through four brackets into the gussets. The gussets have rivnuts to accept the screws. Finger tighten the screws only for now.





**1-13:** Repeat steps 1-1 through 1-12 with the right leg parts for the right leg assembly.

### **Step 2: Table Assembly**



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

If you are working on a hard surface (such as tile, hardwoods or concrete), cover the surface with a blanket or rug.

NOTE: Skip Steps 2 and 3 if you are setting the frame up at four feet. The 12-foot frame uses a 4-foot center/middle table section. The 10foot frame uses a 2-foot center/ middle table section.

#### **Parts Needed**

3 - table sections
12-foot: three 4-foot sections
10-foot: two 4-foot sections a
one 2-foot section
4 - table splice brace
24 - M8 x 16mm SBHCS
Tools Required

5mm Allen wrench (provided)

**2-1:** Prepare the three table sections by removing the two track support screws from each track support. Set the track supports aside. These will be reinstalled in **Step 5.** These were assembled on the table temporarily to protect them during shipping.

**2-2: 12 foot:** Start with two 4-foot table sections upsidedown on the floor, end to end. **10-foot:** start with one 2-foot and one 4-foot table sections upside-down (black plastic table top down) on the floor, end to end. Join the sections together by placing a table splice brace onto the sections, 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).

**2-3:** Place four (4) M8 x 16mm SBHCS through the side of each table splice brace and finger-tighten them into the table sections.

**2-4:** Finger-tighten two (2) SBHCS through the top of each table splice brace (as shown).

**2-5:** Repeat **Steps 2-1** through **2-3** to add remaining 4-foot section. Important: For the 10-foot frame the 2-foot section goes in the center.

**2-6:** Pull the two table sections as close together as possible to remove the gap. (This will facilitate assembly of the center legs in **Step 3**.)

**2-7:** Using the 5mm Allen wrench, tighten the four side screws on each table splice brace until the brace touches the side of the table frames, and then loosen the screws  $\frac{1}{2}$  turn.

**2-8:** Tighten fully the two (2) top screws on each table splice brace using the 5mm Allen wrench. Now fully tighten the 4 screws on the side of each table splice brace. All 24 screws should now be tight.

# **Step 3: Center Leg to Table Assembly**



NOTE: If instructions were carefully followed in Section 2, there should be minimal gap between the table sections where the sections meet. The center leg(s) should align with the rivnuts in the end of the table sections.

#### Parts Needed

- 1 table assembly
- 2 middle legs
- 4 leveling feet
- 8 M8 x 16mm SBHCS

1 - yard stick or tape measure (not provided)

#### **Tools Required**

5mm Allen wrench (provided) 17/13/16 wrench (provided)

**3-1:** Install two (2) leveling feet about half way into one center leg.

**3-2:** Measure to determine where the screw should be placed to achieve the same desired height as the left and right leg assemblies and insert and fully tighten the center leg height screw.

**NOTE:** Measure from the underside of the table top frame, to the bottom of the tube on the center leg, to confirm the center legs are the same height as the right and left leg assemblies.

**3-3:** Place the center leg assembly over two joined table sections and align the leg holes with the table rivnuts. Attach the center leg assembly using four (4) M8 x 16mm SBHCS.

**3-4:** Fully tighten the four (4) screws.

**3-5:** Repeat **Steps 3-1** through **3-4** to attach remaining center leg.

# Step 3: Center Leg to Table Assembly (continued)



**NOTE:** On the 10 foot frame there is only one center leg assembly. It is mounted to the table left to right at the top bracket and the bottom beam runs front to back as shown.

# Step 4: End Leg to Table Top Assembly





#### Finger-tighten screws only until all screws are in place, they will be tightened after the table is turned up right. See **Step 4-10.**

# NOTE:

Make sure all height-adjustable legs measure the same height before proceeding with Step 4-10.

