



**THE  
POWER  
OF RED™**

**TOWER-MAX®  
APPLICATION GUIDE**



Learn More



**SYMONS®**  
BY DAYTON SUPERIOR

## A Word About Safety

High productivity depends on safety; even a minor accident causes job delays and inefficiency, which run up costs. That's why Symons by Dayton Superior, in the design of its systems and products, makes the safety of those people who will be working with and near the equipment one of its primary concerns. Every product is designed with safety in mind and is tested to be certain that it will perform as intended with appropriate safety allowances. Factory-built systems such as these provide predictable strength, minimizing the uncertainty that often surrounds "hand-made," "job-shop" and "job-built" equipment.

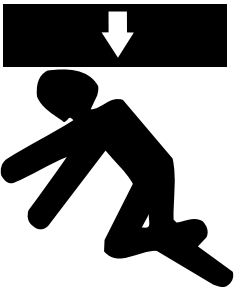

As a result, Symons by Dayton Superior products are your best assurance of a safe operation when used properly. To ensure proper use, we have published this application guide. We recommend that all construction personnel who will be involved, directly or indirectly, with the use of this product be familiar with the contents of this guide.

As a concerned participant in the construction industry, Symons by Dayton Superior also recommends that regular safety meetings be held prior to starting the forming operation, and regularly throughout the concrete placement, form stripping and erection operations. Symons by Dayton Superior personnel will be happy to assist in these meetings with discussion of safe use of the equipment, slide presentations and other formal safety information provided by such organizations as the Scaffolding, Shoring and Forming Institute.

In addition to the above meetings, all persons involved with the construction should be familiar and in compliance with applicable governmental regulations, codes and ordinances, as well as the industry safety standards developed and published by each of the following:

- American Concrete Institute
- American National Standards Institute
- The Occupational Safety and Health Administration
- The Scaffolding, Shoring and Forming Institute

Because field conditions vary and are beyond the knowledge and control of Symons by Dayton Superior, safe and proper use of this product is the responsibility of the user.

	<div> <b>WARNING</b></div> <div><b>Improper Use of Concrete Forms and Shores Can Cause Severe Injury or Death</b></div> <p>Read, understand and follow the information and instructions in this publication before using any of the concrete construction products displayed herein. When in doubt about the proper use or installation of any Dayton Superior concrete accessory, immediately contact the nearest Dayton Superior Service Center or Technical Service Department for clarification. See back cover for your nearest location.</p>
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Dayton Superior products are intended for use by trained, qualified and experienced workmen only. Misuse or lack of supervision and/or inspection can contribute to serious accidents or deaths. Any application other than those shown in this publication should be carefully tested before use.

The user of Dayton Superior products must evaluate the product application, determine the safe working load and control all field conditions to prevent applications of loads in excess of a product's safe working load. Safety factors shown in this publication are approximate minimum values. The data used to develop safe working loads for products displayed in this publication are a combination of actual testing and/or other industry sources. Recommended safe working loads given for the products in this publication must never be exceeded.

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## Worn Working Parts

For safety, concrete forms must be properly used and maintained. Concrete products shown in this publication may be subject to wear, overloading, corrosion, deformation, intentional alteration and other factors that may affect the device's performance. All reusable products must be inspected regularly by the user to determine if they may be used at the rated safe working load or should be removed from service. The frequency of inspections depends upon factors such as (but not limited to) the amount of use, period of service and environment. It is the responsibility of the user to schedule inspections for wear and remove the hardware from service when wear is noted.

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## Shop or Field Modification

Welding can compromise a product's safe working load value and cause hazardous situations. Knowledge of materials, heat treating and welding procedures is necessary for proper welding. Consult a local welding supply dealer for assistance in determining required welding procedures.

Since Dayton Superior cannot control workmanship or conditions in which modifications are done, Dayton Superior cannot be responsible for any product altered in the field.

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## Interchangeability

Many concrete products that Dayton Superior manufactures are designed as part of a system. Dayton Superior strongly discourages efforts to interchange products supplied by other manufacturers with components supplied by Dayton Superior. When used properly, and in accordance with published instructions, Dayton Superior products have proven to be among the best designed and safest in the industry. Used improperly or with incompatible components supplied by other manufacturers, Dayton Superior products or systems may be rendered unsafe.

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## Installation

### WARNING

1. Dayton Superior Corporation products shall be installed and used only as indicated on the Dayton Superior Corporation installation guidelines and training materials.
2. Dayton Superior Corporation products must never be used for a purpose other than the purpose for which they were designed or in a manner that exceeds specific load ratings.
3. All instructions are to be completely followed to ensure proper and safe installation and performance.
4. Any improper misuse, misapplication, installation, or other failure to follow Dayton Superior Corporation's instruction may cause product malfunction, property damage, serious bodily injury and death.

### THE CUSTOMER IS RESPONSIBLE FOR THE FOLLOWING:

1. Conformance to all governing codes
2. Use of appropriate industry standard hardware
3. The integrity of structures to which the products are attached, including their capability to safely accept the loads imposed, as evaluated by a qualified engineer.

### SAFETY INSTRUCTIONS:

All governing codes and regulations and those required by the job site must be observed. Always use appropriate safety equipment

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## Design Changes

Dayton Superior reserves the right to change product designs, rated loads and product dimensions at any time without prior notice.

**Note: See Safety Notes and Safety Factor Information.**



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BY DAYTON SUPERIOR

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**THE  
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**SYM-23-1**

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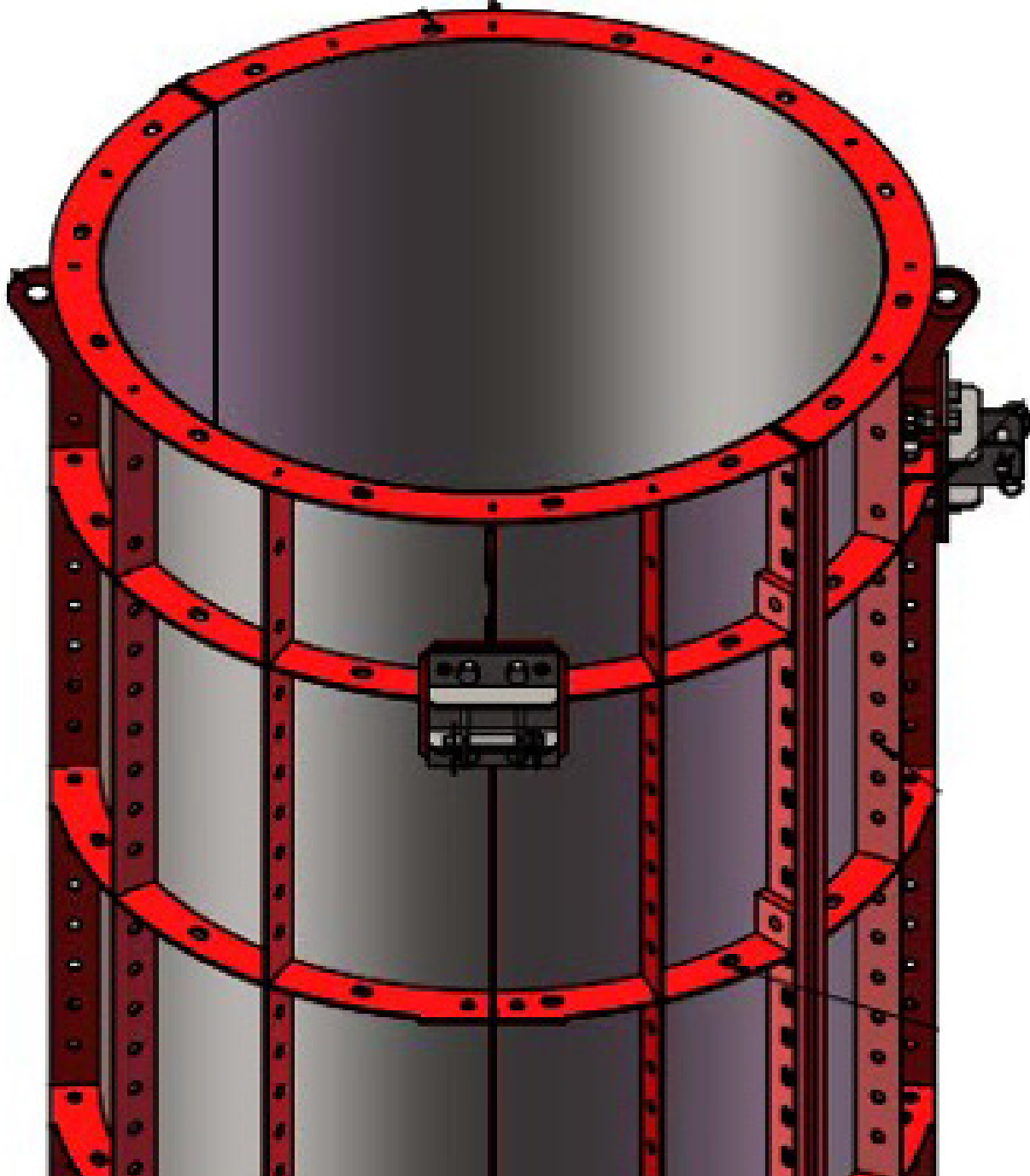
## INTRODUCTION

Tower-Max® is a circular column forming system made of an all-steel construction which results in a high-quality finish and a long-lasting form. Tower-Max is available in a wide range of stock diameters and height options Tower-Max is rated to 3,000 lbs. of concrete pour pressure for diameters up to 60". 61" diameter and above are rated to 2,000 lbs. of concrete pour pressure.

