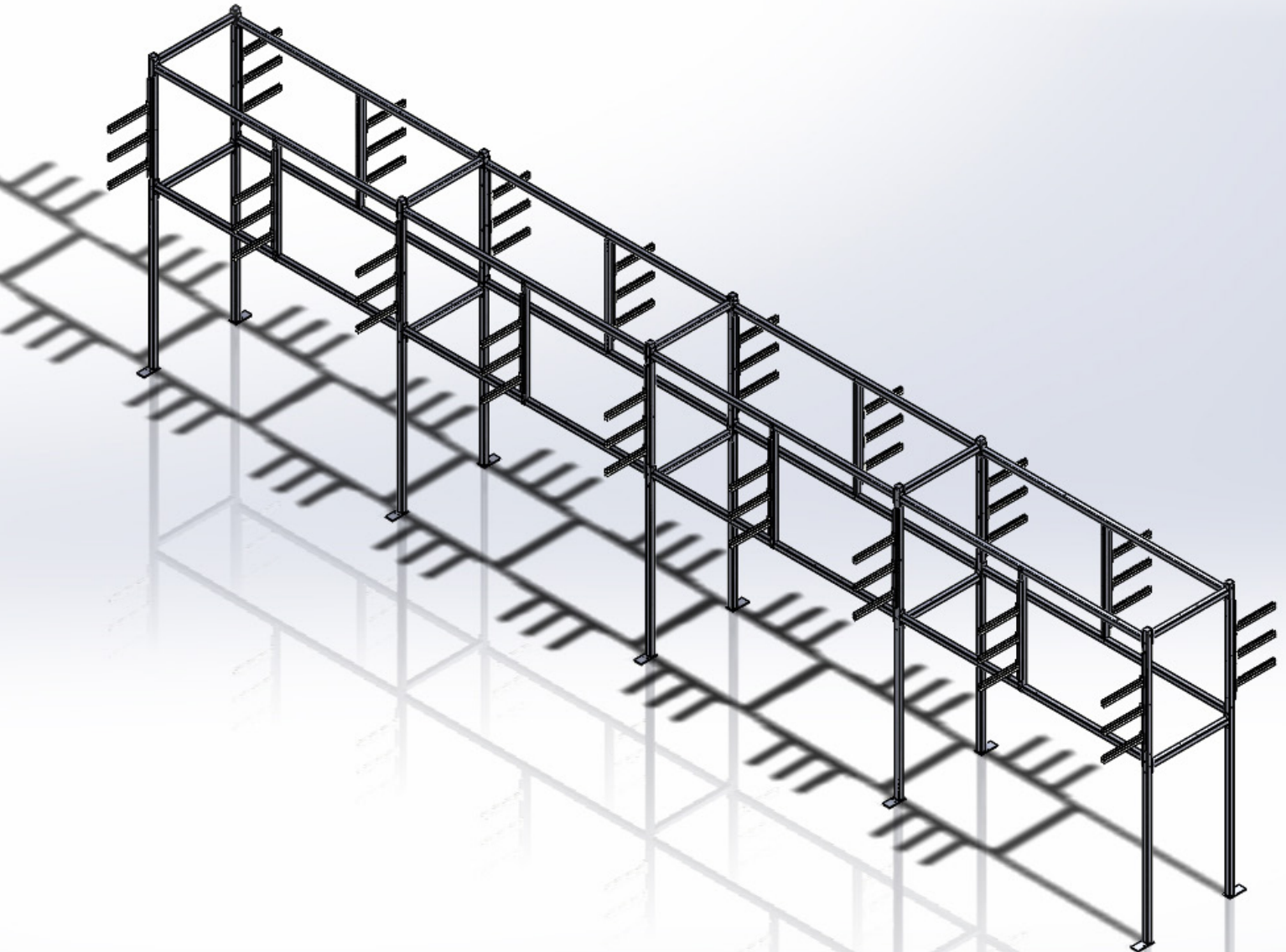


AISLEFRAME THE ESSENTIAL STRUCTURE

Install / User Guide



ESSENTIAL
SERIES



V_1.0_08.20.21

CONTACT US
for more information

SUBZERO
ENGINEERING
A SENNECA COMPANY

www.subzeroeng.com
info@subzeroeng.com
801.810.3500
or 800.564.0864

Design and specifications are subject to change without notice.
Proprietary Notice: The information contained in this user guide is the sole property of Subzero Engineering. Any reproduction in part, or as a whole without the written permission of Subzero Engineering is prohibited.
© 2021 Subzero Engineering. All rights reserved.

