

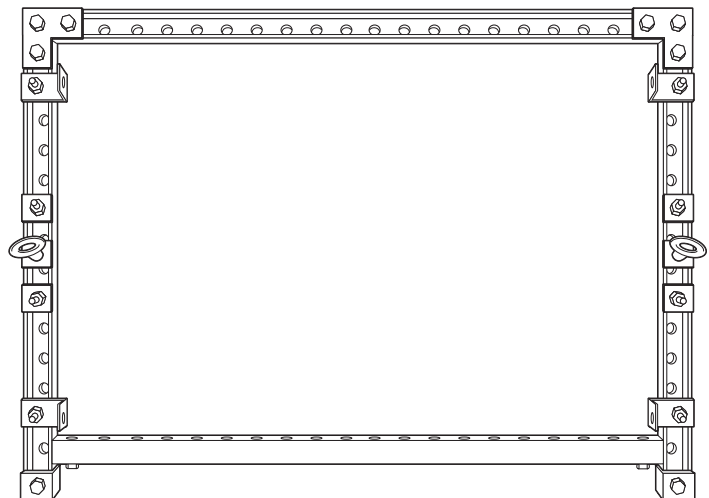


## Engineered ThermoFisher Scientific Floor Bracing Frame

### Assembly Instructions - Model LRF23



For Installation services,  
please contact  
**QuakeHOLD Industrial**  
at 1-800-232-7836.  
For the engineered specifications,  
please visit:  
**[Quakeholdindustrial.com](http://Quakeholdindustrial.com)**



# Engineered Floor Bracing Frame Assembly Instructions

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Engineered Floor Bracing Frame  
Assembly Instructions - Model LRF23  
**Tools Needed**



Hilti hammer drill or equal



1/2" Hilti cement drill bit or equal



3/4" Hilti cement drill bit or equal

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hammer



tape measure



large 3/4" & 1  
1/8" socket

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Atrix Omega HEPA  
Abatement Vacuum or equal



HILTI BLOW OUT PUMP  
Item No.: 00060579 or equal



3/4" & 1 1/8"  
wrench

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Makita portable band  
saw or equal



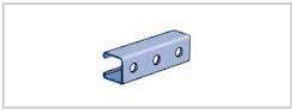
70% isopropyl alcohol



Terrycloth or paper towel  
or equal

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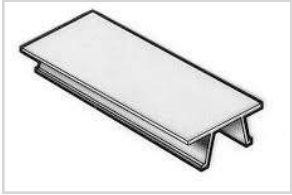
# Engineered Floor Bracing Frame Assembly Instructions Components Enclosed



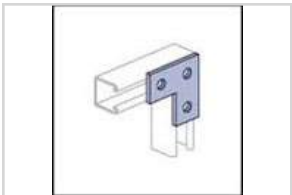
**Part A** 29.25" long Unistrut channel **((CUTS SHOULD BE MADE TO FIT CORRECTLY, SEE PAGE 6 FOR REFERENCE))**  
(2) metal framing channel, 1-5/8" x 1-5/8"



**Part B** 33" long Unistrut channel **((CUTS SHOULD BE MADE TO FIT CORRECTLY, SEE PAGE 6 FOR REFERENCE))**  
(2) metal framing channel, 1-5/8" x 1-5/8"



**Part C**  
Closure strip, plastic, 2" wide top, gray



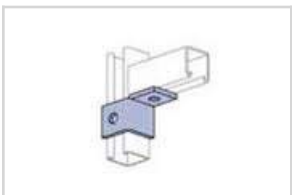
**Part D**  
(2) P1036 Back Corner Bracket, L-flat plate, 3-hole, electro galvanized, 3-1/2" x 3-1/2" x 1-5/8"



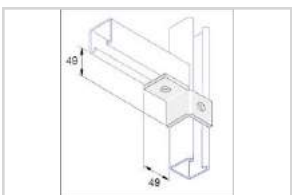
**Part E**  
(10) bolt, 1/2" 13 tpi x 1-1/4"