Components and accessories used with Tower-Max have been designed for safe and efficient forming operations. It is recommended that all construction personnel review and follow the applicable standards and practices established by the American Concrete Institute, the American National Standards institute, the Occupational Safety and Health Administration, and the Scaffolding, Shoring and Forming Institute.

## TOWER-MAX BASIC ELEMENTS (PAGE 1)

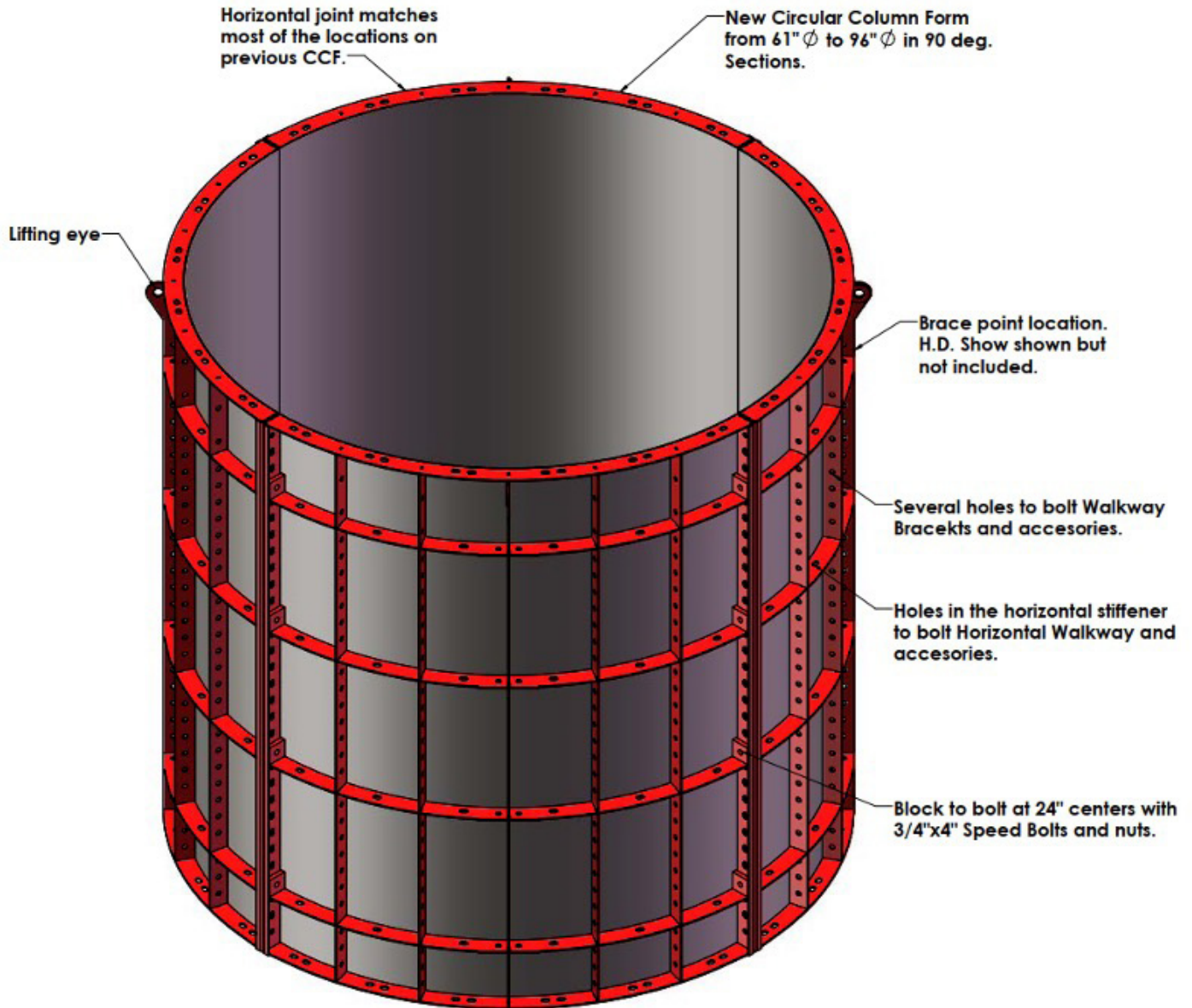
Tower-Max ID Chart 1



\*\*\*Tower-Max 18" – 60" Diameter sizes support 3,000 lbs./PSF poor pressure

## TOWER-MAX BASIC ELEMENTS (PAGE 2)

Tower-Max ID Chart 2



\*\*\*Tower-Max 61" – 96" Diameter sizes support 2,000 lbs./PSF poor pressure



**TOWER-MAX BASIC ELEMENTS (PAGE 3)****Tower-Max ID Chart 3**

1. **Tower-Max panels/forms** - come in 180-degree sections for all diameters from 18" to 54". Tower-Max panels above 60" come in 90-degree sections. Tower-Max Panels are available in 7 different Height configurations with each height being available in 13 different diameters.

Standard Heights: 8', 4', 2', and 1'

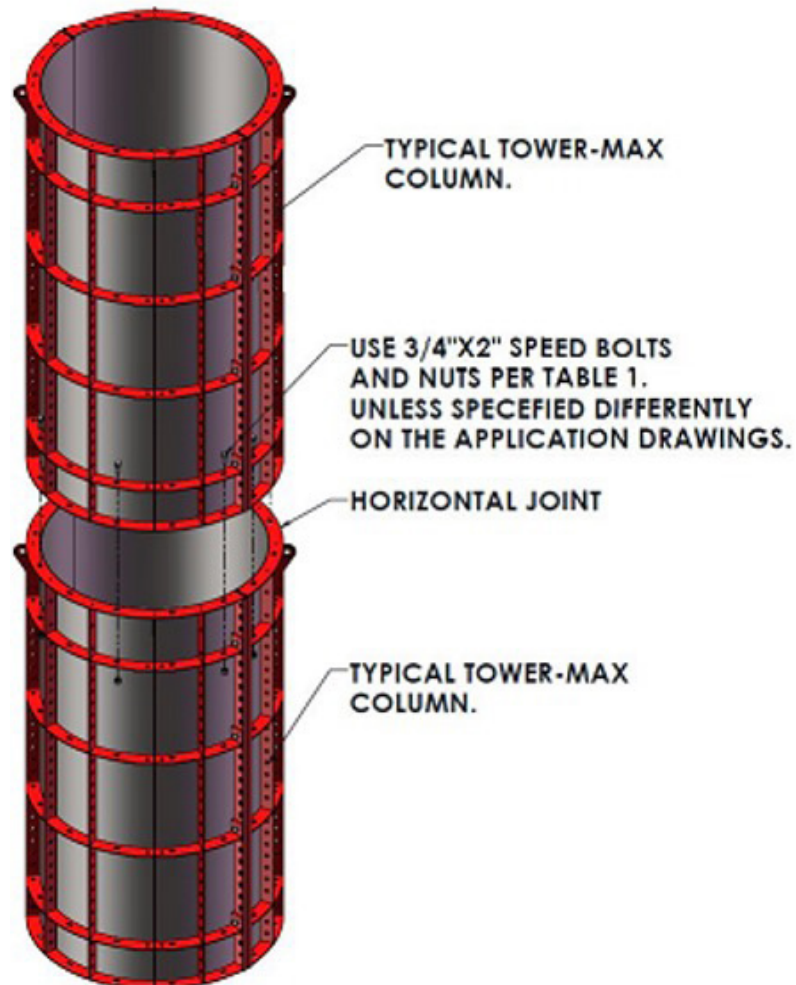
Standard Diameters: 96", 84", 72", 66", 60", 54", 48", 42", 36", 30", 24", 20", 18"

Custom and non-standard options can be manufactured for purchase

2. **Lifting Eye** – Provides convenient crane attachment points on both sides of a standard Tower-Max circular column Form. Lifting eyes are at 90 deg.
3. **Brace Connection Points** – Brace connection points facilitate efficient brace attachment to Tower-Max panels/forms
4. **24" Centers** – Block to bolt locations at 24" centers on the forms for  $\frac{3}{4}$ " Speed bolts and nuts to secure panel sections to one another. Bolt use at the block is  $\frac{3}{4}$ "x4" Speed bolt.
5. **Horizontal Stiffener**– horizontal stiffeners offer holes or attachment points to connect with accessory hardware. The hole spacing varies with the diameter.
6. **Vertical Stiffener** – offers attachment points to connect with accessory hardware Vertical stiffeners have holes every 3".



