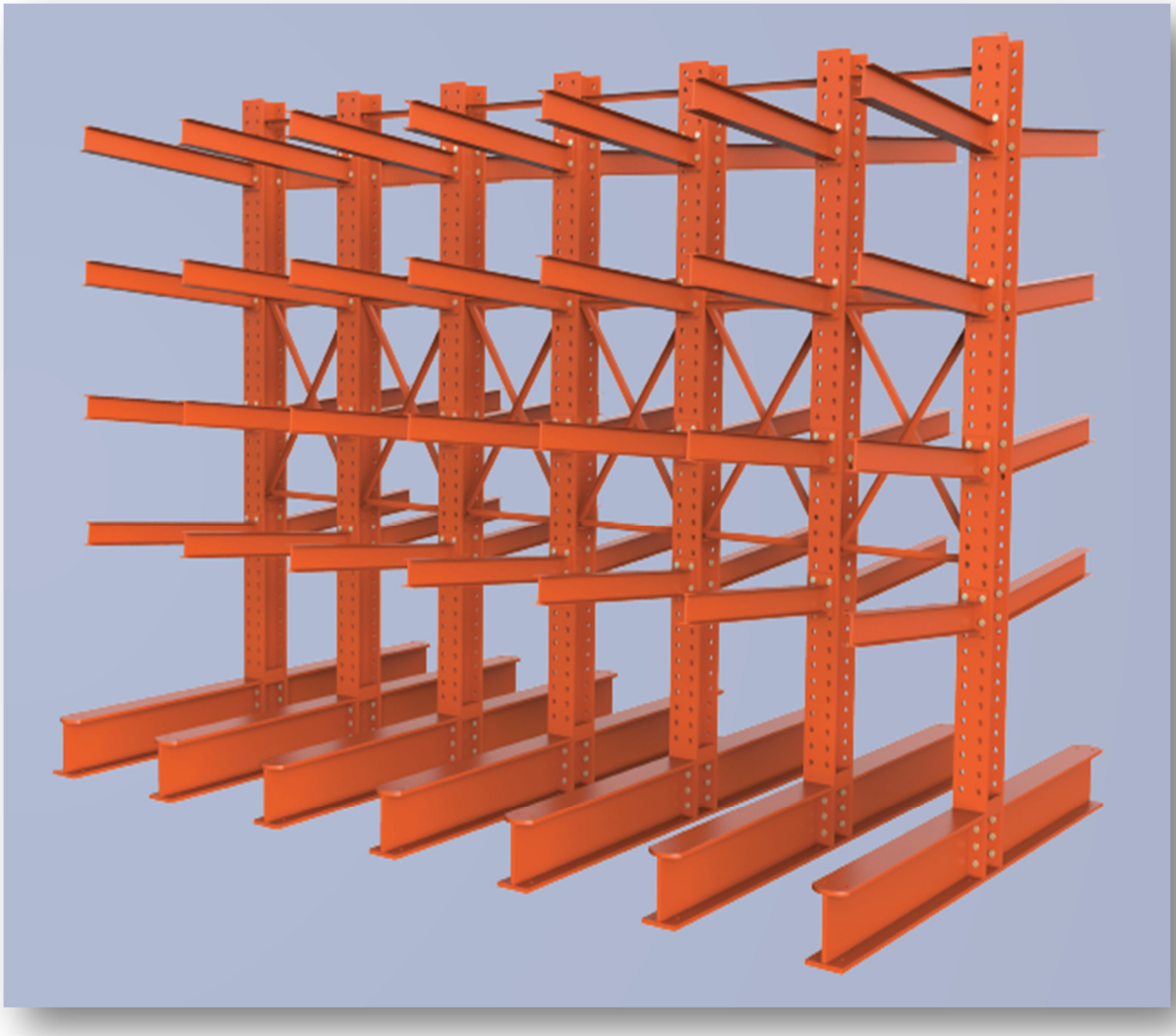
Structural Cantilever

Installation Manual



AMORUSO RACKING

944 Fisher St. Houston, TX 77018 ~ 713-957-1111

Table of Contents

Assembly

Amoruso Racking recommends that all assembly of the Structural Cantilever Racks should be done by an experienced person or a professional. All safety instructions should be reviewed and understood before putting together any portion of the cantilever.

