

Intermediate Support Tower

STRUCTURAL ANGLE SUPPORT TOWER

INSTALLATION & ASSEMBLY INSTRUCTION MANUAL

Manufactured in the U.S.A. by



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Table of Contents

INTRODUCTION 1

SAFETY REQUIREMENTS 1

TOOLS 1

CHECK AND INSPECT YOUR ORDER 2

SELECTION 2

FOUNDATION AND ANCHORING 3

TOWER ASSEMBLY 4

TOWER ASSEMBLY INSTRUCTIONS 7

TOP SECTION WITH CHANNEL 9

Purchase Date _____ Model _____
Serial Number _____

INTRODUCTION

Sweet Manufacturing Company assumes no liability in regard to the adequacy of foundations. A qualified engineer should design the foundation of the Structural Angle Intermediate Support Tower (hereafter referred to as Support Tower).

Your Support Tower has been designed based on standard design criteria. **It is the responsibility of the installer, the purchaser, and/or the end user to consider unusual local conditions such as wind, earthquake zones and legal requirements.**

The Support Tower must be assembled using the Grade 5 hardware included with the tower. If you need additional fasteners, make sure they are Grade 5. See Figure A. Each bolted connection must be torqued as required, per Table A.

Figure A - Grade 5 Bolt Head

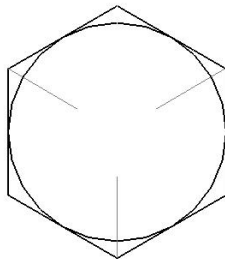


TABLE A

Size	Torque
1/2"-13	75 FT-LBS
3/4"-10	270 FT-LBS

SAFETY REQUIREMENTS

- Make sure all personnel are provided proper fall protection and have been trained in the use of such equipment, when applicable.
- Wear proper protective equipment during assembly.
- We recommend the use of a crane when stacking the stages.
- Do not stack more than two stages at a time.

TOOLS

- 3/4" wrench and socket
- 1-1/8" wrench and socket
- Torque wrench and torque multiplier
- Drift punch to assist in lining up holes
- Drill with 9/16" diameter drill bits
- Properly rated crane
- Ladders or scaffolding

CHECK AND INSPECT YOUR ORDER

Each order or shipment is double-checked before leaving the factory. All parts, pieces, and components are listed item by item on our packing list, which accompanies each order. The number of each item, package, container, skid, etc. is listed on the bill of lading. In signing the bill of lading, the carrier assumes full responsibility for the safe delivery of all goods to their destination in the same order as tendered by the shipper. In the event of damage or shortage, have the transportation company driver note the same on the freight bill. You should then file a claim against the carrier for such loss and/or damage.

You will find a packing list attached to one of the items in the shipment. Check each item against the list. Check by description, specification, quantity or count, etc. Should there be any discrepancies, notify us immediately. If an order or shipment includes more than one Support Tower, the parts for each will be color coded for easy identification.

Small parts and items, such as bolts and washers, are just as important to an installation as the larger parts. Make certain that these are located and checked before disposing of any containers or packing. We cannot be responsible for the loss of items that are listed and included on our packing list.

Should there be some delay between the time an order is received and the ensuing installation, store parts in a protected area so that they may be easily located and identified. Retain packing lists for this reason, as well as for future parts reference.

SELECTION

Support Towers are designed for support of horizontal conveyors and Silver Span® support structures.

The Support Tower is designed to transfer the vertical loads (weight) into vertical legs that are resisted by the foundation. For this reason, foundation design is very important. The lateral loads are resisted by guy wires each 30 feet, as shown in Figure B.