## TOWER-MAX HORIZONTAL ATTACHMENT

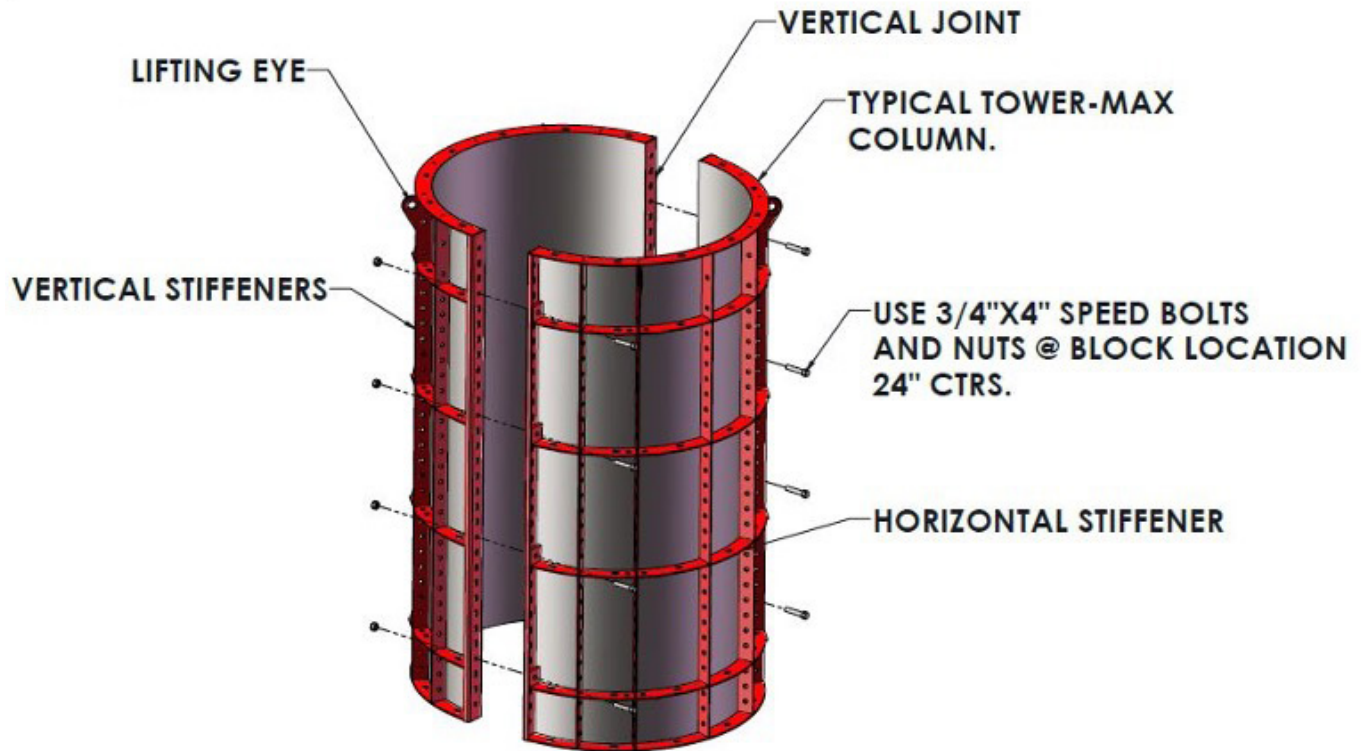


**TABLE 1 - HORIZONTAL BOLTING**

COLUMN DIAMETER	NUMBER OF 3/4"X2" SPEED BOLTS AND NUTS TO BE USED ON HORIZONTAL BOLTING FLANGE PER 180 DEG. COLUMN FORM.
18", 20"	3
24", 30"	3
36", 42", 48", 54", 60"	4
72"	5
84", 96"	6

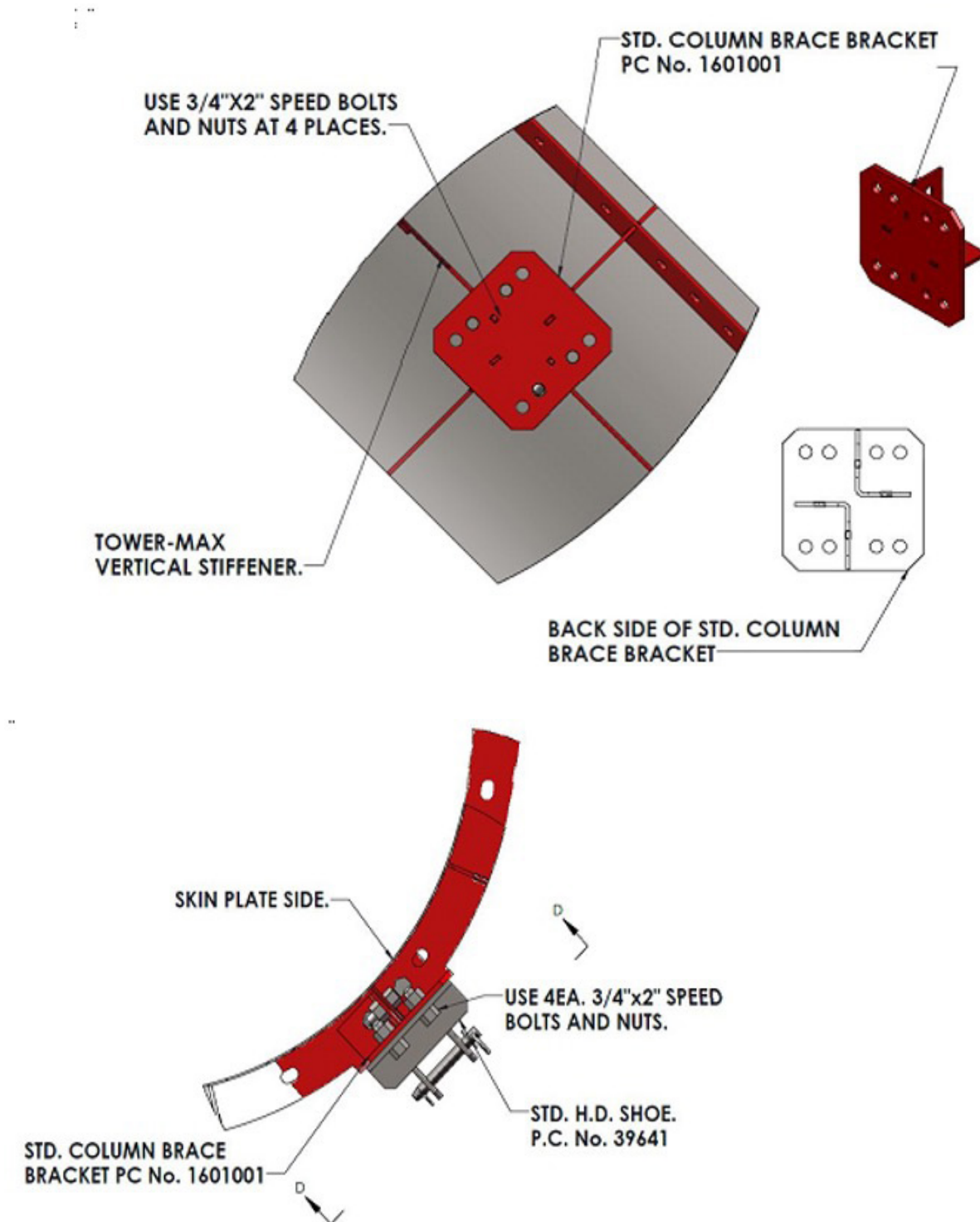
**NOTE:**  
 INSTALL 3/4"X2" SPEED BOLTS AND NUTS IN ALTERNATING SLOTTED HOLES ALWAYS START AND STOP IN A SLOTTED HOLE ADJACENT TO THE VERTICAL BOLTING FLANGE IN EACH 180 DEG. COLUMN FORM.

## TOWER-MAX VERTICAL ATTACHMENT



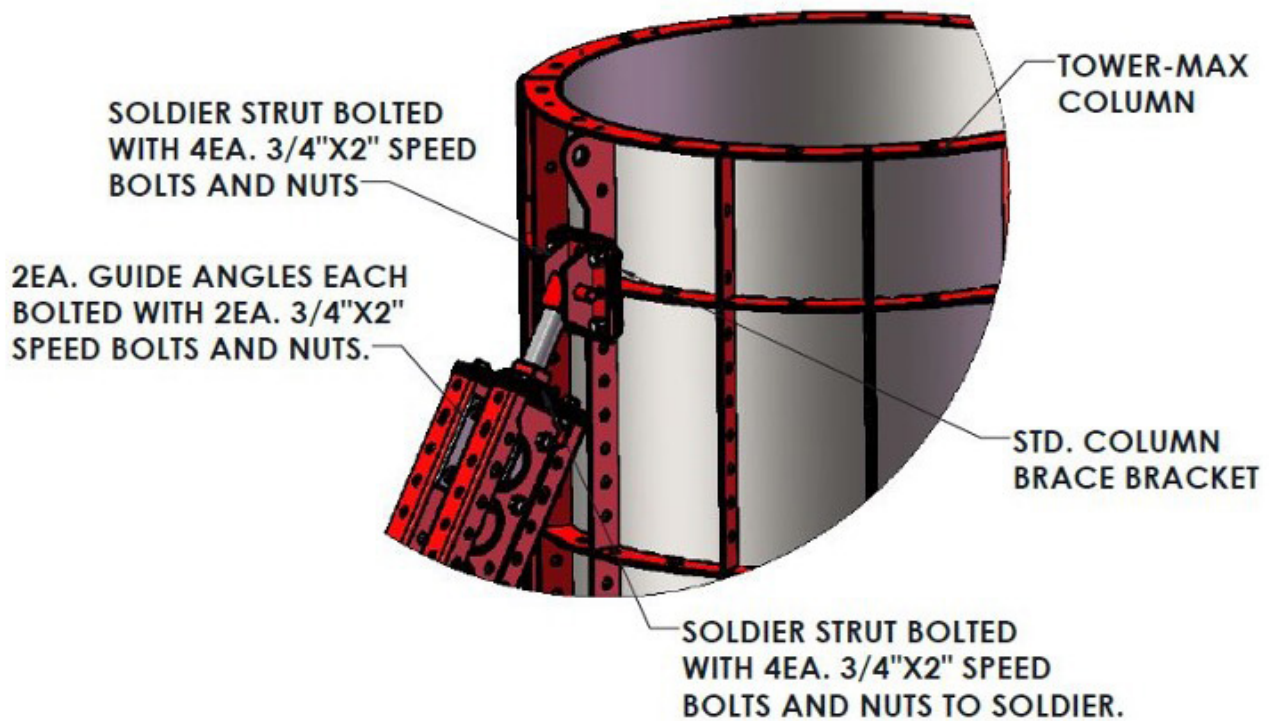
Tower-Max 90-degree and 180-degree cross-sections are attached by using 3/4" x 4" speed bolts at each block location.