**Part F**  
(12) P1010, spring nut, 1/2"



**Part G**  
(1) P2341 Front Corner Bracket, wing-shape fitting, electro galvanized, 1-5/8" x 1-5/8" x 1-5/8" - **left**



**Part H**  
(1) P2341 Front Corner Bracket, wing-shape fitting, electro galvanized, 1-5/8" x 1-5/8" x 1-5/8" - **right**

Engineered Floor Bracing Frame  
Assembly Instructions - Model LRF23  
**Components Enclosed**



**Part I**  
(2) eye bolt, stainless steel, 1/2" dia



**Part J**  
(6) P1064, square washer, electro galvanized, 1-5/8" x 1-5/8"



**Part K**  
(4) L bracket, powder coated, L2 1/2" x 2 1/2" X 3/8"- 2"



**Part L1/2**  
(4) carbon steel anchor, 1/2" x 5-1/2"

**Part L3/4**  
(4) stainless steel anchor, 3/4" X 6 1/4"



**Part M**  
(4) end cap, electro galvanized, 1-5/8" x 1-5/8"



**Part N**  
(2) corner ratchet-strap guide bracket, powder-coated steel, gray

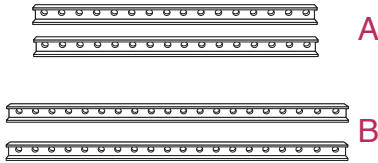


**Part O**  
(1) ratchet strap assembly, gray

# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23

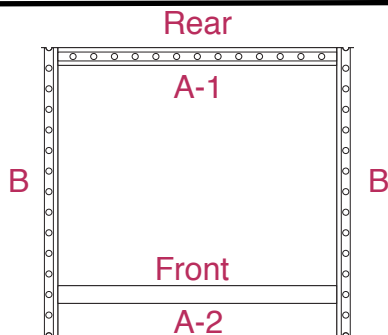
## Shaping the Base Frame and Joining Rear Components

Locate (4) pieces of Unistrut channel:



**Part A** (2) pieces are 29.25" for the frame width

**Part B** (2) pieces are 33" for the frame depth



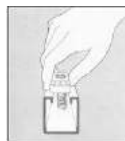
Take both **Part A** channels and place them horizontally. Position **A-1** channel with the opening facing up. Position **A-2** channel with the opening on the side facing front. Take both **Part B** channels and place them vertically outside the **Part A** channels, forming a square. Position them with the opening facing up.



Locate **Part E** bolts (6) needed to assemble rear corners of the frame.



Locate **Part F** spring nuts (6) needed to assemble rear corners of the frame .



Locate **Part D** L-flat plate (2) and stage one on each of the rear corners of the frame.

Note hole locations of the L-flat plate. Remove L-flat plate.

← Position **Part F** spring nuts under the noted L-flat plate holes with spring-side inserted into the channel.



← Push down into channel and turn 90 degrees to seat spring nut.

Replace L-flat plate on the rear corners of the frame, aligning holes over the spring nut holes.



Insert **Part E** bolts through the L-flat plate holes and into the spring nuts. Firmly tighten bolts.

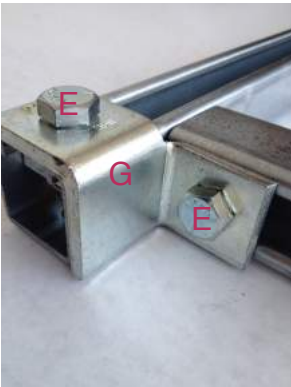
# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 Shaping the Base Frame and Joining the Components

NOTE - Attaching (2) front corners of the frame:  
Horizontal channel opening must be facing you.  
Vertical channel opening must be facing up.  
Use **Part G** wing-shape fitting on the **left** corner.  
Use **Part H** wing-shape fitting on the **right** corner.



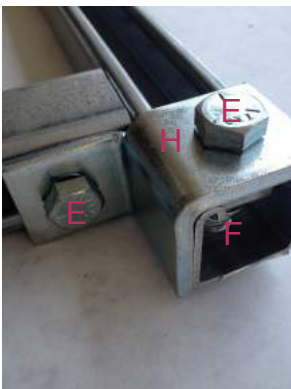
Locate **Part F** spring nuts (4).  
Insert one spring nut into each piece of corner channel with spring-side inserted into the channel.

