TOWER 4 COLUMN

INSTALLATION MANUAL

P/N 9621349

CHIEF

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Manual Revisions

- 1-1-2016
  - General formatting update

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www.agri.Chiefind.com

STANDARD LIMITED WARRANTY

Catwalk and Tower Products

1. **Definitions**. The following terms, when they appear in the body of this Standard Limited Warranty for Catwalk and Tower Products in initial capital letters shall have the meaning set forth below:

   A. Accepted Purchase Order shall mean the Purchase Order identified below.

   B. Chief shall mean Chief Agri/Industrial, a division of Chief Industries, Inc.

   C. Original Owner shall mean the original owner identified below.

   D. Product shall mean the Agri/Industrial Equipment as described in the Accepted Purchase Order.

   E. Reseller shall mean the authorized Chief Agri/Industrial Equipment dealer identified below.

2. **Limited Product Warranty**. Upon and subject to the terms and conditions set forth below, Chief hereby warrants to the Reseller, and, if different, the Original Owner as follows:

   A. All new Products delivered to the Reseller or the Original Owner by Chief pursuant to the Accepted Purchase Order will, when delivered, conform to the specifications set forth in the Accepted Purchase Order;

   B. All new Products delivered pursuant to the Accepted Purchase Order will, in normal use and service, be free from defects in materials or workmanship; and

   C. Upon delivery, Chief will convey good and marketable title to the Products, free and clear of any liens or encumbrances except for, where applicable, a purchase money security interest in favor of Chief.

3. **Duration of Warranty and Notice Requirements**. Subject to the **Exceptions, Exclusions and Limitations** set forth below, the warranties set forth in Section 2 above shall apply to all covered non-conforming conditions that are discovered within the first twenty-four (24) months following delivery of the Product to the carrier designated by the Reseller and/or the Original Owner at Chief's manufacturing facility in Kearney, Nebraska (the "Warranty Period") and are reported to the Chief as provided in Section 4 below within thirty (30) days following discovery (a "Notice Period").

4. **Notice Procedure**. In order to make a valid warranty claim, the Reseller and/or the Original Owner must provide Chief with a written notice of any nonconforming condition discovered during the Warranty Period within the applicable Notice Period specified in Section 3 above. Said notice must be in writing; be addressed to Chief Industries, Inc., Agri/Industrial Division, Customer Service Department, P.O. Box 848, Kearney, NE 68848; and contain the following information: (a) the Customer's name and address; (b) the Reseller's name and address; (c) the make and model of the Product in question; (d) the current location of the Product; (e) a brief description of the problem with respect to which warranty coverage is claimed; and (f) the date on which the Product was purchased.

5. **Exceptions and Exclusions**. Anything herein to the contrary notwithstanding, the warranties set forth in Section 2 above do **not** cover any of the following, each of which are hereby expressly excluded:

   A. Defects that are not discovered during the applicable Warranty Period;

   B. Defects that are not reported to the Chief Agri/Industrial Division Customer Service Department in conformity with the notice procedure set forth in Section 4 above within the applicable Notice Period specified in Section 3;

   C. Any used or pre-owned Products;

   D. Any Chief manufactured parts that are not furnished as a part of the Accepted Purchase Order;

   E. Any fixtures, equipment, materials, supplies, accessories, parts or components that have been furnished by Chief but are manufactured by a third party;

   F. Any Products which have been removed from the location at which they were originally installed;

   G. Any defect, loss, damage, cost or expense incurred by the Reseller or the Original Owner to the extent the same arise out of, relate to or result, in whole or in part, from any one or more of the following:

      (i) Usual and customary deterioration, wear or tear resulting from normal use, service and exposure;

      (ii) Theft, vandalism, accident, war, insurrection, fire or other casualty;

      (iii) Any damage, shortages or missing parts which result during shipping or are otherwise caused by the Reseller, the Original Owner and/or any third party;

      (iv) Exposure to marine environments, including frequent or sustained salt or fresh water spray;

      (v) Exposure to corrosive, chemical, ash, smoke, fumes, or the like generated or released either within or outside of the structure on which the Product is installed, regardless of whether or not such facilities are owned or operated by the Reseller, the Original Owner or an unrelated third party;

      (vi) Exposure to or contact with animals, animal waste and/or decomposition;

      (vii) The effect or influence the Product may have on surrounding structures, including, without limitation, any loss, damage or expense caused by drifting snow;

      (viii) Any Product or portion thereof that has been altered, modified or repaired by the Reseller, the Original Owner or any third party without Chief's prior written consent;

      (ix) Any Product or portion thereof that has been attached to any adjacent structure without Chief's prior written approval;

      (x) Any Product to which any fixtures, equipment, accessories, materials, parts or components which were not provided as a part of the original Accepted Purchase Order have been attached without Chief's prior written approval;

(xi) The failure on the part of the Reseller, the Original Owner or its or their third party contractors to satisfy the requirements of all applicable statutes, laws, ordinances rules, regulations and codes, (including zoning laws and/or building codes);

(xii) The use of the Product for any purpose other than the purpose for which it was designed; and/or

(xiii) The failure of the Reseller, the Original Owner and/or any third party to:

(a) properly handle, transport and/or store the Product or any component part thereof;

(b) properly select and prepare a site that is adequate for the installation and/or operation of the Product or any component part thereof;

(c) properly design and construct a foundation that is adequate for the installation and/or operation of the Product or any component part thereof;

(d) properly set up, erect, construct or install the Product and/or any component part thereof; and/or

(e) properly operate, use, service and/or maintain the Product and each component part thereof.

6. **Resolution of Warranty Claims**. In the event any nonconforming condition is discovered within the Warranty Period and Chief is notified of a warranty claim as required by Section 4 prior to the end of the applicable Notice Period set forth in Section 3 above, Chief shall, with the full cooperation of the Reseller and the Original Owner, immediately undertake an investigation of such claim. To the extent Chief shall determine, in its reasonable discretion, that the warranty claim is covered by the foregoing Limited Product Warranty, the following shall apply:

A. Warranty Claims With Respect to Covered Non-Conforming Conditions Discovered Within the First Three Hundred Sixty Five (365) Days and Reported to Chief Within Thirty (30) Days of Discovery. In the case of a warranty claim which relates to a covered non-conforming condition that is discovered during the first three hundred sixty five (365) days of the Warranty Period and is reported to Chief as required by Section 4 within thirty (30) days of discovery as required by Section 3, Chief will, as Chief's sole and exclusive obligation to the Reseller and the Original Owner, and as their sole and exclusive remedy, work in cooperation with the Reseller and the Original Owner to correct such non-conforming condition, and in connection therewith, Chief will ship any required replacement parts to the "ship to address" set forth in the Accepted Purchase Order FOB Chief's facilities in Kearney, Nebraska, and will either provide the labor or reimburse the Reseller or the Original Owner, as may be appropriate in the circumstances, for any out of pocket expense the Original Owner may reasonably and necessarily incur for the labor that is required to correct such non-conforming condition, provided that if work is to be performed by the Reseller or a third party contractor, Chief may require at least two competitive bids to perform the labor required to repair or correct the defect and reserves the right to reject all bids and obtain additional bids. Upon acceptance of a bid by Chief, Chief will authorize the necessary repairs.

B. All Other Warranty Claims. Except as is otherwise provided in subsection 6A above, in the case of all other warranty claims which relate to covered non-

conforming conditions that are discovered during the Warranty Period and are reported to Chief as required by Section 4 within thirty (30) days following discovery, Chief will, as Chief's sole and exclusive obligation to the Reseller and the Original Owner, and as the Reseller's and the Original Owner's sole and exclusive remedy, ship any required replacement parts to the Original Owner at the "ship to address" specified in the Accepted Purchase Order FOB Chief's facilities in Kearney, Nebraska; and in such event, Chief shall have no responsibility or liability to either the Reseller or the Original Owner for the cost of any labor required to repair or correct the defect.

7. **Warranty Not Transferable**. This Warranty applies only to the Reseller and the Original Owner and is **not transferable**. As such, this Warranty does not cover any Product that is sold or otherwise transferred to any third party following its delivery to the Original Owner.

8. **Limitation on Warranties, Liabilities and Damages**. The Reseller and the Original Owner expressly agree that the allocation of the risk, liability, loss, damage, cost and expense arising from any Product that does not conform to the limited warranty given in Section 2 above are fair and reasonable and acknowledge that such allocation was expressly negotiated by the parties and was reflected in the Purchase Price of the Product. Accordingly the Reseller and the Original Owner expressly agree as follows:

   A. **Disclaimer of Implied Warranties. EXCEPT AS IS OTHERWISE EXPRESSLY SET FORTH HEREIN, CHIEF MAKES NO OTHER REPRESENTATIONS OR WARRANTIES OF ANY KIND WHATSOEVER, WHETHER EXPRESS OR IMPLIED, BY OPERATION OF LAW, COURSE OF DEALING OR OTHERWISE WITH RESPECT TO THE PRODUCT, ANY COMPONENT PART THEREOF OR ANY OTHER GOODS OR SERVICES THAT CHIEF MANUFACTURES, FABRICATES, PRODUCES, SELLS OR PROVIDES TO THE DEALER OR THE ORIGINAL OWNER PURSUANT TO THE TERMS OF ANY ACCEPTED PURCHASE ORDER, INCLUDING WITHOUT LIMITATION ANY REPRESENTATION OR WARRANTY WITH RESPECT TO DESIGN, CONDITION, MERCHANTABILITY OR FITNESS OF THE PRODUCT OR ANY OTHER GOODS OR SERVICES FOR ANY PARTICULAR PURPOSE OR USE.**

   B. Limitation on Liability. EXCEPT AS IS OTHERWISE EXPRESSLY SET FORTH IN SECTION 6 ABOVE, CHIEF'S LIABILITY TO THE DEALER AND/OR THE ORIGINAL OWNER WITH RESPECT TO ANY DEFECTS IN ANY PRODUCTS OR FOR ANY OTHER GOODS OR SERVICES WHICH DO NOT CONFORM TO THE WARRANTIES SET FORTH ABOVE SHALL NOT, IN ANY EVENT, EXCEED THE ACTUAL COST OF SUCH NON-CONFORMING PRODUCT, GOODS OR SERVICES AS DETERMINED PURSUANT TO THE ACCEPTED PURCHASE ORDER; AND

   C. Limitation on the Nature of Damages. EXCEPT AS EXPRESSLY PROVIDED IN SECTION 6 ABOVE, CHIEF SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO THE DEALER, THE ORIGINAL OWNER OR ANY THIRD PARTY FOR ATTORNEY FEES COURT COSTS OR ANY OTHER SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LIQUIDATED OR PUNITIVE DAMAGES OF ANY NAME, NATURE OR DESCRIPTION AS A RESULT OF THE FAILURE OF ANY PRODUCT OR ANY OTHER GOODS OR SERVICES PURCHASED BY THE DEALER OR THE ORIGINAL OWNER FROM CHIEF PURSUANT TO THE ACCEPTED PURCHASE ORDER TO CONFORM TO THE LIMITED WARRANTIES SET FORTH IN SECTION 2 ABOVE.

8. **Applicable Law**. This Limited Product Warranty has been issued, accepted and entered into by the Reseller, the Original Owner and Chief in the State of Nebraska and shall be governed by, and construed in accordance with, the internal laws of the State of Nebraska. Any legal action or proceeding with respect to any goods or services furnished to the Original Owner by Chief in connection herewith, or any document related hereto shall be brought only in the district courts of Nebraska, or the United States District Court for the District of Nebraska, and, by execution and delivery of this Limited Product Warranty, the undersigned Original Owner hereby accept for themselves and with respect to their property, generally and unconditionally, the jurisdiction of the aforesaid courts. Further, the undersigned Original Owner hereby irrevocably waives any objection, including, without limitation, any forum non conveniens, which it may now or hereafter have to the bringing of such action or proceeding in such respective jurisdictions.

ACKNOWLEDGMENT OF RECEIPT

By its signature hereto, the undersigned Reseller represents and warrants to Chief that the Reseller has provided a true, correct and complete copy of this Standard Limited Warranty to the Original Owner at the time the product was purchased.

Reseller Name and Address: _____
_____
_____

Original Owner Name and Address: _____
_____
_____

Accepted Purchase Order No. _____

Original Jobsite Address: _____
_____
_____

RESELLER:

By: _____
Date

Print name and title

4842-7507-8689, v. 1

Warning

Water Sensitive Materials - Read this notice carefully

Bundles must be inspected and carrier advised immediately if damage is noted. White rust is a corrosion attack of the zinc coating resulting from the presence of water. Anywhere rust is found will result in a reduction of the life of the galvanized steel.

If water has entered a bundle or if condensation has formed between items, the bundle must be opened, the items separated and all surfaces dried.

If items are to be installed within 10 days:

Store bundled items off the ground high enough to allow air circulation beneath bundle and to prevent water from entering. Store 1 end at least 8" (20.32cm) higher than the opposite end. Support long bundles in the center. Prevent rain from entering the bundle by covering with a tarpaulin, making provision for air circulation between the draped edges and the ground.

Do not wrap in plastic.

If items are not to be installed within 10 days:

Provide inside dry storage. Storage beyond 6 months is not recommended. If white rust is apparent upon receipt of shipment, notify Chief immediately. Damage to items, resulting from improper storage, is the responsibility of the receiver.

Before You Begin

Before starting the installation of the equipment, take time to thoroughly study the construction methods in this manual, this will save you time and money.

Chief makes no warranty concerning components, accessories or equipment not manufactured by Chief.

When using a cutting torch or welding galvanized material, the possibility of developing toxic fumes will exist. Provide adequate ventilation and respiratory protection when using this type of equipment during installation.

Introduction

Thank you for purchasing Chief equipment. Proper installation and operation will ensure you the best overall experience with your equipment and guarantee smooth operation.

This proprietary information is loaned with the expressed agreement that the drawings and information therein contained are the property of Chief Industries, Inc. and will not be reproduced, copied, or otherwise disposed of, directly or indirectly, and will not be used in whole or in part to assist in making or to furnish any information for the making of drawings, prints or other reproduction hereof, or for the making of additional products or equipment except upon written permission of Chief Industries, Inc. first obtained and specific as to each case. The acceptance of this material will be construed as an acceptance of the foregoing agreement.

The technical data contained herein is the most recent available at the time of publication and is subject to modification without notice. Chief Industries, Inc. reserves the right to modify the construction and method of operation of their products at any time without any obligation on their part to modify any equipment previously sold and delivered.

Model Number Description

The model nomenclature distinguishes the application of the tower. The information includes a designation of the applicable mounting width, overall length, and design criteria utilized. The definition of the model number nomenclature is as follows:

Example:	CT4	8	10	140	IBC2 / 90MPH
	(a)	(b)	(c)	(d)	(e)

(a) CT4 = Chief Tower 4 Column

(b) 8 = Mounting Length

Where: 8 = 8 foot in length

(c) 10 = Mounting Width

Where: 10 = 10 foot in width

(d) 140 = Overall Height

Where: 140 = 140 foot in height

(e) Tower system design criteria for seismic and wind

General Design Information

All Chief towers are designed for structural support of material handling conveyors and personnel.

All steel materials are purchased in accordance with the applicable ASTM Standard.

All bolted connections are designed using high strength bolts which meet the specifications of the applicable ASTM or SAE standard.

All Chief tower structures are designed to withstand normally anticipated environmental and service conditions per the specified ASCE7-10 design code.

Accessory Equipment

All accessory equipment should be installed and maintained in accordance with each individual supplier's installation and operation instructions. However, if any modifications to the Chief standard design are required, contact Chief for special recommendations.

Important Note: Do not modify equipment without Chief approval. It is the responsibility of the general contractor to verify that all equipment is properly installed and that the equipment is compatible with the intended use. A qualified electrician should be contracted to complete all electrical wiring and servicing.

General Contractor Responsibilities

It is the responsibility of the general contractor to verify that the complete support system and other accessory equipment is constructed with quality workmanship and that all equipment is installed per the respective manufacturer's instructions.

In addition, the general contractor is responsible for the fitness of use of any system which he constructs. All accessory equipment incorporated into the system should be approved for the intended use by each respective equipment manufacturer.

Field Modifications and Installation Defects

Chief assumes no responsibility for field modifications or installation defects which result in structural damage. If any field modifications are necessary which are not specifically covered by the contents of the installation manual, contact Chief for approval. Any unauthorized modification or installation defect which affects the structural integrity of the support system will void the warranty.

Checking Shipment

For your convenience steel components will be color coded, individual items labeled with an appropriate part number and packages labeled. Hardware, including bolts, nuts, screws and other small clips or brackets may be divided into smaller packages for ease of use and identification.

Check your shipment at the time of delivery against the packing list provided with the shipment. If any items are missing or any damaged material is evident, note such shortage or damage on the freight bill before you sign the shipment paperwork.

Claims of shortages will not be honored after 30 days from receipt of shipment. Parts that are missing or damaged are the responsibility of the delivering carrier, not the manufacturer or dealer.

It is advisable to reorder damaged or missing parts immediately so that there will be no delay in the bin installation. After receiving the invoice for the reordered material, file a claim with the delivering carrier immediately.

Suggested Equipment

Chief recommends the following equipment and tools needed for installation of the grain storage bin. Individual installations may vary.

- Impact wrenches and sockets
- End wrenches
- Crescent wrenches
- Vise grip pliers
- Alignment punches
- Rubber mallets
- Level

Crane Weight Capacity

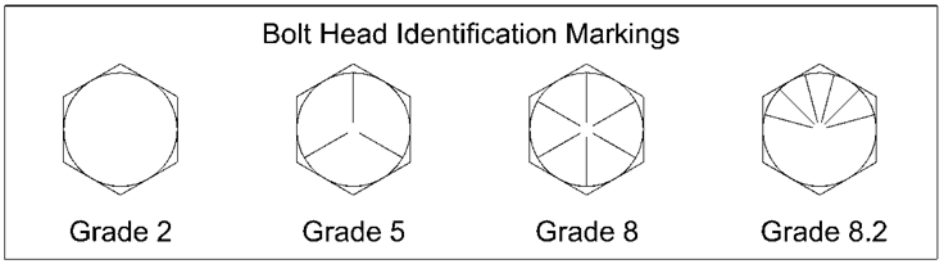
Verify the total dead load by referring to the corresponding manual addendum for your application. This weight includes all structural members and included hardware.

When determining the crane capacity necessary to install the support structure, the boom distance must be considered. If a single crane will not lift the support structure two cranes may be used, utilizing a spreader bar. The spreader bar must be adequately designed to carry the entire dead weight.

Important Note: Overloading the crane capacity can result in substantial property damage and severe personal injury. Always verify crane capacity prior to lifting.

Hardware Torque

All components are assembled using SAE grade hex head bolts with corresponding washers and nuts. Bolts are marked with radial lines on the bolt head as shown in the following illustration.



Do not substitute any other bolt type or grade. Use only the bolts supplied by Chief. The substitution of bolts from other sources is not permitted and will void the warranty.

When installing hardware the minimum and maximum torque values shown below must be followed. All hardware must seat tight against the corresponding bin component.

Bolt Diameter	Grade 2	Grade 5	Grade 8	Grade 8.2
1/4" (.63cm)	6 ft.-lbs.	10 ft.-lbs.	14 ft.-lbs.	14 ft.-lbs.
5/16" (.79cm)	12 ft.-lbs.	19 ft.-lbs.	29 ft.-lbs.	29 ft.-lbs.
3/8" (.95cm)	20 ft.-lbs.	25 ft.-lbs.	47 ft.-lbs.	47 ft.-lbs.
3/4" (1.90cm)	155 ft.-lbs.	240 ft.-lbs.	380 ft.-lbs.	380 ft.-lbs.
1" (2.54cm)	-	-	910 ft.-lbs.	-

Please note the following wrench / socket size to be used on the corresponding hardware:

Bolt Size	Head Size	Nut Size
1/4" (.63cm)	7/16" wrench	7/16" wrench
5/16" (.79cm)	1/2" wrench	1/2" wrench
3/8" (.95cm)	9/16" wrench	9/16" wrench
3/4" (1.90cm)	1-1/8" wrench	1-1/8" wrench
1" (2.54cm)	1-1/2" wrench	1-1/2" wrench

Concrete Design and Construction

Foundation designs are based on the allowable soil bearing capacity of the undisturbed soil and should be certified by a licensed engineering firm. Using soil borings to determine the allowable soil bearing capacity, a professional engineer will need to be employed by the contractor to design the foundation accordingly. Foundation designs must be approved by a licensed engineer in order to meet local governing building codes and local soil and weather conditions, including seismic and wind loading requirements. Tower dead load, compression and uplift per post, overturning moment at the foundation and horizontal shear per post is available from Chief upon request.

Non-uniform settlement of the foundation can cause severe structural damage to the structure and foundation. An improperly designed or constructed foundation will void all aspects of the warranty. It is the responsibility of the general contractor to verify that an adequate foundation is provided.

Important Note: Faulty concrete construction or shim omission will void the warranty.

Installation

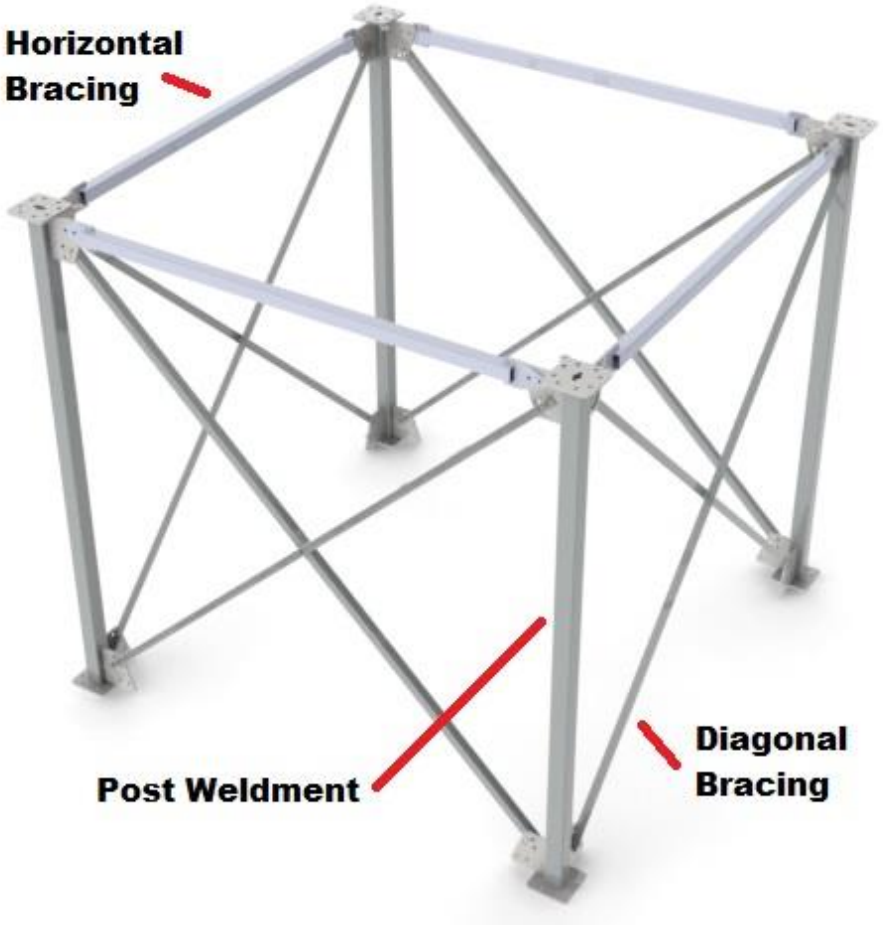
Part Identification

The following is a general outline provided for reference only.

Important Note: Prior to starting the installation it is very important to plan ahead and by verifying the order and location of all components.

Verify the correct tower type / style by looking at the weld dots located near the end of the tower posts.

Important Note: Leave all hardware loose until all components have been added. This will allow for proper alignment of components and ensure that tolerances do not accumulate.



Post Weldment

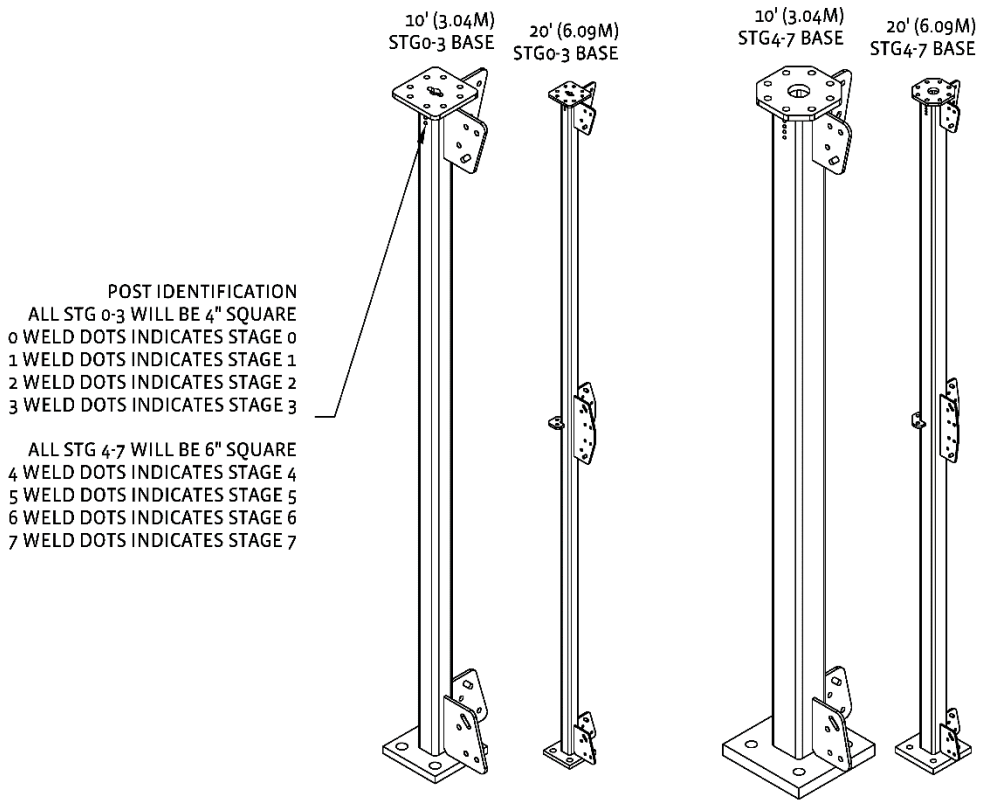
Height	Stage 0	Stage 1	Stage 2	Stage 3	Stage 3-4 Adaptor	Stage 4	Stage 5	Stage 6	Stage 7
4’ (1.21m)	9621194	9621204							
5’ (1.52m)	9621195	9621205							
6’ (1.82m)	9621196	9621206							
7’ (2.13m)	9621197	9621207							
8’ (2.43m)	9621198	9621208							
9’ (2.74m)	9621199	9621209							
10’ (3.04m)	9621200	9621210	9621187	9621185	9621762	9621756	9621758	9621760	9623472
20’ (6.09m)	9621190	9621189	9621188	9621186	9621763	9621757	9621759	9621761	9623474

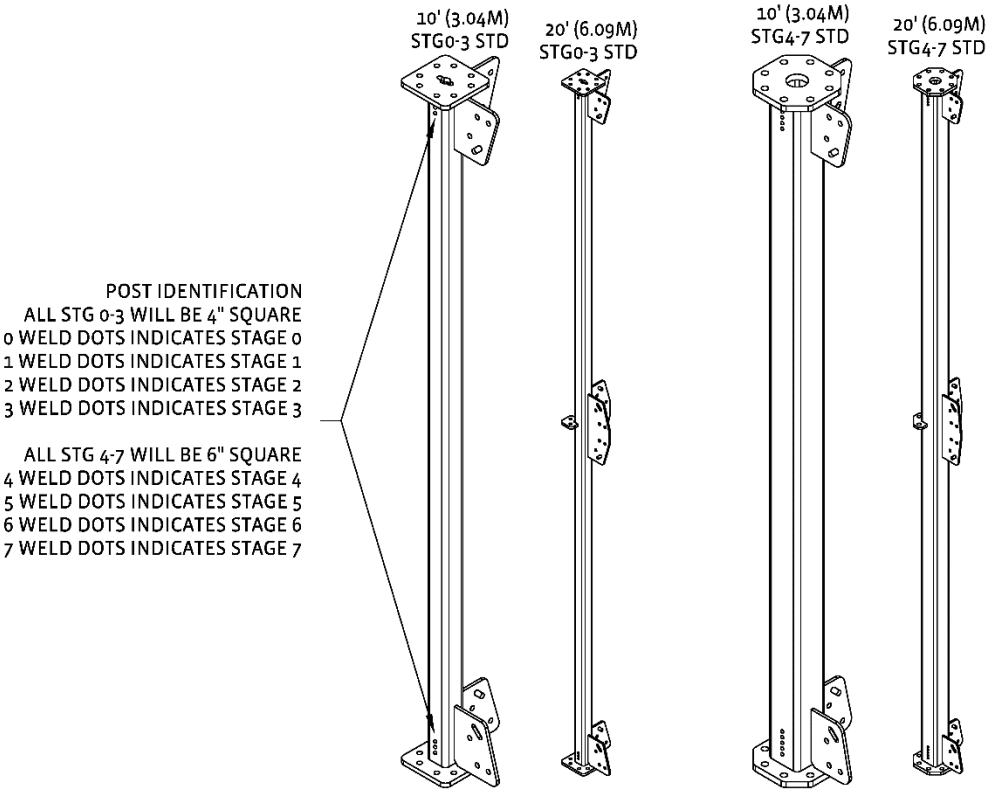
Base Post Weldment

Height	Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7
10’ (3.04m)	9621075	9621069	9621072	9621073	9621765	9621767	9621769	9623472
20’ (6.09m)	9621076	9621070	9621071	9621074	9621766	9621768	9621770	9623478

Important Note: All stage 0-3 posts will be fabricated from 4” (10.16cm) square tube. All stage 4-7 posts will be fabricated from 6” (15.24cm) square tube.