## TOWER-MAX BRACE BRACKET INSTALLATION

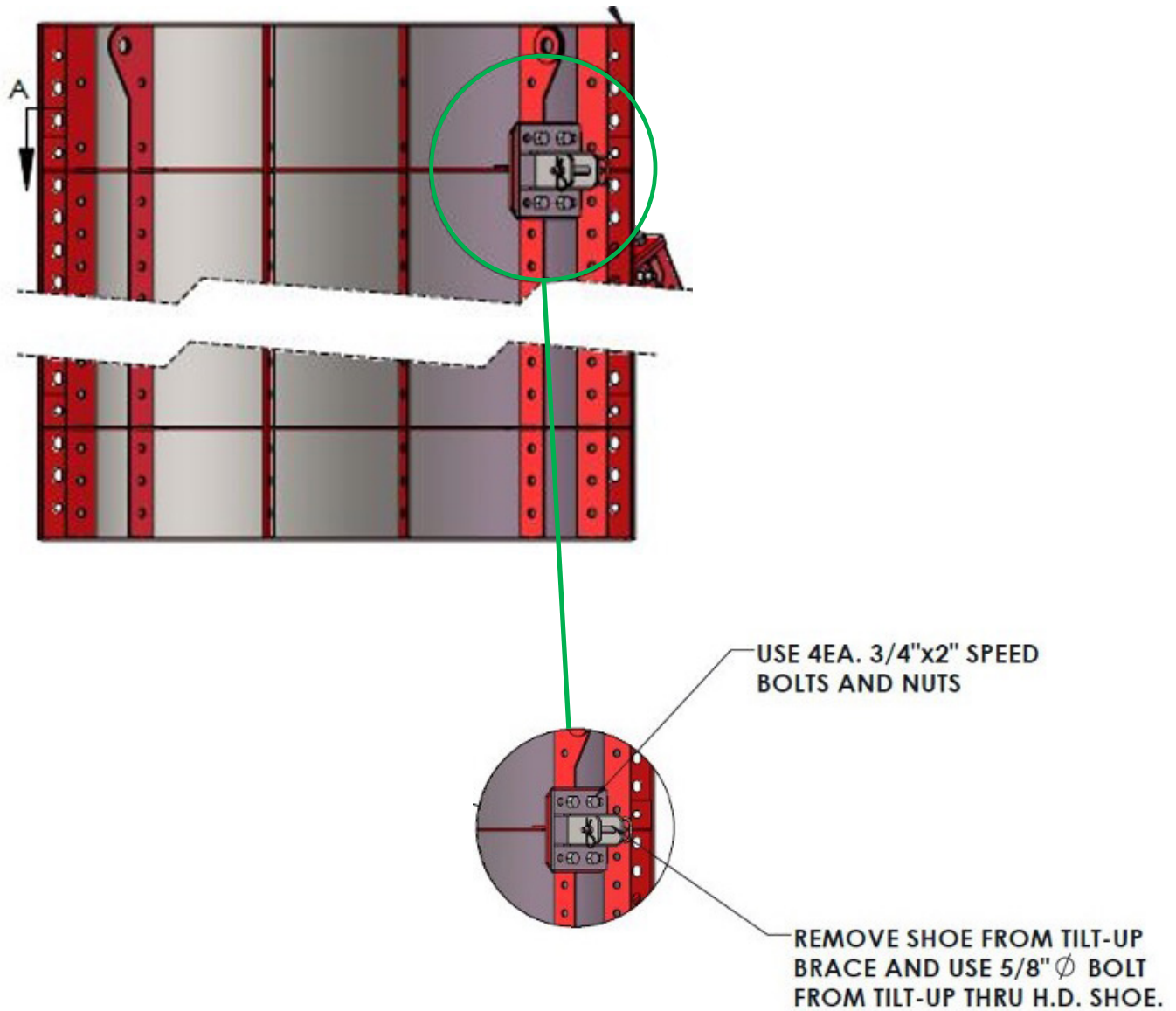


Tower-Max Brace Bracket (PC#: 1601001) attaches to any standard Tower-Max round column form by connecting 4 3/4" x 2" Speed bolts and nuts to vertical stiffener attachment points to secure Brace bracket to the round column form.

## TOWER-MAX TO SOLDIER ATTACHMENT

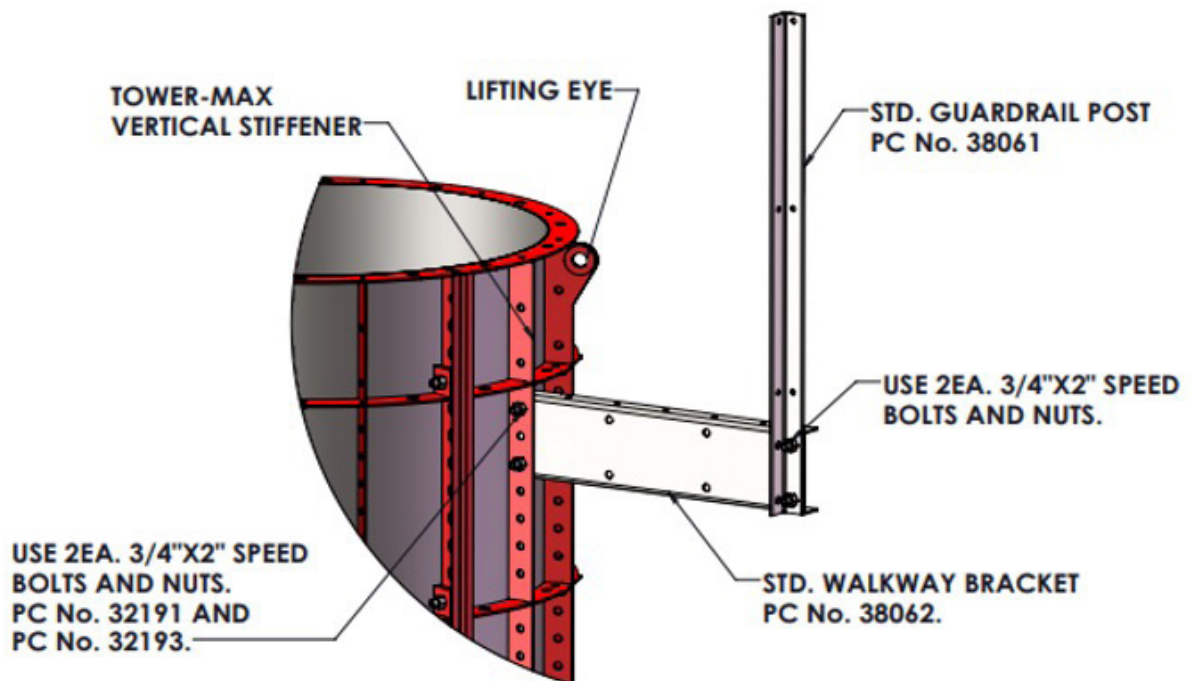
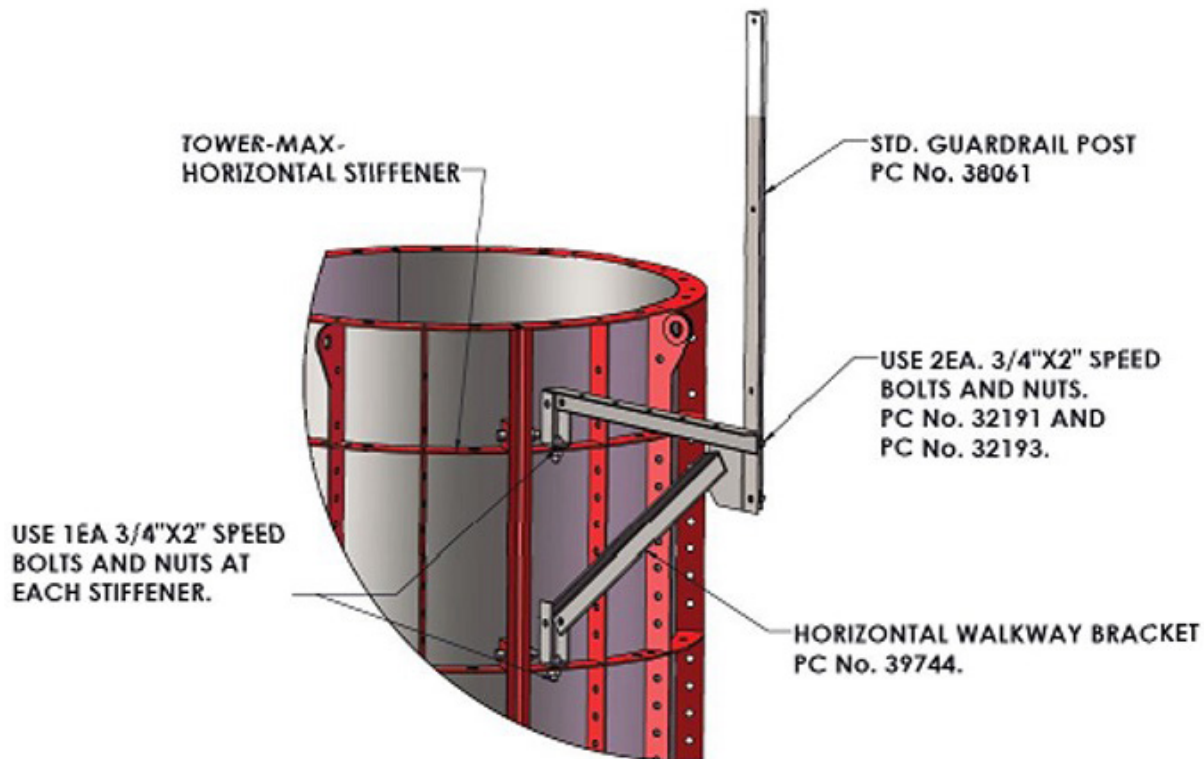