Locate **Part E** bolts (4) needed to assemble front corners of the frame. Set aside.



Locate **Part G** left wing-shape fitting and position on the front left corner assembly of the frame, aligning holes over the spring nut holes.

Insert **Part E** bolts (2) through the **left** wing-shape fitting holes and into the spring nuts. Loosely tighten bolts to be adjusted in a later step.

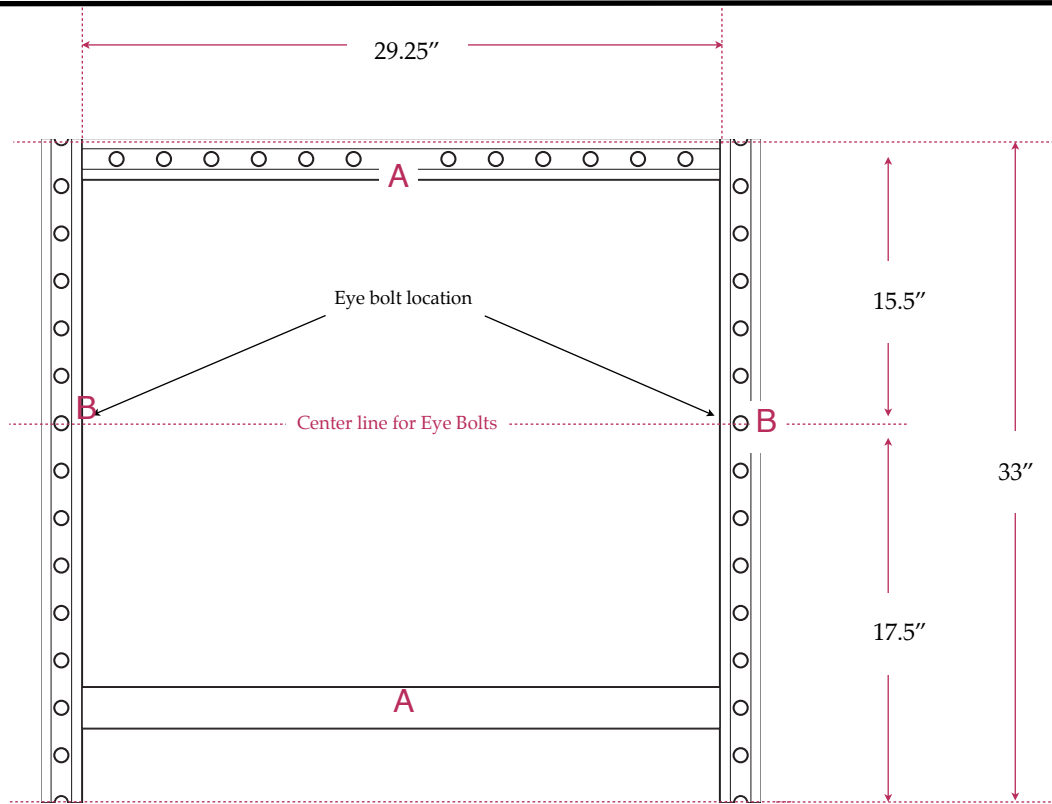


Locate **Part H** right wing-shape fitting and position on the front right corner assembly of the frame, aligning holes over the spring nut holes.

Insert **Part E** bolts (2) through the **right** wing-shape fitting holes and into the spring nuts. Loosely tighten bolts to be adjusted in a later step.



# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 Positioning and Inserting Eyebolts



Mark the center of the vertical strut **Part B**, as shown above.



Into the established center, position **Part F** spring nuts with spring-side inserted into the channel. Push down into channel and turn 90 degrees to seat spring nut.



Slide **Parts # J** square washer over **Parts # I** eye bolt and screw into the centered **Part F** spring nut.