The following illustrations show the various lengths and stages of the tower posts.


10' (3.04M)
STG0-3 BASE
20' (6.09M)
STG0-3 BASE
10' (3.04M)
STG4-7 BASE
20' (6.09M)
STG4-7 BASE
POST IDENTIFICATION
ALL STG 0-3 WILL BE 4" SQUARE
0 WELD DOTS INDICATES STAGE 0
1 WELD DOTS INDICATES STAGE 1
2 WELD DOTS INDICATES STAGE 2
3 WELD DOTS INDICATES STAGE 3
ALL STG 4-7 WILL BE 6" SQUARE
4 WELD DOTS INDICATES STAGE 4
5 WELD DOTS INDICATES STAGE 5
6 WELD DOTS INDICATES STAGE 6
7 WELD DOTS INDICATES STAGE 7


10' (3.04M)
STG0-3 STD
20' (6.09M)
STG0-3 STD
10' (3.04M)
STG4-7 STD
20' (6.09M)
STG4-7 STD
POST IDENTIFICATION
ALL STG 0-3 WILL BE 4" SQUARE
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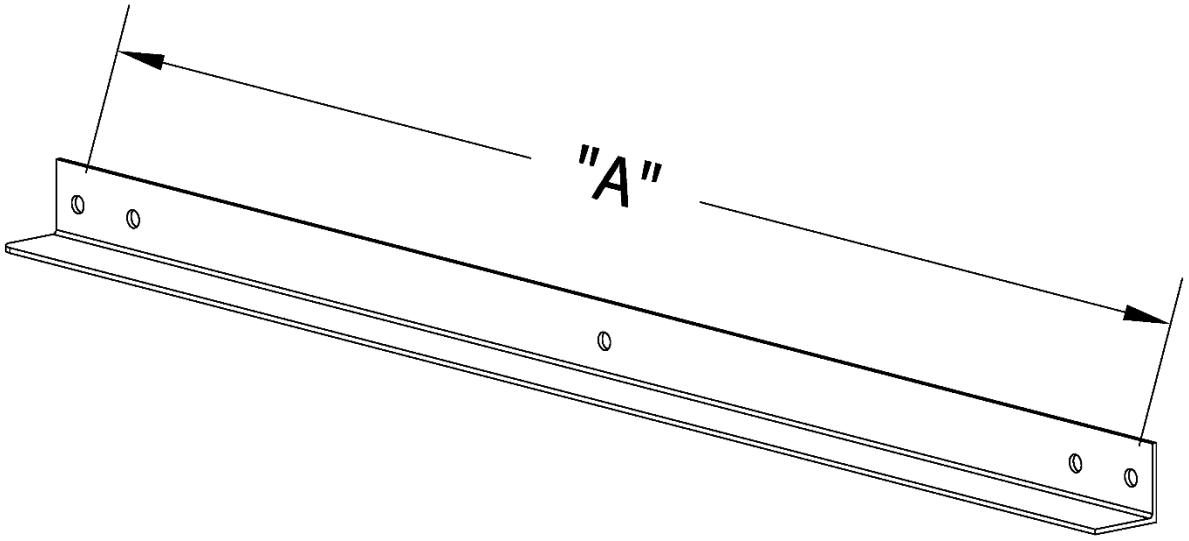
3 WELD DOTS INDICATES STAGE 3
ALL STG 4-7 WILL BE 6" SQUARE
4 WELD DOTS INDICATES STAGE 4
5 WELD DOTS INDICATES STAGE 5
6 WELD DOTS INDICATES STAGE 6
7 WELD DOTS INDICATES STAGE 7

Diagonal Brace

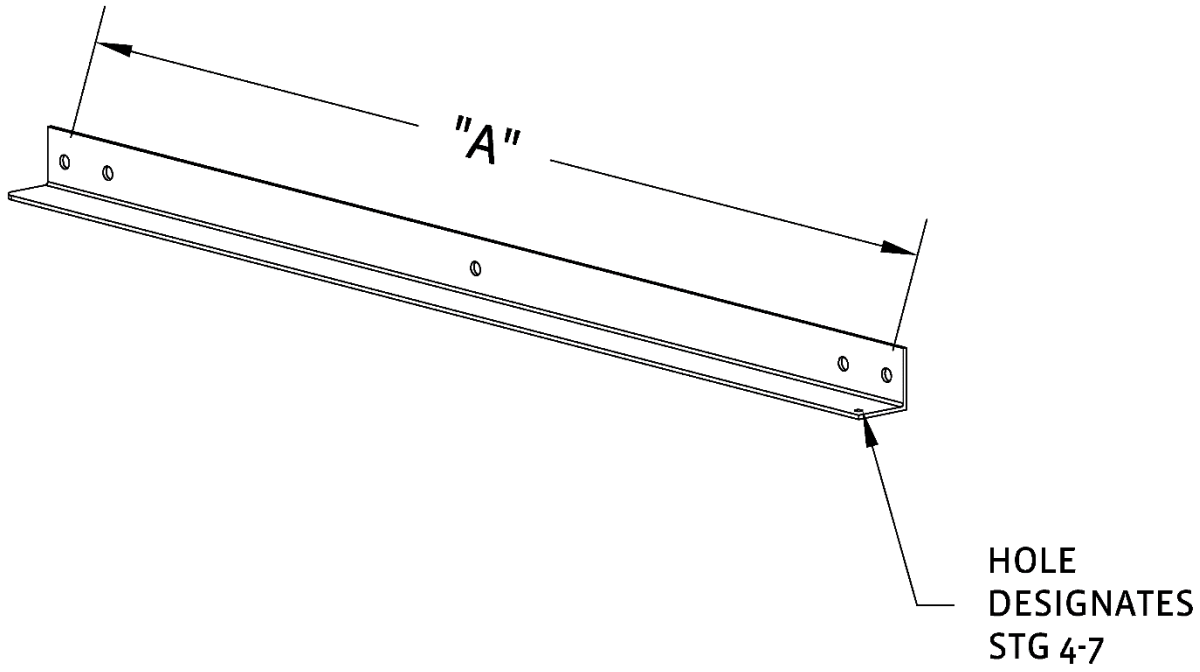
Stage 0-3 braces are for a 10’ (3.04m) bay height, using 4” (10.16cm) wide posts. The bay widths and corresponding part numbers are shown in the following chart.

Tower Width	Dim “A”	Stage 0 (2x2)	Stage 1 (2.5x2.5)	Stage 2 (3.5x3.5)	Stage 3 (4x4)
4’ (1.21m)	112.438”	9621279	9621446	9621287	9621288
6’ (1.82m)	122.563”	9621237	9621453	9621289	9621290
8’ (2.43m)	136.188”	9621244	9621460	9621291	9621292
10’ (3.04m)	152.375”	9621251	9621476	9621293	9621294
12’ (3.65m)	170.438”	9621258	9621483	9621295	9621296
Tower Width	**Dim “A”**	**Stage 0 (2.5x2.5)**	**Stage 1 (3.5x3.5)**	**Stage 2 (4x4)**	**Stage 3**
14’ (1.21m)	189.875”	9621265	9621343	9621344	-
16’ (1.82m)	210.188”	9621272	9621345	9621346	-



Stage 4-7 braces are for a 10’ (3.04m) bay height, using 6” (15.24cm) wide posts. The bay widths and corresponding part numbers are shown in the following chart.

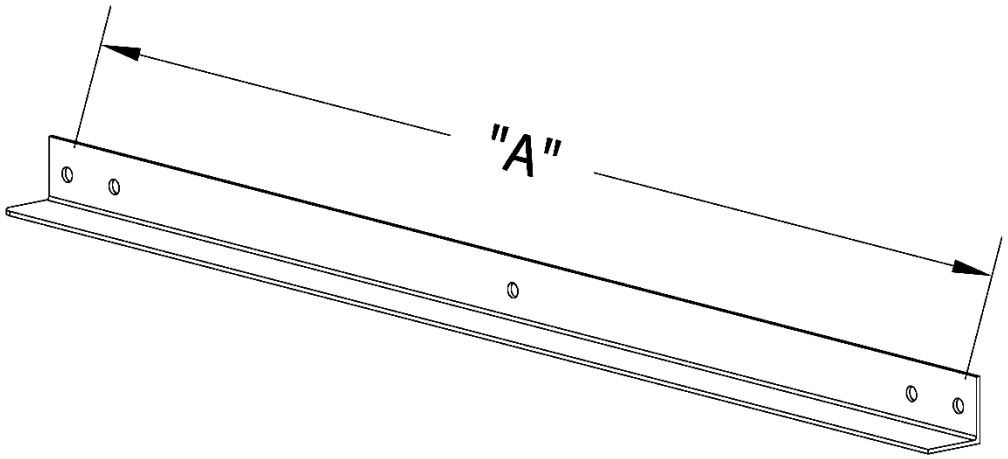
Tower Width	Dim “A”	Stage 0 (2x2)	Stage 1 (2.5x2.5)	Stage 2 (3.5x3.5)	Stage 3 (4x4)
4’ (1.21m)	111.813”	9621825	9621832	9621839	9621846
6’ (1.82m)	121.563”	9621826	9621833	9621840	9621847
8’ (2.43m)	134.938”	9621827	9621834	9621841	9621848
10’ (3.04m)	151.000”	9621828	9621835	9621842	9621849
12’ (3.65m)	168.875”	9621829	9621836	9621843	9621850
Tower Width	**Dim “A”**	**Stage 0 (2.5x2.5)**	**Stage 1 (3.5x3.5)**	**Stage 2 (4x4)**	**Stage 3**
14’ (1.21m)	188.188”	9621830	9621837	9621844	9625145
16’ (1.82m)	208.438”	9621831	9621838	9621845	9623824



Internal brace

Internal brace packages are listed for each bay size and include hardware.

Tower Width	Dim “A”	Stage 0
4’x4’ (1.21m)	53.063”	9621499
6’x6’ (1.82m)	87.00”	9621500
8’x8’ (2.43m)	120.938”	9621501
10’x10’ (3.04m)	154.875”	9621502
12’x12’ (3.65m)	188.813”	9621503
Tower Width	**Dim “A”**	**Stage 0**
14’x14’ (1.21m)	222.75”	9621504
16’x16’ (1.82m)	256.688”	9621505



Internal brace lug

- 9621348 (4” Post)
- 9622221 (6” Post)

Horizontal Brace

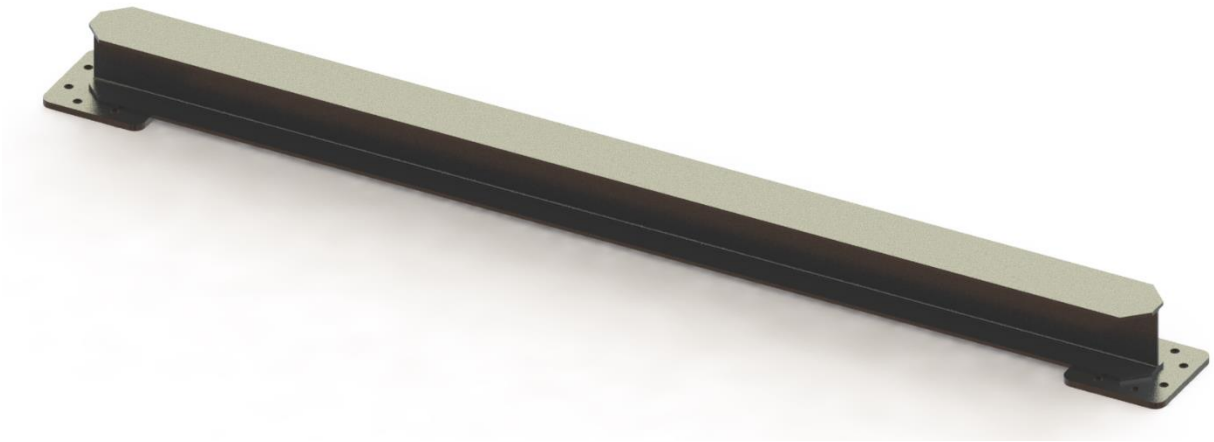
Horizontal braces are listed for each bay width

- 4’ (1.21m) 9621464
- 6’ (1.82m) 9621465
- 8’ (2.43m) 9621466
- 10’ (3.04m) 9621467
- 12’ (3.65m) 9621468
- 14’ (1.21m) 9621469
- 16’ (1.82m) 9621470

Top Load Beam

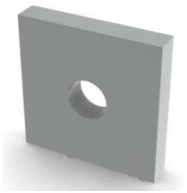
Top load beams are listed for each bay width

Width	4” Post	6” Post
4’ (1.21m)	9622454	9622455
6’ (1.82m)	9622038	9622036
8’ (2.43m)	9621786	9621166
10’ (3.04m)	9622445	9622446
12’ (3.65m)	9622442	9622443
14’ (1.21m)	9622448	9622449
16’ (1.82m)	9622451	9622452



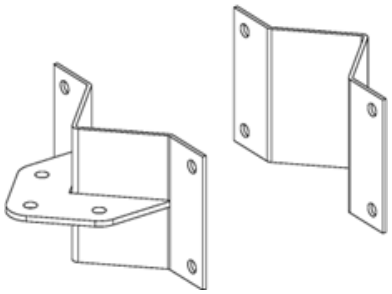
Diagonal Brace Spacer

- 9621347



Elevator Brace Clamp (internal brace clamp and weldment)

- 4” Post 9622896
- 6” Post 9622897
- Clamp 9622892



Hardware Package

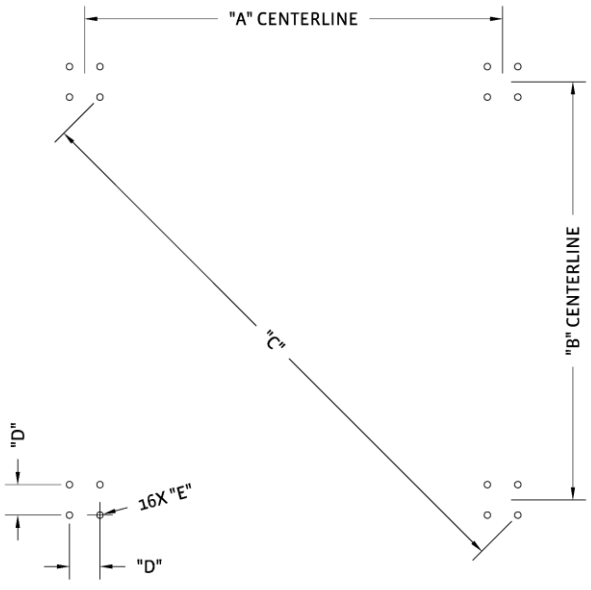
- 4” (10.16cm) Post stage 0-3 9621297
- 6” (15.24cm) Post stage 4-7 9621822
- Internal x brace stage 0-3 9621490
- Internal x brace stage 4-7 9622056

Anchor Bolt Layout

Important! Reference the stacking drawing provided with the shipment to determine correct base plate stage and proper anchor bolt layout.

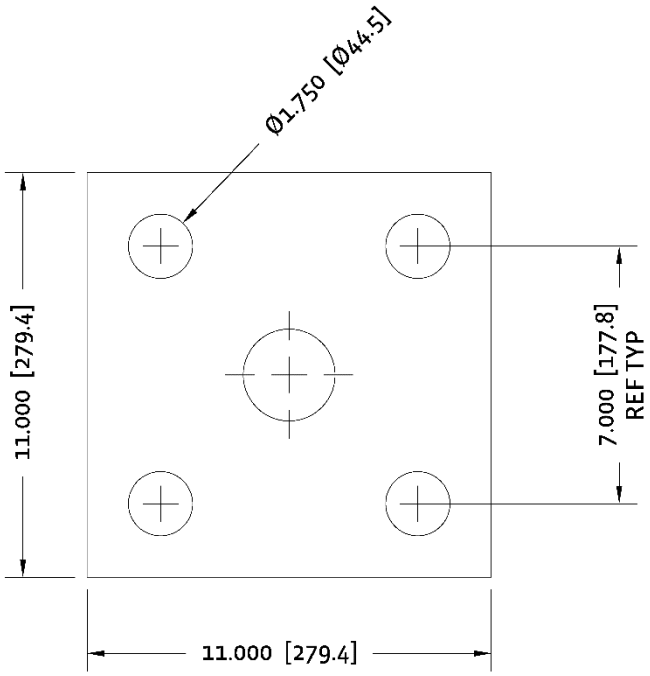
Dimensions “A” and “B” are found by measuring parallel to the tower, from the centerline of base plate to centerline of base plate. Dimension “D” is found by measuring parallel to the tower, from the centerline of anchor bolt to centerline of anchor bolt. Dimension “C” is a check dimension to verify the bolt pattern. This is found by measuring the centerline of the anchor bolt to centerline of the anchor bolt.

Tower Size	Dim “A”	Dim “B”	Dim “C” STG 0-3	Dim “C” STG 4-7	Dim “D” STG 0-3	Dim “D” STG 4-7	Dim “E”
4 X 4	48.000	48.000	67.882	67.882	7.000	10.000	1.75
4 X 8	48.000	96.000	107.331	107.331	7.000	10.000	1.75
4 X 10	48.000	120.000	129.244	129.244	7.000	10.000	1.75
4 X 12	48.000	144.000	151.789	151.789	7.000	10.000	1.75
6 X 6	72.000	72.000	101.823	101.823	7.000	10.000	1.75
8 X 8	96.000	96.000	135.765	135.765	7.000	10.000	1.75
10 X 10	120.000	120.000	169.706	169.706	7.000	10.000	1.75
12 X 12	144.000	144.000	203.647	203.647	7.000	10.000	1.75
14 X 14	168.000	168.000	237.588	237.588	7.000	10.000	1.75
16 X 16	192.000	192.000	271.529	271.529	7.000	10.000	1.75

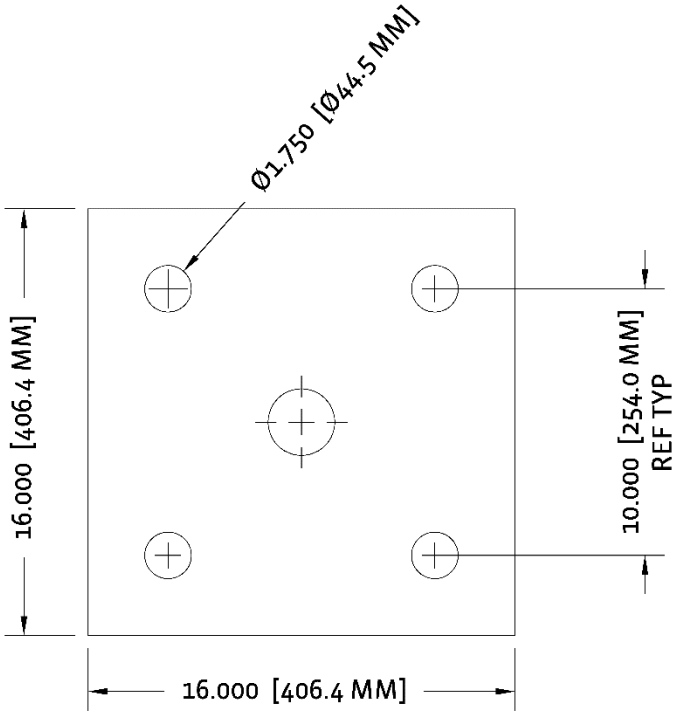


Use the correct bolts and bolt torque values as specified by a qualified consulting engineer. Verify anchor bolt grade, protrusion from concrete and minimum embedment for your foundation before proceeding with the installation. The foundation is critical to the structural integrity of the tower system.

Stage 0-3 Base Plate (9621077 – Plate thickness = 1.25")



Stage 4-7 Base Plate (9621815 – Plate thickness = 2.00")



Strength Staging Layout

All tower components such as posts, diagonals and horizontal braces are strength staged according to 6 different stages. As a result, each tower component has a different designation. You must build your tower according to the directions supplied and stage the components as specified.

A components stage designation determines where that specific component will be positioned. The higher stage numbers indicate higher strength and will be assembled at the tower base. The lower stage numbers will be assembled at the tower top. The rest of the components are assembled in stage numerical order in between.

Important Note: Posts, diagonal bracing and horizontal bracing are staged separately from each other.

Before you start, refer to the staging layout drawing attached with shipment and sort the tower components according to type and stage, in the order they will be used during construction.

Important Note: Diagonal bracing must correctly match the size of post used. Diagonal bracing sized for 4” posts cannot be used on 6” posts.

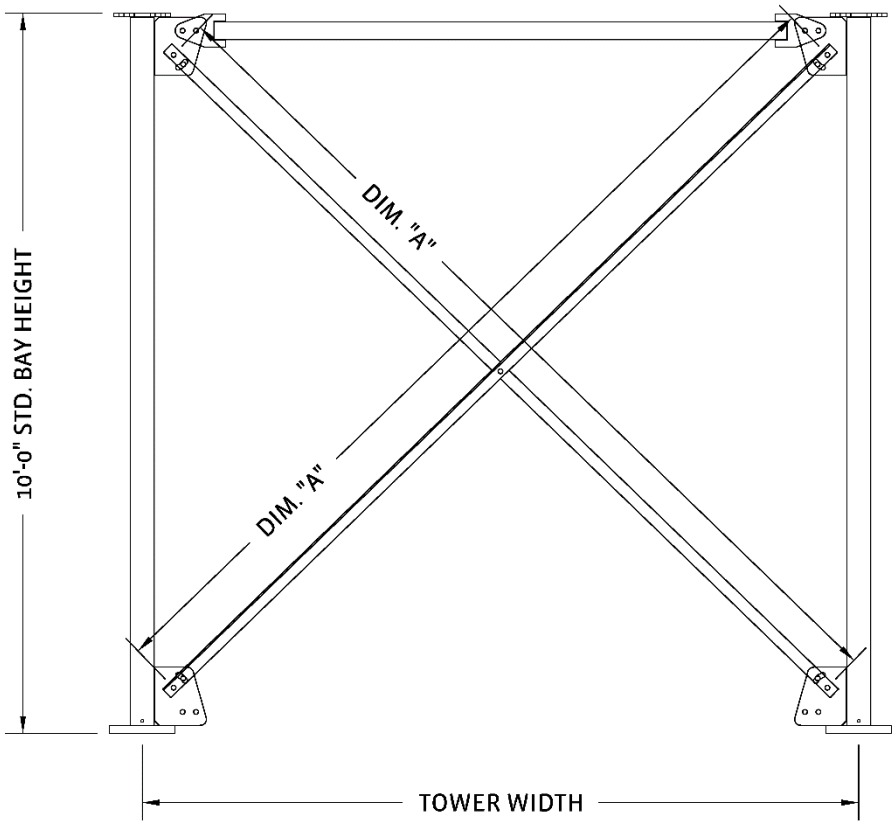
Tower height indicates the tower height at the top of each tower section. Example: A rise in height of 5’ (1.52m) from the previous section height indicates a 5’ (1.52m) post and 5’ (1.52m) diagonal bracing.

Post stage is indicated by the number of weld dots near each post end. Common post stages can be shipped in 10’ (3.04m) or 20’ (6.09m) lengths, according to purchase order specifications. Diagonal stage indicates the section diagonal bracing stage.

Shown below is an example of a staging layout. This is an example only – you must follow the staging layout custom supplied with your order.

- Tower Height = 65’ (1.52m)
  Post stage = 0 5’ (1.52m) Post
  Diagonal stage = 0 5’ (1.52m) Diagonal
- Tower Height = 60’
  Post stage = 0 10’ (3.04m) Post
  Diagonal stage = 0 10’ (3.04m) Diagonal
- Tower Height = 50’
  Post stage = 0 10’ (3.04m) Post
  Diagonal stage = 0 10’ (3.04m) Diagonal
- Tower Height = 40’
  Post stage = 1 10’ (3.04m) Post
  Diagonal stage = 1 10’ (3.04m) Diagonal
- Tower Height = 30’
  Post stage = 1 10’ (3.04m) Post
  Diagonal stage = 1 10’ (3.04m) Diagonal
- Tower Height = 20’ (6.09m)
  Post stage = 2 10’ (3.04m) Post
  Diagonal stage = 2 10’ (3.04m) Diagonal
- Tower Height = 10’ (3.04m)
  Post stage = 2 10’ (3.04m) Post
  Diagonal stage = 2 10’ (3.04m) Diagonal
- Tower Height = 0’
  Post stage = 3 10’ (3.04m) Base Post
  Diagonal stage = 3 10’ (3.04m) Diagonal

Example bay:



Width	Dim “A” STG 0-3 4” Post	Dim “A” STG 4-7 6” Post
4’ (1.21m)	112.438” (285.59cm)	111.813” (284.00cm)
6’ (1.82m)	122.563” (311.31cm)	121.563” (308.77cm)
8’ (2.43m)	136.188” (345.91cm)	134.938” (342.74cm)
10’ (3.04m)	152.375” (387.03cm)	151.000” (383.54cm)
12’ (3.65m)	170.438” (432.91cm)	168.875” (428.94cm)
14’ (1.21m)	189.875” (482.28cm)	188.188” (477.99cm)
16’ (1.82m)	210.188” (533.87cm)	208.438” (529.43cm)

Tower Sections

Before starting verify you have a copy of the packing list, this will assist you in identifying the correct part numbers required for your system.