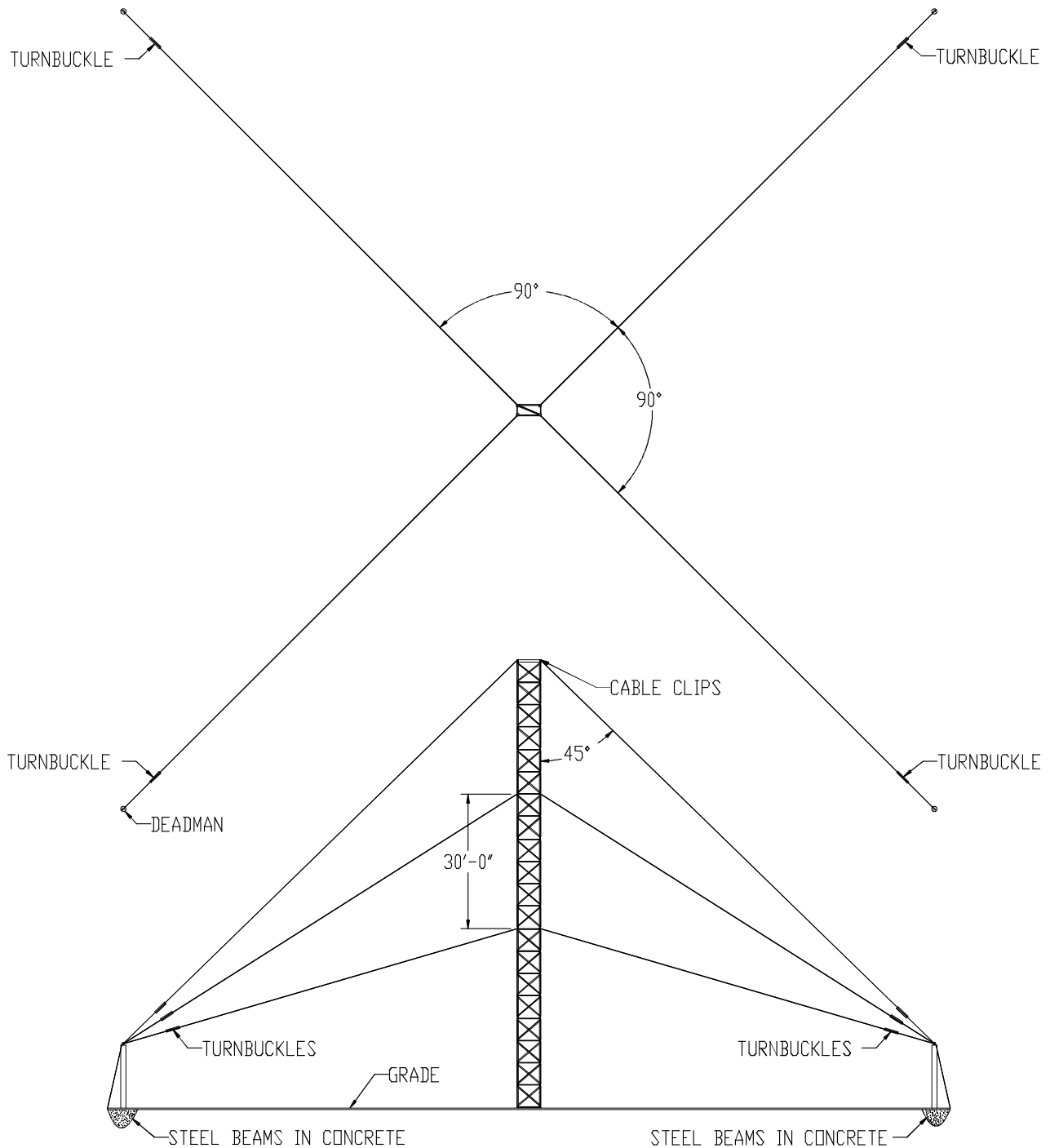
When selecting a Support Tower, several considerations should be addressed. They include, but are not limited to:

1. The proper size needed to support the vertical load.
2. The width required to support the system.
3. The capacity of the tower is reduced by the weight of each stage after the base stage.
4. The tower is available in three sizes: 2' x 2', 2' x 5', and 2' x 6'.

FOUNDATION AND ANCHORING

A proper foundation with lateral bracing is the key to a successful Support Tower installation. It must be designed by a qualified engineer to withstand the vertical loads applied to it. The tower must be constrained each 30' and at the top due to moments and lateral load. See Figure B.

Figure B - Guy Wire Installation



Note: Dimensions (in feet) are for reference only and may be subject to change.

TOWER ASSEMBLY

The tower assembly consists of three parts: the base unit, extension unit, and top channel section (Figure C).

One base is required, and one top section can be used. The remainder of the total height consists of intermediate sections. The part numbers for columns are listed below.