TABLE OF CONTENTS

Safety Information	3
Warranty	3
Pre-Installation	4
1.1 – Prep and Staging Area	4
1.2 – Required Installation Equipment	4
Installation	4
2.1 – What's Included	5
2.2 – Assemble the Uprights	6
2.3 – Connect & Assemble the Uprights	7
2.4 – Install the Over Rack Vertical Beams	8
2.5 – Fix Strut to Verticals	9
2.6 – Install the External Support Arms	10

SAFETY INFORMATION

- Use caution when using sharp objects such as razors or box cutters when unpacking.
- It is recommended that two or more people be available during the installation of this product.
- Be sure to wear the necessary personal protective equipment, such as safety glasses and gloves, while drilling or using power tools.

WARRANTY

Subzero Engineering warrants to the original purchaser that it will, as its sole option, repair or replace this product or any part of this product, if it confirms that the product is defective in materials or workmanship under normal use and maintenance for one year after the purchase date of the product.

This limited 1 (one) year warranty DOES NOT COVER the following:

1. Defects or damage arising from shipping, installation, alterations, accidents, abuse, misuse, lack of proper maintenance and use of other than genuine Subzero replacement parts, in all cases whether caused by a contractor, service company, the owner or any other person.
2. Deterioration through normal wear and tear.
3. Damages resulting from abuse or misuse from failure to install or maintain this product in accordance with the written instructions furnished by Subzero Engineering.
4. Use of Cleaning Products Containing Calcium Hypo Chlorite (Chlorine), Scouring Powders or pads shall not be covered.
5. Expense of normal maintenance.
6. All costs of removal, transportation, labor, re-installation or other costs including postage and/or shipping costs to obtain warranty service shall be paid by the customer.
7. Any liability for consequential or incidental damages, all of which are hereby expressly disclaimed, and implied warranties, including those of merchantability or fitness for purpose intended are specifically excluded. (Some jurisdictions do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so these limitations and exclusions may not apply to you.)
8. Responsibility for compliance with local code requirements are excluded from this warranty. (Since local code requirements vary greatly, distributors, dealers, installation contractors, and users should determine whether there are any code restrictions on the installation or use of a specific product.)

This limited warranty gives you specific legal rights. You may have other statutory rights that vary from state to state or from province to province, in which case this limited warranty does not affect such statutory rights.

Limited Warranty Contact Information

For service under these limited warranties, it is suggested that a claim be made through the contractor or dealer from or through whom the product was purchased, or that a service request (including a description of the product model and of the defect) be sent to the following address:

Subzero Engineering
805 South 3600 West, Suite 100
Salt Lake City, UT 84104
Attention: Director of Consumer Affairs

For residents of the United States, warranty information may also be obtained by calling: 801.810.3500

PRE-INSTALLATION

1.1 – Prep and Staging Area

- a. Before the AisleFrame shipment arrives, ensure that you have a clean area inside the building set aside to store the crates and pallets. The crates and pallets should not sit outside of the building.
- b. Set aside space inside the room to allow for unloading of the crates and staging of material.
- c. All other trades should not be installing equipment in the room when the installation of the AisleFrame is taking place.

1.2 – Required Installation Equipment

- (2+) Lull with 6 ft Forks
- (2+) Contractor/Material Hoist (800lbs Lift Rating Min.)
- (2+) 2 Man Scissor Lifts
- 1 Man Lift
- Heavy Duty Impact Wrench(s)
- Drill Gun(s)
- Drill Bit Set(s) with 3/16"
- SDS Hammer Drill, 1/2" or 5/8" (Depending on anchor size)
- Metal Twist Bit
- Spud Wrench(s)
- Metric Socket Set(s)
- Tape Measure, Laser, Levels
- Masonite (For floor protection)
- Cart To Move Material
- Heavy Duty Straps
- Laser Levels, or Torpedo Levels
- Chalkline
- Metric Allen Keys

Note: The above-mentioned list is subject to change. Additional equipment that is not shown may be required to complete the installation.