### **Parts Needed**

- 1 table assembly
- 1 left leg assembly 1 - right leg assembly
- 2 front gusset bracket
- 12 screw M8 x 16mm SBHCS
- 4 screw M6 x 50mm Large washer hd
- 4 washers, M6 large fender type

### **Tools Required**

5mm Allen wrench (provided) 4mm Allen wrench small wood block, about two inches thick (or two small 2x4 blocks)

**4-1:** In preparation for attaching the left and right leg assemblies to the frame, turn the frame on its side with the help of another person.

**4-2:** Lift the left end of the table assembly up and place a small block of wood about 2 inches thick under the table top assembly edge. One 2x4 is not enough, but two could be used. This will help align the screws between the leg assembly and the table assembly.

**4-3:** Slide the left leg assembly next to the end of the table assembly.

4-4: Insert and start two M6 x 50 screws through the leg assembly into the table top assembly, taking care to start the screws straight into the rivnuts in the table top assembly. Ensure that the screws are well started, but do not tighten them until the M8 x 16mm screws are also inserted and started.

**NOTE:** It may be necessary to shim the table top a little differently in order to align the screws with the rivnuts. Your assistant may need to hold the table top up vertically to be nearly parallel with the floor.

**4-5:** Place the two M8 x 16mm screws through the top of the leg assembly into the table assembly. Finger tighten the screws only for now.

**4-6:** Tighten fully the two long M6 x 50mm screws with washers first, then loosen them one turn. Tighten the two M8 x 16mm screws fully. Now fully tighten the two long M6 x 50mm screws.

**NOTE:** After tightening the two screws in **step 4-6**, **e**nsure that the table assembly is tight against the leg assembly. There should be minimal, or no gap between the two pieces.

4-7: Repeat Steps 4-2 through 4-6 for the right leg assembly.

**4-8:** Measure the two end leg assemblies at the front and rear and the two center leg assemblies to ensure they are the same height from the bottom of the table top tube to the bottom of the bottom leg tube near the floor. Adjust heights as necessary and tighten the height fixing screws.

**NOTE:** The frame will be checked for being level later on with the machine and carriage, after the frame track supports are assembled.

**4-9**: Check to see that the left and right rear leg assemblies are parallel to the front vertical beams and tighten the screws that can move forward and backward. Normally they will be close to the center of the elongated slot.



**4-10**: Measure between the back beam and the center of the screw on the vertical beam at the bottom and the top to determine if they are the same distance and parallel. If necessary loosen the four screws in elongated slots at the two bottom brackets and adjust the bottom of the vertical beam. When parallel tighten the four screws.

Note: four screws in elongated slots hold this position on the bottom brackets. Normally the screws will be located close to the center of the elongated slot.

**4-11:** Measure the distance at the rear of the frame and at the front of the frame between the upper beam and the lower beam to ensure they are the same distance and parallel. If not loosen the three height adjustment screws at the bottom of the vertical beam (one inside and two outside) and adjust the vertical beam up or down until the height at the front matches the height at the rear.



Note: Care should be taken to ensure the two ends of the frame are the same height and that the frame has been assembled correctly and consistently using the same corresponding slots on the left and right ends of the frame.

**4-12**: Locate a front gusset bracket. Insert two M8 x 16mm screws into the end leg assembly and two screws into the table assembly at the left end of the frame. Fully tighten the screws.

**4-13:** Repeat step 4-12 for the right end of the frame.

**4-13**: Finally tighten all of the M8x16mm screws on leg and table top assemblies.

**4-14:** With the help of a second person, rotate the frame so it is standing in the upright position.

**4-15:** Check the table-top frame to ensure that it is flat at each table splice brace and not sagging or high at the joint. Make a basic preliminary adjustment with the levelers if necessary. Final leveling will be done later on.



# **Step 5: Precision-Glide Track Assembly**



**NOTE:** The aluminum track support sections are cut from single sections of extruded aluminum and should align when placed end to end. However, if all directions in Step 5-4 are followed and track supports still do not align properly, try swapping track support sections, so that different ends are joining.