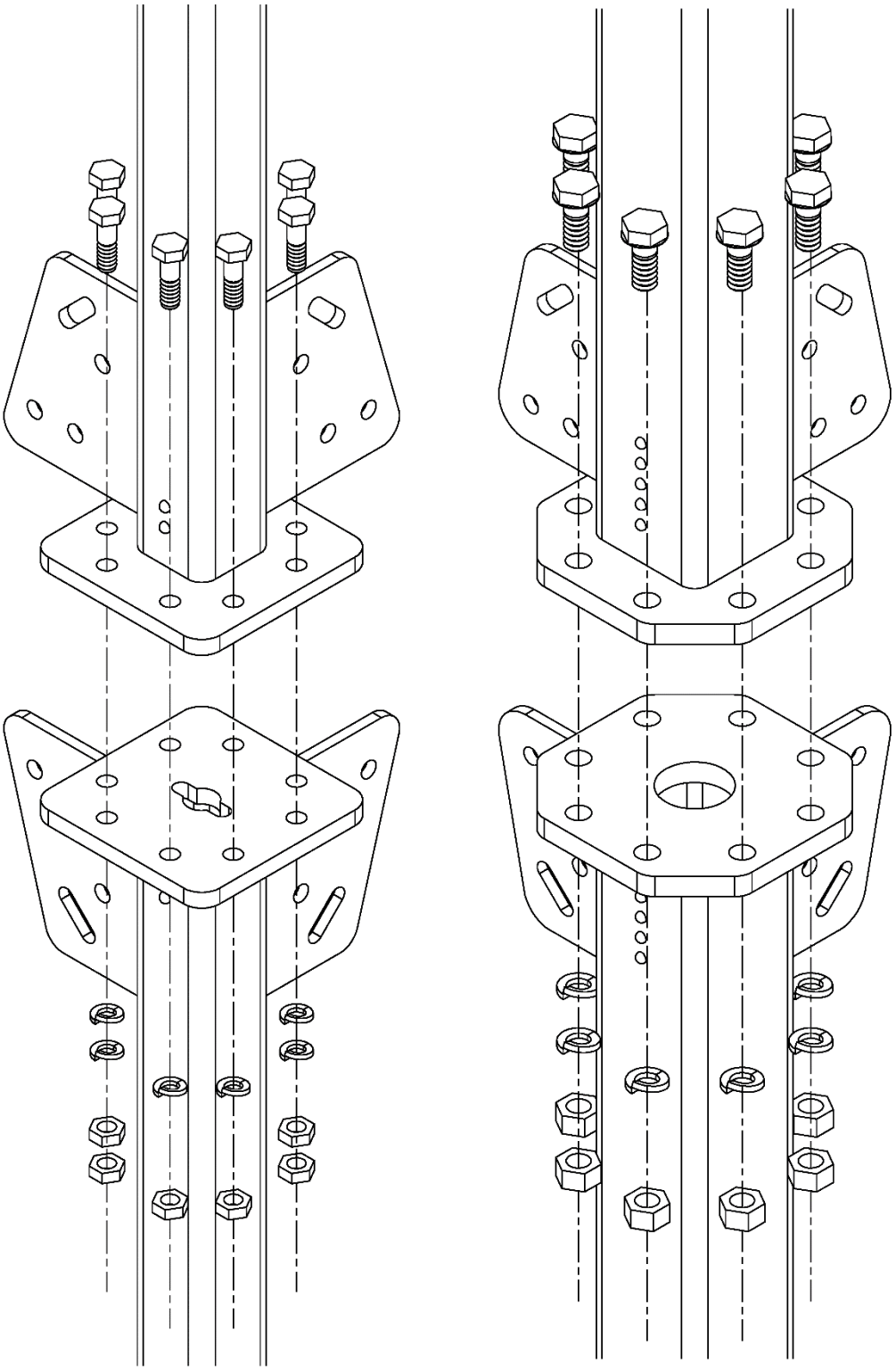
Important Note: Leave all hardware (bolts, nuts, washers) loose until all components in a single bay have been added. This will allow you to square and plumb each bay and ensure that tolerances do not accumulate.

Tower bay sections may be assembled at ground level and then lifted into place with an appropriate capacity crane.

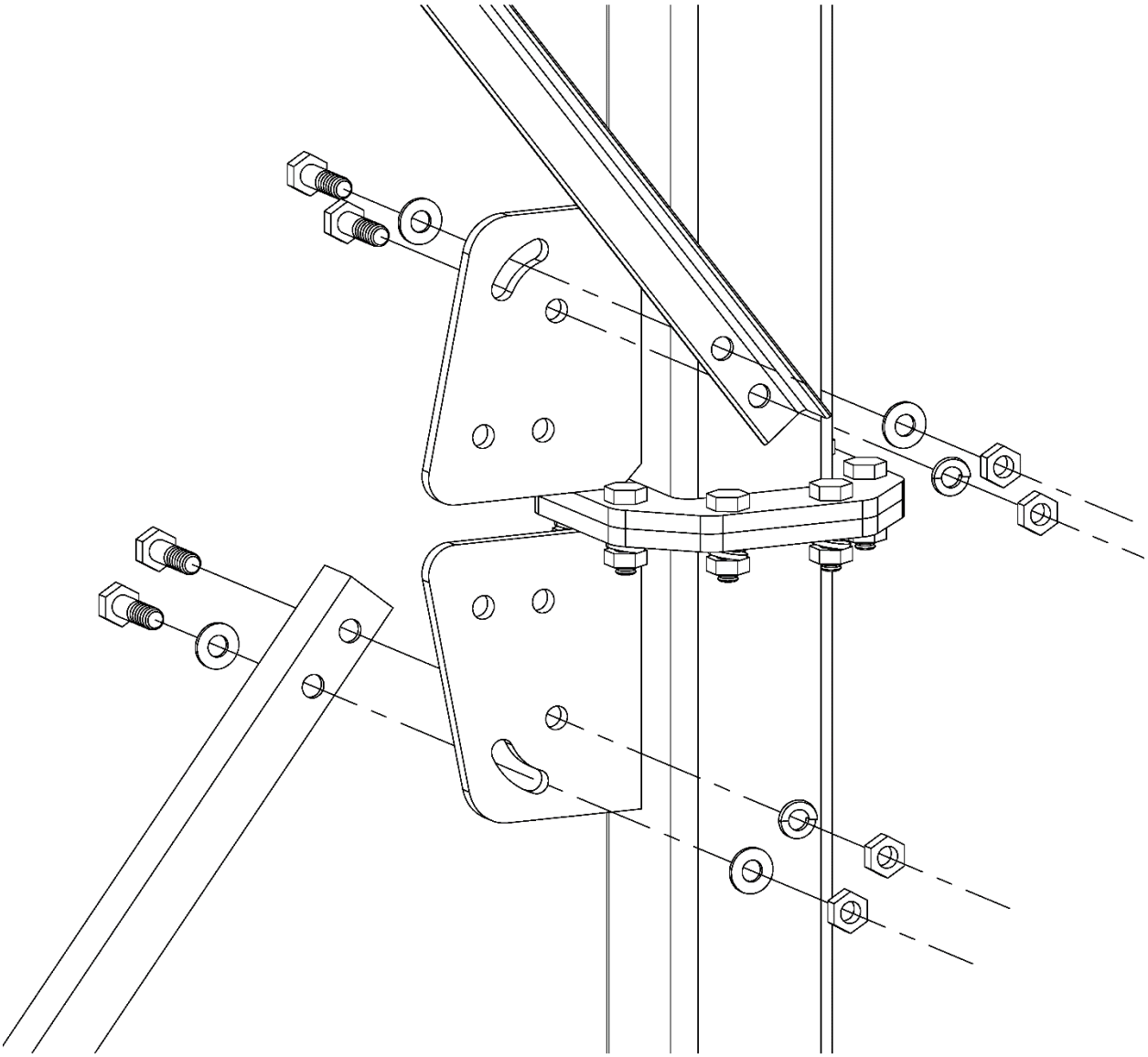
Important Note: If you have any construction problems, additional wind loading or weight loads that will be added to the tower, contact Chief Industries Inc. for additional information and bracing requirements.

Place tower posts into position. These connections will require (8) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 5 bolts with lock washer and nut for stage 0-3 and (8) 1” x 3-1/2” (2.54cm x 8.89cm) Grade 8 bolts with lock washer and nut for stage 4-7.

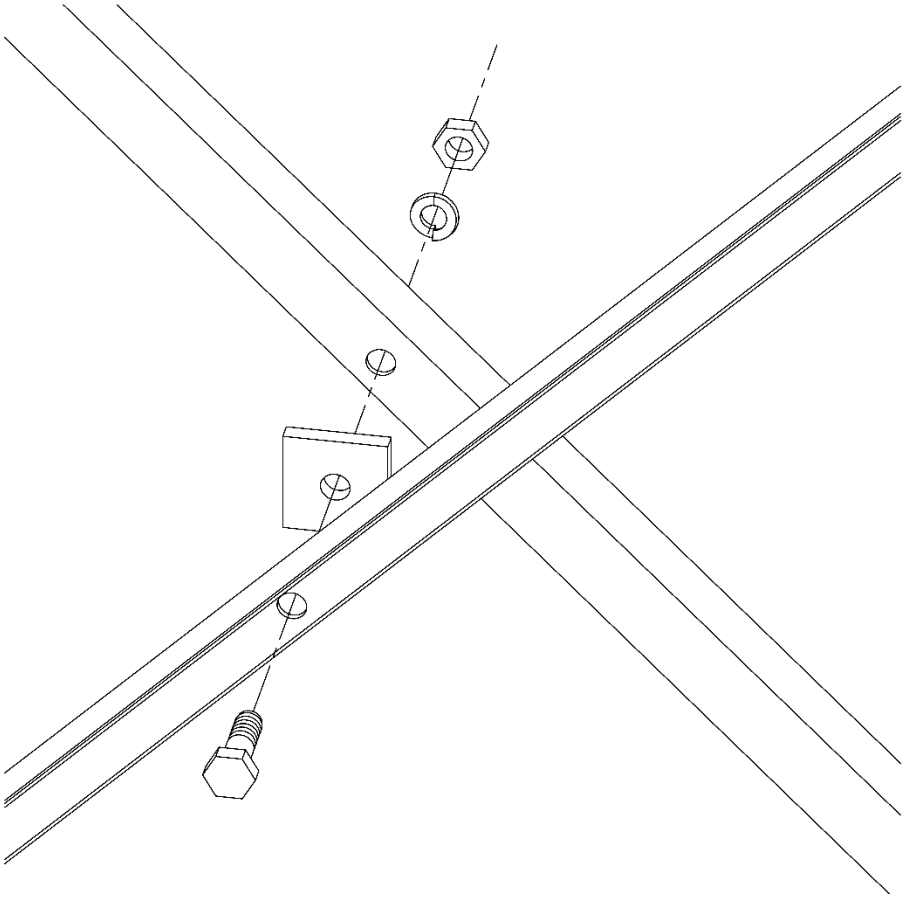
Shown on the left is a stage 0-3 post connection and on the right a stage 4-7 post connection.



Place the diagonal bracing into position. These connections will require (5) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 5 bolts with lock washer and nut. On section heights 5’ (1.52m) and smaller these connections will require (3) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 5 bolts with lock washer and nut. Bolts used inside the adjustable slot require (2) 3/4” (1.90cm) flat washers, installed one each side of the ear plate.

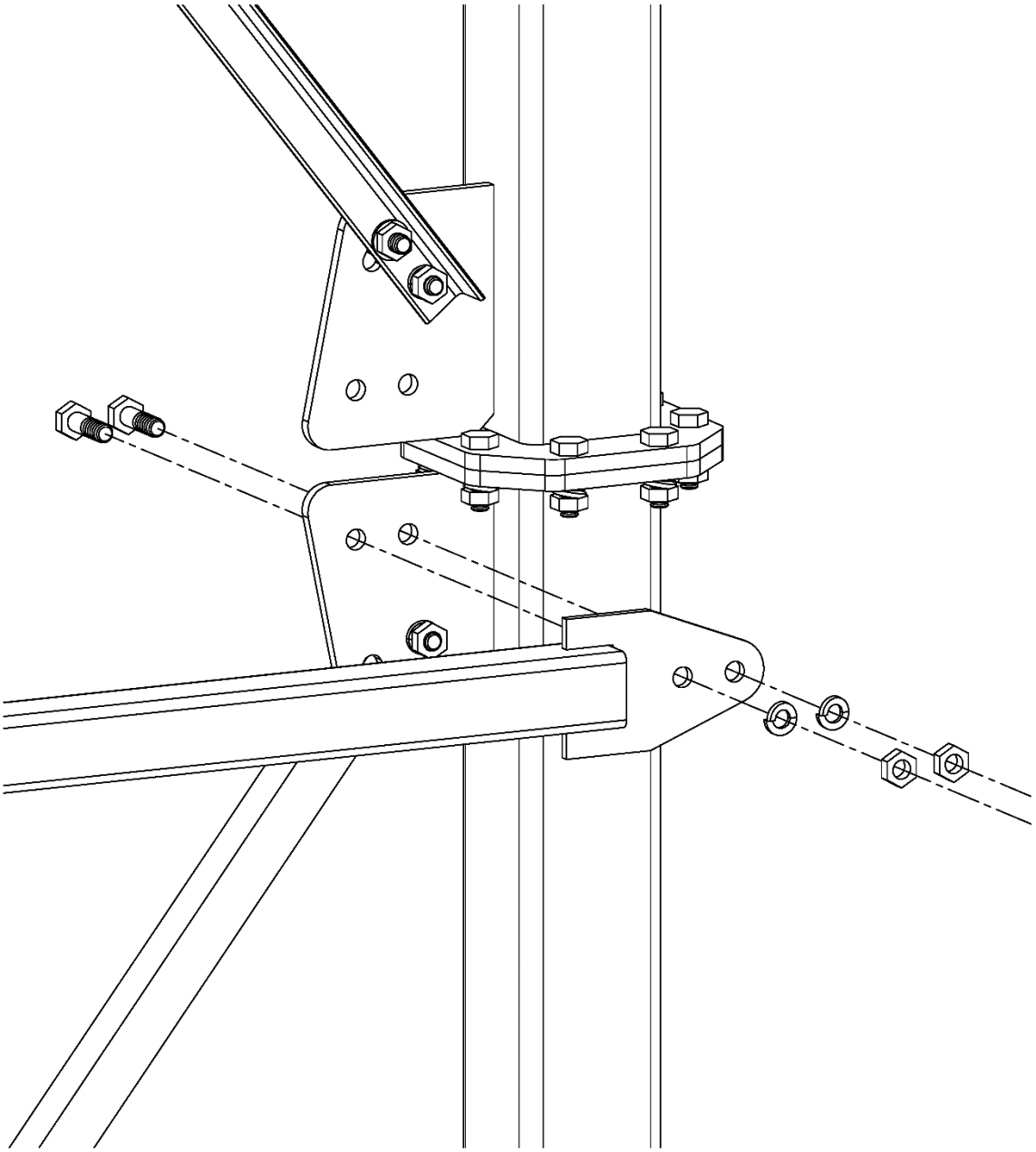


Note that diagonal bracing is to be installed back to back with a spacer plate in between the two angles.

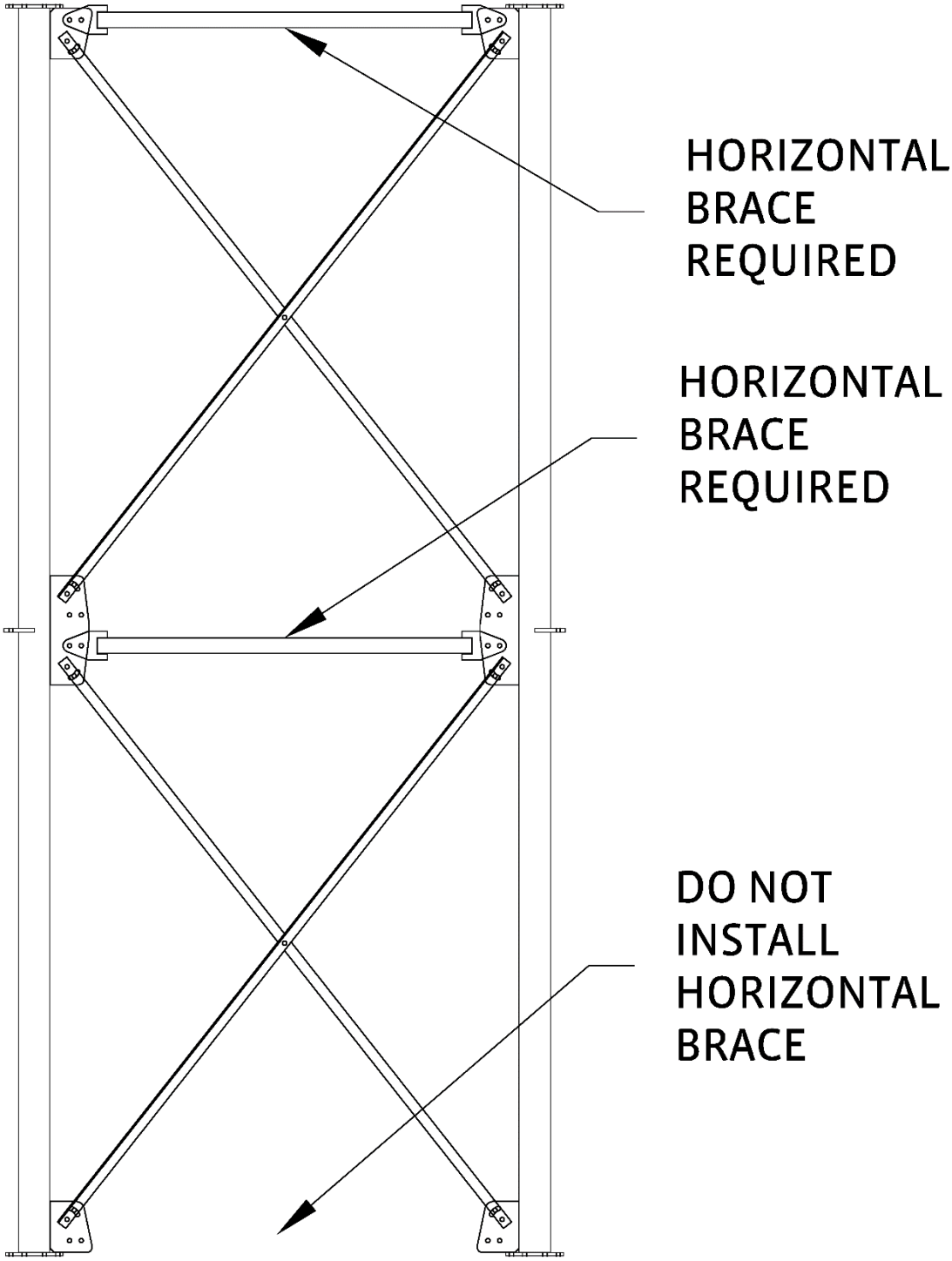


Place the horizontal bracing into position. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 5 bolts with lock washer and nut.

- The horizontal brace will be installed on the outside of the top ear plate.



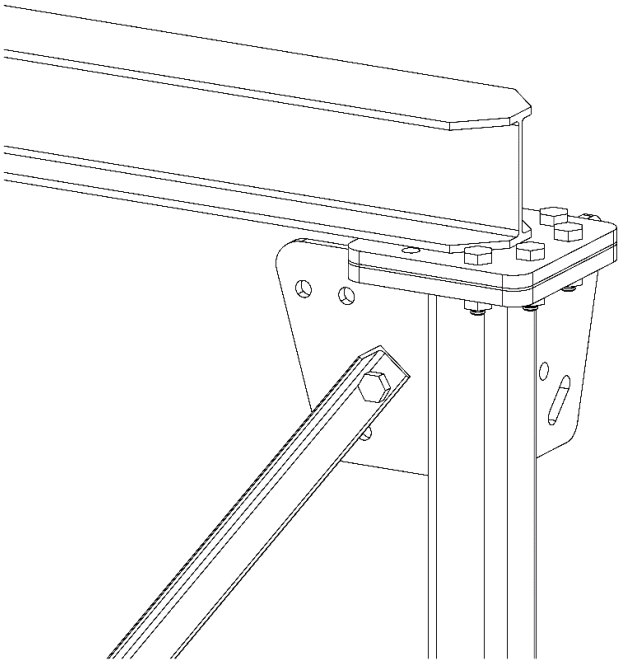
- When using 20’ (6.09m) posts, mount only one (1) horizontal brace to the center ear plate and one (1) horizontal brace to the top ear plate.



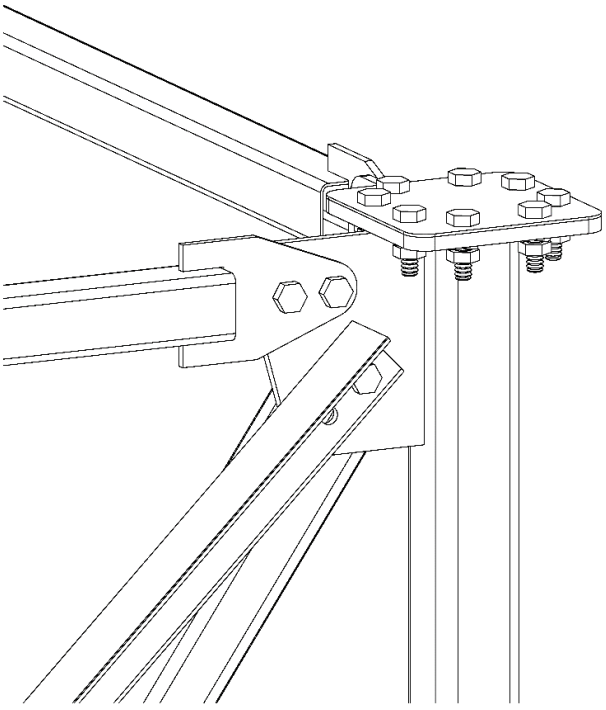
Important Note: Once the entire tower has been assembled verify that the top bay has a top end caps or a top load beam attached to prevent water moisture from leaking into the posts and causing damage to the tower system.

Finally attach the top load beam or endcaps as required.

Tower with top loading:



Tower with no loading on top of tower:



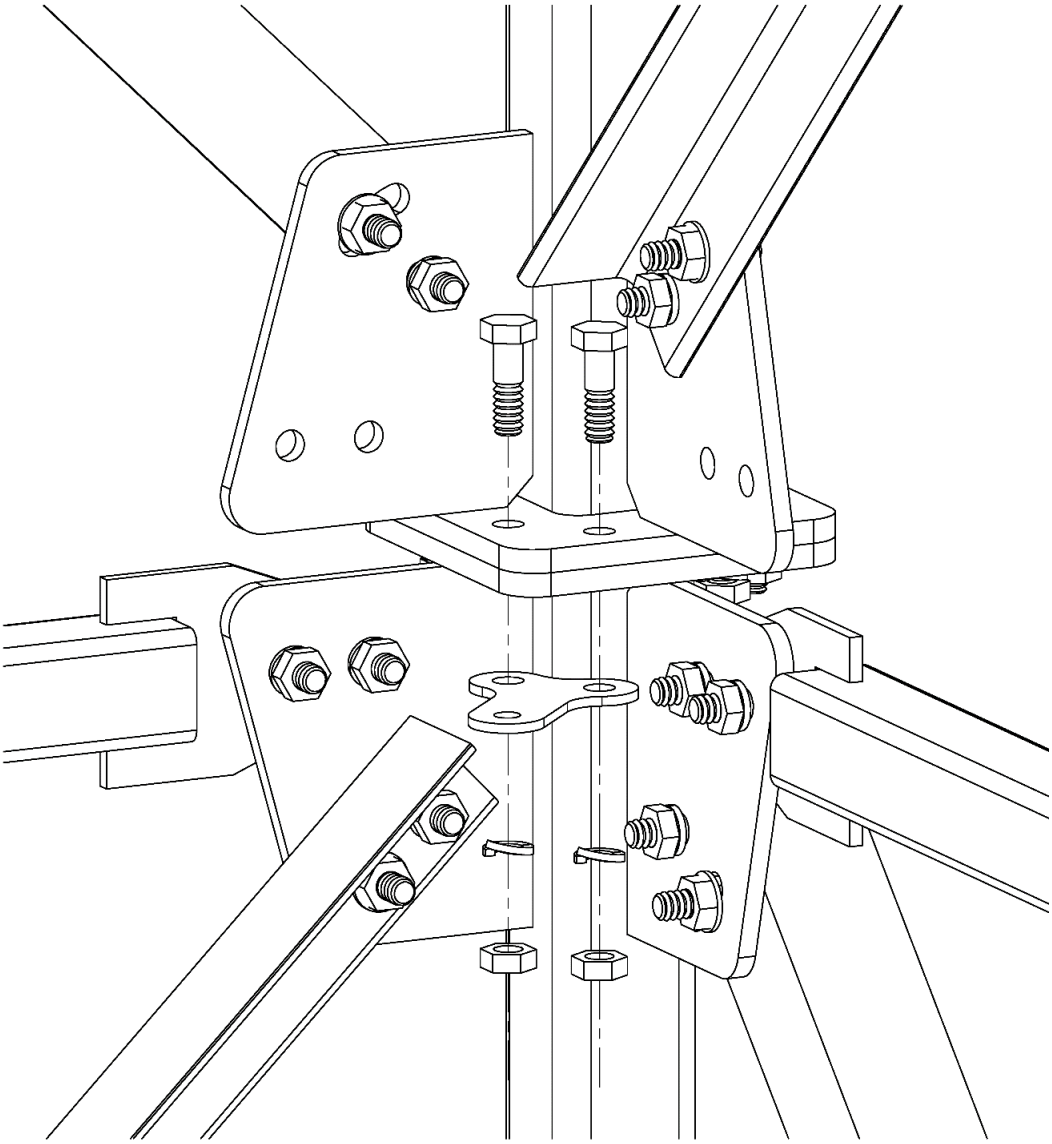
Internal Cross Bracing

Internal cross bracing must be installed at 20' (6.09m) intervals before assembling the next sections of the tower. This internal bracing will provide lateral stabilization and square the tower, allowing for easier assembly of the additional stages. If there is an elevator installed cross bracing must be field fabricated or purchased from Chief Industries Inc.

Install internal brace mounting lug to the corresponding inside corner holes in the post end plates. These plates will mount on the underside of the post end plates.

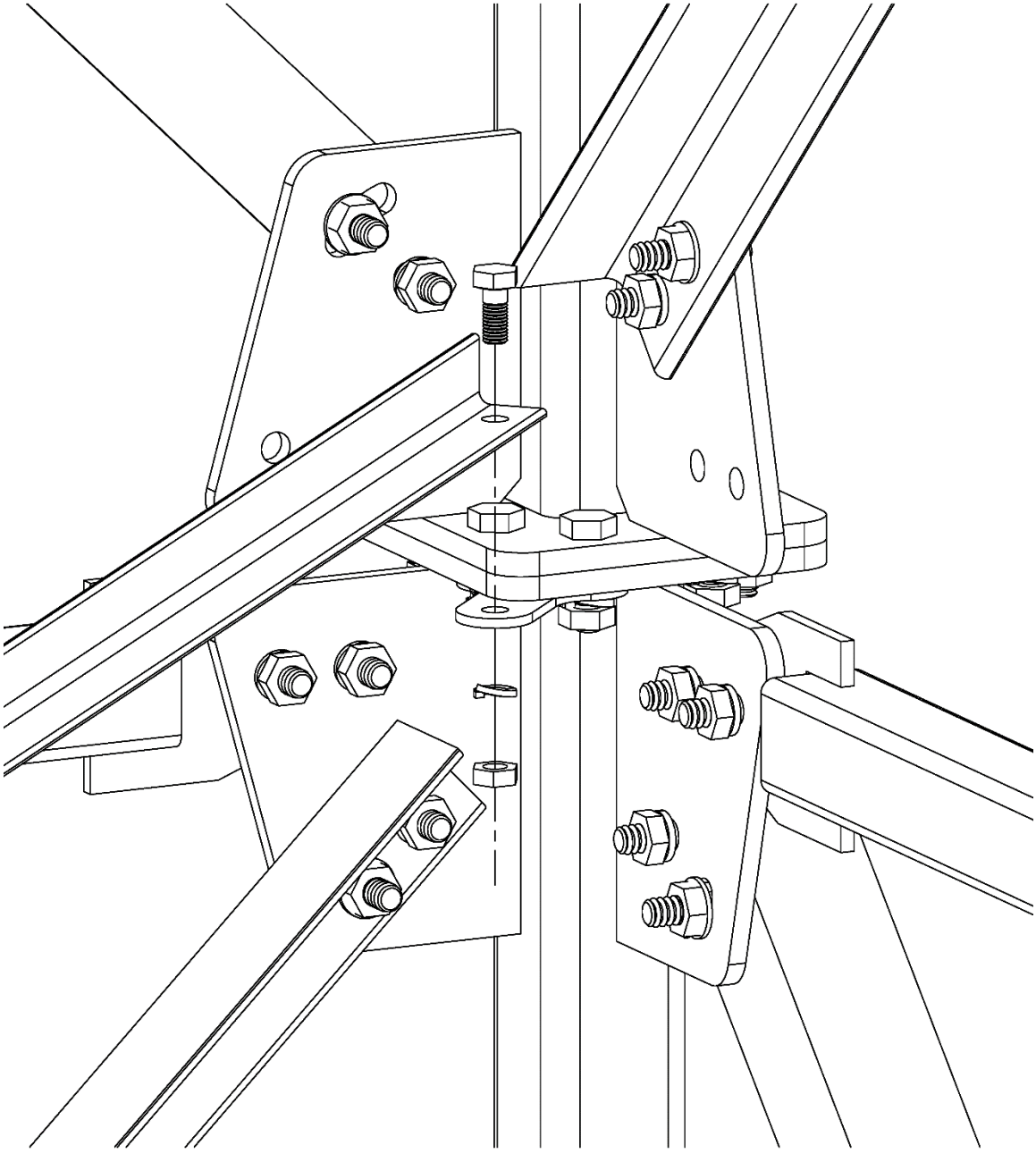
Important Note: Install the internal cross bracing lug only after the following bay posts have been attached. The lug will use (2) 3/4" x 3" (1.90cm x 7.62cm) Grade 5 bolts with lock washer and nut for 4" posts stage 0-3 or (2) 1" x 4" (2.54cm x 10.16cm) Grade 8 bolts with lock washer and nut for 6" posts stage 4-7.