Intermediate Support Tower

2' x 2' Square Support Tower		
Description	Part #	Wt.
20' Base Unit	861020	531
20' Extension Unit	861022	507
15' Extension Unit	861019	329
10' Extension Unit	861010	255
5' Extension Unit	861005	136

Top Section with Channel

2' x 2' Square Support Tower		
Description	Part #	Wt.
20' Extension Unit	861028	501
15' Extension Unit	861027	397
10' Extension Unit	861026	293
5' Extension Unit	861025	189

Vertical load rating - 10,000 lbs

2' x 5' Rectangular Support Tower

Description	Part #	Wt.
20' Base Unit	861120	650
20' Extension Unit	861122	611
15' Extension Unit	861119	464
10' Extension Unit	861110	340
5' Extension Unit	861115	170

2' x 5' Rectangular Support Tower

Description	Part #	Wt.
20' Extension Unit	861123	784
15' Extension Unit	861118	626
10' Extension Unit	861111	494
5' Extension Unit	861116	309

Vertical load rating - 20,000 lbs

2' x 6' Rectangular Support Tower

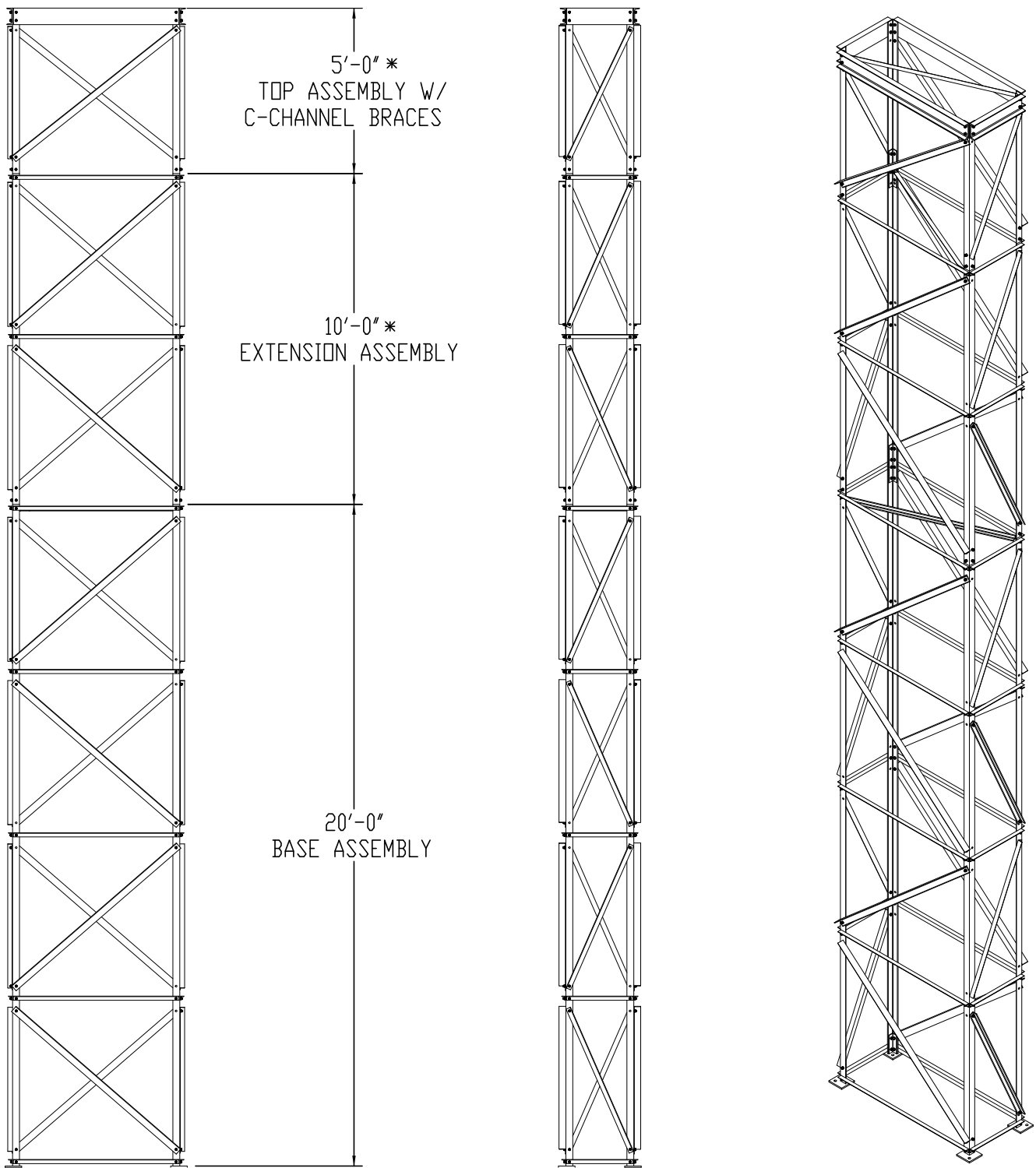
Description	Part #	Wt.
20' Base Unit	861130	775
20' Extension Unit	861140	725
15' Extension Unit	861139	556
10' Extension Unit	861138	372
5' Extension Unit	861135	207