## TOWER-MAX TO TILT BRACE ATTACHMENT



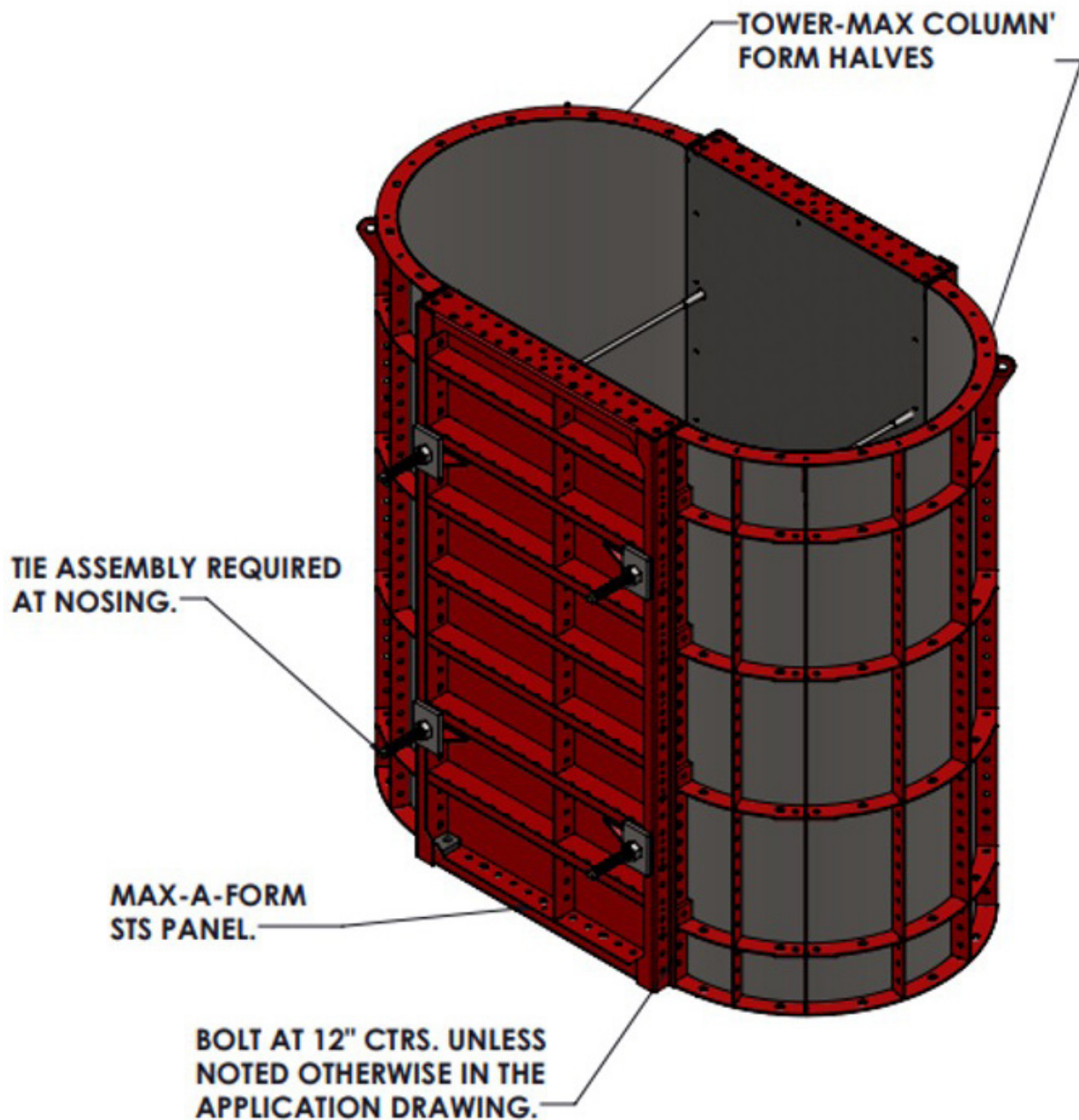


## TOWER-MAX WALKWAY BRACKET INSTALLATION



## TOWER-MAX TO MAX-A-FORM STS ATTACHMENT

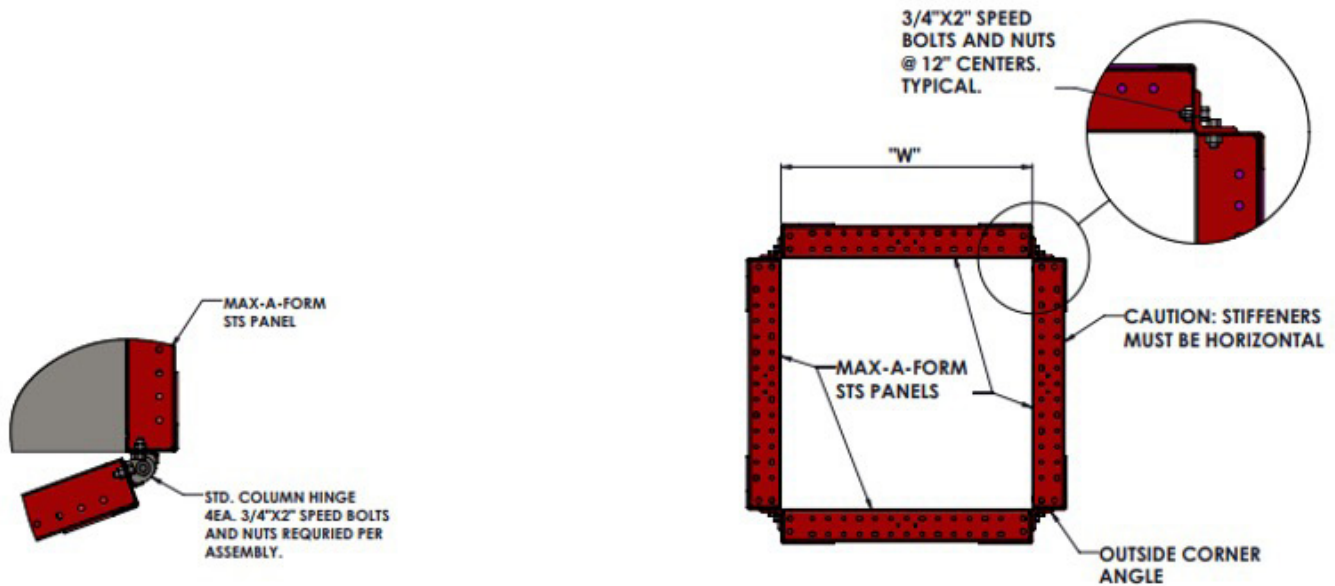
### TOWER-MAX BULLNOSE APPLICATION (Page 1)



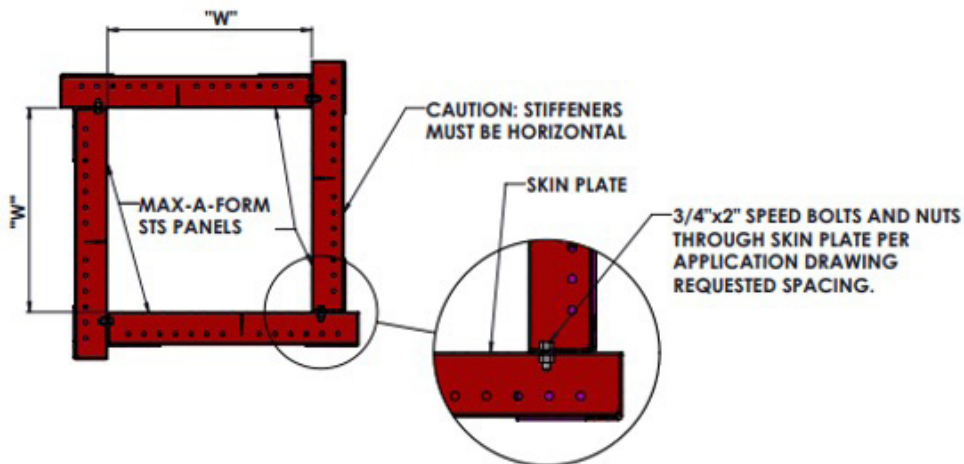


## TOWER-MAX TO MAX-A-FORM STS ATTACHMENT

### TOWER-MAX BULLNOSE APPLICATION (Page 2)



NOTE: CONCRETE POUR PRESSURE MUST BE REDUCED WHEN "W" IS GREATER THAN 8'-0" UP TO 12'-0". CONSULT WITH YOUR SYMONS REPRESENTATIVE.