.



After the lug has been installed bolt the first internal cross brace angle to the underside of the internal brace mounting lug. These connections will require (2) 5/8” x 1-3/4” (1.59cm x 4.45cm) Grade 5 bolts with lock washer and nut.

Next bolt the second internal cross brace that is located in the opposite direction as the first internal cross brace as described above, with flanges back to back. Both cross braces will be connected at the center hole location. Torque the bolts to the required specifications.



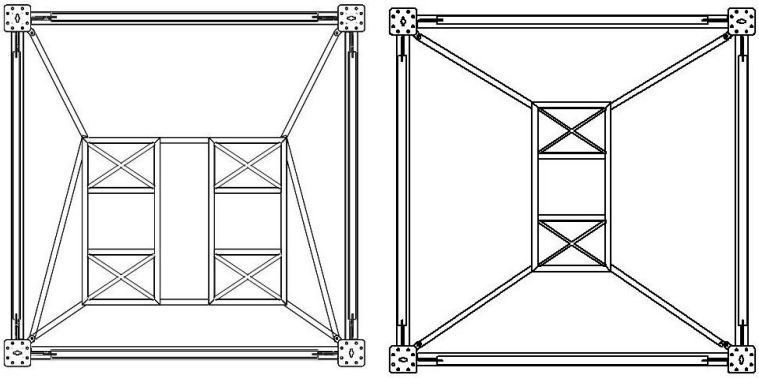
Elevator Leg Bracing

It is recommended that you assemble the elevator leg at the same time as you assemble the tower bays. Rigidly brace the elevator legs to the corresponding tower column post end plates every 20’ (6.09m) to laterally stabilize and square the elevator in addition to the tower.

Brace the elevator legs at each of the 4 corners, using a minimum of 2 x 2 x 1/4" (5.08cm x 5.08cm x .63cm) angle iron.

Fabricate and install a collar around the elevator legs, using a minimum of 2 x 2 x 1/4" (5.08cm x 5.08cm x .63cm) angle iron.

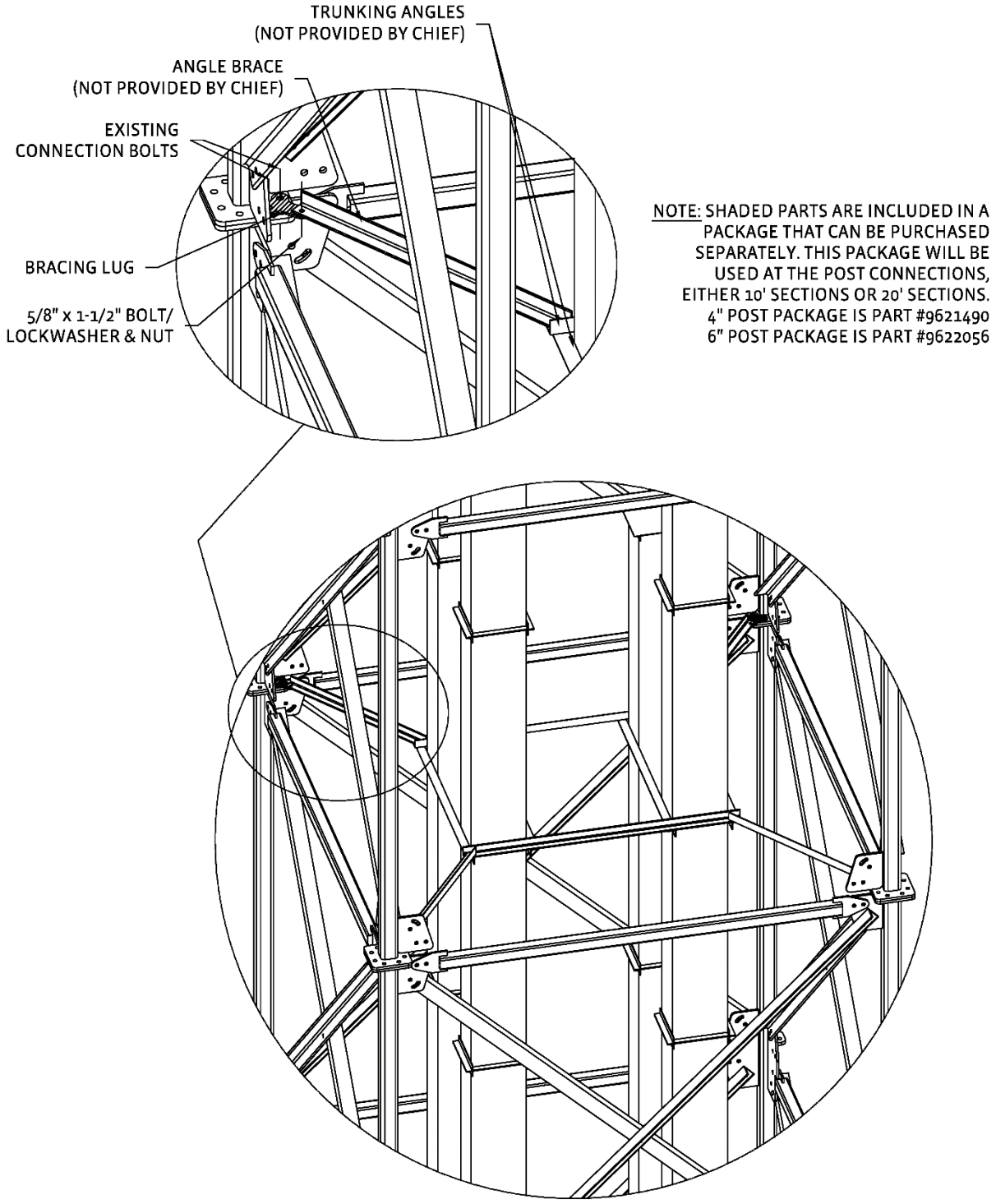
If a leg is centered in the tower bay it is sufficient to use 4 braces. If the leg is offset or with installations requiring two or more elevator legs 6 braces are required. You must stabilize your elevator leg so that it does not rotate or swivel.



Important Note: If you have any construction problems, additional wind loading or weight loads that will be added to the tower, contact Chief Industries Inc. for additional information and bracing requirements.

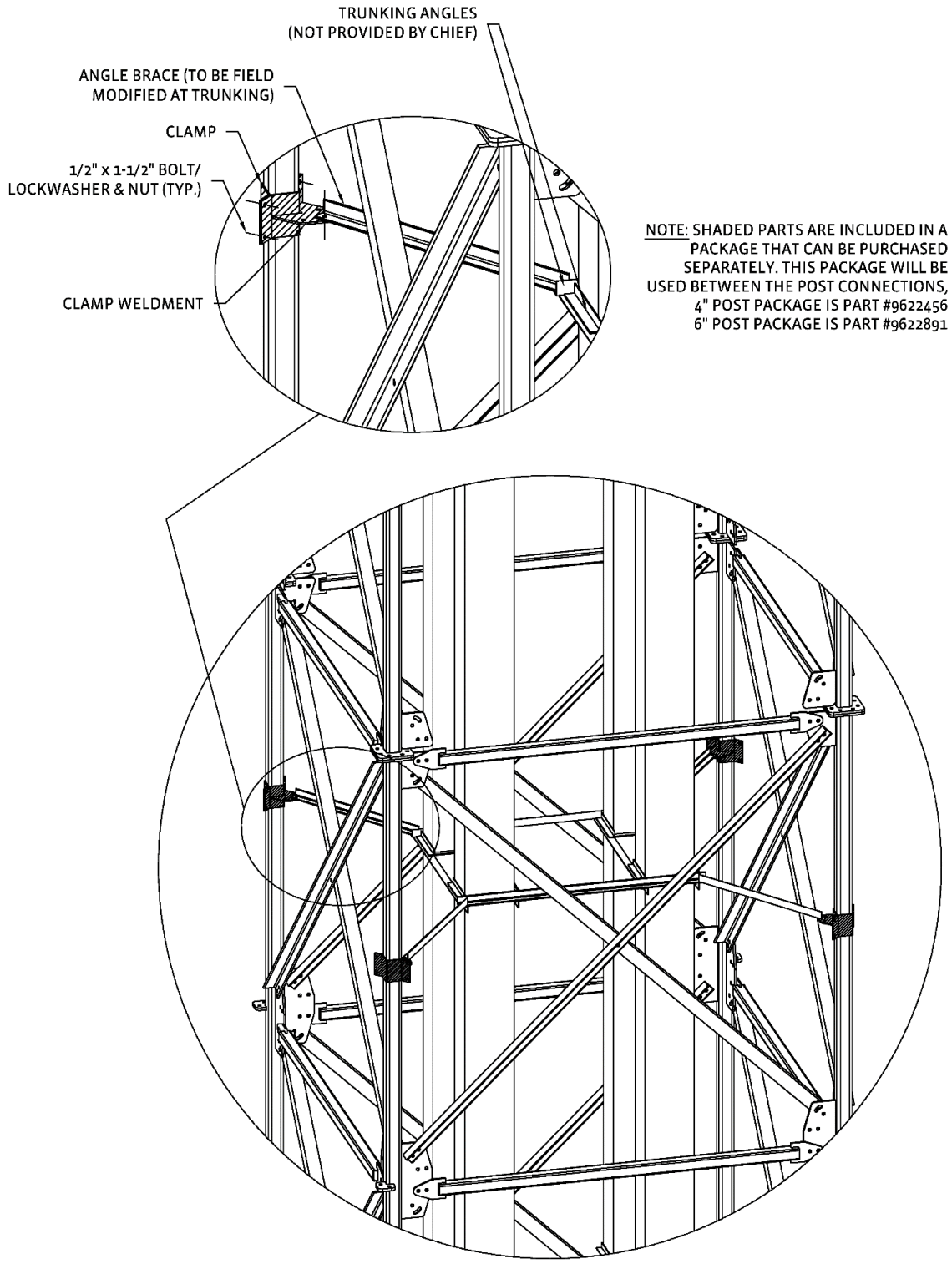
Bracing Mount Packages:

The bracing lug style attaches at the 4” or 6” column connection plates. The bracing lug style braces at either 10’ or 20’ sections.



The bracing clamp style allows more flexibility in locating leg bracing as it can be located on the 4” or 6” column tube.

Important Note: Do not install clamps more than 2’ (.61m) above or below the horizontal bracing location.



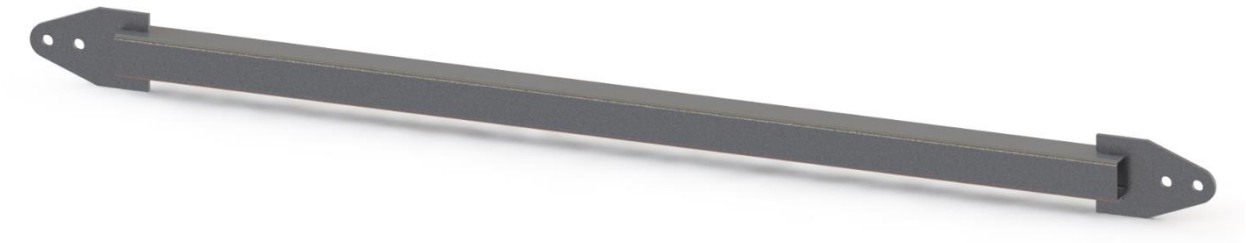
Access Bracing

The tower system can be used with optional access bracing. Access bracing is installed in a tower whenever equipment is installed through the tower, or when the diagonal bracing may interfere with the proper placement of spouting or other equipment. Access bracing may also be installed for personnel access to specific areas of the tower. A-access bracing or Z-access bracing can be used depending on the application.

Note: Caution should be exercised when installing access bracing. Only remove existing bracing on one side of a tower bay when installing access bracing.

A-Access Diagonal Brace

Tower Width	Stg 0-3 (4" Post)	Stg 4-7 (6" Post)
6' (1.82m)	9622383	9622044
8' (2.43m)	9621629	9622688
10' (3.04m)	9621127	9621578
12' (3.65m)	9621625	9621873
14' (1.21m)	9622691	9622040
16' (1.82m)	9621722	9622483



A-Access Horizontal Brace

- 6’ (1.82m) 9622045
- 8’ (2.43m) 9621631
- 10’ (3.04m) 9621124
- 12’ (3.65m) 9621627
- 14’ (1.21m) 9622041
- 16’ (1.82m) 9621667

Z-Access Horizontal Brace

- 6’ (1.82m) 9622647
- 8’ (2.43m) 9622648
- 10’ (3.04m) 9622663
- 12’ (3.65m) 9622664
- 14’ (1.21m) 9622665
- 16’ (1.82m) 9622666

Z-Access Primary Diagonal Brace

Tower Width	Stg 0-3 (4” Post)	Stg 4-7 (6” Post)
6’ (1.82m)	9622675	9622676
8’ (2.43m)	9622677	9622678
10’ (3.04m)	9622679	9622680
12’ (3.65m)	9622681	9622682
14’ (1.21m)	9622683	9622684
16’ (1.82m)	9622685	9622686

Z-Access Secondary Diagonal Brace

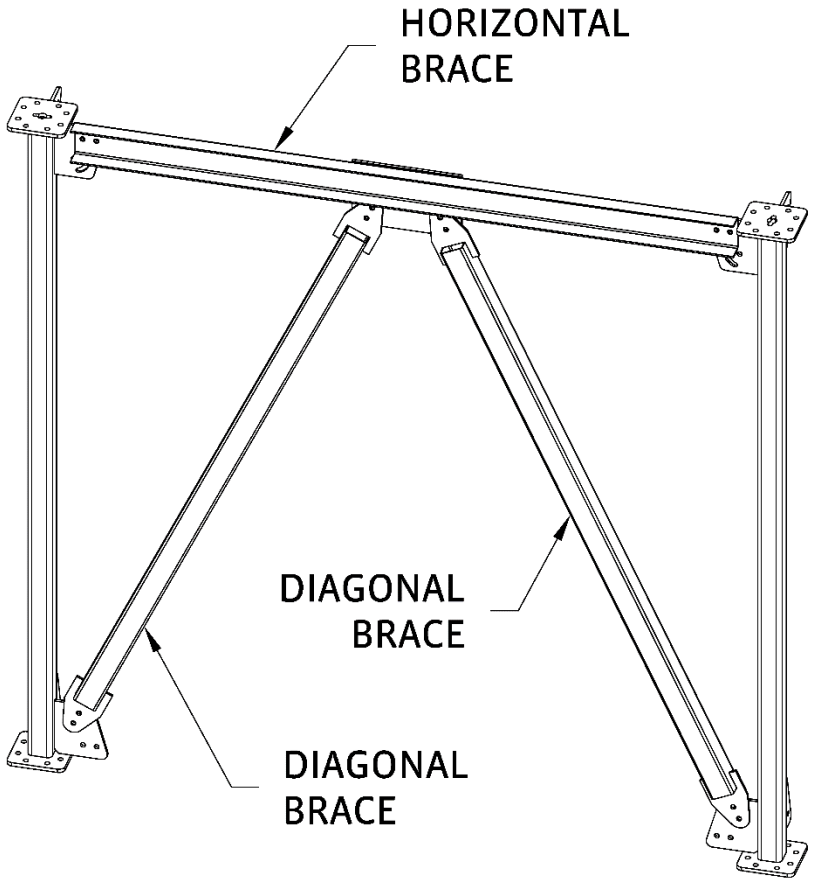
Tower Width	Stg 0-3 (4” Post)	Stg 4-7 (6” Post)
6’ (1.82m)	9622631	9622632
8’ (2.43m)	9622633	9622634
10’ (3.04m)	9622655	9622656
12’ (3.65m)	9622657	9622658
14’ (1.21m)	9622659	9622660
16’ (1.82m)	9622661	9622662

A-Access Bracing

Bolt both ends of horizontal access brace. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut.

Bolt one end of both the diagonal bracing pieces to the center ear of the horizontal access brace. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut. Bolts used inside the adjustable slot require (2) 3/4” (1.90cm) flat washers, installed one each side of the ear plate.

Bolt the other end of the diagonal bracing to the standard post ears on the tower bay. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut. Bolts used inside the adjustable slot require (2) 3/4” (1.90cm) flat washers, installed one each side of the ear plate. Torque the bolts to the required specifications.



A-ACCESS BRACING

Z-Access Bracing

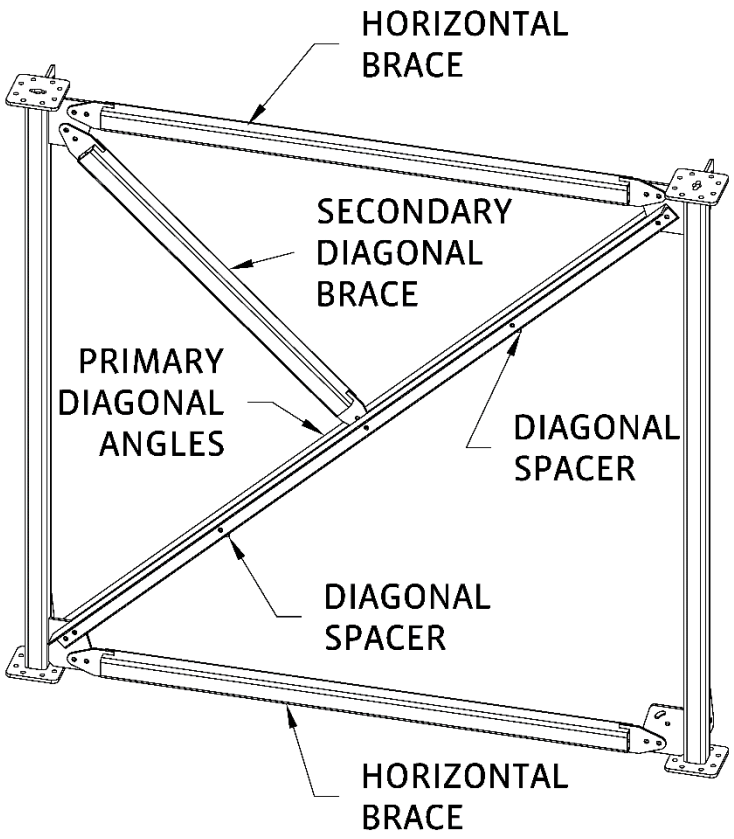
Bolt both ends of horizontal access brace. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut.

Bolt both ends of both the primary diagonal angles to the standard post ears of the tower bay. These connections will require (4) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut. Bolts used inside the adjustable slot require (2) 3/4” (1.90cm) flat washers, installed one each side of the ear plate.

Bolt one end of the secondary diagonal brace to the standard post ear on the tower bay. These connections will require (2) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolts with lock washer and nut. Bolts used inside the adjustable slot require (2) 3/4” (1.90cm) flat washers, installed one each side of the ear plate.

Bolt the other end of the secondary diagonal brace in between the primary diagonal angles in the center hole. This connection will require (1) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolt with lock washer and nut.

Bolt 2 diagonal brace spacers in the remaining holes between the primary diagonal angles. These connections will require (1) 3/4” x 2-1/2” (1.90cm x 6.35cm) Grade 8 bolt with lock washer and nut. Torque the bolts to the required specifications.

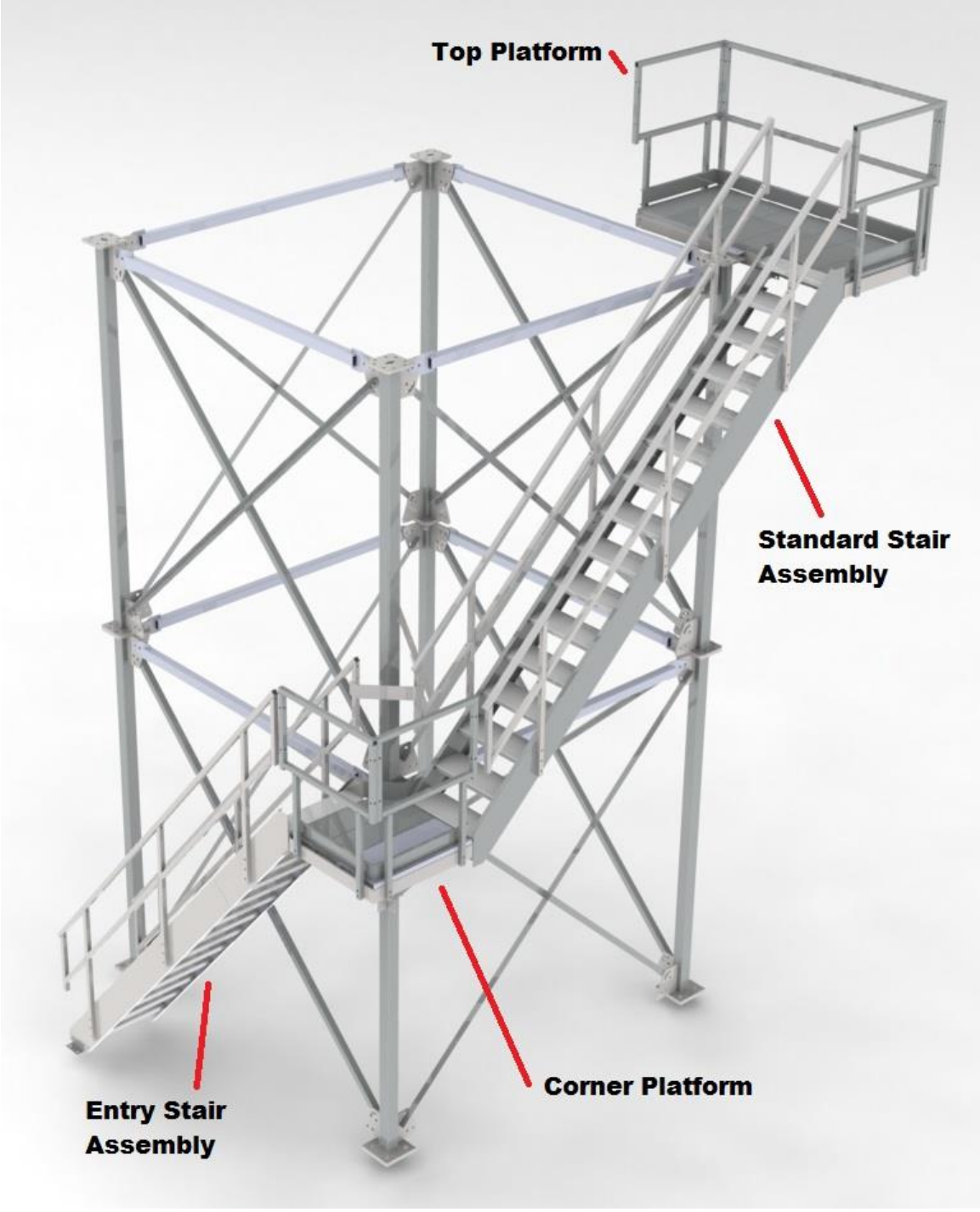


Z-ACCESS BRACING

Stairs and Platforms

Stairs and platforms are installed in a tower to provide easy and convenient personnel access. Stairs and platforms are available in wrap around or switchback configurations.

To save time and assist as a quick reference guide, the main component parts and the main assemblies created from these specific components will be shown on the following pages. Take note of the orientation of these parts in the top level assemblies to help reduce time and errors during the installation process.



Tower Stair Components

Entry Stair Stringer Weldment

- 9621644 8’ (2.43m) Width - 10’ (3.04m) Height
- 9623076 10’ (3.04m) Width - 10’ (3.04m) Height
- 9623085 12’ (3.65m) Width - 10’ (3.04m) Height
- 9623094 14’ (4.26m) Width - 10’ (3.04m) Height
- 9623103 16’ (4.87m) Width - 10’ (3.04m) Height

Standard Stair Stringer Weldment

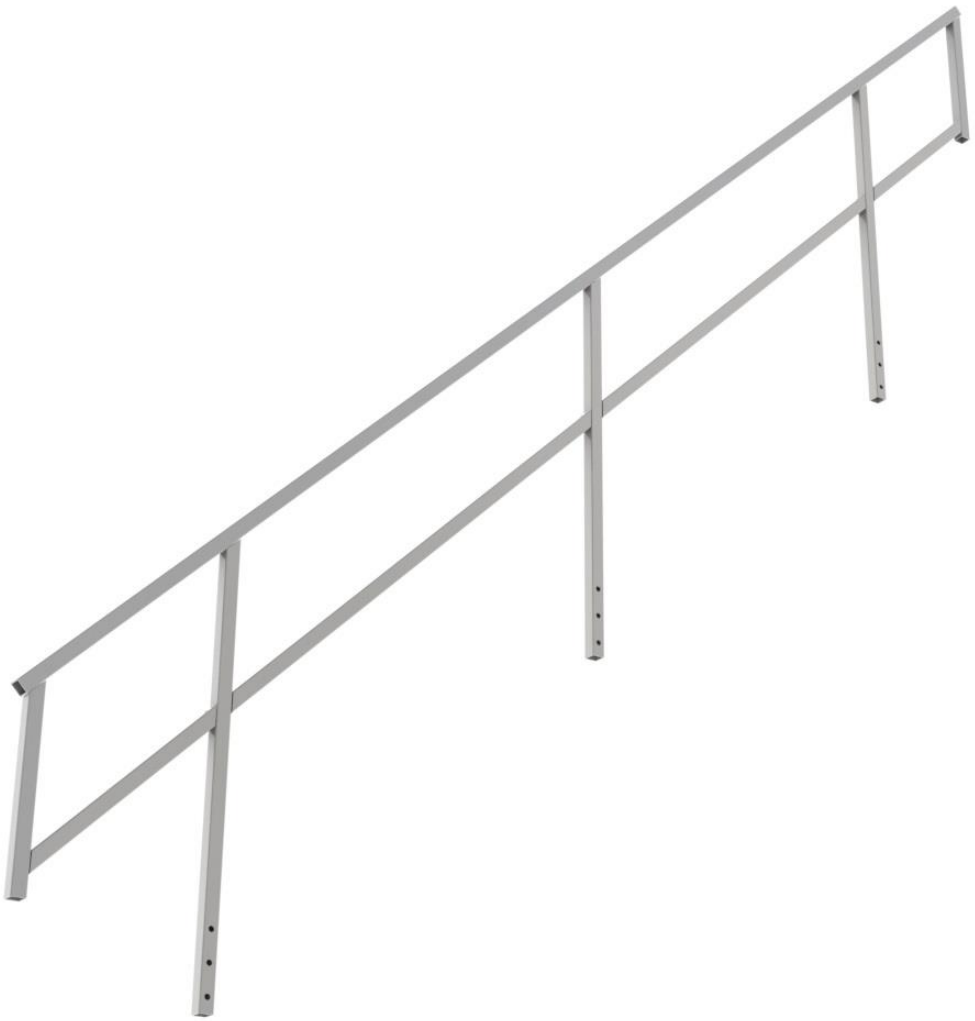
- 9621711 8’ (2.43m) Width - 10’ (3.04m) Height
- 9621131 10’ (3.04m) Width - 10’ (3.04m) Height
- 9621713 12’ (3.65m) Width - 10’ (3.04m) Height
- 9621714 14’ (4.26m) Width - 10’ (3.04m) Height
- 9621565 16’ (4.87m) Width - 10’ (3.04m) Height

Entry Stair Handrail Weldment

- 9621656 8’ (2.43m) Width - 10’ (3.04m) Height
- 9623079 10’ (3.04m) Width - 10’ (3.04m) Height
- 9623088 12’ (3.65m) Width - 10’ (3.04m) Height
- 9623097 14’ (4.26m) Width - 10’ (3.04m) Height
- 9623106 16’ (4.87m) Width - 10’ (3.04m) Height