INSTALLATION

2.1 – What's Included

Basic parts included in AisleFrame Structure. Note that this varies per project and is subject to change depending on project needs. Part numbers may vary per project. Hardware is dependent on project.

AisleFrame Parts

Item No.	Part Number	Description
1	SZ02864	Vertical Column
2	SZ03023	Over Rack Vertical
3	SZ03016	Cross Beam
4	SZ02861	Horizontal Beam
5	SZ02580-01	External Support Arm
6	SZ03145	Cross Beam Back End Plates
7	SZ02863	Horizontal Beam Back End Plates
8	SZ02870	Over Rack Vertical Plate
9	P1000T	Slotted Strut

Hardware

Item No.	Part Number
10	Hilti Kwik Bolt TZ Wedge Anchor - Footplates
11	Head Hex Thru Bolts – End Plates
12	Strut Channel Nut – Support Arms
13	Hex Head Screw Long – Support Arms
14	Hex Nut – Slotted Strut, End Plates, ORV Plates
15	Split Lock Washer – Slotted Strut, End Plates
16	Socket Cap Bolt – Slotted Strut
17	Head Hex Screw Short – ORV Plates

Item 1

Item 2

Item 3

Item 4

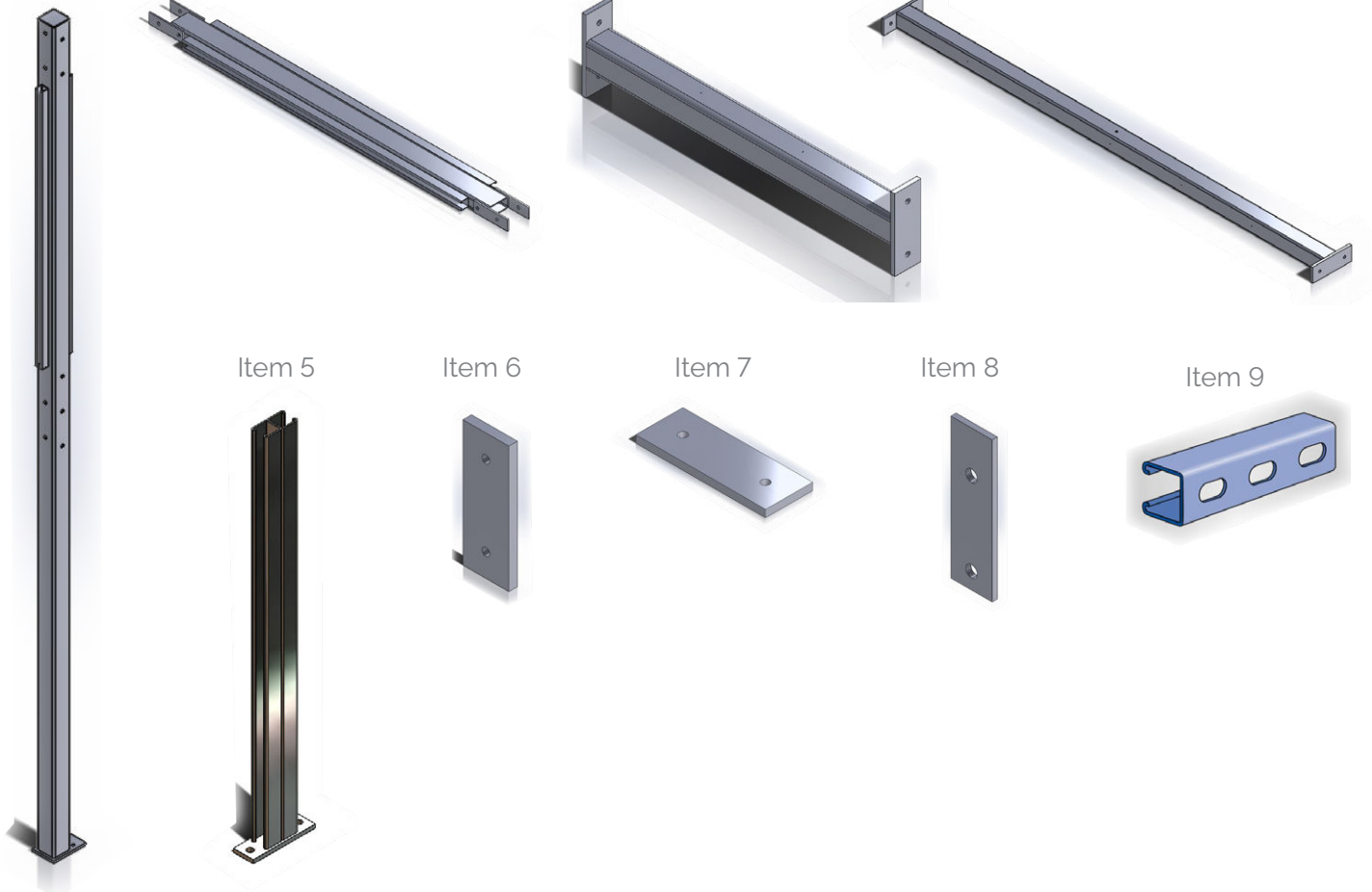
Item 5

Item 6

Item 7

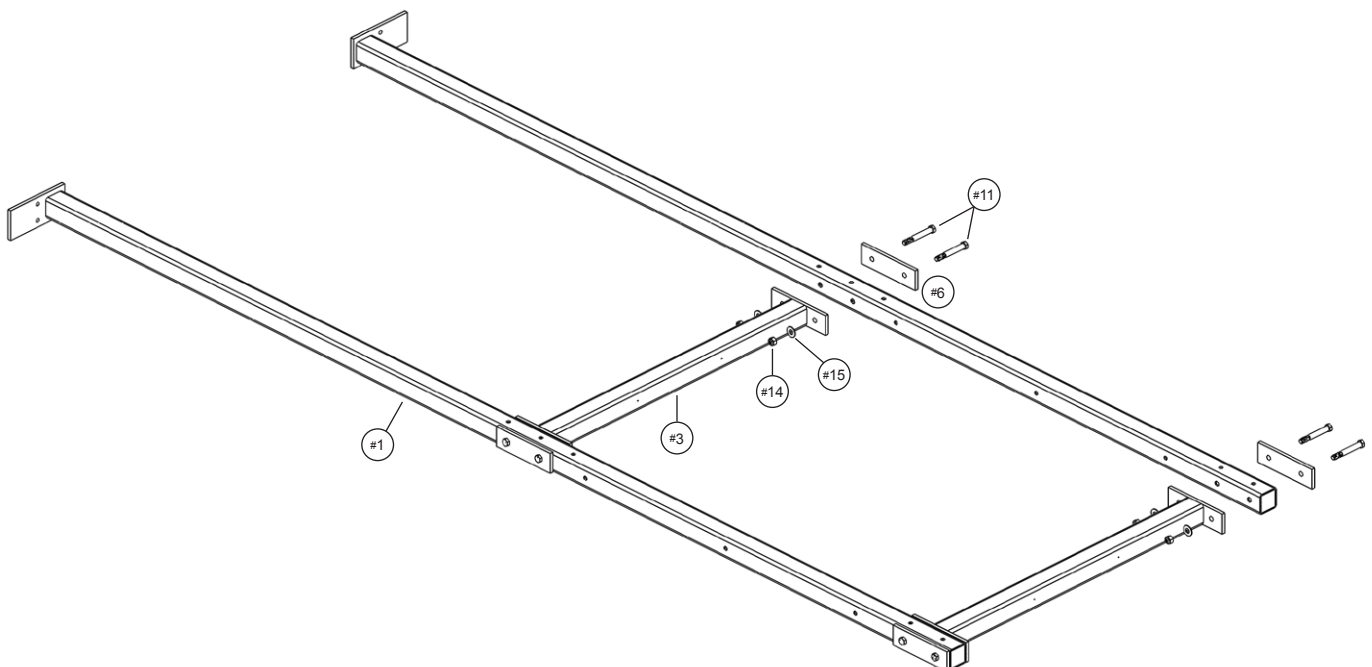
Item 8

Item 9



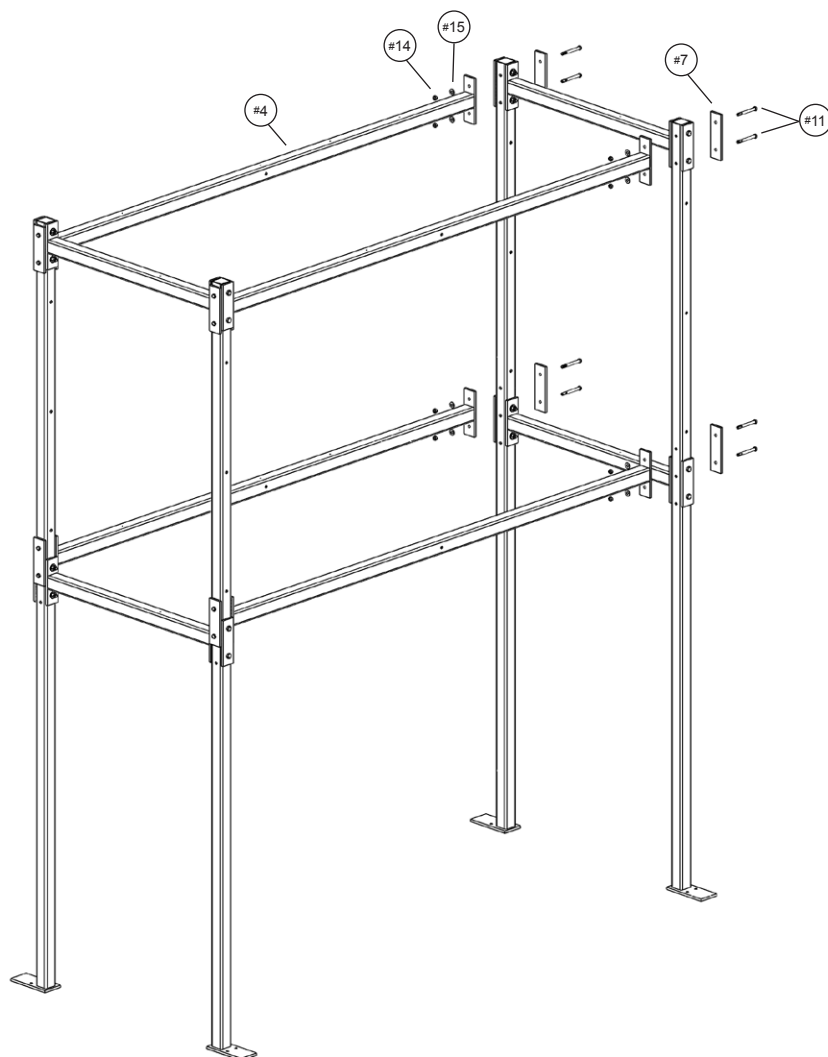
2.2 – Assemble the Uprights

- a. Lay out Masonite to protect the floor.
- b. Go from front of structure to the end.
- c. On the floor, lay out the two Vertical Columns. (#1)
- d. Lay out two Cross Beams between the Vertical Columns. (#3)
- e. The cross beams require end plates on the other side of the column. (#6) Depending on Essential model, some will have different thickness cross beam and horizontal beam back end plates. It is important to use the correct plates.
- f. Use a thru bolt to fix the cross beam back plate to the other side of the cross beam end plate. (#11)
Torque $\frac{1}{2}$ " bolts to 40 ft-lb, torque the $\frac{5}{8}$ " bolts to 80 ft-lb, torque $\frac{3}{4}$ " bolts to 100 ft-lb.
 1. Repeat for the next cross beam on the vertical column.
- g. Using the hand-crank material hoist or forklift, raise/lift the upright to a standing position. Plum up the verticals, keeping it as tight as possible.
 1. Move the upright to the proper position according to the layout.
- h. Attach the upright to the floor using the provided anchors (#10). (Hammer drill required)
 1. Once positioned properly, use a concrete drill, hammer, and $\frac{3}{4}$ " wrench or socket to install the anchors for all the upright posts. A minimum concrete slab thickness of 6" is required. Install anchors as per Hilti Kwik bolt instructions. Installation on raised floor tiles is not approved by Subzero Engineering.
- i. Leave the hoist in place to support the upright.
- j. Repeat steps above to stand another upright into place.
- k. Using line lasers, levels, and tape measures, square the structure and sections.