Warnings

The Structural Cantilever Racks are heavy. Review all safety regulations for lifting cantilever by hand. It is recommended to have a fork lift or crane to help with the lifting of the larger pieces. Make sure all pieces are secured during assembly, pieces that are not secured correctly may result in injury, death, or damage the property.

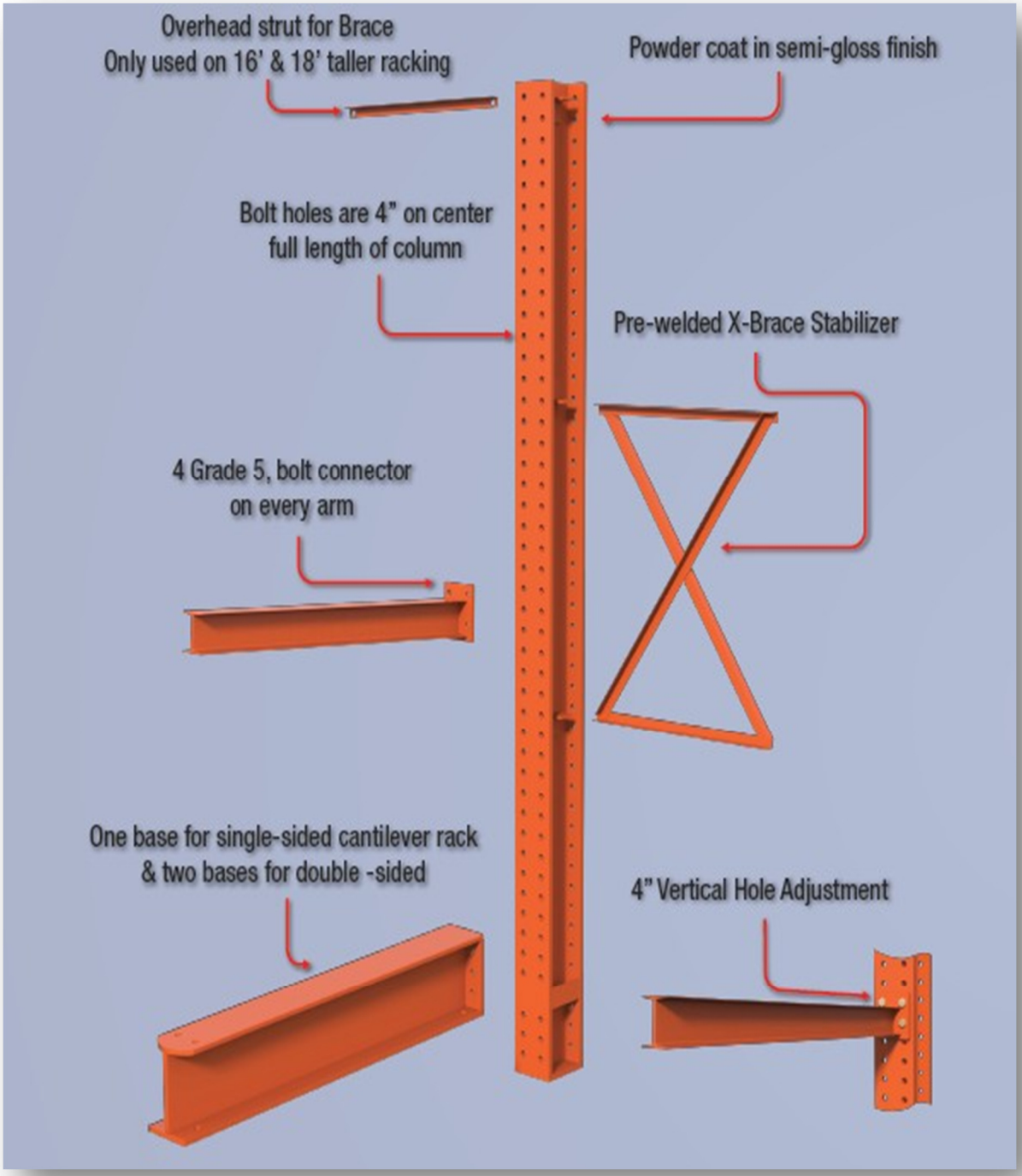
Contact Amoruso Racking with any questions. By installing the Structural Cantilever yourself, you absolve Amoruso racking of any and all liability.