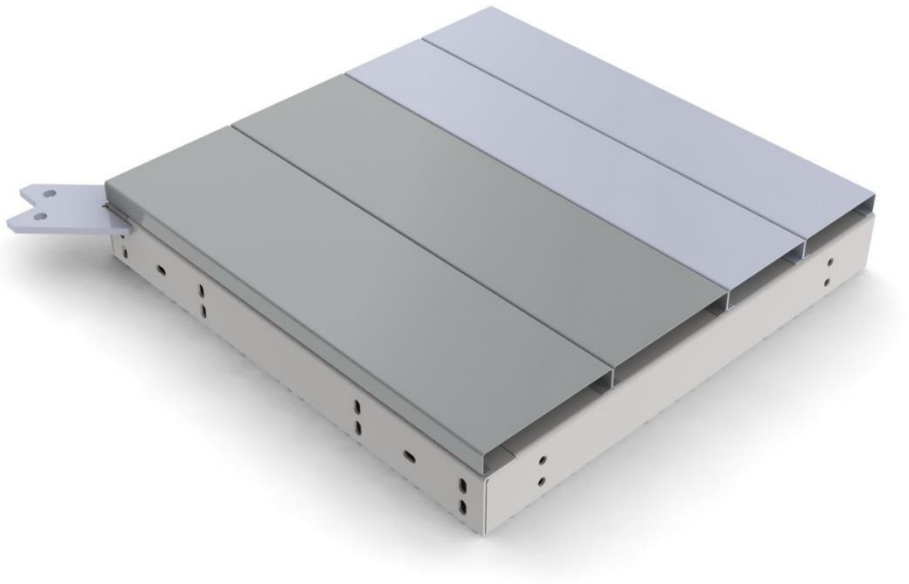
Standard Stair Handrail Weldment

- 9621640 8’ (2.43m) Width - 10’ (3.04m) Height
- 9621133 10’ (3.04m) Width - 10’ (3.04m) Height
- 9621607 12’ (3.65m) Width - 10’ (3.04m) Height
- 9621612 14’ (1.21m) Width - 10’ (3.04m) Height
- 9621572 16’ (1.82m) Width - 10’ (3.04m) Height



Corner Platform Base

- 9621137 (STG 0-3)
- 9621510 (STG 4-7)

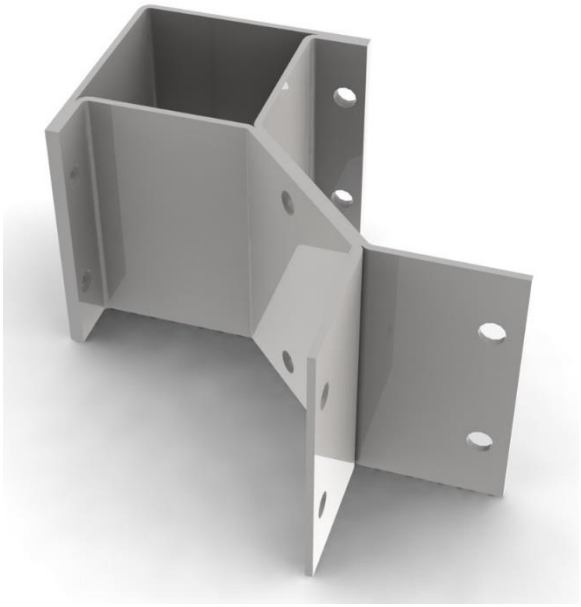


Corner Platform Handrail

- 9621135 (33.00.” length)
- 9621136 (36.12” length)

Corner Platform Bracing Mount

- 9621645 Mount #1 (STG 0-3)
- 9621646 Mount #2 (STG 0-3)
- 9621508 Mount #1 (STG 4-7)
- 9621507 Mount #2 (STG 4-7)



Corner Platform Bracing

- 9621657 (50.75” length)
- 9621659 (40.00” length)

Switchback Platform Base

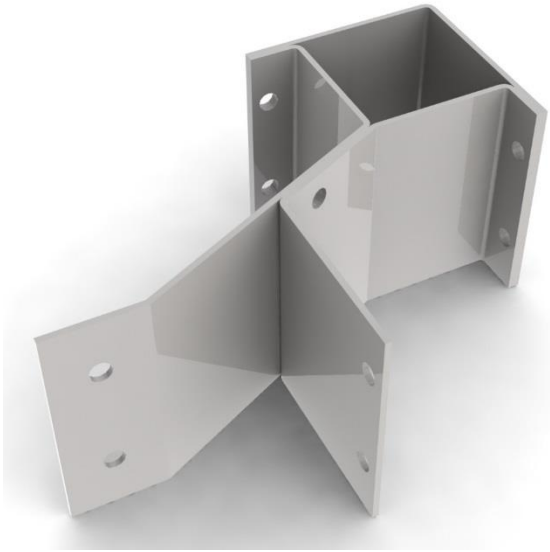
- 9621571 LH (STG 0-3)
- 9621556 RH (STG 0-3)
- 9621531 LH (STG 4-7)
- 9621535 RH (STG 4-7)

Switchback Platform Handrail

- 9621586 (55.37” length)
- 9621582 (36.12” length)

Switchback Platform Bracing Mount

- 9621645 Mount #1 (STG 0-3)
- 9621619 Mount #2 (STG 0-3)
- 9621623 Mount #3 (STG 0-3)
- 9621507 Mount #1 (STG 4-7)
- 9621538 Mount #2 (STG 4-7)
- 9621539 Mount #3 (STG 4-7)



Switchback Platform Bracing

- 9621659 (40.00” length)
- 9621715 (60.00” length)
- 9621716 (68.00” length)

Top Platform Base

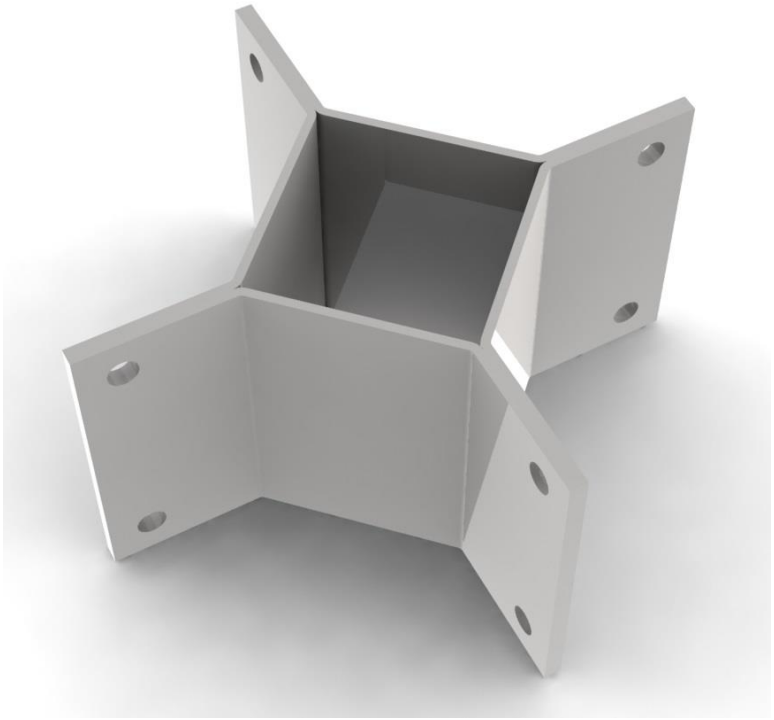
- 9621590 (STG 0-3)

Top Platform Handrail

- 9621582 (36.25” length)
- 9621595 (70.87” length)

Top Platform Bracing Mount

- 9621718 Mount #1 (STG 0-3)



Top Platform Bracing

- 9621657 (50.75” length)

Hardware Packages

- 9621139 (Corner Platform)
- 9621660 (Switchback Platform)
- 9621661 (Top Platform)
- 9621665 (Stair Standard Bay)

Important Note: When installing, leave all hardware (bolts, nuts, washers) loose until **all** components have been added. This will allow you to square the platform assembly and verify that tolerances do not accumulate.

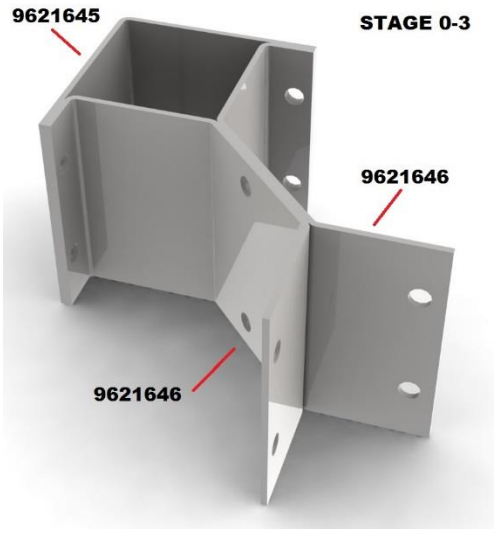
Important Note: Bolt heads are to be installed inside of the platform base.

Important Note: Handrails may be mounted to the platform weldment / stair stringer weldment prior to installation on the tower.

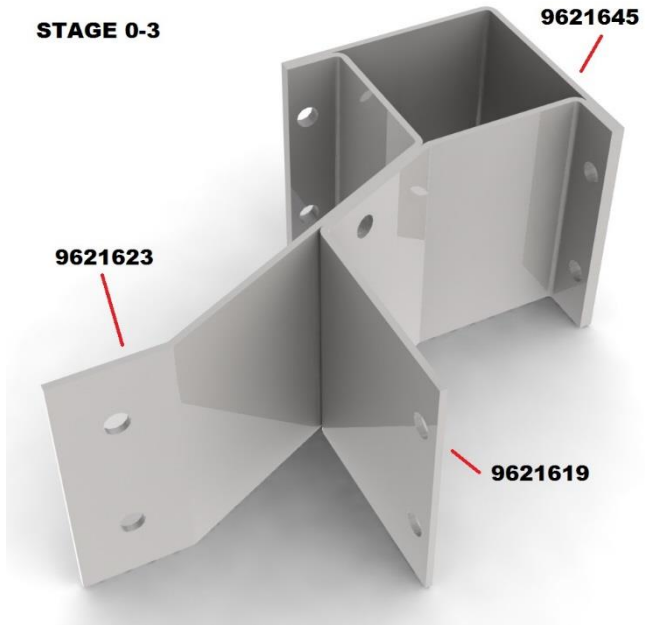
Platform Packages

The following platform packages are provided for your reference during the installation process. For the most efficient construction of the complete project please note the orientation of the following components:

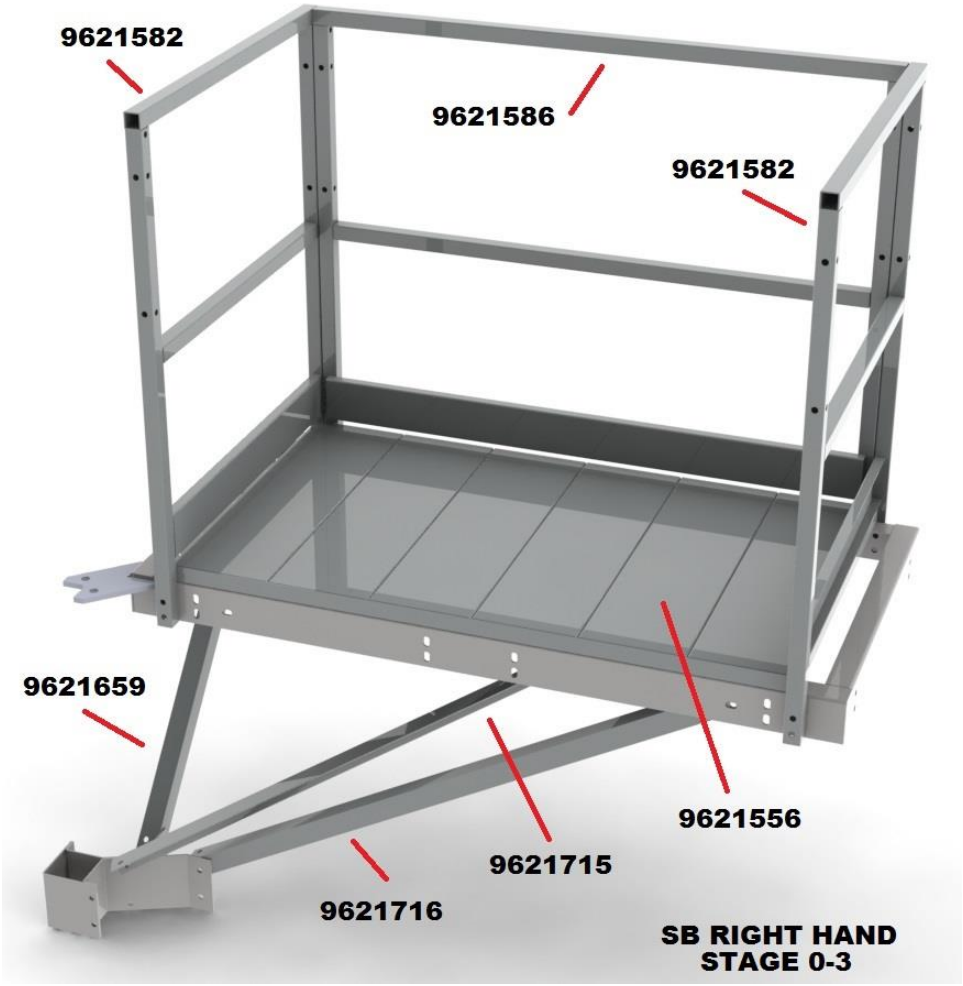
Corner Platform (STG 0-3)

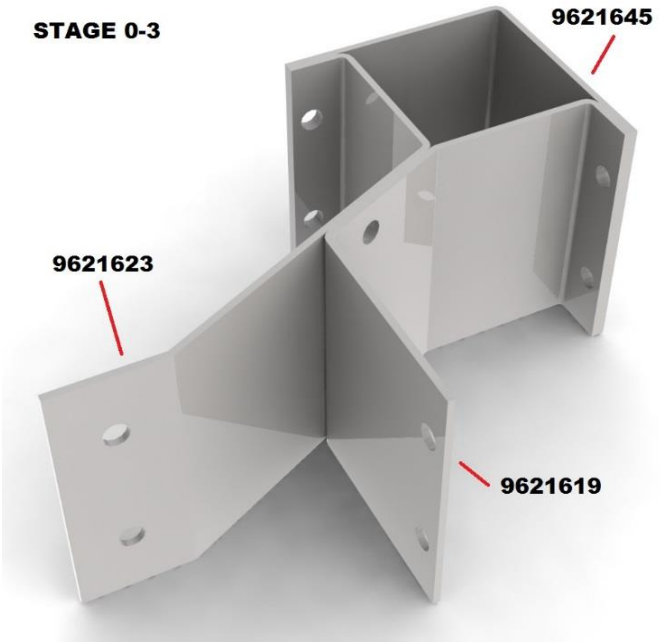


Switchback Left Hand Platform (STG 0-3)

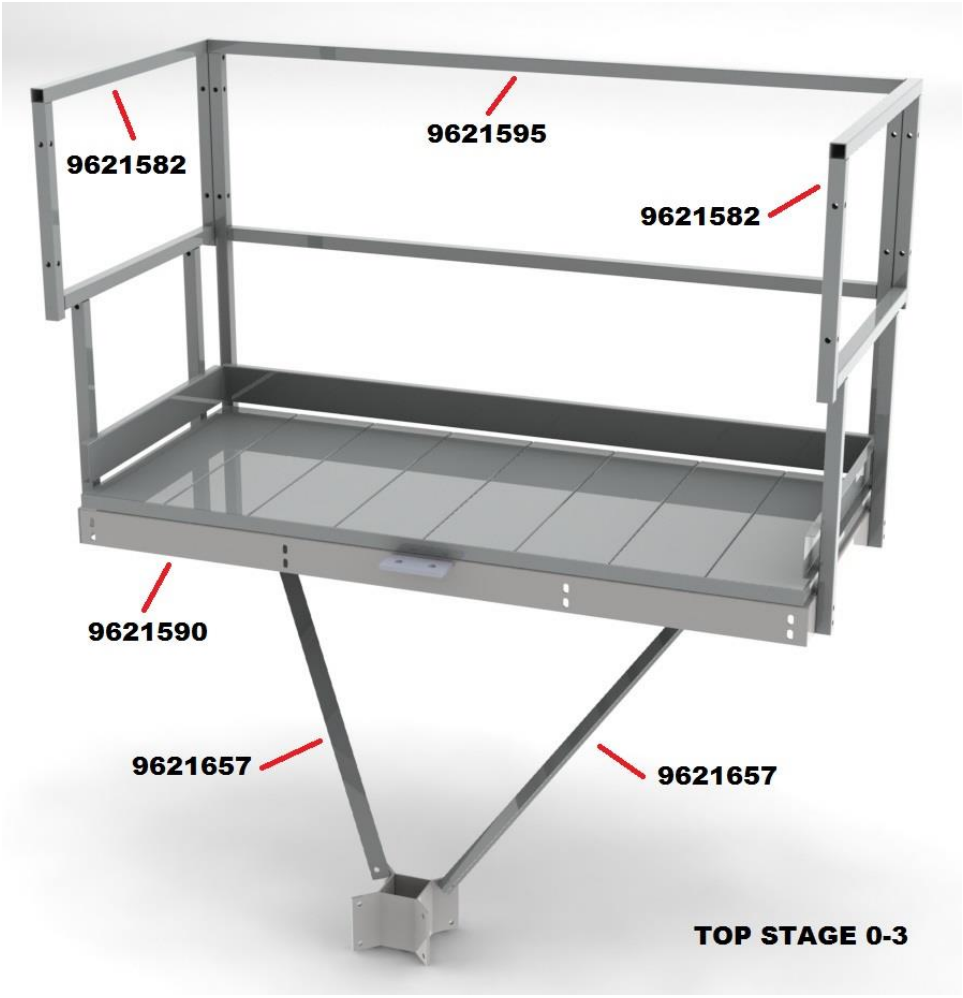


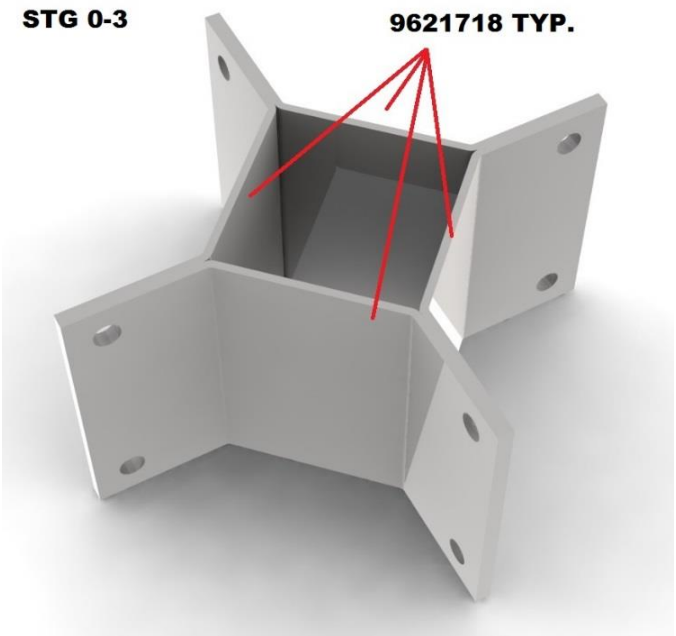
Switchback Right Hand Platform (STG 0-3)



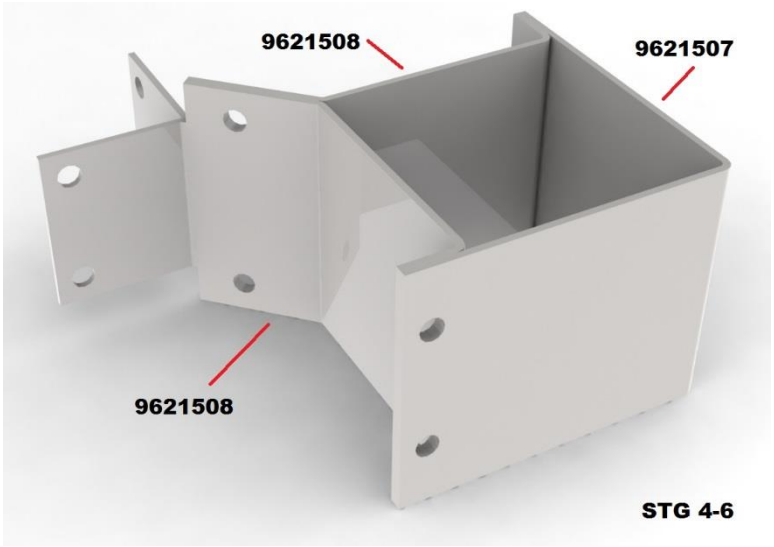


Top Platform (STG 0-3)

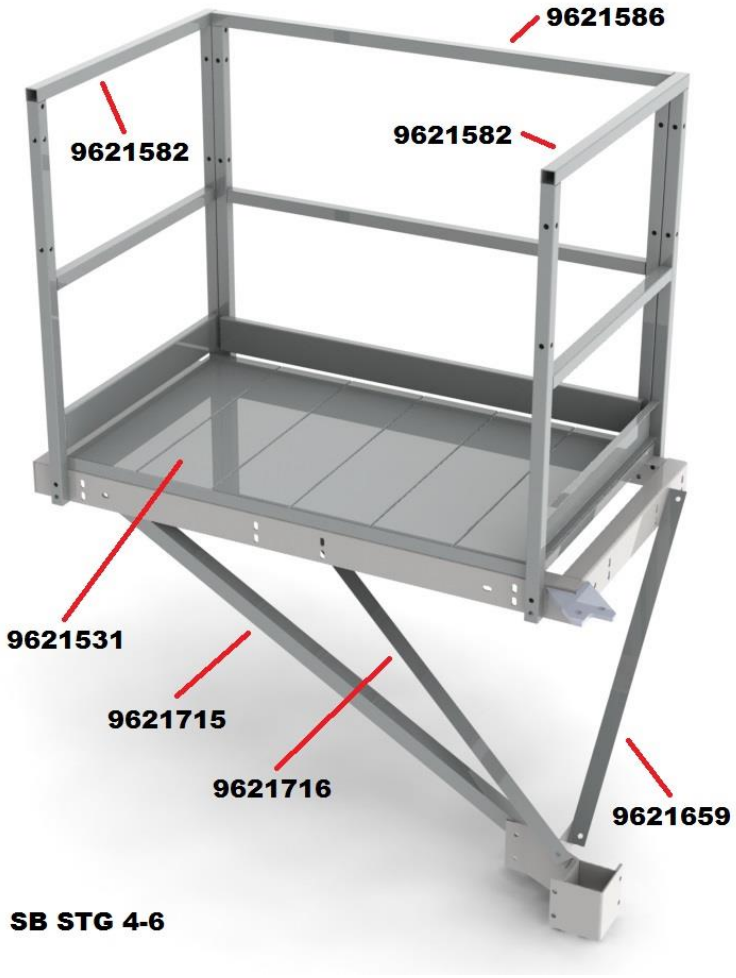


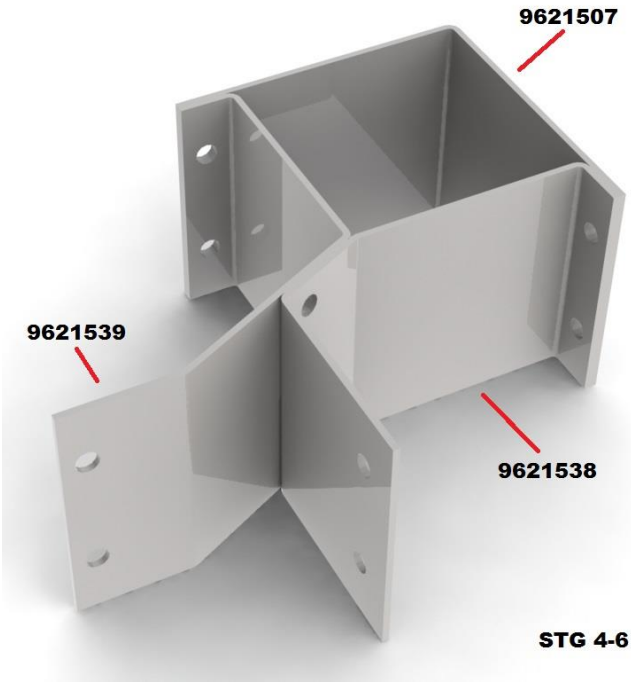


Corner Platform (STG 4-7)

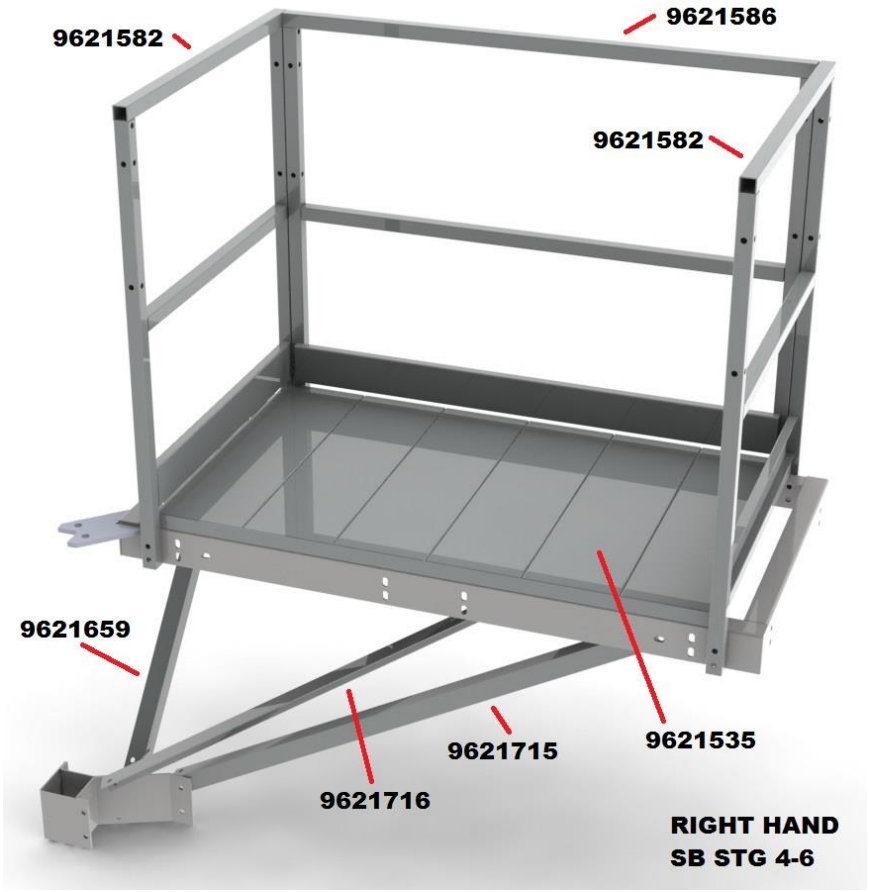


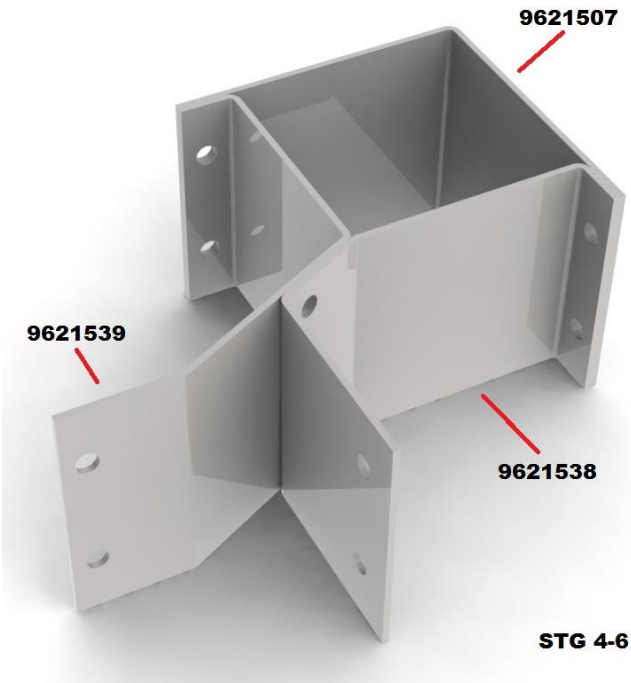
Switchback Left Hand Platform (STG 4-7)





Switchback Right Hand Platform (STG 4-7)





Special Platform Packages:

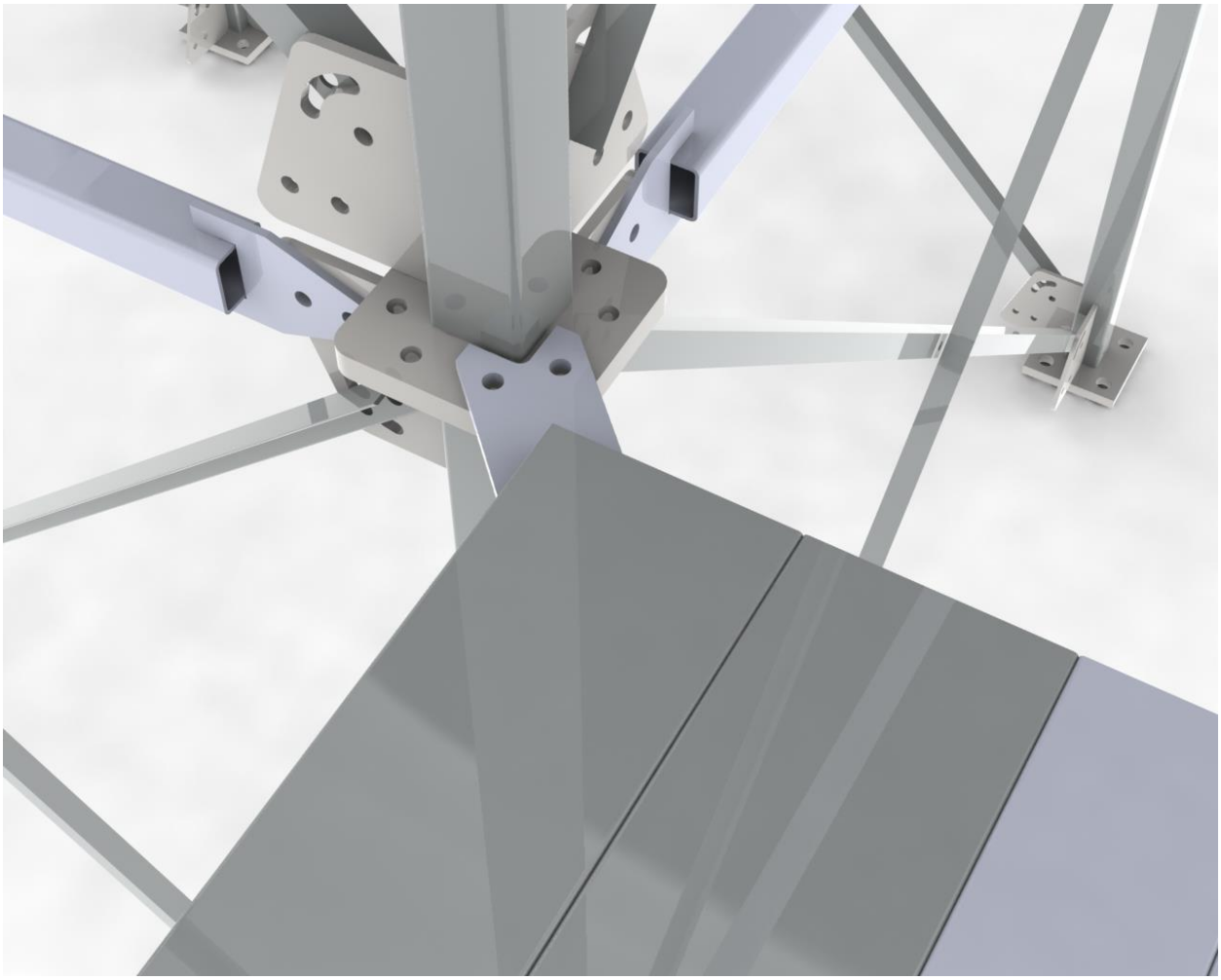
- 9623123 Corner platform to switchback platform Left Hand (STG 0-3)
- 9623131 Corner platform to switchback platform Left Hand (STG 4-7)
- 9623108 Corner platform to switchback platform Right Hand (STG 0-3)
- 9623129 Corner platform to switchback platform Right Hand (STG 4-7)

- 9623144 Switchback platform to step off Left Hand (STG 0-3)
- 9623133 Switchback platform to step off Right Hand (STG 0-3)

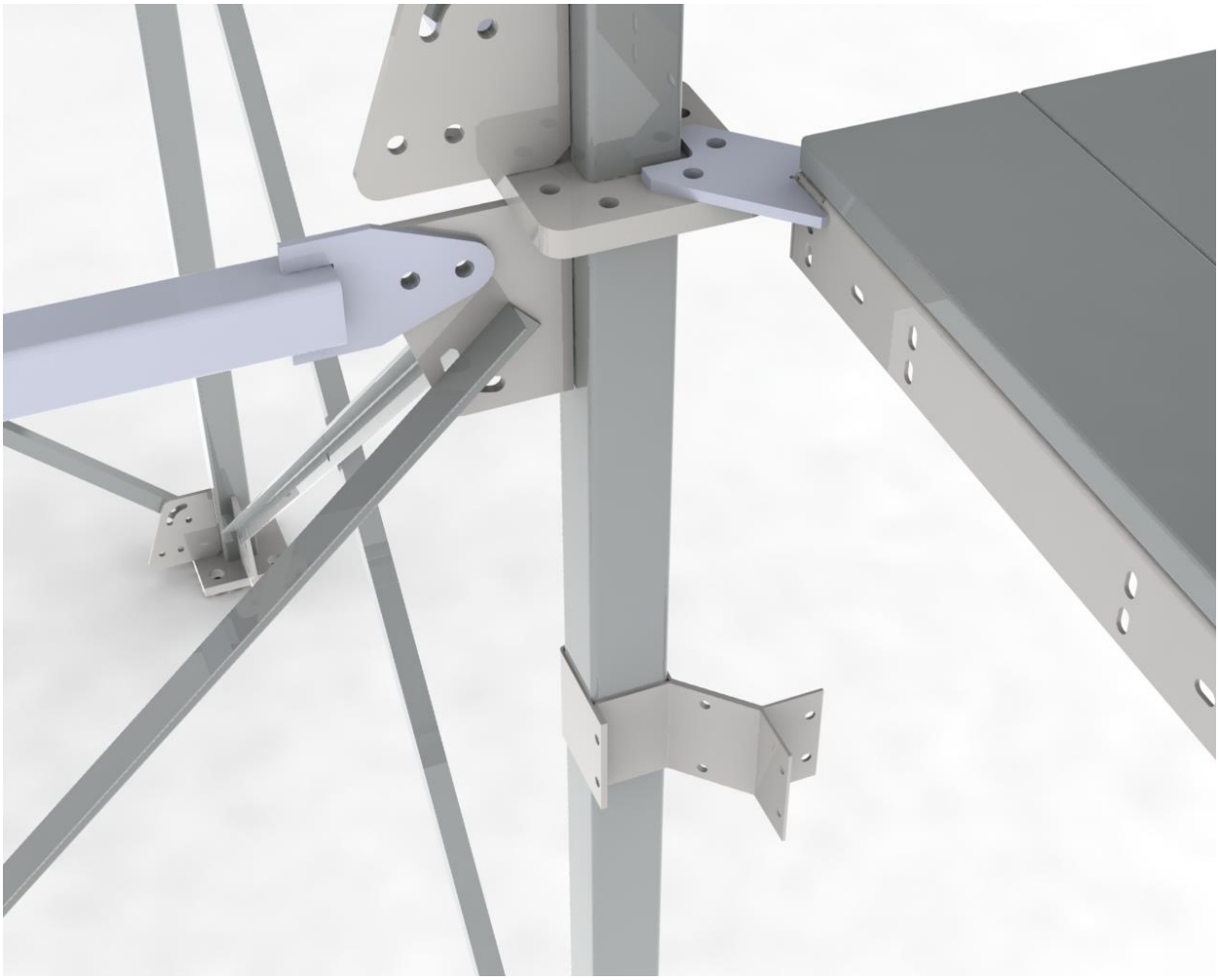
- 9623191 Top platform to step off Left Hand (STG 0-3)
- 9623190 Top platform to step off Right Hand (STG 0-3)

Installation

Place the platform base on top of the tower post connection plate. Position the mounting plate on the corner of this plate as shown. These connections will require 3/4” x 3” (1.90cm x 7.62cm) Grade 5 bolts with lock washer and nut for stage 0-3 and 1” x 4” (2.54cm x 10.16cm) Grade 8 bolts with lock washer and nut for stage 4-7.

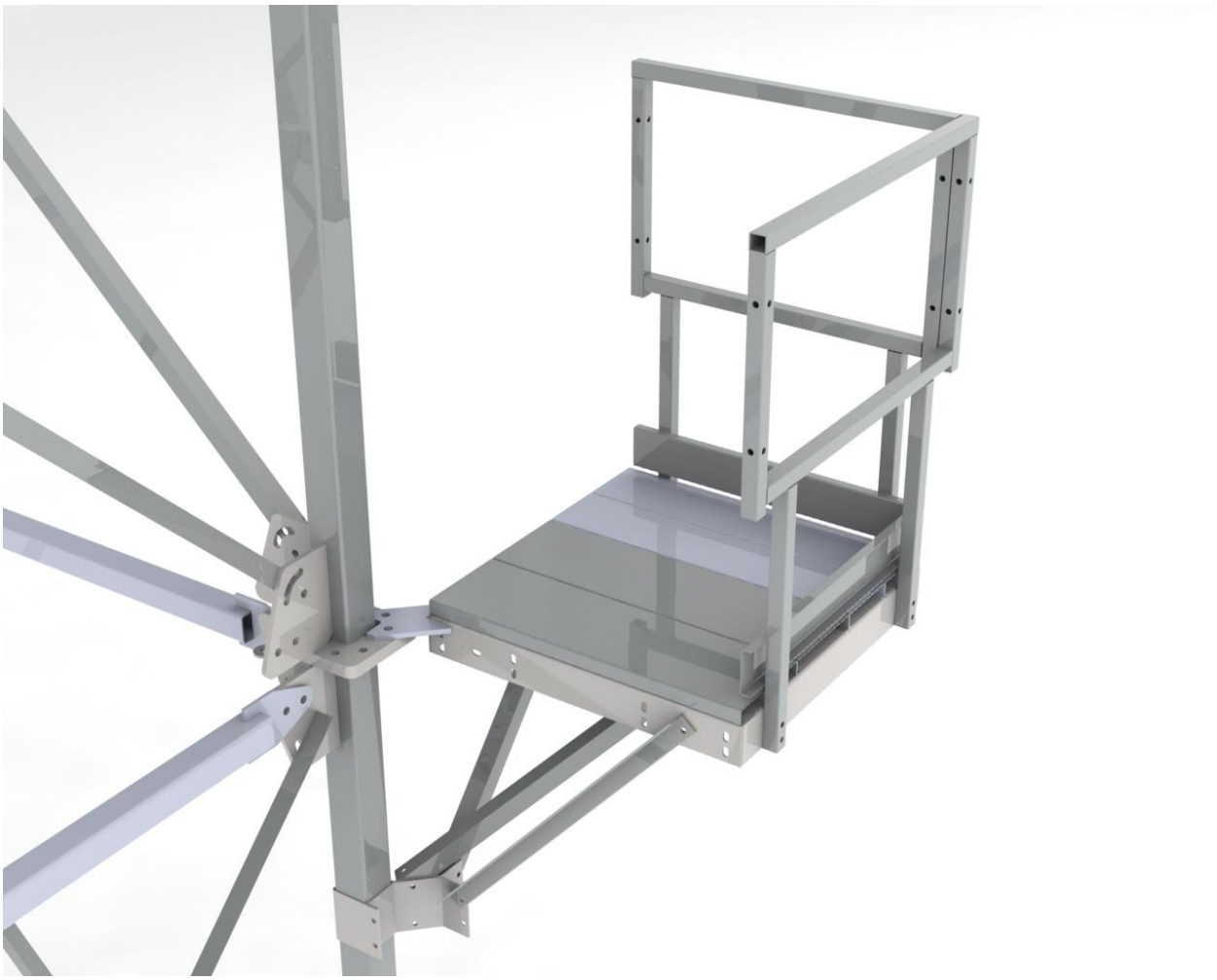


Place the bracing mounts around the tower post. The correct orientation of these parts will be shown in the detail drawings. Leave the bracing mount loose at this time. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.

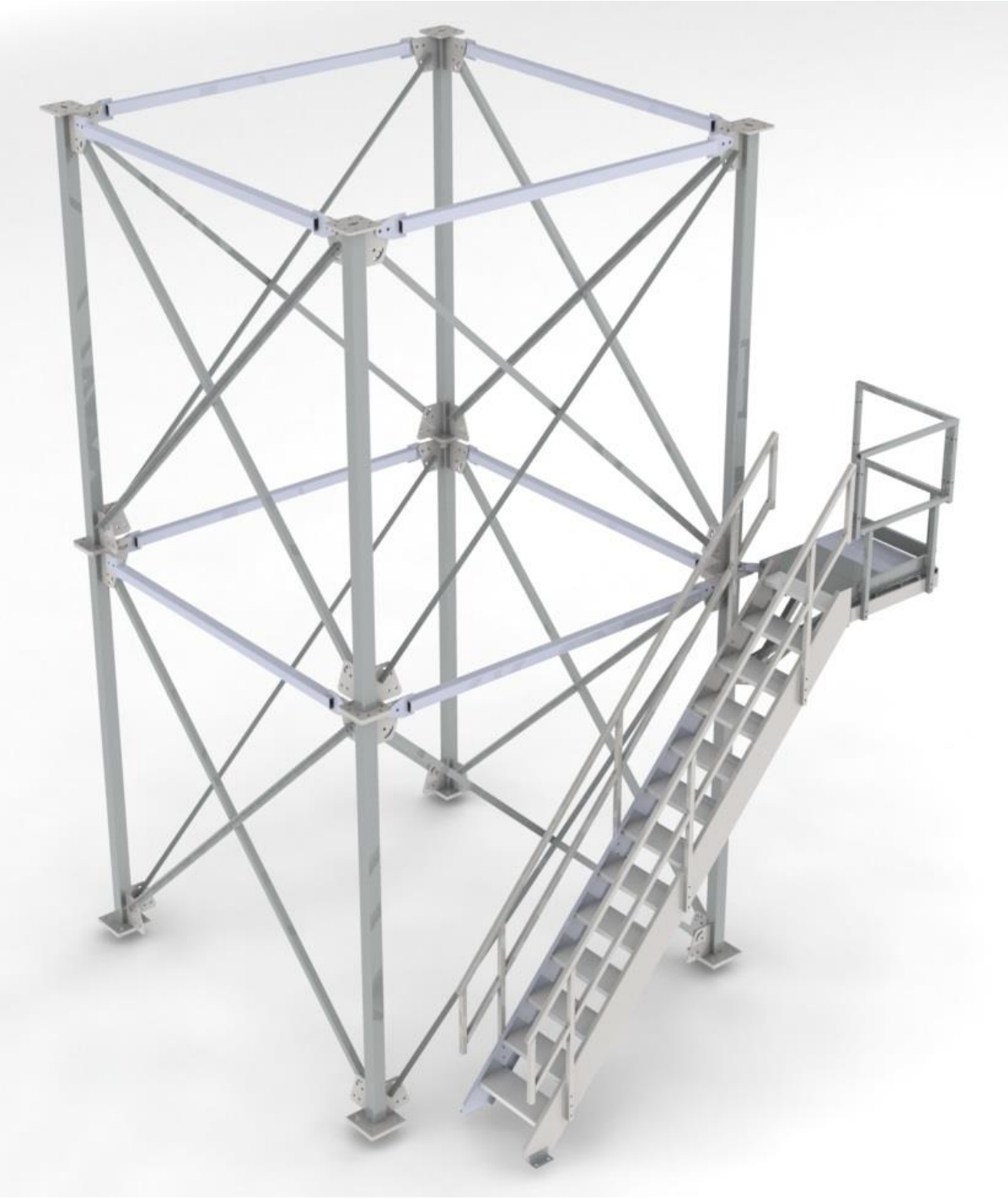


Bolt the platform bracing to the bracing mount and the platform as shown in the detail drawings. Mount holes will be specified to assist in positioning these braces correctly. Tighten all fasteners on the bracing mount after verifying alignment of bracing, square of the platform and level of the platform. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.

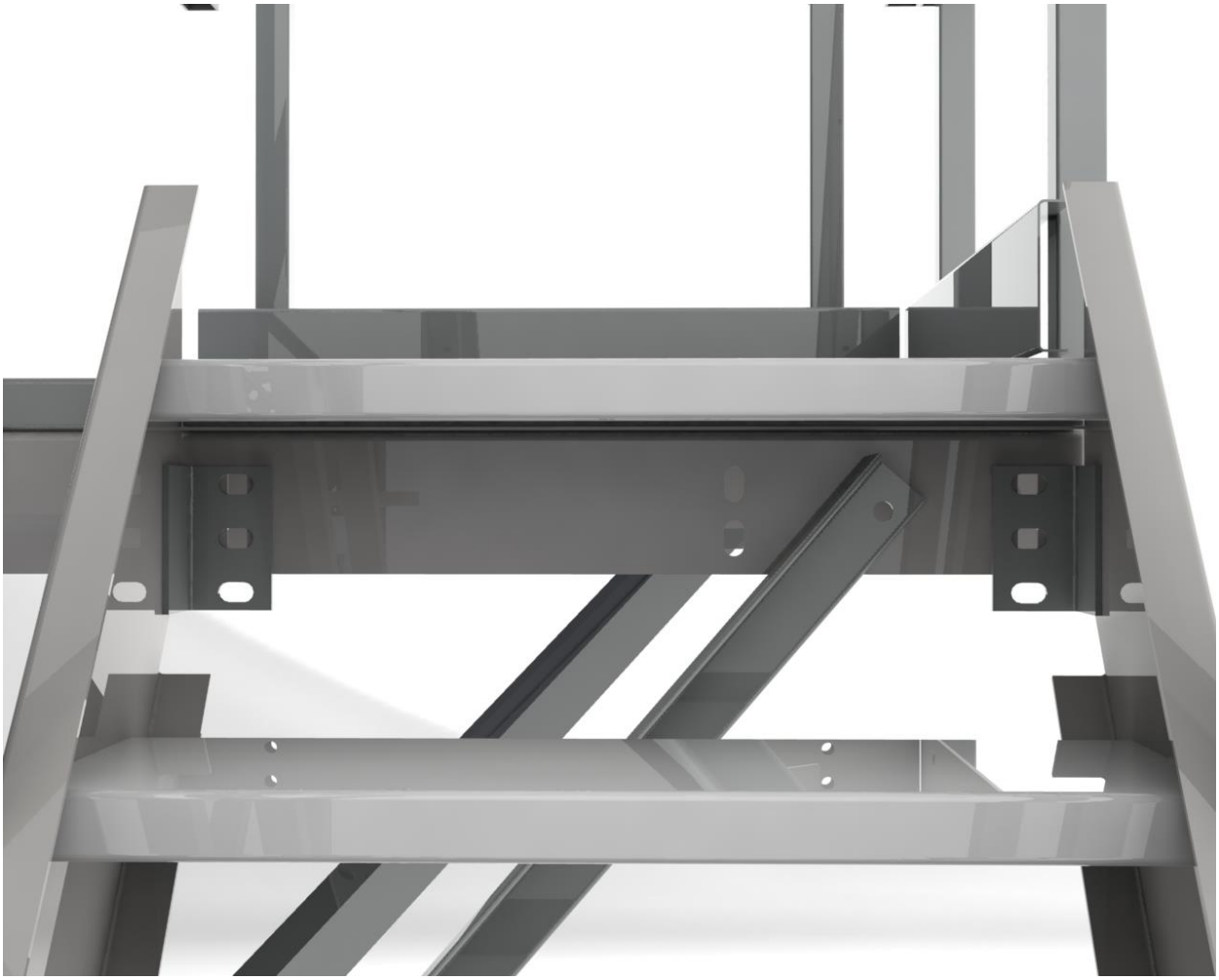
Bolt the handrails to the platform. Note the orientation of these handrails as shown in the detail drawings and verify that the kick plate is located to the interior of the platform. These connections will require 1/2” x 2-1/2” (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut. In addition the handrails may be bolted together using 1/2” x 4” (1.27cm x 10.16cm) Grade 5 bolts with lock washer and nut.



Install the starter stair stringer weldment to the completed platform. These connections will require 1/2” x 1” (1.27cm x 2.54cm) Grade 5 bolts with lock washer and nut.

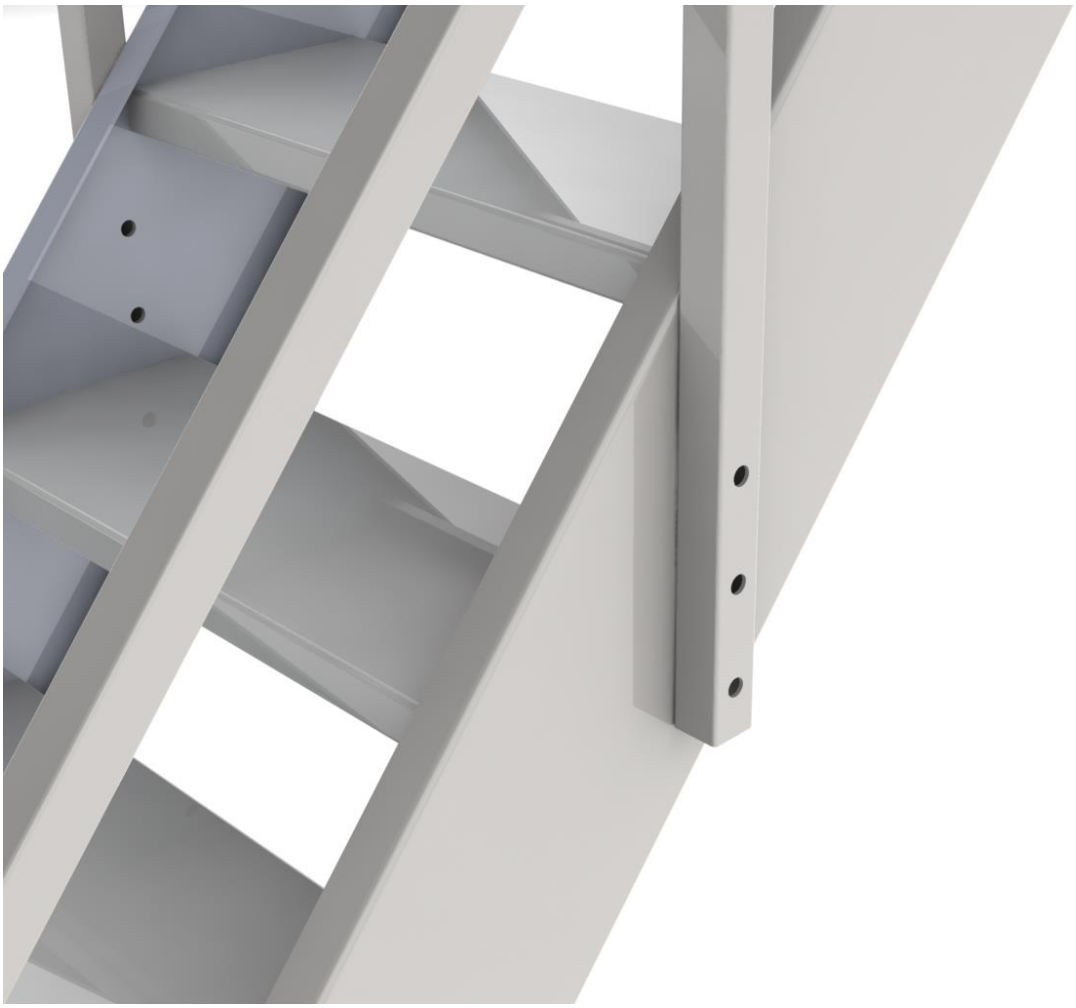


The stair stringer will bolt using the mounting brackets located on the interior of the stringer. Before tightening fasteners verify that the top and bottom stair treads are flush with the adjoining platform floors.



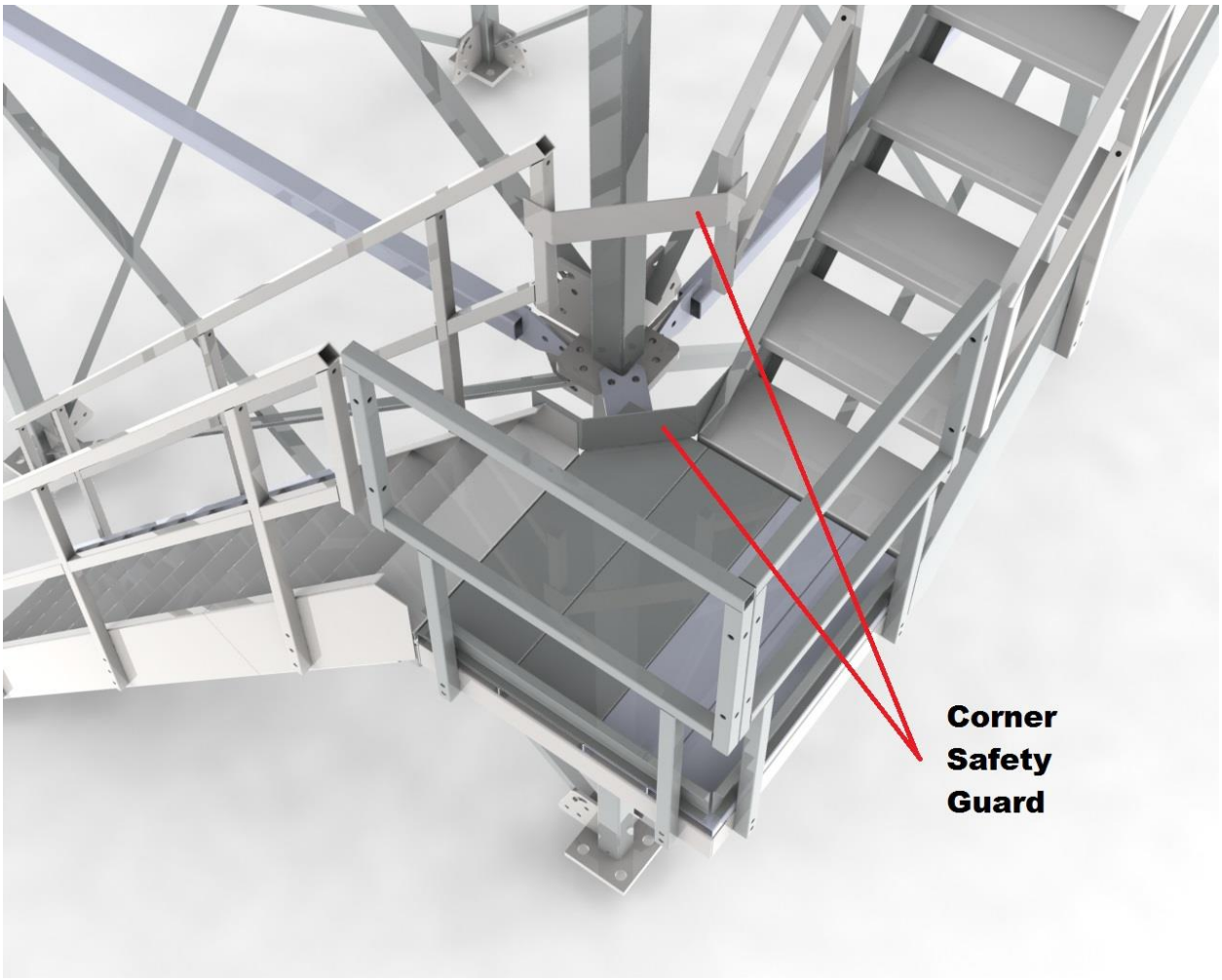
Bolt the stair handrail to the outside face of the stair stringer weldment. Note that only 2 bolts are required per handrail post. 3 holes have been provided in the stringer channel to provide obstruction clearance.

These connections will require 1/2” x 2-1/2” (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut. The bolt heads will be located to the inside of the stair channel.