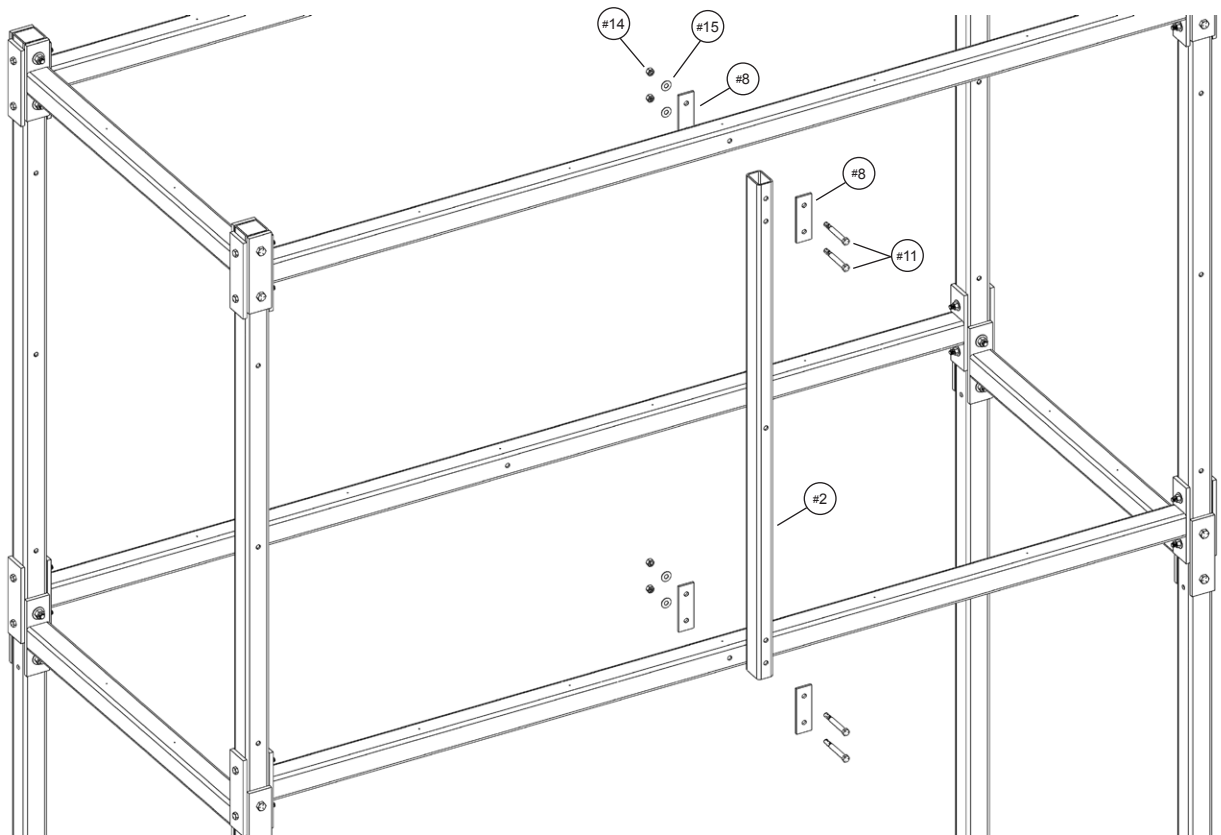
2.3 – Connect & Assemble the Uprights

- a. Once two uprights are standing, use a scissor lift to bring the horizontal beams into place. (#4)
- b. Place the horizontal back end plates on the back of the column and use thru bolts to fix the beam to the column and end plates. (#7) Torque $\frac{1}{2}$ " bolts to 40 ft-lb, torque the $\frac{5}{8}$ " bolts to 80 ft-lb, torque $\frac{3}{4}$ " bolts to 100 ft-lb.
- c. Repeat this process for the four horizontal beams that compose one section.
- d. Repeat the above processes until all of the frames and sections are standing.