2' x 6' Rectangular Support Tower

Description	Part #	Wt.
20' Extension Unit	861142	829
15' Extension Unit	861143	601
10' Extension Unit	861144	505
5' Extension Unit	861145	338

Vertical load rating - 20,000 lbs

Figure C - Typical Tower Assembly

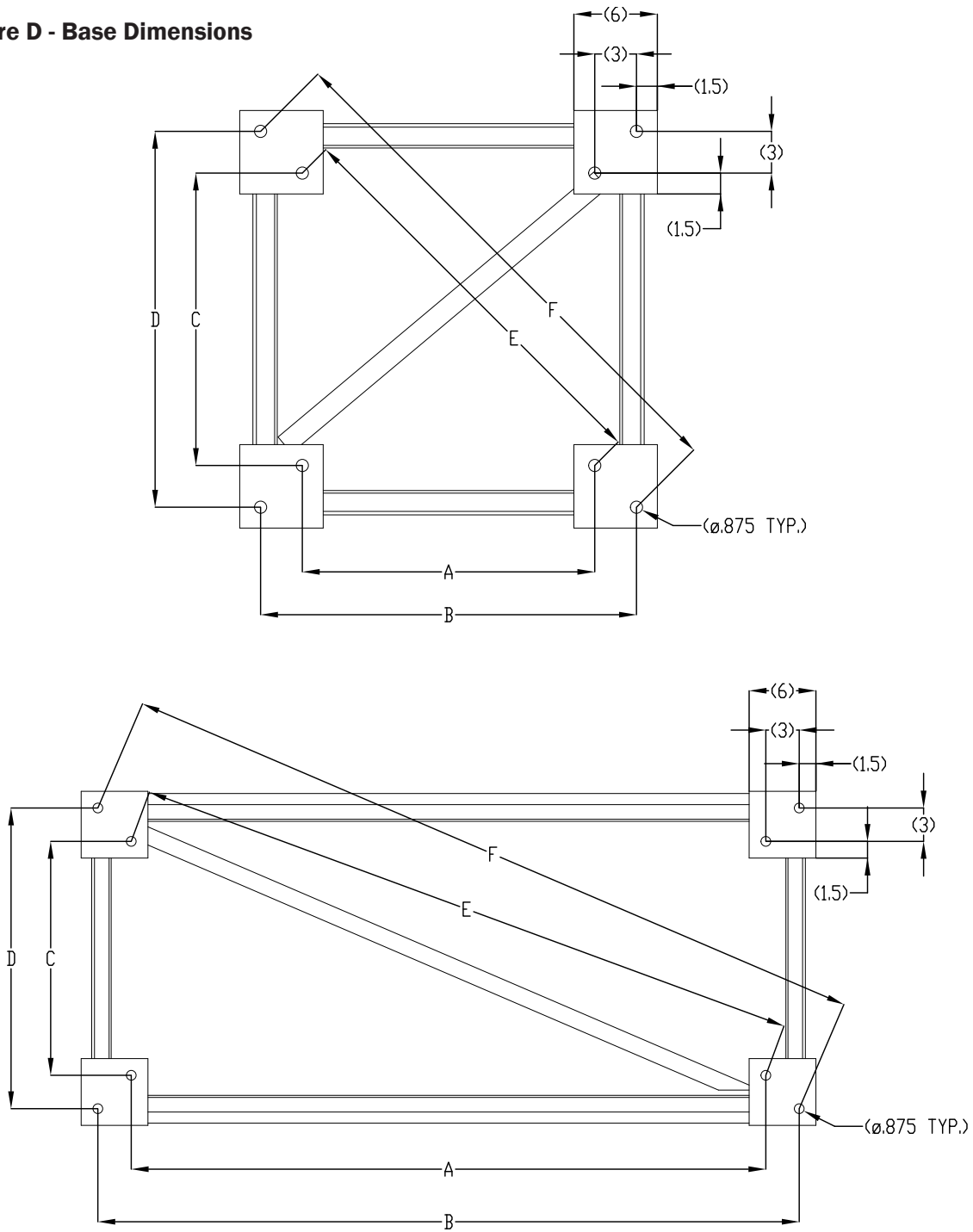


*Can be 5', 10', 15', or 20' dimension.

Note: Dimensions (in feet) are for reference only and may be subject to change.

Anchor bolt layout per Figure D. The unit is designed for 3/4" diameter anchor bolts.

Figure D - Base Dimensions



Model	A	B	C	D	E	F