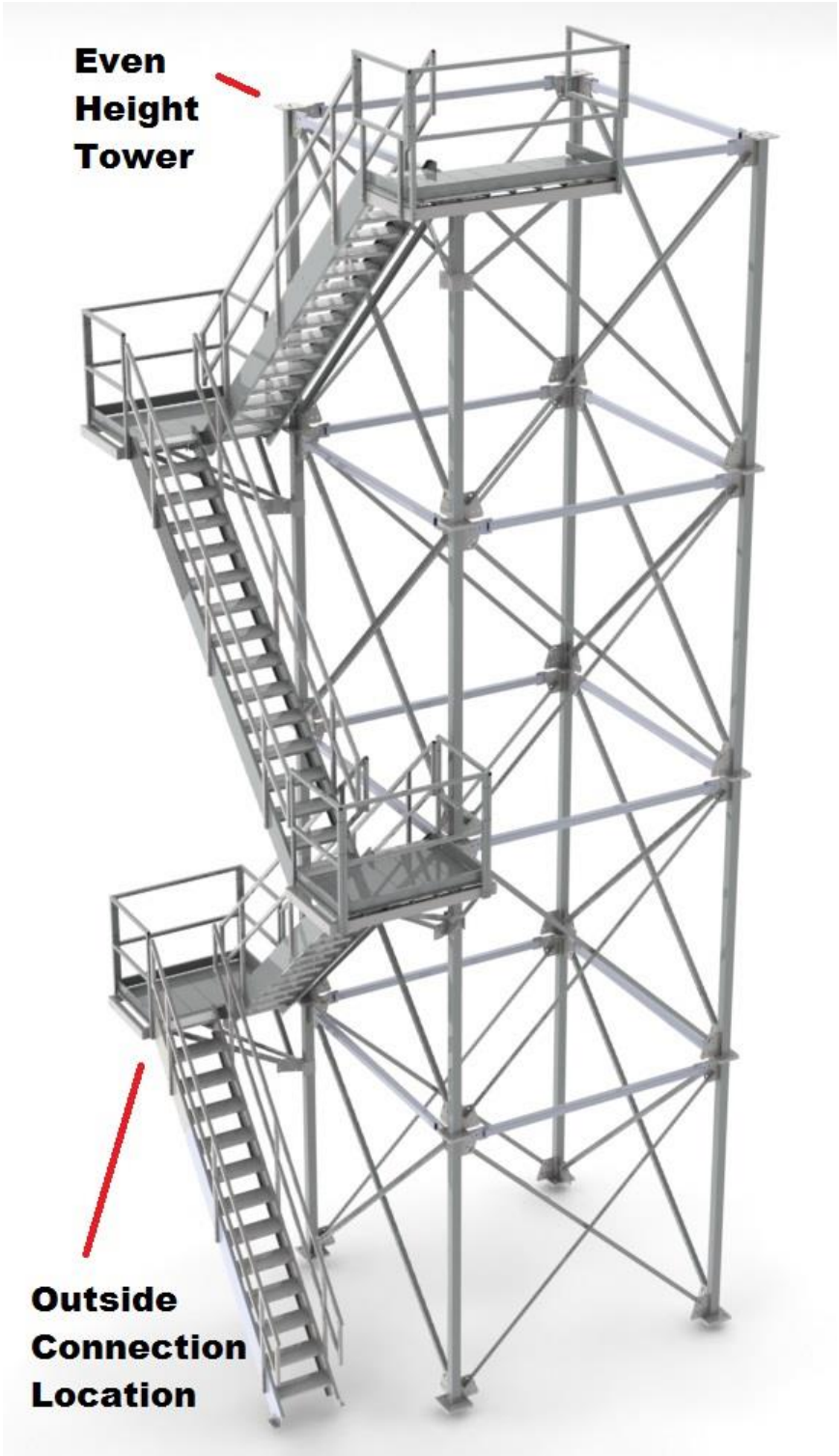
Continue to attach stair stringers and handrails as specified for all tower bays.

Attach any remaining safety guards to provide additional reinforcement to the handrail. These optional components will be field installed and can be installed either by field drilling and attaching 1/2” x 2-1/2” (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut, or using #12 self-drilling TEK screws with sealing washer head.



Important Note: When installing switchback stair landings and platforms verify the position of the entry stair section before proceeding with installation of additional landings and platforms.

The entry stair section must be positioned correctly so that the top stair section will land directly next to the tower and mount correctly with the top platform. For example: To position the top platform correctly on even height towers, the entry stair section must be installed at the outer connection on the first switchback landing platform.

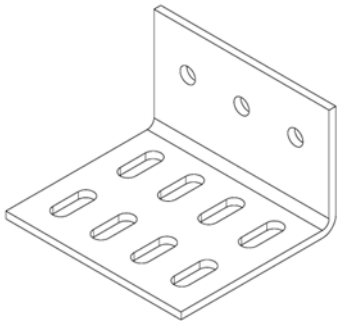


Manwalk Platform Installation

Manwalk components:

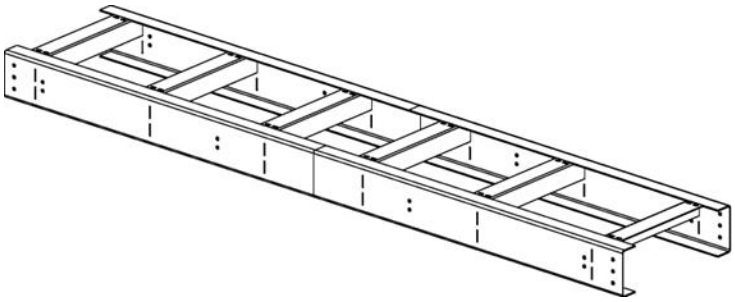
Platform Connection Clip

- 9622910



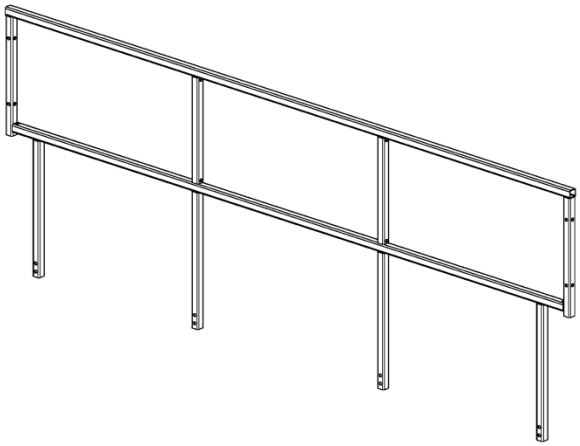
Platform

- 9622918 8’ (2.43m) Tower
- 9622913 10’ (3.04m) Tower
- 9622920 12’ (3.65m) Tower
- 9622922 14’ (4.26m) Tower
- 9622924 16’ (4.87m) Tower



Platform Handrail

- 9622927 8’ (2.43m) Tower
- 9622916 10’ (3.04m) Tower
- 9622930 12’ (3.65m) Tower
- 9622933 14’ (4.26m) Tower
- 9622936 16’ (4.87m) Tower

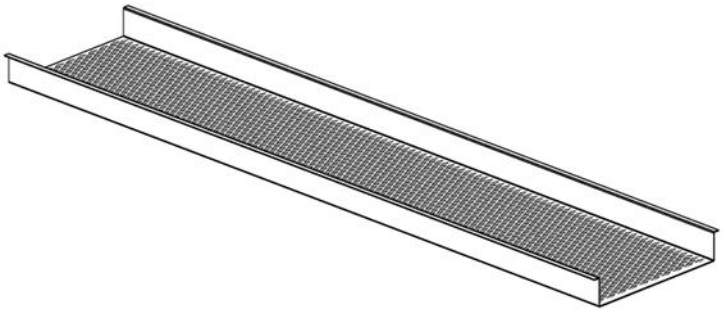


Platform Hardware Packages

- 9622937 8’ (2.43m) Tower
- 9622938 10’ (3.04m) Tower
- 9622939 12’ (3.65m) Tower
- 9622940 14’ (4.26m) Tower
- 9622960 16’ (4.87m) Tower

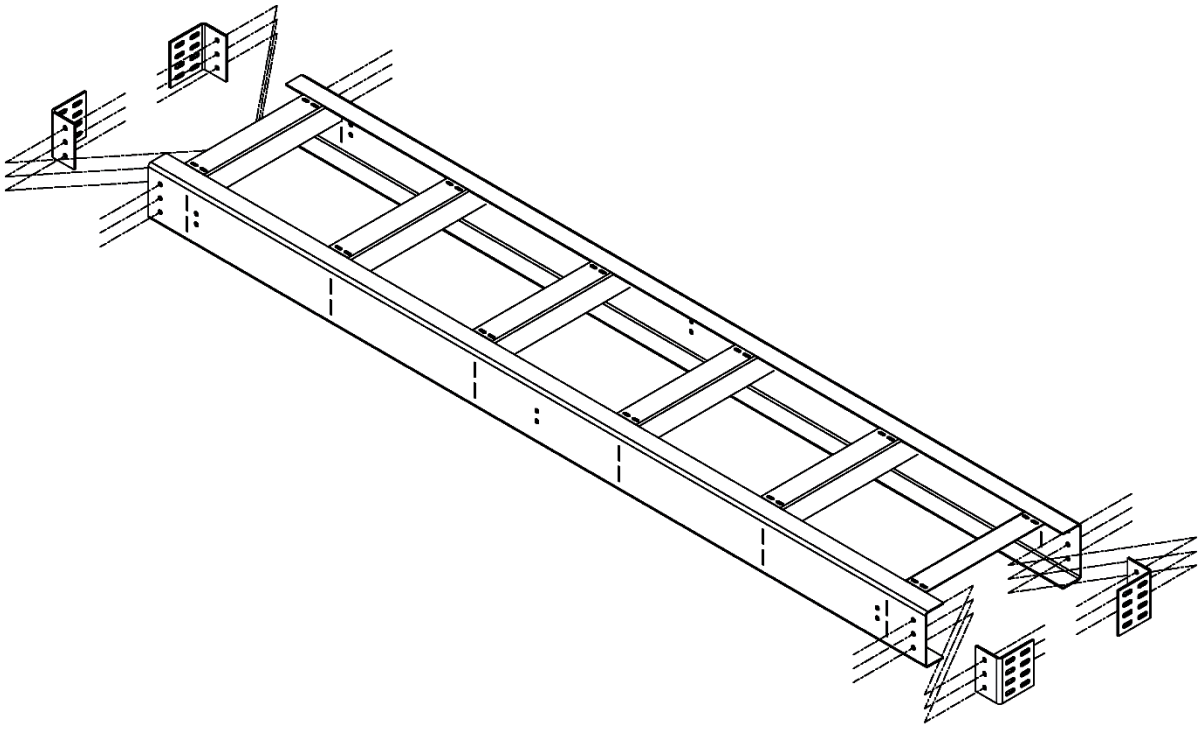
Walkway

- 9621035 10’ (3.04m) Length
- 9621036 6’-8” (2.03m) Length

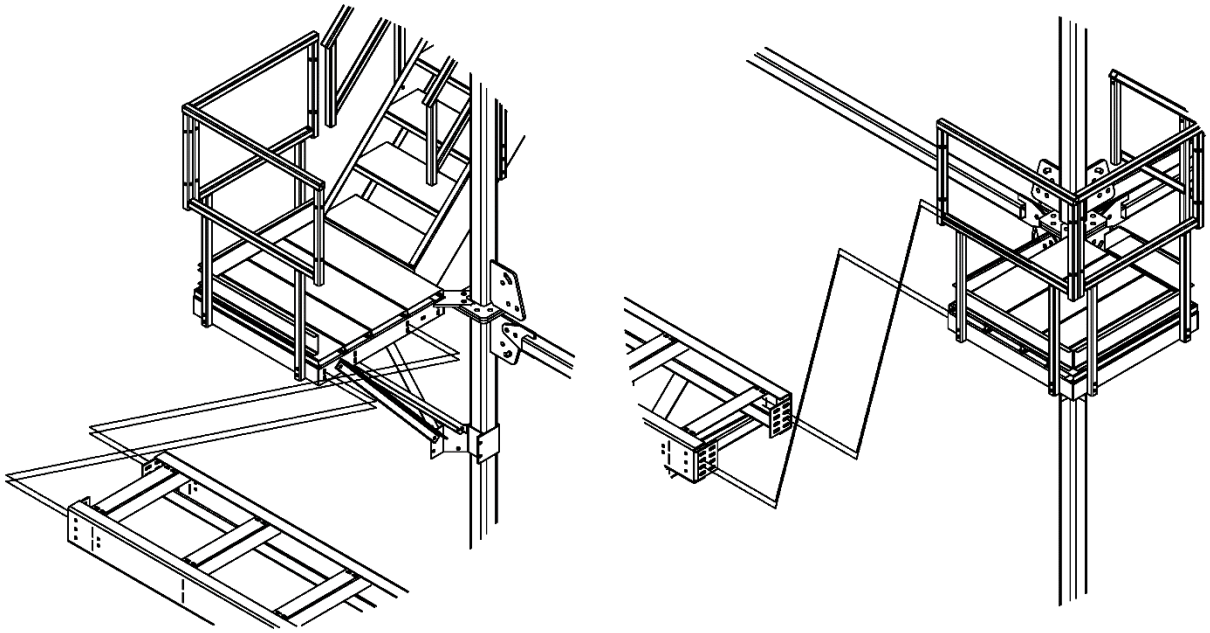


Manwalk for Wrap-Around Stairs

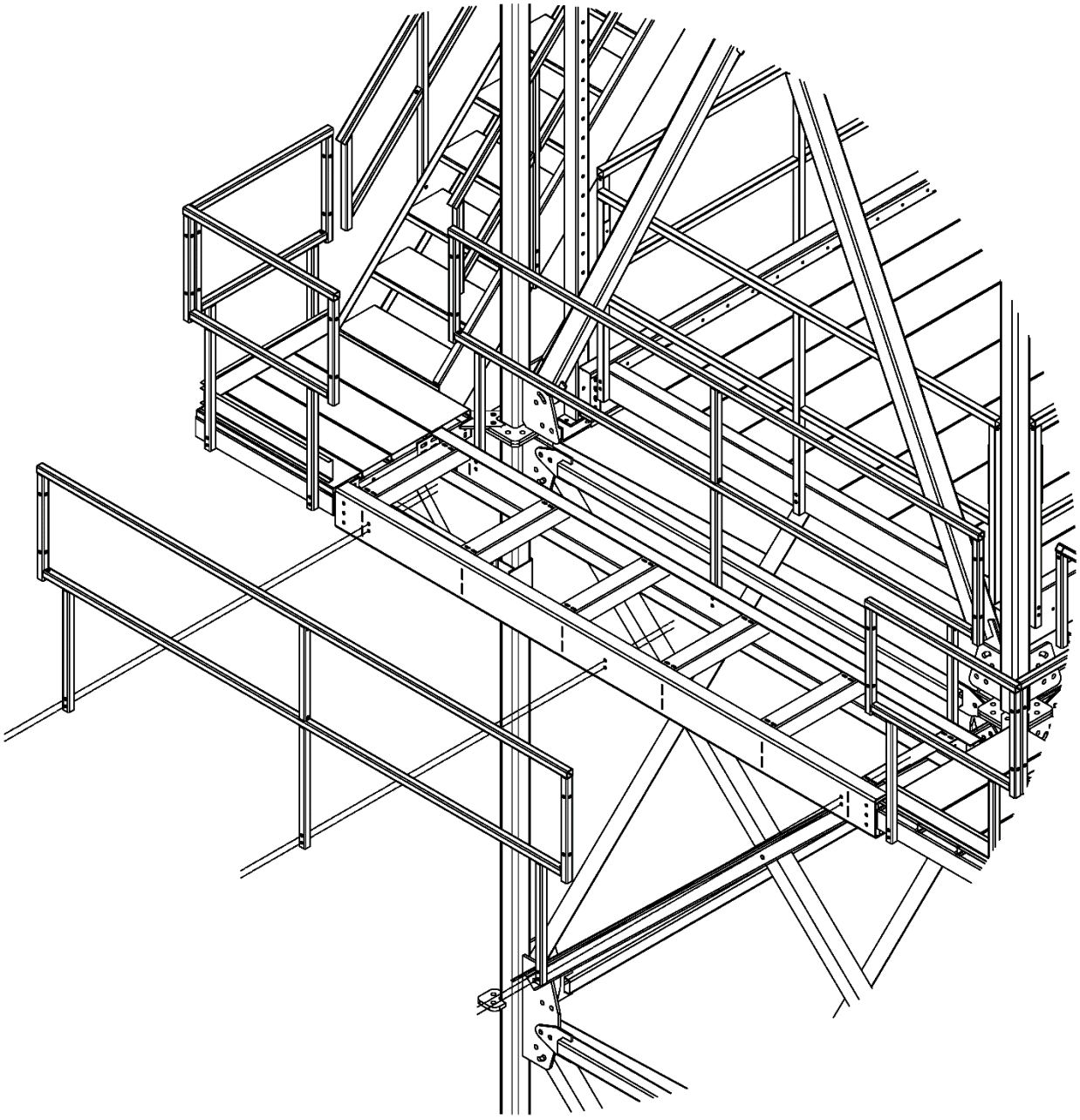
Attach the manwalk platform connection clips to the ends of the manwalk platform as shown. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.



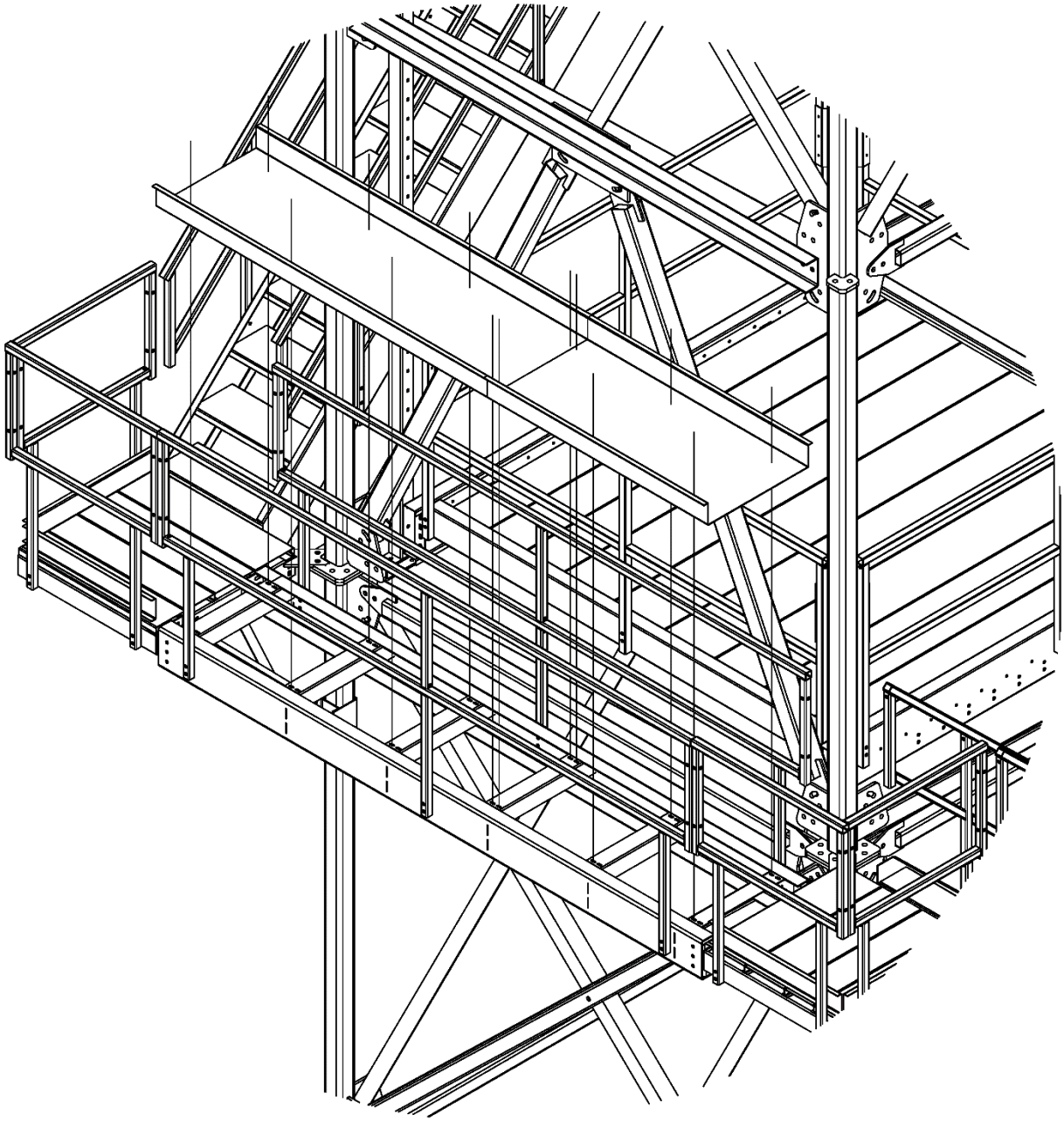
Attach the manwalk platform to the ends of the corner platforms as shown. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.



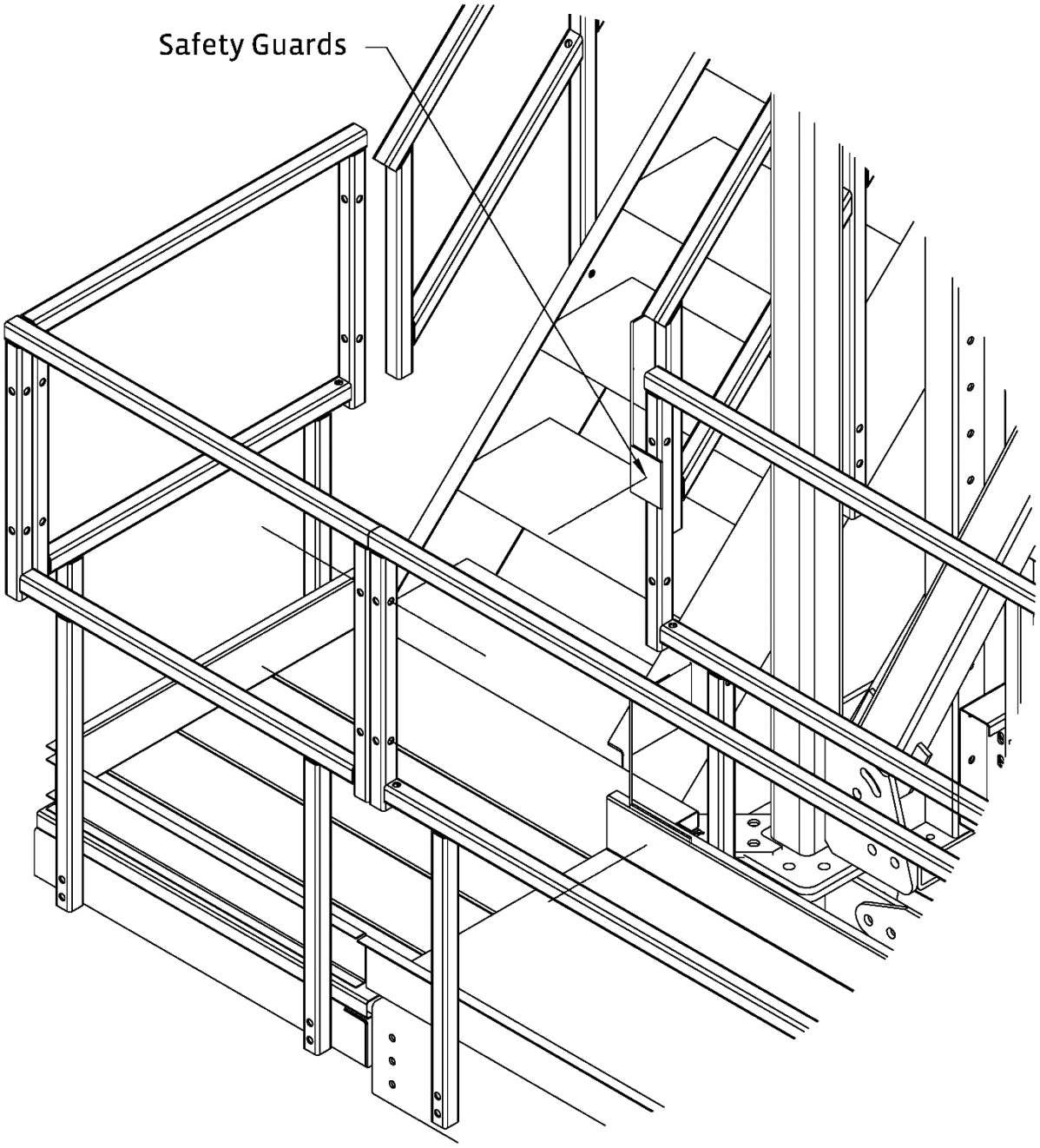
Attach the manwalk platform handrails to the sides of the manwalk platform as shown. These connections will require 1/2” x 2-1/2” (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut.



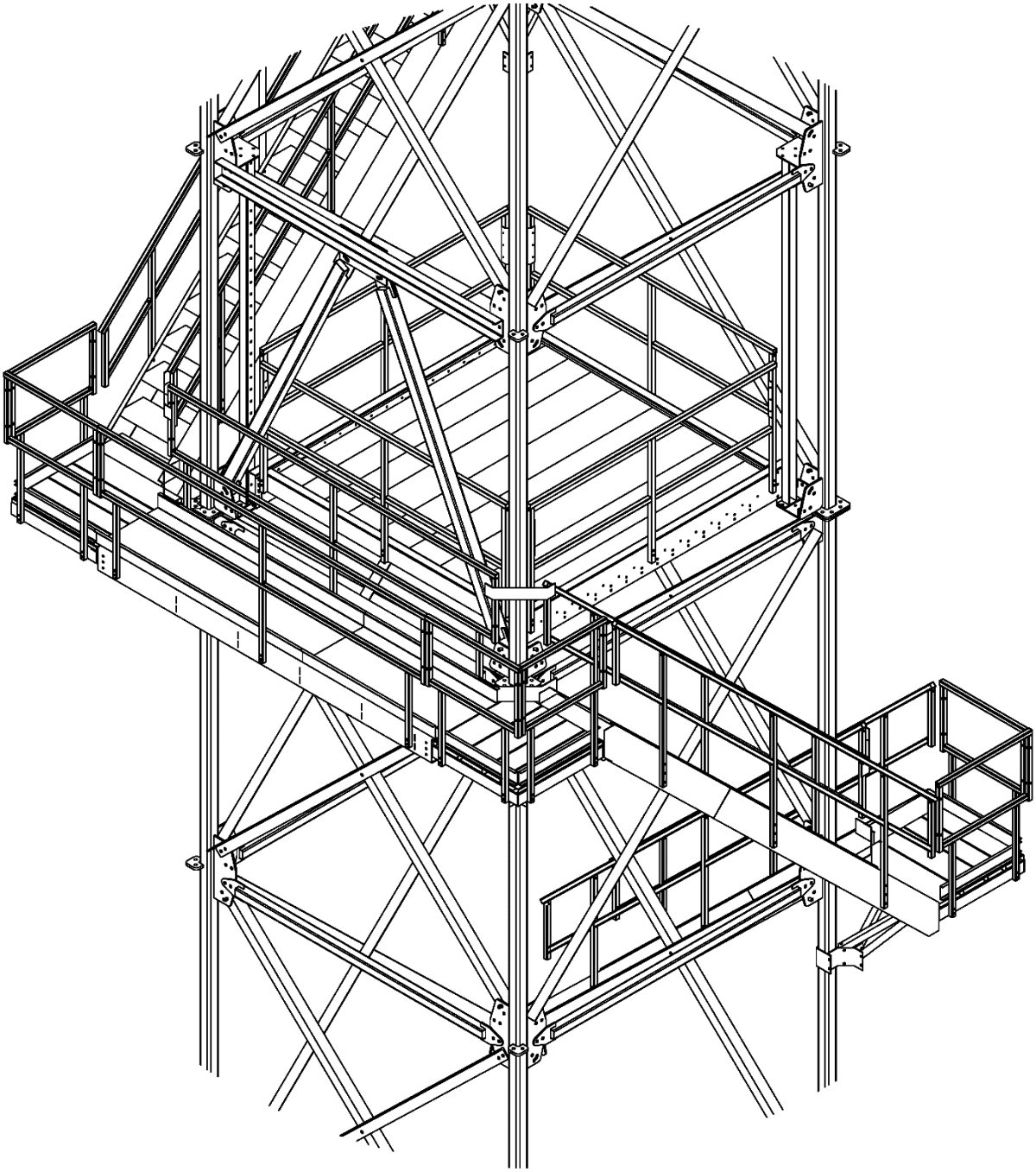
Attach the walkway to the cross braces of the manwalk platform as shown. These connections will require 5/16” x 1-1/2” (.79cm x 3.81cm) Grade 5 bolts with diamond washer and whiz nut. Field cut walkway as needed to splice at cross brace.