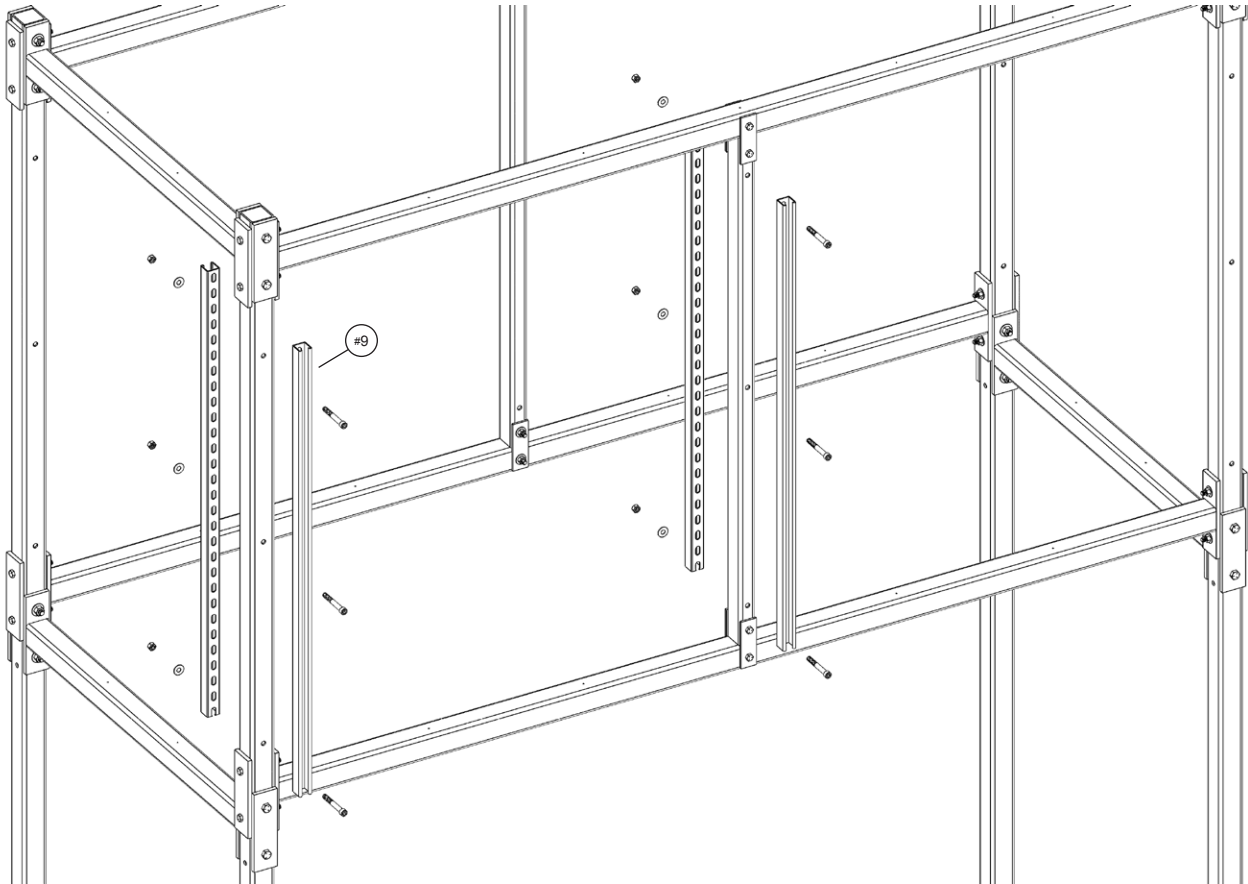
2.4 – Install the Over Rack Vertical Beams

- a. Use a manlift to lift the Over Rack Vertical beams into place. (#2)
- b. Place the Over Rack Vertical Plates and align with the holes on the top and bottom of the ORV on the front and back of the tubes. (#8)
- c. Connect the Over Rack Vertical Beams with the plates to the horizontal beams using the provided hex bolts and nuts. (#14, #17)
- d. Tighten the nuts and bolts using a heavy duty impact wrench. Torque $\frac{1}{2}$ " bolts to 40 ft-lb.
- e. Repeat this process for each section of the structure until all Over Rack Vertical beams have been installed.



2.5 – Fix Strut to Verticals

- a. The slotted strut needs to be attached to each Vertical Column and Over Rack Vertical. (#9)
Each strut will be fixed in three places, as indicated by the three holes on the Vertical Columns and Over Rack Verticals. Use the socket cap bolts, hex nuts, and washers. (#14, #15, #16)
- b. Tighten and ensure the strut can't move.



2.6 – Install the External Support Arms

- a. Attach the support arms to the strut on the side of the structure. Use the screws and channel nuts provided.
- b. Refer to the layout drawing to ensure the location height of the busway support is correct.
- c. Tighten all screws in the above steps.