The instructions in this manual are set by Amoruso Racking. It is up to the installer to safely put the Structural Cantilever rack together. The purchaser is cautioned not to substitute any parts given to them for installing the racks. By substituting any and all parts, the purchaser is taking on any and all liabilities created by substituting parts.

Tools

- Forklift or Crane
- Electric Impact Wrench (200 ft-lbs max)
- Straight Line Laser/Chalk Line
- Black Permanent Marker
- Tape Measure
- Square
- Vacuum
- Extension Cord
- 1 $^{1/8}$ Socket Wrench
- 1 $^{1/8}$ Impact Socket
- 15/16 Impact Socket

Components



¾" x 2" Grade 5 Bolts & Nuts and 5/8" x 4 1/4"anchors are required for install

Begin Assembly

Step #1: Check all materials

- Go over your list of materials to make sure you have received everything you need to install your Structural Cantilever.
- Notify Amoruso Racking of any shortages or damaged materials before construction begins.

Step #2: Check the assembly Area

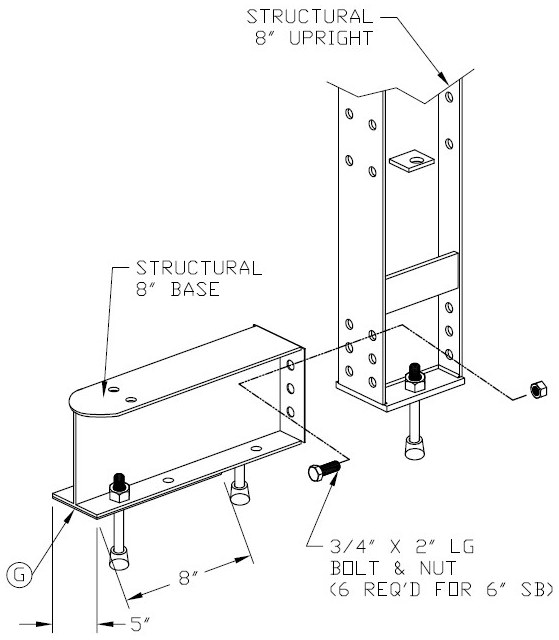
- Make sure the area you will be working is clean and cleared of all materials not needed
- Check your area for any items that would in the way and impede assembly (lights, sprinklers, duct work, etc.)
- Amoruso racking recommends all Structural Cantilever is placed on a clean concrete surface. Not recommended for asphalt, gravel, or dirt surfaces.

Step #3: Lay out Plan

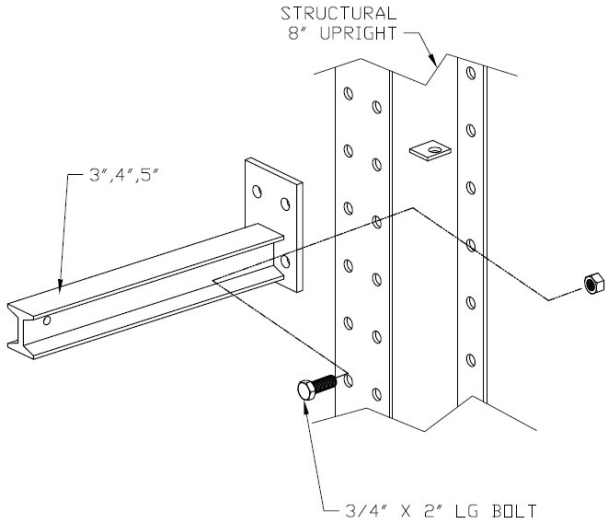
- Establish the rack layout by determining the aisle dimensions and the rack position.
- Use a laser line or chalk line to create the front edge of the column bases.

Step #4: Assembling Structural Cantilever

- Lay material evenly throughout the space. Place items in their general final spot.
- Attach beam base to column using 6 - ¾" x 2" Grade 5 Bolt & Nut. Single sided will have one base and a double sided with have two bases. Use Torque wrench or impact wrench to 200 ft-lbs.