### Parts Needed

#### 1 - table

- 6 track supports
  - 12 foot: 6 four foot supports
  - 10 foot: 4 four foot & 2 two foot
- 4 track support couplers
- 24 M5 X 8mm SBHCS
- 12 M6 x 12mm connector screw
- 4 12' black plastic tracks

#### **Tools Required**

3mm Allen wrench (provided) 4mm Allen wrench (provided)

**5-1:** Check inside the ends of the track supports for burrs or debris and remove all foreign matter from the inside.

**5-2:** Lay three track-support sections on the table upside down, with the wider lip of the sections facing toward the outside of the table (Fig. 5-1).



**5-3:** To prepare for joining one end and the center support sections together, screw one M5X 8mm SBHCS into the third hole from each splice end of each section to serve as a stop screw (Fig. 5-1, Fig. 5-2). Fully tighten this screw. This will help align the coupler properly into the two track support sections when joined.

**5-4:** Insert a coupler into one prepared end of one track support section up to the stop screw. Thread an M5 X 8 mm SBHCS into the first hole and lightly tighten as shown in Fig. 5-2. Insert the other end of the coupler into second prepared track support section. Hold the two adjoining track support sections tightly together and thread an M5 X 8mm SBHCS into the first hole of the second track support and lightly tighten (shown in Fig. 5-2). You may need to gently rock the track support to seat the coupler. Finally, insert a second screw into the track supports, align and tighten.

#### 5-5: Repeat Steps 5-3 and 5-4 to

join remaining track support section to center track support section to assemble one (1) track support. Once alignment is assured, tighten all screws firmly.

# Step 5: Track Assembly (continued)

**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 over the edge of the black plastic tabletop.

**5-6:** Insert a plastic track completely into one side of the aluminum track supports. The plastic track should slide into the track support easily. If the plastic track binds slightly, try backing the track out a little, then pushing it further. If the plastic binds badly, check the track supports for debris, burrs, misalignment or damage. In same manner, insert plastic track in the other side of the track support.

**5-7:** Repeat **Steps 5-1** through **5-6** to make second track.



**NOTE:** If the front and rear track supports are the wrong distance apart, either too close together or too far apart, the machine will rock down when all the way forward or when all the way

to the back.

**NOTE:** For 10 foot frames, score the black plastic track inserts with a razor knife to cut the excess track to the proper length.

**5-8: Attach Tracks.** Secure one assembled track to the back of the quilting frame. Line up the track support by holding it tightly against the plastic tabletop as you secure it to the frame, using six (6) M6 x 12mm connector screws. **Do not tighten screws at this time.** They need to be loose to accommodate adjustments in **Step 5-9**. In same manner, attach the remaining track support to the front of the frame using six (6) M6 x 12mm connector bolts.

**5-9: Align Tracks**. Place the carriage on the tracks at one end of the table. Roll the carriage back and forth along the length of the table, establishing the distance between the two tracks, taking care to check that the wheels are engaging the track on both the front and the back of the carriage. Move both tracks in tandem to the back of table as far as possible. (Slots in the tables allow this movement.) Double-check that the back track is





straight along the back edge of the table. Fully tighten the screws in the **BACK** track only for now with the 4mm hex tool.

**5-10:** Place the machine onto the carriage and again, roll it the entire length of the frame, working the tracks into the wheels as you go. Lightly tighten the front track support screws as you move down the table with the machine over the screws you are tightening. Check the carriage to verify that it rolls smoothly and that both ends of the carriage are engaging the tracks. If you find a section of track where the carriage rocks up or down when moved all the way forward or back, loosen the front track support screws, and adjust the front track until the carriage rolls smoothly and does not rock, then re-tighten the front track screws.

**5-11:** Finally, fully tighten the front track to the table with the 4mm hex tool.

# Step 5: Track Assembly (continued)



**Step 6: Front Pole Carrier & Rear Pole Carrier Arm Assembly** 



#### **Parts Needed**

2 - rear pole carrier arm 2 - front pole carrier 12 - screw M8 x 16mm SBHCS

#### **Tools Required**

5mm Allen wrench (provided)

**6-1:** Identify the front pole carrier left and the front pole carrier right.

**6-2**: The front pole carrier goes all the way forward, almost flush on the one side with the end of the upper beam. Insert two screws, M8 x 16mm SBHCS through the front pole carrier and into the upper beam. Center the hole slot on the screws and fully tighten the screws with a 5mm Allen tool.