2' X 2'	21"	27"	21"	27"	29.75"	38.1875"
2' X 5'	57"	63"	21"	27"	60.75"	68.625"
2' X 6'	69"	75"	21"	27"	72.125"	79.75"

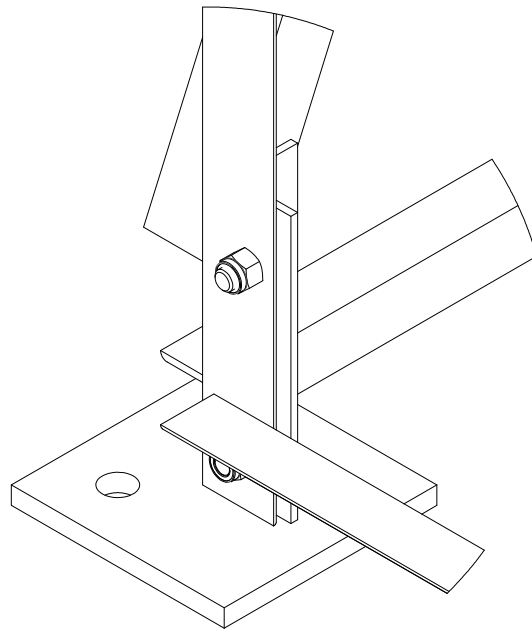
Note: Dimensions (in inches) are for reference only and may be subject to change.

TOWER ASSEMBLY INSTRUCTIONS

The Support Tower consists of stages that are to be preassembled in either 5', 10', 15', or 20' heights.

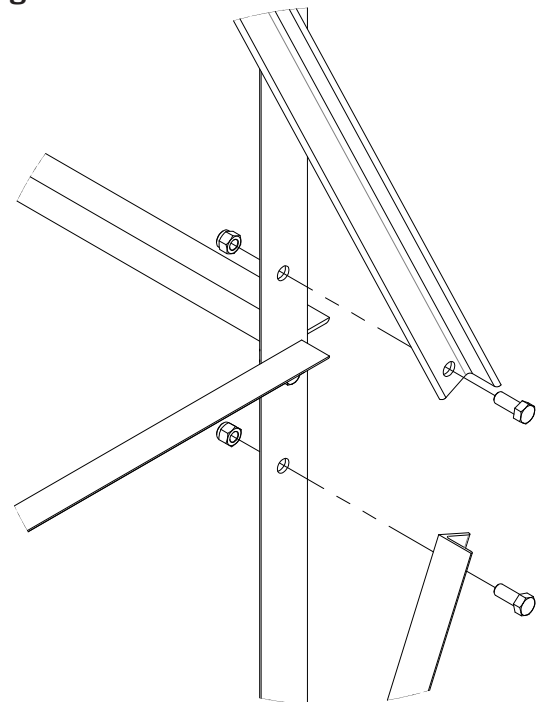
We suggest that the Support Tower be assembled in sections, starting with the base unit. Assemble as shown in Figure E.