Attach the safety guards to the sides of the walkway and stair stringer as shown on bottom and to the handrails on top. These connections can use either 1/2" x 2-1/2" (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut or #12 self-drilling TEK screws. If bolts are used, holes will need to be field drilled. Field cut walkway as needed to connect bottom safety guard. Bolt corner platform handrail to manwalk platform handrail with 1/2" x 4" (1.27cm x 10.16cm) Grade 5 bolts with lock washer and nut as shown

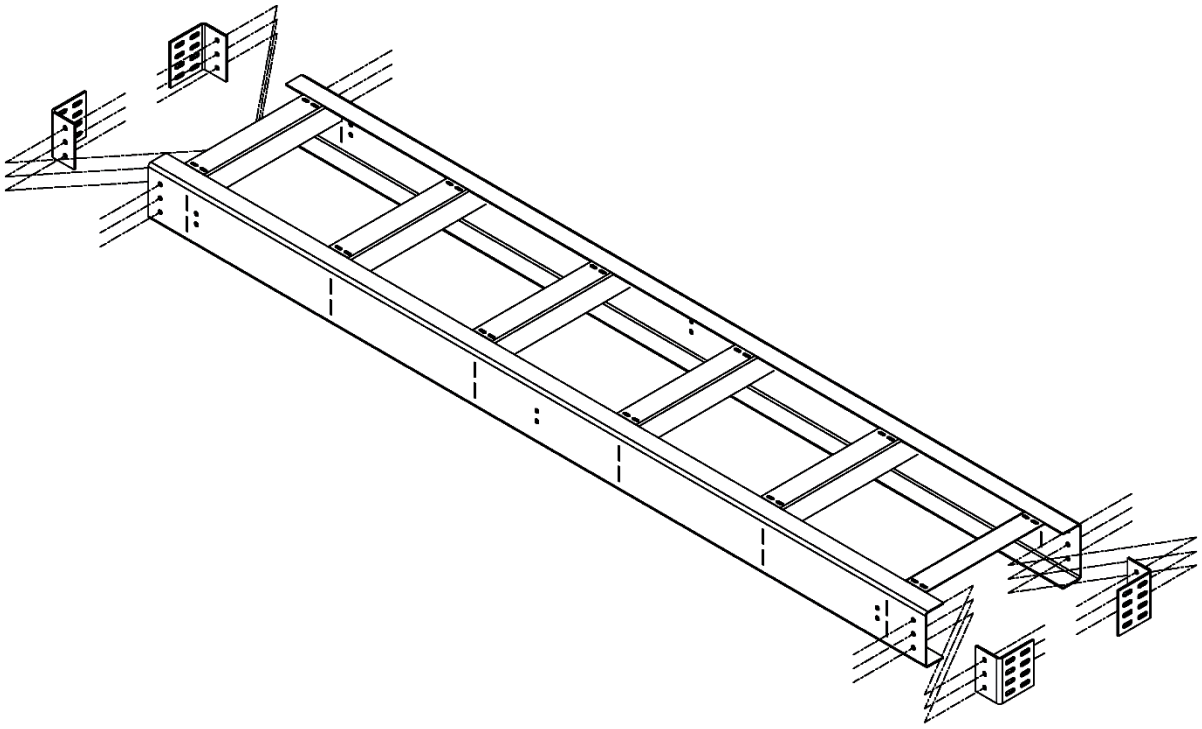


Verify all components for a wrap-around stair manwalk are installed correctly.

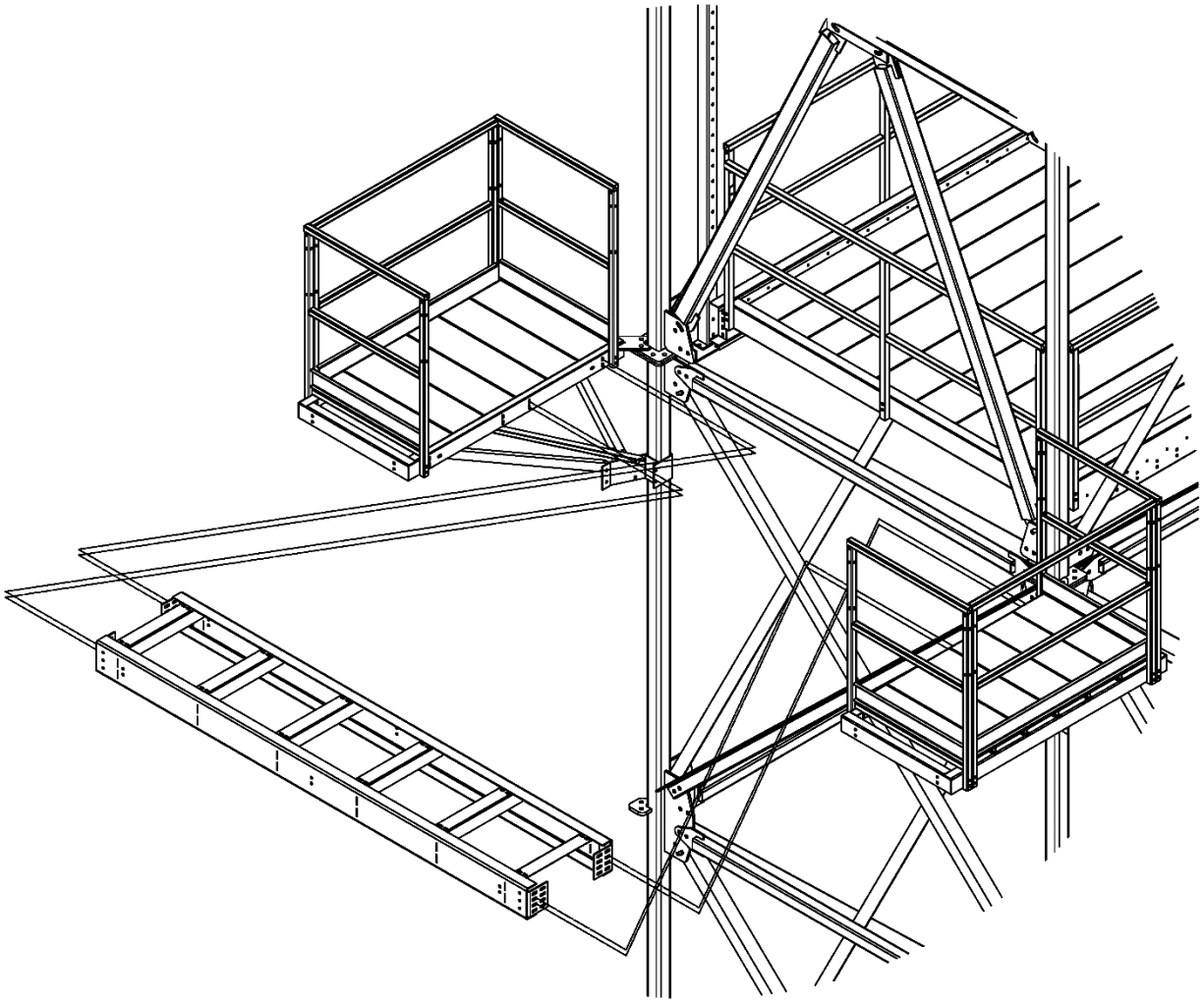


Manwalk for Switch Back Stairs

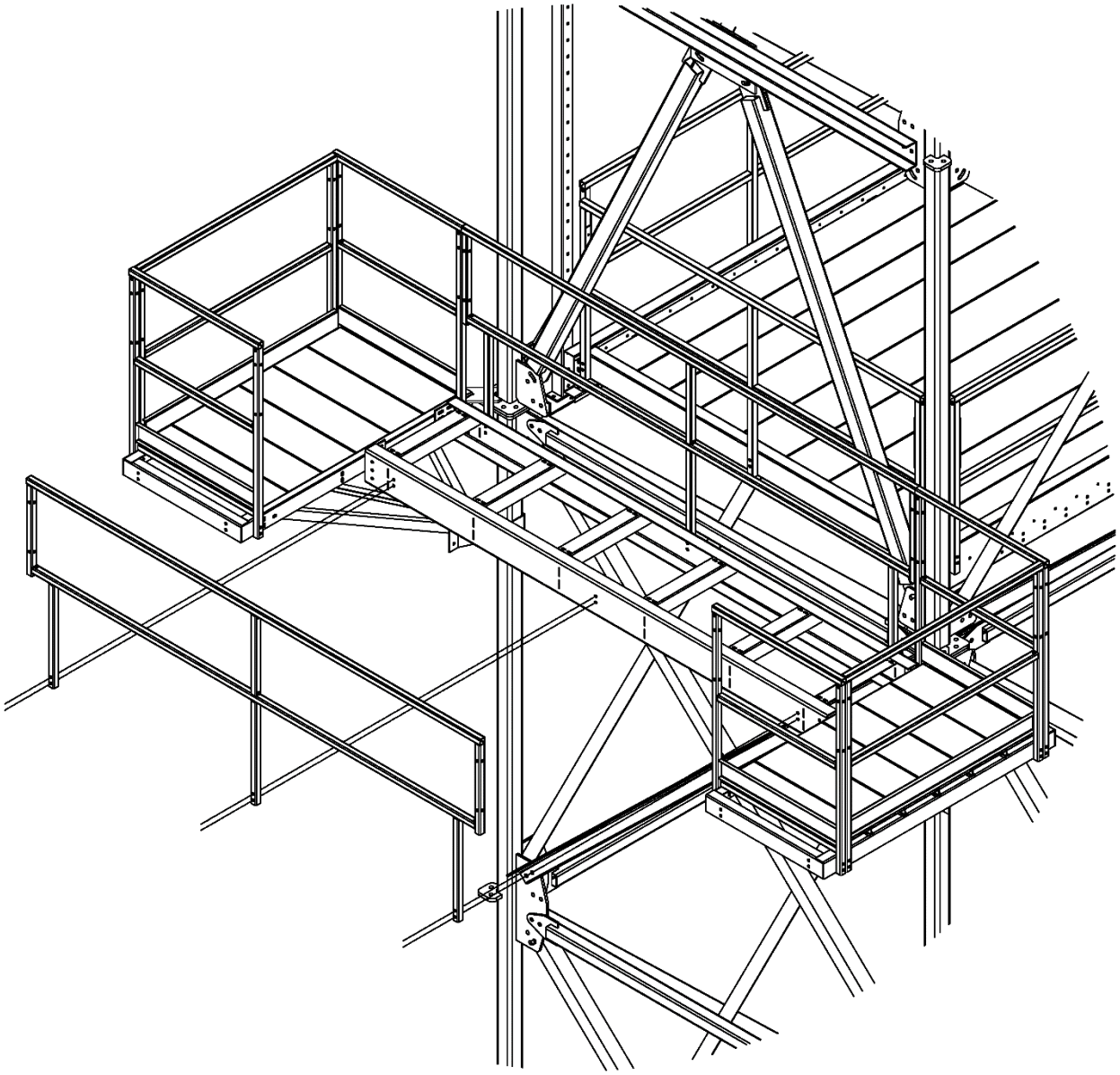
Attach the manwalk platform connection clips to the ends of the manwalk platform as shown. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.



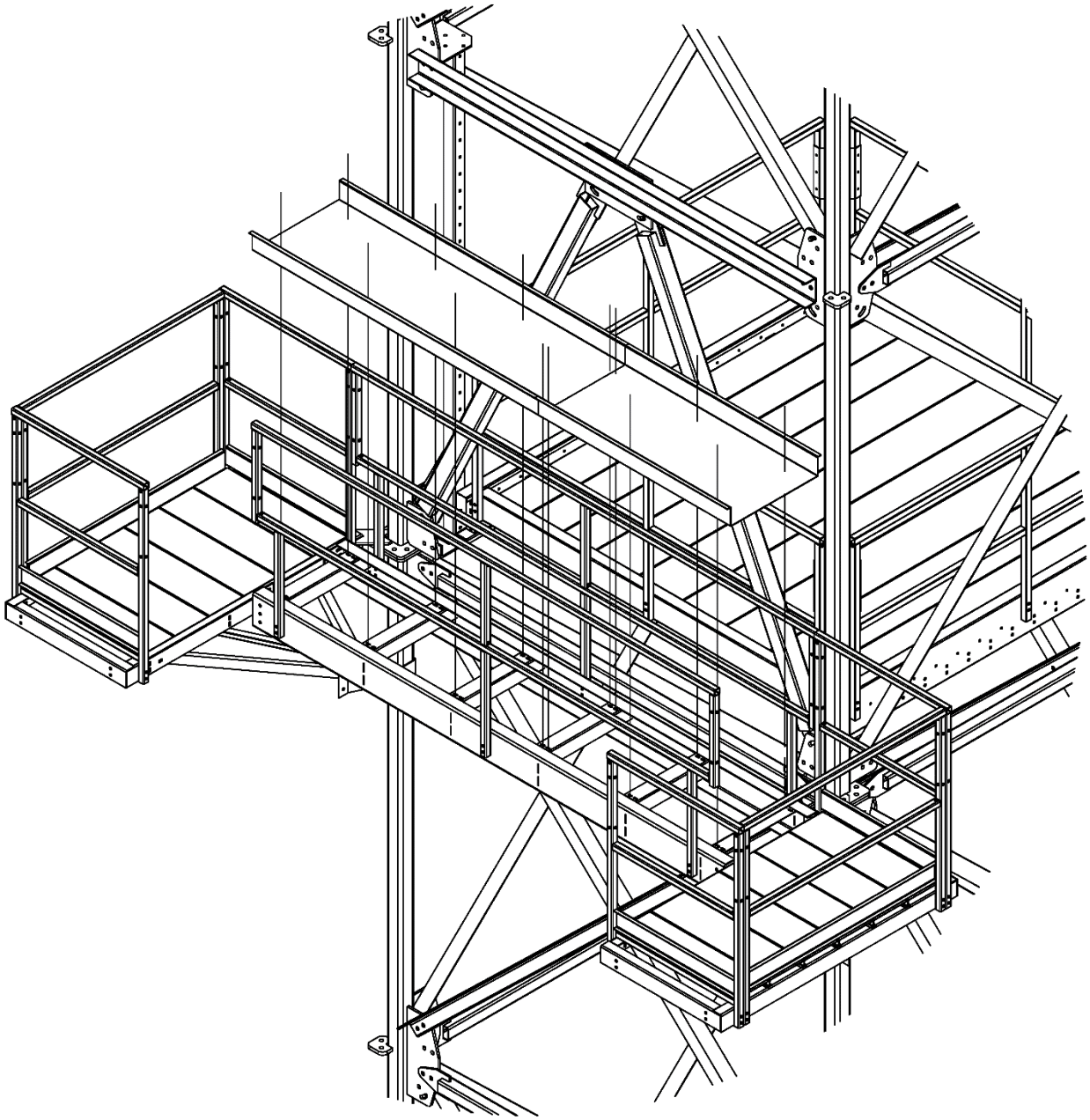
Attach the manwalk platform to the ends of the switchback platforms as shown. These connections will require 1/2” x 1-1/2” (1.27cm x 3.81cm) Grade 5 bolts with lock washer and nut.



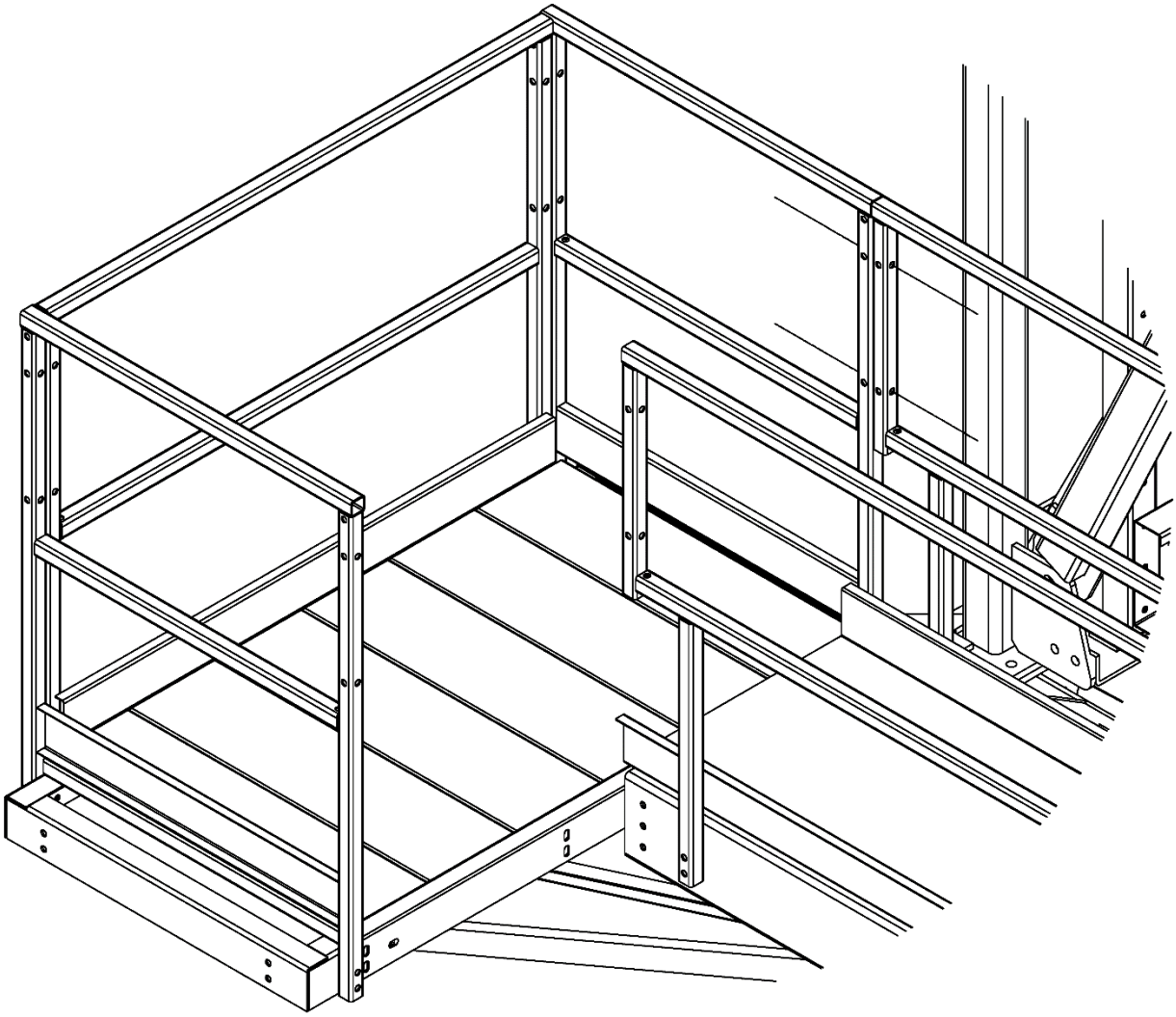
Attach the manwalk platform handrails to the sides of the manwalk platform as shown. These connections will require 1/2” x 2-1/2” (1.27cm x 6.35cm) Grade 5 bolts with lock washer and nut.



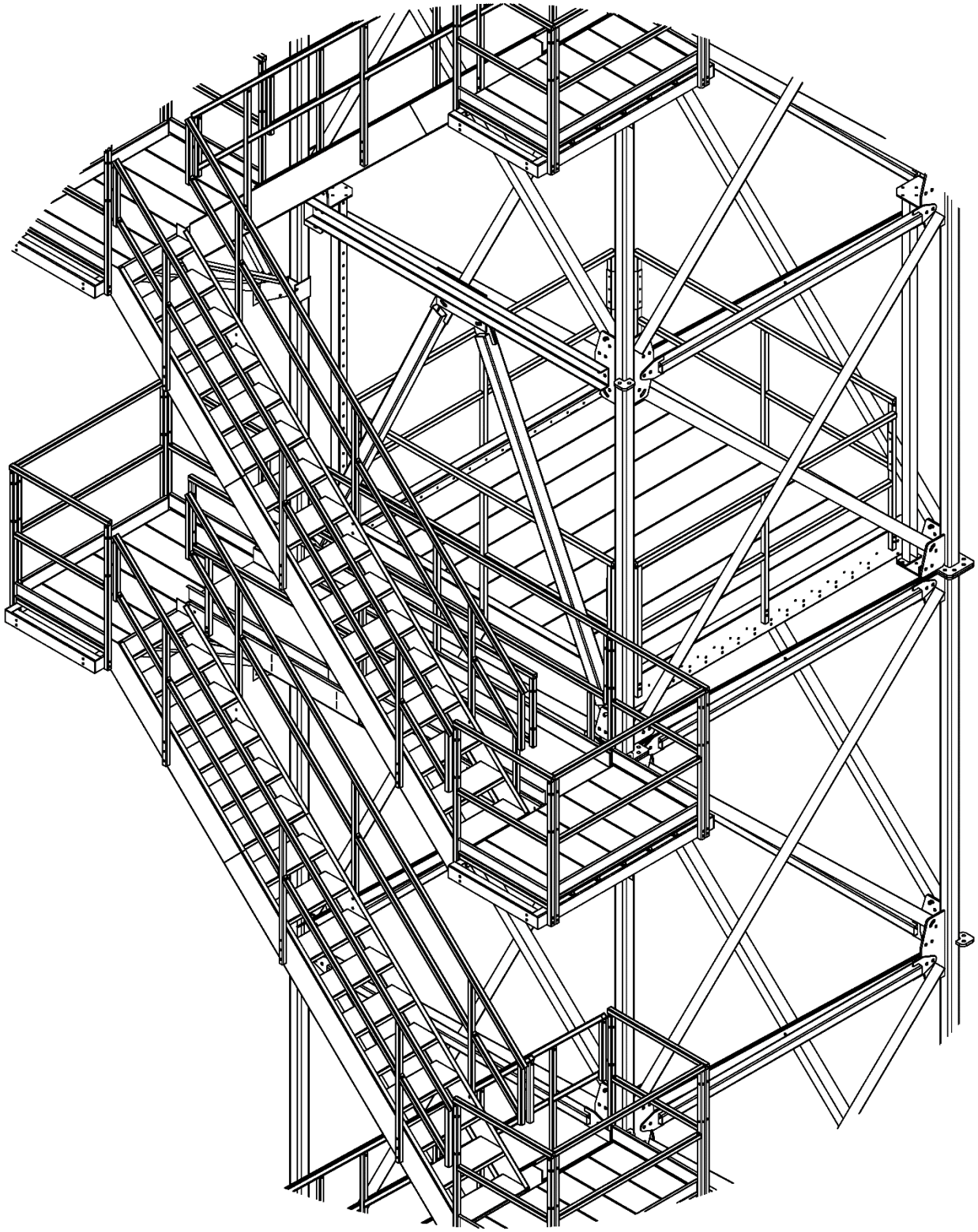
Attach the walkway to the cross braces of the manwalk platform as shown. These connections will require 5/16” x 1-1/2” (.79cm x 3.81cm) Grade 5 bolts with diamond washer and whiz nut. Field cut walkway as needed to splice at cross brace.



Bolt switchback platform handrail to manwalk platform handrail with 1/2” x 4” (1.27cm x 10.16cm) Grade 5 bolts with lock washer and nut as shown.



Verify all components for a wrap-around stair manwalk are installed correctly.

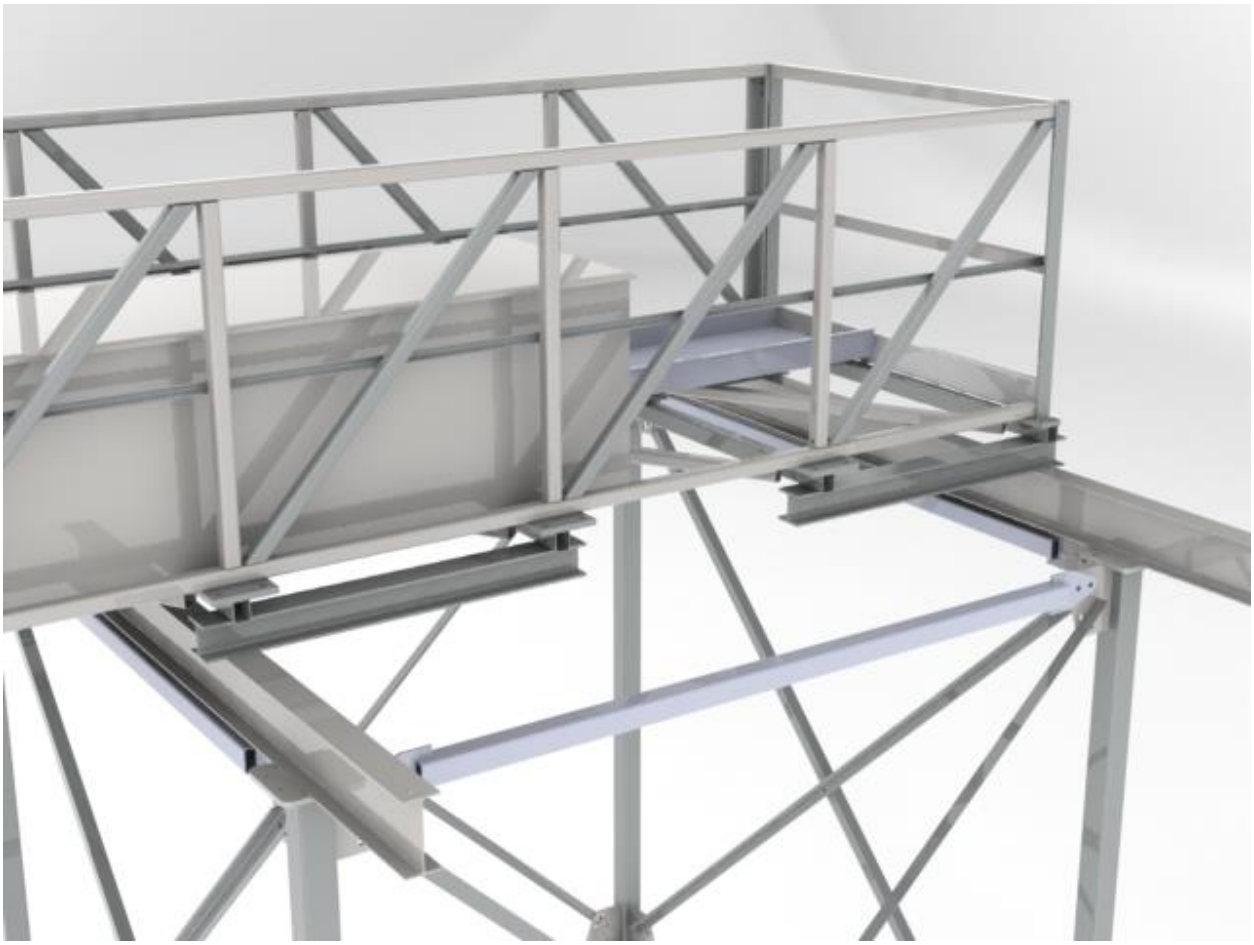


Conveyor Mounting

After the support tower structure has been assembled and secured in place the catwalk can be installed. The support tower structure must be designed to support a top load such as a conveyor or catwalk and this load must be supported by a top load beam bolted or welded to the top of the support tower structure.

The catwalk support beams and tower top load beams can be field fabricated by millwright or purchased separately from Chief. Recommended catwalk support beam recommended size is W6x20 if field fabricated.

Tower top load beams should be installed on the top bay only.



1. Lift the assembled catwalk into place using rigging with appropriate support for the catwalk as specified previously.
2. Locate the catwalk as desired over the tower support system.
3. Install catwalk support beams to catwalk cross braces.
    a. Verify the catwalk support beams span two cross braces.
    b. Verify the catwalk support beams are contacting the cross braces only and are **not** supported by or welded to the wind diagonal bracing.
    c. Catwalk support beams must be fully welded at all contact points with 1/4" (.63cm) fillet weld.
4. Install the tower top load beams across the tower posts as shown.
    a. Verify the tower top load beams span 2 tower posts.
5. Install the catwalk support beams to the tower top load beams.
    a. Verify the catwalk support beams are **not** welded directly to the tower horizontal bracing or are supported by any part of the tower. Catwalk support beams must contact the tower top load beams only.
    b. Support beams must be fully welded at all contact points with 1/4" (.63cm) fillet weld.
6. Repeat the above steps till all tower sections are installed to the appropriate support structures.

Maintenance Instructions

An annual inspection of the structure should be made to verify bolts are tight and torque recommendation maintained. Re-tighten hardware as required.

Should you have any questions concerning assembly instructions, parts or drawings, please feel free to contact us at any of the following.

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