## TOWER-MAX STOCK SIZE SCHEDULE

### *Tower-Max Stock Size Schedule (60" - 96" Diameter) 90 Degree Sections*

Part Code	Description	Diameter	Height	Weight ea.	Unit Cross Section
F1609608	96"x8' Tower-MAX CCF	96"	8'	2195.6	90 degree
F1609604	96"x4' Tower-MAX CCF	96"	4'	1161.8	90 degree
F1609602	96"x2' Tower-MAX CCF	96"	2'	645.8	90 degree
F1609601	96"x1' Tower-MAX CCF	96"	1'	346.9	90 degree
F1608408	84"x8' Tower-MAX CCF	84"	8'	2006.4	90 degree
F1608404	84"x4' Tower-MAX CCF	84"	4'	1060.0	90 degree
F1608402	84"x2' Tower-MAX CCF	84"	2'	587.7	90 degree
F1608401	84"x1' Tower-MAX CCF	84"	1'	315.0	90 degree
F1607208	72"x8' Tower-MAX CCF	72"	8'	1670.8	90 degree
F1607204	72"x4' Tower-MAX CCF	72"	4'	885.4	90 degree
F1607202	72"x2' Tower-MAX CCF	72"	2'	493.3	90 degree
F1607201	72"x1' Tower-MAX CCF	72"	1'	263.7	90 degree
F1606608	66"x8' Tower-MAX CCF	66"	8'	1573.5	90 degree
F1606604	66"x4' Tower-MAX CCF	66"	4'	832.2	90 degree
F1606602	66"x2' Tower-MAX CCF	66"	2'	462.2	90 degree
F1606601	66"x1' Tower-MAX CCF	66"	1'	245.8	90 degree
F1606008	60"x8' Tower-MAX CCF	60"	8'	1487.6	90 degree
F1606004	60"x4' Tower-MAX CCF	60"	4'	785.2	90 degree
F1606002	60"x2' Tower-MAX CCF	60"	2'	434.7	90 degree
F1606001	60"x1' Tower-MAX CCF	60"	1'	229.2	90 degree

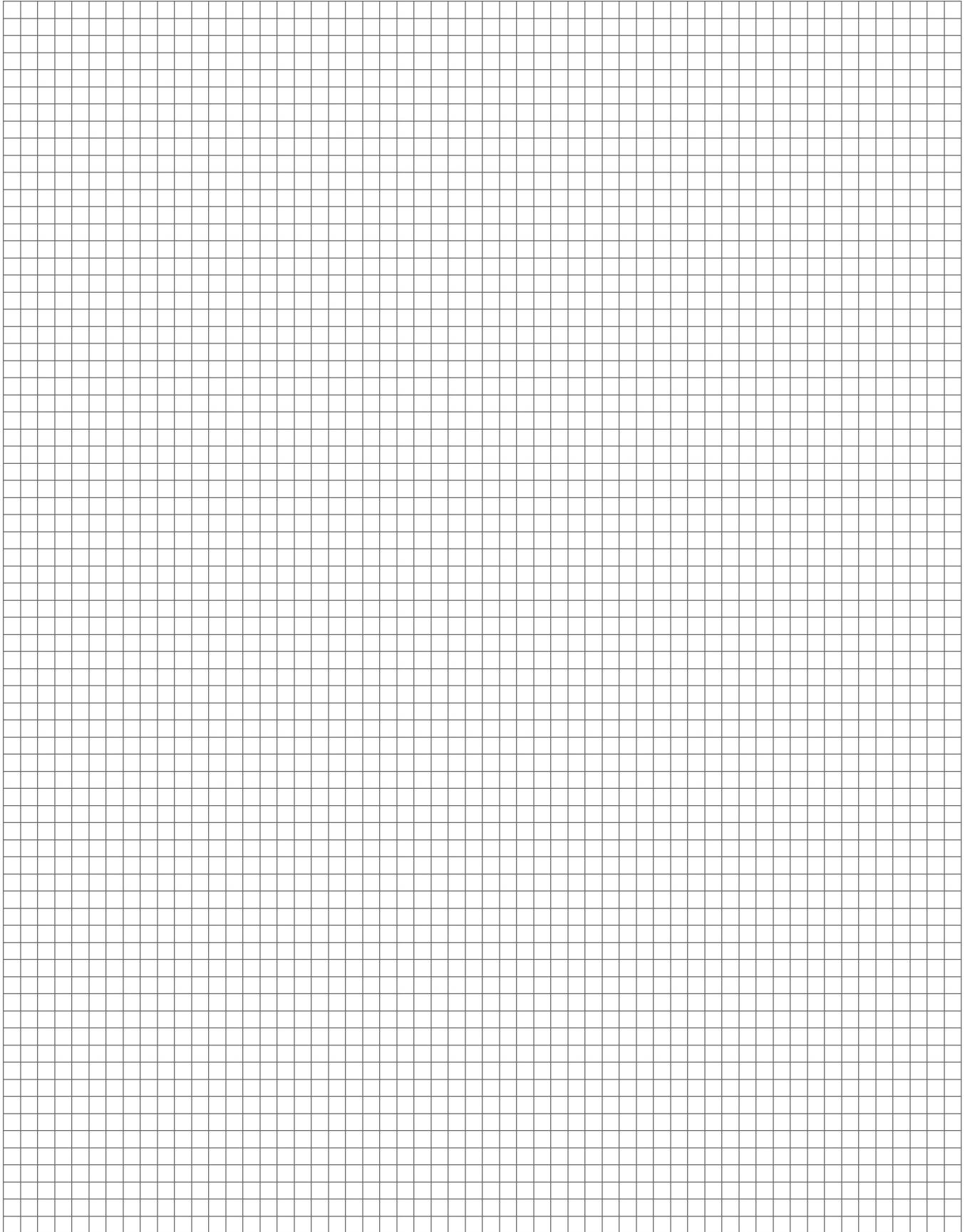
## TOWER-MAX STOCK SIZE SCHEDULE

### *Tower-Max Stock Size Schedule (18" - 54" Diameters) 180 Degree Sections*

Part Code	Description	Diameter	Height	Weight ea.	Unit Cross Section
F1605408	54"x8' Tower-MAX CCF	54"	8'	1278.2	180 degree
F1605404	54"x4' Tower-MAX CCF	54"	4'	677.6	180 degree
F1605402	54"x2' Tower-MAX CCF	54"	2'	377.8	180 degree
F1605401	54"x1' Tower-MAX CCF	54"	1'	205.3	180 degree
F1604808	48"x8' Tower-MAX CCF	48"	8'	1146.8	180 degree
F1604804	48"x4' Tower-MAX CCF	48"	4'	608.1	180 degree
F1604802	48"x2' Tower-MAX CCF	48"	2'	339.3	180 degree
F1604801	48"x1' Tower-MAX CCF	48"	1'	184.0	180 degree
F1604208	42"x8' Tower-MAX CCF	42"	8'	1051.1	180 degree
F1604204	42"x4' Tower-MAX CCF	42"	4'	556.3	180 degree
F1604202	42"x2' Tower-MAX CCF	42"	2'	309.3	180 degree
F1604201	42"x1' Tower-MAX CCF	42"	1'	167.1	180 degree
F1603608	36"x8' Tower-MAX CCF	36"	8'	843.0	180 degree
F1603604	36"x4' Tower-MAX CCF	36"	4'	448.4	180 degree
F1603602	36"x2' Tower-MAX CCF	36"	2'	251.4	180 degree
F1603601	36"x1' Tower-MAX CCF	36"	1'	135.9	180 degree
F1603010	30"x10' Tower-MAX CCF	30"	10'	925.1	180 degree
F1603008	30"x8' Tower-MAX CCF	30"	8'	750.0	180 degree
F1603004	30"x4' Tower-MAX CCF	30"	4'	398.2	180 degree
F1603002	30"x2' Tower-MAX CCF	30"	2'	222.6	180 degree
F1603001	30"x1' Tower-MAX CCF	30"	1'	119.6	180 degree
F1602408	24"x8' Tower-MAX CCF	24"	8'	656.5	180 degree
F1602404	24"x4' Tower-MAX CCF	24"	4'	347.7	180 degree
F1602402	24"x2' Tower-MAX CCF	24"	2'	193.2	180 degree
F1602401	24"x1' Tower-MAX CCF	24"	1'	102.6	180 degree
F1602008	20"x8' Tower-MAX CCF	20"	8'	555.8	180 degree
F1602004	20"x4' Tower-MAX CCF	20"	4'	294.8	180 degree
F1602002	20"x2' Tower-MAX CCF	20"	2'	164.5	180 degree
F1602001	20"x1' Tower-MAX CCF	20"	1'	87.3	180 degree
F1601808	18"x8' Tower-MAX CCF	18"	8'	523.9	180 degree
F1601804	18"x4' Tower-MAX CCF	18"	4'	277.5	180 degree
F1601802	18"x2' Tower-MAX CCF	18"	2'	154.5	180 degree
F1601801	18"x1' Tower-MAX CCF	18"	1'	81.7	180 degree