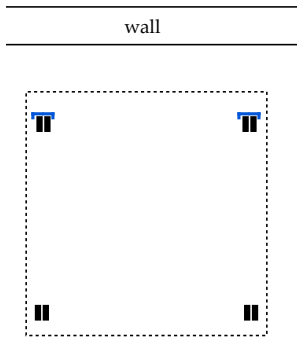


When positioned and centered, on both the left and right, tighten the eye bolts **Parts # I** firmly.



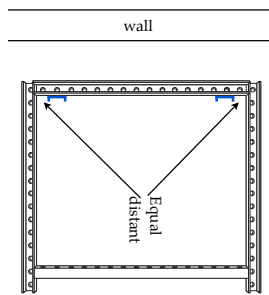
# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23

## Positioning of Base Frame



Position item to be secured in the desired location with the back 6" from the wall. Mark with felt tipped pen on the concrete floor, where the backs of the rear wheels (closest to the wall) are located. These marks are shown in blue to the left.

Remove the item so that the channel frame can be installed.



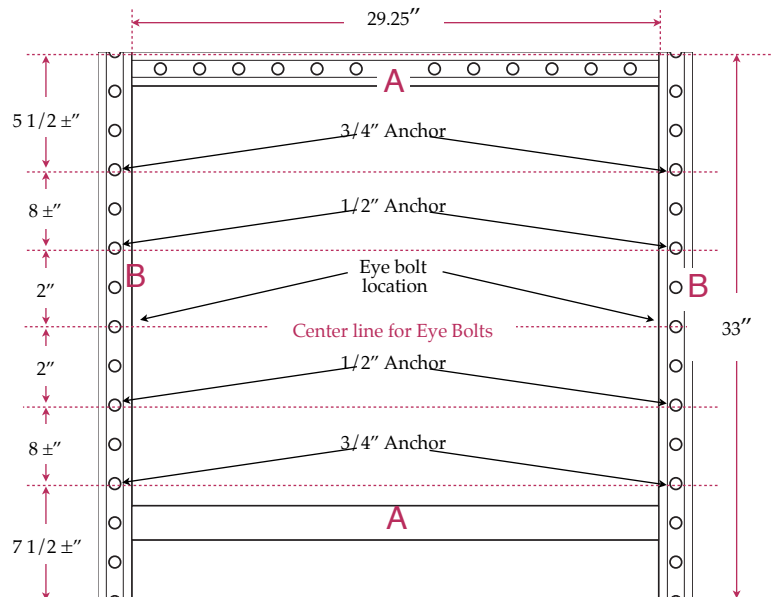
Lay the channel frame on the concrete floor so that the rear channel is against the marks for the back of the rear wheels as shown to the left.

The channel frame should be positioned so the distance from the left and right wheel marks have the same distance (equal distant) from either side.

## Floor Anchoring

Now that the eye bolts are centered and positioned, the next step is to find the points where the anchors, **Parts # L1/2 & L3/4**, are to be set. Gather the included; (4) **Parts # L1/2** (4) **Parts # L3/4**, (4) **Parts # J** and the (4) **Parts # K**.

Please note: (4) Floor anchor points will use **Parts # J** with **Parts #L1/2** and (4) will use **Parts # K**, along with the (4) The **Parts # L3/4**. Please see diagram below for placements.



# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 Floor Anchoring

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Once all your holes are marked, remove the bracket and drill your holes with your hammer drill, 1/2" and 3/4" hammer drill bit.



Be sure to use a vacuum and wear your personal protective gear when drilling.

For your 1/2" X 5 1/2" **Part # L1/2:**  
Drill your holes into the cement at least 3 1/4" deep.

For your 3/4" X 6 1/4" **Part # L3/4:**  
Drill your holes into the cement at least 3 3/4" deep.

**1/2" Anchor MUST have at least a 3 1/4" embedment**

**3/4" Anchor MUST have at least a 3 3/4" embedment**



It is important to blow out your drilled holes because excess dust tends to stay in the bottom manipulating your depth drilled.