**6.3:** Place the rear pole carrier arm with the solid face inside and the two flanges to the outside onto the vertical beam. Insert four screws, 8M x 16mm SBHCS through the rear pole carrier arm and into the vertical beam. Center the slots on the screws. Fully tighten the screws with a 5mm Allen tool.

**6-4:** Repeat steps 6-2 and 6-3 for the right side of the frame.

# **Step 7: Bungee Cleat Bar Assembly**

#### **Parts Needed**

2 - bungee cleat bars

- 2 front pole carrier
- 6 screws, M6 x 12mm large flange

### **Tools Required**

4mm Allen wrench (provided)

**7-1:** Align the bungee cleat bar inside the front pole carrier and rear pole carrier arm. The bungee cleat bar has a radius which should be up. Insert two M6 x 12mm screws through the front pole carrier and one screw through the rear pole carrier arm and thread them into the bungee cleat bar.

**7-2**: Check that the bungee cleat bar is parallel to the upper beam. If not, adjust the bar and or beam until they are parallel to each other and the bottom beam. This will ensure that the poles will be as level with the quilt top as possible.

**7-3:** Repeat steps 7-1 and 7-2 for the right side of the frame.



# **Step 8: Leveling the Frame**

#### **Parts Needed:**

1 - assembled frame with leveling feet

#### **Tools Required:**

17/13/16mm wrench (provided)

**8-1:** It is recommended that the frame be leveled by using the machine on its carriage. The machine should stay where ever it is placed, left to right and front to back, without rolling. Test in several places along the length of the frame.

**8-2**: Level the frame by adjusting the leveling feet up or down as needed.

Note: The frame may settle into carpet even after only a short period of time and need to be leveled again.

# **Step 9: Pole Assembly**

**IMPORTANT:** Be careful not to pinch your hands between pole parts while sliding them together.

**NOTE:** Your frame comes with 15 pole sections, which enable you to create 5 completed pole assemblies

- 4-foot size uses five pole sections
- 8-foot uses 10 pole sections and 5 couplers
- 12-foot uses all 15 pole sections and all 10 couplers.

# 

10-foot frame uses 10 four-foot pole sections and 5 two-foot pole sections. The two-foot sections go in the center.

**NOTE:** If you are assembling a 4-foot frame, you may skip **Step 8** and proceed to **Step 9**.



**NOTE:** Instructions are for assembling 12-foot pole assemblies using three 4-foot pole sections for each of five poles. See notes for different size frames.

#### **Parts Needed**

15 pole sections 10 pole couplers

Tools Required: none

**9-1:** Join two 4-foot pole sections together by inserting a pole coupler into the end of one pole section depressing the spring button as it slides in. Continue sliding until the spring button pops out of the hole in the pole section. Repeat to add second 4-foot pole section to the first.

**9-2:** In same manner, add final 4-foot pole section to section completed in **Step 9-1** to complete one 12-foot pole assembly.

9-3: Using remaining couplers and pole sections, repeat Steps 9-1 and
9-2 to complete four more 12-foot pole assemblies for a total of 5 pole assemblies.

# **Step 10: Adding the Pole Ends**









QF11034 ratchet right hand (x2)

QF11035 ratchet left hand (x1)

### **Parts Needed**

- 5 pole assemblies
- 1 ratchet left hand
- 2 ratchet right hand
- 3 ratchet idler end cap
- 4 spring loaded idler end cap

Tools Required: None

### **Pole End Assembly**

**10-1:** Take a pole assembly and insert a QF11034 ratchet right hand with QF11023 ratchet thumb shifter into one end.

**10-2:** To insert the ratchet right, slide it into the pole end and align the large side hole for the ratchet thumb shifter.

**10-3:** Slide the ratchet thumb shifter into the side hole until it hits the core pin.

**10-4:** While holding the pole, pull the ratchet right hand out until the ratchet thumb shifter can be pushed past the core pin into the other side of the pole.