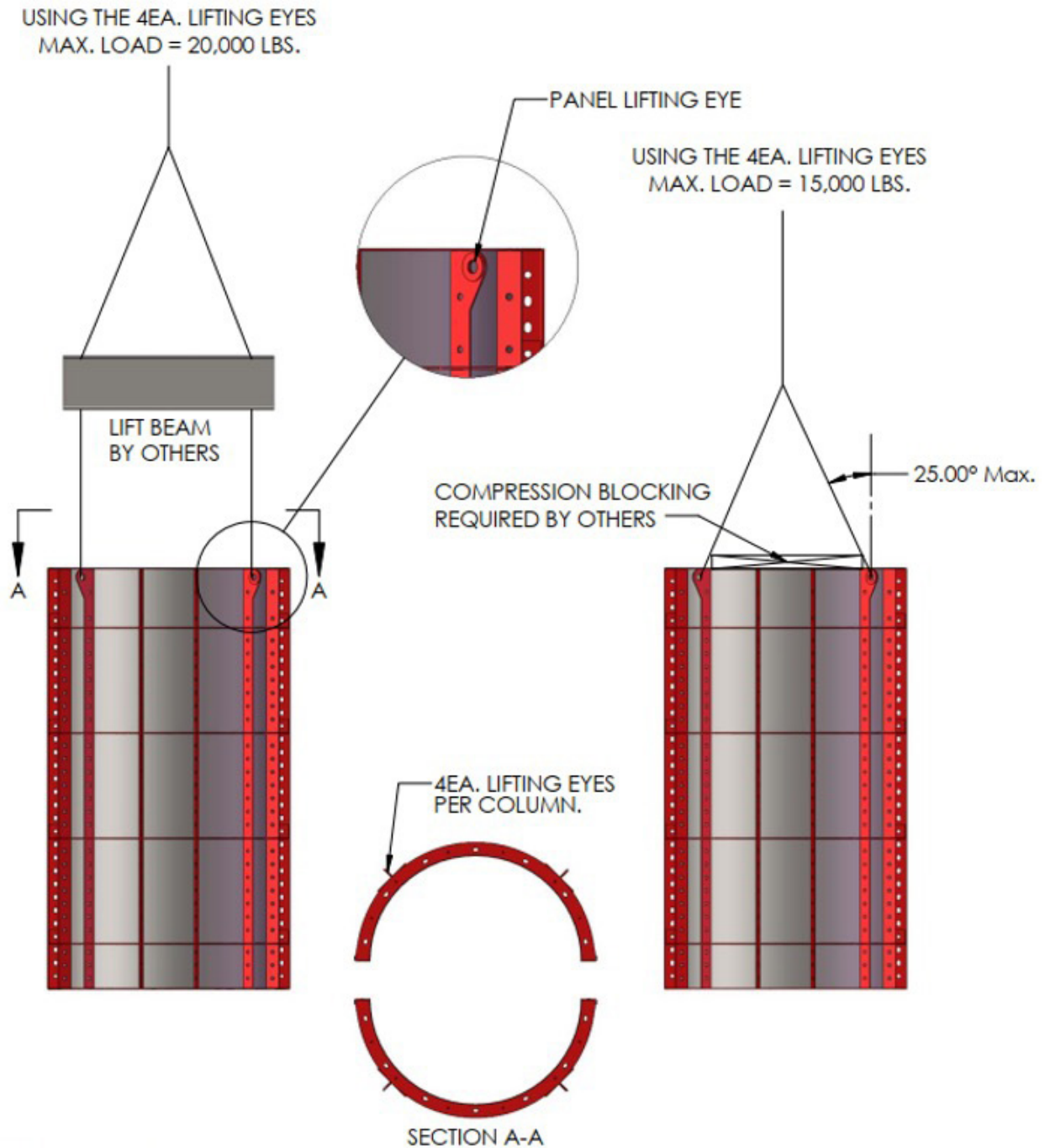
## TOWER-MAX STOCK SIZE SCHEDULE

PRODUCT CODE	WEIGHT (LBS.)	DESCRIPTION
32191	0.5	3/4" DIA. X 2" SPEED BOLT
32193	0.25	3/4" DIA. SPEED NUT
32194	0.65	3/4" DIA. X 4" SPEED BOLT
38061	15	GUARDRAIL POST
38062	23	ALTERNATE WALKWAY BRACKET
35240	12	WALKWAY CONNECTOR
35309	8.5	LIFT LUG
32191	0.5	3/4" DIA. X 2" SPEED BOLT
32193	0.25	3/4" DIA. SPEED NUT
32194	0.65	3/4" DIA. X 4" SPEED BOLT
32195	0.58	3/4" DIA. X 3" SPEED BOLT
38061	15	GUARDRAIL POST
38062	23	ALTERNATE WALKWAY BRACKET
36661	0.1	RETAINER PIN CLIP
49977	2	1-1/4" DIA. X 5-3/4" PIN
35240	12	WALKWAY CONNECTOR



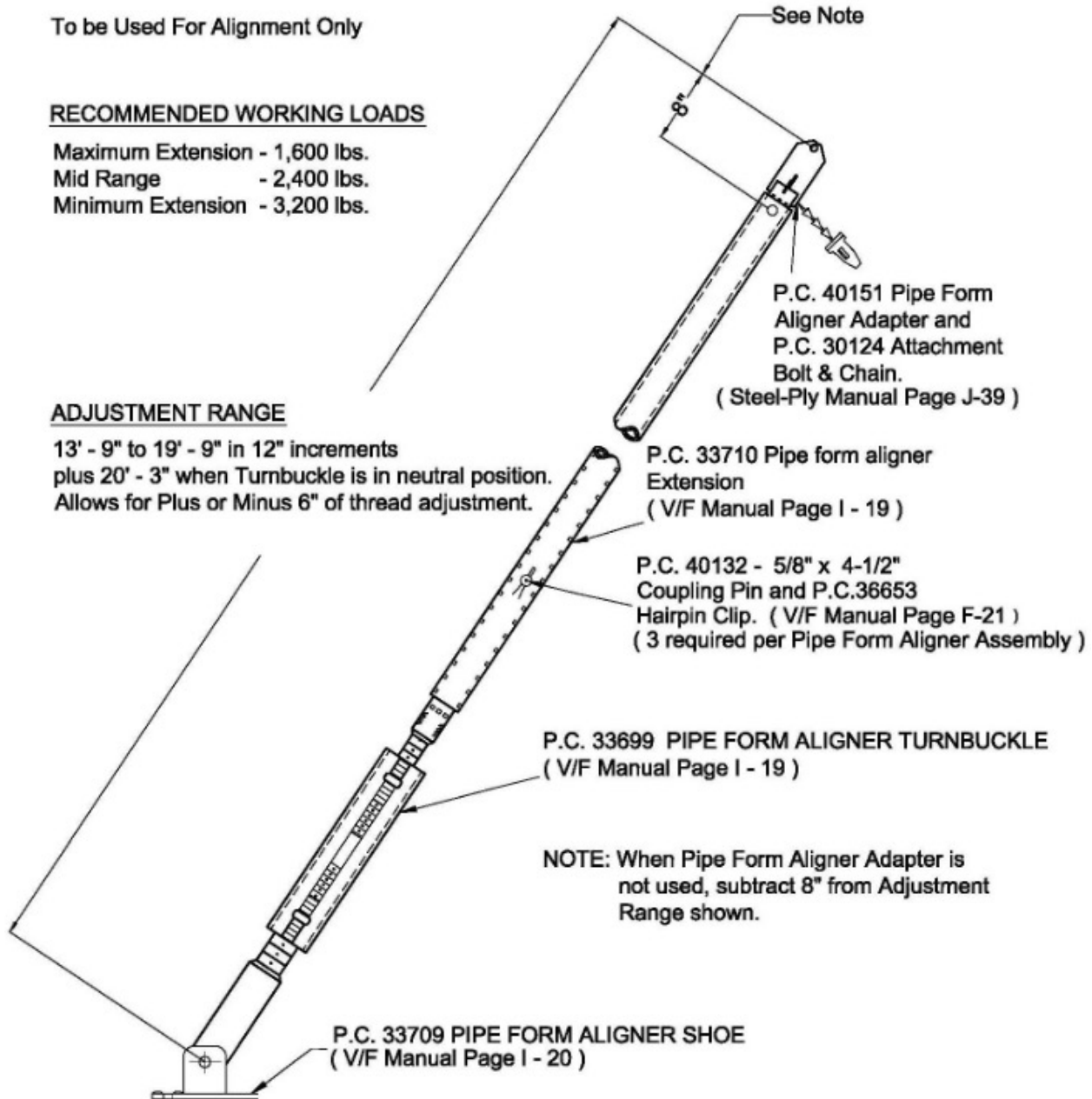
## TOWER-MAX LIFTING APPLICATION

### LIFTING APPLICATION



THIS PRODUCT WAS DESIGNED FOR USE WITH PRODUCTS  
MANUFACTURED BY SYMONS. HAS NOT BEEN RECOMMENDED  
TO BE USED IN CONNECTION WITH PRODUCTS OF  
OTHER MANUFACTURERS. FORMING SYSTEM.