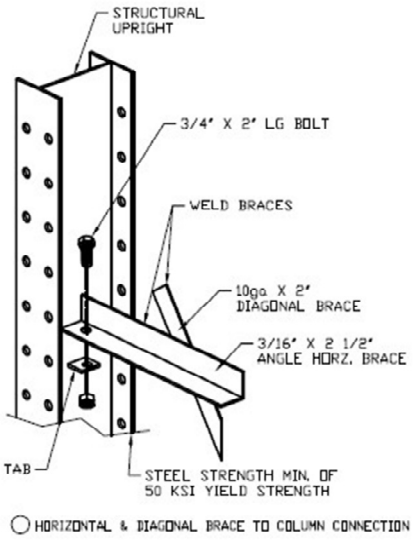
- Mark the arm positions on the columns. Make sure the marks are below the top of the arm end plate so the mark does not show after the arm is bolted in place. Use 4 - ¾” x 2” Grade 5 Bolt & Nut



- Bolt the arms to the column using a torque wrench. Torque the bolt to 200 ft-lbs.

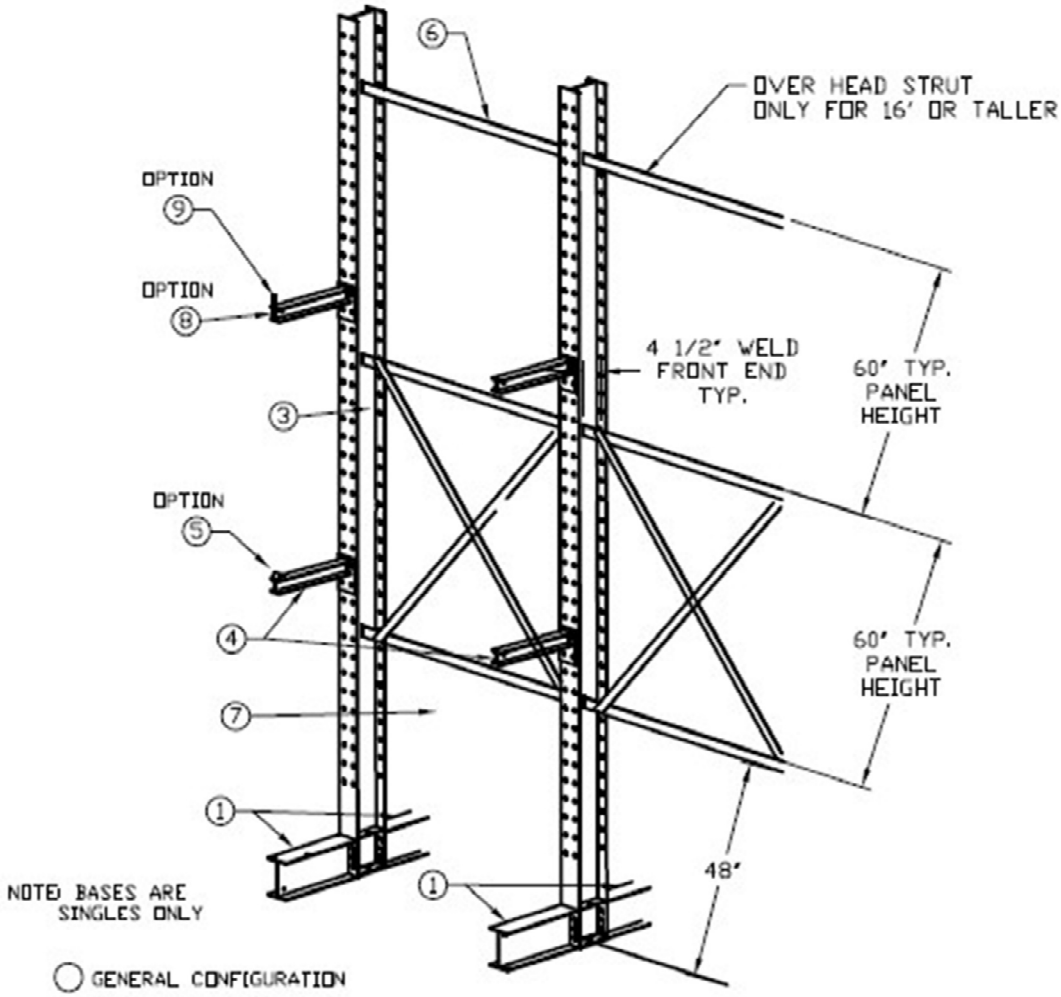
Step #5: Installing X-Brace

- Bolt the welded X-Brace to the clips running the interior side of the Up Right. You will need 4 – ¾” x 2” Grade 5 Bolts & nuts for each X-Brace.
- Make sure to tighten all bracings.