QF11023 ratchet thumb shifter (x3)

QF11036 ratchet idler end cap (x3)

QF11037 spring loaded idler end cap (x4)



Core pin aligns with groove in ratchet thumb shifter





# Step 10: Adding the Pole Ends (continued)









QF11034 ratchet right hand (x2)

QF11035 ratchet left hand (x1)

**10-5:** Insert the ratchet idler end cap into the other end of the pole while aligning the large round tab with the large side hole in the pole.

**10:6:** Repeat steps 11:2, 11:3 and 11-4 for a second ratchet right hand pole.

**10-7:** Repeat steps 11:2, 11:3 and 11: 4, this time using a ratchet left hand QF11035 and ratchet thumb shifter QF11023.

**10:8:** With the last two pole assemblies, take the QF11037 spring loaded idler ends and insert them in both pole ends, while aligning the large round tab with the holes in the side of the poles.

**10:9:** Assemble the hand wheel onto one of the pole assemblies with a ratchet right hand on the end. Use the image at the right for part orientation.

QF11036 ratchet thumb shifteridler end cap (x3) QF11036 ratchet idler end cap (x3)

QF11037 spring loaded idler end cap (x4)







#### Parts Needed

- 1 frame assembly
- 1 batting storage pole
- 1 backing pole
- 1 quilt-top pole
- 1 idler pole
- 1 take-up pole

### **Tools Required**

None

**11-1:** Place the poles on the frame as shown.

# Step 12: Rubber End Cap Assembly

#### **Parts Needed**

- 1 backing pole
- 1 quilt top pole
- 2 rubber cap #QF09318-716

### **Tools Required:**

None

**12-1:** Slide one (1) rubber end cap onto the end of the bolt sticking out of the ratchet on the backing pole and quilt top pole.



# **Step 13: Bungee Clamp Assembly**

#### **Parts Needed**

1 - frame assembly with bungee cleats4 - bungee clamps

### **Tools Required:**

None

**13-1:** Thread the bungee cord from the inside of the frame through the bungee cleat; then pull the cord in a downward movement to lock the bungee clamp in place.

**13-2:** Follow **Step 14-1** for the other three bungee clamps.



# **Steps 14: Hook and Loop on Pole Assemblies**

#### **Parts Needed**

- 1 quilt-top pole
- 1 backing pole
- 1 take-up pole
- 3 hook and loop strips

#### **Tools Required**

Measuring tape or ruler (not provided) Scissors (not provided)

**NOTE:** Attach the strip next to the snap button, not between.

**NOTE:** Once the hook and loop strip has been adhered from one end of the poles to the other, it can be cut where the poles meet at each pole coupler.

**NOTE:** Cutting the hook and loop at the pole couplers is only necessary for when you want to take the poles apart for storing or moving the frame.

**14-1:** Prepare to attach the hook and loop strip to the quilt top pole, backing pole, and take-up pole by measuring in 3 inches from each end of the pole. Peel the backing off the strip as you go and apply to all three poles, starting at the 3-inch mark and ending at the opposite 3-inch mark.

**Important:** Take care to stick the hook and loop on straight. This step will determine how well your quilts load. Use the spring coupler snap buttons as a guide when aligning the hook and loop strip for best results.

# **Steps 15: Attach Leaders**

#### **Parts Needed**

1- frame assembly with hook and loop strip applied to poles

3 - King Quilter leaders

**NOTE:** The leaders provided with the King Quilter Frame are sized for the 12-foot frame. If you are setting the frame up at the 10-foot, 8-foot or 4-foot length, you should cut the leaders to fit.

**15-1:** Mark the center of the leaders on both the hook and loop edge and the hemmed edge. Mark the center of the quilt-top pole, backing pole and take-up pole with a permanent marker.

**15-2:** Beginning in the center, align the marks and attach the leaders to the hook and loop strip on backing pole and the quilt top pole so the marked sides of the leaders hang to the center between the poles.

Beginning in the center, align the marks and attach the remaining leader so it falls to the back of the take-up pole.