Figure E – Base Assembly

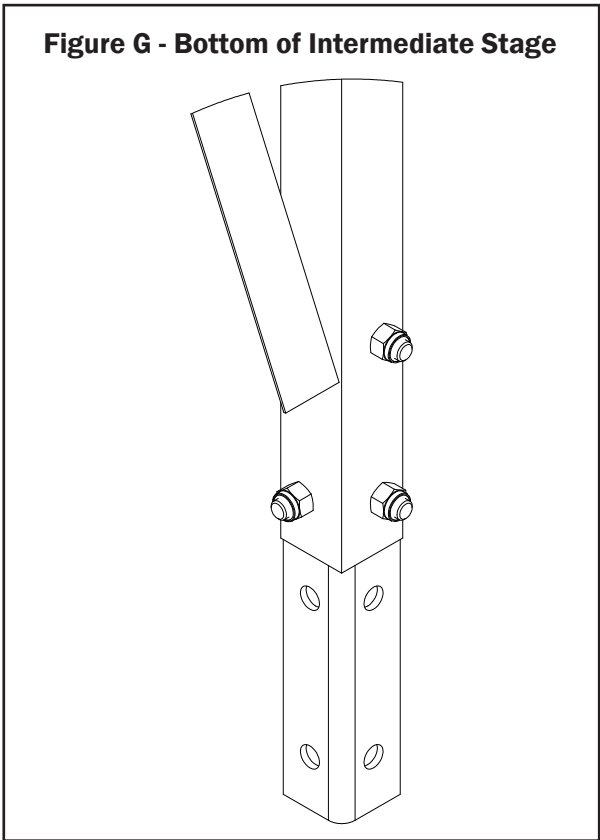


When installing the diagonal braces, notice that they are placed on opposite sides of the base leg frame. The diagonal running from lower left to upper right is placed on the outside of the flange of the base leg, while the diagonal running from upper left to lower right mounts on the opposite side of the Support Tower. The cross braces attach to the outside of the flange. Each leg has another set of holes for the placement of the additional diagonals and cross brace. Figure F shows a typical bolted connection for the Support Tower approximately 10' from the bottom of each leg.

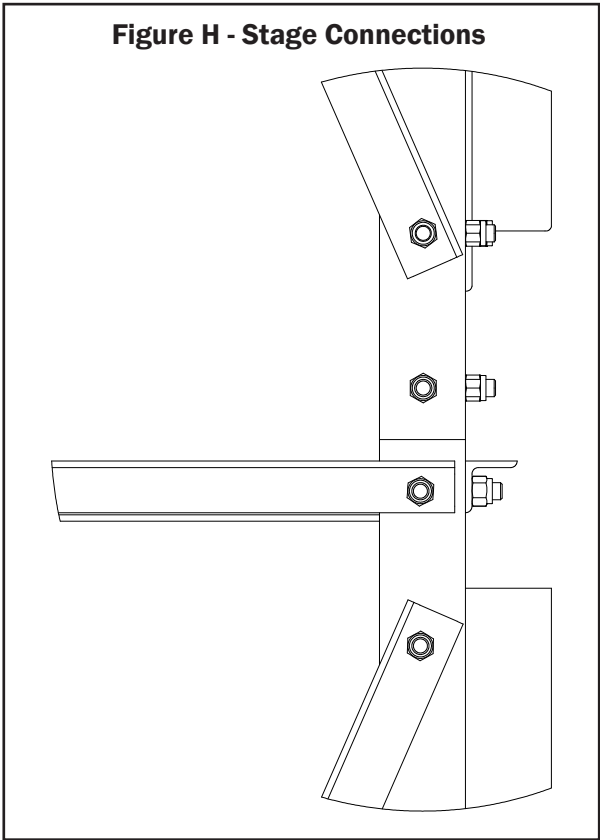
Figure F – Assembly at Center of Stage



The connection at the top of each stage is similar to the center with diagonals and cross braces. If there is an intermediate or top section above the base section, leave off the top row of short and long cross braces and the top bolts for the uppermost diagonal braces and assemble all other members to the base section. After required members have been assembled, tighten all the 1/2"-13 Grade 5 hex head bolts to 75 ft-lbs. Do not overtighten as this may cause the bolt to stretch and weaken. Figure G shows a typical bottom of an assembled intermediate stage.