Step #6: Erecting Column Columns

- Make sure you have enough man power to help lift the columns or use a forklift or crane to put the columns into their permanent place.
- Your first bay will be made up of two assembled columns and one X-Brace.



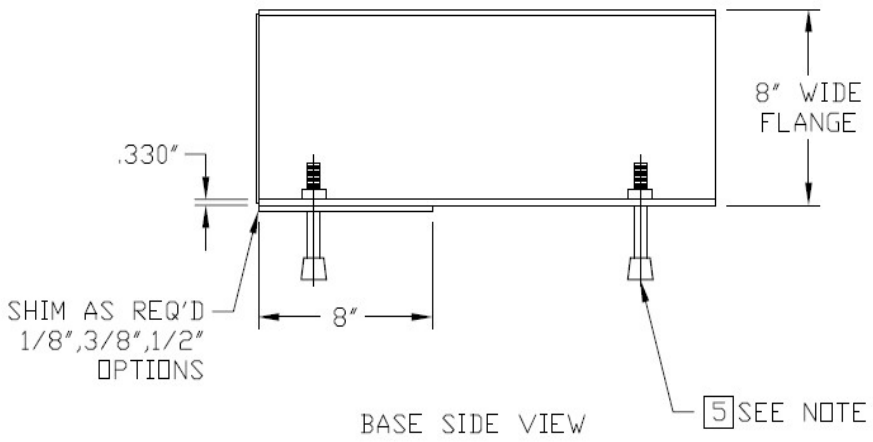
***Strut is only needed for 16' or taller columns – Item #6 on picture may not be needed

Step #7: Build remaining bays

- Attach your X-Brace to the last open column.
- Attach your base to your column.
- Stand Column up and attach to open side of the X-Brace.
- Tighten all braces
- Repeat for all bays.

Step #8: Square, Plumb, Shim, & Anchor

- Square and Plumb your columns along the laser line or chalk line.
- Shim the columns and bases as needed. (Proper shimming is needed, it affects the alignment of the arms.)
- Anchor the base of the columns to the floor. Use a 3 - 5/8” x 4 1/4” anchor. Two anchors are required per base and one on the bottom of the column.



Step #9: Clean Up

- Make sure to vacuum your work space when you are done. The anchors may create some dust or debris that should be cleared from area.
- Make sure to throw away all disposable parts – metal banding & plastic wrap
- Sweep the area of any excess items that the vacuum is not able to intake.

Weight Capacities

ARM CAPACITIES, LOAD UNIFORMLY DISTRIBUTED

ARM SIZE

ARM LENGTH	S3X5.7	S4X7.7	S5X10.0	S6X12
24”	2900	4500	6200	7700
30”	2300	3600	4900	6100
36”	1900	3000	4100	5100
42”	1600	2500	3500	4300
48”	1400	2200	3000	3800
54”	1200	2000	2700	3400
60”	1100	1700	2400	3100
66”	800	1500	2200	2800
72”	700	1300	2000	2500

COLUMN CAPACITIES PER SIDE - COLUMN SIZE: S8X5X18

ARM LENGTH / COLUMN HEIGHT	120”	144”	192”
24”	16,000	14,100	11,600
30”	14,000	12,500	10,400
36”	12,250	11,200	8,700
42”	11,800	11,200	8,700
48”	11,200	10,200	8,000
54”	9,100	9,300	7,500
60”	8,800	8,600	7,000
66”	6,900	8,000	6,800
72”	6,200	7,400	6,800

**The base level is not included in column capacities. You must deduct the arm weight from the column capacities.

**Engineered drawings are recommended for achieving the most efficient capacity