## PIPE FORM ALIGNER OVERVIEW

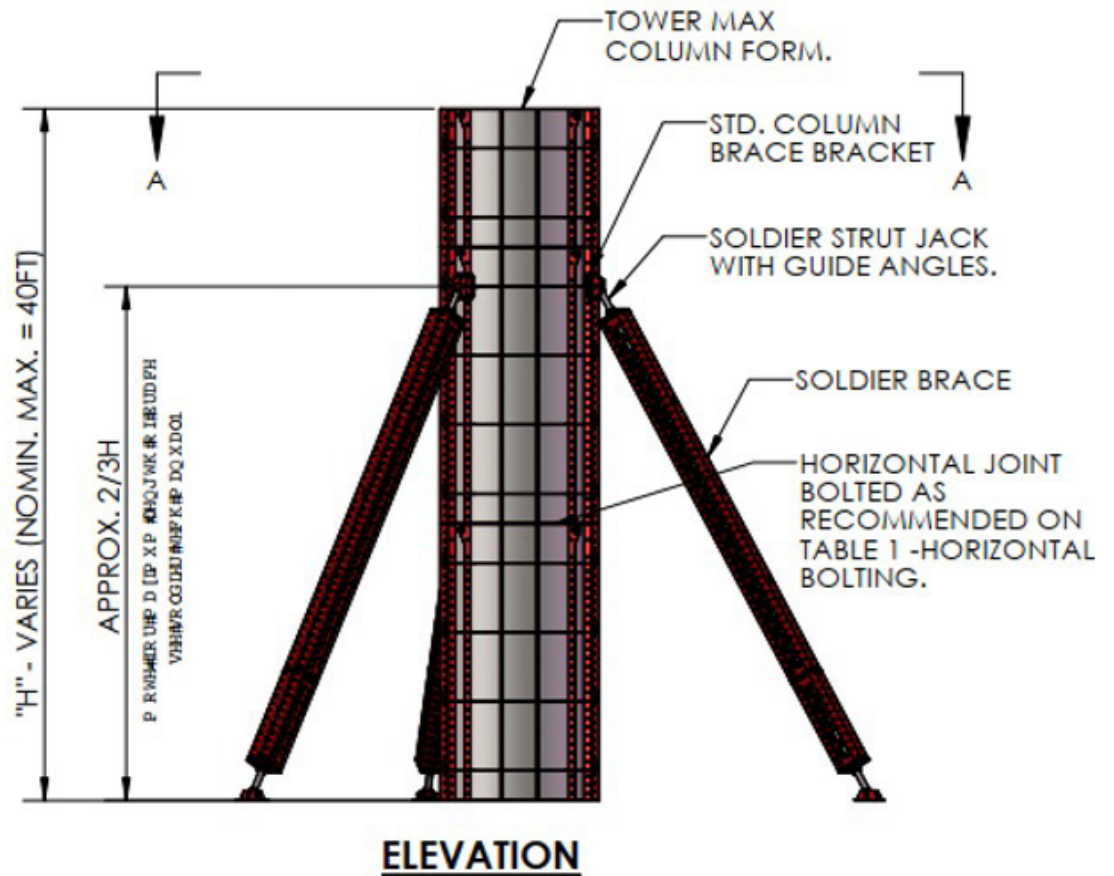
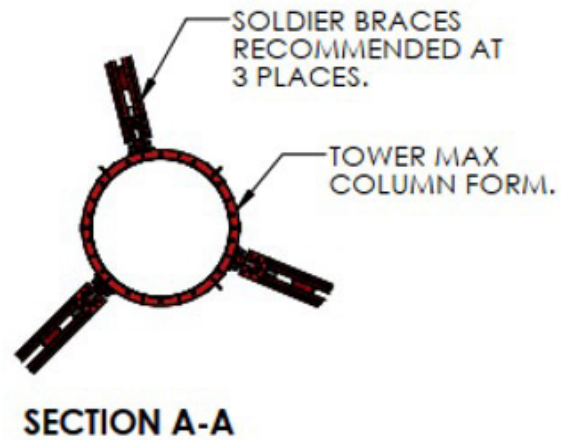


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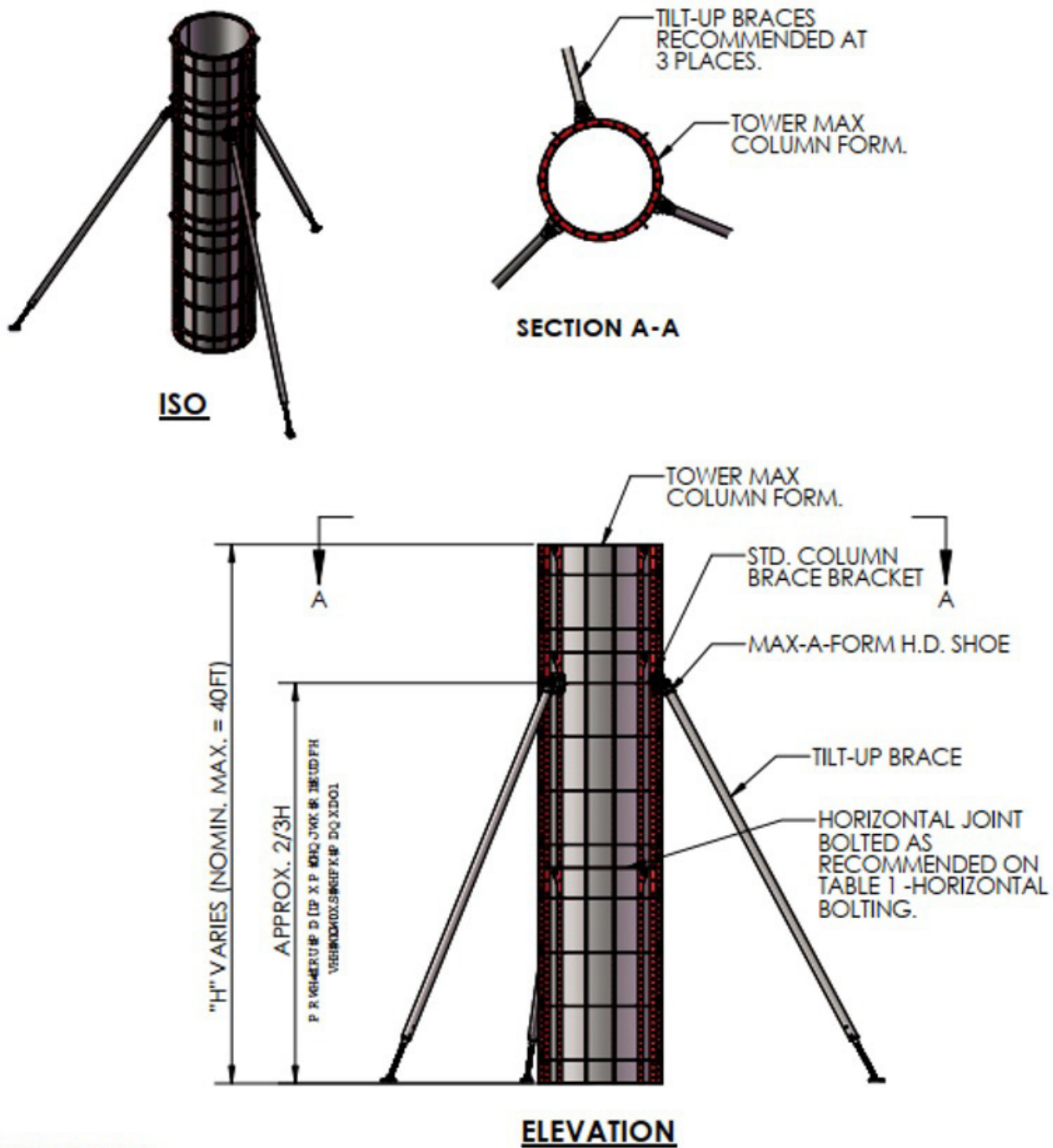


## TOWER-MAX COLUMN ALIGNMENT



THIS PRODUCT WAS DESIGNED FOR USE WITH PRODUCTS  
MANUFACTURED BY SYMONS AND IS NOT RECOMMENDED  
FOR USE WITH OTHER PRODUCTS.

## TOWER-MAX COLUMN ALIGNMENT



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