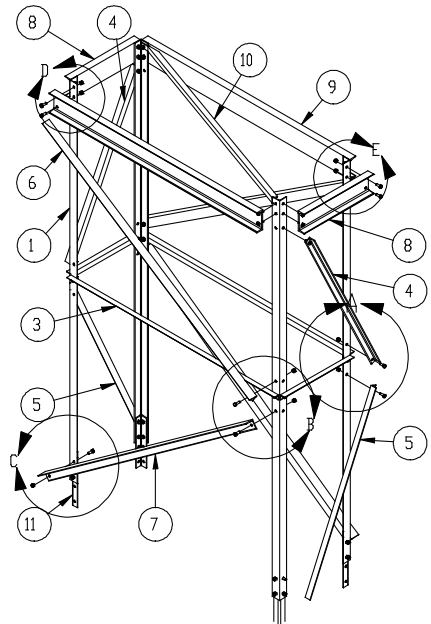
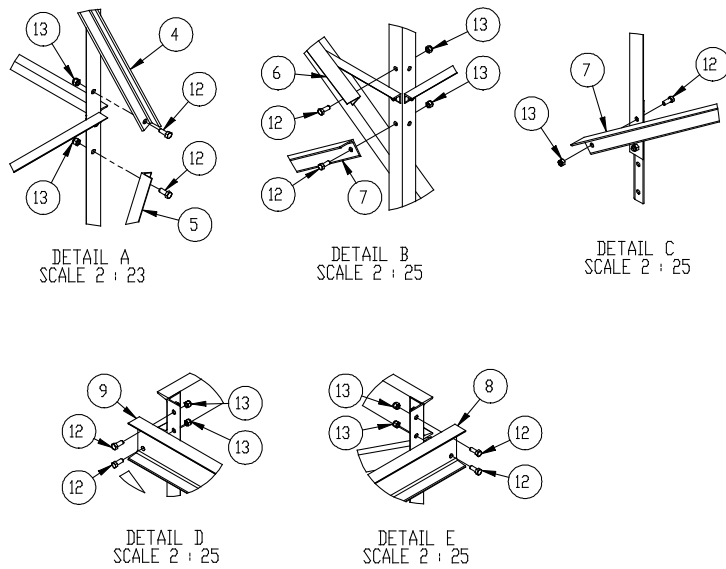
After assembling the base stage, we suggest starting with the next stage in the Support Tower, completing the section except the top row of short and long cross braces and the top bolts for the uppermost diagonal braces, if there is an intermediate or top section above this section. After it is assembled, the stage may be hoisted by crane on top of the section below. Bolt together the splice plates, the top row of long and short cross braces of the stage below, and the top bolts for the uppermost diagonal braces below using the 1/2"-13 bolts and nuts supplied. Torque the bolts to 75 ft-lbs. Repeat this assembly process, including leaving off the short and long cross braces and the top bolts for the uppermost diagonal braces, for the remaining tower stages. Figure H shows a typical tower stage connection point.



TOP SECTION WITH CHANNEL

The top section of the assembly can be provided with a channel for fastening the conveyor assembly to the Support Tower. This unit has a structural channel in place of the angle used for base and intermediate units cross brace.

Figure I



ITEM #	PART #	DESCRIPTION	QTY.
1	G861210	ANGLE,10°LEG,2 X 5/6 SUPPORT TOWER,CHANNEL SUPPT.,GALV	4
2	G861153	ANGLE,CROSS BRACE,SHORT,2X2 SUPPORT,GALV	2
3	G861170	ANGLE, CROSS BRACE LONG, 6 SPT TOWER	2
4	G861168	ANGLE,DIAG BRACE,SHORT,2 X2°/5°/6°,TOP,GALV	2
5	G861154	ANGLE, DIAG BRACE, SHORT, 2X2 SPT TOWER	2
6	G861179	ANGLE,DIAG. BRACE, TOP, LONG, 2°X6° SUPPT. TOWER	2
7	G861171	ANGLE, DIAG BRACE, LONG, 2X6 SPT TOWER	2
8	G861102	CHANNEL,SUPPT.,SHORT,2°X5°/6° SUPPT. TOWER	2
9	G861106	CHANNEL,SUPPT.,LONG,2°X6° INT. SUPPT. TOWER	2
10	G861172	ANGLE, SQUARE BRACE, 2X6 SPT TOWER	1
11	G861158	SPLICE ANGLE,2X2/2X5 INTER TOWER,GALV	4
12	0400123	HEX HEAD BOLT, ZINC, GR5,1/2-13 X 1-1/4"	52
13	0400543	LOCKNUT, NYLON INSERT, ZINC, GR2, 1/2-13	52



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***To provide innovative quality solutions that create
an extraordinary customer experience.***