Note: We recommend HILTI BLOW OUT PUMP  
Item No.: 00060579 or equal

# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 Floor Anchoring

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After your 8 holes are drilled and blown out. It is time to set your **Parts # L1/2** and **Parts # L3/4** with a hammer.

For the (4) 1/2" anchors on either side of the eye bolt, place the square washer on the anchor and screw on the nut on top of it.

Screw the nut down over the anchor so you have 2 threads showing at the top above the top of the nut.

Place the anchor into the hole through the bottom of the strut.

Hammer the anchor in until it hits the bottom of the hole, or the square washer bottoms out on the top of the strut.

Tighten firmly.

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Follow the instructions above for the 4 outside anchors. The only exception being the "L" bracket under the 3/4" ID washer and nut that is provided with the anchor as shown in the photo to the left.

Tighten firmly.

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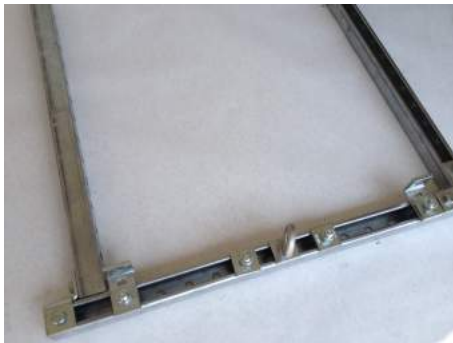
Remove the 4 bolts from the assembly holding the front channel and completely remove the front channel and put it aside.  
Roll the items into the frame all the way back to so the back wheels rest against the rear channel **Part A**.

Replace the front channel sliding it firmly against the front wheels. Reinstall the bolts.  
Tighten firmly.

Engineered Floor Bracing Frame  
Assembly Instructions - Model LRF23  
Completed Engineered Floor Bracing Frame Photos



Left side of completed base frame.



Right side of completed base frame.



Completed structure base frame.

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**Measure for Closure Strips**



Double check all placed floor attachments and brackets. Once the wedges, adjustable “L” brackets and washers are in place, measure all open face unistrut channel for the unistrut closure strip.

## Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 End Cap and Closure Strip Application

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Now that the base frame is completely put together, quality checked and anchored to the floor, the Closure Strip **Parts # C** application is next.

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The Closure Strips, **Parts # C**, are the plastic coverings that are inset and lay atop of the channel open face.

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Measure the open unistrut slots and cut the Closure Strips to the measurements. They should fit snugly right into place. Just take your measured sizes cut and fit to slots.

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Now that the Closure Strips are in place, you need to place the end caps on the strut. There are (4) end caps, **Parts # M**. There are 2 to be placed on the rear of the base bracket and 2 to be placed on the front of the base bracket. Put into place and tap lightly unit inset.



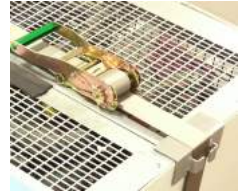
# Engineered Floor Bracing Frame Assembly Instructions - Model LRF23 Attachment of Ratchet Guide and Ratchet Assembly



With the Base Bracket ready to have the unit put into place, find the middle of the top of the unit being secured on the left and right side.



Now that you know where the center of the unit is, prepare the top and side areas with alcohol as you will then place the Corner Ratchet Strap Guide Brackets, **Parts # N**, cupping the top and side snugly. Be sure to place the "C" on the bracket on the side, not the top.



The final step is the Ratchet assembly, **Parts # O**. You want to take **Parts # O** and attach the triangular quick links located on the ends and attach to the eye bolts on the base bracket.



Take the ratchet and place atop the unit with the ratchet strap fitting through the "C" which should be on the upper side of the unit being secured, (same with the other side, strap only). Make sure your strapping is straight and not twisted. Insert the strapping into the ratchet and move the handle up and down until the strap is snug. **DO NOT OVER-TIGHTEN. THE RATCHET IS STRONG ENOUGH TO CRUSH THE ITEM IF CRANKED TO MUCH.**



If it is 1 unit or if its 2 units side by side, make adjustments to implement flawless execution of installations and ease of operation. Finished product should look as above.